

Preliminary Julietta Waste Management Plan

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1.0 Introduction

Before construction and mine operations begin, adequate provisions for waste management should be established. Appropriate waste management practices initiated at the beginning of facilities planning and construction will help avoid additional costly clean-up and mitigation measures in the future. These waste management areas established during initial construction phases will continue to be used throughout the life of the mine. The following sections are designed to provide a general overview of all the waste management practices that will be implemented at the facility. The Waste Management Plan will be updated prior to commencement of operations and reviewed occasionally throughout the life of the project.

The Waste Management Plan was created within the framework of mining in the Russian Far East. Some standard practices available in the West are not available in the Russian Far East. This management plan details the various aspects of waste disposal including management supervision, waste classification, and arrangements for regular waste removal. The Waste Management Plan applies to construction, operation, and closure of the project.

2.0 Construction

The following types of wastes will be generated during construction of the Julietta Project:

- Domestic liquid effluent (sewage and gray water);
- Domestic solid wastes (hazardous¹ and non-hazardous);
- Industrial solid wastes (hazardous and non-hazardous); and,
- Mine wastes.

2.1 Sewage Treatment

Sewage from each building currently drains into one of several “septic” pits, which consist of 2-meter by 2-meter wooden boxes dug into the permafrost and backfilled. The septic system is scheduled for replacement during the next construction season.

¹ The term “hazardous” in this report has no regulatory significance. It is a qualitative term encompassing materials that (1) if they were to accidentally escape to the environment in relatively small amounts would exhibit acute toxicity effects to the aquatic ecosystem, or (2) would contribute to exceedences of normally accepted limits for chronic human exposure in the atmosphere or through digestion. Common sense supported by available toxicity and other scientific databases is used by the Omsukchan Mining and Geology Company (OMGC) staff and consultants in interpreting the word “hazardous”.



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Clean up of these systems will entail removal of the top of each tank and burial of the entire system. When buried to a sufficient depth, these old septic tanks should pose no further environmental hazard. The existing sewage lines will be integrated into the new sewage treatment system, as appropriate. Sewage lines determined to be in poor condition will be removed and buried in the domestic landfill.

Sewage generated during construction and operational phases of the mine will be treated in the project sewage treatment facility. The design and construction of this sewage treatment facility will be covered comprehensively in project permitting and design documentation.

2.2 Domestic Solid Wastes

General domestic solid waste will include food wastes, food packaging wastes, a percentage of non-petroleum oils and greases, and gray water. Many of these items may be biodegradable, and others are considered inert.

2.2.1 Existing landfill

Currently, domestic solid waste is placed in temporary landfill not far from the existing residential area. The facility is unlined and considered a temporary solution for landfilling.

2.2.2 Construction and operations

As part of construction, OMGC has received approval for construction of a landfill below the proposed tailings pond (02/09/98, Chief Director of the Sanitary Epidemiological Department). This approval allows for construction of a landfill that can receive the following items:

- Construction wastes (wood, concrete, etc.);
- Tires and other rubber items;
- Paper and wooden packing materials;
- Domestic solid wastes; and,
- Scrap metal.

The “boneyard” disposal area, within the landfill area, will be designated for the disposal of scrap machinery, rails from the mine, other metals, and non-toxic metal containers and materials. Adequate drainage structures will be constructed to control the movement of surface water runoff through and off the site. In addition, the “boneyard” will be organized for easy access from waste generating sources and to allow for items placed in the “boneyard” to be easily recycled, backhauled, broken-down, or re-used. Waste items should be grouped into separate areas, so that metal scrap can be accessed for salvage or re-use at any time.



The following materials should not be stored in the scrap metal waste dump:

- Spent oil filters and petroleum containers;
- Used car batteries;
- Products containing pressurized gas;
- Empty reagent containers or drums;
- Other metal containers that contain resins, solvents, cleaners, paint; or petroleum products.

This material should all be delivered to the approved, lined hazardous waste landfill.

The approval for construction of the landfill is provided in Volume 3, Public Consultation and Disclosure Plan.

2.2.3 Closure of landfill

Closure of the landfill will be done in accordance with the Reclamation and Closure Plan (Attachment 4 of the Environmental Action Plan).

2.3 Potentially Hazardous Domestic Wastes

Potentially hazardous domestic wastes will be generated during construction and normal operations. These hazardous wastes may include household cleaning items, glues and cements, solvents, and pressurized aerosol cans.

A specially designated area of this landfill should also be excavated for the disposal and storage of potentially hazardous domestic and industrial chemicals. This area will be bermed and lined with a synthetic liner. Part of the hazardous waste area will be allocated for the storage of potentially hazardous liquid and other wastes before their transport to recycling facilities or elsewhere.

2.4 Industrial Liquid Effluent

Discharges from the tailings pond are the only potential effluent. The mill has a closed-loop water supply system with a potential annual discharge from the tailings facility based on excess water accumulation. As discussed in Section 6.5 of the EIA, discharges from this facility are expected to have no long-term negative impact on the environment. Additionally, the following measures will be taken:

- Discharge rate will be controlled;
- Discharge will occur during high river flow rate;
- Discharge will be monitored to ensure that no pulp is discharged;



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- Sampling will occur during discharge to ensure compliance with Russian regulatory and World Bank requirements at the point of compliance; and,
- Follow-up investigations will be conducted to ensure to adverse environmental impacts have occurred.

2.5 Industrial Solid Wastes

Industrial solid wastes include non-hazardous and hazardous wastes. Non-hazardous wastes include:

- scrap steel and other metals;
- vehicle maintenance wastes; and,
- inert industrial wastes.

Non-hazardous wastes will be disposed of in the approved landfill.

Hazardous wastes include:

- solvents;
- paints;
- laboratory waste;
- mercury lamps;
- car batteries; and,
- used oils and lubricants.

Used oils and lubricants will be burned in diesel generators. Car batteries will be drained. The acid will be neutralized and the battery casing will be disposed of in the landfill.

Mercury batteries will be collected and then shipped to Magadan for recycling. The remaining hazardous wastes will be disposed of in the hazardous waste area of the landfill.

2.6 Summary of Waste Classifications and Handling Requirements

Table 1 provides a summary of the waste disposal recommendations for some of the major waste sources that will be generated during construction and operations at the Julietta Project.



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Table 1. Waste classification and disposal methods

Waste	Waste amount (tonnes)	Type of container	Storage	Disposal
Fuel and lubricant	4.5	Barrels	Bermed, lined	Burning or hazardous landfill
Tires	100	NA	NA	landfill
Explosives material	75	Sacks	Burial	landfill
Cement	2000	Sacks	Burial	landfill
Process reagents	2.0	Sacks, burial	Burial	Decontaminate, landfill
Antifreeze	ND	Barrels	Barrels	Burn or recycle
Batteries	ND	Plastic casing	20 tonne container	Neutralize and landfill
Filter (oil and gas)	ND	Paper/plastic	Impermeable drums	Drain and landfill
Trash	ND	Variable	Landfill	landfill
Scrap metal	20	NA	Boneyard	recycle



3.0 General Management Guidelines

Management of the waste disposal program will be a key factor in ensuring that environmental protection measures are accomplished. Management will include employee training on hazardous waste handling and identification. The following measures will be employed to ensure a successful management plan:

- Elimination of unnecessary crating and packaging materials prior to delivery to the site;
- Segregation of certain scrap materials from the waste stream for reuse in other aspects of the operation;
- Segregating combustible and non-combustible wastes at the source;
- Using combustible materials as a supplemental fuel in the plant generators or heating systems; and
- Using nutrient rich organic wastes as a soil amendment to facilitate reclamation success or as fertilizer and soil amendment.

Waste management best practices will be implemented during construction and operation of the mine, mill and related facilities done in accordance with World Bank Group guidelines.

This Preliminary Waste Management Plan will be updated before construction commences (i.e., May 2000). A final Waste Management Plan will be available when operations start in early June 2001.