

Bord # 61S103335267

**DRVEN CORPORATION**  
711 H Street, Suite 350  
Anchorage, Alaska 99501

# CHUITNA COAL MINE

October 18, 2006

Mr. Bruce Buzby  
Coal Regulatory Program Manager  
Division of Mining, Land and Water  
Alaska Department of Natural Resources  
550 W. 7<sup>th</sup> Avenue, Suite 900d  
Anchorage, AK 99501

Subject: Minor Modification to Permit Number 02-83-795

Dear Mr Buzby

Attached please find a request to make a minor modification to the subject permit. We are seeking authorization to drill and install 15 shallow monitoring wells under this existing permit.

These new monitor wells, all to be completed in either the alluvium of streams or in the perched water table in the glacial outwash (glacial drift) are for the sole purpose of adding to the geohydrologic data base and modeling efforts. None of these wells will intersect coal seams.

We request that you expedite the processing of this request as soon as possible, in order that the drilling and well installation can be completed prior to heavy winter snows

Thank you for your attention to this matter.

Respectfully



Robert B. Stiles

Telephone (907) 276-6868 / Telecopy (877) 817-7640

File: Chuitna/CCP\_PA&A Prgs/Alaska PA&A/ADNR/ASCMCRA/Expl Permits

## Minor Modification to Exploration Permit 02-83-795

### Proposed Minor Modification

Drill and complete as monitor wells 15 borings within the Chuitna Coal Lease Area. The coordinates of the proposed sites are shown in the following table and the approximate locations are shown on the attached figure

New Alluvial and Glacial Drift Wells - Chuitna Coal Project

ID	Easting	Northing	Total Depth (Ft)	Estimated Depth to Water (ft)
<b>PROPOSED NEW ALLUVIAL WELLS</b>				
A14A	1,395,343	2,641,420	30	< 10
A15A	1,390,383	2,639,236	30	< 10
A03A	1,397,013	2,619,749	30	< 10
<b>PROPOSED NEW GLACIAL DRIFT WELLS</b>				
G03A	1,397,557	2,619,452	80	20
G35B	1,399,666	2,623,477	60	20
G25A	1,404,260	2,627,487	100	20
G26A	1,395,134	2,626,406	60	30
G14B	1,400,064	2,637,263	50	10
G14A	1,395,297	2,640,972	90	10
G15A	1,391,052	2,639,383	30	10
G21A	1,387,418	2,635,230	50	20
G22A	1,389,963	2,633,773	30	20
G28A	1,385,830	2,626,680	120	10
G33A	1,384,990	2,622,080	120	50
G34A	1,391,227	2,621,683	100	50

All Coordinates are in AK NAD 83 Zone 4 Feet 11-Oct-06

### Plan of Operations

The entire operation will be helicopter supported, there will be no overland travel by vehicle. Each site will be hand cleared of brush prior to occupying the site, while we do not anticipate cutting of any trees, however, out of a concern for helicopter movements of personnel, drill rigs and supplies it may prove necessary to cut some trees in the immediate area of some drill sites.

The drill rig to be employed will be broken down in the 2 or more modules allowing for transport by helicopter. Thus each movement of the rig will require some disassembly move of the rig to the next drill site and then reassembly prior to the commencement of drilling

A Bell 205 (Huey) Helicopter will be used to mobilize the drill rig from the Beluga landing strip to the first drill site and then to move the drill rig from site to site and ultimately back to the Beluga landing strip.

The Huey may be used to move heavier drilling supplies from the Beluga landing strip and among the various drill sites. A Robinson R44 will be used to transport personnel to and from their housing area in the vicinity of Beluga and between drill sites. The



# PACRIM COAL, LP

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Tel: (907) 276-6868 • Fax: (907) 276-2395

February 3, 2010

Russell Kirkham  
Coal Program Manager  
Division of Mining Land and Water  
Department of Natural Resources  
550 West 7<sup>th</sup> Ave Ste 900B  
Anchorage AK 99501-3577

**Re: ASCMRA Exploration Permit 02-83-795  
Minor permit revision request**

Dear Russell,

PacRim Coal, LP (PRC) and its predecessor companies have been exploring its Chuitna coal project under Coal Exploration Permit 02-83-795 dating back to 1983. As part of our ongoing project development we are submitting a minor revision request to permit 02-83-795 to include drilling up to ten (10) additional water monitoring wells. These additional wells have been requested by agencies participating in the SEIS review of the proposed mining project.

The attached Plan of Operations (POO) details the exploration activities. The proposed project schedule covers the period from March 1, 2010 through April 30, 2010. The locations for the proposed wells are shown on the tables and figures in the attached POO. All exploration activities would take place on Alaska Mental Health Lands leased to PRC. We will also require access across a small portion of Tyonek Native Corporation lands. PRC has existing land agreements in place with these land owners and will update those agreements to include this work.

In addition to this revision request, we will be applying directly to the DNR-DMLW water section for a Temporary Water Use Permit (TWUP), and to ADF&G-Habitat for water withdrawal and winter stream crossing approval. We have included a copy of those applications for your information. The proposed drilling area is below the 1000 ft contour and lies in the coastal zone. The Chuitna project exploration work or elements thereof were found consistent with the Coastal Zone Management program in at least two prior reviews (May 25, 1985, and June 29, 1988). Since that time The Coastal Program established The "A, B, C" list. The current edition (May 2004) listed the Alaska Surface Mining Control and Reclamation Act – Notice of Intent to Explore in Section A - Categorically Consistent Approvals. Thus, PRC's exploration permit and proposed drilling program is consistent with the coastal zone management program. Therefore, we have not submitted the Coastal Zone Questionnaire.

This exploration work falls under the Corps of Engineers Nationwide General Permit 6 (NWP-6) because of its *di minimis nature*. While not required, we will be notifying the COE of our proposed 2010 activities.

It is anticipated that 2010 exploratory drilling activities will initiate on or after the 1st of March pending permit approvals listed above and this minor permit revision. We anticipate between 21 and 30 field days to complete the program once drilling commences. As per the ASMCRA requirements, I have included a bond calculation for your review and consideration (attached) to cover any potential reclamation costs. As this is a winter program, we anticipate little if any surface disturbance.

Thank you in advance for your assistance with this request. As with any project of this size, there likely will be additional changes and updates needed during the permit period. We will work with your office as soon as possible to address these changes when the need arises. Should you require additional information, please contact David Dorris at Dorris & Associates, Consulting (907-348-0082 or [jddorris@alaskalife.net](mailto:jddorris@alaskalife.net)) or me at the Anchorage office (907-276-6868, or [dan@pacrimcoal.com](mailto:dan@pacrimcoal.com)).

Sincerely,



Daniel Graham, P.E.  
Chuitna Project Manager

Attachments:

- Plan of Operations
- TWUP application
- Fish Habitat application
- Proposed Bond Amendment Calculation



# PACRIM COAL, LP

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## Proposed Exploration Permit Revision ASCMRA Exploration Permit 02-83-795

PacRim Coal, LP (PRC), in anticipation of installing agency-requested supplementary monitoring wells as part of the Chuitna Coal Project SEIS review process, is submitting the following as a minor revision to its current coal exploration permit. PRC, with the assistance of its consultants and contractors, proposes to install up to 10 additional piezometers/wells within the proposed mine area located entirely in T13N R12W, Seward Meridian. The project location is in the southern portion of the proposed mine area (see Figure 1). We propose to conduct this work between March 1 and April 15, 2010 as snow conditions allow thus minimizing the potential for disturbance.

### Plan of Operations

PRC is considering installing up to 10 monitoring wells as shown on the Table 1 below. The hole locations are also shown on Figure 1, Drillhole Locations and Proposed Project Access, and Figure 2, Detailed Hole Locations with Site Topography. The primary purpose of the wells are to (1) gather additional hydrologic data from the Sub-Red 1 Sand unit south of the south pit fault, and (2) obtain additional water quality data from the Glacial Drift unit in the project area. Maximum hole depth is anticipated to be 400 feet below ground surface (BGS).

**Table 1 – Proposed Hole Locations and Targets**

Hole ID	Target Strata	Estimated Depth	Northing	Easting	Lat	Long
SR33A-10	SubRed 1 Sand	390	2,622,946.3	1,387,587.9	N61°10'18.1683"	W151°25'55.9394"
SR34A-10	SubRed 1 Sand	340	2,624,597.8	1,393,326.3	N61°10'35.6518"	W151°23'59.6791"
G34A-10	Glacial Drift	82	2,624,651.4	1,393,576.6	N61°10'36.2318"	W151°23'54.5993"
G35A-10	Glacial Drift	41	2,625,753.3	1,397,223.4	N61°10'47.8423"	W151°22'40.7183"
SR36A-10	SubRed 1 Sand	350	2,624,603.9	1,402,301.0	N61°10'37.5691"	W151°20'56.6939"
SR36B-10	SubRed 1 Sand	335	2,624,720.7	1,400,260.1	N61°10'38.3020"	W151°21'38.3563"
SR36C-10	SubRed 1 Sand	350	2,625,788.0	1,400,066.3	N61°10'48.7703"	W151°21'42.7611"
SR25A10	SubRed 1 Sand	370	2,627,413.0	1,400,140.8	N61°11'04.7845"	W151°21'41.9314"
G25A-10	Glacial Drift	115	2,629,402.6	1,403,807.2	N61°11'25.1192"	W151°20'27.9893"
(Field Hole)	TBD	300				
Total		2673				

*Locations*

The holes depicted in Table 1 and on Figure 1 were selected based on the existing geologic model. Nearly all holes were selected as twin holes to previously drilled holes from geologic investigations. The hole will be co-located on or near the previous drilling site as best practical. PRC reserves the right to make field adjustments as required to achieve the desired goals based on conditions encountered in the field.

*Drill Type*

PRC and its consultants have identified several contractors with the equipment and capability to accomplish the desired task. The selected drill will be a rotary drill that is either a conventional air rotary or reverse circulation drill. Mud rotary drilling is not being proposed. The drill will be equipped to drive and set surface casing (nominal 6”) to seal off the surface gravels. Once the casing extends past the surface gravels (glacial drift) and is seated in the mineable coal formation, casing advance will cease and the hole will be advanced via open hole methods to the desired hole depth. No drill additive is expected for hole stabilization. However, if hole stabilizer is needed to retain hole conditions for well installation, the MSDS for the additive will be submitted to DNR for review prior to use.

Some minor amounts of water may be needed to aid in cuttings removal. Water required for drilling will be taken from nearby ponds, lakes or streams using a 2 inch intake. Screens will be placed at intakes in all fish bearing water bodies. Pumps are rated from 35-100 gpm. No more than 900 gallons per day (GPD) is anticipated. Proposed water collection points are shown on Figure 2 and listed in Table 2 below. No drilling runoff will be allowed to enter streams or other surface water bodies.

**Table 2 – Proposed Water Access Locations**

Source	Type	Seward Meridian			Proposed Water Pumping Coordinates			
		Tshp	Rng	Sect	Easting	Northing	Lat.	Long.
1. Stream 2004 ADF&G #247-20- 10010-2040	Stream	13N	12W	33	1,386,972.7	2,622,998.1	61°10'18.55"	151°26'8.51"
2. Pond 2	Pond	13N	12W	34	1,393,871.6	2,624,605.6	61°10'35.84 "	151°23'48.56"
3. Pond 3	Pond	13N	12W	25	1,403,851.6	2,629,026.3	61°11'21.42"	151°20'26.93"
4. Middle Creek ADF&G # 247-20- 10010-2030	Stream	13N	12W	35	1,398,761.2	2,624,739.6	61°10'38.18"	151°22'8.93"
5. Pond 5	Pond	13N	12W	36	1,402,512.0	2,624,471.7	61°10'36.96"	151°20'53.73"

*Hole Completion*

Upon reaching the target depth, a pre-pack screen section of appropriate length will be installed followed by 2” nominal threaded PVC. A hole stabilizer will be placed around the

annulus of the filter pack and the borehole, and a bentonite seal will be placed above the screened interval. If dry drill cuttings are available, they will be used to backfill the upper portion of the boreholes. A volclay grout may be used as an alternative if inadequate cuttings are available or in a useable form. A short (10' +/-) section of the steel casing will be left in the hole to protect the top of the PVC casing. A dry bentonite plug will be placed around the upper 5' of the hole. We do not anticipate artesian wells, however if artesian waters are encountered, the Alaska Division of Mining, Land & Water will be notified at 907-269-8631 and the water will be controlled by heavy drill mud or plugged.

### *Access*

Access to the lease will be along an existing maintained road to a turnaround approximately 12.7 miles from the furthest area to be drilled. From this point PRC proposes using a low ground pressure tracked carrier (such as a Nodwell-style vehicle) to move the drill to the first drill site, and then from drill site to drill site before returning to the road system (See Figure 1). Travel will be on snow roads and is expected to have minimal if any ground disturbance. Access beyond the plowed and maintained road system will primarily be via open areas of vegetation. Where this is not possible, a chain saw or small low ground pressure dozer may be used to remove larger vegetation to allow drill access. PRC may opt to use a smaller module drill moveable by helicopter if deemed advantageous during the drill contract period.

For daily access of the drill crew, fuel and supplies, PRC proposes to use a crawler mounted carrier made for off-road travel. This will use the same trail system as the drill and will have minimal if any ground disturbance. The preliminary trail system is shown on Figure 1, subject to modification based on field conditions. Crews, housed off site at existing commercial facilities, will travel from the lodging to the end of the road system via pick-up trucks. Snow machines will be available at the drill site each day as an alternate access measure for emergency situations or intermittent travel during the shift.

For stream crossings, with the timing of the program (March and early April), no fording of streams is anticipated. The vehicles used for surface access will include snow machines and low ground pressure track vehicles. The streams in the project area generally freeze over in the winter as witnessed by several years of winter water sampling using augers to penetrate the stream ice. In most cases, March ice conditions should be in excess of 12" and be able to support the vehicles. Crossing locations will be selected based on minimal stream widths and ice conditions. The main project access trail will need to cross Lone Creek after leaving the existing road system (see Figure 1). At the project site, several crossings of various parts of Stream 2003 will be required (see Figure 2 for locations). If field conditions are encountered that will not allow over-ice crossing, we will contact ADF&G in Anchorage for consultation.

### *Fuel*

Fuel will be supplied from the Beluga fueling station on a daily basis utilizing a 250 gallon day re-fueling tank in the back of the track mounted personnel carrier, or by drums hauled to the site. Additionally, 5 gallon gas cans will be in use for snowmachines, and propane bottles will be on hand for thawing operations at the drill. Oil and miscellaneous 55 gallon drums will not exceed 5 drums on site at any one time. All fuel drums will be in appropriate

containment, and emergency spill kits and absorbent material will be kept with the fueling vehicle and at fueling sites.

### *Wildlife*

Animals observed during the course of the program will not be harassed. Personnel will be briefed to avoid moose and other wildlife.

### *Disturbance*

The disturbance for this program is expected to be minimal with the travel being on packed snow/ice trails and the small size for the graded drill pads. PRC assumes each drill pad to be 45 feet long by 25 feet wide for a total maximum estimated potential disturbance of 0.026 acres per well. Disturbance of the surface will only occur in those areas requiring grading of earth to level off a drill pad. Since all of the holes are planned at existing sites the likelihood of new disturbance is slight.

### *Clean-Up*

Upon completion of each hole, the site will be cleared of any remaining drilling materials and the site smoothed up as conditions allow. After break up, each site will be revisited to check for any additional remaining items. At that time, final hand grading can take place and, if freshly exposed soil is present, a temporary seed mix will be applied to aid re-vegetation.

### *Cultural*

Appropriate cultural resource consultation in regard to the project area has occurred, which concluded that the coal project is consistent with the Alaska Coastal Zone regulations on archeological and historical resources (memo SHPO to DGC (2/27/1986). Multiple site investigations for potential historic resources have been conducted in and around the area in anticipation of the proposed mine project. The mine area has previously been cleared via cultural resource surveys. No AHRS sites are located in the proposed 2010 revision work area (Stephen R. Braund & Associates, 2006). Should cultural or paleontological resources be discovered as a result of the proposed activity the work will be stopped and the State Historic Preservation Office will be contacted (907-269-8715).

### *Reclamation and Bonding*

Bonding for the project will be covered via an amendment to the existing reclamation bond. This information will be submitted directly to DNR's coal program under separate cover. Work to be covered via the bond will include backfilling the hole with driest available drill cuttings up to 10 feet below ground surface, and placing a surface plug of 40% bentonite, 40% cement, and 20% driest available drill cuttings in the top 10 feet of the hole. Bonding will also cover minor site grading and applying seed and fertilizer to any disturbed portions of the site as weather allows. Cost of labor, materials and transportation along with indirect costs will be included in the bond.

### *Timetable*

The project proposes to line up the logistics and contractors during the month of February, 2010 (initial contacts were made in January). Drilling is anticipated to commence in early March and may take up to 30 field days to complete the project. We anticipate removing all equipment from the project site by mid-April and prepare for transport back to its place of origin. The sites will be revisited after break up for a site inspection and final reclamation as required.

FIGURE 1 – Drillhole Locations and Proposed Project Access

Figure 1. Drill hole locations and proposed project access.

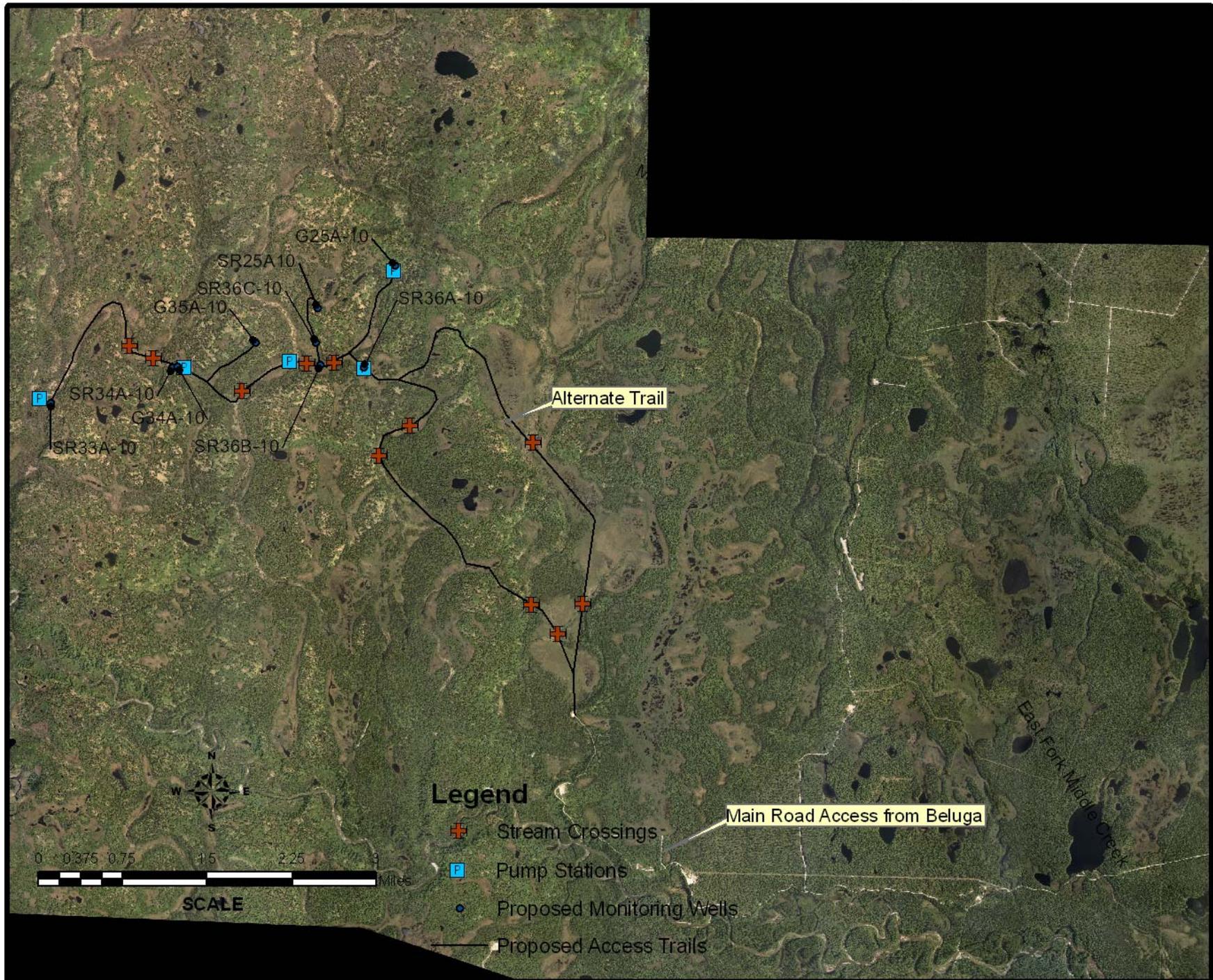
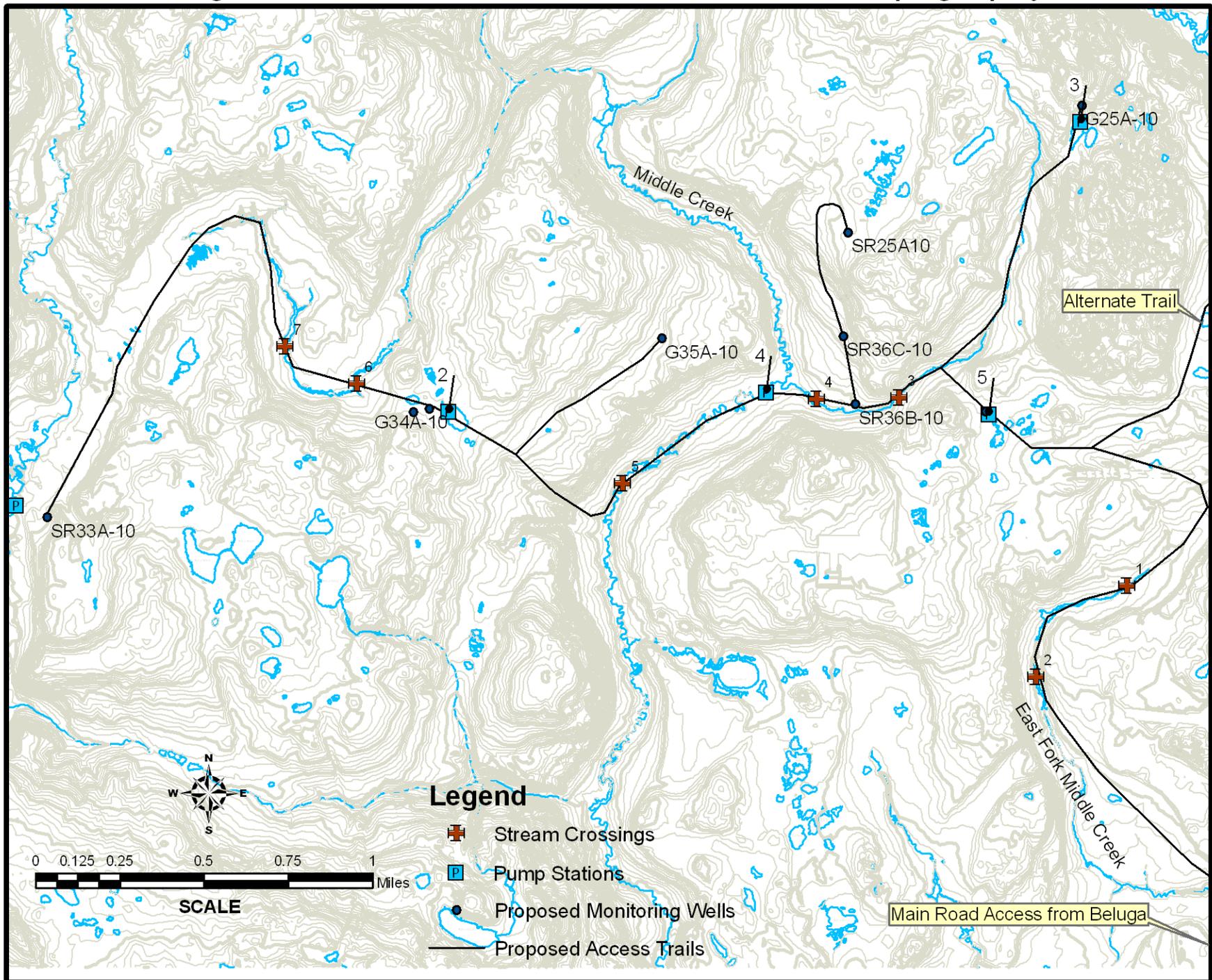


FIGURE 2 – Detailed Hole Locations with Site Topography

Figure 2. Detailed hole locations and site topography.



**Chuitna Coal Project  
2010 Supplementary Well Program  
Proposed Bond Calculation**

Coal Exploration Permit 02-83-795  
February 2010 Minor Revision

Item	Task	Units	Cost per Unit	Units per Item	Net Cost per Item	Number of Items	Total Cost	Comments
Backfill/Plugging Wells and Boreholes	Backfill Labor per hole	hrs	\$44.54	2	\$89.08	10	\$890.80	Backfill with cuttings; set surface plug
	Surface Plug - Bentonite	bag	\$21.00	3	\$63.00	10	\$630.00	40% Mixture
	Surface Plug - Cement	bag	\$13.00	3	\$39.00	10	\$390.00	40% Mixture
Site Reclamation	Clean-Up and Seed Labor Allowance	hrs	\$44.54	2	\$89.08	10	\$890.80	Pick-up, light site hand grading; seed/fertilize
	Seed	lbs	\$2.04	6	\$12.24	10	\$122.40	Applied @ 4 lbs per 1000 sq. ft; 1500 sq. ft per site
	Fertilizer	lbs	\$0.41	10	\$4.10	10	\$41.00	Applied @ 7 lbs per 1000 sq. ft; 1500 sq. ft per site
Transportation	To/From Anchorage - Labor	hrs	\$44.54	2	\$89.08	2	\$178.16	Transport 2 labors to and from Anchorage
	On-Site helicopter travel	hrs	\$900.00	3	\$2,700.00	1	\$2,700.00	1 day travel at minimum rate
	<i>Subtotal</i>						<i>\$5,843.16</i>	
Indirect Costs	Mob/Demob						\$0.00	Included in above totals and assumptions
	Contingency	%	10%				\$584.32	
	Contractor Profit	%	15%				\$876.47	
	Project Management	%	4%				\$233.73	
	<i>Subtotal</i>						<i>\$1,694.52</i>	
<b>GRAND TOTAL</b>							<b>\$7,537.68</b>	