Chuitna Coal Project – 2006
Land Use Baseline Report

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Acronyms

ADNR	Alaska Department of Natural Resources
AMHTA	Alaska Mental Health Trust Authority
ASCMCRA	Alaska Surface Coal Mining Control and Reclamation Act
CIRI	Cook Inlet Region Inc.
ConocoPhillips	ConocoPhillips Alaska Inc.
KAP	Kenai Area Plan
KPB	Kenai Peninsula Borough
SAP	Susitna Area Plan
Shell	Shell Exploration and Production, Incorporated
SMCRA	Surface Mining Control and Reclamation Act
TNC	Tyonek Native Corporation

1.0 Introduction

The Chuitna Coal Project is located approximately 45 miles west of Anchorage in Southcentral Alaska. The 20,571-acre State of Alaska coal lease is located in a remote and undeveloped area with the exception of remnant logging and natural gas roads on adjacent lands. Land ownership in the area includes State, Mental Health Trust, Kenai Peninsula Borough, Tyonek Native Corporation (TNC), Cook Inlet Region Inc. (CIRI), and private entities. The proposed project components include the surface coal mine, mine access road and coal transport conveyor, housing and airstrip facilities, and a coastal Ladd coal export terminal with a 10,000-foot trestle. The proposed mine site is located about 10 miles inland from the village of Tyonek. PacRim Coal, LP., as owner of the coal lease, is required to comply with the regulatory requirements of the Alaska Surface Coal Mining Control and Reclamation Act (ASCMCRA) under 11 AAC 90.061.

This report includes information on past and present land uses. The condition, capability, and productivity of the land are described. Access issues to private and subsistence allotment lands after development, current and potential oil and gas activity, and pre-mining productivity of the project area are included and discussed.

The primary information used to compile this report is from state area plans, including the State of Alaska Kenai Area Plan (KAP) and the Susitna Area Plan (SAP). The mandate of the Alaska Department of Natural Resources (ADNR) plan is to ensure that the lands are managed properly for resource development, conservation, and for sustainability (ADNR 2001). Additional documents used for information include previous baseline documents from the 1980s including the Final Environmental Impact Statement (FEIS) 1990, Alaska Department of Natural Resources documents, and current 2006 baseline data.

1.1. Condition

The land in the project area and surrounding is relatively remote and untouched. The project is located in the Beluga Formation, which is composed primarily of sedimentary rock. The northwest corner of the project consists of higher elevation foothills and alluvial lowlands to the southwest. The eastern portion of the project area is low-lying wooded habitat, which terminates at the Cook Inlet. The area is composed of spruce, aspen, and birch forests with numerous wetlands, bogs, a few lakes, and anadromous and resident fish streams. The few inhabitants in the area use the natural resources primarily for subsistence activities.

1.1.1. Structures

There are existing maintained gravel roads that link the villages of Beluga, Tyonek, and Shirleyville, with a few secondary roads associated mostly with power lines and gas wells. No roads currently access the proposed project area, although remnants of old logging and exploration roads exist in the area.

The Beluga and Tyonek gravel airstrips are privately owned and operated. The Tyonek airstrip is owned and operated by the village of Tyonek, which use the airstrip almost exclusively. ConocoPhillips Alaska Inc. (ConocoPhillips) maintains the airstrip just south of the Beluga power plant, and is the primary point of access to the area for Beluga residents, sport fishers, and hunters. Located north of the Beluga airstrip is the Chugach Electric Association, Inc. Power Plant, the largest facility in the area.

There are four marine loading sites in the area: Ladd Landing, Tyonek wharf, Tyonek barge landing and Granite Point. The three beach-landing sites are located at Ladd Landing, Granite Point and the village of Tyonek. Additionally, the Tyonek Native Corporation retains a 0.25-mile long wharf, located near North Foreland, which is 1.5 miles southwest of the village of Tyonek (KPB 2003). These off-loading sites are a cost effective way to transport the majority of heavy

equipment, bulk freight, food, and supplies to local residents and the commercial industry.

1.1.2. Local Communities

The resident population inhabits the coastal area, which consists of houses, cabins, field camps, communication towers, airstrips, and small local business buildings. The nearest population centers to the project area are the villages of Tyonek and Beluga. Primarily, Alaska Natives inhabit the village of Tyonek with a population of approximately 199 people (State of Alaska 2007). A school, medical clinic, youth center, post office, general store, and fishing and hunting guide services are some of the local businesses in the village. Commercial operations within the community are currently limited in scope. The village of Beluga is a community of 21 people, many of whom are employed, or associated with the Chugach Electric Association Beluga Power Plant operations (State of Alaska 2007). There are several seasonal use recreational cabins scattered throughout the surrounding area.

1.1.3. Soil Foundation and Topography Characteristics

The characteristics of the land within the project area are described in detail in a variety of baseline reports associated with the Chuitna Coal Project. The soil and foundation characteristics are described in *Baseline Soils Information* (2006 in progress*).* The area has several pockets of publicly owned cultivable soil in the subregion (ADNR 1985). Hydrologic information is presented in *Baseline Surface and Groundwater Information*. A detailed description of the vegetative cover is provided in *Baseline Vegetation and Wetland Information*. The project area includes a variety of woodlands, shrublands, herbaceous communities and wetland complexes.

Topography and geologic characteristics are generally comprised of low to moderate relief (Schmoll et al 1984) with rolling hills and small valleys. The *Baseline Geology Description* report includes the details in the project area. Elevations range from sea level to approximately 1,400 feet near the northwestern edge of the lease area (EPA 1990).

1.2. Capability

The Chuitna Coal Project is situated in Region 11 of the KAP (ADNR 2001). The KAP defines how the 4.9 million acres of state land within the 14.8 million acre planning boundary will be managed. Within Region 11, smaller areas of land are designated as individual management units and several units are within the project area boundary (Figure 1-1). These management units and their designations are described in detail in Table 1. In general, the primary capabilities for lands within the project area include: continued fish and wildlife habitat; recreation associated with the fish and wildlife resources; oil and gas developments; coal developments; forestry; and settlement. Agricultural potential appears limited due to the climate and vegetation characteristics of this area.

1.3. Productivity

The land in and surrounding the project area is considered good quality wildlife habitat and currently has minimal human disturbance. Wildlife populations are relatively undisturbed, with low hunting pressure on bear, moose, and small game animals. The three tributaries in the project area that feed the Chuitna are considered high value habitat for Chinook and coho salmon during some part of their life history (EPA 1990). Reserves of oil and gas in the area continue to be explored.

Specific information on the populations, distribution, and harvest estimates of wildlife, vegetation, and fish are included in these reports: *Baseline Terrestrial Mammals and Bird Information, Baseline Freshwater Fisheries Information and Baseline Vegetation and Wetland Information*. Subsistence harvest information is described in detail in *Braund and Associates ADFG Baseline Report 2007*.

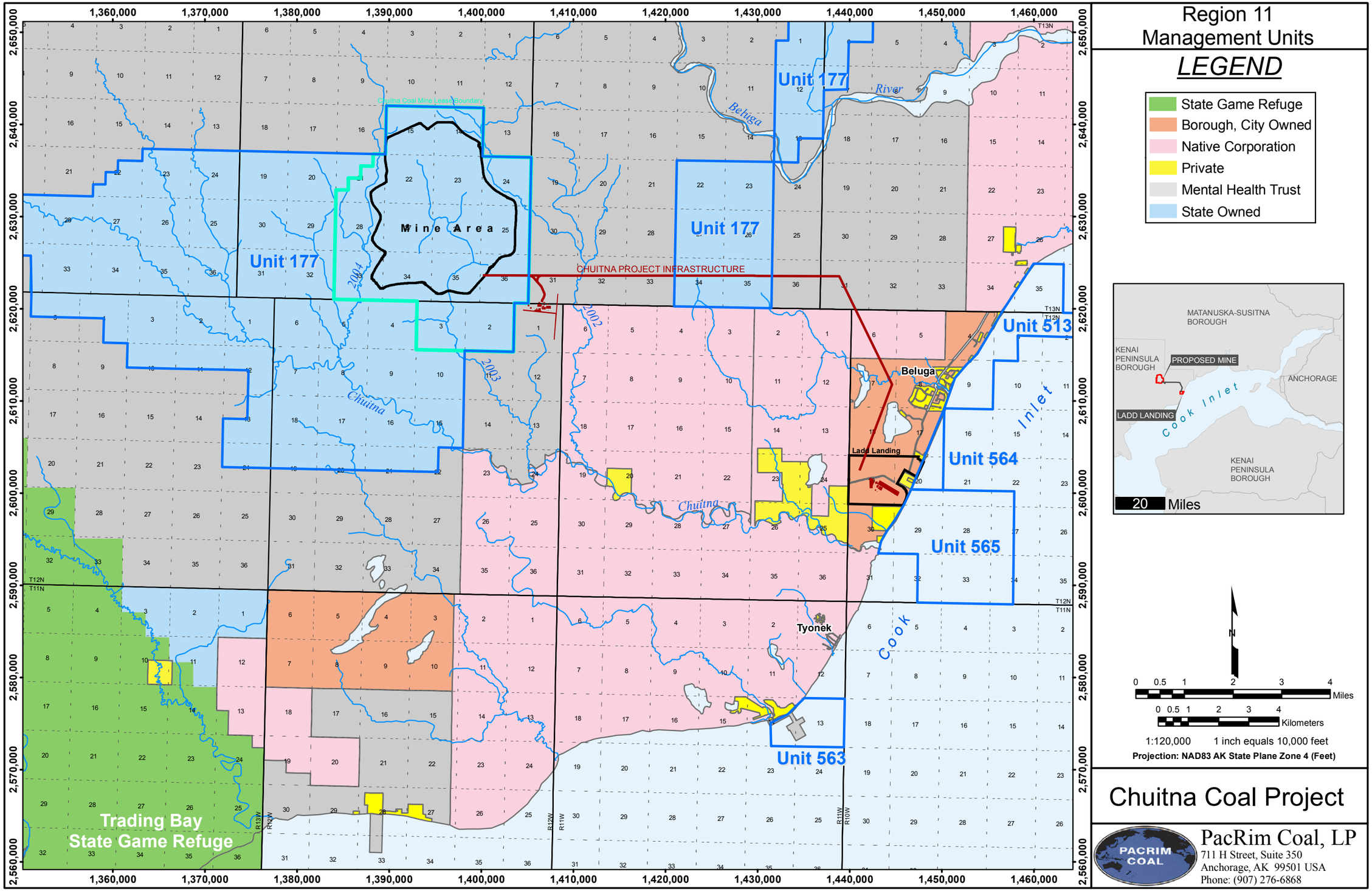

Figure 1-1. Kenai Area Plan - Region 11 Management Units

Table 1-1. Region 11 Management Unit Land Use Designations

Unit Name	Management Unit	Acres	Management Designations and Intentions	Other Uses and Resources
Upper Chuitna River Coal Lease	177	40,557	Active coal leases that include material sites, roads, runways and other facilities. Public ownership should be maintained.	Fish and wildlife habitat, especially for moose and brown bears, potential timber harvest and experimental forest site.
Cottonwood Beach Tidelands	513	1,998	Anadromous fish stream mouth, overwintering habitat for rock sandpipers, historic beluga whale habitat, waterfoul habitat and waterfoul harvest	Commercial setnet fishing, tideflats, Beluga Road, Beluga power plant and associated transmission lines, Beluga landing strip, old gas well location, and barge landing area
North Foreland tidelands/Tyonek Pier	563	838	Tyonek Native Corporation currently owns a tidelands lease for the Tyonek pier; could potentially be used for coal shipping	None listed
Tidelands off Viapan Lake	564	335	General use	Commercial setnet fishing, Superior barge landing site, historic beluga whale habitat, potential for timber harvest shipping
Chuitna River offshore submerged lands (Ladd Landing)	565	3,583	Barge landing site historically used for timber shipping, Tidewater Services Corporation has an option to lease borough-owned land for coal operations, however Granite Point is another possible location	Anadromous fish stream mouth, historic beluga whale habitat, cultural sites

Source: ADNR 2001

The freshwater systems in the project area support an abundance of anadromous and resident fish that are significant to subsistence, commercial, and recreational value (EPA 1990). The production of Chinook, coho, and pink salmon in the Chuitna provide the greatest fishery value in the system (EPA 1990). The marine waters in the Ladd area are a migratory pathway for all five western Pacific species of salmon as well as eulachon and smelt (EPA 1990).

Four terrestrial species are of particular concern due to their economic, ecological, or cultural importance: moose, brown bear, black bear, and beaver (EPA 1990). Moose populations have been studied more than any other species due to their value as a food resource for the local population. Refer to the *Baseline Terrestrial Mammals and Birds Information* and Stanek and Holden (2006) report to obtain population estimates on wildlife studied in the permit areas.

Marine mammals, primarily beluga whales, have been observed in the proposed trestle construction area during each month from April to July in 2006 (LGL 2006). Various fish species including the five species of Pacific salmon, eulachon, Dolly Varden, and cod were captured in seine nets in the nearshore waters of the trestle area during 2006 sampling events. Refer to the *Baseline Marine Mammals and Fisheries Information* report for further details. An important harbor seal haulout is located just north of the proposed trestle and dock facilities. Harbor seals use the habitat surrounding the proposed offshore facilities and potentially forage on spawning tomcod in the confluence of the Chuitna and Threemile Creek (Shaw 2006b).

1.4. Land Use Classifications

Land owned within and adjacent to the proposed project area includes State (including Alaska Mental Health Trust Authority land), Kenai Peninsula Borough government lands, Native Corporation lands, and privately owned land. The State of Alaska owns most of the land within the project area. Cumulatively, TNC and CIRI own the second largest block of land in and adjacent to the project area (Figure 1-2).

1.4.1. State Land

The state owns approximately 132,500 acres of land in and adjacent to the Chuitna Coal Project area, (KPB 2006, Figure 1-2). Coal leases have been issued on 46,000 acres of this land (ADNR 2001). The Alaska Mental Health Trust Authority (AMHTA) manages a large portion of land located north of the mine area for the State of Alaska. This land provides funds for the development of a comprehensive integrated mental health program. Pockets of land south of the proposed project area are also Mental Health Trust Land. Management designations for state land are described in detail in Section 1.2.

1.4.2. Native Land (Tyonek and CIRI)

Both TNC and CIRI own land within and adjacent to the project area. The TNC owns more than 13,440 acres surrounding the Chuitna, primarily southeast of the mine boundary (Figure 1-2). Land owned by CIRI is located in sections north of Threemile Creek and coastal areas up to Beluga River (ADNR 2006). This ownership also includes land north of Nikolai Creek, which is south of the proposed project area.

1.4.3. Kenai Peninsula Borough

The Kenai Peninsula Borough (KPB) owns 16,800 acres of land directly south of the mine lease boundary and a small section of land around Ladd Landing and Beluga (EPA 1990) (Figure 1-2).

The KPB Land is managed as wildlife habitat and for recreation. Several large lakes in the area are undeveloped and may attract seasonal recreation, site development, and/or residence for year round local workers. The management plan includes protecting the riparian areas along Threemile Creek to permit fishing, picnicking, and camping while protecting riparian habitat and water quality. The Threemile Creek area is also an important winter range for moose and therefore grazing would be closed.

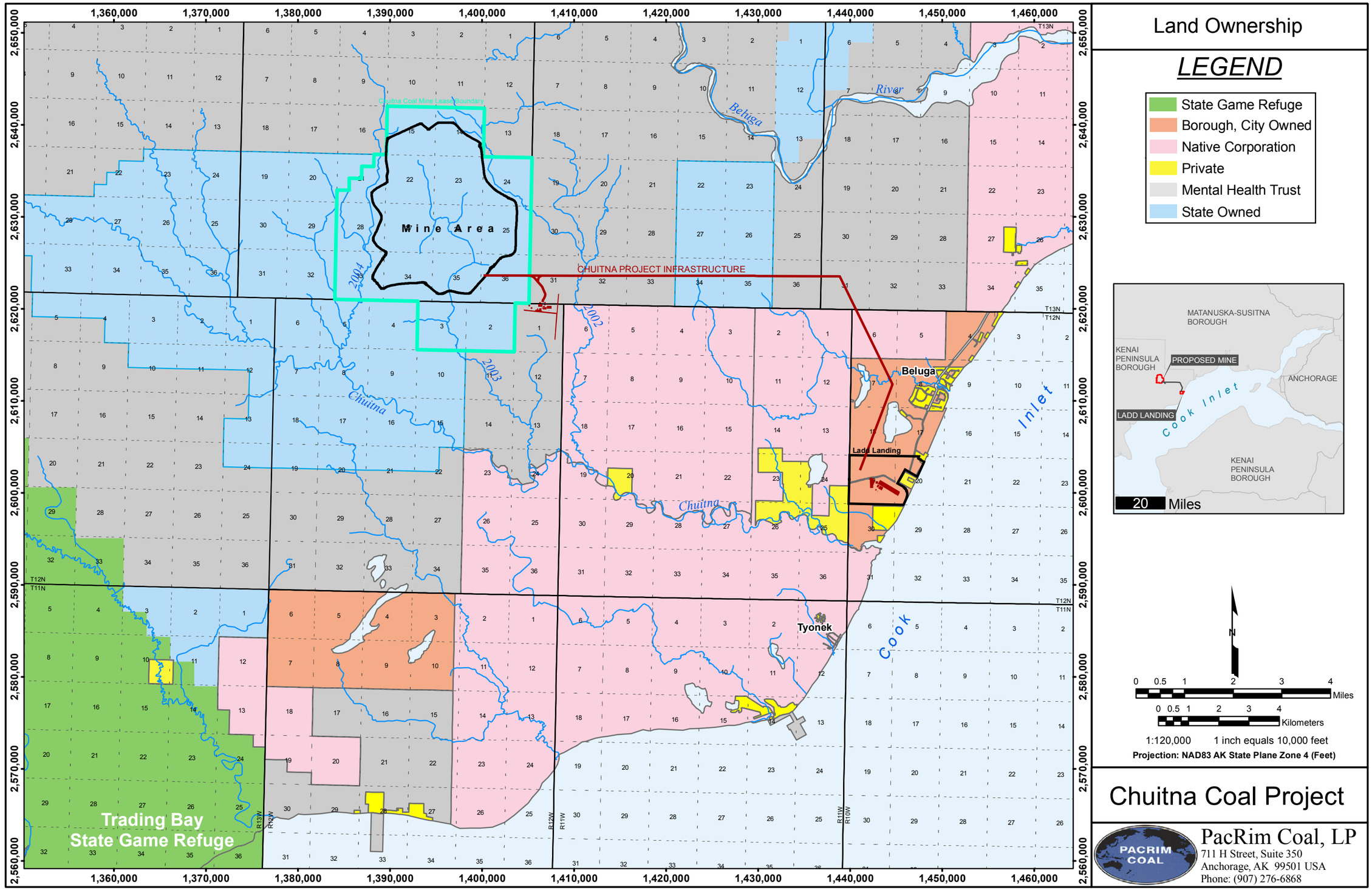

Figure 1-2. Project Area Land Ownership

1.4.4. Private Land

Private land consists of individual owned land found mostly along the Cook Inlet coastline in Beluga, Tyonek, the North Forelands, and south of Granite Point (Figure 1-2). Residential and small business ownership is included in these areas.

The village of Beluga is primarily privately owned land used for residential purposes, with minimal commercial use, however, there is some native allotment land along the Chuitna that is used for commercial purposes. The State would like to buy some land at the mouth of the Chuitna to increase accessibility for recreational fishing (ADNR 1985).

1.5. Historical Land Use

Fish and wildlife habitat has been the primary historical use of the project area. Human land uses have historically been for subsistence, commercial, and recreation purposes. For generations, the salmon fishery, moose, beluga whale and harbor seal subsistence hunts have provided important resources for the residents of Tyonek (Stanek and Holden 2006) and subsistence is still a predominant use today.

In the 1970's, commercial timber harvest occurred west of Tyonek Native Corporation lands. The salvaged beetle-killed wood was converted into wood chips and shipped from the north Forelands via an elevated trestle (EPA 1990). Due to the spruce bark beetle infestation, timber value has declined in the area (ADNR 2001). Other commercial uses include salmon set netting along the west shores of the Cook Inlet and oil and natural gas exploration or developments on- and off-shore.

Mining activity has never occurred in the project area and the existing use of the land during the past five years has not changed.

1.6. Present Land Use

The current and past land use in the project area is for fish and wildlife habitat. Predominantly the area is used for subsistence purposes and secondarily for commercial and recreational uses. The main management objective for Unit 177, which is located within the project area, is to facilitate the development of the area's coal resources (ADNR 2001). Infrastructure, associated with development of coal resources, is also anticipated. Other management considerations include maintenance of fish and wildlife habitat, continuing oil and gas developments, and commercial timber management (ADNR 2001).

Significant amounts of land within and surrounding the Chuitna Coal Project mine site is recognized as fish and wildlife habitat (ADNR 2001). Management goals for maintaining natural environments for fish and wildlife habitat are to enhance public use and economic benefits; promote enjoyment for public use of the resources; mitigate habitat loss; and contribute to local or regional economies via commercial, subsistence, sport, or non-consumptive uses (ADNR 2001).

Important fish and wildlife habitat areas present in the project area include: riparian zones, brown bear concentration areas, anadromous fish and high-value resident fish streams, moose movement corridors, harbor seal haulouts, beluga whale habitat (near Ladd Landing), and migratory bird concentration areas. Additionally, an important moose overwintering habitat exists in the upper Chuitna coal lease (ADNR 2001). Anadromous and high-value resident fish streams hold additional protective measures to mitigate for adverse effects developed by management actions (ADNR 2001). Protection of riparian zones is important for fish and wildlife.

1.6.1. Oil and Gas Activity

Natural gas developments started in this area in the 1960s. The first major development, resulting from the discovery of natural gas, was the Chugach Electric Association, Inc. Power Plant in Beluga, which began operations in 1968. Natural gas wells exist on Lone Creek and

Threemile Creek, which are adjacent to the proposed mine lease boundary.

All oil activities are located offshore in Cook Inlet, which includes 16 platforms to date (RCAC 2006). Most of the platforms are operated by Chevron (recently purchased from Union Oil). Shell Exploration and Production, Incorporated (Shell) installed the first platform in 1964 and the most recent platform was installed in 2000 by Forest Oil (RCAC 2006). Numerous oil and gas lines transport product from the west side of Cook Inlet to the Kenai Fertilizer Plant and Tesoro Refinery on the east side of the inlet and to Anchorage.

Natural gas reserves are continually being explored within and adjacent to the proposed project area. At present, ConocoPhillips Alaska, Incorporated (CPAI) has proposed to conduct three-dimensional seismic survey within the onshore/offshore transition zone of the Beluga River region on lands managed by Kenai Peninsula Borough, Matanuska Susitna Borough, State of Alaska, Native Corporations, and private entities from January 1, to May 15, 2007 (ADNR 2006).

1.6.2. Commercial Fisheries

Two commercial fishing subdistricts are located within the project area: the Beluga subdistrict and Tyonek subdistrict. All commercial fishing in the area is conducted with set nets. Approximately 40 commercial set net permit holders fish for salmon in the project area (Fox pers comm.). The number of commercial permit holders has declined in recent years, likely because of a decline in salmon runs (Fox pers comm).

1.6.3. Recreational Use

Recreational use in the mine permit area is considered low, due to limited access and subsistence orientation of local residents (EPA 1990). Sport hunting activities include moose, bear, and waterfowl harvests by local residents and visitors. Hunting is more common near the village of Beluga where road access is available. The Chuitna, including other high-value salmon producing drainages (Theodore River and Lewis River), provide a strong recreational fishery to the area. Fishing charters are growing in popularity, and bring visitors to the area seasonally.

1.7. Subsistence Allotment Access

Biological resources are important for commercial, recreational and subsistence use of the land. Fishing, hunting, and trapping are prevalent activities that provide food, income, and traditional values. Refer to *Steven Braund and Associates Subsistence Report 2007* for further information on subsistence allotments, and use.

1.7.1. The Road Corridor Conveyor Route

Tyonek residents use the proposed project area for moose hunting (Foster 1982). Access to hunting areas was facilitated by the development of a road system. Roads that were developed for oil and gas exploration, construction of the Chugach Electric Association, Inc. Power Plant, and hauling timber are now used to hunt from and to access additional lands to harvest moose (Foster 1982). Expansion of the existing road system, to increase local access into areas previously inaccessible, is not proposed during mine operation. The proposed road corridor will be gated or secured to limit accessibility into new hunting areas.

1.7.2. Ladd Landing and Offshore Facilities

Subsistence activities in the offshore Ladd landing area include beluga whale hunts, and set netting for salmon. Tyonek residents harvest Beluga whales annually in early summer via small boats along the shallow near shore waters of the Cook Inlet. Local set netters also use the area of the proposed trestle and dock facility to set nets for commercial use (Shaw 2006b). Chinook salmon, sockeye salmon, coho salmon and hooligan are harvested with gill nets along these shores seasonally from May to September.

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KPB Presentation to the Kenai Chamber of Commerce 10/26/05
PacRim Coal Presentation to the Kenai Chapter of the Support Industry Alliance 11/22/05
Aurora Gas Presentation, Resource Development Council 11/20/03
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