



March 31, 2004

Ms. Phyllis Beaulieu
Licensing Administrator
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU X0A 1J0

Dear Ms. Beaulieu:

INTERNAL	
PC	chp
MA	
FO	
LA	
BS	
SI	
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TA	
RC	
ED	
CH	
BRC	
EXT.	

Project No.: FOX-2 (3.6)



RE: 2003 Annual Report for Water Use License #NWB5LON0308

UMA Engineering Ltd. is submitting the following annual report as per the requirements of Part B.1 of the above noted water use license. The report is being submitted on behalf of Defence Construction Canada and the Department of National Defence.

In the 2002 due diligence investigation, hydrocarbon-impacted soils with total petroleum hydrocarbon concentrations in excess of the assessment criteria of 2,500 parts per million, were detected in close proximity to the shoreline. Because of this issue, it was determined that the hydrocarbon-impacted soils in this area should be excavated and stored for treatment during the overall site clean up.

The work program at FOX-2 was developed to address the hydrocarbon-impacted soil at the Beach POL in the near-shore area. Also, the airstrip and access roads around the Beach POL area were in poor condition, and as such, repair work to these areas was undertaken. The following work was completed in 2003:

- Excavation and transport of approximately 1,600 cubic metres of Type B hydrocarbon impacted soil from the beach area to the existing bermed tank area, which was lined with an HDPE liner. The excavation was to the design parameters, as shown on the attached drawing.
- Excavation, transport, placement and compaction of approximately 1,600 cubic metres (in-place volume) of clean, granular backfill material for the Beach POL excavation from an adjacent source.
- Excavation, transport, placement and compaction of suitable granular material from local sources to repair eroded sections of the airstrip and access road.

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No further work is required at FOX-2 until the full site investigation, which is scheduled for 2005 and the site clean up, which is scheduled for 2009.

A sump was constructed for the collection of sewage and greywater. The sump was covered with granular material at the end of the work program. No samples were collected.

Commercially bottled water was provided for drinking purposes. All other water required for the camp was obtained from the existing water supply lake. A total of 10 cubic metres of water from the water supply lake were used for the camp over a 2-week period.

Dewatering was required during excavation of the hydrocarbon-impacted soils at the Beach POL area. The water entering the excavation was pumped into existing, empty fuel tanks at the site, located in the northwest corner of the tank farm as shown on Sketch 102. Two water samples were collected to determine if the water was suitable for discharge. At the end of construction, the water was discharged from the tanks to the land in an area located northeast of the tanks. GPS coordinates were not collected at the discharge location. The discharge area was more than 150 m away from the shoreline and surface watercourses. The results of the samples collected from the two storage tanks are provided in the following table.

Results – Excavation Dewatering

Parameter (mg/L)	Sample Location		Target Discharge Criteria* (mg/L)
	Tank #13	Tank #14	
Dissolved Cu	0.006	0.006	0.2
Dissolved Ni	0.021	0.015	0.2
Dissolved Co	<0.003	<0.003	0.05
Dissolved Cd	<0.001	<0.001	0.01
Dissolved Pb	<0.01	<0.01	0.05
Total Zn	0.029	0.026	1
Total Cr	<0.005	<0.005	0.1
Total As	0.007	0.006	0.1
Total Hg	<0.4	<0.4	0.0006
PCBs	<3	<3	0.005
Oil & Grease	None visible	None visible	None visible
Phenols	0.062	0.165	0.02
pH (pH units)	7.6	7.6	6.0-9.0

*Discharge criteria as proposed in the Monitoring Plan submitted to the NWB in August 2003. The comparative criteria are based on the *Guidelines for Municipal Type Wastewater Discharges in the Northwest Territories* and the document, *An Approach for Assessing and Managing Wastewater and Effluent Quality from Federal Facilities – Final Report, June 1, 2000*

There were four spill incidences during the 2003 construction season at FOX-2. A summary of the information for each spill is provided below, and copies of each spill report filed with the Spill Report Line are attached to this report.

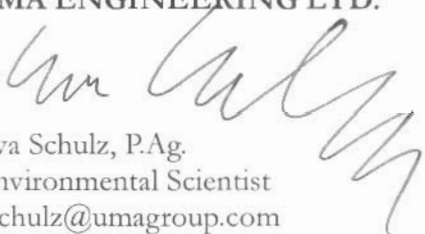
- On August 31, 2003, approximately 100 litres of diesel fuel were spilled as a result of puncturing a barrel during off-loading of the sea-lift. The impacted soil was excavated and placed within the bermed storage area.
- On September 6, 2003, approximately 34 litres of diesel fuel were spilled as a result of a punctured barrel. Absorbent pads were placed around the spill area, excess diesel fuel was transferred to another barrel, and the soil was excavated and placed within the bermed storage area.
- On September 10, 2003, there were two spill occurrences. One spill involved a break in the engine line of a truck resulting in 5 litres of engine oil to be spilled. The other spill resulted from the puncture of a reserve fuel tank on a truck and 10 litres of diesel fuel were spilled. Absorbent pads were placed around the spill areas, and the impacted soil was excavated and placed within the bermed storage area.

An overall site plan and a sketch of the West Beach POL Area are included to show the locations of the various work areas described in this report.

We trust the information provided is consistent with the requirements of Water Use Licence #NWB5LON0308. Please feel free to contact the undersigned if you have any questions or comments.

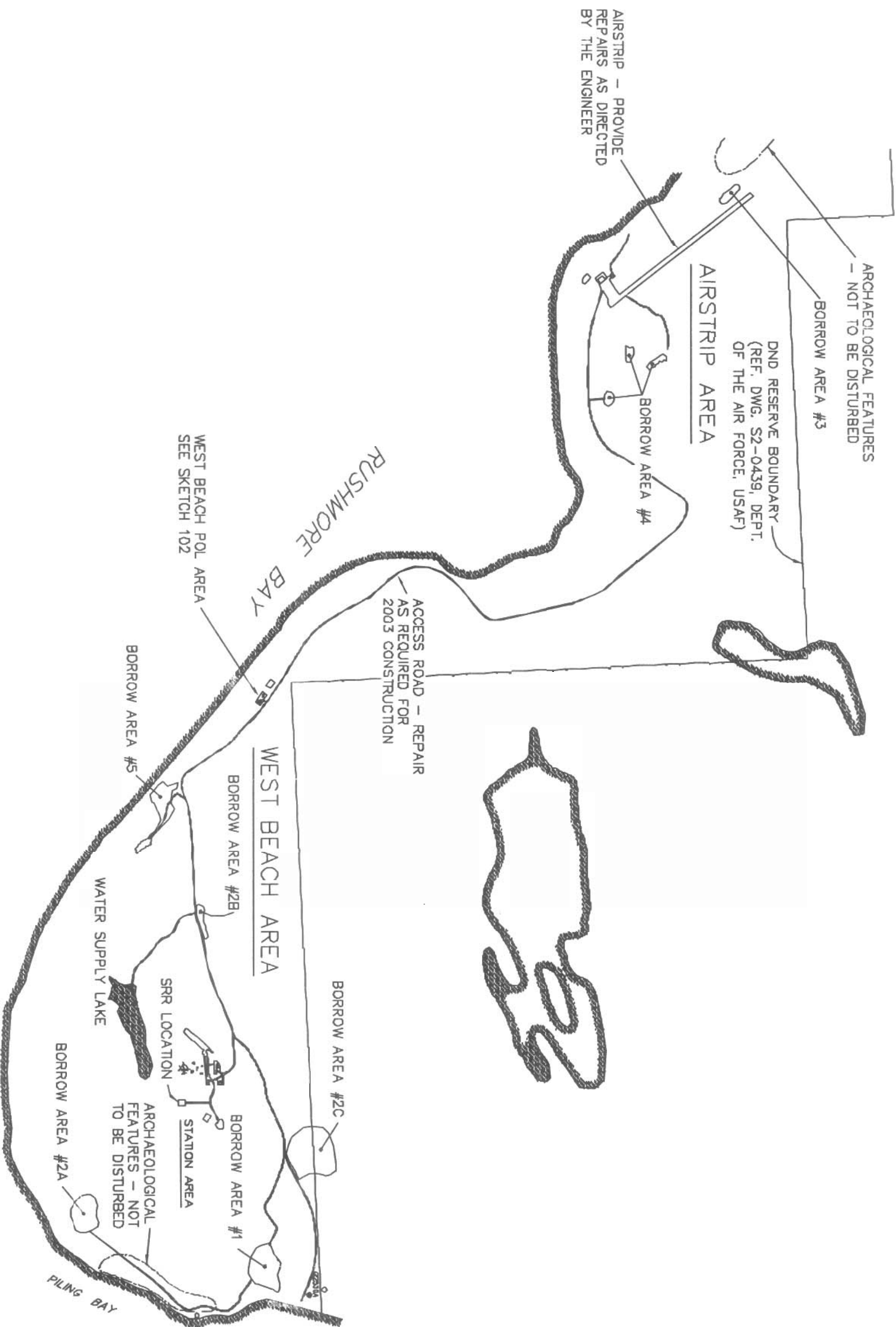
Sincerely,

UMA ENGINEERING LTD.


Eva Schulz, P.Ag.
Environmental Scientist
eschulz@umagroup.com

Encl. Site Sketches
Spill Reports

cc: Jim Wall/Philippe di Pizzo, NWB
Phil Warren, DCC

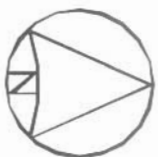


National Defence
Defence nationale

DEW LINE CLEAN UP

FOX-2 LONGSTAFF BLUFF
DUE DILIGENCE CLEAN UP
MARCH, 2003

OVERALL SITE PLAN
SKETCH 101



PLACE EXCAVATED HYDROCARBON
CONTAMINATED TYPE B SOIL WITHIN
THIS BERMED AREA

BACKFILL HYDROCARBON TYPE B
CONTAMINATED SOIL EXCAVATION
AREA WITH SUITABLE BORROW
MATERIAL FROM THIS AREA

APPROXIMATE PERIMETER OF
HYDROCARBON TYPE B
CONTAMINATED SOILS TO BE
EXCAVATED AS DIRECTED BY
THE ENGINEER (APPROXIMATE
VOLUME = 1600 CUBIC METERS)



 **National Défense**
Defence nationale

DEW LINE CLEAN UP

FOX-2 LONGSTAFF BLUFF
DUE DILIGENCE CLEAN UP
MARCH, 2003

WEST BEACH POL AREA
SKETCH 102

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NWT SPILL REPORT

(Oil, Gas, Hazardous Chemicals or other Materials)

24 - Hour Report Line
Phone: (867) 920-8130
Fax: (867) 873-6924

A Report Date and Time Sept 8/2003 11:00 est		B Date and Time of spill (if known) August 31, 2003		C <input checked="" type="checkbox"/> Original Report <input type="checkbox"/> Update no. _____		Spill Number	
D Location and map coordinates (if known) and direction (if moving) Fox-2 Longstaff Bluff, NEW Line Site, Nunavut							
E Partly responsible for spill Nunavut Eastern Arctic Shipping							
F Product(s) spilled and estimated quantities (provide metric volumes/weights if possible) Diesel Fuel ~ 100 Litres							
G Cause of spill Puncture in drum during offloading of Sealift West Pol. Beach Area - Location 500m east of							
H Is spill terminated? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no		I If spill is continuing, give estimated rate		J Is further spillage possible? <input type="checkbox"/> yes <input checked="" type="checkbox"/> no		K Extent of contaminated area (in square meters if possible) 15m x 3m area ~ 15m depth	
L Factors effecting spill or recovery (weather conditions, terrain, snow cover, etc.) None				M Containment (natural depression, dikes, etc.)			
N Action, if any, taken or proposed to contain, recover, clean up or dispose of product(s) and contaminated materials Shippy Co. covered area with filitrol to absorb which lead to the delay in identification, remaining contents of tank transferred to another tank & Soil will be excavated & placed in a Storage Area							
O Do you require assistance? <input checked="" type="checkbox"/> no <input type="checkbox"/> yes, describe:				P Possible hazards to person, property, or environment, eg: fire, drink water, fish or wildlife			
Q Comments or recommendations UTM Coordinates 18491856 east 7643569 North						FOR SPILL LINE USE ONLY	
						Lead agency	
						Spill significance	
						Lead Agency contact and time	
Is this file now closed? <input type="checkbox"/> yes <input type="checkbox"/> no							
Reported by Karen Watson		Position Employer, Location Site Engineer, DEC - On Site				Telephone (613) 988-3832	
Reported to Scott Hamilton		Position Employer, Location Env Officer, DEC - Ottawa				Telephone (613) 978-4583	

FOX-2(3.6)



NWT SPILL REPORT

(Oil, Gas, Hazardous Chemicals or other Materials)

24 - Hour Report Line

Phone: (867) 920-8130

Fax: (867) 873-6924

A Report Date and Time Sept 8, 2003		B Date and Time of spill (if known) Sept 6, 2003		C <input checked="" type="checkbox"/> Original Report <input type="checkbox"/> Update no. _____		Spill Number	
D Location and map coordinates (if known) and direction (if moving) Fox-2 Long Staff Bluff DEW Line Site, Nunavut.							
E Party responsible for spill Mosher Engineering.							
F Product(s) spilled and estimated quantities (provide metric volumes/weights if possible) Diesel 12 34L							
G Cause of spill Puncture of one of the drums							
H Is spill terminated? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no		I If spill is continuing, give estimated rate		J Is further spillage possible? <input type="checkbox"/> yes <input checked="" type="checkbox"/> no		K Extent of contaminated area (in square meters if possible) 1.8m x 1.4m x 0.15m deep	
L Factors effecting spill or recovery (weather conditions, terrain, snow cover, etc.) easily accessible				M Containment (natural depression, dikes, etc.)			
N Action, if any, taken or proposed to contain, recover, clean up or dispose of product(s) and contaminated materials absorbent pads placed; fuel transferred to another drum soil will be excavated and placed in storage Area							
O Do you require assistance? <input checked="" type="checkbox"/> no <input type="checkbox"/> yes, describe:				P Possible hazards to person, property, or environment, eg: fire, drink water, fish or wildlife			
Q Comments or recommendations UTM Coordinates 18491860 east 7643578 North.							
FOR SPILL LINE USE ONLY							
Lead agency							
Spill significance							
Lead Agency contact and time							
Is this file now closed? <input type="checkbox"/> yes <input type="checkbox"/> no							
Reported by Karen Watson		Position, Employer, Location Site Engineer, DCC - On-site		Telephone (613) 988-3832			
Reported to Scott Hamilton		Position, Employer, Location Env. Officer DCC - Ottawa		Telephone (613) 978-4583			



NWT SPILL REPORT

(Oil, Gas, Hazardous Chemicals or other Materials)

24 - Hour Report Line
Phone: (867) 920-8130
Fax: (867) 873-6924

A Report Date and Time Sept 18/03		B Date and Time of spill (if known) Sept 10, 2003		C <input checked="" type="checkbox"/> Original Report <input type="checkbox"/> Update no. _____		Spill Number	
D Location and map coordinates (if known) and direction (if moving) Fox-2 Longstaff Bluff, DEW Line Site, Nunavut							
E Party responsible for spill Masher Engineering							
F Product(s) spilled and estimated quantities (provide metric volumes/weights if possible) Diesel fuel approx 10 litres							
G Cause of spill Puncture in dump truck reserve tank							
H Is spill terminated? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no		I If spill is continuing, give estimated rate		J Is further spillage possible? <input type="checkbox"/> yes <input type="checkbox"/> no		K Extent of contaminated area (in square meters if possible) 2m x 3m x 0.15m depth	
L Factors effecting spill or recovery (weather conditions, terrain, snow cover, etc.) None				M Containment (natural depression, dikes, etc.)			
N Action, if any, taken or proposed to contain, recover, clean up or dispose of product(s) and contaminated materials Placed absorbent pads to soak up ponded fuel & soil excavated and placed in storage area							
O Do you require assistance? <input checked="" type="checkbox"/> no <input type="checkbox"/> yes, describe:				P Possible hazards to person, property, or environment: eg: fire, drink water, fish or wildlife			
Q Comments or recommendations Delays in communicating spill resulted from disruption in communications between FOX-2 & outside contacts						FOR SPILL LINE USE ONLY	
						Lead agency	
						Spill significance	
						Lead Agency contact and time	
Is this file now closed? <input type="checkbox"/> yes <input type="checkbox"/> no							
Reported by Karen Watson		Position, Employer, Location Site Engineer - Defence Construction Canada (613) 988-3832				Telephone	
Reported to Scott Hamilton		Position, Employer, Location Environment Officer - Defence Construction Canada (613) 978-4583				Telephone	

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FOX-2 (3.6)



NWT SPILL REPORT

(Oil, Gas, Hazardous Chemicals or other Materials)

24 - Hour Report Line
Phone: (867) 920-8130
Fax: (867) 873-6924

A Report Date and Time Sept 18/03		B Date and Time of spill (if known) Sept 10/03		C <input checked="" type="checkbox"/> Original Report <input type="checkbox"/> Update no. _____		Spill Number	
D Location and map coordinates (if known) and direction (if moving) FOX-2 Longstaff Bluff, DEW Line Site, Nunavut							
E Party responsible for spill Mosher Engineering							
F Product(s) spilled and estimated quantities (provide metric volumes/weights if possible) Engine Oil approx 5 Litres							
G Cause of spill Break in Line in engine of dump truck							
H Is spill terminated? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no		I If spill is continuing, give estimated rate		J Is further spillage possible? <input type="checkbox"/> yes <input checked="" type="checkbox"/> no		K Extent of contaminated area (in square meters if possible) 1m x 2m x 0.15m depth	
L Factors effecting spill or recovery (weather conditions, terrain, snow cover, etc.) None				M Containment (natural depression, dikes, etc.) None			
N Action, if any, taken or proposed to contain, recover, clean up or dispose of product(s) and contaminated materials Placed absorbent pad to soak up pooled fuel, Soil excavated and placed in storage area							
O Do you require assistance? <input checked="" type="checkbox"/> no <input type="checkbox"/> yes, describe:				P Possible hazards to person, property, or environment; eg: fire, drink water, fish or wildlife			
Q Comments or recommendations Delays in communicating spill resulted from disruption in communications between FOX-2 & outside contacts.						FOR SPILL LINE USE ONLY	
						Lead agency	
						Spill significance	
						Lead Agency contact and time	
Reported by Karen Watson		Position: Employer, Location Site Engineer - Defence Construction Canada				Telephone (613) 988-3832	
Reported to Scott Hamilton		Position: Employer, Location Environment Officer Defence Construction Canada				Telephone (613) 998-4583	

Is this file now closed? ☐ yes ☐ no