Englobe
Soils Materials Environment

Public Works and Government Services Canada

CAM-C Site Remediation
Matheson Point, Nunavut
(Ref.: EW699-172531)

Site-specific Health and Safety Plan

Section 4 - Spill Contingency Plan

Date: April 2017
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1 INTRODUCTION AND PROJECT DETAILS

1.1 COMPANY NAME, LOCATION AND MAILING ADDRESS

Englobe Corp. (Englobe)

1200 Saint-Martin Blvd. West, Suite 400

Laval, Quebec H7S 2E4

Phone: (450) 961-3535 Fax (450) 961-0220

Email: alexandre.leclair@englobecorp.com

Attention: Alexandre Leclair, Project Manager - Environmental Engineering Northern Canada

1.2 EFFECTIVE DATE OF SPILL CONTINGENCY PLAN AND REVISION

The effective date of the Spill Contingency Plan will be August 2017.

1.3 DISTRIBUTION LIST

This plan and its most recent revisions have been distributed to the following people:

- Alexandre Leclair, Project Manager - Northern Canada, Englobe
- Guillaume Robert, Department Director - Northern Canada, Englobe
- Brandon Mackay, Site Superintendent - Northern Canada, Englobe
- Luc Dussault, Off-site Health and Safety Coordinator - Englobe
- Caitlin Moore, P.Eng., Environmental Services and Contaminated Sites Management - Public Works and Government Services Canada (PWGSC)
- Dele Morakinyo, Project Manager, Contaminated Sites Program - Indigenous and Northern Affairs Canada (INAC)

1.4 PURPOSE AND SCOPE

This plan has been developed to provide a procedure for responding to spills of any size that may occur during the Environmental Site Remediation at CAM-C Matheson Point, Nunavut. This plan identifies:

- The roles and responsibilities of key response personnel in regards to spill response.
- Resources available to respond to a spill.
- Spill response procedures.

This plan seeks to minimize potential health and safety hazards, as well as damage to the environment while providing required time to respond to any spill quickly and efficiently.

1.5 COMPANY ENVIRONMENTAL POLICY

Please refer to Appendix A for Englobe's Environmental policy.

1.6 SITE DESCRIPTION

CAM-C Matheson Point is a former Intermediate Distant Early Warning (DEW) Line radar station constructed in the 1950s by the United States Air Force (USAF) and was subsequently abandoned in 1963. Responsibility for the site was assumed by the Department of Indian Affairs and Northern Development (DIAND), now Indigenous and Northern Affairs Canada (INAC), in 1965. The site is located on the southeast coast of King William Island, with access to Rae Strait in the Gulf of Boothia, at 68.819ºN, 95.289ºW.

The site is littered with debris both hazardous and non-hazardous in nature, containing soil contaminated with polychlorinated biphenyls (PCBs), metals as well as hydrocarbons, including areas of buried debris, among others.

Please refer to Appendix B for the proposed location of fuel storage areas and the camp facility location.

Environmentally sensitive areas will be identified during the site visit and after mobilization.

1.7 PROJECT DESCRIPTION

This project includes the remediation of the former DEW Line Site CAM-C Matheson Point, Nunavut. The scope of work for this project includes the following:

- Documentation
  - Prepare and submit all documents outlined in the specifications.
- Mobilization and Demobilization
  - Mobilize and demobilize all resources required to complete the work (equipment, manpower, Departmental Representative [DR], accommodations, food, etc.) to and from the site. Demobilization also includes the transport (marine and ground) of all hazardous waste, non-hazardous waste and untreatable soil for southern disposal.
- Camp Operation
  - Provide lodging and all camp services for the workforce and the DR until the completion of the project.
- Upgrading of Site Infrastructure
  - Upgrade the roads to provide access to areas of work in a safe and timely manner. Perform regular maintenance to maintain integrity of site roads.
- Surveying
  - Complete survey requirements including but not limited to establishing temporary control points and volume calculations for excavated and regraded areas. Surveying will be performed by a qualified third party.

- Civil Works
  - Construct a Soil Treatment Facility for the onsite treatment of Type B contaminated soil originating from soil and buried debris excavations.
- Non-Hazardous Waste
  - Incinerate all non-hazardous, unpainted, and untreated wood on-site; and,
  - Collect all non-hazardous waste that cannot be incinerated and transport it offsite for disposal.
- Contaminated Soil
  - Excavate, containerize and transport approximately 140 m^3 of Tier I, Tier II and/or Type A PHC contaminated soil offsite for disposal; and,
  - Excavate and transport approximately 840 m^3 of Type B PHC contaminated soil to the Soil Treatment Facility for onsite treatment.
- Buried Debris
  - Excavate, segregate, and dispose offsite all buried debris according to waste stream. The debris will be segregated to sort barrels, asbestos-containing material, creosote-treated timber, non-hazardous debris, hazardous or potentially hazardous debris, etc. It will be piled accordingly until final off site transport and disposal.
- Hazardous Waste
  - Remove, segregate and containerize hazardous waste from buried debris excavations and debris areas. All work to be performed in accordance with site health and safety procedures as well as Transportation of Dangerous Goods (TDG) regulations and dispose of these wastes at the appropriate off-site disposal facility;
  - Construct and operate a Hazardous Waste Processing Area; and,
  - Construct a Temporary Waste Storage Area (TWSA) for containerized hazardous material gathered from site, until it is shipped south via sealift for disposal.
- Debris Area
  - Remove, segregate, and package for off-site disposal hazardous materials and non-hazardous debris including barrels; and,
  - Incinerate unpainted wood debris and applicable barrel contents on-site.
- Demolition
  - Demolish felled communication tower and transport it south for disposal.
- Site Barrels
  - Collect, segregate, clean barrels and dispose of their contents at the appropriate off-site disposal facility and/or on-site treatment or incineration.

- Other
  - Reshape work areas to be consistent with the surrounding topography and promote positive drainage;
  - Complete potential additional work as per request of the DR; and,
  - Establish staging areas and TWSA.
- Benefits to the Inuit of the Nunavut Settlement Areas: Inuit employment will be maximized, and contractors and firms from Nunavut recognized by Nunavut Tunngavik Inc. (NTI).

1.8 INVENTORY OF MATERIALS OF CONCERN ON-SITE

Table 1 below details the quantities of all materials of concern that will be on-site in large quantities.

Table 1: Estimated Volumes of Materials of Concern

MATERIAL	STORAGE CONTAINER	MAXIMUM ON-SITE	USE	STORAGE LOCATION
Diesel Fuel	205 L Drum	99,220 L (484 drums)	Power equipment and camp generators	To be confirmed once mobilized to site
Gasoline	205 L Drums	6,650 L (32 drums)	ATVs and pumps	To be confirmed once mobilized to site
Acetylene	45 kg Cylinders	225 kg (5 cylinders)	Welding	To be confirmed once mobilized to site
Propane	45 kg Cylinders	225 kg (5 cylinders)	Camp operation	To be confirmed once mobilized to site
Oxygen	45 kg Cylinders	45 kg (1 cylinder) 14 kg (2 cylinders)	Welding Medical use	To be confirmed once mobilized to site
Anti-freeze	205 L Drum	205 L (1 drum)	Equipment maintenance and repair	To be confirmed once mobilized to site
Brake cleaner	20 L container	20 L (1 container)	Equipment maintenance and repair	To be confirmed once mobilized to site
10 W 40 Oil	205 L Drum	205 L (1 drum)	Equipment maintenance and repair	To be confirmed once mobilized to site
15 W 40 Oil	205 L Drum	205 L (1 drum)	Equipment maintenance and repair	To be confirmed once mobilized to site

Diesel and gasoline will be stored in Insta-Berm containment devices, refer to Appendix B for the proposed storage areas of these materials. Propane cylinders will be stored adjacent to the garage in appropriate cages.

The following fuel storage tanks will be used on-site:

- Two 150-gallon tanks mounted on pick-up trucks for refuelling equipment.
- One 2,500-gallon tank used for camp generator.

The specifications for these tanks are presented in Appendix C.

Materials of concern that will be present on-site in very small quantities (<20 L) include kitchen and cleaning supplies, lubricants for machinery. Waste oil will be incinerated on-site.

Material Safety Data Sheets (MSDS) of the materials included in Table 1 are available in Appendix D.

1.9 EXISTING PREVENTIVE MEASURES

Appropriate Personal Protective Equipment (PPE) will be used while handling all materials of concern. Spill kits will be present at all fuel storage areas and at strategic locations on-site (locations to be determined). Drip trays will be used during refuelling operations, and the site fuel person will complete regular inspections of fuel caches to identify any areas of concern. Routine maintenance will be performed by the site mechanics to help prevent leaks of lubricants or fuel.

1.10 ADDITIONAL COPIES OF THE SPILL CONTINGENCY PLAN

Additional copies of the Spill Contingency Plan can be obtained by contacting Alexandre Leclair at the phone number and email address in Section 1.1.

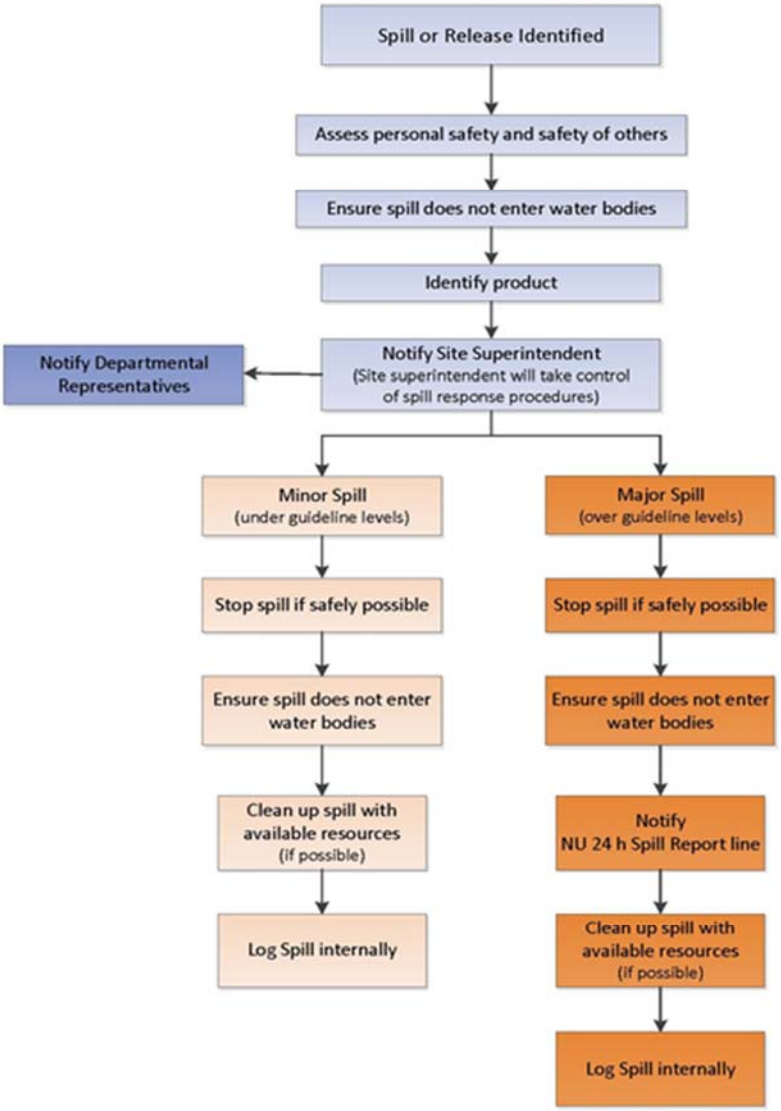
1.11 MEDIA AND PUBLIC INQUIRIES

All media and public enquiries are to be made to Alexandre Leclair.

2 RESPONSE ORGANIZATION AND ACTION PLAN

In the event of a spill the flow chart depicted on Figure 1 below is to be followed. A major spill is defined as a release of a substance that is above the guidelines set in Appendix E (from the *Guideline for Spill Contingency Planning*, prepared by the Water Resource Division Indigenous and Northern Affairs Canada, April 2007) and must be reported immediately to the Nunavut Spill Report Line (867) 920-8130. The office phone can be used for contacting the required authorities. A blank fuel report is included in Appendix F.

Figure 1: Response Organization



2.1 POTENTIAL SPILL SIZES, SOURCES AND ENVIRONMENTAL IMPACTS

Table 2 below details potential spill events, sources and environmental impact. This section will be finalized as quantities and locations of materials of concern are finalized.

Table 2: Potential Spill Events

MATERIAL	POTENTIAL DISCHARGE EVENT	DISCHARGE VOLUME	DIRECTION OF POTENTIAL DISCHARGE	POTENTIAL ENVIRONMENTAL IMPACT
Diesel Fuel	1. Overfilling of equipment 2. Leaking from equipment 3. Leaking fuel lines for camp generator 4. Punctured drum 5. All drums punctured (Worst-case)	Likely <205 L Worst-case 300,000 L - very unlikely	TBD	May be harmful to animal and plant life. Not readily biodegradable. Must not be allowed to enter water bodies. Have means to clean and treat spills on site.
Gasoline	1. Overfilling of vehicle 2. Punctured drum 3. Leaking fuel hose 4. All drums punctured 5. (Worst-case)	Likely <205 L	TBD	May be harmful to animal and plant life. Not readily biodegradable. Must not be allowed to enter water bodies. Have means to clean and treat spills on site.
Acetylene	1. Faulty connection 2. Punctured cylinder	Likely <45 kg Worst-case 225 kg	TBD	Explosive properties are of most concern.
Propane	1. Faulty connection 2. Punctured cylinder	Likely <45 kg	N/A	Explosive properties are of most concern.

2.2 PROCEDURES

In the event of a spill, the first person noticing the incident shall:

- Assess personal safety and safety of others.
- Identify the product.
- Isolate or eliminate all sources of ignition and identify the spilled material, if possible.
- If possible, stop the source of the spill.
- Warn people, isolate and/or evacuate the area, as necessary.
- Report the following to the Site Superintendent:
  - the location of the spill;
  - the known or suspected time of the spill;
  - the substance spilled;
  - the estimated volume spilled;

- the cause of the spill; and,
- the flow direction of the spill;

- Ensure adequate use of spill response equipment.
- Contact Nunavut Spill Hotline.
- Document all events and measures taken.

Depending on the physical location of the spill, specific supplemental precautions will be taken with regards to the spill response procedures.

- ***On Land***
  - Prevent dispersion in drainage system and ditch;
  - Contain material with sorbent booms, dyke of snow or earth; and,
  - Remove small spills with sorbent pads and dig by hand the impacted soil.
- ***Muskeg***
  - Ensure integrity of marsh or vegetation;
  - Remove free-phase product with pumps and skimmer and low pressure point equipment; and,
  - Minimize damage caused by equipment.
- ***Snow and Ice***
  - Prevent dispersion into waterways by containment with snow or other material;
  - If necessary, pump water surface to recover diesel under ice; and,
  - Remove minor spills with sorbent pads.
- ***On Water***
  - Contain spill as close to release point as possible;
  - Use sorbent booms to contain free-phase product;
  - Use skimmer or sorbent pads to recover free-phase product; and,
  - Do not deploy personnel or equipment on wetlands.

Verbal notice to DR will be given immediately or as soon as possible in the event of a moderate or higher level spill.

The DR will be consulted on how to best remediate the area affected by the spill.

3 RESOURCE INVENTORY

The resource inventory will be finalized prior to mobilization to site. An inventory of the proposed remediation supplies has been included in Appendix G.

4 TRAINING PROGRAM

During the Worker Orientation Seminar (WOS) in which all site personnel are required to participate, the Spill Contingency Plan, the Emergency Response Plan and the location of all spill response resources will be reviewed. Site personnel will also be shown the contents of a spill kit and the function of the contents will be explained.