

Appendix G

Solid and Hazardous Waste Management Plan



Standard Operating Procedure

Solid and Hazardous Waste Management

December 12, 2016

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Document Issuance and Revision History

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1. Purpose

This Solid and Hazardous Waste Management Plan (SHWMP) presents information on the generation, characterization, management, and disposal of the waste streams generated by Haile Gold Mine, Inc. (Haile). This document represents the mine site plan for compliance with the federal and State of South Carolina solid and hazardous waste management regulations applicable to mine facility activities.

2. Safety

Use the appropriate safety equipment and PPE when doing any environmental activity.

Hazard	Preventative Action
Personal Protective Equipment (PPE)	Always wear designated PPE – Hard hat, long sleeve high visibility clothing, steel toe- boots, and safety glasses. If conditions require, sun screen and rubber steel-toed boots.

This is not a complete or exhaustive list. Always perform a Stop and Think risk assessment prior to initiating work.

3. Accountability

Role	Responsibilities:
Manager	Ensure application of this procedure in work areas. Ensure workers are trained to this procedure. Sign off on all training.
Environmental Technicians	Conduct Stop and Think Assessments prior to performing the task. Notifying Supervision and / or Security when performing the task alone. Ensure equipment is made available for preventive maintenance as scheduled. Ensure inspections are conducted prior to sampling.

4. Special Notes

The complex nature of the hazardous waste regulations requires detailed planning, procedures, and documentation. This document is intended for use by mine personnel familiar with and responsible for the mine's solid and hazardous waste management. Mine personnel are responsible for management of change updates, implementing, monitoring, tracking and training on Haile's Solid and Hazardous Waste Management Plan.

The following is a summary of material management practices in this plan:

1. Acceptable non-hazardous solid wastes (trash) are thrown in on-site trash containers.
2. Acceptable non-hazardous solid wastes with free liquids must be solidified and dried before throwing in the trash.

3. Trash is disposed at off-site permitted landfills.
4. Non-hazardous solid waste, materials excluded from solid waste when Recycle, and/or Bevill Exempt Mineral Process Waste¹ may be stored in the Potentially Acid Generating (PAG) storage areas, processed in crushing circuit, transferred to Tailing Storage Facility, or shipped off-site to an approved facility for recovery of economic metal values.
5. RCRA was amended to add the Bevill Amendment exclusion, to exclude "solid waste from the extraction, beneficiation, and processing of ores and minerals" from regulation as hazardous waste under Subtitle C of RCRA.
6. The Bevill Amendment exempts mineral processing wastes which are disposed in the tailing storage facilities.
7. Bevill exempt overburden from mining and re-handling operations is:
 - 7.1. Placed in permitted overburden storage areas;
 - 7.2. Used for backfilling;
 - 7.3. Used for cover/capping materials; and/or,
 - 7.4. Used for construction (i.e., tailings storage impoundment and/or rip-rap).
8. Wastewater is discharged under a South Carolina National Pollutant Discharge Elimination System permit.
9. Sanitary wastewater is discharged to the local publicly owned treatment works.
10. Hazardous wastes are disposed at off-site permitted hazardous waste incineration and/or landfill disposal facilities.
11. Universal wastes are recycled at off-site permitted universal waste handling facilities.
12. Designated non-hazardous wastes are disposed at off-site approved facilities.
13. Used oil is recycled at off-site approved facilities.
14. Used coolant (antifreeze) is recycled at off-site approved facilities.
15. Petroleum contaminated soils (PCS) are containerized for disposal off-site at approved facilities.
16. Designate Recyclable materials are Recycle off-site at approved facilities.
17. Contractor wastes will comply with the South Carolina Solid and Hazardous Waste Regulations. When needed, Haile will provide guidance to assist contractors in the proper management of waste generated from each project.
18. Ultimately, contractors are responsible for the solid and hazardous wastes generated from contracted services as described in the contract general terms and conditions. Potential wastes will be identified prior to commencement of work.
19. Waste minimization is practiced at the mine site facilities and materials are Recycle when possible and practical.

¹ Stringent RCRA Subtitle C standards apply to specific waste materials identified as "hazardous" according to regulatory criteria established by EPA. The Bevill Exempt Mineral Process Waste Amendment exempts certain mineral processing wastes, allows for alternative handling and processing of these materials, and removes the "cradle-to-grave" liability.

20. Any business that generates a waste is required by Title 40 of the Code of Federal Regulations (CFR) Part 262.11 to determine if that waste is a hazardous waste.
21. Laboratory analyses of various process and waste streams have been used to make the hazardous waste determinations for Haile, which are included in this report.
22. Additional process and waste stream sampling is completed on an as-needed basis.
23. Laboratory analytical results obtained from wastes sampled and analyzed for waste analysis and designation (characterization and RCRA classification) are located in the Haile Environmental Department files.

5. References

The South Carolina Department of Health and Environmental Control (SCDHEC), Bureau of Land and Waste Management (BLWM), through an agreement with the U.S. Environmental Protection Agency (EPA), have primacy in the State for the enforcement of the Resource Conservation Recovery Act (RCRA) regulations.

EPA's control of hazardous waste is derived from authority granted by RCRA. The federal hazardous waste regulations applicable to waste generators are found in Title 40 of the CFR, Parts 260, 261, 262, 265, 266, 268, 273, 279 (used oil), and 280 (Underground Storage Tanks) (UST).

The comparable SCDHEC regulations on the management of hazardous wastes are found at South Carolina Hazardous Waste Management Regulations R.61-79, 61-107.279 (used oil), and R-61-92, Part 280 (UST).

6. Waste Analysis and Designation

This section describes the mine processes with the associated waste streams. Each waste stream is further detailed with its characteristics, classification, disposal, and analysis (as required). Where applicable, the waste handling and shipping information is also included.

In accordance with EPA standards, any business that generates a waste is required by 40 CFR 262.11 to determine if that waste is a hazardous waste. A hazardous waste is defined in 40 CFR 261.3, and as part of waste analysis and designation, the generator should go through the following steps in determining if the waste:

- Is excluded from regulation under 40 CFR Part 261.4;
- Is listed as a hazardous waste under Subpart D of 40 CFR Part 261;
- Exhibits any of the characteristics of a hazardous waste under Subpart C of 40 CFR 261 and;
- If the generator's knowledge of the hazard characteristic of the waste allows its classification under Subpart C of 40 CFR 261.

Testing of process waste streams are generally referred to as "characteristic tests." These analyses include, ignitability (flash point 140 degrees Fahrenheit [°F] or below), acidic (pH less than or equal to 2.0 or greater than or equal to 12.5), reactivity (unstable, water reactive, potentially explosive, can generate

toxic gases, etc.); and Toxicity Characteristic (TC), Toxic Characteristic Leaching Procedure (TCLP)-Toxicity (a waste extraction process used to evaluate waste content for 8 leachable metals, 25 organics, and selected pesticides and herbicides).

If the waste is not excluded from regulation and is determined to be a hazardous waste, the generator must refer to 40 CFR parts 261, 264, 265, 266, 268, and 273 for possible exclusions or restrictions pertaining to management of the specific waste. The Land Disposal Restrictions found in part 268 apply to all wastes intended for landfill disposal and incineration (ash residues from incineration are land disposed).

Regardless if the waste is hazardous, excluded, and/or non-hazardous, an appropriate disposal method should be identified to protect human health and the environment and to reduce the long-term liability of the mine. Haile has established standards for the management of hazardous wastes, non-hazardous wastes, and wastewater generated at the Haile operations, such that human health and the environment are protected.

Hazardous wastes are stored at the designated SQG 180 to 270-day hazardous waste storage area prior to disposal off-site. Each waste stream is characterized to determine its regulatory classification for off-site disposal at permitted facilities. The following sections document the waste analysis and designation efforts made by the mine on all process and waste streams typically produced at the facility.

7. Waste Streams - General Administrative Wastes

Description: There are various wastes that are generally produced in all working locations of the property including the administration buildings and the other mining and mineral processing departments. These common, general wastes are described in this section.

7.1. Office and Lunchroom Wastes

Characteristics:	Waste paper, metal, plastic, cardboard, wood, wrapping and packaging, waste copier toner, waste laser printer toner/developers, hardened white-out, hardened adhesives, food scraps and/or lunchroom trash.
Classification:	Typically, non-hazardous solid waste, however, non-empty containers of hazardous products may be hazardous wastes when disposed.
Disposal:	Non-hazardous wastes are thrown in the trash. Non-empty containers should be disposed as required for the material characteristics. Empty toner cartridges are thrown in the trash or returned to the vendors.
Analyses:	Not required, use product labels and Safety Data Sheets (SDSs) for chemical products that are discarded.

7.2. Janitorial Products Including Aerosols

Characteristics:	Many janitorial products contain chemicals that may be hazardous. In normal use, these products are either used consumptively or diluted in water. See Section 9.1.14 for characterization and handling of aerosols.
Classification:	Products used following instructions on labels do not constitute disposal and wastes from normal use of products are typically diluted enough to not exhibit hazardous characteristics. Discarded, full-strength janitorial products may exhibit hazardous characteristics of ignitability (D001), corrosivity (D002), reactivity (D003) or TCLP toxicity (D004-D043).
Disposal:	Non-hazardous wastes can be thrown in the trash or in the sanitary wastewater system as directed by the manufacturers' directions. Discarded, unused products should be characterized by review of product labeling or SDSs and containerized and disposed as appropriate.
Analyses:	Not required; constituents can be determined from SDSs.

7.3. General Maintenance Wastes

Characteristics:	Waste paper, metal, plastic, cardboard, wood, wrapping and packaging, RCRA empty containers and aluminum cans.
Classification:	Typically, non-hazardous solid waste; however, non-empty containers of hazardous products may be hazardous wastes when disposed. Scrap metal is recyclable material under 40 CFR 261.6 (a)(3)(ii).
Disposal:	Non-hazardous wastes are thrown in the trash. Recyclable materials are accumulated for off-site recycling. Non-empty containers (i.e., adhesive and oil etc.) will be disposed as required for the material characteristics.
Analyses:	Not required; use product labels and SDSs for chemical products that are discarded.

7.4. General Administrative Maintenance Wastes

Characteristics:	Wastes produced from general maintenance of buildings including: wood, air filters, glass, pieces of metal, masonry, fiberglass and foam insulation (except unused expanding foam aerosol cans), adhesives, yard care products, hardware, and packaging.
Classification:	Normally non-hazardous solid waste, however, if contaminated with F-listed solvents or other hazardous materials the wastes may be regulated as a hazardous waste when discarded.
Disposal:	Routinely thrown in the trash, however, wastes known to be contaminated with F-listed solvents or other hazardous wastes should be segregated, containerized, and handled as hazardous waste.
Analyses:	Normally not required except for characterization of potentially contaminated wastes. For contaminated waste characterization, review of SDSs and/or testing may be required to determine regulatory status.

7.5. Unusable New Products

Characteristics:	Unusable new products or materials that cannot be returned to the vendors.
Classification:	Inert parts and materials are typically non-hazardous solid waste. Chemical products may be non-hazardous solid waste but may also be listed hazardous wastes or characteristic hazardous wastes.
Disposal:	Non-hazardous wastes are thrown in the trash. Chemical products should be disposed according to typical operating practices or according to SDS recommendations.
Analyses:	Not required, follow label or SDS recommendations.

7.6. Empty Product Containers

Characteristics:	Empty containers previously holding ignitable materials may contain explosive atmospheres. Use caution and ventilate.
Classification:	<p>Containers are empty and exempt from regulation (40 CFR 261.7) when:</p> <p>All products or waste have been removed that can be removed using the practices commonly employed to remove materials from that type of container, e.g., pouring, pumping, and aspirating, and</p> <p>No more than 2.5 centimeters (one inch) of residue remain on the bottom of the container or inner liner, or</p> <p>No more than 3 percent by weight of the total capacity of the container remains in the container or inner liner if the container is less than or equal to 110 gallons in size, or</p> <p>No more than 0.3 percent by weight of the total capacity of the container remains in the container or inner liner if the container is greater than 110 gallons in size.</p> <p>Containers that have held compressed gases are empty when the pressure in the container approaches atmospheric.</p> <p>Containers that have held acute hazardous wastes must be rinsed or cleaned per 261.7(b). Acute hazardous waste constituents can be determined by comparing label/SDS constituents sole active ingredients or hazardous waste from non-specific sources to acute hazardous waste listed in 40 CFR 261.31, 261.32, or 261.33(e).</p>
Disposal:	Small containers (<5 gallons) are thrown in the trash when empty. Large containers (>5 gallons) are Recycle to the vendor, reused, or crushed and thrown in the trash. Containers that have held acute hazardous waste will be rinsed with the appropriate reagent before being discarded. The rinse reagent will be used in the same process as the chemical if safe to do so or disposed.
Analyses:	Not required.

7.7. Compressed Gas Cylinders

Characteristics:	Typically, empty when disposed but may contain pressurized hazardous materials if not empty.
Classification:	Non-hazardous solid waste when empty. Reactive (D003) and/or ignitable (D001) hazardous waste if still pressurized. Waste codes may vary with constituents.
Disposal:	Compressed gas vendors pick up large empty cylinders and refill them for use. All gas cylinders not returned to vendors for use will be emptied to atmospheric pressure before being thrown in the trash or Recycle for metal content (valves are removed or left open according to good management practice). Mark empty cylinders with an "empty" sticker and throw in the trash (small disposable cylinders only) if empty. Non-empty cylinders are Recycle or disposed of offsite at a permitted facility.
Analyses:	Not required; constituents can be determined from SDSs.

7.8. Used Rags, Wipes, Absorbent Pads, and Socks

Characteristics:	Varies with use and materials absorbed. May contain oil, solvents, fuels, and/or various substances.
Classification:	Typically, non-hazardous solid waste. If wet with non-listed solvent, fuel, used oil, or other regulated materials, the rags may be an ignitable (D001) hazardous waste when discarded. If contaminated with listed degreasing solvents, may be a (F002-F005) hazardous waste.
Disposal:	Routinely generated non-hazardous rags, wipes, absorbent pads, and socks that are not wet with oil, solvent and/or fuel are thrown in the trash barrels. Wet non-hazardous oily rags are drained, and petroleum hydrocarbon products are accumulated with the used oil. Rags, wipes, absorbent pads, and socks that are wet with ignitable liquids or are known to be contaminated with listed solvents or other hazardous materials should be segregated, containerized, and handled as hazardous waste.
Analyses:	Normally not required except for characterization of potentially contaminated rags. For spill cleanup waste characterization review of SDS and/or testing may be required to determine regulatory status.
Waste Handling:	Hazardous wastes are collected in open-top drums having properly completed EPA hazardous waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated.
Shipping:	Container DOT Specification: UN/1A2. Waste Code: Varies with waste analyses Shipping Documentation: Include Waste Profile

7.9. Used Floor Dry or Sweeping Compound

Characteristics:	Varies with wastes absorbed. May contain oil, TCLP toxicity materials, or listed solvents or fuels. Listed solvents are typically not used at the mine.
Classification:	Normally non-hazardous solid waste; however, if contaminated with TCLP toxicity materials or listed solvents or other hazardous materials the floor dry or sweeping compound may be regulated as a hazardous waste when discarded.
Disposal:	Non-draining (no free liquid) non-hazardous floor dry is routinely thrown in the trash; however, large quantities generated from a spill cleanup are containerized for characterization prior to disposal. Floor dry or sweeping compound known to be contaminated with listed solvents or other hazardous wastes should be segregated, containerized, and handled as hazardous waste.
Analyses:	Normally not required except for characterization of potentially contaminated floor dry. For spill cleanup waste characterization, review of SDSs and/or testing may be required to determine regulatory status.
Waste Handling:	Hazardous wastes are collected in open-top drums having properly completed EPA hazardous waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated.
Shipping:	Container DOT Specification: UN/1A2. Waste Code: Varies with waste analyses. Shipping Documentation: Include Waste Profile

7.10. Industrial Lamp Bulbs

Characteristics:	Waste High-Pressure (HP) sodium High-Intensity-Discharge (HID), mercury vapor HID, metal halide HID bulbs; fluorescent tubes; and incandescent bulbs. It is mine management practice to only use non-hazardous TCLP compliant HID or fluorescent bulbs.
Classification:	Some remnant “silver-tipped” fluorescent tubes/lamps on site may have been some of the first tubes/lamps manufactured with mercury below the RCRA regulatory level and may be non-hazardous solid waste. Intact or broken fluorescent tubes/lamps with the silver ends are typically TCLP hazardous wastes for mercury (D009); HP sodium, mercury vapor, and metal halide are TCLP toxic for mercury (D009) and lead (D008), if not managed as universal waste under 40 CFR Part 273. Contact the Environmental Department for classification of fluorescent tubes/lamps with silver ends. The “silver-tipped” fluorescent tubes marked “TCLP Compliant,” “green-tipped” fluorescent tubes, and incandescent bulbs are non-hazardous solid waste. Philips HID bulbs marked “Alto” and other manufactures HID bulbs marked “TCLP compliant” have passed a TCLP test and are non-hazardous.
Disposal:	<u>Non-hazardous Waste:</u> Non-hazardous incandescent bulbs are thrown in the trash.

Hazardous Waste: Broken bulbs/tubes are accumulated at the designated area in containers marked/labeled “Hazardous Waste Used lamps” prior to off-site management at an approved disposal facility

Universal Waste: Fluorescent tubes, HP sodium, mercury vapor, and metal halide lamps are accumulated at the designated area in containers marked/labeled “Universal Waste Used lamps” prior to off-site management at an approved universal waste management facility.

Analyses: Not required, if constituents can be determined from SDSs. If constituents cannot be determined from SDSs apply generator knowledge, use previous characterization information, and/or sample and test for TCLP metals.

Waste Handling: Hazardous Waste: Broken bulbs/tubes hazardous wastes will be collected in drums having properly completed EPA hazardous waste markings including the accumulation start date when the drums become full. Containers are stored in a designated area until they are shipped to a designated or a permitted Treatment, Storage, and Disposal Facility (TSDF).

Universal Waste: Universal wastes are accumulated in original packaging or in an approved container. Mark containers with a properly completed EPA universal waste marking including the date the waste is first put in the container (accumulation start date). Containers are stored in a designated area until they are shipped to a designated universal waste recycling facility (once per year). Universal waste cannot be stored on site for greater than 12 months.

Shipping: Containers: Original shipping or other designation.
Waste Code: Does not apply to universal waste.
Shipping Documentation: Include Waste Profile

7.11. Used Computer Parts

Characteristics: Cathode Ray Tubes (CRTs) monitors, used computers, and circuit boards (e-waste) contain TCLP metals. Electrical components include a variety of electrical and electronic components for example, instrumentation electronic components.

Classification: Varies with type and construction of component. Typically, electrical components are non-hazardous solid waste but could contain TCLP metals such as mercury, silver, or lead.

Whole Used Circuit Boards: The scrap metal exemption applies to whole used circuit boards that contain minor battery or mercury switch components and that are sent for continued use, reuse, or recovery” under 40 CFR 261.6 (a)(3)(ii), RCRA Hotline fax back (14155), and (May 26, 1998, 63 FR 28556).

Used, Intact CRTs: Used intact CRT monitors are not solid waste unless they are disposed 40 CFR 261.4 (a)(22).

Used, Broken CRTs: Used, broken CRT monitors are not solid waste provided that they meet the requirements of 40 CFR Part 261.39. Documentation must be on file from the recycling facility to show how recycling is accomplished.

	Hazardous Waste CRTs: CRTs monitor waste is hazardous wastes for lead (D008) if not Recycle.
Disposal:	Do not dispose recyclable e-waste in the trash. Material is accumulated in containers for off-site recycling. E-waste known to be contaminated with hazardous wastes is segregated, containerized, and handled as hazardous waste if not Recycle.
Analysis:	Not required; constituents can be determined from SDSs.
Waste Handling:	Recyclable Material: Place used computer parts in cubic yard boxes on pallets and secure. Label the boxed as "Used computer monitors and electronic equipment." Used, broken CRTs should be placed in boxes labeled, "Used cathode ray tube(s)-contains leaded glass" and do not mix with other glass materials."
Hazardous Waste:	Hazardous wastes will be collected in DOT specification cubic yard boxes. These boxes will have properly completed EPA hazardous waste markings, including the accumulation date when the box contains more than 7.4 cu. ft. (estimated 55-gallons) of waste.
Shipping:	<p>Recyclable Material: Non-DOT specification containers may be used.</p> <p>Hazardous Waste: DOT specification cubic yard boxes.</p> <p>Waste Code: CRTs - Lead (D008) and other various waste codes with identified waste constituents.</p> <p>Shipping Documentation: Include Waste Profile</p>

7.12. Waste Electrical Components

Characteristics:	Variety of unusable electrical and electronic components for example, instrumentation electronic components. See Section 9.1.11 for used computer parts.
Classification:	Varies with type and construction of component. Typically, non-hazardous solid waste but could contain TCLP metals such as mercury, silver, or lead. The scrap metal exemption applies to whole used circuit boards that contain minor battery or mercury switch components and that are sent for continued use, reuse, or recovery" under 40 CFR 261.6 (a)(3)(ii), RCRA Hotline fax back (14155), and (May 26, 1998, 63 FR 28556). Documentation must be on file from the recycling facility to show how recycling is accomplished.
Disposal:	Electrical components are accumulated for recycling or hazardous waste disposal at approved facilities. Larger items such as motors are stored for re-build, reuse or resale.
Analyses:	Not required for hardware that does not contain potentially toxic metals. Components that are suspected of containing toxic metals should be tested for TCLP metals before disposing.

7.13. Painting Wastes

Characteristics:	Waste paint, thinners, paint brushes or rollers, masking material, rags, wipes, and containers.
Classification:	Latex (water-based) paint wastes are typically non-hazardous, solid wastes. Oil-based painting related materials are typically hazardous wastes. Most oil-based product reducers or thinners are hazardous due to ignitability or listed solvent content. Spent reducers or thinners that contain 10 percent or more of F-listed solvent prior to use are F-list solvent hazardous waste. Oil-based paints may be hazardous due to ignitability (D001), TCLP characteristic for lead (D008) or chromium content (D007). Epoxy hardeners may be characteristic hazardous waste for corrosivity (D002).
Disposal:	Discard latex paints, containers and painting wastes as solid wastes in the trash after allowed to dry. Other waste paints, reducers, and thinners that are either listed or have hazardous characteristics should be disposed as hazardous waste at a RCRA-permitted facility. Epoxies should be classified and disposed accordingly. Painting wastes (i.e. applicators, rags, masking material, and empty containers) produced in the use of oil-based paints may be hazardous if still wet when disposed.
Analyses:	Apply generator knowledge; use previous characterization information, SDS, and/or sample and test potentially hazardous painting wastes for TCLP metals, F- and D-list total volatiles, F- and D-list total semi-volatiles and ignitability.
Waste Handling:	Solid hazardous wastes will be collected in open-top drums (UN/1A2). Liquid hazardous wastes will be collected UN/1A1 drums. These drums will have properly completed EPA hazardous waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated.
Shipping:	Container DOT Specification: UN/1A2 (solid) or UN/1A1 (liquid). Waste Code: Varies with waste constituents. Shipping Documentation: Include Waste Profile

7.14. Aerosol Paints, Cleaners, Lubricants and Vent Filters

Characteristics:	Aerosol paints, cleaners, lubricants and vent filters may contain listed chemicals. Additionally, material in aerosol cans may be ignitable (D001) and/or reactive (D003). Vent filters contain carbon and adsorbed vapors. It is company management practice to minimize use of chlorinated and/or regulated aerosol solvents.
Classification:	RCRA-empty containers (approaching atmospheric pressure) are non-hazardous, solid waste. Unused, discarded products are hazardous if they contain a U- or P-listed chemical as the sole active ingredient or fail RCRA characteristics. Non-empty aerosols (empty of product but still containing propellant) may be hazardous due to characteristics of ignitability and/or reactivity. Spent vent filters are listed hazardous waste and/or exhibit hazardous waste characteristics.

Disposal:	Aerosol products are sprayed onto surfaces then allowed to dry or wiped-off with rags. Partially full potentially non-useable aerosol products are collected to determine if the products are still usable or if they are unusable or spent. All unusable or spent aerosol cans are emptied in can puncturing devices (the satellite accumulation containers under these devices are under the management of designated operators). Punctured empty cans are thrown in the trash. Spent vent filters are accumulated separately for disposal.
Analyses:	Apply generator knowledge, use previous characterization information, SDS, and/or sample and test aspirated liquids/solids for TCLP metals, F- and D-list total volatiles, F- and D-list total semi-volatiles and ignitability.
Waste Handling:	Liquid hazardous wastes are collected in closed-top drums and spent vent filters are collected in open-top drums having properly completed EPA hazardous waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated. Drums containing flammable liquids must be grounded when adding or removing waste.
Shipping:	Container DOT Specification: Liquids UN/1A1 and vent filters UN/1A2 Waste Code(s): Varies with constituents. Shipping Documentation: Include Waste Profile

7.15. Expanding Foam Aerosol Cans

Characteristics:	Expanding foam aerosol cans containing foam constituents. Additionally, material in aerosol cans may be ignitable (D001) and/or reactive (D003).
Classification:	RCRA-empty containers (approaching atmospheric pressure) are non-hazardous, solid waste. Non-empty aerosols (empty of product but still containing propellant) may be hazardous due to characteristics of ignitability and/or reactivity.
Disposal:	Aerosol products are used for their intended purpose. Partially full potentially non-useable aerosol products are collected to determine if the products are still usable or if they are unusable. All unusable expanding foam aerosol cans are accumulated for disposal.
Analyses:	Not required, constituents can be determined from SDS.
Waste Handling:	Expanding foam aerosol cans hazardous wastes are collected in open-top drums having properly completed EPA hazardous waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated.
Shipping:	Container DOT Specification: UN/1A2 Waste Code(s): Ignitability (D001) and reactivity (D003). Shipping Documentation: Include Waste Profile

7.16. Ni-Cad and Mercury Batteries

Characteristics:	Ni-Cad batteries contain cadmium and/or alkaline material. Dry mercury batteries contain mercury.
Classification:	Ni-Cad and mercury batteries are subject to the Universal Waste Management Standards located in 40 CFR Part 273.
Disposal:	Handle batteries carefully to prevent damage. All batteries are placed in plastic bags or terminals are taped to prevent terminals from contacting and to prevent short circuits. Used Ni-Cad and mercury batteries are collected and stored in plastic containers at designated locations.
Analyses:	Not required; constituents can be determined from SDSs.
Waste Handling:	Universal waste batteries are collected in open-top plastic drums marked with the words "Universal Waste Batteries (Ni-Cad or mercury Batteries Only)" at the designated area. Mark the container with the date the waste is first put in the container. Universal waste cannot be stored on site for greater than 12 months. All batteries are placed in plastic bags or terminals are taped to prevent terminals from contacting and to prevent short circuits.
Shipping:	Container DOT Specification: UN/1H2. Waste Code: Not applicable to universal waste. Shipping Documentation: Include Waste Profile

7.17. Sealed Gel Lead Acid Batteries

Characteristics:	Sealed gel lead acid batteries contain lead and acid.
Classification:	Undamaged non-leaking batteries are recyclable materials under 40 CFR 261.6 or universal waste under 40 CFR Part 273. Damaged or leaking batteries are hazardous waste due to the characteristics of lead (D008) and corrosivity (D002).
Disposal:	Handle sealed gel lead acid batteries carefully to prevent damage and potential acid spills. All batteries are placed in plastic bags or terminals are taped to prevent terminals from contacting and to prevent short circuits. <u>Recycle Batteries:</u> Used batteries are stored in an on-site specified location prior to being returned to vendors for recycling when a new battery is obtained. <u>Universal Waste:</u> If not returned to the vendor for recycling, batteries are handled as universal waste under 40 CFR Part 273 when a new battery is obtained. Used sealed gel lead acid batteries are collected and stored in a plastic container, at the warehouse. <u>Hazardous Waste:</u> Damaged leaking batteries are containerized and disposed as hazardous waste. Each broken battery must be packaged in a separate plastic pail.
Analyses:	Not required; constituents can be determined from SDSs.
Waste Handling:	<u>Hazardous Waste:</u> Hazardous waste damaged or leaking batteries are collected in separate plastic pails placed in plastic drums having properly completed EPA

hazardous waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated.

Universal Waste: Universal waste batteries are collected in containers marked with the words "Universal Waste Used Batteries ("Sealed Gel Lead Acid Batteries Only") or returned to the vendor for recycling. Mark the universal waste container with the date the waste is first put in the container. Universal waste cannot be stored on site for greater than 12 months.

Shipping: Container DOT Specification: UN/1H2.

Waste Code: Not applicable to universal waste. D008 (10 lbs) and D002 (100 lbs) for hazardous waste.

Shipping Documentation: Include Waste Profile

7.18. Lead Acid Batteries

Characteristics: Vehicle and equipment batteries containing acid and lead.

Classification: Undamaged non-leaking batteries are recyclable materials under 40 CFR 261.6 or universal waste under 40 CFR Part 273. Damaged or leaking batteries are hazardous waste due to the characteristics of lead (D008) and corrosivity (D002).

Disposal: Handle lead acid batteries carefully to prevent damage and potential acid spills. Prevent terminals from contacting to prevent short circuits.

Recycle Batteries: Used batteries are stored in (on-site) specified locations prior to being returned to vendors for recycling.

Universal Waste: If not returned to the vendor for recycling, batteries are handled as universal waste under 40 CFR Part 273 when a new battery is obtained.

Hazardous Waste: Damaged leaking batteries are containerized and disposed as hazardous waste. Each broken battery must be packaged in a separate plastic pail.

Analyses: Not required; constituents can be determined from SDSs.

Waste Handling: Hazardous Waste: Damaged or leaking batteries are collected in separate plastic pails and placed in plastic drums having properly completed EPA hazardous waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated.

Universal Waste: Universal waste batteries are collected in containers marked with the words "Universal Waste Used Batteries ("Lead Acid Batteries Only") or returned to the vendor for recycling. Mark the outside of the universal waste container with the date the waste is first put in the container. Universal waste cannot be stored on site for greater than 12 months.

Shipping: Container DOT Specification: UN/1H2.

Waste Code: Waste Code: Not applicable to universal waste. D008 (10 lbs.) and D002 (100 lbs.) for hazardous waste.

Shipping Documentation: Include Waste Profile

7.19. Zinc-Carbon and Alkaline Batteries

Characteristics:	Lamp and other miscellaneous batteries.
Classification:	Zinc-carbon and alkaline batteries SDSs indicate waste batteries are non-hazardous, solid wastes.
Disposal:	Batteries are thrown in the trash.
Analyses:	Not required; constituents can be determined from SDSs.

7.20. Lithium Batteries

Characteristics:	Spent lithium ion batteries contain reactive and ignitable lithium.
Classification:	Recycle lithium batteries are subject to the Universal Waste Management Standards located in 40 CFR Part 273. Discarded lithium batteries containing reactive lithium are regulated for characteristics of ignitability (D001) and reactivity (D003), unless managed as universal wastes according to SCDHEC guidelines.
Disposal:	Used lithium batteries are collected and stored in a plastic container, at the designated location. Lithium batteries should be returned to the designated location and Recycle or disposed. If disposed as a waste, they should be handled as hazardous waste. Handle lithium batteries carefully to prevent damage. All batteries are placed in plastic bags or terminals are taped to prevent terminals from contacting and to prevent short circuits.
Analyses:	Not required. Constituents can be determined from SDSs. <u>Waste Handling:</u> Universal waste batteries are collected in containers marked with the words "Universal Waste Used Batteries (Ni-Cad, Dry Lead, or Mercury Batteries Only)" or returned to the vendor for recycling. Mark the container with the date the waste is first put in the container. Universal waste cannot be stored on site for greater than 12 months. All batteries are placed in plastic bags or terminals are taped to prevent terminals from contacting and to prevent short circuits.
Shipping:	Container DOT Specification: UN/1A2. Waste Code: D001 and D003 if disposed as hazardous waste. Not applicable to universal waste. Shipping Documentation: Include Waste Profile

7.21. Sanitary Wastewater and Sludge

Characteristics:	Wastewater/sludge from toilets, sinks, eye wash stations, and showers.
Classification:	Typically, non-hazardous. Listed hazardous wastes or materials that would be a characteristic hazardous waste may render wastewater/sludge hazardous and should not be disposed down toilets, sinks or showers.

Disposal: Sanitary wastewater is discharged to the local publicly owned treatment works.

Analyses: Not required.

7.22. Bio-Hazard Waste

Characteristics: Biohazard waste from first aid operations and medical treatment. Biohazard wastes include first aid waste containing blood.

Classification: Biohazard.

Disposal: Disposed of off-site at an approved incineration facility. Do not burn biohazard waste on site or throw in the trash.

Waste Handling: Sharps are contained in ridged engineered controlled containers. Non-sharps biohazard wastes are contained in red biohazard bags. Sharps and non-sharps biohazard waste containers should be placed in fiber barrels or totes provided for these wastes. Biohazard containers are labeled with biohazard labels.

Shipping: Container DOT Specification: UN/1G fiber drum or Non-DOT specification tote (provided by the disposal facility).

Shipping Documentation: Include Waste Profile

7.23. Pesticides

Characteristics: Small amounts of waste insecticides, herbicides, or rodenticides remaining in RCRA empty containers. The mine only uses small amounts of these materials.

Classification: Waste pesticides typically contain products that classify them as hazardous waste. These materials are regulated by the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and RCRA. Recalled pesticides and pesticides collected and managed as part of a waste pesticide collection program are subject to the universal waste management standards located in 40 CFR Part 273 if not handled as hazardous waste.

Disposal: These products should be entirely used as intended whenever possible. Unused waste pesticides should be handled as hazardous wastes according to the manufacturers' recommendations. Pesticide containers should be RCRA empty (see Section 9.1.6.) before being thrown in the trash. Aerosol cans should be at atmospheric pressure when disposed.

Analyses: Not required, use manufacturer labels or SDSs.

Waste Handling: Hazardous wastes are collected in open-top lab pack drums having properly completed EPA hazardous waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated.

Shipping: Container DOT Specification: Various use SDS.

Waste Code: Various use SDS.

7.24. Chlorinated Fluorocarbons/Refrigerant

Characteristics:	Chlorinated Fluorocarbons (CFCs)/Refrigerants that are removed from equipment air conditioning systems. See Section 9.2.25 for CFC contaminated oil.
Classification:	Excluded from regulation as solid waste under 40 CFR 261.2(e)(1)(ii) when Recycle directly.
Disposal:	This recyclable material is handled by certified employees or contractors using a recovery unit.
Analyses:	Not required.

7.25. Refrigeration Unit CFCs Oil Waste

Characteristic:	Oil in CFCs during the normal use of the refrigeration unit.
Classification:	If total halogen is greater than 1,000 ppm then it is treated as a hazardous waste unless it is sent to be reclaimed for CFCs, 40 CFR 279.10(b)(ii)(B). If total halogen is less than 1,000 ppm then it can be managed as used oil.
Disposal:	CFC work is conducted by certified technicians who may add new oil, but they do not normally remove used oil. The mine has requested the contractor to provide paperwork if they remove used oil with CFCs. If greater than 1,000 ppm total halogen, ship to a facility that can reclaim CFC from used oil or ship off as hazardous waste. If less than 1,000 ppm total halogen, manage with used oil.
Analysis:	Chlor-D-Tect test for total halogen content.

7.26. Asbestos

Characteristics:	Asbestos-containing waste containing greater than 1% by weight of friable asbestos.
Classification:	Solid waste requiring specialized handling practices under TSCA. Only properly certified employees or contractors should handle asbestos.
Disposal:	Disposed of off-site at an approved landfill.
Analysis:	Required to determine if suspect material is greater than 1% asbestos. A trained asbestos inspector, as defined by EPA, must determine if material is friable asbestos.
Waste Handling:	Double bagged and placed into a double lined container. Containers are labeled with one of the following warning labels: "Caution Contains Asbestos Fibers Avoid Opening or Breaking Container Breathing Asbestos Is Hazardous To Your Health", "Caution Contains Asbestos Fibers Avoid Creating Dust May Cause Serious Bodily Harm", or "Danger Contains Asbestos Fibers Avoid Creating Dust Cancer and Lung Disease Hazard." Check with receiving facility to determine proper shipping papers needed for the facility (i.e. Clean Harbors requires a hazardous waste manifest).
Shipping:	Container: Double lined container.

Waste Code: Not applicable.

Shipping Documentation: Include Waste Profile

7.27. Non-leaking light ballasts and small capacitors

Characteristics:	Light ballasts and small capacitors removed from light fixtures.
Classification:	If ballast and capacitors are labeled as non-PCB they are a non-hazardous solid waste. If the ballasts or capacitors are labeled as containing PCB or have no labeling, the plant is managing the waste as a TSCA waste.
Disposal:	Non-PCB ballasts and small capacitors can be placed in the trash. PCB containing ballasts and small capacitors should be containerized for disposal at an approved TSCA facility.
Analysis:	Not required use labels on ballasts and small capacitors.
Waste Handling:	TSCA PCB wastes are collected in open-top drums labeled with a PCB marking. When the drum is full or after 12 months whichever is first the drum should be shipped. Waste must be shipped using a hazardous waste manifest.
Shipping:	Container DOT Specification: UN/1A2 (metal open-top drum). Waste Code: Not applicable to TSCA waste. Shipping Documentation: Include Waste Profile Reportable Quantity: PCBs (1 lb.).

7.28. Transformer Oil (No-PCB and PCB oil)

Characteristics:	Empty transformers, large capacitors, oil drained from transformers during maintenance, and leaking PCB light ballasts or small capacitors.
Classification:	Past analyses indicate oil to be No-PCB and PCB. Any oil containing any quantifiable level of PCBs (2 ppm) and oil-filled electrical equipment containing > 50 ppm PCBs is regulated under the Toxic Substances and Control Act (TSCA). The TSCA cleanup standards range from > 1 ppm in a residential or high occupancy area to < 25 ppm in a low occupancy area. Spill cleanups originating from PCBs < 50 ppm are regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Superfund Amendments and Reauthorization Act of 1986 (SARA) and State Department of Environmental Quality (DEQ) requirements. The CERCLA SARA and/or DEQ cleanup standards for PCBs are typically < 1 ppm. Therefore, empty electrical equipment previously containing any detectable amount of PCB should be managed at a company approved facility.
Disposal:	No-PCB large capacitors are Recycle by an approved remanufacturer. Large capacitors, leaking light ballasts, and leaking small capacitors containing PCB are disposed at a TSCA facility. No-PCB oil is handled as used oil (see Section 9.2.1). PCB oil is disposed of as PCB at an approved facility. Empty equipment previously containing no-PCB and/or PCB < 50 ppm is Recycle at an approved remanufacturing facility.

Analyses:	Not required unless the oil has not been previously analyzed or is contaminated during maintenance with solvent or other materials. Oil suspected of containing PCBs should be tested for PCBs before disposing.
Waste Handling:	Liquid TSCA PCB wastes are collected in closed-top drums. Large capacitors, leaking light ballasts, and leaking small capacitors containing PCB are collected in open top drums. When drums are full or after 9 months whichever is first the drum should be shipped. The TSCA Waste must be shipped using a hazardous waste manifest.
Shipping:	Container DOT Specification: Liquids UN/1A1 (metal closed-top drum) and solids UN/1A2 (metal open-top drum) or 1H2 (plastic open-top drum). Waste Code: Not applicable to TSCA waste. Shipping Documentation: Include Waste Profile

7.29. Nuclear Sources

Characteristics:	Instruments containing radioactive source material.
Classification:	Excluded from RCRA solid waste under 40 CFR 261.4(a)(4).
Disposal:	Regulated under NRC requirements and not disposed but reused or returned to vendor.
Analyses:	Not required.

8. Vehicle, Mobile Equipment, and Shop Waste

Description: Mining equipment is serviced in the field or maintenance shops. Major equipment repairs and preventative/predictive maintenance are completed at the Haile maintenance shops to the extent possible. The mine shop consists of heavy equipment bays, a light vehicle shop, warehouse, lube storage, tire pad, and the equipment line area. Mobile fuel lube, and utility trucks provide field fueling, lubrication, and maintenance services.

8.1. Used Oil

Characteristics:	Used lubricating oil and hydraulic oils, including brake and transmission fluid, generated from vehicle and machinery with minor amounts of fuel constituents and metals. It is mine management practice to not mix used oil with solvents, coolants or other waste materials.
Classification:	Non-hazardous solid waste unless contaminated with degreasing solvent or toxic metals. It is a mine management practice that degreasing solvents shall not be mixed with used oil. In addition, only non-chlorinated degreasing solvents will be used. Wear of engine parts or hydraulic systems may contaminate oil with metals resulting in classification as off-specification oil, if Recycle or as a hazardous waste, if disposed. Although used oil destined for disposal or recycling is not listed as a hazardous waste, the EPA has established standards

for managing used oil (40 CFR Part 279). Used oil burned for energy recovery under these rules must be analyzed to show if it meets used oil specifications.

Disposal: Used oil generated in the maintenance of mobile equipment is collected in totes, drums and stored in double-walled aboveground storage tanks. Used oil from equipment that is maintained in the field is handled in a mobile tank that is then brought to the designated shop where the oil from the mobile tank is transferred to the stationary tank. Used oil is Recycle off-site at approved facilities. Used oil is tested on a routine basis prior to on site or off-site recycling. A contractor picks up used oil for off-site recycling for energy recovery.

Analyses: Used oil shipped off-site for recycling is tested for specifications (40 CFR 279.11).

Waste Handling: Off-site Recycling: The mine will not be a “Used Oil Marketer,” “Used Oil Processor/Re-Refiner,” or a “Used Oil Transporter.”

The shop’s procedures for used oil management include the following: (1) We will not, nor will we allow any “hazardous waste” to be mixed with our used oil; (2) We will only use a pre-approved marketer/transporter having a valid EPA identification number to transport our used oil; (3) We will not direct shipments of used oil and we will make no claim in regard to the used oil specification for used oil Recycle off-site; (4) We will require that the transporter analyze each shipment of used oil with Chlor-D-Tect® test kits or the equivalent, to verify that the total organic halogens (TOX) concentration is below 1,000 parts per million (ppm) before transportation. The results of this analysis will be provided to and retained by the on-site environmental personnel.

If the analysis shows TOX in excess of 1,000 ppm, a sample will be collected and tested for total volatiles and TCLP metals (standard turnaround) before the used oil is transported off-site for disposal; and, (5) We will use generator knowledge and previous specification sample test results for used oil characterization.

8.2. Used Oil, Air, Diesel Fuel, Gasoline, and Coolant Filters

Characteristics: Used oil filters contain used oil, dirt and metal particles. Used coolant filters contain coolant, dirt and metal particles. Air filters contain dirt. Diesel fuel filters contain diesel fuel, dirt and metal particles. Gasoline filters contain gasoline, dirt and metal particles.

Classification: Used coolant and air filters are non-hazardous solid wastes. Used oil filters are excluded from regulation as hazardous waste provided they are non-terne plated, have not been mixed with a listed hazardous waste, and have been punctured or dismantled, and gravity hot-drained (40 CFR 261.4 (b)(13) or crushed. Drained and/or crushed used diesel fuel (diesel fuel flash point > 140°F) filters are non-hazardous solid waste. Used gasoline/fuel filters are hazardous for ignitability (D001) and/or benzene (D018). Drain and accumulate liquids in proper containers.

Disposal:	Used oil filters are punctured on the filter dome end, then hot-drained for at least 24 hours and/or crushed. Diesel and coolant filters are drained and/or crushed. The diesel and used oil is combined with other used oil generated on site and coolant is combined with coolant. Coolant is collected in a separate container. Used oil and coolant filters that are drained and/or crushed, and air filters are placed in the trash. Gasoline fuel filters are accumulated in hazardous waste containers.
Analyses:	None required if the above procedures are followed.
Waste Handling:	Gasoline fuel filters are collected in open-head drums having properly completed EPA hazardous waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated.
Shipping:	Container DOT Specification: UN/1A1. Waste Codes: D001 and/or D018. Shipping Documentation: Include Waste Profile

8.3. Used Grease

Characteristics:	Vehicle and machinery greases that may contain regulated metals as part of their formulation and/or from wear of metal parts. Wear of mechanical parts and/or bearings may contaminate grease with metals. Use of fuel or solvent for clean-up, may contaminate the grease. Analyses of this material have indicated that it is non-hazardous.
Classification:	Non-hazardous solid waste unless contaminated with metals or degreasing solvents. Metals in grease may produce a TCLP toxic hazardous waste. Degreasing solvents mixed with grease may produce an F-listed hazardous waste.
Disposal:	Non-hazardous greasy rags and floor dry are thrown in the trash. Larger quantities of used grease are disposed off-site for recycling, fuel blending, or incineration depending on waste analyses.
Analyses:	Not required for unused or uncontaminated grease; constituents can be determined from SDSs. For grease containing degreasing solvent or spill cleanup waste, characterization review of SDS and/or testing may be required to determine regulatory status. Test for TCLP metals and F- and D-list total volatiles before shipping any previously uncharacterized grease off-site for disposal.
Waste Handling:	<u>Non-Hazardous Solid Waste:</u> Used grease is collected in open-top drums or grease bags having properly completed markings. Used grease containers are marked "Used Grease." <u>Hazardous Waste:</u> Wastes are collected in open-top drums having properly completed EPA hazardous waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated.
Shipping:	Container DOT Specification:

Non-Hazardous Solid Waste: Non-DOT specification containers may be used (i.e., the original grease shipping containers if in good condition) or DOT specification containers UN/1A2.

Hazardous Waste: UN/1A2.

Waste Code: Varies with hazardous waste analyses results.

Non-Hazardous Waste: Mark the container with the wording “Used Grease.”

Hazardous Waste: Mark the container with the wording “Used Grease.”

Shipping Documentation: Include Waste Profile

8.4. Used Floor Dry

Characteristics:	Varies with wastes absorbed. May contain oil, TCLP toxicity materials, or listed solvents or fuels. Listed solvents are typically not used at the mine.
Classification:	Normally non-hazardous solid waste; however, if contaminated with TCLP toxicity materials or listed solvents or other hazardous materials the floor dry or sweeping compound may be regulated as a hazardous waste when discarded.
Disposal:	Non-draining (no free liquid) non-hazardous floor dry is routinely thrown in the trash; however, large quantities generated from a spill cleanup are containerized for characterization prior to disposal. Floor dry or sweeping compound known to be contaminated with listed solvents or other hazardous wastes should be segregated, containerized, and handled as hazardous waste.
Analyses:	Normally not required except for characterization of potentially contaminated floor dry. For spill cleanup waste characterization, review of SDSs and/or testing may be required to determine regulatory status.
Waste Handling:	Hazardous wastes are collected in open-top drums having properly completed EPA hazardous waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated.
Shipping:	Container DOT Specification: UN/1A2. Waste Code: Varies with waste analyses. Shipping Documentation: Include Waste Profile

8.5. Used Rags, Wipes, Absorbent Pads, and Socks

Characteristics:	Varies with use and materials absorbed. May contain oil, solvents, fuels, and/or various substances.
Classification:	Typically, non-hazardous solid waste. If wet with non-listed solvent, fuel, used oil, or other regulated materials, the rags may be an ignitable (D001) hazardous waste when discarded. If contaminated with listed degreasing solvents, may be a (F002-F005) hazardous waste.
Disposal:	Routinely generated non-hazardous rags, wipes, absorbent pads, and socks that are not wet with oil, solvent and/or fuel are thrown in the trash barrels. Wet non-

hazardous oily rags are drained, and petroleum hydrocarbon products are accumulated with the used oil. Rags, wipes, absorbent pads, and socks that are wet with ignitable liquids or are known to be contaminated with listed solvents or other hazardous materials should be segregated, containerized, and handled as hazardous waste.

Analyses:	Normally not required except for characterization of potentially contaminated rags. For spill cleanup waste characterization review of SDS and/or testing may be required to determine regulatory status.
Waste Handling:	Hazardous wastes are collected in open-top drums having properly completed EPA hazardous waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated.
Shipping:	Container DOT Specification: UN/1A2.
Waste Code:	Varies with waste analyses Shipping Name: See waste profile

8.6. Used Engine Coolant (Glycol-Based Antifreeze)

Characteristics:	Ethylene glycol and water drained from mobile equipment may contain regulated metals and benzene. Ethylene glycol is toxic by ingestion. Analyses of this material have indicated it is non-hazardous.
Classification:	Non-hazardous solid waste unless contaminated with metals, fuels, solvents, or other maintenance wastes. TCLP metal analyses of used coolant from the mine were below hazardous waste regulatory levels. If TCLP metals exceed hazardous waste regulatory levels, antifreeze would be regulated as hazardous waste.
Disposal:	Typically used consumptively or reused. Accumulated coolant is collected in drums, totes and/or tanks for recycling and Recycle on site or off-site (by an approved facility). The approved contractor routinely tests and evacuates the used antifreeze storage tank. Used coolant storage containers are marked with the words "Used Antifreeze." Hazardous wastes will be segregated, containerized, and handled as hazardous waste.
Analyses:	Use coolant SDSs, apply generator knowledge and/or sample initially (and any time the process changes).

8.7. Wash Bay Water and Sediment / Sludge from Sumps

Characteristics:	Water with dirt, detergent and <i>de minimis</i> amounts of spilled fuel, coolant, oil, grease, and solvents.
Classification:	Typically, non-hazardous solid waste and used oil/grease. Sediment/Sludge may contain hydrocarbons, characteristic hazardous waste, and/or listed hazardous waste.

Disposal: Wash water from the wash bay containment flows through an oil water and sediment separator. Used oil/sludge and grease is collected in containers and managed as used oil (see Section 9.2.1) or used grease (see Section 9.2.3). Water from the wash bay sump evaporates and/or is circulated to the wash bay for use. Solids settle out in the wash bay containment, separator, and/or the settling pond, which are removed as necessary. Non-hazardous petroleum hydrocarbon containing sediment is containerized for disposal off-site at approved facilities. Solids/sludge that are wet with ignitable liquids or are known to be contaminated with listed solvents or other hazardous materials are segregated, containerized, and handled as hazardous waste.

Analyses: Not required for non-hazardous wash water. Apply generator knowledge; use previous characterization and/or SDS information for solids/sludge. Sample and test if necessary due to process or product changes. Sample and test under the PCS plan. For spill cleanup waste characterization, a review of SDS and/or testing may be required to determine regulatory status.

8.8. Aerosol Paints, Cleaners, Lubricants, and Vent Filters

Characteristics: Aerosol paints, cleaners, lubricants and vent filters may contain listed chemicals. Additionally, material in aerosol cans may be ignitable (D001) and/or reactive (D003). Vent filters contain carbon and adsorbed vapors. It is company management practice to minimize use of chlorinated and/or regulated aerosol solvents.

Classification: RCRA-empty containers (approaching atmospheric pressure) are non-hazardous, solid waste. Unused, discarded products are hazardous if they contain a U- or P-listed chemical as the sole active ingredient or fail RCRA characteristics. Non-empty aerosols (empty of product but still containing propellant) may be hazardous due to characteristics of ignitability and/or reactivity. Spent vent filters are listed hazardous waste and/or exhibit hazardous waste characteristics.

Disposal: Aerosol products are sprayed onto surfaces then allowed to dry or wiped-off with rags. Partially full potentially non-useable aerosol products are collected to determine if the products are still usable or if they are unusable or spent. All unusable or spent aerosol cans are emptied in can puncturing devices (the satellite accumulation containers under these devices are under the management of designated operators). Punctured empty cans are thrown in the trash. Spent vent filters are accumulated separately for disposal.

Analyses: Apply generator knowledge, use previous characterization information, SDS, and/or sample and test aspirated liquids/solids for TCLP metals, F- and D-list total volatiles, F- and D-list total semi-volatiles and ignitability.

Waste Handling: Liquid hazardous wastes are collected in closed-top drums and spent vent filters are collected in open-top drums having properly completed EPA hazardous waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated. Drums containing flammable liquids must be grounded when adding or removing waste.

Shipping: Container DOT Specification: Liquids UN/1A1 and vent filters UN/1A2
 Waste Code(s): Varies with constituents.
 Shipping Documentation: Include Waste Profile

8.9. Contaminated or Waste Diesel Fuel

Characteristics: Diesel fuel resulting from servicing equipment and from spill cleanups.

Classification: Flash point of diesel fuel used at the mine is typically above 140°F which would not be RCRA ignitable. Diesel fuel mixed with used oil is regulated as used oil, provided the resultant mixture does not exhibit the characteristic of ignitability under 40 CFR Part 279.10 (b) (2) (iii).

Disposal: Waste diesel fuel is collected in drip buckets and combined in designated drums around the property. This is mixed with used oil for recycling or energy recovery. Diesel-contaminated soil from spills is containerized for disposal off-site at approved facilities. Floor dry contaminated with adsorbed (no free liquid) diesel fuel is thrown in the trash.

Analyses: Not required unless diesel fuel with a lower flash point is purchased and disposed with used oil. Mixtures of diesel fuel and other materials to be disposed off-site will be tested for ignitability.

8.10. Contaminated or Waste Gasoline and/or Kerosene

Characteristics: Contaminated or off-specification waste gasoline from fueling vehicles or from spills. Contaminated or off specification kerosene from use for heating or from spills. Liquid waste will not be solidified for disposal.

Classification: Possible hazardous waste due to characteristics of ignitability (D001) and, benzene (D018) if present in strong concentrations. Is exempt from regulation as a hazardous waste under the Mixture Rule (40 CFR Part 261.3 (a)(2)(iii)) if small concentrations are mixed with motor oil, or other solid wastes and the resulting mixture no longer exhibits a characteristic of hazardous waste. Also exempt from regulation if used as a fuel such as burned for energy recovery.

Disposal: Liquid gasoline and kerosene disposed as a hazardous waste is shipped as D001 and/or D018 hazardous waste if the discarded material exhibits the characteristics. Exempt if used as a fuel. Non-hazardous soil contaminated with small amounts of gasoline is containerized for disposal off-site at approved facilities. Solids/sludge that are wet with ignitable liquids are segregated, containerized, and handled as hazardous waste.

Analyses: Apply generator knowledge; use previous characterization and/or SDS information. Mixtures of gasoline, kerosene, and other materials to be land farmed on site or disposed off-site will be tested for ignitability, TCLP benzene for solids and/or total benzene for liquids. Mixtures of gasoline, kerosene, and other materials that are Recycle or used for energy recovery do not require testing.

Waste Handling: Recyclable material or hazardous wastes will be collected in closed-top drums. Hazardous waste containers will have properly completed EPA hazardous waste

markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated. Drums containing flammable liquids will be grounded when adding or removing waste.

Shipping: Container DOT Specification: UN/1A1
 Waste Code: D001 and/or D018 for hazardous waste and none if used as a fuel.
 Shipping Documentation: Include Waste Profile

8.11. Empty Product Containers

Characteristics: Empty containers previously holding ignitable materials may contain explosive atmospheres. Use caution and ventilate.

Classification: Containers are empty and exempt from regulation (40 CFR 261.7) when:

All products or waste have been removed that can be removed using the practices commonly employed to remove materials from that type of container, e.g., pouring, pumping, and aspirating, and

No more than 2.5 centimeters (one inch) of residue remain on the bottom of the container or inner liner, or

No more than 3 percent by weight of the total capacity of the container remains in the container or inner liner if the container is less than or equal to 110 gallons in size, or

No more than 0.3 percent by weight of the total capacity of the container remains in the container or inner liner if the container is greater than 110 gallons in size.

Containers that have held compressed gases are empty when the pressure in the container approaches atmospheric.

Containers that have held acute hazardous wastes must be rinsed or cleaned per 261.7(b). Acute hazardous waste constituents can be determined by comparing label/SDS constituents sole active ingredients or hazardous waste from non-specific sources to acute hazardous waste listed in 40 CFR 261.31, 261.32, or 261.33(e).

Disposal: Small containers (<5 gallons) are thrown in the trash when empty. Large containers (>5 gallons) are Recycle to the vendor, reused, or crushed and thrown in the trash. Containers that have held acute hazardous waste will be rinsed with the appropriate reagent before being discarded. The rinse reagent will be used in the same process as the chemical if safe to do so or disposed.

Analyses: Not required.

8.12. Lead Acid Batteries

Characteristics: Vehicle and equipment batteries containing acid and lead.

Classification: Undamaged non-leaking batteries are recyclable materials under 40 CFR 261.6 or universal waste under 40 CFR Part 273. Damaged or leaking batteries are hazardous waste due to the characteristics of lead (D008) and corrosivity (D002).

Disposal:	<p>Handle lead acid batteries carefully to prevent damage and potential acid spills. Prevent terminals from contacting to prevent short circuits.</p> <p><u>Recycle Batteries:</u> Used batteries are stored in (on-site) specified locations prior to being returned to vendors for recycling.</p> <p><u>Universal Waste:</u> If not returned to the vendor for recycling, batteries are handled as universal waste under 40 CFR Part 273 when a new battery is obtained.</p> <p><u>Hazardous Waste:</u> Damaged leaking batteries are containerized and disposed as hazardous waste. Each broken battery must be packaged in a separate plastic pail.</p>
Analyses:	Not required; constituents can be determined from SDSs.
Waste Handling:	<p><u>Hazardous Waste:</u> Damaged or leaking batteries are collected in separate plastic pails and placed in plastic drums having properly completed EPA hazardous waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated.</p> <p><u>Universal Waste:</u> Universal waste batteries are collected in containers marked with the words "Universal Waste Used Batteries ("Lead Acid Batteries Only") or returned to the vendor for recycling. Mark the outside of the universal waste container with the date the waste is first put in the container. Universal waste cannot be stored on site for greater than 12 months.</p>
Shipping:	<p>Container DOT Specification: UN/1H2.</p> <p>Waste Code: Waste Code: Not applicable to universal waste. D008 (10 lbs.) and D002 (100 lbs.) for hazardous waste.</p> <p>Shipping Documentation: Include Waste Profile</p>

8.13. Scrap Metal Including Welding Rod and Cuttings

Characteristics:	Pieces of metal scrap, used metal parts, and welding rod.
Classification:	Recyclable material 40 CFR 261.6.
Disposal:	Scrap metal is saved in recycling bins and/or specified locations. Contractors routinely remove scrap metal for recycling. Used metal parts may be returned to vendors.
Analyses:	Not required for Recycle scrap metal.

8.14. Compressed Gas Cylinders

Characteristics:	Typically, empty when disposed but may contain pressurized hazardous materials if not empty.
Classification:	Non-hazardous solid waste when empty. Reactive (D003) and/or ignitable (D001) hazardous waste if still pressurized. Waste codes may vary with constituents.

- Disposal:** Compressed gas vendors pick up large empty cylinders and refill them for use. All gas cylinders not returned to vendors for use will be emptied to atmospheric pressure before being thrown in the trash or Recycle for metal content (valves are removed or left open according to good management practice). Mark empty cylinders with an “empty” sticker and throw in the trash (small disposable cylinders only) if empty. Non-empty cylinders are Recycle or disposed of offsite at a permitted facility.
- Analyses:** Not required; constituents can be determined from SDSs.

8.15. Cold Cutting Fluid

- Characteristics:** Used cold cutting fluid and metals from metal cutting saws. It is a good management practice to not mix solvents, coolants or other waste materials with cutting fluid.
- Classification:** Non-hazardous solid waste unless contaminated with metals or degreasing solvents. Oil-based fluid is managed as used oil (see Section 9.2.1). Water-based fluid is typically non-hazardous solid waste but may be hazardous if heavily contaminated with listed solvents or regulated metals.
- Disposal:** Typically used consumptively. Excess oil-based fluid is mixed with used oil for disposal (see Section 9.2.1). Acceptable non-hazardous solid wastes with free liquids will be solidified/dried before disposing in the trash. Hazardous waste water-based fluid is accumulated separately in drums for off-site disposal at permitted facilities.
- Analyses:** Not required for oil-based fluid unless there are process changes. Apply generator knowledge, use previous characterization information, and SDS for characterization of water-based fluid and/or sample and test for TCLP metals and volatile organics (if identified by generator knowledge) to verify characteristics. Once characterized, apply generator knowledge and sample to re-characterize any time the process changes.
- Waste Handling:** Hazardous wastes are collected in closed-top drums having properly completed EPA hazardous waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated.
- Shipping:** Container DOT Specification: UN/1A1 (metal closed-top drum).
Waste Code: Varies with waste analyses
Shipping Documentation: Include Waste Profile

8.16. Machine Tool Fluids

- Examples:** Machining fluids from cleaning out machine tool sumps.
- Classification:** Machining fluids used at the mine typically are not hazardous wastes.
- Disposal:** Typically, fluids are used consumptively but used oils removed from sumps are handled as used oil.

Analyses: Not required for oil-based fluid unless there are process changes. Apply generator knowledge, use previous characterization information, and SDS for characterization of water-based fluid and/or sample and test for TCLP metals and volatile organics (if identified by generator knowledge) to verify characteristics. Once characterized, apply generator knowledge and sample to re-characterize any time the process changes.

8.17. Spent Solvent (Water and/or Hydrocarbon-Based), Sludge, and/or Filters from Parts Washers or Bulk Solvent

Characteristics: Water-based and hydrocarbon-based spent solvent, sludge and filters from bulk solvent use or parts washers. Typically spent solvents, sludge and filters contain dirt, oil, and grease. Unused and/or spent solvent has a flash point greater than 140°F. Spent solvent, sludge and filters may also contain metals from parts cleaning. If sludge is separated for disposal, it will typically contain hydrocarbons. Do not mix F-listed solvent with solvent from parts washers.

Classification: Non-hazardous solvent is used consumptively or accumulated and disposed or Recycle off-site; non-hazardous sludge is solidified and thrown in the trash; and non-hazardous filters are handled the same as used oil filters. Accumulated spent solvent, sludge, and/or filters exceeding hazardous waste regulatory limits are handled as hazardous waste.

Disposal: Non-hazardous filters are drained and managed the same as used oil filters. Non-hazardous combustible spent solvent may be managed with used oil. Non-hazardous sludge is managed with used grease. Spent solvent, sludge, and/or filters known to be contaminated with listed solvents or other hazardous wastes, are segregated, containerized and handled as hazardous waste at permitted facilities.

Analyses: Not required for unused solvent constituents (may be obtained from SDS). Apply generator knowledge; use previous characterization information, and SDS for characterization of filters and used solvent and/or sample and test initially (and anytime the process changes) for TCLP metals and F- and D-list volatile organics (if identified by generator knowledge) to verify characteristics. Once characterized apply generator knowledge and sample and re-characterize any time the process changes.

Waste Handling: Hazardous waste liquids are collected in closed top drums, and filters and/or sludge are collected in separate open head drums having properly completed EPA hazardous waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated.

Shipping: Container DOT Specification: UN/1A2.
Waste Code: Varies with waste analyses
Shipping Documentation: Include Waste Profile

8.18. Hot Water Parts Washer Spent Filters, Water, Sludge, and Skimmer Waste

Characteristics:	"Hot water parts washer" filters, water, sludge, and skimmer waste which contains high pH detergent (before use) and may contain metals, oil, grease, and solvents from parts cleaning. Detergent solutions typically exhibit a neutral pH after use.
Classification:	Water, sludge, and skimmer (oil) waste are typically non-hazardous solid wastes but may be hazardous if heavily contaminated with listed solvents or regulated metals. Non-hazardous skimmer oil is managed as used oil. Non-hazardous filters are handled the same as used oil filters.
Disposal:	Non-hazardous water and sludge that contain hydrocarbons are mixed with floor dry and thrown in the trash or containerized for disposal off-site at approved facilities. Non-hazardous skimmer oil is managed with use oil. Non-hazardous filters are drained and managed with used oil filters. Hazardous waste water, sludge, and/or skimmer waste is accumulated separately in drums for off-site disposal at permitted facilities.
Analyses:	Apply generator knowledge, use previous characterization information, and SDS for characterization of filters, water, sludge, and/or skimmer waste and/or sample and test for TCLP metals and volatile organics (if identified by generator knowledge) to verify characteristics. Once characterized apply generator knowledge and sample to re-characterize any time the process changes.
Waste Handling:	Hazardous wastes are collected in open-top drums having properly completed EPA hazardous waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated.
Shipping:	<p>Container DOT Specification: UN/1A2.</p> <p>Waste Code: Varies with waste analyses</p> <p>Shipping Documentation: Include Waste Profile</p>

8.19. Chlorinated Fluorocarbons/Refrigerant

Characteristics:	Chlorinated Fluorocarbons (CFCs)/Refrigerants that are removed from equipment air conditioning systems. See Section 9.2.25 for CFC contaminated oil.
Classification:	Excluded from regulation as solid waste under 40 CFR 261.2(e)(1)(ii) when Recycle directly.
Disposal:	This recyclable material is handled by certified employees or contractors using a recovery unit.
Analyses:	Not required.

8.20. Used Desiccants

Characteristics:	Used desiccant from various air drying systems.
Classification:	Desiccant is typically non-hazardous solid waste.

Disposal: Dry non-hazardous waste is thrown in the trash.

Analyses: Not required for unused product; constituents can be determined from labels/SDSs. Apply generator knowledge; use previous characterization and/or SDS information. Sample and test if necessary due to process or product change. Not required except for characterization of potentially hazardous spent desiccant. Desiccant is typically tested for TCLP metals. Once characterized apply generator knowledge and sample to re-characterize any time the process changes.

8.21. Ni-Cad, Mercury, Dry Lead Batteries, or Sealed Gel Lead Acid

Characteristics: Ni-Cad batteries contain cadmium and/or alkaline material. Dry mercury batteries contain mercury.

Classification: Ni-Cad and mercury batteries are subject to the Universal Waste Management Standards located in 40 CFR Part 273.

Disposal: Handle batteries carefully to prevent damage. All batteries are placed in plastic bags or terminals are taped to prevent terminals from contacting and to prevent short circuits. Used Ni-Cad and mercury batteries are collected and stored in plastic containers at designated locations.

Analyses: Not required; constituents can be determined from SDSs.

Waste Handling: Universal waste batteries are collected in open-top plastic drums marked with the words "Universal Waste Batteries (Ni-Cad or mercury Batteries Only)" at the designated area. Mark the container with the date the waste is first put in the container. Universal waste cannot be stored on site for greater than 12 months. All batteries are placed in plastic bags or terminals are taped to prevent terminals from contacting and to prevent short circuits.

Shipping: Container DOT Specification: UN/1H2.
Waste Code: Not applicable to universal waste.
Shipping Documentation: Include Waste Profile

8.22. Lithium Batteries

Characteristics: Spent lithium ion batteries contain reactive and ignitable lithium.

Classification: Recycle lithium batteries are subject to the Universal Waste Management Standards located in 40 CFR Part 273. Discarded lithium batteries containing reactive lithium are regulated for characteristics of ignitability (D001) and reactivity (D003), unless managed as universal wastes according to SCDHEC guidelines.

Disposal: Used lithium batteries are collected and stored in a plastic container, at the designated location. Lithium batteries should be returned to the designated location and Recycle or disposed. If disposed as a waste, they should be handled as hazardous waste. Handle lithium batteries carefully to prevent

damage. All batteries are placed in plastic bags or terminals are taped to prevent terminals from contacting and to prevent short circuits.

Analyses: Not required. Constituents can be determined from SDSs.

Waste Handling: Universal waste batteries are collected in containers marked with the words "Universal Waste Used Batteries (Ni-Cad, Dry Lead, or Mercury Batteries Only)" or returned to the vendor for recycling. Mark the container with the date the waste is first put in the container. Universal waste cannot be stored on site for greater than 12 months. All batteries are placed in plastic bags or terminals are taped to prevent terminals from contacting and to prevent short circuits.

Shipping: Container DOT Specification: UN/1A2.

Waste Code: D001 and D003 if disposed as hazardous waste. Not applicable to universal waste.

Shipping Documentation: Include Waste Profile

8.23. Carbon and Alkaline Flashlight Batteries

Characteristics: Lamp and other miscellaneous batteries.

Classification: Zinc-carbon and alkaline batteries SDSs indicate waste batteries are non-hazardous, solid wastes.

Disposal: Batteries are thrown in the trash.

Analyses: Not required; constituents can be determined from SDSs.

8.24. General Maintenance Wastes

Characteristics: Waste paper, metal, plastic, cardboard, wood, wrapping and packaging, RCRA empty containers and aluminum cans.

Classification: Typically, non-hazardous solid waste; however, non-empty containers of hazardous products may be hazardous wastes when disposed. Scrap metal is recyclable material under 40 CFR 261.6 (a) (3) (ii).

Disposal: Non-hazardous wastes are thrown in the trash. Recyclable materials are accumulated for off-site recycling. Non-empty containers (i.e., adhesive and oil etc.) will be disposed as required for the material characteristics.

Analyses: Not required; use product labels and SDSs for chemical products that are discarded.

8.25. Refrigeration Unit CFCs Oil Waste

Characteristic: Oil that comes in contact with CFCs during the normal use of the refrigeration unit.

Classification: If total halogen is greater than 1,000 ppm then it is treated as a hazardous waste unless it is sent to be reclaimed for CFCs, 40 CFR 279.10(b)(ii)(B). If total halogen is less than 1,000 ppm then it can be managed as used oil.

- Disposal:** CFC work is conducted by certified technicians who may add new oil, but they do not normally remove used oil. The mine has requested the contractor to provide paperwork if they remove used oil with CFCs. If greater than 1,000 ppm total halogen, ship to a facility that can reclaim CFC from used oil or ship off as hazardous waste. If less than 1,000 ppm total halogen, manage with used oil.
- Analysis:** Chlor-D-Tect test for total halogen content.

8.26. Paint-Related Materials Including Blasting Grit

- Characteristics:** Waste paint, thinners, paint brushes or rollers, masking material, rags, wipes, and containers.
- Classification:** Latex (water-based) paint wastes are typically non-hazardous, solid wastes. Oil-based painting related materials are typically hazardous wastes. Most oil-based product reducers or thinners are hazardous due to ignitability or listed solvent content. Spent reducers or thinners that contain 10 percent or more of F-listed solvent prior to use are F-list solvent hazardous waste. Oil-based paints may be hazardous due to ignitability (D001), TCLP characteristic for lead (D008) or chromium content (D007). Epoxy hardeners may be characteristic hazardous waste for corrosivity (D002).
- Disposal:** Discard latex paints, containers and painting wastes as solid wastes in the trash after allowed to dry. Other waste paints, reducers, and thinners that are either listed or have hazardous characteristics should be disposed as hazardous waste at a RCRA-permitted facility. Epoxies should be classified and disposed accordingly. Painting wastes (i.e. applicators, rags, masking material, and empty containers) produced in the use of oil-based paints may be hazardous if still wet when disposed.
- Analyses:** Apply generator knowledge; use previous characterization information, SDS, and/or sample and test potentially hazardous painting wastes for TCLP metals, F- and D-list total volatiles, F- and D-list total semi-volatiles and ignitability.
- Waste Handling:** Solid hazardous wastes will be collected in open-top drums (UN/1A2). Liquid hazardous wastes will be collected UN/1A1 drums. These drums will have properly completed EPA hazardous waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated.
- Shipping:** Container DOT Specification: UN/1A2 (solid) or UN/1A1 (liquid).
Waste Code: Varies with waste constituents.
Shipping Documentation: Include Waste Profile

8.27. Pressure Washing Wastes

- Characteristics:** Pressure washing overspray, oil, grease, and metals (water & chemical additive; normally alkaline detergent). Undiluted product pH may be corrosive.
- Classification:** Typically, non-hazardous solid waste but may be hazardous if heavily contaminated with regulated metals, listed cleaning solvents, and/or

characteristic cleaning solvents. Unused, undiluted product additives or detergents may be hazardous waste if discarded.

- Disposal:** Consult the SDS for disposal of unused or spilled pressure washing chemicals. Non-hazardous materials that contain hydrocarbons are containerized for disposal off-site at approved facilities. Non-hazardous wastewater is placed in the area drains or wash bay. Wash water suspected of containing regulated metals, listed cleaning solvents, and/or characteristic cleaning solvents is containerized, sampled, and tested. Wash water failing for corrosivity only is neutralized in containers and placed in the water management system. Hazardous waste wash water is disposed as hazardous waste off-site. Acceptable non-hazardous solid wastes with free liquids will be solidified/dried before throwing in the trash.
- Analysis:** Not required except for characterization of potentially contaminated wash water. For wash water containing regulated metals, listed cleaning solvents, and/or characteristic cleaning solvent waste characterization review of generator knowledge, SDS and/or testing may be required to determine regulatory status. A change in the detergent formulation or product used requires a review of the SDS and pH testing. Test for pH and TCLP metals before disposing of any previously uncharacterized wash water.

8.28. Waste Electrical Components

- Characteristics:** Variety of unusable electrical and electronic components for example, instrumentation electronic components. See Section 9.1.11 for used computer parts.
- Classification:** Varies with type and construction of component. Typically, non-hazardous solid waste but could contain TCLP metals such as mercury, silver, or lead. The scrap metal exemption applies to whole used circuit boards that contain minor battery or mercury switch components and that are sent for continued use, reuse, or recovery” under 40 CFR 261.6 (a)(3)(ii), RCRA Hotline fax back (14155), and (May 26, 1998, 63 FR 28556). Documentation must be on file from the recycling facility to show how recycling is accomplished.
- Disposal:** Electrical components are accumulated for recycling or hazardous waste disposal at approved facilities. Larger items such as motors are stored for re-build, reuse or resale.
- Analyses:** Not required for hardware that does not contain potentially toxic metals. Components that are suspected of containing toxic metals should be tested for TCLP metals before disposing.

8.29. Mercury Waste

- Characteristics:** Mercury in instruments (i.e. switches and testing equipment), thermostats and/or spills.

Classification:	Mercury thermostats and mercury containing equipment can be managed as universal waste under 40 CFR Part 273 or as waste mercury and contaminated debris D009 (mercury) hazardous waste if not managed as universal waste.
Disposal:	<p>Universal Waste: Managed as universal waste if not managed as hazardous waste.</p> <p>Hazardous Waste: Managed as hazardous waste (D009) if not managed as universal waste.</p>
Analyses:	Not required. Use generator knowledge as hazardous or universal waste (thermostats or mercury containing equipment).
Waste Handling:	<p>Hazardous Waste: Accumulated in open head drums having properly completed EPA hazardous waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated.</p> <p>Universal Waste: Universal waste will be placed in an open head drum labeled as "Universal Waste - Mercury Thermostats or Mercury Containing Equipment." Mark the container with the date the waste is first put in the container. Universal waste cannot be stored on site for greater than 12 months.</p>
Shipping:	<p>Container DOT Specification: UN/1A2 or 1H2 open-head drum.</p> <p>Waste Code: Varies with waste analyses</p> <p>Shipping Documentation: Include Waste Profile</p>

9. Tire Shop

Description: Tire repair is typically conducted off-site; however, if repairs are conducted at the mine truck shop repairs may involve use of adhesives and solvents. Various wastes that are produced during tire repair are discussed below.

9.1. Tire Cleaner and Adhesive

Characteristics:	Unused cleaners and adhesives from tire maintenance may be ignitable and may contain toxic characteristic solvents. Used cleaners may contain listed solvents.
Classification:	Products are typically used consumptively with no waste. Ignitable cleaners and/or cleaners containing toxic characteristic solvents would be hazardous waste when discarded. Cleaners that contain 10 percent or more of F-listed solvent when spent are F-list solvent hazardous waste. Review SDSs or labels for disposal requirements.
Disposal:	Products are typically used consumptively with no waste. Unused cleaners are typically hazardous due to ignitability or toxic characteristic solvent content. Unused materials or used cleaners known to be contaminated with listed solvents or other hazardous wastes should be segregated, containerized, and handled as hazardous waste.
Analyses:	Not required; constituents can be determined from SDSs.

9.2. Tire and Wheel Balance Weights

Characteristics:	Lead weights.
Classification:	Recyclable material. Lead weights are hazardous waste for TCLP lead (D008) if discarded.
Disposal:	Accumulated used weights are Recycle for use as weights and are not disposed. Used weights are fully consumed.
Analyses:	Not required.

9.3. Tire Prep Solution

Characteristics:	Contains glycol and inert chemicals.
Classification:	Typically used consumptively with no waste. Non-hazardous solid waste, unless contaminated with listed solvents or other hazardous materials.
Disposal:	Spills of tire life are absorbed and thrown in the trash.
Analyses:	Not required; constituents can be determined from SDSs.

9.4. Tires

Characteristics:	Chemically inert.
Classification:	Non-hazardous solid waste.
Disposal:	Tires are thrown in the trash or Recycle off-site.
Analyses:	Not required.

9.5. Used Floor Dry or Sweeping Compound

Characteristics:	Varies with wastes absorbed. May contain oil, TCLP toxicity materials, or listed solvents or fuels. Listed solvents are typically not used at the mine.
Classification:	Normally non-hazardous solid waste; however, if contaminated with TCLP toxicity materials or listed solvents or other hazardous materials the floor dry or sweeping compound may be regulated as a hazardous waste when discarded.
Disposal:	Non-draining (no free liquid) non-hazardous floor dry is routinely thrown in the trash; however, large quantities generated from a spill cleanup are containerized for characterization prior to disposal. Floor dry or sweeping compound known to be contaminated with listed solvents or other hazardous wastes should be segregated, containerized, and handled as hazardous waste.
Analyses:	Normally not required except for characterization of potentially contaminated floor dry. For spill cleanup waste characterization, review of SDSs and/or testing may be required to determine regulatory status.
Waste Handling:	Hazardous wastes are collected in open-top drums having properly completed EPA hazardous waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated.
Shipping:	Container DOT Specification: UN/1A2.

Waste Code: Varies with waste analyses.

Shipping Documentation: Include Waste Profile

9.6. Used Rags, Wipes, Absorbent Pads, and Socks

Characteristics:	Varies with use and materials absorbed. May contain oil, solvents, fuels, and/or various substances.
Classification:	Typically, non-hazardous solid waste. If wet with non-listed solvent, fuel, used oil, or other regulated materials, the rags may be an ignitable (D001) hazardous waste when discarded. If contaminated with listed degreasing solvents, may be a (F002-F005) hazardous waste.
Disposal:	Routinely generated non-hazardous rags, wipes, absorbent pads, and socks that are not wet with oil, solvent and/or fuel are thrown in the trash barrels. Wet non-hazardous oily rags are drained, and petroleum hydrocarbon products are accumulated with the used oil. Rags, wipes, absorbent pads, and socks that are wet with ignitable liquids or are known to be contaminated with listed solvents or other hazardous materials should be segregated, containerized, and handled as hazardous waste.
Analyses:	Normally not required except for characterization of potentially contaminated rags. For spill cleanup waste characterization review of SDS and/or testing may be required to determine regulatory status.
Waste Handling:	Hazardous wastes are collected in open-top drums having properly completed EPA hazardous waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated.
Shipping:	Container DOT Specification: UN/1A2. Waste Code: Varies with waste analyses Shipping Documentation: Include Waste Profile

9.7. Empty Product Containers

Characteristics:	Empty containers previously holding ignitable materials may contain explosive atmospheres. Use caution and ventilate.
Classification:	Containers are empty and exempt from regulation (40 CFR 261.7) when: All products or waste have been removed that can be removed using the practices commonly employed to remove materials from that type of container, e.g., pouring, pumping, and aspirating, and No more than 2.5 centimeters (one inch) of residue remain on the bottom of the container or inner liner, or No more than 3 percent by weight of the total capacity of the container remains in the container or inner liner if the container is less than or equal to 110 gallons in size, or

No more than 0.3 percent by weight of the total capacity of the container remains in the container or inner liner if the container is greater than 110 gallons in size.

Containers that have held compressed gases are empty when the pressure in the container approaches atmospheric.

Containers that have held acute hazardous wastes must be rinsed or cleaned per 261.7(b). Acute hazardous waste constituents can be determined by comparing label/SDS constituents sole active ingredients or hazardous waste from non-specific sources to acute hazardous waste listed in 40 CFR 261.31, 261.32, or 261.33(e).

Disposal: Small containers (<5 gallons) are thrown in the trash when empty. Large containers (>5 gallons) are Recycle to the vendor, reused, or crushed and thrown in the trash. Containers that have held acute hazardous waste will be rinsed with the appropriate reagent before being discarded. The rinse reagent will be used in the same process as the chemical if safe to do so or disposed.

Analyses: Not required.

10. Equipment Painting

Description: The mine will typically contract for sand blasting and painting of its larger equipment and may also conduct its own small sand blasting and spray painting jobs. Equipment is cleaned and sand blasted to prepare it for painting. The painting process is completed at the equipment location or at the mill maintenance shop. Various paints, thinners, reducers, and hardeners are used as required. Wastes consist of waste blasting grit, masking materials, empty paint cans, rags, wipes, spent thinner, and minor amounts of waste paints.

10.1. Painting Wastes

Characteristics: Waste paint, thinners, paint brushes or rollers, masking material, rags, wipes, and containers.

Classification: Latex (water-based) paint wastes are typically non-hazardous, solid wastes. Oil-based painting related materials are typically hazardous wastes. Most oil-based product reducers or thinners are hazardous due to ignitability or listed solvent content. Spent reducers or thinners that contain 10 percent or more of F-listed solvent prior to use are F-list solvent hazardous waste. Oil-based paints may be hazardous due to ignitability (D001), TCLP characteristic for lead (D008) or chromium content (D007). Epoxy hardeners may be characteristic hazardous waste for corrosivity (D002).

Disposal: Discard latex paints, containers and painting wastes as solid wastes in the trash after allowed to dry. Other waste paints, reducers, and thinners that are either listed or have hazardous characteristics should be disposed as hazardous waste at a RCRA-permitted facility. Epoxies should be classified and disposed accordingly. Painting wastes (i.e. applicators, rags, masking material, and empty

containers) produced in the use of oil-based paints may be hazardous if still wet when disposed.

Analyses:	Apply generator knowledge; use previous characterization information, SDS, and/or sample and test potentially hazardous painting wastes for TCLP metals, F- and D-list total volatiles, F- and D-list total semi-volatiles and ignitability.
Waste Handling:	Solid hazardous wastes will be collected in open-top drums (UN/1A2). Liquid hazardous wastes will be collected UN/1A1 drums. These drums will have properly completed EPA hazardous waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated.
Shipping:	Container DOT Specification: UN/1A2 (solid) or UN/1A1 (liquid). Waste Code: Varies with waste constituents. Shipping Documentation: Include Waste Profile

10.2. Used Blasting Grit and/or Paint Chips

Characteristics:	Used sand blasting grit at outdoor painting areas may contain metals from the parts themselves and paint particles contained in the waste grit. Analyses of this material have indicated that it is non-hazardous.
Classification:	Typically, non-hazardous solid waste but may contain lead and cadmium from paint particles in the waste. If the concentration of these metals is high, the waste may fail TCLP metals and be a characteristic hazardous waste. Samples obtained in the past indicate that none of the TCLP regulatory levels for toxic metals were exceeded.
Disposal:	Used non-hazardous blasting grit is typically left on the ground in the sand blasting portion of the outdoor painting areas or it is collected by the contractor thrown in the trash or disposed of off-site. Used grit exhibiting hazardous waste characteristics will be placed in drums and handled as hazardous waste for disposal.
Analyses:	Use paint SDSs, apply generator knowledge and/or sample initially (and any time the process changes). Test for TCLP metals if metal content of paint fraction or parts is uncertain.

10.3. Empty Product Containers

Characteristics:	Empty containers previously holding ignitable materials may contain explosive atmospheres. Use caution and ventilate.
Classification:	Containers are empty and exempt from regulation (40 CFR 261.7) when: All products or waste have been removed that can be removed using the practices commonly employed to remove materials from that type of container, e.g., pouring, pumping, and aspirating, and No more than 2.5 centimeters (one inch) of residue remain on the bottom of the container or inner liner, or

No more than 3 percent by weight of the total capacity of the container remains in the container or inner liner if the container is less than or equal to 110 gallons in size, or

No more than 0.3 percent by weight of the total capacity of the container remains in the container or inner liner if the container is greater than 110 gallons in size.

Containers that have held compressed gases are empty when the pressure in the container approaches atmospheric.

Containers that have held acute hazardous wastes must be rinsed or cleaned per 261.7(b). Acute hazardous waste constituents can be determined by comparing label/SDS constituents sole active ingredients or hazardous waste from non-specific sources to acute hazardous waste listed in 40 CFR 261.31, 261.32, or 261.33(e).

Disposal: Small containers (<5 gallons) are thrown in the trash when empty. Large containers (>5 gallons) are Recycle to the vendor, reused, or crushed and thrown in the trash. Containers that have held acute hazardous waste will be rinsed with the appropriate reagent before being discarded. The rinse reagent will be used in the same process as the chemical if safe to do so or disposed.

Analyses: Not required.

10.4. Used Rags, Wipes, Drop Cloths, and Masking Material

Characteristics: Varies with use and materials absorbed. May be ignitable, contain solvents, or characteristic metals.

Classification: Typically, non-hazardous solid waste, however, if waste is contaminated with a listed solvent, the waste may be a listed hazardous waste. If contaminated with paints, solvent blends, or other non-listed materials, the waste may be a characteristic hazardous waste when discarded. Waste that is wet with flammable paint or solvent when discarded may be ignitable (D001). Waste that contains a strong concentration of paint containing toxic metals such as cadmium or lead may be TCLP toxic for these metals.

Disposal: Non-hazardous rags, wipes, drop cloths, and masking material can be thrown in the trash. Wastes known to be contaminated with listed or TCLP solvents or other hazardous wastes will be segregated, containerized, and handled as hazardous waste.

Analyses: Normally not required except for characterization of potentially hazardous rags, wipes and masking material. Review of SDS and/or testing may be required to determine regulatory status.

Waste Handling: Hazardous wastes are collected in open-top drums having properly completed EPA hazardous waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated.

Shipping: Container DOT Specification: UN/1A2.

Waste Code: Varies with waste analyses

Shipping Documentation: Include Waste Profile

10.5. Aerosol Paints, Cleaners, Lubricants, and Vent Filters

Characteristics:	Aerosol paints, cleaners, lubricants and vent filters may contain listed chemicals. Additionally, material in aerosol cans may be ignitable (D001) and/or reactive (D003). Vent filters contain carbon and adsorbed vapors. It is company management practice to minimize use of chlorinated and/or regulated aerosol solvents.
Classification:	RCRA-empty containers (approaching atmospheric pressure) are non-hazardous, solid waste. Unused, discarded products are hazardous if they contain a U- or P-listed chemical as the sole active ingredient or fail RCRA characteristics. Non-empty aerosols (empty of product but still containing propellant) may be hazardous due to characteristics of ignitability and/or reactivity. Spent vent filters are listed hazardous waste and/or exhibit hazardous waste characteristics.
Disposal:	Aerosol products are sprayed onto surfaces then allowed to dry or wiped-off with rags. Partially full potentially non-useable aerosol products are collected to determine if the products are still usable or if they are unusable or spent. All unusable or spent aerosol cans are emptied in can puncturing devices (the satellite accumulation containers under these devices are under the management of designated operators). Punctured empty cans are thrown in the trash. Spent vent filters are accumulated separately for disposal.
Analyses:	Apply generator knowledge, use previous characterization information, SDS, and/or sample and test aspirated liquids/solids for TCLP metals, F- and D-list total volatiles, F- and D-list total semi-volatiles and ignitability.
Waste Handling:	Liquid hazardous wastes are collected in closed-top drums and spent vent filters are collected in open-top drums having properly completed EPA hazardous waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated. Drums containing flammable liquids must be grounded when adding or removing waste.
Shipping:	Container DOT Specification: Liquids UN/1A1 and vent filters UN/1A2 Waste Code(s): Varies with constituents. Shipping Documentation: Include Waste Profile

10.6. Lead Based Paint Removal Waste

Characteristics:	Varies with removal process and materials used. May be ignitable; and may contain solvents or characteristic metals in addition to lead (D008).
Classification:	Hazardous waste D008 (lead). If waste is contaminated with listed solvent, the waste is a listed hazardous waste. If contaminated with solvent blends, or other non-listed materials, the waste may be a characteristic hazardous waste when discarded. Waste that is wet with flammable paint removal solvent when discarded may be ignitable (D001). Waste that contains a strong concentration

	of paint containing other toxic metals such as cadmium may include additional TCLP toxic metals.
Disposal:	Lead based paint removal materials and paint chips are segregated, containerized, and handled as hazardous waste.
Analyses:	Review of SDS and/or testing may be required to determine regulatory status. Apply generator knowledge; use previous characterization and/or SDS information. Sample and test if necessary due to process or product change. Lead based paint waste is typically tested for TCLP metals. Sample and test for total F & D-list volatiles, total semi-volatiles and/or ignitability (if identified by generator knowledge). Once characterized apply generator knowledge and sample and re-characterize any time the process changes.
Waste Handling:	Lead based paint removal materials will be collected in drums having properly completed EPA hazardous waste markings including the accumulation start date when the drums are full.
Shipping:	Container DOT Specification: UN/1A2. Waste Code: Varies with waste analyses Shipping Documentation: Include Waste Profile

11. General Mine Maintenance Shop

Description: The crew that maintains the various wells, sumps, pumps, and piping systems used for dewatering the mine and maintains buildings and grounds. Wastes produced with the current activities are discussed below.

11.1. Used Lubricating and Hydraulic Oil

Characteristics:	Used lubricating oil and hydraulic oils, including brake and transmission fluid, generated from vehicle and machinery with minor amounts of fuel constituents and metals. It is mine management practice to not mix used oil with solvents, coolants or other waste materials.
Classification:	Non-hazardous solid waste unless contaminated with degreasing solvent or toxic metals. It is a mine management practice that degreasing solvents shall not be mixed with used oil. In addition, only non-chlorinated degreasing solvents will be used. Wear of engine parts or hydraulic systems may contaminate oil with metals resulting in classification as off-specification oil, if Recycle or as a hazardous waste, if disposed. Although used oil destined for disposal or recycling is not listed as a hazardous waste, the EPA has established standards for managing used oil (40 CFR Part 279). Used oil burned for energy recovery under these rules must be analyzed to show if it meets used oil specifications.
Disposal:	Used oil generated in the maintenance of mobile equipment is collected in totes, drums and stored in double-walled aboveground storage tanks. Used oil from equipment that is maintained in the field is handled in a mobile tank that is then brought to the designated shop where the oil from the mobile tank is transferred

to the stationary tank. Used oil is Recycle off-site at approved facilities. Used oil is tested on a routine basis prior to on site or off-site recycling. A contractor picks up used oil for off-site recycling for energy recovery.

Analyses: Used oil shipped off-site for recycling is tested for specifications (40 CFR 279.11).

Waste Handling: Off-site Recycling: The mine will not be a “Used Oil Marketer,” “Used Oil Processor/Re-Refiner,” or a “Used Oil Transporter.”

The shop’s procedures for used oil management include the following: (1) We will not, nor will we allow any “hazardous waste” to be mixed with our used oil; (2) We will only use a pre-approved marketer/transporter having a valid EPA identification number to transport our used oil; (3) We will not direct shipments of used oil and we will make no claim in regard to the used oil specification for used oil Recycle off-site; (4) We will require that the transporter analyze each shipment of used oil with Chlor-D-Tect® test kits or the equivalent, to verify that the total organic halogens (TOX) concentration is below 1,000 parts per million (ppm) before transportation. The results of this analysis will be provided to and retained by the on-site environmental personnel.

If the test results show TOX more than 1,000 ppm, a sample will be collected and tested for total volatiles and TCLP metals (standard turnaround) before the used oil is transported off-site for disposal; and, (5) We will use generator knowledge and previous specification sample test results for used oil characterization.

11.2. Used Oil Filters

Characteristics: Used oil filters contain used oil, dirt and metal particles. Used coolant filters contain coolant, dirt and metal particles. Air filters contain dirt. Diesel fuel filters contain diesel fuel, dirt and metal particles. Gasoline filters contain gasoline, dirt and metal particles.

Classification: Used coolant and air filters are non-hazardous solid wastes. Used oil filters are excluded from regulation as hazardous waste provided they are non-terne plated, have not been mixed with a listed hazardous waste, and have been punctured or dismantled, and gravity hot-drained (40 CFR 261.4 (b)(13) or crushed. Drained and/or crushed used diesel fuel (diesel fuel flash point > 140°F) filters are non-hazardous solid waste. Used gasoline/fuel filters are hazardous for ignitability (D001) and/or benzene (D018). Drain and accumulate liquids in proper containers.

Disposal: Used oil filters are punctured on the filter dome end, then hot-drained for at least 24 hours and/or crushed. Diesel and coolant filters are drained and/or crushed. The diesel and used oil is combined with other used oil generated on site and coolant is combined with coolant. Coolant is collected in a separate container. Used oil and coolant filters that are drained and/or crushed, and air filters are placed in the trash. Gasoline fuel filters are accumulated in hazardous waste containers.

Analyses: None required as long as the above procedures are followed.

Waste Handling:	Gasoline fuel filters are collected in open-head drums having properly completed EPA hazardous waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated.
Shipping:	Container DOT Specification: UN/1A1. Waste Codes: D001 and/or D018. Shipping Documentation: Include Waste Profile

11.3. Used Rags, Wipes, Absorbent Pads, and Socks

Characteristics:	Varies with use and materials absorbed. May contain oil, solvents, fuels, and/or various substances.
Classification:	Typically, non-hazardous solid waste. If wet with non-listed solvent, fuel, used oil, or other regulated materials, the rags may be an ignitable (D001) hazardous waste when discarded. If contaminated with listed degreasing solvents, may be a (F002-F005) hazardous waste.
Disposal:	Routinely generated non-hazardous rags, wipes, absorbent pads, and socks that are not wet with oil, solvent and/or fuel are thrown in the trash barrels. Wet non-hazardous oily rags are drained, and petroleum hydrocarbon products are accumulated with the used oil. Rags, wipes, absorbent pads, and socks that are wet with ignitable liquids or are known to be contaminated with listed solvents or other hazardous materials should be segregated, containerized, and handled as hazardous waste.
Analyses:	Normally not required except for characterization of potentially contaminated rags. For spill cleanup waste characterization review of SDS and/or testing may be required to determine regulatory status.
Waste Handling:	Hazardous wastes are collected in open-top drums having properly completed EPA hazardous waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated.
Shipping:	Container DOT Specification: UN/1A2. Waste Code: Varies with waste analyses Shipping Documentation: Include Waste Profile

11.4. Spent Solvent from Parts Washers

Characteristics:	Water-based and hydrocarbon-based spent solvent, sludge and filters from bulk solvent use or parts washers. Typically spent solvents, sludge and filters contain dirt, oil, and grease. Unused and/or spent solvent has a flash point greater than 140°F. Spent solvent, sludge and filters may also contain metals from parts cleaning. If sludge is separated for disposal, it will typically contain hydrocarbons. Do not mix F-listed solvent with solvent from parts washers.
Classification:	Non-hazardous solvent is used consumptively or accumulated and disposed, or Recycle off-site; non-hazardous sludge is solidified and thrown in the trash; and non-hazardous filters are handled the same as used oil filters. Accumulated

spent solvent, sludge, and/or filters exceeding hazardous waste regulatory limits are handled as hazardous waste.

- Disposal:** Non-hazardous filters are drained, and managed the same as used oil filters (see Section 9.2.2). Non-hazardous combustible spent solvent may be managed with used oil (see Section 9.2.1). Non-hazardous sludge is managed with used grease. Spent solvent, sludge, and/or filters known to be contaminated with listed solvents or other hazardous wastes, are segregated, containerized and handled as hazardous waste at permitted facilities.
- Analyses:** Not required for unused solvent constituents (may be obtained from SDS). Apply generator knowledge; use previous characterization information, and SDS for characterization of filters and used solvent and/or sample and test initially (and anytime the process changes) for TCLP metals and F- and D-list volatile organics (if identified by generator knowledge) to verify characteristics. Once characterized apply generator knowledge and sample and re-characterize any time the process changes.
- Waste Handling:** Hazardous waste liquids are collected in closed top drums, and filters and/or sludge are collected in separate open head drums having properly completed EPA hazardous waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated.
- Shipping:** Container DOT Specification: UN/1A2.
Waste Code: Varies with waste analyses
Shipping Documentation: Include Waste Profile

11.5. Used Floor Dry or Sweeping Compound

- Characteristics:** Varies with wastes absorbed. May contain oil, TCLP toxicity materials, or listed solvents or fuels. Listed solvents are typically not used at the mine.
- Classification:** Normally non-hazardous solid waste; however, if contaminated with TCLP toxicity materials or listed solvents or other hazardous materials the floor dry or sweeping compound may be regulated as a hazardous waste when discarded.
- Disposal:** Non-draining (no free liquid) non-hazardous floor dry is routinely thrown in the trash; however, large quantities generated from a spill cleanup are containerized for characterization prior to disposal. Floor dry or sweeping compound known to be contaminated with listed solvents or other hazardous wastes should be segregated, containerized, and handled as hazardous waste.
- Analyses:** Normally not required except for characterization of potentially contaminated floor dry. For spill cleanup waste characterization, review of SDSs and/or testing may be required to determine regulatory status.
- Waste Handling:** Hazardous wastes are collected in open-top drums having properly completed EPA hazardous waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated.
- Shipping:** Container DOT Specification: UN/1A2.

Waste Code: Varies with waste analyses.

Shipping Documentation: Include Waste Profile

11.6. Empty Product Containers

- Characteristics:** Empty containers previously holding ignitable materials may contain explosive atmospheres. Use caution and ventilate.
- Classification:** Containers are empty and exempt from regulation (40 CFR 261.7) when:
- All products or waste have been removed that can be removed using the practices commonly employed to remove materials from that type of container, e.g., pouring, pumping, and aspirating, and
 - No more than 2.5 centimeters (one inch) of residue remain on the bottom of the container or inner liner, or
 - No more than 3 percent by weight of the total capacity of the container remains in the container or inner liner if the container is less than or equal to 110 gallons in size, or
 - No more than 0.3 percent by weight of the total capacity of the container remains in the container or inner liner if the container is greater than 110 gallons in size.
- Containers that have held compressed gases are empty when the pressure in the container approaches atmospheric.
- Containers that have held acute hazardous wastes must be rinsed or cleaned per 261.7(b). Acute hazardous waste constituents can be determined by comparing label/SDS constituents sole active ingredients or hazardous waste from non-specific sources to acute hazardous waste listed in 40 CFR 261.31, 261.32, or 261.33(e).
- Disposal:** Small containers (<5 gallons) are thrown in the trash when empty. Large containers (>5 gallons) are Recycle to the vendor, reused, or crushed and thrown in the trash. Containers that have held acute hazardous waste will be rinsed with the appropriate reagent before being discarded. The rinse reagent will be used in the same process as the chemical if safe to do so or disposed.
- Analyses:** Not required.

11.7. Waste Paints and Painting Wastes

- Characteristics:** Waste paint, thinners, paint brushes or rollers, masking material, rags, wipes, and containers.
- Classification:** Latex (water-based) paint wastes are typically non-hazardous, solid wastes. Oil-based painting related materials are typically hazardous wastes. Most oil-based product reducers or thinners are hazardous due to ignitability or listed solvent content. Spent reducers or thinners that contain 10 percent or more of F-listed solvent prior to use are F-list solvent hazardous waste. Oil-based paints may be hazardous due to ignitability (D001), TCLP characteristic for lead (D008) or

chromium content (D007). Epoxy hardeners may be characteristic hazardous waste for corrosivity (D002).

- Disposal:** Discard latex paints, containers and painting wastes as solid wastes in the trash after allowed to dry. Other waste paints, reducers, and thinners that are either listed or have hazardous characteristics should be disposed as hazardous waste at a RCRA-permitted facility. Epoxies should be classified and disposed accordingly. Painting wastes (i.e. applicators, rags, masking material, and empty containers) produced in the use of oil-based paints may be hazardous if still wet when disposed.
- Analyses:** Apply generator knowledge; use previous characterization information, SDS, and/or sample and test potentially hazardous painting wastes for TCLP metals, F- and D-list total volatiles, F- and D-list total semi-volatiles and ignitability.
- Waste Handling:** Solid hazardous wastes will be collected in open-top drums (UN/1A2). Liquid hazardous wastes will be collected UN/1A1 drums. These drums will have properly completed EPA hazardous waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated.
- Shipping:** Container DOT Specification: UN/1A2 (solid) or UN/1A1 (liquid).
Waste Code: Varies with waste constituents.
Shipping Documentation: Include Waste Profile

11.8. Sand Blast Grit

- Characteristics:** Used sand blasting grit at outdoor painting areas may contain metals from the parts themselves and paint particles contained in the waste grit. Analyses of this material have indicated that it is non-hazardous.
- Classification:** Typically, non-hazardous solid waste but may contain lead and cadmium from paint particles in the waste. If the concentration of these metals is high, the waste may fail TCLP metals and be a characteristic hazardous waste. Samples obtained in the past indicate that none of the TCLP regulatory levels for toxic metals were exceeded.
- Disposal:** Used non-hazardous blasting grit is typically left on the ground in the sand blasting portion of the outdoor painting areas or it is collected by the contractor thrown in the trash or disposed of off-site. Used grit exhibiting hazardous waste characteristics will be placed in drums and handled as hazardous waste for disposal.
- Analyses:** Use paint SDSs, apply generator knowledge and/or sample initially (and any time the process changes). Test for TCLP metals if metal content of paint fraction or parts is uncertain.

11.9. Scrap Metal Including Welding Rod and Cuttings

- Characteristics:** Pieces of metal scrap, used metal parts, and welding rod.
- Classification:** Recyclable material 40 CFR 261.6.

- Disposal: Scrap metal is saved in recycling bins and/or specified locations. Contractors routinely remove scrap metal for recycling. Used metal parts may be returned to vendors.
- Analyses: Not required for Recycle scrap metal.

11.10. Aerosol Paints, Cleaners, Lubricants, and Vent Filters

- Characteristics: Aerosol paints, cleaners, lubricants and vent filters may contain listed chemicals. Additionally, material in aerosol cans may be ignitable (D001) and/or reactive (D003). Vent filters contain carbon and adsorbed vapors. It is company management practice to minimize use of chlorinated and/or regulated aerosol solvents.
- Classification: RCRA-empty containers (approaching atmospheric pressure) are non-hazardous, solid waste. Unused, discarded products are hazardous if they contain a U- or P-listed chemical as the sole active ingredient or fail RCRA characteristics. Non-empty aerosols (empty of product but still containing propellant) may be hazardous due to characteristics of ignitability and/or reactivity. Spent vent filters are listed hazardous waste and/or exhibit hazardous waste characteristics.
- Disposal: Aerosol products are sprayed onto surfaces then allowed to dry or wiped-off with rags. Partially full potentially non-useable aerosol products are collected to determine if the products are still usable or if they are unusable or spent. All unusable or spent aerosol cans are emptied in can puncturing devices (the satellite accumulation containers under these devices are under the management of designated operators). Punctured empty cans are thrown in the trash. Spent vent filters are accumulated separately for disposal.
- Analyses: Apply generator knowledge, use previous characterization information, SDS, and/or sample and test aspirated liquids/solids for TCLP metals, F- and D-list total volatiles, F- and D-list total semi-volatiles and ignitability.
- Waste Handling: Liquid hazardous wastes are collected in closed-top drums and spent vent filters are collected in open-top drums having properly completed EPA hazardous waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated. Drums containing flammable liquids must be grounded when adding or removing waste.
- Shipping: Container DOT Specification: Liquids UN/1A1 and vent filters UN/1A2
Waste Code(s): Varies with constituents.
Shipping Documentation: Include Waste Profile

11.11. Ni-Cad, Mercury, or Sealed Gel Lead Acid Batteries Ni-Cad

- Characteristics: Ni-Cad batteries contain cadmium and/or alkaline material. Dry mercury batteries contain mercury.
- Classification: Ni-Cad and mercury batteries are subject to the Universal Waste Management Standards located in 40 CFR Part 273.

Disposal:	Handle batteries carefully to prevent damage. All batteries are placed in plastic bags or terminals are taped to prevent terminals from contacting and to prevent short circuits. Used Ni-Cad and mercury batteries are collected and stored in plastic containers at designated locations.
Analyses:	Not required; constituents can be determined from SDSs.
Waste Handling:	Universal waste batteries are collected in open-top plastic drums marked with the words "Universal Waste Batteries (Ni-Cad or mercury Batteries Only)" at the designated area. Mark the container with the date the waste is first put in the container. Universal waste cannot be stored on site for greater than 12 months. All batteries are placed in plastic bags or terminals are taped to prevent terminals from contacting and to prevent short circuits.
Shipping:	Container DOT Specification: UN/1H2. Waste Code: Not applicable to universal waste. Shipping Documentation: Include Waste Profile

11.12. Carbon and Alkaline Batteries

Characteristics:	Lamp and other miscellaneous batteries.
Classification:	Zinc-carbon and alkaline batteries SDSs indicate waste batteries are non-hazardous, solid wastes.
Disposal:	Batteries are thrown in the trash.
Analyses:	Not required; constituents can be determined from SDSs.

11.13. Cold Cutting Fluid

Characteristics:	Used cold cutting fluid and metals from metal cutting saws. It is a good management practice to not mix solvents, coolants or other waste materials with cutting fluid.
Classification:	Non-hazardous solid waste unless contaminated with metals or degreasing solvents. Oil-based fluid is managed as used oil (see Section 9.2.1). Water-based fluid is typically non-hazardous solid waste but may be hazardous if heavily contaminated with listed solvents or regulated metals.
Disposal:	Typically used consumptively. Excess oil-based fluid is mixed with used oil for disposal (see Section 9.2.1). Acceptable non-hazardous solid wastes with free liquids will be solidified/dried before disposing in the trash. Hazardous waste water-based fluid is accumulated separately in drums for off-site disposal at permitted facilities.
Analyses:	Not required for oil-based fluid unless there are process changes. Apply generator knowledge, use previous characterization information, and SDS for characterization of water-based fluid and/or sample and test for TCLP metals and volatile organics (if identified by generator knowledge) to verify characteristics. Once characterized, apply generator knowledge and sample to re-characterize any time the process changes.

Waste Handling: Hazardous wastes are collected in closed-top drums having properly completed EPA hazardous waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated.

Shipping: Container DOT Specification: UN/1A1 (metal closed-top drum).

Waste Code: Varies with waste analyses

Shipping Documentation: Include Waste Profile

11.14. Refrigerant Unit CFCs Oil Waste

Characteristic: Oil that comes in contact with CFCs during the normal use of the refrigeration unit.

Classification: If total halogen is greater than 1,000 ppm then it is treated as a hazardous waste unless it is sent to be reclaimed for CFCs, 40 CFR 279.10(b)(ii)(B). If total halogen is less than 1,000 ppm then it can be managed as used oil.

Disposal: CFC work is conducted by certified technicians who may add new oil, but they do not normally remove used oil. The mine has requested the contractor to provide paperwork if they remove used oil with CFCs. If greater than 1,000 ppm total halogen, ship to a facility that can reclaim CFC from used oil or ship off as hazardous waste. If less than 1,000 ppm total halogen, manage with used oil.

Analysis: Chlor-D-Tect test for total halogen content.

11.15. Expanding Foam Aerosol Cans

Characteristics: Expanding foam aerosol cans containing foam constituents. Additionally, material in aerosol cans may be ignitable (D001) and/or reactive (D003).

Classification: RCRA-empty containers (approaching atmospheric pressure) are non-hazardous, solid waste. Non-empty aerosols (empty of product but still containing propellant) may be hazardous due to characteristics of ignitability and/or reactivity.

Disposal: Aerosol products are used for their intended purpose. Partially full potentially non-useable aerosol products are collected to determine if the products are still usable or if they are unusable. All unusable expanding foam aerosol cans are accumulated for disposal.

Analyses: Not required, constituents can be determined from SDS.

Waste Handling: Expanding foam aerosol cans hazardous wastes are collected in open-top drums having properly completed EPA hazardous waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated.

Shipping: Container DOT Specification: UN/1A2

Waste Code(s): Ignitability (D001) and reactivity (D003).

Shipping Documentation: Include Waste Profile

11.16. Lead Acid Batteries

Characteristics:	Vehicle and equipment batteries containing acid and lead.
Classification:	Undamaged non-leaking batteries are recyclable materials under 40 CFR 261.6 or universal waste under 40 CFR Part 273. Damaged or leaking batteries are hazardous waste due to the characteristics of lead (D008) and corrosivity (D002).
Disposal:	<p>Handle lead acid batteries carefully to prevent damage and potential acid spills. Prevent terminals from contacting to prevent short circuits.</p> <p><u>Recycle Batteries:</u> Used batteries are stored in (on-site) specified locations prior to being returned to vendors for recycling.</p> <p><u>Universal Waste:</u> If not returned to the vendor for recycling, batteries are handled as universal waste under 40 CFR Part 273 when a new battery is obtained.</p> <p><u>Hazardous Waste:</u> Damaged leaking batteries are containerized and disposed as hazardous waste. Each broken battery must be packaged in a separate plastic pail.</p>
Analyses:	Not required; constituents can be determined from SDSs.
Waste Handling:	<p><u>Hazardous Waste:</u> Damaged or leaking batteries are collected in separate plastic pails and placed in plastic drums having properly completed EPA hazardous waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated.</p> <p><u>Universal Waste:</u> Universal waste batteries are collected in containers marked with the words "Universal Waste Used Batteries ("Lead Acid Batteries Only") or returned to the vendor for recycling. Mark the outside of the universal waste container with the date the waste is first put in the container. Universal waste cannot be stored on site for greater than 12 months.</p>
Shipping:	<p>Container DOT Specification: UN/1H2.</p> <p>Waste Code: Waste Code: Not applicable to universal waste. D008 (10 lbs.) and D002 (100 lbs.) for hazardous waste.</p> <p>Shipping Documentation: Include Waste Profile</p>

12. Process Mill Maintenance

Description: Maintenance of the crushing and conveying equipment, mill circuit, flotation, fine grinding, carbon-in-leach (CIL), carbon strip, refinery, mill water supply, tailings disposal systems and water treatment systems is conducted by the process maintenance department. In addition to conducting maintenance work at the location of the equipment and facilities, there is a mill maintenance shop located at the near the process circuits. Various wastes that are produced in these activities are discussed below.

12.1. Used Lubricating and Hydraulic Oil

Characteristics:	Used lubricating oil and hydraulic oils, including brake and transmission fluid, generated from vehicle and machinery with minor amounts of fuel constituents and metals. It is mine management practice to not mix used oil with solvents, coolants or other waste materials. Except that any drums of used oil from the field are brought to the shop tank, tested and then transferred to it.
Classification:	Non-hazardous solid waste unless contaminated with degreasing solvent or toxic metals. It is a mine management practice that degreasing solvents shall not be mixed with used oil. In addition, only non-chlorinated degreasing solvents will be used. Wear of engine parts or hydraulic systems may contaminate oil with metals resulting in classification as off-specification oil, if Recycle or as a hazardous waste, if disposed. Although used oil destined for disposal or recycling is not listed as a hazardous waste, the EPA has established standards for managing used oil (40 CFR Part 279). Used oil burned for energy recovery under these rules must be analyzed to show if it meets used oil specifications.
Disposal:	Used oil generated in the maintenance of mobile equipment is collected in totes, drums and stored in double-walled aboveground storage tanks. Used oil from equipment that is maintained in the field is handled in a mobile tank that is then brought to the designated shop where the oil from the mobile tank is transferred to the stationary tank. Used oil is Recycle off-site at approved facilities. Used oil is tested on a routine basis prior to on site or off-site recycling. A contractor picks up used oil for off-site recycling for energy recovery.
Analyses:	Used oil shipped off-site for recycling is tested for specifications (40 CFR 279.11).
Waste Handling:	Off-site Recycling: The mine will not be a "Used Oil Marketer," "Used Oil Processor/Re-Refiner," or a "Used Oil Transporter."

The shop's procedures for used oil management include the following: (1) We will not, nor will we allow any "hazardous waste" to be mixed with our used oil; (2) We will only use a pre-approved marketer/transporter having a valid EPA identification number to transport our used oil; (3) We will not direct shipments of used oil and we will make no claim in regard to the used oil specification for used oil Recycle off-site; (4) We will require that the transporter analyze each shipment of used oil with Chlor-D-Tect ® test kits or the equivalent, to verify that the total organic halogens (TOX) concentration is below 1,000 parts per million (ppm) before transportation. The results of this analysis will be provided to and retained by the on-site environmental personnel.

If the test results show TOX in excess of 1,000 ppm, a sample will be collected and tested for total volatiles and TCLP metals (standard turnaround) before the used oil is transported off-site for disposal; and, (5) We will use generator knowledge and previous specification sample test results for used oil characterization.

12.2. Used Rags, Wipes, Absorbent Pads, and Socks

Characteristics:	Varies with use and materials absorbed. May contain oil, solvents, fuels, and/or various substances.
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Classification:	Typically, non-hazardous solid waste. If wet with non-listed solvent, fuel, used oil, or other regulated materials, the rags may be an ignitable (D001) hazardous waste when discarded. If contaminated with listed degreasing solvents, may be a (F002-F005) hazardous waste.
Disposal:	Routinely generated non-hazardous rags, wipes, absorbent pads, and socks that are not wet with oil, solvent and/or fuel are thrown in the trash barrels. Wet non-hazardous oily rags are drained, and petroleum hydrocarbon products are accumulated with the used oil. Rags, wipes, absorbent pads, and socks that are wet with ignitable liquids or are known to be contaminated with listed solvents or other hazardous materials should be segregated, containerized, and handled as hazardous waste.
Analyses:	Normally not required except for characterization of potentially contaminated rags. For spill cleanup waste characterization review of SDS and/or testing may be required to determine regulatory status.
Waste Handling:	Hazardous wastes are collected in open-top drums having properly completed EPA hazardous waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated.
Shipping:	Container DOT Specification: UN/1A2.
Waste Code:	Varies with waste analyses
Shipping Documentation:	Include Waste Profile

12.3. Waste Paints and Painting Wastes

Characteristics:	Waste paint, thinners, paint brushes or rollers, masking material, rags, wipes, and containers.
Classification:	Latex (water-based) paint wastes are typically non-hazardous, solid wastes. Oil-based painting related materials are typically hazardous wastes. Most oil-based product reducers or thinners are hazardous due to ignitability or listed solvent content. Spent reducers or thinners that contain 10 percent or more of F-listed solvent prior to use are F-list solvent hazardous waste. Oil-based paints may be hazardous due to ignitability (D001), TCLP characteristic for lead (D008) or chromium content (D007). Epoxy hardeners may be characteristic hazardous waste for corrosivity (D002).
Disposal:	Discard latex paints, containers and painting wastes as solid wastes in the trash after allowed to dry. Other waste paints, reducers, and thinners that are either listed or have hazardous characteristics should be disposed as hazardous waste at a RCRA-permitted facility. Epoxies should be classified and disposed accordingly. Painting wastes (i.e. applicators, rags, masking material, and empty containers) produced in the use of oil-based paints may be hazardous if still wet when disposed.
Analyses:	Apply generator knowledge; use previous characterization information, SDS, and/or sample and test potentially hazardous painting wastes for TCLP metals, F- and D-list total volatiles, F- and D-list total semi-volatiles and ignitability.

- Waste Handling:** Solid hazardous wastes will be collected in open-top drums (UN/1A2). Liquid hazardous wastes will be collected UN/1A1 drums. These drums will have properly completed EPA hazardous waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated.
- Shipping:** Container DOT Specification: UN/1A2 (solid) or UN/1A1 (liquid).
Waste Code: Varies with waste constituents.
Shipping Documentation: Include Waste Profile

12.4. Sand Blast Grit

- Characteristics:** Used sand blasting grit at outdoor painting areas may contain metals from the parts themselves and paint particles contained in the waste grit. Analyses of this material have indicated that it is non-hazardous.
- Classification:** Typically, non-hazardous solid waste but may contain lead and cadmium from paint particles in the waste. If the concentration of these metals is high, the waste may fail TCLP metals and be a characteristic hazardous waste. Samples obtained in the past indicate that none of the TCLP regulatory levels for toxic metals were exceeded.
- Disposal:** Used non-hazardous blasting grit is typically left on the ground in the sand blasting portion of the outdoor painting areas or it is collected by the contractor thrown in the trash or disposed of off-site. Used grit exhibiting hazardous waste characteristics will be placed in drums and handled as hazardous waste for disposal.
- Analyses:** Use paint SDSs, apply generator knowledge and/or sample initially (and any time the process changes). Test for TCLP metals if metal content of paint fraction or parts is uncertain.

12.5. Scrap Metal Including Welding Rod and Cuttings

- Characteristics:** Pieces of metal scrap, used metal parts, and welding rod.
- Classification:** Recyclable material 40 CFR 261.6.
- Disposal:** Scrap metal is saved in recycling bins and/or specified locations. Contractors routinely remove scrap metal for recycling. Used metal parts may be returned to vendors.
- Analyses:** Not required for Recycle scrap metal.

12.6. Spent Solvent (water and/or hydrocarbon-based), Sludge and/or Filters from Parts Washers or Bulk Solvent

- Characteristics:** Water-based and hydrocarbon-based spent solvent, sludge and filters from bulk solvent use or parts washers. Typically spent solvents, sludge and filters contain dirt, oil, and grease. Unused and/or spent solvent has a flash point greater than 140°F. Spent solvent, sludge and filters may also contain metals from parts

	cleaning. If sludge is separated for disposal, it will typically contain hydrocarbons. Do not mix F-listed solvent with solvent from parts washers.
Classification:	Non-hazardous solvent is used consumptively or accumulated and disposed, or Recycle off-site; non-hazardous sludge is solidified and thrown in the trash; and non-hazardous filters are handled the same as used oil filters. Accumulated spent solvent, sludge, and/or filters exceeding hazardous waste regulatory limits are handled as hazardous waste.
Disposal:	Non-hazardous filters are drained, and managed the same as used oil filters (see Section 9.2.2). Non-hazardous combustible spent solvent may be managed with used oil (see Section 9.2.1). Non-hazardous sludge is managed with used grease. Spent solvent, sludge, and/or filters known to be contaminated with listed solvents or other hazardous wastes, are segregated, containerized and handled as hazardous waste at permitted facilities.
Analyses:	Not required for unused solvent constituents (may be obtained from SDS). Apply generator knowledge; use previous characterization information, and SDS for characterization of filters and used solvent and/or sample and test initially (and anytime the process changes) for TCLP metals and F- and D-list volatile organics (if identified by generator knowledge) to verify characteristics. Once characterized apply generator knowledge and sample and re-characterize any time the process changes.
Waste Handling:	Hazardous waste liquids are collected in closed top drums, and filters and/or sludge are collected in separate open head drums having properly completed EPA hazardous waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated.
Shipping:	Container DOT Specification: UN/1A2. Waste Code: Varies with waste analyses Shipping Documentation: Include Waste Profile

12.7. Industrial Lamp Bulbs

Characteristics:	Waste High-Pressure (HP) sodium High-Intensity-Discharge (HID), mercury vapor HID, metal halide HID bulbs; fluorescent tubes; and incandescent bulbs. It is mine management practice to only use non-hazardous TCLP compliant HID's or fluorescent bulbs.
Classification:	Some remnant "silver-tipped" fluorescent tubes/lamps on site may have been some of the first tubes/lamps manufactured with mercury below the RCRA regulatory level and may be non-hazardous solid waste. Intact or broken fluorescent tubes/lamps with the silver ends are typically TCLP hazardous wastes for mercury (D009); HP sodium, mercury vapor, and metal halide are TCLP toxic for mercury (D009) and lead (D008), if not managed as universal waste under 40 CFR Part 273. Contact the Environmental Department for classification of fluorescent tubes/lamps with silver ends. The "silver-tipped" fluorescent tubes marked "TCLP Compliant," "green-tipped" fluorescent tubes, and incandescent bulbs are non-hazardous solid waste. Philips HID bulbs

marked “Alto” and other manufactures HID bulbs marked “TCLP compliant” have passed a TCLP test and are non-hazardous.

Disposal: Non-hazardous Waste: Non-hazardous incandescent bulbs are thrown in the trash.

Hazardous Waste: Broken bulbs/tubes are accumulated at the designated area in containers marked/labeled “Hazardous Waste Used lamps” prior to off-site management at an approved disposal facility

Universal Waste: Fluorescent tubes, HP sodium, mercury vapor, and metal halide lamps are accumulated at the designated area in containers marked/labeled “Universal Waste Used lamps” prior to off-site management at an approved universal waste management facility.

Analyses: Not required, if constituents can definitely be determined from SDSs. If constituents cannot be determined from SDSs apply generator knowledge, use previous characterization information, and/or sample and test for TCLP metals.

Waste Handling: Hazardous Waste: Broken bulbs/tubes hazardous wastes will be collected in drums having properly completed EPA hazardous waste markings including the accumulation start date when the drums become full. Containers are stored in a designated area until they are shipped to a designated or a permitted Treatment, Storage, and Disposal Facility (TSDF).

Universal Waste: Universal wastes are accumulated in original packaging or in an approved container. Mark containers with a properly completed EPA universal waste marking including the date the waste is first put in the container (accumulation start date). Containers are stored in a designated area until they are shipped to a designated universal waste recycling facility (once per year). Universal waste cannot be stored on site for greater than 12 months.

Shipping: Containers: Original shipping or other designation.

Waste Code: Does not apply to universal waste.

Shipping Documentation: Include Waste Profile

12.8. Aerosol Paints, Cleaners, Lubricants, and Vent Filters

Characteristics: Aerosol paints, cleaners, lubricants and vent filters may contain listed chemicals. Additionally, material in aerosol cans may be ignitable (D001) and/or reactive (D003). Vent filters contain carbon and adsorbed vapors. It is company management practice to minimize use of chlorinated and/or regulated aerosol solvents.

Classification: RCRA-empty containers (approaching atmospheric pressure) are non-hazardous, solid waste. Unused, discarded products are hazardous if they contain a U- or P-listed chemical as the sole active ingredient or fail RCRA characteristics. Non-empty aerosols (empty of product but still containing propellant) may be hazardous due to characteristics of ignitability and/or reactivity. Spent vent filters are listed hazardous waste and/or exhibit hazardous waste characteristics.

Disposal:	Aerosol products are sprayed onto surfaces then allowed to dry or wiped-off with rags. Partially full potentially non-useable aerosol products are collected to determine if the products are still usable or if they are unusable or spent. All unusable or spent aerosol cans are emptied in can puncturing devices (the satellite accumulation containers under these devices are under the management of designated operators). Punctured empty cans are thrown in the trash. Spent vent filters are accumulated separately for disposal.
Analyses:	Apply generator knowledge, use previous characterization information, SDS, and/or sample and test aspirated liquids/solids for TCLP metals, F- and D-list total volatiles, F- and D-list total semi-volatiles and ignitability.
Waste Handling:	Liquid hazardous wastes are collected in closed-top drums and spent vent filters are collected in open-top drums having properly completed EPA hazardous waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated. Drums containing flammable liquids must be grounded when adding or removing waste.
Shipping:	<p>Container DOT Specification: Liquids UN/1A1 and vent filters UN/1A2</p> <p>Waste Code(s): Varies with constituents.</p> <p>Shipping Documentation: Include Waste Profile</p>

12.9. Cold Cutting Fluid

Characteristics:	Used cold cutting fluid and metals from metal cutting saws. It is a good management practice to not mix solvents, coolants or other waste materials with cutting fluid.
Classification:	Non-hazardous solid waste unless contaminated with metals or degreasing solvents. Oil-based fluid is managed as used oil (see Section 9.2.1). Water-based fluid is typically non-hazardous solid waste but may be hazardous if heavily contaminated with listed solvents or regulated metals.
Disposal:	Typically used consumptively. Excess oil-based fluid is mixed with used oil for disposal (see Section 9.2.1). Acceptable non-hazardous solid wastes with free liquids will be solidified/dried before disposing in the trash. Hazardous waste water-based fluid is accumulated separately in drums for off-site disposal at permitted facilities.
Analyses:	Not required for oil-based fluid unless there are process changes. Apply generator knowledge, use previous characterization information, and SDS for characterization of water-based fluid and/or sample and test for TCLP metals and volatile organics (if identified by generator knowledge) to verify characteristics. Once characterized, apply generator knowledge and sample to re-characterize any time the process changes.
Waste Handling:	Hazardous wastes are collected in closed-top drums having properly completed EPA hazardous waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated.
Shipping:	Container DOT Specification: UN/1A1 (metal closed-top drum).

Waste Code: Varies with waste analyses

Shipping Documentation: Include Waste Profile

12.10. Used Floor Dry

Characteristics:	Varies with wastes absorbed. May contain oil, TCLP toxicity materials, or listed solvents or fuels. Listed solvents are typically not used at the mine.
Classification:	Normally non-hazardous solid waste; however, if contaminated with TCLP toxicity materials or listed solvents or other hazardous materials the floor dry or sweeping compound may be regulated as a hazardous waste when discarded.
Disposal:	Non-draining (no free liquid) non-hazardous floor dry is routinely thrown in the trash; however, large quantities generated from a spill cleanup are containerized for characterization prior to disposal. Floor dry or sweeping compound known to be contaminated with listed solvents or other hazardous wastes should be segregated, containerized, and handled as hazardous waste.
Analyses:	Normally not required except for characterization of potentially contaminated floor dry. For spill cleanup waste characterization, review of SDSs and/or testing may be required to determine regulatory status.
Waste Handling:	Hazardous wastes are collected in open-top drums having properly completed EPA hazardous waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated.
Shipping:	Container DOT Specification: UN/1A2. Waste Code: Varies with waste analyses. Shipping Documentation: Include Waste Profile

12.11. Ni-Cad Batteries

Characteristics:	Ni-Cad batteries contain cadmium and/or alkaline material. Dry mercury batteries contain mercury.
Classification:	Ni-Cad and mercury batteries are subject to the Universal Waste Management Standards located in 40 CFR Part 273.
Disposal:	Handle batteries carefully to prevent damage. All batteries are placed in plastic bags or terminals are taped to prevent terminals from contacting and to prevent short circuits. Used Ni-Cad and mercury batteries are collected and stored in plastic containers at designated locations.
Analyses:	Not required; constituents can be determined from SDSs.
Waste Handling:	Universal waste batteries are collected in open-top plastic drums marked with the words "Universal Waste Batteries (Ni-Cad or mercury Batteries Only)" at the designated area. Mark the container with the date the waste is first put in the container. Universal waste cannot be stored on site for greater than 12 months. All batteries are placed in plastic bags or terminals are taped to prevent terminals from contacting and to prevent short circuits.

Shipping: Container DOT Specification: UN/1H2.
Waste Code: Not applicable to universal waste.
Shipping Documentation: Include Waste Profile

12.12. Lithium Batteries

Characteristics: Spent lithium ion batteries contain reactive and ignitable lithium.

Classification: Recycle lithium batteries are subject to the Universal Waste Management Standards located in 40 CFR Part 273. Discarded lithium batteries containing reactive lithium are regulated for characteristics of ignitability (D001) and reactivity (D003), unless managed as universal wastes according to SCDHEC guidelines.

Disposal: Used lithium batteries are collected and stored in a plastic container, at the designated location. Lithium batteries should be returned to the designated location and Recycle or disposed. If disposed as a waste, they should be handled as hazardous waste. Handle lithium batteries carefully to prevent damage. All batteries are placed in plastic bags or terminals are taped to prevent terminals from contacting and to prevent short circuits.

Analyses: Not required. Constituents can be determined from SDSs.

Waste Handling: Universal waste batteries are collected in containers marked with the words "Universal Waste Used Batteries (Ni-Cad, Dry Lead, or Mercury Batteries Only)" or returned to the vendor for recycling. Mark the container with the date the waste is first put in the container. Universal waste cannot be stored on site for greater than 12 months. All batteries are placed in plastic bags or terminals are taped to prevent terminals from contacting and to prevent short circuits.

Shipping: Container DOT Specification: UN/1A2.
Waste Code: D001 and D003 if disposed as hazardous waste. Not applicable to universal waste.
Shipping Documentation: Include Waste Profile

12.13. Carbon and Alkaline Batteries

Characteristics: Lamp and other miscellaneous batteries.

Classification: Zinc-carbon and alkaline batteries SDSs indicate waste batteries are non-hazardous, solid wastes.

Disposal: Batteries are thrown in the trash.

Analyses: Not required; constituents can be determined from SDSs.

12.14. Sump Cleanouts

Characteristics: Occasional cleanout of process and floor sumps. Characteristics depend on the location of the sump in the process and the presence of any spilled chemicals in the sump contents. Typical characteristics associated with an area include floor

wash water with *de minimis* amounts of spilled equipment (pumps, compressors etc.) lube oil and process chemicals.

- Classification:** Sump cleanouts that are Recycle to the process from which the material originated are excluded from RCRA solid waste under 40 CFR 261.4 (a) (8) and/or 40 CFR 261.2(e) when Recycle. Beneficiation wastes collected in the sumps are also excluded from hazardous waste regulation under 40 CFR 261.4(b) (7). Other spilled material collected in sumps that is either not beneficiation waste or not Recycle to the process circuit from which it originated should be tested for hazardous waste characteristics before being Recycle to the process or disposed.
- Disposal:** Either Recycle to the originating process or disposed as appropriate after testing and characterization.
- Analyses:** Not required if material is a beneficiation waste or is Recycle to the process from which the material originated. If the soil/sludge possibly contains metals and/or F-listed solvents, sample and test initially (and anytime the process changes) for TCLP metals and total F- and D-list volatile organics.

12.15. Tank and Vessel Cleanouts

- Characteristics:** Occasional cleanout of process tanks and vessels. Characteristics depend on the location of the tank or vessel in the process and if any cleaning reagents or materials are added to the tank contents to conduct the cleanout.
- Classification:** Tank cleanout materials that are not mixed with any hazardous cleaning reagents and that are Recycle to the process from which the material originated are excluded from RCRA solid waste under 40 CFR 261.4 (a)(8) and/or 40 CFR 261.2(e) when Recycle. Beneficiation wastes that are cleaned from tanks are also excluded from regulation as a hazardous waste under 40 CFR 261.4(b) (7). Material that is not Recycle to the process circuit from which it originated, or that is not a beneficiation waste should be tested for hazardous waste characteristics before being disposed.
- Disposal:** Either Recycle to the originating process or disposed as appropriate after testing and characterization.
- Analyses:** Not required if material is a beneficiation waste or is Recycle to the process from which the material originated. If the soil/sludge possibly contains metals and/or F-listed solvents, sample and test initially (and anytime the process changes) for TCLP metals and total F- and D-list volatile organics.

12.16. Nuclear Sources

- Characteristics:** Instruments containing radioactive source material.
- Classification:** Excluded from RCRA solid waste under 40 CFR 261.4(a)(4).
- Disposal:** Regulated under NRC requirements and not disposed but reused or returned to vendor.
- Analyses:** Not required.

12.17. Hot Water Parts Washer Spent Filters , Water, Sludge, and Skimmer Waste

Characteristics:	"Hot water parts washer" filters, water, sludge, and skimmer waste which contains high pH detergent (before use) and may contain metals, oil, grease, and solvents from parts cleaning. Detergent solutions typically exhibit a neutral pH after use.
Classification:	Water, sludge, and skimmer (oil) waste are typically non-hazardous solid wastes but may be hazardous if heavily contaminated with listed solvents or regulated metals. Non-hazardous skimmer oil is managed as used oil. Non-hazardous filters are handled the same as used oil filters.
Disposal:	Non-hazardous water and sludge that contain hydrocarbons are mixed with floor dry and thrown in the trash or containerized for disposal off-site at approved facilities. Non-hazardous skimmer oil is managed with use oil (see Section 9.2.1). Non-hazardous filters are drained and managed with used oil filters (see Section 9.2.2). Hazardous waste water, sludge, and/or skimmer waste is accumulated separately in drums for off-site disposal at permitted facilities.
Analyses:	Apply generator knowledge, use previous characterization information, and SDS for characterization of filters, water, sludge, and/or skimmer waste and/or sample and test for TCLP metals and volatile organics (if identified by generator knowledge) to verify characteristics. Once characterized apply generator knowledge and sample to re-characterize any time the process changes.
Waste Handling:	Hazardous wastes are collected in open-top drums having properly completed EPA hazardous waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated.
Shipping:	<p>Container DOT Specification: UN/1A2.</p> <p>Waste Code: Varies with waste analyses</p> <p>Shipping Documentation: Include Waste Profile</p>

12.18. Mercury Vapor Analyzer Scrubber Filters

Characteristics:	Small filters that act as air scrubbers on the outlets of mercury vapor analyzers. Contain any mercury that may have entered the analyzers as a vapor during operation. TCLP testing conducted for this waste stream indicated that it is non-hazardous.
Classification:	Normally non-hazardous solid waste, however, filters that have accumulated significant quantities of mercury may exceed the TCLP threshold for this metal and may be regulated as a hazardous waste when discarded. TCLP analyses to date indicated that metals were below regulatory levels for hazardous waste.
Disposal:	Routinely thrown in the trash, however, wastes known to be contaminated with high levels of mercury should be segregated, containerized, and handled as hazardous waste.
Analyses:	Normally not required except for characterization of filters that are suspected of containing unusually high levels of mercury.

12.19. Machine Tool Fluids

Examples:	Machining fluids from cleaning out machine tool sumps.
Classification:	Machining fluids used at the mine typically are not hazardous wastes.
Disposal:	Typically, fluids are used consumptively but used oils removed from sumps are handled as used oil.
Analyses:	Not required for oil-based fluid unless there are process changes. Apply generator knowledge, use previous characterization information, and SDS for characterization of water-based fluid and/or sample and test for TCLP metals and volatile organics (if identified by generator knowledge) to verify characteristics. Once characterized, apply generator knowledge and sample to re-characterize any time the process changes.

13. Fueling Facilities

Description: The mining and ore processing operations at the mine require diesel fuel, gasoline, oils, greases, antifreezes, kerosene, and solvents for equipment operation and maintenance. The above ground fueling facilities are located at the fuel island. Additionally, mobile tanker and lube trucks may be used on site to maintain drills, graders, dozers, haul trucks, water trucks and loaders. The fuel island facility consists of storage/dispensing facilities for fuels, lubricants, and coolant (glycol-based antifreeze). Typical waste streams from these facilities are described below:

13.1. Collected Oil/Grease and Small Spills

Used lubricating grease, oil and hydraulic oils, including brake and transmission fluid, generated from vehicle and machinery with minor amounts of fuel constituents and metals. It is mine management practice to not mix used oil with solvents, coolants or other waste materials. Analyses have indicated that the oil meets the criteria for specification used oil.

Characteristics:	Used lubricating oil and hydraulic oils, including brake and transmission fluid, generated from vehicle and machinery with minor amounts of fuel constituents and metals. It is mine management practice to not mix used oil with solvents, coolants or other waste materials.
Classification:	Non-hazardous solid waste unless contaminated with degreasing solvent or toxic metals. It is a mine management practice that degreasing solvents shall not be mixed with used oil. In addition, only non-chlorinated degreasing solvents will be used. Wear of engine parts or hydraulic systems may contaminate oil with metals resulting in classification as off-specification oil, if Recycle or as a hazardous waste, if disposed. Although used oil destined for disposal or recycling is not listed as a hazardous waste, the EPA has established standards for managing used oil (40 CFR Part 279). Used oil burned for energy recovery under these rules must be analyzed to show if it meets used oil specifications.
Disposal:	Used oil generated in the maintenance of mobile equipment is collected in totes, drums and stored in double-walled aboveground storage tanks. Used oil from equipment that is maintained in the field is handled in a mobile tank that is then brought to the designated shop where the oil from the mobile tank is transferred

to the stationary tank. Used oil is Recycle off-site at approved facilities. Used oil is tested on a routine basis prior to on site or off-site recycling. A contractor picks up used oil for off-site recycling for energy recovery.

Analyses: Used oil shipped off-site for recycling is tested for specifications (40 CFR 279.11).

Waste Handling: Off-site Recycling: The mine will not be a “Used Oil Marketer,” “Used Oil Processor/Re-Refiner,” or a “Used Oil Transporter.”

The shop's procedures for used oil management include the following: (1) We will not, nor will we allow any “hazardous waste” to be mixed with our used oil; (2) We will only use a pre-approved marketer/transporter having a valid EPA identification number to transport our used oil; (3) We will not direct shipments of used oil and we will make no claim in regard to the used oil specification for used oil Recycle off-site; (4) We will require that the transporter analyze each shipment of used oil with Chlor-D-Tect ® test kits or the equivalent, to verify that the total organic halogens (TOX) concentration is below 1,000 parts per million (ppm) before transportation. The results of this analysis will be provided to and retained by the on-site environmental personnel.

If the test results show TOX in excess of 1,000 ppm, a sample will be collected and tested for total volatiles and TCLP metals (standard turnaround) before the used oil is transported off-site for disposal; and, (5) We will use generator knowledge and previous specification sample test results for used oil characterization.

13.2. Collected Used Engine Coolant (Glycol-Based Antifreeze) and small Spills

Characteristics: Ethylene glycol and water drained from mobile equipment may contain regulated metals and benzene. Ethylene glycol is toxic by ingestion. Analyses of this material have indicated it is non-hazardous.

Classification: Non-hazardous solid waste unless contaminated with metals, fuels, solvents, or other maintenance wastes. TCLP metal analyses of used coolant from the mine were below hazardous waste regulatory levels. If TCLP metals exceed hazardous waste regulatory levels, antifreeze would be regulated as hazardous waste.

Disposal: Typically used consumptively or reused. Accumulated coolant is collected in drums, totes and/or tanks for recycling and Recycle on site or off-site (by an approved facility). The approved contractor routinely tests and evacuates the used antifreeze storage tank. Used coolant storage containers are marked with the words “Used Antifreeze.” Hazardous wastes will be segregated, containerized, and handled as hazardous waste.

Analyses: Use coolant SDSs, apply generator knowledge and/or sample initially (and any time the process changes).

13.3. Used Floor Dry or Sweeping Compound

Characteristics: Varies with wastes absorbed. May contain oil, TCLP toxicity materials, or listed solvents or fuels. Listed solvents are typically not used at the mine.

Classification:	Normally non-hazardous solid waste; however, if contaminated with TCLP toxicity materials or listed solvents or other hazardous materials the floor dry or sweeping compound may be regulated as a hazardous waste when discarded.
Disposal:	Non-draining (no free liquid) non-hazardous floor dry is routinely thrown in the trash; however, large quantities generated from a spill cleanup are containerized for characterization prior to disposal. Floor dry or sweeping compound known to be contaminated with listed solvents or other hazardous wastes should be segregated, containerized, and handled as hazardous waste.
Analyses:	Normally not required except for characterization of potentially contaminated floor dry. For spill cleanup waste characterization, review of SDSs and/or testing may be required to determine regulatory status.
Waste Handling:	Hazardous wastes are collected in open-top drums having properly completed EPA hazardous waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated.
Shipping:	Container DOT Specification: UN/1A2. Waste Code: Varies with waste analyses. Shipping Documentation: Include Waste Profile

13.4. Used Rags, Wipes, Absorbent Pads, and Socks

Characteristics:	Varies with use and materials absorbed. May contain oil, solvents, fuels, and/or various substances.
Classification:	Typically, non-hazardous solid waste. If wet with non-listed solvent, fuel, used oil, or other regulated materials, the rags may be an ignitable (D001) hazardous waste when discarded. If contaminated with listed degreasing solvents, may be a (F002-F005) hazardous waste.
Disposal:	Routinely generated non-hazardous rags, wipes, absorbent pads, and socks that are not wet with oil, solvent and/or fuel are thrown in the trash barrels. Wet non-hazardous oily rags are drained, and petroleum hydrocarbon products are accumulated with the used oil. Rags, wipes, absorbent pads, and socks that are wet with ignitable liquids or are known to be contaminated with listed solvents or other hazardous materials should be segregated, containerized, and handled as hazardous waste.
Analyses:	Normally not required except for characterization of potentially contaminated rags. For spill cleanup waste characterization review of SDS and/or testing may be required to determine regulatory status.
Waste Handling:	Hazardous wastes are collected in open-top drums having properly completed EPA hazardous waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated.
Shipping:	Container DOT Specification: UN/1A2. Waste Code: Varies with waste analyses

Shipping Documentation: Include Waste Profile

13.5. Fuel Filters

Characteristics:	Used oil filters contain used oil, dirt and metal particles. Used coolant filters contain coolant, dirt and metal particles. Air filters contain dirt. Diesel fuel filters contain diesel fuel, dirt and metal particles. Gasoline filters contain gasoline, dirt and metal particles.
Classification:	Used coolant and air filters are non-hazardous solid wastes. Used oil filters are excluded from regulation as hazardous waste provided they are non-terne plated, have not been mixed with a listed hazardous waste, and have been punctured or dismantled, and gravity hot-drained (40 CFR 261.4 (b)(13) or crushed. Drained and/or crushed used diesel fuel (diesel fuel flash point > 140°F) filters are non-hazardous solid waste. Used gasoline/fuel filters are hazardous for ignitability (D001) and/or benzene (D018). Drain and accumulate liquids in proper containers.
Disposal:	Used oil filters are punctured on the filter dome end, then hot-drained for at least 24 hours and/or crushed. Diesel and coolant filters are drained and/or crushed. The diesel and used oil is combined with other used oil generated on site and coolant is combined with coolant. Coolant is collected in a separate container. Used oil and coolant filters that are drained and/or crushed and air filters are placed in the trash. Gasoline fuel filters are accumulated in hazardous waste containers.
Analyses:	None required as long as the above procedures are followed.
Waste Handling:	Gasoline fuel filters are collected in open-head drums having properly completed EPA hazardous waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated.
Shipping:	Container DOT Specification: UN/1A1. Waste Codes: D001 and/or D018. Shipping Documentation: Include Waste Profile

13.6. Aerosol Paints, Cleaners, Lubricants, and Vent Filters

Characteristics:	Aerosol paints, cleaners, lubricants and vent filters may contain listed chemicals. Additionally, material in aerosol cans may be ignitable (D001) and/or reactive (D003). Vent filters contain carbon and adsorbed vapors. It is company management practice to minimize use of chlorinated and/or regulated aerosol solvents.
Classification:	RCRA-empty containers (approaching atmospheric pressure) are non-hazardous, solid waste. Unused, discarded products are hazardous if they contain a U- or P-listed chemical as the sole active ingredient or fail RCRA characteristics. Non-empty aerosols (empty of product but still containing propellant) may be hazardous due to characteristics of ignitability and/or

reactivity. Spent vent filters are listed hazardous waste and/or exhibit hazardous waste characteristics.

Disposal:	Aerosol products are sprayed onto surfaces then allowed to dry or wiped-off with rags. Partially full potentially non-useable aerosol products are collected to determine if the products are still usable or if they are unusable or spent. All unusable or spent aerosol cans are emptied in can puncturing devices (the satellite accumulation containers under these devices are under the management of designated operators). Punctured empty cans are thrown in the trash. Spent vent filters are accumulated separately for disposal.
Analyses:	Apply generator knowledge, use previous characterization information, SDS, and/or sample and test aspirated liquids/solids for TCLP metals, F- and D-list total volatiles, F- and D-list total semi-volatiles and ignitability.
Waste Handling:	Liquid hazardous wastes are collected in closed-top drums and spent vent filters are collected in open-top drums having properly completed EPA hazardous waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated. Drums containing flammable liquids must be grounded when adding or removing waste.
Shipping:	Container DOT Specification: Liquids UN/1A1 and vent filters UN/1A2 Waste Code(s): Varies with constituents. Shipping Documentation: Include Waste Profile

13.7. Oily Water Separator Water, Used Oil, Sediment/Sludge from Sumps

Characteristics:	Water with dirt, detergent and <i>de minimis</i> amounts of spilled fuel, coolant, oil, grease, and/or solvents.
Classification:	Typically, non-hazardous solid waste and used oil/grease. Sediment/Sludge may contain hydrocarbons, characteristic hazardous waste, and/or listed hazardous waste.
Disposal:	Water from product off-loading, equipment fueling, pump room, and drum storage areas flows through a sump and/or an oil water separator with metal screens. Screens are pressure washed at the wash bay (see Section 9.2.7). Water is pumped to a tank, sampled and disposed of appropriately. Used oil is pumped into a tank and managed as used oil (see Section 9.2.1). Solids (sediment) settle out in the separator sump, which are then removed as necessary. Non-hazardous petroleum hydrocarbon containing sediment is containerized for disposal off-site at approved facilities. Solids/sludge that are wet with ignitable liquids or are known to be contaminated with listed solvents or other hazardous materials are segregated, containerized, and handled as hazardous waste.
Analyses:	Not required for non-hazardous water. Apply generator knowledge; use previous characterization and/or SDS information for solids/sludge. Sample and test if necessary due to process or product changes. Sample and test sludge for total petroleum hydrocarbons (TPH), TCLP metals, total F- and D-list volatiles and/or total F- and D-list semi-volatiles in order to characterize. For spill cleanup waste

characterization, a review of SDS and/or testing may be required to determine regulatory status.

14. Mine and ANFO Facilities

Description: Mining (Surface Open Pit and Underground) is conducted for ore recovery. Overburden is hauled to permitted overburden facilities, used for back-fill, used for cover/capping materials, and/or used for construction (i.e., tailings storage impoundment and/or rip-rap). Ore is hauled to the crusher for processing. Groundwater is removed from wells in and around the open pit to prevent flooding. An allocated percent of this groundwater is used for processing and dust control operations. The remaining percent is piped to permitted treatment and discharged under a South Carolina National Pollutant Discharge Elimination System permit.

14.1. Mine Overburden

Characteristics:	Alluvial material and barren overburden or inter-burden rock.
Classification:	Solid waste excluded from RCRA hazardous waste regulation under 40 CFR 261.4(b) (7).
Disposal:	Placed in on-site overburden dumps or used in facility construction projects.
Analyses:	Not required.

14.2. Mine Water

Characteristics:	Groundwater with small amounts of sediment removed from wells around the open pit mines. Storm water, ground water and pit seepage water from the open pit mine sumps.
Classification:	Solid waste excluded from RCRA hazardous waste regulation under 40 CFR 261.4(b) (7). Water that is used for process makeup is excluded from regulation as a solid waste under 40 CFR 261.2(e) (1) (i). Water managed under the wastewater permit is excluded from regulation as a solid waste under 40 CFR 261.4 (a) (2) (NPDES permit).
Disposal:	Water is used for process makeup, general industrial purposes, used as a roadway dust suppressant, and/or discharged under permit.
Analyses:	Not required for RCRA.

14.3. Mine Dewatering Water Sediment

Characteristics:	Mine dewatering water sediment removed from the pond and/or sumps.
Classification:	Solid waste excluded from RCRA hazardous waste regulation under 40 CFR 261.4(b) (7) and/or sediment Recycle to process is excluded from regulation as a solid waste under 40 CFR Part 261.2(e) (ii).

Disposal: Sediment is occasionally removed and Recycle to the process or managed with overburden.

Analyses: Not required.

14.4. Ammonium Nitrate

Characteristics: Spilled ammonium nitrate and/or liquid nitrate.

Classification: Nitrates intended for disposal would be a characteristic hazardous waste oxidizer (D001). Recycle nitrates are excluded from regulation as a solid waste under 40 CFR 261.2(e).

Disposal: Recycle to the blasting process or used as fertilizer. Nitrates are picked up and mixed with fuel oil for use as a blasting agent. Ammonium nitrate may be used as a fertilizer.

Analyses: Not required; constituents can be determined from SDSs.

14.5. Spilled Emulsion

Characteristics: Mixture of oil and ammonium nitrate.

Classification: SDS indicates this material is not a hazardous waste. Would be a non-hazardous solid waste when disposed.

Disposal: Oily soil is containerized for disposal off-site at approved facilities.

Analyses: Not required; constituents can be determined from SDSs.

14.6. Undetonated Holes

Characteristics: Any undetonated holes following detonation of a blast pattern.

Classification: Excluded from regulation as a solid waste under 40 CFR 261.2(e) (1) (ii) because undetonated blasting agents are recovered and used in the next blast pattern.

Disposal: Used in the blasting process.

Analyses: Not required.

14.7. Storm Water Collection Basins

Characteristics: Storm water and sediment.

Classification: Typically, non-hazardous solid waste and/or excluded from regulation as a hazardous waste under 40 CFR 261.4(b)(7).

Disposal: Water flows to the area storm water drainages and storm water ponds and is allowed to evaporate. Sludge is dried and used as backfill or managed with overburden.

Analyses: Not required for water and sediment. For spill cleanup waste characterization, a review of SDS and/or testing may be required to determine regulatory status.

14.8. Used Oil

Characteristics:	Used lubricating oil and hydraulic oils, including brake and transmission fluid, generated from vehicle and machinery with minor amounts of fuel constituents and metals. It is mine management practice to not mix used oil with solvents, coolants or other waste materials.
Classification:	Non-hazardous solid waste unless contaminated with degreasing solvent or toxic metals. It is a mine management practice that degreasing solvents shall not be mixed with used oil. In addition, only non-chlorinated degreasing solvents will be used. Wear of engine parts or hydraulic systems may contaminate oil with metals resulting in classification as off-specification oil, if Recycle or as a hazardous waste, if disposed. Although used oil destined for disposal or recycling is not listed as a hazardous waste, the EPA has established standards for managing used oil (40 CFR Part 279). Used oil burned for energy recovery under these rules must be analyzed to show if it meets used oil specifications.
Disposal:	Used oil generated in the maintenance of mobile equipment is collected in totes, drums and stored in double-walled aboveground storage tanks. Used oil from equipment that is maintained in the field is handled in a mobile tank that is then brought to the designated shop where the oil from the mobile tank is transferred to the stationary tank. Used oil is Recycle off-site at approved facilities. Used oil is tested on a routine basis prior to on site or off-site recycling. A contractor picks up used oil for off-site recycling for energy recovery.
Analyses:	Used oil shipped off-site for recycling is tested for specifications (40 CFR 279.11).
Waste Handling:	Off-site Recycling: The mine will not be a "Used Oil Marketer," "Used Oil Processor/Re-Refiner," or a "Used Oil Transporter."

The shop's procedures for used oil management include the following: (1) We will not, nor will we allow any "hazardous waste" to be mixed with our used oil; (2) We will only use a pre-approved marketer/transporter having a valid EPA identification number to transport our used oil; (3) We will not direct shipments of used oil and we will make no claim in regard to the used oil specification for used oil Recycle off-site; (4) We will require that the transporter analyze each shipment of used oil with Chlor-D-Tect ® test kits or the equivalent, to verify that the total organic halogens (TOX) concentration is below 1,000 parts per million (ppm) before transportation. The results of this analysis will be provided to and retained by the on-site environmental personnel.

If the test results show TOX in excess of 1,000 ppm, a sample will be collected and tested for total volatiles and TCLP metals (standard turnaround) before the used oil is transported off-site for disposal; and, (5) We will use generator knowledge and previous specification sample test results for used oil characterization.

14.9. Used Oil, Air, Diesel Fuel, Gasoline, and Coolant Filters

Characteristics:	Used oil filters contain used oil, dirt and metal particles. Used coolant filters contain coolant, dirt and metal particles. Air filters contain dirt. Diesel fuel filters contain diesel fuel, dirt and metal particles. Gasoline filters contain gasoline, dirt and metal particles.
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Classification:	Used coolant and air filters are non-hazardous solid wastes. Used oil filters are excluded from regulation as hazardous waste provided they are non-terne plated, have not been mixed with a listed hazardous waste, and have been punctured or dismantled, and gravity hot-drained (40 CFR 261.4 (b)(13) or crushed. Drained and/or crushed used diesel fuel (diesel fuel flash point > 140°F) filters are non-hazardous solid waste. Used gasoline/fuel filters are hazardous for ignitability (D001) and/or benzene (D018). Drain and accumulate liquids in proper containers.
Disposal:	Used oil filters are punctured on the filter dome end, then hot-drained for at least 24 hours and/or crushed. Diesel and coolant filters are drained and/or crushed. The diesel and used oil is combined with other used oil generated on site and coolant is combined with coolant. Coolant is collected in a separate container. Used oil and coolant filters that are drained and/or crushed, and air filters are placed in the trash. Gasoline fuel filters are accumulated in hazardous waste containers.
Analyses:	None required as long as the above procedures are followed.
Waste Handling:	Gasoline fuel filters are collected in open-head drums having properly completed EPA hazardous waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated.
Shipping:	Container DOT Specification: UN/1A1. Waste Codes: D001 and/or D018. Shipping Documentation: Include Waste Profile

14.10. Used Rags, Wipes, Absorbent Pads, and Socks

Characteristics:	Varies with use and materials absorbed. May contain oil, solvents, fuels, and/or various substances.
Classification:	Typically, non-hazardous solid waste. If wet with non-listed solvent, fuel, used oil, or other regulated materials, the rags may be an ignitable (D001) hazardous waste when discarded. If contaminated with listed degreasing solvents, may be a (F002-F005) hazardous waste.
Disposal:	Routinely generated non-hazardous rags, wipes, absorbent pads, and socks that are not wet with oil, solvent and/or fuel are thrown in the trash barrels. Wet non-hazardous oily rags are drained, and petroleum hydrocarbon products are accumulated with the used oil. Rags, wipes, absorbent pads, and socks that are wet with ignitable liquids or are known to be contaminated with listed solvents or other hazardous materials should be segregated, containerized, and handled as hazardous waste.
Analyses:	Normally not required except for characterization of potentially contaminated rags. For spill cleanup waste characterization review of SDS and/or testing may be required to determine regulatory status.

Waste Handling:	Hazardous wastes are collected in open-top drums having properly completed EPA hazardous waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated.
Shipping:	Container DOT Specification: UN/1A2. Waste Code: Varies with waste analyses Shipping Documentation: Include Waste Profile

14.11. Paint-related Materials Including Blasting Grit

Characteristics:	Waste paint, thinners, paint brushes or rollers, masking material, rags, wipes, and containers.
Classification:	Latex (water-based) paint wastes are typically non-hazardous, solid wastes. Oil-based painting related materials are typically hazardous wastes. Most oil-based product reducers or thinners are hazardous due to ignitability or listed solvent content. Spent reducers or thinners that contain 10 percent or more of F-listed solvent prior to use are F-list solvent hazardous waste. Oil-based paints may be hazardous due to ignitability (D001), TCLP characteristic for lead (D008) or chromium content (D007). Epoxy hardeners may be characteristic hazardous waste for corrosivity (D002).
Disposal:	Discard latex paints, containers and painting wastes as solid wastes in the trash after allowed to dry. Other waste paints, reducers, and thinners that are either listed or have hazardous characteristics should be disposed as hazardous waste at a RCRA-permitted facility. Epoxies should be classified and disposed accordingly. Painting wastes (i.e. applicators, rags, masking material, and empty containers) produced in the use of oil-based paints may be hazardous if still wet when disposed.
Analyses:	Apply generator knowledge; use previous characterization information, SDS, and/or sample and test potentially hazardous painting wastes for TCLP metals, F- and D-list total volatiles, F- and D-list total semi-volatiles and ignitability.
Waste Handling:	Solid hazardous wastes will be collected in open-top drums (UN/1A2). Liquid hazardous wastes will be collected UN/1A1 drums. These drums will have properly completed EPA hazardous waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated.
Shipping:	Container DOT Specification: UN/1A2 (solid) or UN/1A1 (liquid). Waste Code: Varies with waste constituents. Shipping Documentation: Include Waste Profile

14.12. Ni-Cad Batteries

Characteristics:	Ni-Cad batteries contain cadmium and/or alkaline material. Dry mercury batteries contain mercury.
Classification:	Ni-Cad and mercury batteries are subject to the Universal Waste Management Standards located in 40 CFR Part 273.

Disposal:	Handle batteries carefully to prevent damage. All batteries are placed in plastic bags or terminals are taped to prevent terminals from contacting and to prevent short circuits. Used Ni-Cad and mercury batteries are collected and stored in plastic containers at designated locations.
Analyses:	Not required; constituents can be determined from SDSs.
Waste Handling:	Universal waste batteries are collected in open-top plastic drums marked with the words "Universal Waste Batteries (Ni-Cad or mercury Batteries Only)" at the designated area. Mark the container with the date the waste is first put in the container. Universal waste cannot be stored on site for greater than 12 months. All batteries are placed in plastic bags or terminals are taped to prevent terminals from contacting and to prevent short circuits.
Shipping:	Container DOT Specification: UN/1H2. Waste Code: Not applicable to universal waste. Shipping Documentation: Include Waste Profile

14.13. Carbon and Alkaline Batteries

Characteristics:	Lamp and other miscellaneous batteries.
Classification:	Zinc-carbon and alkaline batteries SDSs indicate waste batteries are non-hazardous, solid wastes.
Disposal:	Batteries are thrown in the trash.
Analyses:	Not required; constituents can be determined from SDSs.

14.14. Empty Product Containers

Characteristics:	Empty containers previously holding ignitable materials may contain explosive atmospheres. Use caution and ventilate.
Classification:	Containers are empty and exempt from regulation (40 CFR 261.7) when: All products or waste have been removed that can be removed using the practices commonly employed to remove materials from that type of container, e.g., pouring, pumping, and aspirating, and No more than 2.5 centimeters (one inch) of residue remain on the bottom of the container or inner liner, or No more than 3 percent by weight of the total capacity of the container remains in the container or inner liner if the container is less than or equal to 110 gallons in size, or No more than 0.3 percent by weight of the total capacity of the container remains in the container or inner liner if the container is greater than 110 gallons in size.

14.15. Containers that have held compressed gases are empty when the pressure in the container approaches atmospheric.

Containers that have held acute hazardous wastes must be rinsed or cleaned per 261.7(b). Acute hazardous waste constituents can be determined by comparing label/SDS constituents sole active

ingredients or hazardous waste from non-specific sources to acute hazardous waste listed in 40 CFR 261.31, 261.32, or 261.33(e).

Disposal: Small containers (<5 gallons) are thrown in the trash when empty. Large containers (>5 gallons) are Recycle to the vendor, reused, or crushed and thrown in the trash. Containers that have held acute hazardous waste will be rinsed with the appropriate reagent before being discarded. The rinse reagent will be used in the same process as the chemical if safe to do so or disposed.

Analyses: Not required.

14.16. Scrap Metal Including Welding Rod and Cuttings

Characteristics: Pieces of metal scrap, used metal parts, and welding rod.

Classification: Recyclable material 40 CFR 261.6.

Disposal: Scrap metal is saved in recycling bins and/or specified locations. Contractors routinely remove scrap metal for recycling. Used metal parts may be returned to vendors.

Analyses: Not required for Recycle scrap metal.

14.17. Aerosol Paints, Cleaners, Lubricants, and Vent Filters

Characteristics: Aerosol paints, cleaners, lubricants and vent filters may contain listed chemicals. Additionally, material in aerosol cans may be ignitable (D001) and/or reactive (D003). Vent filters contain carbon and adsorbed vapors. It is company management practice to minimize use of chlorinated and/or regulated aerosol solvents.

Classification: RCRA-empty containers (approaching atmospheric pressure) are non-hazardous, solid waste. Unused, discarded products are hazardous if they contain a U- or P-listed chemical as the sole active ingredient or fail RCRA characteristics. Non-empty aerosols (empty of product but still containing propellant) may be hazardous due to characteristics of ignitability and/or reactivity. Spent vent filters are listed hazardous waste and/or exhibit hazardous waste characteristics.

Disposal: Aerosol products are sprayed onto surfaces then allowed to dry or wiped-off with rags. Partially full potentially non-useable aerosol products are collected to determine if the products are still usable or if they are unusable or spent. All unusable or spent aerosol cans are emptied in can puncturing devices (the satellite accumulation containers under these devices are under the management of designated operators). Punctured empty cans are thrown in the trash. Spent vent filters are accumulated separately for disposal.

Analyses: Apply generator knowledge, use previous characterization information, SDS, and/or sample and test aspirated liquids/solids for TCLP metals, F- and D-list total volatiles, F- and D-list total semi-volatiles and ignitability.

Waste Handling: Liquid hazardous wastes are collected in closed-top drums and spent vent filters are collected in open-top drums having properly completed EPA hazardous

waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated. Drums containing flammable liquids must be grounded when adding or removing waste.

Shipping: Container DOT Specification: Liquids UN/1A1 and vent filters UN/1A2
Waste Code(s): Varies with constituents.
Shipping Documentation: Include Waste Profile

14.18. Compressed Gas Cylinders

Characteristics: Typically, empty when disposed but may contain pressurized hazardous materials if not empty.

Classification: Non-hazardous solid waste when empty. Reactive (D003) and/or ignitable (D001) hazardous waste if still pressurized. Waste codes may vary with constituents.

Disposal: Compressed gas vendors pick up large empty cylinders and refill them for use. All gas cylinders not returned to vendors for use will be emptied to atmospheric pressure before being thrown in the trash or Recycle for metal content (valves are removed or left open according to good management practice). Mark empty cylinders with an "empty" sticker and throw in the trash (small disposable cylinders only) if empty. Non-empty cylinders are Recycle or disposed of offsite at a permitted facility.

Analyses: Not required; constituents can be determined from SDSs.

14.19. Diesel Fuel Spills

Characteristics: Diesel fuel contaminated soil or cleanup materials.

Classification: Flash point of diesel fuel used at the mine is typically above 140°F which would not be RCRA ignitable.

Disposal: Diesel-contaminated soil from spills is containerized for disposal off-site at approved facilities. Floor dry contaminated with adsorbed (no free liquid) diesel fuel is thrown in the trash.

Analyses: Not required unless wet with lower flash point (<140°F) diesel fuel. Mixtures of lower flash point (<140°F) diesel fuel and other materials will be tested for ignitability.

14.20. Lime Management Areas Lime and Baghouses Waste

Characteristics: Spilled lime/fugitive lime from unloading and baghouse lime and filters. These materials consist of solid lime material without free liquids.

Classification: Lime returned to the process is excluded from regulation as a solid waste under 40 CFR 261.2(e). Fugitive lime and filters are non-hazardous solid waste by generator knowledge.

Disposal: Lime from the baghouse is returned to the silo for use. Spilled lime is returned to the process. Filters are thrown in the trash.

Analyses: Not required.

14.21. Oily Screen Cleaning and/or Oily Sludge

Characteristics: Water with dirt, detergent and *de minimis* amounts of spilled fuel, coolant, oil, grease, and solvents.

Classification: Typically, non-hazardous solid waste and used oil/grease. Sediment/Sludge may contain hydrocarbons, characteristic hazardous waste, and/or listed hazardous waste.

Disposal: Wash water from the wash bay containment flows through an oil water and sediment separator. Used oil/sludge and grease is collected in containers and managed as used oil (see Section 9.2.1) or used grease (see Section 9.2.3). Water from the wash bay sump evaporates and/or is circulated to the wash bay for use. Solids settle out in the wash bay containment, separator, and/or the settling pond, which are removed as necessary. Non-hazardous petroleum hydrocarbon containing sediment is containerized for disposal off-site at approved facilities. Solids/sludge that are wet with ignitable liquids or are known to be contaminated with listed solvents or other hazardous materials are segregated, containerized, and handled as hazardous waste.

Analyses: Not required for non-hazardous wash water. Apply generator knowledge; use previous characterization and/or SDS information for solids/sludge. Sample and test if necessary due to process or product changes. Sample and test under the PCS plan. For spill cleanup waste characterization, a review of SDS and/or testing may be required to determine regulatory status.

15. Mill Operations

The mill area consists of the following:

- Ore stockpiles;
- Crushing, grinding, and flash flotation;
- Rougher flotation circuit (cyclone overflow);
- Flotation tail treatment (to Carbon-in-leach);
- Concentrate Treatment;
- Regrind circuit (flash flotation overflow);
- Pre-aeration (to Carbon-in-leach);
- Carbon-in-leach (CIL);
- Carbon handling;
- Carbon acid wash, carbon strip, and carbon regeneration;

Cyanide destruction system;

Water treatment systems; and,

Tailings impoundment.

Metal doré (precious metals) concentrate goes to the refinery. Water from the tailings impoundment (reclaim water) is returned to the process for use.

Spills within the process areas are contained in concrete or lined sumps which recycle back into the process. Ore that has not contacted process solutions is Recycle to the process through the mill stockpiles.

15.1. PAG Storage, Mine Ore Stockpiles and Crusher Area Storm Water Drainage

Characteristics:	Storm water and/or ore sediment from the PAG area, crusher area and/or 19 Pond contact water pond.
Classification:	Non-hazardous solid waste that is excluded from regulation as a solid waste under 40 CFR 261.2(e) when Recycle and/or excluded from regulation as a hazardous waste under 40 CFR 261.4(b) (7). Water managed under the wastewater permit is excluded from regulation as a solid waste under 40 CFR 261.4 (a) (2) (NPDES permit).
Disposal:	Storm water evaporates, is used in the process, is place in tailings and/or is discharged under the NPDES permit. Sediment is Recycle to the process.
Analyses:	Not required for water and sediment. For spill cleanup waste characterization, a review of SDS and/or testing may be required to determine regulatory status.

15.2. Ore Conveyors

Characteristics:	Spilled ore, and fresh water (without reclaim water) with de minimis amounts of spilled hydraulic/lubricating oil.
Classification:	Non-hazardous solid waste that is excluded from regulation as a solid waste under 40 CFR 261.2(e) when Recycle and/or excluded from regulation as a hazardous waste under 40 CFR 261.4(b) (7).
Disposal:	Ore is Recycle to the process through the mill stockpiles.
Analyses:	Not required.

15.3. Crusher Area Sumps

Characteristics:	Storm water, fresh water (without reclaim water) and sludge consisting of mud from spilled, ground ore with de minimis amounts of hydraulic oil and/or lubricating oil.
Classification:	Non-hazardous solid waste that is excluded from regulation as a solid waste under 40 CFR 261.2(e) when Recycle and/or excluded from regulation as a hazardous waste under 40 CFR 261.4(b) (7).
Disposal:	Recycle to the process or placed in tailings.

Analyses: Not required.

15.4. Crushing and Grinding Area Dust Collectors and/or Baghouses Wastes

Characteristics: Spilled ore, fresh water and/or internal reclaim water (grind area) with de minimis amounts of spilled hydraulic/lubricating oil.

Classification: Non-hazardous solid waste that is excluded from regulation as a solid waste under 40 CFR 261.2(e) when Recycle and/or excluded from regulation as a hazardous waste under 40 CFR 261.4(b) (7). Fugitive ore and filters or bags are non-hazardous solid waste by generator knowledge.

Disposal: Ore is Recycle to the process. Filters and/or bags are thrown in the trash.

Analyses: Not required.

15.5. Scrap Metal

Scrap metal removed by the tramp metal magnet, used ball mill ball chips and various pieces of scrap metal.

Characteristics: Pieces of metal scrap, used metal parts, and welding rod.

Classification: Recyclable material 40 CFR 261.6.

Disposal: Scrap metal is saved in recycling bins and/or specified locations. Contractors routinely remove scrap metal for recycling. Used metal parts may be returned to vendors.

Analyses: Not required for Recycle scrap metal.

15.6. Grinding and Flash Flotation Areas Floor Sumps

Characteristics: Fresh water, makeup water (with internal reclaim water) and sludge consisting of mud from spilled, ground ore and/or refinery slag with de minimis amounts of, Aero 404 (promoter), Xanthate, sulfuric acid, lime, flocculent, antiscalant, frother, sodium cyanide, lead nitrate, hydraulic oil and/or lubricating oil.

Classification: Excluded from regulation as a solid waste under 40 CFR 261.4 (a)(8) when Recycle and/or excluded from regulation as a hazardous waste under 40 CFR 261.4(b)(7).

Disposal: Recycle to the process.

Analyses: Not required.

15.7. Screened Trash and Used Screens

Characteristics: Used screens and ground trash collected on top of the screen consisting of metal, wood, plastic, and any other material that will not pass through the trash screen. Moisture with the trash is fresh water, makeup water (with internal reclaim water) and sludge consisting of mud from spilled, ground ore with de minimis amounts of Aero 404 (promoter), Xanthate, sulfuric acid, lime, flocculent,

antiscalant, frother, sodium cyanide, lead nitrate, hydraulic oil and/or lubricating oil. Used plastic or metal screens.

Classification: Trash is solid waste excluded from regulation as a hazardous waste under 40 CFR 261.4(b) (7). Rinsed used screens are non-hazardous solid waste.

Disposal: Trash is placed in tails or rinsed and thrown in the trash. Used screens are removed, rinsed, and thrown in the trash or Recycle as scrap metal.

Analyses: Not required.

15.8. Primary Ball Mill Discharge Trommel Screens and Trommel Bin

Characteristics: Ball chips and tramp metal collected on top of the trommel screen consisting of metal that will not pass through the screen. Moisture with the trash is fresh water and makeup water (with internal reclaim water) with de minimis amounts of Aero 404 (promoter), Xanthate, sulfuric acid, lime, flocculent, antiscalant, frother, sodium cyanide, lead nitrate, hydraulic oil and/or lubricating oil. Used plastic or metal screens.

Classification: Trash is solid waste excluded from regulation as a hazardous waste under 40 CFR 261.4(b) (7). Rinsed used screens are non-hazardous solid waste.

Disposal: Metal is managed as scrap metal. Used screens are removed, rinsed, and thrown in the trash or Recycle as scrap metal.

Analyses: Not required.

15.9. Mill Oversize (Pebble Stockpile) and Crusher Area Storm Water Drainage

Characteristics: Oversize ore, fresh water and makeup water (with internal reclaim water) with de minimis amounts of Aero 404 (promoter), Xanthate, sulfuric acid, lime, flocculent, antiscalant, frother, sodium cyanide, lead nitrate, hydraulic oil and/or lubricating oil.

Classification: Non-hazardous solid waste that is excluded from regulation as a solid waste under 40 CFR 261.2(e) when Recycle and/or excluded from regulation as a hazardous waste under 40 CFR 261.4(b) (7).

Disposal: Ore is Recycle to the mill.

Analyses: Not required.

15.10. Lube System Heat Exchanger Pressure or Acid Wash Waste

Characteristics: Process water, ore and/or designated acid with de minimis amounts of fresh water, makeup water (with internal reclaim water), Aero 404 (promoter), Xanthate, sulfuric acid, lime, flocculent, antiscalant, frother, sodium cyanide, lead nitrate, hydraulic oil and/or lubricating oil.

Classification: Excluded from regulation as a solid waste under 40 CFR 261.4 (a)(8) when Recycle to the process and/or metals are excluded from regulation as a hazardous waste under 40 CFR 261.4(b)(7). ENUs are used for neutralizing wastes that are hazardous only because they exhibit the corrosivity characteristic

(40 CFR 260.10). They are exempted from permitting under 40 CFR 270.1(c) (2) (v). The requirements for 40 CFR Parts 264 and 265 do not apply [40 CFR 264.1(g) (6) and 265.1(c) (10)]. The hazardous waste corrosive characteristic is neutralized, and the waste classified as non-hazardous solid waste by generator knowledge.

Disposal: Cleaning solutions are Recycle to the process or are discharged and corrosive liquids neutralized in an Elementary Neutralization Unit (ENU). Wash water failing for corrosivity only is managed in an on-site ENU and disposed in the tails.

Analyses: The pH is monitored to ensure the acid is neutralized.

15.11. Rougher Flotation and Flotation Tail Thickener Areas Floor Sumps

Characteristics: Makeup water (with internal reclaim water), sludge consisting of mud from spilled, ground ore, and flotation reagents (flocculent, lime, frother, Aero 404, Xanthate, lead nitrate and sulfuric acid) with de minimis amounts of antiscalant, sodium cyanide, lead nitrate, hydraulic oil and/or lubricating oil.

Classification: Excluded from regulation as a solid waste under 40 CFR 261.4 (a)(8) when Recycle and/or excluded from regulation as a hazardous waste under 40 CFR 261.4(b)(7).

Disposal: Recycle to the process.

Analyses: Not required.

15.12. Flotation Cells Overflow

Characteristics: Makeup water (with internal reclaim water), sludge consisting of mud from spilled, ground ore, and flotation reagents (flocculent, lime, frother, Aero 404, Xanthate, lead nitrate and sulfuric acid) with de minimis amounts of antiscalant, sodium cyanide, lead nitrate, hydraulic oil and/or lubricating oil.

Classification: Excluded from regulation as a solid waste under 40 CFR 261.4 (a)(8) when Recycle and/or excluded from regulation as a hazardous waste under 40 CFR 261.4(b)(7).

Disposal: Recycle to the process.

Analyses: Not required.

15.13. Flotation Cells Tailings

Characteristics: Makeup water (with internal reclaim water), sludge consisting of mud from spilled, ground ore, and flotation reagents (flocculent, lime, frother, Aero 404, Xanthate, lead nitrate and sulfuric acid) with de minimis amounts of antiscalant, sodium cyanide, lead nitrate, hydraulic oil and/or lubricating oil.

Classification: Excluded from regulation as a solid waste under 40 CFR 261.4 (a)(8) when Recycle and/or excluded from regulation as a hazardous waste under 40 CFR 261.4(b)(7).

Disposal: Recycle to the process.

Analyses: Not required.

15.14. Regrind Area Floor Sump

Characteristics: Makeup water (with internal reclaim water), sludge consisting of mud from spilled, ground ore, and stirred media detritor with de minimis amounts of Aero 404 (promoter), Xanthate, lead nitrate, sulfuric acid, lime, flocculent, antiscalant, frother, sodium cyanide, lead nitrate, hydraulic oil and/or lubricating oil.

Classification: Excluded from regulation as a solid waste under 40 CFR 261.4 (a)(8) when Recycle and/or excluded from regulation as a hazardous waste under 40 CFR 261.4(b)(7).

Disposal: Recycle to the process.

Analyses: Not required.

15.15. Preaeration Thickener and CIL Areas Floor Sumps

Characteristics: Makeup water (with internal reclaim and reclaim water), sludge consisting of mud from spilled, ground ore, and stirred media detritor with de minimis amounts of Aero 404 (promoter), Xanthate, sulfuric acid, lime, flocculent, antiscalant, frother, sodium cyanide, lead nitrate, activated carbon, hydraulic oil and/or lubricating oil.

Classification: Excluded from regulation as a solid waste under 40 CFR 261.4 (a)(8) when Recycle and/or excluded from regulation as a hazardous waste under 40 CFR 261.4(b)(7).

Disposal: Recycle to the process.

Analyses: Not required.

15.16. Regrind Screened Trash, CIL Screened Trash, Carbon Safety Screen (Carbon), Various Used Screens and Carbon Fines Filter Press

Characteristics: Used screens and ground trash/activated carbon collected on top of the screens consisting of metal, wood, plastic, and any other material that will not pass through the trash screen. Moisture with the trash and carbon is makeup water (with reclaim water) and sludge consisting of mud from spilled, ground ore with de minimis amounts of lime Aero 404 (promoter), Xanthate, sulfuric acid, lime, flocculent, antiscalant, frother, sodium cyanide, lead nitrate, hydraulic oil and/or lubricating oil. Used screens include loaded carbon, CIL barren carbon, CIL interstage, and carbon safety. Carbon fines removed at the carbon safety screen. Used screens are plastic or metal. Used carbon fines filter press plastic plate and frame with filter cloth.

Classification: Carbon managed as a product is not discarded and is not a solid waste under 40 CFR 261.2. Carbon is solid waste excluded from regulation as a solid waste under 40 CFR 261.2(e) when Recycle to the process. Trash and carbon fines are solid waste excluded from regulation as a hazardous waste under 40 CFR 261.4(b) (7). Rinsed used screens, filter press plate and frame, and filter press cloth are non-hazardous solid waste or scrap metal.

Disposal: Carbon is Recycle to the process. Trash is placed in tails or rinsed and thrown in the trash. Filter press filtrate is Recycle to the process. Carbon fines are Recycle on site, or precious metals reclaimed from the carbon or carbon used for its thermal value off-site at an approved facility. Used screens, filter press plastic plates/frames and/or filter press cloths are removed, rinsed, and thrown in the trash or Recycle as scrap metal.

Analyses: Not required.

15.17. Carbon Fines from CIL Tank Cleanout

Characteristics: Moisture with the carbon fines is makeup water (with reclaim water) and sludge consisting of mud from spilled, ground ore with de minimis amounts of Aero 404 (promoter), Xanthate, sulfuric acid, lime, flocculent, antiscalant, frother, sodium cyanide, lead nitrate, hydraulic oil and/or lubricating oil.

Classification: Carbon fines are solid waste excluded from regulation as a hazardous waste under 40 CFR 261.4(b) (7) and/or are solid waste excluded from regulation as a solid waste under 40 CFR 261.2(e) when Recycle to the process.

Disposal: Carbon fines are placed in tails or precious metals reclaimed from the carbon off-site at an approved facility.

Analyses: Not required.

15.18. CIL Interstage Screen Wash, Cyanide Destruction Area Sump and Process Tailings

Characteristics: Makeup water (with reclaim water) and sludge consisting of mud from spilled, ground ore with de minimis amounts of Aero 404 (promoter), Xanthate, sulfuric acid, lime, flocculent, antiscalant, frother, sodium cyanide, carbon, lead nitrate, ammonium bisulfite, copper sulfate, hydraulic oil and/or lubricating oil. CIL interstage screens wash water contains de minimis amounts of process reagents. Under normal operating conditions (i.e., less than or equal to 50 ppm weak acid dissociable (WAD) cyanide), cyanide recovery thickener underflow will be pumped to the tailings impoundment. If the cyanide level is greater than or equal to 50 ppm WAD cyanide, thickener underflow will be directed to the cyanide destruction tanks, where cyanide is destroyed using the SO₂/Air process. Ammonium bisulfite and oxygen, with copper sulfate is used to oxidize cyanide to the relatively non-toxic form of cyanate. Milk of lime may be added to maintain pH.

Classification: Excluded from regulation as a hazardous waste under 40 CFR 261.4(b) (7).

Disposal: Tailings are placed in the tailings impoundment.

Analyses: Not required for water and de minimis amounts of reagents. For spill cleanup waste characterization, a review of SDS and/or testing may be required to determine regulatory status.

15.19. Reclaim Water, Underdrain water, and Underdrain Pond Sediment

Characteristics:	Reclaim water, underdrain water, and underdrain sediment with de minimis amounts of process reagents.
Classification:	Reclaim water and underdrain water Recycle to the process is excluded from regulation as a solid waste under 40 CFR 261.2(e) (1) (i) and excluded from regulation as a hazardous waste under 40 CFR 261.4(b) (7). Underdrain sediment is excluded from regulation as a hazardous waste under 40 CFR 261.4(b) (7).
Disposal:	Reclaim water and underdrain waster are Recycle to the process. Underdrain sediment is placed in the tailings impoundment.
Analyses:	Not required.

15.20. Tailings and Reclaim Corridor Emergency Catch Basins

Characteristics:	Tailings slurry or reclaim water with de minimis amounts of process reagents or storm water with sediment report to an emergency catch basin should a pipeline failure occur.
Classification:	Water Recycle to the process is excluded from regulation as a solid waste under 40 CFR 261.2(e) (1) (i). Water and slurry are excluded from regulation as a hazardous waste under 40 CFR 261.4(b) (7).
Disposal:	Recycle to the process or placed in tails.
Analyses:	Not required.

15.21. Water Treatment Systems Areas Floor Sumps

Characteristics:	Storm water, dewatering water, makeup water (with internal reclaim and reclaim water), water treatment sludge, lime, flocculent, coagulant, and/or sulfuric acid with de minimis amounts of Aero 404 (promoter), Xanthate, antiscalant, frother, sodium cyanide, lead nitrate, activated carbon, hydraulic oil and/or lubricating oil.
Classification:	Water Recycle to the process is excluded from regulation as a solid waste under 40 CFR 261.2(e) (1) (i) and/or 40 CFR 261.4 (a) (8). Water and sludge are excluded from regulation as a hazardous waste under 40 CFR 261.4(b) (7).
Wastewater Permit:	Water managed under the wastewater permit is excluded from regulation as a solid waste under 40 CFR 261.4 (a) (2) (NPDES permit).
Disposal:	Water is Recycle to the process or discharged under permit. Sludge is Recycle to the process.
Analyses:	Not required.

15.22. Process Area Sinks

Characteristics:	Wastewater, slurry and/or filters from process samples and testing with de minimis amounts of reagents.
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Classification:	Process water and/or slurry is excluded from regulation as a solid waste under 40 CFR 261.2(e) (1) (ii) and mixtures are excluded from regulation as a hazardous waste under 40 CFR 261.4(b) (7).
Disposal:	Wastewater and/or slurry are Recycle to the process. Filters are rinsed to the area process sump and discarded in the trash.
Analysis:	Not required unless changes in processes occur that may change the waste characteristics or if the waste is handled differently.

16. Carbon Handling Area – Carbon Acid Wash, Strip, and Regeneration

Description: Loaded carbon from the CIL circuit is processed through an acid wash, the elution (carbon stripping) circuit, then the strip solution is separated from the carbon, and the solution proceeds to the refinery. Stripped barren carbon goes to the carbon regeneration kiln. Regenerated carbon is used in the process.

Spills within the area are contained in concrete or lined sumps which recycle back into the mill process.

16.1. Carbon Acid Wash

Characteristics:	Recirculated and/or neutralized dilute hydrochloric acid wash from the carbon acid wash tank with carbon and ore impurities. Dilute hydrochloric acid is neutralized with sodium hydroxide.
Classification:	Excluded from regulation as a solid waste under 40 CFR 261.4 (a)(8) when Recycle to the process and/or metals are excluded from regulation as a hazardous waste under 40 CFR 261.4(b)(7). ENUs are used for neutralizing wastes that are hazardous only because they exhibit the corrosivity characteristic (40 CFR 260.10). They are exempted from permitting under 40 CFR 270.1(c) (2) (v). The requirements for 40 CFR Parts 264 and 265 do not apply [40 CFR 264.1(g) (6) and 265.1(c) (10)]. The hazardous waste corrosive characteristic is neutralized, and the waste classified as non-hazardous solid waste by generator knowledge.
Disposal:	Wash water is recirculated or wash water failing for corrosivity only is managed in an on-site ENU (wash tank) and neutralized solutions Recycle to the process.
Analyses:	The pH is monitored to ensure the acid is neutralized.

16.2. Carbon Acid Wash Area Floor Sump

Characteristics:	Recirculated and/or neutralized dilute hydrochloric acid wash from the carbon acid wash tank with de minimis amounts of carbon, ore impurities and/or hydraulic/lubricating oil.
Classification:	Excluded from regulation as a solid waste under 40 CFR 261.4 (a)(8) when Recycle and/or excluded from regulation as a hazardous waste under 40 CFR 261.4(b)(7).

Disposal: Recycle to the process.

Analyses: Not required.

16.3. Strip (Elution) Area Floor Sump

Characteristics: Process water with de minimis amounts of Aero 404 (promoter), Xanthate, sulfuric acid, hydrochloric acid, lime, flocculent, antiscalant, frother, sodium cyanide, lead nitrate, hydraulic oil and/or lubricating oil.

Classification: Excluded from regulation as a solid waste under 40 CFR 261.4 (a)(8) when Recycle and/or excluded from regulation as a hazardous waste under 40 CFR 261.4(b)(7).

Disposal: Recycle to the process.

Analyses: Not required for water and de minimis amounts of reagents. For spill cleanup waste characterization, a review of SDS and/or testing may be required to determine regulatory status.

16.4. Heat Exchanger and/or Strainers Pressure or Acid Wash Waste

Characteristics: Process water and/or nitric acid with de minimis amounts of Aero 404 (promoter), Xanthate, sulfuric acid, hydrochloric acid, lime, flocculent, antiscalant, frother, sodium cyanide, lead nitrate, hydraulic oil and/or lubricating oil.

Classification: Excluded from regulation as a solid waste under 40 CFR 261.4 (a)(8) when Recycle to the process and/or metals are excluded from regulation as a hazardous waste under 40 CFR 261.4(b)(7). ENUs are used for neutralizing wastes that are hazardous only because they exhibit the corrosivity characteristic (40 CFR 260.10). They are exempted from permitting under 40 CFR 270.1(c) (2) (v). The requirements for 40 CFR Parts 264 and 265 do not apply [40 CFR 264.1(g) (6) and 265.1(c) (10)]. The hazardous waste corrosive characteristic is neutralized, and the waste classified as non-hazardous solid waste by generator knowledge.

Disposal: Wash water failing for corrosivity only is managed in an on-site ENU/container and neutralized solutions Recycle to the process.

Analyses: The pH is monitored to ensure the acid is neutralized.

16.5. Used Screens, Carbon Fines Filter Press and Carbon Fines

Characteristics: Used screens, filter press plate/frame, filter press filtrate, and/or carbon fines. Moisture with the carbon fines and/or filter press filtrate with de minimis amounts of Aero 404 (promoter), Xanthate, sulfuric acid, lime, flocculent, antiscalant, frother, sodium cyanide, lead nitrate, hydraulic oil and/or lubricating oil. Used plastic or metal screens. Screens include the kiln feed and carbon sizing screens. Used carbon fines filter press plastic plate and frame with filter cloth. Filter press filtrate is Recycle to the process.

Classification:	Carbon managed as a product is not discarded and is not a solid waste under 40 CFR 261.2. Carbon is solid waste excluded from regulation as a solid waste under 40 CFR 261.2(e) when Recycle to the process. Carbon fines and filter press filtrate are solid waste excluded from regulation as a hazardous waste under 40 CFR 261.4(b) (7). Rinsed used screens, filter press plate and frame, and filter press cloth are non-hazardous solid waste or scrap metal.
Disposal:	Carbon is Recycle to the process. Filter press filtrate is Recycle to the process. Carbon fines are placed in tails or precious metals reclaimed from the carbon off-site at an approved facility.
Analyses:	Not required.

16.6. Regenerated Carbon

Characteristics:	Activated Carbon.
Classification:	Materials Recycle to the process are excluded from regulation as a solid waste under 40 CFR 261.2(e) and/or excluded from regulation as a hazardous waste under 40 CFR 261.4(b) (7).
Disposal:	Recycle to the process.
Analyses:	Not required.

16.7. Carbon Regeneration Kiln Area Floor Sump

Characteristics:	Process water, leach reagents, activated carbon and/or nitric acid with de minimis amounts of dust suppressant, antiscalant, lime, and/or hydraulic/lubricating oil.
Classification:	Excluded from regulation as a solid waste under 40 CFR 261.4 (a)(8) when Recycle and/or excluded from regulation as a hazardous waste under 40 CFR 261.4(b)(7).
Disposal:	Recycle to the process.
Analyses:	Not required for water and de minimis amounts of reagents. For spill cleanup waste characterization, a review of SDS and/or testing may be required to determine regulatory status.

16.8. Carbon Regeneration Kiln Scrubber Blowdown and Wash water

Characteristics:	Scrubber blowdown water, wash water and process carbon fines with de minimis amounts of process reagents, antiscalant and/or hydraulic/lubricating oil.
Classification:	Typically, non-hazards solid waste. Water returned to the process is excluded from RCRA solid waste under 40 CFR 261.2(e) (1) (i) because the material is Recycle as a raw material into the process.
Disposal:	Water is Recycle to the process.
Analyses:	Apply generator knowledge, use previous characterization information, and/or sample and test for precious metals values and/or TCLP metals.

16.9. Carbon Regeneration Kiln Scrubber Carbon Filter Carbon

Characteristics:	Carbon filter carbon with precious metals.
Classification:	Carbon containing recoverable amounts of precious metals are solid wastes reclaimed for silver and/or gold value and are regulated as a recyclable material under 40 CFR 261.6(a) (2) (iii). May be classified and handled as hazardous waste for TCLP mercury (D009) if testing shows mercury in excess of TCLP mercury.
Disposal:	Collected in containers and transported to a permitted retort facility.
Analyses:	Apply generator knowledge, use previous characterization information, and/or sample and test for precious metals values and/or TCLP metals.
Waste Handling:	Recyclable material or hazardous wastes will be collected in open-top drums. Hazardous waste containers will have properly completed EPA hazardous waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated. Drums containing flammable liquids must be grounded when adding or removing waste.
Shipping:	Container DOT Specification: UN/1A2 Waste Code: D001 for hazardous waste and none if Recycle. Shipping Documentation: Include Waste Profile

17. Refinery - Gold and Silver Recovery

Description: Gold is recovered from pregnant strip solution by electro winning. The precipitate sludge produced from electro winning are removed from solution by a filter press. The filtered sludge are dried and then smelted in the on-site refinery to produce doré bars (precious metal bars). The filtrate is Recycle back to the process. Fumes from smelting are collected and cleaned through a baghouse and exhaust gases are passed through an exhaust control system. Slag is Recycle on site or containerized and Recycle off-site at a permitted facility.

Spills within the areas are contained in concrete or lined sumps which recycle back into the mill process.

17.1. Refinery Areas Floor Sumps and Electro winning Solution

Characteristics:	Pregnant solution contains processed ore and cyanide. Electro winning solution contains de minimis amounts of cyanide.
Classification:	Excluded from regulation as a solid waste under 40 CFR 261.4 (a)(8) when Recycle and/or excluded from regulation as a hazardous waste under 40 CFR 261.4(b)(7).
Disposal:	Recycle to the process.
Analyses:	Not required.

17.2. Cathode (Steel mesh), Anode, Bar Molds, and/or Slag Pots Pressure Wash

Characteristics:	Electro winning solution, precious metals, metal and plastic.
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Classification:	Pressure wash water and precious metals Recycle to the process are excluded from regulation as a solid waste under 40 CFR 261.4 (a)(8) when Recycle. Metals and/or plastic form the cathodes and/or anode are excluded from regulation as a hazardous waste under 40 CFR 261.4(b)(7). Recoverable amounts of precious metals from the steel mesh, bar molds and/or slag pots are solid wastes reclaimed for silver and/or gold value and are regulated as a recyclable material under 40 CFR 261.6(a)(2)(iii).
Disposal:	Pressure wash water flows to the area sump. Scale is returned to the process to recover precious metals. Precious metals are reclaimed on or off-site. Plastic is rinsed and thrown in the trash. Scrap metal is Recycle see 9.12.3.
Analyses:	Not required.

17.3. Scrap Metal

Characteristics:	Pieces of metal scrap, used metal parts, and welding rod.
Classification:	Recyclable material 40 CFR 261.6.
Disposal:	Scrap metal is saved in recycling bins and/or specified locations. Contractors routinely remove scrap metal for recycling. Used metal parts may be returned to vendors.
Analyses:	Not required for Recycle scrap metal.

17.4. Pregnant Solution or Electro winning Tank Sludge

Characteristics:	Pregnant solution or electro winning sludge contains precious metals and sodium cyanide.
Classification:	Excluded from regulation as a solid waste under 40 CFR 261.2(e) when Recycle to the process and/or excluded from regulation as a hazardous waste under 40 CFR 261.4(b)(7).
Disposal:	Recycle to the process.
Analyses:	Not required.

17.5. Filter Press Plates and/or Filters

Characteristics:	Cloth filters, woven plastic filters, stainless steel screen, and/or plastic filter press plates with electro winning sludge.
Classification:	Cloth filters, woven plastic filters, and/or plastic filter press plates rinsed after washing or digesting are non-hazardous solid waste. Material from pressure washing and/or digestion is excluded from regulation as a solid waste under 40 CFR 261.4 (a)(8) when Recycle and/or excluded from regulation as a hazardous waste under 40 CFR 261.4(b)(7). Used screens are removed, rinsed, and thrown in the trash or Recycle as scrap metal.
Disposal:	Cloth filters, woven plastic filters, stainless steel screen, and/or plastic filter press plates are washed. If the cloth filters, woven plastic filters, and/or plastic filter

press plates are not usable after washing they are thrown in the trash. Material from pressure washing is Recycle to the process. Scrap metal is Recycle.

Analyses: Apply generator knowledge, use previous characterization information, and SDS for characterization and/or sample and test for TCLP metals to verify characteristics. Once characterized, apply generator knowledge and sample to re-characterize any time the process changes.

17.6. Refinery Furnace Slag, Bar Shot Cleaning Material, and Floor Sweepings

Characteristics: Refinery furnace by-products and recyclable materials that contain gold, silver, flux, and ore impurities are listed below.

By-Products: Refinery furnace slag and/or over pour flash

Recyclable Materials: Bar shot cleaning material

17.7. Floor sweepings

Classification: By-products returned to the process to reclaim metals are not a solid waste under 40 CFR 261.2 (c)(3). Recyclable materials are non-hazardous solid waste and/or regulated as a recyclable material under 40 CFR 261.6(a)(2)(iii) when precious metals are recovered.

Disposal: Recycle to the process and/or precious metals reclaimed at an approved off-site facility.

Analyses: Apply generator knowledge, use previous characterization information, and SDS for characterization and/or sample and test for TCLP metals to verify characteristics. Once characterized, apply generator knowledge and sample to re-characterize any time the process changes.

17.8. Area Tank Cleanouts and Sump Sludge

Characteristics: Refinery furnace by-products and recyclable materials that contain gold, silver, flux, and ore impurities are listed below.

Classification: By-products returned to the process to reclaim metals are not a solid waste under 40 CFR 261.2 (c)(3). Recyclable materials are non-hazardous solid waste and/or regulated as a recyclable material under 40 CFR 261.6(a)(2)(iii) when precious metals are recovered.

Disposal: Recycle to the process.

Analyses: Apply generator knowledge, use previous characterization information, and SDS for characterization and/or sample and test for TCLP metals to verify characteristics. Once characterized, apply generator knowledge and sample to re-characterize any time the process changes.

17.9. Used Refinery Furnace Crucibles and Refractory

Characteristics: Crucibles and refractory removed from the furnace. Crucibles and refractory waste includes constituents from the electro winning sludge and flux. SDSs for

new crucibles and refractory indicate they are free of lead-containing material and would not have hazardous characteristics.

Classification: Recyclable materials are non-hazardous solid waste and/or regulated as a recyclable material under 40 CFR 261.6(a)(2)(iii) when precious metals are recovered.

Disposal: Recycle to the process.

Analyses: Apply generator knowledge, use previous characterization information, and SDS for characterization and/or sample and test for TCLP metals to verify characteristics. Once characterized, apply generator knowledge and sample to re-characterize any time the process changes.

17.10. Furnace Coolant (Ethylene Glycol)

Characteristics: Ethylene glycol and water drained from mobile equipment may contain regulated metals and benzene. Ethylene glycol is toxic by ingestion. Analyses of this material have indicated it is non-hazardous.

Classification: Non-hazardous solid waste unless contaminated with metals, fuels, solvents, or other maintenance wastes. TCLP metal analyses of used coolant from the mine were below hazardous waste regulatory levels. If TCLP metals exceed hazardous waste regulatory levels, antifreeze would be regulated as hazardous waste.

Disposal: Typically used consumptively or reused. Accumulated coolant is collected in drums, totes and/or tanks for recycling and Recycle on site or off-site (by an approved facility). The approved contractor routinely tests and evacuates the used antifreeze storage tank. Used coolant storage containers are marked with the words "Used Antifreeze." Hazardous wastes will be segregated, containerized, and handled as hazardous waste.

Analyses: Use coolant SDSs, apply generator knowledge and/or sample initially (and any time the process changes).

17.11. Personal Protection Equipment

Characteristics: Used PPE (gloves, earplugs, hardhats, safety glasses).

Classification: Typically, non-hazardous solid waste. Recyclable materials are non-hazardous solid waste and/or regulated as a recyclable material under 40 CFR 261.6(a)(2)(iii) when precious metals are recovered.

Disposal: Non-hazardous PPE is thrown in the trash. PPE containing precious metals is Recycle in the furnace.

Analyses: Use SDSs, apply generator knowledge and/or sample initially (and any time the process changes). Test for TCLP if content of PPE is uncertain.

17.12. Refinery Baghouse Materials

Characteristics:	Refinery furnace fumes and baghouse bags that contain gold, silver, flux, and ore impurities.
Classification:	<p><u>Baghouse Dust:</u> The Air pollution control unit "sludge" 40 CFR 260.10 (baghouse dust) is not a solid waste under 261.2 (c)(3) when reclaimed. By-products returned to the process to reclaim metals are not solid wastes under 40 CFR 261.2 (c)(3) when reclaimed.</p> <p><u>Baghouse Bags:</u> Recyclable materials are non-hazardous solid waste and/or regulated as a recyclable material under 40 CFR 261.6(a)(2)(iii) when precious metals are recovered.</p>
Disposal:	Baghouse dust and baghouse bags containing precious metals are Recycle in the furnace.
Analyses:	Not required.

17.13. Furnace Scrubber Blowdown

Characteristics:	Scrubber blowdown water with de minimis amounts of process reagents, dust suppressant, antiscalant, and/or hydraulic/lubricating oil.
Classification:	Typically, non-hazards solid waste. Water returned to the process is excluded from RCRA solid waste under 40 CFR 261.2(e)(1)(i) because the material is Recycle as a raw material into the process.
Disposal:	Water is Recycle to the process.
Analyses:	Apply generator knowledge, use previous characterization information, and/or sample and test for precious metals values and/or TCLP metals.

17.14. Furnace Scrubber Carbon Filter Carbon

Characteristics:	Carbon filter carbon with precious metals.
Classification:	Carbon containing recoverable amounts of precious metals are solid wastes reclaimed for silver and/or gold value and are regulated as a recyclable material under 40 CFR 261.6(a)(2)(iii).
Disposal:	Collected in containers and transported to a permitted retort facility.
Analyses:	Apply generator knowledge, use previous characterization information, and/or sample and test for precious metals values and/or TCLP metals.
Waste Handling:	Recyclable material or hazardous wastes will be collected in open-top drums. Hazardous waste containers will have properly completed EPA hazardous waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated. Drums containing flammable liquids must be grounded when adding or removing waste.
Shipping:	<p>Container DOT Specification: UN/1A2</p> <p>Waste Code: D001 for hazardous waste and none if Recycle.</p>

Shipping Documentation: Include Waste Profile

17.15. Furnace Scrubber Area Containment

Characteristics:	Scrubber blowdown water with de minimis amounts of process reagents, dust suppressant, antiscalant, and/or hydraulic/lubricating oil.
Classification:	Non-hazardous solid waste.
Disposal:	Recycle to the process.
Analyses:	Not required for water and de minimis amounts of reagents or fuels. For spill cleanup waste characterization, a review of SDS and/or testing may be required to determine regulatory status.

18. Utilities and Reagents

Description: Ore processing operations at the mine require the use of reagents in the mineral extraction processes. Fresh water is also treated to remove minerals. Bulk reagents are unloaded into storage tanks or bulk totes and non-bulk containers are unloaded and stored in designated containment areas. Storage tanks and vessels are positioned on a concrete containment surface graded to route any spilled solutions to sumps. All hazardous material storage tanks have secondary containment sufficient to hold at least 110 percent of the volume of the largest tank in the containment area.

Spills must be cleaned up and are evaluated on a case-by-case basis.

18.1. Fresh Water Building Sump

Characteristics:	Fresh water and/or various types of process water, with de minimis amounts of spilled diesel fuel, hydraulic oil and/or lubricating oil. Pump houses include fresh water booster, fresh water feed, fresh water distribution, fire pump skid, gland water, and emergency generators.
Classification:	Non-hazardous solid waste. Excluded from regulation as a solid waste under 40 CFR 261.4 (a)(8) when Recycle to the process and/or excluded from regulation as a hazardous waste under 40 CFR 261.4(b)(7).
Disposal:	Flows to area drainage and/or Recycle to the process.
Analyses:	Not required for water and de minimis amounts of reagents or fuels. For spill cleanup waste characterization, a review of SDS and/or testing may be required to determine regulatory status.

18.2. Lime Management Areas Lime and Baghouses Waste

Characteristics:	Spilled lime/fugitive lime from unloading and baghouse lime and filters. These materials consist of solid lime material without free liquids.
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Classification: Lime returned to the process is excluded from regulation as a solid waste under 40 CFR 261.2(e). Fugitive lime and filters are non-hazardous solid waste by generator knowledge.

Disposal: Lime from the baghouse is returned to the silo for use. Spilled lime is washed to area sumps or returned to the process. Filters are thrown in the trash.

Analyses: Not required.

18.3. Lime Slaker Screen, Lime Slaker Grit, and Lime Silo Area Sump

Characteristics: Lime slaker grit and/or spilled lime with de minimis amounts of lime and water. Used plastic or metal screens.

Classification: Non-hazardous solid waste. Recycle material is excluded from solid waste by 40 CFR 261.2(e)(1)(ii). Rinsed used screens are non-hazardous solid waste.

Disposal: Lime is Recycle to the process. Lime slaker grit is placed in tails. Used screens are removed, rinsed, and thrown in the trash or Recycle as scrap metal.

Analyses: Not required for water and de minimis amounts of reagents. For spill cleanup waste characterization, a review of SDS and/or testing may be required to determine pH and regulatory status.

18.4. Sodium Cyanide and Sodium Hydroxide Reagents Area Sumps

Characteristics: Storm water and area wash water with de minimis amounts of spilled liquid sodium cyanide, sodium hydroxide, hydraulic oil and lubricating oil.

Classification: Water with de minimis amounts of reagents is non-hazardous solid waste and excluded from regulation as a solid waste under 40 CFR 261.4 (a)(8) when Recycle to the process.

Disposal: Recycle to the process.

Analyses: Not required for water with de minimis amounts of reagents. For spill cleanup waste characterization, a review of SDS and/or testing may be required to determine regulatory status.

18.5. Flocculent Area Sump

Characteristics: Storm water and area wash water with de minimis amounts of spilled Flocculent, hydraulic oil and lubricating oil.

Classification: Water with de minimis amounts of reagents is non-hazardous solid waste and excluded from regulation as a solid waste under 40 CFR 261.4 (a)(8) when Recycle to the process.

Disposal: Recycle to the process.

Analyses: Not required.

18.6. Acid Area Sumps

Characteristics:	Storm water and area wash water with de minimis amounts of spilled sulfuric acid, hydrochloric acid, antiscalant, hydraulic oil and lubricating oil.
Classification:	Water with de minimis amounts of reagents is non-hazardous solid waste and excluded from regulation as a solid waste under 40 CFR 261.4 (a)(8) when Recycle to the process.
Disposal:	Recycle to the process.
Analyses:	Not required for water with de minimis amounts of reagents. For spill cleanup waste characterization, a review of SDS and/or testing may be required to determine regulatory status.

18.7. Coagulant, Copper Sulfate, and/or Ammonium Bisulfite Area Sumps

Characteristics:	Storm water and area wash water with de minimis amounts of spilled coagulant, ammonium bisulfite, copper sulfate, hydraulic oil and lubricating oil.
Classification:	Water with de minimis amounts of reagents is non-hazardous solid waste and excluded from regulation as a solid waste under 40 CFR 261.4 (a)(8) when Recycle to the process.
Disposal:	Recycle to the process.
Analyses:	Not required for water with de minimis amounts of reagents. For spill cleanup waste characterization, a review of SDS and/or testing may be required to determine regulatory status.

18.8. Floatation and Frother Area Sumps

Characteristics:	Storm water and area wash water with de minimis amounts of spilled floatation reagents, frother, hydraulic oil and lubricating oil.
Classification:	Water with de minimis amounts of reagents is non-hazardous solid waste and excluded from regulation as a solid waste under 40 CFR 261.4 (a)(8) when recycled to the process.
Disposal:	Recycle to the process.
Analyses:	Not required for water with de minimis amounts of reagents. For spill cleanup waste characterization, a review of SDS and/or testing may be required to determine regulatory status.

18.9. Xanthate Area Sump

Characteristics:	Storm water and area wash water with de minimis amounts of spilled xanthate, hydraulic oil and lubricating oil.
Classification:	Water with de minimis amounts of reagents is non-hazardous solid waste and excluded from regulation as a solid waste under 40 CFR 261.4 (a)(8) when Recycle to the process.
Disposal:	Recycle to the process.

Analyses: Not required for water with de minimis amounts of reagents. For spill cleanup waste characterization, a review of SDS and/or testing may be required to determine regulatory status.

18.10. Miscellaneous Reagent Area Sumps

Characteristics: Storm water and area wash water with de minimis amounts of spilled reagents, hydraulic oil and lubricating oil.

Classification: Water with de minimis amounts of reagents is non-hazardous solid waste and excluded from regulation as a solid waste under 40 CFR 261.4 (a)(8) when Recycle to the process. If RCRA listed reagents are used, they must be reviewed on a case-by-case basis see Section 3.15.

Disposal: Reviewed and determined on a case-by-case basis.

Analyses: Not required for water with de minimis amounts of reagents. For spill cleanup waste characterization, a review of SDS and/or testing may be required to determine regulatory status.

18.11. Water Systems Area Sump

Characteristics: Reclaim and internal reclaim water and area wash water with de minimis amounts of process reagents, hydraulic oil and lubricating oil.

Classification: Excluded from regulation as a solid waste under 40 CFR 261.4 (a)(8) when Recycle and/or excluded from regulation as a hazardous waste under 40 CFR 261.4(b)(7).

Disposal: Recycle to the process.

Analyses: Not required.

19. Spill Cleanup

Description: The cleanup of spilled materials produces waste streams consisting of the spilled materials and soil or cleanup waste (adsorbents, rags, wash water etc.) contaminated with the materials. Spilled material that is containerized and used for its intended purpose is not a hazardous waste. According to the mixture rule, 40 CFR 261.3(a), contaminated soil or cleanup waste resulting from the spill of a listed hazardous waste which is listed as a toxic (T) or acute hazardous waste (H) [40 CFR 261.30] is itself a hazardous waste. Listed hazardous waste includes commonly encountered F-list (F001-F005) spent solvents. F-list only applies to solvent used for their solvent properties that dissolve or mobilize other constituents. The F-list spent solvent must contain at least 10% of one or more of the F-list solvents before use. Contaminated soil or cleanup waste resulting from the spill of a characteristic hazardous waste, whether listed or not, would itself be a hazardous waste only if the soil or cleanup material also exhibited the hazardous characteristic. The applicable hazardous characteristics are: ignitability (I), corrosivity (C), reactivity (R), or toxicity characteristic (E) [40 CFR 261.20 - .24]. *However, disposal of these materials will need to comply with the applicable land disposal restriction (LDR) regulations [LDR regulations are found in 40 CFR Part 268].* Hazardous waste cleanup wastes are containerized and handled as hazardous wastes.

Petroleum contaminated soils (PCS) is containerized for disposal off-site at approved facilities.

The following spill waste streams may potentially be produced at the facility:

19.1. Soils or Cleanup Material Contaminated with Oil and/or Grease

Characteristics:	Lubricating oil, hydraulic oil, used oil, grease and/or soil and cleanup material.
Classification:	Normally non-hazardous solid waste, however, if the oil/grease was previously contaminated with F-listed solvents and/or heavily contaminated with metals the mixture would be regulated as an F-listed and/or characteristic hazardous waste when discarded.
Disposal:	Hydrocarbon-contaminated soils are containerized for disposal off-site at approved facilities. Non-draining absorbent cleanup material is routinely discarded in the trash, however, large quantities generated from a spill cleanup are containerized for characterization prior to disposal. Soil contaminated with solvents or other hazardous materials will be segregated, sampled, and containerized for testing before being sent to a permitted facility.
Analyses:	Apply generator knowledge; use previous characterization and/or SDS information. Sample and test if necessary due to process or product changes. Sample and test for TCLP metals, F- and D-list total volatiles and F- and D-list semi-volatiles in order to characterize.

19.2. Soils or Cleanup Materials Contaminated with Diesel Fuel

Characteristics:	Diesel fuel contaminated soil or cleanup materials.
Classification:	Flash point of diesel fuel used at the mine is typically above 140°F which would not be RCRA ignitable.
Disposal:	Diesel-contaminated soil from spills is containerized for disposal off-site at approved facilities. Floor dry contaminated with adsorbed (no free liquid) diesel fuel is thrown in the trash.
Analyses:	Not required unless wet with lower flash point (<140°F) diesel fuel. Mixtures of lower flash point (<140°F) diesel fuel and other materials will be tested for ignitability.

19.3. Soils or Cleanup Materials Contaminated with Gasoline

Characteristics:	Contaminated or off-specification waste gasoline from fueling vehicles or from spills. In addition, contaminated water and/or spills from the gasoline storage tank and fuel pump. Contaminated or off specification kerosene from use for heating or from spills. Liquid waste must not be solidified for disposal.
Classification:	Possible hazardous waste due to characteristics of ignitability (D001) and benzene (D018) if present in strong concentrations. Exempt from regulation if used as a fuel (such as burned for energy recovery).
Disposal:	Small quantities of gasoline (1%) may be mixed with used oil for recycling or energy recovery. Liquid gasoline and kerosene disposed as a hazardous waste

is shipped as D001 and/or D018 hazardous waste if the discarded material exhibits the characteristics. Exempt if used as a fuel. Non-hazardous soil contaminated with small amounts of gasoline is containerized for disposal off-site at approved facilities. Solids/sludge that are wet with ignitable liquids are segregated, containerized, and handled as hazardous waste.

Analyses:	Apply generator knowledge; use previous characterization and/or SDS information. Mixtures of gasoline, kerosene, and other materials to be land farmed on site or disposed off-site will be tested for ignitability, TCLP benzene for solids and/or total benzene for liquids. Mixtures of gasoline, kerosene, and other materials that are Recycle or used for energy recovery do not require testing.
Waste Handling:	Recyclable material or hazardous wastes will be collected in open-top drums. Hazardous waste containers will have properly completed EPA hazardous waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated. Drums containing flammable liquids must be grounded when adding or removing waste.
Shipping:	Container DOT Specification: UN/1A2 Waste Code: D001 and/or D018 for hazardous waste and none if used as a fuel. Shipping Documentation: Include Waste Profile

19.4. Soils or Cleanup Materials Contaminated with Engine Coolant

Characteristics:	Glycol-based engine coolant and water from closed loop cooling systems equipment, soil, and cleanup materials. May contain regulated metals and benzene. Ethylene glycol is toxic by ingestion.
Classification:	Non-hazardous solid waste unless contaminated with metals, fuels, solvents, or other maintenance wastes the mixture may be regulated as a characteristic hazardous waste when discarded.
Disposal:	Non-hazardous, non-draining materials are disposed in the trash. Glycol-based coolant, known to be contaminated with metals, fuels, solvents, or other maintenance wastes, is segregated, containerized, sampled and tested for classification. Hazardous waste glycol-based solvent is handled as hazardous waste.
Analyses:	Not required except for characterization of potentially contaminated glycol-based coolant. For spill cleanup waste characterization, a review of the SDS and/or testing may be required to determine regulatory status.

19.5. Soils or Cleanup Materials Contaminated with Used Non-Listed Solvent

Characteristics:	Used, spilled cleaning solvent mixed with soil or cleanup materials.
Classification:	Typically, non-hazardous unless there is sufficient metal content in the spilled solvent to fail TCLP toxicity for metals, or if an F-listed solvent has been mixed with the solvent.

Disposal:	Acceptable non-hazardous solid wastes with free liquids must be solidified/dried before disposing in the trash. Soil contaminated with listed solvents or other hazardous materials will be segregated, sampled, and containerized for testing before being sent to a RCRA-permitted facility.
Analyses:	Sample and test for TCLP metals, flash point, and volatile organics.
Waste Handling:	Hazardous wastes will be collected in open-top drums having properly completed EPA hazardous waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated.
Shipping:	Container DOT Specification: UN/1A2. Waste Code: Varies with waste constituents. Shipping Documentation: Include Waste Profile

19.6. Soils or Cleanup Materials Contaminated with Used Paint Thinner or F-Listed Cleaning Solvent

Characteristics:	Used thinner or F-listed solvent mixed with soil or cleanup materials.
Classification:	Most of these products will fall under one of the F-listed solvents (F001-F005) when spent and discarded. Used solvent may also contain enough metals to fail TCLP toxicity for metals and/or flash point.
Disposal:	Hazardous waste must be disposed at a RCRA-permitted facility.
Analyses:	Sample and test for TCLP metals, flash point, and volatile organics.
Waste Handling:	Hazardous wastes will be collected in open-top drums having properly completed EPA hazardous waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated.
Shipping:	Container DOT Specification: UN/1A2. Waste Code: Varies with waste constituents. Shipping Documentation: Include Waste Profile

19.7. Soils or Cleanup Materials Contaminated with Unused Paint, Blended Commercial Formulations, or Chemical Mixtures

Characteristics:	Paint, commercial products or chemical products consisting of blends of chemicals mixed with soil or cleanup materials. Commercial formulations may be characteristic hazardous waste (e.g. a commercial formulation of paint thinner may be hazardous due to ignitability and/or toxicity characteristics).
Classification:	Typically, non-hazardous but may be hazardous by characteristic depending on the chemical properties of the spilled material. Review the SDS for the spilled material to see if it would be a hazardous waste under any of the characteristics. If the concentration of a characteristic hazardous waste is high enough in the soil or cleanup materials, the mixture may exhibit the hazardous characteristic and be a hazardous waste.

Disposal:	Acceptable non-hazardous solid wastes with free liquids must be solidified/dried before disposing in the trash. Mixtures exhibiting a hazardous waste characteristic are disposed as hazardous waste.
Analyses:	Not typically required if information on hazardous waste characteristics can be obtained from SDSs. If SDS information indicates that the contaminated soil may exhibit a hazardous characteristic, analyze the mixture for that characteristic.
Waste Handling:	Hazardous wastes will be collected in open-top drums having properly completed EPA hazardous waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated.
Shipping:	Container DOT Specification: UN/1A2. Waste Code: Varies with waste constituents. Shipping Documentation: Include Waste Profile

19.8. Soils or Cleanup Materials Contaminated with Acid or Ammonium Bisulfite

Characteristics:	Acid or Ammonium Bisulfite (pH 5.5) mixed with soil or cleanup materials.
Classification:	Typically, not a hazardous waste at low acid concentrations. Recycle reagents are excluded from regulation as a solid waste under 40 CFR Part 261.2(e)(ii). May be a corrosive hazardous waste (D002) if saturated with acid and the mixture has a pH less than 2.0. Non-hazardous solid waste after being neutralized according to SDS recommendations.
Disposal:	Containerize liquid waste for use or disposal. Treat spills according to directions in SDS. Dispose of non-liquid non-hazardous waste in the trash.
Analyses:	Mixtures of acid and other materials that are Recycle do not require testing. Sample and test pH on free liquid waste if disposed.
Waste Handling:	Hazardous wastes will be collected in open-top drums having properly completed EPA hazardous waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated.
Shipping:	Container DOT Specification: UN/1H2. Waste Code: D002 for hazardous waste. Shipping Documentation: Include Waste Profile

19.9. Soils or Cleanup Materials Contaminated with Caustic and/or Lime

Characteristics:	Caustic (sodium hydroxide), Aero 404 (caustic mixture), UNR 811 (Sodium hydroxide mixture), and/or lime reagents mixed with soil or cleanup materials.
Classification:	Typically, not a hazardous waste at low caustic/alkaline concentrations. Recycle reagents are excluded from regulation as a solid waste under 40 CFR Part 261.2(e)(ii). May be a corrosive hazardous waste (D002) if saturated with caustic and the mixture has a pH greater than 12.5. Non-hazardous solid waste after being neutralized according to SDS recommendations.

Disposal:	Containerize liquid waste for use or disposal. Treat spills according to directions in SDS. Dispose of non-liquid non-hazardous waste in the trash.
Analyses:	Mixtures of caustic materials and other materials that are Recycle do not require testing. Sample and test pH on free liquid waste if disposed.
Waste Handling:	Hazardous wastes will be collected in open-top drums having properly completed EPA hazardous waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated.
Shipping:	Container DOT Specification: UN/1H2. Waste Code: D002 for hazardous waste. Shipping Documentation: Include Waste Profile

19.10. Soils or Cleanup Materials Contaminated with Cyanide

Characteristics:	Cyanide mixed with soil or cleanup materials.
Classification:	Recycle reagents are excluded from regulation as a solid waste under 40 CFR Part 261.2(e)(ii). Possible hazardous waste due to characteristic of cyanide reactivity (D003) if present in strong concentrations.
Disposal:	Recycle to the mill or a leach pad. Residual contamination neutralized in-place with hydrogen peroxide or hypochlorite according to SDS.
Analyses:	Mixtures of cyanide and other materials that are Recycle do not require testing. Test for reactive cyanide if disposed.
Waste Handling:	Hazardous wastes will be collected in open-top drums having properly completed EPA hazardous waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated.
Shipping:	Container DOT Specification: UN/1A2. Waste Code: D003 for hazardous waste. Shipping Documentation: Include Waste Profile

19.11. Soils or Cleanup Materials Contaminated with Frother

Characteristics:	Frother mixed with soil or cleanup materials.
Classification:	Recycle reagents are excluded from regulation as a solid waste under 40 CFR Part 261.2(e)(ii). Soil and Frother is possibly hazardous waste due to characteristic of ignitability (D001) if present in strong concentrations.
Disposal:	Containerize liquids for use or disposal. Solids/sludge that are wet with ignitable liquids are segregated, containerized, and handled as reagent for use or hazardous waste. Non-hazardous solids and/or solidified sludge are thrown in the trash.
Analyses:	Apply generator knowledge; use previous characterization and/or SDS information. Mixtures of frother and other materials to be disposed off-site will be

tested for ignitability. Mixtures of frother and other materials that are Recycle do not require testing.

Waste Handling: Recyclable material or hazardous wastes will be collected in open-top drums. Hazardous waste containers will have properly completed EPA hazardous waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated. Drums containing flammable liquids must be grounded when adding or removing waste.

Shipping: Container DOT Specification: UN/1A2
Waste Code: D001 for hazardous waste and none if Recycle.
Shipping Documentation: Include Waste Profile

19.12. Soils or Cleanup Materials Contaminated with Xanthate

Characteristics: Xanthate mixed with soil or cleanup materials.

Classification: Recycle reagents are excluded from regulation as a solid waste under 40 CFR Part 261.2(e)(ii). Soil and xanthate is possibly hazardous waste due to characteristic of ignitability (D001) and/or reactivity (D003) if present in strong concentrations.

Disposal: Containerize for use or disposal. Solids/sludge that are wet with ignitable liquids and or corrosives are segregated, containerized, and handled as reagent for use or hazardous waste. Non-hazardous solids and/or solidified sludge are thrown in the trash.

Analyses: Apply generator knowledge; use previous characterization and/or SDS information. Mixtures of xanthates and other materials to be disposed off-site will be tested for ignitability. Mixtures of xanthates and other materials that are Recycle do not require testing.

Waste Handling: Recyclable material or hazardous wastes will be collected in open-top drums. Hazardous waste containers will have properly completed EPA hazardous waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated. Drums containing flammable liquids must be grounded when adding or removing waste.

Shipping: Container DOT Specification: UN/1A2
Waste Code: D001 and/or D003 for hazardous waste and none if Recycle.
Shipping Documentation: Include Waste Profile

19.13. Soils or Cleanup Materials Contaminated with a Pure Chemical

Characteristics: Any pure chemical or a commercial formulation with one essentially pure form chemical sole-active ingredient mixed with soil or cleanup materials.

Classification: May be a listed hazardous waste or be hazardous by characteristic depending on the chemical properties of the spilled material. Review the SDS of the spilled material to see if it would be a hazardous waste under any of the characteristics

or listed hazardous waste constituents. Review the hazardous waste listings in 40 CFR 261.33 to see if the chemical is listed. If the spilled chemical is listed as a hazardous waste in 40 CFR 261.33, the mixture is also hazardous, unless it is listed only for the characteristics of ignitability (I), corrosivity (C) or reactivity (R), then the resulting mixture is hazardous only if it exhibits the characteristic. Mixtures listed for other than characteristics of “I”, “C”, or “R” are hazardous waste bearing the “P” or “U” hazardous waste number of the chemical.

Disposal:	Acceptable non-hazardous solid wastes with free liquids must be solidified/dried before disposing in the trash. Dispose of in a hazardous waste disposal facility for mixtures with a listed hazardous waste or mixtures exhibiting a hazardous waste characteristic.
Analyses:	Not typically required if information on hazardous waste characteristics can be obtained from SDSs. If SDS information indicates that the contaminated soil may exhibit a hazardous characteristic, analyze the mixture for that characteristic.
Waste Handling:	Hazardous wastes will be collected in open-top drums having properly completed EPA hazardous waste markings, including the date when the drum becomes full or 55 gallons of the waste has accumulated.
Shipping:	<p>Container DOT Specification: UN/1A2.</p> <p>Waste Code: Varies with constituents.</p> <p>Shipping Documentation: Include Waste Profile</p>

20. CONTAINER MANAGEMENT PLAN

This Container Management Plan has been prepared in compliance with the requirements of the federal hazardous waste regulation found in 40 CFR Part 265 Subpart I, and good management practices. This plan applies to all containers used to hold hazardous materials/wastes, non-hazardous materials/wastes, and universal wastes generated at the facility. Containers shall be in good condition with no leaks, dents, corrosion, or any other defect that may compromise the integrity of the container. Container construction shall be compatible with the contents.

20.1. Types of Containers

The following descriptions are for approved types of containers to be used for accumulation and temporary storage of hazardous wastes and hazardous materials. The Environmental Department shall review and approve any other containers, not listed below, to be used for hazardous materials/wastes, non-hazardous materials/wastes, and universal wastes.

a. Bulk quantities of non-liquid hazardous waste (i.e., D008 hazardous waste) shall be placed into sift proof closed roll-offs. The construction material for the bulk containers shall be compatible with the characteristics of the wastes to be contained. This should be determined in consultation with the Environmental Department. All bulk containers shall be in good condition with no damage or corrosion that would impair the ability of the bulk containers to contain the wastes. The tops of roll-offs should incorporate a flexible sealing gasket in good condition.

b. Non-bulk quantities of non-liquid hazardous waste shall be placed into clean, 55-gallon, open-top type drums meeting Department of Transportation (DOT) United Nations (UN) specification (e.g. 1A2/Y250). The construction material for the drums shall be compatible with the characteristics of the wastes to be contained. This should be determined in consultation with the Environmental Department. All drums shall be in good condition with no damage or corrosion that would impair the ability of the drum to contain the wastes. The tops should incorporate a flexible sealing gasket in good condition. The sealing rings should fit the drums and be able to seal the drums tightly. Drums with side bungs should not be used.

c. All liquid hazardous wastes shall be placed into clean, 55-gallon closed-top type drums meeting DOT UN specification (e.g. 1A1/Y1.4/250). All drums shall be in good condition with no damage or corrosion that would impair the ability of the drum to contain the wastes. The construction material for the drums shall be compatible with the characteristics of the wastes to be contained. This should be determined in consultation with the Environmental Department. The tops should incorporate threaded bungs in good condition. Sufficient headspace (about 3 inches) should be left in the container to provide for liquid expansion and contraction. The bungs should fit the drums and be able to seal the drums tightly.

d. All containers used to hold hazardous waste shall be compatible with the intended contents. For waste paint and paint-related material, spent solvent, epoxies, rags, oils, fuels, grease, or coolant, standard steel drums of good quality shall be used. Any other hazardous wastes that may be produced on site should be reviewed by the Environmental Department before selecting the appropriate container.

20.2. Management of Containers

a. All containers of hazardous materials/wastes, non-hazardous materials/wastes, and universal wastes shall be closed during all times when wastes are not being added or removed from the containers. Roll-offs shall be closed by closing the door or covering the opening with a tarp. Open top drums shall be closed by placing the lid and sealing ring on the drum. The sealing ring should be tightened sufficiently so that the contents of the drum will not spill if the drum were to tip over. Only non-liquid wastes shall be placed in open-top drums. All liquids shall be placed in closed-top drums with bungs. Drums shall have their bungs turned in tight except when wastes are being added or removed. Liquid waste shall be added with a funnel to prevent spillage.

b. All containers holding flammable wastes such as paints, paint-related material, and solvents shall be grounded with a grounding wire attached to bare metal on the drum before opening the container top to minimize the potential for sparking when adding waste.

c. Only non-sparking bung wrenches and funnels shall be used for drums holding flammable wastes.

d. Containers of hazardous materials/wastes, non-hazardous materials/wastes, and universal wastes shall be handled carefully to prevent damaging the containers. Full containers shall not be stacked or stored on their sides. Any damage caused to a container of hazardous waste and/or universal waste shall immediately be reported to management and an evaluation shall be made as to whether the container should be overpacked or if the contents of the container should be transferred to a good container. Any spilled hazardous waste should be immediately contained to minimize contamination.

Hazardous Waste Container Inspection Records shall be completed on a weekly basis for all drums of hazardous waste in designated hazardous waste storage areas.

- e. Properly completed labels identifying the container contents shall be placed on the upper 1/3 of each drum or container when the first waste is placed inside.
- f. Containers of unknown waste that have not yet been characterized shall be marked with a drum identification number and other markings as determined by the Environmental Department.
- g. Containers of hazardous waste shall be marked with a "Hazardous Waste" marking that complies with 40 CFR 262.32. The accumulation start date shall be filled in with the date and proper hazardous waste codes entered on the marking when the first waste is added to the container, except for satellite accumulation situations. The date the container becomes full is the date that is entered on the marking. The manifest document number shall be completed at the time the container is shipped off site for disposal.
- h. Containers of incompatible hazard classes shall be separated by physical barriers or enough distance to separate spills and prevent mixing of incompatible materials.
- i. Any drum to be disposed or reused should first be drained of all free liquid. All empty drums should have bungs/lids on and should be stored on their sides. Drum to be used for handling other non-hazardous wastes/materials or returned to vendors for refund should be placed in designated areas. Drums that are damaged or are otherwise intended to be disposed should be placed in the designated area prior to crushing before disposal in the landfill or placing in the scrap metal bins for recycling.

20.3. Container Inspections

- a. All containers of hazardous waste in designated SQG 180 to 270-day hazardous waste storage areas shall be inspected at least weekly, looking for proper labels, leaks, and deterioration caused by corrosion or other factors. Hazardous Waste Container Inspection Records shall be completed on a weekly basis for all drums of hazardous waste.
- b. Containers shall be placed in designated satellite accumulation areas or the hazardous waste storage area of the barrel handling facility with sufficient space separating each container so that the inspector can observe the top and all sides of each container of hazardous waste. All containers shall be oriented such that all hazardous waste labels can be readily observed without turning the containers.
- c. Records of the inspections shall be maintained by the Environmental Department.

20.4. Storage Limitations

Large Quantity Generators cannot store hazardous waste on site for more than 90 days, while Small Quantity Generators can store < 6000 kg (13,200 lbs.) of hazardous waste on site for up to 180 days (or 270 days if the facility is 200 miles or more from the TSDF).

20.5. Ignitable or Reactive Wastes

40 CFR 265.176 requires that ignitable or reactive wastes should not be stored any closer than 50 feet from the property fence line.

MSHA ignitable inside or outside storage regulations require that these wastes should not be stored within 25 feet of a wood building (without a 3-side steel fire wall).

20.6. Incompatible Wastes

- a. Incompatible wastes, such as acids and bases, or organics and corrosives, shall not be placed in the same containers. When there is any doubt as to the compatibility of a waste to be added to a container, do not add the waste until after checking with the Environmental Department.
- b. Only new or reconditioned drums obtained from the designated vendor shall be used for storage of hazardous waste. In no case shall a drum that previously held an incompatible material be used for storage of hazardous waste without first being thoroughly cleaned and rinse liquids properly disposed. Contact of the Environmental Department is required for proper decontamination procedures.
- c. Containers of incompatible hazard wastes shall be separated by physical barriers (i.e., containment pallets) or enough distance to separate spills and prevent mixing of incompatible materials.

21. PREPAREDNESS AND PREVENTION PLAN

This Preparedness and Prevention Plan has been prepared in compliance with the requirements of the federal hazardous waste regulations found in 40 CFR Part 265 Subpart C and good management practices. This plan applies to the hazardous waste storage areas located at the mine:

- SQG 180-to 270-day drum/container hazardous waste storage area located (Location TBD); and/or,
- Other temporary hazardous waste storage areas may be established on a case-by-case basis (i.e. cleanup and/or closure).

The drum/container handling facility is located (Location TBD). It is constructed with a concrete pad, curbing and/or roof for spill containment, control and/or weather protection (This is an example the design is TBD). Access to the 180-to-270-day mine hazardous waste storage area is limited to the mine personnel.

Signs are placed in the drum/container handling facilities to indicate the locations where drums or containers containing various materials are to be placed, including an area for hazardous wastes. Drums are to be placed in these designated areas on wooden pallets. Empty drums are to be stored on their sides in designated areas.

21.1. Hazardous Waste Storage Areas Maintenance and Normal Operation Procedures

The hazardous waste storage areas must be maintained and operated to minimize the possibility of fire, explosion, or any other release of hazardous waste to the air, soil, or surface water which could threaten human health or the environment. This will be accomplished in the following ways:

- a. In order to access the 180 to 270-day drum/container hazardous waste areas, personnel must sign out a key from security, and have a portable radio and/or cellular phone on their persons.
- b. All employees working in the hazardous waste storage areas shall be trained in the proper handling of the wastes, appropriate personal protection measures, and appropriate emergency response measures, relevant to their normal working responsibilities.

- c. All containers of hazardous waste, except satellite containers and/or roll offs, shall be stored only in the designated area or drum/container handling facility, which incorporate spill control measures.
- d. All containers of hazardous waste shall be:
 - 1. Properly labeled and marked as to their contents;
 - 2. Placed on pallets and oriented so that their labels and markings are readily visible to allow inspections of the containers and their labels; and,
 - 3. Placed with sufficient aisle space and isle space maintained between lines of drums in the drum/container handling facility to allow the unobstructed movement of containers, spill control materials, and fire control equipment; and,
- e. All hazardous waste containers shall be of appropriate type and quality and shall be tightly closed except for when wastes are being added or removed.
- f. All workers shall extinguish any smoking materials or other open flames before entering the drum handling facility.
- g. Containers of flammable hazardous waste shall be grounded with grounding wires before being opened to add or remove wastes.
- h. A grounding strap shall be attached to any drum containing flammable wastes before opening.
- i. Wastes shall be carried through the work place to the hazardous waste storage container in closed cans, buckets, or drums that are marked as to their contents and which would prevent a spill if tipped or dropped.
- j. Wastes shall be handled carefully when being transferred to the roll off and/or storage drums/containers. Liquid wastes should always be added using the funnels provided.
- k. Containers shall be handled carefully to prevent damage to them. Any damaged container shall be evaluated as to its ability to satisfactorily contain the wastes and the wastes shall be transferred to a new container if necessary. Alternatively, damaged drums should be overpacked into open-top salvage drums.
- l. Spill containment and cleanup materials shall be available at the warehouse and shall be used whenever there is a spill of hazardous waste.
- m. Inspections of the hazardous waste storage areas shall be conducted weekly and following any emergency response. Equipment shall be tested and maintained. These inspections shall include and record the status of at least the following:
 - 1. Condition of all containers including their closure condition, labels, and any damage or signs of corrosion or leakage. Items to be inspected should include the number of containers in storage, how long they have been in storage, and any observations of any problems or abnormal conditions with containers or other storage area characteristics, noting which drum(s) had the problem(s).
 - 2. Condition and availability of all tools, emergency response materials, including monthly fire extinguisher inspections, and communications equipment.

3. Condition and completeness of all container labeling and marking. Particular attention should apply to the accumulation dates and amounts of hazardous waste stored.
 4. The inspector should also note if there are any hazardous waste containers that have been in storage for an extended time period (approaching the 180-day limit).
- n. Hazardous Waste Container Inspection Records shall be completed on a weekly basis for all containers of hazardous waste. The written record of each inspection shall be promptly delivered to the Environmental Department following each weekly inspection. Inspection records shall be maintained by the Environmental Department for a period of at least three years. Any abnormal conditions shall be reported to the Environmental Manager or emergency coordinator in a timely manner. Any inspections noting leakage or potential leakage of hazardous waste, or any other conditions that may result in danger to personnel or the environment, shall be reported to the Environmental Department immediately. The Environmental Department shall also note from the inspection reports if storage times and/or amounts are nearing the allowable limits and make the proper arrangements to dispose of the waste before these limits are exceeded.

21.2. Required Equipment for Operation of the 180 to 270-Day Storage Handling Facility, Hazardous Waste Storage Area

The following materials and equipment are used in the hazardous waste storage areas; unless none of the hazards posed by waste handled at the storage area could require a particular kind of equipment:

- a. Portable radios (Channel 1) or telephones in proper working order which can be used to report emergencies and allow the workers at the storage area to receive immediate emergency instruction. [265.32(a)/ (b), 265.34 and 265.52(e)]
- b. Fire extinguishers, in working order and/or other fire equipment where available. These are to extinguish fires involving the types of wastes stored in the area. [265.32(c) and 265.52(e)]
- c. If large volumes of water are required to respond to a fire, this is available through the nearest fire hydrant. [265.32(d)].
- d. A labeled spill kit with response materials for the containment, absorption and cleanup of wastes are stored in the area. The spill response materials also include suitable personal protective equipment sufficient for two workers to respond to a significant spill of the type of hazardous waste stored in the facility. [265.32(c)]. Additional spill response materials for containment are in the hazardous waste storage building.
- e. Mobile equipment is available at the mine facilities shops and/or warehouse.
- f. Additional PPE and chemical protective clothing is readily available at the mine site safety/security building, warehouse, and in the spill trailer.
- g. Decontamination equipment is in the mobile spill trailer and at the safety/security building.
- h. Grounding straps and connectors to allow grounding of any container of flammable waste before opening. [265.32(c) and 265.52(e)]

- i. Sufficient lighting to allow safe working conditions at all times wastes are being handled in the waste storage area.
- j. Appropriate tools for handling the containers of waste including at least: non-sparking wrenches and a non-sparking funnel. [265.32(c)]
- k. At least one empty 55-gallon drum of the appropriate type (open head or bung) ready to receive each type of waste stored in the area, and one empty, 85-gallon salvage drum to be used to contain a leaking 55-gallon drum. [265.32(c)]
- l. All facility communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment, where required, must be tested and maintained as necessary to assure its proper operation in time of emergency [265.33].

22. HAZARDOUS WASTE EMERGENCY RESPONSE PLAN

In compliance with 40 CFR 262.34(d), Haile has developed the following emergency response plan for any accidents involving hazardous waste at its facilities. This portion of the plan is designed to minimize hazards to human health or the environment from fires, explosions or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil or surface water.

The facility has this Hazardous Waste Emergency Response Plan (hazardous waste) and a Spill and Emergency Response Plan (ERP) (hazardous materials) in place (any other plan references will be added (e.g., Spill Prevention Control and Countermeasures) once the plans are developed). Employees respond to incidents according to the plan applicable to the materials released (i.e., hazardous waste and/or hazardous material) and training received.

- a. An emergency coordinator responsibility has been created at the facility to respond to hazardous waste management, including emergency response. This employee must be either present at the facility or on call (and able to report to the facility within a short period of time). In the event that the emergency coordinator is not readily available, alternates are included on the emergency coordinator list (a site-specific list will be developed).
- b. The mine's emergency response program documents (Hazardous Waste Emergency Response Plan, and Hazardous Waste Preparedness and Prevention Plan and Emergency Response Plan for hazardous materials) will be located near the telephones used for emergencies. The following will be posted next to the telephones used for emergencies:
 - 1. Name and telephone number of the emergency coordinator, alternates and fire department (911) (Plant Emergency Contact List); and,
 - 2. Location of the fire extinguishers and spill control equipment, and, if present, fire alarm (see the Preparedness and Prevention Plan and Emergency Response Program).
- c. Any spills of hazardous waste shall be responded to immediately using the spill response materials provided. The response actions for any significant spill should be as follows:
 - 1. Control or stop the flow of hazardous waste, if possible. It is especially important to prevent the material from entering drains or waterways;
 - 2. Control the spread of spilled waste using the containment materials provided;
 - 3. Report the spill to the emergency coordinator and plan the balance of the spill response;

4. Clean up the spilled waste as soon as practicable and place in the designated drum along with used cleanup materials;
 5. Properly dispose of any spilled hazardous waste and used cleanup materials.
- d. Any leaking drums or conditions that could lead to a spill or dangerous condition shall be immediately reported to the emergency coordinator.
- e. In the event of a fire, the following response actions shall be followed:
1. Extinguish the fire if this can be accomplished safely using a fire extinguisher. If it cannot be controlled using a fire extinguisher, call Security who will call 911.
 2. Notify the on-site Shift Supervisor by phone, in person, or by radio immediately.
 3. The Shift Supervisor, or in his absence the person detecting the emergency, shall then report the incident to the Environmental Department (Hazardous Waste Emergency Coordinator); and inform him/her of the current status of the emergency, actions taken, probable consequences, and anticipated needs.
 4. The Environmental Department shall then request aid from local fire departments or sheriff's offices, and medical aid from local hospitals, should the incident warrant their assistance.

22.1. Reporting Requirements

To ensure that emergencies involving hazardous waste are properly handled and reported, the following emergency reporting procedures shall be followed:

- a. Persons who discover a release or potential release of hazardous waste should immediately notify the Environmental Department listed on the "Emergency Contact List" and/or their area Supervisor (notify Security if the Supervisor not available). The Supervisor will immediately notify the Environmental Department or Security and Security will immediately notify the Environmental Department on site or on call. The persons making the report will immediately notify the Environmental Department and provide the following information:
 1. Name and phone number of individual reporting;
 2. Time and date of spill;
 3. Location of spill - as specific as possible;
 4. Description of the material and the amount of material spilled (if known);
 5. Cause of spill;
 6. Emergency action taken to minimize the threat to human health and the environment
 7. Note if the released material is confined within property boundaries and/or if it has reached a waterway, drainage, or pond;
 8. Note the number of human and/or animal injuries/fatalities.

- b. The Emergency Coordinator will determine if there has been a reportable incident, spill, or discharge and complete applicable reporting.

1. In general, a reportable spill includes:
 - a. Hazardous chemicals equal to or in excess of the Federal “Reportable Quantity” (RQ) under CERCLA and/or the Extremely Hazardous Substances (EHS) RQ under EPCRA;
 - b. Hazardous waste spills:
 - i. Could threaten human health outside the facility or,
 - ii. The spill has reached surface water.

Only Haile’s emergency coordinator or designee shall verbally notify the appropriate agencies, if any of the above reporting requirements are met. If any of the above reporting requirements are met, go to Number 2 below and follow the reporting requirements.

2. Reportable incident verbal notification:
 - a. Immediate notification requirements for reportable release that equals or exceeds the CERCLA RQ and/or EPCRA EHS RQ:
 - b. DHEC ERS notification is required for a hazardous waste spill that could threaten human health outside the facility or for a hazardous waste spill that has reached surface water. Facilities must immediately notify the DHEC ERS see number 3. below.
 - c. Lancaster County Emergency Management LEPC notification is required for a hazardous waste spill that could threaten human health outside the facility. Facilities must immediately notify LEPC see 3 below.

3. Phone Numbers are:
 - a. National Response Center 1-800-424-8802
 - b. DHEC Emergency Response Section (ERS) 1-888-481-0125
 - c. Lancaster County Emergency Management LEPC 911

4. The Emergency Coordinator shall provide the following information when reporting a spill/release:
 - a. Mine’s Name, phone number, address of the facility and hazardous waste generator Identification Number: SCD987596806;
 - b. Name, title, and phone number of individual reporting;
 - c. Facility contacts;
 - d. Time, duration, date and type of spill;
 - e. Location of spill – as specific as possible including township and range, section, and county in addition to the specific location on the site;
 - f. Description of the material, the amount of material spilled, if it is an EHS;
 - g. Cause of spill;
 - h. Associated health risk and medical advice for those exposed;

- i. Emergency action taken to minimize the threat to human health and the environment;
 - j. Description of any injuries (extent of injuries) or fatalities;
 - k. Evacuations necessary;
 - l. Environmental media the material was released to, if any; and
 - m. Estimated quantity and disposition of recovered materials.
5. Within 10 days of CERCLA and/or EPCRA RQ spill, a written report will be prepared and submitted by the emergency coordinator to the ERS in Columbia that includes the above information.
6. The Emergency Coordinator shall determine if the incident requires the assistance of an experienced hazardous waste spill response contractor.

22.2. Spill Response Contractor

The Emergency Coordinator shall determine if the incident requires the assistance of an experienced hazardous waste spill response contractor.

22.3. Management of Wastes Produced During an Incident

The wastes produced in a cleanup or response to an emergency incident involving hazardous wastes or hazardous materials may themselves be hazardous wastes. For example, floor dry used to absorb a spill of a listed solvent would be a hazardous waste mixture having the same hazardous waste code as the spilled material. The following procedures will be followed to manage these wastes:

- a. Wastes that are potentially hazardous only because of their cyanide content are toxic and reactive and will be treated in-place according to SDS directions (treatment with dilute buffered calcium hypochlorite, hydrogen peroxide etc.), or will be immediately introduced into the process where the cyanide will be recycled. Cyanide wastes must be separated from acid wastes or water with a pH < 12 to prevent generation of toxic gas.
- b. Wastes that are potentially hazardous only because of their caustic soda content are corrosive and will be treated in place according to SDS directions or will be immediately introduced into the process where the caustic will be recycled. Caustic wastes must be separated from acid wastes to prevent the generation of heat.
- c. Wastes that are potentially hazardous only because of their acid content are corrosive and will be treated in place according to SDS directions, will be containerized in acid-proof containers for off-site disposal or the acid will be recycled to the process. Acid wastes must be separated from caustic wastes to prevent the generation of heat.
- d. Wastes potentially hazardous for their toxic metals or organic compounds content will be immediately containerized and analyzed for TCLP metals or organics. If any of the TCLP thresholds are exceeded, the wastes will be disposed as a hazardous waste.
- e. Wastes that are mixtures of a listed hazardous waste or a chemical that is a listed hazardous waste when disposed will immediately be containerized and disposed as a hazardous waste mixture having the same hazardous waste code as the spilled material.

22.4. Coordination with Local Authorities

In compliance with federal hazardous waste regulations at 40 CFR 265.37 and good management practice, a copy of the Hazardous Waste Emergency Response Plan and Hazardous Waste Preparedness and Prevention Plan and an invitation to visit the facility has been sent to the following local entities and authorities that may be involved in an emergency situation. The facility will coordinate with the following agencies to familiarize agency personnel with the types of hazardous waste handled in the waste storage areas and the potential need for their services.

The facility has coordinated with the following local emergency response agencies to familiarize them with the potential need for their services in the future to respond to a hazardous waste incident:

- Lancaster Fire Department 911 or 803-475-6902
- Lancaster County Sheriff 911 or 803-283-3388
- Lancaster County Emergency Management /Fire 911 or 803-285-7333

The following medical facilities will be notified of the hazards associated with various emergency situations at the facilities and will be provided a copy of the Hazardous Waste Emergency Response Plan and Hazardous Waste Preparedness and Prevention Plan.

- Springs Memorial Hospital 803-286-1214

Personnel from the hospital and local ambulance services will be advised of materials handled at the facility, the likely hazards involved. Safety Data Sheets and other technical references pertaining to hazardous materials are available from the facility for use by hospital personnel.

The facility has contacted local police, fire, emergency response teams and hospitals and provided them with copies of or portions of the facilities Hazardous Waste Emergency Response Plan and Hazardous Waste Preparedness and Prevention Plan and relevant background information in an effort to familiarize them with the layout of the facilities, the properties of the hazardous wastes handled at the facility, the associated hazards, entrances to and roads within the site, evacuation assembly areas. These local authorities are invited to visit the facility if they should so desire. The arrangements with local authorities discussed above include provisions for designating one authority as the primary emergency authority. If an emergency situation arises at the facility, which cannot be controlled by site personnel, the Emergency Response Coordinator (ERC) will notify the appropriate authorities.

If a spill of hazardous material or hazardous waste cannot be contained, controlled, and cleaned up by facility personnel or local authorities, the Emergency Response Coordinator (ERC) will call in a professional cleanup contractor.

Copies of letters sent to the Emergency Response agencies requesting their coordination in response assistance to emergency situations are located in the environmental files.

23. WASTE MINIMIZATION GUIDELINES

The mine is committed to preventing or reducing pollution by avoiding unnecessary generation of wastes and by participating in recycling efforts. The mine has implemented a waste minimization program that

addresses waste minimization efforts and opportunities for used oil, non-hazardous petroleum related wastes, hazardous materials/wastes, non-hazardous materials/wastes, universal wastes and other solid wastes.

Waste minimization is achieved through source reduction and environmentally sound recycling. Environmentally sound recycling includes the use, reuse, or reclamation. The mine has implemented these techniques to reduce the quantities of wastes. Examples of the mine's current waste minimization efforts include the following:

- a. Source reduction through efficient and evolving operating practices, solvent substitution, and inventory control of paints and solvents;
- b. Environmentally sound recycling of solvents, used oil, antifreeze, lead acid batteries, scrap metal, e-waste, fuels, Chlorinated Fluorocarbons (CFCs)/Refrigerants and carbon fines recycled off site for use, recovery of precious metals or fuel value;
- c. Product substitution of materials that may potentially generate a hazardous waste to products that are environmentally sound, such as the elimination of chlorinated solvents in all facilities; and,
- d. Recycling of Universal Wastes, off site at permitted universal waste handling facilities.

23.1. Management Support

Minimizing the amount of hazardous waste generated is a crucial component of any effective waste management program. The mine has an ongoing program of waste minimization. Mine management will continue to support waste minimization efforts through one or more of the following methods:

- a. Issuing a formal written statement encouraging waste minimization,
- b. Setting waste reduction goals,
- c. Use of preferred alternative products identified by the New Product Review form;
- d. Making a commitment to implement waste minimization recommendations,
- e. Designating waste minimization coordinator(s),
- f. Publishing or sharing waste reduction success stories,
- g. Employee incentive/participation program, and/or
- h. Training employees to recognize waste reduction opportunities.

23.2. Waste Generation Accounting

The mine maintains a waste management system to track the types and quantities of wastes produced as well as the types and amounts of hazardous constituents in wastes, including the rates and dates they are generated. The data accumulated in this accounting system supports the mine's waste reduction efforts by providing information needed to identify waste minimization opportunities. The waste management system also provides the data required to describe the mine's waste minimization efforts and results on the Biennial Report that is required by regulation to be submitted to SCDHEC by March 1 of each even numbered year (see Section 7.0 for reporting requirements).

23.3. Economic Benefits of Waste Reduction

Reducing the quantity and toxicity of wastes makes good economic sense due to the high cost of hazardous waste management and disposal. Significant cost savings can include:

- Reduced testing, transportation, and disposal costs,
- Reduced regulatory compliance costs,
- Reduced future liability costs, and
- Increased worker safety.

In many cases, implementation of proper waste management practices can significantly reduce disposal costs. For example, a 55-gallon drum of used oil can be recycled for less than \$50. However, if a chlorinated solvent were added to this drum, the used oil may be re-classified as a hazardous waste oil and solvent mixture, increasing the disposal cost to as much as \$800.

The mine will periodically determine the true costs associated with waste management and cleanup, including the costs of regulatory compliance, paperwork and reporting, costs of materials found in the waste stream, employee exposure and health care, transportation, treatment, storage, disposal costs, and liability insurance. This will enable the mine to identify where the greatest waste-reduction cost-savings opportunities exist.

23.4. Waste Minimization Assessments

The mine will periodically conduct waste minimization assessments in order to identify where materials can be prevented from becoming a waste or where new waste minimization approaches can be effectively applied to a waste stream. Specific waste minimization approaches to be considered for application include: source reduction, recycle/reuse, and treatment. Some waste reduction examples include:

- a. **Input Changes** (raw product substitution) - Example: Use of non-toxic grease instead of grease containing toxic metals or volatile organic solvents. Also, replacing chlorinated degreasing solvents with non-chlorinated solvents.
- b. **Operation Improvements** - Examples: Chemical and/or physical property testing to extend the useful life of a product such as motor oil or antifreeze.
- c. **Maintenance Process Changes** - Example: Oil or coolant reuse - During maintenance and repair activities that require oil or coolant removal but not change-out, save the material for reintroduction.
- d. **Administrative Controls** - Example: Inventory control procedures and policies to ensure products are used before new products are purchased and that damaged product containers are properly repackaged and labeled for use.
- e. **Recycle/Reuse** - Example: Recycling of solvents, used oil, antifreeze, lead acid batteries, fire extinguisher powder, scrap metal, e-waste, fuels, Chlorinated Fluorocarbons (CFCs)/Refrigerants, and carbon fines recycled off site for recovery of precious metals or fuel value.

23.5. Technical Waste Minimization Information

The mine exchanges technical waste minimization information and success stories with other Romarco facilities. The Mine also seeks out waste reduction information from other companies, technical publications, trade or professional associations, consultants, universities, or governmental agencies.

23.6. Implementation of Waste Reduction Approach

The mine strives to implement waste reduction approaches identified by waste minimization assessments. Implemented waste reduction approaches are periodically evaluated by mine personnel using one or more of the following criteria:

- a. Waste reduction effectiveness,
- b. Economic cost including effects on production and product quality,
- c. Barriers or obstacles to implementation, and
- d. Environmental impact and regulatory requirements.