

(In reply, please refer to)
Our File: 092156



March 22nd, 2011

Attention:
Joelie Qamanriq, Hamlet of Arctic Bay
Sean Joseph, Nunavut Water Board

Re: Sampling Results

Dear Mr. Qamanriq/Mr. Joseph:

Please note that due to flight schedules, and timing of training and site visits, the samples collected during the training exercise most likely did not arrive at the laboratory within the recommended time limits for some of the sampling parameters. As well, there is concern that the coolers used to ship the samples were not kept at cool enough temperatures during transport. Therefore, the attached sampling results (from samples taken during the sampling training exercise on August 18th, 2010) may be compromised. Should you require further information, please do not hesitate to contact me at (867) 920-4555.

Yours truly,

Dillon Consulting Limited

A handwritten signature in dark ink, appearing to read "Gary Strong", is written over a faint, stylized line graphic.

Gary Strong, P.Eng.

GS/encl.

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47th Street
Suite 303
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Telephone
(867) 920-4555
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Site: Arctic Bay
Your C.O.C. #: 20430601, 204306-0

Attention: Jennifer Spencer

Dillon Consulting
Suite 303, 4920 47th St
PO Box 1409
Yellowknife, NT
CANADA X1A 2P1

Report Date: 2010/08/30

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B0B4429

Received: 2010/08/22, 11:00

Sample Matrix: Water
Samples Received: 7

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Alkalinity	7	N/A	2010/08/24	CAM SOP-00448	SM 2320B
Biological Oxygen Demand (BOD)	7	N/A	2010/08/28	CAM SOP-00427	APHA 5210B
Carbonaceous BOD	7	N/A	2010/08/28	CAM SOP-00427	APHA 5210B
Chloride by Automated Colourimetry	7	N/A	2010/08/25	CAM SOP-00463	SM 4500 Cl E
Conductivity	7	N/A	2010/08/24	CAM SOP-00448	SM 2510
Petroleum Hydro. CCME F1 & BTEX in Water @	3	N/A	2010/08/26	CAM SOP-00315	CCME CWS
Petroleum Hydro. CCME F1 & BTEX in Water @	1	N/A	2010/08/27	CAM SOP-00315	CCME CWS
Petroleum Hydrocarbons F2-F4 in Water @	2	2010/08/24	2010/08/25	CAM SOP-00316	CCME Hydrocarbons
Petroleum Hydrocarbons F2-F4 in Water @	2	2010/08/25	2010/08/27	CAM SOP-00316	CCME Hydrocarbons
Hardness (calculated as CaCO3)	7	N/A	2010/08/26	CAM SOP 00102	SM 2340 B
Mercury in Water by CVAA	7	2010/08/25	2010/08/25	CAM SOP-00453	EPA 7470
Total Metals Analysis by ICPMS	1	N/A	2010/08/27	CAM SOP-00447	EPA 6020
Total Metals Analysis by ICPMS	6	N/A	2010/08/30	CAM SOP-00447	EPA 6020
Coliform, (CFU/100mL)	6	N/A	2010/08/23	CAM SOP-00552	MOE LSB E3371
Fecal coliform, (CFU/100mL)	6	N/A	2010/08/23	CAM SOP-00552	SM 9222D
Ammonia-N	2	N/A	2010/08/27	CAM SOP-00441	US GS I-2522-90
Ammonia-N (low level)	5	N/A	2010/08/25	CAM SOP-00441	US GS I-2522-90
Nitrate (NO3) and Nitrite (NO2) in Water @	7	N/A	2010/08/25	CAM SOP-00440	SM 4500 NO3/NO2B
Animal and Vegetable Oil & Grease	5	N/A	2010/08/25	CAM SOP-00326	SM 5520 B
Total Oil and Grease	5	2010/08/24	2010/08/24	CAM SOP-00326	EPA 1664A
PAH Compounds in Water by GC/MS (SIM)	4	2010/08/24	2010/08/25	CAM SOP-00318	EPA 8270
pH	7	N/A	2010/08/24	CAM SOP-00448	SM 4500H
Phenols (4AAP)	7	N/A	2010/08/25	CAM SOP-00444	MOE ROPHEN-E3179
Sulphate by Automated Colourimetry	7	N/A	2010/08/25	CAM SOP-00464	EPA 375.4
Total Kjeldahl Nitrogen in Water	7	2010/08/26	2010/08/27	CAM SOP-00454	EPA 351.2 Rev 2
Total Organic Carbon (TOC)	7	N/A	2010/08/26	CAM SOP-00446	EPA 415.1 modified
Total Phosphorus (Colourimetric)	5	2010/08/26	2010/08/27	CAM SOP-00407	APHA 4500 P,B,F
Total Phosphorus (Colourimetric)	2	2010/08/26	2010/08/26	CAM SOP-00407	SM 4500 P,B,F
TPH (Heavy Oil) @	5	2010/08/24	2010/08/24	CAM SOP-00326	SM 5520F
Low Level Total Suspended Solids	7	N/A	2010/08/25	CAM SOP-00428	SM 2540D
Volatile Organic Compounds in Water @	4	N/A	2010/08/30	CAM SOP-00226	EPA 8260 modified

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

* Results relate only to the items tested.

(1) This test was performed by Maxxam Ottawa

(2) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.

(3) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

Maxxam Job #: B0B4429
Report Date: 2010/08/30

Dillon Consulting

Project name: Arctic Bay

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Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

CHRISTINE GRIPTON, Project Manager
Email: Christine.Gripton@maxxamanalytics.com
Phone# (800) 268-7396 Ext:250

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Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Total cover pages: 2

Maxxam Job #: B0B4429
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RESULTS OF ANALYSES OF WATER

Maxxam ID		GX2430		GX2431			GX2432		
Sampling Date		2010/08/18 14:30		2010/08/18 14:00			2010/08/18 13:30		
	Units	ARC-3	RDL	ARC-4	RDL	QC Batch	ARC-5	RDL	QC Batch
Calculated Parameters									
Total Animal/Vegetable Oil and Grease	mg/L	5.2	0.5	<0.5	0.5	2242633	<0.5	0.5	2242633
Hardness (CaCO3)	mg/L	110	1	200	1	2242741	150	1	2242741
Inorganics									
Total Ammonia-N	mg/L	120	5	23 ⁽¹⁾	0.5	2246390	0.61	0.05	2244988
Total BOD	mg/L	320	2	10	2	2243255	<2	2	2243255
Total Carbonaceous BOD	mg/L	320	2	7	2	2243256	<2	2	2243256
Conductivity	umho/cm	1750	1	895	1	2244355	635	1	2244355
Total Kjeldahl Nitrogen (TKN)	mg/L	140	5	20 ⁽¹⁾	0.5	2246849	3.2	0.1	2246849
Total Organic Carbon (TOC)	mg/L	195	0.2	20.5	0.2	2245713	21.5	0.2	2245713
pH	pH	7.7		7.9		2244352	7.8		2244352
Phenols-4AAP	mg/L	0.97	0.05	<0.001	0.001	2244393	<0.001	0.001	2244393
Total Phosphorus	mg/L	1.2	0.02	0.5	0.1	2246424	0.34	0.006	2246696
Total Suspended Solids	mg/L	15	2	47	1	2244741	2	1	2244741
Dissolved Sulphate (SO4)	mg/L	27	1	96	1	2244544	37	1	2244544
Alkalinity (Total as CaCO3)	mg/L	609	1	215	1	2244350	125	1	2244350
Dissolved Chloride (Cl)	mg/L	110	1	70	1	2244543	86	1	2244543
Nitrite (N)	mg/L	0.01	0.01	0.10	0.01	2244377	0.06	0.01	2244377
Nitrate (N)	mg/L	<0.1	0.1	2.9	0.1	2244377	3.3	0.1	2244377
Nitrate + Nitrite	mg/L	<0.1	0.1	3.0	0.1	2244377	3.3	0.1	2244377
Petroleum Hydrocarbons									
Total Oil & Grease	mg/L	5.2	0.5	<0.5	0.5	2244351	<0.5	0.5	2244351
Total Oil & Grease Mineral/Synthetic	mg/L	<0.5	0.5	<0.5	0.5	2244376	<0.5	0.5	2244376

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

(1) - TKN < NH4: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Maxxam Job #: B0B4429
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Dillon Consulting

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RESULTS OF ANALYSES OF WATER

Maxxam ID		GX2433		GX2434		GX2435	GX2436		
Sampling Date		2010/08/18 15:00		2010/08/18 15:00		2010/08/18 15:00	2010/08/18 15:00		
	Units	ARC-6A	QC Batch	ARC-6B	QC Batch	FIELD BLANK	TRIP BLANK	RDL	QC Batch
Calculated Parameters									
Total Animal/Vegetable Oil and Grease	mg/L	<0.5	2242633	<0.5	2242633			0.5	
Hardness (CaCO3)	mg/L	240	2242741	240	2242741	<1	<1	1	2242741
Inorganics									
Total Ammonia-N	mg/L	<0.01	2244988	<0.01	2244988	<0.01	0.02	0.01	2244988
Total BOD	mg/L	<2	2243255	<2	2243255	<2	<2	2	2243255
Total Carbonaceous BOD	mg/L	<2	2243256	<2	2243256	<2	<2	2	2243256
Conductivity	umho/cm	531	2244355	537	2244355	1	1	1	2244355
Total Kjeldahl Nitrogen (TKN)	mg/L	0.5	2246849	0.5	2246849	0.1	<0.1	0.1	2246849
Total Organic Carbon (TOC)	mg/L	6.6	2245713	6.9	2245713	0.3	<0.2	0.2	2245713
pH	pH	8.0	2244352	8.0	2244352	6.5	5.7		2244352
Phenols-4AAP	mg/L	<0.001	2244393	<0.001	2244393	<0.001	<0.001	0.001	2244393
Total Phosphorus	mg/L	0.006	2246696	0.007	2246696	<0.002	<0.002	0.002	2246696
Total Suspended Solids	mg/L	2	2244741	1	2244953	<1	<1	1	2244741
Dissolved Sulphate (SO4)	mg/L	110	2244544	110	2244544	<1	<1	1	2244544
Alkalinity (Total as CaCO3)	mg/L	106	2244350	104	2244350	1	<1	1	2244350
Dissolved Chloride (Cl)	mg/L	31	2244543	36	2244543	<1	<1	1	2244543
Nitrite (N)	mg/L	<0.01	2244377	<0.01	2244377	<0.01	<0.01	0.01	2244377
Nitrate (N)	mg/L	<0.1	2244377	<0.1	2244377	<0.1	<0.1	0.1	2244377
Nitrate + Nitrite	mg/L	<0.1	2244377	<0.1	2244377	<0.1	<0.1	0.1	2244377
Petroleum Hydrocarbons									
Total Oil & Grease	mg/L	<0.5	2244351	<0.5	2244351			0.5	
Total Oil & Grease Mineral/Synthetic	mg/L	<0.5	2244376	<0.5	2244376			0.5	

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B0B4429
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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GX2430	GX2431	GX2432	GX2433	GX2434	GX2435		GX2436		
Sampling Date		2010/08/18 14:30	2010/08/18 14:00	2010/08/18 13:30	2010/08/18 15:00	2010/08/18 15:00	2010/08/18 15:00		2010/08/18 15:00		
	Units	ARC-3	ARC-4	ARC-5	ARC-6A	ARC-6B	FIELD BLANK	QC Batch	TRIP BLANK	RDL	QC Batch
Metals											
Mercury (Hg)	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	2245194	<0.0001	0.0001	2245194
Total Aluminum (Al)	ug/L	230	160	30	210	190	5	2249898	<5	5	2246852
Total Antimony (Sb)	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	2249898	<0.5	0.5	2246852
Total Arsenic (As)	ug/L	2	1	<1	<1	<1	<1	2249898	<1	1	2246852
Total Barium (Ba)	ug/L	25	64	28	81	78	<5	2249898	<5	5	2246852
Total Beryllium (Be)	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	2249898	<0.5	0.5	2246852
Total Bismuth (Bi)	ug/L	<1	<1	<1	<1	<1	<1	2249898	<1	1	2246852
Total Boron (B)	ug/L	170	150	91	54	53	<10	2249898	<10	10	2246852
Total Cadmium (Cd)	ug/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	2249898	<0.1	0.1	2246852
Total Calcium (Ca)	ug/L	22000	41000	28000	52000	50000	<200	2249898	<200	200	2246852
Total Chromium (Cr)	ug/L	<5	<5	<5	<5	<5	<5	2249898	<5	5	2246852
Total Cobalt (Co)	ug/L	3.0	3.1	1.8	<0.5	<0.5	<0.5	2249898	<0.5	0.5	2246852
Total Copper (Cu)	ug/L	12	5	7	3	3	<1	2249898	<1	1	2246852
Total Iron (Fe)	ug/L	1100	1800	410	210	170	<100	2249898	<100	100	2246852
Total Lead (Pb)	ug/L	0.6	0.6	<0.5	<0.5	<0.5	<0.5	2249898	<0.5	0.5	2246852
Total Lithium (Li)	ug/L	<5	6	<5	<5	<5	<5	2249898	<5	5	2246852
Total Magnesium (Mg)	ug/L	15000	23000	19000	30000	29000	<50	2249898	<50	50	2246852
Total Manganese (Mn)	ug/L	440	900	270	20	19	<2	2249898	<2	2	2246852
Total Molybdenum (Mo)	ug/L	<1	1	1	<1	<1	<1	2249898	<1	1	2246852
Total Nickel (Ni)	ug/L	10	9	10	2	2	<1	2249898	<1	1	2246852
Total Potassium (K)	ug/L	36000	14000	5100	1800	1800	<200	2249898	<200	200	2246852
Total Selenium (Se)	ug/L	<2	<2	<2	<2	<2	<2	2249898	<2	2	2246852
Total Silicon (Si)	ug/L	7500	3500	2400	3500	3600	<50	2249898	<50	50	2246852
Total Silver (Ag)	ug/L	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	2249898	<0.1	0.1	2246852
Total Sodium (Na)	ug/L	130000	71000	73000	16000	17000	<100	2249898	<100	100	2246852
Total Strontium (Sr)	ug/L	33	58	48	53	53	<1	2249898	<1	1	2246852
Total Tellurium (Te)	ug/L	<1	<1	<1	<1	<1	<1	2249898	<1	1	2246852
Total Thallium (Tl)	ug/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	2249898	<0.05	0.05	2246852
Total Thorium (Th)	ug/L	<1	<1	<1	<1	<1	<1	2249898	<1	1	2246852
Total Tin (Sn)	ug/L	2	<1	<1	<1	<1	<1	2249898	<1	1	2246852
Total Titanium (Ti)	ug/L	11	<5	<5	8	<5	<5	2249898	<5	5	2246852
Total Tungsten (W)	ug/L	<1	<1	<1	<1	<1	<1	2249898	<1	1	2246852
Total Uranium (U)	ug/L	0.1	0.2	0.1	0.2	0.2	<0.1	2249898	<0.1	0.1	2246852
Total Vanadium (V)	ug/L	2	<1	<1	<1	<1	<1	2249898	<1	1	2246852

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B0B4429
Report Date: 2010/08/30

Dillon Consulting

Project name: Arctic Bay

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GX2430	GX2431	GX2432	GX2433	GX2434	GX2435		GX2436		
Sampling Date		2010/08/18 14:30	2010/08/18 14:00	2010/08/18 13:30	2010/08/18 15:00	2010/08/18 15:00	2010/08/18 15:00		2010/08/18 15:00		
	Units	ARC-3	ARC-4	ARC-5	ARC-6A	ARC-6B	FIELD BLANK	QC Batch	TRIP BLANK	RDL	QC Batch
Total Zinc (Zn)	ug/L	27	9	15	5	<5	<5	2249898	<5	5	2246852
Total Zirconium (Zr)	ug/L	2	<1	<1	<1	<1	<1	2249898	<1	1	2246852

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Dillon Consulting

Project name: Arctic Bay

SEMI-VOLATILE ORGANICS BY GC-MS (WATER)

Maxxam ID		GX2433	GX2434	GX2435	GX2436		
Sampling Date		2010/08/18 15:00	2010/08/18 15:00	2010/08/18 15:00	2010/08/18 15:00		
	Units	ARC-6A	ARC-6B	FIELD BLANK	TRIP BLANK	RDL	QC Batch
Polyaromatic Hydrocarbons							
Acenaphthene	ug/L	<0.05	<0.05	<0.05	<0.05	0.05	2244643
Acenaphthylene	ug/L	<0.05	<0.05	<0.05	<0.05	0.05	2244643
Anthracene	ug/L	<0.05	<0.05	<0.05	<0.05	0.05	2244643
Benzo(a)anthracene	ug/L	<0.05	<0.05	<0.05	<0.05	0.05	2244643
Benzo(a)pyrene	ug/L	<0.01	<0.01	<0.01	<0.01	0.01	2244643
Benzo(b,j)fluoranthene	ug/L	<0.05	<0.05	<0.05	<0.05	0.05	2244643
Benzo(g,h,i)perylene	ug/L	<0.1	<0.1	<0.1	<0.1	0.1	2244643
Benzo(k)fluoranthene	ug/L	<0.05	<0.05	<0.05	<0.05	0.05	2244643
Chrysene	ug/L	<0.05	<0.05	<0.05	<0.05	0.05	2244643
Dibenz(a,h)anthracene	ug/L	<0.1	<0.1	<0.1	<0.1	0.1	2244643
Fluoranthene	ug/L	<0.05	<0.05	<0.05	<0.05	0.05	2244643
Fluorene	ug/L	<0.05	<0.05	<0.05	<0.05	0.05	2244643
Indeno(1,2,3-cd)pyrene	ug/L	<0.1	<0.1	<0.1	<0.1	0.1	2244643
1-Methylnaphthalene	ug/L	<0.05	<0.05	<0.05	<0.05	0.05	2244643
2-Methylnaphthalene	ug/L	<0.05	<0.05	<0.05	<0.05	0.05	2244643
Naphthalene	ug/L	<0.05	<0.05	<0.05	<0.05	0.05	2244643
Phenanthrene	ug/L	<0.03	<0.03	<0.03	<0.03	0.03	2244643
Pyrene	ug/L	<0.05	<0.05	<0.05	<0.05	0.05	2244643
Surrogate Recovery (%)							
D10-Anthracene	%	93	95	94	95		2244643
D14-Terphenyl (FS)	%	94	92	94	93		2244643
D7-Quinoline	%	96	89	96	101		2244643
D8-Acenaphthylene	%	88	87	93	90		2244643

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Project name: Arctic Bay

VOLATILE ORGANICS BY GC/MS (WATER)

Maxxam ID		GX2433	GX2434	GX2435	GX2436		
Sampling Date		2010/08/18 15:00	2010/08/18 15:00	2010/08/18 15:00	2010/08/18 15:00		
	Units	ARC-6A	ARC-6B	FIELD BLANK	TRIP BLANK	RDL	QC Batch
Volatile Organics							
Benzene	ug/L	<0.1	<0.1	<0.1	<0.1	0.1	2248445
Ethylbenzene	ug/L	<0.1	<0.1	<0.1	<0.1	0.1	2248445
Toluene	ug/L	<0.2	<0.2	<0.2	<0.2	0.2	2248445
p+m-Xylene	ug/L	<0.1	<0.1	<0.1	<0.1	0.1	2248445
o-Xylene	ug/L	<0.1	<0.1	<0.1	<0.1	0.1	2248445
Xylene (Total)	ug/L	<0.1	<0.1	<0.1	<0.1	0.1	2248445
Surrogate Recovery (%)							
4-Bromofluorobenzene	%	102	104	104	102		2248445
D4-1,2-Dichloroethane	%	112	114	110	107		2248445
D8-Toluene	%	96	97	98	98		2248445

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		GX2433	GX2434		GX2435	GX2436		
Sampling Date		2010/08/18 15:00	2010/08/18 15:00		2010/08/18 15:00	2010/08/18 15:00		
	Units	ARC-6A	ARC-6B	QC Batch	FIELD BLANK	TRIP BLANK	RDL	QC Batch
BTEX & F1 Hydrocarbons								
F1 (C6-C10)	ug/L	<100	<100	2244324	<100	<100	100	2244324
F1 (C6-C10) - BTEX	ug/L	<100	<100	2244324	<100	<100	100	2244324
F2-F4 Hydrocarbons								
F2 (C10-C16 Hydrocarbons)	ug/L	<100	<100	2242628	<100	<100	100	2245302
F3 (C16-C34 Hydrocarbons)	ug/L	<100	<100	2242628	<100	<100	100	2245302
F4 (C34-C50 Hydrocarbons)	ug/L	<100	<100	2242628	<100	<100	100	2245302
Reached Baseline at C50	ug/L	YES	YES	2242628	YES	YES		2245302
Surrogate Recovery (%)								
1,4-Difluorobenzene	%	96	92	2244324	98	96		2244324
4-Bromofluorobenzene	%	105	103	2244324	105	105		2244324
D10-Ethylbenzene	%	113	97	2244324	113	111		2244324
D4-1,2-Dichloroethane	%	96	96	2244324	111	100		2244324
o-Terphenyl	%	109	106	2242628	121	122		2245302

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MICROBIOLOGY (WATER)

Maxxam ID		GX2430	GX2431	GX2432	GX2433	GX2434	GX2435		
Sampling Date		2010/08/18 14:30	2010/08/18 14:00	2010/08/18 13:30	2010/08/18 15:00	2010/08/18 15:00	2010/08/18 15:00		
	Units	ARC-3	ARC-4	ARC-5	ARC-6A	ARC-6B	FIELD BLANK	RDL	QC Batch
Microbiological									
Background	CFU/100mL	>20000	>20000	16000	4100	3900	18000	10	2242930
Fecal coliform	CFU/100mL	>20000	20	2800	900	840	<10	10	2242935
Total Coliforms	CFU/100mL	>20000	12000 ⁽¹⁾	3700	5200	4700	<10	10	2242930

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

(1) - Values reported may be biased low due to overgrowth.

Maxxam Job #: B0B4429
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Dillon Consulting

Project name: Arctic Bay

GENERAL COMMENTS

BOD Analysis:

Due to the nature of BOD, results from a sample past the recommended hold time are likely biased. Analysis performed on the submitted samples will only accurately represent the values within the container at the time of testing. These values will not represent the actual concentrations within the sample source at the time of collection

Maxxam Job #: B0B4429
Report Date: 2010/08/30

Dillon Consulting

Project name: Arctic Bay

QUALITY ASSURANCE REPORT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
2242628	o-Terphenyl	2010/08/24	107	30 - 130	104	30 - 130	100	%				
2242628	F2 (C10-C16 Hydrocarbons)	2010/08/24	94	60 - 130	85	60 - 130	<100	ug/L	NC	50		
2242628	F3 (C16-C34 Hydrocarbons)	2010/08/24	94	60 - 130	85	60 - 130	<100	ug/L	NC	50		
2242628	F4 (C34-C50 Hydrocarbons)	2010/08/24	94	60 - 130	85	60 - 130	<100	ug/L	NC	50		
2242935	Fecal coliform	2010/08/24							NC	N/A		
2243255	Total BOD	2010/08/28					<2	mg/L	NC	25	107	85 - 115
2243256	Total Carbonaceous BOD	2010/08/28					<2	mg/L	NC	25	109	75 - 125
2244324	1,4-Difluorobenzene	2010/08/25	94	70 - 130	96	70 - 130	97	%				
2244324	4-Bromofluorobenzene	2010/08/25	106	70 - 130	104	70 - 130	105	%				
2244324	D10-Ethylbenzene	2010/08/25	102	70 - 130	102	70 - 130	110	%				
2244324	D4-1,2-Dichloroethane	2010/08/25	87	70 - 130	87	70 - 130	99	%				
2244324	F1 (C6-C10)	2010/08/25	90	70 - 130	104	70 - 130	<100	ug/L	NC	40		
2244324	F1 (C6-C10) - BTEX	2010/08/25					<100	ug/L	NC	40		
2244350	Alkalinity (Total as CaCO3)	2010/08/24					<1	mg/L	0.08	25	96	85 - 115
2244351	Total Oil & Grease	2010/08/24			97	85 - 115	<0.5	mg/L	1.5	25		
2244355	Conductivity	2010/08/24					<1	umho/cm	0	25	103	85 - 115
2244376	Total Oil & Grease Mineral/Synthetic	2010/08/24			95	85 - 115	<0.5	mg/L	2.6	25		
2244377	Nitrite (N)	2010/08/25	NC	80 - 120	109	85 - 115	<0.01	mg/L	0.06	25		
2244377	Nitrate (N)	2010/08/25	NC	80 - 120	96	85 - 115	<0.1	mg/L	0.4	25		
2244377	Nitrate + Nitrite	2010/08/25					<0.1	mg/L				
2244393	Phenols-4AAP	2010/08/25	100	75 - 125	96	75 - 125	<0.001	mg/L	NC	25		
2244543	Dissolved Chloride (Cl)	2010/08/25	108	75 - 125	103	80 - 120	<1	mg/L	NC	20		
2244544	Dissolved Sulphate (SO4)	2010/08/25	103	75 - 125	100	80 - 120	<1	mg/L	NC	25		
2244643	D10-Anthracene	2010/08/25	93	30 - 130	95	30 - 130	99	%				
2244643	D14-Terphenyl (FS)	2010/08/25	91	30 - 130	93	30 - 130	97	%				
2244643	D7-Quinoline	2010/08/25	89	30 - 130	94	30 - 130	97	%				
2244643	D8-Acenaphthylene	2010/08/25	89	30 - 130	95	30 - 130	96	%				
2244643	Acenaphthene	2010/08/25	91	30 - 130	96	30 - 130	<0.05	ug/L	NC	40		
2244643	Acenaphthylene	2010/08/25	93	30 - 130	99	30 - 130	<0.05	ug/L	NC	40		
2244643	Anthracene	2010/08/25	93	30 - 130	92	30 - 130	<0.05	ug/L	NC	40		
2244643	Benzo(a)anthracene	2010/08/25	97	30 - 130	98	30 - 130	<0.05	ug/L	NC	40		
2244643	Benzo(a)pyrene	2010/08/25	100	30 - 130	101	30 - 130	<0.01	ug/L	NC	40		
2244643	Benzo(b/j)fluoranthene	2010/08/25	84	30 - 130	86	30 - 130	<0.05	ug/L	NC	40		
2244643	Benzo(g,h,i)perylene	2010/08/25	75	30 - 130	75	30 - 130	<0.1	ug/L	NC	40		
2244643	Benzo(k)fluoranthene	2010/08/25	96	30 - 130	91	30 - 130	<0.05	ug/L	NC	40		
2244643	Chrysene	2010/08/25	93	30 - 130	93	30 - 130	<0.05	ug/L	NC	40		
2244643	Dibenz(a,h)anthracene	2010/08/25	82	30 - 130	82	30 - 130	<0.1	ug/L	NC	40		
2244643	Fluoranthene	2010/08/25	98	30 - 130	99	30 - 130	<0.05	ug/L	NC	40		
2244643	Fluorene	2010/08/25	93	30 - 130	94	30 - 130	<0.05	ug/L	NC	40		
2244643	Indeno(1,2,3-cd)pyrene	2010/08/25	80	30 - 130	80	30 - 130	<0.1	ug/L	NC	40		

Maxxam Job #: B0B4429
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Dillon Consulting

Project name: Arctic Bay

QUALITY ASSURANCE REPORT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
2244643	1-Methylnaphthalene	2010/08/25	79	30 - 130	87	30 - 130	<0.05	ug/L	NC	40		
2244643	2-Methylnaphthalene	2010/08/25	76	30 - 130	85	30 - 130	<0.05	ug/L	NC	40		
2244643	Naphthalene	2010/08/25	81	30 - 130	91	30 - 130	<0.05	ug/L	NC	40		
2244643	Phenanthrene	2010/08/25	97	30 - 130	97	30 - 130	<0.03	ug/L	NC	40		
2244643	Pyrene	2010/08/25	98	30 - 130	97	30 - 130	<0.05	ug/L	NC	40		
2244741	Total Suspended Solids	2010/08/25					<1	mg/L	NC	25	103	85 - 115
2244953	Total Suspended Solids	2010/08/25					<1	mg/L	NC	25	96	85 - 115
2244988	Total Ammonia-N	2010/08/25	98	80 - 120	107	80 - 120	<0.01	mg/L	0.4	25		
2245194	Mercury (Hg)	2010/08/25	108	75 - 125	104	80 - 120	<0.0001	mg/L	NC	25		
2245302	o-Terphenyl	2010/08/27	115	30 - 130	118	30 - 130	120	%				
2245302	F2 (C10-C16 Hydrocarbons)	2010/08/27	85	60 - 130	114	60 - 130	<100	ug/L	NC	50		
2245302	F3 (C16-C34 Hydrocarbons)	2010/08/27	85	60 - 130	114	60 - 130	<100	ug/L	NC	50		
2245302	F4 (C34-C50 Hydrocarbons)	2010/08/27	85	60 - 130	114	60 - 130	<100	ug/L	NC	50		
2245713	Total Organic Carbon (TOC)	2010/08/26	95	80 - 120	95	80 - 120	<0.2	mg/L	0.6	20		
2246390	Total Ammonia-N	2010/08/27	98	80 - 120	100	85 - 115	<0.05	mg/L	NC	25		
2246424	Total Phosphorus	2010/08/26	103	80 - 120	104	85 - 115	<0.02	mg/L	NC	20	106	85 - 115
2246696	Total Phosphorus	2010/08/27	103	80 - 120	103	85 - 115	<0.002	mg/L	NC	20	107	85 - 115
2246849	Total Kjeldahl Nitrogen (TKN)	2010/08/27	98	80 - 120	96	85 - 115	<0.1	mg/L	6.0	20	102	85 - 115
2246852	Total Aluminum (Al)	2010/08/27	96	80 - 120	95	85 - 115	<5	ug/L				
2246852	Total Antimony (Sb)	2010/08/27	109	80 - 120	103	85 - 115	<0.5	ug/L				
2246852	Total Arsenic (As)	2010/08/27	106	80 - 120	103	85 - 115	<1	ug/L				
2246852	Total Barium (Ba)	2010/08/27	101	80 - 120	100	85 - 115	<5	ug/L				
2246852	Total Beryllium (Be)	2010/08/27	101	80 - 120	98	85 - 115	<0.5	ug/L				
2246852	Total Bismuth (Bi)	2010/08/27	100	80 - 120	100	85 - 115	<1	ug/L				
2246852	Total Boron (B)	2010/08/27	97	80 - 120	95	85 - 115	<10	ug/L				
2246852	Total Cadmium (Cd)	2010/08/27	104	80 - 120	98	85 - 116	<0.1	ug/L				
2246852	Total Calcium (Ca)	2010/08/27	NC	80 - 120	102	85 - 115	<200	ug/L				
2246852	Total Chromium (Cr)	2010/08/27	98	80 - 120	101	85 - 115	<5	ug/L				
2246852	Total Cobalt (Co)	2010/08/27	97	80 - 120	99	85 - 115	<0.5	ug/L				
2246852	Total Copper (Cu)	2010/08/27	98	80 - 120	98	85 - 115	<1	ug/L				
2246852	Total Iron (Fe)	2010/08/27	101	80 - 120	103	85 - 115	<100	ug/L				
2246852	Total Lead (Pb)	2010/08/27	101	80 - 120	101	85 - 115	<0.5	ug/L	NC	25		
2246852	Total Lithium (Li)	2010/08/27	102	80 - 120	98	85 - 115	<5	ug/L				
2246852	Total Magnesium (Mg)	2010/08/27	98	80 - 120	101	85 - 115	<50	ug/L				
2246852	Total Manganese (Mn)	2010/08/27	97	80 - 120	100	85 - 115	<2	ug/L				
2246852	Total Molybdenum (Mo)	2010/08/27	108	80 - 120	102	85 - 115	<1	ug/L				
2246852	Total Nickel (Ni)	2010/08/27	97	80 - 120	100	85 - 115	<1	ug/L				
2246852	Total Potassium (K)	2010/08/27	98	80 - 120	101	85 - 115	<200	ug/L				
2246852	Total Selenium (Se)	2010/08/27	103	80 - 120	103	85 - 115	<2	ug/L				
2246852	Total Silicon (Si)	2010/08/27	96	80 - 120	98	85 - 115	<50	ug/L				

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Project name: Arctic Bay

QUALITY ASSURANCE REPORT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
2246852	Total Silver (Ag)	2010/08/27	98	80 - 120	94	85 - 115	<0.1	ug/L				
2246852	Total Sodium (Na)	2010/08/27	97	80 - 120	99	85 - 115	<100	ug/L				
2246852	Total Strontium (Sr)	2010/08/27	101	80 - 120	100	85 - 115	<1	ug/L				
2246852	Total Tellurium (Te)	2010/08/27	100	80 - 120	96	85 - 115	<1	ug/L				
2246852	Total Thallium (Tl)	2010/08/27	100	80 - 120	101	85 - 115	<0.05	ug/L				
2246852	Total Thorium (Th)	2010/08/27	109	80 - 120	105	85 - 115	<1	ug/L				
2246852	Total Tin (Sn)	2010/08/27	104	80 - 120	98	85 - 115	<1	ug/L				
2246852	Total Titanium (Ti)	2010/08/27	102	80 - 120	103	85 - 115	<5	ug/L				
2246852	Total Tungsten (W)	2010/08/27	102	80 - 120	102	85 - 115	<1	ug/L				
2246852	Total Uranium (U)	2010/08/27	105	80 - 120	104	85 - 115	<0.1	ug/L				
2246852	Total Vanadium (V)	2010/08/27	97	80 - 120	100	85 - 115	<1	ug/L				
2246852	Total Zinc (Zn)	2010/08/27	98	80 - 120	100	85 - 115	<5	ug/L				
2246852	Total Zirconium (Zr)	2010/08/27	107	80 - 120	101	85 - 115	<1	ug/L				
2248445	4-Bromofluorobenzene	2010/08/30	106	70 - 130	105	70 - 130	99	%				
2248445	D4-1,2-Dichloroethane	2010/08/30	101	70 - 130	99	70 - 130	98	%				
2248445	D8-Toluene	2010/08/30	102	70 - 130	101	70 - 130	100	%				
2248445	Benzene	2010/08/30	86	70 - 130	99	70 - 130	<0.1	ug/L	17.2	40		
2248445	Ethylbenzene	2010/08/30	103	70 - 130	103	70 - 130	<0.1	ug/L	NC	40		
2248445	Toluene	2010/08/30	102	70 - 130	102	70 - 130	<0.2	ug/L	NC	40		
2248445	p+m-Xylene	2010/08/30	104	70 - 130	107	70 - 130	<0.1	ug/L	NC	40		
2248445	o-Xylene	2010/08/30	103	70 - 130	104	70 - 130	<0.1	ug/L	NC	40		
2248445	Xylene (Total)	2010/08/30					<0.1	ug/L	NC	40		
2249898	Total Aluminum (Al)	2010/08/30	95	80 - 120	100	85 - 115	<5	ug/L	7.8	25		
2249898	Total Antimony (Sb)	2010/08/30	111	80 - 120	106	85 - 115	<0.5	ug/L	NC	25		
2249898	Total Arsenic (As)	2010/08/30	106	80 - 120	106	85 - 115	<1	ug/L	NC	25		
2249898	Total Barium (Ba)	2010/08/30	98	80 - 120	97	85 - 115	<5	ug/L	0.7	25		
2249898	Total Beryllium (Be)	2010/08/30	99	80 - 120	100	85 - 115	<0.5	ug/L	NC	25		
2249898	Total Bismuth (Bi)	2010/08/30	100	80 - 120	100	85 - 115	<1	ug/L	NC	25		
2249898	Total Boron (B)	2010/08/30	96	80 - 120	95	85 - 115	<10	ug/L	3.9	25		
2249898	Total Cadmium (Cd)	2010/08/30	101	80 - 120	100	85 - 116	<0.1	ug/L	NC	25		
2249898	Total Calcium (Ca)	2010/08/30	NC	80 - 120	104	85 - 115	<200	ug/L	2.2	25		
2249898	Total Chromium (Cr)	2010/08/30	101	80 - 120	102	85 - 115	<5	ug/L	NC	25		
2249898	Total Cobalt (Co)	2010/08/30	100	80 - 120	99	85 - 115	<0.5	ug/L	NC	25		
2249898	Total Copper (Cu)	2010/08/30	100	80 - 120	103	85 - 115	<1	ug/L	NC	25		
2249898	Total Iron (Fe)	2010/08/30	100	80 - 120	101	85 - 115	<100	ug/L	NC	25		
2249898	Total Lead (Pb)	2010/08/30	98	80 - 120	99	85 - 115	<0.5	ug/L	NC	25		
2249898	Total Lithium (Li)	2010/08/30	102	80 - 120	104	85 - 115	<5	ug/L	NC	25		
2249898	Total Magnesium (Mg)	2010/08/30	NC	80 - 120	105	85 - 115	<50	ug/L	0.4	25		
2249898	Total Manganese (Mn)	2010/08/30	101	80 - 120	102	85 - 115	<2	ug/L	2.3	25		
2249898	Total Molybdenum (Mo)	2010/08/30	107	80 - 120	104	85 - 115	<1	ug/L	NC	25		

Maxxam Job #: B0B4429
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Dillon Consulting

Project name: Arctic Bay

QUALITY ASSURANCE REPORT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
2249898	Total Nickel (Ni)	2010/08/30	101	80 - 120	103	85 - 115	<1	ug/L	NC	25		
2249898	Total Potassium (K)	2010/08/30	104	80 - 120	105	85 - 115	<200	ug/L	2.9	25		
2249898	Total Selenium (Se)	2010/08/30	102	80 - 120	105	85 - 115	<2	ug/L	NC	25		
2249898	Total Silicon (Si)	2010/08/30	95	80 - 120	99	85 - 115	<50	ug/L	6.5	25		
2249898	Total Silver (Ag)	2010/08/30	96	80 - 120	96	85 - 115	<0.1	ug/L	NC	25		
2249898	Total Sodium (Na)	2010/08/30	NC	80 - 120	105	85 - 115	<100	ug/L	2.0	25		
2249898	Total Strontium (Sr)	2010/08/30	100	80 - 120	102	85 - 115	<1	ug/L	3.9	25		
2249898	Total Tellurium (Te)	2010/08/30	104	80 - 120	100	85 - 115	<1	ug/L	NC	25		
2249898	Total Thallium (Tl)	2010/08/30	98	80 - 120	99	85 - 115	<0.05	ug/L	NC	25		
2249898	Total Thorium (Th)	2010/08/30	99	80 - 120	98	85 - 115	<1	ug/L	NC	25		
2249898	Total Tin (Sn)	2010/08/30	105	80 - 120	101	85 - 115	<1	ug/L	NC	25		
2249898	Total Titanium (Ti)	2010/08/30	106	80 - 120	103	85 - 115	<5	ug/L	NC	25		
2249898	Total Tungsten (W)	2010/08/30	104	80 - 120	102	85 - 115	<1	ug/L	NC	25		
2249898	Total Uranium (U)	2010/08/30	103	80 - 120	103	85 - 115	<0.1	ug/L	NC	25		
2249898	Total Vanadium (V)	2010/08/30	100	80 - 120	100	85 - 115	<1	ug/L	NC	25		
2249898	Total Zinc (Zn)	2010/08/30	101	80 - 120	102	85 - 115	<5	ug/L	NC	25		
2249898	Total Zirconium (Zr)	2010/08/30	108	80 - 120	104	85 - 115	<1	ug/L	NC	25		

N/A = Not Applicable

RPD = Relative Percent Difference

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.

Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was not sufficiently significant to permit a reliable recovery calculation.

NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

Validation Signature Page

Maxxam Job #: B0B4429

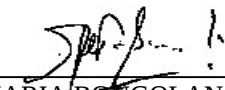
The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).




EWA PRANJIC, M.Sc., C.Chem, Scientific Specialist



FLOYD MAYEDE, Senior Analyst



MARIA BONGOLAN, Team Leader

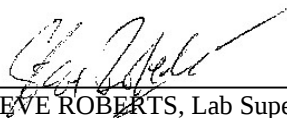


PAUL RUBINATO, Analyst, Maxxam Analytics

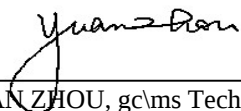
Validation Signature Page

Maxxam Job #: B0B4429

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



STEVE ROBERTS, Lab Supervisor, Ottawa



YUAN ZHOU, gc\ms Technician

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Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



48hr *Daphnia magna* Bioassay Report

(Acute Aquatic Toxicity Test)

Project : B075636-W44710

Client Name : *Dillon Consulting Ltd*
Location : *Yellowknife, NT*

Sample Data :

Sample Description : *ARC-5*
Visual Description: *clear*
Sampling Location : *Arctic Bay*
Sampling Method : *Grab*
Volume Obtained : *1L*
Sampled By : *JS*

YY MM DD

Sample Date : *10 08 18* **Time :** *1330*
Date Received : *10 08 23* **Time :** *1200*
Bioassay Date : *10 08 23* **Time :** *1500*
Report Date : *10 08 30*
Deviations from Method : *none*

Bioassay Results :

Sample Endpoint	Rep1	Rep2	Rep3	Average
% Mortality @ 48 Hours:	100%	100%	100%	100%
% Immobility @ 48 Hours :	n/a	n/a	n/a	n/a

Control Endpoint	C1	C2	C3	Average
% Mortality @ 48 Hours:	0%	0%	0%	0%
% Immobility @ 48 Hours :	0%	0%	0%	0%

Note: Results relate only to the item tested.

General Comments:

Data & QA/QC

Reviewed By :

Jay Abbott, Bioassay Supervisor



48hr *Daphnia magna* Bioassay Report

Project : B075636-W44710

Sample Description : ARC-5

Detailed Test Information :

Type of Bioassay :	48 hour static bioassay
Test Species :	<i>Daphnia magna</i>
Test Protocol :	Environment Canada EPS 1/RM/14 (December 2000 ed.)
Test Endpoint:	Mortality and/or Immobility
% Mortality in Culture 7 days Prior to Testing :	1%
Age of Test Animals :	Neonates (young), less than 24 hours old
Time, in Days, to First Brood :	10
Average Number of Neonates per Brood :	29
Source of Test Species :	In house culture initiated through Environment Canada <i>Daphnia magna</i>
Date Animals Obtained :	May 1991
Source of Culturing and Dilution Water :	Reconstituted water
Size of Test Container :	220 mL
Material of Test Container :	Polyethylene beaker
Volume of Test Solution per Container :	200 mL
Standard Concentrations of Test Material :	0, 100% in Triplicate
Number of Neonates per Container :	10
Volume of Solution per Daphnid :	20 mL
Hardness Adjustment :	None
pH Adjustment :	None



48hr *Daphnia magna* Bioassay Report

Project : B075636-W44710

Sample Description : ARC-5

Setup	Effluent Properties Prior To Initial Setup:	Temperature °C	pH @ 20°C	EC µS cm-1	Dissolved Oxygen mg/L
		3.8	7.9	26489.0	12.4
Analyst ND	Preaeration Time (at rate of 50 mL / min / L) : 0 min				

Time	Description	Controls			100% Screen Samples		
		C1	C2	C3	Rep1	Rep2	Rep3

Start	Temperature °C	19.1	19.1	19.1	19.9	19.8	19.7
	pH @ 20°C	8.2	8.3	8.3	7.6	7.7	7.7
	EC µS cm-1	505	508	507	36807	36842	36917
	Dissolved Oxygen mg/L	9.4	9.6	9.4	9.9	9.9	9.9
	Hardness mg/L CaCO3	180			4600 mg/L		
Analyst: ND							
1 Hour	Number Dead						
Analyst:	Atypical/Stressed Behaviour						
4 Hours	Number Dead						
Analyst:	Atypical/Stressed Behaviour						
24 Hours	Number Dead	0	0	0	10	10	10
Analyst: ND	Atypical/Stressed Behaviour	0	0	0	0	0	0
48 Hours	Temperature °C	20.5	20.5	20.7	20.9	20.0	19.9
	pH @ 20°C	8.2	8.2	8.2	7.7	7.8	7.8
	EC µS cm-1	589	579	585	41040	41032	41122
	Dissolved Oxygen mg/L	8.1	9.1	9.0	7.5	7.6	7.6
	Number Dead	0	0	0	10	10	10
Analyst: ND	Atypical/Stressed Behaviour	0	0	0	0	0	0

Observation Codes: I: Immobile F: Floating



Project : B075636-W44710

Results of Sodium Chloride Reference Bioassay :

Sample Description : ARC-5

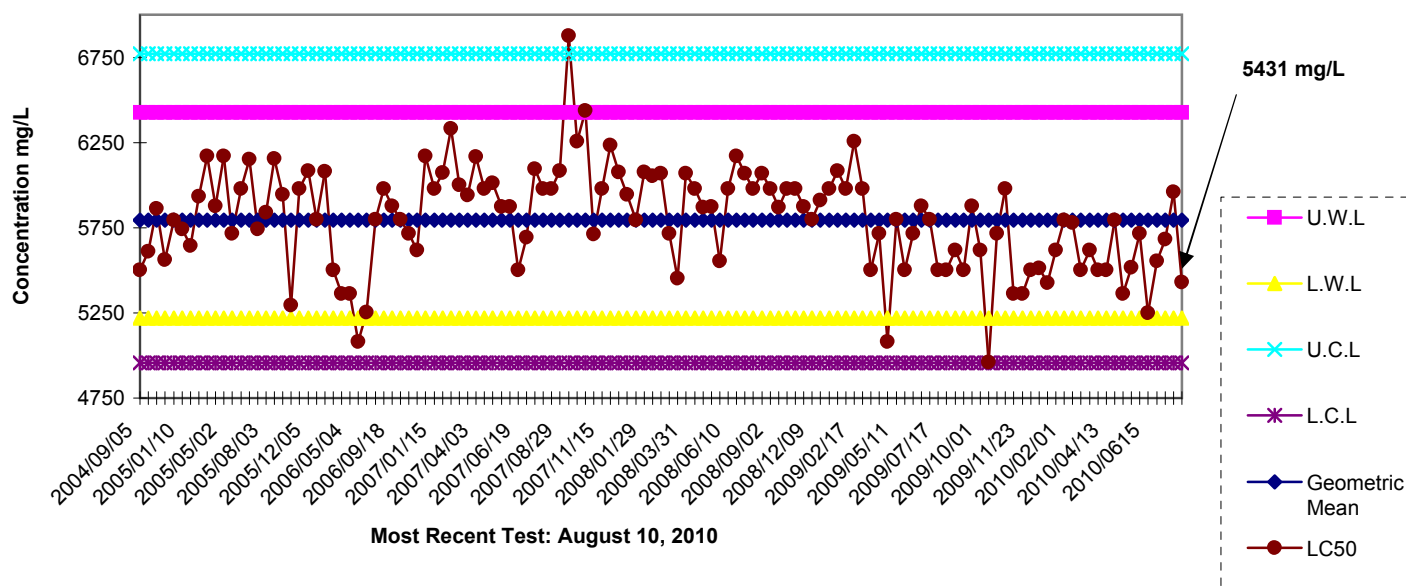
Current

LC50 @ 48 Hours : **5431 mg/L**
 95 % Confidence Interval : **5028<5431<5840**
 Method : **Probit**
 Date Initiated **10 08 10**

Historical

Geometric Mean : **5800 mg/L**
 Warning Limits : **5235<5800<6427**
 Method : **Shewhart**

The reference toxicant is conducted under the same conditions as the definitive testing (EENVSOP-00152).

D. magna Shewhart Chart (LC50)



96hr Rainbow Trout Screen Bioassay Report

(Acute Aquatic Toxicity Test)

Project : B075636-W44710

Sample Data :

Company Name :	Dillon Consulting Ltd	
City :	Yellowknife, NT	
Sample Description :	ARC-5	
Sampling Location :	Arctic Bay	
Sampling Method :	Grab	
Volume obtained :	20L	
Sampled By :	JS	
	YY MM DD	
Sample Date :	10 08 18	Time : 1330
Date Received :	10 08 23	Time : 1200
Bioassay Date :	10 08 23	Time : 1500
Report Date :	10 08 30	
Deviations from method :	none	

Test Results :

% mortality @ 96 Hours : 100%

Note: The results relate only to the item tested.

Results of Phenol Reference Bioassay : CETIS Statistical Program

LC50 @ 96 Hours :	10.95 mg/L
95 % Confidence Interval :	10.0<11.0<11.9 mg/L
Method :	Probit
95 % Confidence Interval :	8.47<10.66<13.44
Method :	Schewhart Warning Limit
Historical Mean $\pm$ 2SD :	10.66 $\pm$ 2.48
Date of Reference Bioassay :	10 08 17

The reference toxicant is conducted under the same conditions as the definitive testing.

Report & QA/QC

Reviewed By :  Jay Abbott, Bioassay Supervisor



96hr Rainbow Trout Screen Bioassay Report

Project : B075636-W44710

Sample Description : ARC-5

Test Information :

Type of Bioassay :	96 Hour Single Dilution Static Bioassay		
Test Species :	<i>Oncorhynchus mykiss</i> (Rainbow Trout)		
Test Protocol :	Environment Canada EPS 1/RM/13 (Dec.2000 ed. with May 2007 amendments).		
Source of Test Species :	Rainbow Springs Trout Hatchery, Thamesford, ON.		
Culture Lot # :	RS0730-3		
Mean (± 1 SD) & Range Fork Length of Fish :	3.6 $\pm$ 0.1 cm	Pop.Range 3.4 - 3.8 cm	n=10
Mean (± 1 SD) & Range Weight of Fish :	0.57 $\pm$ 0.10 g	Pop.Range 0.4 - 0.7 g	
Cummulative Mortality of Fish Lot in the 7 Days Prior to Test :	0.0%		
Source of Holding Water :	Ammonia Free, Dechlorinated City of Edmonton Tap Water		
Size of Test Container :	38 L		
Material of Test Container :	Disposable Plastic Liner in Glass Tank		
Volume of Test Solution in Each Test Vessel :	20 L		
Depth of Test Material in Each Test Vessel :	≥ 15 cm		
Concentrations of Test Material :	0, 100%		
Number of Fish per Container :	10		
Loading Density :	0.29 g/L		
Method of Aeration :	Carbon Filtered, Compressed Air Through Air-stone		
Aeration Rate during test :	6.5 $\pm$ 1.0 mL/min./L		
pH adjustment:	No pH adjustment of sample was made during testing.		



96hr Rainbow Trout Screen Bioassay Report

Project : B075636-W44710

Sample Description : ARC-5

Setup	Sample Properties Prior To Initial Setup:	Temperature °C	pH @ 20°C	EC µS cm-1	Dissolved Oxygen mg/L
Analyst: AM	Preaeration Time (at rate of 6.5 ± 1.0 mL / min / L) :	3.8	7.9	26489	12.4
		30 min			

Time	Description	Concentration (%)	
		0	100
Start	Temperature (°C)	15.1	15.2
	pH	8.2	7.6
	EC (µS cm-1)	308	36437
	Dissolved Oxygen (mg/L)	9.6	8.5
Analyst: AM			
1/4 Hour	Number Dead		
	Atypical/Stressed Behaviour		
1/2 Hour	Number Dead	0	0
	Atypical/Stressed Behaviour	0	0
1 Hour	Number Dead	0	0
	Atypical/Stressed Behaviour	0	0
2 Hours	Number Dead	0	0
	Atypical/Stressed Behaviour	0	0
4 Hours	Number Dead	0	0
	Atypical/Stressed Behaviour	0	0
Analyst:			
24 Hours	Temperature (°C)	15.1	15.2
	pH	8.2	7.5
	EC (µS cm-1)	322	37206
	Dissolved Oxygen (mg/L)	9.9	8.5
	Number Dead	0	10
	Atypical/Stressed Behaviour	0	0
Analyst: JA			
48 Hours	Temperature (°C)	14.9	15.1
	pH	8.3	7.6
	EC (µS cm-1)	322	37235
	Dissolved Oxygen (mg/L)	10.1	8.2
	Number Dead	0	10
	Atypical/Stressed Behaviour	0	0
Analyst: AM			
72 Hours	Temperature (°C)	15.0	15.2
	pH	8.2	7.5
	EC (µS cm-1)	316	36317
	Dissolved Oxygen (mg/L)	9.9	8.1
	Number Dead	0	10
	Atypical/Stressed Behaviour	0	0
Analyst: AM			
96 Hours	Temperature (°C)	14.7	15.0
	pH	8.0	7.6
	EC (µS cm-1)	317	36330
	Dissolved Oxygen (mg/L)	9.9	8.0
	Number Dead	0	10
	Atypical/Stressed Behaviour	0	0
Analyst: AM			

Stress Codes: P: dark pigmentation U: light pigmentation L: lethargic H: hyperactive M: inhibited movement G: pronounced opercular movement F: Flashing S: extreme toxic shock D: disorientated

General Comments:

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name: #24212 Dillon Consulting	Company Name:	Quotation #: A94081	MAXXAM JOB #:		BOTTLE ORDER #:		
Contact Name: Jennifer Spencer	Contact Name:	P.O. #:			204306		
Address: Suite 303, 4920 47th St PO Box 1409 Yellowknife NT X1A 2P1	Address:	Project #:			CHAIN OF CUSTODY #:		PROJECT MANAGER:
Phone: (867)920-4555 Fax: (867)873-3328	Phone:	Project Name:			CHRISTINE GRIPTON		
Email: JSpencer@dillon.ca	Email:	Site #:			C#204306-01-01		
		Sampled By:					

REGULATORY CRITERIA:		SPECIAL INSTRUCTIONS		ANALYSIS REQUESTED (Please be specific):										TURNAROUND TIME (TAT) REQUIRED:	
☐ MISA Reg. 153/04 ☐ PWQO Table 1 ☐ Reg. 558 Table 3 ☐ Other (specify) _____		☐ Sanitary ☐ Storm ☐ Combined Reg. 153 ☐ 2004 ☐ 2011		Regulated Drinking Water? (Y/N) _____ Metals Field Filtered? (Y/N) _____ Ammonia-N, TKN, Total P, TSS Total Coliforms & Fecal coliform NO2/3, SO4, BOD, cBOD Oil & Grease - AV/MT pH, Conductivity, Hardness Alkalinity, Total Phenols Total Metals by ICPMS+Hg CCME TPH BTEX/F1-4 PAH Compounds in Water Chloride, TOC										Regular (Standard) TAT: (will be applied if Rush TAT is not specified): Standard TAT = 5-7 Working days for most tests. Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details. Job Specific Rush TAT (if applies to entire submission) Date Required: _____ Time Required: _____ Rush Confirmation Number: _____ (call lab for #)	

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water? (Y/N)	Metals Field Filtered? (Y/N)	Ammonia-N, TKN, Total P, TSS	Total Coliforms & Fecal coliform	NO2/3, SO4, BOD, cBOD	Oil & Grease - AV/MT	pH, Conductivity, Hardness	Alkalinity, Total Phenols	Total Metals by ICPMS+Hg	CCME TPH BTEX/F1-4	PAH Compounds in Water	Chloride, TOC	# of Bottles	Comments
1	ARC-3	Aug. 18, 2010	2:30pm WW				✓	✓	✓	✓	✓	✓	✓			✓		Sewage Effluent
2	ARC-4	Aug. 18, 2010	2:00pm WW				✓	✓	✓	✓	✓	✓	✓			✓		Sewage Effluent
3	ARC-5	Aug. 18, 2010	1:30pm WW				✓	✓	✓	✓	✓	✓	✓			✓		Sewage Effluent
4	ARC-6a	Aug. 18, 2010	3:00pm WW				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		Solid Waste Leachate
5	ARC-6b	Aug. 18, 2010	3:00pm WW				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		Solid Waste Leachate
6	FIELD BLANK	Aug. 18, 2010	3:00pm				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
7																		
8																		5-4-7
9																		5-6-6
10																		5-4-6

22-Aug-10 11:00
CHRISTINE GRIPTON



B0B4429

J_R OTT-001

REC'D IN OTTAWA

*RELINQUISHED BY: (Signature/Print) Jennifer Spencer		Date: (YY/MM/DD) 10/08/10	Time: 4:00pm	*RECEIVED BY: (Signature/Print) Ken Farquharson		Date: (YY/MM/DD) 22 Aug 2010	Time: 11am	# Jars Used and Not Submitted	Laboratory Use Only:		
									Time Sensitive: ☒ X	Temperature (°C) on Receipt: 6.6	Custody Seal Intact on Cooler? ☐ Yes ☐ No

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.