

## Chapter 10 Index

---

### Agency Roles and Responsibilities, **1-11**

- Cooperating agencies, 1-9
- Existing permits and approvals, 1-20
- Required permits and approvals, 1-12
  - Federal, 1-12
  - State, 1-16
- Responsible official and decision to be made, 1-11

### Air access, **2-13**

- Access disposition, **2-71**
- Access management, **2-71**
- Access type, **2-69**
- Airstrip, 2-13

### Air Quality, **3-38, 4-58**

- Clean Air Act, 7-1
- Impacts, **4-58**
- Site meteorology, **3-38**

### Alternatives. *See* Environmental Impact Statement (EIS) / EIS process / Alternatives identification

- Applicant's Preferred Alternative (Alternative 2), 2-2
- No Action Alternative, 2-1, **4-1**
  - Assumptions, **4-1**

### Bridges, **2-9, 2-11**

### Bus station, 2-12

### CEQ. *See* Council of Environmental Quality

### Clean Air Act, **7-1**

### Clean Water Act, **7-2**

### Commodities Transport, **2-33**

### Communications, **2-36**

### Construction Camp Location, **2-59**

### Consultation and Coordination, **8-1**

- Federal agencies, 8-2
- Government-to-Government, 8-2

### Non-government organizations, 8-3

- Scoping, 8-1
- State of Alaska, 8-2

### Consultation and Coordination with Indian Tribal Governments Executive Order, **7-12**

### Contingency Planning, **2-44**

### Cooperating Agencies. *See* Agency Roles and Responsibilities

### Council of Environmental Quality, **1-8**

### Cultural Resources, **3-147, 4-151**

- Historic environment, 3-149
- Impacts, **4-151**
- National Historic Preservation Act, 7-4
- Prehistoric and contact period resources, 3-147
- Project area sites, 3-150

### Cumulative Impacts, **4-4, 4-185**

- Assumptions, 4-4
- Summary discussion, 4-193

### Cyanide. *See* Milling process

### Dean Cummings Crossing. *See* Surface Access / Access route options

### Definitions

- Alternative, 2-1
- Component, 2-1
- Option, 2-1

### Development Rock Storage, **2-17, 2-59**

### Development Schedule, **2-45, 2-46**

### Dry-Stack Tailings Storage. *See* Tailings Disposal

### Effects of Short-Term Uses on Long-Term Productivity, **4-199**

### EIS. *See* Environmental Impact Statement



- Endangered Species Act, **7-5**
- Environmental Impact Statement (EIS), **1-8**
- Agency determination of preferred alternative, 5-1
  - EIS document structure, 1-21
  - EIS process, 1-8
    - Alternatives identification, **2-73**
    - Description of options, 2-56
    - Issues evaluation criteria, 2-50
    - Issues identification, 2-47, 2-50
    - Options development, 2-52
    - Options screening, 2-72
  - Environmental consequences
    - Common options summary impacts table, 5-2
    - Options not related to access summary impacts table, 5-9
    - Options related to access summary impacts table, 5-16
  - Identification of environmentally preferable and preferred alternatives, 5-41
  - Purpose and need for action, 1-1
  - Summary impacts analysis, 5-30
- Environmental Justice Executive Order, **7-8**
- Explosives Handling, **2-34**
- Fish and Aquatic Habitat, **3-63, 4-94**
- Essential fish habitat (EFH), 7-6
  - Goodpaster River, 3-64
  - Impacts, **4-94**
  - Magnuson-Stevens Fishery Conservation and Management Act, 7-6
  - Shaw Creek, 3-74
- Fish and Wildlife Protection, **2-40**
- Floodplain Management Executive Order, **7-6**
- Fuel Supply and Storage, **2-30, 2-63**
- Geology, **3-1**
- Geotechnical Considerations, **3-2**
- Goodpaster River Valley winter route. *See* Surface Access / Access route options
- Government-to-Government Consultations, 1-10, 2-48
- Consultation and Coordination with Indian Tribal Governments executive order, 7-12
- Issues raised during consultations, 7-16
- Gravel Source, **2-59**
- Impacts, 4-36
- Groundwater Hydrology, **3-14, 4-15**
- Geologic units, 3-14
  - Groundwater occurrence, 3-15
  - Hydrogeologic setting and sources of data, 3-14
  - Impacts, **4-15**
- Human-wildlife contact. *See* Fish and Wildlife Protection
- Hydrogeomorphic (HGM) Approach. *See* Wetlands / Functions
- Irreversible & Irrecoverable Commitments of Resources, **4-199**
- Land Use, **3-114, 4-138**
- Existing land use, 3-121
    - Commercial, industrial and military, 3-121
    - Residential, recreational cabins, and other private parcels, 3-122
    - Transportation and infrastructure, 3-122
  - Federally designated military lands, 3-121
  - Impacts, **4-138**
    - Timber harvest, 4-139, 4-175
  - Land management plans, 3-114
    - Fairbanks North Star Borough Comprehensive Plan, 3-121
    - Tanana Basin Area Plan, 3-114
    - Tanana Valley State Forest Management Plan, 3-118
- Laydown Areas, 2-17, 2-60
- Magnuson-Stevens Fishery Conservation and Management Act, **7-6**
- Material Sites, **2-30**
- Memorandum of Understanding, **1-8**
- Migratory Bird Protection Executive Order, **7-8**
- Mill and Camp Location, **2-59**



- Milling Process, 2-14, 2-56
  - Cyanide, 2-14, 2-15, 2-21, 2-24, 2-27, 2-34, 2-35, 2-56
- Mine Closure and Reclamation, **2-41**
  - Access and site roads, 2-43
  - Adit shaft and underground workings, 2-42
  - Airstrip, 2-43
  - Mill and camp complex, 2-41
  - Power transmission lines, 2-43
  - Rock and overburden storage piles, 2-42
  - RTP dam, 2-42
  - Tailings dry stack, 2-42, 2-46, 2-47
  - Water and monitoring wells, 2-43
- Mine Equipment, **2-35**
- Mine Safety, **2-39**
- Mine Site Plan, **2-2**
- Mining Method, 2-13
- Mitigation, **4-194**
- Monitoring, **2-43**, 4-194
- Monte Carlo model, 4-21
- MOU. See Memorandum of Understanding
- National Environmental Policy Act, **1-8**
- National Historic Preservation Act, **7-4**
- National Pollutant Discharge Elimination System, **1-8**
- NEPA. See National Environmental Policy Act
- No Action Alternative. See Alternatives
- Noise, **3-39**, **4-60**
  - Ambient noise levels, 3-43
  - Impacts, **4-60**
    - Shaw Creek flats winter-only access, 4-72
    - Shaw Creek Road, 4-66
    - Shift change traffic, 4-69
    - Shift change traffic, 4-68
  - Introduction to acoustics, 3-40
  - Noise and vibration criteria, 3-41
  - Noise Control Act, 7-3
  - Noise level descriptors, 3-40
  - Project area land use, 3-41
- Noise Control Act, **7-3**
- NPDES. See National Pollutant Discharge Elimination System
- Organic and Growth Media Management, **2-32**
- Paste Backfill. See Tailings Disposal
- Perennial winter trail. See Surface Access / Access type
- Permafrost, **3-2**
- Permits and Approvals. See Agency Roles and Responsibilities
- Physiography, **3-1**
- Power line. See Power Supply
- Power Supply, **2-27**, 2-60
  - On-site generation, 2-60
    - Impacts, 4-50, 4-59, 4-80, 4-98, 4-108, 4-140, 4-147, 4-175
  - Power line, **2-27**
    - Impacts, 4-41, 4-55, 4-59, 4-79, 4-84, 4-87, 4-90, 4-106, 4-122, 4-140, 4-146, 4-149, 4-159, 4-175
    - Power line route, 2-71
- Project
  - History, 1-2
  - Land status, 1-2
  - Location, 1-2
- Project Design Criteria, **2-2**
- Project Shutdowns, **2-44**
  - Long-term shutdown plan, 2-45
  - Short-term shutdown plan, 2-44
- Protection of Children from Environmental Risks Executive Order, **7-12**
- Purpose and Need for Action. See Environmental Impact Statement (EIS)
- Railroad. See Surface Access / Access type
- Reagent Handling, **2-34**

- Reclamation, **4-194**
- Recreation, **3-158**  
 Recreation areas and activities, 3-158  
 Recreation opportunity spectrum, 3-161
- Refuse Disposal, **2-32**
- Safe Drinking Water Act, **7-4**
- Safety, **4-178**  
 Impacts, **4-178**  
 Shaw Creek Flats winter only access, 4-180  
 Shaw Creek Road, 4-178  
 South Ridge all-season road, 4-179
- Scoping, **1-9**  
 Comments, 1-9, **2-49**  
 How scoping proceeded, 2-48  
 Issues, 1-10  
 Issues raised during Government-to-Government consultations, 7-16  
 Open houses, 1-9  
 Responsiveness Summary, 1-9
- Seismic Considerations, **3-2**
- Shaw Creek Flats winter-only access. See Surface Access
- Shaw Creek Hillside all-season road. See Surface Access
- Shift changes, **2-12**
- Socioeconomics, **3-96, 4-124**  
 Delta area, 3-97  
 Fairbanks North Star Borough, 3-109  
 Impacts, **4-124**  
 Socioeconomic project area, **3-96**
- Soils, **3-2**
- South Ridge all-season road. See Surface Access
- Spill Containment, **2-35**
- Subsistence, **3-130, 4-144**  
 Contemporary resource use patterns, 3-135  
 Contemporary use areas and species, 3-139  
 Definition, 3-130
- Historical patterns of resource use, 3-131  
 Impacts, **4-144**  
 Traditional use areas versus band territorial boundaries, 3-133
- Surface Access, **2-9, 2-64, 2-65, 2-66**  
 Access design, 2-68  
 Access disposition, **2-69**  
 Access management, 2-68  
 Access route options, 2-64  
 Access type, 2-64, 2-68  
 DOF road, 4-141  
 Richardson Highway egress, **2-66**  
 Technical and economic feasibility, 4-183  
 Shaw Creek Flats winter only access, 2-66  
 Impacts, 4-14, 4-56, 4-88, 4-101, 4-116, 4-124, 4-150, 4-154, 4-171, 4-177  
 Technical and economic feasibility, 4-184  
 Shaw Creek Hillside all-season road, **2-9, 2-64, 2-69**  
 Impacts, 4-13, 4-52, 4-66, 4-81, 4-99, 4-123, 4-141, 4-148, 4-150, 4-153, 4-161, 4-176  
 South Ridge all-season road, 2-66  
 Impacts, 4-14, 4-55, 4-86, 4-100, 4-114, 4-142, 4-154, 4-164, 4-177  
 Technical and economic feasibility, 4-183
- Surface Disturbance, **2-37, 4-91**  
 Impacts, **4-91**
- Surface Water Hydrology, **3-3, 4-6**  
 Drainage basin physiography and topography, 3-3  
 Flood estimates, 3-5, 3-11  
 Impacts, **4-6**  
 Site meteorology, 3-11, 3-12  
 Stream flow, 3-5
- Tailings Disposal, **2-15, 2-57**  
 Dry-stack tailings storage, 2-15  
 Impacts, 4-7, 4-15, 4-16, 4-25, 4-26  
 Paste backfill, 2-15
- Tailings Facility Liner  
 Impacts, **4-19, 4-46**
- Technical and Economic Feasibility, **4-181**



- Richardson Highway egress, 4-183
- Shaw Creek Flats winter only access, 4-184
- South Ridge all-season road, 4-183
- Threatened, Endangered, and Sensitive Species, **3-92, 4-121**
  - Endangered Species Act, 7-5
  - Impacts, **4-121**
- Timber harvest. See Land Use / Impacts / Timber harvest
- Traditional winter road. See Surface Access / Access type
- Traffic
  - Shaw Creek Hillside All-season road, **2-11, 4-178**
  - South Ridge all-season road, 4-179
- Tribal Governments. See 1. Government-to-Government Consultations
- Utilities, **3-162**
- Vegetation, **3-47**
- Visual Resources, **3-153, 4-156**
  - Constituents, 3-157
  - Existing visual quality, 3-153
  - Impacts, **4-156**
  - Landscape visibility, 3-157
  - Visual absorption capability, 3-157
- Water Discharge, **2-26, 2-60**
  - Artificial wetlands, 2-61
  - Direct discharge to Goodpaster, 2-61
  - Domestic wastewater, **2-27, 2-61**
  - Impacts
    - Direct discharge to Goodpaster, 4-11, 4-46, 4-48, 4-80, 4-97, 4-108, 4-147
    - Domestic wastewater, 4-37
    - Domestic wastewater, 4-9
    - Injection wells, 4-11, 4-18, 4-41, 4-46, 4-80, 4-96, 4-97, 4-108
    - Off-river treatment works, 4-12, 4-50, 4-80, 4-98, 4-109, 4-147
    - Soil absorption system, 4-10, 4-18, 4-79, 4-96, 4-108
    - Industrial wastewater, **2-27**
    - Injection wells, 2-61
    - Off-river treatment works, 2-61
    - Soil absorption system, **2-26, 2-61**
    - Treatment, **2-26**
- Water Management, **2-18**
  - Fresh makeup water, **2-24**
  - Mill process, **2-21**
  - Mine water, **2-24**
  - Recycle tailings pond, **2-24**
  - Surface water runoff, **2-21**
- Water Quality, **3-22, 4-19**
  - Clean Water Act, 7-2
  - Groundwater quality, **3-32**
  - Impacts, **4-19**
  - Safe Drinking Water Act, 7-4
  - Surface water quality, **3-22**
  - Toxicity testing, **3-31**
- Water Supply, **2-60**
  - Impacts, 4-9, 4-17, 4-37
  - Potable water, 2-26
- Wetlands, **3-53, 4-73**
  - Functions, 3-57
    - Hydrogeomorphic (HGM) approach, **3-57**
  - Impacts, **4-73**
  - Wetland extent and locations, **3-53**
  - Wetlands Protection executive order, 7-7
- Wetlands Protection Executive Order, **7-7**
- Wildlife, **3-75, 4-102**
  - Birds, 3-76
    - Migratory Bird Protection executive order, 7-8
  - Habitat values, 3-75
  - Impacts, **4-102**
  - Mammals, 3-80
- Worker Accommodations, **2-35**
- Workforce, **2-36**