

**GCC ENERGY, LLC
KING II MINE
OSMRE INDIAN LANDS
PERMIT APPLICATION PACKAGE
CO-0106**



**GCC Energy, LLC
King II Mine
6473 County Road 120
Hesperus, Co. 81326**

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**KING II MINE
INDIAN LANDS
OSMRE PERMIT APPLICATION PACKAGE**

APPLICANT

GCC Energy, LLC
11783 Highway 337
Tijeras, New Mexico 87059

AVS Entity #247004

Phone: (970) 385-4528 Fax: (970) 385-4638
Employer ID. No. 20-2812006

Formed: Colorado April 6, 2005

Resident Agent in Colorado: Trent A. Peterson
6473 County Road 120
Hesperus, Colorado 81326
Voice: (970) 385-4528
Fax: (970) 385-4638

Contact Person On-Site: Tom Bird

Telephone Number On-Site: (970) 385-4528 x 6503

EXECUTIVE SUMMARY

GCC Energy, LLC currently holds OSMRE Permit CO-0106A to mine the King II mine, by underground mining methods only, a coal lease belonging in whole, to the United States of America, administered by the U.S. Department of Interior, Bureau of Land Management (BLM). The Ute Mountain Tribe (Tribe) owns 100% of the surface rights to the property which overlies the BLM coal lease (COC-62920) assigned to GCC Energy, LLC and described as follows:

T. 35 N., R. 11 W., N.M.P.M. North of Ute Line
Section 19, lots 4, 5, E2SW4, & SE4

T.35.N, R. 12 W., N.M.P.M., North of Ute Line
Section 24, lots 1,2, and SW4SE4.
Section 25, lots 1,2, W2NE4 and W2.
Section 26, SE4NE4, E2SE4, SW4SE4.
Section 35, NE4.

Containing approximately 1,224.51 acres.

GCC Energy, LLC proposes, with this permit revision, to append a coal lease held in fee, to OSMRE Permit CO-0106A. This coal lease is owned in part by the Ute Mountain Ute Tribe (50%), Stephens (25%) and Dunn (25%). The Ute Mountain Tribe (Tribe) owns 100% of the surface rights to the property which overlies the coal lease assigned to GCC Energy, LLC and is described as follows:

T. 35 N., R. 12 W., N.M.P.M. North of Ute Line
Section 26, E2SW4, & NW4SE4, SW4NE4.

Containing approximately 160 acres.

The surface property above the leased lands is not located on "Trust" or "Reservation" lands, but was purchased by the Tribe from the Dunn family.

GCC Energy's King I Mine was in operation since 1941 approximately two miles northeast of this lease. Workings were exhausted in January, 2009, requiring a complete move to the above leases. The above leases lie contiguous to a State of Colorado lease obtained by GCC Energy, LLC to the south of the BLM lease. All surface facilities and disturbance for the King II Mine extension have been permitted under Colorado Division of Reclamation, Mining & Safety (CDRMS) permit #C-81-035 (refer to Permit Revision #08, approved June 19, 2006 and Technical Revision TR-15, approved March 15, 2010).

The BLM and Fee leases and permit area are accessed from the King II Mine's portals and underground workings constructed on the State of Colorado lease immediately to the south in Section 36. Coal is and will be transported via conveyor belt to the surface facilities on the State of Colorado surface. Coal is sorted at the surface facilities, and transported by truck to markets which consist primarily of cement manufacturing facilities in New Mexico, Arizona, Texas and Mexico. Approximately twenty acres of surface disturbance have been approved and constructed under the CDRMS permit. The small amount of coal refuse (underground development waste) from the King II Mine will be transported to the approved refuse facility at the King I Mine. No surface disturbance is planned or anticipated for the proposed permit revision area.

PART 750 Requirements for Surface Coal Mining Operations on Indian Lands

750.12 Permit Applications for Indian Lands

GCC Energy, LLC will submit all application fees and permit application package copies (PAP) in accordance with OSMRE schedules and requirements.

750.12(d)(1) Mining Plan and Resource Recovery and Protection Plan

The mining plan as required by 43 CFR 3480, Subpart 3482 (Resource Recovery and Protection Plans) is included in this PAP as Appendix 6 (1). Subpart 3487 (Logical Mining Unit) is not applicable to this area.

750.12(d)(2)(i) Socioeconomic Impacts From the Mining Plan

The King I Mine began operation in 1941 and achieved its average production level by 1988. The mine was been an integral part of the economy and society of La Plata and Montezuma counties, Colorado for more than 67 years. No change is anticipated in any information required by 750.12(d)(2). The BLM Lease and permit area is an extension of mine workings to be developed beginning in the State of Colorado lease. The King I Mine workings were depleted and the mine was closed in January of 2009, and the workforce was moved to the King II Mine with no changes in the levels of personnel, production or economic and environmental impacts.

The King I Mine Workforce

As of April, 2010, GCC Energy, LLC employed approximately 66 persons. Employment is expected to vary no more than twenty percent from this level throughout the life of the mine. At this time it is not possible to accurately estimate when fluctuations in the size of the workforce might occur.

The GCC Energy workforce is broken down into the following classes:

Administrative/Office	6
Underground employees	50
Surface employees	12

Employees of GCC Energy live primarily in La Plata, Montezuma and San Juan Counties of Colorado and San Juan County of New Mexico. They commute to work in private cars or pickups or maintain a

separate residence in the immediate area.

The table below shows where GCC Energy employees resided in 2009:

Location	Percent	Location	Percent
Aztec, NM	1.8%	Hesperus, CO	9.1%
Bayfield, CO	1.7%	Kayenta, AZ	3.6%
Cortez, CO	10.3%	La Plata, NM	1.8%
Dolores, CO	5.5%	Lewis, CO	1.8%
Durango, CO	18.2%	Mancos, CO	21.8%
Farmington, NM	7.3%	Paonia, CO	1.8%
Grand Junction, CO	1.8%	Teec Nos Pos, AZ	1.8%

Wages and salaries paid to mine employees will average about \$4.5 million per year (2009 dollars) for the life of the mine.

750.12(d)(2)(iii & iv) National Register Eligible Cultural or Historic Sites

There are no cultural or historic sites listed or eligible for listing on the National Register of Historic Places within or adjacent to the proposed permit area (See Appendix 1).

750.12(d)(2)(v) Cultural Resources on Indian Lands

A cultural and historic resources survey was conducted for the surface disturbance areas located on State of Colorado lands to the south of the PAP proposed permit area. No significant cultural or historic sites were identified. The Ute Mountain Tribe has not granted access to the PAP permit area to conduct a survey for cultural or historic sites.

750.12(d)(2)(vi) Probable Changes in Air Quality

There will be no changes in air quality resulting from the underground mining of the proposed permit area. Colorado Department of Health, Air Pollution Control Division permits #09LP0202F and #09LP0203 are on file with CDRMS and at the mine office.

750.12(d)(2)(vii) Important Habitats of Selected Wildlife Indicator Species

A description of important habitats of selected indicator species located within the permit and adjacent areas is included as Appendix 5 and within Section 784.21. No surface disturbance is proposed or anticipated that would affect wildlife species.

750.12(d)(2)(viii) Bald and/or Golden Eagle Nests or Prey Areas

There is no record of active or inactive nests or prey areas of any bald or golden eagles within or adjacent to the permit area. No surface disturbance is proposed or anticipated. Please refer to Appendix 5 for information supplied by the Colorado Natural Areas Program at Colorado State University.

750.12(d)(2)(ix) Threatened and Endangered Wildlife Species

The Colorado Natural Areas Program (CNAP) at Colorado State University was contacted to undertake a search of their database of natural heritage elements (“occurrences of significant natural communities and rare, threatened or endangered plants and animals”) for the area within and 1.5 miles outside the proposed permit area. The results of that search identified the wolverine (presumed extirpated in Colorado since 1979) and the Townsend’s big-eared bat (a species of concern for the BLM and Forest Service). No candidate or federally listed species were identified within or adjacent to the proposed permit area. The CNAP report can be found in Appendix 5.

Additionally, the Environmental Assessment EA Number CO-SJFO-00-102EA issued by the BLM states, “No listed Federal or State threatened or endangered plant or animal species or potential habitat for such species is known to occur on or near the proposed project area. No additional surface water depletions will occur which could affect listed fish species. Therefore, there are no direct, indirect, or cumulative impacts identified.”

750.25 Permit Fees

The following fees are included with this permit application package as per 750.25(d):

Administrative completeness review (\$ 250.00) and the Technical Review - Basic Fee (\$1350.00) for a total of \$1600.00. Other fees will be paid upon request by OSM.

PART 761 Areas Designated by Acts of Congress

761.11 Areas Where Mining is Prohibited or Limited

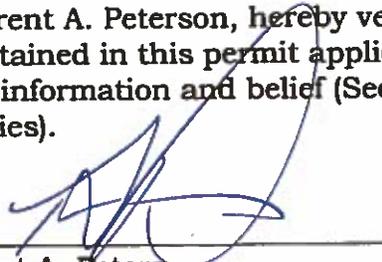
No surface or underground coal mining activities are proposed on any lands within the National Park System, the National Wildlife Refuge System, the National System of Trails, the National Wilderness Preservation System, any designated Wild and Scenic Rivers or such rivers under study for designation, within a national forest, or other identified area under 761.11.

No surface or underground coal mining activities are proposed within 300 feet of an occupied dwelling, public building, school, church, community or institutional building or Public Park or within 100 feet of a public road or cemetery.

PART 777 General Content Requirements for Permit Applications

777.11(c) Permit Application Package Verification

I, Trent A. Peterson, hereby verify under oath that the information contained in this permit application is true and correct to the best of my information and belief (See Appendix 9 for signed and notarized copies).



Date 5/26/2010

Trent A. Peterson
Vice President / Operations
GCC Energy, LLC

PART 778 Legal, Financial, Compliance, and Related Information

778.11 Applicant, Operator, and Ownership & Control Information

(a)(1) GCC Energy, LLC (applicant) is a limited liability company, formed under the laws of the State of Colorado. GCC Energy, LLC is the operator and permittee of the King I Mine (Inactive) & the King II mine (MSHA ID #05-04864), located in La Plata County, Colorado.

(a)(2) Employer ID. No. 20-2812006

(b)(1) Applicant and Operator

GCC Energy, LLC
AVS Entity #: 247004
P.O. Box 100
11783 Highway 337
Tijeras, New Mexico 87059
Phone: (505) 281-3311
Formed: October 22, 2007 (Colorado)

(b)(2) Resident Agent Colorado:

Trent A. Peterson
6473 County Road 120
Hesperus, Colorado 81326
Ph: (970) 385-4528
Fax: (970) 385-4638

(b)(3) There is no operator different from the applicant.

(c-d) Officers and Directors

GCC of America, Inc. (AVS #: 157897) is the sole shareholder and 100% owner of GCC Energy, LLC.

GCC of America, Inc.
P.O. Box 100
11783 Highway 337
Tijeras, New Mexico 87059
Phone: (505) 281-3311

Officers of GCC Energy, LLC

Name	Title	Effective Date	AVS #
Enrique Escalante	President	October 22, 2007	157891
Jaime Fernandez	Vice President	October 22, 2007	157892
Trent Peterson	Vice President	October 22, 2007	144988
Sergio Saenz	Secretary	October 22, 2007	157893
Andres Osuna	Assistant Secretary	October 22, 2007	157894
Martha Rodriguez	Treasurer	October 22, 2007	157895
Luis Carlos Arias	Assistant Treasurer	October 22, 2007	157896

GCC of America, Inc. was incorporated in the state of Delaware on June 16, 1994 and is qualified to do business in Delaware and New Mexico. GCC of America, Inc. does not own or control any other surface coal mining operations in the United States. GCC of America, Inc. has not previously owned or controlled any other surface coal mining operations in the United States within the past five years. GCC of America, Inc. is a wholly owned subsidiary of Cementos de Chihuahua, S.A. de C.V.

Officers of GCC of America, Inc.

Name	Title	Effective Date	AVS #
Enrique Escalante	President	March 30, 2005	157891
Jaime Fernandez	Vice President	March 30, 2005	157892
Verne Stuessy	VP, Manufacturing & Operations	March 26, 2010	
Dan Baker	VP, Logistics	March 30, 2005	246627
Steve Zellmer	VP, Sales & Marketing	March 30, 2005	246628
Ricardo Samaniego	VP, Human Resources	March 30, 2005	246629
Sergio Saenz	Secretary	March 30, 2005	157893
Andres Osuna	Assistant Secretary	March 30, 2005	157894
Martha Rodriguez	Treasurer	March 30, 2005	157895
Luis Carlos Arias	Assistant Treasurer	March 30, 2005	157896

Grupo Cementos de Chihuahua, S.A. de C.V. is the sole shareholder and 100% owner of GCC of America, Inc.

Grupo Cementos de Chihuahua, S.A. de C.V.
P.O. Box 100
11783 Highway 337
Tijeras, New Mexico 87059
Phone: (505) 281-3311
AVS #: 157898

Officers of Cementos de Chihuahua, S.A. de C.V.

Name	Title	Effective Date	AVS #
Manuel Milan	Chief Executive Officer	January 1, 1988	158047
Martha Rodriguez	Director	July 1, 2001	157895
Enrique Escalante	President	January 1, 2000	157891

778.12 Permit History Information

(a) GCC Energy, LLC holds State of Colorado Division of Reclamation, Mining & Safety permit C-1981-035 for the King I and King II underground coal mines (adjacent to the requested Federal permit CO-0106) in the United States.

(b) GCC Energy, LLC does not have any pending permit applications for surface coal mining operations in the United States.

(c) GCC Energy, LLC is the successor entity to National King Coal, LLC, the permittee and operator of the King I and King II mines. Both business entities are/were 100% owned by GCC of America, Inc.

(c)(1) Former Permittee and Operator Name and Address

National King Coal, LLC
11783 Highway 337
Tijeras, New Mexico 87059
Phone: (970) 385-4528 Fax: (970) 385-4638
AVS Entity #:157890

(c)(2) Employer ID. No. 20-2812006

(c)(3) Federal Permit Number: CO-0106A
State of Colorado Permit Number: C-1981-035
MSHA Mine ID (King I): 05-00266
MSHA Mine ID (King II): 05-04864

(c)(4) Regulatory Authority with Jurisdiction

Federal Permit CO-0106A
U.S. Department of the Interior
Office of Surface Mining, Reclamation and Enforcement
P.O. Box 46667
Denver, Colorado 80201

State Permit C-1981-035
Colorado Division of Reclamation, Mining & Safety
1313 Sherman Street, Room 215
Denver, Colorado 80203

(c)(5) GCC of America, Inc. is the parent corporation of GCC Energy, LLC, sole shareholder and 100% owner.

778.13 Property Interest Information

(a)(1) Owners of Record

Surface ownership:

Ute Mountain Ute Tribe
Post Office Box 248
Towaoc, Colorado 81334

Mineral ownership:

U.S. Department of Interior, Bureau of Land Management
Colorado State Office
2850 Youngfield Street
Lakewood, Colorado 80215
303.259.3600

Mineral ownership (160 acre Lease Addition 02/2010):

Nancy Joan Dunn; 25%
c/o Bill Scott Dunn
3207 N. El Dorado
Chandler, AZ 85224

Gary L. Stephens; 12.5%
3660 N. Lakeshore Drive #3705
Chicago, IL 60613-5300

Karen Stephens; 12.5%
27037 Oakmont Drive
Valley Center, CA 92082

Ute Mountain Ute Tribe; 50%
P.O. Box 128
Towaoc, CO 81334

(2) Leasehold Interests

There are no current surface leaseholds on the property to be mined.
GCC Energy, LLC is the sole mineral leaseholder

(3) Purchasers of Record

There are no purchaser(s) of record under a real estate contract.

(b) Contiguous Owners of Record (Surface and Subsurface)

All lands or interest in lands held by GCC Energy, LLC and contiguous landowners are shown and described on the following maps within the PAP:

Map King II-OSM-002 Surface Ownership

Map King II-OSM-003 Coal Ownership

(c) Interests in Contiguous Lands, Options, or Pending Bids

There are no interests, options, or pending bids under a real estate contract for the property to be mined or contiguous properties.

(d) MSHA Number

The King I Mine is inactive and sealed; its MSHA ID number has been withdrawn. Prior MSHA ID# was 05-00266.

The MSHA Number for the King II Mine is MSHA ID# 05-04864.

778.14 Violation Information

(a)(1) Neither GCC Energy, LLC, its operator, any subsidiary, affiliate, or entity which is owned or controlled by GCC Energy, LLC, has ever had a Federal or State mining permit for surface or underground mining operations suspended or revoked.

(a)(2) Neither GCC Energy, LLC, its operator, any subsidiary, affiliate, or entity which is owned or controlled by GCC Energy, LLC, has forfeited a performance bond or similar security deposited in lieu of bond.

(c) One enforcement action (notice of violation) was issued by the Colorado Division of Mining, Reclamation & Safety (CDRMS) in the three years prior to this application. NOV CV-2008-002 was issued on July 3, 2008 for deviation in underground workings from the approved King I mine plan map. The abatement for the NOV was to submit a technical revision to revise the mine plan map and have the revision approved. The technical revision was submitted and approved within the specified timeframes and the NOV was terminated by CDRMS.

778.15 Right of Entry Information

(a-c) Included in Appendix 1 are copies in full of the executed leases which establish right of entry to mine coal under the lands described in this permit application.

The aforementioned leases are not subject to pending litigation.

778.16 Status of Unsuitability Claims

(a-c) The proposed permit area is not known to be within any area designated as unsuitable for surface coal mining operations or within any area under study for such a designation.

778.17 Permit Term

(a) Mining within the permit area will commence immediately upon issuance of this permit. It is anticipated that mining of the permit area will be completed in approximately 10 years. A permit term of 5 years is requested. No surface area (0 acres) of the permit area will be affected over the life of the permit.

778.18 Insurance

(a) A certificate certifying that GCC Energy, LLC has a public liability insurance policy in force which meets the minimum requirements as specified in 800.60 is included in Appendix 8.1.

Renewals of this policy shall be forwarded to the following address:

**United States Department of the Interior
Office of Surface Mining Reclamation and Enforcement
P.O. Box 46667
Denver, Co. 80201**

The policy shall be maintained in full force during the life of the permit and any renewal thereof, including completion of all reclamation operations.

778.21 Proof of Publication

A copy of the newspaper advertisement of the application and proof of publication of the advertisement is included.

GCC Energy, LLC, owner and operator of the King II coal mine located at 6473 County Road 120, Hesperus, Colorado 81326, phone (970) 385-4528, has filed an application to include a 160 acre privately owned coal lease to its existing lease holdings with the U.S. Department of the Interior, Office of Surface Mining Reclamation and Enforcement. The King II Mine (including the lease tract to be added) is located in portions of Section 19; Township 35 North, Range 11 West, N.M.P.M., and portions of Sections 24, 25, 26, and 35; Township 35 North, Range 12 West, N.M.P.M., La Plata County, Colorado. The overlying surface of the area to be mined is owned by the Ute Mountain Ute Tribe. The coal to be mined is owned by the U.S. Department of Interior, the Ute Mountain Ute Tribe, Nancy Joan Dunn, Karen Stephens and Gary Stephens. All mining activities of the King II Mine lie to the north side of Hay Gulch, approximately 6.5 miles southwest of Hesperus, as identified on U.S.G.S. 7.5 Minute Quadrangles of Hesperus, Kline, Mormon Reservoir, and Thompson Park. Federal coal has been extracted from the King II Mine since 2007 and the King I Mine before that since 1939. Underground mining methods are the only methods in use at the mine. The proposed land use at the completion of mining is rangeland. A copy of the permit application package is available for public inspection in the office of the La Plata County Clerk and Recorder, 98 Everett St., Suite C, Durango, Colorado, at the Office of Surface Mining Reclamation & Enforcement – Western Region, 1999 Broadway, Suite 3410, Denver, Colorado, 80201, and at the Office of Surface Mining Reclamation & Enforcement – Farmington Area Office, 501 Airport Drive, Suite 208, Farmington, New Mexico 87401. Written comments, objections or requests for informal conferences on the application may be submitted to the Office of Surface Mining, Western Support Center, 1999 Broadway, Suite 3320, Denver, Colorado, 80202-5733.

PROOF OF PUBLICATION

County of La Plata, }
State of Colorado } ss.

the Durango **Herald**

Drawer A, Durango, Colorado 81302

I, Ruby Williams, do solemnly swear that I am the *customer service representative* of the Durango Herald, and that I have personal knowledge of the essential facts stated herein; that the same is a daily newspaper printed in whole, and published in the County of La Plata, State of Colorado, and has a general circulation therein; that said newspaper has been published continuously and uninterruptedly in said County of La Plata for a period of more than twelve months next prior to the first publication of the annexed Legal notice or advertisement; that said newspaper has been admitted to the United States mails as second-class matter under a provision of the Act of March 3, 1879, or any amendments thereof, and that said newspaper is a daily newspaper duly qualified for publishing legal notices and advertisements within the meaning of the laws of the State of Colorado.

That the annexed legal notice or advertisement was published in the regular and entire editions of said daily newspaper one time only XXXXX, A.D., 2010, once each day for X consecutive issue days; once each week on the same day of each week for 5 consecutive insertions; and that the first publication of said notice was in the issue period of said newspaper dated June 18 A.D., 2010, and that the last publication of said notice was in the issue of said newspaper dated July 16 A.D., 2010.

In witness whereof I have hereunto set my hand this 16th day of July, A.D., 2010.

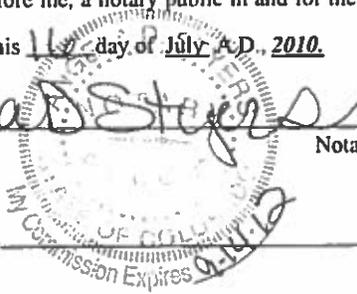
Ruby Williams

Subscribed and sworn before me, a notary public in and for the County of La Plata, State of Colorado this 16 day of July A.D., 2010.

Angela D. Steyers

Notary Public

My Commission expires: _____



20621
GCC Energy, LLC, owner and operator of the King II coal mine located at 6473 County Road 120, Hesperus, Colorado 81326, phone: (970) 385-4528, has filed an application to include a 160 acre privately owned coal lease to its existing lease holdings with the U.S. Department of the Interior, Office of Surface Mining Reclamation and Enforcement. The King II Mine (including the lease tract to be added) is located in portions of Section 19; Township 35 North, Range 11 West, N.M.P.M., and portions of Sections 24, 25, 26, and 35; Township 35 North, Range 12 West, N.M.P.M., La Plata County, Colorado. The overlying surface of the area to be mined is owned by the Ute Mountain Ute Tribe. The coal to be mined is owned by the U.S. Department of Interior, the Ute Mountain Ute Tribe, Nancy Jean Dunn, Karen Stephens and Gary Stephens. All mining activities of the King II Mine lie to the north side of Hay Gulch, approximately 4.5 miles southwest of Hesperus, as identified on U.S.G.S. 7.5 Minute Quadrangles of Hesperus, Kine, Mormon Reservoir, and Thompson Park. Federal coal has been extracted from the King II Mine since 2007 and the King I Mine before that since 1939. Underground mining methods are the only methods in use at the mine. The proposed land use at the completion of mining is rangeland. A copy of the permit application package is available for public inspection in the office of the

La Plata County Clerk and Recorder, 911 Everett St., Suite C, Durango, Colorado, at the Office of Surface Mining Reclamation & Enforcement - Western Region, 1999 Broadway, Suite 3410, Denver, Colorado, 80201 and at the Office of Surface Mining, Reclamation & Enforcement - Farmington Area Office, 501 Airport Drive, Suite 208, Farmington, New Mexico 87401. Written comments, objections or requests for information may be submitted to the Office of Surface Mining, Western Support Center, 1999 Broadway, Suite 3320, Denver, Colorado, 80202-5733. Published: June 18, 25, July 2, 9, 16, 2010

778.22 Facilities or Structures Used in Common

These structures and facilities will be shared by the Federal Permit CO-0106A) and the contiguous State Permit for the King II Mine (C-81-035). The anticipated surface facilities and structures at the King II Mine are depicted on Map King II-OSM-007 (Operation Plan and Surface Facilities). The following table identifies each. In general, the mine facilities include the mine bench and portals, offices, maintenance, and shop facilities, infrastructure for supplying power and ventilation to the mine (substation, fuel tanks, water and septic systems), haul and access roads, sediment control systems, stockpiles for topsoil and coal products, and coal sorting and load-out structures. A reclamation bond is in place for the eventual reclamation of the area.

A) 100,000 Gallon Water Storage Tank: This steel tank will be removed from the site during reclamation. Concrete bases will be broken and buried in place or used for portal backfill.

B) 37,000 Gallon Water Storage Tank: This steel tank will be removed from the site during reclamation. Concrete bases will be broken and buried in place or used for portal backfill.

C) Pump House: Portable steel building used to house the various pumps and plumbing. This building as well as piping will be removed and sold as scrap.

D) Shop Equipment Wash Pad: This concrete pad is used in conjunction with an oil skimmer and storage tank to store equipment wash water. To be pumped by a 3rd party vendor.

E) Shop Building: 50'W x 60'L x 16'H steel building used for repair of various mine machinery and fabrication.

F, I) Mine Ventilation Fan: The main mine fan will be a 7' diameter fan as part of a steel structure consisting of air doors for escape purposes, explosion doors which protect the fan in the event of a mine explosion, and a culvert system which connects the fan to the underground workings.

G) Retaining Wall Adjacent to Main Fan: This wall is poured reinforced concrete and is used to protect workers and equipment from material which may fall from the high-wall cut above the fan portal.

H) Total Portal Reclaim Volume: Map King II-010D shows a volumetric calculation of fill quantities required to backfill all portals and the access road to the belt/return portal area.

J) Travelway Portal Structure: This concrete and steel structure will be broken and used for portal backfill.

K, VV) Motor Control Centers #1 & #2: These are portable steel buildings which

will be removed from the site.

L) Rock Dust Storage Silo: 11' diameter x 40' tall steel silo for up to 150 tons of rock dust storage that will be removed from the site or cut up and sold as scrap.

M1, M2) Concrete Block Retaining Walls #1 & #2: These are pre-cast concrete block retaining walls used to adjust grade near the office and shop area. They will be broken and buried in place or used for portal backfill.

N) Executive Offices/ Parts Warehouse/ Bath House Building: 60'W x 150'L x 34'H steel building to contain all administrative offices, miner's changing and shower facilities, and a spare parts/supplies warehouse.

O) Covered Storage: This 20W' x 80L' x19'H open steel building will be of pole barn style construction, with steel post uprights and stringers, covered on the roof and three sides by corrugated steel.

P) Main Septic System Tank: This structure is a concrete tank that will be broken up and left in place during reclamation. All pipes to the tank will be removed and disposed of during reclamation.

Q) Parking Area: A 120'x175' graveled area adjacent to the Office Building. The gravel will be excavated and used for backfill at the portal area.

R) Fuel Storage Area: This 25W' x 45L' x20'H steel 3 sided structure will house one 2000 gallon diesel fuel tank with containments for fueling and an contained area for storage of lubricants for underground and surface diesel powered machines.

S) Main Septic System Drain Field: This structure is comprised of an underground gravel field that will be left in place during reclamation. All pipes to the drain field will be removed and disposed of during reclamation.

T) Belt Portal Structure: This concrete and steel structure will be broken and used for portal backfill.

U) Return Portal Structure: This concrete and steel structure will be broken and used for portal backfill.

V) Belt Portal Pump House: Concrete building used to house various pumps and plumbing. This building as well as piping will be broken and used for portal backfill.

W) Temporary Waste Rock Storage Area: This area is to be used for temporary storage of underground mine waste rock waiting to be transported the refuse pile at the King I mine.

X) Bermed Topsoil Storage #2: Stored topsoil from this open pile will be re-spread on the disturbed areas after backfilling and grading. The bulk of salvage soil material from the site is very similar in composition and will be used for backfilling and topsoil as needed. The footprint of the topsoil storage area will be reseeded during re-vegetation.

Y, Y1) Electrical Substation: Electrical transformers and infrastructure, including transmission lines, poles, switchgear, concrete slabs and control room) will be removed. The gravel base for the 60 x 80 foot substation area will be excavated and used for backfill at the portal area.

Z) Substation Ground Field: This area is laced with large, bare copper wire for grounding the main electrical substation. This wire will be pulled from the ground and sold as scrap.

AA) Main Dumpster Pad: The roll-away dumpster sits on this pad. The dumpster is provided by a local waste disposal service.

BBA thru BBB) Slope Conveyor: This 42" conveyor delivers coal from inside the mine to the Coal Stack Tube #1 & Head House, 20,000 Ton Coal Storage Pile #1. Part of this conveyor utilizes a covered "box truss" design.

CC) Magnet Dumpster Pad #1: A small dumpster sits on this pad to receive the material which is picked up by the belt magnet. The dumpster is provided by a local waste disposal service.

DD, DD1) Coal Stack Tube #1 & Head House, 20,000 Ton Coal Storage Pile #1: Coal will be removed from the site prior to reclamation. Any remaining coal or coal fines will be excavated and buried under four (4) or more feet of non-toxic non-combustible backfill (including topsoil).

EE) Magnet Dumpster Pad #2: A small dumpster sits on this pad to receive the material which is picked up by the belt magnet. The dumpster is provided by a local waste disposal service.

FF thru FF4) Raw Coal Conveyor: 36" conveyor which draws coal from the bottom of the raw coal storage stockpile and delivers it to a coal crusher.

GG) Crushing/Screening Structure: This steel structure processes raw coal. Coal is crushed to a 2" x 0" product for sale to commercial customers and sorted to additional sizes for domestic customers.

HH, JJ) Lump & Stoker Conveyors #1 & #2: These 24" radial stacker conveyors are used to stockpile the domestic coal products once they have been screened. These are portable conveyors which will be removed from the site.

II, KK) Domestic Coal Piles #1 & #2: Raw coal from underground will be delivered to the Coal Crusher/Screening structure. Larger pieces of coal for domestic use will be separated and stored here using Stacker Conveyors #1 & #2. This coal will be delivered by truck to an off-site domestic coal sales yard. Provisions will also be made at this area to divert waste rock and lower quality coal for shipment to a refuse pile or for re-blending into the commercial coal product.

LL) Crushed Coal Storage Conveyor: Crushed coal is moved from the Coal Crusher/Screening Structure to the Coal Stack Tube & Head House, 20,000 Ton

Coal Storage Pile #2 via a 36" conveyor.

MM, MM1) Coal Stack Tube #2 & Head House, 20,000 Ton Coal Storage Pile #2: Coal will be removed from the site prior to reclamation. Any remaining coal or coal fines will be excavated and buried under four (4) or more feet of non-toxic non-combustible backfill (including topsoil).

NN) Cross-belt Coal Sampler: This small steel structure sits on a concrete pad. A motorized arm collects coal samples from the conveyor belt and deposits them in buckets for analysis.

OO thru OO5) Truck Loadout Conveyor: 36" conveyor which draws coal from the bottom of the crushed coal storage stockpile and delivers it to the Truck Loadout bins.

PP) Truck Loadout Structure & Bins: The truck loadout facility will be an automated batch-weigh structure. Coal trucks will arrive under a chute at the bottom of the loadout and a pre-measured amount of coal will be deposited in the trailer.

QQ) Truck Scales: These are portable scales that will be removed from the site during reclamation.

RR) Coal Sales Building: This 17W' x 21L' x10'H structure is a conventional stick-built building.

SS, TT) Coal Sales Building Septic Tank and Drain Field: The drain field is comprised of an underground gravel field that will be left in place during reclamation. All pipes to the drain field will be removed and disposed of during reclamation. The tank is a concrete tank that will be broken up and left in place during reclamation. All pipes to the tank will be removed and disposed of during reclamation.

UU) Coal Sales Building Parking Area: This level area used for temporary storage. Gravel from this area will be buried in place and re-topsoiled or excavated and used for portal backfill.

WW) Bermed Topsoil Storage #1: Stored topsoil from this open pile will be re-spread on the disturbed areas after backfilling and grading. The footprint of the topsoil storage area will be reseeded during re-vegetation.

XX) Concrete Truck Wash-Out: This small bermed area is to collect material that is washed from trucks which deliver concrete to the site.

YY) Sediment Pond and Diversion Ditches: The sediment pond is not intended as permanent feature of the mine site, but will remain intact until the site has been successfully reclaimed.

ZZ) Cattle Guard: The cattle guard will either be removed or cut up for scrap or offered to the surface grazing lease holder of the area.

AAA) Portable Offices and Storage Containers: Until the Executive Offices/Parts Warehouse/Bath House Building is completed, several portable offices and storage containers will be utilized. These units are leased from a 3rd party supplier.

PART 783 Underground Mining Permit Applications-Minimum Requirements for Information on Environmental Resources

783.11 General Requirements

The information addressing the environmental conditions of the permit and adjacent areas and the description of the mining and reclamation plan are drawn from information submitted to and approved by the Colorado Division of Reclamation, Mining & Safety under permit revision #08 for the King II Mine (CDMG permit # C-81-035). As the PAP for the BLM coal lease does not propose or anticipate any surface disturbance within the permit and adjacent area, the baseline and mining and reclamation plan information from the CDRMS permit has been incorporated into this PAP for informational purposes.

SITE DESCRIPTION AND LAND USE

The areas of the proposed King II Mine slated for surface disturbance lie within the confines of the bottom at the confluence of two dry drainage basins. This drainage basin valley bottom subsequently opens into Hay Gulch approximately 0.5 miles from the location of surface facilities and undergrounds mine portals. The area has been historically used by European settlers for ranching and by Native Americans prior to that for hunting and gathering. There has been no change of land use during the last five years. Current land uses of the proposed permit area include rangeland, fish and wildlife habitat, and undeveloped land. These will be the land uses to which the property is returned after completion of coal mining and reclamation.

The two vegetation communities found within the proposed surface disturbance areas are pinyon juniper woodland found on the side-slopes of the drainage basins and a rabbitbrush/big sage mixed shrubland on the bottomland of the drainage basin.

The pinyon juniper woodland is dominated by the two tree species, a woody shrub under-story below the canopy and sparse succulent and herbaceous vegetation. This community is found on rocky, shallow, xeric soils. Given the soils and xeric nature of this vegetation communities location, there is little palatable herbaceous forage produced (50-100 pounds/acre) for grazing or browsing animals. Wood production may be estimated at 10-50 full cords per acre; however access is a problem, with steep slopes and no roads. The overall ecologic condition of this community is fair to good, given the lack of intense use by livestock or humans. There is little opportunity for development of varied land uses other than range, wildlife habitat, and/or firewood production.

The rabbitbrush/big sage mixed shrubland is located on level colluvial bottomland between the side-slopes of the drainage basin. This community was quantitatively sampled and described for the vegetation baseline requirements of CDMG. This vegetation community is in poor to fair condition, largely due to overgrazing and lack of management of undesirable plant species. Given the relatively small area of this community (~50 acres) within the permit area, and the lack of irrigation, the potential for production of large quantities of forage is limited. The existing land uses of range and wildlife habitat will be maintained, and enhanced through revegetation with predominantly native desirable species post-mining.

Though Hay Gulch lies within the proposed permit area, no surface disturbance related to the mining operation is proposed, with the exception of the continued monitoring of an alluvial monitoring well. Hay Gulch is not identified as prime farmland by the Natural Resource Conservation Service.

Evidence of local household mining of coal along the outcrop is found throughout the area, including the proposed permit area. No permitted or large-scale coal mining operation has taken place within the proposed permit area.

783.12 General Environmental Resources Information

783.12(a) Lands Proposed for Mining

The King II Mine proposes to mine, by only underground mining methods, a coal lease belonging in whole, to the United States of America, administered by the U.S. Department of Interior, Bureau of Land Management (BLM). The Ute Mountain Tribe (Tribe) owns 100% of the surface rights to the property which overlies the BLM coal lease (COC 62920) assigned to GCC Energy, LLC and described as follows:

T. 35 N., R. 11 W., N.M.P.M. North of Ute Line
Section 19, lots 4,5, E2SW4, & SE4

T.35.N, R. 12 W., N.M.P.M., North of Ute Line
Section 24, lots 1, 2, and SW4SE4.
Section 25, lots 1, 2, W2NE4 and W2.
Section 26, SE4NE4, E2SE4, SW4SE4.
Section 35, NE4.

Containing approximately 1,224.51 acres.

GCC Energy, LLC proposes, with this permit revision, to append a coal lease held in fee, to OSMRE Permit CO-0106A. This coal lease is owned in part by the Ute Mountain Ute Tribe (50%), Stephens (25%) and Dunn (25%). The Ute Mountain Tribe (Tribe) owns 100% of the surface rights to the property which overlies the coal lease assigned to GCC Energy, LLC and is described as follows:

T. 35 N., R. 12 W., N.M.P.M. North of Ute Line
Section 26, E2SW4, & NW4SE4, SW4NE4.

Containing approximately 160 acres.

Size, Sequence & Timing

Map "King II-OSM-005 Mine Plan" is included in the permit application package to illustrate general size, sequence and timing of the mining of sub-areas of the King II mine. The map is divided into areas which would normally be mined as a logical group. These groups are labeled by year or years such as "Year 1", "Year 2-4", etc. This timing map has been developed to anticipate, as closely as possible, the approximate time-frame that the groups shown represent. Geologic conditions, economic market conditions, etc. often affect actual mine development which can alter expected timing.

783.12(b) Cultural, Historic, and Archaeological Resources

Complete Archaeological Service Associates of Cortez, Colorado has prepared a cultural resource inventory documenting the results of a pedestrian survey of those areas that may be affected by surface disturbance within the State of Colorado lands (See Appendix 2). No cultural or historic resources eligible for listing on the National Register of Historic Places or significant archeological sites that may be affected by surface disturbance (including subsidence) were identified in the survey.

The Colorado State Historical Society has prepared a cultural and historical impact statement for the Mined Land Reclamation Permit. Their impact statement is contained in Appendix 2.

783.18 Climatologic Information

Site-specific data on the climate at the mine site are not available. However, temperature and precipitation data has been recorded for the Fort Lewis Station, approximately five miles west of the recording station. Prevailing wind data is not recorded at the Fort Lewis Station but is available from the La Plata County (Durango) Regional Airport. All data in this section is from the summaries at <http://www.wrcc.dri.edu/cgi-bin>.

Fort Lewis Station Mean Monthly Precipitation (inches)

	Jan	Feb	Mar	Apr	May	Jun
Mean	1.67	1.39	1.50	1.15	1.03	0.69

	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean	2.06	2.27	1.72	1.90	1.44	1.37	18.19

Fort Lewis Station Mean Monthly Temperature (°F)

	Jan	Feb	Mar	Apr	May	Jun
Max.	36.8	40.5	46.5	56.1	65.9	76.6
Min.	9.4	12.7	19.3	25.9	32.9	40.4
Mean	23.0	26.6	32.9	40.9	49.2	58.4

	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Max.	81.2	78.2	71.9	61.2	46.8	38.4	58.3
Min.	48.4	47.1	39.7	30.3	19.5	11.4	28.1
Mean	64.7	62.7	55.9	45.8	33.2	24.9	43.2

Durango Airport Prevailing Wind Direction

	Jan	Feb	Mar	Apr	May	Jun
Direction	N	N	N	WSW	W	N

	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Direction	N	N	N	N	N	N	N

783.19 Vegetation Information

No vegetation communities are proposed for or anticipated to be disturbed or affected within the permit area of this PAP. All surface disturbance to vegetation will take place on State of Colorado lands to the south of the lands in this PAP.

783.21 Soil Resources Information

No surface disturbance of soils is proposed or anticipated for this permit area.

783.24 Maps

Maps describing the information required by this section are located in the separate Map Section.

783.24(d) Buildings

There are no buildings within 1000 feet of the permit area.

783.24(g) Water Supply Intakes

There are no water supply intakes within the permit area.

783.24(h) Public Roads

There are no public roads located within or within 100 feet of the permit area.

783.24(i) Public Parks and Cultural and Historic Resources

There are no public parks or known cultural or historic resources listed or eligible for listing in the National register of Historic Places or known archaeological sites within the permit or adjacent areas.

783.24(j) Cemetery

There are no cemeteries located within 100 feet of the proposed permit area.

783.24(k) National System of Trails and Wild and Scenic Rivers

There are no lands within the proposed permit area that are within the boundaries of any units of the National System of Trails or the Wild and Scenic Rivers System, including any study rivers designated under section 5(a) of the Wild and Scenic Rivers Act.

783.25 Cross Sections, Maps, and Plans

Cross sections, maps, and plans describing the information required by this section are located in the separate Map Section.

783.25(a)(2,5,8,9,10) Structures Within the Permit Area

There are no fish and wildlife, water, or air monitoring stations within the proposed permit area. There are no known underground mine openings or workings within the proposed permit area. Known workings in the adjacent area are depicted on Map King II-OSM-004. There are no known previously surface mined areas within the proposed permit area. There are no known areas of spoil, waste, coal development waste, non-coal waste, dams, embankments, impoundments, water treatment or air pollution control facilities within the proposed permit area. There are no known oil or gas wells within the proposed permit area. Known water wells are identified in the hydrology section of this PAP.

PART 784 Underground Mining Permit Applications-Minimum Requirements for Reclamation and Operation Plan

784.11 Operation Plan: General Requirements

PRODUCTION METHODS AND EQUIPMENT

METHOD OF COAL EXTRACTION

The King II Mine will be an underground coal mine. A maximum stripping ratio of 1:50 make coal extraction operations amenable to underground methods only. The method used is common to most U.S. underground coal mines and is called coal extraction by room and pillar mining. A series of mine openings are developed from the surface to the coal resources of the mine property outside the boundary of this permit area. At the King II Mine, the upper Menefee coal seam outcrops along Cochran Canyon. The portals (mine openings) are to be constructed at the seam outcrop on State of Colorado property. The openings or entries are then advanced in the coal following the seam. No shafts (vertical openings) or inclines through overburden material are necessary.

The coal reserves are divided up into sections or panels convenient for extraction. First, rooms are developed leaving coal pillars to support the main roof. Later, after a panel has been developed, the pillars are extracted on retreat from the panel. In this way, the recovery of the coal is maximized. Since pillaring operations began at the stratigraphically adjacent King Coal Mine during the late summer months of 1979, the extraction ratio of coal removed from the panels to coal left behind is 5:1. This is an excellent extraction ratio.

MINE WORKINGS

Map King II-OSM-005 shows proposed mine workings within the Permit Area (and adjacent area) boundaries. Superimposed above the workings, the surface topography has been drawn in for correlation purposes between the surface and the underground workings.

MINING EQUIPMENT

The coal will be mined using two continuous mining units (sections). These sections consist of one or two continuous miners, 2-4 shuttle cars, one or two dual boom roof drills (bolter machines), a feeder/breaker belt feeder, and a 4160-950/480 volt power center. After coal is ripped from the face, it is loaded into the shuttle cars for transporting to the conveyor belt for removal from the mine. All the above equipment is electrical. Haulage vehicles for moving men and supplies into the mine are diesel or battery powered.

Electric power for the mine is supplied by a surface sub-station. Voltage entering the mine is 4160 or 7200VAC which is stepped down by the power centers in the mine to 950/480VAC for the electrical equipment. Water used for dust suppression and motor cooling in the mine is supplied via a 4-6 inch diameter HDPE pipe. Wells located on State of Colorado land will supply the water. Ground water is generally absent and therefore spore water pressure does not contribute to instability of the roof, floor or pillars. In general, working conditions in the mine are good.

STRUCTURAL CONSIDERATIONS OF THE MINE LAYOUT

King II workings are confined to the upper Menefee (A) coal seam of the Menefee formation (Mesa Verde Group). The seam varies from about six to ten feet in thickness. The equipment used in the mine and the mining method itself is tailored to this seam's structural contours. The seam dips at a 2-3% grade to the Southwest. The strike of the seam is S70°E. For specific details of the local geology see Section 784.22.

For practical purposes the upper Menefee seam may be considered flat or tabular with no rolling of seam. Consequently, the layout of the mine workings is not dependent upon the steepness of the seam as it is upon the boundary lines of the coal leases. The panels or mining sections are laid out as shown on Map King II-OSM-005 to maximize the recovery of the lease coal. Most of the underground openings or entries are driven along some given angle to the true dip to take advantage of the property boundaries. This angle cannot be correlated to the cleat of the coal. The tight cleat allows the mine workings to be oriented without rib spalling problems arising. In addition, the lack of ground water seepage allows the workings to be laid out without regard to drainage slopes.

The main structural consideration of the mine layout is the width of the panels (number of multiple entries) and the width of the entries. A panel width of 250 to 400 feet with five to seven entries has proved satisfactory for development and pillar extraction. This width allows for room development upon retreat from the panel during pillar extraction. Stresses due to overburden thickness are minimal compared to deeper operating coal mines. Maximum over-burden cover does not exceed 350 feet at any point, and the stress field seems to act in a vertical direction. No ground forces other than vertical have been observed by inspection during mining operations. The shallow overburden cover would accommodate an increase in the panel width or the number of multiple entries without undue stress problems. No major faults or slip planes cross the mine workings allowing for an even greater degree of optional orientation of the

workings. The widths of the openings are limited to twenty feet by MSHA for control of the immediate roof (the thickness of the roof to the top of the resin bolting horizon).

ANTICIPATED PRODUCTION

It is anticipated that production may reach 610,000 tons per year.

784.12 Operation Plan: Existing Structures

There are no existing structures that are proposed to be used in connection with or to facilitate the underground coal mining and reclamation operations.

784.13 Reclamation Plan: General Requirements

As no disturbance is proposed or anticipated within this PAP permit area, a reclamation plan is not warranted.

784.14 Hydrologic Information

784.14(a) Sampling and Analysis

All water quality sampling and analyses shall be performed according to the requirements set forth in 30 CFR 784.14(a).

784.14(b) Baseline information - ground and surface water information

As part of the baseline hydrologic information required to permit the State of Colorado lands to the south of this PAP permit area, surface and groundwater information was provided to CDMG. A copy of this information is provided in Appendix 4.

The Colorado Division of Minerals and Geology has prepared a report, **Assessment of Probable Hydrological Consequences of Mining and Cumulative Hydrologic Impacts - Rules 2.05.6(3) and 2.07.6(2)(c)**, which summarizes the hydrologic impacts of the King Coal Mine. This report is included as Appendix 4.

It is anticipated that the King II Mine will have little impact on groundwater systems locally or regionally and its impact on surface hydrology will be low. Operations within the Menefee coal seam are not expected to disrupt aquifers, streams, water systems, or the

watershed (up-slope areas of the mine site). Hydrologic data obtained from the existing King Coal Mine workings, core drill holes in the existing and proposed project area, and other research studies predict that the mining operation will have a negligible impact on groundwater of the permit and adjacent area and minor impact to surface water of the area (Appendix 4).

GROUNDWATER INFORMATION

Exploration drilling and reconnaissance of the proposed permit area have not revealed a significant local or regional groundwater aquifer above or below the coal seam to be mined. The deeply dissected nature of the topography of the proposed permit area and relatively flat and limited extent of the surfaces of the drainage basin upper surfaces limit the aerial extent of any aquifer and the potential for recharge to any aquifer in the area.

AQUIFERS

Neither the King Coal Mine nor the proposed King II Mine is in a major groundwater recharge area. Research shows this portion of the San Juan Basin has had very limited ground water development. Most of the wells in the general area have been completed in the unconsolidated alluvial gravels and terrace deposits of the La Plata River and its tributaries (including Hay Gulch), or in consolidated aquifers further south (down-dip) in the basin. Two formations, the Cliff House Sandstone and the Menefee Formation are important and relative to the proposed mining operations. These are further discussed below. The underlying Point Lookout Sandstone will not be affected by the mining operations.

CLIFF HOUSE SANDSTONE

This unit comprises the cap rock to the dip slopes of the area. Based on information provided by the Menefee Land Company exploration drilling program for a proposed coal mine bordering the King Coal Mine, the sandstone is not saturated and is above the potentiometric surface in the immediate project vicinity. No water was encountered in any drill hole during this program at a level above or in the Menefee seams. All wells in this unit were dry in the Cliff House formation.

As these wells are located across Hay Gulch, there can be no hydrologic connection between the King II Mine and the Cliff House sandstone in their location. Therefore, no potential for impacts exists.

MENEFEE FORMATION

The upper part of this formation contains the coal seam to be mined at the King II Mine. Sixty seven years of mining at the King Coal Mine two miles southeast has not encountered any ground water in this formation.

Well Number 1, which is drilled in and draws water from the Quaternary alluvium, has a static water level 76 feet below ground level. Ground level at that point is at an elevation of 7,390 feet above sea level. The coal seam being mined is at an elevation of 7,450 feet. Thus, the mine will be located at least 136 feet above the potentiometric level. There is no indication that the aquifer will be affected by the King Coal Mine.

An exploratory core drill hole located in the SE/4 NW/4 of Section 32 was driven from the surface through all the overburden strata to the base of the currently mined upper Menefee coal seam at the King Coal Mine. No water was encountered. A well core hole was driven in 1978 on the King Coal Mine bench near the water tank to a depth of ninety feet. The well was dry. The collar of the well is below the upper Menefee seam outcrop. These two holes along with the previously mentioned active water wells indicate that the overburden strata, and strata at least to a depth of twenty feet below the lower Menefee coal seam contain no aquifers.

The best evidence is, however, of no disturbed aquifers or no aquifers and no ground water seepage in the mine workings themselves, except for local perched aquifers. Water must be pumped into the King Coal Mine from Wells # 1 and # 2 for dust and fire control. This is a normal need for operating coal mines. Intake water used inside a mine is typically not pumped out or discharged.

POINT LOOKOUT SANDSTONE

The Point Lookout Sandstone is below the formation to be mined and will not be disturbed during the mining process. The upper 100 to 140 feet is massive sandstone which may or may not contain significant amounts of ground water. Wells have recently been drilled into this unit for new real estate developments (Rafter J.) approximately ten miles east of the project area. Small amounts (max. pump rate of 30 gpm) of water were encountered in some locations.

Searches of the records of the Colorado Division of Water Resources for the King Coal Mine and personal observations of Fred M. Johnson, Certified Professional Geologist, indicate that quality of water in the

massive sandstone member of the Point Lookout Sandstone is good.

GROUNDWATER WELLS

Groundwater wells in the vicinity of the proposed project (Colorado Division of Water Resources database) reveal that water supply wells are completed in the alluvium of Hay Gulch, in strata that are isolated from the proposed workings by the incision of Hay Gulch, or in strata far below the level of the "A" seam.

As of August 26, 2005 the records of the Colorado Division of Water Resources show the following wells which are within one (1) mile of the permit boundary:

Owner	Section	Township	Range	Depth	Rate	Permit#
Ute Mountain Tribe	SE¼SE¼ 36	35N	12W	Permit expired		210372
National King Coal, LLC	SW¼SW¼ 36	35N	12W	No data	No data	260656
John Wilson	SW¼SE¼ 6	34N	11W	No data	No data	90325VE
Charles Shafer	SE¼SE¼ 6	34N	11W	115'	7.0 gpm	92816
John Paul [well plugged 1992]	SE¼ 6	34N	11W	372'	0.5 gpm	108185
John Wilson	SE¼ 6	34N	11W	55'	15.0 gpm	173238 108185
Helen Ruth Aspaas	SW¼SW¼ 6	34N	11W	70'	15.0 gpm	197706
Bill Waters	SE¼SW¼ 1	34N	12W	180'	No data	249530
Tyler Paulek	SW¼SW¼ 1	34N	12W	Permit expired		249531
Daniel Bontrager	SW¼SW¼ 1	34N	12W	230'	4.0 gpm	189391
Randy Paulek	NE¼SE¼ 2	34N	12W	No data	No data	263365
Tyler Paulek	SE¼SE¼ 2	34N	12W	Permit expired		249532
Paul Crawford	NW¼NW¼ 2	34N	12W	339'	8.0 gpm	100453

SURFACE WATER INFORMATION

The only significant surface water features within and adjacent to the project area are the Hay Gulch irrigation ditch that runs from northeast to southwest north side of County Road 120 within the project area. There are no plans to disturb this ditch, and it will be maintained during the course of mine operations. Water quality and flow data from the Hay Gulch irrigation ditch are contained in Appendix 4.

There are no streams, lakes, or ponds within the project area. The adjacent Dunn Ranch owned by the Ute Mountain Tribe contains one stock pond, identified from maps and aerial photography. Currently, access to this property has not been granted, so a definitive evaluation of the structure has not been undertaken.

Alkali Gulch is located to the northwest of the project area. As this feature is isolated from the project area by an intervening ridge, the potential for impacts to any surface waters of Alkali Gulch are insignificant.

The surface drainages channels that are located within the bottom of the two arms of the drainage basin in the project area are incised discontinuous features. Based on an investigation of their configurations, they do not regularly flow, have not flowed during the past year, and based on the vegetation stature and lack of flow related deposition, appear not to have run in recent times.

Map King II-OSM-004 provides information on geologic and water features of the project and adjacent area.

ALTERNATIVE WATER SUPPLY INFORMATION

GCC Energy, LLC estimates a consumptive use of 8.61 acre feet per year, for use in dust control operation. The three continuous mining machines, each feeder breaker and belt transfer points are sprayed to reduce dust. Process water will be obtained by development of a well, located in the Hay Gulch Valley Floor, or drilled adjacent to the surface facilities. No other consumptive uses of water are anticipated for the mine. Water will be detained within the sediment pond only to allow sediment settling. The pond will not be lined or sealed and remaining water will be allowed to recharge or evaporate.

PROTECTION OF HYDROLOGICAL BALANCE

Within the Probable Hydrologic Consequences section of this application it was concluded that there would not be significant effects to the hydrologic balance of the project site or adjacent areas. The lack of significant groundwater and surface water resources in the immediate and adjacent area precludes the potential for significant impacts from a small underground mining operation.

Preventive and protective measures to be employed during and after the mining operation include; isolation of the pre-mining surface water drainages through re-routing and/or piping beneath or through the disturbed area, collection and control of sediment and other constituents from runoff at the disturbed area in a sediment pond, isolation of the Hay Gulch irrigation ditch from disturbed area

contamination through berming and silt fencing (if necessary), watering of roadways and surface areas to reduce ambient dust, and gravelling or hard surfacing roadways, parking areas, washout areas, and other locations susceptible to accumulation of sediments or materials.

No losses of quantity or quality of water are anticipated from the King II Mine. There are no known uses of groundwater or surface water in the project or affected area that may be affected by the mining operation. As noted above, the Hay Gulch irrigation ditch will be protected from contamination. Water required for mine use or washing will be obtained from a permitted well within the project site or from municipal sources.

Measures for the protection and control of surface and groundwater are further detailed in the operations and reclamation plans.

PROBABLE HYDROLOGIC CONSEQUENCES

No significant hydrologic consequences of mining are anticipated. All coal to be removed from the mine lies above the potentiometric surface of Hay Gulch, the only known aquifer in the area. Therefore, there should be no diminution of water quality or quantity to Hay Gulch from the mine workings or any subsidence related to mining.

As there are no surface drainages from the project area connecting to Hay Gulch there is little likelihood of surface water impacts to water quality or quantity from the operation.

No water is known to occur in any rock unit above or immediately below the coal seams being mined based on the mining at the King I Mine within or immediately adjacent to the permit boundaries. Again, there is little likelihood of significant impact to quantity or quality of groundwater resources resulting from the King II Mine. Should subsidence related features appear above the mine, water would recharge into the localized groundwater system and not continue off-site, given the dissected nature of the project site topography.

The design of the portal facilities and the dip of the strata facilitate

drainage of any encountered water in the workings toward the surface. While not anticipated, should water be encountered in amounts that reach the surface, monitoring and control measures will be employed.

SURFACE AND GROUND WATER MONITORING

Surface Water Monitoring

The only surface water potentially affected by GCC Energy, LLC mining operations (both the King I and King II Mines) will be those waters originating from precipitation falling on the surface disturbed areas and any incidental water originating from mine operations (equipment wash-down, culvert cleaning, and other maintenance). These surface waters are contained within the sediment control system that terminates in sediment ponds (two at the King I Mine and one at the King II Mine) that are permitted under the State of Colorado CDPS system. In the event of discharge from any of these discharge points, water sampling will take place in accordance with the current CDPS permit. At this time the following parameters will be sampled at discharge:

- a) Flow (gpm)
- b) Ph (units)
- c) Conductivity (Us/cm)
- d) Total suspended solids (mg/L)
- e) Total dissolved solids (mg/L)
- f) Total iron (mg/L)
- g) Settable solids (mg/L)

No other surface water features are present at the King I or King II Mines that require surface water monitoring.

Ground Water Monitoring

King I Mine

Two ground water wells are sampled at the King I Mine to evaluate potential groundwater effects from mining. They are the Randy Haugen well and the Jack Wiltse well as described below.

Randy Haugen; Well No. 158064: SE NE, Sec.12U, T34N R12W, use H, yield 4 gpm, depth 500', water level 180' is about 6800' south of the permit boundary and is shown on Map C-14. This well will be used as a water monitoring station because none of the other wells listed in this area are active. Analysis will be performed quarterly and results will be included in the annual hydrology report submitted to the Division. Water will be sampled for parameters listed below with

the exception of "Depth to Water" as this is a sealed well with no practical means of measurement.

The Wiltze Well located in the Hay Gulch alluvial valley floor downstream from the west sedimentation pond is also used as a water monitoring station. Analysis will be performed quarterly and results will be included in the annual hydrology report submitted to the Division.

The above wells are sampled quarterly for the following parameters:

- a) Depth to water (field data)
- b) Temperature (field data)
- c) Conductivity (field data)
- d) Bicarbonate as CaCO₃
- e) Calcium dissolved
- f) Iron dissolved
- g) Magnesium dissolved
- h) Sodium dissolved
- i) Sulphate
- j) Ph
- k) Total dissolved solids
- l) Manganese

King II Mine

No groundwater aquifers (either regional or local) are anticipated at the King II Mine; therefore no groundwater monitoring is scheduled for the mine. The Hay Gulch alluvial aquifer, downgradient from the King II Mine surface disturbance is the only aquifer potentially affected by mining. To assess the potential for affects by mining, an alluvial monitoring well was established downgradient from the King II Mine in late 2004 by National King Coal with field parameters monitored monthly and analysis undertaken quarterly through 2005.

Additionally, an existing water well upgradient from the King II Mine and the Hay Gulch Ditch downgradient are also monitored quarterly. Currently, the alluvial wells and ditch are monitored quarterly with the following parameters sampled:

- a) Depth to water (field data)
- b) Temperature (field data)
- c) Conductivity (field data)
- d) Bicarbonate as CaCO₃
- e) Calcium dissolved
- f) Iron dissolved
- g) Magnesium dissolved
- h) Sodium dissolved
- i) Sulphate

- j) Ph
- k) Total dissolved solids
- l) Manganese

Annual Hydrology Report

An annual hydrology report presenting the results of yearly water sampling will be prepared and submitted to the Colorado Division of Reclamation, Mining and Safety by February 15 of the following calendar year.

784.15 Reclamation Plan: Land Use Information

As no disturbance is proposed or anticipated within this PAP permit area, a reclamation plan is not warranted.

A general description of the land and its uses has been provided in Section 783.11.

784.16 Reclamation Plan: Siltation Structures, Impoundments, Banks, Dams, and Embankments.

None of the above structures are proposed for construction on the PAP permit area.

784.17 Protection of Public Parks and Historic Places

There are no publicly owned parks or any places listed or eligible for listing in the National Register of Historic Places within the permit or adjacent areas that may be adversely affected by the underground coal mining operations (See Appendix 2).

784.18 Relocation or Use of Public Roads

No surface or underground coal mining activities are proposed within 100 feet of a public road, except where the mine haul road joins the public right-of-way. No relocation of any public road is proposed under this PAP.

784.19 Underground Development Waste

During normal underground mining operations, shale and sandstone break away from the roof and floor of the coal seam. This material will be removed from the King II Mine and placed in the existing approved mine waste (refuse) storage area at the King Coal Mine. All mine refuse is being constructed into a waste bank. Coal mine waste (refuse) storage area has increased approximately 500 yd³ per year. As of October 2005, approximately 50,000 yd³ exist. Anticipated refuse production from 2002 through 2007 is approximately 5000 cubic yards per year. The waste bank is currently designed to accommodate up to 1,000,000 yd³. Details of design and construction are located in the CDMG permit and are entitled Waste

Bank Design Summary Report, November 1993, revised December 1997, by Don R. May, P.E. Standard Proctor tests and nuclear density tests will be performed as detailed in Don May's aforementioned report to ensure that the waste pile continues to meet the designed compaction requirements. Should different types of strata be encountered during mining at the King II Mine, these tests will be repeated to ensure that no significant changes in compaction are allowed.

784.20 Subsidence Control Plan

INVENTORY OF STRUCTURES AND RENEWABLE RESOURCE LANDS

The Ute Mountain Tribe has not allowed access to the surface area above the proposed mining areas to allow an on-the-ground inventory of any structures or renewable resource lands within the proposed permit area. From aerial photography, the only structures and renewable resource lands observable are, barbed wire stock fences, and a two-track road system along the ridges within the permit area.

Aside from the above mentioned structures, there are no structures or renewable resources in the permitted or potentially affected adjacent lands. There are no aquifers, recharge areas for aquifers, silviculture or irrigated pasture land.

Map King II-OSM-008 is an aerial photograph of the proposed permit area revealing the above structures and renewable resource lands.

WORST POSSIBLE CONSEQUENCES OF SUBSIDENCE

The two track road system is the main structure on permitted or adjacent lands which could suffer damage due to the effects of subsidence. In the event that a surface subsidence crack were to intersect the road, it is possible that some repair of the road would be required to allow its continued use. This road is used primarily by the Ute Mountain Tribe for access to rangelands, hunting, and firewood cutting in the permit area. Where subsidence cracks have intersected two track roads above the existing King Coal Mine, repairs were made by shoveling less than a pickup truck load of "road base" into the crack.

In the event that subsidence cracks damage any barbed wire fence within the permit area (a fencepost could be dislodged or strands of barbed wire could stretch and break or sag), GCC Energy, LLC will repair said fences without charge to the Ute Mountain Tribe, or will reimburse the Tribe reasonable costs for any necessary repairs.

SUBSIDENCE MONITORING PROGRAM

Due to the lack of significant renewable resources or structures above areas where coal is to be extracted, GCC Energy, LLC does not anticipate the need for a specific subsidence monitoring plan.

784.21 Fish and Wildlife Information

The Natural Diversity Information Source (NDIS) of the Colorado Division of Wildlife (<http://ndis.nrel.colostate.edu>) was searched for information on wildlife species of the proposed surface disturbance area. A list of known or likely wildlife species of La Plata County is contained in Appendix 8.

A further review of wildlife species for which the Colorado Division of Wildlife has distribution maps on the NDIS web site reveals that the proposed permit area is not within any concentration or important ranges for mule deer, elk, bighorn sheep, mountain lion, or black bear.

Seasonal Use of Potentially Occurring Wildlife Species

With the exception of migratory birds and bats the wildlife species encountered during the site inspection or that potentially occurs on-site are expected to be year-round residents or users of the site. Carnivore and ungulate species are not restricted to this site and tend to have relatively large home ranges (up to several square miles). The majority of rodent and insectivore species can be expected to reside on-site throughout the year, though many may hibernate during the cold months. Avian species may be year-round, temporary migrants, or summer residents of the site. Year-round residents would include raptors, gallinaceous birds, doves, owls, and woodpeckers. The majority of passerines would use the site during the spring, summer, and fall for breeding, feeding or resting during migration. Amphibian and reptile species of the site are year-round residents.

Project Effects to Wildlife

As no surface disturbances are proposed for the PAP permit area, the likelihood of adverse effects to wildlife species is negligible. With surface activities in the adjacent areas, some wildlife species may be temporarily displaced from areas of surface operations onto the PAP permit area. Given the large size of the PAP permit area (<1300 acres), and the small area of adjacent surface disturbance (~20 acres),

it is not anticipated that significant competition for resources will occur.

Threatened and Endangered Wildlife Species

The Colorado Natural Areas Program (CNAP) at Colorado State University was contacted to undertake a search of their database of natural heritage elements ("occurrences of significant natural communities and rare, threatened or endangered plants and animals") for the area within and 1.5 miles outside the proposed permit area. The results of that search identified the wolverine (presumed extirpated in Colorado since 1979) and the Townsend's big-eared bat (a species of concern for the BLM and Forest Service). No candidate or federally listed species were identified within or adjacent to the proposed permit area. The CNAP report can be found in Appendix 5.

An approved raptor protection plan is on file with the Colorado Division of Minerals and Geology, although no disturbance or construction of structures requiring compliance with the plan is proposed or anticipated for the PAP permit area.

784.22 Geologic Information

REGIONAL GEOLOGY

The following description is excerpted from a geological report prepared during exploration drilling in the area. The relevant portions of the report are contained in Appendix 4 of the CDMG permit document.

The King Coal Mine (and the proposed King II Mine) lies at the northwest edge of the San Juan Basin, covering approximately 26,000 square miles of northwestern New Mexico and southwestern Colorado. The sedimentary strata of the basin were deposited at the western margin of a vast epeirogenic sea occupying the central area of the North American continent during the late Cretaceous Epoch. Extensive deposition of coal forming materials occurred during a succession of regressive/transgressive migrations of the shoreline in northeast (seaward)/southwest (landward) direction. With each successive cycle the maximum transgressive cycle shifted to the northeast until the final disappearance of the sea. The ultimate result was a jagged wedge of non-marine sediments in the southwestern area of the basin, intermingling with marine strata to the northeast. With each transgressive cycle accumulated the transitional strata of barrier beach, marginal shore swamps (coal bearing), paludal (coal bearing), and other lower coastal plain deposits.

LOCAL GEOLOGY

The local area is characterized by southerly to southeasterly dipping; sedimentary rocks of late Cretaceous age which has been deeply eroded to the north.

The uppermost formation exposed locally is the Cliff House Formation, which is the upper member of the Mesa Verde Group. It is of marine origin and is composed of irregular to lenticular ledges of hard, fine to medium grained, calcareous sandstone in softer argillaceous fine sandstone, mudstone and silty shale. The top of this formation has been removed by erosion, leaving an average thickness of 350 feet. The Cliff House Formation overlies the Menefee Formation.

The Menefee Formation, which is the middle member of the Mesa Verde Group, is composed of a complex assemblage of cross-bedded sandstones, black shales and coal beds. Up to seven coal seams have been identified by the U. S. Geological Survey. The Menefee Formation has an average local thickness of 300 feet. The Menefee overlies the Point Lookout Formation.

The Point Lookout Formation, which is the basal member of the Mesa Verde Group, is divided into two parts. The upper member consists of thick, massive beds of even-textured, medium-grained sandstone. The lower member consists of thin sandstone beds with the Mancos Shale below. The Point Lookout Formation has an average local thickness of 400 feet.

The Mancos Shale, which is exposed approximately four miles north of the King Coal Mine, is of marine origin and composed of dark-gray to black shale and silty to fine sandy shale with small amounts of dark-gray argillaceous limestone in lenses. The Mancos Shale has an average local thickness of 2000 feet.

The bedding of the above sedimentary rocks dips 2-3° in a south/southwesterly direction.

STRATIGRAPHY

The Hesperus area, located on the northwestern flank of the San Juan Basin, contains rocks of Quaternary and Cretaceous age. The Quaternary sediments are confined to the valley bottoms and in particular the La Plata River valley along the eastern portion of the area. These deposits are primarily poorly consolidated gravels.

The Cretaceous strata exposed in the project and adjacent area consists of Mancos shale, the coal bearing Mesa Verde Group, and the Lewis shale. The Mancos and Lewis shales are of marine origin and the sediments of the Mesa Verde Group are of transitional to non-

marine origin. The Menefee formation, the middle member of the Mesa Verde Group, is the primary coal bearing formation. The following is a brief description of the strata encountered in the area from bottom to top.

MANCOS SHALE

The Mancos shale conformably overlies the Dakota sandstone and is approximately 2,000 feet thick. It consists of dark gray to black shale and silty to fine sandy shale with small

amounts of dark-gray argillaceous limestone in lenses and concretions which weather to a bright yellow brown color.

POINT LOOKOUT SANDSTONE

The Point Lookout Formation is the basal member of the Mesa Verde Group in the Hesperus area. In this area, the Point Lookout Formation is divided into two members: a lower member made up of thin sandstone beds with inter-bedded Mancos shale that comprises a transitional sequence above the Mancos shale; and an upper massive sandstone member consisting of thick, massive beds of even-textured, medium-grained sandstone that form conspicuous cliffs in the northern portion of the project area.

The Point Lookout sandstone is reported to maintain a rather uniform thickness of about 400 feet across the Hesperus area, but the sandstone beds at any given horizon become progressively finer grained eastward and the lower member thickens at the expense of the massive sandstone member. In the project area, the massive sandstone member of marine origin is about 100 feet thick and the lower transitional member is about 300 feet thick.

MENEFEE FORMATION

The Menefee Formation is the middle member of the Mesa Verde Group and consists of a complex assemblage of lenticular cross-bedded sandstone beds, gray, brown, and black shales, and coal beds. The formation is characterized by irregular bedding and rapid lateral changes of lithology.

The contact of the Menefee with the underlying Point Lookout sandstone is conformable. In most places the contact is marked by a sharp break between the carbonaceous shales and coals of the Menefee and the clean sandstone of the massive member of the Point Lookout. Locally, through the eastern half of T35N R12W, the basal Menefee is reported to consist of massive sandstones and the separation is not readily made.

The Menefee Formation thins in an eastward direction from

approximately 350 feet in the Cherry Creek Valley, about three miles west of the project area, to about 123 feet in the Florida River valley about 16 miles east of the project area.

Most of the variations of thickness of the Menefee Formation are reported to be thinner where the more compressible shale and coal dominate the section. Locally, thickness variations of the Menefee can be attributed to scouring action of the water source responsible for the disposition of the overlying Cliff House Sandstone. From an area near the head of Hay Gulch in Section 27, T35N, R11W, east to the La Plata River, the upper coal bearing horizon is significantly thinned and apparently replaced by the overlying Cliff House Sandstone. This upper coal bearing horizon is scoured to where the upper coal seam, so prevalent in the Hay Gulch area, is completely absent.

The Menefee Formation is of non-marine origin throughout the Hesperus area. The petrographic impression of the formation varies with its lithologic character, but over most of the area it is slightly less resistant than the overlying and underlying formation.

CLIFF HOUSE SANDSTONE

The Cliff House Formation is the upper member of the Mesa Verde Group in the Hesperus area and is of marine origin. It generally consists of irregular to lenticular ledges of hard, fine to medium-grained calcareous sandstone enclosed in softer argillaceous fine sandstone, mudstone, and silty shale.

Like the Point Lookout sandstone, the Cliff House sandstone is reported to decrease in grain size in an eastward direction. Ten to fifteen miles east of the project area, the formation is composed of soft dark-gray mudstone and fine sandy silt-shale with an occasional very thin lentil of fine sandstone in the lower part.

The Cliff House sandstone has an average thickness of 350 feet throughout most of the project area. It shows a slight eastward thinning, probably due to the decrease in coarse clastics and the increase in compactable fine sediments.

LEWIS SHALE

The Lewis Shale conformably overlies the Cliff House sandstone and consists of dark gray to black homogeneous clay shale with scattered concretions of dense argillaceous limestone and with a few thin seams of bentonite in the upper part. The formation is reported to be about 1,825 feet thick with the basal contact being very sharp with black flaky clay-shale resting on gray mudstone or sandy shale of the Cliff House sandstone.

GEOLOGIC STRUCTURE

The geologic structure of the Hesperus area is characterized by gentle southward dips ranging from seven to two degrees away from the structurally high La Plata Mountains to the north. It is probable that a small amount of faulting is present in the vicinity of the town of Hesperus. A fault with a displacement of 33 feet has been reported in the Monarch mine about one mile northeast of Hesperus. While results of exploration drilling conducted in the area have not revealed significant faulting, it is probable that faulting is present given the relationship between the structure and stratigraphic deposition.

GEOLOGY DESCRIPTION: UNDERGROUND MINING

SURFACE GEOLOGY

Only the upper two members of the Mesa Verde Group are exposed on the property. The proposed King II Mine is located on the north side of Hay Gulch with entries to be driven into the coal bearing Menefee Formation. The Cliff House Formation caps the higher ground on both sides of the gulch.

COAL GEOLOGY

Exploration drilling and analysis concluded that the two coal seams exposed at the current mine coalesce into on "A" seam pod to the northwest of the current operation. At the

location of the proposed King II Mine there is one "A" coal seam pod with a thickness ranging from 5.9 to 11.7 feet, with an average of 9.9 feet.

Bedding at the project site dips 2-3° in a south-southwesterly direction.

COAL QUALITY

The coal within the "A" seam pod of the proposed King II Mine is low ash, low sulfur, and bituminous coal with a 5.0 free swelling index (blending metallurgical coal). An average analysis of six samples as received follows:

BTU	Moisture	Ash	Sulfur
12,743	5.6%	7.5%	0.68%

Additional coal analysis as well as analysis of the immediate floor and

roof for the upper seam is included in Appendix 3.

GEOLOGIC HAZARDS

Geologist, David L. Gaskill, of the Conservation Division of the U.S.G.S. reported no unusual geologic hazards are known that might adversely affect mining in the upper or lower Menefee coal seams. He noted that ground water tables were below the seams (See King Coal Mine existing permit Appendix 4(3)). Mr. Gaskill's report was prepared in February, 1980, for the survey's consideration of National King Coal's application for a new Federal Lease adjacent to the current lease holdings at the current mine.

An inspection of the current King Coal Mine workings shows no significant faults or strata displacements. The coal is strong and pillars are structurally competent showing a lack of squeezing (crushing) or rib spalling. The mine floor does not buckle due to stress from the overburden and because the water table is lower than the seams, pore water pressure is non-existent. The immediate mine roof consists of thinly laminated shales and sandstones. These beds rise up to the base of the Cliff House sandstone an average of twenty feet above the coal seam. The thick Cliff House sandstone provides a great deal of ground stability and generally prevents subsidence from reaching the surface after pillars are extracted during second mining.

STRATIGRAPHIC CROSS-SECTION

Regional and project area geology and cross sections are contained in Maps King II-OSM-004 and King II-OSM-006.

784.23 Operation Plan: Maps and Plans

Map King II-OSM-005 shows the mine plan for the PAP permit and adjacent areas.

There will be no surface facilities or features constructed by the mining operation within the PAP permit area.

There will be no (0) acres of land affected within the proposed permit area.

784.24 Road Systems

There will be no road system constructed by the mining operation within the PAP permit area.

784.25 Return of Coal Processing Waste to Abandoned Underground Workings

No coal processing waste will be returned to abandoned underground workings.

784.26 Air Pollution Control Plan

An Air Pollution Control Permit has been obtained from the Colorado Department of Public Health and Environment. The permit number is 82LP034-1F and the permit was issued January 28, 2004.

784.29 Diversions

No diversions are proposed for construction on the PAP permit area.

784.30 Support Facilities

No support facilities are proposed for construction on the PAP permit area.

PART 785 Requirements for Special Categories of Mining

Parts 785.11-785.18 and Parts 785.20-785.25 do not apply to this mining operation.

785.19 Surface Coal Mining and Reclamation Operations on Areas or Adjacent to Areas Including Alluvial Valley Floors in the Arid and Semi-Arid Areas West of the 100th Meridian

Hay Gulch has been determined to be an alluvial floor by geologist Fred M. Johnson, the Colorado Geological Survey, and the Colorado Division of Minerals and Geology in findings related to the permitting of the King Coal Mine.

The operations of the King II Mine do not propose to affect the Hay Gulch alluvial valley floor. The only mining related feature in the AVF is a monitoring well. At the end of mining, and with the approval of the Division of Minerals and Geology, the well will be reclaimed in accordance with the requirements of Rule 4.07 or transferred to another party.

Measures have been taken, as described previously in the King Coal Mine permit, to protect the alluvial valley floor from adverse effects of mining. Currently, no surface water reaches Hay Gulch from the project area; it is either intercepted by the Hay Gulch irrigation ditch or the elevated base of County Road 120. Mining operations will continue to ensure water from up-slope areas are diverted around all disturbed areas to the Hay Gulch drainage or contained within the disturbed areas. Water monitoring will insure that protection of the alluvial valley floor is maintained.

The mining operations within the proposed PAP permit area are further removed from Hay Gulch by the intervening property described above. The potential for any adverse effects to the AVF from mining within the PAP permit area are negligible to non-existent.

The Hay Gulch Alluvial Valley Floor is shown on Map King II-OSM-004.

30 CFR Subchapter J - BONDING AND INSURANCE REQUIREMENTS FOR SURFACE COAL MINING AND RECLAMATION OPERATIONS

PART 800 — BOND AND INSURANCE REQUIREMENTS FOR SURFACE COAL MINING AND RECLAMATION OPERATIONS UNDER REGULATORY PROGRAMS (§§ 800.1 - 800.70).

800.11 — Requirement to file a bond

(b)(1-4) GCC Energy, LLC (GCC) will provide an additional bond amount, as determined by the Office of Surface Mining Reclamation and Enforcement (OSMRE), to cover exploration work on the identified additional increments of land located within the current permit area, as shown on Figure 800. Prior bond amounts totaled \$10,200. A copy of the collateral bond document for the current \$10,200 bond is included for reference. The action to include an updated bond consists of exploration work comprising placement of 13 boreholes and use of approximately 0.812 mile of temporary cross-country travel routes within the existing permit boundary. GCC has identified an initial estimate of the total bond amount of \$32,555.75, including the \$10,200 previously provided for the drill sites and access routes. A draft calculation of the expected updated bond amount for reclamation of the borehole locations and temporary cross-country travel routes is provided in Table 800.

(d) With the approval of OSMRE, GCC will file a revised collateral bond to cover the additional amount needed for reclamation of the drill sites and access routes in the permit area, as determined in accordance with § 800.14.

800.12 — Form of the performance bond

GCC will adopt the updated bond as prescribed by OSMRE; this updated bond is expected to be a collateral bond reflecting the added amount needed to cover the estimated bond amount described in Section 800.11 and Table 800. GCC will provide OSMRE with a copy of the modified collateral bond form as specified by OSMRE; an example of the form to be provided (the current bonding form) is provided with this application.

800.13 — Period of liability

(a)(1) The performance bond liability will be for the duration of the action and until successful reclamation is reached, as described in Part 815.15.

(d)(1) The updated bond liability will cover actions that GCC is obligated to take under the existing permit, including completion of reclamation, so that the land will be capable of supporting the post-exploration land use of rangeland and wildlife habitat.

800.14 — Determination of bond amount

(a) (1-4) GCC understands that the amount of the updated bond required for the exploration actions will ultimately be determined by OSMRE, the requirements of the approved permit, and reclamation plan; reflect the probable difficulty of reclamation; consider such factors as topography, geology, hydrology, and revegetation potential; and be based on, but not limited to, the estimated cost submitted by GCC in Table 800.

800.15 — Adjustment of amount

(a -b) If the proposed bond amount reflected in Table 800 requires modification as directed by OSMRE, GCC will be notified of any proposed adjustment to the updated bond amount and will be provided an opportunity for an informal conference on the adjustment.

800.16 — General terms and conditions of bond

(a-e) GCC will provide a performance bond in an amount determined by OSMRE, as provided in §§ 800.14 and 800.15; it is assumed that the required updated bond amount will resemble the amount provided in Table 800. The updated performance bond will be payable to OSMRE and will be conditioned upon completion of reclamation requirements as outlined in Part 815.15. The duration of the updated bond will be for the time period as described in § 800.13.

The updated bond will include a mechanism for the surety company to give prompt notice to OSMRE and GCC of any action filed alleging the insolvency or bankruptcy of the surety company or alleging any violations that could result in suspension or revocation of the surety or bank charter or license to do business.

800.17 — Bonding requirements for underground coal mines and long-term coal-related surface facilities and structures

(a) *Responsibilities.* GCC will provide bond coverage, as directed by OSMRE, in an amount as described under § 800.14, for areas disturbed by surface impacts incidental to exploration work associated with the King II Mine. The estimated updated bond amount is described in Table 800.

(b) Long-term period of liability.

(1) The period of liability for the updated bond will extend until all reclamation and restoration work under the permit has been completed and the bond is released under the provisions of § 800.40.

(4) Continuous bond coverage will be carried throughout the period of extended responsibility for successful revegetation and until the provisions of § 800.40 have been met.

800.21 — Collateral bonds

(a) GCC will provide OSMRE with a certificate of deposit for the additional bond amount made payable to OSMRE. OSMRE will keep custody of the additional collateral until it is authorized for release or replacement.

800.40 — Requirement to release performance bonds

(a) Bond release application.

(1) GCC will file an application with OSMRE for the release of all or part of the performance bond once reclamation work has been completed and during the spring, summer, or fall when the reclamation work can be properly inspected by OSMRE.

(2) Within 30 days after an application for bond release has been filed with OSMRE, GCC will submit a copy of an advertisement placed at least once a week for four successive weeks in the Durango Herald newspaper. The advertisement will contain the

GCC's name, the permit number and approval date, notification of the precise location of the land affected, the number of acres, the type and amount of the bond filed and the portion sought to be released, a description of the results achieved, and the name and address of the OSMRE office to which written comments, objections, or requests for public hearings and informal conferences on the specific bond release may be submitted pursuant to § 800.40 (f) and (h). In addition, as part of any bond release application, GCC will submit copies of letters sent to adjoining property owners, local governmental bodies, and planning agencies, notifying them of the intention to seek release from the bond.

(3) GCC will include in the application for bond release a notarized statement certifying that all applicable reclamation activities have been accomplished in accordance with the specified requirements, regulatory program, and approved reclamation plan. Such certification will be submitted for each application or phase of bond release.

800.60 — Terms and conditions for liability insurance

(a) GCC has included with this permit revision a certificate issued by an insurance company authorized to do business in the United States certifying that GCC has a public liability insurance policy in force for the operations for which the permit revision is sought. This policy provides for personal injury and property damage protection in the amount of \$25,000,000 for each occurrence and \$25,000,000 aggregate.

(b) The policy will be maintained in full force during the life of the permit or any renewal thereof and the liability period necessary to complete all reclamation operations.

(c) The policy includes a rider stating that the insurer will notify OSMRE whenever substantive changes are made in the policy, including any termination or failure to renew.

815.15 — Performance standards for coal exploration

GCC will comply with the following applicable performance standards for release of the bond amount identified in Section 800.11.

(a) Habitats of unique or unusually high value for fish, wildlife, and other related environmental values and critical habitats of threatened or endangered species identified pursuant to the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.) will not be disturbed. Biological surveys completed in the permit area have not identified any sensitive species or habitat that may be disturbed.

(b) Use of roads used for coal exploration will comply with the applicable provisions of CFR Title 30, Chapter VII, Subchapter K, Part 816, Section 816.150 - Roads: General, Parts (b) through (f).

(c) If excavations, artificially flat areas, or embankments are created during exploration, these areas will be returned to the approximate original contour promptly after such features are no longer needed for coal exploration.

(d) Topsoil will be separately removed, stored, and redistributed on areas disturbed by coal exploration activities as necessary to assure successful revegetation or as required by OSMRE.

(c) All areas disturbed by coal exploration activities will be revegetated in a manner that encourages prompt revegetation and recovery of a diverse, effective, and permanent vegetative cover. Revegetation will be accomplished in accordance with the following:

(1) All areas disturbed by coal exploration activities will be seeded or planted using the seed mix approved in the permit.

(2) The vegetative cover will be capable of stabilizing the soil surface from erosion.

(f) Diversions of overland flows and ephemeral, perennial, or intermittent streams will be made in accordance with CFR Title 30, Chapter VII, Subchapter K, Part 816, Section 816.43(c) - Diversion of Miscellaneous Flows. No perennial or intermittent drainages have been identified within the permit area.

(g) Each exploration hole, borehole, well, or other exposed underground opening created during exploration will be reclaimed in accordance with CFR Title 30, Chapter VII, Subchapter K, Part 816, Sections 816.13 through 816.15 – Casing and Sealing of Drilled Holes.

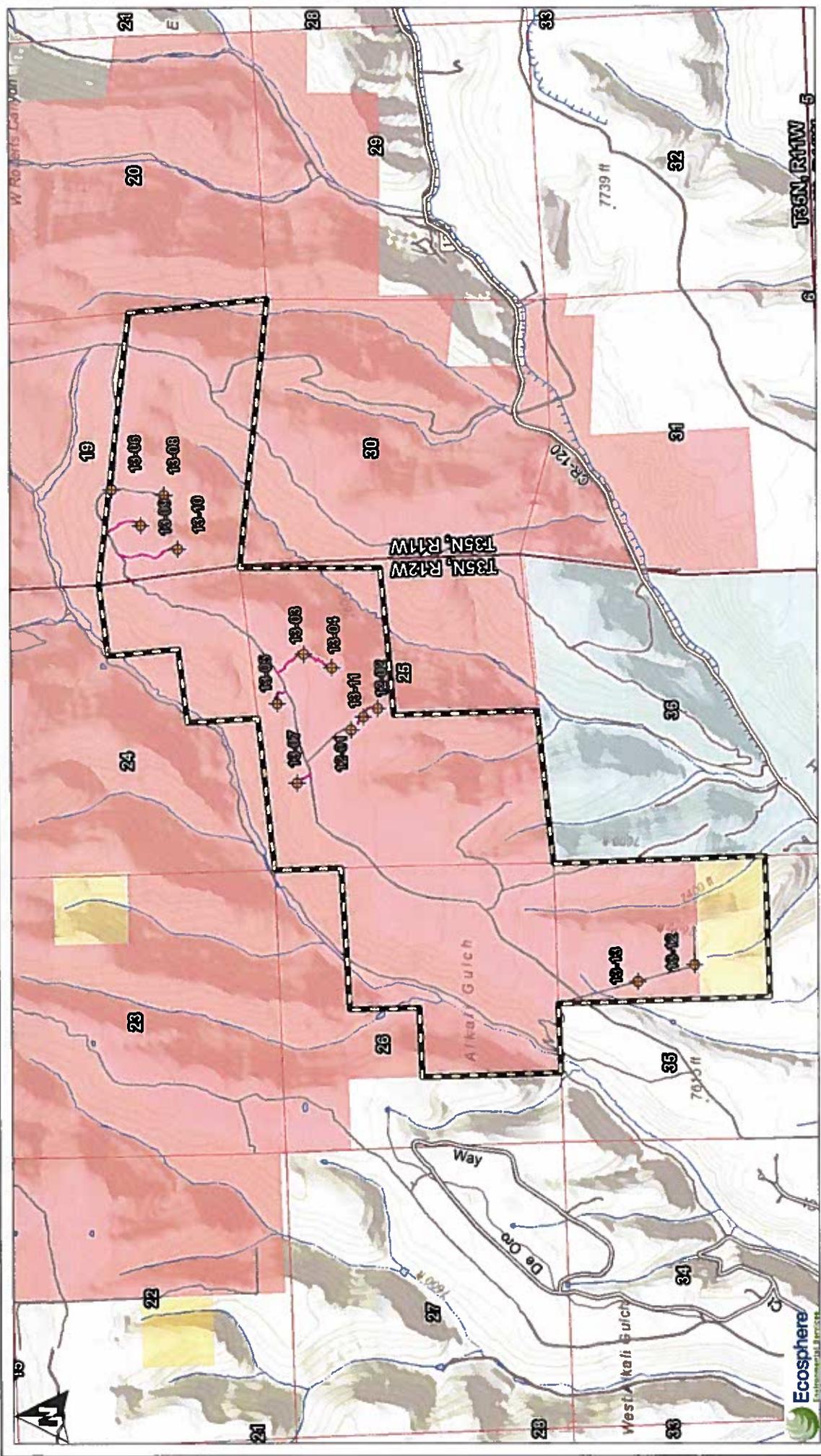
(h) All facilities and equipment will be promptly removed from the exploration area when they are no longer needed for exploration, except for those facilities and equipment that may need to remain to provide additional environmental data, reduce or control any on-site and off-site effects of the exploration activities, or facilitate future reclamation operations.

(i) Coal exploration will be conducted in a manner that minimizes disturbance of the prevailing hydrologic balance in accordance with CFR Title 30, Chapter VII, Subchapter K, Part 816, Sections 816.41 through 816.49.

(j) Acid- or toxic-forming materials will be handled and disposed of in accordance with §§ 816.41(b), 816.41(f), and 816.102(e).

Table 800. Updated Estimated Bond Calculations for Incremental Project Changes

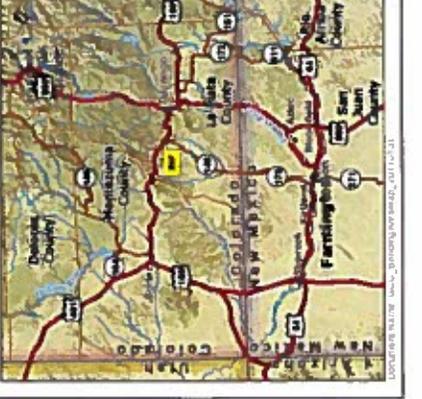
Description of Reclamation Work	Units (Material or Job Hours)	Unit Cost	Job Cost
DOWN-HOLE RECLAMATION - Seal 13 boreholes (labor and materials):			
Plugs, casing, and marker (material only)	Steel and Cement Plugs	Not Applicable	\$ 7,976.00
Drill rig and water truck (includes labor)	52	\$ 251.00	\$ 13,052.00
	Down-Hole Reclamation Subtotal:		\$ 21,028.00
Note: Two steel plugs and 27 feet of cement per borehole; 4 hours labor per borehole.			
SURFACE RECLAMATION - Prepare seed bed and re-seed 13 borehole sites and 0.812 mile of temporary cross-country travel routes:			
Prepare seed beds on drill pads and pits	10.3	\$ 90.00	\$ 927.00
Replace topsoil on travel routes	4.3	\$ 90.00	\$ 387.00
Prepare seed bed on temporary cross-country travel routes	1.14	\$ 90.00	\$ 102.60
Re-seed drill pads (includes seed and straw)	80.4	\$ 36.00	\$ 2,894.40
Re-seed temporary cross-country travel routes (includes seed and straw)	19.6	\$ 36.00	\$ 705.60
	Surface Reclamation Subtotal:		\$ 5,016.60
	Subtotal Direct Costs:		\$ 26,044.60
	Indirect Burden = 25% of Direct Costs:		\$ 6,511.15
	Total Estimated Bond Amount (Direct + Indirect):		\$ 32,555.75
Note: Drill pad size averages 0.23 acre. Re-seeding for 0.812 mile of reclaimed temporary cross-country travel routes is equivalent to 1.3 borehole pads. Selective re-seeding on approximately 25% of disturbed acres.			



GCC Energy, LLC
Coal Exploration Drilling Program
 Bonding Area Map
 La Plata County, Colorado
 Section 19, T35N, R11W
 Sections 24, 25, 26 & 35, T35N, R12W
 Date: 2/2/2017

Drill Sites	Bureau of Land Management
Existing Lease	Private
Temporary Travel Routes	State
Travel Routes	Ute Mountain Ute Parcels
County Roads	PLSS Townships
Lake/Pond	PLSS Sections
Canal	
Intermittent Stream	
Perennial Stream/River	

Scale: 0 0.25 0.5 0.75 1 Miles
 1:30,000
 Coordinate System: NAD 1983 UTM Zone 12N



Ecosphere
 Environmental Services

Policy Number
GLO 6551241-05

**THIS ENDORSEMENT CHANGES THE POLICY.
PLEASE READ IT CAREFULLY.
COMMON POLICY CHANGE ENDORSEMENT**

Endorsement No. 001

AMERICAN ZURICH INSURANCE COMPANY

Named Insured GCC ENERGY LLC

Effective Date: 09-01-14
12:01 A.M., Standard Time

Agent Name AON RISK SERVICES SOUTHWEST, INC.

Agent No. 14340-000

This endorsement will not be used to decrease coverages, increase rates or deductibles or alter any terms or conditions of coverage unless at the sole request of the insured.

COVERAGE PART INFORMATION – Coverage parts affected by this change as indicated by [x] below.

- Commercial Property
- Commercial General Liability NO CHARGE
- Commercial Crime
- Commercial Inland Marine
-
-

The following item(s):

- | | |
|--|---|
| <input type="checkbox"/> Insured's Name | <input type="checkbox"/> Insured's Mailing Address |
| <input type="checkbox"/> Policy Number | <input type="checkbox"/> Company |
| <input type="checkbox"/> Effective/Expiration Date | <input type="checkbox"/> Insured's Legal Status/Business of Insured |
| <input type="checkbox"/> Payment Plan | <input type="checkbox"/> Premium Determination |
| <input type="checkbox"/> Additional Interested Parties | <input checked="" type="checkbox"/> Coverage Forms and Endorsements |
| <input type="checkbox"/> Limits/Exposures | <input type="checkbox"/> Deductibles |
| <input type="checkbox"/> Covered Property/Location Description | <input type="checkbox"/> Classification/Class Codes |
| <input type="checkbox"/> Rates | <input type="checkbox"/> Underlying Exposure/Insurance |

is (are) changed to read (See Additional Page(s))

THE FOLLOWING FORM(S) HAS BEEN ADDED:
U-GL-1447-A CW 05-10 NOTIF TO OTHERS OF CANC NONR OR REDUCT

The above amendments result in a change in the premium as follows:

This premium does not include taxes and surcharges.

No Changes To be Adjusted at Audit Additional NO CHARGE Return NO CHARGE

Tax and Surcharge Changes

Additional Return

Countersigned By:

AUTHORIZED AGENT

Policy Number
GLO 6551241-05

COMMON POLICY CHANGE ENDORSEMENT

Endorsement No. 001

AMERICAN ZURICH INSURANCE COMPANY

Named Insured GCC ENERGY LLC

Effective Date: 09-01-14
12:01 A.M., Standard Time

Agent Name AON RISK SERVICES SOUTHWEST, INC.

Agent No. 14340-000

POLICY CHANGES ENDORSEMENT DESCRIPTION (CONT'D)

ALL OTHER TERMS AND CONDITIONS REMAIN THE SAME

REMOVAL PERMIT

If this policy includes the Commercial Property Coverage Part, the following applies with respect to the Coverage Part:

If Covered Property is removed to a new location that is described on this Policy Change, you may extend this insurance to include that Covered Property at each location during the removal. Coverage at each location will apply in the proportion that the value at each location bears to the value of all Covered Property being removed. This permit applies up to 10 days after the effective date of this Policy Change; after that, this insurance does not apply at the previous location.



ZURICH[®]

Notification to Others of Cancellation, Nonrenewal or Reduction of Insurance

Policy No.	Eff. Date of Pol.	Exp. Date of Pol.	Eff. Date of End.	Producer No.	Add'l. Prem	Return Prem.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

This endorsement modifies insurance provided under the:

- Commercial General Liability Coverage Part**
- Liquor Liability Coverage Part**
- Products/ Completed Operations Liability Coverage Part**

- A.** If we cancel or non-renew this Coverage Part(s) by written notice to the first Named Insured for any reason other than nonpayment of premium, we will mail or deliver a copy of such written notice of cancellation or non-renewal:
 1. To the name and address corresponding to each person or organization shown in the Schedule below; and
 2. At least 10 days prior to the effective date of the cancellation or non-renewal, as advised in our notice to the first Named Insured, or the longer number of days notice if indicated in the Schedule below.
- B.** If we cancel this Coverage Part(s) by written notice to the first Named Insured for nonpayment of premium, we will mail or deliver a copy of such written notice of cancellation to the name and address corresponding to each person or organization shown in the Schedule below at least 10 days prior to the effective date of such cancellation.
- C.** If coverage afforded by this Coverage Part(s) is reduced or restricted, except for any reduction of Limits of Insurance due to payment of claims, we will mail or deliver notice of such reduction or restriction:
 1. To the name and address corresponding to each person or organization shown in the Schedule below; and
 2. At least 10 days prior to the effective date of the reduction or restriction, or the longer number of days notice if indicated in the Schedule below.
- D.** If notice as described in Paragraphs A., B. or C. of this endorsement is mailed, proof of mailing will be sufficient proof of such notice.

SCHEDULE	
Name and Address of Other Person(s) / Organization(s):	Number of Days Notice:
OFFICE OF SURFACE MINING RECLAMATION	30
AND ENFORCEMENT, WESTERN REGION	
1999 BROADWAY, SUITE 3320	
DENVER, CO 80202- 3050	

All other terms and conditions of this policy remain unchanged.

NOTIFICATION TO OTHERS OF CANCELLATION ENDORSEMENT

This endorsement is used to add the following to Part Six of the policy.

**PART SIX
CONDITIONS**

- A. If we cancel this policy by written notice to you for any reason other than nonpayment of premium, we will mail or deliver a copy of such written notice of cancellation to the name and address corresponding to each person or organization shown in the Schedule below. Notification to such person or organization will be provided at least 10 days prior to the effective date of the cancellation, as advised in our notice to you, or the longer number of days notice if indicated in the Schedule below.
- B. If we cancel this policy by written notice to you for nonpayment of premium, we will mail or deliver a copy of such written notice of cancellation to the name and address corresponding to each person or organization shown in the Schedule below at least 10 days prior to the effective date of such cancellation.
- C. If notice as described in Paragraphs A. or B. of this endorsement is mailed, proof of mailing will be sufficient proof of such notice.

SCHEDULE	
Name and Address of Other Person(s) / Organization(s):	Number of Days Notice:
OFFICE OF SURFACE MINING RECLAMATION	30
AND ENFORCEMENT, WESTERN REGION	
1999 BROADWAY, SUITE 3320	
DENVER, CO 80202- 3050	

All other terms and conditions of this policy remain unchanged.

This endorsement changes the policy to which it is attached and is effective on the date issued unless otherwise stated.
(The information below is required only when this endorsement is issued subsequent to preparation of the policy.)

Endorsement Effective Insured

Policy No.

Endorsement No. Premium \$

Insurance Company

Policy Number
BAP 6551242-05

THIS ENDORSEMENT CHANGES THE POLICY.
PLEASE READ IT CAREFULLY.
COMMON POLICY CHANGE ENDORSEMENT

Endorsement No. 002

ZURICH AMERICAN INSURANCE COMPANY

Named Insured GCC ENERGY LLC

Effective Date: 09-01-14
12:01 A.M., Standard Time

Agent Name AON RISK SERVICES SOUTHWEST, INC.

Agent No. 14340-000

This endorsement will not be used to decrease coverages, increase rates or deductibles or alter any terms or conditions of coverage unless at the sole request of the insured.

COVERAGE PART INFORMATION – Coverage parts affected by this change as indicated by [x] below.

- Commercial Property
- Commercial General Liability
- Commercial Crime
- Commercial Inland Marine
- BUSINESS AUTOMOBILE NO CHARGE
-

The following item(s):

- | | |
|--|---|
| <input type="checkbox"/> Insured's Name | <input type="checkbox"/> Insured's Mailing Address |
| <input type="checkbox"/> Policy Number | <input type="checkbox"/> Company |
| <input type="checkbox"/> Effective/Expiration Date | <input type="checkbox"/> Insured's Legal Status/Business of Insured |
| <input type="checkbox"/> Payment Plan | <input type="checkbox"/> Premium Determination |
| <input type="checkbox"/> Additional Interested Parties | <input checked="" type="checkbox"/> Coverage Forms and Endorsements |
| <input type="checkbox"/> Limits/Exposures | <input type="checkbox"/> Deductibles |
| <input type="checkbox"/> Covered Property/Location Description | <input type="checkbox"/> Classification/Class Codes |
| <input type="checkbox"/> Rates | <input type="checkbox"/> Underlying Exposure/Insurance |

is (are) changed to read **{See Additional Page(s)}**

THE FOLLOWING FORM(S) HAS BEEN ADDED:

U-CA-811-A CW 05-10 NOTIF TO OTHERS OF CANC NONRNW RED

The above amendments result in a change in the premium as follows:

This premium does not include taxes and surcharges.

<input checked="" type="checkbox"/> No Changes	<input type="checkbox"/> To be Adjusted at Audit	Additional NO CHARGE	Return NO CHARGE
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Tax and Surcharge Changes

Additional	Return
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Countersigned By:

AUTHORIZED AGENT

Policy Number
BAP 6551242-05

COMMON POLICY CHANGE ENDORSEMENT

Endorsement No. 002

ZURICH AMERICAN INSURANCE COMPANY

Named Insured GCC ENERGY LLC

Effective Date: 09-01-14
12:01 A.M., Standard Time

Agent Name AON RISK SERVICES SOUTHWEST, INC.

Agent No. 14340-000

POLICY CHANGES ENDORSEMENT DESCRIPTION (CONTD)

ALL OTHER TERMS AND CONDITIONS REMAIN THE SAME

REMOVAL PERMIT

If this policy includes the Commercial Property Coverage Part, the following applies with respect to the Coverage Part:

If Covered Property is removed to a new location that is described on this Policy Change, you may extend this insurance to include that Covered Property at each location during the removal. Coverage at each location will apply in the proportion that the value at each location bears to the value of all Covered Property being removed. This permit applies up to 10 days after the effective date of this Policy Change; after that, this insurance does not apply at the previous location.



ZURICH®

Notification to Others of Cancellation, Nonrenewal or Reduction of Insurance

Policy No.	Eff. Date of Pol.	Exp. Date of Pol.	Eff. Date of End.	Producer No.	Add'l. Prem	Return Prem.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

This endorsement modifies insurance provided under the:

Commercial Automobile Coverage Part

- A. If we cancel or non-renew this Coverage Part by written notice to the first Named Insured for any reason other than nonpayment of premium, we will mail or deliver a copy of such written notice of cancellation or non-renewal:
 - 1. To the name and address corresponding to each person or organization shown in the Schedule below; and
 - 2. At least 10 days prior to the effective date of the cancellation or non-renewal, as advised in our notice to the first Named Insured, or the longer number of days notice if indicated in the Schedule below.
- B. If we cancel this Coverage Part by written notice to the first Named Insured for nonpayment of premium, we will mail or deliver a copy of such written notice of cancellation to the name and address corresponding to each person or organization shown in the Schedule below at least 10 days prior to the effective date of such cancellation.
- C. If coverage afforded by this Coverage Part is reduced or restricted, except for any reduction of Limits of Insurance due to payment of claims, we will mail or deliver notice of such reduction or restriction:
 - 1. To the name and address corresponding to each person or organization shown in the Schedule below; and
 - 2. At least 10 days prior to the effective date of the reduction or restriction, or the longer number of days notice if indicated in the Schedule below.
- D. If notice as described in Paragraphs A., B. or C. of this endorsement is mailed, proof of mailing will be sufficient proof of such notice.

SCHEDULE	
Name and Address of Other Person(s) / Organization(s):	Number of Days Notice:
OFFICE OF SURFACE MINING RECLAMATION	30
AND ENFORCEMENT, WESTERN REGION	
1999 BROADWAY, SUITE 3320	
DENVER, CO 80202- 3050	

All other terms and conditions of this policy remain unchanged.



United States Department of the Interior
OFFICE OF SURFACE MINING RECLAMATION AND ENFORCEMENT

**AMENDMENT TO ASSIGNMENT OF CERTIFICATE OF DEPOSIT FOR
COLLATERAL BOND (Corporation)**

To be attached to and form a part of the Assignment of Certificate of Deposit for Collateral Bond executed by National King Coal, LLC AS OBLIGOR, in the sum of
(Corporation - Permittee)

TEN THOUSAND TWO HUNDRED DOLLARS and no cents (\$10,200.00 USD) Certificate of Deposit (Time Account Number 9916427165) in the Name of National King Coal, LLC in favor of the United States Department of the Interior, Office of Surface Mining Reclamation and Enforcement (OSM) and executed on December 17, 2008.

Whereas, OSM issued Permit No. CO-0106A on April 17, 2007, and Permit Revision dated: September 9, 2010 pursuant to the application of the Obligor;

WHEREAS, said collateral bond and indemnity agreement and amendment shall cover any and all land affected or to be affected by the mining operation under the above mentioned permit and revisions and renewals since the date of the issuance of the permit.

NOW, THEREFORE, the purpose of this amendment is:

To name **GCC Energy, LLC** the Permittee/Obligor and successor in interest of National King Coal, LLC.

It is further agreed that all other terms and conditions of this collateral bond and indemnity agreement shall remain unchanged.

IN WITNESS WHEREOF, the Obligor has hereunto set its signature and seal this 16th day of February, 2015.

GCC Energy, LLC
(Corporation/Permittee)

By: _____

Trent Peterson
(Corporate Officer¹)

Vice President
(Title)

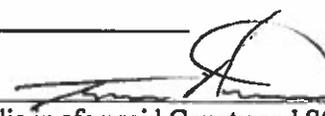
¹Where one signs by virtue of Power of Attorney or Corporate Resolution for a corporate Principal, a certified copy of the Power of Attorney or Corporate Resolution must be filed with the collateral bond.

ACKNOWLEDGEMENT OF CORPORATION - OBLIGOR

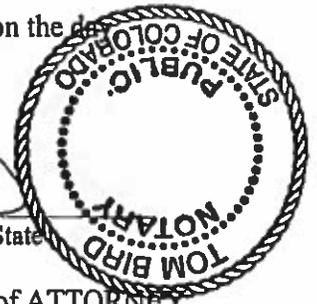
On this 16TH day of FEBRUARY, 2015, before me, a Notary Public in and for the County of LA PLATA, in the State of COLORADO, appeared TRENT PETERSON to me personally known who, being by me fully sworn, did say that he/she is of GCC ENERGY, LLC, the corporation named in and which executed the within instrument, and that the seal affixed to said instrument is the corporate seal of said corporation, and that said instrument was signed, sealed and delivered on behalf of said corporation by authority of its Board of Directors, and he/she, as such officer, acknowledged said instrument to be the free act and deed of said corporation for the uses and purposes of said instrument as therein set forth.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal on the 16th day of FEBRUARY, 2015, at LA PLATA, Colorado.

My Commission Expires: 5/14/2015



Notary Public in aforesaid County and State



NOTE: Where negotiable securities are used as collateral, a completed POWER of ATTORNEY AND AGREEMENT must be attached.

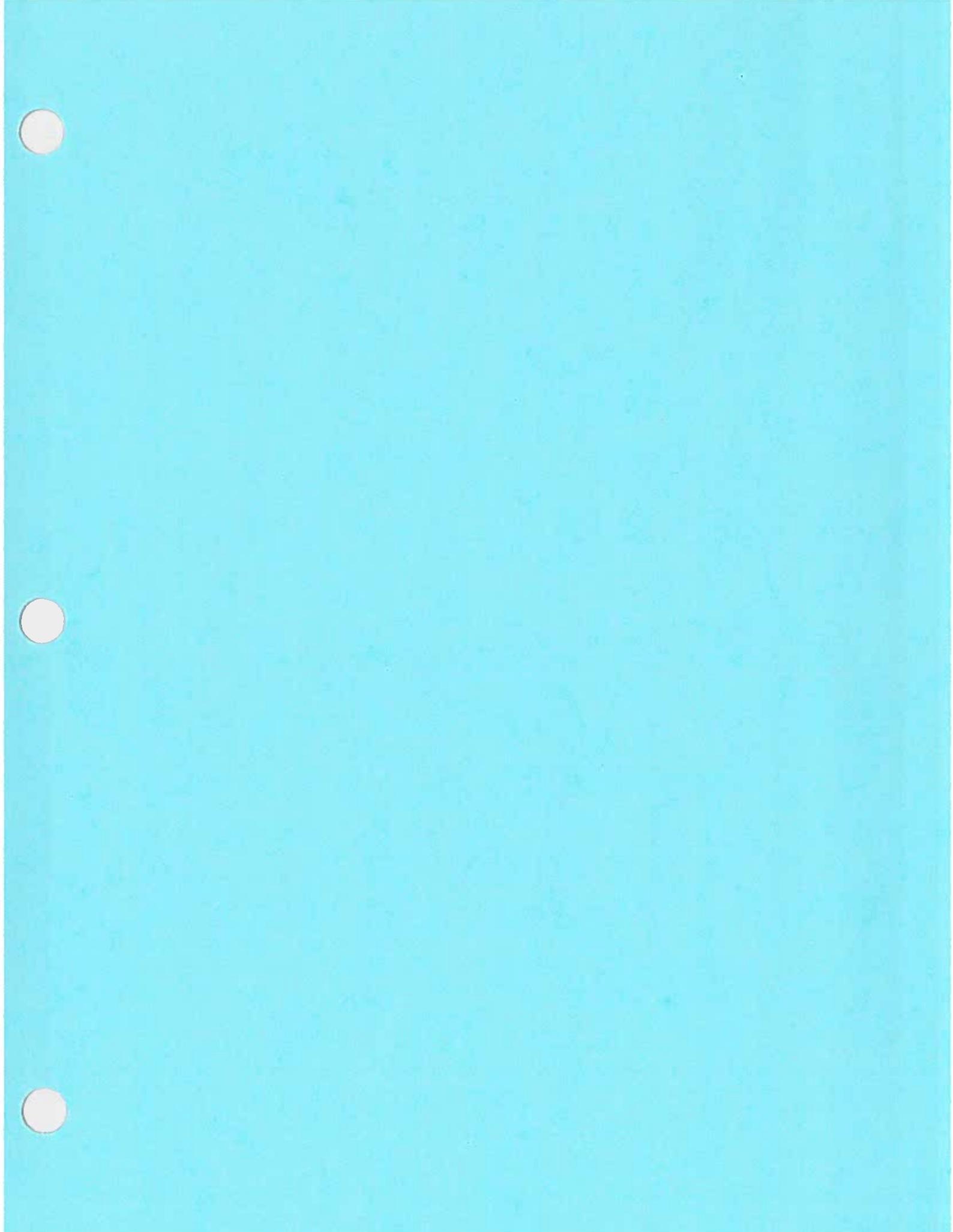
Paperwork Reduction Act Notice

We use the information required by this form to ensure that the requirements for a collateral bond under 30 CFR 800.21 are met. You must provide the requested information to obtain or retain a benefit (a collateral bond). Under 30 CFR 842.16, the information collected is a matter of public record.

The time needed to complete this form and submit the requested information will vary depending on individual circumstances. We estimate that the average time will be 2 hours per response. This number includes the time spent reviewing instructions, learning about the regulations, gathering and maintaining information, and completing and reviewing the form. If you have comments concerning the accuracy of this estimate or suggestions for simplifying the form or instructions, you may write to the Information Collection Clearance Officer, Office of Surface Mining Reclamation and Enforcement, Room 202 SIB, 1951 Constitution Ave, NW; Washington, D.C. 20240.

Under the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.), you are not required to respond to, nor will you be subject to a penalty for a failure to comply with, a collection of information unless it displays a currently valid OMB control number.

OMB Control No. 1029-0043; expires 9/30/2015



**Cumulative Hydrologic Impact Assessment
for Hay Gulch
La Plata County, Colorado**

Revised October 2006

**Tom Kaldenbach
Environmental Protection Specialist
Colorado Division of Minerals and Geology**

Introduction

Cumulative hydrologic impacts to Hay Gulch are assessed for the following two permits: the King Coal I and II Mines (permit C-81-035) and the Blue Flame Mine (revoked permit C-81-053). Impacts from other historical mines in the Gulch (Burnwell, La Plata, Peacock, etc.) are considered to be accounted for in the baseline hydrologic conditions of the Gulch. This assessment of cumulative hydrologic impacts is based on the discussion of probable hydrologic impacts in the mine permit applications and the Division's independent analysis.

Regional Geology

Hay Gulch lies on the northern rim of the San Juan Basin. This basin is an asymmetric structural basin in northwestern New Mexico and southwestern Colorado. The outcrop belt that extends around the northern rim of the San Juan Basin dips a few degrees generally southward, and exposes rocks of the Mesaverde Group, which overlies the Mancos Shale. The Mesaverde Group is composed of three major units (in ascending order): Point Lookout Sandstone, Menefee Formation, and Cliffhouse Sandstone.

Of the two coal seams exposed in the vicinity of the King Coal and Blue Flame Mines, only the upper seam of the Menefee formation has or will be developed. The upper seam ranges in thickness from approximately 3 feet to 7 feet. The upper seam is overlain by an interbedded sequence of sandstone, shale, carbonaceous shale, and coal, which is overlain by a massive sandstone that is resistant to erosion. The upper seam has 100 to 400 feet overburden throughout much of King Coal Blue and Blue Flame permit areas.

The lower coal seam is exposed at the nearby Burnwell Mine (an operation that began in the 1940s, but has long been abandoned and was never permitted under SMCRA). The lower coal seam of the Menefee has an average thickness of 48 inches. This seam lies approximately 80 feet below the upper seam with inter-bedded sandstone and shale between the two seams.

Ground Water Hydrology

The following four hydrostratigraphic units have been identified in the Hay Gulch area: the alluvium of Hay Gulch (poorly consolidated stream gravel, sand, silt, and clay of Recent age), the Cliffhouse Sandstone (Cretaceous marine barrier bar complex), the Menefee Formation (Cretaceous fluvial sandstone and coal swamp deposits), and the Point Lookout Sandstone (Cretaceous marine beach and bar deposits). Figures 1 and 2 show the local hydrostratigraphic setting.

The Hay Gulch alluvium consists of unconsolidated and poorly consolidated gravel, sand, silt, and clay that was deposited by stream flow in Hay Gulch during the last several thousand years. The alluvium is several tens of feet thick and is approximately 1,000 feet wide. National King Coal (NKC) has monitored the Hay Gulch alluvium for more than 20 years in a monitoring well (the Wiltze well) next to the King I Coal Mine. Ground

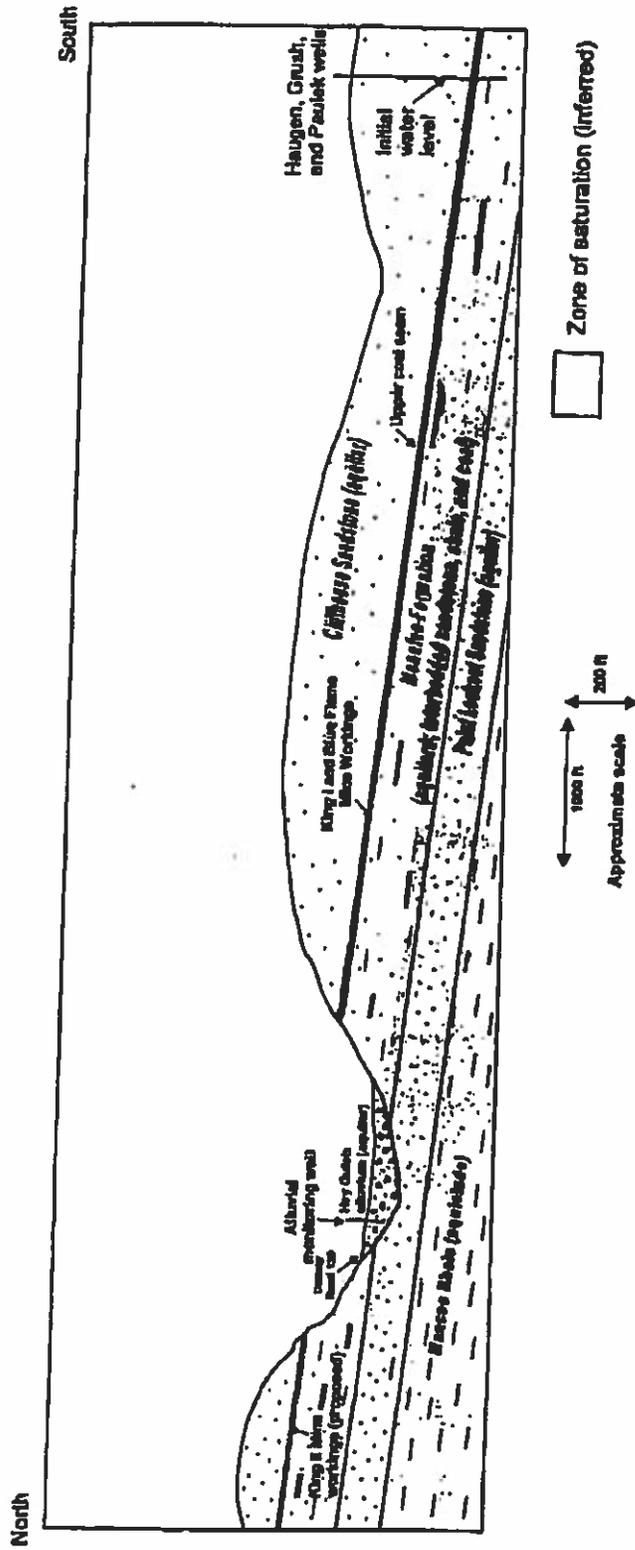


Figure 1 - Schematic cross-section through the King I and II and Blue Flame Mines. Mine workings and wells are projected into the plane of section.

T. Kaldenbeck, 1998

water in the alluvium is unconfined. The alluvium is recharged by snowmelt and precipitation, and by seepage from the Menefee Formation subcrop along the north side of Hay Gulch. The elevation of the water table varies seasonally, ranging from just above the ground surface to a few feet below the surface. Groundwater in the alluvium probably flows in the downstream direction along Hay Gulch. NKC's annual hydrology reports show ground water in the Hay Gulch alluvium is a magnesium-calcium-sulfate type of water that has a high concentration of total dissolved solids (TDS). TDS concentrations consistently are more than 1,500 mg/l, rendering the water unsuitable for domestic and irrigation purposes, but marginally suitable for stock watering. Sulfate concentrations are greater than 600 mg/l. Sulfate concentrations greater than 250 mg/l can cause weight-loss in livestock. There are no known private wells completed in the Hay Gulch alluvium near the King Coal and Blue Flame permit areas, other than King Coal's own well.

The Cliffhouse Sandstone is a fine-grained sandstone that was deposited in a barrier bar complex along a marine shoreline. The Cliffhouse is more than 200 feet thick. NKC's mine workings directly underlie the Cliffhouse in the Menefee Formation. Water supply wells that are located within one mile of Hay Gulch and which are probably completed in the Cliffhouse Sandstone include the V. Paulek and G. Paulek wells.

The Menefee Formation is a fine-grained interbedded sequence of sandstone, siltstone, mudstone, and coal that was deposited on an alluvial plain. Depositional environments ranged from fluvial channel deposits to coal swamps. The Menefee is more than 200 feet thick. NKC mines coal from the top of the Menefee. The Grush well is a water supply well that is located within one mile of the King I Mine and is probably completed in the Menefee Formation.

The Point Lookout Sandstone is a fine-grained sequence of sandstone and mudstone that was deposited along a marine shoreline in beach and bar environments. The Point Lookout is more than 250 feet thick. It lies more than 200 feet stratigraphically below NKC's coal mine workings. The Point Lookout is not widely used as a source of ground water along the flanks of the San Juan Basin due to low well yields and high dissolved solids content of the water. Water supply wells that are located within one mile of the King I Mine which are probably completed in the Point Lookout Sandstone include the Haugen, Funk, Beyer, and Etheridge wells.

The only natural springs located within one mile of the King Coal and Blue Flame Mines are the Huntington Springs, located on the north side of Hay Gulch, west of the abandoned La Plata No. 1 Mine area (File No. C-87-072). This spring may flow from either the lower Menefee Formation or the Hay Gulch alluvium. A water right to the Huntington Springs was adjudicated and subsequently abandoned, as documented during permitting of the now terminated La Plata No. 1 Mine. The Huntington Springs are beyond the area of influence of the King Coal and Blue Flame Mines.

Surface Water Hydrology

The surface facilities of the King Coal Mine and the King II Mine will be located in ephemeral drainages that are tributary to Hay Gulch. The southern portion of the permit area extends into the Pine Gulch ephemeral drainage. Pine Gulch flows into Hay Gulch approximately 4 miles downstream from the permit area. Hay Gulch is a tributary of the La Plata River and their confluence is located about 8 miles downstream (southwest) from the permit area.

There are no perennial streams within the King Coal or Blue Flame permit areas. Surface water in the ephemeral drainage basins where mine surface facilities are located in the King Coal Mine permit area is limited to runoff from rainfall and snowmelt events. Runoff from the undisturbed upper parts of drainages is routed around the disturbed areas through ditches and culverts. With the exception of runoff from main/haul access roads, runoff from disturbed areas is passed through sediment control ponds which discharge into Hay Gulch. The Blue Flame Mine has no surface facility areas, as they have been reclaimed.

Hay Gulch does not have a stream channel in the vicinity of the King Coal and Blue Flame permit areas. Historically, surface flow in Hay Gulch has been diverted into an irrigation ditch on the north side of the Gulch, up the valley from the King Coal Mines. This ditch carries water for irrigation that has been diverted from the La Plata River. At times the ditch water has been reported to be high in salinity, rendering it unsuitable for irrigation use. NKC documented the baseline quality of the ditch water by sampling the ditch twice per year for two irrigation seasons ending in 1998, and for 12 months in 2005. The 2005 samples found total dissolved solids of less than 200 mg/l for most of the year.

Cumulative Ground Water Impacts

The hydrostratigraphic units having the greatest potential for cumulative impacts from mining at the King Coal and Blue Flame Mines are the Hay Gulch alluvium, the Menefee Formation, and the Cliffhouse Sandstone. (The Point Lookout Sandstone is well beyond the area of influence of the mines because it is approximately 250 feet stratigraphically below the mine workings. The Point Lookout has been monitored since late 2000 in the Haugen well about 5000 ft. down-dip from the King I Mine workings. Monitoring data show no impacts from mining at the King I Mine).

Hay Gulch Alluvium - The King Coal and Blue Flame Mines will not discharge enough water to the Hay Gulch alluvium to impact the alluvium. The Hay Gulch alluvium has been monitored in the Wiltze well, downstream from the west sediment pond at the King I Mine. Monitoring data indicate no mining impacts to this unit. The King II Mine will also monitor alluvial water quality in a down-gradient well.

Cliffhouse Sandstone - It appears unlikely that the King Coal and Blue Flame Mines will fill with water after mining is finished. With the exception of one inflow event, the mine workings of the King I Mine have been dry. The King Coal and Blue Flame

Mines appear to underlie the updip, unsaturated portion of the Cliffhouse Sandstone (see Figures 1 and 2). Impermeable shale and siltstone of the Menefee Formation underlie the King Coal and Blue Flame Mine workings, and also are unlikely inflow sources for the workings. If the King Coal or Blue Flame workings were to eventually fill with water, it seems unlikely the water could be transmitted from the workings to the Cliffhouse Sandstone through intergranular porosity in roof rock of the workings because the roof rock is composed of shale, which probably is impermeable to water. (Drill hole sample logs in Appendix 4 of the King Coal permit show the Upper Coal Seam of the Menefee Formation, the seam mined at the King I Mine, is bounded above and below by shale.) Subsidence fractures in the roof rock, however, could provide a conduit of flow for water from the workings to the overlying Cliffhouse. Therefore, if the workings fill with water, and subsidence fractures convey that water to the Cliffhouse Sandstone, then impacts could possibly occur to the water quality in the Cliffhouse Sandstone aquifer down-dip from the workings, if mine water is lower quality than ambient ground water. Significant flow from the workings to the Cliffhouse through subsidence fractures is unlikely, however, because head in the overlying (higher elevation) Cliffhouse would be greater than the head exerted by the mine water. The State Engineer's records show two wells have been completed in the Cliffhouse Sandstone approximately one mile downgradient from the King I Mine workings (the V. Paulek and G. Paulek wells).

Menefee Formation – Like the Cliffhouse Sandstone, mining impacts to the Menefee Formation are improbable because it is unlikely the workings of the King Coal and Blue Flame Mines will fill with water.

Neither the King Coal Mines nor the Blue Flame Mine is expected to significantly degrade ground water quality or reduce ground water supply; therefore, no cumulative impact to ground water is predicted for Hay Gulch.

Cumulative Surface Water Impacts

With the exception of two small area exemptions, runoff from disturbed areas at the King Coal I and II Mines is routed through sediment ponds. The ponds will prevent degradation of surface water quality.

The sediment control system of the Blue Flame Mine has been reclaimed. The disturbed area of Blue Flame is covered with topsoil and mature vegetation. No leachate-forming substances are on the land surface at Blue Flame. Runoff from the Blue Flame site can be expected to be alkaline, like surrounding undisturbed lands. This alkaline runoff is not expected to mobilize metals or create leachates that would degrade surface waters.

Neither the King Coal Mines nor the Blue Flame Mine is expected to significantly degrade surface water quality or reduce surface water supply; therefore, no cumulative impact to surface water is predicted for Hay Gulch.