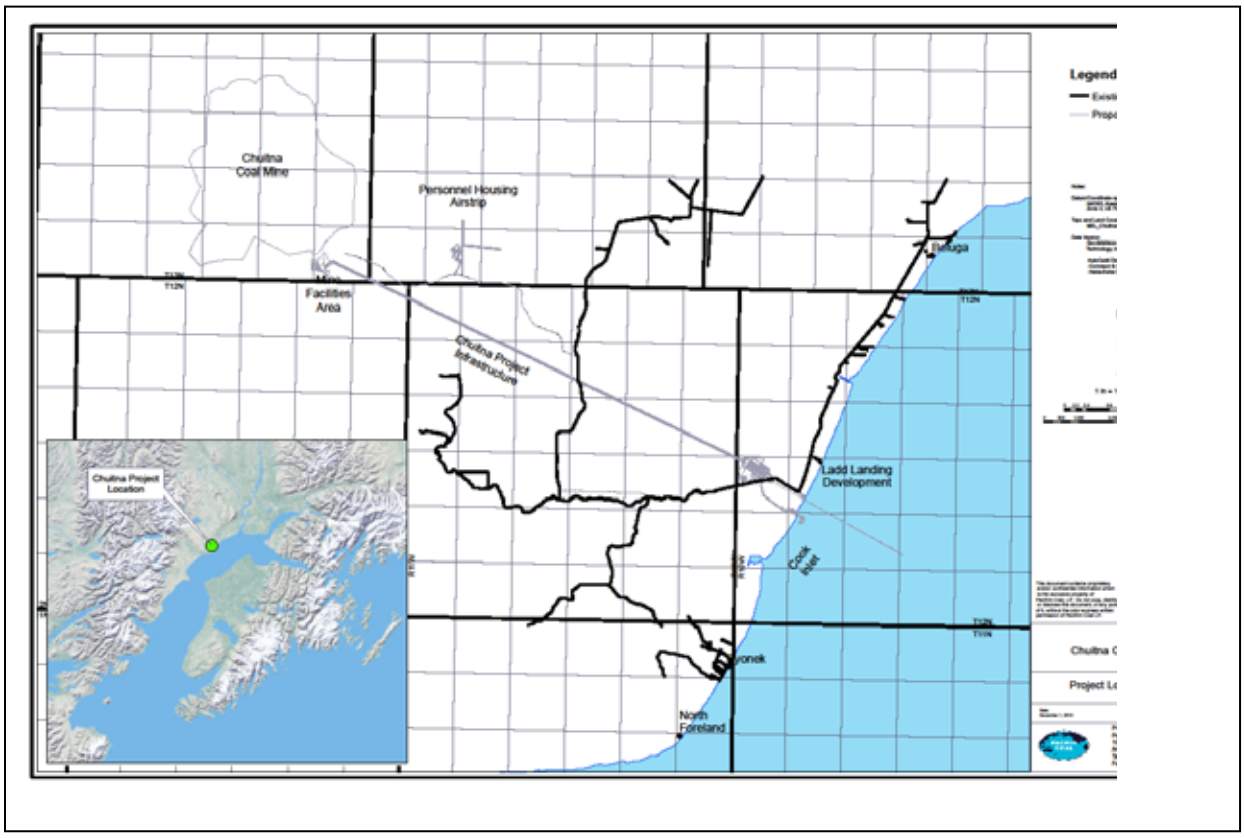
Applicant's Proposed Project

(As of April 2011)

The Chuitna Coal Project ("Project") is a proposed "run-of-mine" (in that there is no processing of the coal required other than crushing to a size of 2 inches or less) coal export development being proposed by PacRim Coal, LP. The project may be able to supply coal locally should a market emerge (there is currently no local market for commercial quantities of coal). The Project is unique in that it is the only coal development project in the United States wherein all components of the Project (Mine, Infrastructure & Ladd Landing Development) would be permitted and bonded under the Surface Mining Control and Regulatory Act. This is a federal program enacted in 1977 which the State of Alaska was authorized to manage in 1982 under the Alaska Surface Coal Mining Control and Reclamation Act (ASCMCRA).

The Project first underwent permitting and a National Environmental Policy Act (NEPA) Environmental Impact Statement (EIS) review in the 1980's, with a Record of Decision (ROD) issued by EPA in 1990. Construction was not initiated following that effort. In 2006, with a marked rise in the demand for steam coal in the export market, a new application was filed which initiated a Supplemental EIS (SEIS) development process. Between 2006 and today, changes have been made to reduce potential impacts to the environment. Those changes are reflected in this revised project description.



As shown in the figure above and described in the following sections, the proposed Chuitna

Coal Project is composed of three major components: the Chuitna Coal Mine, Chuitna Project Infrastructure and Ladd Landing Development.

While there have been several small coal pits excavated in the Chuitna basin that have removed several tons of coal each for test burns, no commercial quantities of coal have been produced in the region to date. Other energy and resource development projects exist nearby. In particular, the Project is located within the Cook Inlet oil and gas development basin. Several companies operate natural gas wells in the immediate region, some of which are adjacent to the Project Infrastructure and Ladd Landing Development. Commercial logging operations have also been conducted in the vicinity of these proposed components. The Beluga Power Plant, owned and operated by Chugach Electric Association, is one of the State's largest single electrical generating units and is located 6 miles north of the Ladd Landing Development. More recently, exploration has started investigating the regions potential for underground coal gasification.

Land ownership within the proposed project area is mixed. The coal leases in the area date back to the 1960's and early 1970's. These coal leases and some of the lands where the camp facilities and access infrastructure would be located are owned by the Mental Health Lands Trust (MHLT). Rental payments and production royalties would be paid to the MHLT for the benefit of their statewide programs. There are lands owned by the Tyonek Native Corporation (TNC) between the proposed mine site and the proposed port site at Ladd Landing Development. Agreements with TNC include, among other provisions, access easements for installing a private mine road and separate conveyor easement between the two facilities. The proposed Ladd Landing Development is on lands under lease from the Kenai Peninsula Borough.

Chuitna Coal Mine

The cornerstone of the proposed Chuitna Coal Project, the Chuitna Coal Mine, is referred to as Logical Mining Unit No. 1 (LMU-1). This proposed mine area covers approximately 5,050 acres and is expected to yield approximately 270 million metric tons (MT) of ultra low sulfur sub-bituminous coal. The design production capacity for the LMU_1 is 12 million MT per year for an estimated mine production life of 25 years. The SEIS will evaluate the potential environmental impacts associated with LMU_1. Very few changes to the 2006 mine plan and proposed operations within the Chuitna Coal Mine are being proposed as part of the 2011 revised plans. The primary revisions will be in the water management plan and the proposed fish protection (mitigation) plan.

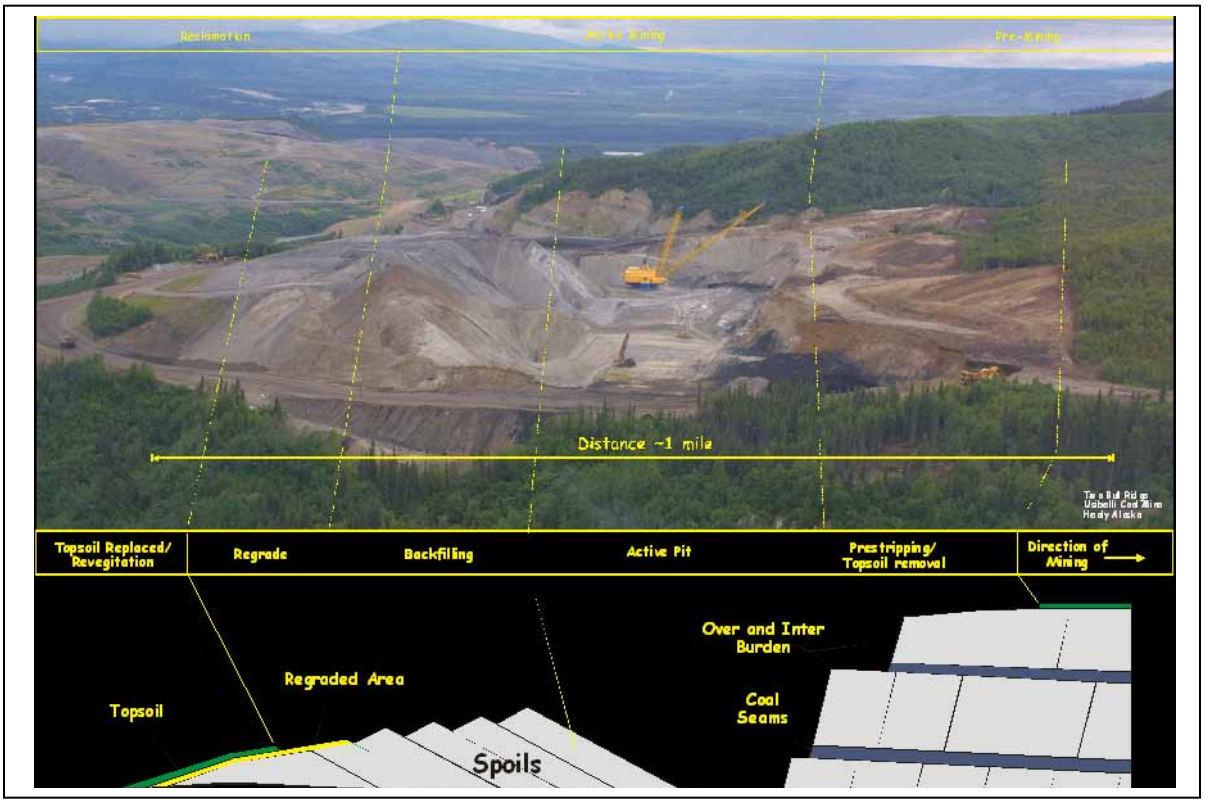
The sizes and locations of the coal seams, the nature of the overburden and interburden, and the economics involved in mining the coal are such that only surface mining would be feasible at this time. The coal reserves in LMU_1 are contained in four primary seams, each varying in thickness between 1.8 and 6.1m (6-20 feet). The first seam in the sequence is located approximately 20 feet below ground surface at it shallowest point. The entire LMU-1 area is covered with a gravel cap composed of till material, termed the "glacial drift", which ranges in thickness from just a few feet to up to 100 feet or more.

The Chuitna Coal Mine consists of two subcomponents: the *LMU_1 Mine Plan Area* and the *Mine Facilities*. These are briefly described in the following sub-sections.

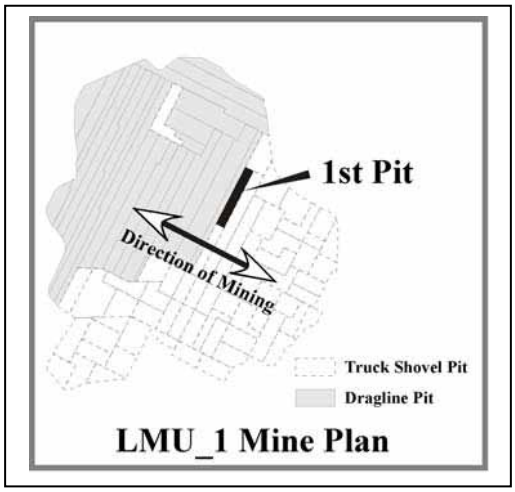
LMU_1 Mine Plan Area:

The proposed mine plan for the Chuitna Mine Area has been designed to achieve maximum use of the coal resources while providing for reclamation that returns the area to a stable, productive condition for the land owner. The ASCMCRA laws require that reclamation be performed immediately behind the mine operations to minimize the area disturbed at any given time ("contemporaneous reclamation"). In general, mining and contemporaneous reclamation would involve the following steps (see figure below for depiction):

- Clearing and grubbing, consisting of removal of trees, brush and vegetation. This work would be accomplished with dozers
- Removing topsoil with direct haul back to the regraded backfilled surface (topsoil from the initial pit would be temporarily stockpiled until a regraded surface is available)
- Removing any alluvium and glacial drift for use in final reclamation backfill operations (to be used as the top layer in final backfilling)
- Removing the sandy overburden/interburden material, which would be either backhauled (truck and shovel) or cast (dragline) to a previously mined area as part of the backfill operations
- Removing coal using excavators, which would load the coal into haul trucks for transport to the truck dump in the Mine Facilities area for crushing and storage/transportation
- Rough grading and contouring of the backfilled surface
- Finish grading and contouring of the final graded surface
- Replacing topsoil and restoring stream drainages
- Revegetation



The preceding steps represent a continuous process of topsoil salvage, overburden/interburden removal, coal removal, backfilling, grading and revegetation. As part of this process, the entire area would be returned to the approximate original contour with drainage basins replaced and stream channels reconstructed. The sequence of the primary geologic units (from top to bottom: topsoil/peat, alluvium, glacial drift, sandy overburden/interburden) would be maintained to aid in restoring the geohydrology of the site. Monitoring would occur to determine the success of the reclamation. Test pits within the proposed mine area were excavated in the early 1980's and reclaimed using the proposed reclamation methods. The test areas demonstrate that reclamation and stable post-mine conditions were highly successful. Because the mined area is reclaimed to the approximate original contour with overburden material, there would be no permanent overburden disposal area associated with the proposed Project.



As shown in the adjacent figure, mining would begin in approximately the middle of the 5,050-acre LMU_1 mine plan area. The initial box cut would be approximately 300 feet in width and 7300 feet in length. Initial operations would employ a truck and shovel mining method and progress to the South and East. A dragline would begin operating around year 3 and would advance to the west and then north. Dragline operations would work in conjunction with a truck and shovel support. Once exposed, the mined coal would be excavated by a shovel or loader, trucked to the crusher at the mine facilities area, crushed, and then stored for loading onto the conveyor. Overburden from stripping operations would be used for backfilling and contemporaneous reclamation as described above. As year 3 operations proceed, the 1st year box cut area would be reclaimed and expand to follow the advancing pits in both directions.

As mentioned above, there would be no chemical or water-based processing of the coal. The only source of water to be handled and discharged from the site is rainfall, snowmelt and groundwater. These sources would be handled in the following manner. Prior to mining the surface gravels (glacial drift) overlaying most of the area, the zone would be dewatered via wells. The recovered water would be directed to the streams adjacent to the mined area to retain base flows. Surface water flows from undisturbed areas would be intercepted by clean water diversion ditches where possible and routed to existing stream channels adjacent to or downstream of the mine area. All discharges of surface water runoff from precipitation and snowmelt within the disturbed area of the active pits and reclamation area would be routed to sediment control structures prior to discharge. All discharges from disturbed area runoff would need to meet the water quality criteria set forth in an Alaska Pollutant Discharge Elimination System (APDES) permit. Sediment control measures planned for mine discharges include multi-cell sediment ponds to control suspended solids. In addition, methods to control run-off from within small affected areas include vegetation barriers, sediment fence, temporary vegetation strips, rock/gravel check dams, and similar measures as individual units or in combination as series depending on site conditions.

In addition to the mining and reclamation methods discussed above, other environmental protection measures would be required under the various permits required by the project as part of the review process. These include: (1) Air Quality – primarily dust controls installed at the coal crushing, storage and transfer point areas, as well as haul road dust control; (2) Vegetation - reduce disturbance of the project support facilities to the extent possible, live-haul vegetation for reclamation, and use native plant sources to the extent practical; (3) Marine Mammal and Shorebird Protections – design of lighting to reduce collisions, on-site spill protection equipment, and timing of construction offshore to avoid Beluga spring migration; (4) Wildlife Protection – restricting hunting and trapping by project personnel staying at camp, design power lines to minimize potential bird collisions, maintenance of roadside vegetation and set speed limits to reduce potential wildlife collisions with vehicles, and select woody species on reclaimed areas that will aid forage of moose populations; and (5) Fisheries Protection Measures – include relocating the offshore facilities away from set-net lease sites (see Ladd Landing Development discussion below), reduction in new stream crossings over anadromous streams, and extensive revisions to the freshwater habitat protection and mitigation. These habitat protection and mitigation measure changes are highlighted below.

As part of the revision for the 2011 plan, PacRim is also proposing a series of measures to offset impacts to existing freshwater fish habitat contained within the mine area. The primary focus is on maintaining the Coho salmon production in the area. The key elements to the plan include off-channel rearing ponds within the drainage basin below the mine site, spawning channel construction that connects the rearing ponds with the main channel of the tributary and nutrient addition to the stream below the mine site to sustain a healthy and strong juvenile salmonid population. The designs are based on case studies for similar activities located elsewhere in Alaska, British Columbia and the Pacific Northwest. The final reclamation plan also includes reconstruction of the existing stream areas and converting the primary sedimentation pond to an in-stream lake feature. These measures combined would result in more habitat available to the freshwater fisheries after mining than currently exists.

Mine Facilities

The proposed Mine Facilities are located southeast of the proposed mine area. The facilities consist of:

- Shop/Office/Warehouse Facility
- Fuel Storage Facility and Fueling Station
- Ready Line (for parking and fueling of rolling stock)
- Electrical Substation
- Truck Dump with Stilling Shed and Coal Crusher
- 35,000 to 40,000-ton Covered Surge Bin
- Overland Conveyor Loading Station
- Roads and Power Distribution

(Note: Overland Coal Conveyor, Mine Access Road & Power Transmission are part of the Project Infrastructure component (see below))

The primary functions of the Mine Facilities would be to provide (1) maintenance and fueling facilities for the mine equipment, and (2) coal crushing facilities. The maintenance facilities include a multi-bay shop of adequate size for the large mine equipment, a warehouse for storing supplies and parts, and a management and administrative office. The coal handling

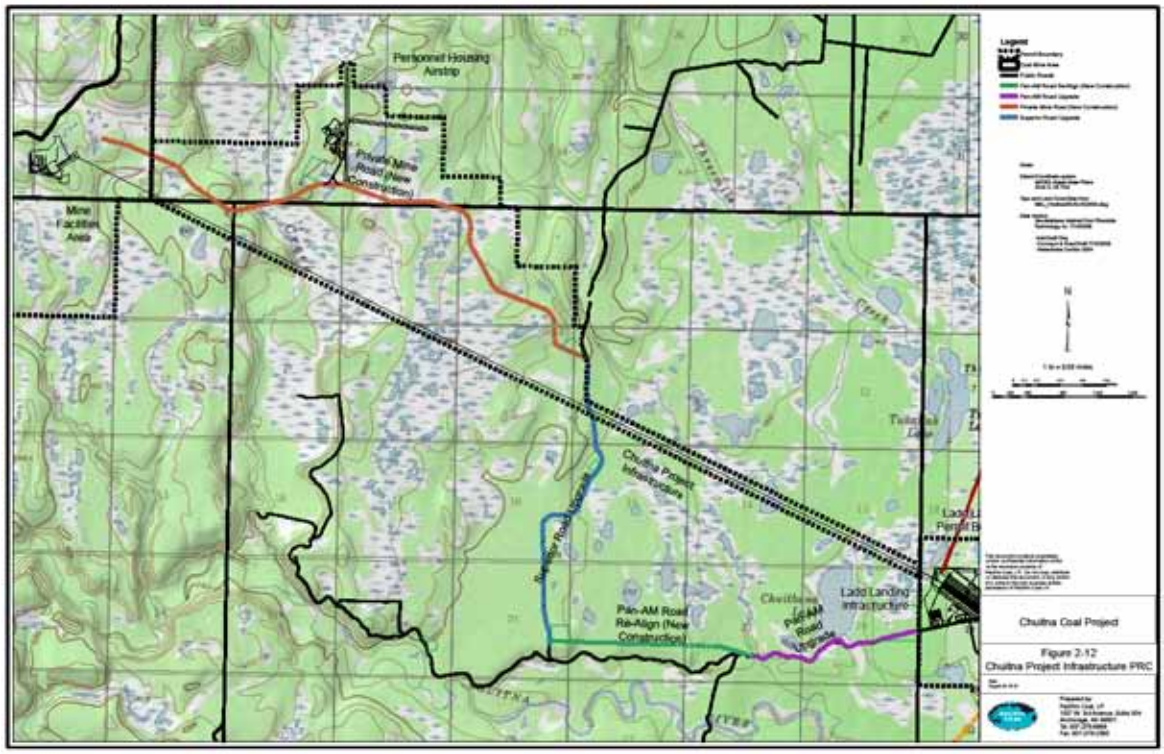
facilities are designed to reduce the coal from the run-of-mine size down to a 2" maximum size (again – no chemical or water-based processing is required or planned). The facilities would include a covered truck dump hopper, a 2-stage crushing circuit, covered coal storage and an enclosed load-out for transferring the stored coal onto the overland conveyor system.

The surface water run-off from the facilities area would be diverted to a multi-cell sedimentation pond for removal of suspended sediment prior to discharge. The shop area would have an oil/water separator and hydrocarbon treatment prior to discharge.

Chuitna Project Infrastructure

The proposed Project Infrastructure is a key area that has undergone significant changes since the 2006 application in an effort to reduce potential impacts of the Project. These changes and the resulting reduced project footprint, wetlands impacts and other benefits are highlighted at the end of this subsection. The three subcomponents of the Project Infrastructure are:

1. Housing & Airstrip Facility: Single-status housing for the 200-250 person Project operating workforce and an airstrip for transport of personnel and small equipment to and from the Project Area. The Housing & Airstrip Facility would be located 1.5 miles east of the Chuitna Coal Mine.
2. Private Mine Access Road: A 5-mile all-weather road connecting the Chuitna Mine with the existing public road system. This existing public road system provides access between the private mine road gate and the Ladd Landing Development on the coast of the Cook Inlet. The Private Mine Access Road would be used during development/construction of the Chuitna Coal Mine and the Housing & Airstrip facility and during operations to transport equipment and operating supplies to and from the Ladd Landing Development.
3. Coal Transport Conveyor: An elevated overland coal transport conveyor with an annual throughput capacity of 15 to 18 million MT per year. This continuous belt conveyor would transport coal from the mine service area to the Ladd Coal Export Terminal located within the Ladd Landing Development (discussed later). The entire proposed conveyor system is unique in that it is suspended on cables between widely spaced towers. The tower structures would be approximately 1,200 feet apart and between 60 and 100 feet tall. The belt system is designed to be a minimum of 20 feet above existing ground level at its lowest point, thereby eliminating the structure as a barrier to terrestrial wildlife and recreational users. The conveyor belt is a 3-sided "box" belt and would be covered on top with a roof structure to protect the coal from moisture and wind.



The currently proposed Mine Access Road and Coal Transport Conveyor are in a much more direct alignment than the 2006 arrangement. The above figure depicts the current access road, camp and conveyor between the Chuitna Coal Mine and the Ladd Landing Development. The results of the changes on the overall footprint and wetlands are highlighted in the table below.

Component	Total Disturbance Footprint		Wetlands within Footprint		Increase / (Reduction)	
	2006	2011	2006	2011	Total Footprint	Wetlands
New Access Road(s)	293	37	91	13	(256)	(78)
Conveyor	(included in road footprint)	6	(included in road footprint)	1	(included in totals above)	
Camp	120	65	12	15	(55)	3
Totals	413	108	103	29	(305)	(74)
					-74%	***-72%***

In addition to the reductions in areas noted above, the 2011 design has several other advantages. The number of significant new stream crossings has been reduced from 7 to 1 along the access road. Power transmission cables can use the proposed elevated conveyor system for support, eliminating the need for a separate transmission line with additional towers between the Ladd Landing Development and the Chuitna Coal Mine. Terrestrial wildlife crossings are no longer a concern because the elevated nature of the conveyor system eliminates it as a barrier for its entire length. The straight line orientation and design of the conveyor system also eliminates all transfer points between the mine and the Ladd Landing Development (thus reducing potential coal dust generation points) and reduces the power demand for coal transportation by over 50%.

Surface water runoff from the affected infrastructure corridor area would be handled through Best Management Practices (BMPs). These measures include diversion of runoff from undisturbed areas around affected areas. In addition, control of run-off from within small affected areas include vegetation barriers, sediment fence, temporary vegetation strips, rock/gravel check dams, and similar measures as individual units or in combination as series depending on site conditions. The linear infrastructure corridor allows use of these measures to control peak flows, erosion, and suspended solids.

Reclamation of the affected infrastructure area would be completed in two phases. Following construction, adjacent areas such as cut and fill slopes would be graded to final configuration and topsoil replaced for re-vegetation. The gravel-surfaced corridor would provide a stable surface for the mine access road. Upon completion of coal mining at the Chuitna Coal Mine, these facilities may be removed unless there is a use identified and approved by the land owners for leaving this corridor and its facilities in place. The access road would provide access to the State of Alaska, Mental Health Trust, Tyonek Native Corporation, and others.

Ladd Landing Development

In the current proposal, the Ladd Landing Development has been rearranged within the boundaries of the lease from KPB. Portions of the offshore design have also been modified as discussed below. The proposed Ladd Landing Development area has two subcomponents:

1. *Ladd Logistics Center*: The central receiving, storage, warehouse, and logistics support facility for the Chuitna Coal Project. The Ladd Logistics Center would include an island bulkhead structure with a ±10-12 ft minimum draft for receiving barge shipments of goods and supplies.

2. *Ladd Coal Export Terminal*: The coal handling portion of the port for receiving coal from the overland conveyor, storage, and transloading from the storage stockpile and overland conveyor onto ocean-going vessels in Cook Inlet.

In this revision, the combined Ladd Logistics Center and Ladd Coal Export Terminal have been relocated west of the existing PanAm Road, approximately 2,000 feet north and west from its previously proposed location. This avoids identified cultural sites east of the existing roadway and also reduces the wetlands impact from 21 acres to 3 acres.

The Ladd Logistics Center would be the entry point for all goods and supplies coming to and from the mine. Facilities would include a warehouse, administration offices, a warm storage area, and an outdoor laydown yard. Goods would be received at an offshore bulkhead facility, which has been re-designed as an island to reduce both potential coastal fish movement impacts and sedimentation pattern changes along the shoreline. The bulkhead has also been moved to the south to provide an estimated 500 feet of separation between the island bulkhead and the southern boundary of the existing shore fisheries lease (set net site) located to the north.

At the Ladd Coal Export Terminal, coal would enter the Ladd Landing onshore facility on the overland conveyor and be transferred either directly to the ship loader if a barge or ship is available or to the coal stockpile if no vessel loading is in progress. Transfer points from the overland conveyor and to the ship loading conveyor would be enclosed and have dust control measures such as fogging or vacuum baghouse systems.

The amount of coal stored at the Ladd Coal Export Terminal would vary depending upon shipping schedules, marine weather conditions, and mining operations downtime. Between 100,000 to 500,000 MT of coal would be stored in an open stockyard on a graded foundation with surface water collection ditches surrounding the area. From the coal stockyard, a 10,000 –foot long elevated conveyor facility identical to the design of the overland system discussed

above would be constructed into Cook Inlet to the free-standing shiploading berth. This is another change from the 2006 proposal to reduce impacts. The advantage of the new system is that tower sites are 1,100 feet apart, which eliminates potential barriers to movement of marine sea life, including Beluga whales. The conveyor and shiploading berth would be capable of an annual throughput of 15 to 18 million MT per year. Daily loading capacity for ocean going vessels is approximately 75,000 to 80,000 MT. The offshore vessel berth would have a ±65 ft minimum draft and capable of loading Cape-sized vessels (up to 160,000 MT).

Surface water from the Ladd Landing Development facilities located onshore would be routed to multi-cell sediment ponds where suspended solids would be removed prior to discharge to the surrounding area. An equipment wash facility would be located at the Ladd Landing Development for cleaning equipment. Discharge from the wash facility would be into a closed system. Periodically, excess water from the wash bay facility may be transferred to the Chuitna Coal Mine facilities system to remove hydrocarbons (oil and grease).

The Ladd Coal Export Terminal facilities could continue to be used for export of coal or other commodities such as gravel that may be mined by others from the adjacent region after reserves currently under lease by the Chuitna Coal Project have been mined. The improvements and buildings would also be left in place if requested by the landowner. If all possible uses were abandoned, closure of the Ladd Landing Development facilities after they are no longer in use would involve replacement of topsoil and seeding to re-establish native vegetation.

Reclamation and Closure

The overall objective of the project's reclamation plan is to produce a landscape that is safe, stable, and compatible with the surrounding landscape and final land uses. Much of this reclamation would be conducted immediately after construction (for the facilities areas) and as part of the contemporaneous reclamation of the mine area as required in ASCMCRA. In addition to the site reclamation, closure would be required at the end of the area mine life. This would include removal of facilities that are no longer needed (at the discretion of the landowner). Removal of facilities would include dismantling of the above-ground structures for salvage or burial at an approved site, and regrading of the facility area under the similar requirements of the general reclamation plan.

All of the requirements for reclamation and closure require approval under the ASCMCRA program. As part of the permit issuance, the project operator must post a bond to assure adequate performance. This bond may be increased in stages as mining progresses and is reviewed regularly to ensure the amount is adequate to cover all of the project reclamation and closure requirements. If for any reason, the applicant does not fully complete the approved permit reclamation and closure requirements, the Alaska Department of Natural Resources can apply a portion of or the entire bond to achieve compliance.