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September 9, 2010

Sent by email: licensing@nunavutwaterboard.org

Phyllis Beaulieu
Manager of Licensing
Nunavut Water Board
P.O. Box 119

Dear Ms Beaulieu:

Project No: 60149115

Regarding: Water Board Licence No. 1BR-SIM0813
Revised Spill Contingency Plan – CAM-D Environmental Site Remediation

On the behalf of Indian and Northern Affairs Canada (INAC), as per the general conditions of the Nunavut Water Board Licence No. 1BR-SIM0813 Amendment No.1 (Part H), I would like to provide you a copy of the revised Spill Contingency Plan for the CAM-D DEW Line Environmental Remediation project. It is believed that the revised plan addresses concerns outlined in Amendment No. 1.

If you have any questions or require any additional information please contact me by email at greg.wright@aecom.com.

Sincerely,
AECOM Canada Ltd.

Greg Wright
Departmental Representative
CAM-D Environmental Site Remediation Project
greg.wright@aecom.com

MZ
Encl.
cc: Dele Morakinyo (INAC), Matthew McElwaine (PWGSC), Mike Zimmel (AECOM), François Bourassa (Kudlik)

Kudlik Construction Ltd.
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SPILL CONTENGENCY PLAN

CAM-D DEW Line Environmental Remediation

SIMPSON LAKE, NUNAVUT

Presented to

Public Works and Government Services Canada

Review: August 2010

KUDLIK CONSTRUCTION LTD.
P.O. BOX 727, 1519 FEDERAL ROAD
IQALUIT, NUNAVUT

SPILL CONTENGENCY PLAN

CAM-D DEW Line Environmental Remediation

SIMPSON LAKE, NUNAVUT

Prepared by :

François Bourassa, P. Eng.
Project Manager
Kudlik Construction Ltd.

August 2010

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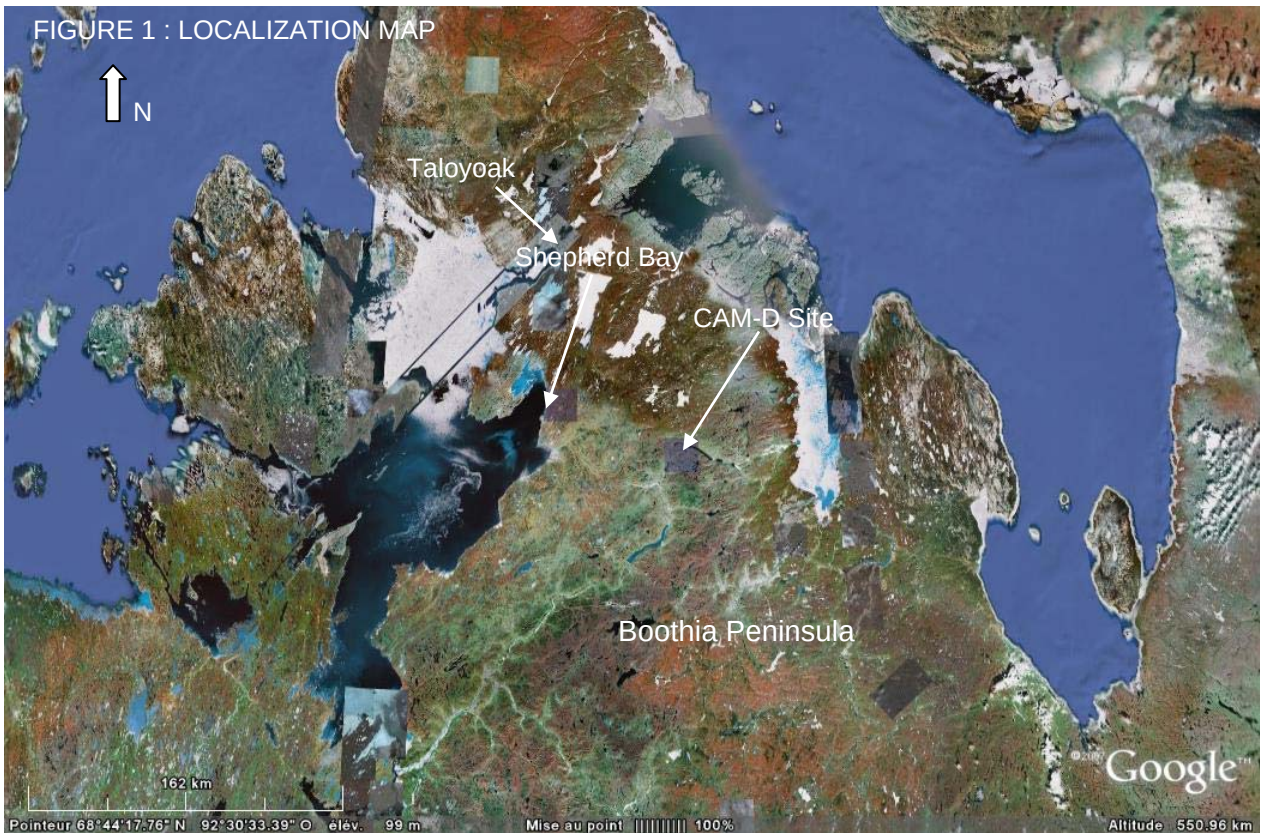
1. INTRODUCTION

The purpose of this document is to present the spill contingency plan for petroleum products elaborated for the remediation of the CAM-D DEW Line site. CAM-D is located in the middle of the Boothia Peninsula (Nunavut), approximately 4.5 km south of Simpson Lake and approximately 120 km southwest of Taloyoak (Spence Bay) in Nunavut.

The remediation project was awarded to Kudlik Construction Ltd. in December 2008. In August 2009, heavy equipments, camp facilities, material and all consumables were delivered by sealift to Shepherd Bay, located about 100 km northwest of CAM-D. Nearby the beach landing area, a camp was installed on INAC property in order to support further mobilization activities: All equipment, material and consumables required to achieve the remediation project at CAM-D must be transported by CAT train during the spring 2010 from Shepherd Bay to CAM-D.

This spill contingency plan is covering the storage and the manipulations of consumables (diesel, gasoline and lubricants) at Shepherd Bay, their transport and storage to CAM-D. This plan is effective from March 2010 and until the end of the contract, in September 2012.



2. SHEPHERD BAY

2.1 STORAGE

The camp facility and the staging area were established on an INAC property located nearby the CAM-3 property limits, as indicated on figure 2. The following consumables were stored on site:

- Arctic Diesel: 600,240 litres stored in 2,928 drums
- Gasoline: 16,400 litres stored in 80 drums
- Engine oil 15W-40: 7,380 litres in 36 drums
- Transmission fluid 30: 1,230 litres in 6 drums
- Transmission fluid Dextron: 820 litres in 4 drums
- Hydraulic fluid 10W: 5,740 litres in 28 drums
- Gear oil 80W-90: 1,230 litres in 6 drums

Since April 2010, all consumables above described, except 900 arctic diesel drums, were transported to CAM-D.

The arctic diesel is a blend of 95% of kerosene and 5% of ultra low sulphur diesel (ULSD). Two additives, Hitec 4858 and Hitec 4153, were added in order to increase the product performance in extreme cold temperatures. Material safety data sheets are presented in Appendix 1.

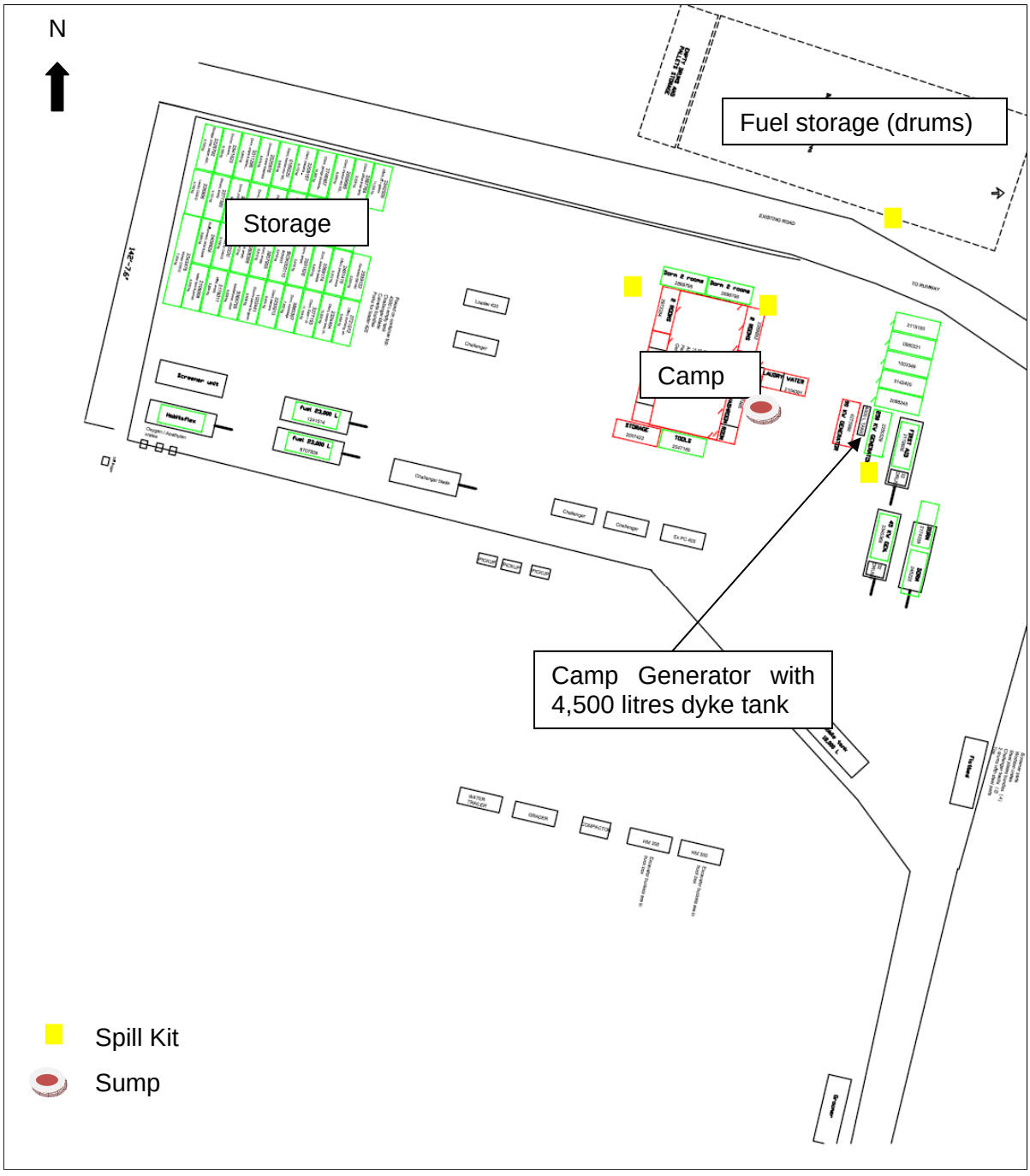
The diesel and gasoline storage area is located on a previously disturbed area covered with sand and gravel. No lakes or streams are located within 30 meters of this area. In accordance with the land use permit N2008X0004, no liner was installed on the drum storage area. However, as a precaution, a dyke was excavated around the area. All drums are identified as follow: Kudlik Construction, Shepherd Bay. All drums are strapped four by four on a wooden pallet. The pallets are stacked two rows high.

Regarding oils and lubricants, barrels are stored in four (4) 20ft marine containers identified as follow: 3277153, 2324464, 2242005 and 2088245.

The camp generator is connected to a 4,000 litres aboveground horizontal dyke tank (ULC-S653).


FIGURE 2 : Camp Facilities at Shepherd Bay
N
DND PROPERTY
(CAM-3)
INAAC PROPERTY
FUEL AND GASOLINE STORAGE AREA
68° 47' 46'' N 93° 37' 11'' O
STAGING AREA
398 m
Pointeur 68°47'54.75" N 93°36'44.91" O élév. 0 m
Mise au point 100%
Altitude 1.37 km
©2007 Google

FIGURE 3: Shepherd Bay Camp layout



2.2 RESPONSE AND CLEANUP EQUIPMENT

Four (4) complete emergency spill kits are stored nearby the garage door, at the fuel storage area and nearby the generator. Each kit is made of the following items and stored into three pre-identified 45 gallons steel drums:

- 5 Tyveck coveralls
- 10 pairs of disposable gloves
- 2 x 100 absorbent pad packs
- 1 x 20kg granular absorbent bag
- 4 x 2" diam. Floating absorbent booms
- 10 yellow storage bags
- One shovel

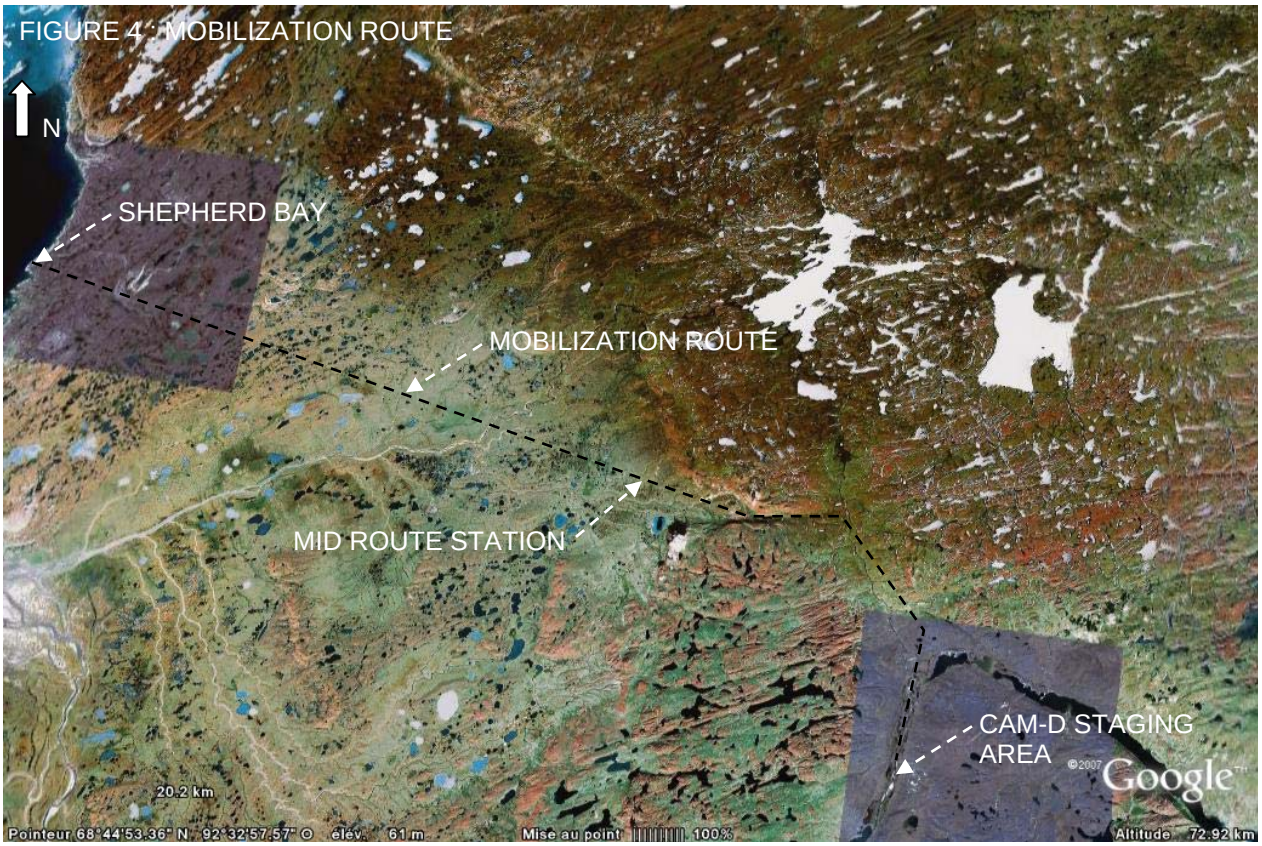
One (1) mobile tank mounted on an off road trailer is present on site. This tank has four (4) individual compartments, each having a capacity less than 4,000 litres. The total load capacity of the mobile tank is 18,000 litres. The tank is equipped with a vacuum pump and a suction pipe. It will be mainly used to pump out the diesel from each barrel in order to refuel the heavy equipments and vehicles during the mobilization and during the cleanup activities. The mobile tank is also part of our spill response equipment. In the event of a major spill, the mobile tank can be used to remove the liquid on the ground surface.

Fuel and gas electric pumps, hoses and fittings and portable generators are stored in the marine container #2047185. All environmental supplies for the entire cleanup project, including a large inventory of hydrocarbon absorbents and emergency spill material are stored in the marine container #2541623. These two containers will be transported from Shepherd Bay to CAM-D only at the end of the mobilization.

3. TRANSPORTATION

During the spring 2010, marine containers, camp facilities heavy equipments and consumables will be transported from Shepherd Bay to CAM-D. About 1,400 drums of arctic diesel and 60 drums of gasoline will be transported on sleighs pulled by tractors. The drums will unloaded and stored at CAM-D, as indicated in the following section. Each tractor is equipped with is own spill kit. Furthermore, sleighs loaded with diesel and gasoline barrels will be equipped with the following spill kit:

- 3 empty 45 gallons steel drums
- 5 Tyveck coveralls
- 10 pairs of disposable gloves
- 2 x 100 absorbent pads packs
- 1 x 20kg granular absorbent bag
- 4 x 2" diam. Floating absorbent boom
- 10 yellow storage bags
- One shovel
- One 12 volts diesel pump
- One gasoline manual pump



In order to refuel tractors during the mobilization, two (2) mobile tanks (IMO-1) installed on sleighs will be used. Both tanks have a maximum capacity of 23,000 litres. Each tanks is equipped with is own dispensing system. One will be parked temporary at CAM-D, nearby the staging area, and the other one will be parked temporary ad mid-route, as indicated on figure 4. Spill kits will be left beside each tank. It the event of a major spill, the third mobile tank described in the previous section will be used.

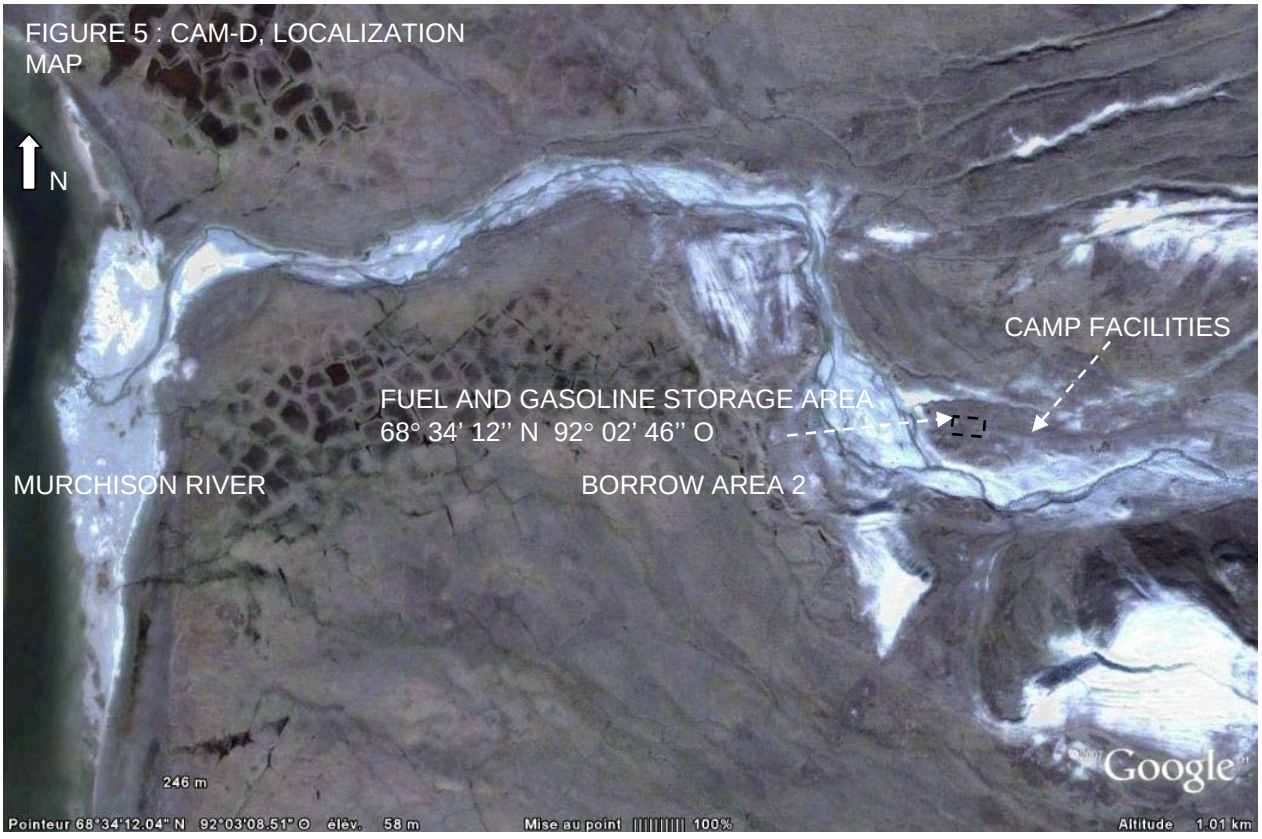
4. CAM-D

Since equipments, camp facilities and consumables are not yet mobilized at CAM-D, this section describes how we are planning to organize the site. An updated version will be issued once the site organization will have been completed.

4.1 STORAGE

The camp facilities and the storage area will be established on an INAC property located nearby the borrow area 2, as indicated on Figure 5. As mentioned previously, about 1400 drums of arctic diesel and 60 drums of gasoline will be stored in this area.

The camp generator will be connected to a 4,000 litres aboveground horizontal dyke tank (ULC-S653).



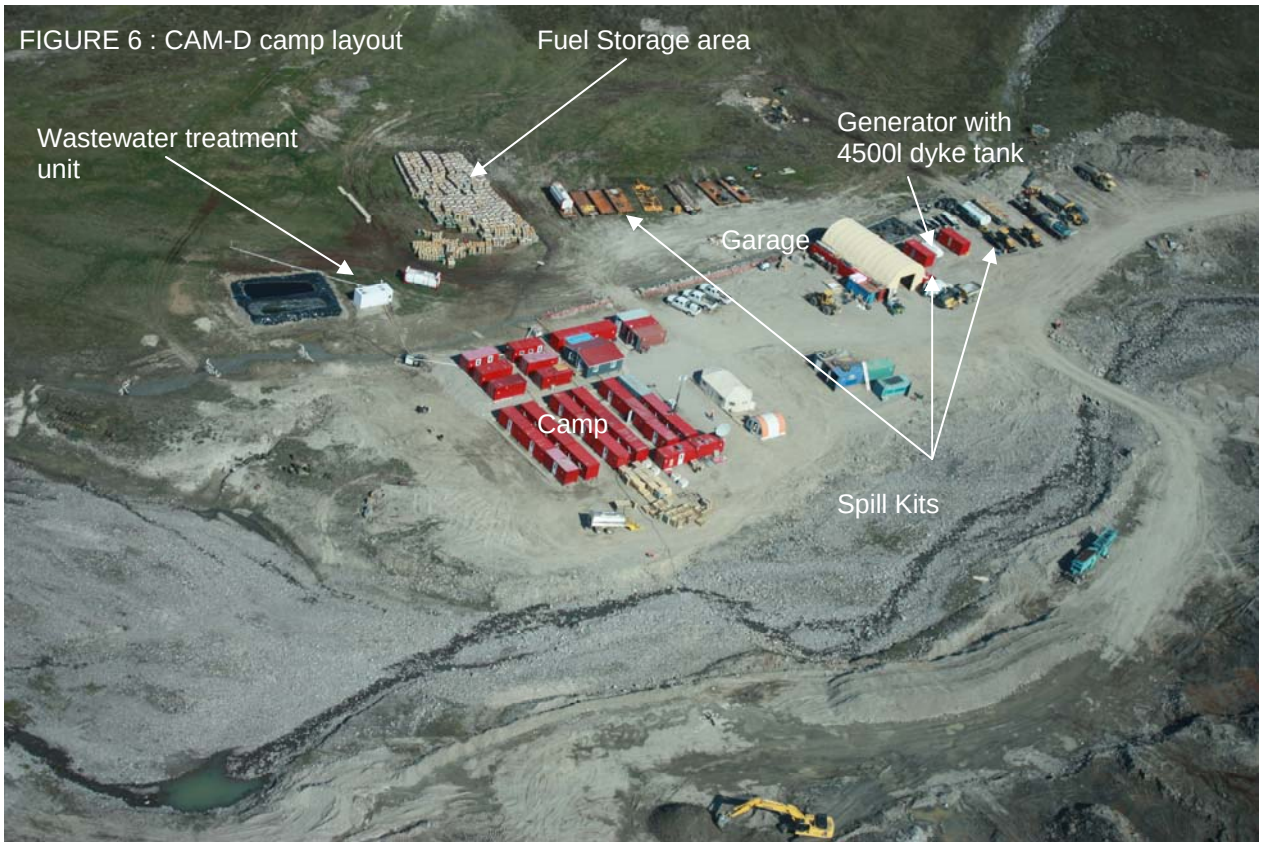


FIGURE 6 : CAM-D camp layout
Fuel Storage area
Wastewater treatment unit
Generator with 4500l dyke tank
Garage
Camp
Spill Kits

4.2 RESPONSE AND CLEANUP EQUIPMENT

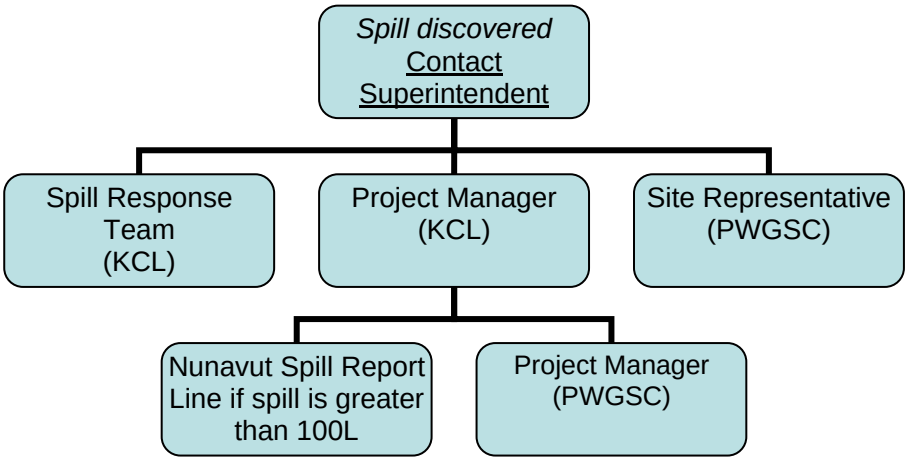
Since all equipment and material will be transported from Shepherd Bay to CAM-D, please refer to the section 2.2 for the description of the spill response equipment.

Please note that all heavy equipments, including three excavators, two loaders and four off road dump truck will be used at CAM-D. In the event of a major spill, heavy equipments will be used to contain de product and to remove the contaminated soils. Storage bags (super bags) having each one a capacity of one cubic meter can be used to store safely soils contaminated with hydrocarbons. Furthermore, a complete contaminated water treatment plant will be also available on site.

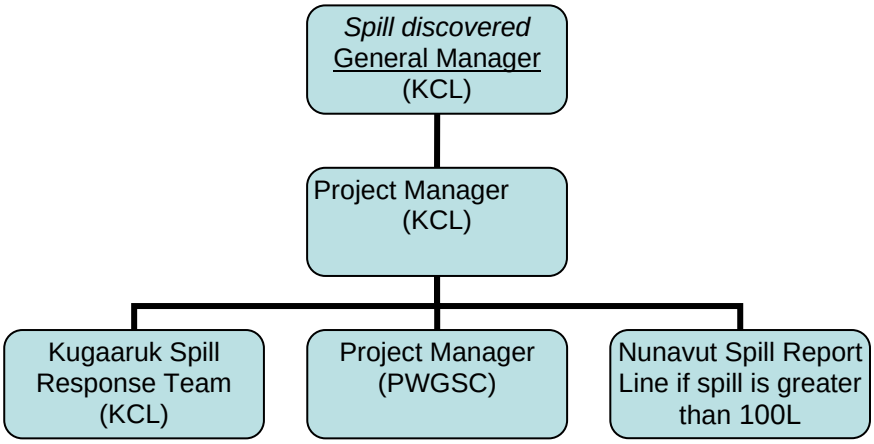
5. PROCEDURES IN CASE OF SPILL

5.1 LINE OF COMMUNICATION

No matter the size of the spill, it must be reported as soon as possible to the site superintendent. The following line of communication must be applied during the mobilization and site works:



During non-working periods, the following line of communication must be applied:



5.2 EMERGENCY PHONE NUMBERS

Kudlik Construction Ltd	Business hours	After hours
Main Office, Iqaluit	(867) 979-1166	
René Déziel, General Manager	(866) 781-0704	(418) 571-8889
François Bourassa, Project Manager	(866) 781-0704	
Staff house, Kugaaruk	(867) 769-7909	(867) 769-7909
Shepherd Bay camp	To be confirmed	
CAM-D camp	To be confirmed	
Satellite Phone #1 (irridium)	001-881-631-649-824	
Satellite Phone #2 (irridium)	001-881-631-649-825	
Satellite Phone #3 (Bgan)	To be confirmed	
PWGSC		
Matthew McElwaine, project manager	(780) 497-3690	(780) 918-6277
RCMP		
Kugaaruk	(867) 769-1111	
Environment		
Nunavut Spill Report Line	(867) 920-8130.	
INAC manager of field operations	(867) 975-4295.	

5.3 GENERAL PROCEDURES

This general procedure is to be followed in the event of a spill. Steps are listed in the order of importance; however, depending on the circumstances, conditions, and potential injuries, this order may need to be altered to meet specific needs.

1. Identify the product spilled and call for help:

Petroleum products on site are arctic diesel, gasoline and lubricants. Advise as soon as possible the site superintendent and call for help when needed.

2. Assessment of dangers and hazards:

Immediate determinations must be made about the direction of the spill's progress, whether downhill, on the ice, towards the water, or already in the water. As well, careful attention will be paid to the full nature of the incident; is this solely a surface contaminant, or are fumes an additional factor; are there any injuries current or possible.

3. Stop the flow at source:

Has the flow been stopped or is it still leaking? Is there an emergency Shut-off valve? Have holes in the container been patched? Is the container empty? PRECAUTION: ONLY ATTEMPT TO STOP THE FLOW IF IT IS SAFE TO DO SO.

4. Take actions to contain the spill:

Prompt containment can reduce environmental exposure and risk. Containment measures may be land or water based. Land based measures include application of sorbents, construction of berms and diversion/collection trenches. Water based measures could include dams, dykes, and floating booms.

5.4 SPECIFIC PROCEDURES FOR DIFFERENT ENVIRONMENTS

The entire mobilization/demobilization will be done on snow or ice while the cleanup activities will be performed during summer. As explained in the following sections, procedures in case of spill vary depending in which environment it occurs.

5.4.1 Spill on land

- Do not flush into ditches or drainage systems.
- Block entry into waterways and contain with earth, snow or other barrier.
- Remove small spills with sorbent pads.
- On tundra, collect as much contamination as possible while to the maximum extent practicable minimizing destruction of the root zone of the tundra grasses.

5.4.2 Spill on ice and snow

- Block entry into waterways and contain with snow or other barrier.
- Remove minor spills with sorbent pads and/or snow.
- Use ice augers and pump to recover diesel under ice.
- Slots in ice can be cut over slow moving water to contain oil.
- Burn accumulated diesel from the surface using Tiger Torches if feasible and safe to do so.

5.4.3 Spill on Muskeg

- Do not deploy personnel and equipment on marsh or vegetation.
- Remove pooled diesel with pumps and skimmers.
- Flush with low pressure water to herd diesel to collection point.
- Burn only in localized areas, e.g., trenches, piles or windrows.
- Do not burn if root systems can be damaged (low water table).
- Minimize damage caused by equipment and excavation.

5.4.4 Spill in water

- Contain spill as close to release point as possible.
- Use spill containment boom to concentrate slicks for recovery.
- On small spills, use sorbent pads to pick up contained oil.
- On larger spills, use skimmer on contained slicks.
- Do not deploy personnel and equipment onto mudflats or into wetlands

5.4.5 Spill in rivers and streams

- Prevent entry into water, if possible, by building berm or trench.
- Intercept moving slicks in quiet areas using (sorbent) booms.
- Do not use sorbent booms/pads in fast currents and turbulent water.

5.5 REPORTING

All spills must be reported to Kudlik management, PWGSC and INAC manager of field operations. For every spill, the attached form “NWT Spill Report” must be filled. Pictures must be taken during and after the cleanup progress. The GPS coordinates of the spill location must be recorded. All information and pictures will be used for the spill report. Any spill grater than 100 litres must be reported the Nunavut 24-hours spill report line (see emergency phone number list). The person reporting the spill shall give as much of the following information as possible. Please note that the operators at the Hotline are NOT spill management experts. They can only relay information to the

appropriate authorities/protection agencies. Reportable information includes but is not limited to the following:

- Date and time of spill;
- Direction spill is moving (or if it has stopped);
- Name and phone number of persons close to the location of the spill;
- Type of contaminant spilled and quantity spilled;
- Cause of spill;
- Whether the spill is continuing or has stopped;
- Description of the existing containment;
- Actions taken to recover, clean-up and dispose of spilled contaminant;
- Name, address and phone number of person reporting the spill;
- Name of person in charge of management or control at time of spill;

6. TRAINING

All employees working on the CAM-D DEW Line Site Cleanup project, including contractors and sub-contractors will have to attempt the worker orientation seminar. Through this seminar, the spill contingency plan will be review and explained to everyone. The employees will be trained in the safe operation of all machinery and tools, as well as in the handling of materials to help prevent and respond to hazardous material spills in a timely and effective manner. Training will also include initial spill response in the event of a spill. The spill response team will be also determined and the member list will be posted.

APPENDIX 1
MATERIAL AND SAFETY DATA SHEETS

Updated MSDS binders are posted on site

APPENDIX 2
NWT Spill Report Form

NT-NU SPILL REPORT

OIL, GASOLINE, CHEMICALS AND OTHER HAZARDOUS MATERIALS

NT-NU 24-HOUR SPILL REPORT LINE
TEL: (867) 920-8130
FAX: (867) 873-6924
EMAIL: spills@gov.nt.ca

REPORT LINE USE ONLY

A	REPORT DATE: MONTH – DAY – YEAR	REPORT TIME	☐ ORIGINAL SPILL REPORT, OR	REPORT NUMBER -
B	OCCURRENCE DATE: MONTH – DAY – YEAR	OCCURRENCE TIME	☐ UPDATE # TO THE ORIGINAL SPILL REPORT	
C	LAND USE PERMIT NUMBER (IF APPLICABLE)	WATER LICENCE NUMBER (IF APPLICABLE)		
D	GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM THE NAMED LOCATION	REGION ☐ NWT ☐ NUNAVUT ☐ ADJACENT JURISDICTION OR		
E	LATITUDE DEGREES MINUTES SECONDS	LONGITUDE DEGREES MINUTES SECONDS		
F	RESPONSIBLE PARTY OR VESSEL NAME	RESPONSIBLE PARTY ADDRESS OR OFFICE LOCATION		
G	ANY CONTRACTOR INVOLVED	CONTRACTOR ADDRESS OR OFFICE LOCATION		
H	PRODUCT SPILLED	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES	U.N. NUMBER	
	SECOND PRODUCT SPILLED (IF APPLICABLE)	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES	U.N. NUMBER	
I	SPILL SOURCE	SPILL CAUSE	AREA OF CONTAMINATION IN SQUARE METRES	
J	FACTORS AFFECTING SPILL OR RECOVERY	DESCRIBE ANY ASSISTANCE REQUIRED	HAZARDS TO PERSONS, PROPERTY OR ENVIRONMENT	
K	ADDITIONAL INFORMATION, COMMENTS, ACTIONS PROPOSED OR TAKEN TO CONTAIN, RECOVER OR DISPOSE OF SPILLED PRODUCT AND CONTAMINATED MATERIALS			

L	REPORTED TO SPILL LINE BY	POSITION	EMPLOYER	LOCATION CALLING FROM	TELEPHONE
M	ANY ALTERNATE CONTACT	POSITION	EMPLOYER	ALTERNATE CONTACT LOCATION	ALTERNATE TELEPHONE

REPORT LINE USE ONLY

N	RECEIVED AT SPILL LINE BY	POSITION **Station operator**	EMPLOYER	LOCATION CALLED **Yellowknife, NT**	REPORT LINE NUMBER **(867) 920-8130**

LEAD AGENCY ☐ EC ☐ CCG ☐ GNWT ☐ GN ☐ ILA ☐ INAC ☐ NEB ☐ TC	SIGNIFICANCE ☐ MINOR ☐ MAJOR ☐ UNKNOWN	FILE STATUS ☐ OPEN ☐ CLOSED

AGENCY	CONTACT NAME	CONTACT TIME	REMARKS
LEAD AGENCY			
FIRST SUPPORT AGENCY			
SECOND SUPPORT AGENCY			
THIRD SUPPORT AGENCY			

Page 1 of