NOTICE OF INTENT TO CONDUCT MINOR COAL EXPLORATION

UTAHAMERICAN ENERGY, INC.
TURTLE CANYON SITLA LEASE AREA
2019

UtahAmerican Energy, Inc.
a Utah corporation

September 2019

4848-0453-8246

APPLICATION FOR COAL PERMIT PROCESSING

Permit Change ☐ New Permit ☐ Renewal ☐ Exploration ■ Bond Release ☐ Transfer ☐

Permittee: UtahAmerican Energy, Inc.

Mine: Turtle Canyon SITLA Lease Area **Permit Number:** _____

Title: Notice of Intent to Conduct Minor Coal Exploration

Description. Include reason for application and timing required to implement:

Exploration boreholes to be completed as peizometers to provide monitoring data for significant revision to Lila Canyon Extension of Horse Canyon Mine Permit

Instructions: If you answer yes to any of the first eight (gray) questions, this application may require Public Notice publication.

☐ Yes ☒ No 1. Change in the size of the Permit Area? Acres: _____ Disturbed Area: _____ ☐ increase ☐ decrease.
☐ Yes ☒ No 2. Is the application submitted as a result of a Division Order? DO# _____
☐ Yes ☒ No 3. Does the application include operations outside a previously identified Cumulative Hydrologic Impact Area?
☐ Yes ☒ No 4. Does the application include operations in hydrologic basins other than as currently approved?
☐ Yes ☒ No 5. Does the application result from cancellation, reduction or increase of insurance or reclamation bond?
☐ Yes ☒ No 6. Does the application require or include public notice publication?
☐ Yes ☒ No 7. Does the application require or include ownership, control, right-of-entry, or compliance information?
☒ Yes ☐ No 8. Is proposed activity within 100 feet of a public road or cemetery or 300 feet of an occupied dwelling?
☐ Yes ☒ No 9. Is the application submitted as a result of a Violation? NOV # _____
☐ Yes ☒ No 10. Is the application submitted as a result of other laws or regulations or policies?
Explain: _____
☐ Yes ☒ No 11. Does the application affect the surface landowner or change the post mining land use?
☐ Yes ☒ No 12. Does the application require or include underground design or mine sequence and timing? (Modification of R2P2)
☐ Yes ☒ No 13. Does the application require or include collection and reporting of any baseline information?
☐ Yes ☒ No 14. Could the application have any effect on wildlife or vegetation outside the current disturbed area?
☒ Yes ☐ No 15. Does the application require or include soil removal, storage or placement?
☐ Yes ☒ No 16. Does the application require or include vegetation monitoring, removal or revegetation activities?
☐ Yes ☒ No 17. Does the application require or include construction, modification, or removal of surface facilities?
☒ Yes ☐ No 18. Does the application require or include water monitoring, sediment or drainage control measures?
☐ Yes ☒ No 19. Does the application require or include certified designs, maps or calculation?
☐ Yes ☒ No 20. Does the application require or include subsidence control or monitoring?
☐ Yes ☒ No 21. Have reclamation costs for bonding been provided?
☐ Yes ☒ No 22. Does the application involve a perennial stream, a stream buffer zone or discharges to a stream?
☒ Yes ☐ No 23. Does the application affect permits issued by other agencies or permits issued to other entities?

Please attach one (1) review copy of the application.

I hereby certify that I am a responsible official of the applicant and that the information contained in this application is true and correct to the best of my information and belief in all respects with the laws of Utah in reference to commitments, undertakings, and obligations, herein

Carson Pollastro
Print Name

President, 9/11/19
Sign Name, Position, Date

Subscribed and sworn to before me this 11th day of September, 20 19

Teresa Behunin
Notary Public

My commission Expires: Oct. 26, 2022

Attest: State of Utah } ss
County of Carbon

Notary Public - State of Utah
TERESA BEHUNIN
Comm. #703081
My Commission Expires
October 26, 2022

For Office Use Only:	Assigned Tracking Number:	Received by Oil, Gas & Mining

Form DOGM- C1 (Revised 9/17/2013)

INTRODUCTION

UtahAmerican Energy, Inc. (UEI) is submitting this Notice of Intent to Conduct Minor Coal Exploration to the Utah Division of Oil, Gas, and Mining (DOGM) for approval to conduct coal exploration and reclamation activities in the Spring of 2020. UEI proposes to drill two geologic boreholes to collect core samples and gather additional geologic data. The boreholes will be converted to hydrogeologic wells to monitor water levels, confirm the presence of the local aquifer and to determine the gradient of the potentiometric surface. The boreholes will be located on lands leased by UEI from The School and Institutional Trust Lands Administration (SITLA) under ML-53812. This application is formatted to address the specific requirements of R645-201-200. Other related information is given in Appendix A and B. Five copies of this notice are submitted for DOGM's review.

R645-201 Coal Exploration: Requirements for Exploration Approval

R645-201-210
The proposed exploration plan involves two boreholes and removal of less than 250 tons of coal. As such the boreholes qualify as minor exploration as described in Utah Administrative Rule R645-201-200-210.

R645-201-221
The name, address and telephone number of the applicant:

UtahAmerican Energy, Inc.
794 N. "C" Canyon Road
Post Office Box 910
East Carbon, Utah 84520
(435) 888-4000

The applicant is the same as the operator of the proposed exploration plan. Correspondence regarding this exploration plan should be addressed to:

UtahAmerican Energy, Inc.
794 N. "C" Canyon Road
Post Office Box 910
East Carbon, Utah 84520
(435) 888-4000
Attention: Carson Pollastro, President

R645-201-222
The name, address and telephone number of the representative of the applicant who will be present during and be responsible for conducting the exploration is:

UtahAmerican Energy, Inc.
794 N. "C" Canyon Road
Post Office Box 910
East Carbon, Utah 84520
(435) 888-4000
Attention: Carson Pollastro

At times, Boart Longyear, UEI's drilling contractor, may act as representative of the applicant. The contractor's headquarters are located at 2455 South 3600 West, West Valley City, UT, 84119. Contact: Jason Lamb, Phone: 801-973 6667.

R645-201-223

The exploration area is generally located in Emery County, Utah, south of the Lila Canyon Mine. The legal description of the SITLA coal lease ML 53812 is as follows:

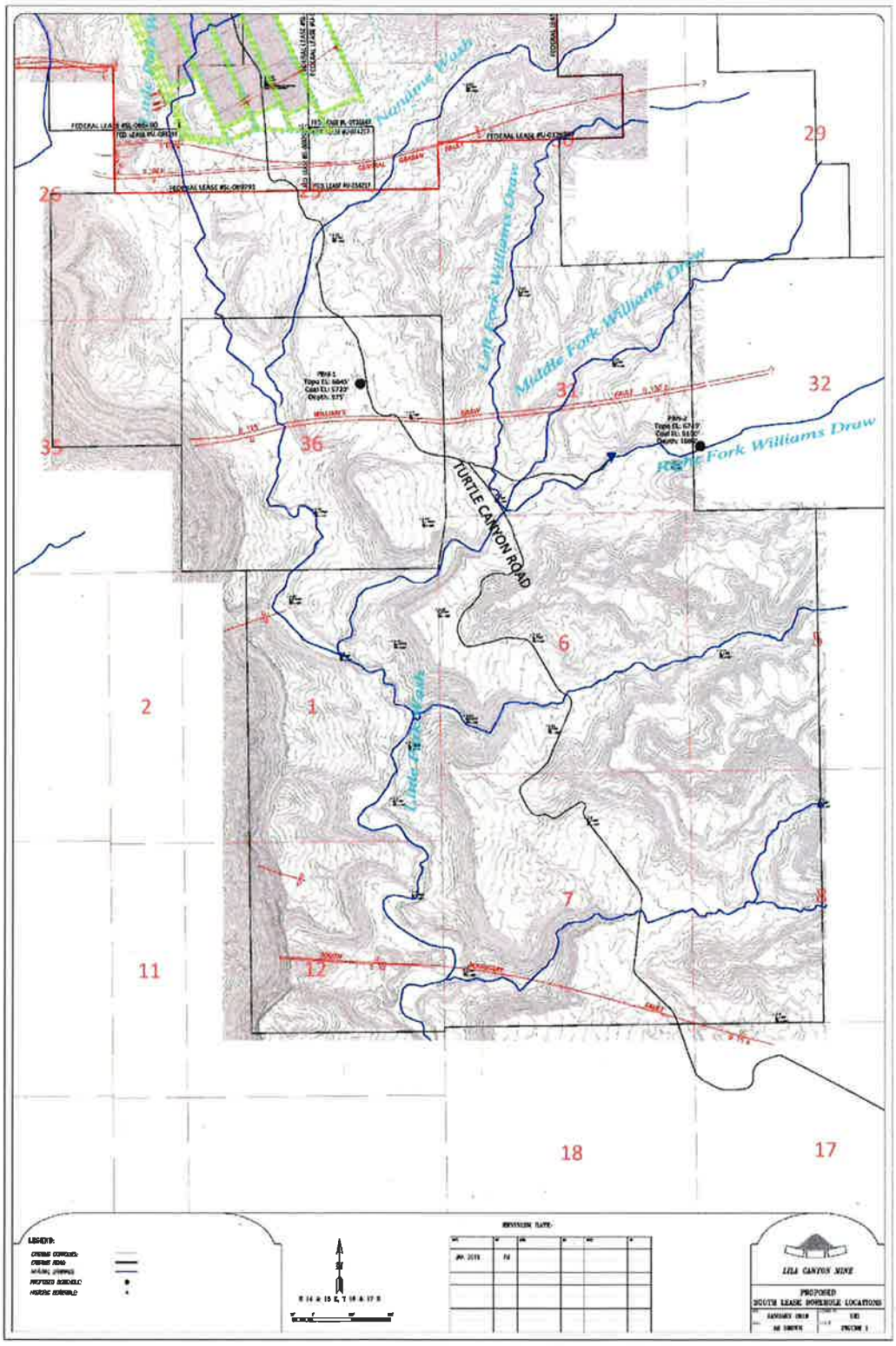
Township 16 South, Range 14 East, SLB&M
Section 36: All

Township 16 South, Range 15 East, SLB&M
Section 32: All

Containing 1,280 acres, more or less

A copy of the fully executed SITLA ML 53812 is included in Appendix A. Figure 1, set forth below, shows the two proposed borehole locations within the SITLA Lease. Both locations are adjacent to existing roads within the SITLA Lease and are accessed by the Turtle Canyon road. Borehole PBH-1 will be located in T. 16 S, R. 14 E., Section 36, west of the Turtle Canyon road. PBH-2 will be located in T. 16 S, R. 15 E, Section 32, along the Right Fork of Williams Draw. Access will be via the secondary roadway to the Williams Draw Spring. The surface land and underground coal reserve in the location of the boreholes is owned by SITLA and leased to UEI. A copy of UEI's letter notifying SITLA of this exploration activity, dated January 17, 2019, is included in Appendix A.

FIGURE 1



4848-0453-8246

R645-201-200-224
The proposed core hole drilling will occur in May, 2020 for a period of ten days.

R645-201-200-225
UEI proposes to drill two geologic boreholes to collect core samples and gather additional geologic data. PHBH-1 will be drilled to a depth of approximately 975' deep and PBH-2 will drilled to approximately 1,695' deep. Core samples will be collected from the Sunnyside coal seam 50 feet above to 50 feet below the target coal seam. The only coal to be removed during exploration activities will be the cores. Cores will be approximately 2 inches (BQ) in diameter and given the approximate projected thickness of the coal seam averaging 8.2 feet, less than 25 lbs. of coal will be removed.

After the cores are extracted, the boreholes will be enlarged to approximately 8-inches in diameter. Although too deep for water sampling, the boreholes will be converted to hydrogeologic wells to monitor water levels, confirm the presence of the local aquifer and to determine the gradient of the potentiometric surface. Thus, the boreholes will be completed as 2" piezometers, in the zone beneath the coal seam with 20-feet of perforated casing and a gravel pack from TD to about 10 feet above the top of the perforations. To complete the holes, a 10-foot thick bentonite seal will be placed above the gravel pack. The remainder of the boring will be filled with bentonite/cement grout. A surface casing with a locking cap will be placed to secure the monitoring point. To the extent applicable, UEI will conduct coal exploration and reclamation operations in accordance with the performance standards of R645-202-200.

Data from these wells, along with the data from the Lila Canyon permit area within C/007/0020, will be used in connection with future mine permit modifications to expand operations into federal lease areas adjacent to the current mine permit area. UEI anticipates that this data will verify that the groundwater conditions within the northern portion of the lease expansion area are similar to the groundwater conditions in the current permit area and hydrologic impact area. UEI's applications to expand existing federal leases and obtain a new federal coal lease are currently pending. Siting the wells on the SITLA lease currently held by UEI will allow data to be gathered prior to the anticipated approval of the pending federal lease modifications and lease sale.

The groundwater conditions will be compared with those described in the existing permit area. For conditions that are similar to the existing permit area, these two wells will be assumed to be sufficient for the Williams Draw Lease area. If groundwater conditions are different than anticipated within the lease expansion area, UEI will consider possible installation of an additional well toward the south end of the lease expansion area. These plans will be discussed with the DOGM once the data from the northern wells are collected and analyzed. Given the time to prepare for mining of the new lease area and then to cross the faults and develop mains to the south, there will be several years before there would be any potential influence on the southern portion of the expansion lease.

The boreholes will be accessed by existing roadways as discussed at section 223 above. Some minor grading and road maintenance may be required to access these proposed drill sites. No road building will occur and no blasting will be done for road repair. The drilling contractor will minimize disturbance by using a crane located on the roadway to access and drill the boreholes. Cuttings from the boreholes will be contained and any drill fluids will be retained in a portable mud pit. The area will be reclaimed in accordance with the applicable requirements of R645-202.

Upon completion, UEI will reclaim the drill site and remove all drilling equipment and portable mud pits. As noted above, access to the drill sites will be along the existing roads in Turtle Canyon and Williams Draw area. Regulations cited in R645-202-232 relative to roads will be followed as they apply. No road construction is planned. Disturbance to wildlife will be minimized by utilizing the existing roads and eliminating the need to build roads with heavy equipment and by use of a crane located on the road to

construction is planned. Disturbance to wildlife will be minimized by utilizing the existing roads and eliminating the need to build roads with heavy equipment and by use of a crane located on the road to reach across to the site to drill the boreholes. No wetlands or riparian areas are known to be located along the proposed routes. No utility or support facilities are present in the area.

Reclamation will occur as soon as possible upon completion of drilling operations. Reclamation will include filling in any hand excavations to original contour, topsoil replacement, removal of all equipment hauling away all trash and reseeding the disturbed surface with the approved seed mix. No damage to public or private property will occur.

R645-203-200

UEI requests that the Division keep confidential and not make any drilling information available for public inspection relative to coal seam thickness or quality. This information is considered proprietary, confidential and crucial to the company's competitive rights and therefore exempt from public review under the Government Records Access and Management Act.

Submitted this 11 day of September, 2019.

Carson Pollastro
President, UtahAmerican Energy, Inc.

APPENDIX A

SITLA COAL LEASE AND CORRESPONDENCE

Director's Agenda 9/4/2018

MINERAL LEASE NO. ML-53812-OBA

FUND: **SCH**

UTAH STATE LEASE FOR COAL

THIS COAL MINING LEASE AND AGREEMENT (the "Lease") is entered into and executed in duplicate as of October 1, 2018 (the "Effective Date") by and between the STATE OF UTAH, acting by and through the SCHOOL AND INSTITUTIONAL TRUST LANDS ADMINISTRATION, 675 East 500 South, Suite 500, Salt Lake City, Utah 84102 ("Lessor"), and UTAH AMERICAN ENERGY, INC., a Utah corporation, 794 N. "C" Canyon Road, P.O. Box 910, East Carbon, Utah 84520 ("Lessee")

WITNESSETH:

That the State of Utah, as Lessor, in consideration of the rentals, royalties, and other financial consideration paid or required to be paid by Lessee, and the covenants of Lessee set forth below, does hereby GRANT AND LEASE to Lessee the exclusive right and privilege to explore for, drill for, mine, remove, transport, convey, cross-haul, commingle, and sell the coal contained within the boundaries of the following described tract of land (the "Leased Premises") located in Emery County, State of Utah:

Township 16 South, Range 14 East, SLB&M
Section 36: All

Township 16 South, Range 15 East, SLB&M
Section 32: All

(containing 1280 acres, more or less)

Together with the right and privilege to make use of the surface (but only to the extent owned by Lessor) and subsurface of the Leased Premises for uses incident to the mining of coal by Lessee on the Leased Premises or on other lands under the control of Lessee or mined in connection with operations on the Leased Premises, including, but not limited to, conveying, storing, loading, hauling, commingling, cross-hauling, and otherwise transporting coal; excavating; removing, stockpiling, depositing and redepositing of surface materials; and the subsidence, mitigation, restoration and reclamation of the surface.

This Coal Mining Lease and Agreement is subject to, and Lessee hereby agrees to and accepts, the following covenants, terms, and conditions:

1. LEASED MINERALS.

1.1 Coal. This mineral lease covers coal, which shall mean and include black or brownish-black solid fossil fuels that have been subjected to the natural processes of coalification, and which fall within the classification of coal by rank as anthracitic, bituminous, sub-bituminous, or lignitic, together with closely associated substances which include, but are not limited to other hydrocarbon substances physically contained within the same geologic strata as the coal. In the event that minerals other than coal are discovered during lease operations, Lessee shall promptly notify Lessor.

1.2 Coalbed Methane. To the extent that Lessor owns gas, coalbed methane or coal seam gas (collectively "coalbed methane") within the Leased Premises, Lessee may vent, or flare such coalbed methane from the coal strata being mined and any overlying formations if such removal is necessary for safety reasons in the reasonable discretion of Lessee. If Lessee captures or uses such coalbed methane (including capture or flaring for the purpose of generating greenhouse gas credits or other environmental attributes), it shall pay Lessor royalties on the value of such coalbed methane at the prevailing state royalty rate for natural gas, unless such royalties are expressly waived by Lessor. In the event that Lessor does not own gas or coalbed methane within the Leased Premises, or Lessor has granted the rights to gas or coal bed methane in the Leased Premises to another party, Lessee must obtain the consent of the owner or lessee of such coalbed methane prior to removal or capture of such gas. Except as expressly granted herein, the right to extract gas, coalbed methane and coal seam gas is not granted by this Lease.

1.3 No Warranty of Title. Lessor claims title to the mineral estate covered by this Lease. Lessor does not warrant title nor represent that no one will dispute the title asserted by Lessor. It is expressly agreed that Lessor shall not be liable to Lessee for any alleged deficiency in title to the mineral estate, nor shall Lessee become entitled to any refund for any rentals, bonuses, or royalties paid under this Lease in the event of title failure.

2. RESERVATIONS TO LESSOR. Subject to the exclusive rights and privileges granted to Lessee under this Lease, and further provided that Lessor shall refrain from taking actions with respect to the Leased Premises that may unreasonably interfere with Lessee's operations, Lessor hereby excepts and reserves from the operation of this Lease the following rights and privileges (to the extent that Lessor has the right to grant such rights and privileges):

2.1 Rights-of-Way and Easements. Lessor reserves the right, following consultation with the Lessee, to establish rights-of-way and easements upon, through or over the Leased Premises, under terms and conditions that will not unreasonably interfere with operations under this Lease, for roads, pipelines, electric

transmission lines, transportation and utility corridors, mineral access, and any other purpose deemed reasonably necessary by Lessor.

2.2 Other Mineral Leases. Lessor reserves the right to enter into mineral leases and agreements with third parties covering minerals other than coal, under terms and conditions that will not unreasonably interfere with operations under this Lease in accordance with Lessor's regulations, if any, governing multiple mineral development.

2.3 Use and Disposal of Surface. To the extent that Lessor owns the surface estate of the Leased Premises and subject to the rights granted to the Lessee pursuant to this Lease, Lessor reserves the right to use, lease, sell, or otherwise dispose of the surface estate or any part thereof. Lessor shall notify Lessee of any such sale, lease, or other disposition of the surface estate.

2.4 Previously Authorized Improvements. If authorized improvements have been placed upon the Leased Premises by a third party prior to the commencement of this Lease, Lessee shall allow the owner of such improvements to remove them within ninety (90) days after the Lease term commences. Nothing in this paragraph shall authorize Lessee to remove surface improvements where Lessor does not own the surface estate.

2.5 Rights Not Expressly Granted. Lessor further reserves all rights and privileges of every kind and nature, except as specifically granted in this Lease.

3. TERM OF LEASE; READJUSTMENT.

3.1 Primary Term. This Lease is granted for a "primary term" of ten (10) years commencing on the Effective Date and for a "secondary term" of an additional ten (10) years, subject to Lessee's compliance with the requirements of paragraph 3.3, Diligent Operations; Minimum Royalty.

3.2 Extension Beyond Secondary Term. Subject to Lessee's compliance with the other provisions of this Lease, this Lease shall remain in effect beyond the secondary term and for as long thereafter as coal is produced in commercial quantities from the Leased Premises, or from lands constituting either (i) a logical mining unit approved by the Bureau of Land Management containing the Leased Premises, or (ii) a mining unit, in which the recoverable coal reserves can be developed in an efficient, economical and orderly manner as a unit with due regard to the conservation of recoverable coal reserves. The second type of mining unit requires a determination by the Lessor that the criteria set forth in item (ii) have been satisfied. The satisfaction of either (i) or (ii) above shall mean that the Lease is contained within an "approved mining unit." For the purposes of this Lease, production of coal in commercial quantities shall mean production during each lease year of at least one per cent (1%) of the original recoverable

coal reserves within the Leased Premises or within lands constituting an approved mining unit which includes the Leased Premises, as such recoverable coal reserves are determined by Lessor after consultation with Lessee, subject to adjustment from time to time based upon reasonable justification from the Lessee.

3.3 Diligent Operations; Minimum Royalty. In the absence of actual production in commercial quantities as set forth in paragraph 3.2, Extension Beyond Secondary Term, this Lease shall remain in effect beyond the primary term only if the Lessee is engaged in diligent operations, or development activity (which development activity shall include, but not be limited to, pursuit of required permits and approvals), which in Lessor's reasonable discretion is calculated to advance development or production of coal from the Leased Premises or lands constituting an approved mining unit which includes the Leased Premises, and Lessee pays an annual minimum royalty in advance on or before the anniversary date of the Effective Date. The minimum royalty shall be calculated by determining the production royalty that would be payable upon production of one per cent (1%) of the original recoverable coal reserves within the Leased Premises, as such recoverable coal reserves are determined by Lessor after consultation with Lessee, subject to adjustment from time to time based upon reasonable justification from the Lessee. The unit value of the recoverable coal reserves for purposes of determining the minimum royalty shall be determined by Lessor using the methodology set forth in 43 Code of Federal Regulations Section 3483.4(c)(1)-(3) (1998). Minimum royalties paid by Lessee pursuant to this paragraph may be credited against production royalties accruing during the term of this Lease.

3.4 Expiration; Cessation of Production. This Lease may not be extended pursuant to paragraph 3.3, Diligent Operations; Minimum Royalty, beyond the end of the twentieth year after the Effective Date except by the actual production of coal in commercial quantities from the Leased Premises or from lands constituting an approved mining unit which includes the Leased Premises. After expiration of the secondary term, this Lease will expire of its own terms, without the necessity of any notice or action by Lessor, if Lessee ceases production of coal in commercial quantities for an entire lease year, unless the Lease is suspended pursuant to paragraph 16.3, Suspension.

3.5 Readjustment. At the end of the primary term and at the end of each ten-year period that this lease is in effect, Lessor may readjust the terms and conditions of this Lease (including without limitation rental rates, minimum royalties, royalty rates and valuation methods, and provisions concerning reclamation). If within thirty (30) days after submission of the readjusted lease terms to the Lessee, the Lessee determines that any or all of the proposed readjusted terms and conditions are unacceptable, then Lessee shall so notify Lessor in writing and the parties shall attempt to resolve the objectionable term or condition. If the parties are unable to resolve the matter and agree upon the readjusted terms and conditions

submitted by Lessor at the end of such ten (10) year period, Lessee shall forfeit any right to the continued extension of this lease, and the lease shall automatically terminate, provided that nothing herein shall be deemed to preclude Lessee from appealing any readjustment by Lessor pursuant to applicable law

3.6 Relinquishment. Lessee may relinquish all or portions of this Lease at any time by filing a written notice of relinquishment with Lessor. Lessor may disapprove any relinquishment if Lessee has failed to pay all rentals, royalties, and other amounts due and owing to the Lessor, if the lease is otherwise not in good standing, or if relinquishment would in Lessors' reasonable determination cause waste of economically recoverable coal. Lessee may not relinquish parcels smaller than a quarter-quarter section or surveyed lot. Upon approval, relinquishment shall relieve the Lessee of all future rental obligations as to the relinquished lands effective as of the date of filing of the relinquishment, but shall not relieve Lessee from other obligations to the extent provided in paragraph 15.2, Effect of Termination.

4. BONUS. Lessee agrees to pay Lessor an initial bonus in the total amount of $50,000 ("Initial Bonus"), payable on or before the Effective Date. The Initial Bonus shall be credited to the Production Royalties under paragraph 6.1. In addition to the Initial Bonus, Lessee shall also pay Lessor a deferred bonus (the "Deferred Bonus") for all coal severed and removed from the Leased Premises, payable on a per ton basis, contemporaneously with and in addition to production royalties for such coal payable under paragraph 6.1, Production Royalties. The Deferred Bonus will be $0.416/per ton of coal produced and sold from the Leased Premises.

5. RENTALS. Lessee agrees to pay Lessor an annual rental of three dollars ($3.00) for each acre and fractional part thereof within the Leased Premises. Lessee shall promptly pay annual rentals each year in advance on or before the anniversary date of the Effective Date. Lessee may not credit rentals against production royalties or against minimum royalties payable pursuant to paragraph 3.3, Diligent Operations; Minimum Royalty.

6. ROYALTIES.

6.1 Production Royalties. Lessee shall pay Lessor a production royalty of eight per cent (8%) of the value of all coal severed and removed from the Leased Premises by underground mining methods and twelve and one-half per cent (12.5%) of the value of all coal severed and removed from the Leased Premises by surface mining methods. For all coal sold pursuant to an arm's-length contract, value shall be determined on the basis of the gross proceeds received by Lessee from the sale or disposition of such coal. Gross proceeds shall include all bonuses, allowances or other consideration of any nature received by Lessee for coal actually produced. For any coal that is sold or disposed of other than by an arms-length contract, or for coal that is used within the mine permit area containing the Leased Premises for generation of electricity or for gasification,

liquefaction, in situ processing, or other method of extracting energy from such coal, the value of such coal shall be determined by Lessor with reference to (in order of priority): (i) comparable arms-length contracts or other dispositions of like-quality coal produced in the same coal field; (ii) prices reported for that coal to a public utility commission; (iii) prices reported to other governmental agencies; or (iv) other relevant information.

6.2 Allowable Deductions. It is expressly understood and agreed that none of Lessee's mining or production costs, including but not limited to costs for materials, labor, overhead, distribution, transportation within the mine permit area prior to the point of sale, loading, crushing, sizing, screening, or general and administrative activities, may be deducted in computing Lessor's royalty. All such costs shall be entirely borne by Lessee and are anticipated by the rate of royalty set forth in this Lease. In the event that the point of sale for coal produced from this Lease is located outside the mine permit area boundary, Lessee may deduct the reasonable, actual costs of transportation of such coal from the mine permit area boundary to the point of sale from gross proceeds in computing Lessor's royalty; provided, however, that transportation deductions for coal transported by Lessee, Lessee's affiliates, or by non-arm's-length contract are subject to review and modification by Lessor. Lessee shall be allowed to deduct its actual, reasonable washing and treatment costs from gross proceeds in computing Lessor's royalty; provided, however, that, upon Lessor's request Lessee shall provide to Lessor appropriate justification to demonstrate that Lessee's costs are reasonable.

6.3 Reference to Federal Regulations. It is the intent of Lessor and Lessee that the calculation of the value of coal for royalty purposes be consistent with federal coal regulations governing the valuation of coal, except where this Lease expressly provides otherwise. In no event shall the value of coal used for calculation of royalties under this Lease be less than the value which would be obtained were federal royalty valuation regulations applied.

6.4 Royalty Payment. For all coal severed and removed from the Leased Premises that is used, sold, transported or otherwise disposed of during a particular month, Lessee shall pay royalties to Lessor on or before the end of the next succeeding month. Royalty payments shall be accompanied by a verified statement, in a form approved by Lessor, stating the amount of coal sold or otherwise disposed of, the gross proceeds accruing to Lessee, the calculation of allowable deductions, and any other information reasonably required by Lessor to verify production and disposition of the coal or coal products. In the event that Lessee uses or disposes of coal pursuant to a non-arm's-length contract, or uses coal for generation of electricity or for gasification, liquefaction, in situ processing, or other method of extracting energy from such coal, Lessee shall notify Lessor of such use or disposal on or before the end of the next succeeding month following such use or

disposal, and shall pay royalties upon Lessee's good faith estimate of the value of such coal, subject to Lessor's right to determine the value of such coal pursuant to paragraph 6.1, Production Royalties. On or before the royalty due date each month Lessee shall also submit to Lessor a detailed mining report of such production telling and mapping the coal tonnages extracted from the mine, whether sold or stockpiled, and the exact locations within the mine from which such tonnages were extracted. Production tonnages shall be determined by volumetric measurements within the mine and shall be verified by belt-scale weighing of the production coming out of the mine.

6.5 Suspension, Waiver or Reduction of Rents or Royalties. Lessor, to the extent not prohibited by applicable law, is authorized to waive, suspend, or reduce the rental or minimum royalty, or reduce the royalty applicable with respect to the entire Lease, whenever in Lessor's sole judgment it is necessary to do so in order to promote development, or whenever in the Lessor's sole judgment the Lease cannot be successfully operated under the terms provided herein.

7. RECORDKEEPING; INSPECTION; AUDITS.

7.1 Registered Agent; Records. Lessee shall maintain a registered agent within the State of Utah to whom any and all notices may be sent by Lessor and upon whom process may be served. Lessee shall also maintain an office within the State of Utah containing originals or copies of all maps, engineering data, permitting materials, books, records or contracts (whether such documents are in paper or electronic form) generated by Lessee that pertain in any way to coal production, output and valuation; mine operations; coal sales and dispositions; transportation costs; and calculation of royalties from the Leased Premises. Lessee shall maintain such documents for at least seven years after the date of the coal production to which the documents pertain.

7.2 Inspection. Lessor's employees and authorized agents at Lessor's sole risk and expense shall have the right to enter the Leased Premises to check scales as to their accuracy, and to go on any part of the Leased Premises to examine, inspect, survey and take measurements for the purposes of verifying production amounts and proper lease operations. Upon reasonable notice to Lessee, Lessor's employees and authorized agents shall further have the right to audit, examine and copy (at Lessor's expense) all documents described in paragraph 7.1, Registered Agent; Records, whether such documents are located at the mine site or elsewhere. Lessee shall furnish all conveniences necessary for said inspection, survey, or examination; provided, however, that such inspections shall be conducted in a manner that is in conformance with all applicable mine safety regulations and does not unreasonably interfere with Lessee's operations.

7.3 Geologic Information. In the event Lessee conducts core-drilling operations or other geologic evaluation of the Leased Premises, Lessor may inspect core

samples, evaluations thereof, and proprietary geologic information concerning the Leased Premises. Upon receiving written request from Lessor, Lessee shall provide Lessor with a copy of drill logs, geotechnical analysis, and geological reports pertaining to the Leased Premises.

7.4 Confidentiality. Any and all documents and geologic data obtained by Lessor through the exercise of its rights as set forth in paragraphs 7.2, Inspection., and 7.3, Geologic Information., may be declared confidential information by Lessee, in which event Lessor and its authorized agents shall maintain such documents and geologic data as protected records under the Utah Governmental Records Access Management Act or other applicable privacy statute and shall not disclose the same to any third party without the written consent of Lessee, the order of a court of competent jurisdiction requiring such disclosure, or upon termination of this Lease.

8. USE OF SURFACE ESTATE.

8.1 Lessor-Owned Surface. If Lessor owns the surface estate of all or some portion of the Leased Premises, by issuance of this Lease the Lessee has been granted the right to make use of such lands to the extent reasonably necessary and expedient for the economic operation of the leasehold. Lessee's right to surface use of Lessor-owned surface estate shall include the right to subside the surface. Such surface uses shall be exercised subject to the rights reserved to Lessor as provided in paragraph 2, RESERVATIONS TO LESSOR, and without unreasonable interference with the rights of any prior or subsequent lessee of Lessor.

8.2 Split-Estate Lands. If Lessor does not own the surface estate of any portion of the Leased Premises, Lessee's access to and use of the surface of such lands shall be determined by applicable law governing mineral development on split-estate lands, including without limitation applicable statutes governing access by mineral owners to split estate lands, and reclamation and bonding requirements. Lessee shall indemnify, defend and hold Lessor harmless for all claims, causes of action, damages, costs and expenses (including attorney's fees and costs) arising out of or related to damage caused by Lessee's operations to surface lands or improvements owned by third parties.

9. APPLICABLE LAWS AND REGULATIONS; HAZARDOUS SUBSTANCES.

9.1 State of Utah and Trust Lands Statute and Regulations. This Lease is issued pursuant to Title 53C, Utah Code Annotated, 1953, as amended, and Lessee is subject to and shall comply with all current and future rules and regulations adopted by the School and Institutional Trust Lands Administration and its successor agencies.

9.2 Other Applicable Laws and Regulations. Lessee shall comply with all applicable federal, state and local statutes, regulations, and ordinances, including without limitation the Utah Coal Mining and Reclamation Act, applicable statutes and regulations relating to mine safety and health, and applicable statutes, regulations and ordinances relating to public health, pollution control, management of hazardous substances and environmental protection.

9.3 Hazardous Substances. Lessee or other occupant pursuant to any agreement authorizing mining] shall not keep on or about the premises any hazardous substances, as defined under 42 U.S.C. Section 9601(14) or any other Federal environmental law, any regulated substance contained in or released from any underground storage tank, as defined by the Resource Conservation and Recovery Act, 42 U.S.C. Section 6991, *et seq,* or any substances defined and regulated as "hazardous" by applicable State law, (hereinafter, for the purposes of this Lease, collectively referred to as "Hazardous Substances") unless such substances are reasonably necessary in Lessee's mining operations, and the use of such substances or tanks is noted and approved in the Lessee's mining plan, and unless Lessee fully complies with all Federal, State and local laws, regulations, statutes, and ordinances, now in existence or as subsequently enacted or amended, governing Hazardous Substances. Lessee shall immediately notify Lessor, and any other Federal, State and local agency with jurisdiction over the Leased Premises, or surface thereof, or contamination thereon, of (i) all reportable spills or releases of any Hazardous Substance affecting the Leased Premises, (ii) all failures to comply with any applicable Federal, state or local law, regulation or ordinance governing Hazardous Substances, as now enacted or as subsequently enacted or amended, (iii) all inspections of the Leased Premises by, or any correspondence, order, citations, or notifications from any regulatory entity concerning Hazardous Substances affecting the Leased Premises, (iv) all regulatory orders or fines or all response or interim cleanup actions taken by or proposed to be taken by any government entity or private Party concerning the Leased Premises.

9.4 Hazardous Substances Indemnity. Lessee or other occupant pursuant to any agreement authorizing mining shall indemnify, defend, and hold harmless Lessor, its agencies, employees, officers, and agents with respect to any and all damages, costs, liabilities, fees (including attorneys' fees and costs), penalties (civil and criminal), and cleanup costs arising out of or in any way related to Lessee's use, disposal, transportation, generation, sale or location upon or affecting the Leased Premises of Hazardous Substances, as defined in paragraph 9.3 of this Lease. This indemnity shall extend to the actions of Lessee's employees, agents assigns, sublessees, contractors, subcontractors, licensees and invitees. Lessee shall further indemnify, defend and hold harmless Lessor and the United States from any and all damages, costs, liabilities, fees (including attorneys' fees and costs), penalties (civil and criminal), and cleanup costs arising out of or in any way

related to any breach of the provisions of this Lease concerning Hazardous Substances. This indemnity is in addition to, and in no way limits, the general indemnity contained in paragraph 16.1 of this Lease.

9.5 Waste Certification. The Lessee shall provide upon abandonment, transfer of operation, assignment of rights, sealing-off of a mined area, and prior to lease relinquishment, certification to the Lessor that, based upon a complete search of all the operator's records for the Lease, and upon its knowledge of past operations, there have been no reportable quantities of hazardous substances as defined in 40 Code of Federal Regulations Section 302.4, or used oil as defined in Utah Administrative Code R315-15, discharged (as defined at 33 U.S.C. Section 1321(a)(2)), deposited or released within the Leased Premises, either on the surface or underground, and that all remedial actions necessary have been taken to protect human health and the environment with respect to such substances. Lessee shall additionally provide to Lessor a complete list of all hazardous substances, hazardous materials, and their respective Chemical Abstracts Service Registry Numbers, and oil and petroleum products used or stored on, or delivered to, the Leased Premises. Such disclosure will be in addition to any other disclosure required by law or agreement.

10. BONDING.

10.1 Lease Bond Required. At any time after this Lease is executed, if requested by the Lessor, Lessee shall execute and file with the Lessor a good and sufficient bond or other financial guarantee acceptable to Lessor in order to: (a) guarantee Lessee's performance of all covenants and obligations under this Lease, including Lessee's obligation to pay royalties; and (b) ensure compensation for damage, if any, to the surface estate and any surface improvements. The form of the Lease Bond shall be as prescribed or approved as to form by Lessor. Lessee shall also satisfy all reclamation bonding requirements of the Utah Division of Oil, Gas and Mining ("UDOGM") in connection with the issuance of a mine permit which includes the Leased Premises.

10.2 Reclamation Bonding. The bond filed with the Utah Division of Oil, Gas and Mining ("UDOGM") in connection with the issuance of a mine permit which includes the Leased Premises shall be deemed to satisfy Lessor's bonding requirements with respect to Lessee's reclamation obligations under this Lease; provided, however, upon notice to Lessee and a public hearing with respect to the basis for its decision, the Lessor may, in its reasonable discretion, determine that the bond filed with UDOGM is insufficient to protect Lessor's interests. In such an event the Lessor shall enter written findings as to the basis for its calculation of the perceived insufficiency and enter an order establishing the amount of additional bonding required. Lessee shall file any required additional bond with Lessor within thirty (30) days after demand by Lessor. Lessor may increase or

decrease the amount of any additional bond from time to time in accordance with the same procedure.

10.3 Release of Additional Bond. Any additional bond required by Lessor pursuant to 10.2, Reclamation Bonding, may be released by Lessor at any time and shall be released no later than the time of final bond release by UDOGM with respect to the Leased Premises.

11. WATER RIGHTS.

11.1 Water Rights in Name of Lessor. If Lessee files to appropriate water for coal mining operations on the Leased Premises, the filing for such water right shall be made by Lessee in the name of Lessor at no cost to Lessor, and such water right shall become an appurtenance to the Leased Premises, subject to Lessee's right to use such water right at no cost during the term of this Lease.

11.2 Option to Purchase. If Lessee purchases or acquires an existing water right for coal mining operations on the Leased Premises, Lessor shall have the option to acquire that portion of such water right as was used on the Leased Premises upon expiration or termination of this Lease. The option price for such water right shall be the fair market value of the water right as of the date of expiration or termination of this Lease. Upon expiration or termination of this Lease, Lessee shall notify Lessor in writing of all water rights purchased or acquired by Lessee for coal mining operations on the Leased Premises and its estimate of the fair market value of such water right. Lessor shall then have forty-five (45) days to exercise its option to acquire the water by payment to Lessee of the estimated fair market value. If Lessor disagrees with Lessee's estimate of fair market value, Lessor shall notify Lessee of its disagreement within the 45 day option exercise period. The fair market value of the water right shall then be appraised by a single appraiser mutually acceptable to both parties, which appraisal shall be final and not subject to review or appeal. If the parties cannot agree upon the choice of an appraiser, the fair market value of the water right shall be determined by a court of competent jurisdiction. Conveyance of any water right pursuant to this paragraph shall be by quit claim deed.

12. ASSIGNMENT OR SUBLEASE; OVERRIDING ROYALTIES.

12.1 Consent Required. Lessee shall not assign or sublease this Lease in whole or in part, or otherwise assign or convey any rights or privileges granted by this Lease, including, without limitation, creation of overriding royalties or production payments, without the prior written consent of Lessor. Any assignment, sublease or other conveyance made without prior written consent of Lessor shall have no legal effect unless and until approved in writing by Lessor. Exercise of any right with respect to the Leased Premises in violation of this provision shall constitute a default under this Lease.

12.2 Binding Effect. All of the terms and provisions of this Lease shall be binding upon and shall inure to the benefit of their respective successors, assigns, and sublessees.

12.3 Limitation on Overriding Royalties. Lessor reserves the right to disapprove the creation of an overriding royalty or production payment that would, in Lessor's reasonable discretion, constitute an unreasonable economic burden upon operation of the Lease. In exercising its discretion to disapprove the creation of an overriding royalty, Lessor shall consult with Lessee and any third parties involved and shall prepare findings to evidence the basis of its decision. Cumulative overriding royalties of 2% or less shall be deemed presumptively reasonable unless special circumstances are shown by Lessor to exist.

13. OPERATIONS.

13.1 Permitting. Before Lessee commences exploration, drilling, or mining operations on the Leased Premises, it shall have obtained such permits and posted such bonds as may be required under applicable provisions of the Utah Coal Mining and Reclamation Act, the Surface Mining Control and Reclamation Act, and associated regulations, together with applicable regulations of the surface management agency. Lessee shall maintain any required permits in place for the duration of mining operations and reclamation. Upon request, Lessee shall provide Lessor with a copy of all regulatory filings relating to permitting matters.

13.2 Plan of Operations. Prior to the commencement of any underground mining operations on the Leased Premises, Lessee shall obtain Lessor's approval of a plan of operations for the Leased Premises. The plan of operations shall contain all information required to be contained in a federal Resource Recovery and Protection Plan, as described in 43 Code of Federal Regulations Section 3482.1(b) and (c) (1998). Lessor may modify the proposed plan of operations as is needed to insure that there is no waste of economically recoverable coal reserves contained on the Leased Premises. In this context "waste" shall mean the inefficient utilization of, or the excessive or improper loss of an otherwise economically recoverable coal resource. Lessor shall notify Lessee in writing of its approval or modifications of the plan of operations. The plan of operations submitted by Lessee shall be deemed approved by Lessor if Lessor has not otherwise notified Lessee within sixty (60) days of filing.

13.3 Plan of Operations - Modification. In the event that material changes are required to the plan of operations during the course of mining, Lessee shall submit a modification of the plan of operations to the Lessor. Routine adjustments to the plan of operations based upon geologic circumstances encountered during day-to-day mining operations do not require the submission of a modification. If the proposed changes require emergency action by Lessor, then the Lessee shall so notify the Lessor at the time of submission of the modification and the parties

shall use their best efforts to meet the Lessee's time schedule regarding implementation of the changes. Non-emergency modifications will be reviewed promptly by Lessor to insure that there is no waste of economically recoverable coal reserves pursuant to the plan of operations, as modified, and Lessor shall notify lessee in writing of its approval or modification of the proposed modification. Modifications shall be deemed approved by Lessor if Lessor has not otherwise notified Lessee within thirty (30) days of filing with Lessor.

13.4 Mine Maps. Lessee shall maintain at the mine office clear, accurate, and detailed maps of all actual and planned operations prepared and maintained in the manner prescribed by 43 Code of Federal Regulations Section 3482.3. Said maps shall be stamped and certified by a Professional Engineer or Professional Geologist with experience in coal mining. Lessee shall provide copies of such maps to Lessor upon request.

13.5 Good Mining Practices. Lessee shall conduct exploration and mining operations on the Leased Premises in accordance with standard industry operating practices, and shall avoid waste of economically recoverable coal. Lessee shall comply with all regulations and directives of the Mine Safety and Health Administration or successor agencies for the health and safety of employees and workers. Lessee shall further comply with the performance standards for underground resource recovery set forth at 43 Code of Federal Regulations Section 3484.1(c) (1998) if mining the coal underground; provided, however, that Lessor may waive such standards from time to time in its reasonable discretion, upon request by Lessee.

13.6 Mining Units. Lessor may approve the inclusion of the Leased Premises in a mining unit with federal, private or other non-state lands upon terms and conditions that it deems necessary to protect the interests of the Lessor, including without limitation segregation of production, accounting for commingled coal production, and minimum production requirements or minimum royalties for the Leased Premises.

14. EQUIPMENT; RESTORATION.

14.1 Equipment. Upon termination of this Lease, Lessee shall remove, and shall have the right to remove, all improvements, equipment, stockpiles, and dumps from the Leased Premises within six (6) months; provided, however, that Lessor may, at Lessor's sole risk and expense, and subject to Lessee's compliance with requirements imposed by UDOGM and MSHA, require Lessee to retain in place underground timbering supports, shaft linings, rails, and other installations reasonably necessary for future mining of the Leased Premises. All improvements and equipment remaining on the Leased Premises after six (6) months may be deemed forfeited to Lessor upon written notice of such forfeiture to Lessee. Lessee may abandon underground improvements, equipment of any type, stockpiles and dumps in place if such abandonment is in compliance with

applicable law, and further provided that Lessee provides Lessor with financial or other assurances sufficient in Lessor's reasonable discretion to protect Lessor from future environmental liability with respect to such abandonment or any associated hazardous waste spills or releases. Lessee shall identify and locate on the mine map the location of all equipment abandoned on the Lease Premises.

14.2 Restoration and Reclamation. Upon termination of this Lease, Lessee shall reclaim the Leased Premises in accordance with the requirements of applicable law, including mine permits and reclamation plans on file with UDOGM. Lessee shall further abate any hazardous condition on or associated with the Leased Premises. Lessee and representatives of all governmental agencies having jurisdiction shall have the right to re-enter the Leased Premises for reclamation purposes for a reasonable period after termination of the Lease.

15. DEFAULT.

15.1 Notice of Default; Termination. Upon Lessee's violation of or failure to comply with any of the terms, conditions or covenants set forth in this Lease, Lessor shall notify Lessee of such default by registered or certified mail, return receipt requested, at the last address for Lessee set forth in Lessor's files. Lessee shall then have thirty (30) days, or such longer period as may be granted in writing by Lessor, to either cure the default or request a hearing pursuant to the Lessor's administrative adjudication rules. In the event Lessee fails to cure the default or request a hearing within the specified time period, Lessor may cancel this Lease without further notice to or appeal by Lessee.

15.2 Effect of Termination. The termination of this Lease for any reason, whether through expiration, cancellation or relinquishment, shall not limit the rights of the Lessor to recover any royalties and/or damages for which Lessee may be liable, to recover on any bond on file, or to seek injunctive relief to enjoin continuing violations of the Lease terms. No remedy or election under this Lease shall be deemed exclusive, but shall, wherever possible, be cumulative with all other remedies available under this Lease, at law, or in equity. Lessee shall surrender the Leased Premises upon termination; however, the obligations of Lessee with respect to reclamation, indemnification and other continuing covenants imposed by this Lease shall survive the termination.

16. MISCELLANEOUS PROVISIONS.

16.1 Indemnity. Except as limited by paragraph 7.2, Inspection, Lessee shall indemnify and hold Lessor harmless for, from and against each and every claim, demand, liability, loss, cost, damage and expense, including, without limitation, attorneys' fees and court costs, arising in any way out of Lessee's occupation and use of the Leased Premises, including without limitation claims for death, personal injury, property damage, and unpaid wages and benefits. Lessee further

agrees to indemnify and hold Lessor harmless for, from and against all claims, demands, liabilities, damages and penalties arising out of any failure of Lessee to comply with any of Lessee's obligations under this Lease, including without limitation attorneys' fees and court costs. Lessee may be required to obtain insurance in a type and in an amount acceptable to Lessor, naming Lessor, its employees, its Board of trustees and the State of Utah as co-insured parties under the policy.

16.2 Interest. Except as set forth in paragraph 4, BONUS BID, interest shall accrue and be payable on all obligations arising under this Lease at such rate as may be set from time to time by rule enacted by Lessor, or the statutory contract rate, whichever is greater. Interest shall accrue and be payable, without necessity of demand, from the date each such obligation shall arise.

16.3 Suspension. In the event that Lessor in its reasonable discretion determines that suspension is necessary in the interests of conservation of the coal resource, or if Lessee has been prevented from performing any of its obligations or responsibilities under this Lease or from conducting mining operations by labor strikes, fires, floods, explosions, riots, any unusual mining casualties or conditions, Acts of God, government restrictions or orders, severe weather conditions, or other extraordinary events beyond its control, then the time for performance of this Lease by Lessee shall be suspended during the continuance of such acts which prevent performance, excepting any payments due and owing to Lessor.

16.4 Consent to Suit; Jurisdiction (i) Lessor and Lessee agree that all disputes arising out of this Lease shall be litigated only in the Third Judicial District Court for Salt Lake County, Utah; (ii) Lessee consents to the jurisdiction of such court; and (iii) Lessee shall not bring any action against Lessor without exhaustion of available administrative remedies and compliance with applicable requirements of the Utah Governmental Immunity Act.

16.5 No Waiver. No waiver of the breach of any provision of this Lease shall be construed as a waiver of any preceding or succeeding breach of the same or any other provision of this Lease, nor shall the acceptance of rentals or royalties by Lessor during any period of time in which Lessee is in default be deemed to be a waiver of such default.

16.6 Severability. The invalidity of any provision of this Lease, as determined by a court of competent jurisdiction, shall in no way affect the validity of any other provision hereof.

16.7 Entire Lease. This Lease, together with any attached stipulations, sets forth the entire agreement between Lessor and Lessee with respect to the subject matter of this Lease. No subsequent alteration or amendment to this Lease shall be binding upon Lessor and Lessee unless in writing and signed by each of them.

IN WITNESS WHEREOF, the parties have executed this Lease as of the date hereinabove first written.

THE STATE OF UTAH, acting by and through the SCHOOL AND INSTITUTIONAL TRUST LANDS ADMINISTRATION ("LESSOR")

DAVID URE, DIRECTOR

By: _____
THOMAS B. FADDIES
ASSISTANT DIRECTOR/MINERALS
School & Institutional Trust Lands Administration – LESSOR

APPROVED AS TO FORM:

SEAN D. REYES
ATTORNEY GENERAL

By: _____
Special Assistant Attorney General

Form Approved: 8/16/18

LESSEE: Utah American Energy, Inc.

By: Matthew C Efgm

Its: PRESIDENT / GM

STATE OF UTAH)
:
COUNTY OF SALT LAKE)

On the 1st day of October, 2018, personally appeared before me THOMAS B. FADDIES, the ASSISTANT DIRECTOR of Minerals of the School and Institutional Trust Lands Administration of the State of Utah (SITLA), who, his identity and position having been satisfactorily established to me, affirmed to me upon oath that the governing body of SITLA, has authorized him to execute the foregoing instrument, and did duly acknowledge in my presence having executed the same for the purpose stated therein.

Given under my hand and seal this 1st day of October, 2018.

My commission expires:

Aly Gold
Notary Public

ALY GOLD
Notary Public State of Utah
My Comm. Exp: June 18, 2019
Comm. Number: 683597

STATE OF Utah)
:
COUNTY OF Carbon)

On the 31st day of August, 2018, personally appeared before me Matthew Efaw, signer(s) of the above instrument, personally known to me, or whose identity has been satisfactorily established to me, who did duly acknowledge to me that (he) (she) (they) voluntarily executed the foregoing instrument for the purpose stated therein.

Given under my hand and seal this 31st day of August, 2018.

My commission expires: March 27, 2021

Linda Kerns
Notary Public

LINDA KERNS
NOTARY PUBLIC
STATE OF UTAH
COMMISSION # 693708
COMM.EXP.03-27-2021

STATE OF)
:
COUNTY OF)

On the _____day of _____, 20_____, personally appeared before me (name) _____ the (title) _____of (entity)_____and vesting, who, his/her identity and position having been satisfactorily established to me, affirmed to me upon oath that the governing body of said entity, has authorized him/her to execute the foregoing instrument, and did duly acknowledge in my presence having executed the same for the purpose stated therein.

Given under my hand and seal this_____day of_____, 20

My commission expires:

Notary Public

4813-1816-8420

APPENDIX B

DRILLING PLAN

Execution Plan for PBH-1 & PBH-2

Pre -Mobilization:

Boart will organize all equipment at their shop in Salt Lake City, Utah to mobilize to the job site. After the equipment is organized the crew and supervisor will meet with the management to hold a DEWOP to discuss the project so all employees going to the project are able to understand what the project entails. Once all equipment is all organized and the DEWOP is complete the crews will mobilize to the property with equipment to follow to be unloaded.

Mobilization:

The crews will drive the equipment to the project and will prepare to unload the semis that are set to arrive after the crews are at the property and do all their site training. When the trucks arrive, they will unload the equipment in a designated area to be mobilized up to the drill pad. The equipment will be loaded on the equipment to mobilize to the designated drill pad. During the process of moving the equipment from the designated yard to the drill site the equipment will travel on the maintained roads with the supplies to and from the drill location.

Site Setup:

The rig will be set up on the drill pad that has been cleared by the client along with all the needed support equipment. Once all the equipment is all set up, the crew will perform a safety inspection of the drill site and rectify any issues. The crew with the supervisor will ensure all policies are maintained and any environmental policies followed.

Drilling Monitor Wells:

With the site set up Boart will proceed to drill 14.75" borehole to set a 10" LCS blank casing. The 14.75" hole will be advanced until competent rock is encountered. The surface casing will then be installed and cemented into the borehole using tremie pipe. Use of the tremie pipe ensures there is a bottoms up seal of cement around the casing in the annulus. The cement grout will consist of a 94# sack of Portland cement mixed with 5.2 gallons of water. Calcium chloride

will be added to the cement mixture prior to pumping it down the tremie pipe. The cement will be allowed to harden for 24 hours before drilling the remainder of the hole to TD. After the cement is allowed to cure Boart will trip the tooling into the bottom of the casing to drill an 8" borehole using a conventional rotary hammer. The hammer will be utilized to advance the borehole until close proximity to the coal seam is obtained. The geologist will inform Boart of the location of the seam and aid in distinguishing when they are close according to formation and depth. At this point the hammer will be tripped out and Boart will trip in a 20' conventional coring tube to core the top of the coal seam, the main coal seam and the floor of the coal seam. The conventional core tube will then be tripped out of the borehole and hammer will be tripped back in to continue the borehole to TD if ground formations allow. While drilling with the hammer the cuttings and water from the borehole will be placed in a containment tank and discharged to the location designated by the client. The cuttings will be separated from the water by using a shaker system on the tank to minimize solids in the discharge fluid. If drilling conditions in the borehole deteriorate, Boart will change from drilling with a hammer system to drilling with a tri-cone rotary bit. If hole conditions allow the total depth of the borehole will be drilled using a reverse circulation system using water and air. If hole conditions deteriorate Boart may switch to using a bentonite-based fluid system to drill the borehole to total depth. Boart will keep the client informed daily of depth and conditions of drilling the borehole. Once the drilling is completed the tooling will be pulled out of the borehole and the crews will set up to place the 2 3/8" well pipe in the borehole. The crew will first place a tremie pipe in the borehole to allow Boart to place the gravel and well seal with a bottoms up approach to ensure proper placement of the material in the desired location. The well pipe will then be placed in the borehole, consisting of a 20-foot-long screen and the rest will be blank pipe, until it is at the desired depth. Once the well pipe is landed the gravel will be placed around the screen area of the well pipe through the tremie pipe. After the gravel is placed in the borehole to the desired depth the seal will be placed from the top of the gravel pack to surface. The seal will consist of a layer of hydrated bentonite chips on top of the well gravel, bentonite grout from the top of the bentonite chips up to 50' from the surface ground level, then a cement seal from 50' to the surface. The well will then be cleaned and developed using a bailer or air pipe tripped into the well to circulate water out of the pipe through

the screen section of the well. Once the water is clean Boart will remove the drill equipment from the pad, while leaving a well head with a lockable cap on the well pipe. The site will be cleaned to its original condition before the rig was set up on the location. All debris and materials are removed from the drill location. The equipment will again be taken to a lay down area using the designated roads of travel.

8/22/2019

BOART LONGYEAR

Proposal for Drilling Services

Boart Longyear Drilling Services **2455 South 3600 West** **West Valley, UT 84119** **Phone: 801-973-6667** **Fax: 801-973-4572** www.boartlongyear.com	***Client:*** Utah American Energy ***Contact:*** Karin Madsen ***Email:*** kmadsen@coalsource.com ***Phone:*** (435) 888-4026 ***Cell:*** ***Date:*** 8/16/2019

PBH-1 Monitor Well

Item	Description	Qty	Unit Price	Unit	Total Price
1	Mobilization	1	[redacted]	Lump Sum	[redacted]
2	Set up / Tear down equipment on drill location	84	[redacted]	HR	[redacted]
3	Drill 14.75" Surface borehole	40	[redacted]	LF	[redacted]
4	Furnish & Install 10" casing	40	[redacted]	LF	[redacted]
5	Cement seal for surface	27	[redacted]	CUFT	[redacted]
6	Drill 8" - 6 3/4" bore hole 40-975'	935	[redacted]	LF	[redacted]
7	Furnish and Install 2 3/8" Blank flush thread pipe	950	[redacted]	LF	[redacted]
8	Furnish and Install 2 3/8" flush thread screen	20	[redacted]	LF	[redacted]
9	Gravel pack well	15	[redacted]	CF	[redacted]
10	Bentonite grout and cement seal	290	[redacted]	CF	[redacted]
11	Well Development Using Drill Rig	18	[redacted]	HR	[redacted]
12	Per diem for 3 man crew per shift	19	[redacted]	Shift	[redacted]
13	Water truck if needed	14	[redacted]	HR	[redacted]
14	Tipr out / Core coal seam / Trip out	18	[redacted]	HR	[redacted]
62	Demobilization of Drilling Equipment	1	[redacted]	Lump Sum	[redacted]
				Estimated Total	[redacted]

Additional Rig Rates:			
	Rig Operating Rate for Additional Work (Non Drilling)	Per Hour	[redacted]
	Rig and Crew Standby Delays	Per Hour	[redacted]
	Low Penetration Rate	Per Hour	

Scope of Work:

Drill 1 monitor well with 2 3/8" pipe to 1,740'

Equipment and Approach:

DH or LR120 drill rig with all equipment to drill RC and DTFR

Schedule and Crew:

20/10

Exclusions:	
1	Access road to drilling location, drilling pad construction, site prep and restoration.
2	Transportation or disposal of cuttings and drilling fluids off site.
3	Delays out of the control of the driller
4	Repair of damage to unmarked utilities
5	Unspecified obstruction drilling (i.e.: footings, foundations etc.)
6	Drilling water supply
7	Union or prevailing/Davis Bacon wages
8	Performance and payment bonds
9	Re-drilling of bore holes due to caving or collapsed formations
10	Any additional work not explicitly included in bid proposal
11	Traffic control measures
12	Noise Control (i.e.: sound panels or blankets)
13	Permits or licenses (i.e.: traffic control, encroachment, discharge, erosion control, etc.)

Assumptions:	
1	Work has been bid based upon the information provided to BLY with the following exclusions listed above. Work will be billed based upon the **actual quantities performed** in accordance with the above provided unit rates.

8/22/2019

BOART LONGYEAR

2	Level drill pad 150' X 150' with access, adequate for 2WD rubber tired equipment accompanied by nearby staging area for semi truck deliveries and material storage, to be provided by client.
3	Drilling spoils and all fluids generated will be discharged to sumps or containers provided by others
4	An adequate water supply (2" line) will be provided at or near the drill site by the client at no expense to BLY.
5	If water is not available onsite BLY can provide water hauling services at the rate of $85/HR
6	All shift delays required for items such as insufficient access, water level measurements or client requested safety training/pauses, including all inclement weather etc. will be charged at the standby hourly rate
7	Any re-drilling, hole conditioning or extra tripping of boreholes required will be charged at the provided rig hourly rate, plus unanticipated drilling consumables at cost plus 15%
8	Annular material quantities that exceed 120% of theoretical annulus volumes will be billed at provided unit rates or cost plus 15%, plus rig operating rate for installation
9	**Low Penetration Rate:** In the event borehole penetration (beyond conductor casing) drops below **XXX** feet minimum per shift, the hourly rig operating rate will be charged plus any consumables used at cost plus 15%
10	Fuel to be provided by **Boart Longyear.**
11	This proposal is subject to rig and crew availability and a site inspection. Neither party shall be bound by the terms of this proposal until a separate project specific agreement is executed.

Thank you for requesting this proposal from Boart Longyear Company. We look forward to the opportunity to work with you on this project.

Sincerely,

Mike Van Aacken
SLC Rotary Commercial Manager
Boart Longyear Company
Direct: 385-234-8356
MBL: 801-824-1598
mvanaacken@boartlongyear.com

8/22/2019

BOART LONGYEAR

Proposal for Drilling Services

Boart Longyear Drilling Services **2455 South 3600 West** **West Valley, UT 84119** **Phone: 801-973-6667** **Fax: 801-973-4572** www.boartlongyear.com	***Client:*** Utah American Energy ***Contact:*** Karin Madsen ***Email:*** kmadsen@coalsource.com ***Phone:*** (435) 888-4026 ***Cell:*** ***Date:*** 8/16/2019

PBH-2 Monitor Well

Item	Description	Qty	Unit Price	Unit	Total Price
1	Mobilization	1	[redacted]	Lump Sum	[redacted]
2	Set up / Tear down equipment on drill location	84	[redacted]	HR	[redacted]
3	Drill 14.75" Surface borehole	40	[redacted]	LF	[redacted]
4	Furnish & Install 10" casing	40	[redacted]	LF	[redacted]
5	Cement seal for surface	27	[redacted]	CUFT	[redacted]
6	Drill 8" - 6 3/4" bore hole 40-1740'	1655	[redacted]	LF	[redacted]
7	Furnish and Install 2 3/8" Blank flush thread pipe	1670	[redacted]	LF	[redacted]
8	Furnish and Install 2 3/8" flush thread screen	20	[redacted]	LF	[redacted]
9	Gravel pack well	15	[redacted]	CF	[redacted]
10	Bentonite grout and cement seal	530	[redacted]	CF	[redacted]
11	Well Development Using Drill Rig	24	[redacted]	HR	[redacted]
12	Per diem for 3 man crew per shift	28	[redacted]	Shift	[redacted]
13	Water truck if needed	24	[redacted]	HR	[redacted]
14	Trip Out / Core Coal Seam / Trip Out	18	[redacted]	HR	[redacted]
62	Demobilization of Drilling Equipment	1	[redacted]	Lump Sum	[redacted]
				Estimated Total	[redacted]

Additional Rig Rates:			
	Rig Operating Rate for Additional Work (Non Drilling)	Per Hour	[redacted]
	Rig and Crew Standby Delays	Per Hour	[redacted]
	Low Penetration Rate	Per Hour	

Scope of Work:

Drill 1 monitor well with 2 3/8" pipe to 1,740'

Equipment and Approach:

DH or LR120 drill rig with all equipment to drill RC and DTFR

Schedule and Crew:

20/10

Exclusions:	
1	Access road to drilling location, drilling pad construction, site prep and restoration.
2	Transportation or disposal of cuttings and drilling fluids off site.
3	Delays out of the control of the driller
4	Repair of damage to unmarked utilities
5	Unspecified obstruction drilling (i.e.: footings, foundations etc.)
6	Drilling water supply
7	Union or prevailing/Davis Bacon wages
8	Performance and payment bonds
9	Re-drilling of bore holes due to caving or collapsed formations
10	Any additional work not explicitly included in bid proposal
11	Traffic control measures
12	Noise Control (i.e.: sound panels or blankets)
13	Permits or licenses (i.e.: traffic control, encroachment, discharge, erosion control, etc.)

Assumptions:	
1	Work has been bid based upon the information provided to BLY with the following exclusions listed above. Work will be billed based upon the **actual quantities performed** in accordance with the above provided unit rates.

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2	Level drill pad 150' X 150' with access, adequate for 2WD rubber tired equipment accompanied by nearby staging area for semi truck deliveries and material storage, to be provided by client.
3	Drilling spoils and all fluids generated will be discharged to sumps or containers provided by others
4	An adequate water supply (2" line) will be provided at or near the drill site by the client at no expense to BLY.
5	If water is not available onsite BLY can provide water hauling services at the rate of $85/HR
6	All shift delays required for items such as insufficient access, water level measurements or client requested safety training/pauses, including all inclement weather etc. will be charged at the standby hourly rate
7	Any re-drilling, hole conditioning or extra tripping of boreholes required will be charged at the provided rig hourly rate, plus unanticipated drilling consumables at cost plus 15%
8	Annular material quantities that exceed 120% of theoretical annulus volumes will be billed at provided unit rates or cost plus 15%, plus rig operating rate for installation
9	**Low Penetration Rate:** In the event borehole penetration (beyond conductor casing) drops below **XXX** feet minimum per shift, the hourly rig operating rate will be charged plus any consumables used at cost plus 15%
10	Fuel to be provided by **Boart Longyear.**
11	This proposal is subject to rig and crew availability and a site inspection. Neither party shall be bound by the terms of this proposal until a separate project specific agreement is executed.

Thank you for requesting this proposal from Boart Longyear Company. We look forward to the opportunity to work with you on this project.

Sincerely,

Mike Van Aacken
SLC Rotary Commercial Manager
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