

March 16, 2012

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

Dear Phyllis:

Project No: Water Use License 1BR-FOD813

Regarding: 2011 Annual Report: FOX-3, Dewar Lakes DEW Line Site

AECOM Canada Ltd. is providing the attached annual report form as per Section 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 addition to the annual report form, we are providing a summary of the work completed to date at the site. The remediation construction work at FOX-3 was completed in September 2011. The following is a summary of the work items completed during the 2011 summer construction season:

- All demolition activities were completed.
- All contaminated soil excavations were completed.
- Seven landfill/buried debris areas were excavated and backfilled.
- All regrade areas were completed.
 - Regrades were completed at the following areas: West Landfill – Lobes A and B; Station West – Lobes B1, F, I1, J and K; Airstrip Area East – Lobes F, I, L, M, S and EE; Station Area – Garage Debris Area Lobes A, B, C, D, E, and F; Station Area – Construction Debris Area Lobes A and B; Airstrip Area – Borrow Area 5 Debris Area Lobes A and B.
- The Tier II Disposal Facility, Non-Hazardous Waste Landfill and Landfarm were closed.
 - Work at the landfarm in 2011 included tilling and nutrient application until the contaminated soil was under criteria for hydrocarbon contamination. The landfarm was closed on August 22 and included the removal of berms and grading the surface to promote positive drainage. The monitoring well installations were also decommissioned in 2011.
 - The Non-Hazardous Waste Landfill closure was completed by placing a cover layer of Type 2 granular material over the facility and a layer of Type 1 material on the outer berm side slopes for erosion protection.
 - Closure of the Tier II Disposal Facility included placement of the top geomembrane liner system, including geotextile, and a Type 5 protective layer above and below,

was installed. The Tier II was capped with Type 1 and 2 material placed above the liner system. Four vertical thermistor cables were installed.

- The thermokarst pond was backfilled starting on August 16, 2011. The pond was backfilled from the north end to the south end. The side slopes were reshaped to stable grades. An outlet was constructed on the south end to design elevations.
- Baseline monitoring was carried out at the landfills which remain on-site.
- Sewage lagoons were decommissioned.

Community Consultations: The results of the community meetings held by DCC were submitted with the Project Description. The contractor typically holds a project start up meeting prior to each season; however a copy of presentation has not been received.

Spill Incidences: There was one spill reported on July 21, 2011. A copy of the spill report is attached.

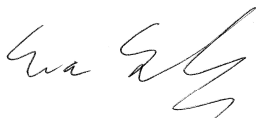
Monitoring Results: See attached

Remaining Work: The work remaining in 2012 will involve reshaping of the area where the construction camp was located and demobilization of the camp, construction equipment and the PCB material currently in temporary storage.

Closing

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.
Senior Environmental Scientist
Eva.Schulz@aecom.com

EMS.

cc: Tamara Van Dyck, DCC

Encl: Annual Report Form; Monitoring Reports; Spill Report; Selected Site Photographs

NWB Annual Report

Year being reported: 2011

License No: 1BR-FOD0813 Issued Date: July 18, 2008
 Expiry Date: July 30, 2013

Project Name: FOX-3, Dewar Lakes DEW Line Site Clean Up

Licensee: Defence Construction Canada

Mailing Address: Defence Construction Canada
 DGME
 101 Colonel By Drive,
 Ottawa, Ontario, Canada. K1A 0K2

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

AECOM
 Engineering Design Consultant

General Background Information on the Project (*optional):

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 for all purposes	Quantity Allowable Domestic (cu.m)	
	729/83 days	Actual Quantity Used Domestic (cu.m)	
	n/a	Quantity Allowable Drilling (cu.m)	
	n/a	Total Quantity Used Drilling (cu.m)	

Waste Management and/or Disposal

- ☒ Solid Waste Disposal
☐ Sewage 620 cu.m. of sewage and greywater disposed of in lagoon.
☐ Drill Waste
☒ Greywater
☒ Hazardous
☒ Other:

Additional Details:
 Details of the waste management and disposal were provided with the application form.

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 19, 2011
 Date of Notification to an Inspector: July 21, 2011
 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

N/A - not applicable 

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)

n/a

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)

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 

Additional Details: (Attached or provided below)

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

No inspection report issued by INAC 

Additional Details: (Dates of Report, Follow-up by the Licensee)

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Any additional comments or information for the Board to consider

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Date Submitted:	March 16, 2012						
Submitted/Prepared by:	Eva Schulz						
Contact Information:	<table border="1"> <tr> <td>Tel:</td> <td>403-270-9220</td> </tr> <tr> <td>Fax:</td> <td>403-270-9196</td> </tr> <tr> <td>email:</td> <td>eva.schulz@aecom.com</td> </tr> </table>	Tel:	403-270-9220	Fax:	403-270-9196	email:	eva.schulz@aecom.com
Tel:	403-270-9220						
Fax:	403-270-9196						
email:	eva.schulz@aecom.com						

GPS Coordinates for water sources utilized

Source Description	UTM Zone 19N, NAD83	
	Northing	Easting
water supply lake	7614050	412400

GPS Locations of areas of waste disposal

Location Description (type)	UTM Zone 19N, NAD83	
	Northing	Easting
Landfarm (F01)	7616970	409322.3
Landfarm (F02)	7616929.4	409363.2
Landfarm (F04)	7616834.8	409400.1
Landfarm (F05)	7616819.1	409321.5
Landfarm (F07)	7616906.8	409287.2
Non-Hazardous Waste Landfill (G01)	7616725.5	409558.2
Non-Hazardous Waste Landfill (G02)	7616722.6	409633.2
Non-Hazardous Waste Landfill (G03)	7616642.7	409630.1
Non-Hazardous Waste Landfill (G04)	7616645.5	409555.2
Tier II Landfill (H01)	7615581.4	409321.8
Tier II Landfill (H02)	7615573	409391.2
Tier II Landfill (H03)	7615496.7	409382
Tier II Landfill (H04)	7615497	409311.5
Sewage Lagoon	7616800	409200

Dustin Ellis
Environmental Sciences Group
The Royal Military College of Canada
PO Box 17000 Stn. Forces
Kingston, ON K7K 7B4



Tamara Van Dyck
Environmental Officer
Defence Construction Canada
DEW Line Cleanup PMO
101 Colonel By Drive
Ottawa ON K1A 0K2

Wednesday, February 22, 2012

RE: June 2011 Monthly Report for Water Use License Number: 1BR-FOD813

The following results of the Monitoring Program (MP) and/or Water Use License are provided by the Environmental Sciences Group to meet the requirements of the above-noted license for FOX-3 (*Dewar Lakes*).

1. CAMP SEWAGE LAGOON

A 2 cell sewage lagoon was constructed to service the FOX-3 construction camp in 2009. The sewage lagoon is located approximately 100 m from the contractor's camp, 100 m away from drainage channels and any bodies of water supporting aquatic life. The GPS coordinates that are required by the Water Use License for the sewage lagoon location are 0409186E 7616767N.

2. SEWAGE EFFLUENT SAMPLES

The Water Use License and MP require that samples be collected from treated sewage lagoon effluent at the point of discharge prior to each discharge event. One sewage effluent sample was collected in June 2011 from the FOX-3 sewage lagoon. A summary of the details of these results follows. Laboratory results are provided in Appendix A.

LOCATION: SEWAGE LAGOON CELL 4

GPS COORDINATES: 0409239 E 7616790 N

SAMPLE: 11-27847

DATE: JUNE 23, 2011

Parameter	Allowable Maximum Average Concentration	Units	Sample # 10-27847
pH	6.0 to 9.0	pH units	7.0
Oil & Grease	None Visible	-	N/A
Total Suspended Solids (TSS)	180	mg/L	42
BOD	120	mg/L	<9
Faecal Coliforms	10,000	CFU/ 100 mL	0
Total Coliforms	-	-	13000



Photo 1: Sample 11-27847 from Camp Sewage Lagoon – Cell #4.

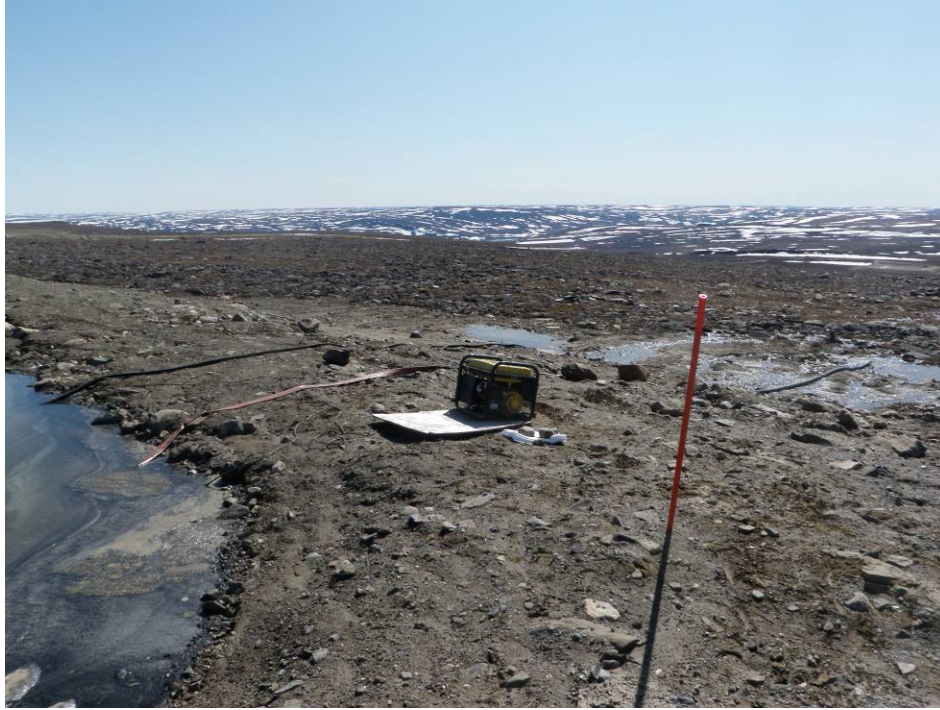


Photo 2: Water being discharged from the Sewage Lagoon Cell 4.

Waste water from Sewage Lagoon Cell 4 was discharge to the ground on July 2, 2011. The water was discharged to an INAC approved location (0409191 E 7616855 N).

LOCATION: DEWAR LAKES UPSTREAM

GPS COORDINATES: 0414180 7614628

SAMPLE: 11-27852

DATE: JUNE 24, 2011

Parameter	Maximum Allowable Concentration	Units	Sample # 11-27852
pH	6-9	pH units	5.8
Total arsenic (As)	0.100	mg/L	<0.003
Dissolved cadmium (Cd)	0.010	mg/L	<0.001
Dissolved chromium (Cr)	0.100	mg/L	<0.005
Dissolved cobalt (Co)	0.050	mg/L	<0.003
Dissolved copper (Cu)	0.200	mg/L	<0.005
Dissolved lead (Pb)	0.050	mg/L	<0.010
Total mercury (Hg)	0.0006	mg/L	<0.0004
Dissolved nickel (Ni)	0.200	mg/L	0.01
Total zinc (Zn)	0.5	mg/L	<0.010
Oil & grease	5	mg/L	<2.0
PCBs	1.0	mg/L	<0.003
Phenols	-	-	N/A



Photo 3: Sample 11-27852. Permit sample collected from the Dewar Lakes upstream of site activities (facing northeast).

LOCATION: DEWAR LAKES DOWNSTREAM

GPS COORDINATES: 0413354 7613767

SAMPLE: 11-27853

DATE: JUNE 24, 2011

Parameter	Maximum Allowable Concentration	Units	Sample # 11-27853
pH	6-9	pH units	5.9
Total arsenic (As)	0.100	mg/L	<0.003
Dissolved cadmium (Cd)	0.010	mg/L	<0.001
Dissolved chromium (Cr)	0.100	mg/L	<0.005
Dissolved cobalt (Co)	0.050	mg/L	<0.003
Dissolved copper (Cu)	0.200	mg/L	<0.005
Dissolved lead (Pb)	0.050	mg/L	<0.010
Total mercury (Hg)	0.0006	mg/L	<0.0004
Dissolved nickel (Ni)	0.200	mg/L	0.01
Total zinc (Zn)	0.5	mg/L	<0.010
Oil & grease	5	mg/L	<2.0
PCBs	1.0	mg/L	<0.003
Phenols	-	-	N/A



Photo 4: Sample 11-27853 FOX-3: Permit sample collected from the Dewar Lakes downstream of site activities (facing northeast).

We trust that the information provided meets current requirements. Please contact the undersigned if you have any questions or concerns.

Sincerely,

A handwritten signature in black ink, appearing to read 'Dustin Ellis', with a stylized, cursive script.

Dustin Ellis
Environmental Sciences Group

cc: Eva Schulz (UMA)
Daniela Loock, Darren White, Dean Morrow, Cam Ollson (ESG)

[illegible]

Sample Identification	Method: ASG 036 Total Coliforms (CFU/100 mL)	Method: ASG 036 <i>E. coli</i> (CFU/100 mL)	Method: ASG 036 Background (CFU/100 mL)	Method: ASG 044 FC Count (CFU/100 mL)	Method: ASG 041 Heterotrophic Plate Count (CFU/mL)
27847*	13000	0	>81000	0	N/A

* Averaged results of duplicates
RTF- Results to follow

Sample Identification	Method: ASG 036	Method: ASG 036	Method: ASG 036	Method: ASG 044	Method: ASG 041
	Total Coliforms (CFU/100 mL)	<i>E. coli</i> (CFU/100 mL)	Background (CFU/100 mL)	FC Count (CFU/100 mL)	Heterotrophic Plate Count (CFU/mL)
Blank	0	0	0	0	N/A
27847*, Duplicate	11000 ; 15000	0 ; 0	>87000 ; >76000	0 ; 0	N/A
Control Sample	0	27	0	23	N/A
Control Target	0	31	0	31	N/A

ASG Login No:	21759
Site:	FOX-3
Client Login No:	11-030
Samples Received:	25-Jun-11
Date of analysis:	30-Jun-11
Method No:	ASG 042
Date Reported:	30-Jun-11
Page:	1 of 1

Sample I.D.	Unit	BOD
21847*	mg/L	<9

Sample I.D.	Unit	BOD
Duplicate ; 21847*	mg/L	<9; <9
Blank	mg/L	< 3
Control	mg/L	169
Control Target	mg/L	165

Client:	ESG	ASG Login No:	21759
	12 Verite Ave	Site:	FOX-3
	Dept. of Chem. / Chem. Eng., RMC	Client No:	11-030
	P.O. Box 17000, Stn. Forces	Samples Received:	25-Jun-11
	Kingston, Ontario K7K 7B4	Date of analysis:	27-Jun-11
	(613) 541-6000 ext 6567	Method No:	ASG 037
	Fax: (613) 541-6596	Date Reported:	27-Jun-11
		Page:	1 of 1

RESULTS OF pH ANALYSIS

Sample I.D.	pH
27847*	7.04

* Averaged result of duplicates

LABORATORY QA/QC

Sample I.D.	pH
27847* ; Duplicate	7.05 ; 7.03
Control	7.02
Control Target	7.00

Client :	ESG	ASG Login No:	21759
	12 Verite Ave	Site:	Fox-3
	Dept. of Chem. / Chem. Eng., RMC	Client Login No:	11-030
	P.O. Box 17000, Stn. Forces	Samples Received:	25-Jun-11
	Kingston, Ontario K7K 7B4	Date of analysis:	30-Jun-11
	(613) 541-6000 ext 6567	Method No:	ASG 039
	Fax: (613) 541-6596	Date Reported:	01-Jul-11
		Sheet:	1 of 1

RESULTS OF TOTAL SUSPENDED SOLIDS ANALYSIS

Sample I.D.	Sample Type^	Unit	Total Suspended Solids
27847*	SE	mg/L	42

LABORATORY QA/QC

Duplicate ;	SE ; SE	mg/L	41 ; 43
Control	Control	mg/L	101
Control Target	Control	mg/L	100
Blank	Control	mg/L	< 1.0

^SW =Surface Water, SI = Sewage Influent SE = Sewage Effluent

* Averaged result of duplicates

Client:	ESG	ASG Login No:	21767
	12 Verite Ave	Site:	FOX-3
	Dept. of Chem. / Chem. Eng., RMC	Client No:	11-038
	P.O. Box 17000, Stn. Forces	Samples Received:	28-Jun-11
	Kingston, Ontario K7K 7B4	Date of analysis:	28-Jun-11
	(613) 541-6000 ext 6567	Method No:	ASG 037
	Fax: (613) 541-6596	Date Reported:	28-Jun-11
		Page:	1 of 1

RESULTS OF pH ANALYSIS

Sample I.D.	pH
27852*	5.83
27853	5.92

* Averaged result of duplicates

LABORATORY QA/QC

Sample I.D.	pH
27847* ; Duplicate	5.84 ; 5.82
Control	6.99
Control Target	7.00

ASU #	13684	Report ID:	FOX-3W7
Client:	ESG	Date Submitted:	28-Jun-11
		Date tested:	28-Jun-11
Site:	FOX-3	Date:	29-Jun-11
	11-038	Matrix:	water
Report of Analysis			
Sample	Oil & Grease mg/L		
11-27852	<2.0		
11-27853	<2.0		
Blank	<2.0		
Control	14.2		
Control Target	15.8		
Results relate only to the items tested			

ASU #	13684		Report ID:	FOX-3 W8				
Client:	ESG		Date Submitted:	28-Jun-11				
			Date tested:	29-Jun-11				
Site:	FOX-3		Date:	30-Jun-11				
	11-038		Matrix:	Water				
Report of Analysis								
Results relate only to the items tested								
Total Metals	Results in mg/L							
SAMPLE	Cu	Ni	Co	Cd	Pb	Zn	Cr	As
11-27852	-	-	-	-	-	<0.010	<0.005	<0.003
11-27853	-	-	-	-	-	<0.010	<0.005	<0.003
Blank	-	-	-	-	-	<0.010	<0.005	<0.003
Control	-	-	-	-	-	3.42	0.90	0.81
Control Target	-	-	-	-	-	3.00	0.80	0.80
Dissolved Metals	Results in mg/L							
SAMPLE	Cu	Ni	Co	Cd	Pb	Zn	Cr	As
11-27852	<0.005	0.011	<0.003	<0.001	<0.010	-	-	-
11-27853	<0.005	0.011	<0.003	<0.001	<0.010	-	-	-
Blank	<0.005	<0.005	<0.003	<0.001	<0.010	-	-	-
Control	1.61	1.79	1.77	0.90	9.12	-	-	-
Control Target	1.60	1.60	1.60	0.80	8.00	-	-	-

Client :	ESG					ASG Login No:	21767
	12 Verite Ave					Site:	FOX-3
	Dept. of Chem. / Chem. Eng., RMC					Client No:	11-038
	P.O. Box 17000, Stn. Forces					Samples Received:	28-Jun-11
	Kingston, Ontario K7K 7B4					Date of analysis:	29-Jun-11
	(613) 541-6000 ext 6567					Method No:	ASG 021
	Fax: (613) 541-6596					Date Reported:	29-Jun-11
						Sheet:	1 of 1

RESULTS OF MERCURY ANALYSIS

Sample ID	Mercury mg/L
27852	< 0.0004
27853	< 0.0004

^ Acid digestion performed.

Reported at 0.0004 mg/L detection limit.

LABORATORY QA/QC

Sample ID	Mercury mg/L
Blank	< 0.0004
Control Target	0.0040
Control Sample	0.0041

Client: ESG					ASG Login No: 21767
12 Verite Ave					Site: Fox-3
Dept. of Chem. / Chem. Eng., RMC					Client No: 11-038
P.O. Box 17000, Stn. Forces					Samples Received: 28-Jun-11
Kingston, Ontario K7K 7B4					Date of analysis: 28-Jun-11
(613) 541-6000 ext 6567					Method No: ASG 015
Fax: (613) 541-6596					Date Reported: 29-Jun-11
					Sheet No: 1 of 1

RESULTS OF PCB IN WATER ANALYSIS

Sample Type **	Sample I.D.	Unit	Aroclor 1254	Aroclor 1260
W	27852*	mg/L	< 0.003	< 0.003
W	27853	mg/L	< 0.003	< 0.003

*Average result of duplicate

Report Values in PPM

LABORATORY QA/QC

Blank	mg/L	< 0.003	< 0.003
Duplicate ; 27852*	mg/L	< 0.003 ; < 0.003	< 0.003 ; < 0.003
Control Sample	mg/L	< 0.003	0.016
Control Sample Target	mg/L	< 0.003	0.015

** S = Soil , C = Concrete , PC = Paint Chip , SW = Swab , P = Plant , W = Water, L = Leachate

All results corrected for the recovery of the surrogate decachlorobiphenyl

Dustin Ellis
Environmental Sciences Group
The Royal Military College of Canada
PO Box 17000 Stn. Forces
Kingston, ON K7K 7B4



Tamara Van Dyck
Environmental Officer
Defence Construction Canada
DEW Line Cleanup PMO
101 Colonel By Drive
Ottawa ON K1A 0K2

Wednesday, February 22, 2012

RE: July 2011 Monthly Report for Water Use License Number: 1BR-FOD813

The following results of the Monitoring Program (MP) and/or Water Use License are provided by the Environmental Sciences Group to meet the requirements of the above-noted license for FOX-3 (*Dewar Lakes*).

1. CAMP SEWAGE LAGOON

A 2 cell sewage lagoon was constructed to service the FOX-3 construction camp in 2009. The sewage lagoon is located approximately 100 m from the contractor's camp, 100 m away from drainage channels and any bodies of water supporting aquatic life. The GPS coordinates that are required by the Water Use License for the sewage lagoon location are 0409186E 7616767N.

2. SEWAGE EFFLUENT SAMPLES

The Water Use License and MP require that samples be collected from treated sewage lagoon effluent at the point of discharge prior to each discharge event. No sewage effluent samples were collected in July 2011 from the FOX-3 sewage lagoon.

We trust that the information provided meets current requirements. Please contact the undersigned if you have any questions or concerns.

Sincerely,

Dustin Ellis
Environmental Sciences Group

cc: Eva Schulz (UMA)
Daniela Loock, Darren White, Dean Morrow, Cam Ollson (ESG)

Dustin Ellis
Environmental Sciences Group
The Royal Military College of Canada
PO Box 17000 Stn. Forces
Kingston, ON K7K 7B4



Tamara Van Dyck
Environmental Officer
Defence Construction Canada
DEW Line Cleanup PMO
101 Colonel By Drive
Ottawa ON K1A 0K2

Wednesday, February 22, 2012

RE: August 2011 Monthly Report for Water Use License Number: 1BR-FOD813

The following results of the Monitoring Program (MP) and/or Water Use License are provided by the Environmental Sciences Group to meet the requirements of the above-noted license for FOX-3 (*Dewar Lakes*).

1. CAMP SEWAGE LAGOON

A 2 cell sewage lagoon was constructed to service the FOX-3 construction camp in 2009. The sewage lagoon is located approximately 100 m from the contractor's camp, 100 m away from drainage channels and any bodies of water supporting aquatic life. The GPS coordinates that are required by the Water Use License for the sewage lagoon location are 0409186E 7616767N.

2. SEWAGE EFFLUENT SAMPLES

The Water Use License and MP require that samples be collected from treated sewage lagoon effluent at the point of discharge prior to each discharge event. One sewage effluent sample was collected in August 2011 from the FOX-3 sewage lagoon. A summary of the details of these results follows. Laboratory results are provided in Appendix A.

LOCATION: DEWAR LAKES UPSTREAM

GPS COORDINATES: 0414180 7614628

SAMPLE: 11-28667

DATE: AUGUST 6, 2011

Parameter	Maximum Allowable Concentration	Units	Sample # 11-28667
pH	6-9	pH units	6.3
Total arsenic (As)	0.100	mg/L	<0.003
Dissolved cadmium (Cd)	0.010	mg/L	<0.001
Dissolved chromium (Cr)	0.100	mg/L	<0.005
Dissolved cobalt (Co)	0.050	mg/L	<0.003
Dissolved copper (Cu)	0.200	mg/L	<0.005
Dissolved lead (Pb)	0.050	mg/L	<0.010
Total mercury (Hg)	0.0006	mg/L	<0.000026
Dissolved nickel (Ni)	0.200	mg/L	<0.005
Total zinc (Zn)	0.5	mg/L	<0.010
Oil & grease	5	mg/L	<2.0
PCBs	1.0	mg/L	<0.00002
Phenols	-	-	N/A



Photo 1: Sample 11-28667 collected from the Dewar Lakes upstream of site activities (facing northeast).

LOCATION: DEWAR LAKES DOWNSTREAM

GPS COORDINATES: 0413354 7613767

SAMPLE: 11-28668

DATE: AUGUST 6, 2011

Parameter	Maximum Allowable Concentration	Units	Sample # 11-28668
pH	6-9	pH units	6.4
Total arsenic (As)	0.100	mg/L	<0.003
Dissolved cadmium (Cd)	0.010	mg/L	<0.001
Dissolved chromium (Cr)	0.100	mg/L	<0.005
Dissolved cobalt (Co)	0.050	mg/L	<0.003
Dissolved copper (Cu)	0.200	mg/L	<0.005
Dissolved lead (Pb)	0.050	mg/L	<0.010
Total mercury (Hg)	0.0006	mg/L	<0.000026
Dissolved nickel (Ni)	0.200	mg/L	<0.005
Total zinc (Zn)	0.5	mg/L	<0.010
Oil & grease	5	mg/L	<2.0
PCBs	1.0	mg/L	<0.00002
Phenols	-	-	N/A



Photo 2: Sample 11-28668 collected from the Dewar Lakes downstream of site activities (facing northeast).

LOCATION: SEWAGE LAGOON CELL 3

GPS COORDINATES: 0409216 E 7616813 N

SAMPLE: 11-28746

DATE: AUGUST 9, 2011

Parameter	Allowable Maximum Average Concentration	Units	Sample # 10-28746
pH	6.0 to 9.0	pH units	7.3
Oil & Grease	None Visible	-	N/A
Total Suspended Solids (TSS)	180	mg/L	17
BOD	120	mg/L	40
Faecal Coliforms	10,000	CFU/ 100 mL	40
Total Coliforms	-	-	5900



Photo 3: Sample 11-28746 from Camp Sewage Lagoon – Cell #3.




Photo 4: Water being discharged from the Sewage Lagoon Cell 3.

Waste from Sewage Lagoon Cell 3 was discharge to the ground on August 22, 2011. The water was discharged to an INAC approved location (0409216 E 7616809 N).

We trust that the information provided meets current requirements. Please contact the undersigned if you have any questions or concerns.

Sincerely,

A handwritten signature in black ink, appearing to read 'Dustin Ellis', with a stylized flourish at the end.

Dustin Ellis
Environmental Sciences Group

cc: Eva Schulz (UMA)
Daniela Loock, Darren White, Dean Morrow, Cam Ollson (ESG)

APPENDIX A
LABORATORY RESULTS

ASU #	13815		Report ID:	FOX-3W26
Client:	ESG		Date Submitted:	15-Aug-11
			Date tested:	16-Aug-11
Site:	FOX-3		Date:	17-Aug-11
	11-195		Matrix:	water
Report of Analysis				
Sample	Oil & Grease			
	mg/L			
11-28667	<2.0			
11-28668	<2.0			
Blank	<2.0			
Control	13.0			
Control Target	15.8			
Results relate only to the items tested				

ASU #	13815		Report ID:	FOX-3 W28					
Client:	ESG		Date Submitted:	15-Aug-11					
			Date tested:	16-Aug-11					
Site:	FOX-3		Date:	16-Aug-11					
	11-195		Matrix:	Water					
Report of Analysis									
Results relate only to the items tested									
Total Metals	Results in mg/L								
SAMPLE	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	
11-28667	-	-	-	-	-	<0.010	<0.005	<0.003	
11-28668	-	-	-	-	-	<0.010	<0.005	<0.003	*
Blank	-	-	-	-	-	<0.010	<0.005	<0.003	
Control	-	-	-	-	-	3.00	0.80	0.76	
Control Target	-	-	-	-	-	3.00	0.80	0.80	
11-28668	-	-	-	-	-	<0.010	<0.005	<0.003	
11-28668	-	-	-	-	-	<0.010	<0.005	<0.003	
Dissolved Metals	Results in mg/L								
SAMPLE	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	
11-28667	<0.005	<0.005	<0.003	<0.001	<0.010	-	-	-	
11-28668	<0.005	<0.005	<0.003	<0.001	<0.010	-	-	-	*
Blank	<0.005	<0.005	<0.003	<0.001	<0.010	-	-	-	
Control	1.57	1.64	1.59	0.78	8.10	-	-	-	
Control Target	1.60	1.60	1.60	0.80	8.00	-	-	-	
11-28668	<0.005	<0.005	<0.003	<0.001	<0.010	-	-	-	
11-28668	<0.005	<0.005	<0.003	<0.001	<0.010	-	-	-	

Client :	ESG	ASG Login No:	21983
	12 Verite Ave	Site:	Fox-3
	Dept. of Chem. / Chem. Eng., RMC	Client No:	11-195
	P.O. Box 17000, Stn. Forces	Samples Received:	15-Aug-11
	Kingston, Ontario K7K 7B4	Date of analysis:	16-Aug-11
	(613) 541-6000 ext 6567	Method No:	ASG 021
	Fax: (613) 541-6596	Date Reported:	17-Aug-11
		Sheet:	1 of 1

RESULTS OF MERCURY ANALYSIS

Sample ID	Mercury^ µg/L
28667*	< 0.026
28668	< 0.026

* Averaged result of duplicates

^ Acid digestion performed.

Reported at 0.0026 µg/L detection limit.

LABORATORY QA/QC

Sample ID	Mercury^ µg/L
Duplicate ; 28667*	< 0.026 ; < 0.026
Blank	< 0.026
Control Target	4.00
Control Sample	4.10

Client:	ESG	ASG Login No:	21983
	12 Verite Ave	Site:	Fox-3
	Dept. of Chem. / Chem. Eng., RMC	Client No:	11-195
	P.O. Box 17000, Stn. Forces	Samples Received:	15-Aug-11
	Kingston, Ontario K7K 7B4	Date of analysis:	15-Aug-11
	(613) 541-6000 ext 6567	Method No:	ASG 037
	Fax: (613) 541-6596	Date Reported:	15-Aug-11
		Page:	1 of 1

RESULTS OF pH ANALYSIS

Sample I.D.	pH
28667*	6.33
28668	6.35

LABORATORY QA/QC

Sample I.D.	pH
28667* ; Duplicate	6.32 ; 6.33
Control	6.98
Control Target	7.00

Client:	ESG				ASG Login No:	21983
	12 Verite Ave				Site:	Fox-3
	Dept. of Chem. / Chem. Eng., RMC				Client No:	11-195
	P.O. Box 17000, Stn. Forces				Samples Received:	15-Aug-11
	Kingston, Ontario K7K 7B4				Date of analysis:	16-Aug-11
	(613) 541-6000 ext 6567				Method No:	ASG 015
	Fax: (613) 541-6596				Date Reported:	17-Aug-11
					Sheet No:	1 of 1

RESULTS OF ULTRA LOW PCB IN WATER ANALYSIS

Sample Type **	Sample I.D.	Unit	Aroclor 1254	Aroclor 1260
W	28667*	mg/L	< 0.00002	< 0.00002
W	28668	mg/L	< 0.00002	< 0.00002

** O = Oil, S = Soil, C = Concrete, PC = Paint Chips, SW = Swabs, W = Water, P = Plants

LABORATORY QA/QC

Blank	mg/L	< 0.00002	< 0.00002
Duplicate ; 28667*	mg/L	< 0.00002 ; < 0.00002	< 0.00002 ; < 0.00002
Control Sample	mg/L	< 0.00002	0.00043
Control Sample Target	mg/L	< 0.00002	0.00050

All results corrected for the recovery of the surrogate decachlorobiphenyl

*Average result of duplicate

Dustin Ellis
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Tamara Van Dyck
Environmental Officer
Defence Construction Canada
DEW Line Cleanup PMO
101 Colonel By Drive
Ottawa ON K1A 0K2

Wednesday, February 22, 2012

RE: September 2011 Monthly Report for Water Use License Number: 1BR-FOD813

The following results of the Monitoring Program (MP) and/or Water Use License are provided by the Environmental Sciences Group to meet the requirements of the above-noted license for FOX-3 (*Dewar Lakes*).

1. CAMP SEWAGE LAGOON

A 2 cell sewage lagoon was constructed to service the FOX-3 construction camp in 2009. The sewage lagoon is located approximately 100 m from the contractor's camp, 100 m away from drainage channels and any bodies of water supporting aquatic life. The GPS coordinates that are required by the Water Use License for the sewage lagoon location are 0409186E 7616767N.

2. SEWAGE EFFLUENT SAMPLES

The Water Use License and MP require that samples be collected from treated sewage lagoon effluent at the point of discharge prior to each discharge event. One sewage effluent sample was collected in September 2011 from the FOX-3 sewage lagoon. A summary of the details of these results follows. Laboratory results are provided in Appendix A.

LOCATION: SEWAGE LAGOON CELL 4

GPS COORDINATES: 0409239 E 7616790 N

SAMPLE: 11-28932

DATE: SEPTEMBER 3, 2011

Parameter	Allowable Maximum Average Concentration	Units	Sample # 10-28932
pH	6.0 to 9.0	pH units	8.1
Oil & Grease	None Visible	-	N/A
Total Suspended Solids (TSS)	180	mg/L	190
BOD	120	mg/L	38
Faecal Coliforms	10,000	CFU/ 100 mL	40
Total Coliforms	-	-	260



Photo 1: Sample 11-28932 Fox-3: Collecting a sample from Camp Sewage Lagoon – Cell #4.

*Waste water from Sewage Lagoon Cell 4 was discharge to the ground on September 12, 2011.
The water was discharged to an INAC approved location (0409191 E 7616855 N).*

LOCATION: DEWAR LAKES UPSTREAM

GPS COORDINATES: 0414180 7614628

SAMPLE: 11-28933

DATE: SEPTEMBER 4, 2011

Parameter	Maximum Allowable Concentration	Units	Sample # 11-28933
pH	6-9	pH units	4.5
Total arsenic (As)	0.100	mg/L	<0.003
Dissolved cadmium (Cd)	0.010	mg/L	<0.001
Dissolved chromium (Cr)	0.100	mg/L	<0.005
Dissolved cobalt (Co)	0.050	mg/L	<0.003
Dissolved copper (Cu)	0.200	mg/L	<0.005
Dissolved lead (Pb)	0.050	mg/L	<0.010
Total mercury (Hg)	0.0006	mg/L	<0.000026
Dissolved nickel (Ni)	0.200	mg/L	0.01
Total zinc (Zn)	0.5	mg/L	<0.020
Oil & grease	5	mg/L	<2.0
PCBs	1.0	mg/L	<0.00002
Phenols	-	-	N/A



Photo 2: Sample 11-28933 FOX-3: Permit sample collected from the Dewar Lakes upstream of site activities (facing northeast).

LOCATION: DEWAR LAKES DOWNSTREAM

GPS COORDINATES: 0413354 7613767

SAMPLE: 11-28934

DATE: SEPTEMBER 4, 2011

Parameter	Maximum Allowable Concentration	Units	Sample # 11-28934
pH	6-9	pH units	4.7
Total arsenic (As)	0.100	mg/L	<0.003
Dissolved cadmium (Cd)	0.010	mg/L	<0.001
Dissolved chromium (Cr)	0.100	mg/L	<0.005
Dissolved cobalt (Co)	0.050	mg/L	<0.003
Dissolved copper (Cu)	0.200	mg/L	<0.005
Dissolved lead (Pb)	0.050	mg/L	<0.010
Total mercury (Hg)	0.0006	mg/L	<0.000026
Dissolved nickel (Ni)	0.200	mg/L	<0.005
Total zinc (Zn)	0.5	mg/L	<0.020
Oil & grease	5	mg/L	<2.0
PCBs	1.0	mg/L	<0.00002
Phenols	-	-	N/A



Photo 3: Sample 11-28934 FOX-3; Permit sample collected from the Dewar Lakes downstream of site activities (facing northeast).

We trust that the information provided meets current requirements. Please contact the undersigned if you have any questions or concerns.

Sincerely,

A handwritten signature in black ink, appearing to read 'Dustin Ellis', with a stylized, cursive script.

Dustin Ellis
Environmental Sciences Group

cc: Eva Schulz (UMA)
Daniela Loock, Darren White, Dean Morrow, Cam Ollson (ESG)

APPENDIX A LABORATORY RESULTS

Client :	ESG				ASG Login No:	22058
	12 Verite Ave				Site:	Fox-3
	Dept. of Chem. / Chem. Eng., RMC				Client No:	11-267
	P.O. Box 17000, Stn. Forces				Samples Received:	04-Sep-11
	Kingston, Ontario K7K 7B4				Date of analysis:	04-Sep-11
	(613) 541-6000 ext 6567				Date Reported:	05-Sep-11
	Fax: (613) 541-6596				Sheet:	1 of 1

RESULTS OF MICROBIOLOGICAL ANALYSIS

Sample Identification	Method: ASG 036 Total Coliforms (CFU/100 mL)	Method: ASG 036 <i>E. coli</i> (CFU/100 mL)	Method: ASG 036 Background (CFU/100 mL)	Method: ASG 041 Fecal Coliforms (CFU/100mL)
28932	260	0	40000	40

RTF- Results to follow

LABORATORY QA/QC

Sample Identification	Method: ASG 036 Total Coliforms (CFU/100 mL)	Method: ASG 036 <i>E. coli</i> (CFU/100 mL)	Method: ASG 036 Background (CFU/100 mL)	Method: ASG 041 Fecal Coliforms (CFU/100mL)
Blank	0	0	0	0
Control Sample	41	41	0	40
Control Target	44	44	0	44

Client:	ESG				ASG Login No:	22058
	12 Verite Ave				Site:	Fox-3
	Dept. of Chem. / Chem. Eng., RMC				Client Login No:	11-267
	P.O. Box 17000, Stn. Forces				Samples Received:	04-Sep-11
	Kingston, Ontario K7K 7B4				Date of analysis:	07-Sep-11
					Method No:	ASG 042
					Date Reported:	12-Sep-11
					Page:	1 of 1

RESULTS OF BOD ANALYSIS

Sample I.D.	Unit	BOD
28932	mg/L	38

LABORATORY QA/QC

Sample I.D.	Unit	BOD
Blank	mg/L	< 3
Control	mg/L	198
Control Target	mg/L	165

Client:	ESG	ASG Login No:	22058
	12 Verite Ave	Site:	Fox-3
	Dept. of Chem. / Chem. Eng., RMC	Client No:	11-267
	P.O. Box 17000, Stn. Forces	Samples Received:	04-Sep-11
	Kingston, Ontario K7K 7B4	Date of analysis:	07-Sep-11
	(613) 541-6000 ext 6567	Method No:	ASG 037
	Fax: (613) 541-6596	Date Reported:	08-Sep-11
		Page:	1 of 1

RESULTS OF pH ANALYSIS

Sample I.D.	pH
28932	8.08

LABORATORY QA/QC

Sample I.D.	pH
Control	6.99
Control Target	7.00

Client :	ESG	ASG Login No:	22058
	12 Verite Ave	Site:	Fox-3
	Dept. of Chem. / Chem. Eng., RMC	Client Login No:	11-267
	P.O. Box 17000, Stn. Forces	Samples Received:	04-Sep-11
	Kingston, Ontario K7K 7B4	Date of analysis:	07-Sep-11
	(613) 541-6000 ext 6567	Method No:	ASG 039
	Fax: (613) 541-6596	Date Reported:	08-Sep-11
		Sheet:	1 of 1

RESULTS OF TOTAL SUSPENDED SOLIDS ANALYSIS

Sample I.D.	Sample Type^	Unit	Total Suspended Solids
28932*	SE	mg/L	190

LABORATORY QA/QC

Duplicate ; 28932*	SE ; SE	mg/L	190 ; 190
Control	Control	mg/L	200
Control Target	Control	mg/L	200
Blank	Control	mg/L	< 1

^SW =Surface Water, SI = Sewage Influent SE = Sewage Effluent
 * Averaged result of duplicates

ASU #	13947		Report ID:	FOX-3 W35					
Client:	ESG		Date Submitted:	20-Oct-11					
			Date tested:	24-Oct-11					
Site:	FOX-3		Date:	24-Oct-11					
	11-316		Matrix:	Water					
Report of Analysis									
Results relate only to the items tested									
Total Metals	Results in mg/L								
SAMPLE	Cu	Ni	Co	Cd	Pb	Zn **	Cr	As	
11-28933	-	-	-	-	-	<0.020	<0.005	<0.003	
11-28934	-	-	-	-	-	<0.020	<0.005	<0.003	*
Blank	-	-	-	-	-	<0.020	<0.005	<0.003	
Control	-	-	-	-	-	2.83	0.80	0.70	
Control Target	-	-	-	-	-	3.00	0.80	0.80	
11-28934	-	-	-	-	-	<0.020	<0.005	<0.003	
11-28934	-	-	-	-	-	<0.020	<0.005	<0.003	
** Detction limit raised due to interferences									
Dissolved Metals	Results in mg/L								
SAMPLE	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	
11-28933	<0.005	0.010	<0.003	<0.001	<0.010	-	-	-	
11-28934	<0.005	<0.005	<0.003	<0.001	<0.010	-	-	-	*
Blank	<0.005	<0.005	<0.003	<0.001	<0.010	-	-	-	
Control	1.57	1.56	1.54	0.75	7.91	-	-	-	
Control Target	1.60	1.60	1.60	0.80	8.00	-	-	-	
11-28934	<0.005	<0.005	<0.003	<0.001	<0.010	-	-	-	
11-28934	<0.005	<0.005	<0.003	<0.001	<0.010	-	-	-	

ASU #	13947		Report ID:	FOX-3 W36
Client:	ESG		Date Submitted:	20-Oct-11
			Date tested:	24-Oct-11
Site:	FOX-3		Date:	25-Oct-11
	11-316		Matrix:	Water
Report of Analysis				
Results relate only to the items tested				
	Results in mg/L			
SAMPLE	Oil & Grease			
11-28933	<2.0			
11-28934	<2.0			
Blank	<2.0			
Control	13.3			
Control Target	15.8			

Client :	ESG					ASG Login No:	22169
	12 Verite Ave					Site:	Fox-3
	Dept. of Chem. / Chem. Eng., RMC					Client No:	11-316
	P.O. Box 17000, Stn. Forces					Samples Received:	20-Oct-11
	Kingston, Ontario K7K 7B4					Date of analysis:	04-Nov-11
	(613) 541-6000 ext 6567					Method No:	ASG 021
	Fax: (613) 541-6596					Date Reported:	04-Nov-11
						Sheet:	1 of 1

RESULTS OF MERCURY IN WATER ANALYSIS

Sample ID	Mercury^ µg/L
11-28933*	< 0.026
11-28934	< 0.026

LABORATORY QA/QC

Sample ID	Mercury^ µg/L
Duplicate ; 11-28933*	< 0.026 ; < 0.026
Blank	< 0.026
Control Target	4.00
Control Sample	4.30

* Averaged result of duplicates

^ Acid digestion performed

Reported at 0.4 µg/L detection limit

Client:	ESG					ASG Login No:	22169
	12 Verite Ave					Site:	Fox-3
	Dept. of Chem. / Chem. Eng., RMC					Client No:	11-316
	P.O. Box 17000, Stn. Forces					Samples Received:	20-Oct-11
	Kingston, Ontario K7K 7B4					Date of analysis:	26-Oct-11
	(613) 541-6000 ext 6567					Method No:	ASG 037
	Fax: (613) 541-6596					Date Reported:	27-Oct-11
						Page:	1 of 1

RESULTS OF pH ANALYSIS

Sample I.D.	pH
28933*	4.45
28934	4.66

* Averaged result of duplicates

LABORATORY QA/QC

Sample I.D.	pH
28933* ; Duplicate	4.45 ; 4.45
Control	6.98
Control Target	7.00

Client:	ESG				ASG Login No:	22169
	12 Verite Ave				Site:	Fox-3
	Dept. of Chem. / Chem. Eng., RMC				Client No:	11-316
	P.O. Box 17000, Stn. Forces				Samples Received:	20-Oct-11
	Kingston, Ontario K7K 7B4				Date of analysis:	20-Oct-11
	(613) 541-6000 ext 6567				Method No:	ASG 015
	Fax: (613) 541-6596				Date Reported:	24-Oct-11
					Sheet No:	1 of 1

RESULTS OF ULTRA LOW PCB IN WATER ANALYSIS

Sample Type **	Sample I.D.	Unit	Aroclor 1254	Aroclor 1260
W	28933	mg/L	< 0.00002	< 0.00002
W	28934	mg/L	< 0.00002	< 0.00002

** O = Oil, S = Soil, C = Concrete, PC = Paint Chips, SW = Swabs, W = Water, P = Plants

LABORATORY QA/QC

	Blank	mg/L	< 0.00002	< 0.00002
	Control Sample	mg/L	< 0.00002	0.00049
	Control Sample Target	mg/L	< 0.00002	0.00050

All results corrected for the recovery of the surrogate decachlorobiphenyl

*Average result of duplicate

Dustin Ellis
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Tamara VanDyck
Environmental Officer
Defence Construction Canada
DEW Line Cleanup PMO
101 Colonel By Drive
Ottawa ON K1A 0K2

Wednesday, February 22, 2012

RE: Analytical Results for Wastewater Samples Collected at FOX-3 in June 2011

The following report summarizes results of the analysis of wastewater samples as per the FOX-3 (Dewar Lakes) DEW Line Cleanup Project (DLCU) Specifications.

The FOX-3 specifications require that “wash water, melt water collection, rinse water resulting from the cleaning of fuel tanks and pipelines, and/or any other liquid effluent stream” meet the following guidelines prior to their discharge to land (01560.4.1):

Parameter	Maximum Allowable Concentration	Units
pH	6-9	pH units
Total arsenic (As)	0.100	mg/L
Dissolved cadmium (Cd)	0.010	mg/L
Dissolved chromium (Cr)	0.100	mg/L
Dissolved cobalt (Co)	0.050	mg/L
Dissolved copper (Cu)	0.200	mg/L
Dissolved lead (Pb)	0.050	mg/L
Total mercury (Hg)	0.0006	mg/L
Dissolved nickel (Ni)	0.200	mg/L
Total zinc (Zn)	0.5	mg/L
Oil & grease	5	mg/L
PCBs	1.0	mg/L
Phenols	-	-

Phenols

The wastewater samples collected by ESG at FOX-3 in June, 2011 were not analyzed for phenols but they were analyzed for oil and grease. Research conducted by ESG¹ has determined that a) no federal, territorial or provincial criteria exist for the discharge of wastewater containing phenols to land at a minimum distance of 30-m from natural drainage courses b) the maximum concentration of phenols in DLCU wastewater to date

¹ Environmental Sciences Group. *DEW Line Clean Up Project – Phenols in Wastewater*. June, 2007.

(2.44 mg/L) is below the LC₅₀ for freshwater fish and crustaceans and below the oral and dermal LD₅₀s for rats and rodents and c) phenols in excess of the maximum allowable concentration (MAC) have historically co-occurred with a visible oil & grease sheen and/or with an exceedance of the MAC for oil & grease. This information, and a subsequent decision to not test for phenols, has been presented to the NWB. To date, verbal agreement from the NWB has been received, but the project is awaiting written confirmation of the decision to suspend testing for phenols.

WASTEWATER SAMPLES

Six wastewater samples were collected at FOX-3 and analyzed in June 2011. A summary of the details of these results follows. Laboratory results are provided in Appendix A.

LOCATION: LANDFARM
GPS COORDINATES: 0409336 7616827
SAMPLE: 11-27845
DATE: JUNE 23, 2011

Parameter	Maximum Allowable Concentration	Units	Sample # 11-27845
pH	6-9	pH units	N/A
Total arsenic (As)	0.100	mg/L	N/A
Dissolved cadmium (Cd)	0.010	mg/L	N/A
Dissolved chromium (Cr)	0.100	mg/L	N/A
Dissolved cobalt (Co)	0.050	mg/L	N/A
Dissolved copper (Cu)	0.200	mg/L	N/A
Dissolved lead (Pb)	0.050	mg/L	N/A
Total mercury (Hg)	0.0006	mg/L	N/A
Dissolved nickel (Ni)	0.200	mg/L	N/A
Total zinc (Zn)	0.5	mg/L	N/A
Oil & grease	5	mg/L	<2.0
PCBs	1.0	mg/L	N/A
Phenols	-	-	N/A



Photo 1: Sample 11-27845 collected at the Landfarm (facing northeast).



Photo 2: Wastewater discharge from the Landfarm (facing southeast).

Waste water from the Landfarm (11-27845) was discharged to the ground on June 28, 2011. The water was discharged to an area greater than 30m from drainage courses. (E 0409318 N 7616804)

LOCATION: MATERIAL PROCESSING AREA #6

GPS COORDINATES: 0409253 7616922

SAMPLE: 11-27846

DATE: JUNE 23, 2011

Parameter	Maximum Allowable Concentration	Units	Sample # 11-27846
pH	6-9	pH units	N/A
Total arsenic (As)	0.100	mg/L	N/A
Dissolved cadmium (Cd)	0.010	mg/L	N/A
Dissolved chromium (Cr)	0.100	mg/L	N/A
Dissolved cobalt (Co)	0.050	mg/L	N/A
Dissolved copper (Cu)	0.200	mg/L	N/A
Dissolved lead (Pb)	0.050	mg/L	N/A
Total mercury (Hg)	0.0006	mg/L	N/A
Dissolved nickel (Ni)	0.200	mg/L	N/A
Total zinc (Zn)	0.5	mg/L	N/A
Oil & grease	5	mg/L	<2.0
PCBs	1.0	mg/L	N/A
Phenols	-	-	N/A



Photo 3: Sample 11-27846 collected at the Material Processing Area #6 (facing north).



Photo 4: Wastewater Discharge from the Material Processing Area #6 (facing southwest).

Waste water from the Material Processing Area #6 (11-27846) was discharged to the ground on July 1, 2011. The water was discharged to an area greater than 30m from drainage courses. (N 0409269 E 7616911)

LOCATION: MATERIAL PROCESSING AREA #7

GPS COORDINATES: 0409516 7615685

SAMPLE: 11-27848

DATE: JUNE 23, 2011

Parameter	Maximum Allowable Concentration	Units	Sample # 11-27848
pH	6-9	pH units	N/A
Total arsenic (As)	0.100	mg/L	<0.003
Dissolved cadmium (Cd)	0.010	mg/L	N/A
Dissolved chromium (Cr)	0.100	mg/L	<0.005
Dissolved cobalt (Co)	0.050	mg/L	N/A
Dissolved copper (Cu)	0.200	mg/L	N/A
Dissolved lead (Pb)	0.050	mg/L	N/A
Total mercury (Hg)	0.0006	mg/L	N/A
Dissolved nickel (Ni)	0.200	mg/L	N/A
Total zinc (Zn)	0.5	mg/L	N/A
Oil & grease	5	mg/L	N/A
PCBs	1.0	mg/L	N/A
Phenols	-	-	N/A



Photo 5: Sample 11-27848 collected at the Material Processing Area #7 (facing southwest)

Waste water from the Material Processing Area #7 (11-27848) was discharged to the ground on June 30, 2011. The water was discharged to an area greater than 30m from drainage courses. (N 0409510 E 7615660)

LOCATION: BARREL PROCESSING AREA #1

GPS COORDINATES: 0413769 7614388

SAMPLE: 11-27849

DATE: JUNE 24, 2011

Parameter	Maximum Allowable Concentration	Units	Sample # 11-27849
pH	6-9	pH units	6.5
Total arsenic (As)	0.100	mg/L	<0.003
Dissolved cadmium (Cd)	0.010	mg/L	<0.001
Dissolved chromium (Cr)	0.100	mg/L	<0.005
Dissolved cobalt (Co)	0.050	mg/L	<0.003
Dissolved copper (Cu)	0.200	mg/L	0.0061
Dissolved lead (Pb)	0.050	mg/L	0.011
Total mercury (Hg)	0.0006	mg/L	<0.0004
Dissolved nickel (Ni)	0.200	mg/L	0.0052
Total zinc (Zn)	0.5	mg/L	0.046
Oil & grease	5	mg/L	4.8
PCBs	1.0	mg/L	<0.003
Phenols	-	-	N/A



Photo 6: Sample 11-27849 collected at the Barrel Processing Area #1.

Waste water from the Barrel Processing Area #1 (11-27849) was discharged to the ground on July 1, 2011. The water was discharged to an area greater than 30m from drainage courses. (N 0413772 E 7614386)

LOCATION: NON-HAZARDOUS WASTE LANDFILL

GPS COORDINATES: 0409587 7616646

SAMPLE: 11-27939

DATE: JUNE 28, 2011

Parameter	Maximum Allowable Concentration	Units	Sample # 11-27939
pH	6-9	pH units	6.9
Total arsenic (As)	0.100	mg/L	0.0041
Dissolved cadmium (Cd)	0.010	mg/L	0.0058
Dissolved chromium (Cr)	0.100	mg/L	0.0056
Dissolved cobalt (Co)	0.050	mg/L	0.0032
Dissolved copper (Cu)	0.200	mg/L	<0.005
Dissolved lead (Pb)	0.050	mg/L	<0.010
Total mercury (Hg)	0.0006	mg/L	<0.0004
Dissolved nickel (Ni)	0.200	mg/L	0.0086
Total zinc (Zn)	0.5	mg/L	1.8
Oil & grease	5	mg/L	<2.0
PCBs	1.0	mg/L	<0.003
Phenols	-	-	N/A



Photo 7: Sample 11-27939 collected at the Non-Hazardous Waste Landfill (facing northwest).

LOCATION: STATION WEST FUEL BERM
GPS COORDINATES: 0409083 7616977
SAMPLE: 11-27938
DATE: JUNE 30, 2011

Parameter	Maximum Allowable Concentration	Units	Sample # 11-27938
pH	6-9	pH units	N/A
Total arsenic (As)	0.100	mg/L	N/A
Dissolved cadmium (Cd)	0.010	mg/L	N/A
Dissolved chromium (Cr)	0.100	mg/L	N/A
Dissolved cobalt (Co)	0.050	mg/L	N/A
Dissolved copper (Cu)	0.200	mg/L	N/A
Dissolved lead (Pb)	0.050	mg/L	N/A
Total mercury (Hg)	0.0006	mg/L	N/A
Dissolved nickel (Ni)	0.200	mg/L	N/A
Total zinc (Zn)	0.5	mg/L	N/A
Oil & grease	5	mg/L	2.4
PCBs	1.0	mg/L	N/A
Phenols	-	-	N/A



Photo 8: Sample 11-27938 collected from the Station West Fuel Berm (facing southwest).

Waste water from the Station West Fuel Berm (11-27938) was discharged to the ground on July 5, 2011. The water was discharged to an area greater than 30m from drainage courses. (E 0409061 E 7616996)

We trust that the information provided meets current requirements. Please contact the undersigned if you have any questions or concerns.

Sincerely,

A handwritten signature in black ink, appearing to read "Dustin Ellis". The signature is fluid and cursive, with the first name "Dustin" being more prominent than the last name "Ellis".

Dustin Ellis
Environmental Sciences Group

cc: Eva Schulz (UMA)
Daniela Loock, Darren White, Dean Morrow, Cam Ollson (ESG)

APPENDIX A LABORATORY RESULTS

ASU #	13677		Report ID:	FOX-3 W2					
Client:	ESG		Date Submitted:	27-Jun-11					
			Date tested:	29-Jun-11					
Site:	FOX-3		Date:	30-Jun-11					
	11-017		Matrix:	Water					
Report of Analysis									
Results relate only to the items tested									
Total Metals	Results in mg/L								
SAMPLE	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	
11-27848	-	-	-	-	-	-	<0.005	<0.003	*
Blank	-	-	-	-	-	-	<0.005	<0.003	
Control	-	-	-	-	-	-	0.90	0.81	
Control Target	-	-	-	-	-	-	0.80	0.80	
11-27848	-	-	-	-	-	-	<0.005	<0.003	
11-27848	-	-	-	-	-	-	<0.005	<0.003	

ASU #	13677		Report ID:	FOX-3W3
Client:	ESG		Date Submitted:	27-Jun-11
			Date tested:	27-Jun-11
Site:	FOX-3		Date:	28-Jun-11
	11-017		Matrix:	water
Report of Analysis				
Sample	Oil & Grease			
	mg/L			
11-27845	<2.0			
11-27846	<2.0			
Blank	<2.0			
Control	14.2			
Control Target	15.8			
Results relate only to the items tested				

ASU #	13683		Report ID:	FOX-3W5
Client:	ESG		Date Submitted:	28-Jun-11
			Date tested:	28-Jun-11
Site:	FOX-3		Date:	29-Jun-11
	11-037		Matrix:	water
Report of Analysis				
Sample	Oil & Grease			
	mg/L			
11-27849	4.8			
Blank	<2.0			
Control	14.2			
Control Target	15.8			
Results relate only to the items tested				

ASU #	13683		Report ID:	FOX-3 W6				
Client:	ESG		Date Submitted:	28-Jun-11				
			Date tested:	29-Jun-11				
Site:	FOX-3		Date:	30-Jun-11				
	11-037		Matrix:	Water				
Report of Analysis								
Results relate only to the items tested								
Total Metals	Results in mg/L							
SAMPLE	Cu	Ni	Co	Cd	Pb	Zn	Cr	As
11-27849	-	-	-	-	-	0.046	<0.005	<0.003
Blank	-	-	-	-	-	<0.010	<0.005	<0.003
Control	-	-	-	-	-	3.42	0.90	0.81
Control Target	-	-	-	-	-	3.00	0.80	0.80
Dissolved Metals	Results in mg/L							
SAMPLE	Cu	Ni	Co	Cd	Pb	Zn	Cr	As
11-27849	0.006	0.005	<0.003	<0.001	0.011	-	-	-
Blank	<0.005	<0.005	<0.003	<0.001	<0.010	-	-	-
Control	1.61	1.79	1.77	0.90	9.12	-	-	-
Control Target	1.60	1.60	1.60	0.80	8.00	-	-	-

Client :	ESG				ASG Login No:	21766
	12 Verite Ave				Site:	FOX-3
	Dept. of Chem. / Chem. Eng., RMC				Client No:	11-037
	P.O. Box 17000, Stn. Forces				Samples Received:	28-Jun-11
	Kingston, Ontario K7K 7B4				Date of analysis:	29-Jun-11
	(613) 541-6000 ext 6567				Method No:	ASG 021
	Fax: (613) 541-6596				Date Reported:	29-Jun-11
					Sheet:	1 of 1

RESULTS OF MERCURY ANALYSIS

Sample ID	Mercury mg/L
27849	< 0.0004

^ Acid digestion performed.

Reported at 0.0004 mg/L detection limit.

LABORATORY QA/QC

Sample ID	Mercury mg/L
Blank	< 0.0004
Control Target	0.0040
Control Sample	0.0041

Client:	ESG				ASG Login No:	21766
	12 Verite Ave				Site:	Fox-3
	Dept. of Chem. / Chem. Eng., RMC				Client No:	11-037
	P.O. Box 17000, Stn. Forces				Samples Received:	28-Jun-11
	Kingston, Ontario K7K 7B4				Date of analysis:	28-Jun-11
	(613) 541-6000 ext 6567				Method No:	ASG 015
	Fax: (613) 541-6596				Date Reported:	29-Jun-11
					Sheet No:	1 of 1

RESULTS OF PCB IN WATER ANALYSIS

Sample Type **	Sample I.D.	Unit	Aroclor 1254	Aroclor 1260
W	27849	mg/L	< 0.003	< 0.003

Report Values in PPM

LABORATORY QA/QC

	Blank	mg/L	< 0.003	< 0.003
	Control Sample	mg/L	< 0.003	0.016
	Control Sample Target	mg/L	< 0.003	0.015

** S = Soil , C = Concrete , PC = Paint Chip , SW = Swab , P = Plant , W = Water, L = Leachate

All results corrected for the recovery of the surrogate decachlorobiphenyl

ASU #	13698		Report ID:	FOX-3 W9					
Client:	ESG		Date Submitted:	04-Jul-11					
			Date tested:	06-Jul-11					
Site:	FOX-3		Date:	06-Jul-11					
	11-053		Matrix:	Water					
Report of Analysis									
Results relate only to the items tested									
Total Metals	Results in mg/L								
SAMPLE	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	
11-27939	-	-	-	-	-	1.81	0.006	0.004	*
Blank	-	-	-	-	-	<0.010	<0.005	<0.003	
Control	-	-	-	-	-	3.28	0.89	0.81	
Control Target	-	-	-	-	-	3.00	0.80	0.80	
11-27939	-	-	-	-	-	1.81	0.006	0.005	
11-27939	-	-	-	-	-	1.80	0.006	0.003	
Dissolved Metals	Results in mg/L								
SAMPLE	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	
11-27939	<0.005	0.009	0.003	0.006	<0.010	-	-	-	*
Blank	<0.005	<0.005	<0.003	<0.001	<0.010	-	-	-	
Control	1.69	1.73	1.73	0.85	8.73	-	-	-	
Control Target	1.60	1.60	1.60	0.80	8.00	-	-	-	
11-27939	<0.005	0.009	0.003	0.006	<0.010	-	-	-	
11-27939	<0.005	0.008	0.003	0.006	<0.010	-	-	-	

ASU #	13698		Report ID:	FOX-3W10
Client:	ESG		Date Submitted:	04-Jul-11
			Date tested:	05-Jul-11
Site:	FOX-3		Date:	05-Jul-11
	11-053		Matrix:	water
Report of Analysis				
Sample	Oil & Grease			
	mg/L			
11-27938	2.4			
11-27939	<2.0			
Blank	<2.0			
Control	15.5			
Control Target	15.8			
Results relate only to the items tested				

Client :	ESG				ASG Login No:	21791
	12 Verite Ave				Site:	FOX-3
	Dept. of Chem. / Chem. Eng., RMC				Client No:	11-053
	P.O. Box 17000, Stn. Forces				Samples Received:	04-Jul-11
	Kingston, Ontario K7K 7B4				Date of analysis:	05-Jul-11
	(613) 541-6000 ext 6567				Method No:	ASG 021
	Fax: (613) 541-6596				Date Reported:	06-Jul-11
					Sheet:	1 of 1

RESULTS OF MERCURY ANALYSIS

Sample ID	Mercury mg/L
27939	< 0.0004

^ Acid digestion performed.

Reported at 0.0004 mg/L detection limit.

LABORATORY QA/QC

Sample ID	Mercury mg/L
Blank	< 0.0004
Control Target	0.0040
Control Sample	0.0042

Client:	ESG				ASG Login No:	21791
	12 Verite Ave				Site:	Fox-3
	Dept. of Chem. / Chem. Eng., RMC				Client No:	11-053
	P.O. Box 17000, Stn. Forces				Samples Received:	04-Jul-11
	Kingston, Ontario K7K 7B4				Date of analysis:	05-Jul-11
	(613) 541-6000 ext 6567				Method No:	ASG 015
	Fax: (613) 541-6596				Date Reported:	07-Jul-11
					Sheet No:	1 of 1

RESULTS OF PCB IN WATER ANALYSIS

Sample Type **	Sample I.D.	Unit	Aroclor 1254	Aroclor 1260
W	27939	mg/L	< 0.003	< 0.003

*Average result of duplicate

Report Values in PPM

LABORATORY QA/QC

Blank	mg/L	< 0.003	< 0.003
Control Sample	mg/L	< 0.003	0.013
Control Sample Target	mg/L	< 0.003	0.015

** S = Soil , C = Concrete , PC = Paint Chip , SW = Swab , P = Plant , W = Water, L = Leachate

All results corrected for the recovery of the surrogate decachlorobiphenyl

Client:	ESG					ASG Login No:	21791	
	12 Verite Ave					Site:	Fox-3	
	Dept. of Chem. / Chem. Eng., RMC					Client No:	11-053	
	P.O. Box 17000, Stn. Forces					Samples Received:	04-Jul-11	
	Kingston, Ontario K7K 7B4					Date of analysis:	05-Jul-11	
	(613) 541-6000 ext 6567					Method No:	ASG 037	
	Fax: (613) 541-6596					Date Reported:	05-Jul-11	
						Page:	1 of 1	

RESULTS OF pH ANALYSIS

Sample I.D.	pH
27939	6.88

LABORATORY QA/QC

Sample I.D.	pH
Control	6.98
Control Target	7.00

Dustin Ellis
Environmental Sciences Group
The Royal Military College of Canada
PO Box 17000 Stn. Forces
Kingston, ON K7K 7B4



Tamara VanDyck
Environmental Officer
Defence Construction Canada
DEW Line Cleanup PMO
101 Colonel By Drive
Ottawa ON K1A 0K2

Wednesday, February 22, 2012

RE: Analytical Results for Wastewater Samples Collected at FOX-3 in July 2011

The following report summarizes results of the analysis of wastewater samples as per the FOX-3 (Dewar Lakes) DEW Line Cleanup Project (DLCU) Specifications.

The FOX-3 specifications require that “wash water, melt water collection, and rinse water resulting from the cleaning of fuel tanks and pipelines, and/or any other liquid effluent stream” meet the following guidelines prior to their discharge to land (01560.4.1):

Parameter	Maximum Allowable Concentration	Units
pH	6-9	pH units
Total arsenic (As)	0.100	mg/L
Dissolved cadmium (Cd)	0.010	mg/L
Dissolved chromium (Cr)	0.100	mg/L
Dissolved cobalt (Co)	0.050	mg/L
Dissolved copper (Cu)	0.200	mg/L
Dissolved lead (Pb)	0.050	mg/L
Total mercury (Hg)	0.0006	mg/L
Dissolved nickel (Ni)	0.200	mg/L
Total zinc (Zn)	0.5	mg/L
Oil & grease	5	mg/L
PCBs	1.0	mg/L
Phenols	-	-

Phenols

The wastewater samples collected by ESG at FOX-3 in July, 2011 were not analyzed for phenols but they were analyzed for oil and grease. Research conducted by ESG¹ has determined that a) no federal, territorial or provincial criteria exist for the discharge of wastewater containing phenols to land at a minimum distance of 30-m from natural drainage courses b) the maximum concentration of phenols in DLCU wastewater to date

¹ Environmental Sciences Group. *DEW Line Clean Up Project – Phenols in Wastewater*. June, 2007.

(2.44 mg/L) is below the LC₅₀ for freshwater fish and crustaceans and below the oral and dermal LD₅₀s for rats and rodents and c) phenols in excess of the maximum allowable concentration (MAC) have historically co-occurred with a visible oil & grease sheen and/or with an exceedance of the MAC for oil & grease. This information, and a subsequent decision to not test for phenols, has been presented to the NWB. To date, verbal agreement from the NWB has been received, but the project is awaiting written confirmation of the decision to suspend testing for phenols.

WASTEWATER SAMPLES

Twelve wastewater samples were collected at FOX-3 and analyzed in July 2011. A summary of the details of these results follows. Laboratory results are provided in Appendix A.

LOCATION: NON-HAZARDOUS WASTE LANDFILL

GPS COORDINATES: 0409587 7616646

SAMPLE: 11-28152

DATE: JULY 8, 2011

Parameter	Maximum Allowable Concentration	Units	Sample # 11-28152
pH	6-9	pH units	N/A
Total arsenic (As)	0.100	mg/L	N/A
Dissolved cadmium (Cd)	0.010	mg/L	N/A
Dissolved chromium (Cr)	0.100	mg/L	N/A
Dissolved cobalt (Co)	0.050	mg/L	N/A
Dissolved copper (Cu)	0.200	mg/L	N/A
Dissolved lead (Pb)	0.050	mg/L	N/A
Total mercury (Hg)	0.0006	mg/L	N/A
Dissolved nickel (Ni)	0.200	mg/L	N/A
Total zinc (Zn)	0.5	mg/L	1.9
Oil & grease	5	mg/L	N/A
PCBs	1.0	mg/L	N/A
Phenols	-	-	N/A

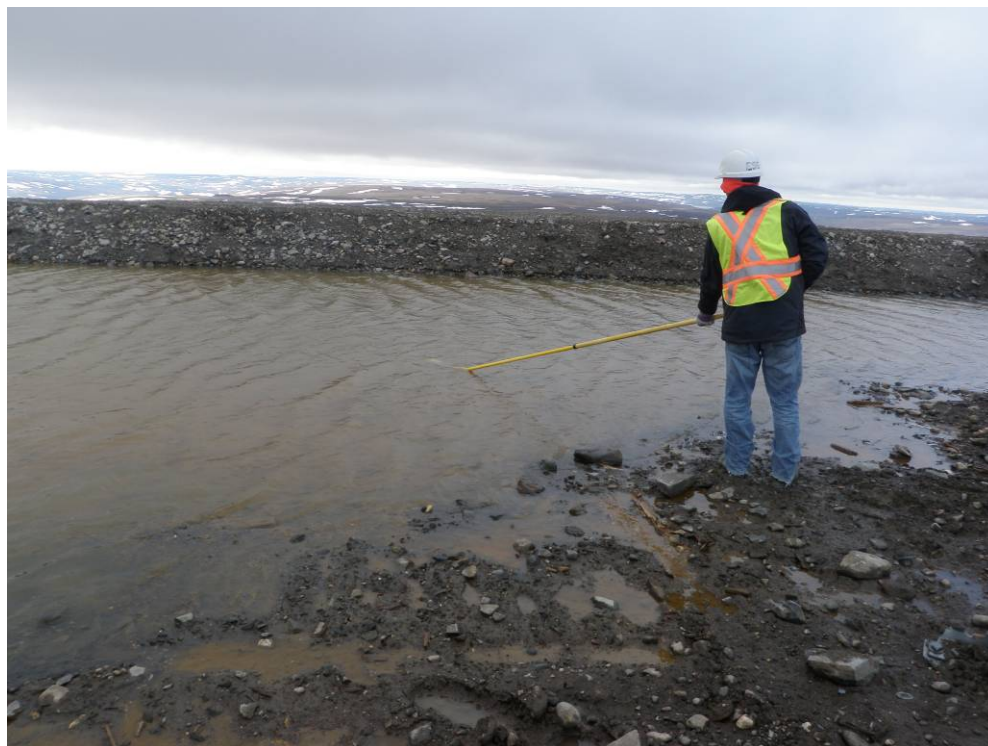


Photo 1: Sample 11-28152 collected at the Non-Hazardous Waste Landfill (facing south).

LOCATION: NON-HAZARDOUS WASTE LANDFILL

GPS COORDINATES: 0409587 7616646

SAMPLE: 11-28423

DATE: JULY 18, 2011

Parameter	Maximum Allowable Concentration	Units	Sample # 11-28423
pH	6-9	pH units	N/A
Total arsenic (As)	0.100	mg/L	N/A
Dissolved cadmium (Cd)	0.010	mg/L	N/A
Dissolved chromium (Cr)	0.100	mg/L	N/A
Dissolved cobalt (Co)	0.050	mg/L	N/A
Dissolved copper (Cu)	0.200	mg/L	N/A
Dissolved lead (Pb)	0.050	mg/L	N/A
Total mercury (Hg)	0.0006	mg/L	N/A
Dissolved nickel (Ni)	0.200	mg/L	N/A
Total zinc (Zn)	0.5	mg/L	N/A
Oil & grease	5	mg/L	2.6
PCBs	1.0	mg/L	N/A
Phenols	-	-	N/A



Photo 2: Sample 11-28423 collected at the Non-Hazardous Waste Landfill (facing southwest).

LOCATION: NON-HAZARDOUS WASTE LANDFILL

GPS COORDINATES: 0409587 7616646

SAMPLE: 11-28573

DATE: JULY 28, 2011

Parameter	Maximum Allowable Concentration	Units	Sample # 11-28573
pH	6-9	pH units	N/A
Total arsenic (As)	0.100	mg/L	N/A
Dissolved cadmium (Cd)	0.010	mg/L	N/A
Dissolved chromium (Cr)	0.100	mg/L	N/A
Dissolved cobalt (Co)	0.050	mg/L	N/A
Dissolved copper (Cu)	0.200	mg/L	N/A
Dissolved lead (Pb)	0.050	mg/L	N/A
Total mercury (Hg)	0.0006	mg/L	N/A
Dissolved nickel (Ni)	0.200	mg/L	N/A
Total zinc (Zn)	0.5	mg/L	2.6
Oil & grease	5	mg/L	N/A
PCBs	1.0	mg/L	N/A
Phenols	-	-	N/A



Photo 3: Sample 11-28573 collected at the Non-Hazardous Waste Landfill (facing east).

LOCATION: NON-HAZARDOUS WASTE LANDFILL

GPS COORDINATES: 0409587 7616646

SAMPLE: 11-28578

DATE: JULY 29, 2011

Parameter	Maximum Allowable Concentration	Units	Sample # 11-28578
pH	6-9	pH units	N/A
Total arsenic (As)	0.100	mg/L	N/A
Dissolved cadmium (Cd)	0.010	mg/L	N/A
Dissolved chromium (Cr)	0.100	mg/L	N/A
Dissolved cobalt (Co)	0.050	mg/L	N/A
Dissolved copper (Cu)	0.200	mg/L	N/A
Dissolved lead (Pb)	0.050	mg/L	N/A
Total mercury (Hg)	0.0006	mg/L	N/A
Dissolved nickel (Ni)	0.200	mg/L	N/A
Total zinc (Zn)	0.5	mg/L	2.5
Oil & grease	5	mg/L	N/A
PCBs	1.0	mg/L	N/A
Phenols	-	-	N/A



Photo 4: Sample 11-28578 collected at the Non-Hazardous Waste Landfill (facing east).

LOCATION: DCC STORAGE TANK
GPS COORDINATES: 0413749 7614370
SAMPLE: 11-28153
DATE: JULY 8, 2011

Parameter	Maximum Allowable Concentration	Units	Sample # 11-28153
pH	6-9	pH units	N/A
Total arsenic (As)	0.100	mg/L	N/A
Dissolved cadmium (Cd)	0.010	mg/L	N/A
Dissolved chromium (Cr)	0.100	mg/L	N/A
Dissolved cobalt (Co)	0.050	mg/L	N/A
Dissolved copper (Cu)	0.200	mg/L	N/A
Dissolved lead (Pb)	0.050	mg/L	N/A
Total mercury (Hg)	0.0006	mg/L	N/A
Dissolved nickel (Ni)	0.200	mg/L	N/A
Total zinc (Zn)	0.5	mg/L	1.1
Oil & grease	5	mg/L	100
PCBs	1.0	mg/L	N/A
Phenols	-	-	N/A



Photo 5: Sample 11-28153 collected from the DCC Tank.

LOCATION: DCC TANK
GPS COORDINATES: 0413749 7614370
SAMPLE: 11-28386
DATE: JULY 13, 2011

Parameter	Maximum Allowable Concentration	Units	Sample # 11-28386
pH	6-9	pH units	N/A
Total arsenic (As)	0.100	mg/L	N/A
Dissolved cadmium (Cd)	0.010	mg/L	N/A
Dissolved chromium (Cr)	0.100	mg/L	N/A
Dissolved cobalt (Co)	0.050	mg/L	N/A
Dissolved copper (Cu)	0.200	mg/L	N/A
Dissolved lead (Pb)	0.050	mg/L	N/A
Total mercury (Hg)	0.0006	mg/L	N/A
Dissolved nickel (Ni)	0.200	mg/L	N/A
Total zinc (Zn)	0.5	mg/L	0.68
Oil & grease	5	mg/L	26
PCBs	1.0	mg/L	N/A
Phenols	-	-	N/A



Photo 6: Sample 11-28386 collected at the DCC Tank (facing southwest).

LOCATION: DCC TANK
GPS COORDINATES: 0413749 7614370
SAMPLE: 11-28503
DATE: JULY 21, 2011

Parameter	Maximum Allowable Concentration	Units	Sample # 11-28503
pH	6-9	pH units	N/A
Total arsenic (As)	0.100	mg/L	N/A
Dissolved cadmium (Cd)	0.010	mg/L	N/A
Dissolved chromium (Cr)	0.100	mg/L	N/A
Dissolved cobalt (Co)	0.050	mg/L	N/A
Dissolved copper (Cu)	0.200	mg/L	N/A
Dissolved lead (Pb)	0.050	mg/L	N/A
Total mercury (Hg)	0.0006	mg/L	N/A
Dissolved nickel (Ni)	0.200	mg/L	N/A
Total zinc (Zn)	0.5	mg/L	0.08
Oil & grease	5	mg/L	6.4
PCBs	1.0	mg/L	N/A
Phenols	-	-	N/A



Photo 7: Sample 11-28503 collected at the DCC Tank.

LOCATION: DCC TANK
GPS COORDINATES: 0413749 7614370
SAMPLE: 11-28572
DATE: JULY 27, 2011

Parameter	Maximum Allowable Concentration	Units	Sample # 11-28572
pH	6-9	pH units	N/A
Total arsenic (As)	0.100	mg/L	N/A
Dissolved cadmium (Cd)	0.010	mg/L	N/A
Dissolved chromium (Cr)	0.100	mg/L	N/A
Dissolved cobalt (Co)	0.050	mg/L	N/A
Dissolved copper (Cu)	0.200	mg/L	N/A
Dissolved lead (Pb)	0.050	mg/L	N/A
Total mercury (Hg)	0.0006	mg/L	N/A
Dissolved nickel (Ni)	0.200	mg/L	N/A
Total zinc (Zn)	0.5	mg/L	N/A
Oil & grease	5	mg/L	3.5
PCBs	1.0	mg/L	N/A
Phenols	-	-	N/A



Photo 8: Sample 11-28572 collected at the DCC Tank.



Photo 9: Water being discharged from DCC Tank (facing south).

Waste water from the DCC Tank (11-28572) was discharged to the ground on August 6, 2011. The water was discharged to an area greater than 30m from drainage courses. (N 0413745 E 7614372)

LOCATION: BARREL WASTEWATER (CW1)

GPS COORDINATES: 0413767 7614368

SAMPLE: 11-28154

DATE: JULY 8, 2011

Parameter	Maximum Allowable Concentration	Units	Sample # 11-28154
pH	6-9	pH units	6.7
Total arsenic (As)	0.100	mg/L	<0.003
Dissolved cadmium (Cd)	0.010	mg/L	<0.001
Dissolved chromium (Cr)	0.100	mg/L	<0.005
Dissolved cobalt (Co)	0.050	mg/L	<0.003
Dissolved copper (Cu)	0.200	mg/L	<0.005
Dissolved lead (Pb)	0.050	mg/L	<0.010
Total mercury (Hg)	0.0006	mg/L	<0.0004
Dissolved nickel (Ni)	0.200	mg/L	<0.005
Total zinc (Zn)	0.5	mg/L	<0.010
Oil & grease	5	mg/L	<2.0
PCBs	1.0	mg/L	<0.003
Phenols	-	-	N/A



Photo 10 Sample 11-28154 FOX-3: Wastewater sample collected from barrel wastewater in CW1 (facing west).

Waste water from CW1 (11-28154) was discharged to the ground on July 19, 2011. The water was discharged to an area greater than 30m from drainage courses. (N 0413783 E 7614372)

LOCATION: BARREL WASTEWATER (CW2)

GPS COORDINATES: 0413767 7614368

SAMPLE: 11-28155

DATE: JULY 8, 2011

Parameter	Maximum Allowable Concentration	Units	Sample # 11-28155
pH	6-9	pH units	6.8
Total arsenic (As)	0.100	mg/L	<0.003
Dissolved cadmium (Cd)	0.010	mg/L	<0.001
Dissolved chromium (Cr)	0.100	mg/L	<0.005
Dissolved cobalt (Co)	0.050	mg/L	<0.003
Dissolved copper (Cu)	0.200	mg/L	<0.005
Dissolved lead (Pb)	0.050	mg/L	<0.010
Total mercury (Hg)	0.0006	mg/L	<0.0004
Dissolved nickel (Ni)	0.200	mg/L	<0.005
Total zinc (Zn)	0.5	mg/L	0.018
Oil & grease	5	mg/L	<2.0
PCBs	1.0	mg/L	<0.003
Phenols	-	-	N/A



Photo 11 Sample 11-28155 FOX-3: Wastewater sample collected from barrel wastewater in CW2 (facing north east).

Waste water from CW2 (11-28155) was discharged to the ground on July 19, 2011. The water was discharged to an area greater than 30m from drainage courses. (N 0413783 E 7614372)

LOCATION: BARREL WASTEWATER (CW5)

GPS COORDINATES: 0413767 7614368

SAMPLE: 11-28156

DATE: JULY 8, 2011

Parameter	Maximum Allowable Concentration	Units	Sample # 11-28156
pH	6-9	pH units	6.6
Total arsenic (As)	0.100	mg/L	<0.003
Dissolved cadmium (Cd)	0.010	mg/L	<0.001
Dissolved chromium (Cr)	0.100	mg/L	<0.005
Dissolved cobalt (Co)	0.050	mg/L	<0.003
Dissolved copper (Cu)	0.200	mg/L	<0.005
Dissolved lead (Pb)	0.050	mg/L	<0.010
Total mercury (Hg)	0.0006	mg/L	<0.0004
Dissolved nickel (Ni)	0.200	mg/L	<0.005
Total zinc (Zn)	0.5	mg/L	0.18
Oil & grease	5	mg/L	2.3
PCBs	1.0	mg/L	<0.003
Phenols	-	-	N/A



Photo 12 Sample 11-28156 FOX-3: Wastewater sample collected from barrel wastewater in CW5 (facing north east).

Waste water from CW5 (11-28156) was discharged to the ground on July 19, 2011. The water was discharged to an area greater than 30m from drainage courses. (N 0413783 E 7614372)

LOCATION: BARREL WASTEWATER (CW6)

GPS COORDINATES: 0413767 7614368

SAMPLE: 11-28157

DATE: JULY 8, 2011

Parameter	Maximum Allowable Concentration	Units	Sample # 11-28157
pH	6-9	pH units	6.6
Total arsenic (As)	0.100	mg/L	<0.003
Dissolved cadmium (Cd)	0.010	mg/L	<0.001
Dissolved chromium (Cr)	0.100	mg/L	<0.005
Dissolved cobalt (Co)	0.050	mg/L	<0.003
Dissolved copper (Cu)	0.200	mg/L	<0.005
Dissolved lead (Pb)	0.050	mg/L	<0.010
Total mercury (Hg)	0.0006	mg/L	<0.0004
Dissolved nickel (Ni)	0.200	mg/L	<0.005
Total zinc (Zn)	0.5	mg/L	0.031
Oil & grease	5	mg/L	21
PCBs	1.0	mg/L	<0.003
Phenols	-	-	N/A



Photo 13 Sample 11-28157 FOX-3: Wastewater sample collected from barrel wastewater in CW6 (facing northwest).

Waste water from CW6 (11-28157) was incinerated on site.

We trust that the information provided meets current requirements. Please contact the undersigned if you have any questions or concerns.

Sincerely,

A handwritten signature in black ink, appearing to read "Dustin Ellis". The signature is fluid and cursive, with the first name "Dustin" being more prominent than the last name "Ellis".

Dustin Ellis
Environmental Sciences Group

cc: Eva Schulz (UMA)
Daniela Loock, Darren White, Dean Morrow, Cam Ollson (ESG)

APPENDIX A
LABORATORY RESULTS

ASU #	13728		Report ID:	FOX-3W11
Client:	ESG		Date Submitted:	13-Jul-11
			Date tested:	13-Jul-11
Site:	FOX-3		Date:	14-Jul-11
	11-089		Matrix:	water
Report of Analysis				
Sample	Oil & Grease			
	mg/L			
11-28153	102			
Blank	<2.0			
Control	16.0			
Control Target	15.8			
Results relate only to the items tested				

ASU #	13728		Report ID:	FOX-3 W12
Client:	ESG		Date Submitted:	13-Jul-11
			Date tested:	15-Jul-11
Site:	FOX-3		Date:	15-Jul-11
	11-089		Matrix:	Water
Report of Analysis				
Results relate only to the items tested				
Total Metals	Results in mg/L			
SAMPLE	Zn			
11-28152	1.9			
11-28153	1.1	*		
Blank	<0.010			
Control	2.9			
Control Target	3.0			
11-28153	1.1			
11-28153	1.1			

ASU #	13729		Report ID:	FOX-3W13
Client:	ESG		Date Submitted:	13-Jul-11
			Date tested:	14-Jul-11
Site:	FOX-3		Date:	14-Jul-11
	11-090		Matrix:	water
Report of Analysis				
Sample	Oil & Grease			
	mg/L			
11-28154	<2.0			
11-28155	<2.0			
11-28156	2.3			
11-28157	21.0			
Blank	<2.0			
Control	16.0			
Control Target	15.8			
Results relate only to the items tested				

ASU #	13729		Report ID:	FOX-3 W14					
Client:	ESG		Date Submitted:	13-Jul-11					
			Date tested:	15-Jul-11					
Site:	FOX-3		Date:	15-Jul-11					
	11-090		Matrix:	Water					
Report of Analysis									
Results relate only to the items tested									
Total Metals	Results in mg/L								
SAMPLE	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	
11-28154	-	-	-	-	-	<0.010	<0.005	<0.003	
11-28155	-	-	-	-	-	0.018	<0.005	<0.003	
11-28156	-	-	-	-	-	0.18	<0.005	<0.003	
11-28157	-	-	-	-	-	0.031	<0.005	<0.003	*
Blank	-	-	-	-	-	<0.010	<0.005	<0.003	
Control	-	-	-	-	-	2.93	0.82	0.76	
Control Target	-	-	-	-	-	3.00	0.80	0.80	
11-28157	-	-	-	-	-	0.031	<0.005	<0.003	
11-28157	-	-	-	-	-	0.031	<0.005	<0.003	
Dissolved Metals	Results in mg/L								
SAMPLE	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	
11-28154	<0.005	<0.005	<0.003	<0.001	<0.010	-	-	-	
11-28155	<0.005	<0.005	<0.003	<0.001	<0.010	-	-	-	
11-28156	<0.005	<0.005	<0.003	<0.001	<0.010	-	-	-	
11-28157	<0.005	<0.005	<0.003	<0.001	<0.010	-	-	-	*
Blank	<0.005	<0.005	<0.003	<0.001	<0.010	-	-	-	
Control	1.60	1.63	1.58	0.77	8.06	-	-	-	
Control Target	1.60	1.60	1.60	0.80	8.00	-	-	-	
11-28157	<0.005	<0.005	<0.003	<0.001	<0.010	-	-	-	
11-28157	<0.005	<0.005	<0.003	<0.001	<0.010	-	-	-	

Client :	ESG					ASG Login No:	21827
	12 Verite Ave					Site:	Fox-3
	Dept. of Chem. / Chem. Eng., RMC					Client No:	11-090
	P.O. Box 17000, Stn. Forces					Samples Received:	13-Jul-11
	Kingston, Ontario K7K 7B4					Date of analysis:	14-Jul-11
	(613) 541-6000 ext 6567					Method No:	ASG 021
	Fax: (613) 541-6596					Date Reported:	14-Jul-11
						Sheet:	1 of 1

RESULTS OF MERCURY ANALYSIS

Sample ID	Mercury mg/L
28154	< 0.0004
28155	< 0.0004
28156	< 0.0004
28157	< 0.0004

^ Acid digestion performed.

Reported at 0.0004 mg/L detection limit.

LABORATORY QA/QC

Sample ID	Mercury mg/L
Blank	< 0.0004
Control Target	0.0040
Control Sample	0.0040

Client: ESG					ASG Login No: 21827
12 Verite Ave					Site: Fox-3
Dept. of Chem. / Chem. Eng., RMC					Client No: 11-090
P.O. Box 17000, Stn. Forces					Samples Received: 13-Jul-11
Kingston, Ontario K7K 7B4					Date of analysis: 15-Jul-11
(613) 541-6000 ext 6567					Method No: ASG 015
Fax: (613) 541-6596					Date Reported: 19-Jul-11
					Sheet No: 1 of 1

RESULTS OF PCB IN WATER ANALYSIS

Sample Type **	Sample I.D.	Unit	Aroclor 1254	Aroclor 1260
W	28154*	mg/L	< 0.003	< 0.003
W	28155	mg/L	< 0.003	< 0.003
W	28156	mg/L	< 0.003	< 0.003
W	28157	mg/L	< 0.003	< 0.003

*Average result of duplicate

Report Values in PPM

LABORATORY QA/QC

Blank	mg/L	< 0.003	< 0.003
Duplicate ; 28154*	mg/L	< 0.003 ; < 0.003	< 0.003 ; < 0.003
Control Sample	mg/L	< 0.003	0.013
Control Sample Target	mg/L	< 0.003	0.015

** S = Soil , C = Concrete , PC = Paint Chip , SW = Swab , P = Plant , W = Water, L = Leachate

All results corrected for the recovery of the surrogate decachlorobiphenyl

Client:	ESG	ASG Login No:	21827
	12 Verite Ave	Site:	Fox-3
	Dept. of Chem. / Chem. Eng., RMC	Client No:	11-090
	P.O. Box 17000, Stn. Forces	Samples Received:	13-Jul-11
	Kingston, Ontario K7K 7B4	Date of analysis:	13-Jul-11
	(613) 541-6000 ext 6567	Method No:	ASG 037
	Fax: (613) 541-6596	Date Reported:	13-Jul-11
		Page:	1 of 1

RESULTS OF pH ANALYSIS

Sample I.D.	pH
28154*	6.72
28155	6.75
28156	6.60
28157	6.56

LABORATORY QA/QC

Sample I.D.	pH
28154* ; Duplicate	6.71 ; 6.72
Control	7.01
Control Target	7.00

ASU #	13734	Report ID:	FOX-3W15
Client:	ESG	Date Submitted:	18-Jul-11
		Date tested:	19-Jul-11
Site:	FOX-3	Date:	20-Jul-11
	11-100	Matrix:	water

Report of Analysis

Sample	Oil & Grease		
	mg/L		
11-28386	25.8		
Blank	<2.0		
Control	13.3		
Control Target	16.2		

Results relate only to the items tested

ASU #	13734		Report ID:	FOX-3 W16
Client:	ESG		Date Submitted:	18-Jul-11
			Date tested:	21-Jul-11
Site:	FOX-3		Date:	21-Jul-11
	11-100		Matrix:	Water
Report of Analysis				
Results relate only to the items tested				
Total Metals	Results in mg/L			
SAMPLE	Zn			
11-28386	0.68	*		
Blank	<0.010			
Control	2.8			
Control Target	3.0			
11-28386	0.67			
11-28386	0.70			

ASU #	13746		Report ID:	FOX-3W17
Client:	ESG		Date Submitted:	20-Jul-11
			Date tested:	21-Jul-11
Site:	FOX-3		Date:	24-Jul-11
	11-118		Matrix:	water
Report of Analysis				
Sample	Oil & Grease			
	mg/L			
11-28423	2.6			
Blank	<2.0			
Control	15.0			
Control Target	16.2			
Results relate only to the items tested				

ASU #	13753		Report ID:	FOX-3 W18
Client:	ESG		Date Submitted:	23-Jul-11
			Date tested:	26-Jul-11
Site:	FOX-3		Date:	27-Jul-11
	11-134		Matrix:	Water
Report of Analysis				
Results relate only to the items tested				
Total Metals	Results in mg/L			
SAMPLE	Zn			
11-28503	0.075			
Blank	<0.010			
Control	3.1			
Control Target	3.0			

ASU #	13753		Report ID:	FOX-3W19
Client:	ESG		Date Submitted:	23-Jul-11
			Date tested:	24-Jul-11
Site:	FOX-3		Date:	25-Jul-11
	11-134		Matrix:	water
Report of Analysis				
Sample	Oil & Grease			
	mg/L			
11-28503	6.4			
Blank	<2.0			
Control	14.6			
Control Target	16.2			
Results relate only to the items tested				

ASU #	13766		Report ID:	FOX-3W20
Client:	ESG		Date Submitted:	29-Jul-11
			Date tested:	01-Aug-11
Site:	FOX-3		Date:	02-Aug-11
	11-148		Matrix:	water
Report of Analysis				
Sample	Oil & Grease			
	mg/L			
11-28572	3.5			
Blank	<2.0			
Control	14.4			
Control Target	15.8			
Results relate only to the items tested				

ASU #	13766		Report ID:	FOX-3 W21
Client:	ESG		Date Submitted:	29-Jul-11
			Date tested:	02-Aug-11
Site:	FOX-3		Date:	02-Aug-11
	11-148		Matrix:	Water
Report of Analysis				
Results relate only to the items tested				
Total Metals	Results in mg/L			
SAMPLE	Zn			
11-28573	2.200			
Blank	<0.010			
Control	3.0			
Control Target	3.0			

ASU #	13771		Report ID:	FOX-3 W22
Client:	ESG		Date Submitted:	01-Aug-11
			Date tested:	02-Aug-11
Site:	FOX-3		Date:	02-Aug-11
	11-153		Matrix:	Water
Report of Analysis				
Results relate only to the items tested				
Total Metals	Results in mg/L			
SAMPLE	Zn			
11-28578	2.5			
Blank	<0.010			
Control	3.0			
Control Target	3.0			

Dustin Ellis
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The Royal Military College of Canada
PO Box 17000 Stn. Forces
Kingston, ON K7K 7B4



Tamara VanDyck
Environmental Officer
Defence Construction Canada
DEW Line Cleanup PMO
101 Colonel By Drive
Ottawa ON K1A 0K2

Wednesday, February 22, 2012

RE: Analytical Results for Wastewater Samples Collected at FOX-3 in August 2011

The following report summarizes results of the analysis of wastewater samples as per the FOX-3 (Dewar Lakes) DEW Line Cleanup Project (DLCU) Specifications.

The FOX-3 specifications require that “wash water, melt water collection, rinse water resulting from the cleaning of fuel tanks and pipelines, and/or any other liquid effluent stream” meet the following guidelines prior to their discharge to land (01560.4.1):

Parameter	Maximum Allowable Concentration	Units
pH	6-9	pH units
Total arsenic (As)	0.100	mg/L
Dissolved cadmium (Cd)	0.010	mg/L
Dissolved chromium (Cr)	0.100	mg/L
Dissolved cobalt (Co)	0.050	mg/L
Dissolved copper (Cu)	0.200	mg/L
Dissolved lead (Pb)	0.050	mg/L
Total mercury (Hg)	0.0006	mg/L
Dissolved nickel (Ni)	0.200	mg/L
Total zinc (Zn)	0.5	mg/L
Oil & grease	5	mg/L
PCBs	1.0	mg/L
Phenols	-	-

Phenols

The wastewater samples collected by ESG at FOX-3 in August, 2011 were not analyzed for phenols but they were analyzed for oil and grease. Research conducted by ESG¹ has determined that a) no federal, territorial or provincial criteria exist for the discharge of wastewater containing phenols to land at a minimum distance of 30-m from natural drainage courses b) the maximum concentration of phenols in DLCU wastewater to date

¹ Environmental Sciences Group. *DEW Line Clean Up Project – Phenols in Wastewater*. June, 2007.

(2.44 mg/L) is below the LC₅₀ for freshwater fish and crustaceans and below the oral and dermal LD₅₀s for rats and rodents and c) phenols in excess of the maximum allowable concentration (MAC) have historically co-occurred with a visible oil & grease sheen and/or with an exceedance of the MAC for oil & grease. This information, and a subsequent decision to not test for phenols, has been presented to the NWB. To date, verbal agreement from the NWB has been received, but the project is awaiting written confirmation of the decision to suspend testing for phenols.

WASTEWATER SAMPLES

Thirteen wastewater samples were collected at FOX-3 and analyzed in August 2011. A summary of the details of these results follows. Laboratory results are provided in Appendix A.

LOCATION: NON-HAZARDOUS WASTE LANDFILL

GPS COORDINATES: 0409587 7616646

SAMPLE: 11-28656

DATE: AUGUST 5, 2011

Parameter	Maximum Allowable Concentration	Units	Sample # 11-28573
pH	6-9	pH units	N/A
Total arsenic (As)	0.100	mg/L	N/A
Dissolved cadmium (Cd)	0.010	mg/L	N/A
Dissolved chromium (Cr)	0.100	mg/L	N/A
Dissolved cobalt (Co)	0.050	mg/L	N/A
Dissolved copper (Cu)	0.200	mg/L	N/A
Dissolved lead (Pb)	0.050	mg/L	N/A
Total mercury (Hg)	0.0006	mg/L	N/A
Dissolved nickel (Ni)	0.200	mg/L	N/A
Total zinc (Zn)	0.5	mg/L	1.7
Oil & grease	5	mg/L	N/A
PCBs	1.0	mg/L	N/A
Phenols	-	-	N/A



Photo 1: Sample 11-28656 collected from the outflow pipe of the treatment system at the Non-Hazardous Waste Landfill (facing southwest).

LOCATION: NON-HAZARDOUS WASTE LANDFILL

GPS COORDINATES: 0409587 7616646

SAMPLE: 11-28657

DATE: AUGUST 5, 2011

Parameter	Maximum Allowable Concentration	Units	Sample # 11-28657
pH	6-9	pH units	N/A
Total arsenic (As)	0.100	mg/L	N/A
Dissolved cadmium (Cd)	0.010	mg/L	N/A
Dissolved chromium (Cr)	0.100	mg/L	N/A
Dissolved cobalt (Co)	0.050	mg/L	N/A
Dissolved copper (Cu)	0.200	mg/L	N/A
Dissolved lead (Pb)	0.050	mg/L	N/A
Total mercury (Hg)	0.0006	mg/L	N/A
Dissolved nickel (Ni)	0.200	mg/L	N/A
Total zinc (Zn)	0.5	mg/L	1.8
Oil & grease	5	mg/L	N/A
PCBs	1.0	mg/L	N/A
Phenols	-	-	N/A



Photo 2: Sample 11-28657 collected at the Non-Hazardous Waste Landfill (facing southeast).

LOCATION: NON-HAZARDOUS WASTE LANDFILL

GPS COORDINATES: 0409587 7616646

SAMPLE: 11-28744

DATE: AUGUST 9, 2011

Parameter	Maximum Allowable Concentration	Units	Sample # 11-28744
pH	6-9	pH units	N/A
Total arsenic (As)	0.100	mg/L	N/A
Dissolved cadmium (Cd)	0.010	mg/L	N/A
Dissolved chromium (Cr)	0.100	mg/L	N/A
Dissolved cobalt (Co)	0.050	mg/L	N/A
Dissolved copper (Cu)	0.200	mg/L	N/A
Dissolved lead (Pb)	0.050	mg/L	N/A
Total mercury (Hg)	0.0006	mg/L	N/A
Dissolved nickel (Ni)	0.200	mg/L	N/A
Total zinc (Zn)	0.5	mg/L	2.0
Oil & grease	5	mg/L	N/A
PCBs	1.0	mg/L	N/A
Phenols	-	-	N/A



Photo 3: Sample 11-28744 collected from the outflow pipe of the treatment system at the Non-Hazardous Waste Landfill (facing southeast).

LOCATION: NON-HAZARDOUS WASTE LANDFILL

GPS COORDINATES: 0409587 7616646

SAMPLE: 11-28745

DATE: AUGUST 9, 2011

Parameter	Maximum Allowable Concentration	Units	Sample # 11-28745
pH	6-9	pH units	N/A
Total arsenic (As)	0.100	mg/L	N/A
Dissolved cadmium (Cd)	0.010	mg/L	N/A
Dissolved chromium (Cr)	0.100	mg/L	N/A
Dissolved cobalt (Co)	0.050	mg/L	N/A
Dissolved copper (Cu)	0.200	mg/L	N/A
Dissolved lead (Pb)	0.050	mg/L	N/A
Total mercury (Hg)	0.0006	mg/L	N/A
Dissolved nickel (Ni)	0.200	mg/L	N/A
Total zinc (Zn)	0.5	mg/L	2.0
Oil & grease	5	mg/L	N/A
PCBs	1.0	mg/L	N/A
Phenols	-	-	N/A



Photo 4: Sample 11-28745 collected at the Non-Hazardous Waste Landfill (facing east).

LOCATION: NON-HAZARDOUS WASTE LANDFILL

GPS COORDINATES: 0409587 7616646

SAMPLE: 11-28787

DATE: AUGUST 16, 2011

Parameter	Maximum Allowable Concentration	Units	Sample # 11-28787
pH	6-9	pH units	7.4
Total arsenic (As)	0.100	mg/L	<0.003
Dissolved cadmium (Cd)	0.010	mg/L	0.0032
Dissolved chromium (Cr)	0.100	mg/L	<0.005
Dissolved cobalt (Co)	0.050	mg/L	0.0076
Dissolved copper (Cu)	0.200	mg/L	<0.005
Dissolved lead (Pb)	0.050	mg/L	<0.010
Total mercury (Hg)	0.0006	mg/L	<0.0004
Dissolved nickel (Ni)	0.200	mg/L	<0.005
Total zinc (Zn)	0.5	mg/L	1.7
Oil & grease	5	mg/L	3.1
PCBs	1.0	mg/L	<0.003
Phenols	-	-	N/A



Photo 5: Sample 11-28787 collected from the treatment cell within the Non-Hazardous Waste Landfill (facing southeast).

LOCATION: NON-HAZARDOUS WASTE LANDFILL

GPS COORDINATES: 0409587 7616646

SAMPLE: 11-28795

DATE: AUGUST 19, 2011

Parameter	Maximum Allowable Concentration	Units	Sample # 11-28795
pH	6-9	pH units	N/A
Total arsenic (As)	0.100	mg/L	N/A
Dissolved cadmium (Cd)	0.010	mg/L	N/A
Dissolved chromium (Cr)	0.100	mg/L	N/A
Dissolved cobalt (Co)	0.050	mg/L	N/A
Dissolved copper (Cu)	0.200	mg/L	N/A
Dissolved lead (Pb)	0.050	mg/L	N/A
Total mercury (Hg)	0.0006	mg/L	N/A
Dissolved nickel (Ni)	0.200	mg/L	N/A
Total zinc (Zn)	0.5	mg/L	1.3
Oil & grease	5	mg/L	N/A
PCBs	1.0	mg/L	N/A
Phenols	-	-	N/A



Photo 6: Sample 11-28795 collected from the treatment cell within the Non-Hazardous Waste Landfill (facing southeast).

LOCATION: NON-HAZARDOUS WASTE LANDFILL

GPS COORDINATES: 0409587 7616646

SAMPLE: 11-28796

DATE: AUGUST 19, 2011

Parameter	Maximum Allowable Concentration	Units	Sample # 11-28796
pH	6-9	pH units	N/A
Total arsenic (As)	0.100	mg/L	N/A
Dissolved cadmium (Cd)	0.010	mg/L	N/A
Dissolved chromium (Cr)	0.100	mg/L	N/A
Dissolved cobalt (Co)	0.050	mg/L	N/A
Dissolved copper (Cu)	0.200	mg/L	N/A
Dissolved lead (Pb)	0.050	mg/L	N/A
Total mercury (Hg)	0.0006	mg/L	N/A
Dissolved nickel (Ni)	0.200	mg/L	N/A
Total zinc (Zn)	0.5	mg/L	1.2
Oil & grease	5	mg/L	N/A
PCBs	1.0	mg/L	N/A
Phenols	-	-	N/A



Photo 7: Sample 11-28796 collected at the Non-Hazardous Waste Landfill (facing south).

LOCATION: NON-HAZARDOUS WASTE LANDFILL

GPS COORDINATES: 0409587 7616646

SAMPLE: 11-28797

DATE: AUGUST 19, 2011

Parameter	Maximum Allowable Concentration	Units	Sample # 11-28797
pH	6-9	pH units	N/A
Total arsenic (As)	0.100	mg/L	N/A
Dissolved cadmium (Cd)	0.010	mg/L	N/A
Dissolved chromium (Cr)	0.100	mg/L	N/A
Dissolved cobalt (Co)	0.050	mg/L	N/A
Dissolved copper (Cu)	0.200	mg/L	N/A
Dissolved lead (Pb)	0.050	mg/L	N/A
Total mercury (Hg)	0.0006	mg/L	N/A
Dissolved nickel (Ni)	0.200	mg/L	N/A
Total zinc (Zn)	0.5	mg/L	1.3
Oil & grease	5	mg/L	N/A
PCBs	1.0	mg/L	N/A
Phenols	-	-	N/A



Photo 8: Sample 11-28797 collected at the Non-Hazardous Waste Landfill (facing south).

LOCATION: NON-HAZARDOUS WASTE LANDFILL

GPS COORDINATES: 0409587 7616646

SAMPLE: 11-28917

DATE: AUGUST 30, 2011

Parameter	Maximum Allowable Concentration	Units	Sample # 11-28917
pH	6-9	pH units	N/A
Total arsenic (As)	0.100	mg/L	N/A
Dissolved cadmium (Cd)	0.010	mg/L	N/A
Dissolved chromium (Cr)	0.100	mg/L	N/A
Dissolved cobalt (Co)	0.050	mg/L	N/A
Dissolved copper (Cu)	0.200	mg/L	N/A
Dissolved lead (Pb)	0.050	mg/L	N/A
Total mercury (Hg)	0.0006	mg/L	N/A
Dissolved nickel (Ni)	0.200	mg/L	N/A
Total zinc (Zn)	0.5	mg/L	<i>1.1</i>
Oil & grease	5	mg/L	N/A
PCBs	1.0	mg/L	N/A
Phenols	-	-	N/A



Photo 9: Sample 11-28917 collected at the Non-Hazardous Waste Landfill (facing west).

LOCATION: NON-HAZARDOUS WASTE LANDFILL DISCHARGE

GPS COORDINATES: 0409628 7616616

SAMPLE: 11-28918

DATE: AUGUST 30, 2011

Parameter	Maximum Allowable Concentration	Units	Sample # 11-28918
pH	6-9	pH units	N/A
Total arsenic (As)	0.100	mg/L	N/A
Dissolved cadmium (Cd)	0.010	mg/L	N/A
Dissolved chromium (Cr)	0.100	mg/L	N/A
Dissolved cobalt (Co)	0.050	mg/L	N/A
Dissolved copper (Cu)	0.200	mg/L	N/A
Dissolved lead (Pb)	0.050	mg/L	N/A
Total mercury (Hg)	0.0006	mg/L	N/A
Dissolved nickel (Ni)	0.200	mg/L	N/A
Total zinc (Zn)	0.5	mg/L	0.060
Oil & grease	5	mg/L	N/A
PCBs	1.0	mg/L	N/A
Phenols	-	-	N/A

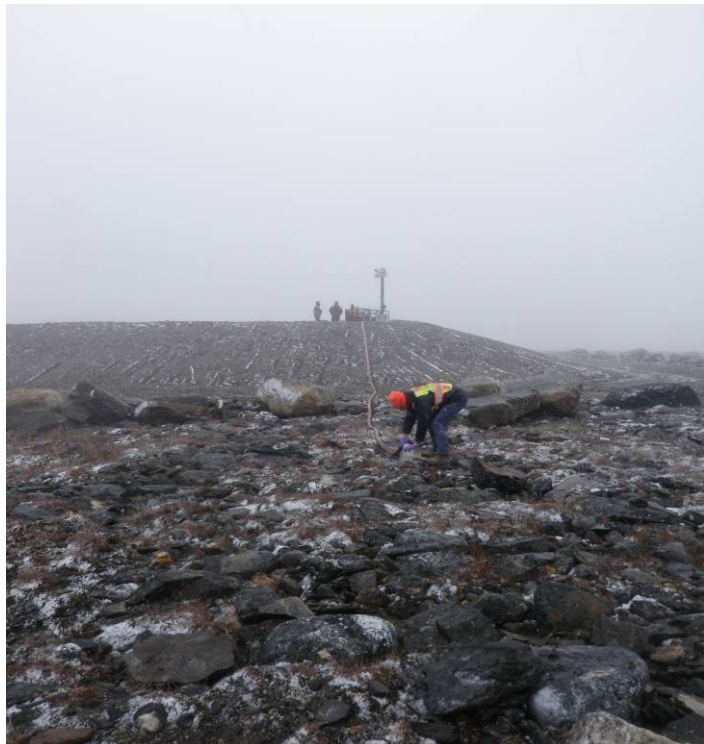


Photo 10: Sample 11-28918 collected at the Non-Hazardous Waste Landfill Discharge (facing north).

Waste water from the DCC Tank (11-28918) was discharged to the ground on August 30, 2011. The water was discharged to an area greater than 30m from drainage courses. (N 0409628 E 7616602)

LOCATION: LANDFARM
GPS COORDINATES: 0409336 7616827
SAMPLE: 11-28658
DATE: AUGUST 5, 2011

Parameter	Maximum Allowable Concentration	Units	Sample # 11-28658
pH	6-9	pH units	N/A
Total arsenic (As)	0.100	mg/L	N/A
Dissolved cadmium (Cd)	0.010	mg/L	N/A
Dissolved chromium (Cr)	0.100	mg/L	N/A
Dissolved cobalt (Co)	0.050	mg/L	N/A
Dissolved copper (Cu)	0.200	mg/L	N/A
Dissolved lead (Pb)	0.050	mg/L	N/A
Total mercury (Hg)	0.0006	mg/L	N/A
Dissolved nickel (Ni)	0.200	mg/L	N/A
Total zinc (Zn)	0.5	mg/L	N/A
Oil & grease	5	mg/L	II
PCBs	1.0	mg/L	N/A
Phenols	-	-	N/A



Photo 11: Sample 11-28658 collected at the Landfarm (facing west).

LOCATION: LANDFARM
GPS COORDINATES: 0409336 7616827
SAMPLE: 11-28758
DATE: AUGUST 12, 2011

Parameter	Maximum Allowable Concentration	Units	Sample # 11-28758
pH	6-9	pH units	N/A
Total arsenic (As)	0.100	mg/L	N/A
Dissolved cadmium (Cd)	0.010	mg/L	N/A
Dissolved chromium (Cr)	0.100	mg/L	N/A
Dissolved cobalt (Co)	0.050	mg/L	N/A
Dissolved copper (Cu)	0.200	mg/L	N/A
Dissolved lead (Pb)	0.050	mg/L	N/A
Total mercury (Hg)	0.0006	mg/L	N/A
Dissolved nickel (Ni)	0.200	mg/L	N/A
Total zinc (Zn)	0.5	mg/L	N/A
Oil & grease	5	mg/L	<2.0
PCBs	1.0	mg/L	N/A
Phenols	-	-	N/A



Photo 12: Sample 11-28758 collected at the Landfarm (facing west).



Photo 13: Discharge of Water Contained in Landfarm (facing west).

Waste water from the Landfarm (11-28758) was discharged to the ground on August 19, 2011. The water was discharged to an area greater than 30m from drainage courses. (E 0409318 N 7616804)

LOCATION: STATION WEST FUEL BERM

GPS COORDINATES: 0409083 7616977

SAMPLE: 11-28764

DATE: AUGUST 13, 2011

Parameter	Maximum Allowable Concentration	Units	Sample # 11-28764
pH	6-9	pH units	N/A
Total arsenic (As)	0.100	mg/L	N/A
Dissolved cadmium (Cd)	0.010	mg/L	N/A
Dissolved chromium (Cr)	0.100	mg/L	N/A
Dissolved cobalt (Co)	0.050	mg/L	N/A
Dissolved copper (Cu)	0.200	mg/L	N/A
Dissolved lead (Pb)	0.050	mg/L	N/A
Total mercury (Hg)	0.0006	mg/L	N/A
Dissolved nickel (Ni)	0.200	mg/L	N/A
Total zinc (Zn)	0.5	mg/L	1.1
Oil & grease	5	mg/L	100
PCBs	1.0	mg/L	N/A
Phenols	-	-	N/A




Photo 14 Sample 11-28764 FOX-3: Wastewater sample collected from the Station West Fuel Berm (facing northwest).

Waste water from the Station West Fuel Berm (11-28764) was discharged to the ground on August 17, 2011. The water was discharged to an area greater than 30m from drainage courses. (E 0409061 E 7616996)

We trust that the information provided meets current requirements. Please contact the undersigned if you have any questions or concerns.

Sincerely,

A handwritten signature in black ink, appearing to read "Dustin Ellis". The signature is fluid and cursive, with the first name "Dustin" being more prominent than the last name "Ellis".

Dustin Ellis
Environmental Sciences Group

cc: Eva Schulz (UMA)
Daniela Loock, Darren White, Dean Morrow, Cam Ollson (ESG)

APPENDIX A
LABORATORY RESULTS

ASU #	13790		Report ID:	FOX-3 W23
Client:	ESG		Date Submitted:	08-Aug-11
			Date tested:	09-Aug-11
Site:	FOX-3		Date:	09-Aug-11
	11-176		Matrix:	Water
Report of Analysis				
Results relate only to the items tested				
Total Metals	Results in mg/L			
SAMPLE	Zn			
11-28656	1.7			
11-28657	1.8	*		
Blank	<0.010			
Control	2.9			
Control Target	3.0			
11-28657	1.7			
11-28657	1.8			

ASU #	13790		Report ID:	FOX-3W24
Client:	ESG		Date Submitted:	08-Aug-11
			Date tested:	08-Aug-11
Site:	FOX-3		Date:	08-Aug-11
	11-176		Matrix:	water
Report of Analysis				
Sample	Oil & Grease			
	mg/L			
11-28658	11.1			
Blank	<2.0			
Control	14.7			
Control Target	16.2			
Results relate only to the items tested				

ASU #	13807		Report ID:	FOX-3 W25
Client:	ESG		Date Submitted:	11-Aug-11
			Date tested:	12-Aug-11
Site:	FOX-3		Date:	12-Aug-11
	11-186		Matrix:	Water
Report of Analysis				
Results relate only to the items tested				
Total Metals	Results in mg/L			
SAMPLE	Zn			
11-28744	2.0			
11-28745	2.0	*		
Blank	<0.010			
Control				
Control Target	3.0			
11-28745	2.1			
11-28745	1.9			

Client :	ESG					ASG Login No:	21953
	12 Verite Ave					Site:	Fox-3
	Dept. of Chem. / Chem. Eng., RMC					Client No:	11-187
	P.O. Box 17000, Stn. Forces					Samples Received:	11-Aug-11
	Kingston, Ontario K7K 7B4					Date of analysis:	11-Aug-11
	(613) 541-6000 ext 6567					Date Reported:	13-Aug-11
	Fax: (613) 541-6596					Sheet:	1 of 1

RESULTS OF MICROBIOLOGICAL ANALYSIS

Sample Identification	Method: ASG 036 Total Coliforms (CFU/100 mL)	Method: ASG 036 <i>E. coli</i> (CFU/100 mL)	Method: ASG 036 Background (CFU/100 mL)	Method: ASG 044 FC Count (CFU/100 mL)
28746	5900	5600	TNTC	40

* Averaged results of duplicates

RTF- Results to follow

LABORATORY QA/QC

Sample Identification	Method: ASG 036 Total Coliforms (CFU/100 mL)	Method: ASG 036 <i>E. coli</i> (CFU/100 mL)	Method: ASG 036 Background (CFU/100 mL)	Method: ASG 044 FC Count (CFU/100 mL)
Blank	0	0	0	0
Control Sample	46	46	0	48
Control Target	47	47	0	47

Client:	ESG					ASG Login No:	21953
	12 Verite Ave					Site:	Fox-3
	Dept. of Chem. / Chem. Eng., RMC					Client Login No:	11-187
	P.O. Box 17000, Stn. Forces					Samples Received:	11-Aug-11
	Kingston, Ontario K7K 7B4					Date of analysis:	11-Aug-11
	(613) 541-6000 ext 6567					Method No:	ASG 042
	Fax: (613) 541-6596					Date Reported:	16-Aug-11
						Page:	1 of 1

RESULTS OF BOD ANALYSIS

Sample I.D.	Unit	BOD
28746*	mg/L	40

*Averaged result of duplicates

LABORATORY QA/QC

Sample I.D.	Unit	BOD
28746; duplicate	mg/L	39; 41
Blank	mg/L	< 3
Control	mg/L	198
Control Target	mg/L	165

Client:	ESG					ASG Login No:	21953	
	12 Verite Ave					Site:	Fox-3	
	Dept. of Chem. / Chem. Eng., RMC					Client No:	11-187	
	P.O. Box 17000, Stn. Forces					Samples Received:	11-Aug-11	
	Kingston, Ontario K7K 7B4					Date of analysis:	11-Aug-11	
	(613) 541-6000 ext 6567					Method No:	ASG 037	
	Fax: (613) 541-6596					Date Reported:	12-Aug-11	
						Page:	1 of 1	

RESULTS OF pH ANALYSIS

Sample I.D.	pH
28746*	7.33

LABORATORY QA/QC

Sample I.D.	pH
28746* ; Duplicate	7.33 ; 7.33
Control	6.99
Control Target	7.00

Client :	ESG					ASG Login No:	21953	
	12 Verite Ave					Site:	Fox-3	
	Dept. of Chem. / Chem. Eng., RMC					Client Login No:	11-187	
	P.O. Box 17000, Stn. Forces					Samples Received:	11-Aug-11	
	Kingston, Ontario K7K 7B4					Date of analysis:	11-Aug-11	
	(613) 541-6000 ext 6567					Method No:	ASG 039	
	Fax: (613) 541-6596					Date Reported:	12-Aug-11	
						Sheet:	1 of 1	

RESULTS OF TOTAL SUSPENDED SOLIDS ANALYSIS

Sample I.D.	Sample Type^	Unit	Total Suspended Solids
28746*	SE	mg/L	17

LABORATORY QA/QC

Duplicate ; 28746*	SE ; SE	mg/L	16 ; 17
Control	Control	mg/L	200
Control Target	Control	mg/L	200
Blank	Control	mg/L	< 1

^SW =Surface Water, SI = Sewage Influent SE = Sewage Effluent

* Averaged result of duplicates

ASU #	13813		Report ID:	FOX-3W27
Client:	ESG		Date Submitted:	15-Aug-11
			Date tested:	16-Aug-11
Site:	FOX-3		Date:	17-Aug-11
	11-199		Matrix:	water
Report of Analysis				
Sample	Oil & Grease			
	mg/L			
11-28758	<2.0			
Blank	<2.0			
Control	13.0			
Control Target	15.8			
Results relate only to the items tested				

ASU #	13825		Report ID:	FOX-3W29
Client:	ESG		Date Submitted:	17-Aug-11
			Date tested:	18-Aug-11
Site:	FOX-3		Date:	18-Aug-11
	11-214		Matrix:	water
Report of Analysis				
Sample	Oil & Grease			
	mg/L			
11-28764	<2.0			
11-28776	**			
Blank	<2.0			
Control	12.8			
Control Target	15.8			
Results relate only to the items tested				
** sample lost during analysis				

ASU #	13831		Report ID:	FOX-3W30
Client:	ESG		Date Submitted:	18-Aug-11
			Date tested:	18-Aug-11
Site:	FOX-3		Date:	18-Aug-11
	11-215		Matrix:	water
Report of Analysis				
Sample	Oil & Grease			
	mg/L			
11-28787	3.1			
Blank	<2.0			
Control	12.8			
Control Target	15.8			
Results relate only to the items tested				

ASU #	13831		Report ID:	FOX-3 W31				
Client:	ESG		Date Submitted:	18-Aug-11				
			Date tested:	19-Aug-11				
Site:	FOX-3		Date:	19-Aug-11				
	11-215		Matrix:	Water				
Report of Analysis								
Results relate only to the items tested								
Total Metals	Results in mg/L							
SAMPLE	Cu	Ni	Co	Cd	Pb	Zn	Cr	As
11-28787	-	-	-	-	-	1.7	<0.005	<0.003
Blank	-	-	-	-	-	<0.010	<0.005	<0.003
Control	-	-	-	-	-	3.05	0.82	0.75
Control Target	-	-	-	-	-	3.00	0.80	0.80
Dissolved Metals	Results in mg/L							
SAMPLE	Cu	Ni	Co	Cd	Pb	Zn	Cr	As
11-28787	<0.005	<0.005	0.008	0.003	<0.010	-	-	-
Blank	<0.005	<0.005	<0.003	<0.001	<0.010	-	-	-
Control	1.60	1.58	1.58	0.79	7.98	-	-	-
Control Target	1.60	1.60	1.60	0.80	8.00	-	-	-

Client:	ESG	ASG Login No:	21997
	12 Verite Ave	Site:	Fox-3
	Dept. of Chem. / Chem. Eng., RMC	Client No:	11-215
	P.O. Box 17000, Stn. Forces	Samples Received:	18-Aug-11
	Kingston, Ontario K7K 7B4	Date of analysis:	19-Aug-11
	(613) 541-6000 ext 6567	Method No:	ASG 037
	Fax: (613) 541-6596	Date Reported:	19-Aug-11
		Page:	1 of 1

RESULTS OF pH ANALYSIS

Sample I.D.	pH
28787*	7.04

LABORATORY QA/QC

Sample I.D.	pH
28787* ; Duplicate	7.03 ; 7.05
Control	6.99
Control Target	7.00

Client :	ESG	ASG Login No:	21997
	12 Verite Ave	Site:	Fox-3
	Dept. of Chem. / Chem. Eng., RMC	Client No:	11-215
	P.O. Box 17000, Stn. Forces	Samples Received:	18-Aug-11
	Kingston, Ontario K7K 7B4	Date of analysis:	18-Aug-11
	(613) 541-6000 ext 6567	Method No:	ASG 021
	Fax: (613) 541-6596	Date Reported:	19-Aug-11
		Sheet:	1 of 1

RESULTS OF MERCURY ANALYSIS

Sample ID	Mercury mg/L
28787*	< 0.0004

* Averaged result of duplicates

^ Acid digestion performed.

Reported at 0.0004 mg/L detection limit.

LABORATORY QA/QC

Sample ID	Mercury mg/L
Duplicate ; 28787*	< 0.0004; < 0.0004
Blank	< 0.0004
Control Target	0.0040
Control Sample	0.0040

ASU #	13834		Report ID:	FOX-3 W32
Client:	ESG		Date Submitted:	22-Aug-11
			Date tested:	24-Aug-11
Site:	FOX-3		Date:	24-Aug-11
	11-226		Matrix:	Water
Report of Analysis				
Results relate only to the items tested				
Total Metals	Results in mg/L			
SAMPLE	Zn			
11-28795	1.3			
11-28796	1.2			
11-28797	1.3	*		
Blank	<0.010			
Control	3.0			
Control Target	3.0			
11-28797	1.3			
11-28797	1.3			

ASU #	13872		Report ID:	FOX-3 W33
Client:	ESG		Date Submitted:	05-Sep-11
			Date tested:	05-Sep-11
Site:	FOX-3		Date:	06-Sep-11
	11-268		Matrix:	Water
Report of Analysis				
Results relate only to the items tested				
Total Metals	Results in mg/L			
SAMPLE	Zn			
11-28917	1.05			
11-28918	0.060	*		
Blank	<0.010			
Control	3.3			
Control Target	3.0			
11-28918	0.059			
11-28918	0.060			



Canada

NT-NU SPILL REPORT

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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		<input type="checkbox"/> ORIGINAL SPILL REPORT, OR <input type="checkbox"/> UPDATE # _____ TO THE ORIGINAL SPILL REPORT	REPORT NUMBER _____-_____
	B OCCURRENCE DATE: MONTH – DAY – YEAR		B OCCURRENCE TIME			
C	LAND USE PERMIT NUMBER (IF APPLICABLE)			WATER LICENCE NUMBER (IF APPLICABLE)		
D	GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM NAMED LOCATION				REGION	
					<input type="checkbox"/> NWT <input type="checkbox"/> NUNAVUT <input type="checkbox"/> ADJACENT JURISDICTION OR OCEAN	
E	LATITUDE			LONGITUDE		
	DEGREES	MINUTES	SECONDS	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	EMPLOYER	LOCATION CALLED	REPORT LINE NUMBER
		STATION OPERATOR		YELLOWKNIFE, NT	(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					

PHOTOGRAPHIC LOG



Site Name:
FOX-3, Dewar Lakes

Site Location:
Nunavut

Project No.
60212727

Photo No.
1

Date:
27-jun-11

Direction Photo Taken:

Description:
Tier II Disposal Facility at the start of the 2011 construction season.



Photo No.
2

Date:
8-sep-11

Direction Photo Taken:

Description:
Closed Tier II Disposal Facility with thermistors installed



PHOTOGRAPHIC LOG



Site Name:
FOX-3, Dewar Lakes

Site Location:
Nunavut

Project No.
60212727

Photo No.
3

Date:
1-jul-11

Direction Photo Taken:

Description:
Placing debris in the Non-Hazardous Waste Landfill.



Photo No.
4

Date:
10-Sep-11

Direction Photo Taken:

Description:
Closed Non-Hazardous Waste Landfill.



PHOTOGRAPHIC LOG

Site Name:
FOX-3, Dewar Lakes

Site Location:
Nunavut

Project No.
60212727

Photo No.
5

Date:
5-sep-2011

Direction Photo Taken:

Description:

Upper Site Non-Hazardous Waste Landfill at the end of the construction season.



Photo No.
6

Date:
27-jun-11

Direction Photo Taken:

Description:

Landfarm at the start of the season.



PHOTOGRAPHIC LOG

Site Name:
FOX-3, Dewar Lakes

Site Location:
Nunavut

Project No.
60212727

Photo No.
7

Date:
19-aug-11

Direction Photo Taken:

Description:
Decommissioning the landfarm.



Photo No.
8



Date:
16-aug-11

Direction Photo Taken:

Description:
Removal debris from the thermokarst.



PHOTOGRAPHIC LOG

Site Name: FOX-3, Dewar Lakes		Site Location: Nunavut	Project No. 60212727
Photo No. 9	Date: 17-aug-11		
Direction Photo Taken:			
Description: Placing material at the north end of the thermokarst.			
Photo No. 10	Date: 30-aug-2011		
Direction Photo Taken:			
Description: Placing and compacting material at the thermokarst.			

PHOTOGRAPHIC LOG

Site Name:
FOX-3, Dewar Lakes

Site Location:
Nunavut

Project No.
60212727

Photo No.
11

Date:
6-aug-11

Direction Photo Taken:

Description:
Completed thermokarst remediation.



Photo No.
12

Date:
24-aug-11

Direction Photo Taken:

Description:
Borrow Area reshaping.

