PRAIRIE CREEK MINE

PROJECT DESCRIPTION
CANADIAN ZINC CORPORATION

President and CEO – John Kearney
COO and VP Exploration – Alan Taylor
Here today:
VP Environment and Permitting – Dave Harpley
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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
The Prairie Creek Mine

- **Pond**
- **3000 Foot Airstrip**
- **Accommodations**
- **3 Levels of UG**
- **1000 TPD Mill & Power Generation**
- **Workshops, Office**
- **Winter Road to Liard**
- **Flood Protection Dike**
- **Sewage Treatment Plant**
- **Fuel Farm**

*Image courtesy of Canadian Zinc Corporation*
PRAIRIE CREEK MINE: WATER

1. Water Treatment Plant
2. New Polishing Pond
3. Diesel Tank Farm
4. Minesite Flood Protection Dike
5. General Storage
6. Settling Pond Control Gate
Mill and Catchment Pond
Water Storage Pond
Camp
Adit and Polishing Pond
Parts Storage
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
LOCAL ACTIVITIES

ENVIRONMENTAL MONITORING
Training in Partnership with NWT MINE TRAINING SOCIETY
Monitoring Services Provided by NOGHA ENTERPRISES

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: $483,417
- Direct First Nation Service Co.: $1,203,188
- Education & Training: $9,155
- Total: $1,793,756

CATERING AND CATERING SERVICES provided by:
ACHO CAMPS AND CATERING, Fort Liard

CANADIAN ZINC CORPORATION
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.
Mining, then and now

- Cadillac era (1982)
- Today
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
• 2005, Supreme Court rules CZN’s 2003 application for winter road permit exempt from EA (grandfathered)
• CZN could apply for Cadillac’s mine project and avoid EA
• CZN chooses to include modern waste and water management plans
• CZN’s view is EA should focus on new plans and water quality
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
Baseline Studies

- Climate
- Hydrology
- Water Quality
- Fish
- Wildlife
Water Quality
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

Hanging wall contact

Footwall contact

UNDERGROUND 930 LEVEL: X-CUT 09
THE MINE AT PRAIRIE CREEK
Figure 4-4: Simplified Metallurgical Process Flowsheet
MILL ADDITIONS
Cone Crusher
4x 1150 kw Generator

- Mill Powerhouse
- to be upgraded with new generators
- glycol heating system
Ore Stockpile

20,000 TONNE TEMPORARY ORE STOCKPILE (5 M HEIGHT)

2,000 TONNE PERMANENT ORE STOCKPILE (5 M HEIGHT)

2% GRADE TOWARDS DITCH

SITE DRAINAGE DITCHES

6" Ø PIPE TO WATER STORAGE POND

LINED RUNOFF COLLECTION DITCH REPORTS TO MINE WATER STREAM

PUMPHOUSE

MINE WATER COLLECTION SUMP

SCALE: METRES

PRAIRIE CREEK MINE

FIGURE 4-3: TEMPORARY ORE STOCKPILE
Tailings Mix on Surface
Waste Rock Pile Site
NOTE: ALL NUMERIC FIGURES REPRESENT WATER FLOWS IN CUBIC METERS PER YEAR, BASED ON A MAXIMUM AVERAGE YEARLY MINE DRAINAGE OF 33 LITRES PER SECOND (AS SHOWN IN TABLE 4-8).
Polishing Pond
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
Plate 1: Area of Proposed Teteела Transfer Facility Showing Winter Road Corridor (2007, Looking East Towards Teteела River)
Plate 2: Proposed Structure for Tectela 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)