

Site Activities



Site Activities

1. Technical

- **Site Operations (Iliamna)**
- **Field Operations (deposit area)**
 - **Drilling**
 - » **Infill**
 - » **Delineation**
 - » **Geotechnical**
 - » **Hydrogeological**
 - **Geophysics**
 - **Engineering Studies**
 - **Reclamation**
 - **Environmental Data Collection**

2. Environmental

3. Socio-economic



Health and Safety

Safety for our employees, contractors and the communities in which we operate is the priority...



TECHNICAL ACTIVITIES

Site Operations

- Iliamna base
- Office support: 2,500 fixed wing flights
- Lodging: 30,000 persons lodged
- Logistics: 1.7 million pounds of freight
- Coreshack: 150,000 feet logged
- Core yard: 175,000 feet cut

TECHNICAL ACTIVITIES

Field Operations

- Helicopters: 8,500 hours
- Drilling (infill, delineation, geotechnical and hydrogeological): 140,000 feet
- Geophysical surveys
- Reclamation
- Environmental data collection

Health and Safety

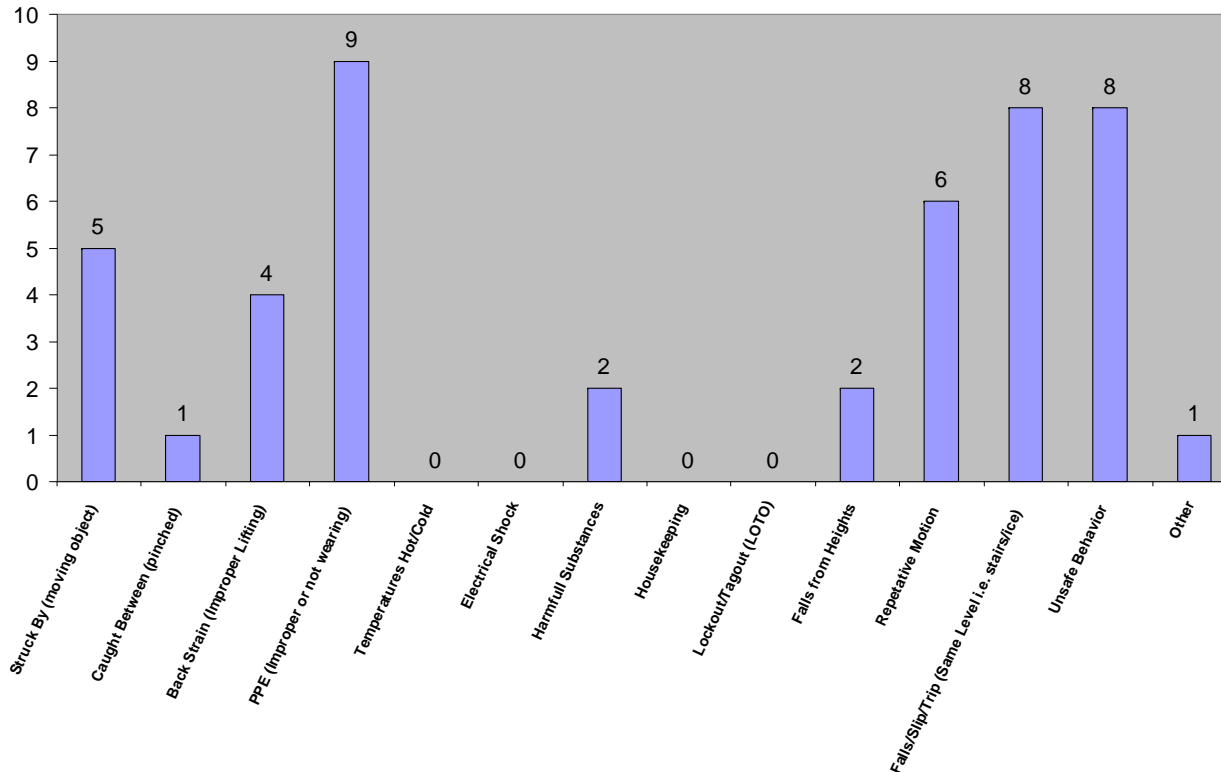
- **Health and Safety Plan**
 - **General Information**
 - Hazard and Risk Analysis
 - Personal Protective Equipment
 - Exposure monitoring
 - Drug and Alcohol Policy
 - Emergency response plans and protocols
 - **Hazardous Materials transportation**
 - **Spill Prevention, Control and Countermeasures Plan**
 - **Hazcom (Hazard Communication) Program - MSDS**

Health and Safety

- **Safety meetings**
 - **Miniature training sessions held weekly**
 - **Topic focus each month**
 - **Forum for group discussions and information sharing of accident and illness causes**

Health and Safety

Cause of Injury Trend Analysis 2007 YTD



- 31, 650 man days worked in 2007
- 46 incidents
- 3 medical aid
- Remainder first aid and near misses with no time loss



Drill Crews

- 1. Drill operational 24 hours a day: 2 – 12 hour shifts**
- 2. Each drill crew consists of 1 experienced driller and 2 helpers**
Normal conditions – 4 workers per drill rig
Winter Conditions – 6 workers per drill rig
- 3. Support field staff for moving fuel, tending water lines, supplies**
Day shift – 4 workers
Night shift – 2 workers
Emergency Response – 2 EMT III
- 4. Transportation is by helicopter – 205 - for moves/crew change**
Astar - for moves/crew change
500D – for moves
R44 – crew changes
- 5. At present there are 6 drills operating in the field:**
Drill crews: 49 drillers/helpers/engineers
Support Staff: 8 workers
Minimum personnel in field 57 directly related to drilling

Fuel Transport

- 1. Each drill requires ~ 200 gallons of diesel fuel for 24 hours (9 drills X 200 = 1,800 gallons/day)**
- 2. Options for transporting fuel to site:**
 - by helicopter with maximum capacity of 118 gallons/trip**
 - by fixed wing to Big Wiggly Lake – 200 gallons/trip**
- 3. All fuel transport and storage containers are double walled and placed inside bermed structures that can contain at least 120% of fuel stored inside the structures**
- 4. Storage facility at Big Wiggly Lake contains sufficient fuel for 4-5 days drilling operations at current operation level**
- 5. During winter activities require sufficient fuel at each drill for 2 days operation and an additional 2 days emergency shelter and water line pumping fuel for bad weather.**

Shutdown and Reclamation

1. ***Hole Shutdown – Hole Abandonment Procedures***
2. ***Dismantle Drill Rig – helicopter transport of all items to new site***
3. ***Tundra Mats: Wooden platforms placed at high traffic impact areas around drill sites. Extremely effective at preventing the churning of the tundra. As many as 10 mats with interconnecting boardwalks are used at each drill site.***
4. ***Waste management: Flyable dumpsters are located at each drill site. These dumpsters prevent miscellaneous trash from blowing away during helicopter loading or windy conditions.***
5. ***Reclamation of drill site: (Reclamation Crew)***
 - a. ***Pick up all litter and items not transported to new site***
 - b. ***Fill in drill cutting sump and replace original topsoil***
 - c. ***Rake and groom areas affected by tundra pad timbers***
 - d. ***Seed areas of disturbance with grass if required.***
 - e. ***Revisit site in several months time to assess effectiveness of reclamation and take remedial action if required.***

Reclamation





Hole Abandonment

All drillholes are to be filled with hole abandonment grout from bottom to top.

Using Volclay Grout: the manufacturers mixing recommendations are:

For HQ holes mix 2.5 bags per 100 feet

For NQ holes mix 1.5 bags per 100 feet

Water

HQ 58 gallons per 100 feet

NQ 36 gallons per 100 feet

4" hole 95 gallons per 100 feet

HOLE ABANDONMENT

Prepare the correct mixture for 500 feet and put rods on the bottom of the hole

Pump mixture down inside of rods

Pull back 500 feet allowing mud to flow out of rods and displace water.

Flush rods with water to clean

Repeat process

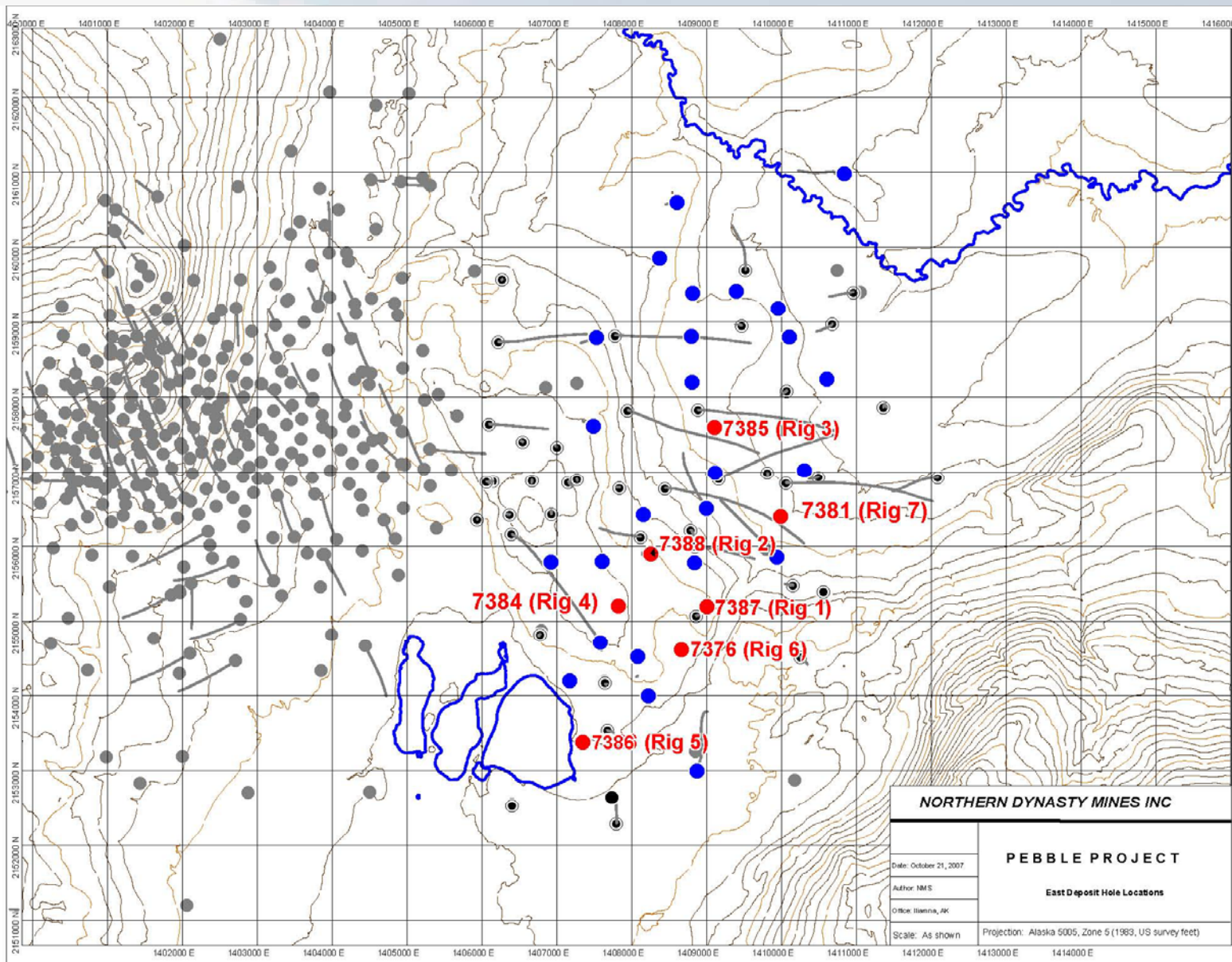
FOR HOLES WITH ARTESIAN WATER

Place a hole plug above the aquifer

Put cement above the plug

Fill rest of hole with grout using the procedures above

Drill Hole Locations





Socio-Economic Activities

1. Local Workforce Development

2. Local Business Development

- Incinerator

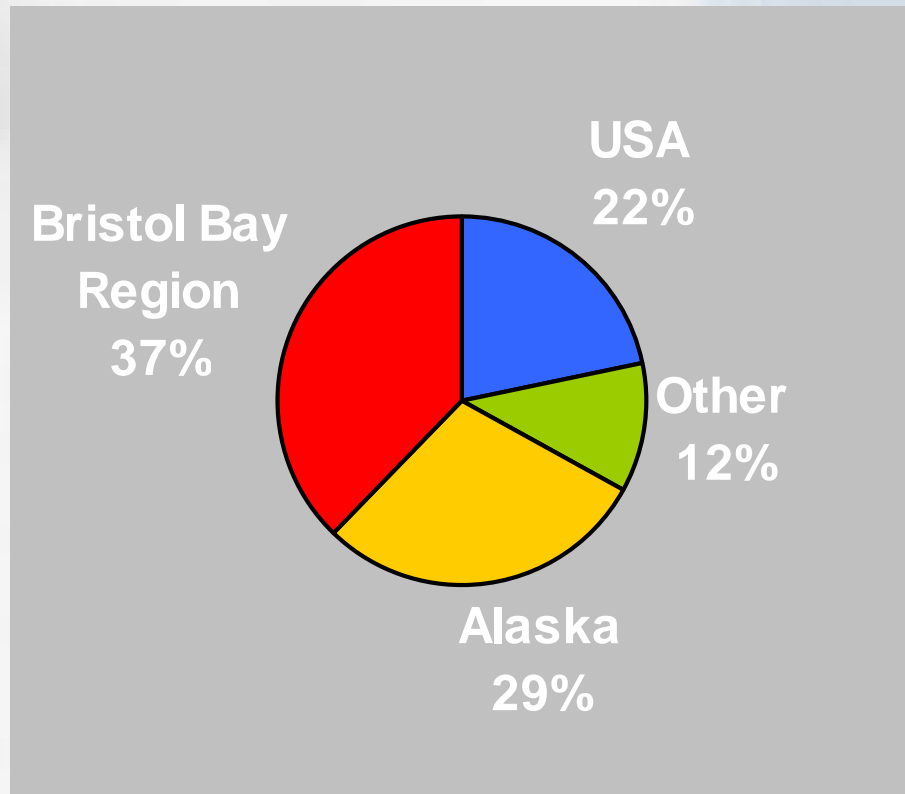
3. Training

- First Aid/CPR
- Food Safe
- Hazwopper
- Helicopter Slingsing
- Bear Awareness
- Helicopter Awareness
- Communications

4. Community

Employment by Region

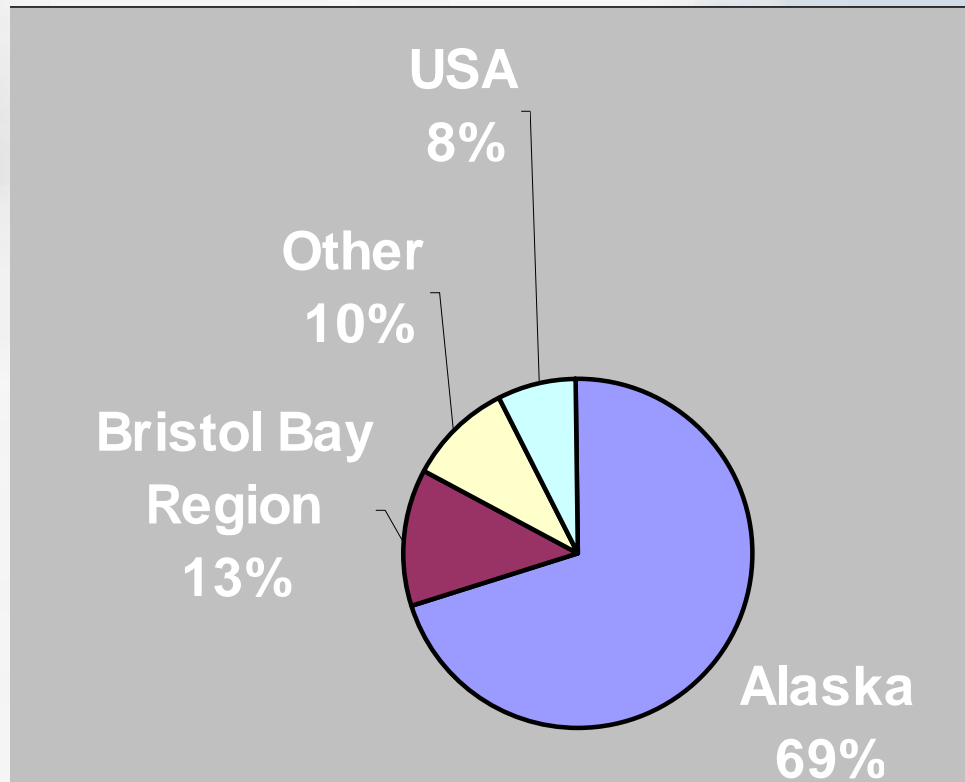
31,650 man days worked in 2007*



11,940 Bristol Bay Region
9,211 Alaskan
6,828 USA
3,663 Other

** To October 20, 2007*

Expenditure by Region



\$ 34,426,000 expended in 2007*

24,072,000 Alaskan
4,456,000 Bristol Bay Region
3,313,000 USA
2,585,000 Other

**Site expenditures only
to October 20, 2007*

Site Program - Summary

- ☐ **2007 drilling objectives**
 - Safety
 - Permit compliance
 - Infill to support prefeasibility study
 - Delineate Pebble East
 - Helicopter support

- ☐ **Engineering data collection**
- ☐ **Environmental baseline data**
- ☐ **Local hire**
- ☐ **Community support**