Mackenzie Valley Land and Water Board
7th Floor - 4910 50th Avenue
P.O. Box 2130
YELLOWKNIFE NT X1A 2P6
Phone (867) 669-0506
FAX (867) 873-6610

EA 01-002

FILE NUMBER: MV2001L2-0003

Date: June 22, 2005

To: Dehcho Distribution List

Company: See attached Distribution List

From: Sarah Baines

Number of pages including cover: 3 pages + 9 documents

Remarks:

For file MV2001L2-0003, CZN, Prairie Creek Mine

Hi Folks,

Attached are the following documents for your files:

- all reviewer's comments this office received during the last review period for the A&R Plan (November 2004 version)
- all reviewer's comments this office received during the last review period for the Minewater Contingency Plan (November 2004 version)
- preliminary design of the polishing pond

Some members of the Distribution List were emailed copies of the documents. Please see the attached email if you wish to see who received emailed copies.

Regards,

S Baines

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Duane Fleming	GNWT - Health	669-7517
Jason McNeill	GNWT - RWED	873-4021
Michael Brown	GNWT - DOT	920-2565
Ernest Watson	DFO	669-4940
Josephine Simms	WCB	873-4596

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OTHERS

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Doug Bryshon	Dev. Corp Mgr Sambaa K'e(Trout Lake)	867-874-4505
Peter Redvers	Research Cons. Sambaa K'e	867-874-4505
Mandell Pinder, Barrister & Solicitors	(Ka'a'gee Tu First Nation)	604-681-0959

If there is an error in our contact, please notify our office.

Sarah Baines

From: Sarah Baines [sbaines@mvlwb.com]

Sent: Tuesday, June 21, 2005 4:42 PM

To: Jason_McNeill (Jason_McNeill@gov.nt.ca); Anne Wilson (Anne.Wilson@EC.GC.CA); Chuck. Blyth (Chuck.Blyth@pc.gc.ca); 'Troi Searson'; 'Alan Taylor'; 'Collen Roche'; 'Dave Harpley'; 'Ernest Watson'; 'Jennifer Morin'; 'Katherine Cumming'; 'Kathleen Racher'; 'Kim Schlosser'; 'Laura Pitkanen'; 'Rebecca Chouinard'; 'Shayne Hayes'

Cc: 'mvlwbpermit@mvlwb.com'

Subject: A&R Plan, MCP, Polishing Pond

For file MV2001L2-0003, Canadian Zinc Corporation, Prairie Creek Mine

Hi Folks,

Attached are the following documents for your files:

- all reviewer's comments this office received during the last review period for the A&R Plan (November 2004 version)
- all reviewer's comments this office received during the last review period for the Minewater Contingency Plan (November 2004 version)
- preliminary design of the polishing pond

I will send faxed copies to the rest of the standard distribution list. If any of you would also like a faxed copy, please let me know.

Cheers,
Sarah Baines
Regulatory Officer
Mackenzie Valley Land and Water Board
Phone: (867) 766-7457

Janna

From: Sarah Baines [sbaines@mvlwb.com]
Sent: Monday, May 09, 2005 8:24 AM
To: mvlwbpermit@mvlwb.com
Subject: FW: Polishing Pond

L01 Canadian Zinc April 26 05...

For file MV2001L2-0003, CZN

-----Original Message-----
From: david@canadianzinc.com [mailto:david@canadianzinc.com]
Sent: Wednesday, April 27, 2005 3:52 PM
To: Sarah Baines
Cc: alan@canadianzinc.com
Subject: RE: Polishing Pond

Sarah,

For your information, please find attached a pdf of the preliminary design for the polishing pond.

We will undertake a ground survey of the pond site shortly after camp opening next month, and will then proceed with final design. Please provide any comments you might have on the preliminary design to accomodate that schedule. Thanks.

Regards.

April 26, 2005

EBA File: 1740078

Canadian Zinc Corporation
Suite 1202
700 West Pender Street
Vancouver, BC
V6C 1G8

Attention: Mr. Allan Taylor

Subject: Prairie Creek Mine
Polishing Pond – Preliminary Design

1.0 INTRODUCTION

This letter presents the preliminary design completed by EBA Engineering Consultants Ltd. (EBA) for the polishing pond at Prairie Creek Mine, near Fort Simpson, NT. Authorization to proceed with the preliminary design was provided by Canadian Zinc Corporation (CZC) in a letter dated March 29, 2005 (copy attached).

A site infrastructure drawing was provided by CZC. Ground elevations were assumed for design purposes. A site survey will be required prior to completion of the detailed design.

2.0 PROJECT DETAILS

Design parameters were provided by CZC in their letter dated March 29, 2005. The polishing pond is to retain mine water effluent received from the 870 m Portal (Portal) and future Pilot Plant. Primary treatment will occur in an underground sump. The treated water will then be piped to the polishing pond. The pond's purpose is to allow residual metal carbonate precipitate contained in the water to settle out prior to discharge to the Catchment Pond.

P.O. Box 2244, #201, 4916 – 49 Street, Yellowknife, NWT X1A 2P7
Tel: (867) 920-2287 - Fax: (867) 873-3324 Email: yellowknife@eba.ca - Web Site: www.eba.ca

The polishing pond has been configured to provide a 20-hour retention time and accommodate a maximum inflow of 0.0124 m^3/sec. The retention time is based on guidelines from British Columbia[1] and is consistent with the Environmental Assessment and subsequent water license No. MV2001L2-0003. A water balance indicates that the desirable storage capacity is approximately 900 m^3. The respective inflows from the 870 m Portal and Pilot Plant are 0.012 m^3/sec and 0.004 m^3/sec. These flows will be seasonal and have an approximate duration of 6 months per year. The pond water balance is shown in Figure 1.

The polishing pond will be located in a clearing, immediately south of the 870 m Portal, as shown in Figure 2.

3.0 PRELIMINARY DESIGN

3.1 General

The preliminary pond design comprises a 3.2 m high containment berm with a geomembrane liner system. A steel pipe set at the maximum operating level controls discharge from the pond.

The pond has been designed to accommodate the following design criteria:

- 20 hour retention time;
- Operating capacity of 900 m^3;
- Maximum inflow of 0.0124 m^3/sec; and
- 0.5 m liner freeboard.

The proposed pond layout is shown in Figure 3. Typical cross sections are shown in Figure 4. The pond shape has been selected to accommodate existing site infrastructure and optimize the available storage. The configuration shown in Figures 3 and 4 provides an approximate storage capacity of 920 m^3 at an operating depth of 2 m.

The pond performance was evaluated for the 1:200 year rainfall event. This is equivalent to an approximate 110 mm of precipitation over a 24-hour period. When operating at full capacity (920 m^3), this storm event would increase the pond elevation by approximately 30 mm for an estimated two-hour duration. This small increase in elevation can be readily contained within the pond perimeter.

[1] "Guidance for Assessing the Design, Size and Operation of Sedimentation Ponds Used in Mining", British Columbia Ministry of Environment, Lands and Parks.

3.2 Pond Hydraulics

A 300 mm diameter steel pipe will be used to carry effluent to the pond. The pipe is located at the north corner of the pond, as shown in Figure 3. It has been sized to accommodate combined flow from both the Portal and the Pilot Plant. The outlet invert will be set at the top of berm elevation. The required pipe length and inlet elevation will be determined during detailed design once inflow elevations from the Portal and Pilot Plant have been finalized.

It has been assumed that both the Portal and Pilot Plant flows will discharge through a single inflow pipe. A second inflow pipe could be considered if this is not practical.

A 300 mm diameter steel pipe, with the inlet invert set at the maximum operating level, controls outflow from the pond. The pipe extends through the fill and runs down the embankment slope, discharging to the existing culvert under the service road. Erosion protection may be required at the base of the outflow pipe to prevent embankment erosion, unless the outflow pipe can be set to discharge directly inside the culvert. Further evaluation is required at detailed design to assess the viability of this option and its impact on existing drainage patterns.

Flow distance and direction through the pond are controlled by baffles. The baffles will be constructed using the available hypalon liner. The liner will be suspended from available insulated polyethylene pipe and secured to the floor of the pond using heavy steel pipe seated on the pond bottom. To minimize inflow and outflow piping requirements, two baffles have been designed as shown in Figure 3.

3.3 Liner

The liner system comprises a new 40 mil Enviro Liner overlain by hypalon liner that is surplus on the site. The Enviro Liner provides primary containment with the hypalon being used as a protective overlay. The liner system will extend 0.5 m above the maximum pond operating level and be keyed into the existing embankment.

A 200 mm thick sand bedding layer has been designed to support the liner system. EBA understands that a sand source is not available on site and that screening will be required to obtain the desired gradation. An estimated 250 m^3 of bedding material will be required for pond construction.

As an alternative to sand bedding, a coarser bedding layer (25 mm minus) could be used and a nonwoven geotextile placed between the liner and bedding to cushion and protect the liner.

Further analysis and discussion with CZC will be undertaken during detailed design to assess the most desirable and cost effective option.

The liner has been designed as an exposed surface without soil cover or ballast. The hypalon will provide protection from the elements; however, the seams should be adequately sealed or lapped to prevent wind damage. This is particularly important if a head of water is not maintained against the liner (i.e., the pond is drained).

3.4 Materials

A borrow pit sample was obtained during a site visit in July 2004. A particle size analysis completed on the sample showed the available borrow material to be silty sand and gravel with a maximum aggregate size of 50 mm. The silt/clay content was 23%. As such, this material is potentially frost susceptible and may be subject to frost heave in the presence of moisture and freezing conditions. The containment berms, however, will be constructed above grade, eliminating groundwater seepage as a potential moisture source. Furthermore, the liner system is capable of accommodating considerable differential movement and deflection without incurring damage. Therefore, the available borrow material is considered adequate for construction of the polishing pond.

Screening will be required to produce bedding material for the liner system, as discussed above. Screening or selective borrow sourcing may also be required during berm construction to ensure boulders and cobbles are not incorporated into the embankment material.

3.5 Quantities

Estimated construction quantities are summarized in Table 1. These values do not include the material requirements for baffle construction or the inflow and outflow structures.

TABLE 1
ESTIMATED CONSTRUCTION QUANTITIES

	Quantity
Granular Fill for Berm Construction (m^3)	5,500
Sand Bedding (m^3)	250
Enviro Liner (m^2)	1,500
Hypalon Liner (m^2)	1,500

4.0 CLOSURE

We trust this letter satisfies your present requirements. If you have any questions or require additional information, please contact our Edmonton office.

Yours truly,
EBA Engineering Consultants Ltd.

Gary Koop

Gary Koop, P.Eng.
Project Engineer, Circumpolar Regions
(Direct Line: (780) 451-2130, ext. 509)
(e-mail: gkoop@eba.ca)

Reviewed by:

REGISTERED PROFESSIONAL ENGINEER
D. C. CATHRO
LICENSEE
N.W.T.

for K.W. Jones, P.Eng.
Project Director, Circumpolar Regions
(Direct Line: (780) 451-2130 ext. 271)
(e-mail: kjones@eba.ca)

GDK:kdb

Encl.

cc: R. Hoos, EBA Vancouver
D. Hayley, EBA Kelowna

THE ASSOCIATION OF PROFESSIONAL ENGINEERS, GEOLOGISTS and GEOPHYSICISTS OF THE NORTHWEST TERRITORIES
PERMIT NUMBER
P 018
EBA ENGINEERING CONSULTANTS LTD.

CANADIAN ZINC
CORPORATION

March 25, 2005

EBA Engineering Consultants Limited
255, 1715 Dickson Avenue,
Kelowna, BC
V1Y 9G6

Attention: **Mr. Don Hayley**

Re: **Parameters for Preliminary Design**
Polishing Pond, Prairie Creek, NWT

Dear Sir:

EBA previously provided a mine water contingency plan in a letter dated May 10, 2004. In that plan, the intent was to construct a polishing pond at Prairie Creek with an approximate capacity of 1400 m^3 for the treatment of mine water. Canadian Zinc (CZN) subsequently completed a revised mine water contingency plan (MCP) dated November 19, 2004. In the latter plan, CZN incorporated some improvements to the proposed water management strategy. The key change was a decision that all mine water will be treated underground in the final sump on the 870 m level, near the existing portal. Effluent from the sump will be piped to the new polishing pond. This is considered a superior approach because treatment is conducted underground under cover from the elements, and final polishing to remove any suspended matter is accomplished in a separate pond. This letter is to give you parameters for the polishing pond based on the MCP so that you may complete a preliminary design.

CZN selected 6 L/sec (360 L/min or 0.006 m^3/sec) as the design flow from the 870 m level for water management planning, this being towards the high end of the range of historical measurements, but not at the extreme high end. Although the new 905 m decline will be driven into competent rock, to be conservative, CZN assumed that mine water produced from the new development will be similar in quantity and quality to water flowing from the existing 870 m level. This provides an assumed combined flow of 0.012 m^3/sec. In the unlikely event that this quantity is exceeded, there are contingency measures identified in the MCP to address the situation.

The Pilot Plant process water effluent discharge will be 36 m^3/day, or 0.0004 m^3/sec, for a limited 6-month period. Therefore, there would be a temporary, small increase of the combined flow to the treatment sump and polishing pond, 0.0124 m^3/sec, over this period. Over a 24-hour period, this equates to 1,071 m^3.

The treatment sump has dimensions 40 m by 3 m by 3 m, for a capacity of 360 m^3. At this point in time, the new decline will be started form the existing underground workings, and any inflows will eventually report to the 870 m level. The new decline will still have sumps as planned. The 905 m portal will be created at a later date. Until the decline is fully developed, the rate of water inflow is unlikely to approach the expected maximum. In addition, a pilot plant operation is not planned for 2005.

Inflows to the treatment sump will be subjected to pH adjustment to 9.5 by the metered addition of either lime of soda ash. The majority of metal carbonate precipitate is expected to settle in the bottom of the sump, although some may leave the sump with the effluent as suspended matter. The function of the polishing pond is to enable settling of this matter to ensure pond effluent meets the limits specified in the Water License. The polishing pond is to be built in the cleared area immediately south of the 870 m portal, between the portal and the Mill. Effluent from the pond will be directed into the existing Catchment Pond.

Please proceed with a preliminary design of the polishing pond using the above parameters. Thank you.

Yours truly,

"Alan B. Taylor"

CANADIAN ZINC CORPORATION
Alan B. Taylor
COO & VP Exploration

Suite 1202-700 West Pender Street
Vancouver, BC V6C 1G8
Tel: (604) 688-2001 Fax: (604) 688-2043
E-mail:alan@canadianzinc.com, Website: www.canadianzinc.com

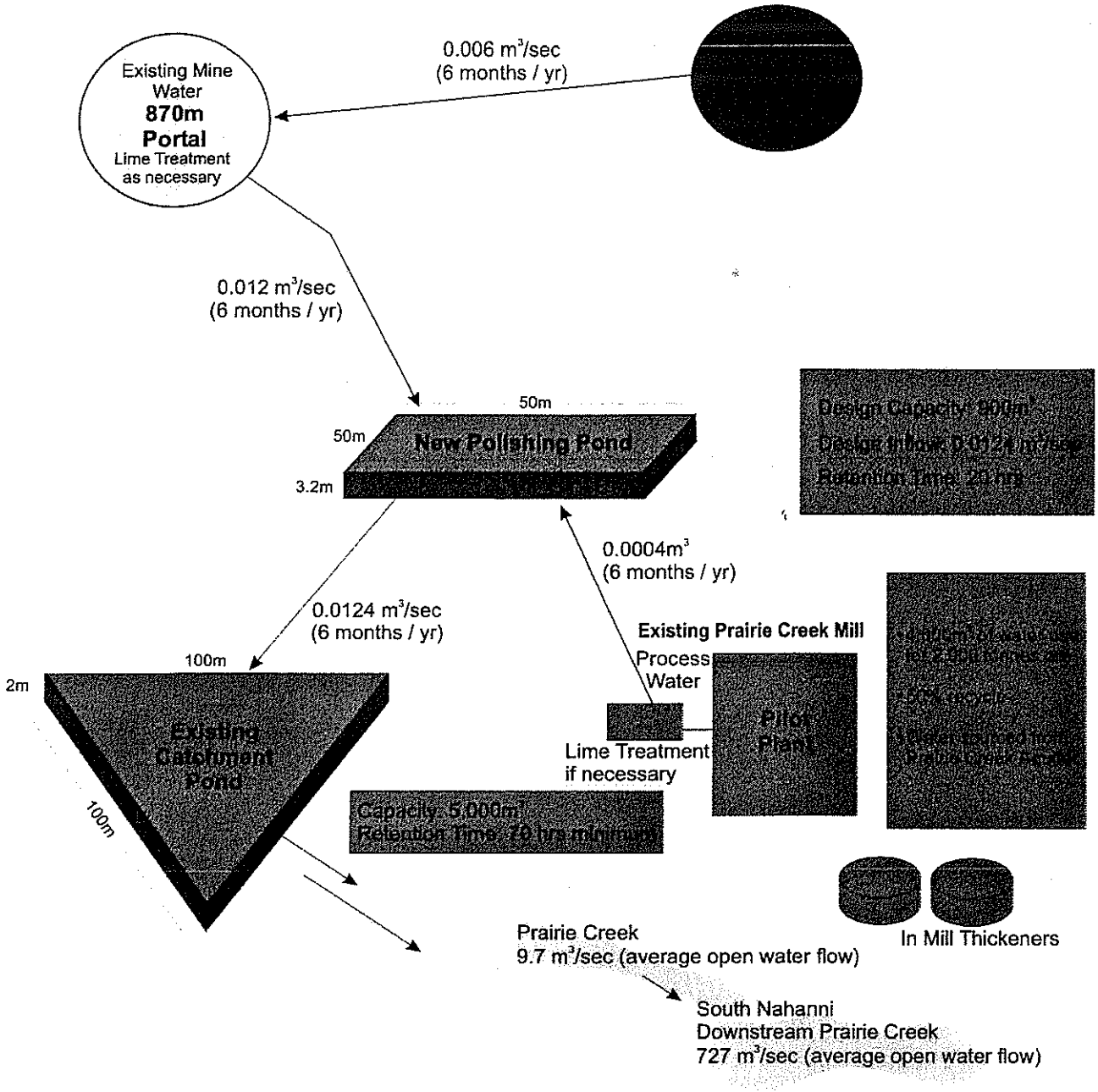
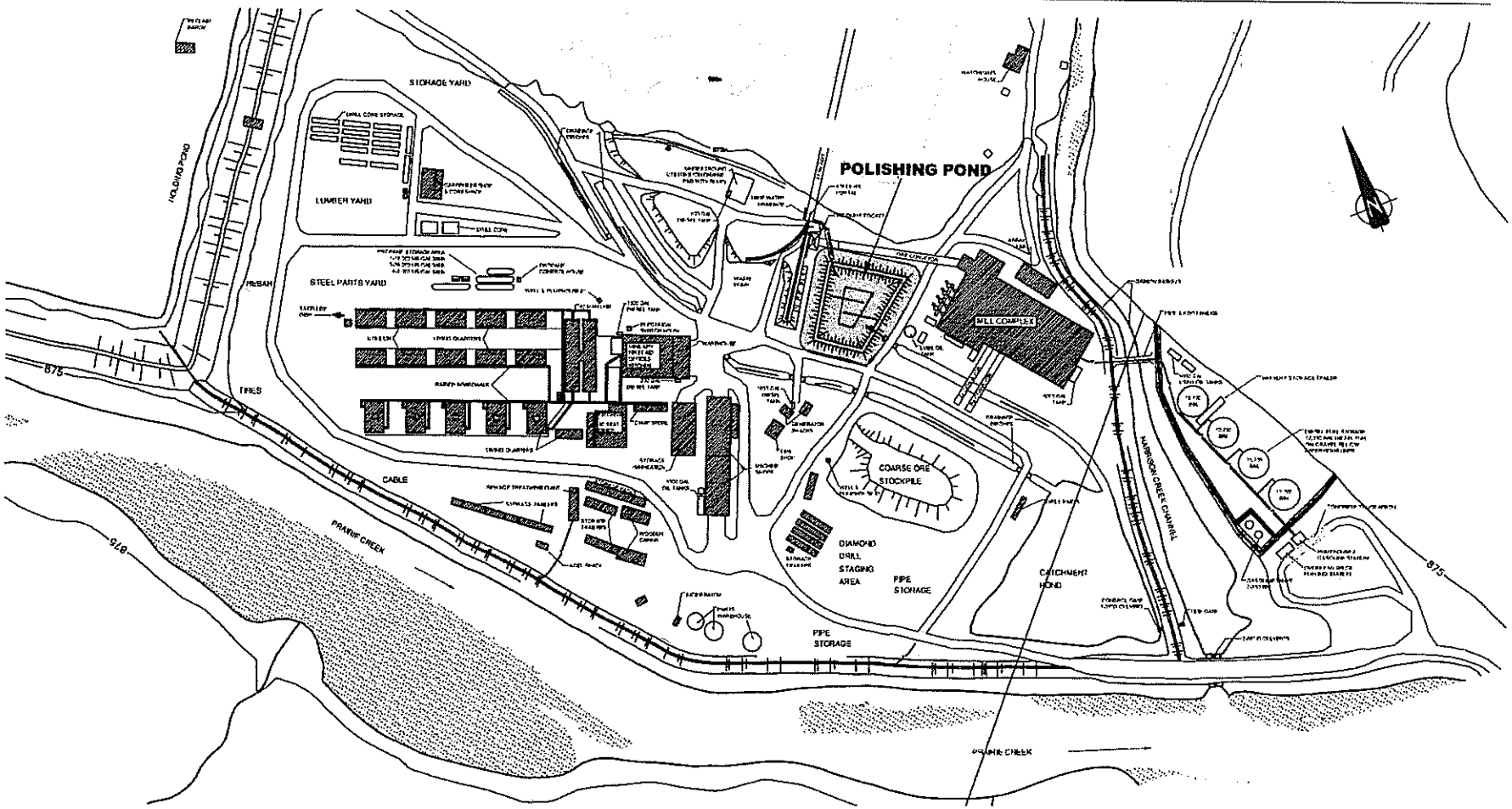


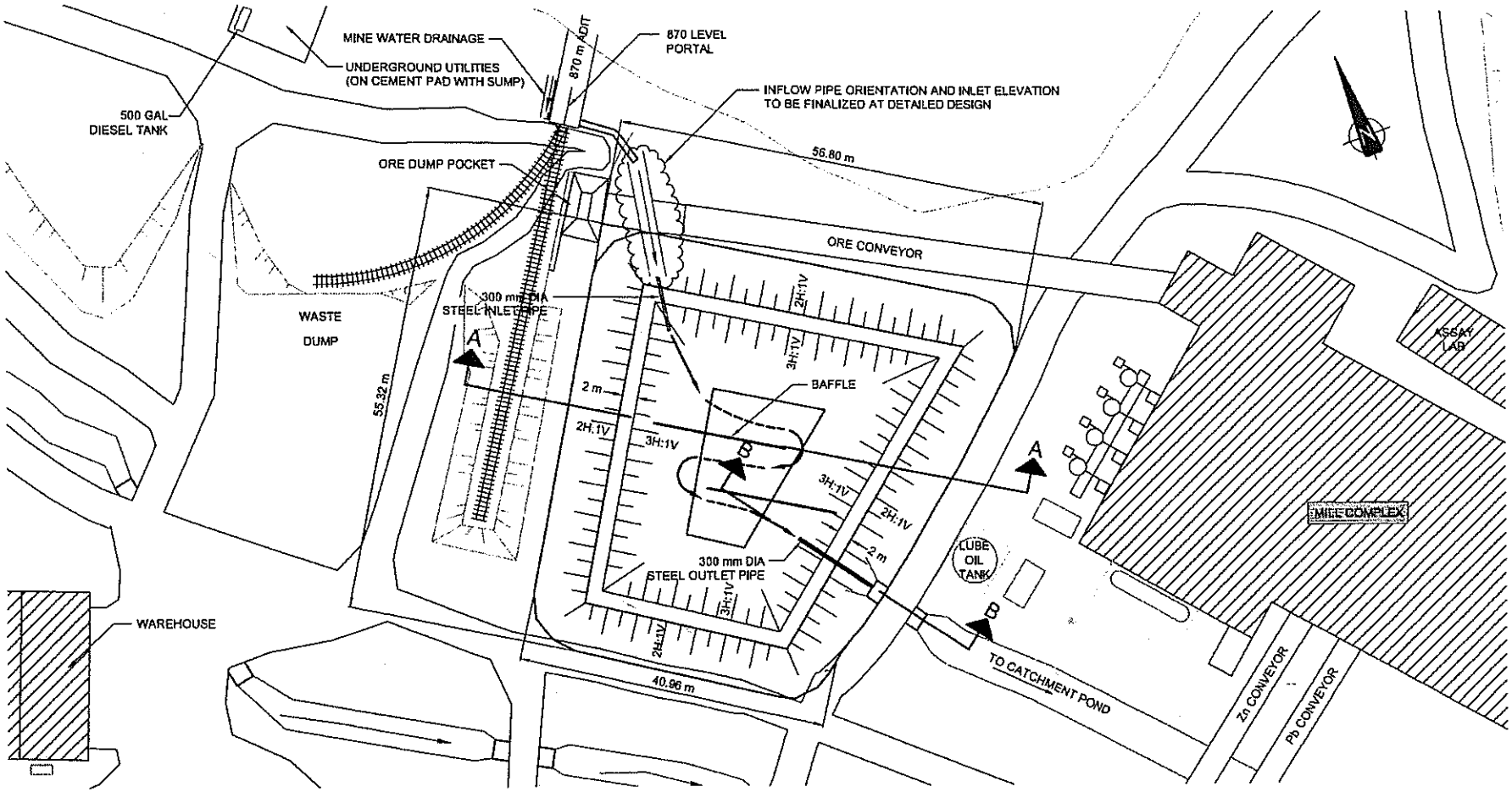
Figure 1
Polishing Pond
Water Balance
1740078d01c.cdr



REFERENCE:
BASE PLAN PROVIDED BY CANADIAN ZINC CORPORATION

0 100
metres

Figure 2
Site Plan
1740078R04A.dwg

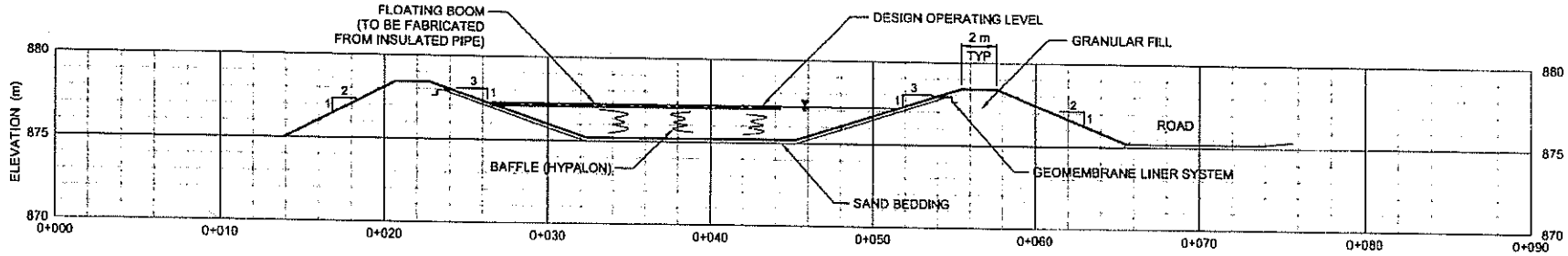


NOTES:

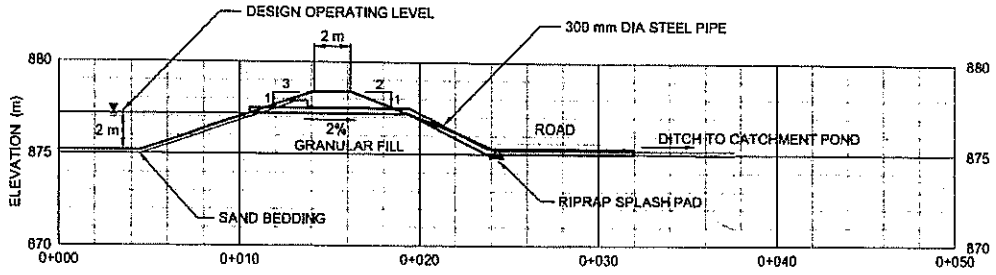
1. BASE PLAN PROVIDED BY CANADIAN ZINC CORPORATION. INFRASTUCTURE ELEVATIONS NOT INCLUDED ON BASE PLAN.
2. TOPOGRAPHIC SURVEY NOT COMPLETED AT DESIGN SITE. ORIGINAL GROUND TOPOGRAPHY ASSUMED.

0 25
metres

Figure 3
Pond Layout
1740078R05A.dwg



CROSS-SECTION A-A



CROSS-SECTION B-B

NOTES:

1. ORIGINAL GROUND TOPOGRAPHY AND ELEVATION ASSUMED.
2. ROAD AND CULVERT SHOWN FOR ILLUSTRATIVE PURPOSES ONLY. ELEVATIONS NOT INDICATED ON BASE DRAWING.
3. OUTLET EROSION PROTECTION REQUIREMENTS TO BE FINALIZED AT DETAILED DESIGN.

0 10
metres

Figure 4

Pond Cross-Sections

1740078R06A.dwg

eba

Parks Canada - Parcs Canada

Nahanni National Park Reserve of Canada
Parks Canada Agency
P.O. Box 348
Fort Simpson, NWT X0E 0N0

February 17, 2005

Ms. Sarah Baines
Regulatory Officer
Mackenzie Valley Land and Water Board
7th Floor – 4910 50th Avenue
P.O. Box 2130
Yellowknife, NWT X1A 2P6

Dear Ms. Baines:

RE: **Water Licence MV2001L2-0003**

As you requested in your letter dated January 6, 2005, Parks Canada environmental assessment staff have reviewed the revised report provided by the Canadian Zinc Corporation in relation to the above-noted authorization and LUP MV2001C0023 and offers the following comments:

Prairie Creek Mine Pilot Plant and Underground Decline Exploration and Development Projects - Abandonment and Restoration Plan

The *Prairie Creek Project Abandonment and Restoration Plan* has been submitted to the MVLWB to fulfill the requirements of Part G, Item 1 and Appendix 1 of Water Licence MV2001L2-0003, and condition 49 of the Land Use Permit MV2001C0023, which state:

> Part G, Item 1: The Licensee shall comply with "Appendix 1: Conditions Applying to Abandonment and Restoration".
>
> Appendix 1 lists the items to be addressed in the A&R Plan.
>
> Condition 49: The Permittee shall complete all clean-up and restoration of the lands used prior to the expiry date of this Permit outlined in the Abandonment and Restoration Plan as per Appendix 1, titled "Conditions Applying to Abandonment and Restoration'.

In general, the revised Abandonment and Restoration Plan (A&R Plan) continues to be inadequate. As stated in earlier comments dated May 6, 2004 from Parks Canada, in addition to deficiencies outlined in the specific comments, which follow, the A&R Plan fails to address many of the items listed in Appendix 1 to the water licence. Rather the company has taken the approach that these items may continue to be used and has not developed an abandonment and restoration plan for these items. Regardless of whether or not these facilities will continue to be used, the company should develop an abandonment and restoration plan to deal with all the facilities that will be used in this project, as set out in Appendix 1, 2 a)

to p). The A&R plan as presented provides no assurances that any repairs will be made for any damages to the land which could occur as a result of the project.

Furthermore, the company still does not discuss a phased approach nor an implementation schedule and realistic projections for restoration. The company proposes no progressive reclamation, other than general statements, for any of the activities that are related to the proposed developments. In order to provide effective environmental protection, the A&R Plan needs to provide specific details such as costs, schedules, financing, etc. The current A&R Plan does not provide any assurances that remediation will be undertaken to reverse any of the environmental effects associated with the activities directly related to the proposed developments. Lastly, a Waste Rock/Ore Pile Monitoring Plan is also required for this license (Part D, Clause 8); when this plan is approved a number of other required A&R issues will become apparent.

More specific comments follow:

3.0 Project Description

In the earlier A&R Plan (March 2004), a one-page discussion of inputs to the polishing pond was included. There was however a discrepancy between the figures in the water balance (Figure 7) and the actual capacity of the polishing pond. The company stated in the report that the inputs to the polishing pond include:

Excess process water: 36 m^3/day =	0.00042	m^3/sec
Mine water 870 decline:	0.006	m^3/sec
Mine water 905 decline:	0.007	m^3/sec
Total	0.0134	m^3/sec

Over a 24-hour period, this amounts to 1160 m^3.

The polishing pond only had a capacity of 1440 m^3, based on a freeboard of 0.5 metres (12 m x 60 m x 2 m). If the freeboard was to be actually 1 metre, the capacity of the polishing pond was further reduced to 1080 m^3. The inputs from the processing activities and the declines would exceed the capacity of the polishing pond in less than 24 hours. This calculation did not include any contributions from rainfall events or more significantly, from the spring freshet.

However, in the new A&R Plan (November 2004), this entire discussion has been deleted and portions of the information related to the polishing pond have been moved to other sections (4.1). Based upon the information provided, it is apparent that the polishing pond is too small – how will this be addressed?

Section 4.1 General Plan

When will the solid tailings Final Disposal Plan be prepared? This is also one of the requirements of Appendix 1, 2(l), which is to be implemented before the expiry of the licence. Parks Canada has raised concerns respecting the company's earlier proposal to dispose of the tailings generated by the Pilot Plant underground as paste backfill. Please refer to the comments made by Parks Canada in the earlier correspondence in relation to this disposal issue.

Par. 5: Canadian Zinc states that the facility (polishing pond) will continue to be used for the full-scale mine operations period. However, it is clear in Appendix 1 that the company must address the water treatment and waste disposal sites and facilities. The polishing pond was constructed for the decline development and pilot plant operation and the environmental assessment did not reference any future use of the facility. The A & R Plan should therefore include reclamation/decommissioning of the polishing pond, as required by Appendix 1 to both the Water License and Land Use Permit.

Section 4.2.2

1. Again, Canadian Zinc states that the new polishing pond and the existing catchment pond will continue to be used for the full-scale mine operations period. As stated previously, it is clear in Appendix 1 that the company must address the water treatment and waste disposal sites and facilities. In the MVEIRB Report of EA on the projects dated January 22, 2002, Canadian Zinc "agreed that A & R plans and considerations should be restricted to activities relating to the proposed developments" (section 6.11). Since it is clear that the activities in the proposed development require the use of both the polishing pond and the catchment pond in order to operate, the A&R Plan should therefore include reclamation/decommissioning of both the polishing pond and the catchment pond. This is clearly required by Appendix 1 to both the Water License and Land Use Permit.

2. Similarly, the use of the camp septic sump is required by the activities in the proposed development. The A&R Plan should address the septic sump.

3. The use of an approved landfill site does not appear to be present in any of the EA documentation. In fact, the Land Use Permit sets out in Clause 35 that all scrap material, etc. will be removed as specified in the accepted application. The proposal by the company to bury "on-site at an approved site" any bulky inert solid waste generated by the Pilot Plant operations does not meet the conditions of the Land Use Permit.

Section 4.2.3

1. As stated earlier, in the MVEIRB Report of EA on the projects dated January 22, 2002, Canadian Zinc "agreed that A & R plans and considerations should be restricted to activities relating to the proposed developments" (section 6.11). It is clear that the use of the petroleum storage area is required for this proposed development. As such, the A&R plan needs to address this, as set out in Appendix 1 of both the Land Use Permit and Water License. It is not appropriate to delay preparation of an A&R plan to a later date, if at all.
2. The chemical storage area is also identified in Appendix 1 of the Water License and Land Use Permit and needs to be decommissioned, with details set out in the A&R Plan. In addition, clause 9 of the Water License states: "The Licensee shall locate any bulk chemical storage in a secure manner ensuring no exposure of chemicals, reagents or battery coolants (glycols) to the elements. Areas of previous chemical storage shall be cleaned up to the satisfaction of an Inspector". Since the current chemical storage area is not secure (located in a flood plain), the chemicals will need to be moved to a more secure storage area and the existing site will need to be decommissioned and cleaned up. This should be addressed in detail in the A&R Plan. It is not appropriate to delay preparation of an A&R plan to a later date, if at all.

Section 4.2.5

1. The A&R Plan needs to reflect the Water Licence requirements for discharge to either Harrison Creek or Prairie Creek. Decanting from the catchment pond into Harrison Creek/Prairie Creek is not acceptable and is contrary to new licensing requirements.

Section 4.2.11

1. There are several deficiencies in the A&R Plan, which when addressed, will result in restoration costs. Since these deficiencies are all in relation to the proposed development, they need to be included in the A&R Plan, complete with cost estimates and projected timelines.

Section 4.2.12

1. The disposal of the tailings as a paste backfill could result in contamination of groundwater. An analysis of the karst and its hydrology needs to be undertaken before this activity is allowed to occur. As mentioned above, this disposal method would also require complex and costly monitoring for ground water quality. An alternative to this disposal method needs to be investigated.

Finally, Canadian Zinc clearly discusses their intent to start full production at some point in the near future. The tailings pond has not yet to our knowledge received geotechnical certification. In addition, we are not aware of technical certification, any other alternatives to a tailings pond, nor discussions regarding decommissioning of the existing tailings pond. This remains as an outstanding issue, which is not addressed in the A&R Plan.

If you have any questions with respect to these comments, please do not hesitate to call Suzanne Richards at (204) 984-5719.

Yours truly,

Chuck Blyth
Superintendent, Nahanni National Park Reserve

CPAWS
CANADIAN PARKS AND WILDERNESS SOCIETY
NWT CHAPTER, BOX 1934, YELLOWKNIFE, NT, X1A 2R2
p 867.873.9893 f 867.873.9593 e cpawsnwt@theedge.ca

February 18, 2004

Sarah Baines
Mackenzie Valley Land and Water Board
Box 2130
Yellowknife, NT, X1A 2P6
By fax: 873-6610

Re: Prairie Creek Revised Abandonment and Restoration Plan (MV2001L2-003 and MV2001C0023)

Dear Ms. Baines:

Please accept this letter as comments of the Northwest Territories Chapter of the Canadian Parks and Wilderness Society (CPAWS-NWT) on the revised Abandonment and Restoration (A&R) Plan listed above. As a follow up to the original letter sent May 7, 2004.

General

The revised A+R Plan maintains that no significant restoration costs are anticipated to be incurred associated with the license. Although the proponent included a break down costs and actions of the current security deposit that is held by the MVLWB ($100,000)[1], no timelines/schedule of action items were included in the A+R Plan.

Specific Comments

- SNP stations that will be monitored during the proposed care and maintenance phase should be listed and identified on a figure in the A&R Plan.
- Page 14: The type of inert solid wastes that cannot/will not be incinerated should be identified. The boneyard areas where bulky waste will be disposed of should be identified and denoted in Figure 2. Likewise the North Yard, South Yard, Cold Storage, S of site, waste rock and storage

[1] This security deposit was primarily based on DIAND's Water Resources August 25, 2003 submission.

pile areas as referenced in Appendices 2 and 3 should be included in a Figure.

- Page 10: Figure 2 should have a scale and a full legend denoting the different colors and buildings that will be used during the pilot plant and decline drill operations.
- Figure 7 in the draft A+R Plan (page 10) has been removed. The issues with this figure in the May 7, 2004 letter were that it was not clear and the units need to be consistent. Is the freeboard limit incorporated? How many hours per day will the plant be operating? Has this figure been reviewed and approved by a Professional Engineer? Is this consistent with the information provided during the environmental assessment for a worst-case scenario?
- Page 14: In section 4.2.3, the procedures to maintain the existing petroleum and chemical storage areas in the care and maintenance phase are not clear. How will they be inspected and maintained by the proponent? Are contingency funds available for inspections and maintenance? These areas should also be depicted in Figure 2.
- Page 15: In section 4.2.4, the proponent will be required to develop a Spill Contingency Plan or Contingency Plan. This section should reference that a Contingency Plan will be developed and implemented both during operations and in the care and maintenance phases.
- Page 17: Section 4.2.10 referenced Figure 2 the A&R Plan. As noted, the maps need to be improved and should include <u>all</u> facilities and areas that will be used (not necessarily "disturbed") during the pilot plant and decline drill operations which are described in the A&R Plan.
- Page 14: In section 3.2.11, the proponent notes, "no significant restoration costs are anticipated". The proponent needs to identify projected costs, timelines and actions. For example, section 3 does not include a sub-section on monitoring and general maintenance requirements in the proposed care and maintenance phase or progressive reclamation activities during the active period of the licenses.
- The MVLWB and Indian and Northern Affairs Canada should continue to maintain the security deposit, until the areas that are disturbed as part of these licenses are further permitted.

In conclusion, the Revised A&R Plan should be further amended prior to approval. If you have any questions about these comments, please do not hesitate to contact me at 867.873.9893.

Sincerely,

Jennifer Morin
Conservation Coordinator
CPAWS-NWT

Indian and Northern Affairs Canada
www.inac.gc.ca

Affaires indiennes et du Nord Canada
www.ainc.gc.ca

3rd Floor Bellanca Building
PO Box 1500
Yellowknife, NT
X1A 2R3

Your file - Votre référence

File: MV2001L2-0003
Our file - Notre référence

Canadian Zinc Corp.

February 18, 2004

To: Sarah Baines
Regulatory Officer
Mackenzie Valley Land and Water Board
7th Floor – 4910 50th Avenue
Yellowknife, NT X1A 2P6

Re: Canadian Zinc Corp. Prairie Creek Mine Revised Minewater Contingency Plan

Background

Canadian Zinc Corporation was issued a type "B" water licence to use water and dispose of waste for industrial undertakings in mining exploration and associated uses at the Prairie Creek Mine in the Northwest Territories. The effective date of the water licence was September 10, 2003, with an expiry date of September 9, 2008.

Part D, Section 12 of the water license requires submission of a Minewater Treatment Contingency Plan to the Board for approval, sixty days prior to commencement of pumping minewater from the decline. Canadian Zinc Corp submitted its initial Minewater Contingency Plan in May, 2004. Based on comments submitted to the Board, the Company submitted a revised plan in January, 2005.

The revised plan details the Company's proposed approach to managing minewater and pilot plant discharge in normal and abnormal operating conditions. Sufficient background on the project, the water sources, and the water management plan is provided to facilitate a thorough review of the Plan. The plan is generally sound and lists numerous feasible contingencies. A few comments and concerns are outlined below.

General
For both the water quality and excess water contingency plans, closing of the gate weir on the catchment pond is proposed. More detail about the ability of

the gate weir to prevent discharge should be provided. For example, if the polishing pond is at capacity or there is a sudden increase in minewater flow and the catchment pond reaches capacity (5,000 m^3), will closing the gate weir guarantee that no water flows from the catchment pond, or can water flow over the sides of the pond? What is the capacity of the pond with the gate weir closed?

2.2.2 Polishing Pond
The Plan indicates that chemical treatment could occur in the polishing pond. If this is a contingency then it should be listed in Section 4.0 (Contingency Plan – Water Quality). This would clarify when chemical treatment in the pond would occur, relative to the other contingencies.

2.2.3 Potential Contaminants and Water Treatment

Hydrocarbons
If hydrocarbons in the polishing pond exceed the license limit, what is the contingency plan?

Monitoring
Words appear to be missing at the bottom of page 13.

3.1 Contingency Plan: Excess Water - Normal Operating Conditions
The plan states that "in the event that water volumes are continuously greater than expected, pumps and water management facilities would be upgraded". How would this occur?

3.2 Contingency Plan: Excess Water - Abnormal Operating Conditions
Numerous tanks (e.g., concentrate and reagent stock tanks) will be used for additional storage, if necessary. Are these tanks currently clean or is there potential for water contamination from tank residues?

The plan indicates that approximately half of the capacity of one of the thickeners (which has a 270 m^3 capacity) will be half-full with tailings and process water. Assuming a 50/50 split between tailings and process water, this means that approximately 68 m^3 of tailings are expected in the thickener. How does this compare to the expected volume of tailings to be produced during the 6 months of pilot plant operation?

The Plan indicates that if there is a sudden unexpected in-rush of groundwater from underground, the water could be directed to the catchment pond directly, omitting the polishing pond. It should be noted that this would put the Company out of compliance with Part D, Section 4 of the water license.

4.0 Contingency Plan – Water Quality
The second bullet indicates that monitoring is the second contingency. Monitoring is not a contingency. The contingency being proposed is actually recirculation of minewater to upgradient sumps and shutting off the process water pumps from the mill. For clarity, this bullet should be reworded.

If you have any further questions or concerns please contact Patty Ewaschuk at (867) 669-2658 or EwaschukP@inac-ainc.gc.ca.

Sincerely,

Kathleen Racher
Manager
DIAND, Water Resources Division

Northern Division
Environmental Protection Branch
Prairie and Northern Region
#301 - 5204 - 50th Ave
Yellowknife, NT X1A 1E2
Ph, (867) 669-4735

March 11, 2005

Our File: 4780 006

Mackenzie Valley Land & Water Board
P.O. Box 2130
7th Floor - 4910 - 50 Ave.
Yellowknife, NT X1A 2P6

By email

Attention: Sarah Baines

Re: MV2001L2-0003 – Canadian Zinc Corp. - Prairie Creek Mine – Revised Minewater Contingency Plan

On behalf of Environment Canada (EC), I have reviewed the above plan and offer the following comments for your consideration. In general, the points of concern previously raised have been addressed in this revision.

The main outstanding concern lies with the proposed use of chlorine for the treatment of ammonia. This is unacceptable, as ammonia and chlorine combine to form inorganic chloramines, which are listed on the List of Toxic Substances in Schedule 1 of the Canadian Environmental Protection Act. (Further information is available at the following website: http://www.ec.gc.ca/substances/ese/eng/psap/final/chloramines.cfm). Inorganic chloramines consist of three chemicals that are formed when chlorine and ammonia are combined in water: mono-chloramine (NH_2Cl), dichloramine ($NHCl_2$) and trichloramine (NCl_3). There would almost certainly still be unacceptable amounts remaining after treatment with granular activated carbon (which may reduce concentrations by only an order of magnitude); the guideline recommended for the protection of aquatic life is 0.5 ug/L. Accordingly, EC does not feel this is a viable alternative or contingency for ammonia treatment.

Other comments are provided as follows:

- Treatment for metals removal will have to be controlled such that pH is not raised above 9.5 in final discharge.
- The use of ammonia detection strips should be validated for accuracy with concurrent lab analyses for a range of ammonia concentrations.
- Colorimetric zinc analysis should also be checked through lab analyses of samples over a range of zinc concentrations.
- The plan notes the option of recirculating drill water as a contingency – why wouldn't this be routinely done as a water conservation measure?
- Stability of the catchment pond will have to be established, to ensure that raising the water levels will not result in instability once banks and berms are saturated.

- Potential contaminants of concern should include suspended solids; these will be addressed by settling and possibly flocculation.
- Should the first word at the top of Page 14 be "decrease", rather than "development"?

Please do not hesitate to contact me at (867) 669-4735 with any questions or comments regarding the foregoing.

Yours truly,

Anne Wilson
Water Pollution Specialist

cc: Steve Harbicht (Head, Assessment & Monitoring, EPB)
Mike Fournier (Coordinator, A&M, EPB)

Indian and Northern Affairs Canada
www.inac.gc.ca

Affaires indiennes et du Nord Canada
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3rd Floor Bellanca Building
PO Box 1500
Yellowknife, NT
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Your file - Votre référence

File: MV2001L2-0003
Our file - Notre référence

Canadian Zinc Corp.

February 18, 2004

To: Sarah Baines
Regulatory Officer
Mackenzie Valley Land and Water Board
7th Floor – 4910 50th Avenue
Yellowknife, NT X1A 2P6

Re: Canadian Zinc Corp. Prairie Creek Revised Abandonment and Restoration Plan

Background

Canadian Zinc Corporation was issued a type "B" water licence to use water and dispose of waste for industrial undertakings in mining exploration and associated uses at the Prairie Creek Mine in the Northwest Territories. The effective date of the water licence was September 10, 2003, with an expiry date of September 9, 2008.

Appendix 1 of this water licence states that Canadian Zinc Corp. must submit to the Board for approval an Abandonment and Restoration Plan (A&R Plan) within six months of the issuance of the license. Canadian Zinc Corp submitted its initial A&R Plan in March, 2004. Based on comments submitted to the Board, the Company submitted a revised plan in January, 2005.

INAC's comments on the Company's original A&R plan primarily addressed the Company's failure to meet Part G of the water license. Specifically, the Company's original plan did not sufficiently address numerous mine components and environmental issues listed in Appendix 1 of the water license. For example, Canadian Zinc Corp did not include reclamation plans for the water intake facilities, the polishing pond, the catchment pond, etc.

In the revised A&R plan, the Company did not incorporate most of INAC's comments related to these omissions, arguing that "the Company is not required under the license or permit to complete the abandonment or restoration of any of the infrastructure or facilities currently on-site and intended for future use".

While this statement may be true as it relates to securities, it is not applicable to the A&R plan. There is nothing in the license that excludes the Company from preparing a more comprehensive A&R plan. In fact, Appendix 1 of the license specifically requires that the A&R plan address 16 different items, which include various mine components associated with the licensed undertakings (e.g., water intake facilities, water treatment and waste disposal sites, waste rock and ore storage areas, etc.). Our recommendations for improving the revised A&R Plan (hereafter referred to as the Plan) are detailed below.

General
Inclusion of Figure 3 from the Revised Minewater Contingency Plan would improve readability of the A&R Plan.

For each mine component, the Company should identify reclamation objectives. This is standard industry practice (see INAC's *Mine Reclamation in Northwest Territories and Yukon*, 1992 for more information).

3.2 Underground Decline Project
The Plan states that broken rock will be stockpiled either adjacent to the existing ore stockpile, in the storage yard, or along the toe of the tailings impoundment dam. The factors that influence the Company's choice of storage location(s) for this rock should be described.

3.3 Water Management
This section indicates that the polishing pond will be lined either with clay or a synthetic liner, and that clay is available locally. Is the available clay present on-site not, and if not, will a new road be required to access the clay source. Is a borrow pit or borrow pit access road approved? Reclamation plans for either a borrow pit or an access road must be included in the Plan, if a clay liner is to be used.

The Plan indicates that the design for the polishing pond is based on a worst-case combined flow of 0.2 m3/s. According to the Minewater Contingency Plan, the flow is 0.02 m3/s not 0.2 m3/s.

4.1 General Plan
The Company states that access to the decline will be restricted by the erection of a temporary barricade. Details regarding the barricade should be provided.

More importantly, plans for permanent closure of the portals should be included, should the mine be abandoned. At a minimum, closure plans for the 905 m and 807 m portals should be included, since these are both associated with the current undertakings (i.e., the sump 870 m portal will be used for treatment of decline water from the newly constructed 905 m sump).

The Plan states that minewater from the 905 m and 870 m portals will be directed to the final sump on the 870 m level for "seasonal treatment". The company should elaborate on the meaning of seasonal treatment.

The Plan states that portal drainage will go to the polishing pond until the drainage is suitable for direct discharge to the environment. What type of long-term monitoring will occur post-closure?

How will zinc and other metals in the 870 m portal discharge be treated in the long-term?

4.2.1 Water Intake Facilities
The Plan does not address abandonment and restoration of the water intake facilities, as required by Appendix 1 (2a) of the water license. The water intake facilities are clearly associated with the licensed undertakings since fresh water from the well will be used at the pilot plant.

Section 4.2.2 Water Treatment and Waste Disposal Sites and Facilities
Plans for the eventual reclamation of the main camp septic sump, the polishing pond, and the catchment pond should be included. All of these features are associated with the licensed undertakings.

The Plan states that if there is significant sediment accumulation in the polishing or catchment ponds, the sediment will be removed. Where will the sediment be disposed?

The Plan should name the types of inert solid wastes that cannot be incinerated.

The landfill site at the Prairie Creek Mine has not been approved to date. Canadian Zinc Corp. must include alternative options for the disposal of solid wastes. If the landfill does become approved, and is to be used, the reclamation plan for the landfill should be described.

4.2.3 Petroleum and Chemical Storage Areas
The Plan does not address abandonment and restoration of the petroleum and chemical storage areas, as required by Appendix 1 (2c) of the water license. The petroleum and chemical storage areas are clearly associated with the licensed undertakings since both areas will be used during operation of the pilot plant.

4.2.4 Waste Spill Sites
A biocell for treatment of contaminated soil is mentioned. The Plan should include details about the location and design of the biocell, and reclamation plans for closing the biocell.

The Company should identify how they will be remediating waste spills to meet the existing GNWT and CCME standards. They should also identify areas of potential concern for waste spill contamination.

4.2.6 Restoration of natural drainage/stream banks
Details regarding the impacts and restoration of the stripped area (500 m^2, per the EAR) around the new portal should be provided.

4.2.7 Potential Groundwater Contamination
The Plan should address how the Company will monitor whether there is seepage from the polishing pond, the catchment pond, ore and waste rock storage areas, or any other features at the site. If groundwater contamination occurs, how will it be remediated?

4.2.9 Phased Approach and Implementation Schedule
Once the company incorporates reclamation plans for all of the items in Appendix 1 of the license, a phased approach and implementation schedule can be developed, as required by Appendix 1 (2i).

4.2.11 Restoration Costs
The mine restoration cost data should be expanded to include those elements recommended in these comments (e.g., reclamation of water intake facilities, chemical and petroleum storage areas, etc.).

4.2.12 Solid Tailings Final Disposal Plan
The Company did not submit a Solids Tailings Final Disposal Plan, which is required by the license as a component of the A&R plan. While the final details of the disposal plan may not be known until further testing of the pilot plant tailings, the Company should provide as much detail as possible on the various options for final disposal of the tailings.

4.2.13 ARD Potential and Leachability of Tailings, Waste Rock and Ore Piles, and Waste Rock and Ore Storage Areas
The Plan states that rock classified as PAG will be stored near the existing ore pile pending development of a final disposal plan. A final disposal plan should be included in the A&R Plan.

Also, the Company should describe how ore will be managed in the event that the mine is abandoned with ore remaining.

4.2.14 Lands Affected
The Plan should address the land surrounding the 905 m portal that will be stripped (approx. 500 m2, per the EAR).

The Plan should address the airstrip since it will be used during operation of the licensed undertakings.

Overall, the revised A&R plan failed to adequately address most of items listed in Appendix 1 of the water license. Canadian Zinc Corp. has assumed that future mine production will occur, and has not addressed the potential non-production scenario that could arise in the future. Reclamation activities must be presented for both scenarios, in detail.

If you have any further questions or concerns please contact Patty Ewaschuk at (867) 669-2658 or EwaschukP@inac-ainc.gc.ca.

Sincerely,

Kathleen Racher
Manager
DIAND, Water Resources Division

Fisheries and Oceans Canada
Pêches et Océans Canada

Fish Habitat Management
Suite 101, 5204-50th Avenue
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Gestion de l'Habitat du Poisson
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Your file / Votre référence
MV2001L2-0003
MV2001C0023
Our file / Notre référence
SC00188

March 21, 2005

Mackenzie Valley Land & Water Board
File MV2001L2-0003
MAR 2 1 2005
Application # MV2001C0023
Copied To SB

Sarah Baines, Regulatory Officer
Mackenzie Valley Land and Water Board
Box 2130
7th Floor - 4910 50th Avenue
Yellowknife, NT X1A 2P6

Dear Ms. Baines:

Re: Review of the Revised Abandonment and Restoration Plan, Prairie Creek Mine as required under Water Licence MC2001L2-0003 and Land Use Permit MV2001C0023

As requested in your correspondence dated January 6, 2005, on behalf of the Department of Fisheries and Oceans, Fish Habitat Management – Western Arctic Area (DFO) I have reviewed the Revised Abandonment and Restoration Plan required for the exploratory mining and pilot plant milling operations at the Prairie Creek Mine.

I, therefore respectfully submit for Mackenzie Valley Land and Water Board consideration the following comments regarding the above plan:

I note that it is the developer's opinion that it is not required to complete the abandonment or restoration of any of the infrastructure or facilities currently on site and intended for future use. Consequently, the above plan reads more like a project description and can not be described as an Abandonment and Restoration Plan. The only planned restoration is transport out of the Pilot Plant and any excess reagents, incineration of camp refuse, and on-site burial of other inert solid wastes.

An Abandonment and Restoration Plan should contain details on how portions of the property impacted by the development will be restored in the event a developer becomes insolvent or decides not to exploit the resource (i.e. not go to full production). Since the developer can not guarantee that any of the current / proposed infrastructure or facilities on site will be used in the future, it is DFO's opinion that **Canadian Zinc (CZN) should be required to develop plans for the complete restoration of any infrastructure or facilities used to facilitate the licensed undertakings.** The plan should include, but not be limited to, details regarding the abandonment and reclamation of all lands impacted by: (a) water intake facilities; (b) water treatment/management and waste disposal sites and facilities, including the new Polishing Pond; (c) petroleum and chemical storage areas and facilities; and (d) the waste rock and ore storage areas. The above is consistent with the requirements of the Water Licence and Land Use Permit (Appendix 1), and the correspondence from the MVLWB to CZN dated June 30, 2004.

Canada

I offer the following specific comments regarding the above plan:

- While the disposal of inert waste at the toe of valley slopes adjacent to Prairie Creek is practical, the disposal of any waste in the Prairie Creek floodplain will likely not be acceptable. Alternatives should be identified and detailed in the revised plan.

- A contaminated waste and soil disposal plan must be developed.

- The use of the main camp septic sump constructed in floodplain sands and gravels will not be adequate if full production occurs in the future. Plans should therefore be developed to completely abandon and restore the camp septic sump facility upon expiry of the licence.

- As required by the water license, maps delineating all disturbed areas, borrow material locations and site facilities should be developed. This should include the proposed source of the clay which may be used as liner for the new polishing pond.

- In the absence of Solid Tailings Final Disposal Plan, the plan should specify and detail that all tailings will be removed from site and disposed of in an appropriate manner.

I appreciate the opportunity to provide comments on the above material. Please note this letter does not constitute authorization of these undertakings pursuant to the *Fisheries Act*. If you have any questions or wish to discuss any of the foregoing in more detail I can be contacted at (867) 669-4927.

Sincerely,

Ernest Watson
Area Habitat Biologist
Fish Habitat Management
Department of Fisheries and Oceans - Western Arctic Area

cc: J. Dahl, Fisheries and Oceans Canada
R. Allen, Fisheries and Oceans Canada
L. Dow, Fisheries and Oceans Canada
B. Wooley, Mackenzie Valley Land and Water Board
A. Wilson, Environment Canada
K. Schlosser, Parks Canada
C. Blyth, Parks Canada
P. Spencer, Indian and Northern Affairs Canada
L. Seale, Indian and Northern Affairs Canada
C. Roche, Government of the Northwest Territories
P. Cobban, Government of the Northwest Territories

Pearl Liske

From: Sarah Baines [sbaines@mvlwb.com]
Sent: Monday, February 21, 2005 8:23 AM
To: mvlwbpermit@mvlwb.com
Cc: 'Laura Pitkanen'
Subject: FW: CZN comments

Thank you, Laura.

For file MV2001L2-0003, MV2001C0023, CZN

-----Original Message-----
From: Laura Pitkanen [mailto:pitkanen@csolve.net]
Sent: Monday, February 21, 2005 7:06 AM
To: Sarah Baines
Subject: CZN comments

Hi Sarah,
Please find attached the Dehcho First Nations comments on recent plans submitted by CZN.

thanks,

Laura Pitkanen
Phone: 705-756-3801
Fax: 705-756-4466

DEH CHO FIRST NATIONS

BOX 89, FORT SIMPSON, N.W.T. X0E 0N0
TEL: (867) 695-2355 FAX: (867) 695-2038

February 18, 2005

Sarah Baines
Regulatory Officer
Mackenzie Valley Land and Water Board
4910-50th Avenue
Yellowknife, NT
X1A 2P6
Tel: (867) 669-0506
Fax: (867) 873-6610

Re: MV2001L2-0003
Abandonment and Restoration Plan and Revised Minewater Contingency Plan

Please accept the following comments from the Dehcho First Nations regarding the above Reports, file MV2001L2-0003.

Abandonment and Restoration Plan

The Board has requested that CZN "fully describe how the company plans to undertake complete restoration of the entire Prairie Creek Mine site, including the infrastructure and facilities that may be required for future proposed activities....also to include the timing of the reclamation activities and a description of any progressive reclamation..." This request is supported by the Terms and Conditions in water license MV2001L2-0003 and land use permit MV20010023 which require that the Abandonment and Restoration Plan receive Board approval. Despite the above stipulations, CZN has noted in the document titled 'Abandonment and Restoration Plan" that:

"this A and R Plan is focused on the specific facilities and infrastructure associated with...the Pilot Plant...and the new portal at the 905 level." (4)

"The License and Permit do not require either the reclamation of the entire mine site in its present condition, or the reclamation of the entire mine site plus any new infrastructure associated with the licensed undertakings...the Company is not required under the License or Permit to complete the abandonment or restoration of any of the infrastructure or facilities currently on site and intended for future use." (4)

"Consequently, a traditional standard Abandonment and Restoration Plan is not appropriate for these particular circumstances." (4)

"This Abandonment and Restoration Plan is restricted to the limited activities relating to the proposed developments." (4)

"This Plan addresses only Pilot Plant testing and new portal development..." (4)

In the above statements, CZN is not only omitting the rest of the Prairie Creek mine site from the Plan, but also omitting numerous infrastructure, facilities and equipment that are components of this development. For example, as noted by the Review Board in the Environmental Assessment, the tank farm facility, reagents and storage, tank farm facility, polishing pond, tailings pond, 870 portal, and all associated workings are part of the project scope.

The DFN continue to be concerned by the lack of information that is provided by CZN in Reports to the Board. We strongly urge the Board to uphold their repeated request that CZN provide a detailed Abandonment and Restoration Plan that takes into account the entire Prairie Creek mine site and all infrastructure that may be used in future operations. The approval of an Abandonment and Restoration Plan that does not consider the entire mine site negates the very purpose of such Plans.

The DFN also have concerns regarding the recently submitted Report: 2004 Progress Report of the Prairie Creek Mine, Environmental Risk Mitigation Program. Under the section titled Water Management, CZN states:

*"The underground workings were completely rehabilitated in preparation for further underground development, and in the process, water management structures were improved. Specifically, the 870 m level portal was rehabilitated, with the direct routing of mine water runoff into a specific area where a proposed polishing pond will be established. Waters emanating from this level are **now** directed over to a recently cleared staging area by culverts and pipes where it is proposed to build a polishing pond." (5).*

A picture of the future site of the polishing pond, with associated caption that reads *"waters emanating from the underground are directed into this area of the proposed pond"* (14) further confirms recent activities.

The Dehcho First Nations request written clarification from the Board on the above activities. Specifically, we are concerned that there are inconsistencies with the above, already completed, activities and the Terms and Conditions of water license MV2001L2-0003. The current license clearly states:

Part D: #4: "All water from the 870 metre portal shall be discharged to the Polishing Pond or to the Pilot Plant."

Part D, #7: The Licensee shall submit to the Board for approval a geotechnical assessment ...certifying the integrity and capacity of the Polishing Pond and related water treatment facilities before they may be used in conjunction with the licensed undertakings."

The DFN find it disconcerting that untreated water from the 870 m portal is currently being directed to the general area of the proposed polishing pond, and not to an approved, engineered, and impervious facility that is designed to contain mine water. This area, as stated, is the site of a polishing pond that is not built yet. To our knowledge, CZN has not provided the Board with a geotechnical certification of the site of the proposed polishing pond, nor has CZN built the pond, and had it certified. In the absence of these requirements, we request that the Board please explain where CZN's recently completed activities are allowed under water license MV2001-L2-0003, or under any other license, permit, or lease held by CZN.

Re: Minewater Contingency Plan

As the Board is aware, the Dehcho First Nations have serious concerns with the current water license MV2001L20003, as issued by the Board. These issues include water treatment contingencies. As the Dehcho First Nations concerns are being addressed outside the Board's regulatory process, we are not submitting comments on the current Minewater Treatment Contingency Plan recently provided by CZN.

Laura Pitkanen
Dehcho First Nations

Parks Canada – Parcs Canada

Nahanni National Park Reserve
Parks Canada Agency
P.O. Box 348
Fort Simpson, NWT X0E 0N0

February 17, 2005

Sarah Baines
Regulatory Officer
Mackenzie Valley Land and Water Board
7th Floor – 4910 50th Avenue
P.O. Box 2130
Yellowknife, NT X1A 2P6

Dear Ms. Baines

RE: Water Licence MV2001L2-0003 Canadian Zinc Corporation Application

Attached are comments from Parks Canada environmental assessment staff in relation to the report that you provided to Parks Canada for review in a letter dated January 4, 2005:

Minewater Treatment Contingency Plan – Requirement of Part D, Section 12 of Water Licence MV2001L2-0003

On September 14, 2004, the MVLWB submitted a letter to Canadian Zinc Corporation stating the reviewers of the first draft of the minewater contingency plan requested further information. The MVLWB summarized the reviewers' comments into five questions, which CZN was to address in their next draft of the plan. Not all of these questions have been addressed adequately.

1) *How will CZN prevent discharges to the receiving environment of minewater that does not meet Water Licence effluent quality criteria if minewater volumes exceed the combined storage capacity of the polishing pond and mill storage tanks? and*
2) *How will CZN respond if minewater discharged from the polishing pond does not meet effluent quality criteria?*

CZN responds to these questions by stating that the water will be allowed to flow into the catchment pond which is equipped with a gate weir that can prevent discharge completely. How often is the polishing pond discharge to be sampled, how much water can potentially be discharged into Harrison Creek before the gate weir is raised, and for how long can the gate be raised before overflowing begins? What are the alternatives to this, i.e. can a gate weir be placed at the polishing pond point of discharge?

3) *Environment Canada has identified ammonia as a possible concern. How does CZN propose to treat minewater for ammonia if levels exceed Water Licence levels?*

CZN states (page 11) they will seek to avoid elevated ammonia concentrations by "ensuring the proper handling and housekeeping with respect to explosive use underground." What are the proper handling and housekeeping techniques to be used specifically? CZN also mentions that a sump near the site of blasting will be monitored for ammonia. How frequently will this sump be sampled and for how long after the blasting period?

4) *CZN mentions that appropriate monitoring will be done. Where are the sample locations, what parameters will be measured at each location, and what will be the sampling frequency for each location?*

Although the statutory requirements are referenced, there are no details relating to the Surveillance Network Program describing the locations, parameters to be analyzed, frequency of the analysis, and the regulatory requirement for each parameter. One comment that refers to site-specific sampling, on page 10, states: "The quality of the minewater from the new 905m sump (SNP Station No. 3-2...) as well as minewater on the 870m level... (SNP Station No. 3-7), will be monitored at least monthly as required." These two stations, according the SNP outlined in Water Licence MV2001L2-003 must be sampled at least weekly.

In addition, Parks Canada recommends CZN incorporate all flow estimates recorded for the 870m portal discharge. Based on the July 2002 DIAND report (Historical Water Quality of the Prairie Creek Project Area), the design flow for water management planning should be 1.0 m^3/min (16.7 L/sec) in order to incorporate any worst case scenario into the minewater contingency plan.

The polishing pond dimensions, therefore, should be increased in size to account for a worst case scenario volume capacity. Even using the flow rates the company put forth as inputs to the polishing pond, there is discrepancy between the figures in the water balance (Figure 3) and the actual capacity of the polishing pond:

Excess process water: 36 m^3/day =	0.00042 m^3/sec
Mine water 870 decline:	0.006 m^3/sec
Mine water 905 decline:	0.007 m^3/sec
Total	0.0134 m^3/sec

Over a 24-hour period, this amounts to 1160 m^3.

The polishing pond only has a capacity of 1440 m^3, based on a freeboard of 0.5 metres (12 m x 60 m x 2 m). If the freeboard was to be actually 1 metre, the capacity of the polishing pond was further reduced to 1080 m^3. The inputs from the processing activities and the declines would exceed the capacity of the polishing pond in less than 24 hours. This calculation did not include any contributions from rainfall events or more significantly, from the spring freshet.

CZN states that there is sufficient area available to enlarge the pond if necessary to accommodate a larger flow. How can the pond be enlarged and properly lined after the fact if it is already filled with water? It seems it would be more appropriate if the pond was built to the appropriate size initially.

If you have any questions with respect to these comments, please do not hesitate to call Suzanne Richards at (204) 984-5719.

Yours truly,

Chuck Blyth
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