



RED DOG'S AQQALUK DEPOSIT: Mining the next 20 years

Teck



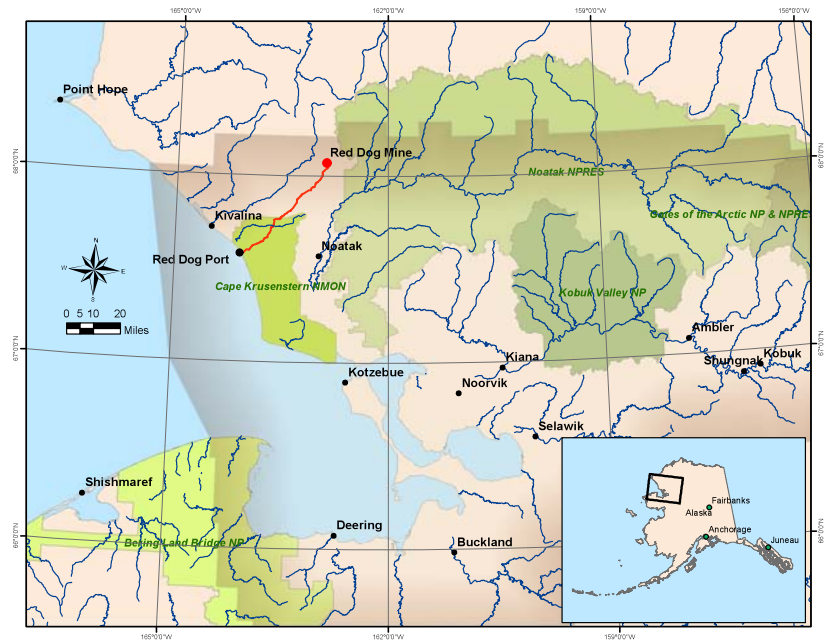
Red Dog's Aqqaluk Deposit

Mining the next 20 years

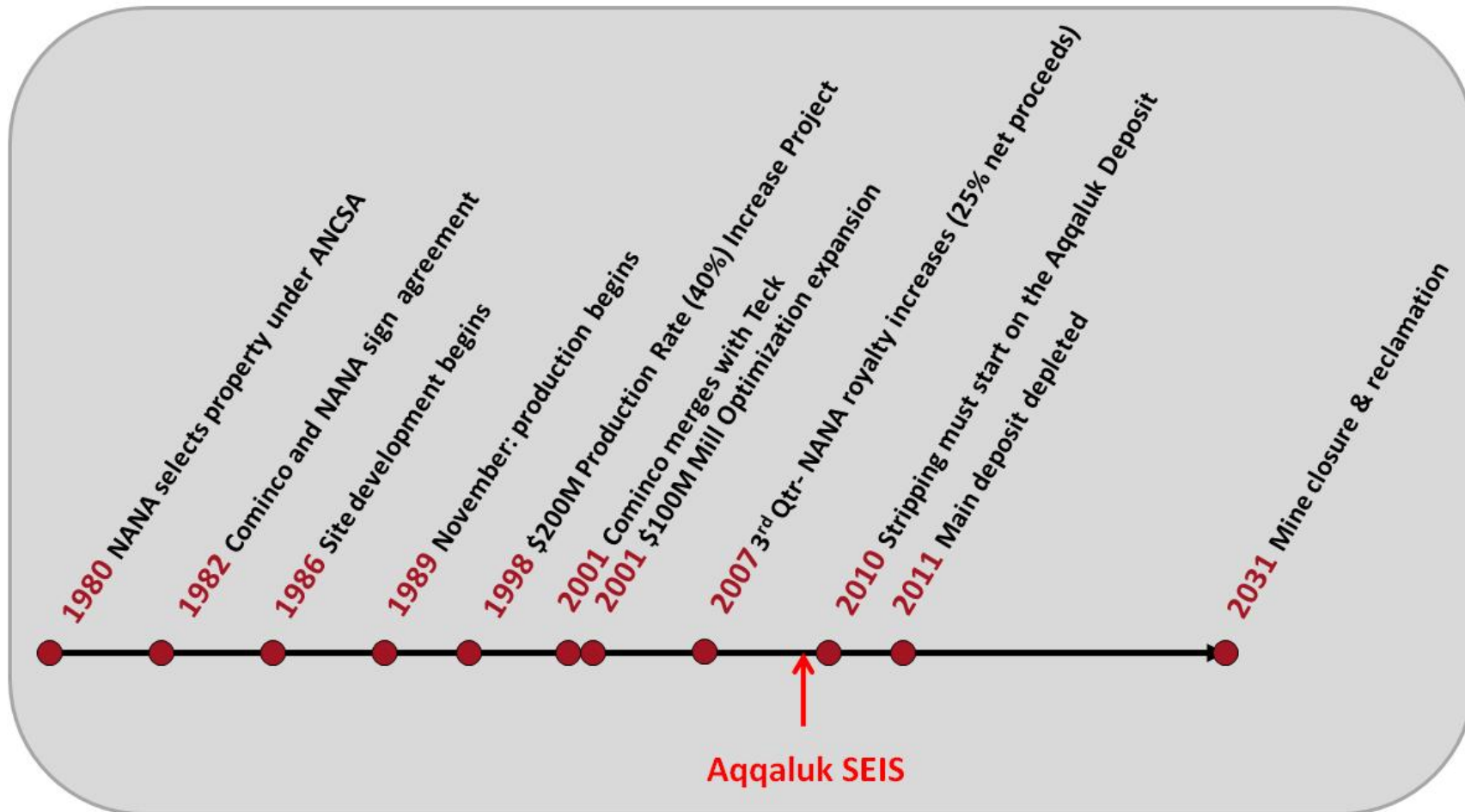
- Red Dog Overview
- History
- Benefits
- Environmental Aspects
- Recent News
- The Future
 - **Aqqaluk – Aqqaluk – Aqqaluk!**

Red Dog Overview

- One of the worlds largest producer of zinc concentrate
 - Important producer of lead concentrate
- NANA Regional Corporation
 - Landowner
- Teck Alaska Incorporated
 - Operator
- Production began November 1989
 - Known reserves sufficient for operation to 2031



Red Dog timeline



Red Dog operations agreement

Teck responsibilities

- Finance, construct and operate Red Dog
- Train, hire and advance NANA shareholders
- Provide revenue to NANA
- Protect subsistence lifestyle

In addition:

- Northwest Arctic Borough's only tax payer
- Major contributor to the State's general fund

Open pit operation



Conventional grinding & sulfide flotation



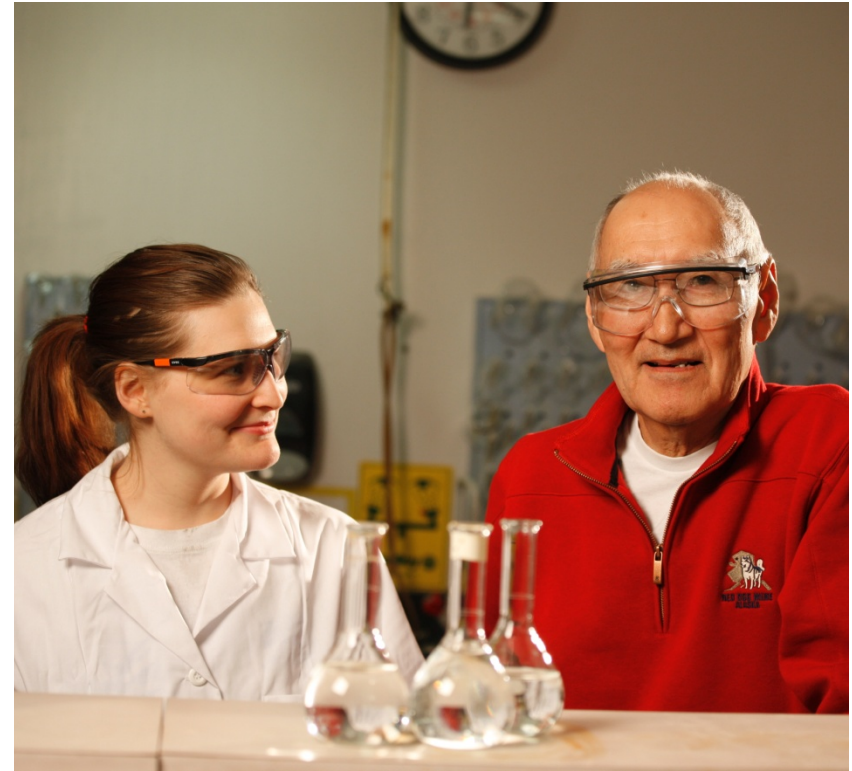
52-mile haul road



AIDEA's DeLong Mountain Transportation System (DMTS)



Economic engine for Alaska



Employment - jobs for shareholders

– Teck	390
NANA Shareholders	54%
– NANA Lynden	51
NANA Shareholders	55%
– NANA Management Services	41
NANA Shareholders	76%
– Total Workforce	569
NANA Shareholders	60%

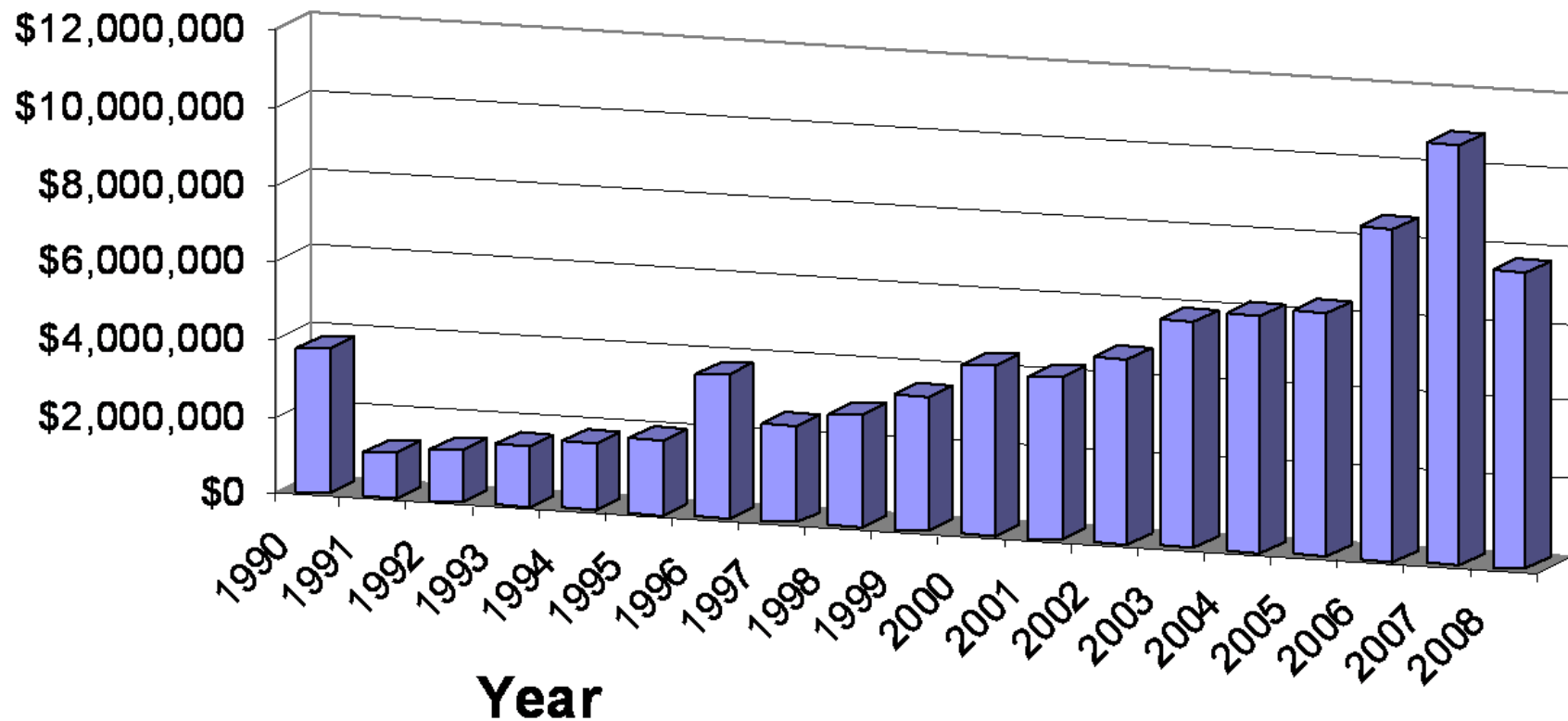
Job training and scholarships



- 2008 Training**
15,300 hours
- maintenance trades
 - mine operators
 - mill operators

- Educational Opportunities**
- Career Awareness
 - Job Shadow
 - Summer Student Programs
 - Post Secondary Scholarships

Payments to the Northwest Arctic Borough

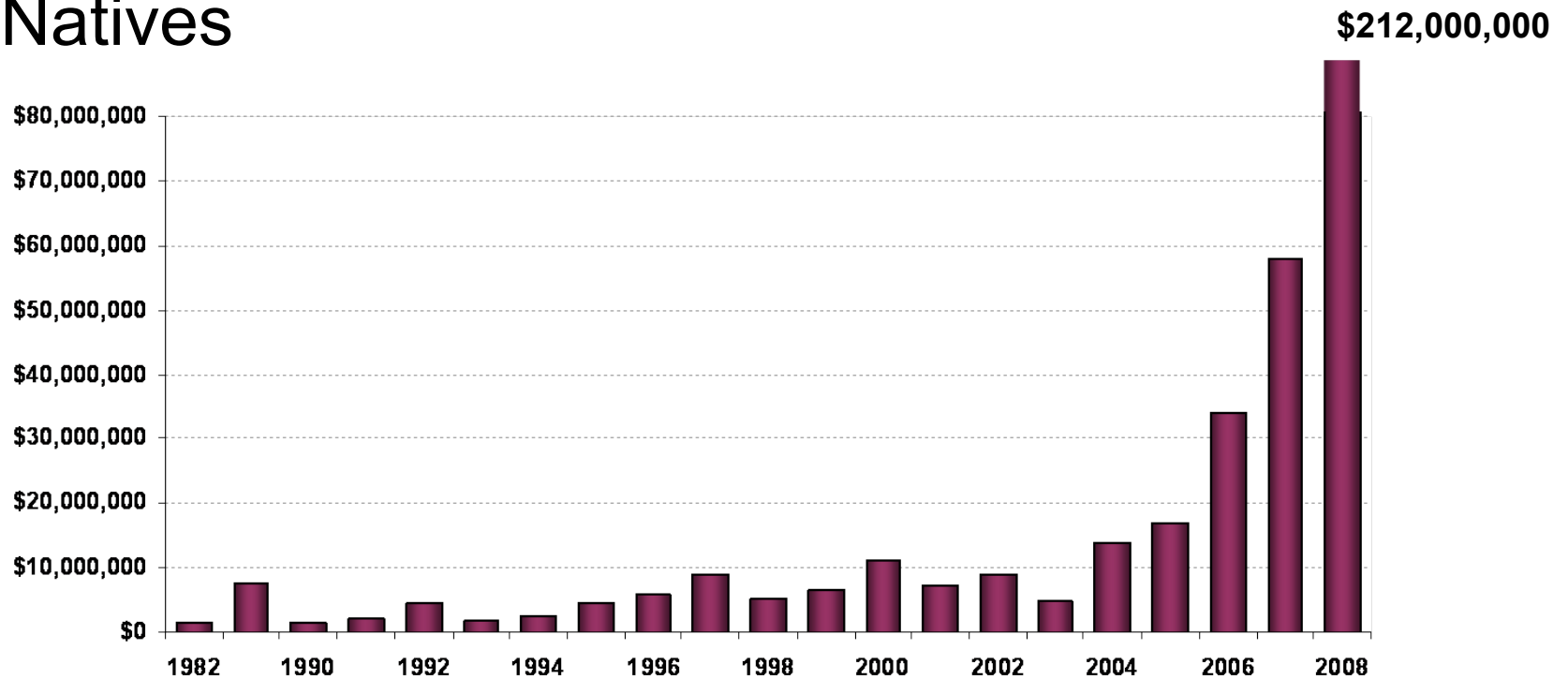


Borough uses mine payments for basic services

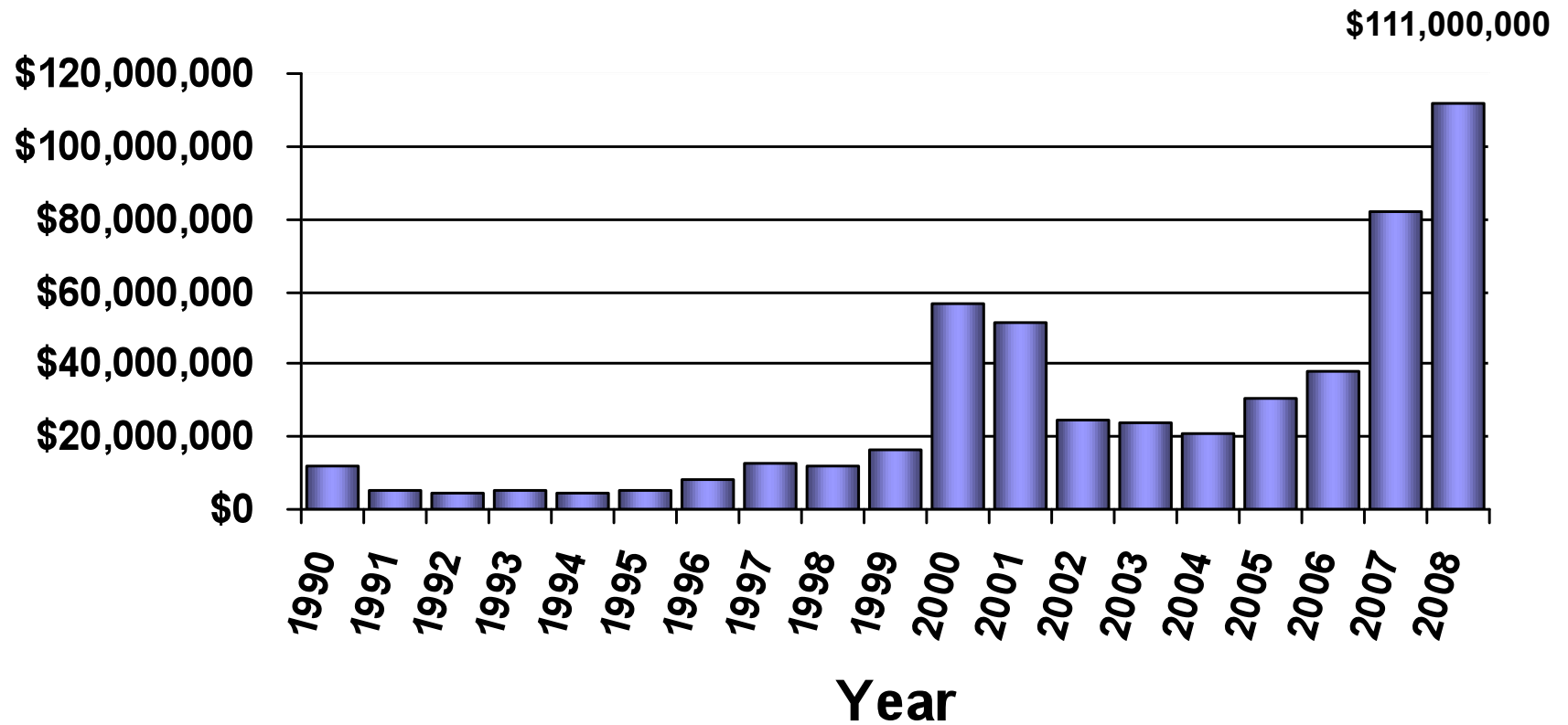


NANA royalty payments

- NANA shares the payments with all Alaska Natives



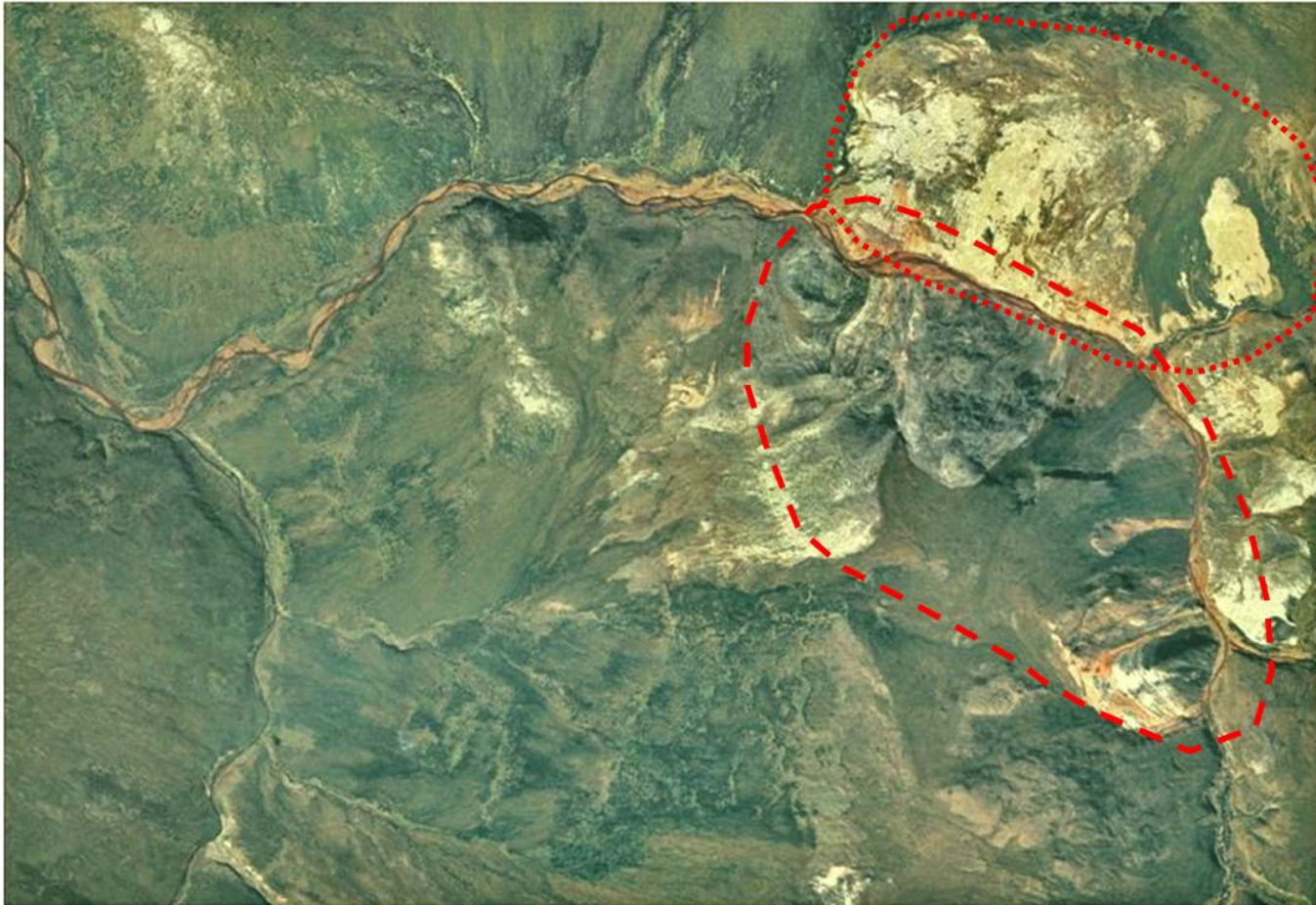
NANA joint-venture payments



Engagement -- Teck and NANA

- Community meetings
- Local government meetings
- Site visits
- Workshops
- Newsletters
- Media
 - TV, Print, Radio
- Presentations
- Internet
 - www.nana.com
 - www.teck.com
 - www.reddogalaska.com

Red Dog Creek before mining



Better than before mining

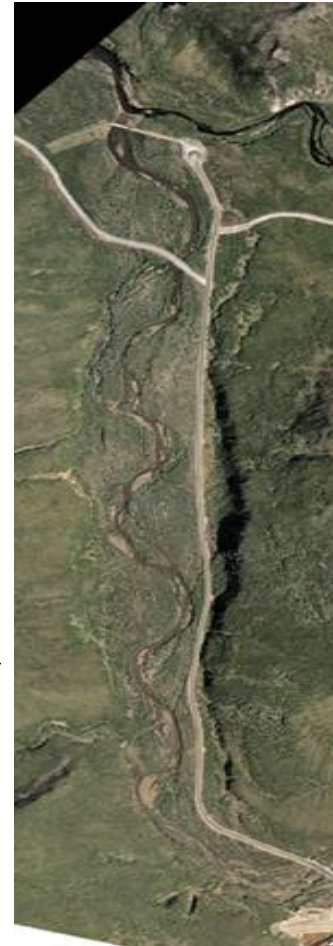


Middle Fork Red Dog Creek

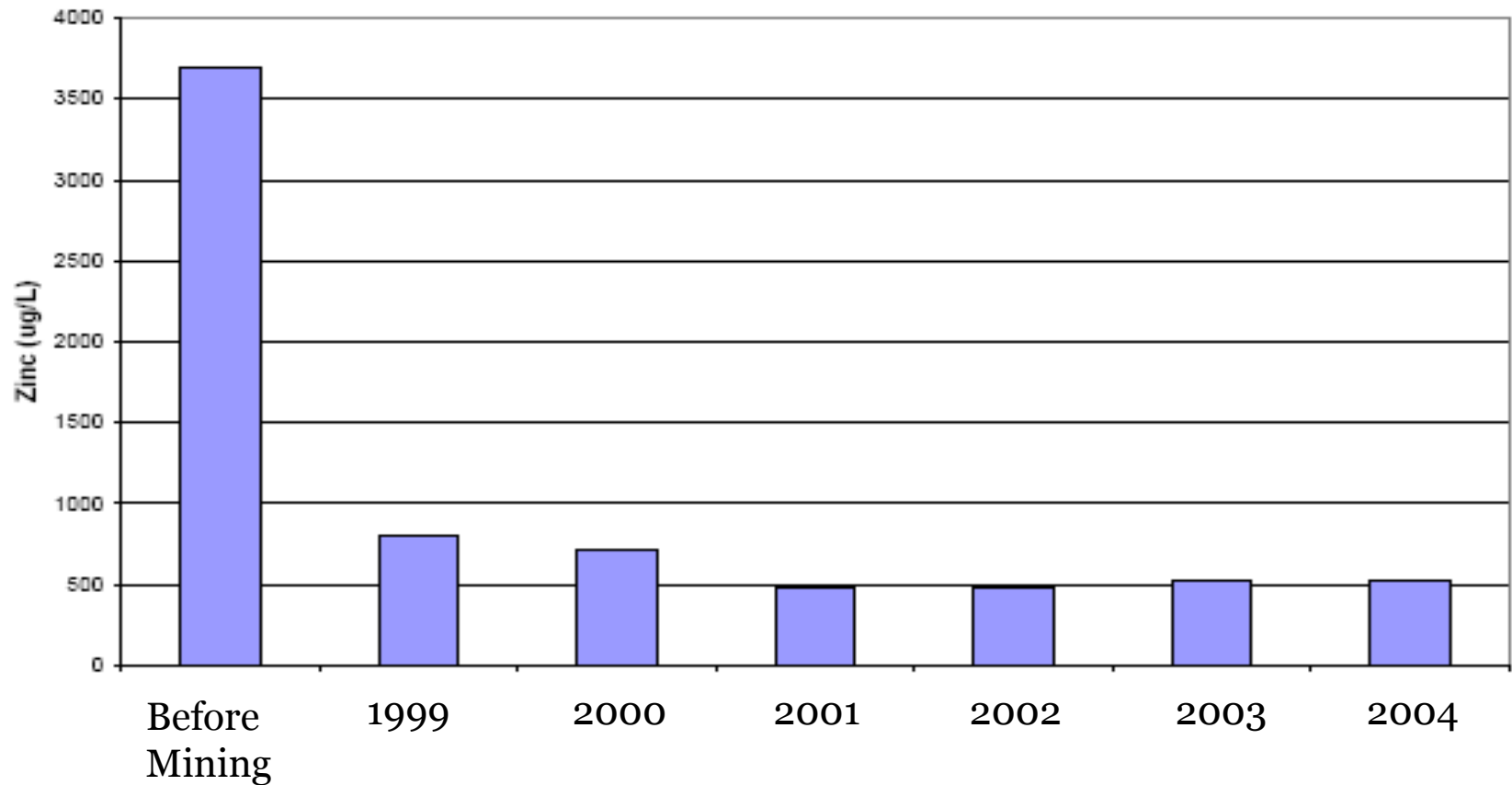
**Before
Mining →**



**After
Mining →**



Red Dog Creek - Zinc Concentrations



Source: EPA Environmental Assessment NPDES Permit (AK-003865-3) Renewal – January 2006

Protecting the Water

“Ten years of aquatic surveys have demonstrated that aquatic productivity in the Main Stem has increased from pre-mining conditions due to effective water management practices and treatment.” (*March 2006 Alaska Department of Environmental Conservation*

http://www.dec.state.ak.us/water/wqsar/wqs/pdfs/epa_case_study_reddog.pdf).

“However, the management of water flows at the mine and mill site have resulted in several positive effects to water quality of area streams.”

SEIS, Page 3-59



\$120,000 EPA Penalty

- National Enforcement Investigation Center
 - 7 inspectors for 7 days (Aug 23-30, 2006)
 - Resource Conservation and Recovery Act (RCRA)
 - Hazardous waste
 - Clean Water Act (CWA) compliance
 - Discharge permits and storm-water management
- Settled on September 10, 2009
 - NPDES permit violations and discharges

111 violations for fresh water addition



111 violations for fresh water addition



Part I.A.1 of the permit states: Effluent Samples collected shall be representative of the effluent discharged without dilution from or contact with outside water.

NPDES Permit Change

- Total Dissolved Solids (TDS)
 - 1998 = 170 mg/l (monthly) & 196 mg/l (daily)
 - 2009 = 1,500 mg/l in-stream
 - Identical to Compliance Order parameters
 - CaSO_4
- Some metals limit changes
 - Up and down
- Some parameters added, some removed

Aqqaluk permitting

- Supplemental Environmental Impact Statement (SEIS)
 - Supplements the 1984 EIS
 - Started in May 2007
- Lead Agency
 - EPA – Region 10
- Cooperating Agencies
 - Corps Of Engineers (wetlands)
 - Alaska Large Mine Permitting Team (everything)
 - DEC, DNR, Attorney General's Office
 - National Park Service (fugitive dust)
 - Northwest Arctic Borough (land use)
 - Maniilaq (human health)
 - Kiana, Kobuk, Noatak, Noorvik, Selawik, Shungnak, Kivalina, Kotzebue, Buckland and Deering

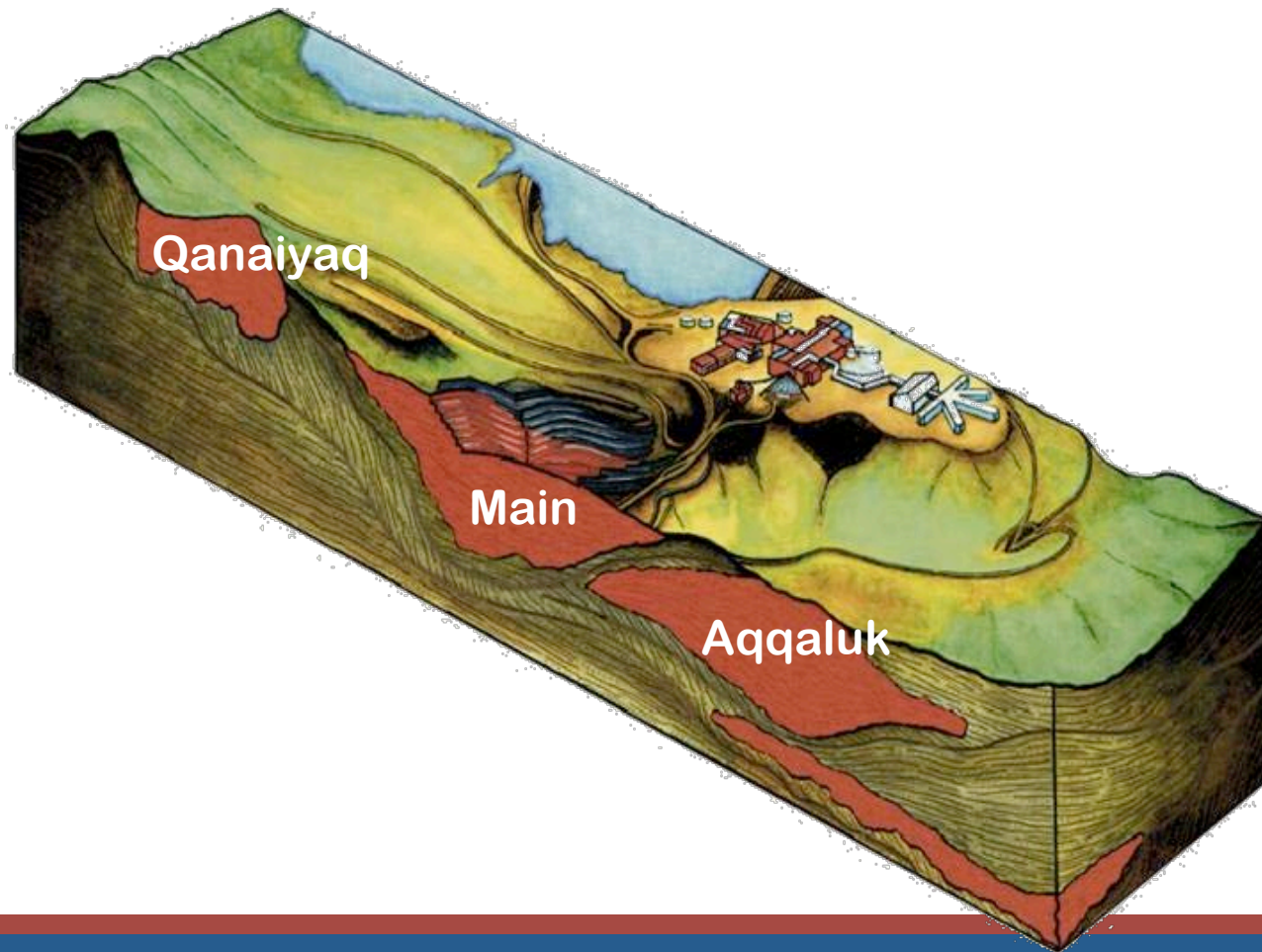


Robert Newlin - Aqqaluk
Past Chairman NANA Board

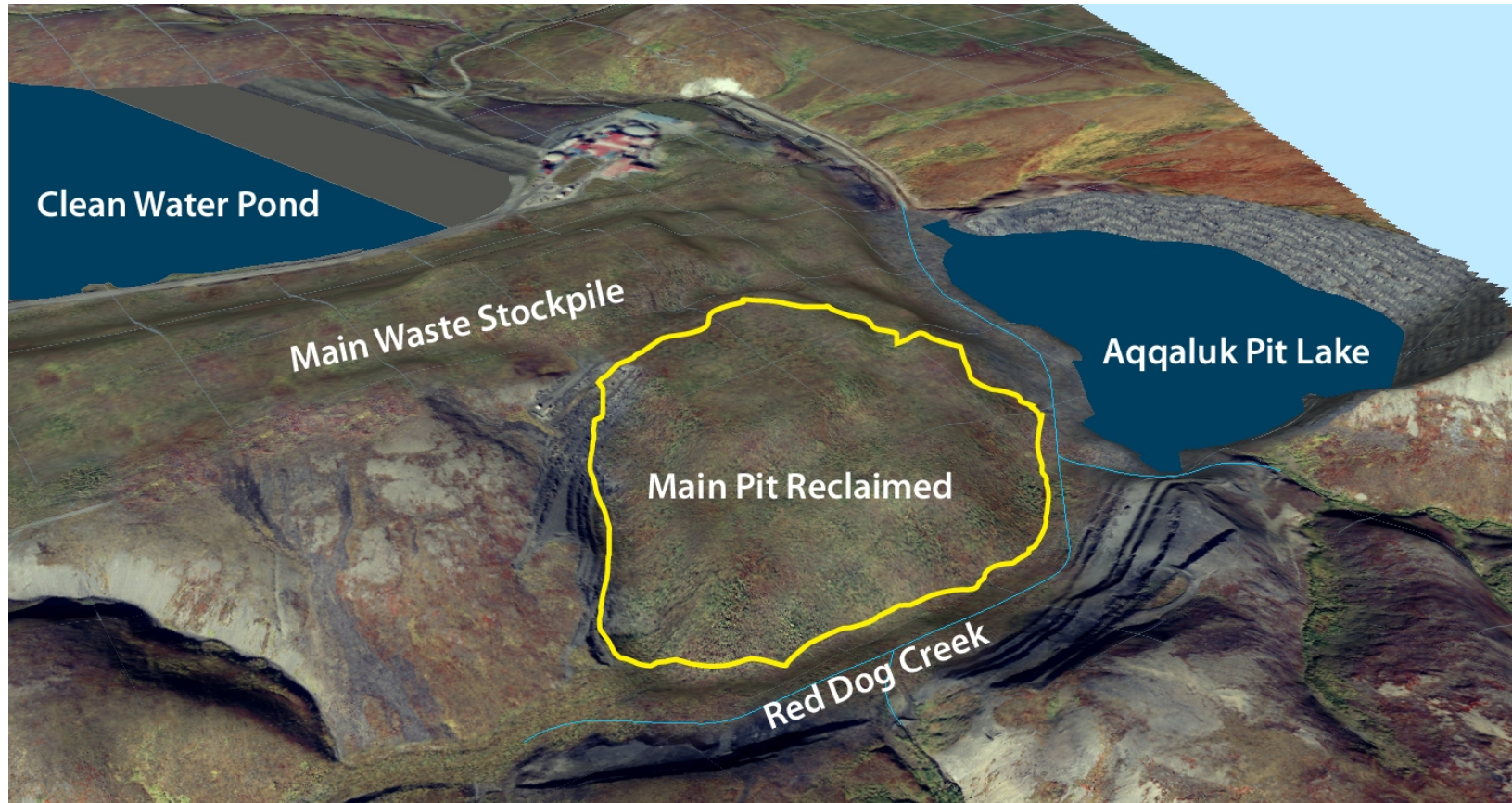
Aqqaluk Deposit



Red Dog - Open Pit Deposits



Reclamation and closure plan



Reclamation - ongoing process



Aqqaluk SEIS schedule

Date	Aqqaluk Calendar of Events
October 9, 2009	Aqqaluk Notice of Availability FSEIS Release
October 9 – Nov 9, 2009	Aqqaluk 30 Day Comment Period
November 2009	Aqqaluk Record of Decision & NPDES Permit
November – December 2009	Aqqaluk Appeal Period
December 2009	NPDES Permit – Effective
December 2009	COE Wetland Permit
December 2009	DEC Waste Management Permit
December 2009	DNR Reclamation Plan
December 2009	Northwest Arctic Borough Plan

What mining brings to Alaska

- Stronger local economies
- More self-reliant communities
- Educational resources and opportunities
- Good – well paying jobs that allow residents to stay in there communities and villages
- Important monies for state and local government
- Significant revenue for Alaskan businesses

- And...important metals needed for society

Taikuu (Thank You) – Questions?

