

AECOM

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March 24, 2009

Project Number: 0171-142-01-08

Phyllis Beaulieu
Manager of Licensing
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU X0B 1J0

Dear Phyllis:

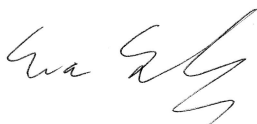
Re: 2008 Annual Report for Water Use License 1BR-MAC0712: CAM-5, Mackar Inlet DEW Line Site

AECOM is presenting the following annual report form regarding the remediation program at the CAM-5, Mackar Inlet DEW Line site. The information is being submitted on behalf of Defence Construction Canada and the Department of National Defence.

We trust the information provided is sufficient. Please feel free to contact the undersigned if you require any additional information.

Sincerely,

AECOM Canada Ltd.



Eva Schulz, P.Ag.
Eva.Schulz@aecom.com

EMS
Encl. 2008 Annual Report Form, Executive Summary
cc: Douglas Craig, DCC

Statement of Qualifications and Limitations

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The information, data, recommendations and conclusions contained in the Report:

- are subject to the budgetary, time, scope, and other constraints and limitations in the Agreement and the qualifications contained in the Report (the "Limitations");
- represent Consultants' professional judgement in light of the Limitations and industry standards for the preparation of similar reports;
- may be based on information provided to Consultant which has not been independently verified;
- have not been updated since the date of issuance of the Report and their accuracy is limited to the time period and circumstances in which they were collected, processed, made or issued;
- must be read as a whole and sections thereof should not be read out of such context;
- were prepared for the specific purposes described in the Report and the Agreement;
- in the case of subsurface, environmental or geotechnical conditions, may be based on limited testing and on the assumption that such conditions are uniform and not variable either geographically or over time.

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- shall not be responsible for any events or circumstances that may have occurred since the date on which the Report was prepared or for any inaccuracies contained in information that was provided to Consultant;
- makes no representations whatsoever with respect to the Report or any part thereof, other than that the Report represents Consultant's professional judgement as described above, and is intended only for the specific purpose described in the Report and the Agreement;
- in the case of subsurface, environmental or geotechnical conditions, is not responsible for variability in such conditions geographically or over time.

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- is to be treated as confidential;
- may not be used or relied upon by third parties.

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This Statement of Qualifications and Limitations is attached to and forms part of the Report.

1BR-MAC0712: Executive Summary

Sewage Effluent Monitoring

A lagoon was constructed in 2008 to support the construction camp. The water use license and the monitoring plan require that samples be collected from treated sewage effluent at the point of discharge to the receiving water prior to each discharge event. There was one discharge event at CAM-5 on September 8, 2008 from sewage lagoon cell #1, after confirmation that all results met the discharge criteria listed in Part D.2 of the water use license. The location of the discharge was approved by an INAC Water Resources Inspector during the inspection conducted on August 23, 2008 and the Inspector was notified of the discharge event on September 10, 2008. Approximately 839 m³ of effluent was discharged. The following is a summary of all of the sewage effluent results from the 2008 season:

Sample Number	08-27119	08-27184	08-27227	08-27269
Location (MAC-2)	Lagoon Cell #1	Lagoon Cell #1	Lagoon Cell #1	Lagoon Cell #2
Coordinates	7581564 N; 551918 E	7581564 N; 551918 E	7581564 N; 551918 E	7581591 N; 551965 E
Date	August 18, 2008	August 30, 2008	September 5, 2008	September 12, 2008
Parameters				
pH (pH units)	7.11	n/a	n/a	7.11
Oil & Grease (visible)	None visible	n/a	n/a	None visible
Total Suspended Solids (mg/L)	49	n/a	n/a	79
Biological Oxygen Demand (mg/L)	n/a	47	n/a	149
Faecal Coliforms (CFU/dL)	n/a	n/a	200	TNTC

Note: Copies of the laboratory reports are attached.

Landfarm Discharge Monitoring

As per the requirements of Part L.6 of the water use license, samples were collected from the landfarm discharge. The discharge was pumped into holding tanks until the results were available to confirm the wastewater was acceptable for discharge. Because the only relevant parameter for the landfarm, which is used for the treatment of hydrocarbon-impacted soil, is oil and grease, this is the only parameter that was tested and reported. All results met the criteria in the license; therefore the wastewater was discharged to the approved location. The following is a summary of the results from the landfarm wastewater samples.

Sample Number	08-27118	08-27120/21	08-27130/31	08-27187
Location (MAC-4)	6000 gallon tank	1500 gallon tank	1500 gallon tank	6000 gallon tank
Coordinates	7581302 N; 553014 E	7581302 N; 553014 E	7581302 N; 553014 E	7581302 N; 553014 E
Date	August 12, 2008	August 18, 2008	August 23, 2008	August 30, 2008
Oil & Grease (visible)	<2.0 mg/L	<2.0 mg/L/<2.0 mg/L	<2.0 mg/L/<2.0 mg/L	4.1 mg/L

Note 1: The location approved for discharge of the landfarm by the INAC Water Resources Inspector is 7581180 N; 552983 E.

Summary of Work Completed in 2008

Demolition: Demolition is on-going and is expected to be completed in 2009.

Landfarm: Construction of the landfarm was completed in 2008 and is ready to accept hydrocarbon-impacted soils for treatment in 2009.

Tier II Soil Disposal Facility: Construction of the Tier II Soil Disposal Facility is mostly complete with some minor reshaping of the berms required before it can accept Tier II impacted soils. This task will be completed in 2009, along with the placement of Tier II impacted soils.

Non-Hazardous Waste Landfill: Construction of the Non-Hazardous Waste Landfill was completed in 2008 to the point where the facility could accept inert debris. Approximately 200 m³ of debris was placed in 2008. An intermediate fill layer was placed on the facility at the end of the 2008 season in September to winterize the facility.

Contaminated Soil Removal: Contaminated soil removal has not yet started; however, it is expected to be complete in 2009.

Landfill Remediation: Not yet started. Landfill remediation will be completed in 2009.

Debris Removal: Surface debris removal from several landfill locations has been completed, including the Airstrip, Lower Site Landfill-North and Lower Site Landfill-South. General pick up of debris from the site is on-going.

Community Meetings

The contractor held a project start up meeting in Kugaaruk in March 2008. The presentation is attached.

Spill Incidences

One spill incidence occurred at CAM-5 on July 3, 2008. It involved the release of approximately 800 L of sewage effluent. A report was submitted to the Spill Report Line on July 4, 2008. A copy of the report is attached for reference.

Modification

There is one update to provide related to the Upper Site Landfill. In the original project description submission, the remediation plan for this landfill was to construct a leachate containment system. However, due to the difficult terrain and construction difficulties, this landfill is now to be excavated in its entirety and backfilled. The process of landfill excavation is provided in Section 5.8 of the 2005 Project Description. In addition, it is anticipated that additional Tier II impacted soil will be identified from the excavation. Therefore, the Tier II Soil Disposal Facility is being expanded vertically to accommodate the additional impacted soil volumes. The footprint of the facility is to remain the same, and the additional airspace required is shown on the detailed drawings, which are attached.

NWB Annual Report

Year being reported: 2008 ▼

License No: 1BR-MAC0712

Issued Date: July 31, 2007

Expiry Date: December 31, 2012

Project Name: CAM-5, Mackar Inlet DEW Line Site

Licensee: Defence Construction Canada

Mailing Address: Constitution Square, Suite 1700
350 Albert Street
Ottawa, ON K1A 0K3

Name of Company filing Annual Report (if different from Name of Licensee
please clarify relationship between the two entities, if applicable):

AECOM
Project Engineer and Regulatory Support

General Background Information on the Project (*optional):

Military site clean up.

Licence Requirements: the licensee must provide the following information in
accordance with

Part B ▼ Item 1 ▼

**A summary report of water use and waste disposal activities, including, but not limited to:
methods of obtaining water; sewage and greywater management; drill waste management; solid
and hazardous waste management.**

Water Source(s):	Water Supply Lake	
Water Quantity:	55 per day	Quantity Allowable Domestic (cu.m)
	13.5 per day	Actual Quantity Used Domestic (cu.m)
		Quantity Allowable Drilling (cu.m)
		Total Quantity Used Drilling (cu.m)

Waste Management and/or Disposal

- ☒ Solid Waste Disposal
☒ Sewage
☐ Drill Waste
☒ Greywater
☒ Hazardous
☒ Other:

Additional Details:

Details of the waste management and disposal were provided in the application.
See attached summary for details regarding quantities in 2008.

A list of unauthorized discharges and a summary of follow-up actions taken.

Spill No.: 1 (as reported to the Spill Hot-line)

Date of Spill: July 3, 2008

Date of Notification to an Inspector: July 4, 2008

Additional Details: (impacts to water, mitigation measures, short/long term monitoring, etc)

See attached spill report.

Revisions to the Spill Contingency Plan

SCP submitted and approved - no revision required or proposed



Additional Details:

Revisions to the Abandonment and Restoration Plan

Other: (see additional details)



Additional Details:

The entire project is an abandonment and restoration plan.

Progressive Reclamation Work Undertaken

Additional Details (i.e., work completed and future works proposed)

Results of the Monitoring Program including:

The GPS Co-ordinates (in degrees, minutes and seconds of latitude and longitude) of each location where sources of water are utilized;

Details attached



Additional Details:

The GPS Co-ordinates (in degrees, minutes and seconds of latitude and longitude) of each location where wastes associated with the licence are deposited;

Details attached



Additional Details:

Results of any additional sampling and/or analysis that was requested by an Inspector

No additional sampling requested by an Inspector or the Board



Additional Details: (date of request, analysis of results, data attached, etc)

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Any other details on water use or waste disposal requested by the Board by November 1 of the year being reported.

No additional sampling requested by an Inspector or the Board	▼
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Additional Details: (Attached or provided below)

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Any responses or follow-up actions on inspection/compliance reports

No inspection report issued by INAC	▼
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Additional Details: (Dates of Report, Follow-up by the Licensee)

An inspection of the site was conducted on August 23, 2008; however, no inspection report was issued.

Any additional comments or information for the Board to consider

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Date Submitted:

March 31, 2009

Submitted/Prepared by:

Eva Schulz

Contact Information:

Tel:	403-270-9220
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Fax:	403-270-0399
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email:	eva.schulz@aecom.com
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GPS Coordinates for water sources utilized

Source Description	UTM Zone 16N, NAD83	
	Northing	Easting
Water Source (MAC-1)	7580000	554500

GPS Locations of areas of waste disposal

Location Description (type)	UTM Zone 16N, NAD83	
	Northing	Easting
Non-Hazardous Waste Landfill Stn. 801	7580334	553239
Non-Hazardous Waste Landfill Stn. 802	7580352.3	553304.5
Non-Hazardous Waste Landfill Stn. 803	7580297.6	553339.6
Non-Hazardous Waste Landfill Stn. 804	7580279.3	553274.1
Tier II Soil Disposal Facility Stn. 901	7580514.8	553492.6
Tier II Soil Disposal Facility Stn. 902	7580551.8	553539.8
Tier II Soil Disposal Facility Stn. 903	7580512.5	553570.7
Tier II Soil Disposal Facility Stn. 904	7580475.5	553523.5
Landfarm	7581250	553125
Sewage Lagoon	7581564	551918



Photograph 1: Landfarm.



Photograph 2: Sewage Lagoon



Photograph 3: Tier II Landfill



Photograph 4: Non-Hazardous Waste Landfill



Canada

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 July 4, 2008	REPORT TIME 14:00	<input checked="" type="checkbox"/> ORIGINAL SPILL REPORT, OR <input type="checkbox"/> UPDATE # _____ TO THE ORIGINAL SPILL REPORT		REPORT NUMBER _____
B	OCCURRENCE DATE: MONTH – DAY – YEAR July 3, 2008	OCCURRENCE TIME unknown			
C	LAND USE PERMIT NUMBER (IF APPLICABLE) N2005X0038	WATER LICENCE NUMBER (IF APPLICABLE) 1BR-MAC0712			
D	GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM NAMED LOCATION CAM-5, Mackar Inlet		REGION <input type="checkbox"/> NWT <input checked="" type="checkbox"/> NUNAVUT <input type="checkbox"/> ADJACENT JURISDICTION OR OCEAN		
E	LATITUDE DEGREES 68 MINUTES 17 SECONDS		LONGITUDE DEGREES 85 MINUTES 07 SECONDS		
F	RESPONSIBLE PARTY OR VESSEL NAME Defence Construction Canada	RESPONSIBLE PARTY ADDRESS OR OFFICE LOCATION 350 Albert Street, Suite 1720, Ottawa, ON K1A 0K3			
G	ANY CONTRACTOR INVOLVED Biogenie	CONTRACTOR ADDRESS OR OFFICE LOCATION 350, rue Franquet, QUÉBEC, Quebec G1P 4P3			
H	PRODUCT SPILLED Sewage	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES est. 800-L	U.N. NUMBER		
	SECOND PRODUCT SPILLED (IF APPLICABLE)	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES	U.N. NUMBER		
I	SPILL SOURCE Camp sewer line	SPILL CAUSE blockage after weak joint	AREA OF CONTAMINATION IN SQUARE METRES 15 square meters (est.)		
J	FACTORS AFFECTING SPILL OR RECOVERY none	DESCRIBE ANY ASSISTANCE REQUIRED none	HAZARDS TO PERSONS, PROPERTY OR EQUIPMENT none		
K	ADDITIONAL INFORMATION, COMMENTS, ACTIONS PROPOSED OR TAKEN TO CONTAIN, RECOVER OR DISPOSE OF SPILLED PRODUCT AND CONTAMINATED MATERIALS The camp sewer line became clogged just beyond a point where two sections of pipe were joined. The pressure that built up behind the blockage appears to have caused an existing weak connection to rupture, resulting in the release of the effluent. The effluent ponded near the leak, and was pumped into the lagoon for treatment. Impacted soil will be scooped up by an excavator and deposited into the lagoon. Clean fill will be used to bring the affected area back to grade. This work is expected to be completed by the weekend (July 5, 2008). A temporary fix was made to the line, with a new flange being installed this weekend (part coming in by plane).				
L	REPORTED TO SPILL LINE BY Douglas Craig	POSITION Environmental Officer	EMPLOYER DCC	LOCATION CALLING FROM Ottawa	TELEPHONE (613) 998-7288
M	ANY ALTERNATE CONTACT Don Beattie	POSITION Assoc. Proj. Manager	EMPLOYER DCC	ALTERNATE CONTACT LOCATION Ottawa	ALTERNATE TELEPHONE (613) 998-9540
REPORT LINE USE ONLY					
N	RECEIVED AT SPILL LINE BY <i>Brian</i>	POSITION STATION OPERATOR	EMPLOYER	LOCATION CALLED YELLOWKNIFE, NT	REPORT LINE NUMBER (867) 920-8130
LEAD AGENCY <input type="checkbox"/> EC <input type="checkbox"/> CCG <input type="checkbox"/> GNWT <input type="checkbox"/> GN <input type="checkbox"/> ILA <input type="checkbox"/> INAC <input type="checkbox"/> NEB <input type="checkbox"/> TC			SIGNIFICANCE <input type="checkbox"/> MINOR <input type="checkbox"/> MAJOR <input type="checkbox"/> UNKNOWN		FILE STATUS <input type="checkbox"/> OPEN <input type="checkbox"/> CLOSED
AGENCY		CONTACT NAME	CONTACT TIME	REMARKS	
LEAD AGENCY					
FIRST SUPPORT AGENCY					
SECOND SUPPORT AGENCY					
THIRD SUPPORT AGENCY					

* * * Memory TX Result Report (Jul. 4. 2008 3:01PM) * * *

1) DCC DCW LINE CLEANUP
2)

Date/Time: Jul. 4. 2008 3:00PM

File No.	Mode	Destination	Pg(s)	Result	Page Not Sent
5104	Memory TX	18678736924	P. 1	OK	

Reason for error
 min. 1) Hang up or line fail
 10) No answer
 5) Exceeded max. E-mail size

E. 2) Busy
 E. 4) No facsimile connection



Canada

NT-NU SPILL REPORT

OIL, GASOLINE, CHEMICALS AND OTHER HAZARDOUS MATERIALS

NT-NU 24-HOUR SPILL REPORT LINE
 TEL: (867) 920-8130
 FAX: (867) 923-8924
 EMAIL: spill@gov.nt.ca

A REPORT DATE: MONTH - DAY - YEAR July 4, 2008		REPORT TIME 14:00		ORIGINAL SPILL REPORT OR UPDATE TO THE ORIGINAL SPILL REPORT		REPORT NUMBER
B OCCURRENCE DATE: MONTH - DAY - YEAR July 3, 2008		OCCURRENCE TIME unknown				
C LAND USE PERMIT NUMBER (IF APPLICABLE) N2005X0038		WATER LICENSE NUMBER (IF APPLICABLE) 1BR-MAC0712				
D GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM NAMED LOCATION CAM-5, Mackar Inlet		REGION <input type="checkbox"/> NWT <input checked="" type="checkbox"/> Nunavut <input type="checkbox"/> ADJACENT JURISDICTION OR OCEAN				
E DEGREES 68 MINUTES 17 SECONDS		LONGITUDE DEGREES 85 MINUTES 07 SECONDS				
F RESPONIBLE PARTY OR VESSEL NAME Defence Construction Canada		RESPONIBLE PARTY ADDRESS OR OFFICE LOCATION 350 Albert Street, Suite 1720, Ottawa, ON K1A 0K3				
G ANY CONTRACTOR INVOLVED Biogenie		CONTRACTOR ADDRESS OR OFFICE LOCATION 350, rue Franquet, QUÉBEC, Quebec G1P 4P3				
H PRODUCT SPILLED Sewage		QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES est. 600-L		U.N. NUMBER		
I SPILL SOURCE Camp sewer line		SPILL CAUSE blockage after weak joint		AREA OF CONTAMINATION IN SQUARE METRES 15 square meters (est.)		
J FACTORS AFFECTING SPILL OR RECOVERY none		DESCRIBE ANY ASSISTANCE REQUIRED none		HAZARDS TO PERSONS, PROPERTY OR EQUIPMENT none		
K ADDITIONAL INFORMATION, COMMENTS, ACTIONS PROPOSED OR TAKEN TO CONTAIN, RECOVER OR DISPOSE OF SPILLED PRODUCT AND CONTAMINATED MATERIALS <p>The camp sewer line became clogged just beyond a point where two sections of pipe were joined. The pressure that built up behind the blockage appears to have caused an existing weak connection to rupture, resulting in the release of the effluent.</p> <p>The effluent ponded near the leak, and was pumped into the lagoon for treatment. Impacted soil will be scooped up by an excavator and deposited into the lagoon. Clean fill will be used to bring the affected area back to grade. This work is expected to be completed by the weekend (July 5, 2008).</p> <p>A temporary fix was made to the line, with a new flange being installed this weekend (part coming in by plane).</p>						
L REPORTED TO SPILL LINE BY Douglas Craig		POSITION Environmental Officer		EMPLOYER DCC		LOCATION CALLING FROM Ottawa
M ANY ALTERNATE CONTACT Don Beattie		POSITION Assoc. Proj. Manager		EMPLOYER DCC		ALTERNATE TELEPHONE Ottawa (613) 998-9540
N RECEIVED AT SPILL LINE BY STATION OPERATOR		EMPLOYER		LOCATION CALLED YELLOWKNIFE, NT		REPORT LINE NUMBER (867) 920-8130
LEAD AGENCY <input type="checkbox"/> GC <input type="checkbox"/> DCC <input type="checkbox"/> NWT <input type="checkbox"/> GN <input type="checkbox"/> LA <input type="checkbox"/> RNC <input type="checkbox"/> RBN <input type="checkbox"/> OTC		SIGNIFICANCE <input type="checkbox"/> MINOR <input type="checkbox"/> MAJOR <input type="checkbox"/> UNKNOWN		FILE STATUS <input type="checkbox"/> OPEN <input type="checkbox"/> CLOSED		
AGENCY		CONTACT NAME		CONTACT TIME		REMARKS
LEAD AGENCY						
FIRST SUPPORT AGENCY						
SECOND SUPPORT AGENCY						
THIRD SUPPORT AGENCY						