

Coal



BHP Billiton Energy Coal, Inc.
301 W. Northern Lights Blvd, Suite 303
Anchorage, AK, 99503-2648
Telephone (907) 743-6008

August 5, 2010

Alaska Department of Natural Resources
Division of Mining, Land and Water
Coal Regulatory Program
550 W. 7th. Ave., Suite 920
Anchorage, AK 99501-3577

Attn.: Mr. Russell Kirkham, Manager
Coal Regulatory Program

Re: BHP Billiton Western Arctic Coal Project, Alaska
Application for Renewal of DNR Coal Exploration Permit 03-84-795

Dear Mr. Kirkham

In accordance with the provisions of AS 27.21 and IIAAC 90, BHP Billiton Energy Coal, Inc ("BHP Billiton") hereby submits the attached renewal application for Coal Exploration Permit Number 03-84-795. The application is for an additional two year term covering the same area previously permitted.

BHP Billiton continues to hold a right of entry granted by the landowner, Arctic Slope Regional Corporation ("ASRC") for lands covered by the Coal Exploration Permit. ASRC holds fee simple title through US Land Patents to both the surface and subsurface estate and the mineral estate within the permit area.

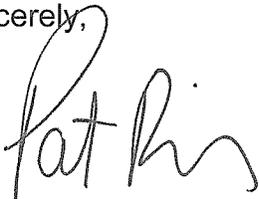
BHP Billiton currently holds surety bond (RLB0010296) in the amount of \$259,979. There is no exploration activity planned within the project area during the next two years and as such no additional bonding will be required. We believe the current bond is adequate to cover the remaining liabilities.

One hard copy and one electronic version of the completed application and supplemental information are attached. Payment of the \$500.00 application filing fee was previously

submitted with our notice of intent to renew this permit which was submitted to your office on March 4, 2009.

Should you have any questions regarding this submission please do not hesitate to contact Jane Howe at (907) 382-8307 or alternatively our permitting consultant Tom Mortensen at 907-345-3400.

Sincerely,

A handwritten signature in black ink that reads "Pat Risner". The signature is written in a cursive, flowing style.

Pat Risner
Project Director
BHP Billiton Energy Coal, Inc.
Western Arctic Coal Project

cc: Teresa Imm, Director Resource Development, ASRC

Enclosure:

Application Form
Supplemental Information

**ALASKA DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINING LAND & WATER
COAL EXPLORATION
Notice of Intent to Explore
and
Exploration Application**

The Alaska Surface Coal Mining Control and Reclamation Act requires that any person who intends to conduct coal exploration which **will not** substantially disturb the natural land surface complete and file with the Department of Natural Resources a notice of intent to explore. **The completion of Parts A (including submission of the required permit fee), B, D, and E of this form will meet these requirements.** This form must be received at least thirty (30) days prior to commencement of the exploration.

The Act requires that any person who intends to conduct coal exploration which **will** substantially disturb the natural land surface must file a complete application for exploration. **The completion of Parts A (including submission of the required permit fee), C, D, and E of this form will meet the applicant's submission requirements.** The application should be submitted approximately three months prior to the anticipated commencement of exploration.

Substantial disturbance means an impact on land, water, or air resources by activities such as blasting; mechanical excavation (excluding the use of light, portable field equipment); drilling or enlarging coal or water exploratory holes or wells; and construction of roads, structures, trails, aircraft landing and marine docking areas.

Please submit one hard copy and one electronic copy of all application materials as specified by the Department.

Reference: Alaska Statute 27.21.200; 11 AAC 90.161 to 11 AAC 90.167.

PART A: GENERAL INFORMATION Ref: 11 AAC90.161; 11 AAC 90.163
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- | | | |
|-----|---|---|
| 1.1 | Name of Applicant: | BHP Billiton Energy Coal |
| | Contact: | Pat Risner, Project Director |
| 1.2 | Address of Applicant: | 300 West Arrington, Suite 200 , Farmington, New Mexico 87401 |
| 1.3 | Telephone Number: | Phone: (505) 598-4361 |
| 1.4 | If applicable, provide the following information for the representative who will be present and responsible for the exploration activities. | |
| 1.5 | Name of Representative: | Jane M. Howe |
| 1.6 | Address of Representative: | BHP Billiton Energy Coal, 301 W. Northern Lights Blvd., Suite 303 |
| 1.7 | Telephone Number: | Office: (907) 743-6008, Cell: (907) 382-8307, Fax: (907) 375-2972 |
| 1.8 | Email Address: | jane.m.howe@bhpbilliton.com |

2.0 Location of the Exploration
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- | | | |
|-----|---|--------------------|
| 2.1 | Legal Description (attach additional pages as needed): | |
| | See Attached | |
| | Township | Range |
| | Section | Aliquot Part |
| | Meridian | Acres |
| | See Attached | |
| | Township | Range |
| | Section | Aliquot Part |
| | Meridian | Acres |
| 2.2 | Number of Acres in Exploration Area: | 1.75 million acres |

- 2.3 Number of Acres of Federal Land (if applicable): none
- 2.4 USGS 1:250,000 or 1:63,360 Quadrangle Names: See Attached Information
- 2.5 Distance and Direction to Nearest Community (in miles): Point Lay, 40 miles north
- 2.6 Attach map of exploration site and adjacent area.

3.0 Period of Exploration

- 3.1 Begin (Month/Day/Year): August 5, 2010
- 3.2 End (Month/Day/Year): August 5, 2012

4.0 Ownership of Surface/Subsurface Mineral Estate

If the surface or the mineral estate is owned or leased by someone other than the applicant, answer 4.1 - 4.5, as appropriate (**attach additional pages as needed**).

4.1 Surface Owner

Name: Arctic Slope Regional Corporation.
Address: 3900 C Street, Suite 801 Anchorage, AK 99503-5963
Telephone Number: Ph: 907-339-6000 Fax: 907-339-6028

4.2 Mineral Estate Owner

Name: Arctic Slope Regional Corporation.
Address: 3900 C Street, Suite 801 Anchorage, AK 99503-5963
Telephone Number: Ph: 907-339-6000 Fax: 907-339-6028

4.3 Surface Land Leaseholder

Lease #: None
Name: _____
Address: _____
Telephone Number: _____

4.4 Mineral Estate Leaseholder

Lease #: None
Name: _____
Address: _____
Telephone Number: _____

4.5 Adjacent Surface & Mineral Estate Leaseholders

Lease #: None
Name: _____
Address: _____
Telephone Number: _____

4.6 Right to Enter: Provide a statement describing the basis by which the applicant claims the right to enter the land for the purposes of conducting exploration and reclamation, Reference relevant federal, state, and local government prospecting permits or lease documents. Attach copies of supporting documents, as appropriate.

See Attached Information

5.0 Fees	Ref: 11 AAC 90.011
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- 5.1 Permit Fee \$ 500 (Submitted 3/2009) Attach receipt. (Refer to fee schedule below)
- Exploration - notice of intent \$100
- Exploration- substantial disturbance \$500 + cost of all public notices

PART B: NOTICE OF INTENT TO EXPLORE	Ref: 11 AAC 90.161
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6.0 Intention to Explore

- 6.1 Describe intended exploration activities, including major' pieces of equipment and their use.
See Attached Information
- 6.2 Will exploration activities substantially disturb the natural surface of the land?
 YES NO
- If yes, proceed to Part C; if no, answer 6.3 and proceed to Part D. (See definition on page 1 of this form.)
- 6.3 Describe practices to be used to protect the environment from adverse impacts resulting from exploration activities. **See Attached Information**

PART C: EXPLORATION PERMIT APPLICATION	Ref: 11 AAC 90.163; 11 AAC 90.167
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7.0 Exploration Area Description

Note: all technical data in this application must be accompanied by:

- 1) names of persons and organizations who gathered and analyzed data;
- 2) dates of data collections and analysis;
- 3) description of procedures used; and
- 4) names, addresses and positions of officials of each agency consulted.

- 7.1 Indicate type(s) of surface disturbance (**Check all the apply**): blasting. mechanical excavation Drilling, altering coal or water exploration holes and wells, road or trail construction or modification aircraft landing construction/modification marine docking facility construction/modification construction of structures placement of excavated material or debris on surface other, specify Borehole inspection, bond release
- 7.2 Provide a map of at least a scale of 1:63,360 enlarged 2.5 times (~1:25000), showing the following existing surface features:

- See Attached Information**
- a. existing roads and trails;
 - b. occupied dwellings and other structures;
 - c. pipelines, airfields and marine docking facilities;
 - d. bodies of water; .
 - e. historic, archeological and cultural features;
 - f. topographic and drainage features; and
 - g. habitats of endangered or threatened species.

- 7.3 Using existing information, briefly describe, with cross references to the map in 7.2, the surface topography, geology, surface waters, predominant land use, and other physical features. **See Attached Information**

See Attached

Permit # / Notice # _____

Information

7.4 Using existing information, briefly describe, with cross references to the map in 7.2, vegetation cover and important habitats of fish, wildlife and plants.

7.5 Does the exploration area include critical habitat of threatened or endangered species; or species such as eagles, migratory birds or other animals protected by state or federal law; or habitats of unusually high value for fish and wildlife?

YES NO

If yes, describe impact, control measures, management techniques and monitoring methods to be utilized to protect these species and habitats.

7.6 Does the exploration area include known archeological resources; or districts, sites, structures or objects listed on the National Register of Historic Places?

YES NO

See Attached
Information

If yes, identify and describe, and describe protection measures to be implemented.

8.0 Exploration and Reclamation Methods

8.1 Provide a map of at least a scale of 1:63,360 enlarged 2.5 times (~1:25000), showing the following exploration and reclamation features (if appropriate, this may be combined with the map required under 7.2):

See Attached
Information

- a. the area to be disturbed by exploration and reclamation; .
- b. access routes, including new roads, trails or other transportation facilities to be constructed, and existing facilities to be used or modified;
- c. proposed excavations and trenches;
- d. water or coal exploratory holes to be drilled or altered;
- e. earth or debris disposal areas;
- f. sediment control measures, such as sediment ponds and structures for diverting overland flow, if required; and
- g. other exploration or reclamation features.

8.2 Provide a description of exploration and reclamation methods and a discussion of how the exploration will comply with the performance standards in 11 AAC 90.167. Cross-referencing the map in 8.1, describe, at a minimum, the following:

See Attached
Information

- a. types and uses of equipment;
- b. design, construction, maintenance and removal of any proposed new roads, trails or other transportation facilities;
- c. alteration and restoration of existing transportation facilities;
- d. blasting procedures;
- e. earth or debris disposal;
- f. backfilling and regrading of all excavations, artificial flat areas, embankments or other disturbed areas to their approximate original contour;
- g. topsoil removal, storage and redistribution;
- h. seed mix, application rates, seeding method and other procedures to be implemented in the establishment of a vegetative cover on all disturbed areas;
- i. procedures for plugging and abandoning exploration holes, boreholes, wells or other exposed underground openings;
- j. procedures and control practices to be implemented to minimize disturbance to the prevailing hydrologic balance, including, if necessary, sedimentation control;
- k. handling and disposal of known acid-forming or toxic-forming materials, if any; and
- l. removal of all facilities and equipment.

- 8.3 Provide a time table for each phase of exploration and reclamation including starting and ending date, type of disturbance, area of disturbance, and reclamation measures.
- 8.4 Give an estimate of the quantity of coal to be removed during the exploration. Specify method used to measure quantity.
- 8.5 Give a detailed estimate of the cost of reclamation of all areas to be affected by exploration activities. See Attached Information

PART D: EXPLORATION ON LANDS UNSUITABLE FOR MINING Ref: 11 AAC 90.165

9.1 Does the proposed exploration area include any area previously designated as unsuitable for all or certain types of mining by the Commissioner of Natural Resources?

YES NO

If yes, respond to 9.2 and 9.3

9.2 Indicate petition name and number: _____

9.3 Describe the basis for the designation of the area as unsuitable for mining and why exploration in the area is not incompatible with the values or features which led to the designation of the area.

PART E:

The applicant states to the best of his or her knowledge and belief that all statements made in the notice of intent to explore or in the application to explore are true and correct.

Applicant's Name: Pat Risner Title: Project Director

Address: 300 West Arrington, Suite 200, Farmington, New Mexico 87401

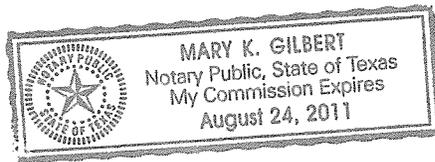
Applicant's Signature: *Pat Risner* Date: 08/04/10

Subscribed and sworn before me by Mary K. Gilbert this the 4 day of August, 2010

Notary Public: *Mary K. Gilbert* My commission expires August 24, 2011

[SEAL]

Note: Attach a copy of power of attorney, or resolution of Board of Directors that grants signature authority)



SPECIAL POWER OF ATTORNEY

BHP Billiton Energy Coal Inc., a Delaware corporation (the "**Corporation**"), duly represented by its President and Chief Executive Officer, hereby designates, constitutes and appoints Pat Risner and Susan Irwin as true and lawful attorneys-in-fact of the Corporation (each an "**Attorney-in-Fact**") so that each of them, acting either jointly or individually, shall have full power and authority to perform the following actions, in the name of and on behalf of the Corporation related to (i) the termination by BHP Minerals International LLC (formerly known as BHP Minerals International Inc.) ("**BMI**") of that certain Exploration Agreement between BMI and Arctic Slope Regional Corporation dated July 24, 2006 (the "**Exploration Agreement**"); and (ii) the winding down and termination of the exploration project of BMI, managed by the Corporation, the rights for which were derived from the Exploration Agreement, located in the western portion of the Arctic Slope region of Alaska and commonly referred to as the Western Arctic Coal project ("**WAC**"):

1. enter into, execute and deliver or otherwise make, for or on behalf of the Corporation, in such form as he or she may approve, and at such time and under such circumstances as he or she may decide, any agreements, certificates, instruments, assignments, conveyances, bills of sale or other documents in connection with or necessary or advisable for the winding down or termination of WAC, the termination of the Exploration Agreement or the completion of obligations under the Exploration Agreement;
2. terminate, amend or revise any existing contracts or agreements, including but not limited to professional services agreements, lease agreements, purchase and sale agreements, confidentiality agreement and the like, in written form or oral, made or entered into by the Corporation in connection with WAC or the Exploration Agreement;
3. conduct bidding rounds if desired and engage any environmental, engineering or other consulting firms as he or she may approve, and at such time and under such circumstances as he or she may decide, in connection with or necessary or advisable for the winding down or termination of WAC, the termination of the Exploration Agreement or the completion of obligations under the Exploration Agreement;
4. do and perform any and all acts for and on behalf of the Corporation which may be necessary or advisable to complete the winding down or termination of WAC, the termination of the Exploration Agreement or the completion of obligations under the Exploration Agreement;
5. give, receive and respond to any and all notices that are required or are advisable in connection with the winding down or termination of WAC, the termination of the Exploration Agreement or the completion of obligations under the Exploration Agreement;

6. execute and deliver any and all documents that are necessary or advisable to preserve and exercise any of the Corporation's rights and remedies in connection with the winding down or termination of WAC, the termination of the Exploration Agreement or the completion of obligations under the Exploration Agreement; and
7. negotiate and otherwise represent the Corporation in all matters related to the winding down or termination of WAC, the termination of the Exploration Agreement or the completion of obligations under the Exploration Agreement, including without limitation the negotiation of any clean-up or remediation or quasi-remediation measures required in connection therewith.

This document (this "**Special Power of Attorney**") is to be construed to vest in each Attorney-in-Fact complete and absolute authority, without the joinder or consent of the Corporation, to take or omit to take all actions that the Corporation might take in connection with the subject matter described herein, and shall not be interpreted in a restrictive manner. The undersigned hereby ratifies and confirms all that each Attorney-in-Fact may do by virtue hereof.

Notwithstanding anything contained herein to the contrary, the authority, rights, powers and privileges granted hereunder shall be subject to any internal Energy Coal Customer Sector Group approvals and authority limitations.

THE ATTORNEYS-IN-FACT HEREUNDER SHALL NOT BE LIABLE TO THE CORPORATION OR ANY OF THE CORPORATION'S SUCCESSORS IN INTEREST OR ASSIGNS FOR ANY ACTION TAKEN OR NOT TAKEN IN GOOD FAITH, BUT SHALL BE LIABLE ONLY FOR WILLFUL MISCONDUCT OR GROSS NEGLIGENCE. THIS RELEASE IS INTENDED TO COVER THE NEGLIGENCE IN WHOLE OR IN PART OF THE ATTORNEYS-IN-FACT. EXCEPT AS PROVIDED IN THE PRECEDING SENTENCE, THE UNDERSIGNED HEREBY IRREVOCABLY RELEASES EACH ATTORNEY-IN-FACT FROM ANY PRESENT OR FUTURE CLAIMS, LOSSES OR LIABILITY IN CONNECTION WITH THE POWER OF ATTORNEY GRANTED HEREBY OR ANY ACT OR OMISSION BY ANY ATTORNEY-IN-FACT IN CONNECTION HEREWITH.

This Special Power of Attorney shall be binding upon the Corporation and its successors and assigns, and shall survive the dissolution, liquidation, merger, consolidation or termination of the Corporation and shall not terminate upon any such dissolution, liquidation, merger, consolidation or termination.

The appointments made hereby shall become effective as of the date hereof. This Special Power of Attorney may be terminated at will by the Corporation, in whole or part, and shall automatically terminate on December 31, 2010 at 11:59 pm (CST), upon resignation of any Attorney-in-Fact and in all other cases provided for by law.

[Signature Page Follows]

This Special Power of Attorney is signed as of the date set forth below by the undersigned corporation.

BHP BILLITON ENERGY COAL INC.

By: Michael J. Elliott
Michael J. Elliott
President and Chief Executive Officer

Date: 5/4/2010

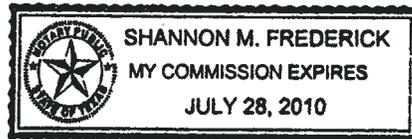
STATE OF TEXAS §
 §
COUNTY OF HARRIS §

BEFORE ME, a Notary Public, on this day personally appeared Michael J. Elliott, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same.

GIVEN UNDER MY HAND AND SEAL OF OFFICE this 4 day of May 2010.

Shannon M. Frederick
Notary Public

My Commission Expires:
July 28, 2010



SUPPLEMENTAL INFORMATION ATTACHED TO
DNR COAL EXPLORATION PERMIT APPLICATION 03-84-795

PART A: LOCATION OF THE EXPLORATION

2.1 Legal Land Description

The exploration area includes all lands situated within the following townships:

Umiat Meridian:

T1N, R41W through and including R44W
T1S, R41W through and including R47W
T2S, R41W through and including R48W
T3S, R41W through and including R49W
T4S, R41W through and including R50W
T5S, R42W through and including R51W
T6S, R42W through and including R55W
T7S, R42W through and including R55W
T8S, R42W through and including R55W

Total: about 1.75 million acres

The exploration camp is located within T3S R47W section 16.

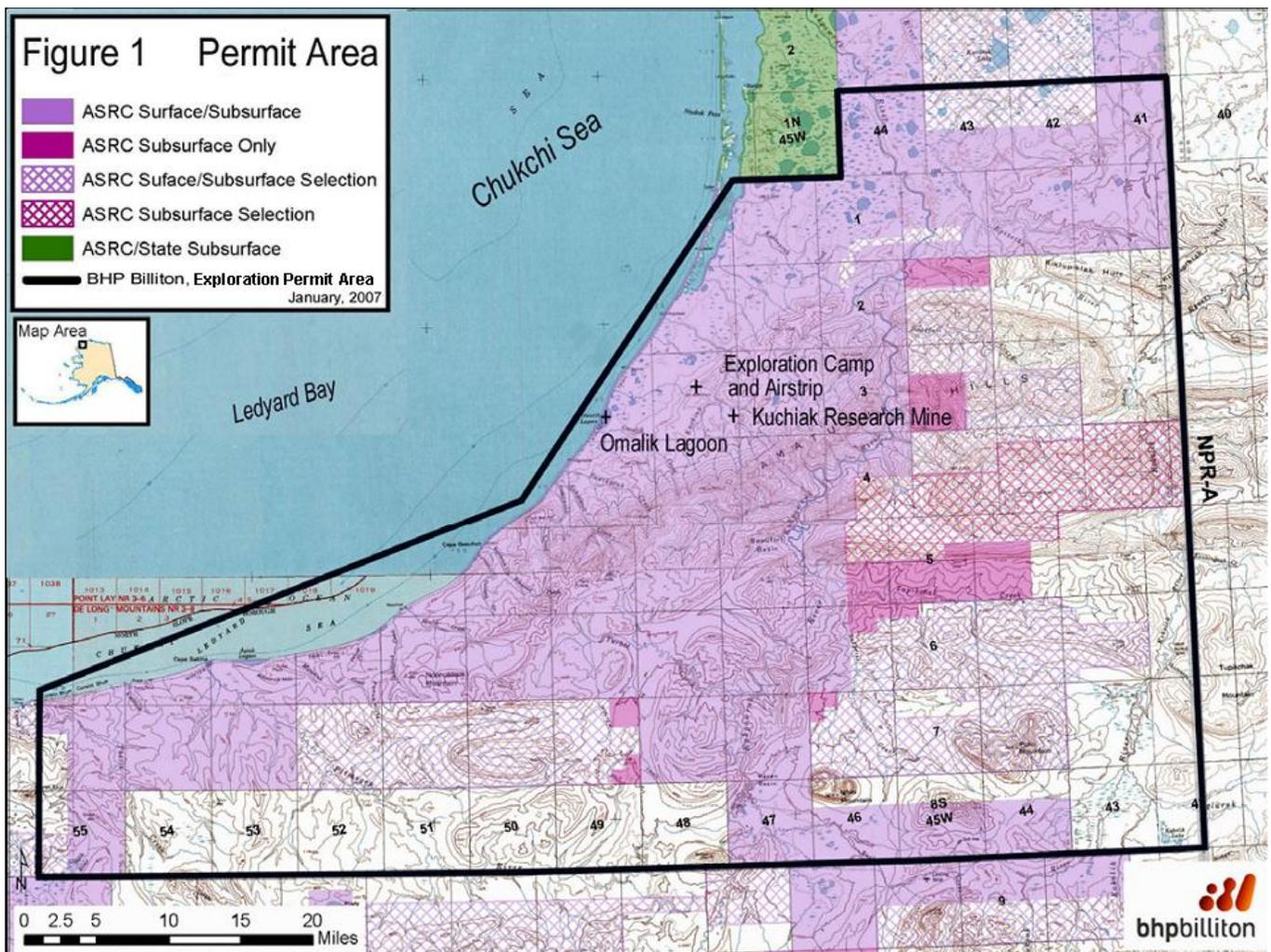
2.4 USGS Quadrangle Names

The lands are shown on the following USGS maps:

DeLong Mountains, Alaska USGS scale 1:250,000
Point Lay, Alaska USGS scale 1:250,000
Utukok River, Alaska USGS scale 1:250,000
Misheguk Mountain, Alaska USGS scale 1:250,000

2.6 Map of Exploration Site and Adjacent Area

Figure 1 shows the location of the permit area and land ownership status. This permit application covers the same area as the 2007 exploration permit.

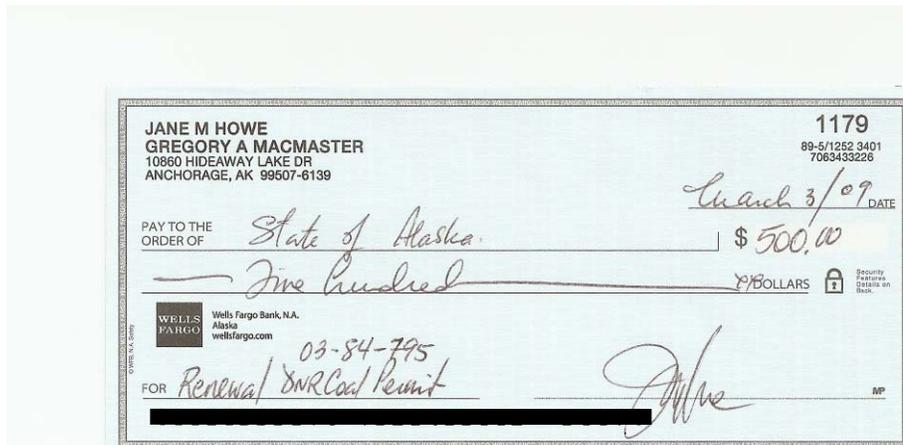


4.6 Right to Enter

The permit applicant BHP Billiton continues to hold a right of entry upon the private lands within the permitted exploration area that was granted by the landowner, Arctic Slope Regional Corporation. ASRC holds fee simple title through US Land Patents to both the surface and subsurface estate and the mineral estate to certain areas within the permit area.

5.0 Fees

On March 4, 2009, BHP Billiton submitted an incomplete application to renew Coal Exploration Permit 03-84-795. Payment of the \$500 application fee was made at that time by personal check.



PART B: INTENTION TO EXPLORE

6.1 Describe intended exploration activities, including major pieces of equipment

With the exception of regulatory inspections, occasional site visits for maintenance, there are no exploration activities planned within the permit area during the next two years. As in previous permits, this application is intended to cover the retention and maintenance of the Deadfall camp, gravel landing strip, Mormon water catchment basin and the Kuchiak Research Mine. Should other exploration activities be planned, a revised notice of intent to explore will be submitted to DNR, for approval.

6.2 Will exploration activities substantially disturb the natural surface of the land?

There is no exploration work planned at this time, so there will be no new disturbances.

There are prior disturbances that have been reclaimed within the permit area that require inspection and bond release.

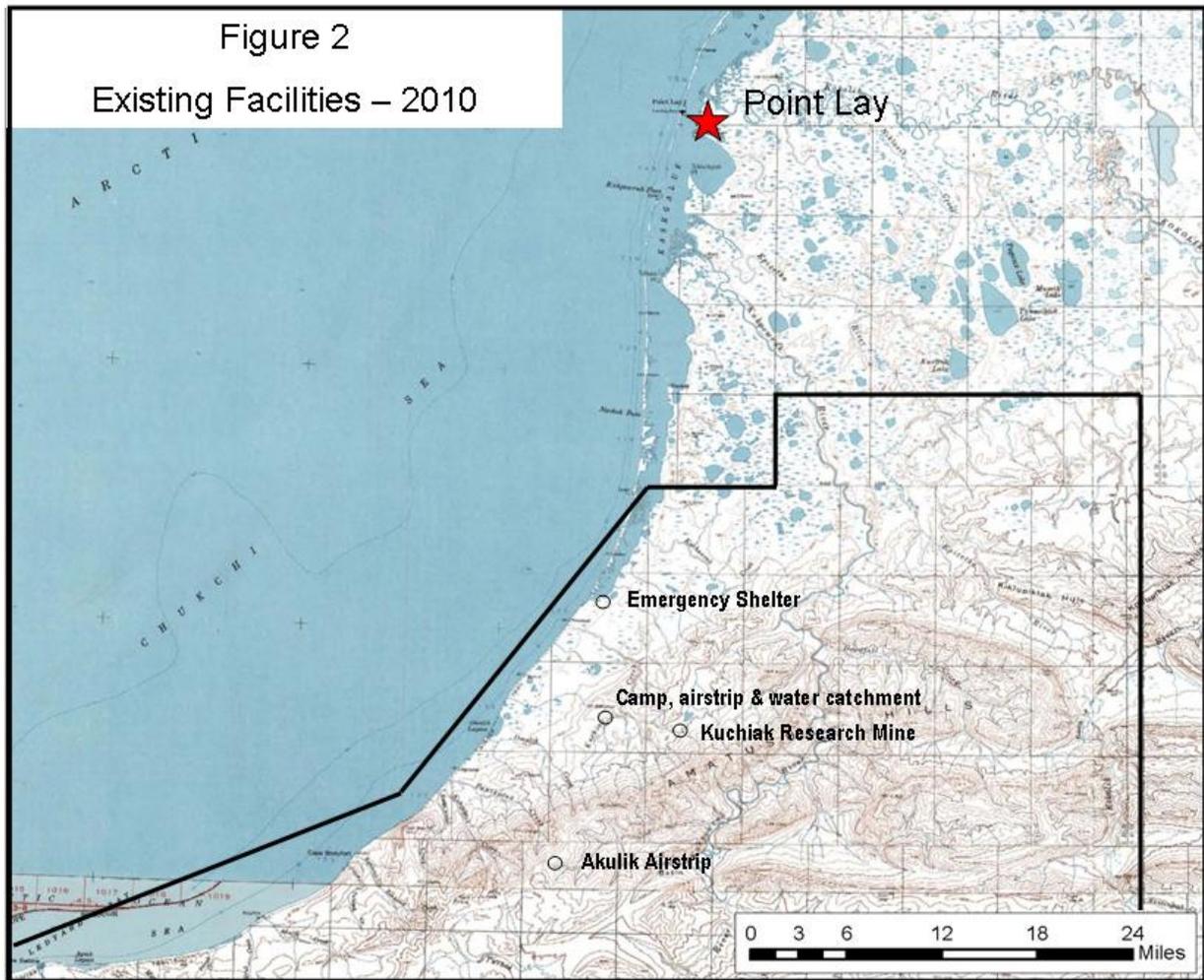
6.3 Description of practices used to protect the environment from adverse impacts resulting from exploration activities

BHP Billiton anticipates an inspection by DNR in August 2010 of the remaining boreholes and work site(s) and a subsequent bond release.

PART C: EXPLORATION AREA DESCRIPTION

7.2 Map of exploration area showing the existing surface features:

Figure 2 shows the northern portion of the permit area and the location of the existing surface features such as the camp, Mormon water catchment pond, airstrips and the Kuchiak Research Mine.



7.3 Brief summary about surface topography, geology, surface waters, predominant land use, and other physical features

The following information is intended to provide a brief overview of historic and recent baseline information that has been collected within the permit area. Considerably more analytical data, interpretation, maps, QA-QC results etc are available in the referenced annual reports.

7.3.1 Surface Topography:

The WAC project area is located in the Amatusuk and Kiktupiklak hills, which are part of the foothills bounding the northwest edge of the Brooks Range. Elevations in the permit area range from sea level along the west and northwest to elevations of over 900 meters (3,000 feet) in the southern portion of the permit area (Figure 1)

7.3.2 Geology:

The area is located at the western terminus of an extensive coal field believed to underlie 30,000 square miles of northern Alaska. A major portion of the coal occurs within the Upper

Cretaceous Corwin Formation of the Nanushuk Formation which consists mainly of sandstones and shales. The morphology of the Nanushuk Formation suggests a prograding deltaic depositional system which supplied the Colville Trough with detritus shed during the uplift of the ancestral Brooks Range. The low ratio of coarse to fine clastics suggests a low stream gradient and the low sulfur content of the coals suggests fresh water conditions prevailed at that time. Subsequent regional deformation created broad synclines separated by narrow tightly-folded, east-trending anticlines observed in the permit area. These anticlines have been further obscured by high angle reverse faults and erosion. A comprehensive discussion of the stratigraphy and structure of the region is contained in Grantz et al. (1982).

In the permit area, the Corwin Formation occupies the central portions of numerous synclinal basins (Figure 3). Rocks consist of thick heterogeneous sequences of soft siltstone and sandy siltstone; thin claystone beds; medium to fine grained, locally cross-bedded sandstone beds up to 50 ft in thickness; and coal seams. Sandstone is the most weather-resistant unit and forms northeast-trending hogback ridges. The fine clastic sequences form low saddles or troughs between the sandstone hogbacks.

References:

BHP Billiton, 2007. Western Arctic Coal Project, Alaska. DNR Coal Exploration Permit Application. January, 99 p.

Callahan, J.E. and G.C. Martin. 1985. Coal occurrences of the Nanushuk Group Western Arctic, Alaska (an update). Mineral Industry Research Laboratory Report No. 47. University of Alaska, Fairbanks, Alaska.

Grantz, A., D.A. Dinter, E.R. Hill, R.E. Hunter, S.D. May, R.H. McMullin, and R.L. Phillips. 1982. Geologic framework, hydrocarbon potential, and environmental conditions for exploration and development of the proposed oil and gas lease sale in the central and northern Chukchi Sea. U.S. Geological Survey Open-File Report 82-1053. U.S. Department Interior-U.S.G.S Menlo Park, CA

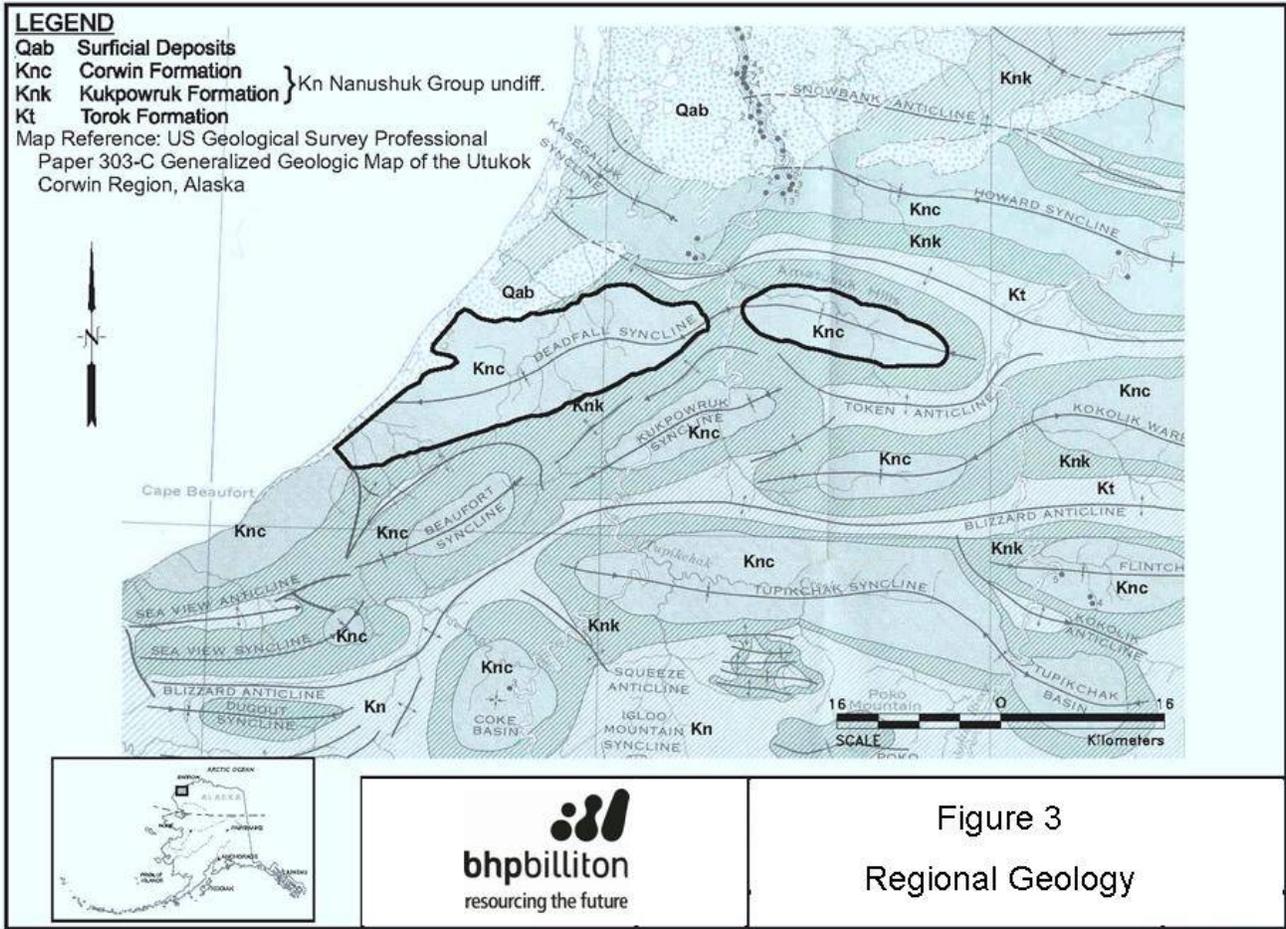


Figure 3: Regional Geology of the Permit Area

7.3.3 Surface Water Hydrology:

There are several watersheds within the permit area (Figure 4) ranging from small coastal watersheds located in the western portion to larger watersheds, such as the Kukpowruk and Epizetka rivers that extend south and southeasterly into the Brooks Range foothills. All watersheds within the permit area drain to the Chukchi Sea.

Streams are underlain by permafrost terrain and have a primary period of flow lasting approximately four months from break-up in early to mid-May to freeze-up in mid-September. Stream flow starts at break-up with spring floods, which results from rapid melting of the winter snow pack. As with larger arctic rivers, the spring flooding event is a brief time period which usually produces the highest stream flows of the season. Because the active layer of soil is still frozen at this time, there is very little soil infiltration of the melt waters. The lakes in the area are predominantly frozen during the spring break up flood. Water from the melting snow packs flows across and ponds on lake ice, with the excess water flowing down drainage. This results in little or no flushing action of the lake water. The length and magnitude of spring flooding is dependent on the amount of snow pack in drainage basins and the rate at which it melts. Typically, the spring flooding event is over within two weeks. After the spring flood, the source of the water in streams is from the thawing of residual snow drifts in the basin, summer rainfall,

and the contribution of soil moisture from the thawing of the seasonally active soil zone. As these streams are located in an area of continuous permafrost there is no contribution of groundwater to stream flows. Unless there is adequate rainfall during summer to maintain flow, most of the smaller streams in the area will have very low flow volumes, or none at all.

The typical drainage basin in the area is fed by surface run-off characterized by sheet flow across the tundra and channel flow within channels in the upper reaches of the drainage basins. The flow in the drainage basins is often channelized in beaded streams. The lower portions of the drainage basins are characterized by flow in well defined sand, gravel and boulder lined channels.

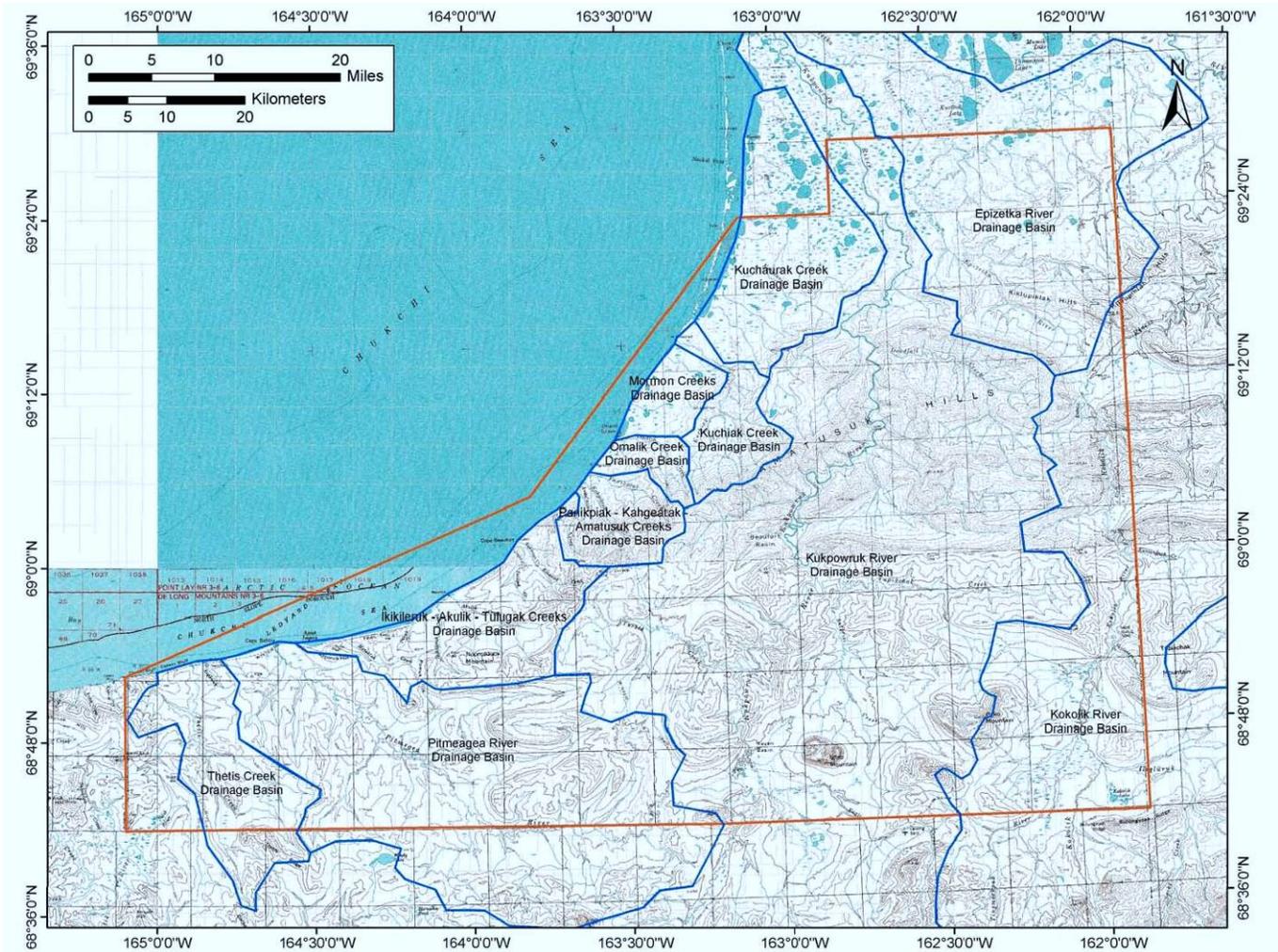


Figure 4: Watersheds of the Permit Area.

7.3.4 Surface Water Quality

Analytical results of stream water samples throughout the permit area indicate that concentrations were less than their respective method reporting limits for pesticides, SVOCs, PAHs, ammonia, total nitrate, cyanide, thiocyanate, acidity, cadmium, beryllium, selenium, silver, thallium, tin, and bismuth. The stream water samples contained concentrations that were

greater than their respective method reporting limit, but less than regulatory criteria for certain VOCs, antimony, arsenic, barium, boron, chromium, cobalt, copper, lead, mercury, nickel, molybdenum, zinc, chloride, and sulfate.

The general water quality character of the stream samples in the permit area indicate that samples from the Epizetka River and Mormon Creek contained high iron concentrations, low alkalinity, and hardness and total dissolved solids (TDS) values similar to soft (Dufor and Becker 1964). Samples from the Kukpowruk River, and Kahkatak and Omalik Creeks generally exhibited low iron concentrations, high alkalinity, hardness, and TDS values similar to medium hard water.

All of the stream samples in the permit area except one sample at Kahkatak Creek exhibited concentrations below the method detection limit (MDL) for VOCs, SVOCs, pesticides, and PAHs. The single Kahkatak Creek sample contained concentrations that were well below regulatory criteria for these constituents.

The analytical results of the several lake water samples taken within the permit area indicate that concentrations were less than their respective method reporting limits for pesticides, SVOCs, PAHs, PCBs, GRO, DRO, RRO, TAH, TAqH, ammonia, cyanide, thiocyanate, cadmium, beryllium, silver, tin, and bismuth. The lake water samples contained concentrations that were greater than their respective method reporting limits, but less than regulatory criteria for aluminum, antimony, arsenic, barium, boron, chromium, cobalt, copper, lead, mercury, molybdenum, nickel, selenium, vanadium, zinc, chloride, fluoride, and sulfate.

References:

BHP Billiton. April, 2008. Western Arctic Coal Project 2008 Environmental Baseline Studies. URS, Anchorage, Alaska.

Dufor, C. N. and E. Becker. 1964. *Public Water Supplies of the 100 Largest Cities in the United States, 1962*. U.S. Geological Survey Water-Supply Paper 1812, 364pp.

7.3.5 Traditional Knowledge/Traditional Land Use:

A collaborative Traditional Knowledge compilation project was initiated in 2008 with the community of Point Lay. Preliminary work included the development of a traditional place names map using the existing Traditional Land Use Inventory (TLUI) managed by Inupiat History, Language and Culture Commission (IHLC). The TLUI database was supplemented with additional information provided by local elders and residents. This information and these maps remain the proprietary knowledge of the Inupiat and is overseen by the specialists of the IHLC.

As land-owner, ASRC has access to this data and in conjunction with land use specialists and local residents can utilize the information to assist in planning future activities to ensure there is no harm to these traditional land use areas and other areas with cultural significance.

7.3.6 Surficial Geology:

Several USGS reports describe the surficial geology in the permit area. McCulloch (1967) mapped three raised shorelines of Pleistocene marine transgressions in the northwestern part of the permit area. The shorelines extend inland from Cape Beaufort northeasterly through Deadfall, Qasigialik, and Howard synclines. The youngest of these, estimated to be of middle to late Pleistocene age (26,000-108,000 years B.P.), extends along most of the Chukchi Sea coast at approximately the 15-m (50-foot) elevation contour. A marine sediment deposit resting on this wave-cut terrace was mapped west of this location (McCulloch 1967) along the southeast corner of Qasigialik Lagoon and for several miles southwest along the current coastline. An older mid-Pleistocene shoreline was mapped through the central part of Qasigialik syncline at approximately 30 m (100 feet) above sea level, and is estimated to date from 151,000 to 191,000 years B.P. based on fossil localities in northern Qasigialik Lagoon. The oldest shoreline in the area, also estimated to be mid-Pleistocene based on fossil locations in Epizetka River bluffs, lies at an elevation between 60 to 150 m (200 to 500 feet).

Williams et al. (1977) and Yeend (1984) published surficial deposits and engineering geologic maps for the National Petroleum Reserve-Alaska (NPRA) located east of the permit area. These maps identify the following Quaternary units along the eastern edge of the WAC project area: upland silt on the coastal plain and lower foothills; solifluction mantle deposits and colluvium on foothill slopes; silt and muck deposits in low-lying areas scattered throughout the foothills; marine beach deposits in northeast Howard syncline at about 150-m (500-foot) elevation; and Pleistocene stream terrace and Holocene floodplain deposits along Kokolik River and Iligluruk Creek.

Rawlinson (1993) completed comprehensive surficial geologic maps of the central Alaskan Arctic coastal plain, however coverage does not extend to the permit area. Rawlinson (1993) indicates that the oldest Pleistocene raised marine shoreline at the permit area mapped by McCulloch (1967) extends 800 km (500 miles) to the east along the Arctic foothills.

Mull et al. (2000) identified several Quaternary units in the southern one-third of the permit area, including alluvium and older stream terrace deposits, reworked silty colluvial deposits on slopes, frozen silt blanket deposits on lower slopes and valley bottoms, and swamp or bog deposits. The colluvial deposits are characterized by frost creep transport, gelifluction, and horsetail drainage patterns from ephemeral streams and are gradational with the downslope silt blanket deposits.

References:

McCulloch, D.S. 1967. Quaternary Geology of the Alaskan Shore of Chukchi Sea, In D.M. Hopkins, ed. *The Bering Land Bridge*. Stanford University Press, Stanford, CA. pp. 91-120.

Mull, C.G., E.E. Harris, R.R. Reifensuhl, and T.E. Moore. 2000. *Geologic Map of the Coke Basin-Kukpowruk River Area, DeLong Mountains D-2 and D-3 Quadrangles, Alaska*. Alaska

Div. of Geological and Geophysical Surveys (DGGS) Report of Investigations 2000-2, scale 1:63,360. Rawlinson, S.E. 1993. *Surficial Geology and Morphology of the Alaskan Central Arctic Coastal*

Williams, J.R., W.E. Yeend, L.D. Carter, and T.D. Hamilton. 1977. *Preliminary Surficial*

Yeend, W. 1984. Engineering – Geologic Maps of Northern Alaska, Utukok River Quadrangle. USGS Open-File report 84-682. 2 sheets, scale 1:250,000

7.3.7 Soils:

Soils information for the permit area is limited to regional mapping conducted by the Soil Conservation Service (SCS 1979) and localized mapping conducted in the immediate vicinity of Deadfall Camp in the 1990s. Acidic soils (pH < 5.5) dominate in the coastal areas, low foothills, and major valleys of the permit area; soils designated as circumneutral (pH 5.5-7.2) dominate in the mid to upper foothills in the southeastern portion of the site (Arctic Geobotany Center (AGC) at the University of Alaska–Fairbanks, 2008). Localized soils mapping was conducted in the 1990s in the immediate vicinity of Deadfall Camp and Kuchiak Test Mine. These data indicate the presence of similar soil types as those described by the Soil Conservation Service (SCS 1979), including the following:

Pergelic Cryochrepts. Developed in residual soil on weathered sandstone bedrock, these soils are well drained, and consist of a thin organic horizon (< 2.5 centimeters (cm) (1 inch)) overlying gravelly sandy loam containing 20-95% platy rock fragments up to 51 cm (20 inches). Permafrost is deep and difficult to determine. Frost action features include frost scars and stone circles, stripes, and steps.

Pergelic Cryaquepts. Developed on colluvium with frost boils, these are poorly drained soils consisting of 10 to 15 cm (4 to 6 inches) of moss and peat overlying silty clay loam, with permafrost encountered in the range of 30 to 76 cm (12 to 29 inches).

Pergelic Cryochrepts/Pergelic Cryaquepts. These two soil types were found intermixed on the lower slopes of the Kuchiak test mine, in an area containing stone stripes.

Histic Pergelic Cryaquepts. Developed on water-tract colluvium in the bottoms of swales between rock outcrops, these soils are very poorly drained and intermittently flooded. They contain thick accumulations of organic matter and peat (20 to 41 cm (8 to 16 inches)) overlying silty clay loam, with permafrost at 48 cm (19 inches) (BHP Billiton 2007; Kidd and Jorgeson 1993).

Reference:

Arctic Geobotany Center (AGC), University of Alaska - Fairbanks. 2008. Alaska Arctic Tundra Vegetation Map: Substrate Chemistry. Scale 1:6,000,000.

BHP Billiton. 2007. Western Arctic Coal Project, Alaska. DNR Coal Exploration Permit Application. January. 99 p.

Kidd, J.G. and M.T. Jorgeson. 1993. Vegetation, Soils, and Water Quality at the Proposed Kuchiak Test Mine Site, Northwestern Alaska, 1993. Draft report prep. for Arctic Slope Consulting Group, 23 p. October 23.

Soil Conservation Service (SCS), U.S. Department of Agriculture. 1979. Exploratory Soil Survey of Alaska. Scale 1:1,000,000. 209 p. with map sheets. February.

7.4 Briefly describe vegetation cover and important habitats of fish, wildlife and plants

The following information is intended to provide a brief overview of historic and recent baseline information that has been collected within the permit area. Considerably more analytical data, interpretations, maps and QA-QC data are available in the referenced reports.

7.4.1 Vegetation:

Land cover of the western portion of the Arctic slope, including the permit area has been summarized in many regional mapping efforts. Vegetation within the permit area is a mosaic of several common tundra community types. The permit area supports primarily low arctic vegetation typical of the Arctic Foothills physiogeographic province of northwestern Alaska. The dominant features of Arctic tundra ecosystems include:

- Frost influenced landscapes;
- Short growing season;
- Low temperatures;
- Low precipitation; and
- Poor nutrient regimes.

The permit area is within the Beringia Floristic Province, which occurs across both the Siberian and North American sides of the Bering Sea. Dominant vegetation types include:

Wet Tundra: The vegetation in Arctic Coastal Plain Province in the northern portion of the permit area. Vegetation here is classified within the Wet Non-acidic Coastal Complex. The common cover types in the wettest portions of the permit area are classified as wet sedge meadow tundra or wet sedge/grass meadow, the former not having a grass component (Viereck et al. 1992).

Moist Tundra: An increase in vertical relief provides more well-drained soils in the Arctic Foothills Province, which consists of moist tundra complexes of cottongrass and sedge tussocks, shrubs, and mosses.

Dry Shrub Tundra: Inland from the coast, the steeper slopes and ridges of the permit area provide more well drained soils that provide the substrate to support a variety of shrub tundra communities (AGC 2008).

References:

Arctic Geobotany Center (AGC). 2008. Arctic Geobotanical Atlas. Institute of Arctic Biology. University of Alaska, Fairbanks. Online: <http://www.arcticaltlas.org>.

BHP Billiton. 2007. Western Arctic Coal Project, Alaska. DNR Coal Exploration Permit Application. January. 99 p.

BHP Billiton. April, 2008. Western Arctic Coal Project 2008 Environmental Baseline Studies. URS, Anchorage, Alaska.

Markon, C. J., M. D. Fleming, , and E. F. Binnian. 1995. Characteristics of vegetation phenology over the Alaskan landscape using AVHRR time-series data. Polar Record, 31, 179± 190.

Muller, S.V., A.E. Racoviteanu, and D.A. Walker. 1999. Landsat MSS-derived land-cover map of northern Alaska: extrapolation methods and a comparison with photo-interpreted and AVHRR derived maps. *International Journal of Remote Sensing*, Volume 20, Numbers 15-16, 1999, pp. 2921-2946(26)

Selkregg, L.L. 1975. *Alaska Regional Profiles: Arctic region*, 214, University of Alaska-Fairbanks

U.S. Geological Survey (USGS). 2003. National Land Cover Database Zone ak01 and ak02 Land cover layer for the Western Arctic Coal project area. U.S.G.S., Sioux Falls, South Dakota.

Viereck, L.A., C.T. Dryness, A.R. Batten, and K.J. Wenzlick. 1992. *The Alaska Vegetation Classification*. Anchorage, AK: USDO, BLM.

7.4.2 Fish and Wildlife:

Caribou:

The permit area is seasonally used by the Western Arctic Caribou Herd. The core calving area for this herd is usually located near the headwaters of the Utukok River, about 50-60 air miles to the east of the existing exploration camp area and in the northern part of the Arctic Foothills Province.

The Moist Cottongrass Tussock Tundra community is the most important habitat for calving; most of the calves are born during late May or early June in this habitat type or in upland meadows of Dry Alpine-Fellfield Tundra adjacent to it at elevations among 500 to 1,000 feet. The importance of the tussock habitat type to caribou calving has been demonstrated in several studies which concluded that cottongrass (*Eriophorum vaginatum*) is the most important food of caribou at this critical period. Caribou rely on this vegetation community to such an extent that the timing of the arrival of caribou onto the calving grounds is closely correlated with the melting of snow from the tussock tops and appearance of the sedge buds that are a preferred food of the cows. Exceptional conditions, such as unusually deep snows on spring migration routes, may delay the arrival of the cows and force them to calve in anomalous areas; however, the usual condition is the arrival of caribou at their core calving area on the Utukok River headwaters on or about the first of June.

Brown (Grizzly) Bears:

Grizzly bears are considered to be scattered or locally abundant in the area of the permit area depending upon season of the year. During August, grizzly bears are more numerous on the coastline, when the sea ice retreats and marine mammal carcasses are beached by winds and currents. The carcasses of marine mammals are often dead walruses gray whales. Such beached carcasses provided carrion to supplement the bear's normal diet of caribou, ground squirrels, other small mammals, and vegetation.

Other Mammals:

Wolverines are an important fur resource of the region, particularly the Amatusuk Hills that lie to the east and south of the existing exploration camp.

Arctic and red foxes are also taken by Point Lay trappers, who consider the foothill's habitats to the east of the exploration camp area to be most valuable for the taking of furbearers. The presence of good populations of bears, foxes, and wolverines indicates a fairly stable food base

of small mammals, which would also support less visible mammals such as short-tailed weasels (ermine) and shrews as well as the normal complement of avian predators. Red backed voles, tundra voles, singing voles, brown lemmings, collared (or varying) lemmings, arctic shrews, masked shrews, short-tailed weasels, and least weasels are expected to be present in varying population densities dependent upon habitat types and cyclic phenomena. The red-backed vole is typically associated with cottongrass tussocks, the dominant vegetation of the Cape Beaufort region, and is probably the most widespread and common small mammal of the area. It is an important prey item for shrews, weasels, foxes, and wolverines. Tundra voles are generally distributed over several vegetation types and are usually more abundant in wet sedge (*Carex*) meadows than other habitats.

Brown and collared lemmings are usually associated in habitats of a wide variety, with a tendency for collared lemmings to be more abundant in dry and moist habitat types. Both brown and collared lemmings undergo dramatic population fluctuations that induce similar, but delayed, cycles in the abundance of those carnivores that depend upon the lemmings for a substantial part of their food base. An abundance of snowy owls on the coastal plain portions of the permit area (up to one owl per two square miles) usually occurs in the spring, and jaegers become increasingly common as the snow cover melts.

Arctic ground squirrels are an important and obvious part of the biota in the area, inhabiting the numerous ridges and terraces that provide well-drained soils for burrows.

Hoary marmots inhabit many of the same rock outcrops colonized by ground squirrels in the Cape Beaufort area. Hoary marmots are discontinuously distributed through the Brooks Range and Arctic Foothills, and are still highly prized for their pelts.

Marine Mammals:

Incidental observations of a few seals on sea ice off of Omalik Lagoon and also observed at holes and leads in sea ice between the south end of Qasigialik Lagoon and Point Lay village. Isolated walrus (*Odobenus rosmarus*) are occasionally seen during the season.

Gray whales are seen on occasion in the same general area of Kukpowruk Pass into Qasigialik Lagoon.

Polar bears have been routinely reported as single animals near Cape Beaufort, usually one or two per season. Cape Beaufort is reported to be a polar bear denning habitat and a few animals have been taken or encountered by humans in that area.

Beluga whales utilize the nearshore waters from Cape Beaufort to Point Lay during almost the exact same period each year in July. They migrate up the coast along the permit area from the south during the last several days in June but more commonly the first few days of July. Whales concentrate in their largest groups in the area extending from Omalik Lagoon northward to Neakok Pass in early July. Their numbers in this area diminish rapidly as they move up the coast and become scattered in small groups before disappearing into the ice pack north of Point Lay by the end of July.

Fish:

Fish resources in the permit area include several marine species and a few freshwater species.

Marine fish resources in the permit area are principally arctic cod, saffron cod, Pacific herring, boreal smelt, and walleye pollock. In addition, fourhorn sculpin, sandlance, and capeline serve as food for higher vertebrate consumers. Arctic cod is an important food for a variety of marine mammals and seabirds, and no alternate food resource of equivalent value appears to exist in the area.

A common freshwater fish in the streams within the permit area is the slimy sculpin. Grayling are found in the larger drainages. Anadromous fish such as rainbow smelt, pink and chum salmon, arctic char, and arctic cisco have been observed. The apparent scarcity of anadromous fish in the coastal waters is considered to reflect the small river drainages in the permit area with marginal significance as anadromous fish streams.

Reference:

BHP Billiton. 2007. Western Arctic Coal Project, Alaska. DNR Coal Exploration Permit Application. January. 99 p.

7.4.3 Subsistence Resources:

The people of Point Lay engage in subsistence activities. Figure 5 shows subsistence resources in the permit area compiled from work done by Sverre Pedersen using 1987 Land Use Mapping and February 1988 Resource Harvest Survey from Point Lay.

Caribou, fish and beluga whales comprise the most significant subsistence resources with ancillary harvesting of furbearers, seals, and walrus. Seals and walrus are not as intensively used as in the past due to the reduction of dog teams and the present adequate supply of caribou and other food resources. Sea mammal exploitation may increase if fluctuations in the caribou population or regulatory restrictions decrease the supply.

Point Lay's subsistence usage areas comprise a coastal region from Icy Cape to Cape Beaufort and inland along the Kukpowruk River and into the De Long Mountains. Some villagers are descended from the Utukok River people and hunters still use that familiar territory for hunting. In March and April, villagers may hunt wolves, foxes, and wolverines in the Amatusuk Hills south and east of the camp location.

Summer is a busy time for Point Lay subsistence activities. Boats are used for coastal and river travel in place of tundra travel, of which occurs by use of all-terrain vehicles. Caribou are taken along the coast and around Icy Cape. Waterfowl and eggs continue to be taken in early summer. Open lead sealing is done in early June, with many animals taken later during the annual walrus hunt at Icy Cape.

Gill nets are set in coastal places such as river mouths, at ocean passes, in Qasigialik Lagoon and at Kitkik Point. The season lasts from early July to late September. The nets are moved about fifteen miles up the Kukpowruk River in September for grayling.

Anadromous fish are taken, with the important species being rainbow smelt, a few pink and chum salmon, arctic char, and arctic cisco.

Subsistence fishing represents only a small portion of the total subsistence harvest of resources at Point Lay. Belugas are the most important marine resource and caribou are the most important terrestrial resource.

Migratory waterfowl and eggs are currently taken during May and June at coastal sites and along inland rivers. Specific areas, such as the islands in Qasigialik Lagoon north of the village (well north of the permit area) and along the barrier islands, yield large quantities of eggs which are used by the villagers. Ground squirrels are taken near the village. Hoary marmots are hunted in the Amatusuk Hills within the permit area, where other furbearers might also be found.

April is a good time for sealing, which is done when the seals spend appreciable time basking on top of the sea ice. Seals are found all along the coast, with the Qasigialik Lagoon and its passes into the ocean being favored spots. Caribou are hunted as they move to the coast for the summer, or in the Amatusuk and Kiklupiklak Hills.

As the sea ice retreats in June, the walrus migrate north past Point Lay, and the villagers conduct their annual hunt. Walruses are found with ice floes from Omalik Lagoon north to Icy Cape. Beluga whale hunts are conducted in the lagoons and shallow bays in early July when boats are used to herd the belugas into shallow water where they can easily be retrieved after being killed. Occasionally belugas are also taken in August.

Berries and other edible plants are collected along the coast and inland along rivers.

Moose are occasionally seen in the area and are taken when the opportunity presents itself.

Reference:

BHP Billiton. 2007. Western Arctic Coal Project, Alaska. DNR Coal Exploration Permit Application. January. 99 p.

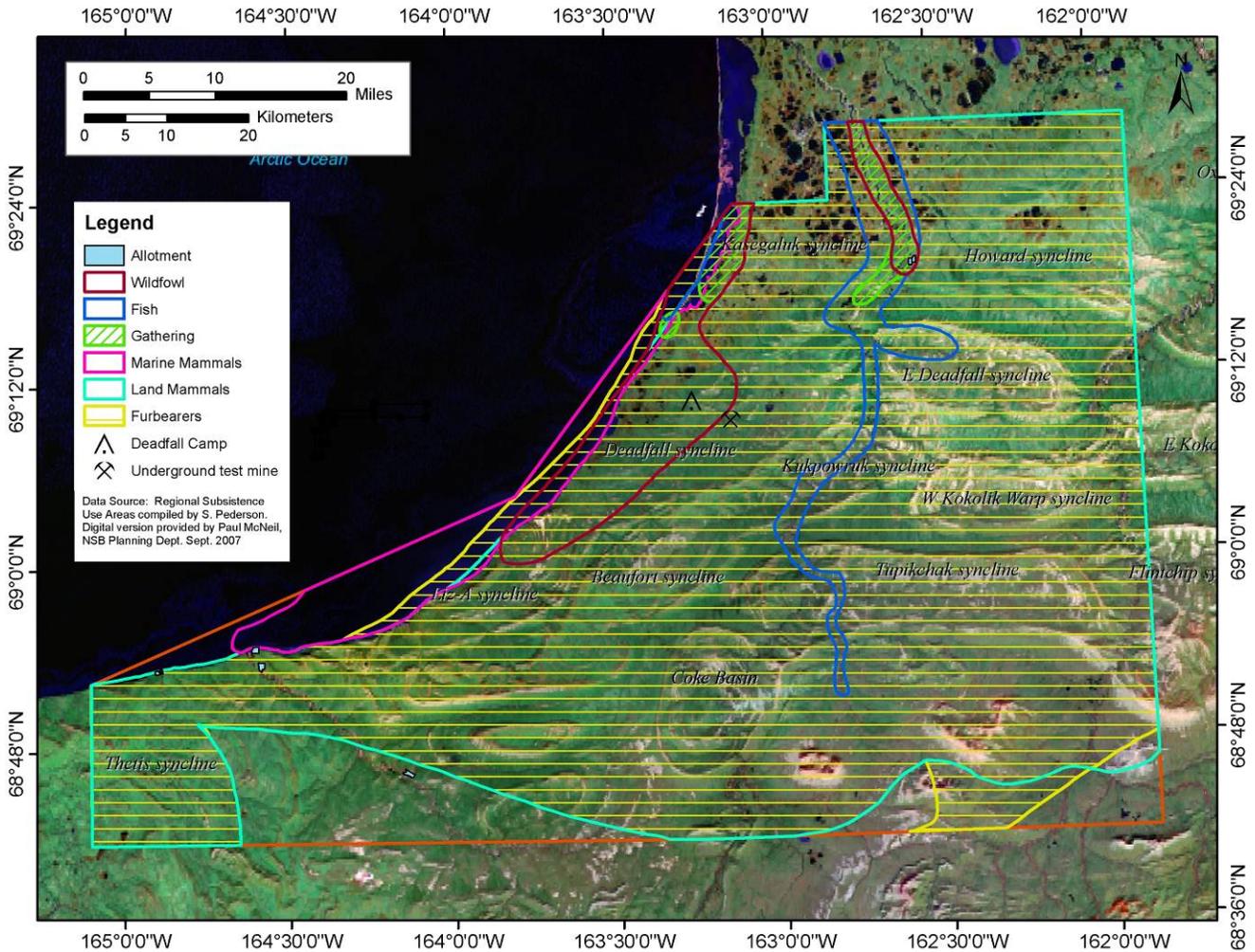


Figure 5: Subsistence Resources in the Permit Area

7.6 Are there known archaeological resources ? Identify and describe, as well as mitigation methods.

A number of registered archaeological and heritage sites exist throughout the permit area. In order to protect and preserve the integrity and cultural significance of these sites, the data is confidential and managed by a number of federal, state and local agencies. Work completed in the permit area during the 1990s focused on search and identification of sites in areas of exploration activities. Further work in 2007-2008 focused on the re-location (using GPS) of previously identified sites, the demarcation of known sites to protect from land use activities and search for other sites in areas of proposed exploration. The archaeology survey work conducted in the project area to date has tended to focus along particular geographic and topographically constrained areas, such as coastal shoreline, barrier islands and lagoon, sections of river drainages, and the prominent, generally east-west trending ridges. Consequently what little is known of the area is confined to these geographic-topographic locales.

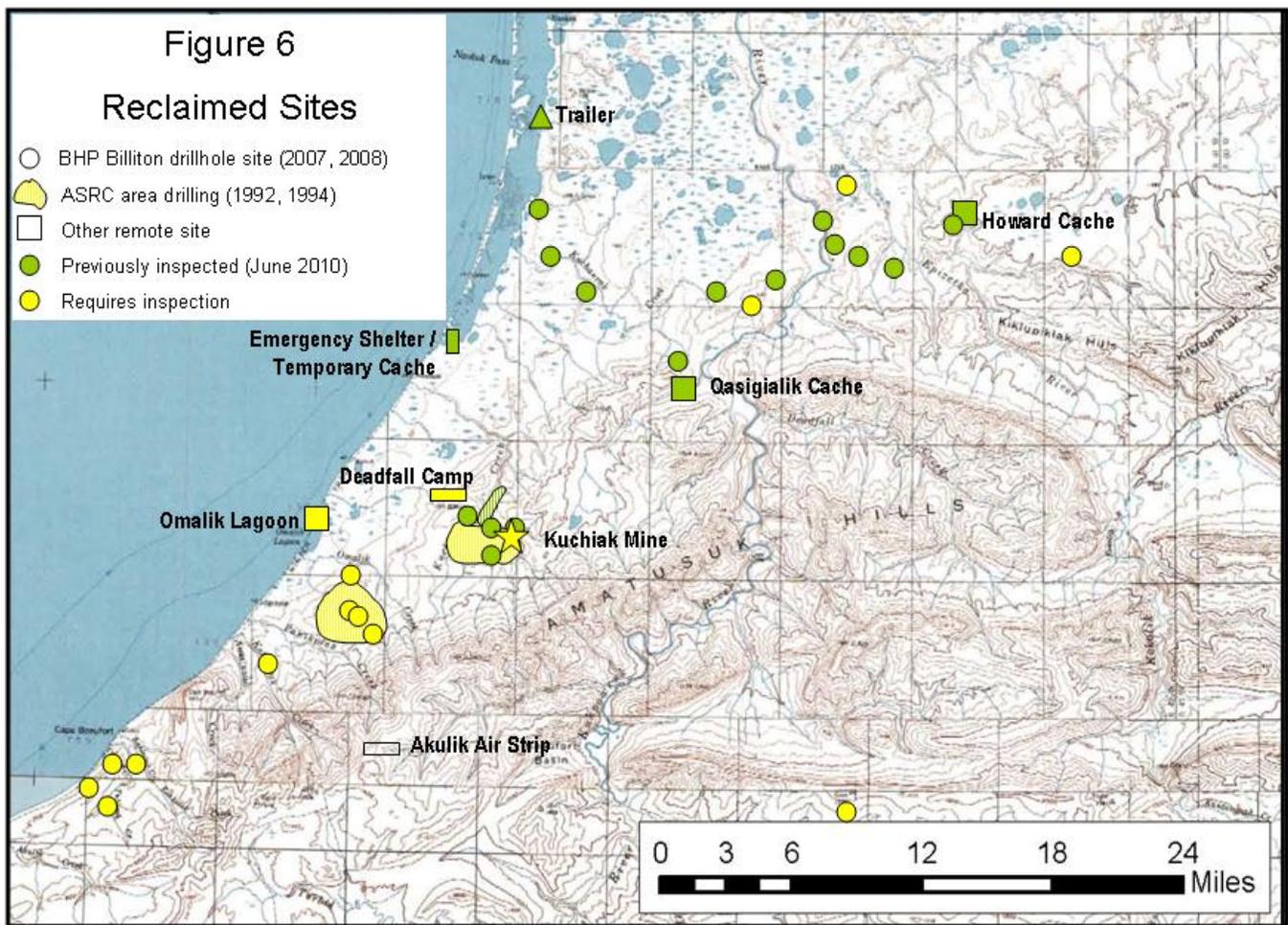
As land-owner, ASRC has access to this data and in conjunction with archaeologists and local residents can utilize the information to assist in planning future activities to ensure there is no harm to these sites.

PART C: EXPLORATION AND RECLAMATION METHODS

8.1 Provide a map showing exploration and reclamation features

Figure 2 shows the location of all existing facilities that will be retained under the new exploration permit.

Figure 6 shows the location of all facilities, remote sites and previous drillholes that have been reclaimed and require inspection by DNR and bond release.



8.2 Provide a description of exploration and reclamation methods and a discussion of how the exploration will comply with the performance standards in 11 AAC 90.167

There are no new exploration or reclamation activities planned during the term of this permit.

8.3 Provide a time table for each phase of exploration and reclamation including starting and ending date, type of disturbance, area of disturbance, and reclamation measures.

All exploration and reclamation activities permitted in 2007 Coal Exploration Permit 03-84-795 issued on March 13, 2007 have been completed as described in the exploration application and permit, as revised, and in compliance with 11 AAC 90.167.

An excerpt from the 2007 Permit 03-84-795 states: "...This permit authorizes retention, maintenance, and upgrades of the existing remote camp and landing strip, geological mapping, outcrop sampling a water catchment, beach coal storage, drilling exploration boreholes, a temporary landing strip on Omalik lagoon, overland travel on ASRC lands from Pt Lay, Omalik lagoon and the exploration camp site and establishment and retention of the Kuchiak Research Mine. All exploration and reclamation activities are to be conducted as described in the exploration application and permit, as revised, and in compliance with 11 AAC 90.167."

The following table provides a summary of the previously permitted items and the status of each item.

Summary of items <i>eliminated</i> from the exploration permit renewal and the status of each item	
Item	Status
Remote camp which existed prior to 2007	Disposal and reclamation completed per ADEC permit SWINERT15-11 issued January 25, 2010
Remote camp facility and upgrades completed between 2007-2010; including connexs, equipment, machinery, drill core, empty fuel storage tanks, emergency shelter and related items.	Packed, consolidated and retained by Landowner, ASRC
Landing strip, pre-2007 and 2007-08 extension to 2,700' and helicopter pad	Retained by Landowner, ASRC
Water catchment, Mormon Creek	Retained by Landowner, ASRC
Overland tundra travel on ASRC lands, including caches HOW and QAS	All travel completed, required reclamation completed per inspection by ABR, Inc. in June 2010. All supplies removed from caches and inspected by DNR

Summary of items <i>eliminated</i> from the exploration permit renewal and the status of each item	
Item	Status
Overland travel on DNR lands	All travel completed. Stranded trailer from 2008 winter season removed. DNR inspected.
Retention of the Kuchiak Research Mine	Exemption of coal under AS27.21.910(1) by DNR, decision dated April 16, 2010.
Kuchiak Research Mine: hazardous materials, batteries, fluids, potential pollutants, blasting agents	Removed from site for disposal
Kuchiak Research Mine: revegetation	Required revegetation completed in June 2010 by contractor ABR, Inc
Kuchiak Research Mine: equipment	Retained by Landowner, ASRC
Kuchiak Research Mine: overburden stockpile and pit lake	Retained by Landowner, ASRC
Beach coal storage at Omalik Lagoon	Exemption of coal under AS 27.21.910(1) by DNR, decision dated April 16, 2010
Temporary ice landing strip on Omalik Lagoon	Constructed and used briefly, melted
Old camp at Omalik Lagoon	Removed from site for disposal
Exploration activities: geological mapping and sampling	Completed, no land disturbances
Exploration bore holes: Year & number of holes drilled 1992 – 21 holes (at 20 sites) 1994 – 12 holes 2007 – 9 holes 2008 – 19 holes	Holes plugged, casing cut and/or capped; Number of holes inspected by DNR 8 holes inspected and closed; 12 remain 0 holes inspected and closed; 12 remain 2 holes inspected and closed; 7 remain 11 holes inspected and closed; 8 remain
Miscellaneous reclamation and revegetation activities	Completed

The following table provides a summary of the previously permitted items that remain in the application for renewal.

Summary of items that <i>remain</i> bonded under the exploration permit	
Item	Status
Exploration bore holes: Year & number of holes remaining 1992 – 12 holes 1994 – 12 holes 2007 – 7 holes 2008 – 8 holes	These remaining 39 holes have been reclaimed but still require inspection and bond release by DNR

8.5 Estimate of the cost of reclamation.

The revised bond calculation for existing exploration disturbances that substantially disturb the surface of the land is limited to 39 boreholes that require DNR field inspection and subsequent bond release.

$$39 \text{ boreholes} \times \$400 / \text{borehole} = \$15,600$$

The applicant holds a current reclamation bond in the amount of US\$259,979 to cover the activities permitted under previous Coal Exploration Permit 03-84-795. The current bond is sufficient to cover the bond required for the remaining boreholes.