KENO HILL SILVER DISTRICT MINING OPERATIONS

WASTE MANAGEMENT PLAN

February 2023

Prepared by:

HECLA YUKON

Prepared for:

ALEXCO KENO HILL MINING CORP.

VERSION HISTORY

ISSUE DATE	DESCRIPTION AND REVISIONS MADE
July 2007	ERDC District-wide waste management plan issued
August 2010	Bellekeno Project, Waste Management Plan, Revision 1, QML-0009 Structure of plan remains unchanged until 2023 update
August 2012	AKHM Waste Management Plan, Revision 2 Sewage facilities updated Sludge management updated and summarized Attachments letter of authorization from ERDC and permits removed
September 2017	Waste Management Plan, Keno Hill Silver District Mining Operations Waste management facilities figure updated
July 2018	Waste Management Plan, Keno Hill Silver District Mining Operations Header updated
January 2023	Revisions made in this version are provided in Document Revisions table

DOCUMENT REVISIONS

SECTION	SUMMARY OF CHANGES
Entire document	Update follows *Plan Requirement Guidance for Quartz Mining Projects* (2013)
Version History	Table added that lists the previous revisions of the plan. A brief description of the changes made provided
Document Revisions	Table added to indicate areas where changes have been made to the previous revision (July 2018) of the Plan
List of Acronyms and Abbreviations	List added
Introduction	Text revised; text revised to focus on mining operations
Mining Operations	Subsection added; includes overview of the KHSD mining operations added Change of ownership explained
Permits and Authorizations	July 2018 Plan, Section 2.1 relocated to this subsection Table of related approvals, permits, licences and operational management plans added
Management Approach	Section added; includes subsections Objectives, Approach to Waste Management, Environmental Policy, Roles and Responsibilities and Waste Management Training
Waste Management	July 2018 Plan, Section 3 as it pertained to types of waste and segregation relocated to this section and updated
Waste Minimization	Subsection added Figure updated
Waste Generation	Waste types broken down into subcategories and estimated amounts added
Waste Diversion	Subsection added; includes subsections Reusable Materials, Recyclable Materials, Recoverable Materials Identifies the materials to be diverted and introduces how that will occur
Residual Waste Treatment and Disposal	Subsection the materials to be treated and disposed of by various methods, including compaction, incineration, on-site soil treatment, open burning, on-site burial, and off-site treatment or disposal of waste
Atmospheric Emissions	July 2018 Plan, Section 4 relocated to this subsection Vapours added to air emissions abatement measures table Directed reader to Dust Abatement and Monitoring Plan (January 2023) for information on dust suppression/management measures and dust modeling
Waste Management Infrastructure	July 2018 Plan, Section 2.3 to Section 2.6 relocated to this section

SECTION	SUMMARY OF CHANGES
Storage of Non-hazardous Solid Waste and Recyclable	July 2018 Plan, Section 3.1 as it pertained to storage relocated to this section and updated Figures showing the location of waste bins added
Mobile Equipment	Subsection added
Waste Treatment	Subsection added; includes subsections Composter, Waste Oil Burner, Land Treatment Facility, Cement Batch Plant, and Sewage Facilities July 2018 Plan, Section 2.5 relocated to this section and updated Authorizations for the implementation of the composter, land treatment facility, cement batch plant and sewage facility upgrades as described are required
Waste Disposal	July 2018 Plan, Section 2.3 as it pertained to the specifications of the Incinerator has been redefined as a burning tank under subsection Open Burning Equipment
Special Waste Management	July 2018 Plan, Section 3.2 relocated to this section and rewritten
Contaminated Materials	Section added
Inspections, Documentation and Reporting	Section added
References	Section added
Appendix A	Example of waste management training added
Appendix B	Composter specifications added
Removed from document	July 2018 Plan, Section 2.6 Sediment Control & Events Ponds removed. Refer to the Water Management Plan for current practices
Removed from document	July 2018 Plan, Section 5.0 Sludge Management removed. Refer to the Sludge Management Plan for current practices

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LIST OF ACRONYMS AND ABBREVIATIONS

AKHM	Alexco Keno Hill Mining Corp.
CRF	Cemented Rock Fill
CSR	Contaminated Sites Regulation
ERDC	Elsa Reclamation & Development Company Ltd.
FNNND	First Nation of Na-Cho Nyak Dun
KHSD	Keno Hill Silver District
LTF	Land Treatment Facility
PHC	Petroleum Hydrocarbons
QML	Quartz Mining Licence
YESAA	Yukon Environmental and Socio-economic Assessment Act

1 INTRODUCTION

This Waste Management Plan has been developed to describe measures taken to manage the generation, handling, storage, treatment, and disposal of solid, liquid, gaseous and special wastes generated by Alexco Keno Hill Mining Corp. (AKHM) from the Keno Hill Silver District (KHSD) Mining Operations. The plan follows the *Plan Requirement Guidance for Quartz Mining Projects* (Yukon Water Board, Energy Mines and Resources, 2013) for preparing Waste Management Plans.

1.1 MINING OPERATIONS

The site is 354 km north of Whitehorse, in the vicinity of Keno City in the central Yukon. AKHM owns and operates of a series of small underground silver/lead/zinc mines with a centralized mill as described in Table 1-1. On September 7, 2022, Alexco Resource Corp. (doing business as Hecla Yukon), the parent company of AKHM, was acquired by Hecla Mining Company.

Table 1-1: Keno Hill Silver District Mining Operations Overview

MINES / ORE DEPOSITS	Bellekeno (Production 2010 – 2013, suspended 2013 – 2020, production 2020, temporary closure 2021 Flame & Moth (Development 2018, suspended 2018 – 2020, development and production 2020 - present) New Bermingham (Advanced exploration 2017 – 2018, development and production 2020 - present) Lucky Queen, Onek 990 (Advanced exploration 2013, not active)
MILL	District Mill location at Flame & Moth Mine area (Constructed 2010) Tailings placed in Dry Stack Tailings Facility (Established 2010) or underground as backfill
WORK FORCE	~ 250 employees and contractors during active mine and reclamation operations (as per Yukon Environmental and Socio-economic Assessment Act [YESAA] 2018-0169 Decision Document)
AIRSTRIP	Village of Mayo, YT
CAMP FACILITIES	Flat Creek camp facilities include a trailer camp, kitchen facility, welcoming center and dry Four refurbished houses and a bunkhouse located nearby in the townsite of Elsa
POWER	Hydro grid power Yukon Energy, diesel power backup
WATER SUPPLY AND USE	Fresh water supply from Flat Creek and adjacent well Water treatment plants at Bellekeno 625, Flame & Moth, and New Bermingham for mine effluent Process water is recycled from the Mill Pond to the District Mill
FIRST NATIONS	First Nation of Na-Cho Nyak Dun (FNNND)

The Keno Hill mining camp has a long mining history and is a brownfields site. AKHM develops the mineral resources, operates the KHSD mines and undertakes receiving environmental monitoring and treatment of mine discharge waters. Hecla Yukon's wholly owned subsidiary Elsa Reclamation and Development Company Ltd. (ERDC) undertakes care and maintenance, environmental monitoring and water treatment of historic adit drainages, district-wide closure planning, studies, and remediation of the historic environmental liabilities. Apart from waste generated using the camp facilities, waste generated by ERDC activities are outside the scope of this Plan.

As the reclamation and closure of historic liabilities is implemented by ERDC in the Keno Hill mining camp, the waste management practices of AKHM will need to adapt to changing infrastructure and access to waste handling and disposal sites. This plan will be amended as necessary to incorporate changes.

1.2 PERMITS AND AUTHORIZATIONS

AKHM has all permits and authorizations in place for development and production of KHSD mines Bellekeno, Flame & Moth, and New Bermingham and operation of the District Mill. Approvals, permits, licences and operational management plans associated with waste management are listed in Table 1-2. All wastes will be handled, stored, and disposed of in accordance with these authorizations and appropriate Yukon Environment Regulations. This plan should be read in conjunction with these documents.

Table 1-2: Related approvals, permits, licences and operational management Plans

YESSA APPROVALS	• Decision Documents and Evaluation Reports for projects #2006-0293, #2006-0157, #2008-0039, #2009-0030, #2011-0315, #2012-0141, #2013-0161, #2017-0086, #2017-0176, #2017-0183, and #2018-0169
QUARTZ MINING ACT APPROVALS	• Class 4 Mining Land Use Approval LQ00476 expires 2028 • Quartz Mining Licence QML-0009, updated December 2021, expires 2037
WATER LICENCES	• Type A Water Licence QZ18-044 expires 2037 (AKHM) • Type B Water Licence QZ17-076 expired 2022, QZ21-012 pending (ERDC)
WASTE MANAGEMENT PERMITS	• Commercial Dump Permit No. 81-067 (AKHM) • Commercial Dump Permit No. 81-012 (ERDC) • Land Treatment Permit (pending) • Relocation Permit (small volumes) • Special Waste Identification Number YG81-067 (AKHM)
BURNING PERMITS	• Annual permit from Yukon Community Services for burning between April and October
SEWAGE DISPOSAL PERMITS	• Permit No. 3448 (Flat Creek Camp) • Permit No. 3449 (Elsa houses)
MANAGEMENT PLANS	• Management Health and Safety Program / Emergency Response Plan • Dust Abatement and Monitoring Plan • Environmental Monitoring, Surveillance and Reporting Plan • Explosives Management Plan • Hazardous Materials Management Plan • Mill Development and Operations Plan • Reclamation and Closure Plan • Sludge Management Plan • Spill Contingency Plan • Tailings Management Plan • Waste Rock Management Plan • Water Management Plan • Wildlife Protection Plan

Permission to “perform activities and construct improvements collateral to mining” which includes use of waste management facilities has been granted by ERDC to AKHM. ERDC will accept, handle, and dispose of wastes generated by AKHM for activities set out in QML-0009 according to protocol and permits held by ERDC.

2 MANAGEMENT APPROACH

2.1 OBJECTIVES

Proper waste management is required to ensure worker safety, maintain environmental integrity, avoid wildlife encounters, and support ongoing site compliance and mine operations.

The objectives of this Plan are to:

- ensure employees and contractors are trained to manage waste in a safe and compliant manner; and
- outline appropriate waste management measures to ensure environmental protection.

2.2 APPROACH TO WASTE MANAGEMENT

AKHM strives to improve waste management at KHSD Mining Operations by investing in waste management infrastructure and by implementing the 5 R pollution prevention hierarchy (British Columbia Ministry of Environment, 2016). The 5 R pollution prevention hierarchy ranks the preferred approaches to waste reduction and management to maximize the recovery and value of used materials (Figure 2-1).

Figure 2-1: 5 R Pollution Prevention Hierarchy

2.3 ENVIRONMENTAL POLICY

Hecla Mining Company's Environmental Policy states our commitment to complying with all applicable federal, state, provincial, and local environmental laws and regulations that govern our facilities and going beyond them when they do not meet Hecla Mining Company's values. To ensure our employees, subsidiaries and contractors meet our responsibilities and comply with this policy we will provide the necessary resources to:

- At a minimum; design, operate, close and reclaim our facilities in compliance with applicable laws and regulations;
- Operate our facilities in a manner that minimizes our impact on the environment;
- Continuously improve our safe, efficient, and environmentally responsible use of resources, products and materials;
- Continuously improve our performance by establishing annual environmental targets;
- Develop and implement a robust environmental management system designed to identify and minimize environmental risks;
- Conduct periodic environmental reviews of operations and activities to ensure compliance, identify risks, reduce costs and liabilities, and improve sustainable operations;
- Reduce energy and water consumption by implementing continuously improving efficiencies into facilities, projects and operations; and,
- Work cooperatively with educational institutions and agencies to research, develop, and use the best appropriate technological and management practices to reduce or eliminate environmental impacts.

Each Hecla employee and contractor is responsible for incorporating this Policy into their daily planning and work activities to achieve this commitment. Hecla's Board of Directors, through the Health, Safety, Environmental, and Technical Committee will monitor the performance of this Policy.

2.4 ROLES AND RESPONSIBILITIES

The Mill Manager/Superintendent are responsible for the effective implementation of the Waste Management Plan; ensuring personnel are adequately trained in the handling, storage, treatment and disposal of waste; and providing the resources needed for the implementation and continual improvement of the Plan.

The Site Services Department reports to the Mill Manager/Superintendent and they are responsible for:

- on-site transport, treatment (except waste oil burners), and disposal of waste;
- off-site transport of non-hazardous solid waste and sewage in permitted facilities as required;
- maintaining records regarding inspections, personnel training, and waste transport; and
- obtaining annual burn permits from Yukon Community Services.

Environment Department is responsible for obtaining permits, permit amendments and regulatory reporting with respect waste management.

All staff and contractors are required to implement the mitigation measures described in this plan as it pertains to their activities. Specifically, these responsibilities include:

- taking all necessary steps to minimize negative effect to water, land, air and wildlife,
- segregating and disposing of waste in the receptables provided,
- ensuring no food waste or open top vessels containing food waste are left unattended, and
- providing recommendations for improving waste management.

2.5 WASTE MANAGEMENT TRAINING

AKHM is committed to training all current employees, new hires, contractors, and visitors in proper waste management procedures during induction and by providing an annual review. The reviews provide more in-depth instructions on sorting both common, municipal-type waste such as food, paper, and plastic, as well as industrial waste such as oily absorbent pads, special waste, and landfill waste. "Waste Management Updates" are also provided as new infrastructure is added and/or there are changes to the way waste is managed, an example is including in Appendix A.

In addition, adequate operator training is required to ensure the proper operation and maintenance of the waste management facilities and equipment, and compliance with permits and licences. Operators are trained in equipment programming, maintenance, and calibration; along with, handling, shipping, and record keeping, requirements.

3 WASTE MANAGEMENT

3.1 WASTE MINIMIZATION

Reducing waste involves purchasing materials that come in reusable, recyclable or compostable packaging; purchasing in bulk; employing inventory control measures; renting or purchasing used equipment; selling old equipment; substituting less hazardous chemicals where possible; and implementing strategies to reduce food waste.

3.2 WASTE GENERATION

The typical volumes of the various types of waste generated at the KHSD Mining Operations are provided in Table 3-1.

Table 3-1: Waste types and estimated amounts

TYPE	AMOUNT
Food and food packaging waste	300 – 450 kilograms/day
Non-hazardous burnable domestic waste	100 – 200 kilograms/day
Non-hazardous non-burnable domestic waste, including refundable beverage containers	2 – 3 cubic metres/day
Non-hazardous industrial waste, including steel, treated wood, plastics (non putrescible use)	10 – 12 cubic metres/month
Used oil feedstock	2400 litres/month
Designated waste; includes tires, electronic products, electrical products	2 - 5 cubic metres/month
Special (hazardous) waste, includes special wastes other than used oil feedstock and batteries	3000 litres/month and 1000 kg/month
Medical waste	Minor quantities
Sewage, off-site disposal	Only if upset to site system

3.3 WASTE DIVERSION

The strategy for the management of solid waste is first to identify and segregate items based on disposal method and its potential for diversion (see Table 3-3). Segregation enables the salvage of materials that would otherwise be tossed.

3.3.1 Reuseable Materials

Reuse involves maximizing the useful life of products by conducting preventative maintenance; repairing or refurbishing products; dismantling and keeping usable parts for reuse in other products; and repurposing materials in the same form for a different use (i.e., reusing large tires and pallets for storage racks, reusing steel, and using empty totes for waste containment). Bulky products are stored at the Bellekeno laydown yard. Reuse activities may be undertaken either on-site or off-site.

3.3.2 Recyclable Materials

Recycle involves diverting waste to local material recycling facilities (i.e., batteries, drink containers, copper); and composting organic material along with paper and cardboard. Contaminated soil and gravel may be used as aggregate to produce cemented rock fill (CRF) or other concrete products.

An in-vessel composter with sufficient capacity for a camp of up to 250 people is in the budget approval stage. It is estimated that a camp with a maximum capacity for 250 people will produce 875 kg of food waste in the cafeteria each week. A carbon-rich bulking agent, such as cardboard and paper, to absorb humidity and feed the micro-organisms that are essential for composted is required to be blended with the food waste. 265 kg of cardboard per week is sufficient to obtain the proper carbon-nitrogen ratio and desired humidity levels to compost 875 kg of food waste.

Soil stabilization / solidification of contaminated soil will be achievable by utilizing the impacted material as a portion of the aggregate supplied to the cement batch plant, pending restrictions on the type and level of contamination and the end use.

3.3.3 Recoverable Materials

Recovery of thermal energy involves utilizing waste oil to generate heat and thereby reduce the use of electrical power.

3.4 RESIDUAL WASTE TREATMENT AND DISPOSAL

Residuals management is the final step in the hierarchy and refers to compaction, incineration, on-site soil treatment, open burning, on-site burial, and off-site treatment or disposal of waste (see Table 3-3).

3.4.1 Compaction

A compactor capable of reducing waste volumes prior to disposal is proposed for installation in 2023. Bulk pre-crusher compactors are used for pallets, crates, metal drums, auto parts, rock screens, ventilation tubing, and other large, and other hard to handle materials. Wastes requiring off-site transfer may be compacted.

3.4.2 Incineration

AKHM will make all reasonable efforts to rent a forced air dual chamber incinerator in 2023 until such time as the composter is operating efficiently. Waste suitable for incineration will be recovered from the kitchen, dining hall and offices in designated bins. Transparent bags will be used in the bins so that the contents are readily visible. Acceptable wastes for incineration include the following:

- Organic material, including putrescible (food) waste,
- Food containers and wrappings, and
- Paper and cardboard.

Operation will be conducted in accordance with the Environment Canada's *Technical Document for Batch Waste Incineration* (EC 2010) and Manufacturer's Owner Manual. Waste batches will be prepared based on volume of the type of waste in the transparent bags, it's heating value and volatile content to minimize air emissions and

maximize the volume of waste that can be burned in each batch. The operator will observe the start of the burn cycle for 15 minutes to ensure the incinerator is operating correctly. It is estimated that between 200 and 300 kilograms will be incinerated daily.

Prior to charging the incinerator for the next operation, the cooled ash from the previous operation is to be transferred to the ash bin. The ash will be tested leachate toxicity in accordance with the Commercial Dump Permit. The contents of the ash bin will be deposited the Valley Tailings landfill and covered to reduce wind blown effects unless the ash is determined of suspected to be leachate toxic (a special waste).

3.4.3 Land Treatment Facility

An application for the construction and operation of a land treatment facility (LTFs) is being prepared in accordance with requirements provided in Yukon *Contaminated Sites Regulation, Application for a Land Treatment Facility Permit*. The AKHM LTFs would be for treating soil and gravel contaminated predominately by small spills of gasoline or diesel fuel. The aggregated quantity of material being treated at any given time must not exceed 3,000 m^3.

3.4.4 Cement-based Solidification and Stabilization

AKHM is evaluating the implementation of cement-based solidification/stabilization to remediate petroleum hydrocarbon (PHC) contaminated gravel and rock. This process is used to create concrete products that solidifies and stabilizes the contaminants by adding cement to the contaminated soil. It is also used to solidify and stabilize PHC contaminated soil in place. Blending up to 10% aggregates contaminated with varying types of petroleum hydrocarbon is being tested for strength and toxic leachate potential. Tests will be conducted on aggregates contaminated predominately with 1) oil and lubricant, and 2) diesel.

3.4.5 Open Burning

Burning is only conducted on low fire danger days and in accordance with the conditions listed on burning permits obtained for specified geographic locations. Open burning of combustible solid waste and untreated wood (see Table 3-3) is restricted to 50 kilogram per day in the Valley Tailings landfill. An additional 50 kilograms may be burned daily in the specified locations near either (but not both) the Bellekeno Mine or New Bermingham Mine. In accordance with burning permits, fires are to remain supervised until completely extinguished.

Burn tanks will replace open burning on the ground. The design of the burn tanks is described in Section 4.4.3. The existing burn tank at the Valley Tailings landfill, formerly referred to as an incinerator, is no longer used.

Ash from the open burns is relocated to an ash bin with a lid after each burn. Ash from the burn tanks is relocated to a lidded container and transferred to the Valley Tailings landfill for disposal.

3.4.6 Burial

Non-hazardous, non-putrescible (see Table 3-3) solid waste is sorted, consolidated, and temporarily store in the various work areas prior to being transported to the Valley Tailings landfill for disposal in accordance with Commercial Dump Permit #81-012. The Valley Tailings landfill is currently being managed by utilizing trenches to end dump waste from above into the trench. Once a lift of waste is deposited along the length of the trench, the waste is compacted with the bulldozer to a height of 50 cm and covered with a minimum of 10 cm of soil

(or other suitable material) and a new lift is started on top of the previous one. A stockpile of sand and gravel is currently being maintained on one side of the trench. When ash is required to be disposed of, it is buried in a designated pit upon arrival to prevent dispersal by wind.

An application to amendment Commercial Dump Permit #81-067 to allow for the operation of steel pits is planned for submission to Yukon Environment as per the Solid Waste Regulations.

3.4.7 Underground Disposal

Large bulky items that cannot be recycled will be cleaned of any hydrocarbon contamination and have the electronics removed before disposal in the underground workings. Lead contaminated filters are disposed of in the underground workings during backfill activities.

3.4.8 Off-site Transfer

Mixed waste that includes containers from putrescible products must be transferred off-site for disposal in an approved solid waste disposal facility (see Table 3-3). General mixed waste materials come from the kitchen, lunchrooms, dormitories, and offices. All general waste is treated as contaminated with putrescibles. Without on-site incineration or composing capabilities, off-site transfer of food and food packaging waste is required.

Other materials transported off-site included, but are not limited to:

- metal to scrap dealers for salvage or disposal,
- sorted and compacted cardboard, and plastics to recycling facilities, and
- special waste (see Section 5.0).

3.5 ATMOSPHERIC EMISSIONS

AKHM has implemented the measures in Table 3-2 with respect to the control of atmospheric emissions generated because of waste management activities.

Table 3-2: Air emissions abatement measures

FUGITIVE DUST	Minimize the footprint of waste management activities that may generate fugitive dust; Dust suppression/management measures and dust modeling are presented in the Dust Abatement and Monitoring Plan (January 2023)
COMBUSTION	Ensure proper maintenance of vehicles, pumps, compressors, generators, and other equipment used for waste management activities to minimize emissions of polluting gases; Use low sulphur fuels including diesel fuel with a sulphur content <15 ppm and propane with negligible sulphur content and where appropriate, waste heat recovery and energy efficient techniques are employed to decrease diesel use; Ensure that incinerator is well maintained and operated in accordance with permit requirements Ensure suitable ventilation and combustible solid waste is dry when open burning.
VAPOURS	Aeration of petroleum hydrocarbon contaminated material during windy conditions, providing the soil is moist enough to prevent or minimize dust, may dissipate odours generated from the facility A fume hood with chimney added to the end of the composter will capture and direct output vapours

Table 3-3: Waste management matrix

TYPE OF WASTE	DESCRIPTION	DISPOSAL METHOD
WASTE DIVERSION		
Reusable Materials	Materials in good repair and without contamination such as large tires, pallets, steel, empty reagent totes and drums, liner and geomembrane, mobile and stationary equipment, and machinery	Reuse activities may be undertaken either on-site or off-site
Recyclable Materials	Drink containers, cardboard, paper, plastic containers from non-hazardous materials, large automotive batteries, copper and brass, scrap metal, food and plant-based waste which will compost	Segregated, to recycling facilities, third party scrap dealers, on-site composter, on-site cement batch plant
Recoverable Materials	Used crankcase oil, used transmission fluid, used hydraulic oil without contamination	On-site waste oil burners
NON-HAZARDOUS SOLID WASTE		
Putrescible Waste	Food or plant-based waste which can dispose or rot, cardboard and paper food packaging	Segregated and composted or incinerated on-site or transferred to off-site to a municipal landfill
Combustible Solid Waste	Cardboard, paper-based waste, and untreated wooden construction and demolition waste; but does not include putrescible waste.	Segregated and composted or incinerated or open burned on-site
Untreated Wood	Sawdust, wood shavings, untreated brush or wood products that are not mixed with other materials	Segregated and composted or open burned on-site
Non-hazardous, Non-putrescible Waste	Bagged installation; cable support trays, ceramic items; combustible solid waste; concrete; containers from non-hazardous/non-aromatic products; depressurized cans and cylinders; dried latex paint; electrical wire; fabric; furniture; glass; hoses; lumber treated with paint, stain, chemicals, or glue; mattresses; metal; plastic and styrofoam; PVC piping; synthetic fiber liners; conveyor belts	Buried in on-site Valley Tailings landfill
General Mixed Waste	Non-hazardous waste that contains putrescibles, food packaging, plastic utensils, clothing, hygiene waste, kitchen oil and grease	Transferred off-site for disposal at a municipal landfill
Ash	Bottom ash from the incinerator or open burning residual (if not a special waste)	Buried in on-site Valley Tailings landfill
Scrap Metal	Scrap Steel, metal containers and other metals not mixed with putrescible waste, designated waste, or special waste	Segregated, depolluted, and recycled or buried on-site
Scrap Machinery	End of life vehicles, heavy equipment, motorized machinery	Usable parts salvaged, depolluted, sheared or crushed, and recycled or buried on-site or disposed of in the underground workings
Large Tires	Tires with a rim size of 24.5 inches or greater	Rims removed, reused or buried on-site

TYPE OF WASTE	DESCRIPTION	DISPOSAL METHOD
DESIGNATE WASTE		
Tire with a rim size of 24.5 inches or less	No special storage required	Rims removed and transported off-site to a tire depot or approved landfill on an as required basis
Electronic Products	Calculators, cameras, computers, phones, printers, radios, televisions, and other electronic products	Off-site to Raven Recycling in Whitehorse
Electrical Products	Testing and measurement tools, hand-held power tools, excludes products weighing more than 200 kg	Off-site to Raven Recycling in Whitehorse
SPECIAL WASTE		
Bio-Hazards	Medical waste, contaminated bandages, syringes, razor blades	Off-site to the Whitehorse hospital for disposal
Waste Chemical Products	Expired cleanings supplies, unusable chemicals from the mill and water treatment plants (including containers)	Off-site to KBL for disposal
Used Batteries	Small alkaline batteries, lithium batteries, lead acid batteries	Off-site to Raven Recycling in Whitehorse
Used Oil	Used Oil and contaminated waste oil	Recovered in the on-site waste oil burner if not contaminated or off-site to KBL
Oil filters	Used oil filters	Off-site to KBL for disposal
Oily debris	Used absorbent, oily rags, oily hoses	Off-site to KBL for disposal or treatment
Antifreeze	Used antifreeze	Off-site to KBL
Solvents	Used or expired solvents	Off-site to KBL
Aerosol Cans	Paints, lubricants, fly repellent	Off-site to KBL
Incinerator Ash	Ash from the incinerator that is determined or suspected of being leachate toxic	Off-site to KBL for treatment or disposal

475,000 477,500 480,000 482,500 485,000 487,500

7,092,500 7,090,000 7,087,500 7,085,000

N W E S

South Macquesten River

HANSON MCQUESTEN ROAD

Christal Creek

Sandy Creek

SILVER TRAIL HIGHWAY

Christal Creek

KENO SUMMIT

Star Creek

No Cash Creek

VALLEY TAILINGS LANDFILL

WERNECKE ROAD

Erickson Gulch

Charity

SIGN POST ROAD

CALUMET DRIVE

BERMINGHAM ACCESS ROAD

CHRISTAL LAKE

CHRISTAL LAKE ROAD

FLAME AND MOTH MINE

DISTRICT MILL SITE

BELLEKENO HAUL ROAD

KENO CITY

ELSA THAW SHED

FLAT CREEK CAMP

FORMER ELSA TOWNSITE

Porcupine Gulch

GALENA HILL

DUNCAN CREEK ROAD

BELLEKENO 625

Brefalt Creek

NEW BERMINGHAM MINE

Lightning Creek

BELLEKENO EAST PORTAL

BELLEKENO LAYDOWN YARD

Thunder Gulch

Flat Creek

SOURDOUGH HILL

1:40,000 (when printed on 11 x17 inch paper)

0 0.5 1 2 Kilometres

Datum: NAD 83; Map Projection: UTM Zone 8N

- Adit
- AKHM / ERDC Quartz Claims
- Silver Trail Highway
- Other Road
- Limited-Use Road
- Tailings Area
- Waterbody
- Watercourse
- Contours (100 ft intervals)

Hecla YUKON

ENSERO solutions

FIGURE 3-1

KENO HILL SILVER DISTRICT MINING OPERATIONS WASTE MANAGEMENT OVERVIEW

DECEMBER 2022

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4 WASTE MANAGEMENT INFRASTRUCTURE

4.1 STORAGE OF NON-HAZARDOUS SOLID WASTE AND RECYCLABLES

Indoor waste bins and recycling containers are in high foot traffic areas for segregating wastes as food waste, paper and cardboard, refundable drink containers, batteries/electronics, and general landfill waste. Transparent bags are used in the food waste, refundable drink containers and general landfill waste bins.

Food waste, including food containers and wrappings, is currently deposited into designated waste bins inside the kitchen, dining hall, lunchrooms, and office areas. All food waste from the kitchen and dining hall is relocated throughout the day to a bear-proof container at Flat Creek camp. Food waste generated at the Elsa houses, surface exploration drill sites, and other mobile jobsites is stored in a bear-proof container (a repurposed former explosives magazine) inside an electric fence at the Elsa townsite. Durable metal tipping bins with lids are located as shown on Figures 4-1 to 4-6. The metal tipping bins are emptied two or three times a week during the winter and daily in warm weather and when wildlife is active.

During composter operation, waste is to be segregated at the source to ensure non-compostable waste streams do not enter the composter. All compostable waste is collected in transparent bags and placed in waste containers labelled “Compost Waste” located throughout the KHSD Mining Operations.

Hook lift waste bins are distributed across the site: red bins are used for cardboard and wood waste, blue bins are used for steel/metal and green bins are used for general landfill waste. The hook lift bins are for non-hazardous, non-putrescible materials only. The bins are located throughout the KHSD Mining Operations as shown on Figures 4-1 to 4-6.

Industrial waste is waste arising from operations in the mill, mobile maintenance shops, water treatment plants, and warehouse. Each work area has specially marked bins for segregating waste for cardboard and wood, steel, or landfill disposal. Special containers are established for the common special waste produced in a work area. Large and heavy non-hazardous waste items are consolidated into designated bins, totes, onto pallets or stockpiled in an assigned laydown area.

Used engine oil, hydraulic fluids, and fuels that do not meet specifications for their designated use are stored in compliance with Yukon *Special Waste Regulations*.

Figure 4-1: District Mill and Flame & Moth Mine waste bins

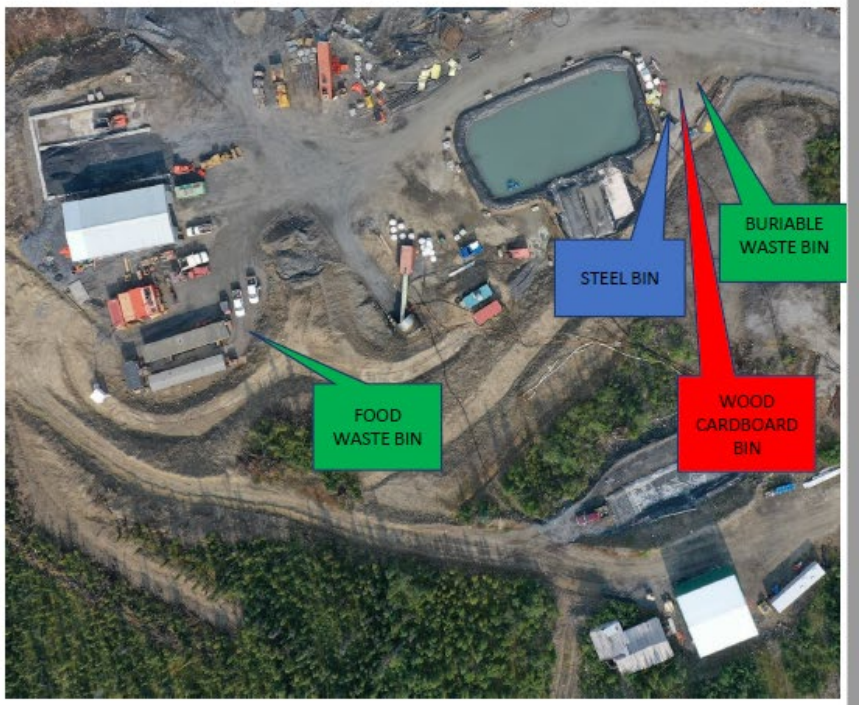


Figure 4-2: New Bermingham Mine waste bins

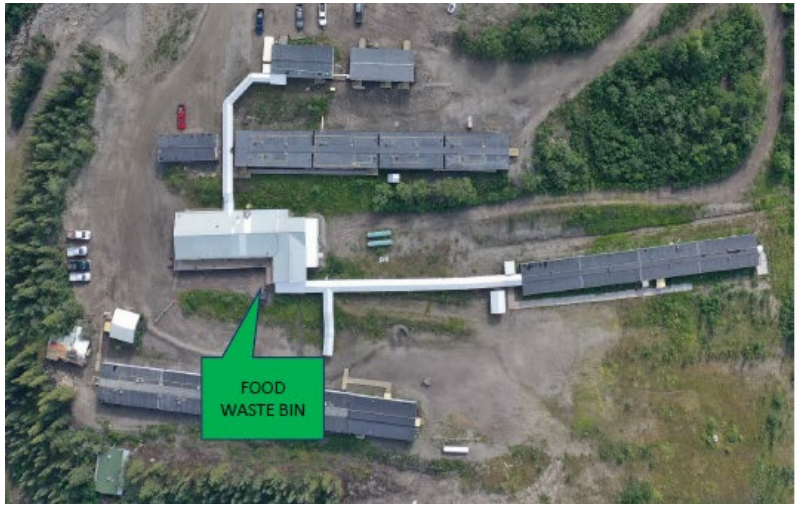


Figure 4-3: Flat Creek Camp waste bins

Figure 4-4: Elsa Houses and Bunk D waste bins

Figure 4-5: Elsa Administrative Building waste bins

Figure 4-6: Elsa Lime Bay waste bins

4.2 MOBILE EQUIPMENT

Table 4-1 provides a list of mobile equipment to be used for the waste management activities.

Table 4-1: Project equipment list

EQUIPMENT (OR SIMILAR TO)	# OF ITEMS	PURPOSE
Excavator	1	Moving material; covering landfill, excavating impacted material
Loader	3	Moving material; covering landfill, loading and off-loading trucks
Skid Steer	1	Moving material
Articulated 30-tonne Haul Truck	4	Transporting large/ bulky material to and from facilities
Hook Truck	1	Transporting material, including the hook lift bins, to and from facilities
Road Dump Truck	1	Transporting smaller materials to and from facilities
Bulldozer	2	Compaction, covering solid waste and recontouring landfills
Vacuum Truck	2	Evacuation of sewage and impacted water
Cement Truck	1	Contaminated soil remediation
Telehandler	1	Moving material; loading and off-loading trucks and facility maintenance
Crew Truck	>5	Transporting of personnel, small equipment, and supplies

4.3 WASTE TREATMENT

4.3.1 Composter

AKHM is exploring an opportunity to apply modern waste management techniques to decrease environmental impact. A Brome 516 In-Vessel Composter and associated equipment to manage the organic waste is in the budget approval stage. Manufacturing of the composter takes about six months. The composting of organic waste generated at the KHSD Mining Operations would provide an environmentally friendly alternative to incineration. On-site composting reduces greenhouse gas emissions and atmospheric pollutants related to the incineration of wastes.

The composter would be located in a shelter near to the Flat Creek Camp. Equipment considerations include the installation of a scale to weigh waste and a data acquisition system to store operating data such as temperature and oxygen content from the composter. This information gives the operators the data required to adjust and improve performance. Operation will be conducted in accordance with the Manufacturer's Owner Manual. Manufacturers specifications are included in Appendix B. One batch per day of food waste and cardboard is to be loaded into the composter and 14 days later that batch is discharged from the unit.

Ekati Diamond Mine commissioned a Brome In-Vessel Composter to manage organic waste in 2015. Below is a case study published by Ecology North in 2020 of its operation.

> **Composting at Remote Camps Case Study: Ekati Diamond Mine, Northwest Territories**
> (https://ecologynorth.ca/wp-content/uploads/2020/03/Composting-at-Remote-Camps.pdf)
>
> *Ekati Diamond Mine is a large operation in the Lac de Gras Region, about 300km northeast of Yellowknife, NT. There are over 1,800 employees and contractors making up the workforce. Resources*

must be flown in or trucked into the site along a winter road. Before the installation of their industrial composter, all organic waste was incinerated, and the company had a strong financial incentive to reduce fuel costs. The large mine has a large supply of cardboard boxes, which are used as carbon amendment. Their composter, conveyor and mixer are housed in the waste management building onsite, and the system is operational year-round, processing approximately 500kg of food waste and cardboard per day. Ekati saves between $30,000 and $40,000 per month in fuel costs by composting, and significantly reduces their greenhouse gas emissions.

4.3.2 Waste Oil Burner

Clean Burn Model CB-3250 waste oil burners are installed in the mobile maintenance shops to provide heat. The units are equipped with a 950-litre tank. The unit is operated and maintained in accordance with the manufacture's specifications. Waste oil feedstock that will be used as fuel for the burner include used crankcase oil, used transmission fluid, used hydraulic oil, and fuel. The feedstock must not be contaminated and be below the levels listed in Commercial Dump Permit #81-067.

4.3.3 Land Treatment Facility

A Land Treatment Facility Construction and Operating Plan will be submitted with the permit application that will describe how PHC impacted soil and gravel generated at the KHSD Mining Operations will be treated. The plan includes material acceptance criteria, treatment methodology, treated soil use opportunities, facility specifications, siting requirements, facility operations and treatment monitoring.

Treated soil and gravel from the AKHM LTF will be used for construction purposes in accordance with the Yukon *Contaminated Sites Regulation*.

4.3.4 Cement Batch Plant

A cement batch plant is equipment that consolidates different elements to make concrete and CRF. It is also called a concrete batch mix plant. Elements incorporated include sand, water, aggregates, tailings, contaminated soil, and concrete. The incorporation of fly fiery debris, and potash, though common where these materials are readily available, will not be incorporated at the KHSD Mining Operations.

A cement batch plant is to be installed adjacent the Flame & Moth vent raise. The plant operation involves loading mega bags of premixed dry elements into a hopper, an auger attached to the hopper feeds the cement truck, where water is added to the process. A tent building is currently being sourced to keep the hopper dry.

4.3.5 Sewage Facilities

Numerous separate locations throughout the KHSD Mining Operations require sewage services; each of which specific circumstances are dealt with through terms and conditions of permits obtained under the *Public Health and Safety Act*. Sewage disposal facilities include both permanent and portable facilities.

All disposal facilities comply with the Public Health and Safety Act, *Sewage Disposal Systems Regulations*. Hecla Yukon, through its subsidiaries AKHM and ERDC, hold two sewage disposal system permits issued by Yukon Environmental Health Services: an absorption bed permit for the Flat Creek Camp (Permit #3448), and an absorption permit for five houses (Permit #3449). Upgrades to the sewage facilities are in the design stage and

it is expected that a modularize sewage treatment plant will be added to the Flat Creek Camp system and absorption beds installed at the District Mill and New Bermingham Mine.

The septic systems at the District Mill offices, Elsa Administration Building, Flame & Moth Mine and New Bermingham Mine consist of holding tanks which are periodically pumped out and trucked to Flat Creek Camp for disposal in the absorption bed.

Holding tank features include:

- Pre-insulate tanks with 2" spay on polyurethan insulation
- Alarms indicating when the tanks must be emptied
- A float with which automatically shuts down the domestic water pump when the liquid level reaches 90% of the tank capacity.

Portable facilities consist of wash trailers (used at the Warehouse) and porta potties. All contained privies will be located at least 15 m from the ordinary high-water mark of nearby water bodies.

4.4 WASTE DISPOSAL

4.4.1 Compactor

The type of compactor best suited for use at the KHSD Mining Operations to manage residual solid waste is being evaluated.

4.4.2 Incinerator

The rental of a CY-2050-A-FA-D forced air incinerator is currently being evaluated by the Yukon Environment Standards and Approvals.

4.4.3 Open Burning Equipment

Decommissioned fuel tanks are repurposed to become burning tanks. The fabrication of the burning tanks requires an exhaust hole in the top of the tank and ventilation holes and an ash door at its base. Above the ventilation holes a waste access door is cut into the side of the tank and a metal grate is installed inside the tank. The ventilation holes create the draft necessary to draw air though the bottom and into the combustible waste placed on the grate. The contained tank mitigates fugitive litter and ash.

Open burning of combustible waste and untreated wood is conducted on a gravel or waste rock surface that is a more than 10 m from woodland and more than 30 m from buildings, hazardous materials, and special waste storage areas, mine ventilation and the mine portal. Open burning on the ground will be conducted until such time as a burn box (or burn cage) is constructed using locally available waste materials.

4.4.4 Non-Hazardous Solid Waste Landfill

The Valley Tailings landfill has been established in an old borrow pit at the edge of the historic tailings pond. The Valley Tailings landfill is located approximately 11 km from the nearest community of Keno City and 2 kilometers north of the Flat Creek camp. Access to the Valley Tailings landfill is restricted with a locked gate.

5 SPECIAL WASTE MANAGEMENT

5.1 WASTE TYPES AND AMOUNTS

Special waste is material that because of their corrosive, inflammable, infectious, reactive, and toxic characteristics present a danger to human health or the environment. The KHSD Mining Operations Hazardous Materials Management Plan provides the safety data sheets for products used on site. Use of these hazardous materials and the containers in which they are supplied generates special waste as listed in Table 5-1.

Table 5-1: Typical special waste types and volumes

TYPE OF SPECIAL WASTE	AMOUNT GENERATE PER MONTH
Used oil	2500 L
Waste oil	205 L
Waste antifreeze	410 L
Waste solvents	50 L
Waste lead-acid batteries	10 units
Waste hoses and filters	200 kg
Waste diesel fuel	410 L
Waste gasoline	<5 L
Waste paint	<5 kg
Waste aerosol cans	10 kg
Waste fluorescent tubes and ballasts	<5 kg
Waste reagents	50 L
Biomedical waste	Minor quantities

5.2 HANDLING AND STORAGE OF SPECIAL WASTE

Special waste is consolidated into totes, drums, lined mega-bags or onto pallets and stored in areas and facilities in accordance with the risk factors for each type of waste (i.e., secondary containment requirements, shelter from heat, cold or wet weather, compatibility with other materials) in accordance with Commercial Dump Permit #81-067 and #81-012 and Yukon *Special Waste Regulations* (O.I.C. 1995/047).

Special wastes are collected and stored in specially marked containers and then shipped to an appropriate treatment or disposal facility. Temporary storage locations for special waste are associated with the typical use of hazardous materials in each area. The first aid rooms, the water treatment operators wet laboratory, the carpenter's shop, the kitchen, the mill building and the underground workings for example each store special wastes typically generated from activities related to their routine tasks.

Medical waste generated in the first aid rooms require special handling and are placed in easily identifiable single use medical waste containers. Sharps containers are also located in each dormitory and the kitchen. Both the containers and its contents are shipped to the Whitehorse Hospital for incineration.

The mobile maintenance shops, millwrights shop, surface and underground electricians work areas, and mill reagents laydown area have established special waste storage areas. Improvements to signage, special waste storage infrastructure and training continues across the site.

Should the ash from the incinerator be determine or is suspected to be a special waste it will be transferred to a suitable container such that it can be handled, stored, and transported off-site for disposal.

On a limited, as need only basis, the Elsa Townsite thaw shed is also utilized by AKHM for the storage and staging for transport of special wastes. The thaw shed has a concrete floor, with concrete pony walls. The thaw shed was retrofitted to safely contain hazardous materials in 2003 and has been used for this purpose since that time. The building is located within an "Area of Hydrocarbon Contamination Concern" (ERDC, 2021). Storage of special waste in the thaw shed must comply with volume restrictions in Commercial Dump Permit #81-012 and sufficient capacity must be maintained for ERDC care and maintenance generated special wastes. Weekly visual inspections of the thaw shed are required, as it is not utilized daily for AKHM or ERDC activities.

5.3 OFF-SITE TRANSPORTATION

The backhauling of special waste typically occurs on Tuesdays. Special wastes are removed from work area storage locations and transported to the AKHM warehouse or Elsa thaw shed on Sundays or Mondays for off-site shipment staging. An interdepartmental meeting is held on Fridays in which the shipping requirements for special waste during the next two or three weeks are reviewed and scheduled.

Considerations for preparing special waste materials for off-site transport include:

- staging compatible materials for each shipment,
- utilizing containers suitable for the material and volume being stored,
- labelling special waste containers in accordance with the source product's Safety Data Sheet and *Transportation of Dangerous Goods Regulations* (2022),
- staging waste awaiting backhaul in areas with secondary containment where required, and
- removing special waste on a regular basis and not allowing excess waste to accumulate in work areas.

All special wastes will be transported and transferred with completed waste manifest documentation and in such a manner as to prevent their release into the environment.

5.4 ON-SITE DISPOSAL AND TREATMENT OF SPECIAL WASTE

Uncontaminated used oil generated by the activities of the Mobile Maintenance Department remains under the control of the department and segregated from other used oil to maintain suitable quality for use in the waste oil burners in their shops. All other used oil generated is shipped off-site for disposal.

5.5 SPILL PREVENTION AND RESPONSE

The KHSD Mining Operations Spill Response Plan describes how special wastes are transferred across site for storage and the off-site disposal methods.

6 CONTAMINATED MATERIALS

The production, handling, storage of domestic and industrial waste may lead to the creation of contaminated materials. Improper segregation of wastes at the source work area results in special handling requirements, for example:

- Non-hazardous solid waste that is contaminated with putrescibles, designated waste or special waste is not eligible for disposal in the Valley Tailings landfill. Prior to accepting waste for transport to the landfill the area managers and supervisors are responsible for ensuring all waste in the designated landfill waste bin is compliant and if they are not, non-compliant materials must be removed.

- Piles of cardboard and untreated wood contaminated with metals debris, adhesives, plastics are not eligible for open burning.

- Used oil contaminated with antifreeze cannot be used for the recovery of thermal energy and additional surcharges apply to treat the material off-site.

Clean up of spills and the depolluting of end-of-life vehicles results in a variety of materials that are contaminated. The various types of special waste materials generated by depolluting equipment are transferred to designated containers for off-site shipment and disposal.

6.1 CONTAMINATE ASSESSMENT

To assess the type, level, and extent of contamination in soil, and surface water the Yukon *Contaminated Sites Regulation* ("CSR", O.I.C. 2002/171, pursuant to the *Environment Act*) applies. All analyses undertaken for assessment or work done in relation to contaminants and/or media other than PHC in soil will use, in order of priority:

1. methods approved by the Standards & Approvals section, Department of Environment, Government of Yukon,
2. methods approved by the British Columbia Ministry of Environment for contaminated sites regulatory purposes, or
3. methods approved by the Canadian Council of Ministers of the Environment.

6.2 CONTAMINATED SOIL LAND TREATMENT FACILITY

On-site treatment is to be conducted in LTFs; specially constructed for treating soil and gravel contaminated predominately by small spills of gasoline or diesel fuel during operations, care and maintenance, and exploration phases. The aggregated quantity of material being treated at any given time must not exceed 3,000 m^3. The remediation of historic PHC impacted materials undertaken by ERDC is excluded from the KHSD Mining Operations' LTFs.

A permit to construct and operate facilities to treat PHC impacted materials is scheduled to be submitted by Q2 2023. The application will include the KHSD Mining Operations Land Treatment Facility Construction and Operating Plan which described how PHC impacted material will be remediated on-site.

AKHM maintains a relocation permit for to send small volumes of PHC impacted soil and water to KBL in Whitehorse for treatment. This permit is only to be used for spills that result in less than 1 m^3 of contaminated material.

6.3 CONFIRMATORY SAMPLING

Following the excavation and removal of contaminated soil at a spill site and the remediation of each pile of PHC impacted material in a LTF, remediation confirmation samples must be tested to verify that the material meets the Yukon CSR standards for the contaminants of concern. Samples will be submitted to an accredited laboratory for testing of the CSR regulated PHC compounds of concern identified.

The Yukon CSR and the following protocols: Protocol No. 2 *Analysis of samples taken in relation to the Contaminated Sites Regulations*, and Protocol No. 5 *Petroleum hydrocarbon analytical methods and standards* are used to determine if remediation at the spill site or a pile in the LTF is complete. Protocol No. 3 *Soil sampling procedures at contaminated sites* is applicable at the spill site and Protocol No. 11 *Sampling procedures for land treatment facilities* the LTF.

Prior to off-loading material from a LTF, a written request will be submitted to Environment Yukon to remove the material.

6.4 CONTAMINATED MATERIALS REPORTING

In accordance with the small volume relocation permit for PHC impacted material AKHM submits an annual report to the Yukon Department of Environment, Environmental Protection Analyst on or before 1 December.

Annual reporting under a LTF permit is due on or before 31 March. In addition, prior to off-loading remediated material from a LTF, a written request is submitted to the Environmental Protection Analyst for authorization to remove the material in accordance with the land treatment facility permit.

7 INSPECTIONS, DOCUMENTATION AND REPORTING

Annual reports submitted as part of Quartz Mining License QML-009 would include a description of any change to waste management practices and the rationale for modifying the associated management plan. All annual reports are provided to the FNNND.

A variety of documentation related to facility inspections and waste management is required to be maintained on site for a minimum of three years, including:

- Waste off-site transfer logs, including but not limited to Federal Movement documents (waste manifests), municipal waste disposal records, recycling facility receipts;
- Facility inspection and maintenance records;
- Landfill usage logs;
- Composter logs;
- Incinerator logs;
- Open burning logs; and
- Special waste inventories including type, storage location, laboratory analyses.

This Waste Management Plan is an operational document that will require periodic updates to ensure consistency with permits issued pursuant to the *Environment Act*, R.S.Y. 2002, c. 76, and burning permits issued under the *Forest Protection Regulations*. The plan is reviewed annually; and updated as needed to incorporate changes to waste management practices or amendments to licence and permit terms and conditions.

8 REFERENCES

British Columbia, Ministry of Environment. 2016. *A Guide to Solid Waste Management Planning, Version 1.0*. September 2016.

Elsa Reclamation and Development Company Limited (ERDC). 2021. *UKHM Reclamation Plan Rev 4, Water Licence Application*. November 2021.

Environment Canada (EC). 2010. *Technical Document for Batch Waste Incineration.* EN14-17/1-2020E-PDF, 978-1-100-14950-9. January 2010.

Yukon Water Board and Yukon Energy, Mines and Resources. 2013. *Plan Requirement Guidance for Quartz Mining Projects*. August 2013.

APPENDIX A:

WASTE MANAGEMENT TRAINING EXAMPLE

Waste Management Update

By: Hecla Yukon Environment Department

Waste Management Update December 2022

There have been several changes with how waste is handled on site the past year. As such this training package was developed to go over these changes with employees to ensure everyone is aware of correct waste management practices.

Roll off bins

This last year a very big improvement occurred regarding waste management on site. We purchased a hook truck and large hook bins which were distributed across site. These bins make our waste management processes more efficient and reduce environmental non-compliances.

BINS

New bins were distributed a few weeks ago and the bins are color coded and labeled as such:

Cardboard/Wood (untreated) - **Red Bins**

Steel - **Blue bins**

General garbage (**no food waste**) - **Green Bins**

Unauthorized Waste

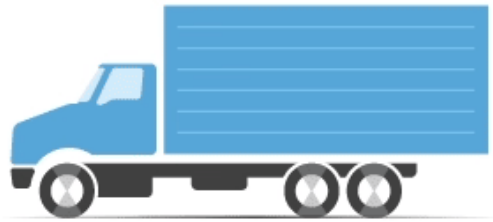
Please be advised roll off bins will **NOT** be picked up if unauthorized wastes are in them. Someone in the area responsible for filling the bin(s) will be required to segregate the unauthorized waste before it is hauled.

HAZMAT Waste

On this site we produce different types of special waste, also referred to as hazardous material (HAZMAT) wastes which include Oily debris (Oily rags, Oily hoses, etc), used chemicals, Aerosol cans, Oil filters, and more.

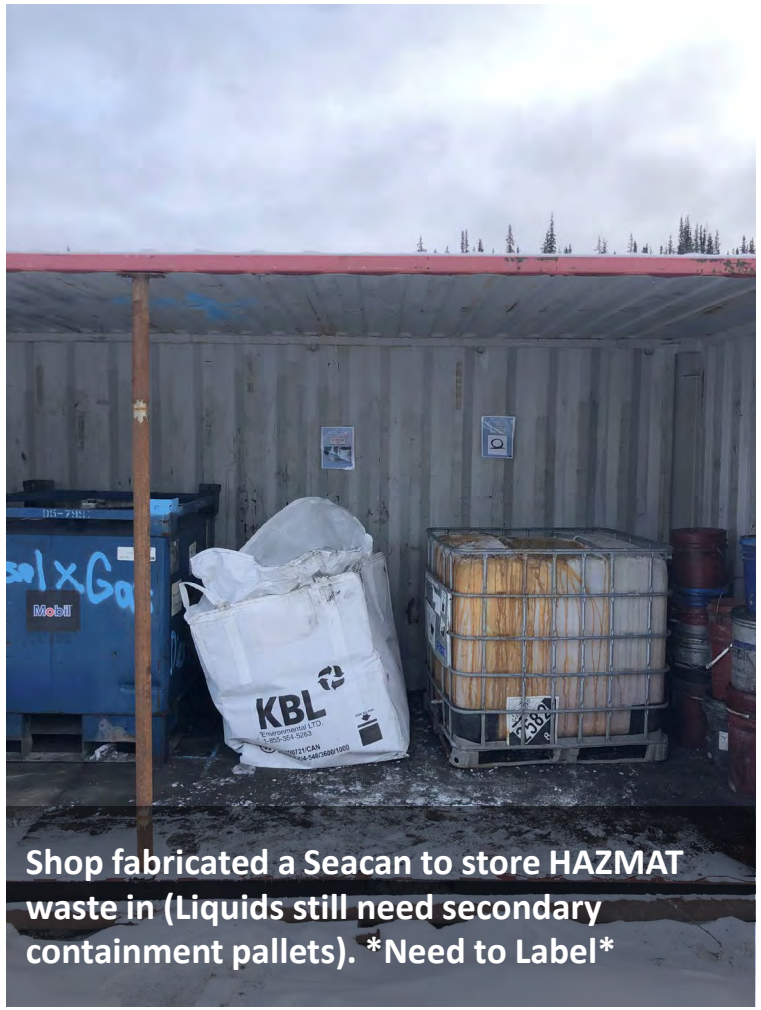
There are 3 important things to note about HAZMAT Waste:

1. Liquid HAZMAT waste typically needs to be stored indoors or within containment. And its best practice to store all HAZMAT indoors.
2. Unless we use HAZMAT waste onsite for something (i.e. Waste Oil for Burner) it needs to be shipped offsite. Typically, we ship HAZMAT waste in KBL megabag's or TOTES. Items must be able to ship so bags and TOTEs cannot be overfilled!
3. All HAZMAT waste must be labeled!



HAZMAT WASTE STORAGE EXAMPLES

F&M Shop uses resealable drums to store oil filters and Aerosol cans. Once they are full, label, put a lid on and ship off (drums are inventory items in the warehouse) Resealable



Shop fabricated a Seacan to store HAZMAT waste in (Liquids still need secondary containment pallets). *Need to Label*

Food Waste

Food waste cannot go into our landfill as it is an animal attractant. As such, food waste and waste contaminated with food needs to be put in the red bins placed around site and then put in the green bins with lids to be hauled to Mayo.

Refundables

In some offices we have bins labelled for refundable beverage containers which we have a process for getting to Whitehorse or Mayo for refund. The infographic above shows examples of refundable containers.

Questions, Comments, Concerns

Please let the environment department know if you have any questions, comments, or concerns about waste management or any other environmental item. As well if you have an idea on how to improve waste management or other environmental objectives, please feel free to call or email us anytime!

Extension: 5960

Email: YK-Environment@hecla.com

APPENDIX B:

BROME 516 IN-VESSEL COMPOSTER SPECIFICATIONS

BROME

MODULAR COMPOSTER

Efficient on-site modular composting systems that adapt to your needs

BROME Compost inc.

The components of a modular composter can be modified and assembled to meet a variety of composting needs. Its operation and its design are surprisingly simple and can be adapted to all environments.

MODULAR SOLUTION

The system is designed to offer you an efficient integrated solution.

COST EFFECTIVE

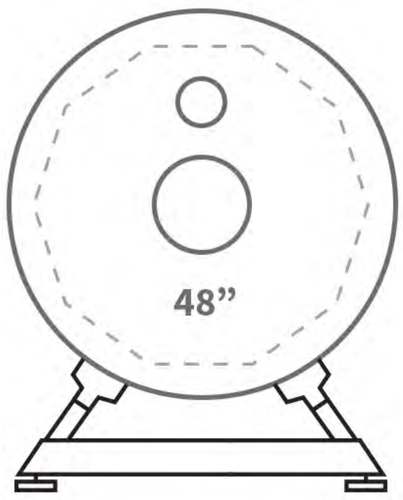
Save on transport, treatment, storage and landfill costs for all your compostable materials.

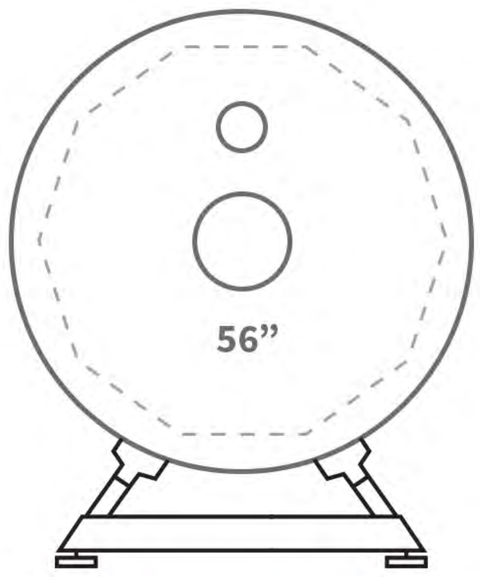
KETEK GROUP

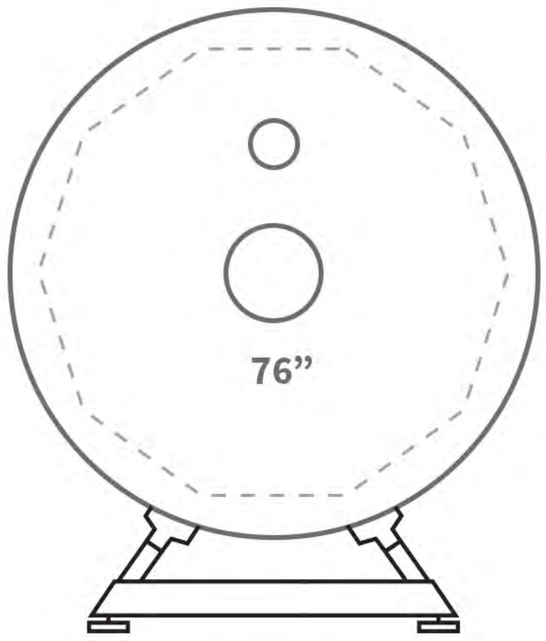
Results Driven.

ROTATING INDUSTRIAL COMPOSTER

BROME Compost inc.







SERIES	SERIES 400	SERIES 500	SERIES 600
CYLINDER DIAMETER	48” (121.92 cm)	56” (142.24 cm)	76” (193.04 cm)
CYLINDER LENGTH	10‘ (3 m) - 16’ (4.9 m)	10‘ (3 m) - 24’ (7.3 m)	16‘ (4.9 m) - 32’ (9.7 m)
TOTAL VOLUME	4.7 yard^3 (3.5 m^3) – 7.4 yard^3 (5.7 m^3)	6.3 yard^3 (4.82 m^3) – 15.2 yard^3 (11.62 m^3)	18.7 yard^3 (13.8 m^3) - 37.3 yard^3 (28.3 m^3)
WORKING VOLUME	3.0 yard^3 (2.3 m^3) – 4.8 yard^3 (3.7 m^3)	4.12 yard^3 (3.15 m^3) – 9.88 yard^3 (7.55 m^3)	12.1 yard^3 (9.2 m^3) - 24.3 yard^3 (18.3 m^3)
WEIGHT (EMPTY)	3,960 pounds (1,796 kg) - 4,848 pounds (2,199 kg)	4,460 pounds (2,032 kg) – 6,220 pounds (2,821 kg)	7,700 pounds (3,493 kg) - 13,200 pounds (5,988 kg)
WEIGHT (IN OPERATION)	6,504 pounds (2,950 kg) – 8,911 pounds (4,041 kg)	7,956 pounds (3,609 kg) - 14,611 pounds (6,627 kg)	17,905 pounds (8,121 kg) - 33,611 pounds (15,245 kg)

COMPOSTER MODULES

MIXER

Acts both as a feeding system for the composter and as a pre-treatment chamber for organic material.

IN-VESSEL COMPOSTER

Comprised of quality steel, a programmable rotating system, and controlled ventilation, its modular structure makes it adaptable to the evolution of your business.

CONVEYOR

The conveyor can both feed the composter or redirect the compost to a storage area.

**Other accessories available*

- The BROME industrial rotating composter is built to optimize the conditions necessary for making compost based on your particular needs, yet remains low maintenance and easy to operate.
- Brome composting system offers a unique online support service that enables you to optimize the process.
- Every step of the process is controlled to ensure the quality of the compost produced.

Contact Ketek

855-447-5050, Info@ketek.ca
ketek.ca