PRAIRIE CREEK MINE

PROJECT DESCRIPTION

CANADIAN ZINC CORPORATION
CANADIAN ZINC CORPORATION

President and CEO – John Kearney
Here today:
COO and VP Exploration – Alan Taylor
VP Environment and Permitting – Dave Harpley
Manager of Northern Development – Wilbert Antoine

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http://www.canadianzinc.com
The Prairie Creek Mine
Prairie Creek History

- Original discovery in 1928
- Discovery of Main Zone in 1960’s and establishment of camp
- Underground development of main zone 1960’-70’s.
- Cadillac Exploration 1979-1982, minesite infrastructure setup, road to Liard established, fully permitted
- April 1982, silver price collapse, Cadillac bankrupt 3 months from production
- 1993 San Andreas acquires Prairie Creek
- 1999 San Andreas name change to Canadian Zinc
- 2000-2007 CZN exploration and development programs
Prior/Existing Permits

- Mine and Winter Road Land Use Permits, 1980
- Mine Water License, 1982
- Land Use Permit and Water License for Underground Decline and Pilot Mill Plant, 2003 (Water License renewed for 5 years)
- Winter Road Land Use Permit, 2007
- Phase 3 Exploration Land Use Permit, 2006
Mill and Catchment Pond
Camp
Main Dike
Tank Farm
Adit and Polishing Pond
Magazines and Reagent Pad
PRAIRIE CREEK – LIARD HIGHWAY WINTER ROAD

WINTER ROAD LAND USE PERMIT RECEIVED 2007
Previous EA’s

- Six environmental assessments 2001 - 2006
- Underground Decline & Pilot Plant, 2003
  - Mine Water Contingency Plan
  - Effluent Treatment Options Plan
  - Polishing Pond
  - Tank Farm inspections
  - Maximum Flood Re-Assessment
  - Wildlife Management Plan
  - Fuel Spill Contingency Plan
- Phase 3 Drilling, 2006
  - Wildlife survey
  - Flight Impact Management Plan
ENIRONMENTAL MONITORING
Training in Partnership with NWT MINE TRAINING SOCIETY
Monitoring Services Provided by NOGHA ENTERPRISES

CYANIDE REPACK

Prairie Creek Employment - Summer 2007
Total people employed at mine - 47
First Nations employment - 22 (47%)
Dehcho-based employment - 19 (40%)

Nahanni Butte - 7
Fort Liard - 6
Fort Simpson - 5
Jean Marie River - 1

Local Expenditure Since 2004
Direct First Nation Payroll $493,437
Direct First Nation Service Co. $1,201,109
Education & Training $36,105
TOTAL $1,730,751

Catering and Camp Services provided by:
ACHO CAMPS AND CATERING, Fort Liard
**MEMORANDUM OF UNDERSTANDING WITH PARKS CANADA**

**Signed July 31, 2008**

* Parks Canada and Canadian Zinc agree to work collaboratively, within their respective areas of responsibility, authority and jurisdiction, to achieve their respective goals of an expanded Nahanni National Park Reserve and an operating Prairie Creek Mine.

* Parks Canada recognizes and respects the right of Canadian Zinc to develop the Prairie Creek Mine and will manage the expansion of Nahanni National Park Reserve so that the expansion does not in its own right negatively affect development of, or reasonable access to and from, the Prairie Creek Mine.
PRAIRIE CREEK MINE
PROJECT DESCRIPTION REPORT

SUBMITTED IN SUPPORT OF:
Type “A” Water Licence Application
Type “A” Land Use Permit Application

SUBMITTED TO:
Mackenzie Valley Land and Water Board
Box 2130, 4910 - 50th Avenue,
Yellowknife, NT, X1A 2P6

SUBMITTED BY:
Canadian Zinc Corporation
Suite 1710 - 650 West Georgia Street
Vancouver, BC, V6B 4N9

May, 2008
Letters of Support

- LKFN
- ADKFN
- MLA Menicoche
Precedent

- 2005, Supreme Court rules CZN’s application for winter road permit exempt from EA (grandfathered)

- CZN could apply for Cadillac’s mine project and go directly to permitting, avoiding EA

- CZN chooses to include modern waste and water management plans
CZN’s View

- Based on law, EIA guidelines and majority community view, EA should:
  - focus on new plans and water quality
  - be efficient in time and content
  - not re-assess contents of previous EA’s and permits
Geological Resource

- Total resource = 11.85 million tonnes:
  12.5% Zn; 10.1% Pb; 161 g/t Ag; 0.4% Cu

- Measured and Indicated = 3.57 million tonnes:
  11.9% Zn; 9.7% Pb; 142 g/t Ag; 0.3% Cu

- >60 million ounces silver
- >3 billion lbs of zinc
- >2.2 billion lbs of lead
LONG SECTION OF PRAIRIE CREEK MAIN ZONE
Facing West

- **Vein Resource**
- **Stratabound Resource**

**Prairie Creek Minesite**

**Existing Underground Workings**

**Surface Profile**

**XC-7 Sampling (New Crosscut in 2006)**
6.5m @ 38% Pb+Zn, 413 g/t Ag

**Drill Hole 04-159:**
8.2m @ 50% Pb+Zn, 376 g/t Ag

**Drill Hole 92-19:**
7.2m @ 45% Pb+Zn, 349 g/t Ag

**U/G Drill Hole U-07-22:**
7.9m @ 34% Pb+Zn, 282 g/t Ag

**Northernmost Drill Hole (95-125):**
6.3m @ 28% Pb+Zn, 239 g/t Ag

**Open at Depth**

**Open to North Along Strike**

**Area of 2006/07 U/G Drill Program**

**Strike Length: 2.1 km**

**North**
Baseline Study Update

- Climate
- Hydrology
- Water Quality
- Fish
- Wildlife
OPERATIONS OVERVIEW

- Up to 1,300 tonnes/day mining
- Up to 1,000 tonnes/day milling
- Crushing/grinding/flotation process, addition of dense media separation and backfill plants
- Production of zinc and lead concentrates, transport by truck to railhead via winter road
- Mill rock and tailings placed underground
- Creation of a Waste Rock Pile
- Conversion of original tailings pond to Water Storage Pond to allow recycle
Vein Mineralization

5.9% Pb, 39.4% Zn, 176.8 gpt Ag/1.9 m

UNDERGROUND 930 LEVEL: X-CUT 09
METALLURGICAL FLOWSHEET

COARSE ORE

Primary Crushing

Dense Media Separation

Minus 14 Mesh + Sinks

Float (Mill Rock)

Surge Bin

Grinding

Lead Sulphide Flotation

Zinc Sulphide Flotation

Deslime

Slimes

Lead Carbonate Flotation

Final Flotation Tailings

Thickening and Filtration

PbS Concentrate

ZnS Concentrate

PbOx Concentrate

Zinc Concentrate Bag

Lead Concentrate Bag

Blend

Blend

TRUCK TO RAILHEAD

Basefill Preparation

Add Cement

Excess to Waste Rock Pile

To Underground Distribution

Figure 4-4: Simplified Metallurgical Process Flowsheet
Milling

Flotation Cells

Ball Mill
Ore Stockpile

20,000 Tonne Temporary Ore Stockpile (6 M Height)

2,000 Tonne Permanent Ore Stockpile (3 M Height)

6" Ø Pipe to Water Storage Pond

Lined Runoff Collection Ditch Reports to Mine Water Stream

Pumphouse

Mine Water Collection Sump

Site Drainage Ditches

Scale: Metres

Figure 4-3: Temporary Ore Stockpile
Concentrate Shed
Tailings Mix on Surface
Tailings Mix Underground
Waste Rock Pile
Waste Rock Pile Site
<table>
<thead>
<tr>
<th>Mine Life Quantities</th>
<th>Tonnes</th>
<th>%</th>
<th>t/m³</th>
<th>m³</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mill Feed</td>
<td>4,995,000</td>
<td>100%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DMS Rock</td>
<td>1,203,750</td>
<td>24%</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Flotation Tailings</td>
<td>2,508,222</td>
<td>50%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concentrates</td>
<td>1,285,028</td>
<td>26%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unplaced Backfill (DMS+FT)</td>
<td>3,709,972</td>
<td>26%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Voids (stopes &amp; development)</td>
<td></td>
<td></td>
<td></td>
<td>1,799,720</td>
<td></td>
</tr>
<tr>
<td>Density Backfill</td>
<td></td>
<td></td>
<td>2.24</td>
<td></td>
<td>wet density</td>
</tr>
<tr>
<td>Solids Content</td>
<td></td>
<td></td>
<td>84%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Placed Backfill (DMS+FT)</td>
<td>3,401,470</td>
<td></td>
<td>1.89</td>
<td></td>
<td>dry density (1.89 dry tonnes/m³)</td>
</tr>
<tr>
<td>Backfill not placed u/g (DMS)</td>
<td>308,502</td>
<td></td>
<td></td>
<td>163,229</td>
<td></td>
</tr>
<tr>
<td>Proportion DMS not placed</td>
<td></td>
<td></td>
<td></td>
<td>26%</td>
<td></td>
</tr>
<tr>
<td>Ratio Tails to DMS in Fill</td>
<td></td>
<td></td>
<td></td>
<td>2.8</td>
<td></td>
</tr>
<tr>
<td>Development waste rock</td>
<td></td>
<td></td>
<td></td>
<td>276,470</td>
<td></td>
</tr>
<tr>
<td>Total to Waste Rock Pile</td>
<td></td>
<td></td>
<td></td>
<td>439,699</td>
<td>waste rock plus DMS rock</td>
</tr>
</tbody>
</table>
NOTE: All numeric figures represent water flows in cubic meters per year, based on a maximum average yearly mine drainage of 33 liters per second (as shown in Table 4.8).
<table>
<thead>
<tr>
<th>Period</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Inflows (m³)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mine Drainage</td>
<td>74,995</td>
<td>87,738</td>
<td>74,986</td>
<td>82,944</td>
<td>107,136</td>
<td>103,680</td>
<td>107,136</td>
<td>107,136</td>
<td>82,944</td>
<td>85,708</td>
<td>72,576</td>
<td>74,986</td>
<td>1,041,984</td>
</tr>
<tr>
<td>Sewage Water</td>
<td>1,488</td>
<td>1,344</td>
<td>1,466</td>
<td>1,440</td>
<td>1,464</td>
<td>1,468</td>
<td>1,440</td>
<td>1,468</td>
<td>1,440</td>
<td>1,468</td>
<td>1,468</td>
<td>1,468</td>
<td>17,520</td>
</tr>
<tr>
<td>Precip. - pond</td>
<td>1,229</td>
<td>1,229</td>
<td>1,062</td>
<td>1,365</td>
<td>2,184</td>
<td>3,140</td>
<td>4,642</td>
<td>3,023</td>
<td>3,140</td>
<td>2,594</td>
<td>1,638</td>
<td>1,229</td>
<td>27,305</td>
</tr>
<tr>
<td>Precip. - pile</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>6,750</td>
<td>2,045</td>
<td>3,023</td>
<td>2,489</td>
<td>2,045</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>16,368</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>77,712</td>
<td>70,310</td>
<td>77,575</td>
<td>85,749</td>
<td>117,565</td>
<td>110,305</td>
<td>116,288</td>
<td>114,936</td>
<td>89,569</td>
<td>89,791</td>
<td>75,564</td>
<td>77,712</td>
<td>1,103,167</td>
</tr>
</tbody>
</table>

| **Outflows (m³)** | Cell B |     |     |     |     |     |     |     |     |     |     |     |      |
| **Inflows (m³)** |     |     |     |     |     |     |     |     |     |     |     |     |      |
| Spill from Cell A | 19,553 | 17,780 | 19,417 | 29,467 | 58,331 | 49,927 | 52,669 | 52,669 | 30,556 | 31,832 | 19,372 | 19,553 | 400,936 |
| Tails Filtrate    | 51,187 | 49,234 | 51,187 | 49,536 | 51,187 | 49,536 | 51,187 | 49,536 | 51,187 | 602,688 |
| Precip. - pond    | 1,229 | 1,229 | 1,062 | 1,365 | 2,184 | 3,140 | 4,642 | 3,023 | 3,140 | 2,594 | 1,638 | 1,229 | 27,305 |
| **Total**         | 71,969 | 65,242 | 71,696 | 80,368 | 111,703 | 102,603 | 108,498 | 107,692 | 83,232 | 85,413 | 70,546 | 71,969 | 1,030,932 |

| **Outflows (m³)** |     |     |     |     |     |     |     |     |     |     |     |     |      |
| Treatment Plant   | 84,913 | 84,913 | 84,913 | 84,913 | 84,913 | 82,174 | 84,913 | 84,913 | 84,913 | 1,013,474 |
| Evaporation       | 0 | 0 | 0 | 0 | 1,075 | 4,096 | 5,461 | 4,096 | 2,731 | 0 | 0 | 0 | 17,458 |
| **Total**         | 84,913 | 84,913 | 84,913 | 84,913 | 84,913 | 85,988 | 86,269 | 90,374 | 89,008 | 84,904 | 84,913 | 84,913 | 1,030,932 |
| **Difference (m³)** | -12,943 | -19,670 | -13,216 | -4,545 | 25,715 | 16,333 | 18,124 | 18,683 | -1,872 | 301 | -14,367 | -12,943 | 0 |
| **Cum. Diff. (m³)** | -12,943 | -32,614 | -45,830 | -50,375 | -24,659 | -8,326 | 9,798 | 28,481 | 26,809 | 27,310 | 12,943 | 0 |      |

| **Inflows (m³)** | Polishing Pond |     |     |     |     |     |     |     |     |     |     |     |      |
| Treatment Plant   | 84,913 | 84,913 | 84,913 | 84,913 | 82,174 | 84,913 | 84,913 | 84,913 | 84,913 | 1,013,474 |
| Precip.           | 32 | 32 | 28 | 36 | 57 | 82 | 121 | 100 | 82 | 68 | 43 | 32 | 711 |

| **Outflows (m³)** |     |     |     |     |     |     |     |     |     |     |     |     |      |
| Discharge         | 84,945 | 84,945 | 84,941 | 84,948 | 84,942 | 82,149 | 84,891 | 84,906 | 82,184 | 84,980 | 84,855 | 84,945 | 1,013,731 |
| Evaporation       | 0 | 0 | 0 | 28 | 107 | 142 | 107 | 71 | 0 | 0 | 0 | 0 | 465 |
| Prairie Creek     | 1,418,213 | 921,110 | 826,288 | 2,121,552 | 33,008,328 | 44,679,168 | 31,551,563 | 25,008,212 | 16,374,980 | 7,308,866 | 3,352,823 | 2,244,972 | 168,963,886 |
| Ratio to pond discharge | 17 | 11 | 10 | 25 | 360 | 544 | 372 | 294 | 198 | 87 | 36 | 26 | 107 |
| Mine Drainage L/s | 28 | 28 | 28 | 32 | 40 | 40 | 40 | 32 | 32 | 28 | 28 | 33 |      |
| Treatment Plant L/s | 31.6 | 31.6 | 31.6 | 31.6 | 31.6 | 31.6 | 31.6 | 31.6 | 31.6 | 31.6 | 31.6 | 31.6 |
The Prairie Creek Mine: present-day
Upgraded Mine Facilities:

1 - Water Storage Pond - Cell ‘A’
2 - Water Storage Pond - Cell ‘B’
3 - Temporary Tailings Storage Pad
4 - Water Treatment Plant
5 - New Accommodations Block
6 - Covered Ore Stockpile
7 - New Underground Portal
8 - Concentrate Storage Sheds
9 - DMS Plant (Behind Mill)
10 - Temporary DMS Rock Storage Pad
11 - Paste Backfill Plant (Behind Mill)
12 - Waste Rock File

Plate 4-2: Prairie Creek Site Showing Conceptual View of Upgraded Mine Facilities
Manpower and Logistics

- 220 full-time jobs at the Mine
- 3 weeks on, 3 weeks off rotation by air
- Concentrates/supplies haul November-March
- Business opportunities for catering, winter road construction, transportation
Transportation

Prairie Creek Airstrip
CONCENTRATE TRANSFER FACILITY

WINTER ROAD

Km 85

FIGURE 3:
TOPOGRAPHY OF CONCENTRATE TRANSFER FACILITY AREA WITH AIR PHOTO BASE
Plate 1: Area of Proposed Teteela Transfer Facility Showing Winter Road Corridor (2007, Looking East Towards Teteela River)
Plate 2: Proposed Structure for Tetecla Transfer Facility

TOP: Exterior View of Structure, in place at Ekati Mine

BOTTOM: Interior View of Structure Showing Concentrate Tote bags (photo courtesy of Sherwood Copper)
Thank you