New 1566 kw Generators (3 Units)
Metallurgical Summary

Prairie Creek Mine
Process Summary Per Tonne of Mine Rock

- 50% Float Tails
- 26% Concentrate
- 24% DMS Reject Rock

Paste Backfill Flowsheet
Mine Waste Management

- All tailings placed underground
- Mill rock (DMS) used in backfill, excess to Waste Rock Pile
- Waste Rock Pile for development rock
- Conversion of original tailings pond to Water Storage Pond to allow recycle
Conceptual View of Waste Rock Pile

Legend:
- Monitoring Well
- Water Flow
- Solid Waste Facility
- Waste Rock Outline (500,000 m³ Capacity)
- Lined Sediment Pond (970 m Elevation)
- Inert Debris (100,000 m³ Capacity)
Upgraded Mine Facilities:

1 - Water Storage Pond - Cell A
2 - Water Storage Pond - Cell B
3 - Reagent Storage Sheds
4 - Water Treatment Plant
5 - Staff Accommodation Block
6 - Ore Stockpile Lined Pad
7 - 2nd 870 Underground Portal
8 - Concentrate Storage Shed
9 - DMS Plant (Attached to Mill)
10 - Temporary Float Storage Pile
11 - Paste Backfill Plant (Attached to Mill)
12 - Waste Rock Pile
13 - Acid Storage Tanks
14 - Bagging Plant
15 - Cement Storage Shed
Water Protection

- Recycle and re-use mill water
- Reliable treatment of mine water and mill water for discharge at safe concentrations
- Discharge via buried pipe
- Detailed monitoring (Env. Monitors)
- Spill containment - dykes and Catchment Pond
Buried Pipe Discharge
Water Quality

• Downstream water quality likely mineralized before the Mine
• Downstream shows some, but surprisingly little, affect from historic Mine
• Testing confirms future Mine operations discharge will not affect fish or other aquatic life
• Water quality after discharge meets objectives protective of aquatic life
• No significant effects on Prairie Creek, the Park or South Nahanni R.
Note: Drinking water = 5
Note: Drinking water = 0.01
Mercury

• Background concentration in Prairie Creek is very low
• Similar very low concentration in mine water
• Downstream water quality will be very close to background levels
• Mine operations will not lead to a significant increase in accumulation in fish
Water Quality Objective

Mercury

mg/L

- **CZN Objective**
- **RCA Mean + 2SD**
- **Highest Predicted Concentration**
- **Upstream Concentration**
Manpower and Logistics

- 220 full-time jobs at the Mine, 110 on site at one time
- 2 mine and mill shifts, 1 admin shift, per day
- 3 weeks on, 3 weeks off rotation by air, weekly flights
- Concentrates/supplies haul to/from Mine during December-April
Prairie Creek Mine: Transport
Road Design/ Changes

• Re-alignments out of wetlands
• Avoid poljes & karst features
• Reduce/remove grades/turns
• Bridges over some creeks
• Curbs, run-away lanes
• Speed limit and warning signs
Bridge Concept - Sundog Creek
Access Road – Silent Hills
Access Road – Nahanni Range
The Nahanni Route Re-alignment and Liard Crossing: Location of Ice Bridge during winter operations
Road Construction & Maintenance

• Start from the Mine, November
• Use of frozen ground, snow/ice
• Inspect for cultural resources
• Water from Mine well or Mosquito Lake
• Protect stream banks
• Granular fill use, insulate permafrost
• Inspections/maintenance/closure
Road Use Schedule

- Dec 1 to Jan 15 – Mine to Tetcela - Concentrates to Tetcela Transfer Facility (TTF)
- Jan 15 to Mar 31 – Mine and TTF to Liard - Concentrates to Liard Transfer Facility, Supplies in to Mine
- Jan 15 to fall – Liard Transfer Facility to Fort Nelson - Concentrates to railhead
Road Management

- Speed limits
- Radio contact and control
- Journey management and checkpoints
- Supervision and monitoring
Road Spill Contingency

- Response plans and response team
- Response training
- Response equipment and control points
- Driver training relevant to cargo
- Rapid response and notifications
- Complete spill clean-up verified by investigation
Access Control

- Nahanni checkpoint to deter unauthorized use
- Information and signs re high traffic road, use at own risk
- Monitoring of use (monitors and truckers)
- Contracted non-residents prohibited from entering Nahanni Butte
- Barriers when road not in use
## Expected Liard Facility Transfer Traffic

<table>
<thead>
<tr>
<th>From</th>
<th>Trips per Day</th>
<th>Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mine</td>
<td>58</td>
<td>January 15 - March 6</td>
</tr>
<tr>
<td>Mine</td>
<td>37</td>
<td>March 6 - April 15</td>
</tr>
<tr>
<td>Fort Nelson</td>
<td>14</td>
<td>January 15 - October 15 *</td>
</tr>
</tbody>
</table>
Proposed Transfer Facilities (Inside)
Wildlife

Figure 4-11: Seasonal Wildlife Ranges Along and Adjacent to the Prairie Creek Mine Site and Access Road

Legend
- [Legend descriptions and symbols related to wildlife ranges and activities]
Wildlife

Residual effects:

• Potential for effects on Dall’s sheep lambing activity during the spring (May-June) with air traffic;

• Potential for collisions with Dall’s sheep, woodland caribou and wood bison associated on access road; and,

• Potential for grizzly bear-human encounters at the Mine site.
Wildlife Mitigation

- Wildlife Management and Monitoring Plan
- Flight Impact Management Plan
- Speed limits, warning signs for potential collision zones. Traffic stops when wildlife near roadway
- Minimize attractants to bears. Warning and encounter management.
- No hunting/fishing by employees.
Mine Closure

- Completely fill Mine to stop portal drainage
- Cover Waste Rock Pile, limit seepage
- Treat/Monitor groundwater until quality stable and groundwater discharge will not have significant impacts
- Remove buildings and infrastructure
- Restore natural floodplain
Mine Closure

- Fill in underground mine
- Cover for Waste Rock Pile
- Remove buildings and infrastructure
- Restore natural floodplain
Economic Benefits

- Priority hiring for the community
- Annual set-aside non-competitive contracts
- Priority on contracts
- Annual revenue
- Percentage of project’s profits
- Education funds
- Anchor tenant in Band office
- On-going annual community events
Social Issues Programs

- Money Management
- Health Awareness
- Coordinating Family Assistance
- On-going Community Event Sponsorship
- Youth Workshops
- Traditional harvesting opportunities
Mahsi Cho