

NANISIVIK MINE

A division of CanZinco Ltd.

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March 31, 2007

Nunavut Water Board

Phyllis Beaulieu
Acting Executive Director
P.O. Box 119
Gjoa Haven, NU
X0B 1J0

RE: Water License No: NWB1NAN0208 Nanisivik Mine CanZinco Ltd.

In accordance with the Part B Item 6 of License NWB1NAN0208 and item 2 of the July 6th NWB Letter of Approval regarding the Nanisivik Mine Reclamation Plan and Closure Plan, please accept this submission as Nanisivik Mine's 2006 Annual Water Report and Reclamation Report.

At this time, I would like to bring to your attention, a modification to the closure plan that is necessary due to the way that the schedule has unfolded and been extended for a variety of reasons. As you are aware, the landfill was reclaimed while our earthmoving contractor was on site in 2005. We have realized that we will still have some inert demolition debris to dispose of, after the portals are closed in late August. We have decided to utilize the bottom of the landfill quarry prior to contouring the area. The area selected is above the natural drainage paths for the runoff and shale material is readily available to cover the debris over sufficiently to encase it in permafrost.

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

Regards,

Murray Markle
Site Manager

Phone: 867-436-7544
email: mmarkle@nu.breakwater.ca

c.c. R. Carreau
File

- NANISIVIK MINE -
2006 ANNUAL WATER REPORT
(Per Water License NWB1NAN0208)

Submitted To:

The Nunavut Water Board

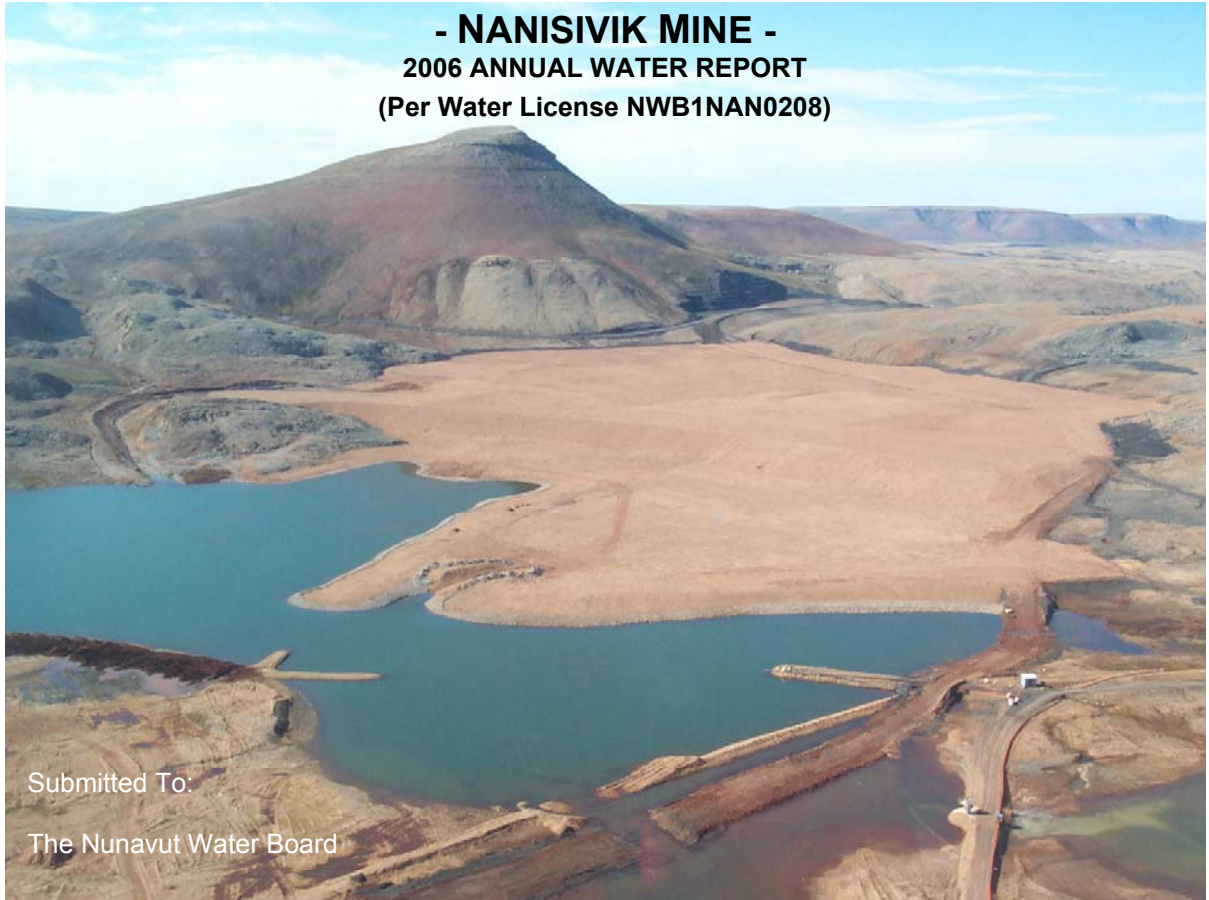


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1.0 Introduction

The Nunavut Water Board issued Nanisivik Mine, a division of CanZinco Ltd., the current license, NWB1NAN0208, on Oct 1, 2002. In compliance with Part B, Item 6 of the License, the following information is submitted as the 2006 Annual Water Report.

2.0 Required Reporting (As per part B - General conditions)

Item 6i.

A summary of any construction work, modification and major maintenance work and/or demolition work carried out on the Water Supply Facilities, West Twin Disposal Area, East Adit Treatment Facility, and associated structures;

Routine inspection and maintenance was carried out on the potable water system. No major maintenance was required during the year other than the repair of leaks within the town site delivery system. The entire system will be removed in the summer as reclamation of the site nears completion.

The level of the West Twin Reservoir was once again lowered with the use of a high capacity pump. This enabled us to remove the tailings islands in the reservoir. The removal was accomplished by setting up a portable pump and then washing the high areas into the surrounding water

The east adit treatment facility was removed and the dykes breached. There is some minor work remaining here in 2007 including removal of a culvert and the pipeline that was taken apart in 2006.

Item 6 ii.

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

There were no unauthorized discharges during 2006; however, some of the ph readings reported for July 3 to 8th were erratic due to a problem with the ph meter. The problem was corrected when batteries were replaced and the unit recalibrated. The readings returned to normal following this corrective action.

Item 6 iii.

A Progress Report and/or revision of any studies or plans requested by the board under this licence

The only study report that was due in 2006 was the Biological Monitoring Studies required under the Metal Mining Effluent Regulations. This report was submitted to Environment Canada in July. We believe we have appropriately addressed the remaining requirements for mine closure and plan to be finished (other than monitoring and maintenance) by September 2007. As mentioned in the covering letter, the main changes to the waste disposal plan will be the use of the landfill quarry to dispose of inert demolition debris after the portals are closed.

Item 6 iv.

An executive summary in terms understandable to the general public, translated into Inuktitut, of all plans, reports, or studies conducted under this licence.

The executive summary for the Biological Monitoring Study is included in Appendix B.

Item 6v.

A summary of any closure and reclamation work undertaken during the year and an outline of any work anticipated for the next year, including any changes to implementation and scheduling;

A brief summary of the work completed in each area is shown below and an update schedule is shown in Appendix F.

West Twin Disposal Area

Sediments in the polishing pond, that did not meet the SQRO, were delineated by sampling and then excavated by first ripping the ice and then removing approximately 1 foot of material. The soil was hauled and placed in the mill foundation prior to being covered by shale.



The riprap placement along the test cell dyke was completed. Excess riprap stockpiled in this area will be used to beef up a few areas along the reservoir shoreline during 2007.



Some work took place at the spillway during the 2006 season. Additional rip rap was placed along the north wall and some other minor repairs were also completed. There is some minor maintenance outstanding from BGC's inspection report that will be completed in 2007.

The tailings islands within the reservoir were removed by hosing down the high spots into the surrounding water.



The baffle across the reservoir was breached in order to make sure that flow into the polishing pond would not be inhibited by ice jams in the future.

The main reclamation tasks that remain for the Twin Lakes area are to remove the potable water system and to breach the road between the reservoir and the polishing pond.

East Open Pit Area

The armoring of the deflection berm at the toe of the cover was completed in 2006. During BGC's 2006 inspection, it was noted that additional armoring was required at the west end of the cover. This work was started in 2006 but several more truckloads of material will be required to complete the task in 2007.

K-Baseline Area

The Chris Creek crossing adjacent to the k-baseline area was breached in the fall of 2006 to facilitate removal of the culverts and to restore natural drainage.



Area 14

Armoring that had been hauled to the portal area late in 2005 was spread out and compacted. The ventilation raise that had been previously backfilled also required armoring. There is no work planned for this area in 2007 other than inspection.

Dock Area

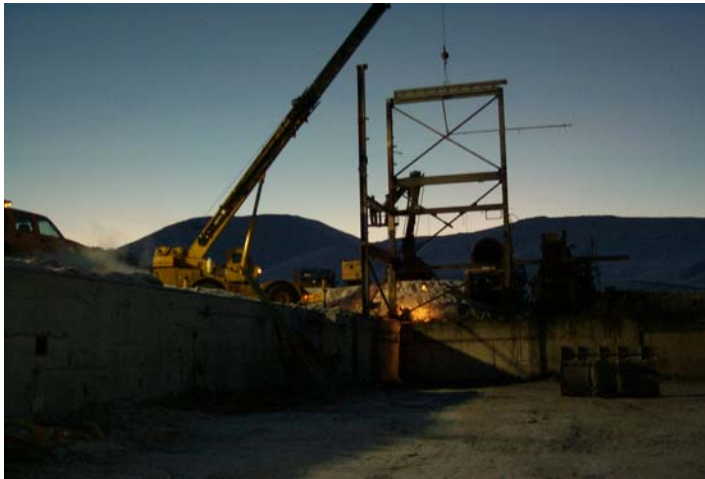
The following tasks were undertaken at the dock area during 2006

- The Concentrate shed was dismantled.
- The Ship Loader was dismantled.
- The contaminated soils from the center dock cell were excavated and hauled underground.

- Metal soil excavation around the con shed and shiploader conveyor-way got underway and will be completed in 2007
- Hydro-carbon contaminated soils from in front of the tank farm were excavated and hauled underground. Further excavation will be required in 2007.

Mill Complex

The dismantling of the structure was completed in 2006 and work began on backfilling the foundation. The thermal cover for this area will be completed during 2007.



Town Site Residences

A few houses were removed during the year. There are 8 houses that will be used to accommodate workers during 2007. The remaining unoccupied houses will be demolished and hauled underground early in 2007 and occupied houses will be removed late in the schedule. The demolition debris from the last few houses will be buried in the landfill quarry after the portals are closed.



West Open Pit

The thermal cover for the west open pit was placed during the year.



Waste Disposal Summary

Various classifications of waste were hauled underground throughout the year and are summarized in Appendix C.

Item 6 vi.

A Summary of the estimate of the total current mine closure cost based upon mine reclamation and monitoring activities carried out during the past year.

A list of costs attributed to reclamation activities at Nanisivik Mine during 2006 is presented in Appendix D.

Item 6 vii.

A public consultation/participation report describing consultation with local organizations and the residents of the nearby communities

With reclamation activities in full swing, there were no technical meetings regarding the reclamation plan during 2006. Routine communication with the hamlet of Arctic Bay took place to discuss acquisition of assets from the mine during the reclamation period.

Item 6 viii.

A Brief Summary of work done to address concerns or deficiencies listed in the inspection and/or compliance reports

Inspectors from Environment Canada and INAC visited on Thursday July 27th. Deficiencies noted during the inspection were as follows:

- Three barrels that contained fuel were found within the high tide mark at the dock lay down area. These barrels were removed and taken to the waste oil burning facility.
- There was also a broken bag of Calcium Chloride on the dock cell. The material was subsequently cleaned up and hauled underground

Mr. Geoff Claypool of BGC Engineering conducted the annual geotechnical inspection in August. The recommended maintenance items and their status is tabled below.

Table 1 - Recommended Maintenance Items

Inspection Item	Recommended Maintenance	Status	Comments
Main Tank Farm spill containment berm	<ul style="list-style-type: none"> • Repair the area affected during the hydrocarbon soils excavation. • Cover exposed areas of liner. 	Complete	
		Incomplete	Scheduled for Summer 2007
West Twin Outlet Structure	<ul style="list-style-type: none"> • Place some additional large rip rap in plunge pool • Inspect wall for further cracking • Monitor water level upstream of the wall to assess leakage. 	Incomplete	Scheduled for Summer 2007
		Incomplete	Scheduled for Summer 2007
		Incomplete	Scheduled for Summer 2007
West Twin Dike Spillway	<ul style="list-style-type: none"> • level bottom of spillway. • Remove slide debris. • Repair thermokarst near outlet with rockfill. • Rip rap left side of spillway down gradient of access ramp. • Re-slope/ repair area where debris falls into spillway. • Re-level access road. • Re-grade area near deflection berms 	Complete	Scheduled for Summer 2007
		Complete	
		Complete	
		Complete	
		Complete	
		Incomplete	
Test Cell	<ul style="list-style-type: none"> • Rip rap the bottom of the outlet trench. • Rip rap the shoreline at the outlet. • Compact north-south arm of Test Cell Dike. 	Complete	Scheduled for Summer 2007
		Complete	
		Incomplete	
Toe of West Twin Dike	<ul style="list-style-type: none"> • Add rip rap to shoreline at Toe of West Twin Dike (30 cm lift). 	Partially Complete	Remainder scheduled for summer 2007

Inspection Item	Recommended Maintenance	Status	Comments
Landfill	<ul style="list-style-type: none"> Complete spreading of armour on west face. Compact the armour surface. 	Incomplete	Scheduled for Summer 2007
West Open Pit	<ul style="list-style-type: none"> Additional compaction of armour material. 	Incomplete	Scheduled for Summer 2007
East Open Pit	<ul style="list-style-type: none"> Complete armouring at toe at berm location Additional armouring at west edge of cover. 	Complete Partially Complete	Remainder scheduled for 2007
Oceanview Pit	<ul style="list-style-type: none"> Improve gradient behind water deflection berm. Repair sinkhole. 	Incomplete Incomplete	Scheduled for Summer 2007 Scheduled for Summer 2007
Area 14	<ul style="list-style-type: none"> Complete armouring of the portal. Complete armouring along west edge of waste rock cover. Complete surface mound over raise. 	Complete Complete Complete	
Oceanview East and West Raises	<ul style="list-style-type: none"> The East raise is to be identified and inspected in 2007 	Incomplete	Scheduled for Summer 2007
Oceanview Portal	<ul style="list-style-type: none"> Improve drainage berm where it meets the portal cover. Repair sinkhole in southwest corner. 	Incomplete Incomplete	Scheduled for Summer 2007 Scheduled for Summer 2007
Area 14 Shale Borrow Area	<ul style="list-style-type: none"> Monitor during freshet to assess maintenance requirements. 	Incomplete	Area will be inspected June/July 2007
Townsite Shale Borrow Area	<ul style="list-style-type: none"> Knock down berms at crest of slope. Re-slope crest of pit (portion which remain near vertical). Level floor of pit when material removal complete. 	Incomplete Incomplete Incomplete	Scheduled for Summer 2007 Scheduled for Summer 2007 Scheduled for Summer 2007
Kuhulu Lake Rd	<ul style="list-style-type: none"> Re-grade floor of borrow area to ensure drainage not impeded. 	Complete	

Item 6 ix.

A Report on the Effluent and Water quality monitoring studies conducted during a calendar year.

a. The volume of potable water pumped from East Twin Lake (ETL) remains well below the licence maximum of 180,000 m³. Problems were encountered with the meter during the summer and the replacement did not arrive until after freeze-up. We did not want to jeopardize the system by pulling it apart to replace the meter during the winter and so the broken meter remains on the line. The system was stable and is still functioning normally. The daily average for 2006 up until the meter stopped functioning was approximately

130 m³ per day (the same as it was throughout 2005). The total water usage for the year is approximately 48,000 m³. The entire system will be removed midway through 2007.

The average lake level of ETL was 372.02 metres for the year with maximum and minimum levels of 372.42 metres and 371.89 metres respectively. The level of ETL was not at anytime, lower than the level of West Twin Lake. The minimum difference in elevation between the two lakes was 1.61m recorded on September 1st. A graphical comparison between the elevation of East Twin Lake and West Twin Reservoir is shown in Appendix A

b. During the year, flow measurements indicated that 492,584 cubic metres of water were decanted from the West Twin Reservoir. No water was discharged at the East Adit Treatment Facility from the Final Discharge point. All sampling, sample preservation and quality control procedures were conducted in accordance with methods prescribed in the current edition of "Standard Methods for the Examination of Water and Wastewater". Samples were collected at the West Twin decant, monitoring stations downstream in the Twin Lakes Creek and at monitoring stations along Chris Creek. The Sampling locations required by the water license are indicated on drawings 1 to 4 by solid red circles beside the name of the station. Tabulated summaries of the data generated for each monitoring station are included as Appendix E. Acute lethality tests, Daphnia Magna Monitoring, effluent characterization and water quality monitoring were scheduled for late July, but no effluent was released after July 21st. Effluent was only released (by pump) for a short period in order to lower the reservoir for the purpose of removing tailings islands and to complete some work along the reservoir shoreline. We had originally anticipated release of effluent until the end of July and scheduled the sampling to coincide with the Environment Canada Inspector's visit, so that we would be able to compare our results with theirs.

Figure 1

Twin Lakes Area Water Sampling Stations

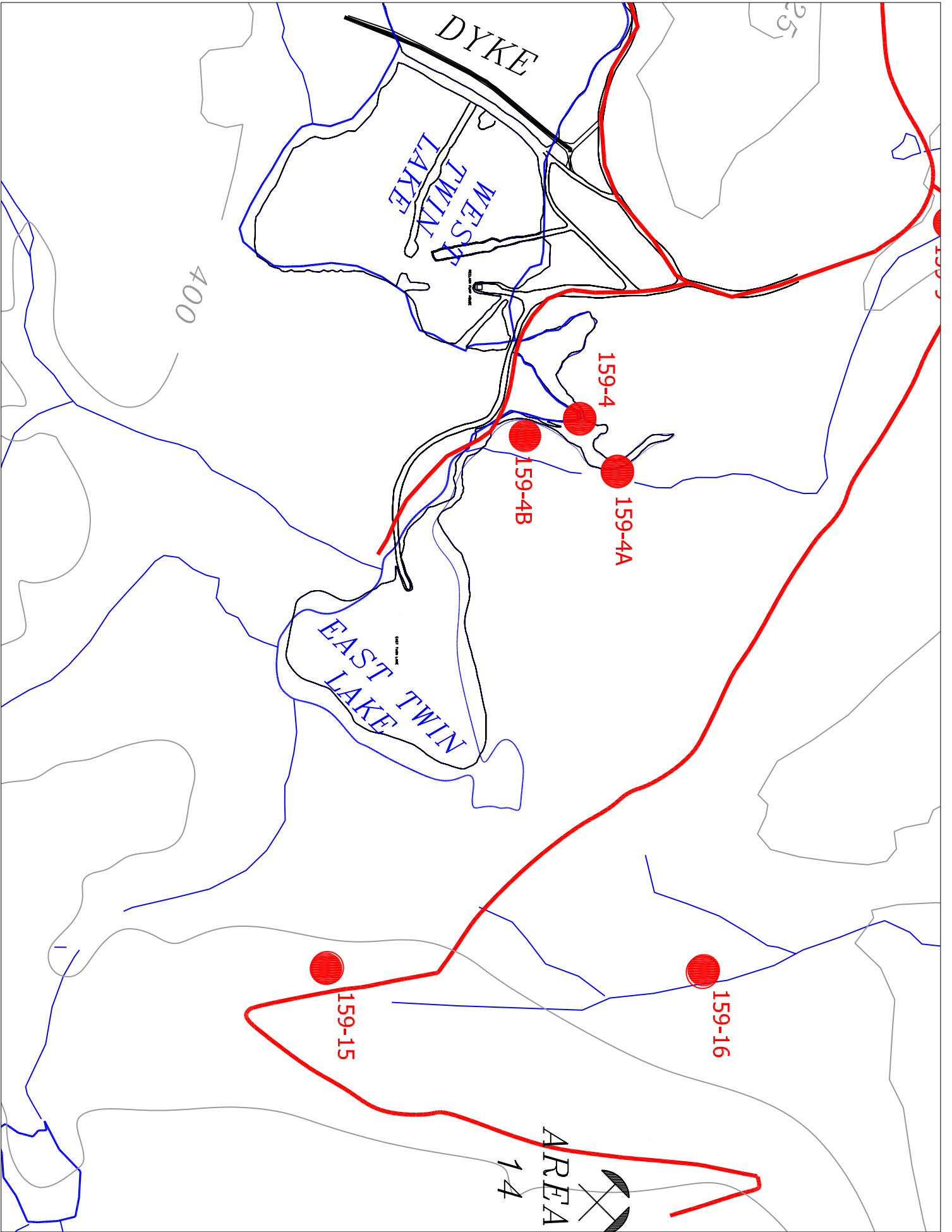


Figure 2

Industrial Area Water Sampling Stations

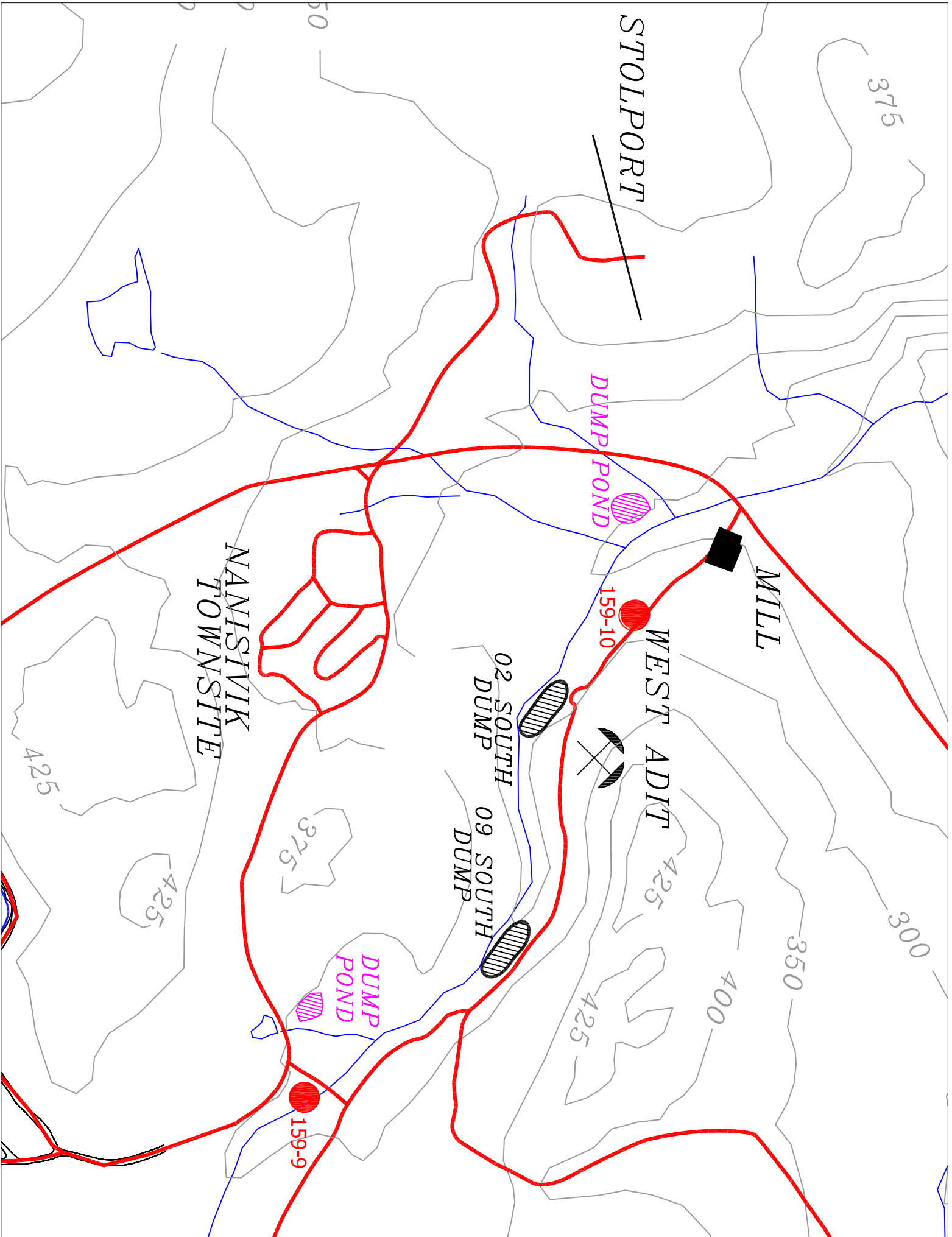


Figure 3

East Adit Area Water Sampling Stations

EAST ADIT
TREATMENT
FACILITY

RETENTION
POND 159-12

159-12P

159-12A

TREATMENT
POND

39 NORTH
DUMPS

EAST ADIT

EAST
PIT

K BASELINE

OCEANVIEW
OPEN PIT

159-19

159-18

300

350

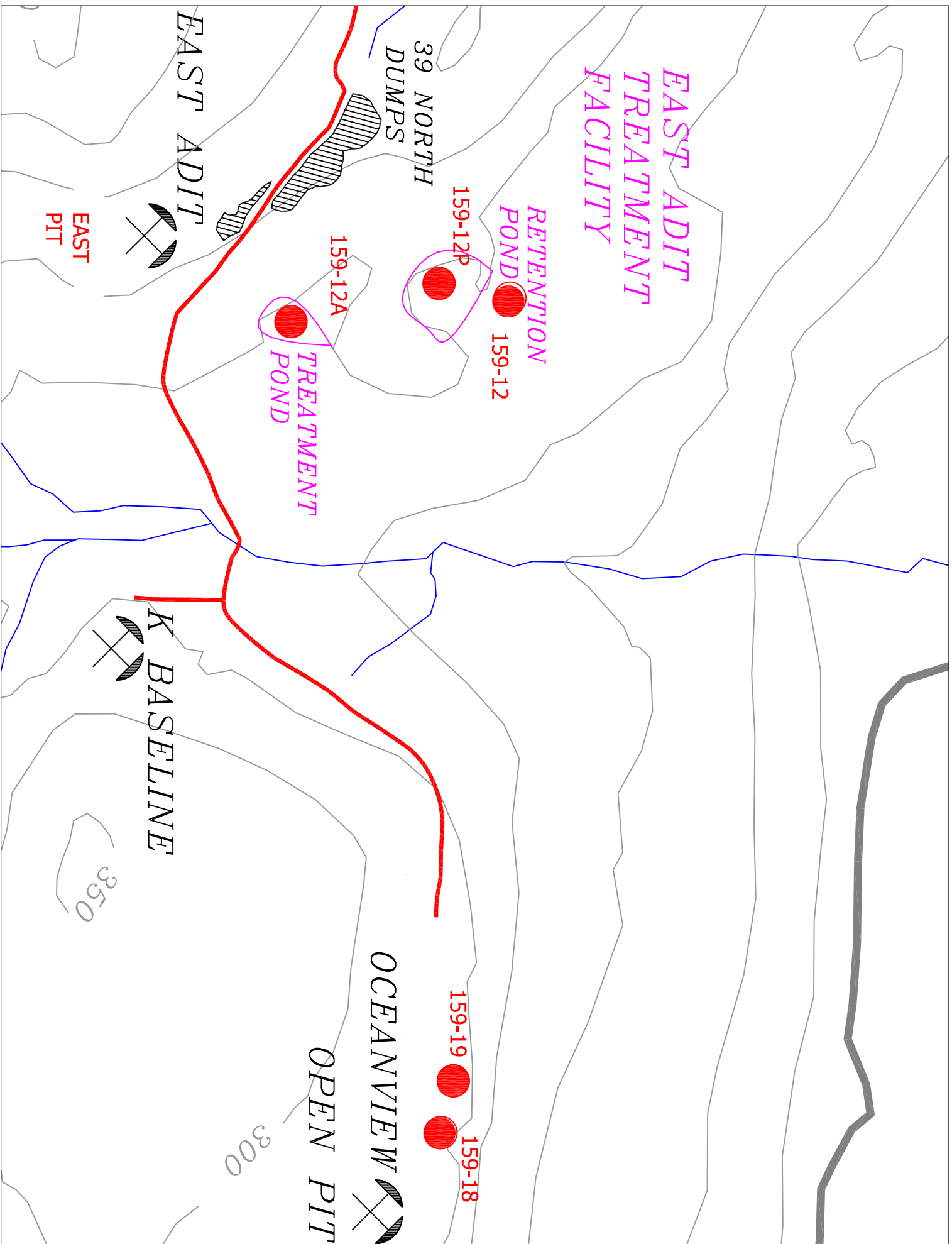


Figure 4

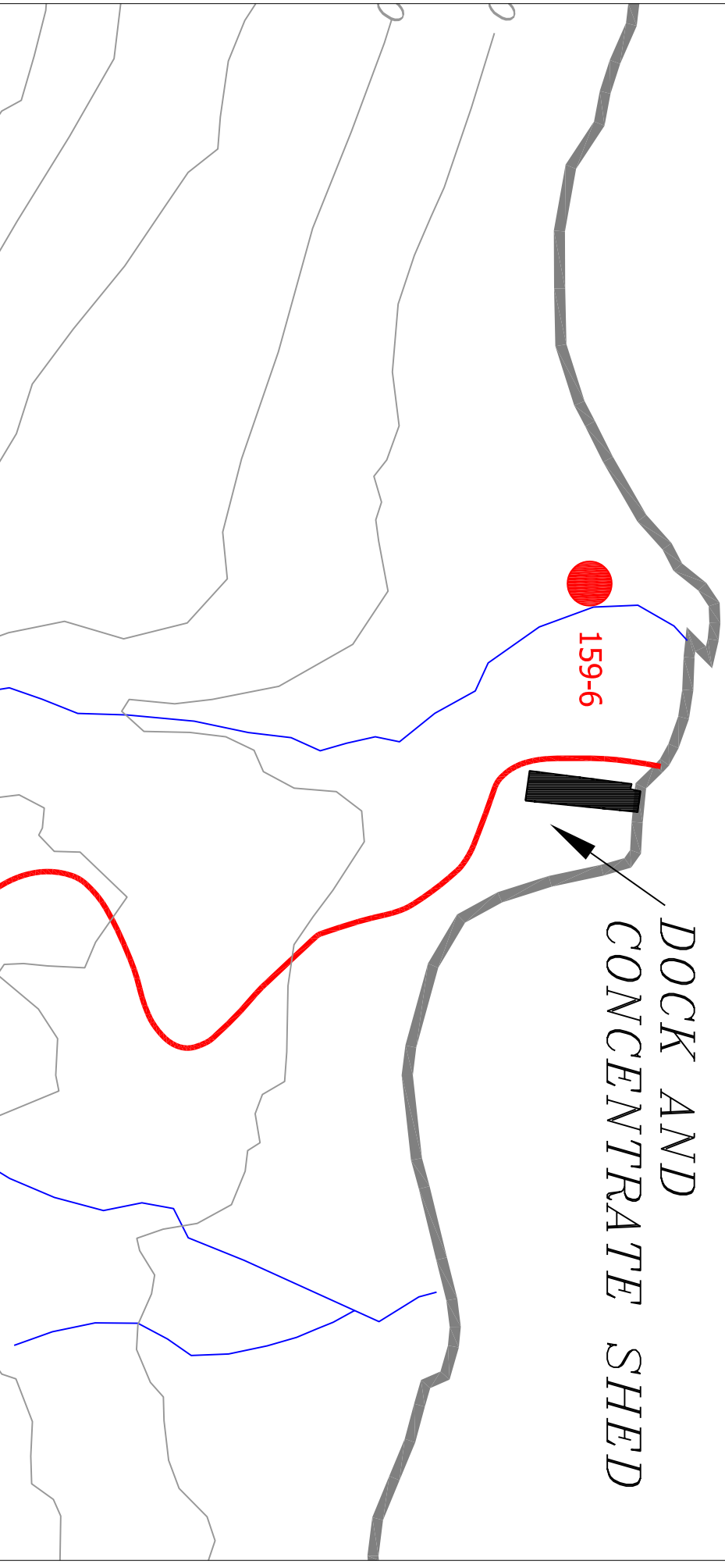
Dock Area Water Sampling Stations

STRAITHCONA SOUND

159-6



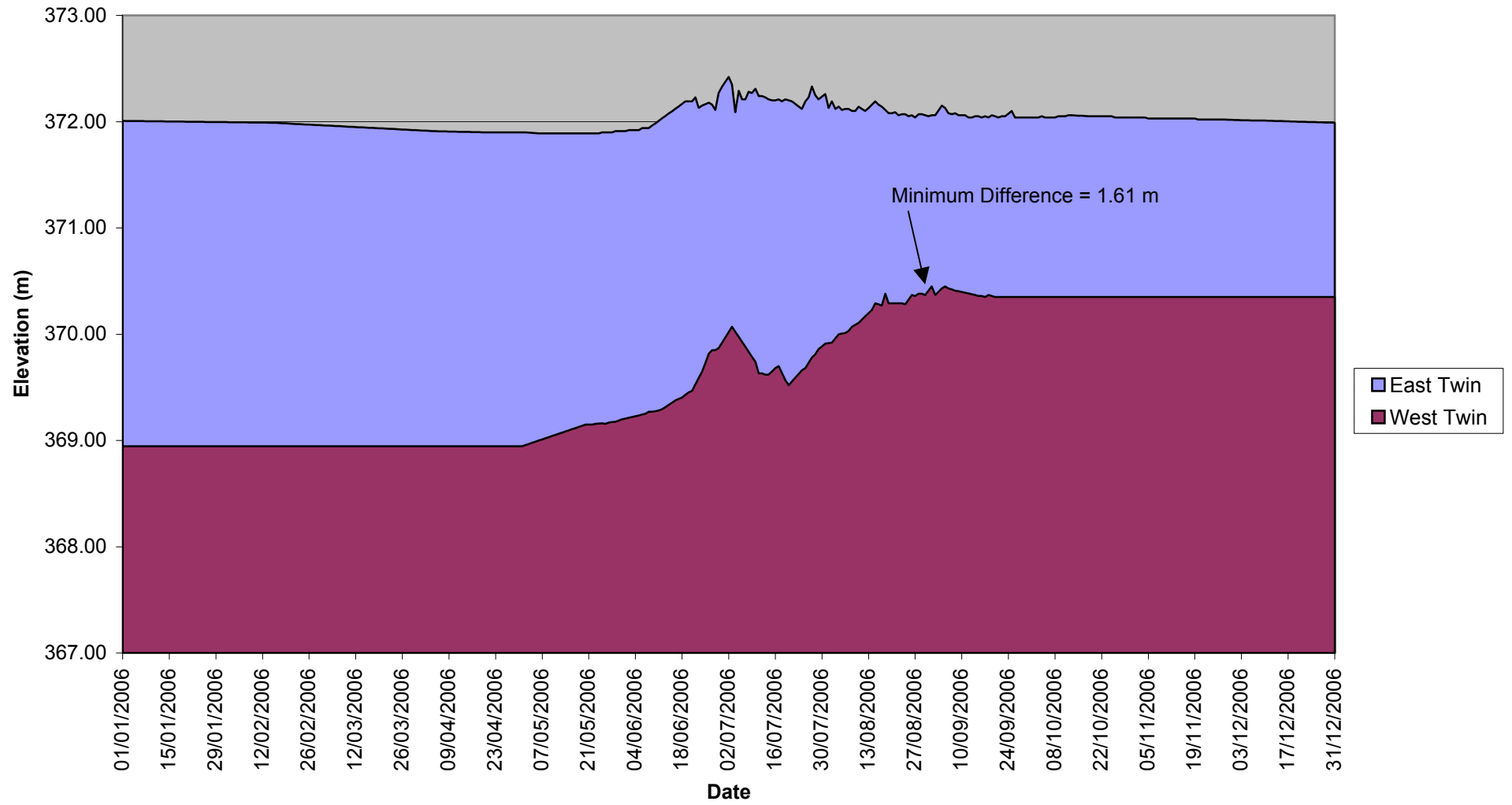
DOCK AND
CONCENTRATE SHED



Appendix A

Graphical comparison between
East Twin Lake and West Twin Reservoir

East Twin Lake and West Twin Reservoir Elevations



Appendix B

Executive Summaries

English and Inuktitut

Report on Biological Monitoring Studies
As required by the Metal Mining Effluent Regulations

Executive Summary

Jacques Whitford Limited, on behalf of the CanZinco Limited, Nanisivik Mine (the Mine), has prepared this report on Environmental Effects Monitoring (EEM). In accordance with the *Fisheries Act*, all mines regulated under the *Metal Mining Effluent Regulations* (MMER) are required to conduct periodic EEM studies as part of their authorization to deposit effluent. The Mine, located near the shore of Strathcona Sound, in the northern part of Baffin Island, Nunavut, operated an underground mine facility and shipped zinc/lead concentrates between 1976 and 2002. Mine production ceased in September 2002, and Environment Canada received notification of the Mine's intent to achieve recognized closed mine status on July 30, 2003. As a depositor of mine effluent, the Nanisivik Mine required an EEM study to be conducted. As part of the EEM, and as described in the Study Design (Jacques Whitford 2004), Effluent and Water Quality Monitoring (effluent characterization, water quality monitoring, and sublethal toxicity testing) and Biological Monitoring Studies were required. This document reports on the findings of the biological monitoring studies implemented during 2004. As per the schedule established under the MMER, this Final Interpretive Report is required to be submitted to Environment Canada no later than July 30, 2006.

Site specific and confounding factors taken into account during the development of this EEM study included:

- Twin Lakes Creek is a naturally fishless system throughout its length. The creek has a high gradient, with several significant waterfalls and cascades. Being located in the high Arctic, the creek freezes completely in winter, and experiences a major period of spate in the spring.
- The mine effluent is discharged only during the summer months, normally during June, July and August.
- Twin Lakes Creek intersects a natural sulfide outcrop, downstream from the point of mine effluent discharge, which has been shown to produce high loadings of metals including zinc, lead and cadmium, to the lower part of the creek.
- Municipal effluent from the town site enters the creek near the former Mill site, and this introduces nutrients and organic carbon to the creek.

Monitoring of fish and invertebrate species was carried out to evaluate the effects of effluent on the aquatic environment (*i.e.*, fish, fish habitat and the use of fisheries resources). As part of the Fish Study, shorthorn sculpin were sampled from the marine waters of Strathcona Sound, in an Exposure area near the mouth of Twin Lakes Creek (the nearest location where fish and a potential fishery are found) and in a Reference area at the mouth of the Strathcona River. Note, however, that the study design is inherently confounded by the presence of the natural mineral deposit adjacent to Twin Lakes Creek, as well as other influences on water quality that are not directly related to the mine effluent discharge.

Report on Biological Monitoring Studies
As required by the Metal Mining Effluent Regulations

For the statistical analyses performed to determine “effects” on fish endpoints, the following results were obtained:

- There were no significant differences between the ages, gonad weight at body weight, and body weight at length from the Exposure and Reference areas, for either males or females;
- There was no significant differences in body weight at age, between Exposure and Reference area females;
- Exposure area males were significantly heavier at age than Reference area males; and
- Exposure area males and females had significantly heavier livers at body weight than Reference area males and females.

For the statistical analyses performed to determine “endpoint analysis” on fish, the following results were obtained:

- there were no significant differences in body weight, or length between the Exposure and Reference areas for males;
- there was no significant difference in length at age, between exposure area and reference area for either males or females;
- Exposure area females were significantly heavier and longer than Reference area females; and
- livers were significantly heavier at length in the Exposure area than in the Reference area, for both male and female fish.

The detected “effects” do not constitute a negative effect of mine effluent on the Exposure site, as fish performance measures appear to be enhanced, rather than reduced, at the Exposure site. Further, the study is confounded by several factors, and it is not possible to unambiguously attribute these apparent “effects” to the mine effluent. As noted previously, the Mine is not the only source of heavy metal loading to Twin Lakes Creek. In addition, nutrient enrichment of Twin Lakes Creek from the town sewage may have increased nutrient availability in the Exposure area and this could increase growth rate, condition, and energy stores of fish. Further, occasional fishing pressure at the Exposure site and subsequent removal of some of the fish population could increase resource availability for resident fish, increasing the condition and growth rate of fish.

The Benthic Invertebrate Study was carried out in three areas exposed to mine effluent and in a Reference area upstream of the mine effluent discharge location in Twin Lakes Creek. The experimental design took advantage of the incomplete mixing of the effluent in the creek to obtain exposure conditions that were both higher (60% effluent) and lower (10% effluent) than the terminal dilution of the effluent in the creek (23% at the time of sampling). The Benthic Invertebrate Study was not significantly confounded by natural sources of heavy metals, or nutrient loading to Twin Lakes Creek. There were five replicate stations for each sampling area, and the replicate stations were each spaced approximately 30 m apart. In the areas that were exposed to mine effluent, effluent concentrations were determined based on measured specific conductance. Benthic invertebrate sampling was conducted at 60% effluent, located between 50 and 200 m downstream from the point of effluent discharge and 10% effluent, located near the

Report on Biological Monitoring Studies
As required by the Metal Mining Effluent Regulations

opposite bank of the creek from the 60% effluent sampling locations, with low exposure to the effluent. In addition, sampling was conducted at a Terminal station situated below a waterfall approximately 600 m downstream of the effluent discharge. The Terminal station had 23% effluent at the time of sampling, based on specific conductance.

The benthic invertebrate community in Twin Lakes Creek naturally has low productivity, low diversity, and is dominated by dipterans and oligochaetes at the Reference station. Invertebrate density at the Reference station was significantly higher than at the 60% Effluent, 10% Effluent and Terminal stations. Taxa Richness at the Reference station was significantly higher than 60% Effluent and 10% Effluent stations. The statistical analyses of the results of the Bray Curtis Distance showed that the Reference station median had significantly lower B-C distance than the 10% Effluent, 60% Effluent and Terminal stations. The 10% Effluent and Terminal stations had significantly lower B-C distance from the Reference median than the 60% Effluent stations. There were no significant differences in the Simpson's Diversity Index (D) between Reference and the 60% Effluent, 10% Effluent and Terminal stations; however, diversity was very low at all stations.

The effect of effluent discharge on the benthic invertebrate community likely extends to approximately 3.5 km downstream of the effluent discharge, since there is very little additional dilution of the watercourse through this reach. At approximately 3.5 km downstream from the effluent discharge point the stream passes through a natural mineral outcrop. During periods of wet precipitation, the zinc concentration in the creek has been shown to increase substantially (to concentrations that are likely to be acutely lethal to fish and other aquatic life) due to leaching of the natural weathering products of the mineralization.

Water sampling, for sodium, potassium, calcium, magnesium, iron, manganese, copper, zinc, ammonia (as N), pH (units), alkalinity (as CaCO_3), chloride, sulfate, nitrate+nitrite (as N),

o-phosphate (as P), reactive silica (as SiO_2), total organic carbon (TOC), turbidity, conductivity ($\mu\text{S}/\text{cm}$), aluminum, antimony, arsenic, barium, beryllium, bismuth, boron, cadmium, chromium, cobalt, copper, lead, lithium, molybdenum, nickel, rubidium, selenium, silver, strontium, tellurium, thallium, tin, uranium, and vanadium was also carried out at the Exposure and Reference areas for the Fish and Benthic Invertebrate studies, to provide supporting environmental information. Results of the water quality monitoring at the fish sampling sites showed that there were no meaningful differences between the Reference and Exposure areas, for samples taken either at the surface or at a depth of 10 m. Results of the water quality monitoring during dry weather conditions in Twin Lakes Creek showed that there was an increase in zinc concentrations from the Reference Station ($2 \mu\text{g}/\text{L}$), to the Terminal Station ($34 \mu\text{g}/\text{L}$, representing the contribution of the mine effluent), as well as a further increase caused by natural processes at Station 159-6 (downstream of the natural sulfide outcrop) ($220 \mu\text{g}/\text{L}$).

Since the mine is closed, this study is submitted as the Final Biological Monitoring study, and no further cycles of EEM will be required at the Nanisivik Mine.

[illegible]

[illegible]

[illegible]

As required by the Metal Mining Effluent Regulations

[illegible][illegible][illegible]

As required by the Metal Mining Effluent Regulations

[illegible][illegible][illegible]

Appendix C

2006 Waste Disposal Smmary

Appendix C
2006 Waste Haulage Summary

Waste Origin	Class	Volume	Storage Location
Bunk House	DD1	1060	01 Block
Concentrate Shed Area	S1	490	NZ9 Area
Concentrate Shed Area	S1	5950	Mill Foundation
Concentrate Shed	DD1	80	10&11 Block Area
Concentrate Shed	DD1	200	6-12 Area
Dock Cell	S1/S2	1220	NZ9 Area
Houses	DD1	160	01 Block
Houses	DD1	240	8 Block Area
Industrial Complex	DD1	40	10&11 Block Area
Industrial Complex	DD1	1180	Ore Pass Area
Industrial Complex	DD1	620	6-12 Area
Pamo Building	DD1	1490	01 Block
Rec Centre/Government Building	DD1	230	10&11 Block Area
Rec Centre/Government Building	DD1	250	01 Block
Rec Centre/Government Building	DD1	1050	Ore Pass Area
Rec Centre/Government Building	DD1	200	6-12 Area
Tank Farm/lay down area	S2	10960	NZ9 Area
2006 Total		25420	

AE1 =
Abandoned Equipment
(Free Phase HC's) removed

AE2 =
Abandoned Equipment
(Direct Storage)

DD1 = Demolition Debris

S1 = Metal Contaminated Soil

S2 = Hydro Carbon Contaminated Soil

S1/S2 = Metal & HC Co-contaminated Soil

Total AE 1 = 0

Total AE2 = 0

Total DD1 = 5740

Total S1 = 6440

Total S2 = 10960

Total S1/S2 = 1220

Grand Total = 25420

Appendix D

Reclamation Costs Summary

Appendix D
Reclamation Cost Summary

Description	Amount
Environmental Monitoring	105,593.96
Material Haulage	115,698.34
Dismantling/Salvage-Equip. or Building demolition/dismant	16,519.00
General Maintenance	29,922.86
Safety/Office/Computer Expenditures	16,750.92
Salaries & Benefits	138,855.24
Travel- Airfare & Other travelling expenses	49,415.65
Air & Land Freight	46,493.28
Equipment Maintenance	13,792.18
Consulting	199,631.80
Leases	3,103.00
Credits (Outside Sales & writedowns)	(180,763.49)
	555,012.74
Total Cost Since Closure Plan Approval (July 04 to Dec 06)	15,428,314.96

Appendix E

Water Data for SNP Stations

Appendix E

159-4													
Date	Temp. (°C)	pH	Cond. (mS)	TSS (mg/L)	SO ₄	Cd (mg/L)	Pb (mg/L)	As (mg/L)	Cu (mg/L)	Ni (mg/L)	Rad 226 (Bq/L)	Zn (mg/L)	NH ₃ (mg/L)
03-Jul	9.4	4	4.90	4.2	200	0	0	<0.001	0			0.04	0.44
04-Jul	7.3	6	6.50	6.0	520	0	0.01	<0.001	0			0.13	0.76
05-Jul	5.3	4	6.42	2.8	470	0	0	<0.001	0			0.15	0.8
06-Jul	5.2	5	6.54	2.4	530	0	0	<0.001	0			0.15	0.8
07-Jul	9.3	5	7.01	0.4	500	0	0	<0.001	0			0.15	0.79
08-Jul	9.2	7	1.33	2.0	530	0	0	<0.001	0	0.01	<0.02	0.14	0.83
09-Jul	12	7	1.24	1.8	560	0	0	<0.001	0			0.14	0.77
10-Jul	12	7	1.29	1.4	360	0	0	<0.001	0			0.15	0.75
11-Jul	12.7	7	1.27	1.6	280	0	0	<0.001	0			0.14	0.73
12-Jul	11.1	8	1.24	1.6	470	0	0	<0.001	0			0.14	0.72
13-Jul	14.4	8	1.23	2.6	320	0	0	<0.001	0			0.13	0.71
14-Jul	14.9	7	1.31	1.6	540	0	0	<0.001	0			0.12	0.69
15-Jul	11.9	8	1.32	2.8	460	0	0	<0.001	0	0.01	<0.02	0.11	0.72
17-Jul	13.1	8	1.29	2.0	320	0	0	<0.001	0			0.11	0.66
18-Jul	11.7	7	1.24	1.0	520	0	0	<0.001	0			0.12	0.63
19-Jul	11.3	8	1.22	1.0	290	0	0	<0.001	0			0.12	0.63
20-Jul	12.7	8	1.22	0.8	420	0	0	<0.001	0	0.01	<0.02	0.12	0.63

Appendix E

159-6							
Date	Temp. (oC)	pH	Cond. (mS)	T.S.S. (mg/L)	Cd total (mg/L)	Pb total (mg/L)	Zn total (mg/L)
12-Jun	9.9	7.73	0.36	14.4	0.0004	0.001	0.18
16-Jun	6.8	7.78	0.36	18.0	0.0006	0.001	0.19
23-Jun	5.9	7.52	0.20	16.8	0.0004	0.003	0.15
30-Jun	8.2	5.12	0.11	11.4	0.0003	0.003	0.10
7-Jul	10.1	5.81	7.11	5.6	0.0004	0.001	0.10
14-Jul	9.4	7.80	0.07	8.4	0.0002	0.001	0.06
21-Jul	9.4	7.66	0.14	5.0	0.0003	<0.001	0.12
28-Jul	13.2	7.47	0.16	3.4	0.0004	0.001	0.12
4-Aug	12.9	7.47	0.36	32.2	0.0007	0.001	0.47
11-Aug	13.4	7.41	0.42	63.2	0.0011	0.006	0.74
18-Aug	11.3	7.53	0.50	213.8	0.0017	0.007	1.29
25-Aug	9.4	7.68	1.11	106.2	0.0039	0.003	2.85
1-Sep	7.7	6.90	1.04	33.4	0.0176	0.002	7.03
8-Sep	3.6	7.26	1.03	9.2	0.0046	0.002	2.99
12-Sep	3.6	7.61	1.20	1.4	0.0083	<0.001	4.27
15-Sep	2.0	7.64	1.44	1.6	0.0063	<0.001	3.43
Date	As total (mg/L)	Cu Total (mg/L)	Cd dissolved (mg/L)	Pb dissolved (mg/L)	Zn dissolved (mg/L)	NH3 (mg/L)	S04
12-Jun						<0.02	50.00
16-Jun						<.02	20.00
23-Jun						<0.02	30.00
30-Jun							14.00
7-Jul						0.070	40.00
14-Jul						<0.02	10.00
21-Jul						0.040	42.00
28-Jul						0.080	10.00
4-Aug							50.00
11-Aug						0.060	70.00
18-Aug						0.170	n/a
25-Aug						0.160	350.00
1-Sep						1.090	n/a
8-Sep						0.240	170.00
12-Sep			0.01	<0.001	3.7400		470.00
15-Sep			0.0057	<0.001	3.2500	0.09	670.00

Appendix E

159-9										
Date	Temp. (oC)	pH	Cond. (mS)	T.S.S. (mg/L)	S04	Cd total (mg/L)	Pb total (mg/L)	Zn total (mg/L)	Pb dissolved (mg/L)	Zn dissolved (mg/L)
16-Jun	no flow									
23-Jun	4.3	7.0	4.3	3.4						
30-Jun	8.6	5.1	0.1	2.8	12.0		<0.001	<0.01		
7-Jul	7.4	5.0	4.5	2.0						
14-Jul	12.20	7.80	0.0	4.4	2		<0.001	<0.01		
21-Jul	7.80	6.47	0.00	2.4						
28-Jul	12.60	7.70	0.00	2.6	5		<0.001	<0.01		
4-Aug	12.10	7.38	0.07	2.4						
11-Aug	13.50	7.04	0.07	1.8	15.0		0.001	0.01		
18-Aug	10.30	8.30	0.10	3.4						
25-Aug	5.80	8.13	0.81	0.8	170	<0.0001	<0.001	0.02		
1-Sep	6.90	8.16	0.83	0.4						
8-Sep	3.50	7.63	0.98	0.6	360		<0.001	0.04		
12-Sep	6.70	7.98	1.12	0.6	520		<0.001	0.04		
15-Sep	3.40	7.59	1.45	0.0	680		<0.001	0.05	<0.001	0.050

Appendix E

159-10								
Date	Temp. (oC)	pH	Cond. (mS)	T.S.S. (mg/L)	S04	Cd total (mg/L)	Pb total (mg/L)	Zn total (mg/L)
16-Jun	no flow							
23-Jun	3.1	6.98	0.12	3.2				
30-Jun	6.4	5.10	0.07	3.4	13.0	0.0004	0.001	0.1
7-Jul	4.7	4.86	4.50	2.8				
14-Jul	8.8	6.68	0.00	5.2	9	0.0005	0.001	0.11
21-Jul	12.10	6.83	0.07	1.6				
28-Jul	12.70	7.53	0.09	3.0	22	0.0005	<0.001	0.18
4-Aug	13.3	7.31	0.23	1.8				
11-Aug	10.5	7.14	0.26	1.4	66	0.0022	<0.001	1.16
18-Aug	10.9	7.33	0.29	28.0				
25-Aug	3.6	7.44	1.12	3.0	320	0.0116	0.002	5.66
1-Sep	4.9	7.59	1.01	6.6				
8-Sep	6.0	6.94	1.09	4.8	480	0.039	0.003	14.10
15-Sep	1.2	6.98	2.01	7.4	940	0.144	0.003	60.10

Appendix E

159-15								
Date	Temp. (oC)	pH	Cond. (mS)	T.S.S. (mg/L)	S04	Cd total (mg/L)	Pb total (mg/L)	Zn total (mg/L)
13-Jun	frozen			0.0	0.0			
20-Jun	no-flow							
12-Sep	frozen							
27-Jun	6.2	7.92	0.13		0.0	<0.0001	<0.001	<0.01
5-Jul	1.9	6.39	5.11					
11-Jul	5.0	7.93	0.24		40	0.0001	<0.001	0.010
18-Jul	6.1	7.44	0.31					
25-Jul	6.1	7.81	0.48		70	<0.0001	<0.001	<0.01
1-Aug	6.3	8.35	0.68					
8-Aug	6.6	8.09	1.12		190	0.0002	<0.001	0.0
15-Aug	6.7	7.90	0.62					
22-Aug	no-flow							
29-Aug	no-flow							
5-Sep	no-flow							

Appendix E

159-16								
Date	Temp. (oC)	pH	Cond. (mS)	T.S.S. (mg/L)	S04	Cd total (mg/L)	Pb total (mg/L)	Zn total (mg/L)
13-Jun	frozen			0.0	8			
20-Jun	no-flow							
27-Jun	4.7	7.58	0.09			0.0003	<0.001	0.370
5-Jul	3.6	6.50	5.00					
11-Jul	6.7	7.49	0.14		7	0.0001	<0.001	0.04
18-Jul	8.8	7.41	0.41					
25-Jul	7.0	7.97	0.29		51	<0.0001	<0.001	0.01
1-Aug	9.8	8.37	0.37					
8-Aug	9.5	8.23	0.53		30	0.0002	<0.001	0.02
15-Aug	12.2	8.10	0.37					
22-Aug	4.6	8.33	0.88		170	<0.0001	<0.001	0.01
29-Aug	6.1	8.23	0.90					
5-Sep	no-flow							
12-Sep	frozen							

Appendix E

159-18								
Date	Temp. (oC)	pH	Cond. (mS)	T.S.S. (mg/L)	S04	Cd total (mg/L)	Pb total (mg/L)	Zn total (mg/L)
15-Jun	7.2	7.98	1.40	0.0	480	0.0005	0.001	0.100
22-Jun	11.70	7.51	1.08	0.0				
29-Jun	7.4	8.02	1.24	0.0	300	0.000	0.002	0.060
6-Jul	10.0	4.89	6.64	0.0				
13-Jul	11.8	7.87	1.39	1.2	360	0.0007	0.002	0.110
20-Jul	9.8	7.83	0.94	0.0				
27-Jul	13.3	7.42	0.85	0.0	210	0.0002	0.001	0.03
3-Aug	12.2	8.30	0.67	0.0				
8-Aug	9.5	8.26	0.63	0.0	10	0.0003	0.003	0.03
17-Aug	9.2	8.17	0.63	0.0				
24-Aug	4.0	8.38	0.67	0.4	0	<0.0001	0.002	0.03
31-Aug	no-flow							
7-Sep	no-flow							
14-Sep	frozen							

Appendix E

159-19								
Date	Temp. (oC)	pH	Cond. (mS)	T.S.S. (mg/L)	S04	Cd total (mg/L)	Pb total (mg/L)	Zn total (mg/L)
15-Jun	no flow							
22-Jun	5.80	7.63	2.21	13.8				
29-Jun	5.1	7.80	2.73	0.2	1560	0.0062	0.003	1.53
6-Jul	6.3	4.78	7.00	0.2				
13-Jul	9.4	7.20	1.57	0.0	490	0.0003	0.002	0.13
20-Jul	4.90	7.33	1.04	0.2				
27-Jul	7.80	7.25	1.15	0.0	350	0.001	0.003	0.07
3-Aug	6.7	7.98	1.47	0.0				
8-Aug	5.70	6.91	2.02	5.8	740	0.0055	0.012	1.55
17-Aug	4.90	6.98	1.68	51.8				
24-Aug	7.1	7.29	1.65	25.2	0	0.0008	0.002	0.87
31-Aug	no-flow			0.0				
7-Sep	no-flow			0.0				
14-Sep	frozen							

Appendix F

2007 Work Schedule

