

Alaska Mining Industry Update

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Historical Context

1. **From late 1800s until World War II** - mining was Alaska's largest industry with the most jobs.
2. **From World War II until 1989** - effectively no lode (versus placer) mining in Alaska!
3. **From 1989 to Present** – continued steady growth.

Today – 6 large mines in Alaska; much exploration.

The Question: Why is there not more mining today?



Mining History Since WW II

At Start of World War II

- Presidential order closed all gold mines
- Needed miners and equipment for war effort

After World War II

- Some placer mining resumed
- Limited lode **exploration** resumed as metal prices allowed
- **Excess base metal production capacity in world**
- **Gold price fixed - but cost of wages and supplies continued to increase**
- Land and regulatory uncertainty
- Prudhoe Bay, ANCSA (44m ac), ANILCA (104m ac)

From World War II to 1989

- Effectively no lode/hardrock mining, some placer mining, some coal mining
- In 1989 Greens Creek & Red Dog began operating
 - **Proved to the world that a major mine could be permitted in Alaska!**
 - **Proved that all Alaska was not in a Park!**



Placer Mining

2010 Placer Mining Activity

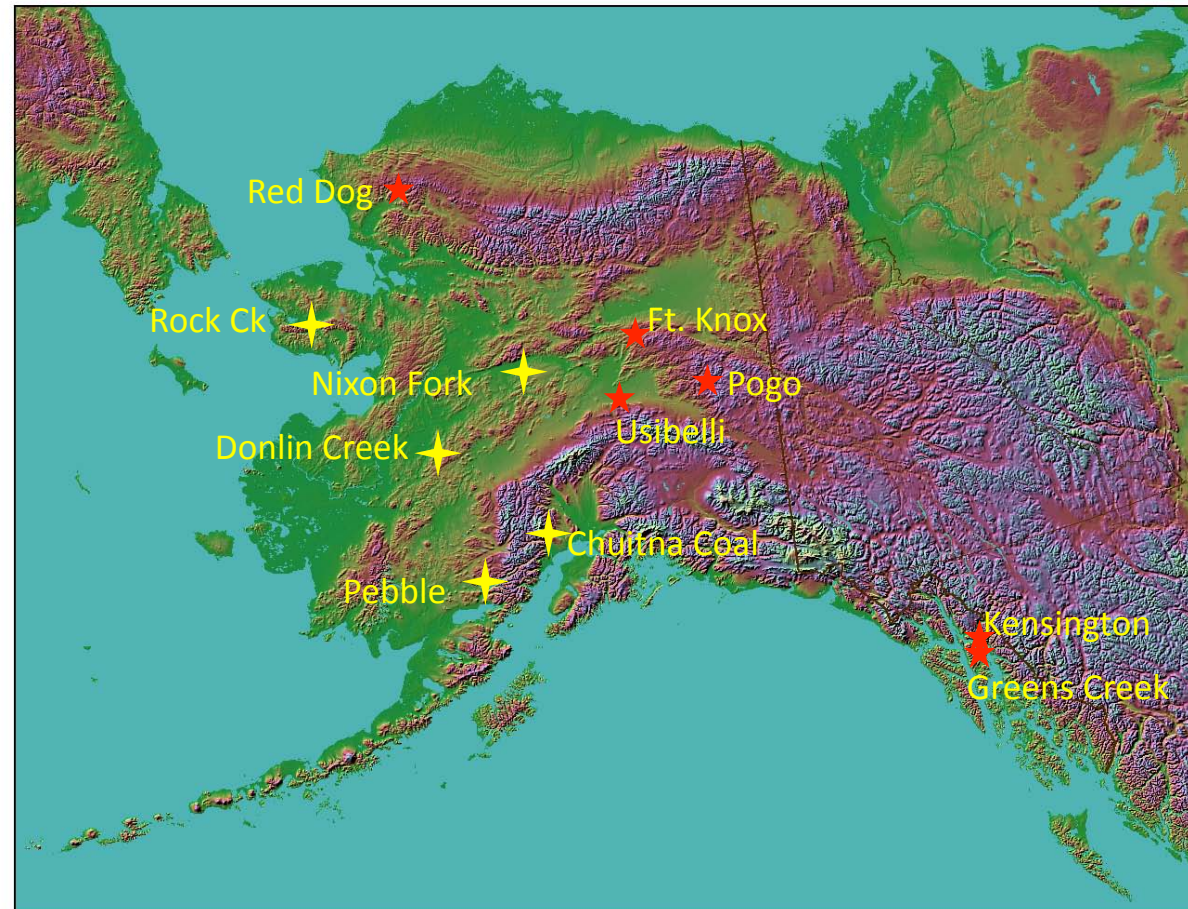
- Approx 195 small family mines
- Production over 57,000 oz Au
- Likely to increase in 2011 with gold price



Alaska Major Mines and Projects

★ Producing mine

✦ Developing and major exploration projects



0 100 200 300 400 500 kilometers
0 50 100 150 200 250 300 350 statute miles

Stereographic
Central lat, lon, ang: 63.0, -149.5, 0.0

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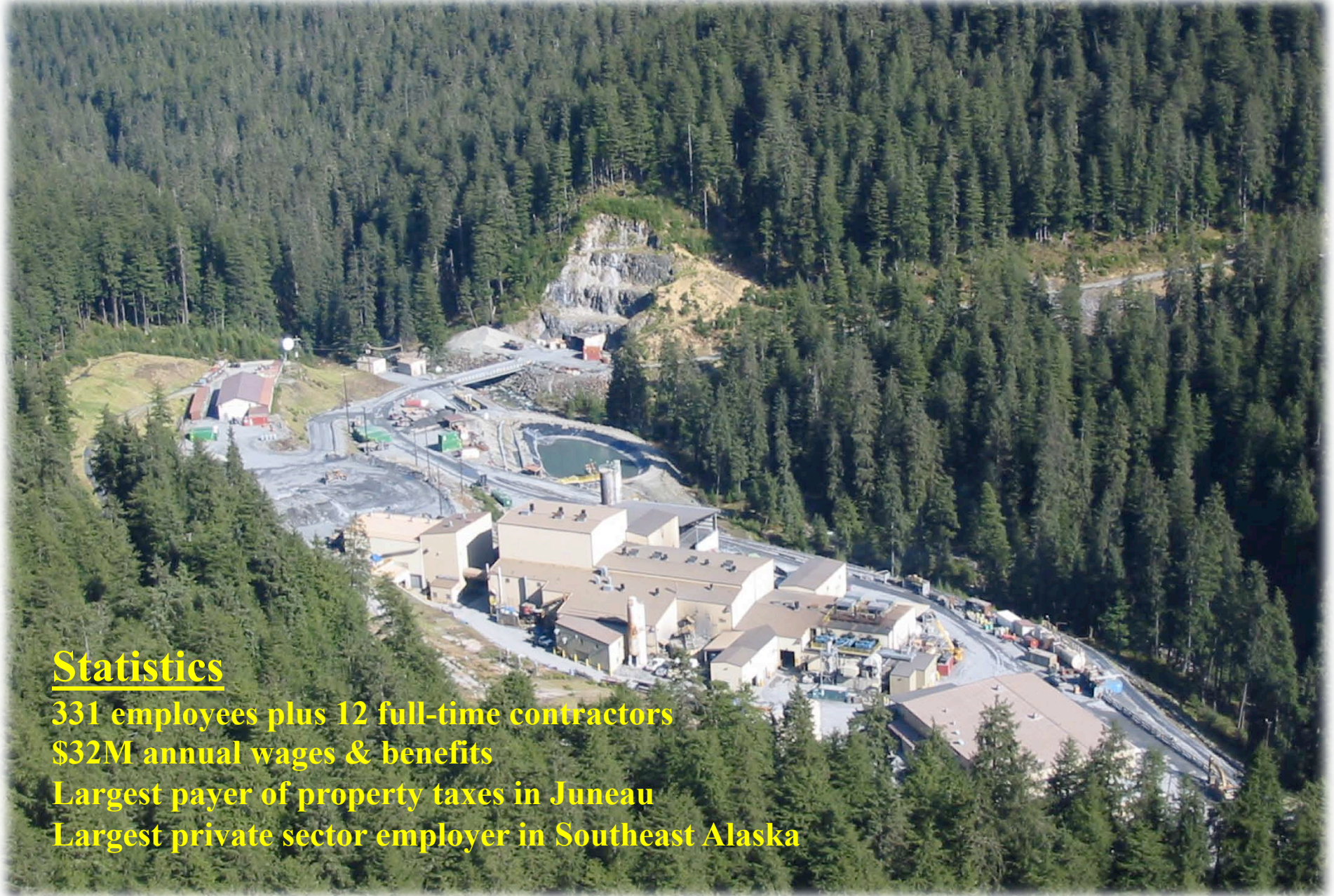
Usibelli Coal Mine

Statistics

- 130 employees
- 1.9 million tons/year
- 52% to Interior Alaska power plants, and 48% export
- 700M tons of surface mineable reserves



Hecla Greens Creek Mine



Statistics

331 employees plus 12 full-time contractors

\$32M annual wages & benefits

Largest payer of property taxes in Juneau

Largest private sector employer in Southeast Alaska

Red Dog Mine



Red Dog Statistics

- 525 employees and full time contractors
- 56% NANA shareholder hire
- \$50M annual mine wages & benefits
- \$7M paid to NWAB
- +\$50M taxes paid to State



Fort Knox Mine

KINROSS

Fort Knox



Fort Knox Statistics

500 full time employees

\$174M /yr operating costs, 70%
spent in Alaska

\$61M/yr wages & benefits

Has done business with >500
firms in Fbks and >700
statewide

\$31M/yr electricity; saves every
GVEA customer 1cent/kwh

\$23M/yr fuel

\$2.8M/yr property taxes

>3 million hours worked with no lost time accidents

No LTA in 2010, 2009, 2008, 2007, 2006, 2004, 2001, 1999

Pogo Gold Mine

- 390,000 oz/yr
- 297 employees plus 97 full-time contractors
- Ongoing exploration
- Teck sold its share to Sumitomo Metal Mining in 2009

Kensington Gold Mine

- Began operating June 2010
- 230 employees at full production
- 100,000 oz/yr
- Ongoing exploration



RDC Board at Lower Slate Lake

Mines in Idle Status

- **Nixon Fork - Fire River Gold**
- **Rock Creek - Alaska Gold/ NovaGold**

Nixon Fork Mine

2010 Activities

- Further exploration drilling and evaluating feasibility
- Next production planned Mid-2011

17 7 2003

Rock Creek Mine

2010 Activities

- On care & maintenance with 20 employees
- 135 employees when in operation with \$10.4M/yr payroll
- NovaGold announced 9/30/10 that mine is for sale

Projects in Advanced Exploration and Permitting

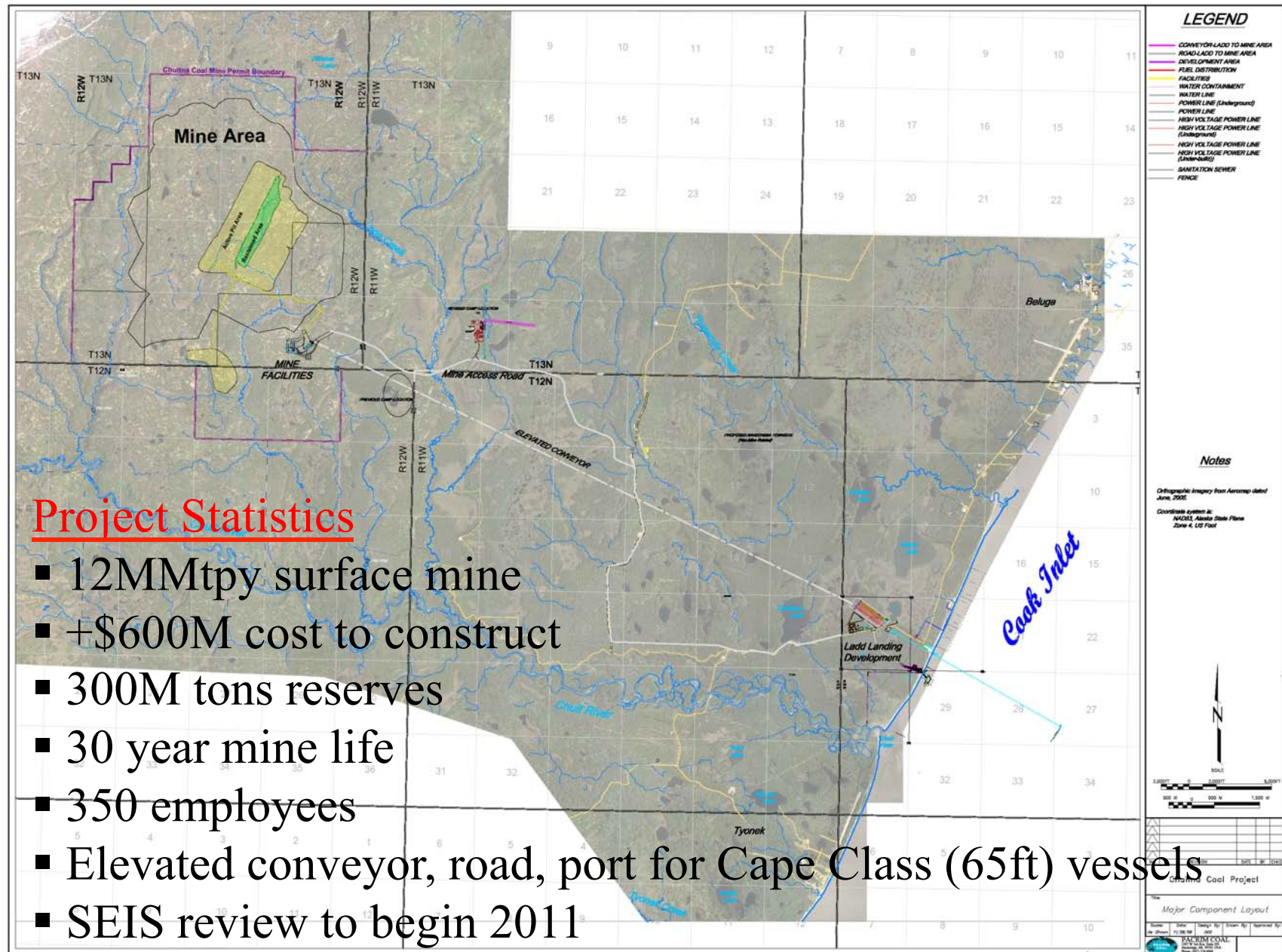
Advanced Permitting

1. Chuitna Coal PACRIM Coal

Advanced Exploration/Pre-permitting

2. Donlin Creek Barrick/NovaGold JV
3. Pebble Partnership NDM/Anglo American JV

Chuitna Coal Project



Project Statistics

- 12MMtpy surface mine
- +\$600M cost to construct
- 300M tons reserves
- 30 year mine life
- 350 employees
- Elevated conveyor, road, port for Cape Class (65ft) vessels
- SEIS review to begin 2011

Donlin Creek

2010 Activity

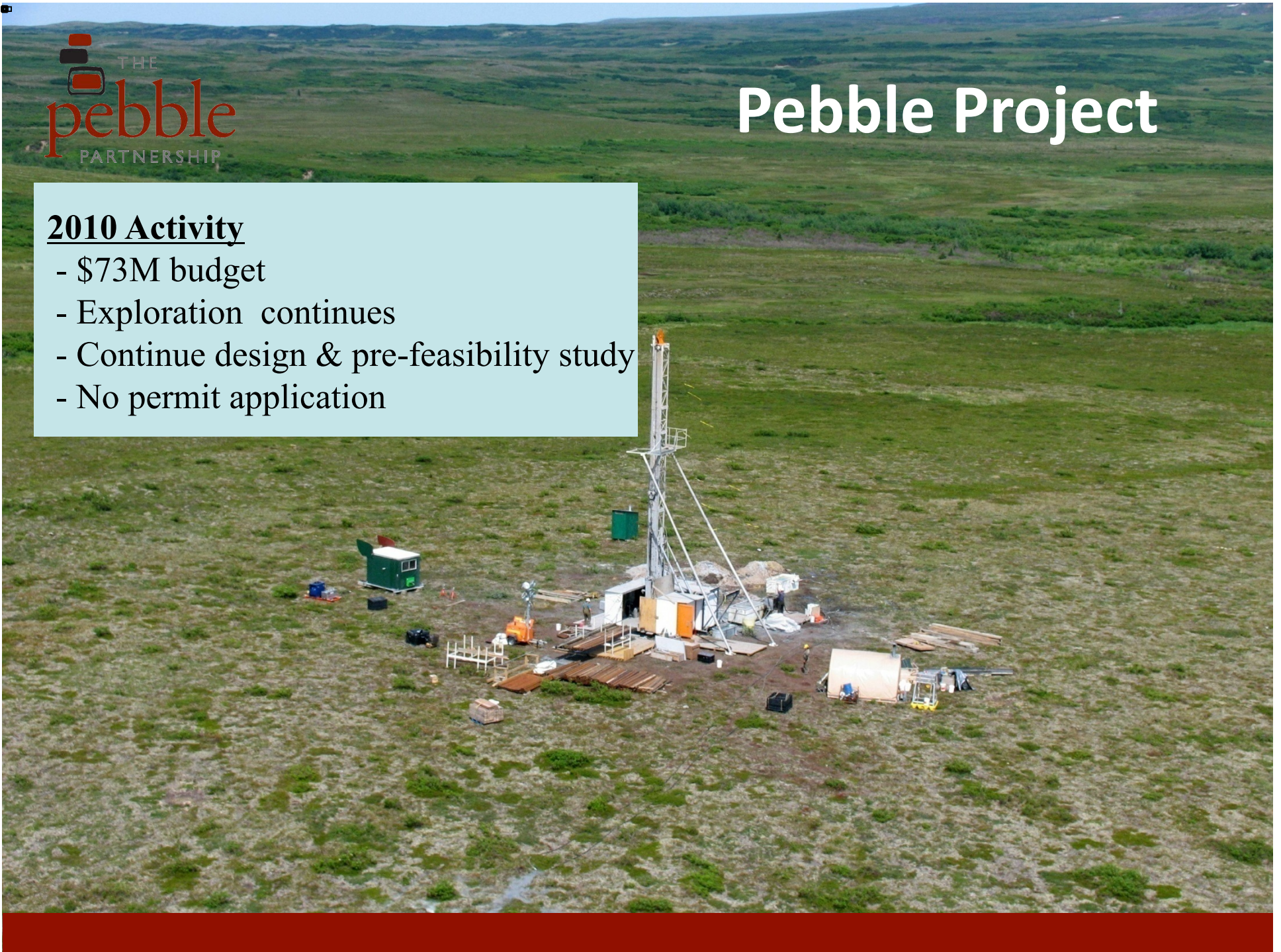
- Limited geotechnical work
- Continue to study design & options for energy
- Surveyed route for 12 inch natural gas pipeline
- Plan to begin project permitting/EIS in 2011



Pebble Project

2010 Activity

- \$73M budget
- Exploration continues
- Continue design & pre-feasibility study
- No permit application



Major Exploration Projects

- 30 projects spent >\$1 million each in 2008
- 27 projects spent >\$1 million each in 2009
- Expect similar number in 2010
- Expect higher number in 2011

Three Example Projects

- Livengood - International Tower Hill Mines
- Niblack - Heatherdale Resources
- Palmer - Constantine Resources

Palmer Project at Haines – Constantine

Copper-zinc-gold-silver VMS deposit

Discovered by Merrill Palmer in 1969

Explored by seven companies since then

Constantine spent >\$10M over past several years

