

Subsurface Resources

Background

Locatable Minerals

The development of locatable minerals, primarily gold, has been an important part of the settlement and economy of Alaska and as well as within the planning area, with much of this activity occurring historically near Nome. Now the planning area is receiving renewed interest in the exploration for locatable minerals including gold, copper, and zinc among others. This renewed interest is based on the current high prices of base metals (2008) in general and specifically, to the price of gold. Some areas that were originally explored in the 1950's are receiving renewed interest because of the rise in base metal prices. The development of mineral resources on Native corporation land in this area has contributed to local, regional, and state economies. The selection of federal land for conveyance to the state within the planning area was primarily based on its potential for coal or mineral development.

Major mining operations in this area are primarily hardrock, open pit mines. Currently, Red Dog mine is the only large scale mining operations in production. The Red Dog mine began development in 1986 and is currently the worlds largest zinc mine. Rock Creek and Big Hurrah mines should be starting production in the near future. The Rock Creek and Big Hurrah mines are open pit gold mines.

Placer mines in this area tend to be small in scale and owned by individuals who mine seasonally. Placer mines are primarily centered around the communities of Candle, Deering, and Granite Mountain.

Coal Resources

Interest in coal resources has occurred since the late 1700's with commercial development in Alaska beginning in 1855. Coal mining has been documented at several locations in northwest Alaska beginning in 1879 at Corwin Bluff east of Cape Lisburne. Other coal mines have since been developed in this area primarily to provide coal for shipboard use, local communities and for local placer operations. The area is currently experiencing renewed interest in the development of the coal resources in the western arctic. New exploration is currently underway on a large area of native, state and federal lands selected for conveyance. The exploration area is generally occurring east and north of Cape Lisburne extending to the boundary of the National Petroleum Reserve Alaska (NPR).

The bituminous coal beds in the western arctic are found in east-west trending anticlines and synclines of the non-marine Nanushuk formation. These coal beds have high commercial and economic value due to their thermal and coking potential. The high value coal beds lie on native, state, and federal lands in the western arctic near cape Lisburne. The western arctic coal beds are entirely within the Lisburne region and extend easterly into NPR.

Oil and Gas Resources

There is little interest and little exploration for oil and gas development in this area of the state with the exception of exploration of the Outer Continental Shelf (OCS). The OCS has been explored recently for gas potential and may be offered for lease by the state in the near future. Known gas reserves of the OCS are not believed to extend inland.

Decisions regarding leasing for oil and gas and other energy resources will not be addressed in this plan. Oil and gas lease sales are specifically not subject to this planning process and follow the requirements of AS 38.05.180. See also the discussion of oil and gas resources that follows.

Goals

Opportunities for Mineral Exploration and Development. Provide opportunities through state land management for the exploration and development of mineral resources.

Economic Opportunities. Provide economic opportunities and stability by managing state lands for the efficient and environmentally sound:

- transfer of minerals from uplands to transport vessels;
- disposal of tailings;
- development of state land and submerged land mining sites; and,
- siting of infrastructure to support development of mineral resources.

Management Guidelines

The following requirements pertain to Locatable minerals.

A. Mineral Exploration. By statute, exploration for locatable minerals is allowed on all state lands. A land use permit is required under most circumstances. Hand prospecting and exploration activities generally do not require a permit. DNR may determine that some forms of access will not be allowed in specific areas to avoid resource damage.

B. Open to Mineral Location. By statute, all state lands are open to mineral location unless specifically closed. Where an area is open to mineral location, a miner has the right to stake a mining location regardless of the surface use designation or classification. Any adverse effects of mining on surface resources or uses will be managed through compliance with state laws and regulations and borough ordinances and management intent and

guidelines in this plan. Reclamation activities are directed by the Mining Reclamation Act (AS 27.19) and regulations (11 AAC 97). (Note: Mineral entry on Alaska Mental Health Trust Land is not authorized without the prior approval of the Trust Land Office of DNR in accordance with 11 AAC 99.)

C. Reclamation of Mined Land. The reclamation of mining operations, including placer mining, must meet the reclamation standards given in AS 27.19. The reclamation law provides a standard that miners must meet during and after mining. The mining operation must be conducted in a manner that prevents unnecessary and undue degradation of land and water resources and requires that reclamation occur “contemporaneously” with the mining operation. Regulation 11 AAC 97 (Mining Reclamation) details the specific requirements that must be followed. In designated habitat areas, annual reclamation will be required concurrent with mining. Reclamation will be required to restore degraded fish and wildlife habitat and prevent hazards to navigation.

D. Mining in Fish Habitat. A permit for mining in or adjacent to designated fish habitat, will require as stipulations of the permit any necessary measures, such as levees, berms, seasonal restrictions, and settling ponds that will allow the operation to meet water quality standards and statutes and regulations governing the protection of fish. Mining in fish habitat requires permits from DEC and ADF&G. ADF&G permits are not required in marine waters or estuarine areas outside of the intertidal channel of specified anadromous fish streams. The intertidal channel is that portion of the bed and banks below the mean high water level. However, a Special Area Permit issued by ADF&G is required if the project is located within a legislatively designated area, including uplands, estuaries or tidelands.

E. Mining in WACH Affected Areas. Although mining is considered an appropriate use in areas designated Mineral or Mineral/Habitat and in areas designated General Use, there may be sites within a management unit that may not be appropriate for coal development or mining. Determinations of this type are to be made as part of the regulatory review/permitting processes related to the authorizations of these activities. It may also be also appropriate in areas with other designations, except for areas designated Settlement.¹⁵ Although mining within the aforementioned areas is considered appropriate or may be appropriate with stipulations, mining authorizations granted by DNR shall carefully consider the effects of a proposed mining operation on WACH activities. WACH activity often only affects an area on a seasonal basis. Consult the Resource Allocation Table for the specific periods that such use may occur and the types of use that may be present. In all instances, consult ADF&G prior to issuing an authorization for mining exploration or development.

F. Offshore Prospecting Permits (OPP). Under AS 38.05.250 an exclusive right to prospect for deposits of minerals offshore may be granted through authorizations issued by DNR. DNR determines what areas will be offered for offshore prospecting. If workable mineral deposits are found offshore, the permittee must apply for a lease in order to develop the mineral deposit. The Alaska Department of Fish and Game has stated that it has initially

¹⁵ See also the discussion of Primary and Codesignated Uses in Chapter 3, p. 3-3.

determined mining in areas designated Habitat and estuarine areas to be a nonconforming use under the ACMP. ACMP procedures will be used to determine whether mining can be made a conforming use and, if mitigation is possible, determine the appropriate mitigating measures needed to protect fish and wildlife resource values.

G. Mineral Closures.

- 1. Background.** The decision to apply mineral location closures will be made by the Commissioner of DNR within the standards set by Alaska Statutes. AS 38.05.185(a) requires that the Commissioner determine that mining is incompatible with a significant surface use before an area can be closed to mining. The same section of the statute requires that the Commissioner determine that a potential use conflict exists before imposing leasing requirements for development of locatable minerals. The fact that an area is closed to new mineral location will not be cause for denying access across state land. Mineral closures do not affect valid existing mineral locations.
- 2. Land Closed to Mineral Entry.** State mining law stipulates that mining must be determined to be in conflict with significant surface uses before an area can be closed to mineral entry. Much of the land acquired or selected by the state was selected for its mineral values. Mineral development is appropriate throughout the planning area, although adequate consideration must be given in the permitting process to habitat, recreational, and other resources and uses that might exist at a proposed mine site. Except for settlement areas (see below), no mineral (closing) orders are proposed in this plan. The current Mineral Closing Orders will, however, be retained. These affect 13 seabird colonies and seven sheefish spawning areas including the streambed and 100 feet either side of ordinary high water. To determine the location of areas closed to mineral entry in the planning area consult the DNR Alaska Mapper, available on-line at: mapper.landrecords.info/

Mineral Closing Orders are recommended for use at the time that an area is being considered for disposal for purposes of settlement or other forms of development that would be inconsistent with mining activity. The timing of the closure is at the discretion of DNR but should be early enough in the process to avoid the inadvertent staking of mining claims.

H. Oil and Gas Resources. It is probable that oil and gas resources are present within the planning area. The planning and decision making processes for oil, gas and geothermal resource allocation and development follow their own section of the Alaska Statutes (AS 38.05.125 through AS 38.05.184) as well as AS 38.05.035. As noted above, these processes are not included as part of DMLW area plans. State land, with few exceptions, is subject to oil and gas exploration and development, either through areawide leasing under AS 38.05.180 or by exploration licensing under AS 38.05.131. In addition, geothermal

exploration and development may occur under AS 38.05.181. For this reason, the area plan does not make any allocation or development decisions regarding these resources. All decisions regarding oil, gas and geothermal resources are subject to DNR's existing oil, gas and geothermal permitting, licensing and leasing processes.

Oil and gas sales are not subject to the regional planning process; instead they follow the planning process identified under AS 38.05.180. The land use designations of the plan are multiple use in character and do not preclude oil and gas development.

Further, it should be noted that mineral closing orders under AS 38.05.185 do not apply to oil and gas exploration and leasing, nor do they preclude reasonable surface access to these resources. However, rights reserved under AS 38.05.125 may not be exercised until provision is made for payment for all damages sustained by the land owner (AS 38.05.130). Although not prohibited, geophysical exploration permits issued under 11 AAC 96 will conform to the maximum extent possible with the management guidelines in the applicable plans.

I. Leaseable Mineral Development. State land within the planning area may be leased or opened for coal exploration and development if the department determines it is in the best interest of the state to enter into a lease for such resources. Before authorization of a lease, the department will determine if the surface values are significant enough to warrant restricting surface entry. The surface impacts of proposed underground mining shall be fully considered as part of the permitting process.

J. Other Guidelines Affecting Subsurface Resources. Other guidelines will affect subsurface resources. See other sections of this chapter.