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403 270 0399 fax

March 23, 2011

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

Dear Phyllis:

Project No: Water Use Licence No.: 1BR-CAP0914 2010 Annual Report

Regarding: PIN-2, Cape Young 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.

The following is a summary of the work completed in 2010:

Non-Hazardous Waste Landfill (NHWLF): The Non-Hazardous Waste Landfill was constructed and landfilling of non-hazardous site debris was started. The landfill was capped for the winter.

Tier II Disposal Facility: Construction activities at the Tier II Disposal Facility included construction of the perimeter berms, bottom liner installation, placement of liner bedding material, some placement of Tier II soils, and monitoring instrument installation. The Tier II Disposal Facility was capped for the winter.

Debris Removal: On-going.

Demolition: Demolition of the module train, warehouse, communication dishes, fuel tanks and water tanks was completed.

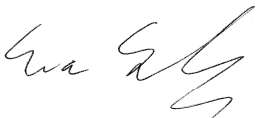
Landfill/Buried Debris Area Remediation: Remediation, consisting of partial excavation and/or regrading, was completed at the following areas: Tower Buried Debris Area, South Borrow Area, Pallet Line West Landfill, Debris Area 7, Old Camp Buried Debris Area, USAF Landfill, Station West Landfill, Hangar South Buried Debris Area, Station POL East Buried Debris Area, Buried Debris Area 14, Airstrip South Landfill, Buried Debris Area 9, East Twin Buried Debris Areas 2, 8 and 11, Southwest Buried Debris Area, South Landfill-East, North Borrow Area buried Debris, South Borrow Landfill, South Borrow Buried Debris Area, Harding Road North and South Buried Debris Areas.

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.

Spill Incidences: None.

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

Sincerely,
AECOM Canada Ltd.



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

EMS.
cc: Tamara Van Dyck, DCC

Encl. Annual Report Form; Selected Site Photos; Monitoring Reports

NWB Annual Report **Year being reported:** 2010

License No: 1BR-CAP0914 **Issued Date:** May 29, 2009
Expiry Date: May 31, 2014

Project Name: PIN-2, Cape Young

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 Canada Ltd. - Engineering Consultant

General Background Information on the Project (*optional):

Licence Requirements: the licensee must provide the following information in accodance 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): Un-named River

Water Quantity:

65 for all purposes	Quantity Allowable Domestic (cu.m)
13 per day/119 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

- [x] Solid Waste Disposal
- [x] Sewage
- [ ] Drill Waste
- [x] Greywater
- [x] Hazardous
- [ ] Other:

684 cu.m of sewage and greywater were discharged to the sewage lagoon.

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

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

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

Date of Notification to an Inspector:

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

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 program.

Progressive Reclamation Work Undertaken

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

Results of the Monitoring Program including:

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

Details attached

Additional Details:

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

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 and/or compliance report issued by INAC

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

Any additional comments or information for the Board to consider

Date Submitted:	March 31, 2011	
Submitted/Prepared by:	Eva Schulz	
Contact Information:	**Tel:**	403-270-9220
	Fax:	403-270-0399
	email:	eva.schulz@aecom.com

GPS Coordinates for water sources utilized

Source Description	UTM Zone 11N, NAD83	
	Northing	Easting
Un-Named River	68° 56'	116° 56'

GPS Locations of areas of waste disposal

Location Description (type)	UTM Zone 11N, NAD83	
	Northing	Easting
Tier II Disposal Facility	7646295.4	502420.1
Tier II Disposal Facility	7646332.4	502457
Tier II Disposal Facility	7646288.3	502501.1
Tier II Disposal Facility	7646251.4	502464.1
Non-Hazardous Waste Landfill	7645247.2	503027.9
Non-Hazardous Waste Landfill	7645297.4	503052.7
Non-Hazardous Waste Landfill	7645272.6	503102.9
Non-Hazardous Waste Landfill	7645222.4	503078.1
sewage lagoon-7110	7646704.278	502812.961
sewage lagoon-7111	7646683.040	502840.537
sewage lagoon-7112	7646658.024	502820.094
sewage lagoon-7113	7646680.089	502793.685

Candice Casucci
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

Tuesday, March 22, 2011

RE: June 2010 Monthly Report for Water Use License Number: 1BR-CAP0914

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 *PIN-2 (Cape Young)*

1. CAMP SEWAGE LAGOON

A sewage lagoon was constructed to service the PIN-2 construction camp in September 2009. The GPS coordinates that are required by the Water Use License for the sewage lagoon location are 7646646.0 N, 11W 0502873.

2. SEWAGE EFFLUENT SAMPLES

The Water Use License and MP require that samples from treated sewage lagoon effluent at the point of discharge to the receiving water be collected prior to each discharge event. Six sewage effluent samples were collected in June 2010 of the PIN-2 sewage lagoon. A summary of the details of these results follows.

Sample Number	Sample Location	GPS Coordinates	Sampling Date
10-4800	Sewage Lagoon - West corner of Sewage Lagoon Cell #1	W0502804 N7646680	June 24, 2010
10-4801	Sewage Lagoon - West corner of Sewage Lagoon Cell #1	W0502804 N7646680	June 24, 2010
10-4805	North corner of Sewage Lagoon Cell #2.	W0502796 N7646671	June 24, 2010
10-4810	Sewage Lagoon - South corner of Sewage Lagoon Cell #1	W0502817 N7646668	June 28, 2010
10-4811	East corner of Sewage Lagoon Cell #2.	W0502807 N7646661	June 28, 2010
10-4812	East corner of Sewage Lagoon Cell #2.	W0502807 N7646661	June 28, 2010

A summary of the results for the parameters tested is provided below. Laboratory results and photographs are provided in Appendices A and B, respectively.

LOCATION: SEWAGE LAGOON – WEST CORNER OF SEWAGE LAGOON CELL #1
GPS COORDINATES: W0502804 N7646680

Parameter	Allowable Maximum Average Concentration	Units	Sample Date June 24, 2010
pH	6.0 to 9.0	pH units	7.30
Oil & Grease	None Visible	-	None Visible
Total Suspended Solids (TSS)	180	mg/L	38
BOD	120	mg/L	N/A
Faecal Coliforms	100,000	CFU/100 mL	N/A
Total Coliforms	-	-	N/A

LOCATION: SEWAGE LAGOON – WEST CORNER OF SEWAGE LAGOON CELL #1
GPS COORDINATES: W0502804 N7646680

Parameter	Allowable Maximum Average Concentration	Units	Sample Date June 24, 2010
pH	6.0 to 9.0	pH units	7.28
Oil & Grease	None Visible	-	N/A
Total Suspended Solids (TSS)	180	mg/L	38
BOD	120	mg/L	N/A
Faecal Coliforms	100,000	CFU/100 mL	N/A
Total Coliforms	-	-	N/A

LOCATION: NORTH CORNER OF SEWAGE LAGOON CELL #2
GPS COORDINATES: W0502796 N7646671

Parameter	Allowable Maximum Average Concentration	Units	Sample Date June 24, 2010
pH	6.0 to 9.0	pH units	7.89
Oil & Grease	None Visible	-	N/A
Total Suspended Solids (TSS)	180	mg/L	<5
BOD	120	mg/L	N/A
Faecal Coliforms	100,000	CFU/mL	N/A
Total Coliforms	-	-	N/A

LOCATION: SEWAGE LAGOON - SOUTH CORNER OF SEWAGE LAGOON CELL #1
GPS COORDINATES: W0502817 N7646668

Parameter	Allowable Maximum Average Concentration	Units	Sample Date June 24, 2010
pH	6.0 to 9.0	pH units	N/A
Oil & Grease	None Visible	-	N/A
Total Suspended Solids (TSS)	180	mg/L	N/A
BOD	120	mg/L	<2
Faecal Coliforms	100,000	CFU/100 mL	<1
Total Coliforms	-	-	127

LOCATION: EAST CORNER OF SEWAGE LAGOON CELL #2
GPS COORDINATES: W0502807 N7646661

Parameter	Allowable Maximum Average Concentration	Units	Sample Date June 24, 2010
pH	6.0 to 9.0	pH units	N/A
Oil & Grease	None Visible	-	N/A
Total Suspended Solids (TSS)	180	mg/L	N/A
BOD	120	mg/L	<2
Faecal Coliforms	100,000	CFU/100 mL	<2
Total Coliforms	-	-	124

LOCATION: EAST CORNER OF SEWAGE LAGOON CELL #2
GPS COORDINATES: W0502807 N7646661

Parameter	Allowable Maximum Average Concentration	Units	Sample Date June 24, 2010
pH	6.0 to 9.0	pH units	N/A
Oil & Grease	None Visible	-	N/A
Total Suspended Solids (TSS)	180	mg/L	N/A
BOD	120	mg/L	89
Faecal Coliforms	100,000	CFU/100 mL	<1
Total Coliforms	-	-	>2419.2

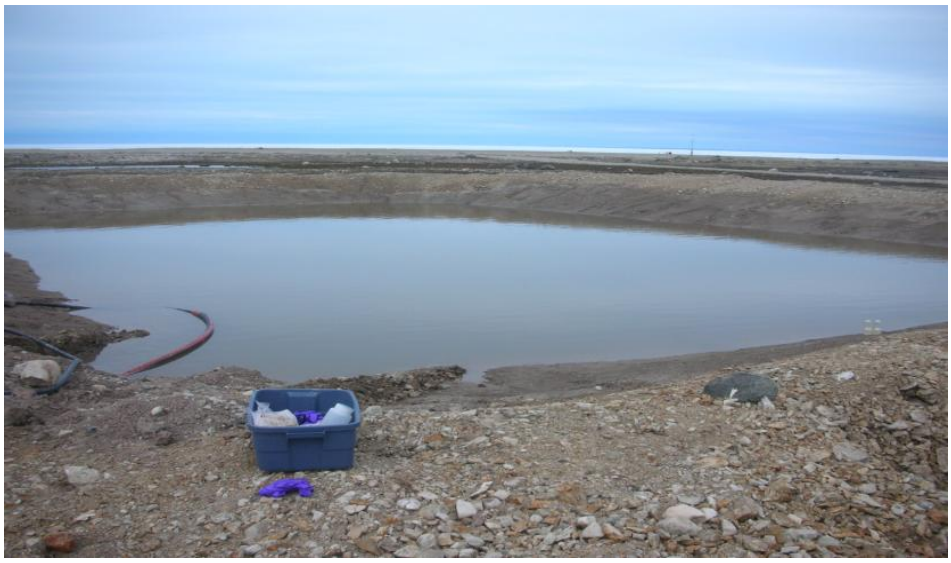


Photo 1 (IMG 4555) Sample 10-4800/01 Pin-2 Wide angle of the sewage sample collected from the west corner of the sewage lagoon, cell #1, facing east.

Photo 2 (IMG 4558) Sample 10-4805 Pin-2 Wide angle of sewage sample collected from the north corner of the sewage lagoon, cell #2, facing south.

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

Sincerely,

Candice Casucci
Environmental Sciences Group

cc: Eva Schulz (UMA)
Daniela Loock, Kat White, Tom Partridge, Kat Eagles (ESG)

APPENDIX A
LABORATORY RESULTS

ESG		ASG Login No:	20677
12 Verite Ave		Site:	Pin-2
Dept. of Chem. / Chem. Eng., RMC		Client No:	10-058
P.O. Box 17000, Stn. Forces		Samples Received:	28-Jun-10
Kingston, Ontario K7K 7B4		Date of analysis:	28-Jun-10
(613) 541-6000 ext 6567		Method No:	ASG 037
Fax: (613) 541-6596		Date Reported:	28-Jun-10
		Page:	1 of 1

RESULTS OF pH ANALYSIS

Sample I.D.	pH
10-4800*	7.30
10-4801	7.28
10-4805	7.89

* Averaged result of duplicates

LABORATORY QA/QC

Sample I.D.	pH
10-4800 ; 10-4800	7.30 ; 7.30
Control	7.01
Control Target	7.00

ESG		ASG Login No:	20677
12 Verite Ave		Site:	Pin-2
Dept. of Chem. / Chem. Eng., RMC		Client Login No:	10-058
P.O. Box 17000, Stn. Forces		Samples Received:	28-Jun-10
Kingston, Ontario K7K 7B4		Date of analysis:	29-Jun-10
(613) 541-6000 ext 6567		Method No:	ASG 039
Fax: (613) 541-6596		Date Reported:	29-Jun-10
		Sheet:	1 of 1

RESULTS OF TOTAL SUSPENDED SOLIDS ANALYSIS

Sample I.D.	Sample Type^	Unit	Total Suspended Solids
10-4800*	SE	mg/L	38
10-4801	SE	mg/L	38
10-4805	SE	mg/L	< 5

LABORATORY QA/QC

Duplicate ; 10-4800*	SE ; SE	mg/L	37 ; 38
Control	Control	mg/L	180
Control Target	Control	mg/L	200
Blank	Control	mg/L	< 1

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

* Averaged result of duplicates

Taiga Environmental Laboratory
4601-52nd Ave., Box 1500, Yellowknife, NT. X1A 2R3
Tel: (867)-669-2788 Fax: (867)-669-2718

Taiga Batch No.: 100326

- CERTIFICATE OF ANALYSIS -

Client Sample ID: 4810 **Taiga Sample ID:** 001

Client Project: ESG Request No. 10-068
Sample Type: Wastewater
Received Date: 29-Jun-10
Sampling Date: 28-Jun-10
Sampling Time:
Location: PIN-2-Conf-DLCU
Report Status: **Final**

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
Inorganics - Nutrients						
Biochemical Oxygen Demand	< 2	2	mg/L	30-Jun-10	SM5210:B	
Microbiology						
Coliforms, Fecal	< 1	1	CFU/100mL	29-Jun-10	SM9222:D	
Coliforms, Total	127	1.0	MPN/100mL	29-Jun-10	SM9223:B	

Taiga Environmental Laboratory
4601-52nd Ave., Box 1500, Yellowknife, NT. X1A 2R3
Tel: (867)-669-2788 Fax: (867)-669-2718

Taiga Batch No.: 100326

- CERTIFICATE OF ANALYSIS -

Client Sample ID: 4811 **Taiga Sample ID:** 002

Client Project: ESG Request No. 10-068
Sample Type: Wastewater
Received Date: 29-Jun-10
Sampling Date: 28-Jun-10
Sampling Time:
Location: PIN-2-Conf-DLCU
Report Status: **Final**

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
Inorganics - Nutrients						
Biochemical Oxygen Demand	< 2	2	mg/L	30-Jun-10	SM5210:B	
Microbiology						
Coliforms, Fecal	< 2	2	CFU/100mL	29-Jun-10	SM9222:D	22
Coliforms, Total	124	1.0	MPN/100mL	29-Jun-10	SM9223:B	

ReportDate: Tuesday, July 06, 2010
Print Date: Tuesday, July 06, 2010

Taiga Environmental Laboratory
4601-52nd Ave., Box 1500, Yellowknife, NT. X1A 2R3
Tel: (867)-669-2788 Fax: (867)-669-2718

Taiga Batch No.: 100326

- CERTIFICATE OF ANALYSIS -

Client Sample ID: 4812 **Taiga Sample ID:** 003

Client Project: ESG Request No. 10-068
Sample Type: Wastewater
Received Date: 29-Jun-10
Sampling Date: 28-Jun-10
Sampling Time:
Location: PIN-2-Conf-DLCU
Report Status: **Final**

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
Inorganics - Nutrients						
Biochemical Oxygen Demand	89	2	mg/L	30-Jun-10	SM5210:B	
Microbiology						
Coliforms, Fecal	< 1	1	CFU/100mL	29-Jun-10	SM9222:D	
Coliforms, Total	>2419.2	1.0	MPN/100mL	29-Jun-10	SM9223:B	

ReportDate: Tuesday, July 06, 2010
Print Date: Tuesday, July 06, 2010

Candice Casucci
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

Tuesday, March 22, 2011

RE: July-September 2010 Report for Water Use License Number: 1BR-CAP0914

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 *PIN-2 (Cape Young)*

1. CAMP SEWAGE LAGOON

A sewage lagoon was constructed to service the PIN-2 construction camp in September 2009. The GPS coordinates that are required by the Water Use License for the sewage lagoon location are 7646646.0 N, 11W 0502873.

2. SEWAGE EFFLUENT SAMPLES

The Water Use License and MP require that samples from treated sewage lagoon effluent at the point of discharge to the receiving water be collected prior to each discharge event. No sewage effluent samples were collected from the PIN-2 sewage lagoons from July-September. The level of liquid in the lagoons did not increase significantly, and no discharge events were required.

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

Sincerely,

Candice Casucci
Environmental Sciences Group

cc: Eva Schulz (UMA)
Daniela Loock, Kat White, Tom Partridge, Kat Eagles (ESG)

Candice Casucci
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
DGME
101 Colonel By Drive
Ottawa ON K1A 0K2

Tuesday, March 22, 2011

RE: Analytical Results for Wastewater Samples Collected at PIN-2 in June, 2010

The PIN-2 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	-	-
Benzene	0.370	mg/L
Toluene	0.002	mg/L
Ethylbenzene	0.090	mg/L

Phenols

The wastewater samples collected by ESG at PIN-2 in June, 2010 were not analyzed for phenols but they were analyzed for oil and grease. Research conducted by ESG[1] has

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

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 (2.44 mg/L) is below the LC_{50} for freshwater fish and crustaceans and below the oral and dermal LD_{50}s 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

Two wastewater samples were collected at PIN-2 and analyzed in June 2010. A summary of the details of these results follows. Laboratory results are provided in Appendix A.

LOCATION: SOUTHEAST CORNER OF NHWL BESIDE ENTRY POINT
GPS COORDINATES: 11W 0503079 7645270
SAMPLE: 10-4808
DATE: JUNE 27, 2010

Parameter	Maximum Allowable Concentration	Units	Sample # 10-4808
pH	6-9	pH units	7.45
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	N/A
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	0.014
Oil & grease	5	mg/L	<2.0
PCBs	1.0	mg/L	<0.003
Phenols	-	-	N/A
Benzene	0.370	mg/L	<0.002
Toluene	0.002	mg/L	<0.002
Ethylbenzene	0.090	mg/L	<0.002

Photo 1 (DSC02617): Sample 10-4808 Pin-2: Close angle of NHWL sample collected from the southeast corner, facing west.

LOCATION: NORTH SIDE OF NHWL BESIDE DEBRIS PILE
GPS COORDINATES: 11W 0503045 7645252
SAMPLE: 10-4809
DATE: JUNE 27, 2010

Parameter	Maximum Allowable Concentration	Units	Sample # 10-4809
pH	6-9	pH units	7.54
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	N/A
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	0.015
Oil & grease	5	mg/L	<2.0
PCBs	1.0	mg/L	<0.00
Phenols	-	-	N/A
Benzene	0.370	mg/L	<0.002
Toluene	0.002	mg/L	<0.002
Ethylbenzene	0.090	mg/L	<0.002

The water from the NHWL (10-4808/09) was discharged to land between the dates of July 8 – 14, 2010. The water was discharged to an area greater than 30m from natural drainage courses (11 W 0503021 7645179).

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

Sincerely,

Candice Casucci
Environmental Sciences Group

cc: Eva Schulz (UMA)
Daniela Loock, Kat White, Shari Reed, Tom Partridge, Kat Eagles (ESG)

APPENDIX A
LABORATORY RESULTS

ASU #	12838		**Report ID:**	PIN-2 W4
Client:	ESG		**Date Submitted:**	2-Jul-10
			Date tested:	2-Jul-10
Site:	PIN-2		**Date:**	5-Jul-10
	10-067		**Matrix:**	water
Report of Analysis				
Sample	Oil & Grease			
	mg/L			
10-04808	<2.0			
10-04809	<2.0			
Blank	<2.0			
Control	16.0			
Control Target	15.7			

ESG
12 Verite Ave
Dept. of Chem. / Chem. Eng., RMC
P.O. Box 17000, Stn. Forces
Kingston, Ontario K7K 7B4
(613) 541-6000 ext 6567
Fax: (613) 541-6596

ASG Login No:	20692
Site:	Pin-2
Client No:	10-067
Samples Received:	1-Jul-10
Date of analysis:	5-Jul-10
Method No:	ASG 021
Date Reported:	6-Jul-10
Sheet:	1 of 1

RESULTS OF MERCURY ANALYSIS

Sample ID	Mercury^ mg/L
10-4808	< 0.0004
10-4809*	< 0.0004

*Results of duplicate analysis.
^ Acid digestion performed.
# Reported at 0.0004 mg/L detection limit.

LABORATORY QA/QC

Sample ID	Mercury^ mg/L
Duplicate ; 10-4809*	< 0.0004 ; < 0.0004
Blank	< 0.0004
Control Target	0.0040
Control Sample	0.0041

ESG
12 Verite Ave
Dept. of Chem. / Chem. Eng., RMC
P.O. Box 17000, Stn. Forces
Kingston, Ontario K7K 7B4
(613) 541-6000 ext 6567
Fax: (613) 541-6596

ASG Login No:	20692
Site:	Pin-2
Client No:	10-067
Samples Received:	1-Jul-10
Date of analysis:	5-Jul-10
Method No:	ASG 006
Date Reported:	6-Jul-10
Sheet No:	1 of 1

RESULTS OF PCB IN WATER ANALYSIS

Sample Type **	Sample I.D.	Unit	Aroclor 1254	Aroclor 1260
W	4808	mg/L	< 0.003	< 0.003
W	4809	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	0.018
	Control Sample Target	mg/L	< 0.003	0.016

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

ASU #	12838	**Report ID:**	PIN-2 W3
Client:	ESG	**Date Submitted:**	2-Jul-10
		Date tested:	5-Jul-10
Site:	PIN-2	**Date:**	6-Jul-10
	10-067	**Matrix:**	Water

Report of Analysis

Total Metals Results in mg/L

SAMPLE	Cu	Ni	Co	Cd	Pb	Zn	Cr	As
10-04808	-	-	-	-	-	0.014	-	<0.003
10-04809	-	-	-	-	-	0.015	-	<0.003
Blank	-	-	-	-	-	<0.010	-	<0.003
Control	-	-	-	-	-	2.9	-	0.80
Control Target	-	-	-	-	-	3.0	-	0.80
10-04809	-	-	-	-	-	0.015	-	<0.003
10-04809	-	-	-	-	-	0.015	-	<0.003

Dissolved Metals Results in mg/L

SAMPLE	Cu	Ni	Co	Cd	Pb	Zn	Cr	As
10-04808	<0.005	<0.005	<0.003	<0.001	<0.010	-	<0.005	-
10-04809	<0.005	<0.005	<0.003	<0.001	<0.010	-	<0.005	-
Blank	<0.005	<0.005	<0.003	<0.001	<0.010	-	<0.005	-
Control	1.60	1.64	1.63	0.79	8.10	-	0.83	-
Control Target	1.60	1.60	1.60	0.80	8.00	-	0.80	-
10-04809	<0.005	<0.005	<0.003	<0.001	<0.010	-	<0.005	-
10-04809	<0.005	<0.005	<0.003	<0.001	<0.010	-	<0.005	-

ESG	ASG Login No: 20692
12 Verite Ave	Site: Pin-2
Dept. of Chem. / Chem. Eng., RMC	Client No: 10-067
P.O. Box 17000, Stn. Forces	Samples Received: 1-Jul-10
Kingston, Ontario K7K 7B4	Date of analysis: 7-Jul-10
(613) 541-6000 ext 6567	Method No: ASG 037
Fax: (613) 541-6596	Date Reported: 7-Jul-10
	Page: 1 of 1

RESULTS OF pH ANALYSIS

Sample I.D.	pH
10-4808	7.45
10-4809*	7.54

* Averaged result of duplicates

LABORATORY QA/QC

Sample I.D.	pH
10-4809* ; Duplicate	7.54 ; 7.54
Control	7.00
Control Target	7.00

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Tel: 613-541-6000 x6684 / Fax: 613-545-8341

ESG	ASG Login No: 20692
12 Verite Ave	Site: Pin-2
Dept. of Chem. / Chem. Eng., RMC	Client Login No: 10-067
P.O. Box 17000, Stn. Forces	Samples Received: 1-Jul-10
Kingston, Ontario K7K 7B4	Date of analysis: 6-Jul-10
(613) 541-6000 ext 6567	Method No: ASG 023
Fax: (613) 541-6596	Date Reported: 7-Jul-10
	Page: 1 of 1

RESULTS OF BETX IN WATER ANALYSIS

Compound	4808*	4809	Blank	Duplicate ; 4808*	Control Sample	Control Target
	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Benzene	< 0.002	< 0.002	< 0.002	< 0.002 ; < 0.002	0.010	0.010
Toluene	< 0.002	< 0.002	< 0.002	< 0.002 ; < 0.002	0.010	0.010
Ethylbenzene	< 0.002	< 0.002	< 0.002	< 0.002 ; < 0.002	0.010	0.010
m+p-Xylene	< 0.002	< 0.002	< 0.002	< 0.002 ; < 0.002	0.019	0.020
o-Xylene	< 0.002	< 0.002	< 0.002	< 0.002 ; < 0.002	0.010	0.010

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

Tuesday, March 22, 2011

RE: Analytical Results for Wastewater Samples Collected at PIN-2 in July, 2010

The PIN-2 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	-	-
Benzene	0.370	mg/L
Toluene	0.002	mg/L
Ethylbenzene	0.090	mg/L

Phenols

The wastewater samples collected by ESG at PIN-2 in July, 2010 were not analyzed for phenols but they were analyzed for oil and grease. Research conducted by ESG[1] 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 LC_{50} for freshwater fish and crustaceans and below the oral and dermal LD_{50}s 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

One wastewater sample was collected at PIN-2 and analyzed in July 2010. A summary of the details of the sample follows. Laboratory results are provided in Appendix A.

LOCATION: BARREL HOLDING AREA- SOUTHEAST OF HANGAR
GPS COORDINATES: 11 W 0502857 7646814
SAMPLE: 10-4948
DATE: JULY 21, 2010

Parameter	Maximum Allowable Concentration	Units	Sample # 10-4948
pH	6-9	pH units	7.28
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	0.013
Total zinc (Zn)	0.5	mg/L	0.239
Oil & grease	5	mg/L	**6.6**
PCBs	1.0	mg/L	<0.003
Phenols	-	-	N/A
Benzene	0.370	mg/L	<0.002
Toluene	0.002	mg/L	<0.002
Ethylbenzene	0.090	mg/L	<0.002

Photo 1 (DSCN4938) Sample 10-4948 Pin-2 Sampling water collected in Barrel Holding Area, Southeast of Hangar

Waste water from the Barrel Holding Area (10-4948) was over criteria for Oil and Grease and was not discharged to land in July.

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

Sincerely,

Candice Casucci
Environmental Sciences Group

cc: Eva Schulz (UMA)
Daniela Loock, Kat White, Shari Reed, Tom Partridge, Kat Eagles (ESG)

APPENDIX A
LABORATORY RESULTS

ASU #	12942		**Report ID:**	PIN-2 W6				
Client:	ESG		**Date Submitted:**	26-Jul-10				
			Date tested:	27-Jul-10				
Site:	PIN-2		**Date:**	27-Jul-10				
	10-154		**Matrix:**	Water				
Report of Analysis								
Total Metals	Results in mg/L							
SAMPLE	Cu	Ni	Co	Cd	Pb	Zn	Cr	As
10-04948	-	-	-	-	-	0.239	-	<0.003
Blank	-	-	-	-	-	<0.010	-	<0.003
Control	-	-	-	-	-	3.0	-	0.76
Control Target	-	-	-	-	-	3.0	-	0.80
10-04948	-	-	-	-	-	0.234	-	<0.003
10-04948	-	-	-	-	-	0.244	-	<0.003
Dissolved Metals	Results in mg/L							
SAMPLE	Cu	Ni	Co	Cd	Pb	Zn	Cr	As
10-04948	<0.005	0.013	<0.003	<0.001	<0.010	-	<0.005	-
Blank	<0.005	<0.005	<0.003	<0.001	<0.010	-	<0.005	-
Control	1.54	1.62	1.62	0.80	8.12	-	0.82	-
Control Target	1.60	1.60	1.60	0.80	8.00	-	0.80	-
10-04948	<0.005	0.013	<0.003	<0.001	<0.010	-	<0.005	-
10-04948	<0.005	0.013	<0.003	<0.001	<0.010	-	<0.005	-

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ASG Login No:	20814
Site:	Pin-2
Client No:	10-154
Samples Received:	26-Jul-10
Date of analysis:	27-Jul-10
Method No:	ASG 015
Date Reported:	28-Jul-10
Sheet No:	1 of 1

RESULTS OF PCB IN WATER ANALYSIS

Sample Type **	Sample I.D.	Unit	Aroclor 1254	Aroclor 1260
W	4948	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	0.015
	Control Sample Target	mg/L	< 0.003	0.015

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

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ASG Login No:	20814
Site:	Pin-2
Client No:	10-154
Samples Received:	26-Jul-10
Date of analysis:	27-Jul-10
Method No:	ASG 021
Date Reported:	28-Jul-10
Sheet:	1 of 1

RESULTS OF MERCURY ANALYSIS

Sample ID	Mercury^ mg/L
4948	< 0.0004

*Results of duplicate analysis.
^ Acid digestion performed.
# Reported at 0.0004 mg/L detection limit.

LABORATORY QA/QC

Sample ID	Mercury^ mg/L
Duplicate ; 4948*	< 0.0004 ; < 0.0004
Blank	< 0.0004
Control Target	0.0040
Control Sample	0.0041

ASU #	12942		**Report ID:**	PIN-2 W8
Client:	ESG		**Date Submitted:**	27-Jul-10
			Date tested:	30-Jul-10
Site:	PIN-2		**Date:**	30-Jul-10
	10-154		**Matrix:**	water

Report of Analysis

Sample	Oil & Grease mg/L
10-04948	6.6
Blank	<2.0
Control	14.1
Control Target	15.9

Results relate only to the items tested

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Fax: (613) 541-6596

ASG Login No: 20814
Site: Pin-2
Client Login No: 10-154
Samples Received: 26-Jul-10
Date of analysis: 27-Jul-10
Method No: ASG 023
Date Reported: 28-Jul-10
Page: 1 of 1

RESULTS OF BETX IN WATER ANALYSIS

Compound	4948*	Blank	Duplicate ; 4948*	Control Sample	Control Target
	mg/L	mg/L	mg/L	mg/L	mg/L
Benzene	< 0.002	< 0.002	< 0.002 ; < 0.002	0.010	0.010
Toluene	< 0.002	< 0.002	< 0.002 ; < 0.002	0.010	0.010
Ethylbenzene	< 0.002	< 0.002	< 0.002 ; < 0.002	0.010	0.010
m+p-Xylene	< 0.002	< 0.002	< 0.002 ; < 0.002	0.020	0.020
o-Xylene	< 0.002	< 0.002	< 0.002 ; < 0.002	0.010	0.010

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

Tuesday, March 22, 2011

RE: Analytical Results for Wastewater Samples Collected at PIN-2 in August, 2010

The PIN-2 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	-	-
Benzene	0.370	mg/L
Toluene	0.002	mg/L
Ethylbenzene	0.090	mg/L

Phenols

The wastewater samples collected by ESG at PIN-2 in July, 2010 were not analyzed for phenols but they were analyzed for oil and grease. Research conducted by ESG[1] 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

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

drainage courses b) the maximum concentration of phenols in DLCU wastewater to date (2.44 mg/L) is below the LC_{50} for freshwater fish and crustaceans and below the oral and dermal LD_{50}s 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

Two wastewater samples were collected at PIN-2 and analyzed in August 2010. A summary of the details for the samples follows. Laboratory results are provided in Appendix A.

LOCATION: SOUTH BORROW DEBRIS AREA – SW CORNER OF THE EXCAVATION
GPS COORDINATES: 11 W 0504121 7643188
SAMPLE: 10-05022
DATE: AUGUST 25, 2010

Parameter	Maximum Allowable Concentration	Units	Sample # 10-05022
pH	6-9	pH units	7.78
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	0.012
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	0.020
Oil & grease	5	mg/L	*<2
PCBs	1.0	mg/L	<0.003
Phenols	-	-	N/A
Benzene	0.370	mg/L	<0.002
Toluene	0.002	mg/L	<0.002
Ethylbenzene	0.090	mg/L	<0.002

*Oil and grease result was provided by the site contractor. ESG sample bottle broke in transit.

Photo 1 (DSCNo3358) Sample 10-05022 Pin-2 Sampling water collected at South Borrow Buried Debris Area.

Waste water from the South Borrow Debris Area was below criteria for all parameters, and was discharged to ground on Sept 8.
(11W 0504200 7643282).

LOCATION: AIRSTRIP LANDFILL LOBE N – SE CORNER OF EXCAVATION
GPS COORDINATES: 11 W 0502900 7647400
SAMPLE: 10-5255
DATE: AUGUST 29, 2010

Parameter	Maximum Allowable Concentration	Units	Sample # 10-05255
pH	6-9	pH units	7.81
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
Benzene	0.370	mg/L	<0.002
Toluene	0.002	mg/L	<0.002
Ethylbenzene	0.090	mg/L	<0.002

Photo 2 (DSCO3463) Sample 10-05255 Pin-2 Sampling water collected at Lobe N excavation at the Airstrip Landfill.

Waste water from Airstrip Landfill Lobe N was discharged to ground on Sept 11, 2010.

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

Sincerely,

Candice Casucci
Environmental Sciences Group

cc: Eva Schulz (UMA)
Daniela Loock, Kat White, Shari Reed, Tom Partridge, Kat Eagles(ESG)

APPENDIX A
LABORATORY RESULTS

ANALYTICAL SCIENCES GROUP AND SLOWPOKE-2 FACILITY AT RMC
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Client :	**ESG**	ASG Login No:	20983
	12 Verite Ave	Site:	Pin-2
	Dept. of Chem. / Chem. Eng., RMC	Client No:	10-340
	P.O. Box 17000, Stn. Forces	Samples Received:	30-Aug-10
	Kingston, Ontario K7K 7B4	Date of analysis:	1-Sep-10
	(613) 541-6000 ext 6567	Method No:	ASG 021
	Fax: (613) 541-6596	Date Reported:	2-Sep-10
		Sheet:	1 of 1

RESULTS OF MERCURY IN WATER ANALYSIS

Sample ID	Mercury^ mg/L
5022	< 0.0004

Sample received frozen.
^ 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

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E. GRUBEN'S TRANSPORT

Maxxam Job #: B078538
Report Date: 2010/09/04

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		W60759		
Sampling Date		2010/08/26 10:50		
COC Number		78355		
	Units	**SBDB-W-1**	**RDL**	**QC Batch**
Misc. Inorganics				
pH	N/A	7.90	N/A	4226111
Misc. Organics				
Oil and grease	mg/L	<2	2	4226047

RDL = Reportable Detection Limit

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(613) 541-6000 ext 6567
Fax: (613) 541-6596

ASG Login No: 20983
Site: Pin-2
Client No: 10-340
Samples Received: 30-Aug-10
Date of analysis: 2-Sep-10
Method No: ASG 015
Date Reported: 3-Sep-10
Sheet No: 1 of 1

RESULTS OF PCB IN WATER ANALYSIS

Sample Type **	Sample I.D.	Unit	Aroclor 1254	Aroclor 1260
W	5022	mg/L	< 0.003	< 0.003

Report Values in PPM
* Average Result of Duplicate
`Sample received frozen

LABORATORY QA/QC

	Blank	mg/L	< 0.003	< 0.003
	Control Sample	mg/L	< 0.003	0.011
	Control Sample Target	mg/L	< 0.003	0.015

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

All results corrected for the recovery of the surrogate decachlorobiphenyl

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Client: ESG
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Fax: (613) 541-6596

ASG Login No: 20983
Site: Pin-2
Client No: 10-340
Samples Received: 30-Aug-10
Date of analysis: 1-Sep-10
Method No: ASG 037
Date Reported: 1-Sep-10
Page: 1 of 1

RESULTS OF pH ANALYSIS

Sample I.D.	pH
5022	7.78

* Averaged result of duplicates
Sample received frozen.

LABORATORY QA/QC

Sample I.D.	pH
Control	7.00
Control Target	7.00

ASU #	13143	**Report ID:**	PIN-2 W12
Client:	ESG	**Date Submitted:**	30-Aug-10
		Date tested:	1-Sep-10
Site:	PIN-2	**Date:**	2-Sep-10
	10-340	**Matrix:**	Water

Report of Analysis

Total Metals Results in mg/L

SAMPLE	Cu	Ni	Co	Cd	Pb	Zn	Cr	As
10-05022	-	-	-	-	-	0.020	-	<0.003
Blank	-	-	-	-	-	<0.010	-	<0.003
Control	-	-	-	-	-	2.9	-	0.73
Control Target	-	-	-	-	-	3.0	-	0.80

Dissolved Metals Results in mg/L

SAMPLE	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	
10-05022	0.012	<0.005	<0.003	<0.001	<0.010	-	<0.005	-	*
Blank	<0.005	<0.005	<0.003	<0.001	<0.010	-	<0.005	-	
Control	1.44	1.55	1.54	0.77	7.66	-	0.78	-	
Control Target	1.60	1.60	1.60	0.80	8.00	-	0.80	-	

Results relate only to the items tested

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P.O. Box 17000 Stn. Forces, Kingston, ON, K7K 7B4
Tel: 613-541-6000 x6684 / Fax: 613-545-8341

Client : ESG
12 Verite Ave
Dept. of Chem. / Chem. Eng., RMC
P.O. Box 17000, Stn. Forces
Kingston, Ontario K7K 7B4
(613) 541-6000 ext 6567
Fax: (613) 541-6596

ASG Login No: 20983
Site: Pin-2
Client Login No: 10-340
Samples Received: 30-Aug-10
Date of analysis: 2-Sep-10
Method No: ASG 023
Date Reported: 3-Sep-10
Page: 1 of 1

RESULTS OF BETX IN WATER ANALYSIS

Compound	5022*	Blank	Duplicate ; 5022*	Control Sample	Control Target
	mg/L	mg/L	mg/L	mg/L	mg/L
Benzene	< 0.002	< 0.002	< 0.002 ; < 0.002	0.010	0.010
Toluene	< 0.002	< 0.002	< 0.002 ; < 0.002	0.010	0.010
Ethylbenzene	< 0.002	< 0.002	< 0.002 ; < 0.002	0.010	0.010
m+p-Xylene	< 0.002	< 0.002	< 0.002 ; < 0.002	0.020	0.020
o-Xylene	< 0.002	< 0.002	< 0.002 ; < 0.002	0.010	0.010

Sample received frozen. Analysis performed on teflon

ANALYTICAL SCIENCES GROUP AND SLOWPOKE-2 FACILITY AT RMC
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ASG Login No: 20997
Site: Pin-2
Client No: 10-359
Samples Received: 1-Sep-10
Date of analysis: 3-Sep-10
Method No: ASG 021
Date Reported: 3-Sep-10
Sheet: 1 of 1

RESULTS OF MERCURY IN WATER ANALYSIS

Sample ID	Mercury^ mg/L
5255	< 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

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ASG Login No: 20997
Site: Pin-2
Client No: 10-359
Samples Received: 1-Sep-10
Date of analysis: 2-Sep-10
Method No: ASG 015
Date Reported: 3-Sep-10
Sheet No: 1 of 1

RESULTS OF PCB IN WATER ANALYSIS

Sample Type **	Sample I.D.	Unit	Aroclor 1254	Aroclor 1260
W	5255	mg/L	< 0.003	< 0.003

Report Values in PPM
* Average Result of Duplicate

LABORATORY QA/QC

	Blank	mg/L	< 0.003	< 0.003
	Control Sample	mg/L	< 0.003	0.011
	Control Sample Target	mg/L	< 0.003	0.015

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

All results corrected for the recovery of the surrogate decachlorobiphenyl

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Fax: (613) 541-6596

ASG Login No: 20997
Site: Pin-2
Client No: 10-359
Samples Received: 1-Sep-10
Date of analysis: 3-Sep-10
Method No: ASG 037
Date Reported: 3-Sep-10
Page: 1 of 1

RESULTS OF pH ANALYSIS

Sample I.D.	pH
5255	7.81

LABORATORY QA/QC

Sample I.D.	pH
Control	7.00
Control Target	7.00

ASU #	13162		**Report ID:**	PIN-2 W13					
Client:	ESG		**Date Submitted:**	1-Sep-10					
			Date tested:	3-Sep-10					
Site:	PIN-2		**Date:**	3-Sep-10					
	10-359		**Matrix:**	Water					

Report of Analysis

Total Metals	Results in mg/L								
SAMPLE	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	
10-05255	-	-	-	-	-	<0.010	-	<0.003	
Blank	-	-	-	-	-	<0.010	-	<0.003	
Control	-	-	-	-	-	3.04	-	0.76	
Control Target	-	-	-	-	-	3.00	-	0.80	

Dissolved Metals	Results in mg/L								
SAMPLE	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	
10-05255	<0.005	<0.005	<0.003	<0.001	<0.010	-	<0.005	-	*
Blank	<0.005	<0.005	<0.003	<0.001	<0.010	-	<0.005	-	
Control	1.46	1.61	1.59	0.81	8.00	-	0.83	-	
Control Target	1.60	1.60	1.60	0.80	8.00	-	0.80	-	

Results relate only to the items tested

ASU #	13162	**Report ID:**	PIN-2 W14	
Client:	ESG	**Date Submitted:**	1-Sep-10	
		Date tested:	1-Sep-10	
Site:	PIN-2	**Date:**	1-Sep-10	
	10-359	**Matrix:**	water	

Report of Analysis

Sample	Oil & Grease mg/L
10-05255	<2.0
Blank	<2.0
Control	15.0
Control Target	15.7

Results relate only to the items tested

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Client :	**ESG**	ASG Login No:	20997
	12 Verite Ave	Site:	Pin-2
	Dept. of Chem. / Chem. Eng., RMC	Client Login No:	10-359
	P.O. Box 17000, Stn. Forces	Samples Received:	1-Sep-10
	Kingston, Ontario K7K 7B4	Date of analysis:	2-Sep-10
	(613) 541-6000 ext 6567	Method No:	ASG 023
	Fax: (613) 541-6596	Date Reported:	3-Sep-10
		Page:	1 of 1

RESULTS OF BTEX IN WATER ANALYSIS

Compound	5255	Blank	Control Sample	Control Target
	mg/L	mg/L	mg/L	mg/L
Benzene	< 0.002	< 0.002	0.010	0.010
Toluene	< 0.002	< 0.002	0.010	0.010
Ethylbenzene	< 0.002	< 0.002	0.010	0.010
m+p-Xylene	< 0.002	< 0.002	0.020	0.020
o-Xylene	< 0.002	< 0.002	0.010	0.010

Candice Casucci
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

Tuesday, March 22, 2011

RE: Analytical Results for Wastewater Samples Collected at PIN-2 in September, 2010

The PIN-2 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	-	-
Benzene	0.370	mg/L
Toluene	0.002	mg/L
Ethylbenzene	0.090	mg/L

Phenols

The wastewater samples collected by ESG at PIN-2 in July, 2010 were not analyzed for phenols but they were analyzed for oil and grease. Research conducted by ESG[1] 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

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

drainage courses b) the maximum concentration of phenols in DLCU wastewater to date (2.44 mg/L) is below the LC_{50} for freshwater fish and crustaceans and below the oral and dermal LD_{50}s 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

One wastewater sample was collected at PIN-2 and analyzed in September 2010. A summary of the details of the sample follows. Laboratory results are provided in Appendix A.

LOCATION: BARREL HOLDING AREA- SOUTHEAST OF HANGAR
GPS COORDINATES: 11 W 0502857 7646814
SAMPLE: 10-05819
DATE: SEPTEMBER 5, 2010

Parameter	Maximum Allowable Concentration	Units	Sample # 10-05819
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	3.4
PCBs	1.0	mg/L	N/A
Phenols	-	-	N/A
Benzene	0.370	mg/L	N/A
Toluene	0.002	mg/L	N/A
Ethylbenzene	0.090	mg/L	N/A

Waste water from the Barrel Holding Area was analyzed for oil and grease only as a previous sample collected in July (10-04948) was below criteria for all other parameters. Sample 10-05819 was below criteria for oil and grease and was discharged to ground on September 11, 2010. (11 W 0502904 7646794)

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

Sincerely,

Candice Casucci
Environmental Sciences Group

cc: Eva Schulz (UMA)
Daniela Loock, Kat White, Shari Reed, Tom Partridge, Kat Eagles (ESG)

APPENDIX A
LABORATORY RESULTS

ASU #	13204		**Report ID:**	PIN-2 W15
Client:	ESG		**Date Submitted:**	9-Sep-10
			Date tested:	9-Sep-10
Site:	PIN-2		**Date:**	10-Sep-10
	10-401		**Matrix:**	water
Report of Analysis				
Sample	Oil & Grease			
	mg/L			
10-05819	3.4			
Blank	<2.0			
Control	14.1			
Control Target	15.7			
Results relate only to the items tested				

PHOTOGRAPHIC LOG

Site Name:	Site Location:	Project No.
PIN-2, Cape Young	Nunavut	60153669

Photo No.	Date:
1	25-sep-2010

Direction Photo Taken:

Description:
Winterization of Tier II Facility at the end of the 2010 construction season.

Photo No.	Date:
2	20-sep-2010

Direction Photo Taken:

Description:
Winterization of the Non-Hazardous Waste Landfill.

PHOTOGRAPHIC LOG

Site Name:	Site Location:	Project No.
PIN-2, Cape Young	Nunavut	60153669

Photo No.	Date:
3	19-sep-2010

Direction Photo Taken:

Description:
Demolition of the radome.

Photo No.	Date:
4	29-sep-2010

Direction Photo Taken:

Description:
Backfill of former contaminated soil area in Hangar.

PHOTOGRAPHIC LOG

Site Name:	Site Location:	Project No.
PIN-2, Cape Young	Nunavut	60153669

Photo No.	Date:	
5	22-sep-2010	
Direction Photo Taken:		
Description: Backfilled former Airstrip Landfill.		

Photo No.	Date:	
6	25-sep-2010	
Direction Photo Taken:		
Description: Regrade area.