



15 July 2009

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 June 2009

Deloitte & Touche, as “Agents” for INAC, is pleased to provide Nunavut Water Board (NWB) with the Jericho Diamond Mine (Jericho) monthly report for June 2009 as required under Water License 2AM-JER0410.

SNP Sampling

During the month of June 2009 samples were collected as required for the SNP sampling program. A summary of the sampling is provided in Table1.

Table 1: SNP Water Sampling Reports

SNP Station	Sampling Dates	Lab #	Comment
Various	June 18, 2009	290338	Taiga
Various	June 8-18, 2009	L780418	ALS

Sampling location JER-WQ21 was not sampled due to lack of water under the ice. All other samples were collected as per requirements under Water License 2AM-JER0410 for the month of June.

Note:

The diamond plant did not operate in June and there was no discharge of supernatant water from the PKCA.

Results

Water Sampling and Analysis Results

Table 2 provides the results for samples related to the SNP sampling requirements for the month of June 2009.

Flow and Volume Measurements

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

Should you have any questions regarding the monthly report for June 2009 please contact the undersigned.

Yours truly,



Andrew Coster
Environmental Coordinator
Jericho Mine Site
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E-mail: jerichoenvironment@gmail.com

c. L. Staples, P. Bodin, D. Haggar

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	
1	Project	Jericho Mine Site																		
2	Report To	Greg Stevens, DELOITTE & TOUCHE LLP																		
3	ALS File No.	1766477																		
4	Date Received	21-May-09																		
5	Date	04-Jun-09																		
6																				
7	RESULTS OF ANALYSIS																			
8	Sample ID	Detection Limits	JER-SW1	JER-SW4	JER-WQ1	JER-WQ2	JER-WQ3	JER-WQ4	JER-WQ5	JER-WQ6	JER-WQ7	JER-WQ8	JER-WQ9	JER-WQ10	JER-WQ11	JER-WQ12	JER-WQ13	JER-WQ14	JERWQ15	
9	Sampled		15-JUN-09	15-JUN-09	15-JUN-09	15-JUN-09	15-JUN-09	15-JUN-09	15-JUN-09	15-JUN-09	15-JUN-09	15-JUN-09	15-JUN-09	15-JUN-09	15-JUN-09	15-JUN-09	15-JUN-09	15-JUN-09	15-JUN-09	
10	Time Sampled		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	00:00	00:00	
11	ALS Sample ID		L780418-1	L780418-2	L780418-3	L780418-4	L780418-5	L780418-6	L780418-7	L780418-8	L780418-9	L780418-10	L780418-11	L780418-12	L780418-13	L780418-14	L780418-15	L780418-16	L780418-17	
12	Matrix		Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	
13																				
14	Physical Tests																			
15	Conductivity	2	795	99.7	-	116	26.6	20.1	20.9	18.0	18.0	13.5	17.0	16.0	17.4	24.4	22.1	10.9	10.8	
16	Hardness (as CaCO3)	0.81	89.6	30.7	5.78	36.6	9.32	7.42	7.59	6.56	6.64	4.99	6.05	5.82	6.72	9.37	8.26	4.09	4.01	
17	pH	0.1	6.01	7.70	-	7.72	7.45	7.06	6.55	7.00	6.89	6.59	6.59	6.64	6.76	7.07	7.04	6.51	6.46	
18	Total Suspended Solids	3	15.0	<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	
19	Total Dissolved Solids	10	535	<57	-	65	25	19	16	14	23	11	16	18	29	22	12	13	13	
20	Turbidity	0.1	17.3	1.32	-	1.97	0.63	0.27	0.25	0.18	0.33	0.36	0.41	5.90	0.19	1.29	0.90	1.10	0.79	
21																				
22	Anions and Nutrients																			
23	Acidity (as CaCO3)	1	36.8	2.4	-	1.8	2.1	2.9	3.6	1.9	1.9	2.3	2.5	2.0	1.7	2.1	2.1	2.5	2.2	
24	Alkalinity, Bicarbonate (as CaCO3)	1	5.0	22.9	-	26.9	9.9	2.9	5.8	6.5	5.1	5.2	3.6	4.4	6.6	6.7	6.7	3.3	2.9	
25	Alkalinity, Carbonate (as CaCO3)	1	<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	
26	Alkalinity, Hydroxide (as CaCO3)	1	<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	
27	Alkalinity, Total (as CaCO3)	1	5.0	22.9	-	26.9	9.9	2.9	6.5	5.1	5.2	3.6	4.4	4.6	6.1	6.7	6.7	3.3	2.9	
28	Ammonia as N	0.005	5.90	0.0388	-	0.0329	0.0875	0.0200	0.0159	0.0267	0.0215	0.0129	0.0122	0.0116	0.0095	0.0563	0.0507	0.0142	0.0253	
29	Chloride (Cl)	0.5	51.6	4.10	-	4.83	0.95	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.67	0.56	<0.50	<0.50	
30	Nitrate (as N)	0.05	52.9	2.66	-	3.11	0.0700	0.0673	0.0802	0.180	0.185	0.104	0.114	0.0261	<0.0050	0.551	0.388	0.0096	0.0059	
31	Nitrite (as N)	0.001	0.181	0.0060	-	0.0062	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
32	Ortho Phosphate as P	0.1	8.66	0.0024	-	<0.0010	0.0012	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0026	0.0021	<0.0010	0.0011	
33	Total Dissolved Phosphate As P	0.2	6.7	0.0051	-	0.0036	0.0098	<0.0020	<0.0020	<0.0020	0.0020	0.0021	0.0036	<0.0020	<0.0020	0.0082	0.0084	0.0048	0.0058	
34	Total Phosphate as P	0.2	10.2	0.0132	-	0.0138	0.0132	0.0139	0.0243	0.0243	0.0243	0.0243	0.0243	0.0243	0.0243	0.0243	0.0243	0.0152	0.0164	
35	Sulfate (SO4)	0.5	65.6	8.53	-	10.2	0.92	1.73	1.75	1.49	1.42	1.11	1.26	1.50	1.17	1.06	0.99	0.53	0.52	
36																				
37	Organic / Inorganic Carbon																			
38	Total Inorganic Carbon	0.5	<0.50	4.54	-	5.45	1.74	0.90	1.09	0.84	0.79	<0.50	0.56	0.54	0.98	0.88	0.91	<0.50	<0.50	
39	Total Organic Carbon	0.5	20.9	3.18	-	3.33	7.38	4.82	4.70	3.93	3.32	3.33	5.51	4.30	3.66	5.43	5.51	5.28	5.14	
40																				
41	Total Metals																			
42	Aluminum (Al)-Total	0.001	0.0737	0.0754	0.0971	0.0910	0.0557	0.0398	0.0338	0.0208	0.0246	0.0311	0.0594	0.396	0.0197	0.118	0.0761	0.0683	0.0635	
43	Antimony (Sb)-Total	0.0001	0.00287	<0.00010	<0.00010	0.00011	<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	
44	Arsenic (As)-Total	0.001	0.00104	0.00023	0.00021	0.00028	0.00027	0.00022	0.00020	0.00016	0.00017	0.00013	0.00018	0.00142	0.00015	0.00017	0.00014	0.00013	0.00014	
45	Barium (Ba)-Total	0.00005	0.0154	0.0225	0.00273	0.00268	0.00299	0.00334	0.00292	0.00202	0.00217	0.00204	0.00334	0.00495	0.00161	0.00473	0.00391	0.00229	0.00179	
46	Beryllium (Be)-Total	0.0005	<0.0025	<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	
47	Bismuth (Bi)-Total	0.0005	<0.0025	<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	
48	Boron (B)-Total	0.01	0.107	0.014	0.016	0.011	<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	
49	Chromium (Cr)-Total	0.00005	0.00102	<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	
50	Calcium (Ca)-Total	0.05	14.7	1.18	2.14	1.61	1.44	1.26	1.41	1.08	1.25	1.54	1.28	1.50	1.99	1.05	0.94	0.94	0.94	
51	Cadmium (Cd)-Total	0.0005	<0.0025	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.00091	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
52	Cobalt (Co)-Total	0.0001	0.00224	0.00017	<0.00010	0.00019	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.00015	0.00097	<0.00010	<0.00010	<0.00010	0.00010	0.00010	<0.00010	
53	Copper (Cu)-Total	0.0001	0.00152	0.00269	0.00177	0.00168	0.00127	0.00119	0.00123	0.00067	0.00065	0.00041	0.00092	0.00035	0.00194	0.00136	0.00081	0.00081	0.00081	
54	Cr (Pb)-Total	0.03	0.029	0.069	0.081	0.040	0.039	0.040	0.039	0.029	0.029	0.029	0.029	0.029	0.029	0.029	0.029	0.029	0.029	
55	Lead (Pb)-Total	0.00005	0.00122	0.000092	0.000161	0.000119	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	0.000054	0.000274	<0.000050	0.000140	<0.000050	<0.000050	<0.000050	
56	Lithium (Li)-Total	0.005	0.554	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	
57	Magnesium (Mg)-Total	0.05	6.81	3.77	6.72	4.59	1.11	0.817	0.830	0.689	0.722	0.519	0.689	0.786	0.662	1.15	0.953	0.400	0.397	
58	Manganese (Mn)-Total	0.00005	0.00019	<0.000050	<0.000050	0.00013	0.00063	0.00063	0.00063	0.00063	0.00063	0.00063	0.00063	0.00063	0.00063	0.00063	0.00063	0.00063	0.00063	
59	Mercury (Hg)-Total	0.00005	<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	
60	Molybdenum (Mo)-Total	0.00005	0.00096	0.00164	<0.000050	0.00196	0.000774	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	0.000052	<0.000050	0.000118	0.000134	<0.000050	<0.000050	<0.000050	
61	Nickel (Ni)-Total	0.0005	0.0621	0.00257	0.00064	0.00267	0.00141	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.00055	0.00162	<0.00050	0.00213	0.00201	<0.00050	<0.00050	
62	Platinum (Pt)-Total	0.5	27.7	3.36	<0.50	4.12	1.26	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
63	Selenium (Se)-Total	0.001	<0.0050	<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	
64	Silicon (Si)-Total	0.05	3.06	0.916	5.82	1.11	0.618	0.864	0.807	0.518	0.398	0.328	0.510	1.07	0.567	0.803	0.691	0.430	0.438	
65	Silver (Ag)-Total	0.00001	0.00072	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	
66	Sodium (Na)-Total	5	88.3	4.66	0.56	5.62	0.95	0.72	0.65	0.72	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	
67	Strontium (Sr)-Total	0.0001	0.0499	0.131	0.0618	0.0784	0.00854	0.00854	0.00837	0.00675	0.00675	0.00485	0.00671	0.00095	0.00592	0.00937	0.00781	0.00290	0.00282	
68	Thallium (Tl)-Total	0.0001	<0.00050	<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	
69	Tin (Sn)-Total	0.0001	0.00248	<0.00010	<0.00010	<0.00010	<0.00010	0.00082	0.00063	0.00290	<0.000									

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
7	RESULTS OF ANALYSIS																		
8	Sample ID	Detection Limits	JER-SW1	JER-SW4	JER-WQ1	JER-WQ2	JER-WQ3	JER-WQ4	JER-WQ5	JER-WQ6	JER-WQ7	JER-WQ8	JER-WQ9	JER-WQ10	JER-WQ11	JER-WQ12	JER-WQ13	JER-WQ14	JERWQ15
9	Date Sampled	5	18-JUN-09	15-JUN-09	15-JUN-09	18-JUN-09	14-JUN-09	08-JUN-09	10-JUN-09	10-JUN-09	15-JUN-09	08-JUN-09	15-JUN-09	08-JUN-09	15-JUN-09	14-JUN-09	15-JUN-09	15-JUN-09	
10	Time Sampled		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	00:00	00:00
11	ALS Sample ID		L780418-1	L780418-2	L780418-3	L780418-4	L780418-5	L780418-6	L780418-7	L780418-8	L780418-9	L780418-10	L780418-11	L780418-12	L780418-13	L780418-14	L780418-15	L780418-16	L780418-17
12	Matrix		Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
13																			
14	Beryllium (Be)-Dissolved	0.0005	<0.0025	<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
15	Bismuth (Bi)-Dissolved	0.0005	<0.0025	<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
16	Boron (B)-Dissolved	0.01		0.012	<0.010	0.015	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
17	Calcium (Ca)-Dissolved	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
18	Calcium (Ca)-Dissolved	0.05	25.3	6.56	1.32	7.79	2.03	1.63	1.66	1.43	1.46	1.12	1.35	1.27	1.57	2.14	1.85	1.01	0.963
19	Chromium (Cr)-Dissolved	0.0005	<0.0025	<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
20	Cobalt (Co)-Dissolved	0.0001	0.00209	<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
21	Copper (Cu)-Dissolved	0.0001	0.134	0.00688	0.00194	0.00688	0.00217	0.00123	0.01108	0.00688	0.00682	0.00682	0.00682	0.00682	0.00682	0.00682	0.00688	0.00688	0.00688
22	Copper (Cu)-Dissolved	0.0001	0.057	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	0.065	0.048
23	Iron (Fe)-Dissolved	0.00050	<0.00025	<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
24	Lead (Pb)-Dissolved	0.0005	0.524	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
25	Lithium (Li)-Dissolved	0.05	6.43	3.47	0.601	4.16	1.03	0.813	0.838										

[illegible][illegible]



Result Summary

Client: JER119
Reference: 09-1107-01-TRS

Client: Jericho Mine Site; operation Jericho

Sample: JER WQ2

Collection: collected on 2009/06/17 at 1300 by A. Coster

Receipt: received on 2009/06/19 at 1410 by T. Kloschinsky

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

Description: type: water, collection method: grab

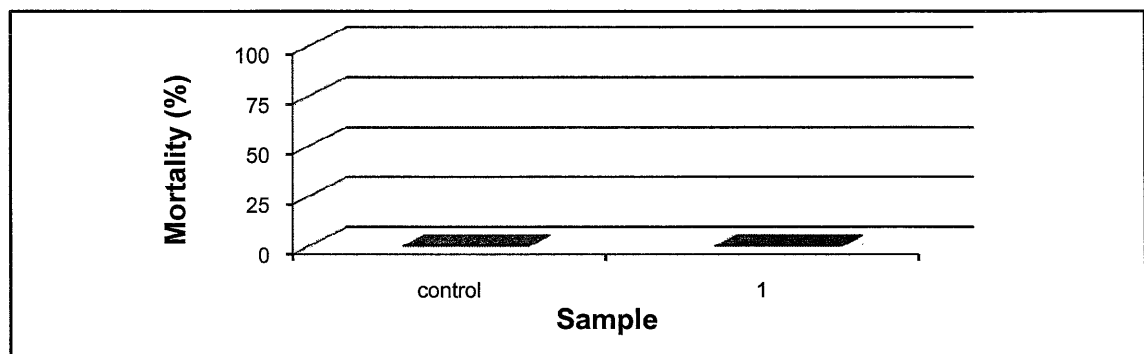
Test: started on 2009/06/19 ; ended on 2009/06/23

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Result:

Sample	Client Code	Mortality (%)	Comment
control	lab control	0	
1	JER WQ2	0	not toxic as tested



The test data and results are authorized and verified correct.

E. Blais, B.Sc., Technical Lead

S. Krishnappa, B.Sc., Quality Coordinator

Test Conditions

Client: JER119 Reference: 09-1107-01-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 (amended 2007).

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

Species: *Oncorhynchus mykiss*

Organism source: Sun Valley Trout Farms (Batch 20090610TR)

Acclimation: 9 days (must be ≥ 2 weeks)

Stock mortality: 0.02% (seven days preceeding testing)

Sample initial chemistry: pH: 7.8; EC: 121 ($\mu\text{S}/\text{cm}$); DO: 9.5 (mg/L); temperature: 15 °C
hardness (mg CaCO_3/L): 38; colour: colourless; odour: odourless

Sample holding time: 2 days (must be ≤ 5 days)

Sample storage: 4 $\pm$ 2°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 at 6.5 $\pm$ 1 mL/min/L
Dissolved oxygen in full strength sample was 9.2 mg/L after pre-aeration
The sample was not filtered or pH adjusted prior to or during testing

Loading density: 0.101 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 $\pm$ 1 mL/min/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°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 June 18, 2009; current results
(96-h LC50 and 95% confidence limits) = 0.87 (0.80-0.95) log (mg/L Phenol)

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

Test Data

 Client: JER119
 Reference: 09-1107-01-TRS

Test Log:

Date	Day	Time	Technician	Comment/Observation
2009/06/19	0	1530	K. Washburn/E. Vinish	test fish loaded at 1530 h
2009/06/20	1	1030	K. Washburn/C. A. Martens	all test fish appear normal
2009/06/21	2	1030	K. Washburn/C. A. Martens	all test fish appear normal
2009/06/22	3	0945	T. Kloschinsky/J. Amyotte	all test fish appear normal
2009/06/23	4	0945	J. Amyotte/S. Skinner	all test fish appear normal

Chemistry:

Sample	control	1						
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Day

pH (units)

0	7.7	7.8						
1	8.2	8.3						
2	8.3	8.3						
3	7.9	8.2						
4	8.0	8.0						

Conductivity (µS/cm)

0	380	129						
1	374	125						
2	381	130						
3	378	150						
4	391	139						

Dissolved Oxygen (mg/L)

0	9.1	9.2						
1	8.7	8.7						
2	8.7	8.8						
3	8.5	8.6						
4	8.6	8.8						

Temperature (°C)

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

Test Data

Client: JER119
Reference: 09-1107-01-TRS

Number Alive:

Sample	control	1						
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Day

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

Mortality (%)

4	0	0						
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Biology Summary Tables:

Control Fish	Length (cm)	Wet Weight(g)
1	3.0	0.2
2	2.7	0.2
3	3.1	0.2
4	2.9	0.2
5	2.7	0.2
6	3.0	0.2
7	3.0	0.2
8	2.9	0.2
9	3.0	0.2
10	3.0	0.2

Sample	Group Wet Weight (g)
control	1.9
1	1.8

average	2.9	0.2	*see protocol deviations
sd	0.1	0.0	
cv(%)	4.6	13.2	

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

Comments/Statistics

Client: JER119 Reference: 09-1107-01-TRS

Test Result Comments:

None

Data Analysis:

None

Protocol Deviations:

The average weight of the test fish was less than 0.3g per fish.

The fish were held for less than 14 days prior to test initiation.

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: *Oncorhynchus mykiss*
 culture source: Sun Valley
 temperature (°C): 15 ± 1
 dissolved oxygen: saturated
 stock mortality (last 7d): 0.00%
 batch number: 20090610TR

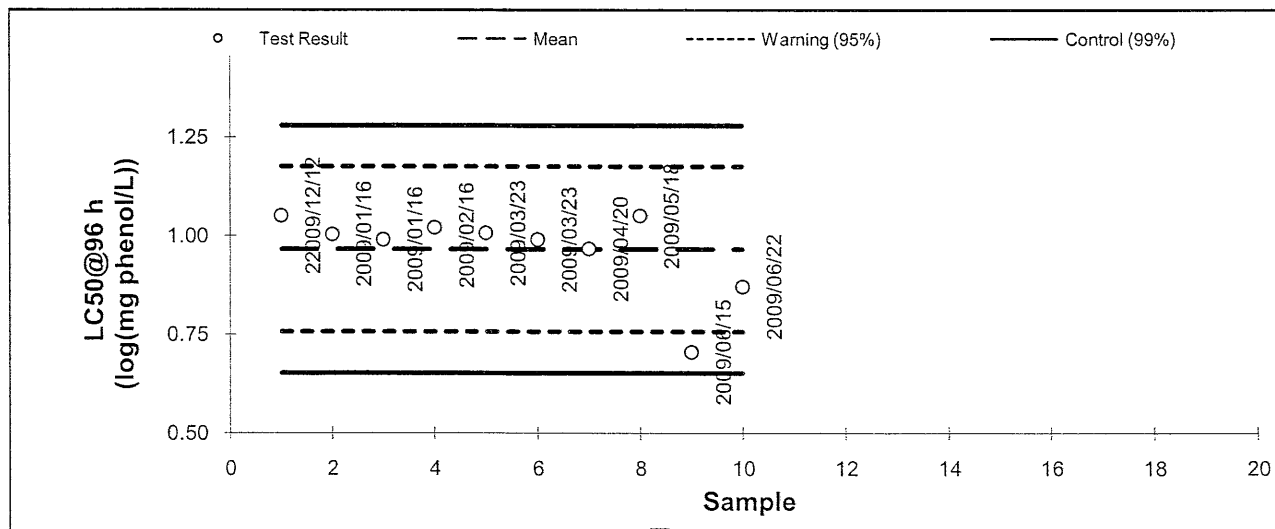
Test Design:

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

Current Test

toxicant phenol (C ₆ H ₅ OH)				
started on 2009/06/18		ended on 2009/06/22		
Result (LC50 @ 96h)	0.87	log (mg phenol/L); geometric mean		
Confidence Limits (95%)	lower	0.80	upper	0.95
Historical Values				
mean	0.97	sd	0.10	cv(%): 11
	lower	upper		
warning limits (±2 sd)	0.76	1.18	(95% confidence limits)	
control limits (±3 sd)	0.65	1.28	(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.



Result Summary

Client: JER119
Reference: 09-1107-01-DAS

Client: Jericho Mine Site; operation Jericho

Sample: JER WQ2

Collection: collected on 2009/06/17 at 1300 by A. Coster

Receipt: received on 2009/06/19 at 1410 by T. Kloschinsky

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

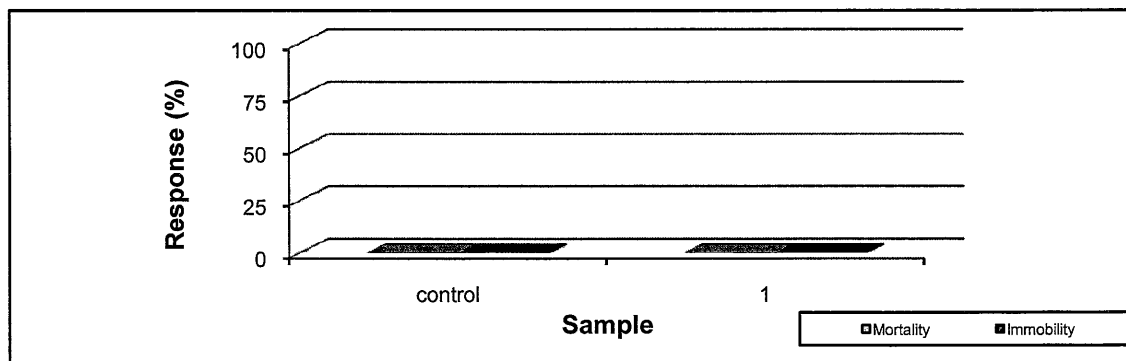
Description: type: water, collection method: grab

Test: started on 2009/06/19 ; ended on 2009/06/21

Result:

Sample	Client Code	Average		Comment
		Mortality (%)	Immobility (%)	
control	lab control	0	0	
1	JER WQ2	0	0	not toxic as tested

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



The test data and results are authorized and verified correct.

E. Blais, B.Sc., Technical Lead

S. Krishnappa, B.Sc., Quality Coordinator

Test Conditions

Client: JER119 Reference: 09-1107-01-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: 7%

Culture brood data: 11 days to first brood
17 neonates per average brood

Sample initial chemistry: pH: 7.8; EC: 121 ($\mu\text{S}/\text{cm}$); DO: 9.5 (mg/L); temperature: 15 °C
hardness (mg CaCO_3/L): 38; colour: colourless; odour: odourless

Sample holding time: 2 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 $37.5 \pm 12.5 \text{ mL}/\text{min} \cdot \text{L}^{-1}$)
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 129 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: Cool white 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: JER119 Reference: 09-1107-01-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 $\leq 10\%$), e.g. immobility

Reference toxicant: 48-h test with NaCl initiated June 8, 2009; current results
(48-h LC50 and 95% confidence limits) = 0.75 (0.71-0.78) log (g/L NaCl)

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

Test Data

 Client: JER119
 Reference: 09-1107-01-DAS

Test Log:

Date	Day	Time	Technician	Comment/Observation
2009/06/19	0	1500	N. Lavoie/T. Kloschinsky	test <i>Daphnia</i> appear normal
2009/06/20	1	1110	C. A. Martens	test <i>Daphnia</i> appear normal
2009/06/21	2	1130	C. A. Martens	test <i>Daphnia</i> appear normal

Chemistry:

Sample	control			1		
replicate	a	b	c	a	b	c

Day	pH (units)					
0	7.9	8.0	8.0	7.2	7.2	7.2
2	8.1	8.2	8.2	8.3	8.1	7.9

	Conductivity ($\mu\text{S}/\text{cm}$)					
0	332	342	343	139	123	123
2	336	343	347	145	132	129

	Dissolved Oxygen (mg/L)					
0	8.2	8.2	8.2	8.8	9.3	9.4
2	8.1	8.2	8.2	8.2	8.2	8.2

	Temperature ($^{\circ}\text{C}$)					
0	19	19	19	21	22	22
2	19	19	19	19	19	20

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 (1B)
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: JER119 Reference: 09-1107-01-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: 11
 mean brood size: 17
 ephippia in stock culture: no
 age of test organisms: <24 hours old
 culture mortality (%): 10.5%

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 pre-aerated: 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

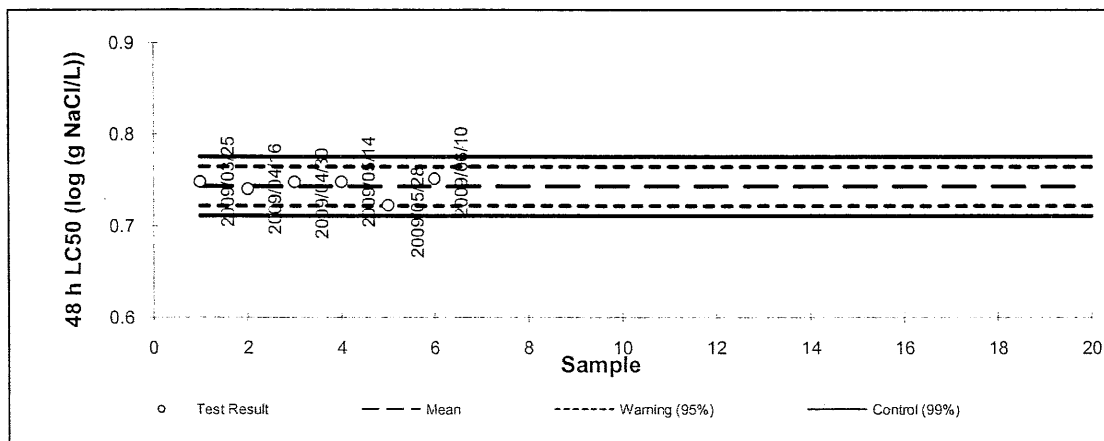
toxicant Sodium Chloride (NaCl)
 started on 2009/06/08 ended on 2009/06/10
 Result (LC50 @ 48h) 0.75 log (g NaCl/L); geometric mean
 Confidence Limits (95%) lower 0.71 upper 0.78

Historical Values

	mean	sd	cv(%)
	0.74	0.01	1
warning limits (±2 sd)	0.72	0.76	(95% confidence limits)
control limits (±3 sd)	0.71	0.78	(99% confidence limits)

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

Comments: None.



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