



# Prairie Creek Mine Environmental Assessment Public Hearing Fort Simpson June 23<sup>rd</sup> & 24<sup>th</sup>, 2011







# The Prairie Creek Mine: An Opportunity Waiting to Happen



## Legend

- 1 - Airstrip
- 2 - Access Road
- 3 - Water Storage Pond
- 4 - Waste Rock Pile Proposed Location
- 5 - Main Yard
- 6 - Mill Concentrator
- 7 - 870 Portal
- 8 - 930 Portal
- 9 - 970 Portal
- 10 - Parts Yard
- 11 - Tank Farm
- 12 - South Yard

Prairie Creek

Harrison Creek

Approximate Scale  
0 100 200 300 400  
Metres

# Status before CZN came in

- Mine water discharge without treatment
- 40 tonnes of cyanide
- PCB waste
- Large, scattered waste oil inventory
- Road banks without armour
- Poor engagement with First Nations



# CZN Program

- Doubled defined mineral resource
- Mine water is now treated
- Cyanide and PCB's removed
- Road banks are armoured
- Good direct relations with First Nations and full engagement



# Community and Regional Initiatives

**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**

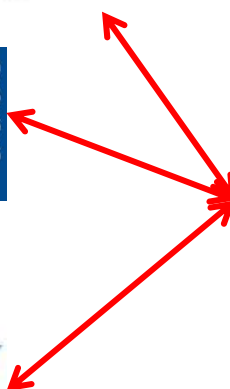
Direct First Nation Payroll	\$ 493,411
Direct First Nations Service Co.	\$1,261,189
Education and Training	\$ 39,150
<b>TOTAL</b>	<b>\$1,793,750</b>

 Canadian Northern Economic Development Agency  
 Agence canadienne de développement économique du Nord

 **AURORA COLLEGE**  
 YOUR CAREER STARTS HERE!

Campus Phone Numbers (toll-free)  
 Aurora: 1-866-287-2655  
 Thebacha: 1-866-266-4966  
 Yellowknife / North Slave: 1-866-291-4866

 **Mine Training Society**  
 NORTHWEST TERRITORIES







**870 LEVEL: PORTAL**



# Main Quartz Vein Mineralization

Footwall contact

Hanging wall contact

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

**UNDERGROUND 930 LEVEL: X-CUT 09**





# Prairie Creek Mining Operations



# CZN Development Plan

- Cadillac - tailings on surface
- CZN
  - tailings backfilled
  - covered waste rock pile
  - water recycle & treatment
  - mineral concentrates in bags
  - low risk closure plan
  - First Nation partnerships/benefits
- Responsible Development

# Prairie Creek Mine

WINTER ROAD TO LIARD

3000 FOOT AIRSTRIP

3 LEVELS OF UG

1000 TPD MILL &  
POWER  
GENERATION

POND

ACCOMMODATIONS

FLOOD PROTECTION DIKE

SEWAGE TREATMENT PLANT

WORKSHOPS, OFFICE

FUEL FARM



# Tank Farm





# Mill and Catchment Pond





# Geological Resources

- Total resource = **12 million tonnes:**
- Zinc; Lead; Silver; Copper
  - over **60 million ounces silver**
  - over **3 billion lbs of zinc**
  - over **2.2 billion lbs of lead**
- Current 14 year mine life



# Mine Entrance (Portals)

970 Portal

930 Portal

870 Portal

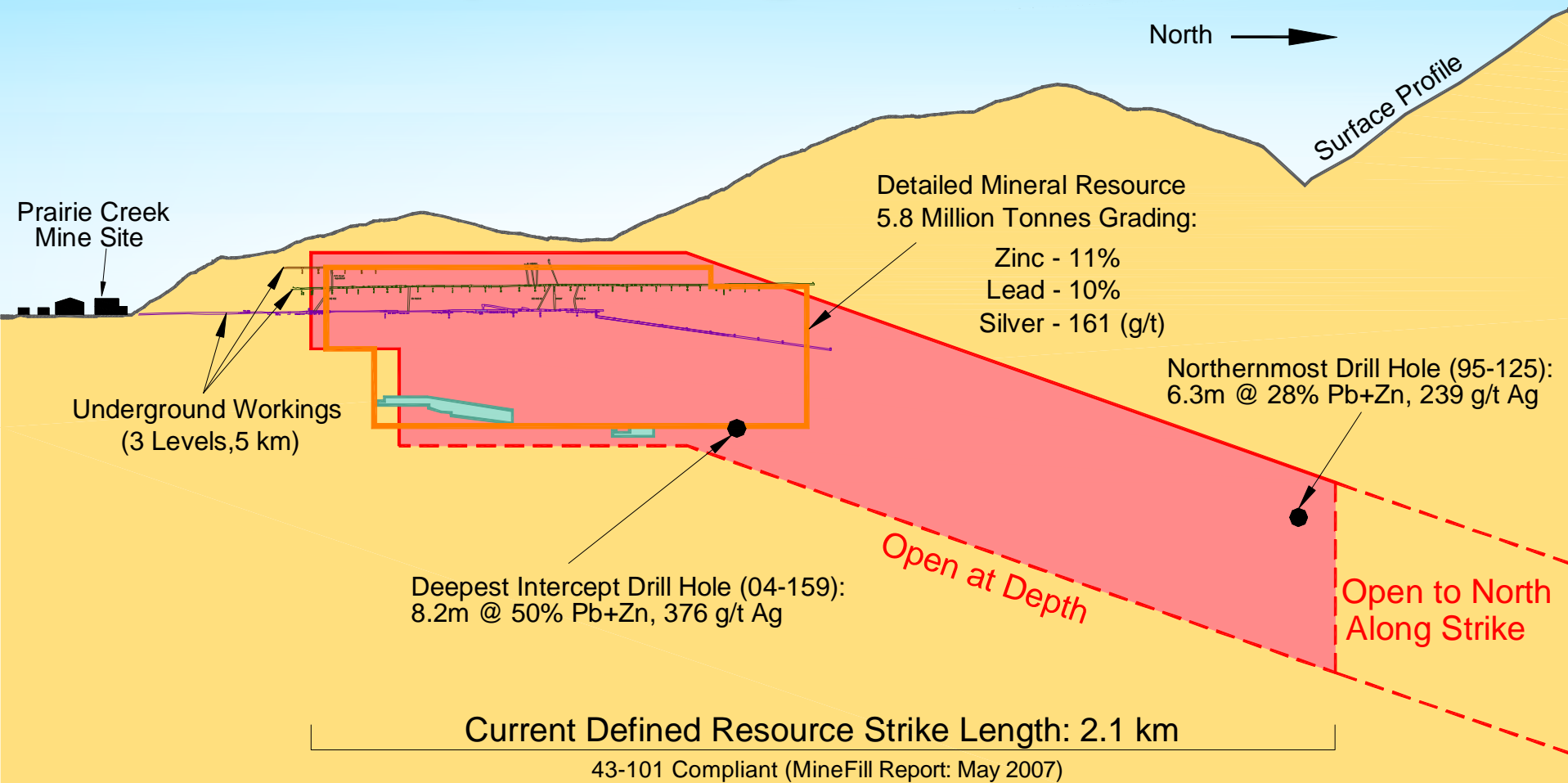


# Operations Overview

- 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

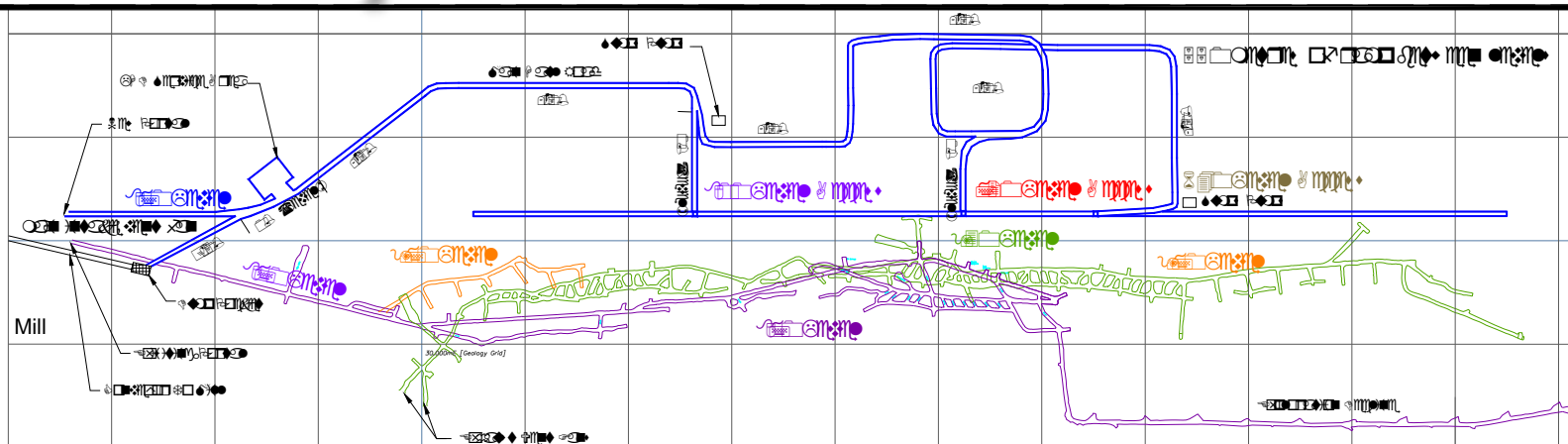


# Resource Long Section View (Facing West)



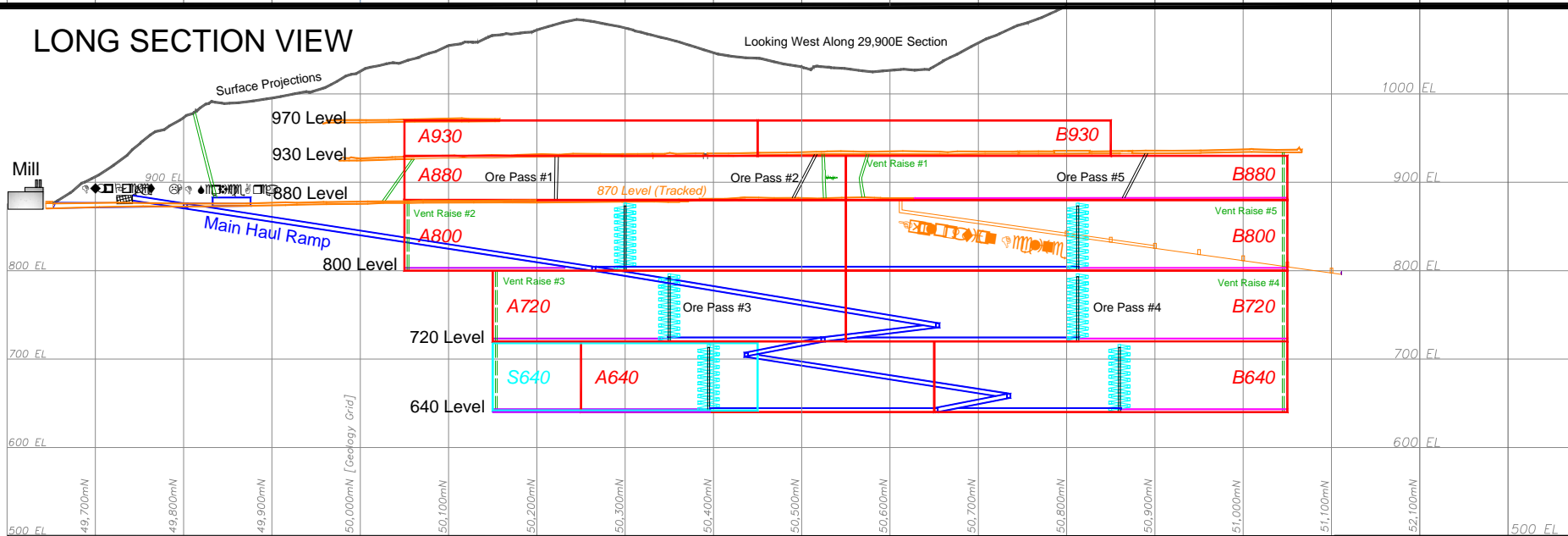


# Operational Mine Plan



PLAN VIEW

LONG SECTION VIEW



LEGEND

- Existing Underground Development
- Planned Truck Access (4.5m x 4.3m)
- Planned LHD Access (3.2m x 3.2m)
- Surface Profile
- Ventilation Raises
- Ore Passes
- Vein Stopping Blocks
- Stratabound Stopping Block

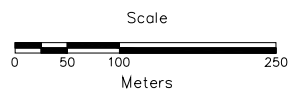


Figure 6.7.1:  
Conceptual Mine Design  
(Long Section and Plan View)

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Scale: As Shown

Date: Oct 2009

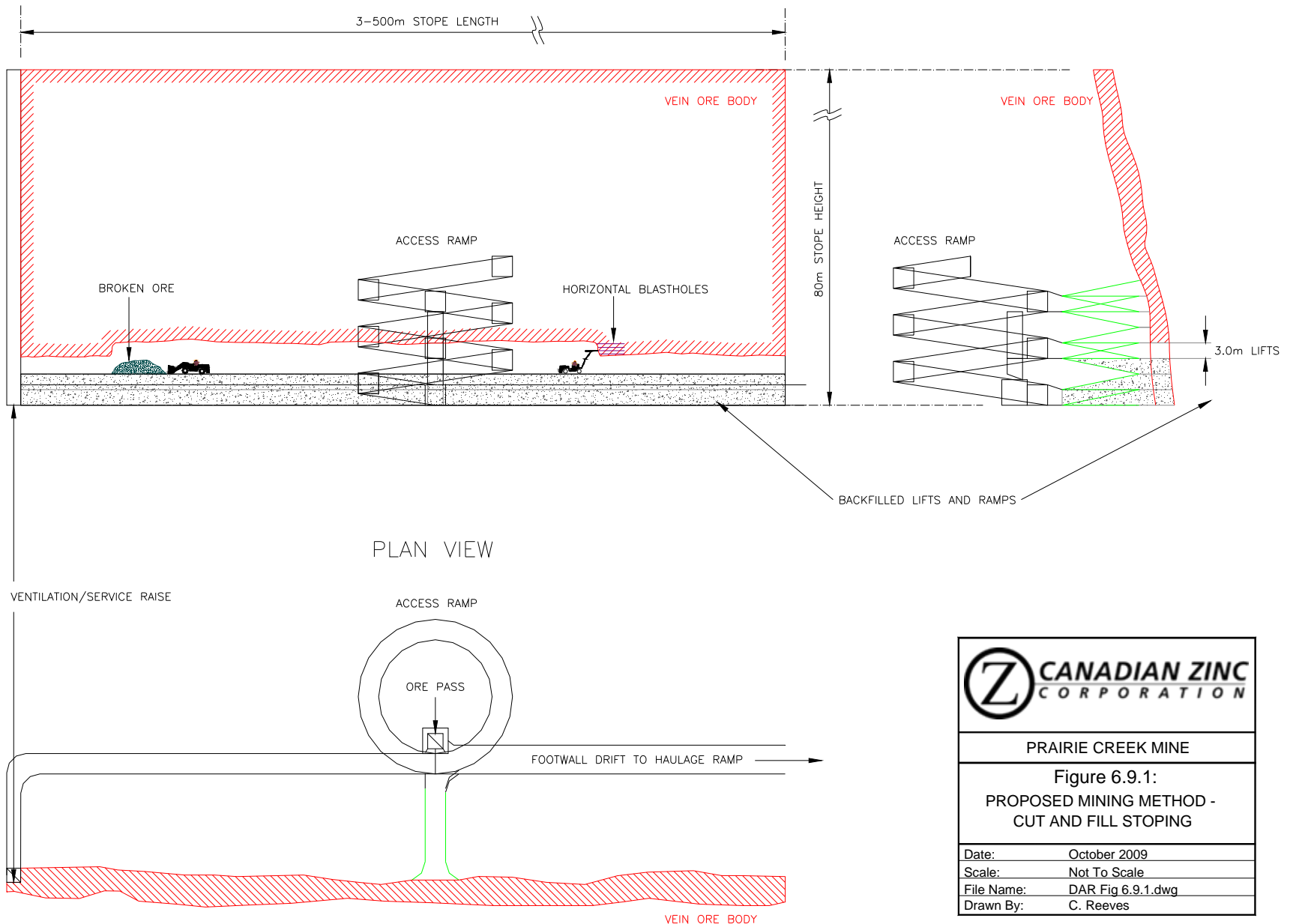
Drawn By: C. Reeves




# Mining Method

LONGITUDINAL SECTION

CROSS SECTION



 <b>CANADIAN ZINC CORPORATION</b>	
PRAIRIE CREEK MINE	
Figure 6.9.1: PROPOSED MINING METHOD - CUT AND FILL STOPING	
Date:	October 2009
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Drawn By:	C. Reeves