



MEADOWBANK GOLD PROJECT

## **Landfarm Design and Management Plan**

In Accordance with Water License 2AM-MEA0815

Prepared by:  
Agnico-Eagle Mines Limited – Meadowbank Division

Version 2  
October 2012

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## **IMPLEMENTATION SCHEDULE**

As required by Water License 2AM-MEA0815, Part B, Item 16, the proposed implementation schedule for this Plan is outlined below.

**This plan will supersede the Landfarm Design Management Plan (Oct 2008).** This Plan will be immediately implemented (October 2012) subject to any modifications proposed by the NWB as a result of the review and approval process.

## **DISTRIBUTION LIST**

AEM – Environmental Department  
AEM – Environment Superintendent  
AEM – Site Services Superintendent  
AEM – Field Services Supervisor  
AEM – Engineering Superintendent  
AEM – Mine General Manager


## DOCUMENT CONTROL

Version	Date (YMD)	Section	Page	Revision
1	08/10/08	2		Remediation guidelines used and the parameters measured
		7		Details on storage and treatment options for metals, solvents, glycol and heavy oils; Measures to prevent damage to the liner during mechanical operation
		4		Contingency plans for exceedances in the amounts of contaminated soil and/or snow/ice
		5		Details describing the design components/specifications of the spillway
		8		Contingency planning and monitoring of sump volumes during the snowmelt period
2	12/10/22	All	All	Comprehensive Revision to Original Plan

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## **SECTION 1 • INTRODUCTION**

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### **1.1 PROJECT OVERVIEW**

This Landfarm Design and Management Plan (Plan) outlines the detailed design and operation of an onsite Landfarm for the treatment of petroleum hydrocarbon contaminated soil, as part of the Agnico-Eagle Mines Limited (AEM) Meadowbank Division (Project) in Nunavut. The Meadowbank Project is an open pit gold mine located on Inuit-owned land (IOL) in the Kivalliq Region of Nunavut, approximately 70 km north of the hamlet of Baker Lake.

The Landfarm will have two types of treatments.

- The first one is standard treatment has no additive put in the pile. Four (4) times per year during the summer period, the pile will be turned to allow the pile to volatilize
- The second type of treatment is the pilot pile which will be mixed with of sewage sludge as a nutrient source to accelerate bioremediation. Four (4) times per year, during the summer period, the pile will be turned to allow the pile to volatilize.

The Landfarm is required for the treatment of petroleum hydrocarbon-contaminated soil that may be generated by mining activities and operations. This Plan is a component of the Meadowbank Environmental Management System. The objectives of this Plan are summarized as follows:

1. To define the location, design and operating procedures to be used in the Landfarm treatment of petroleum hydrocarbon contaminated soils generated at the Meadowbank Mine;
2. To define acceptable/non-acceptable types of petroleum hydrocarbon contaminated soils to be placed in the Meadowbank Landfarm; and
3. To define operating and monitoring requirements for the Landfarm

The overall site location for the Landfarm is shown in Figure 1. As you can see, the Landfarm is located south of the Storm Water Dyke.

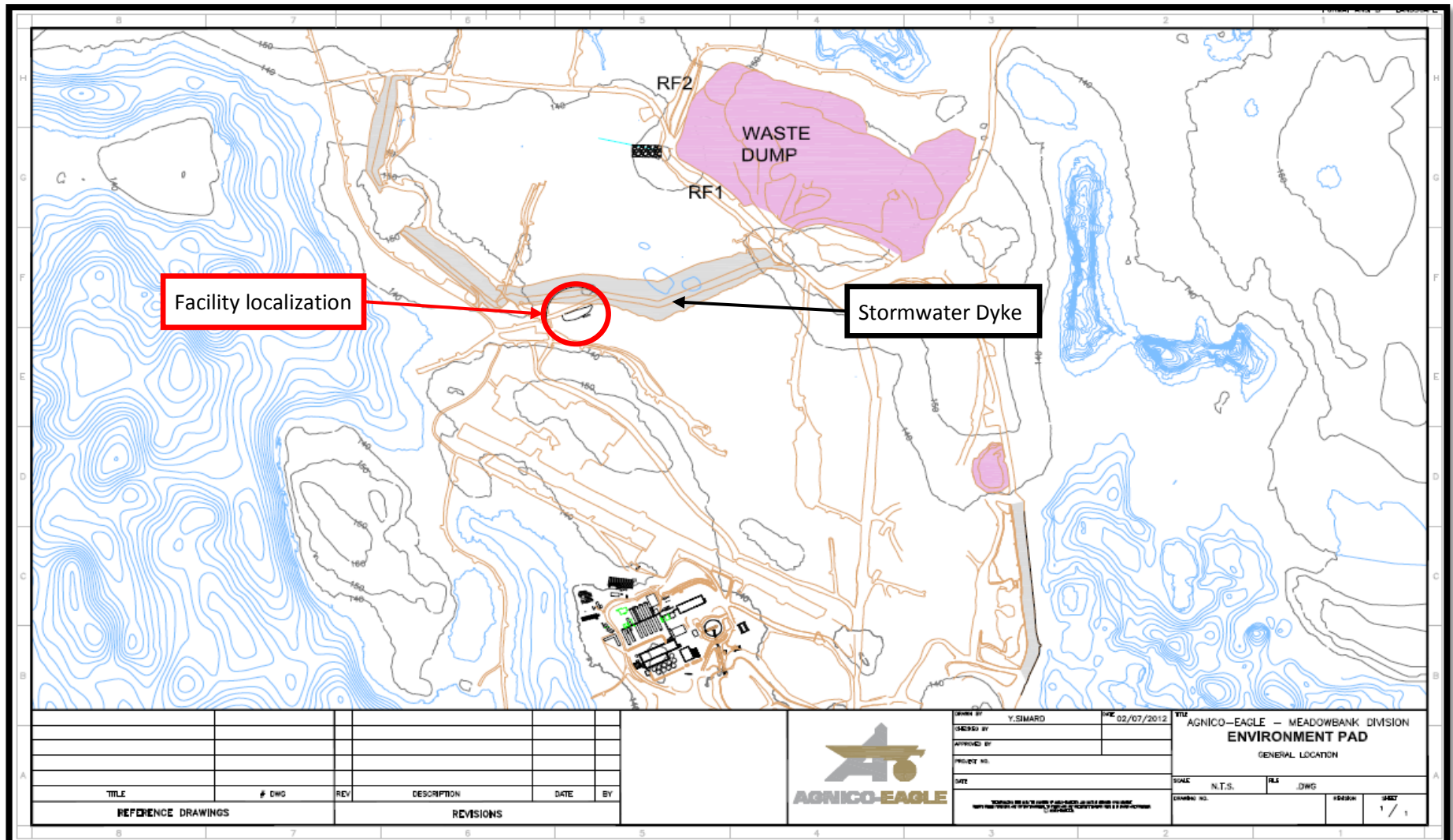


Figure 1: General map of the Meadowbank project with the Landfarm (Facility) localization

## **SECTION 2• REMEDIATION GUIDELINES**

In assessing the remediation success on hydrocarbon contaminated soils being treated at different facility, AEM will use the Government of Nunavut (GN) Department of Environment, Environmental Guideline for Site Remediation (January 2002) standards to determine if the soil has been suitably treated. If the standard is respected, the soil will be removed from the Bioremediation Facility to be place in the Waste Rock Storage Facility (WRSF) A copy of the guideline document has been included in Appendix I.

The GN remediation guidelines are characterized using four land use categories: agricultural, residential/parkland, commercial and industrial. For the Meadowbank Gold Project the soil exiting the Landfarm will be treated as PAG in our WRSF. Waste rock will be encapsulated with 4 m of NPAG at mine closure allowing freeze back to occur. Therefore, industrial land use remediation's guidelines will be apply and follow.

The following parameters will be measured and compared with the GN residential/parkland remediation guidelines in order to determine whether soil has been adequately remediated:

- Total Petroleum Hydrocarbons (TPH);
- BTEX (benzene, toluene, ethylbenzene and xylene); and
- Lead.

Analysis for polychlorinated biphenyls (PCBs) will not be conducted as this contaminant will not be present at the mine site. Table 2.1 presents the applicable guidelines for industrial land uses.

In the event that the contaminant source is unknown and soil characterization is required, soil samples will be tested for suspected soil contaminants; contaminants not in the GN list above will be compared to the Canadian Council of Ministers of the Environment (CCME), Canadian Soil Quality Guidelines. These additional measured parameters could include total metals, oil and grease, and volatile organic compounds.



**Table 1: Summary of GN Soil Remediation Guidelines**

Parameter	Guideline Industrial Land Use *
Benzene	5
Toluene	0.8
Ethylbenzene	20
Xylene	20
Total Petroleum Hydrocarbons (TPH)	2500**
Lead	400

Note: All values are in µg/g or parts per million (ppm)

\* Total petroleum hydrocarbons (includes total purgeable and total extractable hydrocarbons).

\*\* The TPH guidelines were developed by the Government of the Northwest Territories (GNWT).

## **SECTION 3 • PHYSICAL CONDITIONS**

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### **3.1 PERMAFROST**

The Project area is located within the zone of continuous permafrost. Permafrost depths are estimated to be between 450 and 550 m, depending on proximity to lakes, slope aspect, and other site-specific conditions. The measured active layer depth ranges from about 1.3 m in areas of shallow surficial material (till) and away from lakes, up to 4.0 m adjacent to lakes, and up to 6.5 m beneath the outlets connecting Third Portage and Second Portage lakes. Results from a geotechnical investigation at the tank farm facility indicate that the ground thaws to a depth of 1.5 m below ground surface (bgs) in this area.

#### **3.1.1 Seismicity**

The Meadowbank Project is located in an area of low seismicity (Golder, 2007b; Doc. 449 Vol. 1).

### **3.2 CLIMATIC CONDITIONS**

The Meadowbank Gold Project is situated within an Arctic ecoclimate described as one of the coldest and driest regions of Canada. Arctic winter conditions occur from October through May, with temperatures ranging from +5° C to -40° C. Summer temperatures range from -5° C to +25° C with isolated rainfall increasing through September (MMC, 2007d; Doc. 500).

The long-term mean annual air temperature for the Meadowbank area is estimated to be approximately -11.1°C. The mean annual precipitation totals for rain and snow are respectively 142.5 mm, and 146.8 mm, for a total of 289.2 mm (MMC, 2007d, Doc. 500). Average temperatures for June to September are above freezing, therefore it is anticipated that bioremediation will be feasible during these months.

## **SECTION 4• LANDFARM CONSTRUCTION**

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The Landfarm is designed with one soil remediation cell. The design volume of the cell is based on allowances for the materials to be treated. This allowance calculation is described in the following section.

### **4.1 Design Criteria**

Since 2008, the Meadowbank Gold Mine generated 5100 m<sup>3</sup>. This led us to an average of 1275 m<sup>3</sup>/year of hydrocarbon contaminated soil. But, the majority of this is the result of spill during the construction and initial operations. Actually, if we compare at the 2012 October year-to-date hydrocarbon contaminates soil numbers, Meadowbank project has generated 400 m<sup>3</sup> of hydrocarbon contaminated soil for the year expectation of 480 m<sup>3</sup>. Therefore, in a due diligence optic, the Landfarm has been designed to manage 1200 m<sup>3</sup> of contaminated soil per year.

The life expectancy of the mine is production until 2017. This mean there is 4 more years at a calculated average of 1200 m<sup>3</sup>/ year for a total of 4800 m<sup>3</sup> of soil to manage in the facility ( 4 X 1200 m<sup>3</sup> = 4800 m<sup>3</sup>), Including 5100 m<sup>3</sup> that has been already generated for a total of 10,900 m<sup>3</sup> of hydrocarbon contaminated soil.

The Landfarm has a useful surface area to accommodate 3, 712 m<sup>3</sup> of soil piled ~1 meter high. Contaminated material can be pile up to 4m high; however accounting for a 25% loss of area for due to sloping must be taken. By pilling this high with the loss due to sloping, the space would allow for the storage of ~11,136m<sup>3</sup>. This will be adequate area to accommodate the expected 10,900 m<sup>3</sup> of contaminated soil.

#### **4.1.1 Large spill event**

In the event of a large spill, contaminated soils will be temporarily stored; a temporary stockpile area could be set up in an approved area by AANDC. The soil would then be placed in the Landfarm as soon as practical.

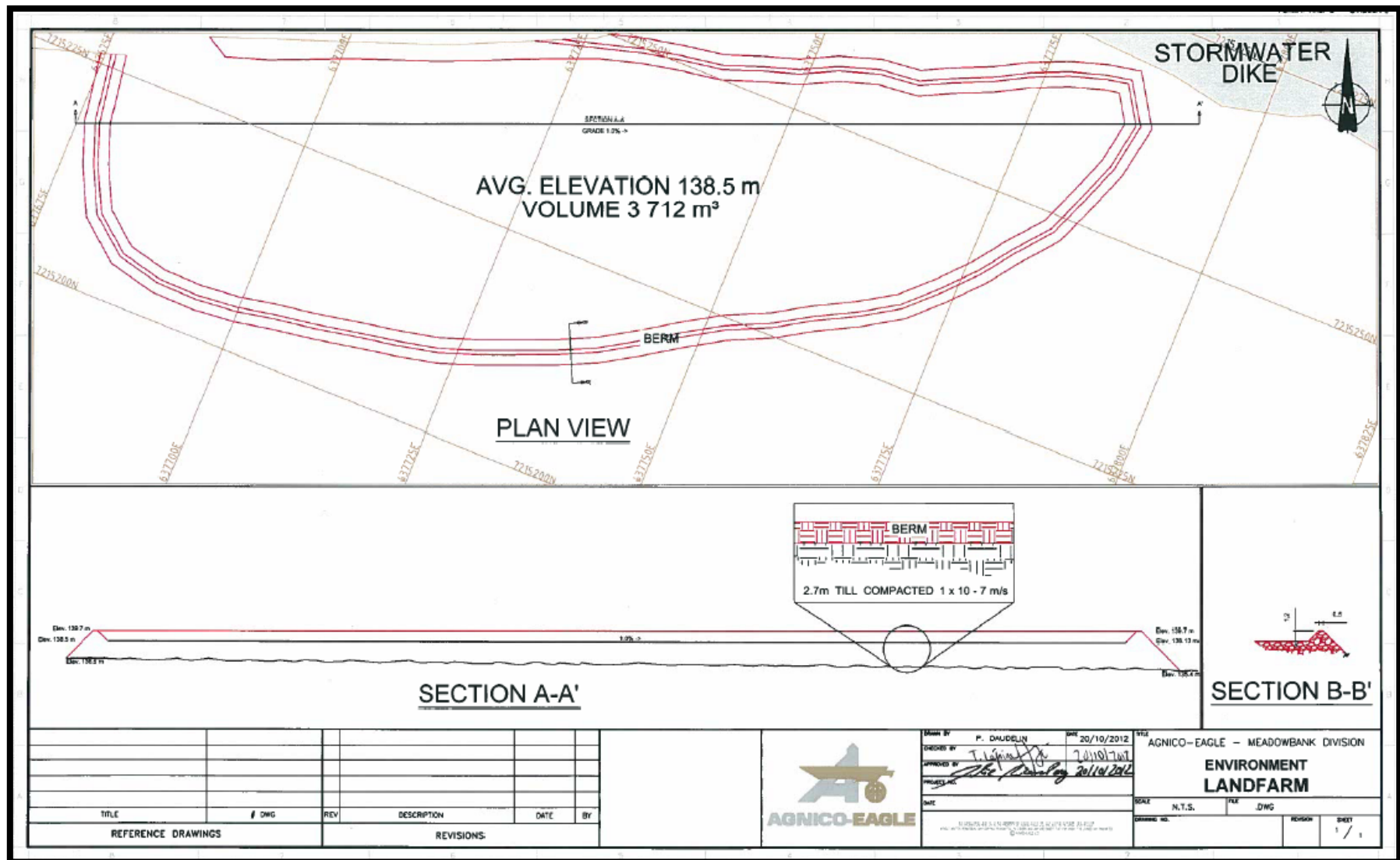


Figure 2: Hydrocarbon Contaminated Soil Landfarm Bermed Plan View

## **SECTION 5 • WATER MANAGEMENT**

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The Landfarm for hydrocarbon contaminated soil is separated from the reminder of the site by a lined perimeter berm. The water management for the Landfarm is describe in the following section

### **5.1 WINTER AND SNOW MANAGEMENT**

Snow will be removed as much as possible during winter to minimize water runoff-

### **5.2 SUMMER WATER RUNOFF MANAGMENT AND SEEPAGE**

Seepage and water runoff will be carefully monitored and follow-up will be assured by constant inspection of the Facility by competent AEM personnel. In the event of water accumulation, runoff or seepage, the water will be collected and pump to the current Attenuation pond.

Prior to pumping in the Attenuation pound, the water quality criteria exposed in TABLE 2 will need to meet. Those criteria are based on the NWB License 2AM MEA0815. Water sampling and follow-up will be assured by the Meadowbank Environmental Department.

**Table 2 : NWB PART F item 6. Effluent quality limits**

<b>Parameter</b>	<b>Maximum Average Concentration</b>
Benzene( $\mu\text{g/L}$ )	370
Toluene( $\mu\text{g/L}$ )	2
Lead( $\mu\text{g/L}$ )	90
Total (T)-Al (mg/L)	1
Oil and Grease(mg/L)	15 and no visible sheen

If the water does not meet the criteria in Table 2, the water will then be treated.

## **SECTION 6 • LANDFARM OPERATION**

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The following presents the Operation Plan for the Landfarm. AEM will be responsible for managing and implementing the Operation Plan. Operation and monitoring of the Facility will come under the responsibility of the Environmental Superintendent.

### **6.1 OPERATIONS PLAN**

The Landfarm will treat Hydrocarbon contaminated soils only that have been generated through mine-related activities at the Meadowbank Gold Project. Material from other sites will not be accepted without approval from the Nunavut Water Board (NWB) and the KIA.

The following products will be used on-site that, if spilled may be treated in the Landfarm:

- Diesel fuel;
- Aviation fuel (Jet A);
- Hydraulic oils; and
- Gasoline.

### **6.2 LANDFARM OPERATIONAL PROCEDURES**

PHC contaminated soil will be excavated from the source and transported to the Facility in dump trucks. Care will be exercised to ensure that none of the contaminated material is lost during transport. The contaminated material will be rows of the following dimension: 15 m x 4.5m x 50 m.

A record will be kept by the on-site Environmental Coordinator of the amount of contaminated soil placed in the Landfarm and the location of each batch of contaminated soil within the Facility.

These piles will be turned four (4) times per year to allow vitalization

### **6.3 BIOREMEDIATION**

The Landfarm will have two types of treatment.

- The first one is standard which mean that no additive will be put in the pile. Four (4) times per year during the summer period, the pile will be turn
- The second type of treatment is the pilot pile which will be mixed with sewage sludge as a nutrient source to accelerate bioremediation. This pile will be turn four (4) times per year like the standard one.

### **6.3.1 Current Operation**

As of October 2012, AEM has mixed approx. 400 gallons of sewage sludge with one pile (pilot). We will turn the pile at least four (4) times per year in 2013 and then sample at same location. When it reaches the Guideline for site Remediation (Industrial Criteria) it will be removed to WRSF.

A second pile did not have the sewage sludge added. This pile will just be turned, no accelerator will be added. This pile will be sampled to compare to the pile that sewage sludge was added to.

## **SECTION 7 • PLAN REVIEW AND CONTINUAL IMPROVEMENT**

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The Landfarm Design and Management Plan will be reviewed annually by the Meadowbank Environmental Superintendent in consultation with the Mine General Manager, and updated at least every two years of operation.

A final proposal will be submitted in regards with the results analysis of the pilot project within the next 4 years. Before submitting the final proposal, time is needed to analyse the thermal Desorption, bioactivities/effectiveness of treatment with and without a mix of sewage sludge.

## **APPENDIX I: REMEDIATION GUIDELINES**



# ENVIRONMENTAL GUIDELINE FOR Site remediation



## **GUIDELINE: CONTAMINATED SITE REMEDIATION**

AS AMENDED BY:

### **USE OF GUIDELINE**

***A guideline is not law and is therefore not enforceable. It does however, assist an inspector to determine what action(s) may be required of him. Paragraph 2.2(c) of the Environmental Protection Act allows the Minister to develop, co-ordinate and administer guidelines. The Act [subsection 5(1)] makes it an offence to discharge a contaminant into the environment, subject to some exceptions [subsection 5(3)]. When a discharge occurs and it is inconsistent with the guidelines, the discharge is considered an unacceptable risk. The inspector may then consider issuing an order or laying an information.***

***A guideline allows for some leniency in applying the law. A court would probably be inclined to consider the application of a guideline favorably because the public is aware of the standards they are expected to meet.***

This Consolidation is not Law.  
It is prepared by Environmental Protection Service,  
Department of Sustainable Development  
Government of the Nunavut

# **Guideline for Contaminated Site Redemption**

## **1 Introduction**

- 1.1 Definitions
- 1.2 Roles and Responsibilities

## **2 Defining the Problem**

- 2.1 What is the History of the Site?
- 2.2 What is the Contaminant?
- 2.3 What is the Degree of Contamination?
- 2.4 What are the Possible Impacts?
  - 2.4.1 Land Use

## **3 Remediation**

- 3.1 Remediation Guidelines
- 3.2 Decision Considerations
  - Figure 1: Steps Used in Site Remediation

## **4 Conclusion**

## **5 Bibliography**

## **Appendix**

# GUIDELINE FOR CONTAMINATED SITE REMEDIATION

## 1 Introduction

The purpose of this guideline is to help you solve a contamination problem on your property by setting standards for site remediation. This guideline will focus on hydrocarbons because they are the most common type of contaminant in Nunavut. However, the principles outlined here can be applied to other types of site contamination. Section 2.2 of the *Environmental Protection Act* gives the Minister of Sustainable Development the authority to develop, co-ordinate and administer these guidelines (see Appendix).

### 1.1 Definitions

<b>CCME</b>	Canadian Council of Ministers of the Environment (CCME) is the major intergovernmental forum in Canada for discussion and joint action on environmental issues of national, international and global concern. The 13 member governments work as partners in developing nationally consistent environmental standards, practices and legislation.
<b>Commissioner's Lands</b>	Lands in Nunavut that have been transferred by Order-in-Council to the Government of Nunavut. This includes highways, block land transfers and most lands within municipalities.
<b>Contaminant</b>	Any noise, heat, vibration or substance and includes such other substances as the Minister may prescribe that, where discharged into the environment, (a) endangers the health, safety or welfare of persons, (b) interferes or is likely to interfere with normal enjoyment of life or property, (c) endangers the health of animal life, or (d) causes or is likely to cause damage to plant life or to property.
<b>Contaminated Site</b>	Areas of land, water, ground water, or sediments that have levels of contaminants exceeding the remediation criteria. Contaminant sources can include on-site burial of wastes, non-point chemical releases (small, frequent drips and spills), stockpiling and storage of materials, major spills, and releases during fires. Contamination may also be due to illegal dumping of contaminated soil. Contaminated sites may have short or long-term consequences to people or the environment.
<b>Remediation</b>	The management of the contaminant at a site so as to prevent, minimize, or mitigate damage to human health, property, or the environment. Remediation is a broader term than clean-up in that remediation options can include physical actions such as removal, destruction, and containment, as well as the use of institutional control such as zoning designations or orders.

**T.P.H.** Total petroleum hydrocarbons, (includes total purgable and total extractable hydrocarbons).

## **1.2 Roles and Responsibilities**

The Department of Sustainable Development, Environmental Protection Service (EPS), is the main contact concerning remediation of contaminated sites on Commissioner's Land, EPS determines the required level of remediation using the remediation criteria cited in these guidelines. EPS also reviews your remediation plan and monitors the progress of the project. It is your responsibility to remediate the site to acceptable levels. As there may be health or safety concerns to consider, we recommend you also contact the Department of Health, the Office of the Fire Marshal, the municipality and the landowner.

***EPS will provide advice on remediation measures, but it is the sole responsibility of the polluter and land owner to provide adequate site remediation.  
(See Environmental Protection Act in Appendix)***

## **2 Defining The Problem**

If you think you have contamination on your property, the first step is to do a thorough site investigation. A thorough investigation may avert unnecessary remediation costs. Depending on the degree and complexity of the contamination, you may require the assistance of a qualified environmental consultant or engineer.

Ask yourself the following questions:

### **2.1 What is the History of the Site?**

Thorough historical research will aid in identifying and locating the contaminant(s). It may also aid in assessing responsibility for the contamination. Consider the following:

- Is the site near an existing tank farm, fuel storage area or other contaminant storage site?
- Is it near where a tank farm or fuel storage site previously existed?
- Has there ever been a spill on or near the property?

### **2.2 What is the Contaminant?**

It is essential to identify the contaminant, in order to determine suitable remediation options.

- Common contaminants in Nunavut are diesel fuel, turbo, fuel, gasoline and used oil.
- You should take representative samples with the assistance of an accredited laboratory.

## 2.3 What is the Degree of Contamination?

Consider the following:

- What is the length, width and depth of the contaminated area?
- What is the soil type?
- Where is the surface and ground water?
- What is the type of permafrost, if any? Is it saturated, unsaturated, continuous or discontinuous permafrost?

## 2.4 What are the Possible Impacts?

Remember that this contaminated site may affect many people and other living organisms. Determine both the pathway of contamination and all possible receptors of contamination.

Consider the following:

- How did the contamination enter the site?
- Did it enter the ground water?
- Will it affect people through either toxic vapors or soil contamination?
- Could there be any effects on vegetation, wildlife or domestic animals?
- How will the contamination affect adjacent sites?
- What will the site be used for in the future?
- Are there any special factors relating to public use of the area?
- Is it commercial, agricultural or residential land? (Section 2.4.1)

### 2.4.1 Land Use

Identifying the type of land use will help you assess the extent of human and ecological exposure to contaminants in the soil, and is essential for planning practical remediation programs. The specified land uses considered in this guideline are: agricultural, residential/parkland and commercial/industrial.

#### ***Agricultural***

All uses of land where the activity is primarily related to the productive capability of the land or facility (e.g. greenhouse) and is agricultural in nature, or is related to the feeding and housing of animals such as livestock.

#### ***Residential/ Parkland***

Residential: all uses of land in which dwelling on a permanent, temporary or seasonal basis is the primary activity. Institutions, hospitals, schools, daycare and playgrounds are also indicated under this land use. Residential/Parkland is often readily accessible to the public.

Parkland: all land uses in which the primary activity is recreational in nature and requires the natural or human designed capability of the land to sustain that activity.

#### ***Commercial***

All uses of land in which the primary activity is related to the buying, selling or trading of merchandise or services.

#### ***Industrial***

All land uses in which the primary activity is related to the production, manufacture or storage of materials. The public does not usually have uncontrolled access to this type of land. This does not include institutions

(e.g. schools, hospitals, playgrounds).

***Always confirm the required level of remediation with EPS. The type of land found adjacent to the contaminated site may affect the remediation criteria levels that you have to follow.***

### 3 Remediation

Once the problem has been defined (section 2), you can decide on the appropriate remediation options. If you have hired a qualified contractor, they may recommend remediation options to you. General remediation categories include:

**On-site/Off-site** Will your remediation be on or off-site? Techniques will vary accordingly.

**On-site treatment** The soil must meet the remediation criteria (section 4).

**Off-site treatment** Merely moving the spill to a landfill facility is not acceptable. After moving the soil to an acceptable location, you must contain the contaminants, and then treat the soil or water to reduce the contamination to an acceptable level (section 4).

**Groundwater** Contaminated groundwater may require treatment. A qualified contractor can advise you on the available options.

#### 3.1 Remediation Guidelines

Remediation in Nunavut is guideline based. The required degree of remediation is determined by CCME 1991 Interim Criteria, CCME 1997 Recommended Canadian Soil Quality Guidelines and the Environmental Protection Service.

Remediation Guidelines for Soil				
	Agricultural	Residential/ Parkland	Commercial	Industrial
Benzene	0.05	0.5	5	5
Toluene	0.1	0.8	0.8	0.8
Ethylbenzene	0.1	1.2	20	20
Xylene	0.1	1	17	20
Total Petroleum Hydrocarbons (TPH)*	-	500**	2500**	2500**
Lead	70	140	260	400
Polychlorinated biphenyl	0.5***	5***	50***	50***

Note: All values are in µg/g or parts per million (ppm). These are the more commonly required parameters. The type of contamination at the site may require analysis for additional CCME parameters.

- \* Total petroleum hydrocarbons (includes total purgeable and total extractable hydrocarbons).
- \*\* The TPH guidelines were developed by the Government of the Northwest Territories (GNWT)
- \*\*\* CCME 1991 Interim Criteria (note: 1998 PCB Soil Quality Guidelines are currently under development).

The chart below may help you to visualize the amount of contaminant it would take to create a level of 1000 PPM. Remember that 1000 PPM is a much greater level than many of the acceptable remediation criteria levels listed above.

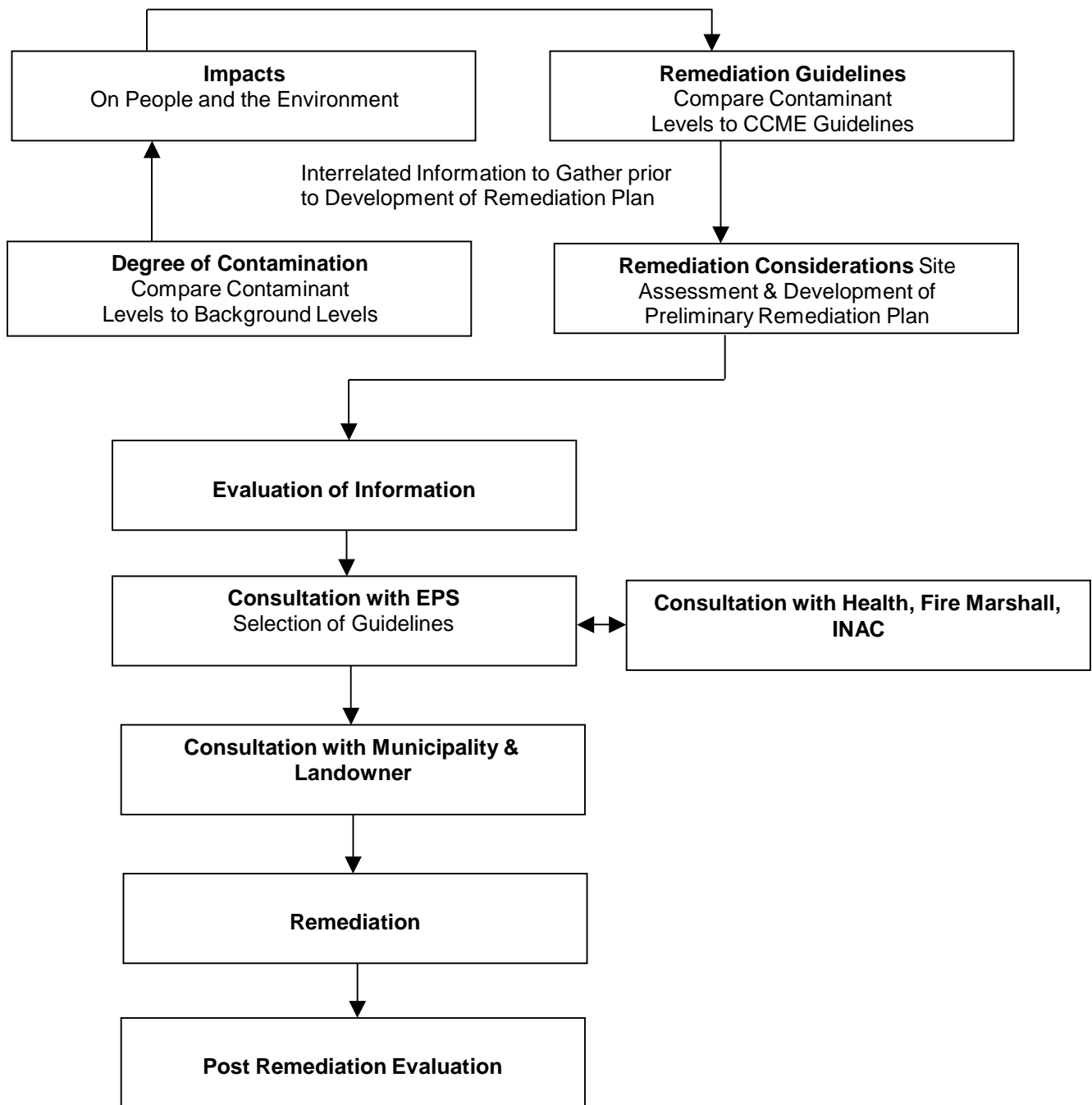
<b><i>Amount of Soil and Gasoline Creating a Level of 1000 PPM</i></b>	
<b><i>Volume of Soil</i></b>	<b><i>Volume of Gasoline</i></b>
5g (typical amount used for chemical analysis)/1 tsp.	.005 ml/ 1/1000 tsp.
4.5 litres/1 gallon bucket	7.5 ml /1.5 tsp.
205 litres/45 gallon drum	400 ml /1 3/4 cups
18,5976 kg/410,000lb (or 140 yd <sup>3</sup> , enough to fill a living room that is 10 x 19 x 19 ft.)	205 litres/45 gallon drum

### 3.2 Decision Considerations

The following should be considered when making your final decision:

<b><i>Guidelines</i></b>	(section 3.1).
<b><i>Permission</i></b>	You must obtain permission from the local municipality or landlord before using any of their facilities, such as the landfill site or the sewage lagoon.
<b><i>Time required</i></b>	How long will the remediation take?
<b><i>Cost</i></b>	Is your remediation plan cost effective?
<b><i>Aesthetics</i></b>	Does your plan restore the area to an acceptable level of aesthetic quality?
<b><i>Technology</i></b>	How effective is the technology being considered?





**Figure 1: Steps Used in Site Remediation**

## 4 Conclusion

This is a brief introduction to the process of contaminated site remediation.

For more information:

- 1) Read CCME 1997 Recommended Canadian Soil Quality Guidelines report (see References).
- 2) Contact the Environmental Protection Service  
Department of Sustainable Development  
P.O. Box 1000, Station 1195  
Iqaluit, Nunavut, X0A 0H0  
Phone: (867) 975-5900; Fax: (867) 975-5990

***Remember that this document is intended to inform you about some of the basic issues involved in contaminated site remediation. Once you have read this document and verified that you have a contaminated site, you must contact the Environmental Protection Service. You should work with EPS before proceeding through the site remediation process.***

## 5 Bibliography

CCME (Canadian Council of Ministers of the Environment). 1991 Interim Canadian Environmental Quality Criteria for Contaminated Sites. The National Contaminated Sites Remediation Program, Report No. CCME EPC-CS34. Winnipeg, Manitoba.

CCME (Canadian Council of Ministers of the Environment). 1997 Recommended Canadian Soil Quality Guidelines. ISBN 1-895-925-92-4. Winnipeg, Manitoba.

## **APPENDIX**

### ***Environmental Protection Act***

The following is a subset of the *Environmental Protection Act*. The complete act can be obtained from any office of the Department of Sustainable Development.

**1.** In this Act,

“Contaminant” means any noise, heat, vibration or substance and includes such other substances as the Minister may prescribe that, where discharged into the environment,

- (a) endangers the health, safety or welfare of persons,
- (b) interferes or is likely to interfere with normal enjoyment of life or property,
- (c) endangers the health of animal life, or
- (d) causes or is likely to cause damage to plant life or to property.

“Discharge” includes, but not so as to limit the meaning, any pumping, pouring, throwing, dumping, emitting, burning, spraying, spreading, leaking, spilling, or escaping.

“Environment” means the components of the Earth and includes:

- (a) air, land and water,
- (b) all layers of the atmosphere,
- (c) all organic and inorganic matter and living organisms, and
- (d) the interacting natural systems that include components referred to in paragraphs (a) to (c).

**2.2** The Minister may

- (a) establish, operate and maintain stations to monitor the quality of the environment in the Territories;
- (b) conduct research studies, conferences and training programs relating to contaminants and to the preservation, protection or enhancement of the environment;
- (c) develop, co-ordinate and administer policies, standards, guidelines and codes of practice relating to the preservation, protection or enhancement of the environment.

**5.** (1) Subject to subsection (3), no person shall discharge or permit the discharge of a contaminant into the environment.

(2) REPEALED, R.S.N.W.T. 1988, c. 117 (Supp.), s. 8

(3) Subsection (1) does not apply where the person who discharged the contaminant or permitted the discharge of the contaminant establishes that:

- (a) the discharge is authorized by this Act or the regulations or by an order issued under this Act or the regulations;
- (b) the contaminant has been used solely for domestic purposes and was discharged from within a dwelling-house;
- (c) the contaminant was discharged from the exhaust system of a vehicle;
- (d) the discharge of the contaminant resulted from the burning leaves, foliage, wood, crops or stubble for domestic or agricultural purposes;

- (e) the discharge of the contaminant resulted from burring for land clearing or land grading;
- (f) the discharge of the contaminant resulted from a fire set by a public official for habitat management of silviculture purposes;
- (g) the contaminant was discharged for the purposes of combating a forest fire;
- (h) the contaminant is a soil particle or grit discharged in the course of agriculture or horticulture; or
- (i) the contaminant is a pesticide classified and labeled as domestic under the *Pest Control Products Regulations* (Canada).

- (4)** The exceptions set out in subsection (3) do not apply where a person discharges a contaminant that the inspector has reasonable grounds to believe is not usually associated with a discharge from the excepted activity. R.S.N.W.T. 1988, c. 75 (Supp.) S. 5; c. 117 (Supp.), s. 8.

**5.1** Where a discharge of a contaminant into the environment in contravention of this Act or the regulations or the provisions of a permit or license issued under the Act or the regulations occurs or a reasonable likelihood of such a discharge exists, every person causing or contributing to the discharge or increasing the likelihood of such a discharge, and the owner or the person in charge, management or control of the contaminant before its discharge or likely discharge, shall immediately:

- (a) subject to any regulations, report the discharge or likely discharge to the person or office designated by the regulations;
- (b) take all reasonable measures consistent with public safety to stop the discharge, repair any damage caused by the discharge and prevent or eliminate any danger to life, health, property or the environment that results or may be reasonably expected to result from the discharge or likely discharge; and
- (c) make a reasonable effort to notify every member of the public who may be adversely affected by the discharge or likely discharge. R.S.N.W.T. 1988, c. 75 (Supp.), s. 5; c. 117 (Supp.), s. 9.

**6. (1)** Where an inspector believes on reasonable grounds that a discharge of a contaminant in contravention of this Act or the regulations or a provision of a permit or license issued under this Act or the regulations has occurred or is occurring, the inspector may issue an order requiring any person causing or contributing to the discharge or the owner or the person in charge, management or control of the contaminant to stop the discharge by the date named in the order.

**7. (1)** Notwithstanding section 6, where a person discharges or permits the discharge of a contaminant into the environment, an inspector may order that person to repair or remedy an injury or damage to the environment that results from the discharge.

**(2)** Where a person fails or neglects to repair or remedy any injury or damage to the environment in accordance with an order made under subsection (1) or where immediate remedial measures are required to protect the environment, the Chief Environmental Protection Officer may cause to be carried out the measures that he or she considers necessary to repair or remedy an injury or damage to the environment that results from any discharge.

If you would like to be placed on a mailing list to receive guideline amendments or for public consultation on Environmental Protection Service legislation please fill this out and mail or fax to:

Environmental Protection Service  
Department of Sustainable Development  
P.O. Box 1000, Station 1195  
Iqaluit, Nunavut, X0A 0H0  
Fax: (867) 979-5990

Users of this guide are encouraged to report any errors, misspellings, etc. contained within, to EPS at the above address

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