



ALEXCO

WASTE MANAGEMENT PLAN

Revision 1

QML-0009

August 2010

BELLEKENO PROJECT



ACCESS
CONSULTING GROUP

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1.0 INTRODUCTION

Throughout the course of the Bellekeno Project various forms of waste will be produced and require management to ensure proper disposal under the applicable legislation. As such, the following Waste Management Plan Revision 1 has been prepared to outline the facilities and measures that will be used to manage the waste streams. Because the Bellekeno mine will operate within the context of existing and ongoing care and maintenance and closure planning for the whole Keno Hill Silver District, existing waste management facilities and permits are already in place. It is anticipated that amendments to existing permits may be required to accommodate wastes generated by the Bellekeno Project. As the project proceeds and permits are obtained or amended that regulate the management and disposal of waste, this plan will be revised accordingly with approvals appended.

2.0 WASTE MANAGEMENT FACILITIES

2.1 Existing Waste Management Facilities and Permits

A number of existing waste management facilities exist on site and are used in support of care and maintenance and closure activities, and will be amended in order to accommodate waste resulting from the Bellekeno Project (see Figure 1). Permission to mine and “perform activities and construct improvements collateral to mining” which includes use of waste management facilities has been granted by Elsa Reclamation and Development Corporation (ERDC) to Alexco Keno Hill Mining Corp (AKHM) as set out in the Application for Quartz Mining Licence QML-0009. The letter granting this permission is attached as Attachment 1. ERDC is a wholly owned subsidiary of Alexco, and will accept, handle and dispose of wastes generated by Alexco from the Bellekeno Project according to protocol and permits held by ERDC.

- A Commercial Dump Permit # 81-012 (Attachment 2) is currently held from YG Environment in accordance with the Environment Act Solid Waste Regulations as well as the Public Health and Safety Act. This permit will continue to be used in support of the Bellekeno Mine operation.
- Alexco currently holds two (2) sewage disposal system permits at Elsa issued by YG Environmental Health Services: an absorption bed permit for the Flat Creek Camp

(Permit #3448, included in Attachment 3) in replacement to a septic tank permit (Permit #3012) and an absorption permit for five houses (Permit #3449, included in Attachment 3) in replacement of a septic tank permit (Permit #3246).

- Part 7 of permit # 81-012 includes provisions for air emissions and replaced Air Emissions Permit # 4201-60-026. Permit # 81-012 permits open burning of > 5 kg of solid waste in an incinerator at the Valley Tailings Landfill area and other landfills around the district. This permit is included as Attachment 2.
- Special Waste Permit # 43-049 is currently held from YG Environment in accordance with the Environment Act Special Waste Regulations for burning waste oil, generating and/or storing waste batteries, waste oil, waste solvents, and other special wastes. Special Waste Permit # 43-049 is included as Attachment 4.

2.2 Valley Tailings Landfill

An amendment to existing commercial dump permit # 81-012 has been received from Yukon Environment as per the *Solid Waste Regulations*. This permit allows for the disposal and incineration of solid waste at a number of other landfill locations for district wide decommissioning and reclamation. However, the Valley Tailings landfill will be used exclusively to accommodate solid wastes generated during construction, operation, and closure activities of the Bellekeno Mine Project. The location for this waste management area is north of the Elsa near the Valley Tailings Area (see Figure 1).

Alexco has made a corporate commitment to the residents of Keno City that Alexco and its contractors will not use or add to the Keno City solid waste management facility and landfill, which is located approximately 650m west of Keno City.

2.3 Incinerator

Existing Air Emission Permit # 4201-60-026 is being used in accordance with Yukon Environment Act, *Air Emissions Regulations*, in order to incinerate solid waste from the Bellekeno Project. This facility is located at the Valley Tailings Landfill area (see Figure 1).

The incinerator consists of a burning barrel fabricated from old fuel tanks. These barrels have been successfully utilized in various community dump applications throughout the Yukon as it is a highly efficient method of clean burning waste and mitigating fugitive litter and ash.

Included within the barrels are spark arrestors and ventilation holes. These ventilation holes will create the draft necessary to draw air through the bottom and pull it through to the top of four separate screened stacks. The unit is completely self-contained, requiring no external source of energy to operate.

Onsite managers/operators initiate and monitor the burning of Elsa camp waste on a regular basis.

Refuse originating as camp and office waste, plus warehouse scrap containing some organic wastes are incinerated. Garbage and debris destined for disposal are collected routinely and, prior to incineration, are stored in wildlife proof containers / fenced short term storage areas in a manner which does not attract wildlife to the mine or mill site. Solid wastes are completely incinerated in a manner which minimizes odours and eliminates the attraction of bears and other wildlife to the mine site. Combustible waste containing a fossil fuel by-product shall be drained prior to incineration and that material will be recycled where possible.

The incinerator is located in a remote area approximately 11 km from the nearest community of Keno City. The incinerator is located 2 kilometers north of Elsa camp in a remote location, which will assist in mitigating the impact of emissions on the immediate camp site. The incinerator is set back from the forest edge in an existing clearing, and the incinerator is monitored for proper functioning during use.

Ash from the incinerator is shoveled by heavy machinery (bobcat or backhoe) on an as needed basis. The ash is transported to and deposited in a man-made trench located adjacent to the burn barrel location. The transportation and deposition of ash waste is dealt with in the solid waste permit.

2.4 Land Treatment Facility

A multi-use Land Treatment Facility (LTF) for is currently under consideration and will be located in the vicinity of Elsa for the potential collection, storage and treatment of soil and/or liquid contaminated with petroleum hydrocarbons. In the event of a petroleum spill, the Contaminated Site Regulations will be followed and an LTF will be permitted based on analytical results.

2.5 Sewage Disposal

Three separate locations (Elsa/Flat Creek, Flame and Moth mill site, and Bellekeno mine site) require sewage services in order to accommodate Bellekeno mine development and operations (details below). Sewage disposal facilities currently include both permanent and portable facilities.

All disposal facilities will comply with the Public Health and Safety Act, *Sewage Disposal Systems Regulations*. In particular, septic tanks, sewage holding tanks or contained privies will be located at least 15 m from the ordinary high water mark (OHWM) of nearby water bodies; while the soil absorption system (or pit privies) will be located not less than 30 m from the high water level of nearby water bodies. Soil absorption systems are not located where soil conditions are unsuitable for absorption of effluent.

2.5.1 Flat Creek Camp and Elsa

Alexco currently holds two (2) sewage disposal system permits at Elsa issued by YG Environmental Health Services: an absorption bed permit for the Flat Creek Camp (Permit #3448) in replacement of a septic tank permit (Permit #3012) and an absorption permit for five houses (Permit #3449) in replacement to a septic tank permit (Permit #3246)

A 36-person trailer camp was established in 2006 and a septic system was installed under permits (#3012 and #3246), including septic tanks and absorption bed. However, the absorption bed was not constructed. In 2008, additional trailer units were added to bring the camp capacity to 100-persons. This required the construction of a new absorption bed system, which was built concurrently and was oversized to handle flow equivalents of 150 persons. The camp was further expanded to 150 persons during the summer of 2010. This camp expansion utilized the septic absorption bed system constructed in 2008 under permit number 3448.

2.5.2 Flame and Moth Mill Site

The septic system at the Flame and Moth mill site will consist of a holding tank, which will be periodically pumped out and trucked to Flat Creek Camp for disposal.

2.5.3 Bellekeno Mine

The septic system at the Flame and Moth mill site will consist of a holding tank, which will be periodically pumped out and trucked to Flat Creek Camp for disposal.

2.6 Sediment Control & Events Ponds

During construction the accumulated sediment within the sediment control & events ponds will be collected as required and buried below ground away from drainage flow paths and watercourses.

3.0 WASTE STREAMS & SEGREGATION

The types of waste that will be managed at the site include:

- Solid Waste (non-hazardous)
 - Putrescible (i.e. camp refuse)
 - Non-putrescible (i.e. burnable or non-burnable)
- Special wastes (i.e. waste oil, batteries – only to be segregated and stored temporarily)

3.1 Solid Waste (non-hazardous)

Kitchen / organic waste is temporarily stored in clear plastic bags inside a 10'x10' bear proof steel clad shed (previously an explosives magazine) at the camp site with a 1" thick steel door with heavy clasp for security. The bin is emptied daily and taken to the incinerator for immediate burning.

Waste that is non-burnable, non-hazardous, and non-recyclable will either be temporarily stored in steel bins at the valley tailings landfill area (e.g. construction wastes) or in the steel clad bin at the camp site (e.g. washed out containers for non-hazardous contents). This

waste, along with incinerator ash is buried within the dump. Material will periodically be covered with a layer of soil to prevent the loss of waste through wind action.

Used tires requiring disposal and have a rim size of 24.5 inches or greater are buried within the commercial dump at the valley tailings landfill. Used tires requiring disposal with a rim size of 24.5 inches or less will be dealt with in accordance with the Yukon Used Tire Management Program and transported off site to an approved facility.

3.2 Special Waste

Any special wastes, as defined by the *Special Waste Regulations* (batteries, used oil, antifreeze, solvents), are collected and stored in specially marked containers and then shipped to an appropriate treatment or disposal facility. Wildlife-proof rig bins are used to provide segregated storage for solid waste that cannot be burned and special wastes in compliance with *Special Waste Regulations*.

Alexco's wholly owned subsidiary Elsa Reclamation and Development Company holds Special Waste Permit # 43-049 for this project and will comply with the Yukon *Special Waste Regulations* and track wastes through the use of Transportation of Dangerous Goods Waste Manifests. Special wastes generated from the Bellekeno Project will be disposed of in accordance with Special Waste Permit # 43-049. Special Waste Permit # 43-049 includes authorization to use a waste oil burner at the site (in Elsa) as per the *Special Waste Regulations*. Waste oil is burned and used as a source of heat.

A concrete floor will be provided throughout the truck maintenance area and will be sloped towards a dry sump, which will collect any wash solutions and petroleum products that result from the maintenance activities. Oil-absorbent products will also be used on the shop floors.

Any accumulated sump water will be separated and oils will be pumped to the waste oil tank or empty drums. All oily wastes from oil changes, including the sump separation products and absorbent, will be hauled off the site for disposal or recycling in an environmentally acceptable manner or disposed of in the waste oil burner. An oil and water separator is used in the truck shop to capture oil, which is then taken offsite by the oil supplier for disposal or disposed of in the waste oil burner.

The lubrication bay of the maintenance shop has a vacuum evacuation system for waste oil. Hose reels feed from the lubrication storage area and dispense antifreeze, grease and various grades of oil to the lubrication bay.

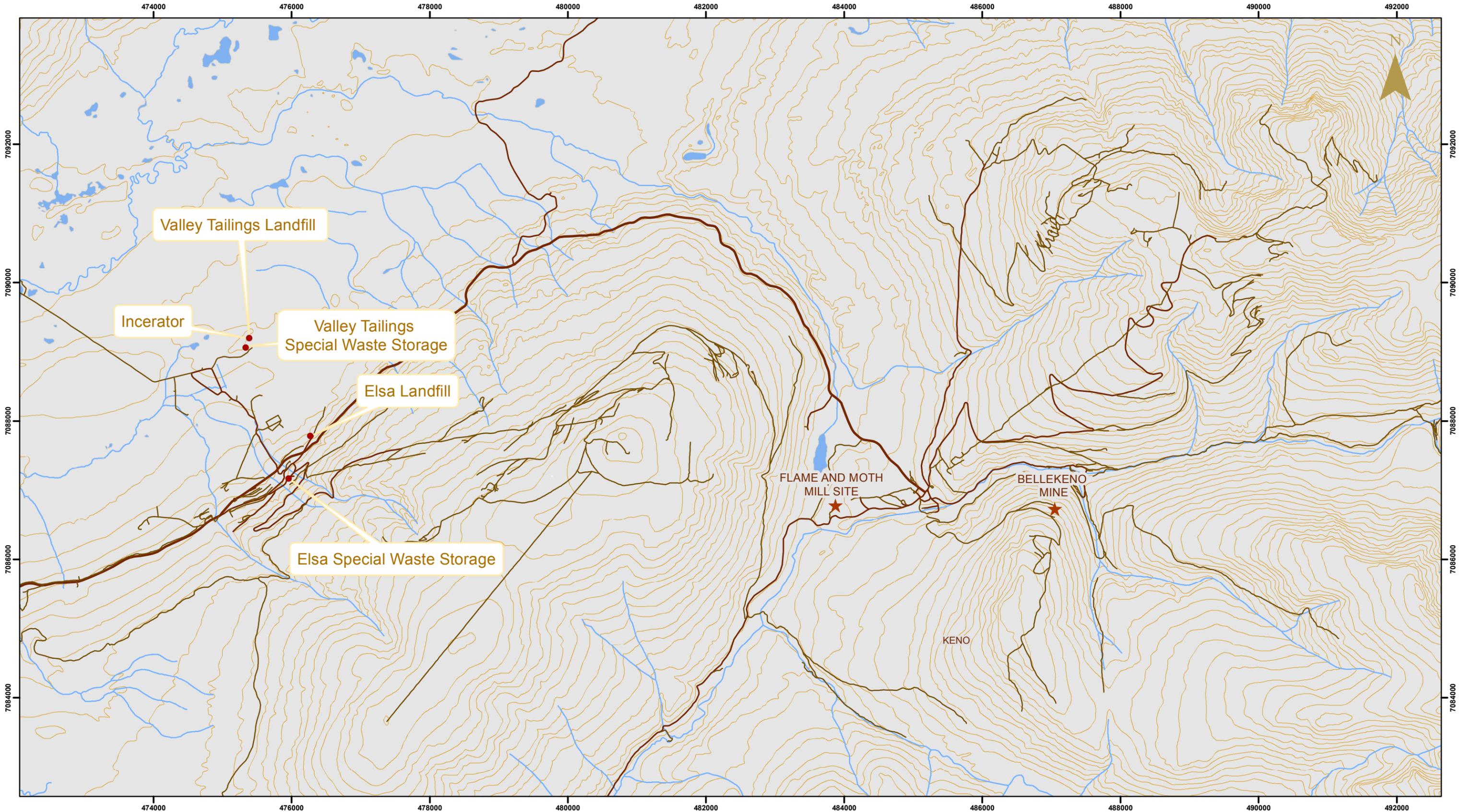
3.3 Waste Management Matrix

Both controlled / hazardous and non-controlled / non-hazardous materials are dispensed of accordingly. Signage will be in place to assist in proper segregation of wastes. The general projected types of waste expected to be disposed of at the commercial dump for the project are presented in Table 1 while Figure 1 follows and shows the general location for the commercial dump.

ALEXCO KENO HILL MINING CORP. BELLEKENO PROJECT
WASTE MANAGEMENT PLAN –QML-0009

Table 1 Waste Management Matrix

Type of Waste Generated	On Site Storage Method	On Site Storage Location	Disposal Method
Non-Controlled Materials			
Incinerator Ash	Open top drums with sealable lids.	N/A	Incinerator ash will be removed from the incinerator with machinery and hauled directly into the dump.
Scrap Steel	N/A	Waste management area	Segregated and recycled or buried.
Wood - Burnable	N/A	Waste management area	Incinerated.
Kitchen /Camp Waste	Clear plastic bags inside 10'x10' steel clad with a 1" thick steel door with heavy clasp for security.	Within camp	Bin shall be emptied daily and taken to the incinerator for immediate burning.
Construction Waste - drywall, glass, insulation, electrical wire, etc. (non hazardous)	Steel bins.	Waste management area	Bins shall have their contents emptied into the dump and buried.
All tires with a rim size of 24.5 inches or greater.	These tires will be taken directly to the ash disposal area.	N/A	These tires will be buried.
All tires with a rim size of 24.5 inches or less.	These tires will be placed in a segregated area within the waste management area.	Shall be stored in a segregated area determined by managers. Location will be clearly labeled.	These tires will be transported off site to a regulated and permitted dump with tire segregation on an as required basis.
Plastic containers - non hazardous contents	Containers will be inside placed 10'x10' steel clad with a 1" thick steel door with heavy clasp for security. Containers shall be washed out completely and not contain any residual.	Within camp	Bin shall be emptied as required and taken to the incinerator for immediate burning.
Metal containers - non hazardous contents	Containers will be inside placed 10'x10' steel clad with a 1" thick steel door with heavy clasp for security. Containers shall be washed out completely and not contain any residual.	Within camp	Bin shall be emptied as required and taken to the dump to have the contents buried.
Glass containers - non hazardous contents	Containers will be inside placed 10'x10' steel clad with a 1" thick steel door with heavy clasp for security. Containers shall be washed out completely and not contain any residual.	Within camp	Bin shall be emptied as required and taken to the dump to have the contents buried.
Controlled Materials			
Batteries	Lined wooden box	Segregated area at waste management area. Clearly labeled.	Batteries will be placed in an upright position within a 4'x4' box. When the 4'x4' box is full, another will be built and the full box shall be shipped off site to the local Waste Management facility in Whitehorse. Appropriate measures will be taken to ensure batteries remain upright during transport (i.e. waste construction wood will be used as filler to take up extra space).
Used Oil	Used oil will be placed in a 300 gallon container located in a bermed area.	Enclosed tanker.	When the container is full, the oil will either be transported to a waste oil burner onsite or management will contact a local supplier to transport oil to a recycling facility offsite.
Fuel Filters	Open top drums with sealable lids.	Waste management area - segregated special waste storage area.	Residual oil and fuel will be drained from filters into waste oil/fuel storage containers.
Antifreeze	Closed top drums with both bungs.	Segregated lined area at waste management area. Clearly labeled. Bungs sealed tight.	When enough drums are gathered up they shall be palletized in similar groups of 4 and banded together for shipment to the local Waste Management facility in Whitehorse.
Solvents	Closed top drums with both bungs.	Segregated lined area at waste management area. Clearly labeled. Bungs sealed tight.	When enough drums are gathered up they shall be palletized in similar groups of 4 and banded together for shipment to the local Waste Management facility in Whitehorse.



Valley Tailings Landfill

Incerator

Valley Tailings Special Waste Storage

Elsa Landfill

Elsa Special Waste Storage

FLAME AND MOTH MILL SITE

BELLEKENO MINE

KENO



● Waste Facility Location



This map is for illustrative purposes only. This is not a legal document. National Topographic Data Base (NTDB) compiled by Natural Resources Canada at a scale of 1:50,000. Cadastral data compiled by Natural Resources Canada. Reproduced under license from © Her Majesty the Queen in Right of Canada. Department of Natural Resources Canada. All rights reserved. Quartz claim boundaries are current as of November 21, 2008. Data source: <http://geomatics.yukon.ca>. Ownership is current as of November 26. Claim status report obtained from the Mining Recorder (Mayo) Projection: UTM Zone 8 NAD83 NTS Sheet 105M/13 and 105M/14

ALEXCO BELLEKENO PROJECT
Waste Management Plan
 Figure 1

Drawn By: MD	Checked by: EA	July 2009
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4.0 ATMOSPHERIC EMISSIONS

Alexco has implemented the following measures with respect to the control of atmospheric emissions generated as a result of waste management activities:

Fugitive Dust	<ul style="list-style-type: none">• Minimize the footprint of waste management activities that may generate fugitive dust;• Use dust suppression measures where necessary to control generated fugitive dust such as watering haul roads and waste management areas (ensuring water quality standards identified for release into receiving waters are met);• Progressively reseed/reclaim disturbed waste management areas that may contribute to fugitive dust as far as possible.
Combustion	<ul style="list-style-type: none">• 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 will be employed to decrease diesel use.• Ensure that incinerator is well maintained and operated at peak efficiency

More general details regarding dust suppression/management measures and dust modeling which has been undertaken can be found in the Mill Development and Operation Plan and the Dry Stack Tailings Facility Development and Operation Plan, respectively.

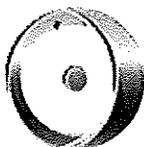
5.0 SLUDGE MANAGEMENT

Sludge produced from the Bellekeno mine is currently disposed of in accordance with the district wide Sludge Management Plan under QZ06-074 at the Valley Tailings Area.

Clause 79 of Type A Water Licence QZ09-092 requires that a Sludge Management Plan specific to the Bellekeno Undertaking be developed within 6 months of the effective date of the licence (August 20, 2010). Once Alexco nominates the Bellekeno mine and mill as a production unit, sludge resulting from both the Bellekeno mine and mill treatment facilities will be disposed of as per the Sludge Management Plan required under Type A Water Licence QZ09-092.

Attachment 1

Letter From ERDC to AKHMC Granting Permission to Mine and
Perform Activities and Improvements Collateral to Mining



ERDC

November 16, 2009

Department of Energy, Mines & Resources
Government of Yukon
P.O. Box 2703
Whitehorse, YT Y1A 2C3

Attention: Greg Komaromi, Assistant Deputy Minister

Dear Sirs:

Re: Quartz Mining Licence QML-0009

Elsa Reclamation and Development Company Ltd. (ERDC) and Alexco Keno Hill Mining Corp (AKHM) (previously named Alexco Resource Canada Corp.) are each wholly-owned subsidiaries of Alexco Resource Corp., and ERDC has granted to AKHM the right to either mine all minerals found in those Claims that are the subject of Quartz Mining Licence QML-0009 or perform activities and construct improvements collateral to mining, all as set out in the Application for Quartz Mining Licence QML-0009.

It is agreed by ERDC and AKHM that once a Production Unit (as defined in the February 7, 2006 Subsidiary Agreement among ERDC, Alexco, Canada and YG, all as defined therein) is nominated pursuant to the terms of such Subsidiary Agreement, then certain of the rights detailed in the first paragraph above may encompass a more restricted area consistent with the area of such designated Production Unit.

AKHM continues to hold those rights granted to it by ERDC (see correspondence dated June 10, 2008 previously submitted) to conduct exploration on all of ERDC's claims.

Sincerely,

ELSA RECLAMATION & DEVELOPMENT COMPANY LTD.

Per: Clynton R. Nauman, President & CEO

The foregoing is hereby acknowledged and agreed by
the undersigned this 16th day of November, 2009

ALEXCO KENO HILL MINING CORP.

Per: Clynton R. Nauman, President & CEO

Head Office

Elsa Reclamation & Development Company Ltd.
200 Granville Street, Suite 1150
Vancouver, BC V6C 1S4
Canada

T. 604 633 4888

F. 604 633 4887

Attachment 2

Commercial Dump Permit No. 81-012



Permit No: 81-012

COMMERCIAL DUMP PERMIT

Issued for the Construction and Operation of a Commercial Dump
Pursuant to the Environment Act

Permittee: Elsa Reclamation & Development Company Ltd.

Mailing Address: Suite 1920 – 200 Granville Street, Vancouver, BC, V6C 1S4

Site Location: Quartz mining lease owned by United Keno Hill Mine Ltd.
(NTS 105M/14 & 105M/13, 63° 55' 30.8" N, 135° 31 7.4" W)

and specifically within the lease parcel, dump sites as follows:

Elsa Landfill 1	476162; 7087405
Elsa Landfill 2	475541; 7086950
Elsa Landfill 3	475259; 7086566
Keno 700 Landfill	489961; 7087765
Valley Tailings Landfill	475353; 7089108

*Landfill coordinates provided in UTM Zone 8M projection, NAD 83 datum

Phone/Fax: Vancouver: (604) 633-4888 / (604) 633-4887
Whitehorse: (867) 668-6463 / (867) 667-6680

Email: dcornett@accessconsulting.ca

In accordance with your application and supporting documents, the **Elsa Reclamation & Development Company Ltd.**, represented by yourself, is hereby permitted to operate dumps for the disposal of solid waste generated by commercial activities or enterprises, hereinafter each referred to as a "dump" and collectively as "the dumps", and to open burn more than 5 kilograms per day of solid waste, at the above specified locations, subject to the following conditions:

PART 1. GENERAL

1. The permittee shall comply with any applicable requirements in all federal, territorial and municipal legislation.
2. The permittee shall ensure that all personnel (employees, contractors or volunteers) involved with the operation or maintenance of the dumps:
 - a) have access to a copy of this permit when at the site;
 - b) are familiar with the conditions and requirements of this permit; and
 - c) receive the appropriate training for the purposes of operating the dumps and carrying out the requirements of this permit.

DEPARTMENT OF ENVIRONMENT
ENVIRONMENTAL PROGRAMS
Whitehorse, Yukon
Certified true copy of original
Date: JUN 24 2009 Initials:

3. The permittee shall allow an environmental protection officer, at any reasonable time, to enter any place or premise under the permittee's ownership or occupation, other than a private dwelling, and inspect any activity which is subject to this permit.
4. The permittee shall provide notice in writing to the Environmental Programs Branch (the Branch) prior to any significant change of circumstances at a permitted operation, site or business, including without limitation:
 - a) closure of the site;
 - b) ownership of the site;
 - c) addition, removal or replacement of any equipment related to the burning of solid waste;
 - d) burning types of waste that are not identified in this permit;
 - e) the opening of a new cell; or
 - f) the mailing address or phone number of the permittee.
5. The permittee shall develop and maintain an emergency response plan which includes:
 - a) emergency spill response procedures;
 - b) emergency notification procedures and a list of emergency phone numbers; and
 - c) fire safety procedures.
6. The permittee shall make a copy of the emergency response plan available to all personnel (employees, contractors or volunteers) working at the dumps and ensure that all personnel involved with the handling or management of any wastes covered by this permit are familiar with the plan.
7. Where conflicts exist between the application for a permit, solid waste management plans, closure plans or this permit, the permit shall prevail.
8. The permittee shall not generate, store, transport or otherwise handle special waste except as authorized by a special waste permit issued by the Branch.

PART 2. SITING

1. The permittee shall ensure that the active working area of each dump is located at least 50m from any highway, as defined by the *Highways Act*, and has a screen of vegetation of at least 10m depth to prevent the dump from being visible from the highway.
2. The permittee shall ensure that the active working area of each dump is located at least 100m from the high water mark of any waterway or water body and at least 1.5m from the groundwater table, and is located in such a manner that neither solid waste nor leachate enters surface water.

PART 3. OPERATION

1. Solid waste shall be handled and disposed of in a manner that, in the opinion of a health officer, neither causes nor is likely to cause a threat to public health.

DEPARTMENT OF ENVIRONMENT
ENVIRONMENTAL PROGRAMS
Whitehorse, Yukon
Certified true copy of original
JUN 24 2009
Date:..... Initials: *JS*.....

2. Solid waste shall be handled and disposed of in a manner that, in the opinion of an environmental protection officer, neither causes nor is likely to cause:
 - a) an adverse effect;
 - b) windblown litter to be deposited outside the property boundary of the facility; or
 - c) attraction to wildlife.
3. The permittee shall ensure that appropriate barriers are in place to prevent inadvertent public access into the burning trenches, the burial pits and other locations of waste storage at the site.
4. The permittee shall make every reasonable effort to ensure that surface water run-off is directed away from the active disposal areas.
5. Solid wastes shall not be stored for a period of greater than seven days prior to disposal.
6. The permittee shall ensure that tires with a rim diameter of 24.5" or less are kept reasonably clean and not buried or burned, and that they are taken periodically to a municipal or community dump or other licensed tire depot.
7. In the event of the intended closure of any dump, the permittee shall submit a Closure Plan to the Branch, and obtain approval prior to commencement of any work to close the dump.

PART 4. SECURITY

1. The permittee shall provide and maintain an electric exclusion fence(s) that will prevent wildlife from entering the area(s) where kitchen and camp wastes and/or recyclables are stored, burned or buried. The gate to this fence shall also be electrified. The electric fence(s) shall be installed, operated and maintained according to the manufacturer's specifications.
2. The fence(s) referenced in section 4.1 above must be:
 - a) continuously activated during the period May 1st to October 31st; and
 - b) activated at times outside of this period (i.e. November 1st to April 30th) if there are any tracks or other signs of animals visiting the area; and
 - c) activated upon the request of an environmental protection officer.

PART 5. BURIAL OF WASTE

1. The permittee shall ensure that solid wastes to be buried are covered weekly with approximately 10 cm of gravel, soil or other comparable cover material. This does not apply between November 15 and April 15 if gravel, soil or other comparable cover material cannot reasonably be obtained.
2. To the extent practicable, asbestos or asbestos-containing materials shall be buried separately from other types of solid waste.

DEPARTMENT OF ENVIRONMENT
ENVIRONMENTAL PROGRAMS
Whitehorse, Yukon
Certified true copy of original

Date: ... JUN. 24. 2009 Initials: JS...

3. The permittee shall ensure that all areas containing buried asbestos or asbestos-containing materials are marked by permanent signs stating the following:

**ASBESTOS WASTE BURIAL SITE
DO NOT DISTURB**

Inhalation of asbestos fibres can cause lung disease and cancer

4. At the cessation of burial activities, the permittee shall ensure that each burial pit is completely covered with a sufficient quantities of gravel, soil or other comparable cover material so as to:
 - a) ensure that all voids are completely filled in and compacted; and
 - b) completely cover the buried solid waste with a minimum of 1 m of cover material.
5. The permittee shall ensure that, once buried and capped, the disposal area is contoured and left in a state that will compromise neither human nor animal safety and that will allow for revegetation to occur.

PART 6. BURNING OF WASTE

1. When solid waste is burned in a trench at the dump, the permittee shall ensure that all ash and unburned material is completely covered each month with a layer of soil or other comparable cover material sufficient to keep the ash and unburned material from leaving the trench.
2. Section 6.1 does not apply between November 15 and May 15, if soil or other comparable cover material cannot reasonably be obtained.
3. Upon the cessation of burning activities each year, the permittee shall cap the burn/ash pit with a cover layer of sufficient impermeability and depth to reduce infiltration by water and subsequent leachate production during spring melt.
4. Upon the permanent cessation of burning activities, the permittee shall permanently cap the burn/ash pit with a cover layer of sufficient impermeability and depth to reduce infiltration by water and subsequent leachate production.

PART 7. AIR EMISSIONS (ISSUED PURSUANT TO THE AIR EMISSIONS REGULATIONS)

1. The permittee shall not release or allow the release of any air contaminant to such extent or degree as may:
 - a) cause or be likely to cause irreparable damage to the natural environment; or
 - b) in the opinion of a health officer, cause actual or imminent harm to public health or safety.
2. The permittee shall burn solid waste only when meteorological conditions are favourable to disperse the smoke away from nearby populated areas.

DEPARTMENT OF ENVIRONMENT
ENVIRONMENTAL PROGRAMS
Whitehorse, Yukon
Certified true copy of original
Date: **JUN 24 2009** Initials: *JS*

3. The permittee shall make every reasonable effort to ensure a quick, hot and complete burn.
4. The permittee shall avoid burning rain-soaked solid waste except where to delay such burning may result in attraction of wildlife or a fire hazard.
5. The permittee shall not use waste oil, tires or aviation gasoline to assist with the burning of solid waste.
6. The permittee may be authorized to use specific waste petroleum products to assist with the incineration of solid waste, as approved in writing by the Branch.
7. The permittee shall not burn tires or treated wood products, including but not limited to, wood products that have been treated with creosote, chromium copper arsenate (CCA), pentachlorophenol (PCP) or any type of paint.

PART 8. SPILLS

1. The permittee shall ensure that incompatible substances are stored separately to prevent contamination, fires, explosions, gaseous emissions, leaching or other discharges, or other dangerous conditions.
2. The permittee shall ensure that substances are stored so as not to cause spills, leakage, leaching or other discharges or releases of the substances from their storage containers.
3. The permittee shall contact either an environmental protection officer or the 24-hour Yukon Spill Report Centre (867-667-7244), as soon as possible under the circumstances, in the event of a release, spill, unauthorized emission, discharge or escape of any material listed in the Spills Regulations.
4. The permittee shall ensure that appropriate clean-up equipment (such as sorbent, shovel, broom, bucket, gloves, boots, etc.) is in a readily available location on site.

PART 9. INSPECTIONS & RECORD KEEPING

1. Electric fences shall be inspected once weekly or as required by an environmental protection officer and maintained as necessary during periods of activation as specified in section 4.2 to ensure that:
 - a) the fence is sufficiently charged to deter wildlife; and
 - b) there is no vegetation or windblown litter or other items along the perimeter of the fence or contacting the fence that may act as a ground.
2. The permittee shall ensure that surface water run-off is inspected during spring melt and as required by an environmental protection officer to ensure the water is running away from active disposal areas. Such inspections shall include, but not be limited to,

DEPARTMENT OF ENVIRONMENT
ENVIRONMENTAL PROGRAMS
Whitehorse, Yukon
Certified true copy of original

Date: JUN 24 2009 Initials: JS

Attachment 3

Sewage Disposal System Permits: Flat Creek Camp (Permit #3448)
and Five Houses (Permit #3449)



Health and Social Services
Santé et Affaires sociales

PERMIT TO INSTALL * A SEWAGE DISPOSAL SYSTEM
PERMIS D'INSTALLATION* D'UN SYSTÈME PRIVÉ
D'ÉLIMINATION DES EAUX USÉES

Permit expires three (3) years from date of issue.

Permis valide pendant les trois (3) années suivant la date de délivrance.

The Environmental Health Office **must** be contacted 72 hours prior to back-filling the system. Photographic record of the stages of installation, together with a completed notification form, must be submitted to our office within 30 days of system installation.

Il faut communiquer avec le bureau des Services d'hygiène du milieu 72 heures avant le recouvrement des installations. Il faut fournir des photographies attestant de toutes les étapes d'installation, et il faut remettre à notre bureau un formulaire d'avis dûment rempli, dans les 30 jours suivant l'installation du système.

Owner's name

Nom du/de la propriétaire Sam Wallingham - Elsa Reclamation & Development Company

Mailing address

Adresse postale #2 Calcite, 151 Industrial Road

Whitehorse

Yukon
Yukon

Postal code
Code postal

Y1A 2U3

The above-mentioned owner is hereby authorized to *construct, install, enlarge, rebuild, substantially repair or connect to an existing system a sewage disposal system as per the application and in accordance with the Sewage Disposal Systems Regulation on the property known as:

*La présente autorise le propriétaire susmentionné à construire, à *installer, à agrandir, à reconstruire, à apporter des réparations majeures ou à raccorder à un système en place un système d'évacuation des eaux usées tel qu'en fait mention la demande et conformément au Règlement sur les systèmes d'élimination des eaux usées sur la propriété décrite comme :*

Legal description

Description légale 135° 30' W 63° 54' N

Plan number

N° de plan N/A

Municipal address (if applicable)

Adresse civique (le cas échéant) Elsa Townsite - 5 existing houses

Type of system

Type de système Trickle Tank, Siphon Tank to a 2068 ft² Absorption

~~For~~ bed (chamber system) for an 11-bedroom equivalent residence

The granting of this permit and/or the issuance of a letter indicating that a system appears to meet any standard is not a warranty as to performance nor a guarantee that a standard has been met. Advice tendered by a Health Officer is qualified, and needs to be checked by the proposer against site specific needs, minimum setback requirements and standards (including calculations for sizing) applicable to the system proposed.

La délivrance du présent permis ou d'une lettre indiquant qu'un système semble satisfaire à une norme ne constitue pas une garantie de rendement ni une garantie que la norme est respectée. L'avis dispensé par un agent de soins de santé est restreint et il faut que le proposant vérifie l'avis en se référant aux conditions spécifiques du site, aux exigences minimales et aux normes de retrait (y compris les calculs pour le dimensionnement) qui s'appliquent au système proposé.

Tracey Konsella

SIGNATURE OF ENVIRONMENTAL HEALTH OFFICER
SIGNATURE DE L'AGENT/AGENTE D'HYGIÈNE DU MILIEU

June 10, 2008

DATE
DATE

Environmental Health Services

2 Hospital Road
Whitehorse, Yukon Y1A 3H8
Telephone: (867) 667-8391, Fax: (867) 667-8322
Toll free: 1-800-661-0408
E-mail: Environmental.Health@gov.yk.ca

Service d'hygiène du milieu

2, chemin Hospital
Whitehorse (Yukon) Y1A 3H8
Téléphone : (867) 667-8391, Télécopieur : (867) 667-8322
Sans frais : 1-800-661-0408
Courriel : Environmental.Health@gov.yk.ca

Personal information contained on this permit is collected under the Access to Information and Protection of Privacy Act and may be shared for verification purposes (e.g. property transfer).

Les renseignements personnels figurant sur le présent permis sont recueillis en vertu de la Loi sur l'accès à l'information et la protection des renseignements personnels. Ces renseignements peuvent être partagés pour des besoins de vérification (ex. : transfert de propriété).

Distribution Building Department, City of Whitehorse
Services des immeubles, Ville de Whitehorse

Building Department, Yukon government
Services des immeubles, Gouvernement du Yukon

Other
Autre



PERMIT TO INSTALL * A SEWAGE DISPOSAL SYSTEM
PERMIS D'INSTALLATION* D'UN SYSTÈME PRIVÉ
D'ÉLIMINATION DES EAUX USÉES

* Replacement System

Permit expires three (3) years from date of issue.

Permis valide pendant les trois (3) années suivant la date de délivrance.

The Environmental Health Office **must** be contacted 72 hours prior to back-filling the system. Photographic record of the stages of installation, together with a completed notification form, must be submitted to our office within 30 days of system installation.

Il faut communiquer avec le bureau des Services d'hygiène du milieu 72 heures avant le recouvrement des installations. Il faut fournir des photographies attestant de toutes les étapes d'installation, et il faut remettre à notre bureau un formulaire d'avis dûment rempli, dans les 30 jours suivant l'installation du système.

Owner's name
Nom du/de la propriétaire Sam Wallingham - Elsa Reclamation + Development Co.

Mailing address
Adresse postale #2 Calcite, 151 Industrial Road

Whitehorse Yukon Yukon Postal code
Code postal Y1A 2V3

The above-mentioned owner is hereby authorized to *construct, install, enlarge, rebuild, substantially repair or connect to an existing system a sewage disposal system **as per the application** and in accordance with the *Sewage Disposal Systems Regulation* on the property known as:

*La présente autorise le propriétaire susmentionné à construire, à *installer, à agrandir, à reconstruire, à apporter des réparations majeures ou à raccorder à un système en place un système d'évacuation des eaux usées tel qu'en fait mention la demande et conformément au Règlement sur les systèmes d'élimination des eaux usées sur la propriété décrite comme :*

Legal description
Description légale 135° 30' W 63° 54' N Plan number
N° de plan N/A

Municipal address (if applicable)
Adresse civique (le cas échéant) Elsa Townsite - Alexco Camp.

Type of system
Type de système Septic Tank with Siphon, Trickle Tank to a 8432ft²

For
Pour Absorption Bed (Chamber system) for a 100 person camp

The granting of this permit and/or the issuance of a letter indicating that a system appears to meet any standard is not a warranty as to performance nor a guarantee that a standard has been met. Advice tendered by a Health Officer is qualified, and needs to be checked by the proposer against site specific needs, minimum setback requirements and standards (including calculations for sizing) applicable to the system proposed.

La délivrance du présent permis ou d'une lettre indiquant qu'un système semble satisfaire à une norme ne constitue pas une garantie de rendement ni une garantie que la norme est respectée. L'avis dispensé par un agent de soins de santé est restreint et il faut que le proposant vérifie l'avis en se référant aux conditions spécifiques du site, aux exigences minimales et aux normes de retrait (y compris les calculs pour le dimensionnement) qui s'appliquent au système proposé.

Tracey Kinsella

June 10, 2008

SIGNATURE OF ENVIRONMENTAL HEALTH OFFICER
SIGNATURE DE L'AGENT/AGENTE D'HYGIÈNE DU MILIEU

DATE
DATE

Environmental Health Services
2 Hospital Road
Whitehorse, Yukon Y1A 3H8
Telephone: (867) 667-8391, Fax: (867) 667-8322
Toll free: 1-800-661-0408
E-mail: Environmental.Health@gov.yk.ca

Service d'hygiène du milieu
2, chemin Hospital
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Sans frais : 1-800-661-0408
Courriel : Environmental.Health@gov.yk.ca

Personal information contained on this permit is collected under the *Access to Information and Protection of Privacy Act* and may be shared for verification purposes (e.g. property transfer).

Les renseignements personnels figurant sur le présent permis sont recueillis en vertu de la Loi sur l'accès à l'information et la protection des renseignements personnels. Ces renseignements peuvent être partagés pour des besoins de vérification (ex. : transfert de propriété).

Distribution Building Department, City of Whitehorse Services des immeubles, Ville de Whitehorse Building Department, Yukon government Services des immeubles, Gouvernement du Yukon Other Autre

Attachment 4

Special Waste Permit No. 43-049



Permit No: 43-049

SPECIAL WASTE PERMIT

Issued for the Generation & Disposal of Special Wastes Pursuant to the Environment Act and the Special Waste Regulations

Permittee: Elsa Reclamation and Development Company Ltd.

Mailing Address: Suite 1150 – 200 Granville Street, Vancouver, BC V6C 1S4

Site Location: Quartz mining lease owned by United Keno Hill Mine Ltd.
(105M/14 & 105M/13, 63° 55' 30.8", 135° 31' 7.4")

Phone/Fax: Vancouver (867) 633-4887 / (867) 604-633-4887
Whitehorse (867) 668-6463 / (867) 667-6680

In accordance with your application, Elsa Reclamation and Development Company Ltd., represented by yourself, is hereby permitted to:

- generate or store **waste oil, waste batteries, waste solvents, waste fluorescent bulbs, and empty aerosol cans** ; and
- dispose (by incineration) of **waste oil**;

hereinafter referred to as "listed special wastes", subject to the following conditions:

PART 1. GENERAL

1. This permit is restricted to special wastes generated by the permittee.
2. The permittee shall comply with applicable requirements in all federal, territorial and municipal legislation.
3. All personnel (employees, contractors or volunteers) involved with the handling or management of any of the listed special wastes shall be knowledgeable of the conditions and requirements specified in this permit, and a copy of this permit shall be available to all personnel at each location where the listed special wastes are handled, stored or transferred.
4. The permittee shall allow an environmental protection officer, at any reasonable time, to enter any vehicle, place or premise under the permittee's ownership or occupation, other than a private dwelling, and inspect any activity which is subject to this permit.

5. The permittee shall provide written notice to the Environmental Programs Branch (Branch) prior to any significant change of circumstances at a permitted operation, site or business, including without limitation:
 - a) closure of the facility;
 - b) a change in the ownership of the facility;
 - c) generating, handling, or disposing of special wastes other than those authorized by this permit; or
 - d) a change in the mailing address, site location, or phone number of the permittee.
6. The permittee shall ensure that all personnel (employees, contractors or volunteers) involved with the handling or management of the listed special wastes receive the appropriate training for the purposes of carrying out the requirements of this permit.

PART 2. TRANSPORT AND TRANSFER

1. The permittee shall not transport the listed special wastes other than within the site location.
2. The permittee shall ensure that listed special wastes not disposed of by the permittee are transported, in accordance with applicable transport laws, to a facility permitted in the Yukon or another jurisdiction to receive them, by a carrier permitted in the Yukon or another jurisdiction to receive and transport the listed special wastes. If the receiving facility is in the Yukon, both the facility and the carrier must be permitted in the Yukon.
3. A waste manifest shall be completed to document each shipment of listed special wastes and copies of the waste manifest shall be distributed in the manner described thereon.
4. The permit number **YG43-049** shall be used as the Provincial Identification Number on waste manifests used for the transport of the listed special wastes.
5. The permittee shall ensure that all listed special wastes are transported and transferred in such a manner as to prevent their release into the environment.
6. The permittee shall ensure that all vehicles carrying any of the listed special wastes are secured to prevent access by unauthorized persons.

PART 3. STORAGE AND HANDLING

1. The permittee shall ensure that the listed special wastes are handled and stored in such a manner as to prevent their release into the environment. This includes, but is not limited to, ensuring that:
 - a) all drums and other portable containers containing the listed special wastes are covered or stored out of the weather to prevent container degradation from the sun or contamination by water from snow or rain;

- b) all drums and other portable containers containing the listed special wastes are stored off the ground to prevent container degradation by ground moisture; and
 - c) all listed special wastes stored in unsuitable or leaking containers are immediately removed or transferred to intact containers.
2. The permittee shall ensure that incompatible substances are stored separately to prevent contamination, fires, explosions, gaseous emissions, leaching or other discharges, or other dangerous conditions.
 3. The permittee shall ensure that the contents of all storage containers are clearly marked and visible on each container.
 4. The permittee shall ensure that the residue at the bottom of any container used for the storage of dangerous goods or special wastes is not drained to the environment. Such residue shall be segregated and treated as a special waste until proven otherwise.
 5. The permittee shall not mix waste oil from piston engine aircraft with other waste oil.
 6. The permittee shall only mix or dilute a listed special waste with another substance where such mixing or dilution is specifically authorized by this permit or by an environmental protection officer as an acceptable treatment/disposal option for the listed special waste.
 7. The permittee shall ensure that all containers or areas used for the storage of the listed special wastes are secured to prevent access by unauthorized persons.
 8. A person who uses a container to store or transport the listed special wastes shall:
 - a) keep the container closed at all times during storage or transport; and
 - b) not open, handle or store the container in a manner which may cause it to leak or rupture.
 9. The permittee shall not store special waste in storage tanks unless specifically authorized by this permit.

PART 4. INCINERATION OF WASTE OIL

(ISSUED PURSUANT TO THE SPECIAL WASTE AND AIR EMISSIONS REGULATIONS)

1. Waste oil shall only be disposed of through incineration for the purpose of space heating.
2. Waste oil shall only be incinerated in an appliance which is approved or certified to burn waste oil by the Canadian Standards Association (CSA), Underwriters Laboratory Inc., USA (UL), or Underwriters Laboratory, Canada (ULC), or as otherwise approved by the Government of Yukon, Protective Services Branch.

3. The appliance for incinerating waste oil shall be installed and operated in accordance with **CSA Standard B.140.0-03**, as amended from time to time, and the manufacturer's instructions.
4. Waste oil incinerated under this permit must conform to the Standards for Allowable Contaminant Levels in Waste Oil as shown in Table 1 below:

TABLE 1: ALLOWABLE CONTAMINANT LEVELS IN WASTE OIL

SUBSTANCE	FOR USE AS FUEL IN WASTE OIL FURNACES
	ppm
Arsenic	5
Cadmium	2
Chromium	10
Lead	100
Total Organic Halogens	1000
PCBs	2

5. The permittee shall have a sample of their waste oil feedstock analyzed periodically, as directed by an environmental protection officer, and shall allow an environmental protection officer to periodically obtain a sample of their waste oil feedstock for the purpose of submitting it for analysis.
6. When submitting a sample of waste oil feedstock for laboratory analysis the permittee shall ensure that the laboratory uses the methods specified in Table 2 below, or equivalent, as amended from time to time, for each listed substance:

TABLE 2: ACCEPTABLE ANALYSIS METHODS

SUBSTANCE	ACCEPTABLE METHOD
	EPA
Arsenic	3050/3051 & 7060
Cadmium	3050/3051 & 7000/7131
Chromium	3050/3051 & 7000/7191
Lead	3050/3051 & 7000/7421
Total Organic Halogens	9020 or 9022
PCBs	3540/3541 & 8082

7. All analyses performed in accordance with this Part must be acceptable to the Branch. In particular, the permittee shall ensure that the detection limit of the test method used is lower than the standards set forth in Table 1.
8. Results of all analyses performed in accordance with this permit must be submitted to the Branch by the date specified by the environmental protection officer in the direction to submit a sample for analysis.
9. Prior to blending contaminated waste oil with uncontaminated waste oil, the permittee shall provide analytical results for both the contaminated and uncontaminated oil, as well as a plan for handling and blending the oil in accordance with the Guidelines for Waste Oil Blending, and shall obtain written permission from an environmental protection officer to do so.
10. Oil containing levels of PCBs above the limit specified in Table 1 shall not be incinerated or blended with other waste oil.
11. Oil from piston engine aircraft shall be assumed to contain lead contamination in excess of the maximum level specified in Table 1 unless proven otherwise.

PART 5. SPILLS

1. The permittee shall contact either an environmental protection officer, or the 24-hour Yukon Spill Report Centre (**867-667-7244**) as soon as possible under the circumstances in the event of a release, spill, unauthorized emission, discharge, or escape of any of the listed special wastes.
2. The permittee shall ensure that appropriate clean-up equipment (such as sorbent, shovel, broom, bucket, gloves, boots, etc.) is in a readily available location at all locations where the listed special wastes are handled or stored.
3. The permittee shall ensure that emergency spill procedures are posted at all locations where the listed special wastes are handled or stored, and that all personnel (employees, contractors or volunteers) are familiar with those procedures.

PART 6. INSPECTIONS AND RECORD KEEPING

1. The permittee shall ensure that storage tanks and storage containers are inspected:
 - a) weekly in terms of visual inspection for leaks of listed special wastes;
 - b) monthly in terms of volume of listed special wastes;
 - c) annually in terms of tank/container quality, piping, and auxiliary equipment; and
 - d) upon request from an Environmental Protection Officer.

2. The permittee shall keep records of:
 - a) the estimated volumes of each type of listed special waste disposed and their storage locations;
 - b) inspections performed in accordance with subsection 1 above, and the results of those inspections;
 - c) results of all required analyses of waste oil feedstock samples;
 - d) the name of any company that transports listed special wastes from the facility;
 - e) the location to which the listed special wastes are transported; and
 - f) a copy of any waste manifests used to transport listed special wastes to or from the facility.

3. The permittee shall keep all records required by this permit for a minimum of three years and make them available upon request for inspection by an Environmental Protection Officer. Records shall be kept in a format acceptable to the Branch.

THIS PERMIT REPLACES PERMIT #41-199 ISSUED ON JUNE 13, 2007, IS EFFECTIVE FROM THE DATE OF DIRECTOR'S SIGNATURE AND SHALL EXPIRE ON DECEMBER 31ST, 2011.

Director, Environmental Programs Branch
Department of Environment

Date

I, DAN CORNETT [print name clearly], certify that I am an authorized representative of **Elsa Reclamation & Development Company Ltd.**, and that I have read and understood the terms and conditions of this permit.



Authorized Representative
Elsa Reclamation and Development Company Ltd.

July 31/09

Date