

RED DOG MINE DRAFT WASTE MANAGEMENT PERMIT



ISSUED BY
ALASKA DEPARTMENT OF ENVIRONMENTAL
CONSERVATION

Introduction

1989 – mining began

1996 – new Solid Waste Disposal regulations enacted

1996-2009 – Red Dog operates according to regulations but without an integrated Waste Management Permit (WMP)

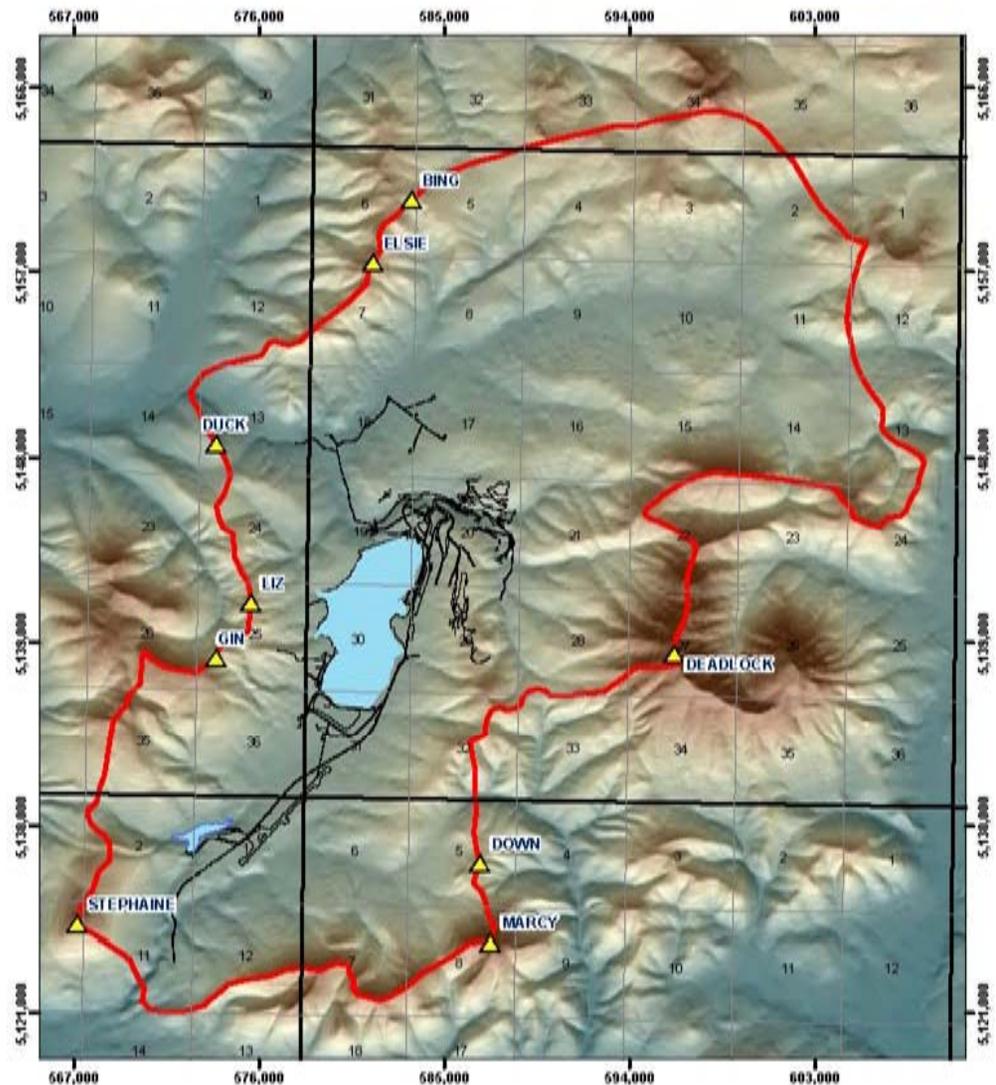
2004 – started planning closure with public collaboration

2009 – formally finalizing an integrated WMP



WMP is

- Permission to dispose of solid & liquid wastes within a designated area provided that Solid Waste Disposal, Wastewater Discharge, & Water Quality regulations are observed
- Administered by Alaska Dept. of Environmental Conservation
- Solid waste = rock, tailings, construction debris, household, inert, sludge, & non-hazardous
- Liquids = collection, storage, and treatment systems for mine runoff, seepage, process water, and equipment wash water
- Monitoring Plan
- Closure & Reclamation Plan
- Financial responsibility for mine closure & post-closure activities



Teck Cominco Alaska Red Dog Mine

- ▲ Survey Control Boundary
 - ▭ Solid Waste Permit Boundary
- 0 2,500 5,000 10,000
Feet

WMP is not

- Concerned with the area outside the mine boundary
- Permission to discharge to surface water
- Air discharge permit
- Supplemental Environmental Impact Statement
- Federal permit or action
- Permission to dispose of hazardous substances



WMP Sections

1. Specific Permit Conditions
2. General Permit Conditions
3. Financial Responsibility for mine maintenance and monitoring through closure and beyond
4. Glossary of Terms
5. Facility Boundary Map
6. Supporting Documents (42) for the Monitoring and Closure Plans



1. Specific Conditions

- Disposal Sites
- Wastes Allowed
- Site Maintenance
- Site Construction & Operation
- Inert Solid Waste Landfills
- Monitoring
- Quality Assurance Requirements
- Modified Limits
- Reporting
- Corrective Actions
- Temporary Closure
- Permanent Closure
- Proof of Financial Responsibility
- Facility Audit
- Pollution Prevention Strategy



Monitoring Plan

1. Introduction
2. Operations
3. Closure
4. Post Closure
5. Quality Assurance & Quality Control Procedures
6. Reporting
7. References, Tables, & Figures



Operations Monitoring

- Biomonitoring Program
- Permafrost & Sub-Permafrost Groundwater
- Mine Water Management
- Waste Rock Management
- Tailings Management
- Inert Solid Waste Landfills
- Milling & Mining Activities
- Reclamation
- Dust Monitoring
- Wildlife Monitoring
- Water Quality Profiles



2. General Conditions

- Access & Inspection
- Information
- Civil & Criminal Liability
- Availability
- Adverse Impact
- Cultural Preservation
- Application for Renewal
- Other Obligations
- Transfer of Ownership
- Toxic Pollutants & Automatic Upgrades



3. Financial Responsibility

- Suspended Operations = 5 years at \$13.29 million per year for site maintenance and water treatment
- Closure Earthwork = 2 years at \$33.35 million per year for reclamation and water treatment
- Post Closure = in perpetuity water treatment at \$10.54 million
- Net Present Value = \$304.52 million



Conclusions

- Culmination of joint technical and public process lasting more than 5 years
- Vast amount of detail throughout
- Permit term lasts 5 years
- Last scheduled series of public meetings before issuance of this permit

