



28 August 2008

AMEC File: VE51295.3100

Via E-Mail

Chief Administrative Officer
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU X0B 1J0

Attention: Ms. Phyllis Beaulieu

Dear Ms. Beaulieu,

Reference: Tahera Diamond Corporation Jericho Diamond Mine Monthly SNP Report for July 2008

On behalf of Tahera Diamond Corporation (Tahera), AMEC Earth & Environmental (AMEC) is pleased to provide Nunavut Water Board (NWB) with the Jericho Diamond Mine (Jericho) monthly report for July 2008 as required under Water Licence 2AM-JER0410.

SNP Sampling

During the month of July 2008 samples were collected as required for the SNP sampling program. A summary of the sampling is provided in Table 1.

Table 1: SNP Water Sampling Summary

SNP Station	Sampling Date	Lab#	Comment
Various	10 July 08	L654648/280348	ALS/Taiga
Various	16 July 08	L658377	ALS
Various	17 July 08	280365	Taiga
Various	25 July 08	L660453	ALS

All samples were collected as per requirements under Water License 2AM-JER0410.

Note:

The diamond plant did not operate in July, however, there was discharge of supernatant water from the PKCA.

Due to an oversight, no toxicity testing was done in July. We have included the June and August acute toxicity tests which passed 100%. Since no new fine PK was deposited in the PKCA since April, it is probably a reasonable assumption that July acute toxicity would have been a 100% pass. Tahera has taken internal steps to ensure no toxicity tests are missed in

future while the PKCA is discharging, specifically a reminder will automatically appear on the Environment Department computer when the tests are due to be done.

Results

Water Sampling and Analysis Results

Table 2 provides the results for samples related to the SNP sampling requirements for the month of July 2008.

Toxicity Tests

Toxicity tests for June and August are attached to this report per the previous discussion.

Flow and Volume Measurements

Table 3 provides a breakdown of flow and volume measurements and solid material moved as required under Part K, Item 12 and 13 of the water license.

Should you have any questions regarding the monthly report for July 2008 please contact the undersigned.

Yours truly,

A handwritten signature in black ink, appearing to read "Bruce Ott", with a stylized flourish at the end.

Senior Associate

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Fax (604) 294-4664

E-mail bruce.ott@amec.com

c. G. Missal, M. Johnson, A. Coster: Tahera Diamond Corporation

Project
Report To
ALS File No.
Date Received
Date

JERICHO
ENVIRONMENT DEPARTMENT, TAHERA DIAMOND CORPORATION
L654648
14-Aug-08

RESULTS OF ANALYSIS

Sample ID	JER-WQ01	JER-WQ02	WQ2	JER-WQ03	JER-WQ3	JER-WQ4	JER-WQ5	JER-WQ6	JER-WQ07	JER-WQ08	JER-WQ9	JER-WQ10	JER-WQ11	JER-WQ12	JER-WQ13	JER-WQ14	JER-WQ15	JER-WQ21	WQ16	WQ17	WQ18	JER-SW1	JER-SW4	FIELD BLANK	TRAVEL BLANK	
Date Sampled	10-JUL-08	10-JUL-08	24-JUL-08	10-JUL-08	16-JUL-08	16-JUL-08	16-JUL-08	16-JUL-08	09-JUL-08	09-JUL-08	16-JUL-08	16-JUL-08	16-JUL-08	16-JUL-08	16-JUL-08	09-JUL-08	09-JUL-08	16-JUL-08	24-JUL-08	24-JUL-08	24-JUL-08	17-JUL-08	24-JUL-08	16-JUL-08	16-JUL-08	
Time Sampled	00:00	00:00	08:00	00:00	00:00	00:00	00:00	00:00	00:00	00:00	00:00	00:00	00:00	00:00	00:00	00:00	00:00	00:00	08:00	08:00	08:00	00:00	08:00	16-JUL-08	16-JUL-08	
ALS Sample ID	L654648-1	L654648-2	L660453-2	L654648-3	L658377-1	L658377-7	L658377-4	L658377-5	L654648-7	L654648-4	L658377-9	L658377-6	L658377-8	L658377-3	L658377-2	L654648-5	L654648-6	L658377-10	L660453-3	L660453-4	L660453-5	L658377-11	L660453-1	L658377-13	L658377-14	
Matrix	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	
Physical Tests																										
Conductivity	uS/cm	-	260	247	183	121	12.8	13.4	18.2	17.8	13.9	14.7	13.8	105	85.8	17.6	18.2	11.9	16.5	22.2	15.6	576	257	<2.0	-	
Hardness (as CaCO3)	mg/L	5.42	68.6	79.6	48.7	29.8	4.67	4.63	5.52	4.64	5.22	5.44	4.46	4.99	37.2	29.2	7.24	7.35	4.45	7.93	9.89	7.32	40.7	72.9	<50	<50
pH	-	-	7.83	7.43	7.51	7.48	6.78	6.75	6.68	6.81	6.84	6.75	6.67	7.65	7.51	6.92	6.81	6.77	6.55	7.36	6.69	6.58	7.83	5.53	-	-
Total Suspended Solids	mg/L	<3.0	<3.0	3.7	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	30.5	<3.0	<3.0	-	-
Total Dissolved Solids	mg/L	-	150	171	101	71	12	12	<10	12	<10	15	12	<10	70	58	17	<10	14	11	16	23	405	161	<10	-
Turbidity	NTU	-	0.69	2.80	0.47	0.14	0.45	0.38	0.38	0.41	0.50	0.47	0.35	0.32	0.67	0.51	0.54	0.45	0.39	0.41	0.42	0.38	20.1	0.42	<0.10	-
Anions and Nutrients																										
Acidity (as CaCO3)	mg/L	-	1.5	2.5	1.7	5.6	2.4	2.1	2.5	3.2	1.3	2.4	2.5	2.5	3.6	3.5	1.4	1.5	2.5	1.1	<1.0	<1.0	19.1	1.1	1.6	-
Alkalinity, Bicarbonate (as CaCO3)	mg/L	-	36.7	35.2	26.0	24.2	3.5	3.9	6.0	6.1	4.7	4.2	4.6	4.5	24.5	17.3	10.4	12.3	3.7	6.3	8.5	5.8	11.6	37.0	<1.0	-
Alkalinity, Carbonate (as CaCO3)	mg/L	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	-	-
Alkalinity, Hydroxide (as CaCO3)	mg/L	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	-	-
Alkalinity, Total (as CaCO3)	mg/L	-	36.7	35.2	26.0	24.2	3.5	3.9	6.0	6.1	4.7	4.2	4.6	4.5	24.5	17.3	10.4	12.3	3.7	6.3	8.5	5.8	11.6	37.0	<1.0	-
Ammonia as N	mg/L	-	0.269	0.0840	0.0171	<0.0050	0.0078	0.0145	0.0084	0.0074	0.0067	0.0082	0.0086	<0.0050	0.0065	0.0202	0.0125	<0.0050	0.0106	<0.0050	0.0097	0.0080	1.87	0.174	-	-
Chloride (Cl)	mg/L	-	12.6	13.2	9.20	7.87	<0.50	<0.50	<0.50	<0.50	<0.50	0.71	<0.50	<0.50	5.65	5.57	<0.50	<0.50	<0.50	<0.50	0.76	<0.50	39.3	12.7	<0.50	-
Nitrate (as N)	mg/L	-	11.7	10.9	8.05	2.18	<0.0050	<0.0050	0.0322	0.0455	0.0191	0.0100	<0.0050	<0.0050	3.04	2.14	<0.0050	0.0332	0.0140	0.0193	<0.0050	0.0058	26.1	11.3	-	-
Nitrite (as N)	mg/L	-	0.0020	0.0642	0.0120	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0020	0.0085	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.136	0.0908	-	-
Ortho Phosphate as P	mg/L	-	<0.0010	<0.0010	0.0010	<0.0010	<0.0010	<0.0010	0.0010	<0.0010	<0.0010	0.0016	<0.0010	0.0013	0.0011	0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0012	7.03	<0.0010	-	-
Total Dissolved Phosphate As P	mg/L	-	<0.0020	0.0048	<0.0020	0.0026	0.0020	0.0020	0.0023	0.0026	<0.0020	0.0021	0.0032	0.0023	0.0026	<0.0020	<0.0020	0.0029	0.0021	0.0027	0.0021	7.55	0.0033	<0.0020	-	-
Total Phosphate as P	mg/L	-	0.0056	0.0151	0.0071	0.0035	0.0046	0.0042	0.0047	0.0048	0.0042	0.0044	0.0049	0.0037	0.0046	<0.0020	<0.0020	0.0058	0.0050	0.0065	0.0044	8.41	0.0058	-	-	-
Sulfate (SO4)	mg/L	-	19.5	17.2	14.6	12.1	0.93	0.90	0.98	0.84	<0.0020	0.0020	0.96	0.74	5.78	5.10	<0.50	<0.50	0.58	0.76	0.56	65.2	19.4	<0.50	-	-
Organic / Inorganic Carbon																										
Total Inorganic Carbon	mg/L	-	6.57	7.69	4.51	4.67	0.58	0.59	<0.50	<0.50	0.58	0.73	0.51	0.77	5.12	3.65	0.92	0.99	0.63	1.13	1.63	0.97	0.87	7.93	-	-
Total Organic Carbon	mg/L	-	2.99	3.49	2.71	3.08	2.82	2.70	3.84	2.59	2.77	2.64	2.66	2.48	3.33	4.07	5.34	4.09	3.29	3.26	8.26	3.06	21.4	3.33	-	-
Total Metals																										
Aluminum (Al)-Total	mg/L	0.0173	0.0138	0.0813	0.0083	0.0230	0.0246	0.0189	0.0218	0.0164	0.0169	0.0174	0.0193	0.0137	0.0316	0.0190	0.0334	0.0292	0.0229	0.0790	0.0187	0.0212	0.100	0.0120	<0.0010	<0.0010
Antimony (Sb)-Total	mg/L	<0.00010	0.00034	0.00028	0.00017	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.00923	0.00035	<0.00010	<0.00010	
Arsenic (As)-Total	mg/L	0.00014	0.00036	0.00048	0.00019	0.00017	0.00017	0.00015	0.00013	0.00013	0.00014	0.00014	0.00019	0.00011	0.00021	0.00017	0.00018	0.00013	0.00012	0.00019	0.00019	0.00024	0.00092	0.00037	<0.00010	<0.00010
Barium (Ba)-Total	mg/L	0.00186	0.0453	0.0430	0.0229	0.0140	0.00188	0.00155	0.00181	0.00183	0.00185	0.00170	0.00158	0.00138	0.0114	0.0544	0.00201	0.00259	0.00166	0.00243	0.00157	0.00164	0.0135	0.0427	<0.00050	<0.00050
Beryllium (Be)-Total	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Bismuth (Bi)-Total	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.00119	<0.00050	<0.00050	<0.00050
Boron (B)-Total	mg/L	<0.010	0.028	0.031	0.019	0.013	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.149	0.031	<0.010	<0.010
Cadmium (Cd)-Total	mg/L	<0.000050	<0.000050	0.000158	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	0.000284	<0.000050	<0.000050	<0.000050	
Calcium (Ca)-Total	mg/L	1.20	15.7	17.2	11.0	6.21	1.01	0.973	1.14	1.02	1.15	1.17	0.964	1.16	8.71	6.06	1.83	1.89	0.954	1.73	2.22	1.60	12.3	16.0	<0.050	<0.050
Chromium (Cr)-Total	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.00190	<0.00050	<0.		

Table 3: Flow and Volume Measurements-Part K Item 12 and 13

DATE	Carat Lake Freshwater Use (m3) (Camp and Emulsion Plant) - Daily	Carat Lake Freshwater Use (m3) (Construction Requirements) - Daily	Treated Sewage Effluent to PKC (Long Lake) (m3) - Daily Calculated	Sewage Sludge Removed (m3)	Pit Pond Water to Long Lake (m3) - Daily	East Sump pond to PKC (Long Lake) (m3) - Daily	Other waters to PKC (Long Lake) (m3)	Water Discharged from PKC (m3)	PKC Water Recycled (m3)	Process Plant Fresh Water (m3)	Process Plant Water Discharged to PKC (m3)	Coarse Rejects (tonnes)	Fine Rejects to PKC (tonnes)	Ore Processed (tonnes)	Quantity of Waste Rock (tonnes)	Quantity of Esker (tonnes)	Quantity of till (tonnes)
1-Jul-08	0.0	0.0	0.0	Monthly	0.0	0.0	Monthly	0.0	Monthly	0.0	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
2-Jul-08	0.0	0.0	0.0		0.0	0.0		0.0		0.0							
3-Jul-08	22.4	0.0	15.7		0.0	0.0		0.0		0.0							
4-Jul-08	0.0	0.0	0.0		0.0	0.0		0.0		0.0							
5-Jul-08	6.8	0.0	4.8		0.0	0.0		0.0		0.0							
6-Jul-08	7.5	0.0	5.3		0.0	0.0		0.0		0.0							
7-Jul-08	0.0	0.0	0.0		0.0	0.0		0.0		0.0							
8-Jul-08	10.5	0.0	7.4		0.0	0.0		0.0		0.0							
9-Jul-08	0.0	0.0	0.0		0.0	0.0		0.0		0.0							
10-Jul-08	8.6	0.0	6.0		0.0	0.0		0.0		0.0							
11-Jul-08	12.3	0.0	8.6		0.0	0.0		0.0		0.0							
12-Jul-08	6.3	0.0	4.4		0.0	0.0		0.0		0.0							
13-Jul-08	5.5	0.0	3.9		0.0	0.0		0.0		0.0							
14-Jul-08	7.3	0.0	5.1		0.0	0.0		0.0		0.0							
15-Jul-08	0.0	0.0	0.0		0.0	0.0		0.0		0.0							
16-Jul-08	11.9	0.0	8.3		0.0	0.0		0.0		0.0							
17-Jul-08	0.0	0.0	0.0		0.0	0.0		0.0		0.0							
18-Jul-08	0.0	0.0	0.0		0.0	0.0		0.0		0.0							
19-Jul-08	16.8	0.0	11.8		0.0	0.0		0.0		0.0							
20-Jul-08	0.0	0.0	0.0		0.0	0.0		0.0		0.0							
21-Jul-08	0.0	0.0	0.0		0.0	0.0		0.0		0.0							
22-Jul-08	14.1	0.0	9.9		0.0	0.0		0.0		0.0							
23-Jul-08	0.0	0.0	0.0		0.0	0.0		0.0		0.0							
24-Jul-08	0.0	0.0	0.0		0.0	0.0		4469.3		0.0							
25-Jul-08	17.5	0.0	12.3		0.0	0.0		4186.5		0.0							
26-Jul-08	0.0	0.0	0.0		0.0	0.0		4053.5		0.0							
27-Jul-08	0.0	0.0	0.0		0.0	0.0		4043.6		0.0							
28-Jul-08	0.0	0.0	0.0		0.0	0.0		4082.7		0.0							
29-Jul-08	28.8	0.0	20.2		0.0	0.0		3017.0		0.0							
30-Jul-08	0.0	0.0	0.0		0.0	0.0		3969.4		0.0							
31-Jul-08	0.0	0.0	0.0		0.0	0.0		3778.4		0.0							
Total	176.3	0.0	123.4	11	0.0	0.0	0.0	31600.4	0.0	0.0	0.0	0	0	0	0.0	0.0	0.0

Result Summary

Client: TAH102
 Reference: 08-0909-01-DAS

Client: Tahera Diamond Corporation; operation Jericho

Sample: Jer_West Cell Retest

Collection: collected on 2008/06/12 at 930 by not given

Receipt: received on 2008/06/13 at 1345 by A. Crawford

Containers: received 1 x 20L pail at 10 °C, in good condition
 with no seals and no initials

Description: type: water, collection method: grab

Test: started on 2008/06/17 ; ended on 2008/06/19

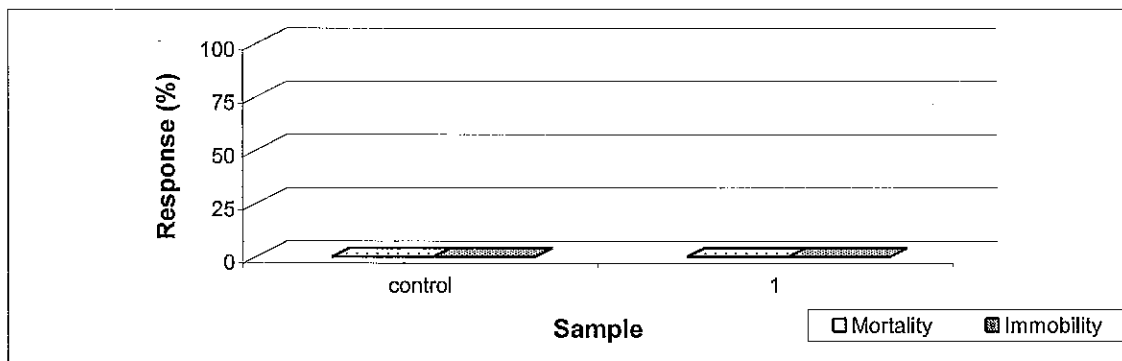
Result:

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Sample	Client Code	Average Mortality (%)	Average Immobility (%)	Comment
control	lab control	0	0	
1	Jer_West Cell Rete	0	0	not toxic as tested

Notes: sd, sample standard deviation; cv, coefficient of variation; nd, not done; na, not applicable;



S. Krishnappa
 Authorized by S. Krishnappa, B.Sc., Quality Coordinator
 The test data and results are verified correct.

Test Conditions

Client: TAH102 Reference: 08-0909-01-DAS

Method: Biological Test method: Reference Method for Determining Acute Lethality of Effluents to *Daphnia magna*, 2000. Environ. Can., EPS 1/RM/14. Second Edition.

Test type: *Daphnia* 48-h Static Acute Test (HQ 4.4.3.1)

Species: *Daphnia magna*

Age: < 24 hours old

Organism source: in-house culture

Stock mortality: 0%

Culture brood data: 10 days to first brood
16 neonates per average brood

Sample initial chemistry: pH: 7.5; EC: 276 ($\mu\text{S}/\text{cm}$); DO: 8.2 (mg/L); temperature: 18 °C
hardness (mg CaCO_3/L): 58; colour: colourless; odour: odourless

Sample holding time: 5 days (must be ≤ 5 days)

Sample storage: $4 \pm 2^\circ\text{C}$ in darkness

Test vessel: 385 mL plastic vessels

Test volume: 150 mL

Sample pre-treatment: The sample was not filtered or pH adjusted prior to or during testing
The sample was pre-aerated for 0 minutes (rate of $37.5 \pm 12.5 \text{ mL}/\text{min.L}^{-1}$)
The hardness of the sample was not adjusted (mg CaCO_3/L) prior to or during testing

Loading density: One daphnid/15 mL (must ≤ 1 organism/15 mL)

Control water: Dechlorinated City of Calgary water acclimated to test conditions
The hardness of the control/dilution water was 123 mg CaCO_3/L

Test concentrations: Undiluted sample plus a negative control

Test replicates: Three replicates per treatment, 10 daphnids per replicate

Feeding: None

Aeration: None

Measurements: pH, conductivity, dissolved oxygen and temperature at test initiation and termination

Lighting: Overhead full spectrum fluorescent lights; 400-800 lux at surface

Photoperiod: 16h light:8h dark

Test temperature: $20 \pm 2^\circ\text{C}$

Note: Outlined sections are protocol deviations explained on the comment page

Test Conditions

Client: TAH102 Reference: 08-0909-01-DAS

Endpoint: Mortality, % mortality at 48-h
Immobility, % immobility at 48-h

Test validity: The control had 100% survival (must $\geq 90\%$)
Control had 0% abnormal behaviour (must $< 10\%$), e.g. immobility

Reference toxicant: 48-h test with NaCl initiated June 2, 2008; current results
(48-h LC50 and 95% confidence limits) = 0.72 (0.69-0.74) log (g/L NaCl)

Note: Outlined sections are protocol deviations explained on the comment page

Test Data

 Client: TAH102
 Reference: 08-0909-01-DAS

Test Log:

Date	Day	Time	Technician	Comment/Observation
2008/06/17	0	1345	T. McDonald	test <i>Daphnia</i> appear normal
2008/06/18	1	0940	T. McDonald	test <i>Daphnia</i> appear normal
2008/06/19	2	1245	T. McDonald	test <i>Daphnia</i> appear normal

Chemistry:

Sample	control			1		
replicate	a	b	c	a	b	c

Day	pH (units)					
0	8.1	8.2	8.2	8.1	8.0	7.9
2	7.9	8.0	8.0	7.9	7.8	7.7

	Conductivity ($\mu\text{S}/\text{cm}$)					
0	400	362	357	290	285	284
2	355	349	360	285	285	283

	Dissolved Oxygen (mg/L)					
0	7.7	7.7	7.7	8.0	8.1	8.0
2	8.4	8.4	8.0	8.0	7.6	7.7

	Temperature ($^{\circ}\text{C}$)					
0	22	22	22	22	22	22
2	20	20	20	20	21	21

Biology:

Sample	control			1		
replicate	a	b	c	a	b	c

Day	Number Alive and Behavior (behavior is in brackets)					
1	10	10	10	10	10	10
2	10	10	10	10	10	10

Notes: F, floating; I, immobile; B, stuck on bubble; D, caught in debris

	Mortality (%)					
2	0	0	0	0	0	0

	Immobility (%)					
2	0	0	0	0	0	0

Comments/Statistics

Client: TAH102 Reference: 08-0909-01-DAS

Test Result Comments:

None

Data Analysis:

None

Protocol Deviations:

None

Quality Assurance Information

Test Method: *Daphnia* Static Acute Test (LC50, five or more treatments plus a control)
HydroQual Test Method Manual, section: 4.4.3.1

Reference: Biological Test Method: Reference Method for Determining the Acute Lethality of Effluents to *Daphnia magna*, 1990. Environment Canada, EPS 1/RM/14. including May 1996 and December 2000 amendments.

Test Organism:

test species: *Daphnia magna*
culture source: in-house
original culture source: Environment Canada
days to first brood: 10
mean brood size: 16
ephippia in stock culture: no
age of test organisms: <24 hours old
culture mortality (%): 7%

Test Design:

vol. of test vessel (mL): 500
toxicant: sodium chloride
test volume (mL): 150
replicates per treatment: 1
neonates per replicate: 10
volume per neonate (mL): 15
samples preacrated: no
hardness adjustment: no
temperature (°C): 20
photoperiod: 16h light:8h dark
light level (water surface): 400-800 lux
control/dilution water: dechlorinated tap water

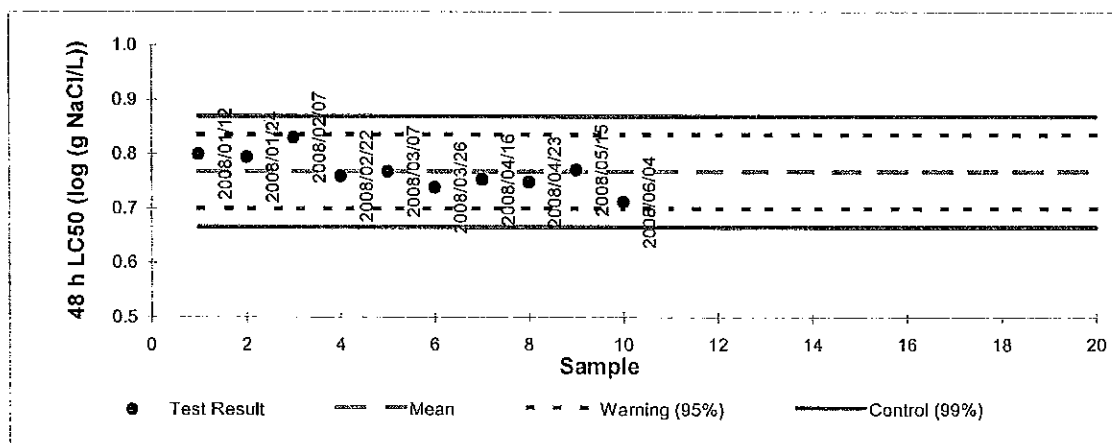
Current Test

toxicant Sodium Chloride (NaCl)
started on 2008/06/02 ended on 2008/06/04
Result (LC50 @ 48h) 0.72 log (g NaCl/L); geometric mean
Confidence Limits (95%) lower 0.69 upper 0.74

Historical Values

	mean	sd	upper	cv(%):
	0.77	0.03		4
warning limits (± 2 sd)	0.70	0.84	(95% confidence limits)	
control limits (± 3 sd)	0.67	0.87	(99% confidence limits)	

notes: sd, standard deviation; cv, coefficient of variance



Quality Assurance Unit:

Authorized by S. Krishnappa, B.Sc., Quality Assurance Coordinator
The test data and results are verified correct.

Our liability is limited to the cost of the test requested on the sample as received. No liability in whole or in part is assumed for the collection, handling or transport of the sample, application or interpretation of the test data or results in part or in whole.

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DA Ref. Tox.v 3.0



Result Summary

Client: TAH102
Reference: 08-0909-01-TRS

Client: Tahera Diamond Corporation; operation Jericho

Sample: Jer_West Cell Retest

Collection: collected on 2008/06/12 at 930 by not given

Receipt: received on 2008/06/13 at 1345 by A. Crawford

Containers: received 1 x 20L pail at 10 °C, in good condition with
no seals and no initials

Description: type: water, collection method: grab

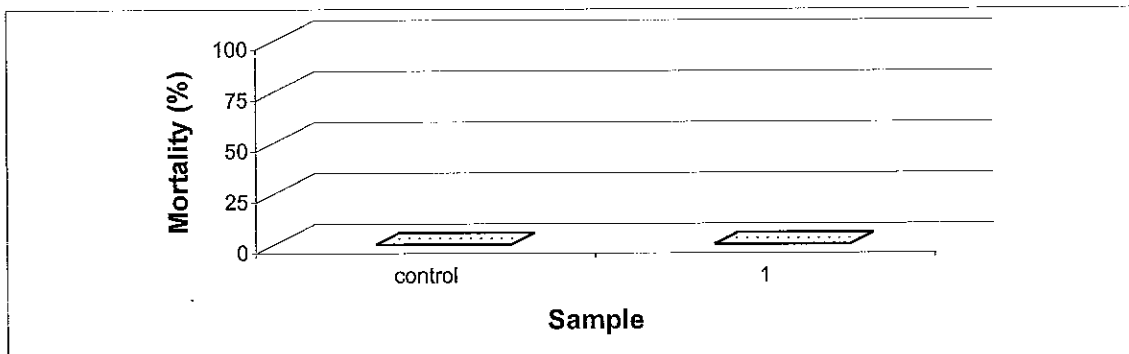
Test: started on 2008/06/16 ; ended on 2008/06/20

Result:

Contents

Result Summary.....	1
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Test Data.....	3
Comments/Statistics..	5
QA/QC.....	6

Sample	Client Code	Mortality (%)	Comment
control	lab control	0	
1	Jer_West Cell Retest	0	not toxic as tested



L. Henson for
Authorized by S. Krishnappa, B.Sc., Coordinator
The test data and results are verified correct.



Test Conditions

Client: TAH102
Reference: 08-0909-01-TRS

Method: Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to Rainbow Trout, 2000. Environment Canada, EPS 1/RM/13. Second Edition.

Test type: Trout 96-h Static Acute Test (HQ 4.4.4.1)

Species: *Oncorhynchus mykiss*

Organism source: Sun Valley Trout Farms (Batch 20080513TR)

Acclimation: 34 days

Stock mortality: 0.69% (seven days preceeding testing)

Sample initial chemistry: pH: 7.5; EC: 276 ($\mu\text{S}/\text{cm}$); DO: 8.2 (mg/L); temperature: 18 °C
hardness ($\text{mg CaCO}_3/\text{L}$): 58; colour: colourless; odour: odourless

Sample holding time: 4 days (must be ≤ 5 days)

Sample storage: $4 \pm 2^\circ\text{C}$ in darkness

Test vessel: The test was conducted in 22 L plastic pails with polyethylene liners

Test volume: 19 Litres (depth of solution in each test vessel $\geq 15\text{cm}$)

Sample pre-treatment: All test solutions and controls were pre-aerated for 30 minutes
Dissolved oxygen in full strength sample was 8.3 mg/L after pre-aeration
The sample was not filtered or pH adjusted prior to or during testing

Loading density: 0.332 g/Litre (must be ≤ 0.5 g/Litre)

Control water: Dechlorinated City of Calgary water acclimated to test conditions

Test concentrations: Undiluted sample plus a negative control

Test replicates: One replicate per treatment; 10 fish per replicate

Feeding: Fish are not fed 24 hours before test initiation and no feeding during test

Measurements: pH, conductivity, dissolved oxygen and temperature measured daily

Aeration: All treatments aerated at 6.5 ± 1 $\text{mL}/\text{min}/\text{L}$ by oil-free compressed air passed through airline tubes connected to disposable air stones

Lighting: Overhead full spectrum fluorescent lights; 100-500 lux at surface

Photoperiod: 16h light:8h dark

Test temperature: $15 \pm 1^\circ\text{C}$

Endpoint: Mortality, % mortality at 96-h

Test validity: The control had 100% survival (must $\geq 90\%$)

Reference toxicant: 96-h test with Phenol ($\text{C}_6\text{H}_5\text{OH}$) initiated May 29, 2008; current results
(96-h LC_{50} and 95% confidence limits) = 0.98 (0.90-1.06) $\log(\text{mg}/\text{L Phenol})$

Note: Outlined sections are protocol deviations explained on the comment page; v/v, volume per volume

Trout (single concentration) Test Report

Test Data

Client: TAH102
Reference: 08-0909-01-TRS

Test Log:

Date	Day	Time	Technician	Comment/Observation
2008/06/16	0	1030	T. McDonald/ N. Turner	test fish loaded at 1030 h
2008/06/17	1	0930	E. Vinish/ N. Turner	all test fish appear normal
2008/06/18	2	0930	N. Turner	all test fish appear normal
2008/06/19	3	0915	N. Turner/ D. Lalonde	all test fish appear normal
2008/06/20	4	0830	E. Vinish/ N. Turner	all test fish appear normal

Chemistry:

Sample	control	1						
--------	---------	---	--	--	--	--	--	--

Day

pH (units)

0	7.8	7.8						
1	8.3	8.1						
2	7.7	7.5						
3	7.8	7.5						
4	8.0	7.8						

Conductivity (µS/cm)

0	365	285						
1	364	280						
2	352	277						
3	360	278						
4	355	276						

Dissolved Oxygen (mg/L)

0	8.2	8.3						
1	8.6	8.8						
2	7.5	7.7						
3	7.8	8.1						
4	8.6	8.7						

Temperature (°C)

0	16	16						
1	15	15						
2	15	15						
3	16	16						
4	16	15						

Trout (single concentration) Test Report

Test Data

Client: TAH102
Reference: 08-0909-01-TRS

Number Alive:

Sample	control	1						
--------	---------	---	--	--	--	--	--	--

Day

0	10	10						
1	10	10						
2	10	10						
3	10	10						
4	10	10						

Mortality (%)

4	0	0						
---	---	---	--	--	--	--	--	--

Biology Summary Tables:

Control Fish	Length (cm)	Wet Weight(g)
1	4.5	0.9
2	4.5	0.9
3	4.1	0.6
4	3.9	0.6
5	4.3	0.6
6	3.7	0.5
7	4.0	0.6
8	4.0	0.6
9	3.7	0.5
10	3.6	0.5

Sample	Group Wet Weight (g)
control	6.3
1	5.6

average	4.0	0.6
sd	0.3	0.1
cv(%)	8.0	23.7

Notes: nd, not done; na, not applicable;
 sd, standard deviation; cv(%), coefficient
 of variation



Trout (single concentration) Test Report

Comments/Statistics

Client: TAH102 Reference: 08-0909-01-TRS

Test Result Comments:

None

Data Analysis:

None

Protocol Deviations:

None

Test Method: Trout 96h Static Acute Test. (LC50, five or more treatments plus a control)
 HydroQual Test Method Manual, section: 4.4.4.1

Reference: Biological Test Method: Reference Method for Determining Acute Lethality of
 Effluents to Rainbow Trout, 1990. Environment Canada, EPS 1/RM/13.
 including May 1996 and December 2000 amendments.

Test Organism: test species: <i>Oncorhynchus mykiss</i> culture source: Sun Valley temperature (°C): 15 ± 1 dissolved oxygen: saturated stock mortality (last 7d): 0.80% batch number: 20080513TR	Test Design: vol. of test vessel (L): 22 test volume depth: >15 cm replicates per treatment: 1 fingerlings per replicate: 10 loading (g fish/L): <0.5 temperature (°C): 15 ± 1 photoperiod: 16h light: 8h dark light level (water surface): 100-500 lux control/dilution water: dechlorinated tap water
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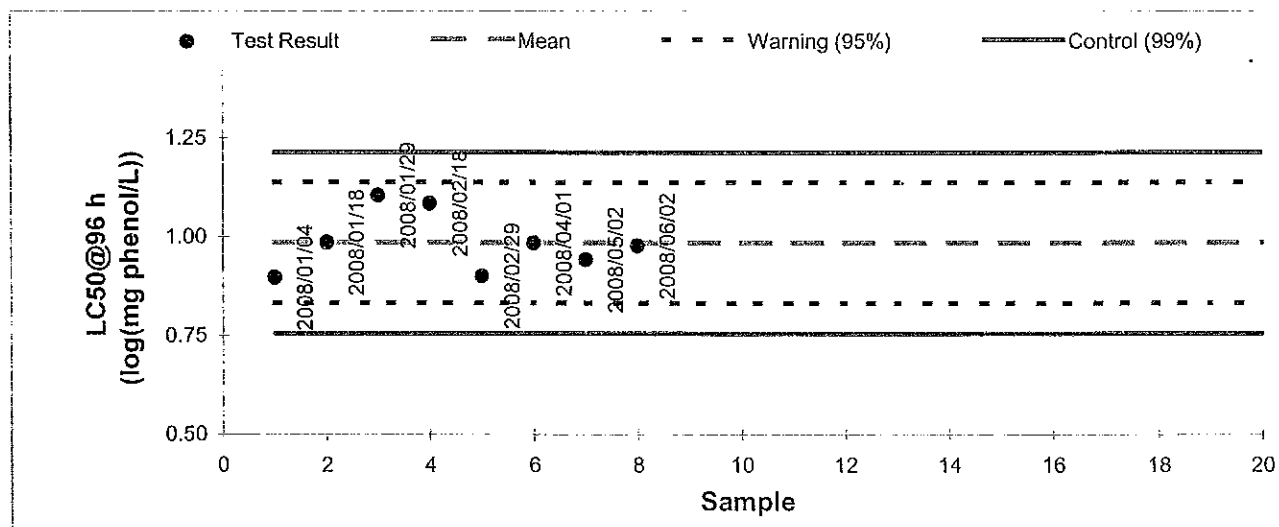
Current Test

toxicant phenol (C ₆ H ₅ OH)			
started on 2008/05/29		ended on 2008/06/02	
Result (LC50 @ 96h)	0.98	log (mg phenol/L); geometric mean	
Confidence Limits (95%)	lower	0.90	upper 1.06

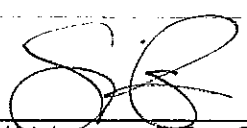
Historical Values

mean	0.99	sd	0.08	cv(%):	8
	lower	upper			
warning limits (±2 sd)	0.83	1.14	(95% confidence limits)		
control limits (±3 sd)	0.76	1.21	(99% confidence limits)		

notes: sd, standard deviation; cv, coefficient of variance



Quality Assurance Unit:


 Authorized by S. Krishnappa, B.Sc., Quality Assurance Coordinator
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Daphnia Test Summary

 Client: Tahera Diamond Corporation Client #: TAH102

 Contact: Andrew Coster

 Fax #: 416-777-1898

 Date: 2008/08/25

 Reference #: 08-1403

 Date Collected: 2008/08/21

 Date Rec'd: 2008/08/22

HydroQual Contact: Elisabeth Henson or Suma Krishnappa

	Sample Strength %	Cumulative Mortality %		Endpoint/Comments
		24 hrs	48 hrs	
Description: <u>West Cell Grab</u>	Control	0	0	
Method: <u>Daphnia magna</u>	100	0	0	
Tester: <u>TK</u>				
Started: <u>2008/08/23</u>				
Ended: <u>2008/08/25</u>				

	Sample Strength %	Cumulative Mortality %		Endpoint/Comments
		24 hrs	48 hrs	
Description: _____	Control			
Method: _____				
Tester: _____				
Started: _____				
Ended: _____				

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Trout Test Summary

Client: Tahera Diamond CorporationClient #: TAM102Contact: Andrew CosterFax #: 416-777-1898Date: 2008/08/26Reference #: 08-1403Date Collected: 2008/08/21Date Rec'd: 2008/08/22

HydroQual Contact: Elisabeth Henson or Suma Krishnappa

Description: West Cell GrabMethod: Rainbow troutTester: EB/TMStarted: 2008/08/22Ended: 2008/08/26

Sample Strength %	Cumulative Mortality %				Endpoint/Comments
	24 hrs	48 hrs	72 hrs	96 hrs	
Control	0	0	0	0	
100	0	0	0	0	

Description: _____

Method: _____

Tester: _____

Started: _____

Ended: _____

Sample Strength %	Cumulative Mortality %				Endpoint/Comments
	24 hrs	48 hrs	72 hrs	96 hrs	
Control					

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