NANISIVIK MINE

RECLAMATION ACTIVITIES QUARTERLY REPORT (3RD QUARTER 2004)

(Per Water Licence NWB1NAN0208)

SUBMITTED TO:

The Nunavut Water Board

NANISIVIK MINE
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November 14, 2004

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The attached documentation combines the quarterly effluent monitoring report with the quarterly reclamation update in accordance with the terms and conditions outlined in the Nunavut Water board approval letter dated July 6th, 2004. The effluent results are in accordance with Part H Item 30 of the water license.

The covering of the West Twin tailings area commenced in late August with the arrival of the earth moving contractor and their equipment. By the end of the quarter, approximately 25 hectares of the surface cell were covered.

Dismantling and removal of mill equipment in the industrial complex was underway at the end of the 2nd quarter and continued throughout July, August and September.

During the periods of July 1st to August 12 and September 9th to September 30th, effluent was released from the identified final deposition point 159-4. Monitoring of the effluent was conducted as per the guidelines set forth in the MMER. All effluent released during the quarter was, in compliance with the new Metal Mining Effluent Regulations.

If further information is required please do not hesitate to contact me.

Regards,

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Site Manager

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c.c. R. Carreau
File

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1.0 INTRODUCTION

The Nanisivik Mine is located on northern Baffin Island in the Nunavut Territory. It is an underground zinc-lead mine owned by CanZinco Ltd. and was in continuous operation from 1976 to 2002 when it ceased production permanently.

CanZinco Ltd. was issued Water License **NWB2NAN0208**, by the Nunavut Water Board (NWB) on October 1, 2002 for the Closure and Reclamation of the Nanisivik project. A requirement of the License, under *Part G, Items 3 to 9*, was to submit a final Reclamation and Closure Plan to the NWB, which was approved by letter on July 6, 2004 ("Approval Letter").

Condition 2 of the Approval Letter states the following:

> *The Licensee shall, during the Reclamation Period, provide the NWB for its review, Quarterly Reclamation Reports ("Quarterly Reports"), which are to be submitted not later than 45 days after the end of the quarter (i.e., February 14, May 14, August 14, and November 14). The quarterly reports shall include, but not be limited to: a summary of remediation work completed to date; expenditures to date; documentation regarding waste disposal, including volumes and final location; and a revised implementation schedule, as referred to in Item 2 of this Letter of Approval. It is recommended that the Licensee should submit, with the Quarterly Reports, the effluent monitoring requirements as noted in Part H, Item 30 of the Licence.*

The information contained herein is submitted as the Quarterly Report covering the months of July through September 2004. The reclamation activities at Nanisivik during this period included the following:

- Earthworks;
- Building demolition;
- Waste disposal;
- Effluent Monitoring; and
- Continued studies and characterization.

Additional "one time" reporting, requested by the NWB in the Approval Letter is also included herein and addresses the following:

- An update of the reclamation schedule
- Characterization and plans for reclamation of site roads
- Modifications to the water quality monitoring schedule
- An assessment of concrete foundations at the concentrate storage shed
- A report of the quality assurance and control measures taken for the reclamation covers
- Report on possible PCB contamination of townsite buildings

2.0 REMEDIATION WORK

2.1 Earthworks

2.1.1 West Twin Disposal Area (WTDA)

The contractor's earth moving equipment arrived from Montreal on the earliest available sealift of August 28th. First order of the day was the development of the Mount Fuji quarry, which proceeded as per the approved quarry plan. Development of the quarry consisted of a series of benches designed to supply approximately 500,000 cubic metres of shale (Figure 1).

Figure 1

Placement/construction of the shale cover started at the South West corner of the surface cell and proceeded in a northeast direction toward the Dyke (Figure 2). Construction of the cover proceeded as per the approved cover design plan and was supervised by a qualified Field Representative (BGC Engineering Ltd.).

Several isolated ponds of standing water on the surface area were channeled and/or pumped into the reservoir portion of the WTDA prior to shale placement.

A total of 334,000 cubic metres of shale were placed on the Surface Cell between August 29 and September 30 (end of the reporting quarter). This material covered 23.4 hectares of surface area. Construction continued at the end of the quarter.

SHALE COVER ON THE SURFACE CELL

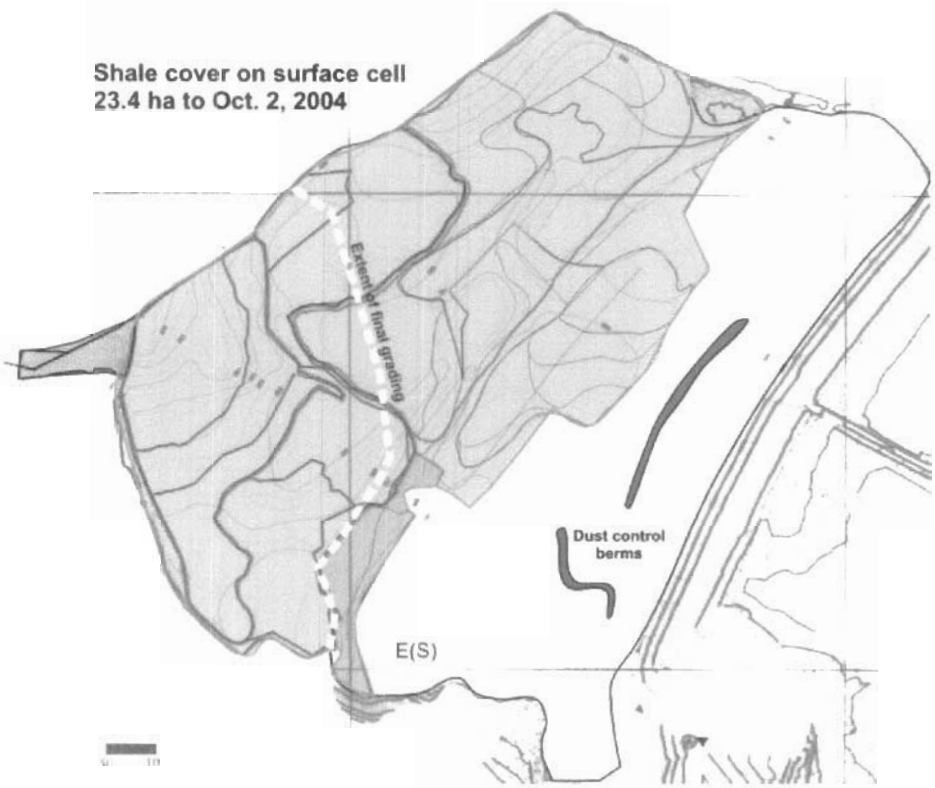

Figure 2

2.1.2 Area 14

Clean up at the **Area 14 waste stockpile** pad was initiated during the quarter. Remnant exposed rock was scraped up and amalgamated into the larger pile along the toe of the existing pad. This material is now prepared for the construction of the final cover in 2005 (figure3).

Figure 3

2.2 Building Demolition

2.1.1 Mill

The contractor continued dismantling the mill and related infrastructure, including the removal of the tailings and reclaim pipelines between the WTDA and the mill. Good progress was made in stripping out interior walls on the upper floor as well as the removal of block walls in and around the shops and pump room. Both the rod and ball mill have been disassembled as well as the majority of the pumps and motors associated with the milling process. Equipment, which is destined for reuse, has been shrink-wrapped and prepared for shipment south.

The mill infrastructure and equipment was pressure washed and the wastewater was collected, sampled and pumped underground. Results of water monitoring appear in a tabular summary below.

NANISIVIK MILL WASH WATER							
Date	PH	Temp	Cond	Cd	Pb	Zinc	Total Hydrocarbons DRO(C10-C24)
01-Jul	8.00	16.00	1.15	0.0144	0.178	2.08	2.9
03-Jul	7.38	19.50	2.28	0.446	0.491	103	1.2
07-Jul	6.51	16.30	1.11	0.303	0.996	59.4	<0.2
08-Jul	7.10	16.10	2.69	0.295	6.68	85.5	0.9
10-Jul	9.20	15.40	1.63	0.0112	1.75	3.42	29
12-Jul	7.67	16.00	1.72	0.161	0.537	41.4	2.9
14-Jul	11.82	16.20	2.32	0.0075	11.7	3.32	0.3
16-Jul	6.52	16.50	1.82	0.407	5.53	95.3	<0.2
19-Jul	6.21	17.40	3.06	0.636	5.27	170	1.0
21-Jul	7.19	16.50	1.82	0.205	0.787	33.6	5.7
24-Jul	6.12	17.80	2.38	0.379	4.67	98.4	2.0
27-Jul	7.11	18.00	1.90	0.481	0.622	106	1.1
28-Jul	6.56	17.60	2.44	0.242	5.09	48.3	<0.2
29-Jul	6.82	18.60	1.42	0.295	5.04	68.7	0.4
30-Jul	6.70	17.80	1.08	0.78	2.88	159	0.2
31-Jul	6.79	12.40	0.49	0.183	0.96	41	<0.2
04-Aug	6.84	13.93	0.77	0.167	1.48	23.9	0.4
05-Aug	6.88	15.45	1.05	0.0119	0.367	0.9	<0.2
06-Aug	6.93	16.98	1.33	0.125	3.55	26.9	<0.2
07-Aug	6.97	18.50	1.61	0.0576	0.609	11.5	2.0
09-Aug	7.50	19.58	1.99	0.07	0.300	9.28	1.1
10-Aug	7.23	15.90	1.55	0.115	0.260	25.9	<0.2
12-Aug	7.21	17.50	2.20	0.333	0.589	79.4	0.4
13-Aug	6.76	18.00	0.87	0.0636	0.33	21.4	0.2
21-Aug	6.93	18.90	1.33	0.0175	1.02	6.2	<0.2
25-Aug	7.05	17.70	1.85	0.0267	0.331	7.97	0.4
28-Aug	7.38	19.20	0.99	0.0198	0.156	7.29	<0.2
10-Sep	7.17	15.20	0.79	0.0217	0.220	9.12	<0.2

2.2.2 Concentrate storage facility

The remaining lead concentrate (approximately 2,000 tonnes) was shipped off site in August. Testing of the soils under the concrete floor slab proceeded as required under the approval letter and is attached as *Appendix 4*. Results indicate that the soil does not exceed the SQRO's for the dock area. The dismantling of this structure is scheduled to take place in 2005.

2.2.3 Town site Residences

The fuel tanks on the unoccupied houses were pumped out and the contents were used for heating oil in the carpenter shop (waste oil furnace). Several truckloads of furniture were cleaned and donated to the Hamlet Council of Arctic Bay for distribution. Demolition of the abandoned houses will commence this winter

Figure 4

2.2.4 Government Buildings and Infrastructure

Negotiations with the Government of Nunavut regarding the demolition/reclamation of their infrastructure are incomplete at this time.

2.2.5 ANFO Plant

No reclamation activity has taken place at the ANFO plant to date. Samples will be collected to delineate any contamination in the surrounding soils and this material will be removed and disposed of in 2005.

2.3 Waste disposal

2.3.1 Underground Facilities

The portals were reopened and ventilation was re-established in the underground mine. Inspection and scaling of the haulage routes and crusher access were completed, and preparation of the identified stopes for waste storage took place during the quarter. An assessment of the long-term stability of the underground workings was submitted under separate cover to the Board during the month of October. The decommissioning of the underground crusher and related equipment is scheduled to take place in January/February.

2.3.2 Waste Disposal Summary

A minor amount of demolition debris and waste was disposed of in the underground mine and in the West open Pit (WOP) as summarized in the table below. The material in the WOP consisted largely of cement blocks from the industrial building's interior walls. The material was compacted/crushed via earth moving equipment and placed in layers on the floor of the pit where it will be covered as per the approved Reclamation Covers Plan.

Waste Origin	Class	Volume (m3)	Storage Location
Miscellaneous	AE2	2	01 Block
Industrial complex	DD1	500	West Open Pit
Houses	DD1	7	10&11 Block Area
Compressor House	DD1	30	01 Block

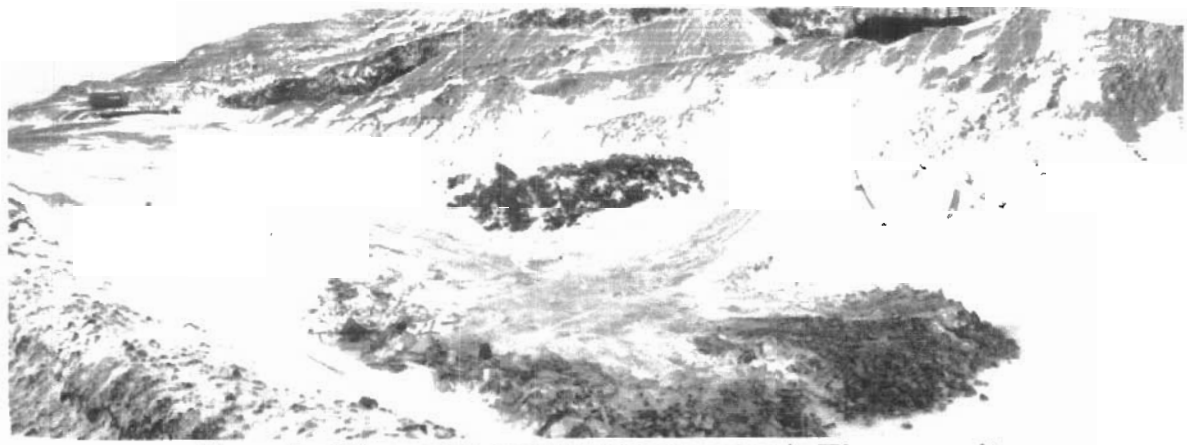

Figure 5 – Dismantled construction materials in West open pit

2.3.3 Regulated Materials

The PCB storage facility was decommissioned in August and the contents were shipped to an off site facility for destruction. A temporary storage facility will be established in 2005 for the remaining transformers as they are pulled out of service and prepared for shipment off-site.

The unused laboratory chemicals have been containerized, secured and relocated to a lay down area in preparation for shipment/destruction off-site.

3.0 EFFLUENT MONITORING

3.1 West Twin disposal area

As required under *Part H, Item 30* of the License, this report includes the results of all tests and monitoring at the final discharge points from the site. During this reporting period, the final discharge point was limited to SNP Station 159-4 (WTDA decant structure).

July Discharge 159-4 (Effluent from W T D A at Decant Structure)

Date	Temp. (oC)	pH	Cond. (mS)	T.S.S. (mg/L)	Cd total (mg/L)	Pb total (mg/L)	As total (mg/L)	Cu Total (mg/L)	Ni Total (mg/L)	Rad 226 (Bq/L)	Zn total (mg/L)	NH3 (mg/L)	24 Hr Flow
1-Jul	6.4	7.60	1.57	0.6	0.0007	0.021	0.001	0.019			0.440	1.70	10575.4
2-Jul	9.3	7.64	1.53	0.2	0.0006	0.021	0.001	0.019			0.440	1.62	10575.4
3-Jul	8.2	7.76	1.57	0.0	0.0007	0.023	0.001	0.019			0.430	1.68	10372.3
4-Jul	9.7	7.72	1.57	0.0	0.0006	0.021	0.001	0.018			0.400	1.58	9849.6
5-Jul	10.6	7.72	1.57	0.0	0.0006	0.021	0.001	0.018			0.420	1.31	9158.4
6-Jul	10.8	7.52	1.55	0.6	0.0008	0.021	0.001	0.018			*0.42	1.64	8964
7-Jul	9.7	7.72	1.54	2.0	0.0005	0.022	0.001	0.017	0.012	0.030	0.380	1.60	9624.96
8-Jul	9.8	7.78	1.50	0.2	0.0010	0.017	0.001	0.016			0.350	1.57	9745.92
9-Jul	1.2	7.54	1.46	0.0	0.0005	0.016	0.001	0.015			0.340	1.57	8290.08
10-Jul	9.4	7.85	1.48	0.0	0.0006	0.018	0.001	0.016			0.370	1.67	9149.76
11-Jul	10.1	7.79	1.49	0.0	0.0006	0.016	0.002	0.014			0.380	1.94	9175.68
12-Jul	12.0	8.00	1.44	0.0	0.0006	0.020	0.001	0.016			0.380	1.89	8441.28
13-Jul	10.5	8.14	1.43	0.2	0.0006	0.015	0.001	0.014			0.360	1.89	7218.72
14-Jul	6.1	7.71	1.46	0.0	0.0004	0.013	0.002	0.013			0.320	1.81	8242.56
15-Jul	7.1	7.84	1.43	0.0	0.0005	0.014	0.001	0.013			0.300	1.78	8052.48
16-Jul	10.9	7.84	1.40	0.0	0.0005	0.013	0.002	0.013			0.330	1.77	4462.56
17-Jul	7.7	7.80	1.40	0.0	0.0005	0.012	0.001	0.013	0.013	<0.02	0.320	1.76	4587.84
18-Jul	11.1	7.99	1.38	0.0	0.0005	0.016	<.001	0.016			0.29	1.75	3669.84
19-Jul	9.2	8.06	1.42	0.4	0.0007	0.015	<.001	0.015			0.25	1.75	2734.56
20-Jul	13.2	7.79	1.40	0.6	0.0005	0.015	<.001	0.015			0.28	1.76	2304.72
21-Jul	8.80	7.78	1.43	0.8	0.0005	0.016	<.001	0.015			0.27	1.75	1343.52
22-Jul	11.5	7.63	1.43	0.0	0.0007	0.010	0.001	0.011			0.29	1.35	1518.48
23-Jul	10.4	7.58	1.46	0.0	0.0004	0.010	<.001	0.010			0.29	1.41	559.44
24-Jul	8.80	7.65	1.47	0.4	0.0004	0.009	0.001	0.011	0.010	0.02	0.29	1.38	773.28
25-Jul	1.02	7.55	1.38	0.0	0.0006	0.011	<.001	0.014	0.012	0.03	0.29	1.41	4229.28
26-Jul	11.20	7.69	1.41	0.2	0.0005	0.011	<.001	0.013			0.28	1.38	5084.64
27-Jul	9.50	7.76	1.42	0.8	0.0006	0.012	<.001	0.014			0.30	1.40	5352.48
28-Jul	10.90	7.82	1.39	0.2	0.0005	0.013	<.001	0.015			0.28	1.38	5335.2
29-Jul	10.8	7.59	1.40	0.2	0.0005	0.025	<.001	0.016			0.28	1.37	1797.12
30-Jul	12.2	7.67	1.37	5.6	0.0004	0.013	<.001	0.012			0.23	1.36	2501.28
31-Jul	8.5	7.97	1.38	5.4	0.0004	0.019	<.001	0.014	0.011	0.04	0.24	1.32	3315.6
Average	9.2	7.76	1.46	0.6	0.0006	0.016	0.0012	0.015	0.0116	0.03	0.33	1.60	6032.5
Mass Loading (kg)- July				78.98	0.112	3.262	0.168	3.07	2.169	4.86 Bq	67.08	306.02	
									Total Effluent Released			m3	187006

Note: One half of the Lab Detection Limits were used for the Mass Loading calculations where the lab limit was above one tenth of the Method Detection Limits as set out in Column 4 of Schedule 3 (MMER)

August Discharge 159-4 (Effluent from W T D A at Decant Structure)

Date	Temp. (oC)	pH	Cond. (mS)	T.S.S. (mg/L)	Cd total (mg/L)	Pb total (mg/L)	As total (mg/L)	Cu Total (mg/L)	Ni Total (mg/L)	Rad 226 (Bq/L)	Zn total (mg/L)	NH3 (mg/L)	24 Hr Flow
1-Aug	8.8	7.69	1.36	4.8	0.0004	0.021		0.013			0.24	1.34	4471
2-Aug	7.7	7.76	1.40	1.2	0.0004	0.019		0.016			0.25	1.32	5823
3-Aug	10.5	7.76	1.40	1.6	0.0006	0.016		0.016			0.26	1.32	5521
4-Aug	7.3	7.71	1.45	0.0	0.0004	0.011		0.012			0.28	1.31	4130
5-Aug	7.3	7.75	1.46	0.4	0.0004	0.011	0.001	0.012			0.29	1.37	4182
6-Aug	7.3	7.80	1.46	0.0	0.0004	0.010		0.013			0.25	1.32	8135
7-Aug	8.7	7.11	1.50	1.8	0.0004	0.011	0.001	0.017	0.009	0.03	0.28	1.35	5651
9-Aug	8.5	7.81	1.53	0.0	0.0004	0.012		0.017			0.32	1.70	2916
10-Aug	8.1	7.93	1.55	1.0	0.0004	0.016		0.020			0.33	1.73	3802
11-Aug	9.0	7.83	1.57	1.0	0.0004	0.013		0.018			0.33	1.77	3370
12-Aug	4.4	7.89	1.65	0.8	0.0005	0.015	0.001	0.019	0.010	0.02	0.34	1.76	3283
Average	8.0	7.73	1.48	1.15	0.0004	0.014	0.001	0.016	0.010	0.025	0.29	1.48	
Mass Loading (kg)- August				58.92	0.02	0.70	0.043	0.79	0.487	1.282	14.40	73.8	
									Total Effluent Deposited			m3	51283

September Discharge 159-4 (Effluent from W T D A at Decant Structure)

Date	Temp. (oC)	pH	Cond. (mS)	T.S.S. (mg/L)	Cd total (mg/L)	Pb total (mg/L)	As total (mg/L)	Cu Total (mg/L)	Ni Total (mg/L)	Rad 226 (Bq/L)	Zn total (mg/L)	NH3 (mg/L)	24 Hr Flow
9-Sep	7.0	8.47	1.99	0.0	0.0004	0.003	0.002	0.017			0.15	1.15	8735.04
10-Sep	7.6	8.82	1.99	2.0	0.0004	0.003	0.002	0.018			0.14	1.21	6881.76
11-Sep	1.5	9.41	2.28	3.0	0.0003	0.001	0.002	0.019	0.012	0.04	0.06	1.18	5728.32
12-Sep	4.6	9.49	2.24	1.2	0.0002	0.002	0.002	0.020			0.04	2.54	3304.8
13-Sep	5.8	9.30	2.33	1.6	0.0003	0.001	0.002	0.024			0.07	2.78	5162.4
14-Sep	2.9	9.50	2.37	2.6	0.0002	0.001	0.002	0.026			0.08	2.66	2690.5
15-Sep	2.2	9.54	2.41	0.8	0.0003	0.001	0.002	0.026			0.06	2.72	3062.88
16-Sep	0.7	9.22	2.44	2.2	0.0003	0.001	0.002	0.028			0.07	2.66	4285.44
17-Sep	0.0	9.19	2.55	1.8	0.0003	0.001		0.027			0.09	2.66	1313.28
18-Sep	0.1	9.20	2.59	0.8	<0.0001	<0.001	0.002	0.026	0.016	0.060	0.09	2.84	5585.76
19-Sep	1.2	9.14	2.5	0.6	0.0003	0.001		0.025			0.15	3.91	85155.8
20-Sep	4.3	9.48	2.55	1.6	0.0006	0.002		0.035			0.39	4.17	23479.2
21-Sep	1.9	9.03	2.61	1.6	0.0007	0.001		0.036			0.40	4.90	14497.9
22-Sep	2.5	8.58	2.68	1.2	0.0008	0.001		0.037			0.43	4.90	13037.8
23-Sep	3.1	8.13	2.74	0.8	0.0008	0.001		0.037			0.46	4.90	11577.6
24-Sep	3.9	9.04	2.65	0.2	0.0007	0.001		0.038			0.45	4.90	16545.6
25-Sep	3.7	9.25	2.55	0.0	0.0007	0.001	0.003	0.037	0.024		0.44	4.90	10553.8
26-Sep	3.2	8.91	2.76	0.0	0.0007	0.001		0.038			0.46	4.57	7516.8
27-Sep	3.5	8.71	2.65	0.6	0.0008	0.002		0.039			0.47	4.10	4691.52
28-Sep	4.1	8.62	2.75	1.2	0.0009	0.001		0.040			0.51	4.36	4752
29-Sep	3.0	8.64	2.74	0.4	0.0008	0.001		0.040			0.51	4.56	3520.8
30-Sep	2.0	8.59	2.69	0.4	0.0009	0.001		0.039			0.51	4.62	3456
Average	3.1	9.01	2.50	1.1	0.0005	0.001	0.002	0.031	0.01733	0.050	0.27	3.51	
Mass Loading (kg)- Sept				220.30	0.1206	0.305	0.516	7.35	4.256	12.28 Bq	66.83	955.76	
									Total Effluent Deposited			m3	245535

Note: One half of the Lab Detection Limits were used for the Mass Loading calculations where the lab limit was above one tenth of the Method Detection Limits as set out in Column 4 of Schedule 3 (MMER)

Effluent Characterization and Water Quality Monitoring Parameters

Date	Location	Aluminum	Cadmium	Iron	Mercury	Molybdenum	Ammonia	Nitrate	Alkalinity	Total Hardness	Dissolved Oxygen
24-Jul	159-4	<.01	0.0004		<.0001	0.014	1.38	0.88	26	767	9.8
24-Jul	159-4A	0.34	<.0001		<.0001	<.005	0.04	<0.01	12	56	8.99
24-Jul	159-4B	0.19	<.0001		<.0001	<.005	0.12	<0.01	13	13	9.08
18-Sep	159-4	0.16	<0.0001	0.05	<.0001	<.0001	2.84	0.98	46	1240	9.4
18-Sep	159-4A	0.12	0.0002	0.07	<.0001	0.031	1.39	0.95	48	1220	9.05
18-Sep	159-4B	0.38	<0.0001	0.21	<.0001	<0.005	0.11	<0.10	31	69	9.21

Date	Location	Temperature	pH	Conductivity
24-Jul	159-4	8.8	7.65	1.47
24-Jul	159-4A	9.9	8.07	0.06
24-Jul	159-4B	7.2	8.29	0.00
18-Sep	159-4	0.1	9.20	2.59
18-Sep	159-4A	0.3	9.03	2.50
18-Sep	159-4B	1.3	9.00	0.00

159-4A is located approximately 50 metres downstream from the decant structure at station 159-4
159-4B is located approximately 50 metres upstream from the decant structure at station 159-4

All samples collected during the Quarter were *Grab* samples except for 159-4A on July 24 and September 18, which were *Composite* samples.

A total of 23,200 cubic metres of potable water were pumped from East Twin Lake (ETL) during the 3rd quarter (approximately one half the License limit). The majority of this water was used for domestic purposes (townsite) with only 682 m^3 used for industrial purposes (pressure washing in the industrial complex). As reported in the 2nd quarter report, adjustments have been made to the town water system to reduce the amount being circulated/pumped from the lake to avoid freezing of the system.

Toxicity Test Report – *Rainbow Trout*
July 24, 2004 - SNP Station 159-4

Tests conducted by Stantec Consulting Ltd.
11B Nicholas Beaver Road RR3
Guelph, Ontario N1H 6H9
519-763-4412

Sample Identification:

Company:	Nanisivik Mine	Time Collected:	11:30
Location:	Nanisivik, NU	Date Collected:	2004-07-24
Substance:	159-4	Date Received:	2003-07-27
Sampling Method:	Grab	Date Tested:	2003-07-27
Sampled By:	M. Markle	Temp. on arrival:	18.5°
Sample Description:	Clear, yellow, odorless		
Test Method:	Acute Lethality of Liquid Effluents to Fish EPS 1/RM/13, Environment Canada, 1990 (including December, 2000 amendments).		

Test Results:

0% mortality at 100% effluent concentration
The results reported relate only to the sample tested.

Phenol Reference Toxicant Data

Trout Batch #:	T04-09		
Date Tested (y/m/d):	2004-07-23	Historical Mean LC50:	10.1mg/L
LC50 (95% confidence limits):	10.5 mg/L (7.5 – 12.5)	Warning Limits (±2SD):	7.9 – 12.8 mg/L
Statistical method:	Non-linear Interpolation	Analyst(s):	JG/TB/AK

Test Fish

Control Fish Sample Size:	10	Cumulative prev. 7D stock tank mortality:	0%
Mean fish Weight (g) (± 2SD):	0.53± 0.27)	Mean Fish Fork Length (mm) (± 2 SD)	38.2 (± 5.2)
Range of Weights (g):	0.34 – .78	Range of Fork Lengths (mm):	35 – 43
Fish Loading Rate (g/L):	0.26		

Test Conditions

Sample treatment:	None	Volume Tested (L):	20
PH Adjustment:	None	# Replicates:	1
Test Aeration	Yes	# Animals Per Replicate:	10
Aeration Rate 9mL/min/L	6.5 ± 1	Total # Animals Per Test Level	10
Trout Batch #	T04-09		

Rainbow Trout Toxicity Test Report

	Temp	pH	D.O.	O2 Sat.	Cond.	Total Pre-Aeration
	(°C)		(mg/L)	(%)*	(umhos)	Time(h) @ 6.5 mL/min/L
Initial Water Chemistry	14.0	7.5	9.7	-	1515	
Chemistry after 30 min air:	14.0	7.5	9.7	100	1515	0:30

0 Hours							
Date & Time	2004-07-27 13:30						
Technician	AK						
Test Conc. (%)	**Mortality**	**Immobility**	**pH**	**D.O.**	**Cond.**	**Temp.**	**02 Sat. (%)***
100	0	0	7.5	9.7	1515	14.0	100
Control	0	0	8.4	9.8	564	14.0	101

24 Hours						
Date & Time	2004-07-28 13:30					
Technician	AK					
Test Conc. (%)	**Mortality**	**Immobility**	**pH**	**D.O.**	**Cond.**	**Temp.**
100	0	0	-	-	-	15.0
Control	0	0	-	-	-	15.0

48 Hours						
Date & Time	2004-07-29 13:30					
Technician	TB					
Test Conc. (%)	**Mortality**	**Immobility**	**pH**	**D.O.**	**Cond.**	**Temp.**
100	0	0	-	-	-	14.5
Control	0	0	-	-	-	14.5

72 Hours						
Date & Time	2004-07-30 13:30					
Technician	DR					
Test Conc. (%)	**Mortality**	**Immobility**	**pH**	**D.O.**	**Cond.**	**Temp.**
100	0	0	-	-	-	14.5
Control	0	0	-	-	-	14.5

96 Hours						
Date & Time	2004-07-31 13:30					
Technician	AK					
Test Conc. (%)	**Mortality**	**Immobility**	**pH**	**D.O.**	**Cond.**	**Temp.**
100	0	0	7.1	8.8	1498	15.0
Control	0	0	8.3	8.4	549	15.0

Notes: # of control organisms showing stress: 0 Trout Batch # T04-09

Toxicity Test Report – *Daphnia Magna*
July 24, 2004 - SNP Station 159-4

Tests conducted by Stantec Consulting Ltd.
11B Nicholas Beaver Road RR3
Guelph, Ontario N1H 6H9
519-763-4412

Sample Identification:

Company:	Nanisivik Mine	Time Collected:	11:30
Location:	Nanisivik, NU	Date Collected:	2004-07-24
Substance:	159-4	Date Received:	2003-07-27
Sampling Method:	Grab	Date Tested:	2003-07-27
Sampled By:	M. Markle	Temp. on arrival:	18.5°
Sample Description:	Clear, yellow, odorless		
Test Method:	Daphnia magna Acute Lethality Toxicity Test Protocol EPS 1/RM/14, Environment Canada, 1990 (including December, 2000 amendments).		

Test Results:

80% mortality at 100% effluent concentration
The results reported relate only to the sample tested.

Sodium Chloride Reference Toxicant Data

Daphnia Batch #:	Dm04-14		
Date Tested (y/m/d):	2004-07-19	Historical Mean LC50:	5.7 mg/L
LC50 (95% confidence limits):	5.2 mg/L (4.0 – 6.3)	Warning Limits (±2SD):	4.3 – 7.6 mg/L
Statistical method:	Non-linear Interpolation	Analyst(s):	J. Pickett

Daphnia magna Culture Health Data

Time to First brood (days):	8.2	Average # Young Per Brood:	40.2
Culture Mortality (prev. 7d)(%)	3.0		

Test Conditions

Sample treatment:	None	# Replicates:	3
PH Adjustment:	None	# Animals Per Replicate:	10
Test Aeration	None	Total # Animals Per Test Level	30
Daphnia Batch #	Dm04-14	Daphnia Loading Rate:	15.0
mL/organism			

Daphnia magna Toxicity Test Report

	Temp	pH	D.O.	O_2 Sat.	Cond.	Hardness	Hardness	Total Pre-Aeration
	(°C)		(mg/L)	(%)*	(umhos)	Mg/L as $CaCO_3$	Adjustment	Time (h) @ 30 mL/min/L
Initial Water Chemistry	19.5	7.6	9.8	110	1526	690	None	0:30

0 Hours

Date & Time	2004-07-27 10:25							
Technician	JP							
Test Conc. (%)	**Mortality**	**Immobility**	**pH**	**D.O.**	**Cond.**	**Temp.**	**02 Sat. (%)***	**Hardness**
100A	0	0	7.5	9.2	1526	20.0	105	690
100B	0	0	7.5	9.2	1526	20.0		
100C	0	0	7.5	9.2	1526	20.0		
Control A	0	0	8.6	8.5	395	21.5		
Control B	0	0	8.6	8.5	395	21.5		
Control C	0	0	8.6	8.5	395	21.5	100	180

24 Hours

Date & Time	2004-07-28 10:25							
Technician	JP							
Test Conc. (%)	**Mortality**	**Immobility**	**pH**	**D.O.**	**Cond.**	**Temp.**		
100A	0	7	-	-	-	21.0		
100B	0	4	-	-	-	21.0		
100C	0	4	-	-	-	21.0		
Control A	0	0	-	-	-	21.0		
Control B	0	0	-	-	-	21.0		
Control C	0	0	-	-	-	21.0		

48Hours

Date & Time	2004-07-29 10:25							
Technician	JP							
Test Conc. (%)	**Mortality**	**Immobility**	**pH**	**D.O.**	**Cond.**	**Temp.**		
100A	6	4	7.4	8.3	1517	21.0		
100B	9	1	7.4	8.3	1525	21.0		
100C	9	1	7.4	8.3	1511	21.0		
Control A	0	0	8.5	8.6	400	21.0		
Control B	0	0	8.5	8.7	398	21.0		
Control C	0	0	8.5	8.6	399	21.0		

Notes: # of control organisms showing stress: 0 - *Daphnia* Batch # Dm04-14
Number immobile does not include number of mortalities

Toxicity Test Report – Rainbow Trout
September 19, 2004 - SNP Station 159-4

Tests conducted by Stantec Consulting Ltd.
11B Nicholas Beaver Road RR3
Guelph, Ontario N1H 6H9
519-763-4412

Sample Identification:

Company:	Nanisivik Mine	Time Collected:	12:00
Location:	Nanisivik, NU	Date Collected:	2004-09-19
Substance:	159-4	Date Received:	2004-09-22
Sampling Method:	Grab	Date Tested:	2004-09-22
Sampled By:	M. Markle	Temp. on arrival:	20.0°
Sample Description:	Clear, Colourless, odourless.		
Test Method:	Acute Lethality of Liquid Effluents to Fish EPS 1/RM/13, Environment Canada, 1990 (including December, 2000 amendments).		

Test Results:

0% mortality at 100% effluent concentration
The results reported relate only to the sample tested.

Potassium Chloride Reference Toxicant Data

Trout Batch #:	T04-12		
Date Tested (y/m/d):	2003-09-20	Historical Mean LC50:	3963 mg/L
LC50 (95% confidence limits):	3223/L (2670 - 3719)	Warning Limits (±2SD):	3091 - 5090 mg/L
Statistical Method:	Probit	Analyst(s):	AK/ATC

Test Fish

Control Fish Sample Size:	10	Cumulative prev. 7D stock tank mortality:	0.2%
Mean fish Weight (g) (± 2SD):	0.47 ± 0.16	Mean Fish Fork Length (mm) (± 2 SD)	38.8 (± 4.8)
Range of Weights (g):	0.37 – 0.60	Range of Fork Lengths (mm):	36– 43
Fish Loading Rate (g/L):	0.23		

Test Conditions

Sample Treatment:	None	Volume Tested (L):	20
PH Adjustment:	None	# Replicates	1
Test Aeration	Yes	# Animals Per Replicate:	10
Aeration rate (mL/min/L):	6.5 ± 1	Total # Animals Per Test Level	10
Trout Batch #	T04-12		

Rainbow Trout Toxicity Test Report

	Temp	pH	D.O.	O2 Sat.	Cond.	Total Pre-Aeration
	(°C)		(mg/L)	(%)*	(umhos)	Time(h) @ 6.5 mL/min/L
Initial Water Chemistry	15.0	8.5	9.3	-	2673	
Chemistry after 30 min air:	15.0	8.5	9.4	98	2673	0:30

0 Hours							
Date & Time	2004-09-22 15:45						
Technician	AK						
Test Conc. (%)	**Mortality**	**Immobility**	**pH**	**D.O.**	**Cond.**	**Temp.**	**02 Sat. (%)***
100	0	0	8.5	9.4	2673	15.0	98
Control	0	0	8.3	9.6	590	15.0	100

24 Hours						
Date & Time	2004-09-23 15:45					
Technician	TG					
Test Conc. (%)	**Mortality**	**Immobility**	**pH**	**D.O.**	**Cond.**	**Temp.**
100	0	0	-	-	-	14.0
Control	0	0	-	-	-	14.0

48 Hours						
Date & Time	2004-09-24 15:45					
Technician	TG					
Test Conc. (%)	**Mortality**	**Immobility**	**pH**	**D.O.**	**Cond.**	**Temp.**
100	0	0	-	-	-	16.0
Control	0	0	-	-	-	16.0

72 Hours						
Date & Time	2004-09-25 15:45					
Technician	ATC					
Test Conc. (%)	**Mortality**	**Immobility**	**pH**	**D.O.**	**Cond.**	**Temp.**
100	0	0	-	-	-	15.0
Control	0	0	-	-	-	15.0

96 Hours						
Date & Time	2004-09-26 15:45					
Technician	ATC					
Test Conc. (%)	**Mortality**	**Immobility**	**pH**	**D.O.**	**Cond.**	**Temp.**
100	0	0	7.5	8.9	2696	15.0
Control	0	0	8.2	8.4	590	15.0

Notes: # of control organisms showing stress: 0 - Trout Batch # T04-12

Toxicity Test Report – Daphnia Magna
September 19, 2004 - SNP Station 159-4

Tests conducted by Stantec Consulting Ltd
11B Nicholas Beaver Road RR3
Guelph, Ontario N1H 6H9
519-763-4412

Sample Identification:			
Company:	Nanisivik Mine	Time Collected:	12:00
Location:	Nanisivik, NU	Date Collected:	2004-09-19
Substance:	159-4	Date Received:	2004-09-22
Sampling Method:	Grab	Date Tested:	2004-09-22
Sampled By:	M. Markle	Temp. on arrival:	20.0°
Sample Description:	Clear, Colourless, odourless.		
Test Method:	*Daphnia magna Acute Lethality* Toxicity Test Protocol EPS 1/RM/14, Environment Canada, 1990 (including December, 2000 amendments).		
Test Results:			
13.3% mortality at 100% effluent concentration *The results reported relate only to the sample tested.*			
Sodium Chloride Reference Toxicant Data			
Daphnia Batch #:	Dm04-18		
Date Tested (y/m/d):	2003-09-14	Historical Mean LC50:	5.5 mg/L
LC50 (95% confidence limits):	6.0 mg/L (4.0 – 10.0)	Warning Limits (±2SD):	4.3 – 7.2 mg/L
Statistical Method:	Non-linear Interpolation	Analyst(s):	J. Picket

Daphnia magna Culture Health Data

Time to First brood (days):	9.3	Average # Young Per Brood:	42.5
Culture Mortality (prev. 7d)(%)	3.5		

Test Conditions

Sample treatment:	None	# Replicates:	3
PH Adjustment:	None	# Animals Per Replicate:	10
Test Aeration	None	Total # Animals Per Test Level	30
Daphnia Batch #	Dm04-18	Daphnia Loading Rate:	15.0
mL/organism			