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# United States Department of the Interior



BUREAU OF LAND MANAGEMENT  
Utah State Office  
P.O. Box 45155  
Salt Lake City, UT 84145-0155  
<http://www.blm.gov>

IN REPLY REFER TO:  
3480  
(UT-923)  
U-63214, UTU-67939

JAN 30 2006

MaryAnn Wright, Associate Director, Mining  
Utah Division of Oil, Gas, & Mining  
P.O. Box 145801  
Salt Lake City, Utah 84114-5801

*Inquiry*  
*C/041/00820K*  
*C/007/0005*

Dear MaryAnn:

The Bureau of Land Management (BLM) has received two plans for coal exploration on Federal coal leases U-63214 and UTU-67939. Ark Land Company proposes to drill one exploration boring at the head of Quitcupah Canyon on U-63214, Sevier County, and four exploration borings in Winter Quarters and Woods Canyons on UTU-67939, Carbon County, this summer.

BLM is asking that you review the attached applications and determine if these warrant a permitting action or if these will be deferred to BLM for approval under 43 CFR 3480.

Should you have questions, or need additional information, please contact Gregg Hudson at 801-539-4040.

Sincerely,

James F. Kohler  
Chief, Solid Minerals Branch

Enclosures: (2)

cc: Steve Rigby (PFO)

File in: *C/0410002 Incoming*  
Refer to:  
 Confidential  
 Shelf  
 Expandable  
Date 01302006 For additional information

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JAN 31 2006  
DIV. OF OIL, GAS & MINING



Ark Land Company  
c/o Canyon Fuel Co., LLC  
Skyline Mines  
HC35Box 380  
Helper, Utah 84526  
435-448-2633

UTU-67939  
DEC 22 2005

Dec. 15, 2005

Mr. James Kohler  
Bureau of Land Management  
Utah State Office  
PO Box 45155  
Salt Lake City, Utah 84145-0155

Re: Application for Coal Exploration Plan Approval, Four Exploration Boreholes,  
Federal Lease UTU-67939

Dear Jim:

Ark Land Company, a subsidiary of Arch Coal, Inc. is submitting this application for coal exploration plan approval for four exploration boreholes to be drilled on Federal Lease UTU-67939 pursuant to 43 CFR 3482. The proposed exploration boreholes are located in Winter Quarters and Woods Canyons north of Arch Coal's Skyline Mine facility in Carbon County, Utah. Approval is sought to conduct coal exploration drilling and reclamation activities during the summer of 2006.

Five copies of the exploration plan that meet the requirements of 43 CFR 3482.1(a) are included.

Sincerely,

Mark Bunnell  
Geologist  
Attach.

File in:

- Confidential
- Shelf
- Expandable

Refer to Record No. 0013 Date 01/30/2006  
In CI 04/0002 Incoming  
for additional information

RECEIVED

JAN 31 2006

DIV. OF OIL, GAS & MINING

10/15/05  
10/15/05

**COAL EXPLORATION PLAN  
2006  
FOUR EXPLORATION BOREHOLES  
FEDERAL COAL LEASE UTU-67939  
WINTER QUARTERS CANYON  
Carbon County, Utah  
Manti-La Sal National Forest**

**Exploration Plan  
Dec. 2005**

**ARK LAND COMPANY  
A Subsidiary of Arch Coal Inc.**

## **Introduction**

Ark Land Company (a subsidiary of Arch Coal Inc.) is submitting this Exploration Plan on behalf of Canyon Fuel Company, LLC, Skyline Mine to the United States Bureau of Land Management (BLM) as required in 43 CFR 3482 in order to obtain approval to conduct coal exploration and reclamation activities during the summer of 2006. The type of exploration proposed is helicopter-assisted wireline core drilling. Four drill holes are proposed for drilling in coal managed by the BLM with surface management by the U.S. Department of Agriculture Forest Service on coal lease UTU-67939. Map 1 shows the location of the exploration areas.

The plan is formatted to address the specific requirements of 30 CFR Chapter VII Subchapters G and K and 43 CFR 3482, and, where applicable, those of the United States Forest Service (USFS), and the Utah Department of Oil, Gas and Mining (UDOGM). The U. S. Forest Service exploration stipulations are addressed in Appendix B. Requirements of the Utah Department of Oil, Gas and Mining (UDOGM) relative to the on-lease exploration plan are addressed in Appendix C.



**COAL EXPLORATION PLAN  
FEDERAL COAL LEASE  
UTU-67939**

**43 CFR 3482**

3482.1(a)(1) This exploration plan is submitted to the authorized officer to obtain approval to conduct exploration and reclamation activities. The exploration activities proposed are not considered casual use because some heavy equipment will be employed and minor surface disturbance will occur.

3482.1(a)(2) Five copies of this exploration plan are delivered to the authorized officer. This exploration plan honors the BLM and USFS conditions of the federal coal leases involved including protection of the coal resources and reclamation of the disturbed surface. Reclamation is an integral part of the exploration activities and will progress as contemporaneously as practical with the other exploration activities.

3482.1(a)(3)(i) The name, address and telephone number of the applicant are:

Ark Land Company  
C/o Skyline Mines  
HC 35 Box 380  
Helper, Utah 84526 (work) 435 448-2633

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

Mark Bunnell  
Ark Land Company  
C/o Skyline Mines  
HC 35 Box 380  
Helper, Utah 84526 (work) 435 448-2633

The lessee of record is:

Canyon Fuel Company  
225 N. 5th Str., Suite 900  
Grand Junction, CO 81501  
(970) 263-5130

3482.1(a)(3)(iii) 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:

Mark Bunnell  
Ark Land Company  
C/o Skyline Mines  
HC 35 Box 380  
Helper, Utah 84526  
(work) 435-448-2633 (home) 435-637-6690

At times a consulting geologist may act as representative of the applicant. The BLM, USFS and UDOGM will be notified of the consulting geologist's name and address if one is used.

3482.1(a)(3)(iii) The exploration area is generally located in east-central Utah 3 miles southwest of Scofield. Map 1 gives the location of drill sites and access routes. The drill sites are located on federal coal lease UTU-67939. The project is planned as a helicopter assisted drilling program. It will be conducted concurrently with drillholes G-05 through J-05 (Federal Exploration License U-82243). The only heavy equipment to be utilized will be a water truck and storage tanks to supply drill water located along existing roads on Trough Springs Ridge and Winter Quarters Rigde (Map 1); and possibly a road grader and gravel trucks as needed for maintenance of Forest Service access roads. Heavy Equipment access to the exploration area will generally be via Utah State Highway 264 and Forest Development Roads FDR 50221 and 53137 which traverse federal coal lease UTU-67939 on the Manti-La Sal National Forest. As required by the U.S. Forest Service, Ark Land Company will apply for a Special-Use Application (Form 2700-3) for drill sites and water tank/staging areas. Necessary road use permits will also be obtained prior to drilling.

No new access construction will be required since the sites will be helicopter assisted. Potential helicopter flight lines are shown on Map 2.

The proposed exploration area is located in or near tributary canyons to Winter Quarters Canyon (Map 1). The area lies within the Wasatch Plateau physiographic province. Winter Quarters Canyon drains eastward into Mud Creek near the town of Scofield. Topography in the area is mountainous with narrow ridges and deep canyons. Elevation ranges from approximately 9300 ft. to 8300 ft.

The exploration area is underlain by sedimentary rocks of late Cretaceous age. Two formations crop out in the area including the coal-bearing Blackhawk Formation and the overlying Price River Formation. At least two potentially mineable coal seams occur in the area including the Lower O'Connor A seam and the Flat Canyon (also called Woods Canyon) seam.

Strata in the area dip uniformly from 2 to 8 degrees west-northwest. Several faults have been identified in the area. A number of igneous dike zones are also projected in the exploration area.

Ark Land plans to wireline core drill through projected mineable coal horizons to at least 10 feet beneath the Flat Canyon seam. No water monitor wells are planned.

Vegetation in the exploration area occurs in the Mountain Brush and White Fir/Spruce plant communities. Winter Quarters Creek supports game fish. The exploration area is important habitat for raptors, elk, mule deer, cougar, bobcat, black bear, and small mammals. The area is habitat for a limited number of reptiles and amphibians.



Threatened and endangered species in the exploration area include Bald Eagles, Northern Goshawk, and Northern Three-toed Woodpecker. Exploration and reclamation activities will not occur during breeding and nesting periods nor within one half mile of known breeding and nesting areas unless otherwise approved. Bald Eagles may occasionally pass through the area during their winter migration. The Northern goshawk is a listed sensitive species that occurs in the project area. The goshawk has been observed during ground surveys, and two nests have been identified within the lease area in the past. During the 2002 summer drilling season, one active Northern goshawk nest was identified and a "no-fly zone" was identified. If that nest is active again during the 2006 drilling season, flight lines will be altered to honor the no-fly zone. No Northern Three-toed Woodpeckers have been observed during surveys. No other threatened or endangered or sensitive species of wildlife are present.

The Winter Quarters Lease EA (July 1995) states that "No known threatened, endangered, or sensitive plant species are known to occur on the proposed lease tract"; more specifically, there are no documented occurrences of threatened or endangered plant species in the area.

There are no known districts, sites, buildings, structures, or objects listed on, or eligible for listing on, the National Register of Historic Places in the proposed exploration area. There are known archeological resources located in the proposed exploration area but none are close to the proposed drill hole sites.

3482.1(a)(3)(iv)(A) The general method to be followed during drill hole exploration, reclamation and abandonment is: 1) transport drilling equipment into each site via helicopter, 2) set water tank on ridge above drill sites (map 1), 3) run 1 to 4 inch hdpe pipe from tank locations to each drill site using horses and/or helicopter assistance (map 1), 4) drill, log and plug each exploration drill hole, 3) remove drilling equipment via helicopter and reclaim the drill sites. No blasting will be done for road building or repair.

Drilling will be conducted by a contractor experienced in helicopter supported drilling. The drill is a diesel powered core rig mounted on skids. Drilling will utilize water and, as necessary, a biodegradable polymer drilling mud. The following support equipment will be required:

- 6 pickup trucks: stationed at staging area (normally not left overnight)
- 2 flatbed Fifthwheel-trailers for mobilization/de-mobilization of the drill rig
- 1 Lama (or equivalent) helicopter and support truck w/fuel trailer (daylight)
- 1 Doghouse trailer

The drill rig components and associated materials, tools and equipment will be transported by truck to the helicopter staging area indicated on Map 2. Tools and materials necessary for site preparation will be transported to the drill site by helicopter and/or horseback. Site preparation will include removal of dead-fall and brush as

necessary. Minor digging, using hand tools, may be necessary at some locations to achieve effective placement of leveling support materials (wood blocks, etc). Brattice, pit liner, or other similar material will be placed on the ground beneath the drill rig. The rig will be transported to the site by helicopter in several "lifts". The drill rig components will then be assembled at the drill site, the drill rig leveled and other necessary materials will be flown into the site.

A 1 to 4 inch diameter hdpe pipe will be run from the water tanks located as shown on Map 2 to each of the drill sites. This pipe will be fused at the staging area and dragged downhill to each site by hand, horseback and/or helicopter support. No clearing of vegetation will be necessary for placement of pipe.

During the drilling operation, water and drilling fluid will be recirculated to the extent possible. Any returned cuttings and other materials will be captured in a container at the drill site. Cuttings and unneeded drill core will be transported via helicopter to Skyline Mine's permitted waste rock site east of Scofield town (Map 1). Containment of possible fluid spills will be achieved by the use of brattice cloth or pit liner material, silt fence, and, if necessary, earthen berms. If spills occur, all affected materials will be removed from the site and disposed of at an approved location. If soil is removed during spill containment and cleanup, the site of the removal will be recontoured and seeded with the approved seed mixture.

Fuel and/or lubricating oil containers not stored in a truck will be placed on brattice, pit liner, or other acceptable ground cover at a site away from drainage channels and surrounded by pit liner, brattice, silt fence, earthen berm, or other acceptable containment structure. If spills occur, cleanup will be conducted as stated above.

Repair of Forest Development Roads may include hauling gravel to fill rough areas on the road as well as grading rutted areas with a grader. Drill site preparation and reclamation will be done with hand tools. Drill crews will access the drill sites from the staging locations on Winter Quarters or Granger Ridge (maps 1 & 2). To speed the drilling process and maximize helicopter efficiency, up to three sets of helicopter-portable rigs and crews may be utilized.

Core drilling will involve one to three helicopter portable skid-mounted wireline core drills; any necessary helicopter-portable drilling support equipment such as water tanks, pump, generator, etc; one 1500 gallon water truck to supply 2 frac tanks, one to two supply trailers at equipment staging areas; up to six pick-up trucks (parked at equipment/water tank staging areas, Map 2); helicopter-portable geophysical logging equipment; and one covered trailer (at equipment/water tank staging area, Map 2). The drilling procedure for the exploration holes will be to continuously core to total depth. Surface casing will be set in each hole as needed. Water will be hauled to the ridgetop water tanks from the Skyline Minesite. The company representative and geological consultant(s) will access the drill sites by helicopter, horseback, or on foot.

3482.1(a)(3)(iv)(B) Earth excavation for the drill sites will be minimal using hand tools only. Some minor leveling for placement of wood crib blocking for leveling of drill may be required. Minor amounts of topsoil that may be removed will be stored and replaced upon completion of drilling. No mud pits will be excavated. Portable mudtanks will be utilized. Cuttings will be stored and hauled away to the Skyline Mine waste rock site by helicopter upon completion of drilling.

3482.1(a)(3)(iv)(C) The exploration drill holes will be plugged with a cement or cement/bentonite slurry to their full depth. The completion method includes pulling surface casing when possible; but when not possible, cutting it flush with the ground; pumping the cement/bentonite slurry through the drill pipe starting at the bottom of the hole. Plugging will then be done in stages by tripping-out of the hole 3-4 joints (60-80 ft) and pumping again. This process will be repeated to the surface. A brass identification tag will be placed in the concrete at the top of the drill hole stating the operator's name, drill hole number and legal description. The plugged hole will be flush with the ground surface.

3482.1(a)(3)(iv)(D) All the drill holes will be nominal 3 3/16 inches in diameter. The estimated depths of the proposed drill holes and other drill hole information is given in the following table. Drill site acreage is estimated for a 8 ft X 12 ft pad.

Drill Hole	Location	Total Depth (ft)	Drill Site Acreage		
			Drill Site	Access Route	Total
A-06	NE, SE, 2, 13S, 6E	800	0.002		0.002
B-06	SE, NE, 2, 13S, 6E	800	0.002		0.002
C-06	SE, NE, 2, 13S, 6E	900	0.002		0.002
D-06	SE, NE, 34, 12S, 6E	1,500	0.002		0.002
	Total	4,000	0.008		0.008

3482.1(a)(3)(iv)(E) None of the holes are planned to be installed as water monitor wells.

3482.1(a)(3)(v) A time table for all exploration related activities is given below. It is anticipated that exploration activities will start as early as mid-June 2006. The only coal removed during exploration activities will be cores. Cores will be two inches in diameter. Assuming an average thickness of 9 ft for 3 coal seams per hole, less than 200 pounds of coal will be removed.

EVENT	WEEK											
	1	2	3	4	5	6	7	8	9	10	11	12
Set pumps, frac tanks and Run water lines to sites												
Core Drilling												
Reclaim drill sites and Remove water lines												

3482.1(a)(3)(vii) The measures to be used during exploration activities to comply with the performance standards of 43 CFR 3484.1(a) are given in Appendix A; those of the surface management agency (USFS) are given in Appendix B; and those of the approved state program (UDOGM) are given in Appendix C.

3482.1(a)(3)(viii) Map 1 is a general location map of the exploration area. This map shows existing roads, proposed access routes and drill hole locations, federal coal lease boundaries, existing bodies of surface water and topographic and drainage features. There are no occupied dwellings or pipelines located in the exploration area. No trenches will be dug, no structures constructed, and no debris disposed of in the exploration area. Projected helicopter flight lines are shown on Map 2.

3482.1(a)(3)(ix) The owner of record of the surface land is the United States and is administered by the United States Forest Service, Manti-La Sal National Forest.

3482.1(a)(3)(x) At this time the authorized officer has not asked for additional data.

## APPENDIX A

43 CFR 3484

3484.1(a)(1) The standards of the rules of this part are given in the following sections of this Appendix A.

3484.1(a)(2) The lands on which exploration activities will occur are not valuable nor prospectively valuable for oil, gas, or geothermal resources. The drill holes proposed will not be drilled to depths or formations where oil, gas, or geothermal resources have been encountered in this area or could be encountered.

3484.1(a)(3) All drill holes will be plugged as previously described in the reply to section 3482.1(a)(3)(iv)(C). The BLM will be notified of when plugging will begin. Water pollution potential will be minimized by keeping pollutants in their containers and away from the drill hole. Materials used during drilling operations will be selected to be as non-polluting as possible. All spills of polluting materials will be removed from the area and properly disposed of.

No mixing of surface and ground waters will occur due to abandonment by plugging.

Mud tanks, when used, will be constructed to hold all drilling fluids and cuttings. If cuttings are removed from the tank for temporary storage, they will be placed on pit liner material to prevent contact with soils. Portable containers will be used for any drilling fluids. All cuttings will be hauled off U.S. Forest Service land and disposed of properly.

3484.1(a)(4) Canyon Fuel Company will retain all drill and geophysical logs for at least one year and will make them available for inspection and analysis by the authorized officer. All drill cores through critical coal zones will be retained for at least one year.

3484.1(a)(5) None of the four holes are planned to be completed as water monitor wells due to small hole diameter and limited rig capacity.

## APPENDIX B

The surface management agency is the U. S. Forest Service, Manti-La Sal National Forest. This Appendix includes exploration requirements from the Forest Service as stipulations with Ark Land's response or action and other Forest Service requirements. The exploration stipulations come from the Manti-La Sal National Forest Land and Resource Management Plan (1986) and those applicable stipulations from the Special Coal Lease Stipulations attached to federal coal lease UTU-67939. Other Forest Service requirements are addressed at the end.

### Coal Drilling Permit Stipulations

1. Before undertaking activities that may disturb the surface of previously undisturbed leased lands, the Lessee may be required to conduct a cultural resource inventory and a paleontological appraisal of the areas to be disturbed. These studies shall be conducted by qualified professional cultural resource specialists or qualified paleontologists, as appropriate, and a report prepared itemizing the findings. A plan will then be submitted making recommendations for the protection of, or measures to be taken to mitigate impacts, for identified cultural or paleontological resources.

If cultural resources or paleontological remains (fossils) of significant scientific interest are discovered during operations under this lease, the Lessee, prior to disturbance shall immediately bring them to the attention of the appropriate authority. Paleontological remains of significant scientific interest do not include leaves, ferns, or dinosaur tracks commonly encountered during underground mining operations.

The cost of conducting the inventory, preparing reports, and carrying out mitigating measures shall be borne by the Lessor.

Response/Action - Ark Land will have a cultural resource inventory and paleontological appraisal done by a third party contractor in the early summer of 2003. The work will be done by a qualified contractor approved by the USFS. A plan will be submitted with recommendations for the protection of, or measures to be taken to mitigate impacts, should any cultural or paleontological resources be identified.

2. If there is reason to believe that Threatened or Endangered (T&E) species of plants or animals, or migratory bird species of high Federal interest occur in the area, the Lessee shall be required to conduct an intensive field inventory of the area to be disturbed and/or impacted. The inventory shall be conducted by a qualified specialist and a report of findings will be prepared. A plan will be prepared making recommendations for the protection of these species or action necessary to mitigate the disturbance.

Response/Action - If required, Ark Land will have field inventories done of threatened or endangered fauna and flora by a third party contractor in the early summer of 2005. The work will be done by qualified contractors approved by the USFS. A plan will be

submitted with recommendations for the protection of, or measures to be taken to mitigate impacts, should any threatened or endangered fauna or flora be found.

3. The cost of conducting the inventory, preparing reports, and carrying out mitigating measures shall be borne by the Lessor.

Response/Action - Ark Land will bear the cost of conducting the inventories, preparing reports, and carrying out any mitigating measures.

4. If removal of timber is required for clearing of construction sites, etc., such timber shall be removed in accordance with the regulations of the surface management agency.

Response/Action - Ark Land does not plan to remove timber.

5. Existing Forest Service owned or permitted surface improvements will need to be protected, restored, or replaced to provide for the continuance of current land uses.

Response/Action - Ark Land will improve the surface of Forest Development Roads as needed following the recommendations of the USFS. A final grading of any ruts or other damage will be made after all activities are completed. Cattle guard by-passes will be used by equipment when available and where not, heavy planks will be laid on the cattle guard before crossing with equipment. Stock watering ponds will not be used and otherwise will not be affected by the exploration and reclamation activities.

6. In order to protect big-game wintering areas, elk calving and deer-fawning areas, sage grouse strutting areas, and other key wildlife habitat and/or activities, specific surface uses outside the mine development area may be curtailed during specified periods of the year.

Response/Action - Ark Land will not conduct exploration and reclamation activities during periods specified by the USFS to protect wildlife habitat and/or activities.

7. A pre-work meeting including the responsible company representative(s), contractors, and the Forest Service will be conducted at the project location prior to commencement of operations. Site-specific Forest Service requirements will be discussed at this time.

Response/Action - Ark Land will hold a pre-work meeting with the responsible company representative(s), contractors, and the Forest Service at the project location prior to commencement of operations. Site-specific Forest Service requirements will be discussed at this time.

8. A Road-Use Permit will be obtained from the Forest Service before equipment is transported onto National Forest System lands.

Response/Action - Ark Land will obtain a Road Use Permit from the Forest Service before equipment is transported onto National Forest System lands.

9. The Forest Service will specify times and locations, if any, that exploration activities may not occur.

Response/Action - Ark Land will obey any times and locations specified by the Forest Service in which exploration activities may not occur.

10. All surface disturbing activities including reclamation will be supervised by a responsible representative of the permittee/licensee who is aware of the terms and conditions of the project permits and licenses. A copy of the appropriate permits and licenses must be available for review at the project site.

Response/Action - Ark Land will have an employee or representative who is aware of the terms and conditions of the project permits and licenses present during surface disturbing activities including reclamation.

11. The Forest Service must be notified 48 hours in advance that heavy equipment will be moved onto National Forest System lands and that surface disturbing activities will commence.

Response/Action - Ark Land will notify the Forest Service at least 48 hours in advance of the movement of heavy equipment onto National Forest System lands and of when surface disturbing activities will commence.

12. Establishment of campsites and staging areas on National Forest System lands in support of this project is subject to Forest Service approval.

Response/Action - Ark Land will request Forest service approval before establishing campsites or staging areas for this exploration project.

13. The Forest Service will be notified of any proposed alterations to the plan of operations. Any changes to the existing plan are subject to Forest Service review and concurrence.

Response/Action - Ark Land will notify the Forest Service of any proposed alterations to the plan of operations and will not make alterations to the plan until the Forest Service has reviewed and concurred with the change.

14. Fire suppression equipment will be available to all personnel working at the project site. Equipment will include at least one hand tool per crew member consisting of shovels and pulaskis and one properly rated fire extinguisher per vehicle and/or internal combustion engine.

Response/Action - Ark Land or its contractors will provide fire suppression to all

personnel working at the project site, including at least one hand tool per crew member consisting of shovels and pulaskis and one properly rated fire extinguisher per vehicle and/or internal combustion engine.

15. All gasoline, diesel and steam-powered equipment will be equipped with effective spark arresters and mufflers. Spark arresters will meet Forest Service specifications discussed in the USDA Forest Service Spark Arrester Guide, June, 1981. In addition, all electrical equipment will be properly insulated to prevent sparks.

Response/Action - Ark Land will ensure that all gasoline, diesel and steam-powered equipment is equipped with effective spark arresters and mufflers meeting USDA Forest Service Spark Arrester Guide, June, 1981. Also, all electrical equipment will be properly insulated to prevent sparks.

16. The permittee/licensee will be held responsible for damage and suppression costs for fires started as a result of operations. Fires will be reported to the Forest Service as soon as possible.

Response/Action - Ark Land understands that it will be held responsible for damage and suppression costs for fires started as a result of operations. Fires will be reported to the Forest Service as soon as possible.

17. The Forest Service reserves the right to suspend operations during periods of high fire potential.

Response/Action - Ark Land will, at Forest Service request, suspend operations during periods of high fire potential.

18. Water needed in support of operations will be properly and legally obtained according to State Water Laws. The locations of diversion, if on National Forest System lands, is subject to Forest Service review and approval.

Response/Action - Ark Land will properly and legally obtain the water needed in support of operations according to State Water Laws prior to startup of drilling. Any diversions, if on National Forest System lands, will be reviewed and approved by the Forest Service. Water for exploration activities will be hauled from the Skyline minesite and/or pumped from Winter Quarters Creek. It is estimated that 0.5 acre-feet will be used for drilling and dust suppression.

19. There will be no unauthorized off-road vehicular travel.

Response/Action - Ark Land will ensure that no unauthorized off-road vehicular travel occurs.

20. Section corners or other survey markers, including claim corners, in the project area will be located and flagged for preservation prior to commencement of surface disturbing activities. The removal, displacement, or disturbance of markers will be

approved by the proper authority.

Response/Action - Ark Land will locate and flag any section corners, survey markers, and claim corners that are in areas of planned surface disturbance for preservation prior to commencement of surface disturbing activities. Any removal, displacement, or disturbance of markers will be approved by the proper authority.

21. If cultural or paleontological resources are discovered during operations, all operations which may result in disturbance to the resource will cease and the Forest Service will be notified of the discovery.

Response/Action - Ark Land will cease all operations should cultural or paleontological resources be discovered and the Forest Service will be notified of the discovery.

#### Pre-Work Stipulations

1. Gates will be kept closed unless otherwise notified.

Response/Action - Ark Land will keep all gates closed unless otherwise notified.

2. The permittee will be responsible for all damages to fences, cattle guards, resource improvements, roads, and other structures on National Forest system lands which result from operations. The Forest Service will be notified of damages as soon as possible.

Response/Action - Ark Land acknowledges responsibility for all damages to fences, cattle guards, resource improvements, roads, and other structures on National Forest system lands which result from operations. The Forest Service will be notified of damages as soon as possible.

3. All drilling fluids, muds, and cuttings will be contained on the project site in mud pits or portable containers. The pits will not be used for disposal of garbage, trash or other refuse.

Response/Action - Ark Land will contain all drilling fluids, muds, and cuttings in portable containers. Where these are not practical, drilling fluids, muds, and cuttings will be hauled off U.S. Forest Service land and disposed of properly. An MSDS will be provided the Forest Service for all drilling fluids and muds used. Garbage, trash or other refuse will be properly disposed of off U.S. Forest Service land.

#### Other Requirements

1. Vegetation, in the form of trees, grasses, forbs and sparse, low shrubs, will generally not be removed. However, it may be necessary to remove dead-fall and some "taller" shrubs and small aspen trees for safety reasons. This will be minimized as much as possible and will be accomplished with hand tools. Any dead-fall material that is

removed will be replaced upon completion of drilling. Minor amounts of topsoil may be removed for leveling of drill equipment and stockpiled at a location where loss and contamination will be minimized, preferably on the uphill side of the drill site. No mud pits will be excavated within the drill site area. Any small topsoil piles will have properly constructed silt fences placed on their down-hill sides.

2. The drill sites will be reclaimed at the completion of drilling. The drill sites will be reclaimed after the equipment is moved by replacing any minor amounts of topsoil that was removed for leveling and restoring to approximate original contour and hand raking. Seeding will be done with the specified seed mix. Any grubbed material will be distributed over the area. The estimated acreage disturbed by drilling is given in the reply to 43 CFR 3482.1(a)(3)(iv)(D).
3. Contaminated soil and gravel will be stripped and moved to an approved disposal site prior to reclamation.
4. Any disturbed drainages will be replaced to their approximate original configuration when the project area is reclaimed. At this time Ark Land does not plan to disturb any drainages.
5. All significant groundwater encountered during drilling will be reported to the Forest Service, including the depth and formation at which it was encountered, and an estimate of flow.
6. The permittee will clean-up all trash, garbage, and flagging and remove all drilling equipment and vehicles, and other such materials from National Forest System lands upon completion of exploration and reclamation operations.
7. All trash, garbage, and other refuse will be properly contained on the project site prior to disposal.
8. All drill holes to be plugged will be plugged in accordance with Federal and State regulations.
9. Exploration and reclamation operations will be coordinated with grazing permittees to prevent conflicts.
10. There will be no harassment of livestock and wildlife.
11. Drill pads will be constructed to contain all spills by laying a pitliner tarp on the topsoil and elevating the downhill edges of the tarp. Fluids will be properly disposed of off Forest Service lands.
12. The permittee will notify the USFS District Ranger of any artesian groundwater flows encountered prior to plugging the drill hole to determine whether or not the Forest Service would elect to establish a permanent water development at the site.

13. The permittee will be responsible for control of noxious weed infestations found to be a result of this exploration. All equipment coming into the exploration area from outside Utah will be steam cleaned to remove foreign seeds.
14. No timber will be removed during exploration and reclamation. Small trees will be removed at several locations on Forest Development Roads to make equipment access better.

#### Road Use Stipulations

1. Roads will not be used when they are wet and susceptible to major damage.
2. The permittee will be responsible for repair of damages to roads caused by its operations.
3. When possible, equipment will be transported to the exploration area on low-boy flat beds to avoid damage to road surfaces, cattle guards and culverts. Planks will be laid on cattle guards to distribute the weight of heavy equipment.
4. All traffic related to exploration and reclamation operations will maintain speeds commensurate with existing conditions.
5. Roads will be watered if dust becomes a problem or if excessive loss of material occurs.
6. Heavy equipment will not be transported in the exploration area during holiday weekends and the opening weekend of the regular big game hunting season. The Forest Service will specify the dates.

#### Stipulation for Lands of the National Forest System Under Jurisdiction of the Department of Agriculture

1. The permittee will comply with all the rules and regulations of the Secretary of Agriculture set forth at Title 36, Chapter II, of the Code of Federal Regulations governing the use and management of the National Forest System (NFS) when not inconsistent with the rights granted by the Secretary of the Interior in the permit. The Secretary of Agriculture's rules and regulations will be complied with for (1) all use and occupancy of the NFS prior to approval of a permit by the Secretary of the Interior, (2) uses of all existing improvements, such as Forest Service Development roads, within and outside the area permitted by the Secretary of the Interior, and (3) use and occupancy of the NFS not authorized by a permit approved by the Secretary of the Interior.

All matters related to this stipulation are to be addressed to:

Forest Supervisor

at: Manti-La Sal National Forest  
599 West Price River Drive  
Price, Utah 84501

telephone number: (801) 637-2817

who is the authorized representative of the Secretary of Agriculture.

## APPENDIX C

The proposed exploration plan qualifies as minor exploration as described in State of Utah Coal Mining Rules R645 section R645-200-122.

R645-201-221 to 225 Applicable parts of these stipulations were addressed in previous portions of this exploration plan.

R645-201-310 to 323.300 Requirements of these sections were addressed in previous portions of this exploration plan.

R645-201-323.400 The requirements of R645-202 will be met as follows -  
R645-202-100 This was addressed in a previous portion of this exploration plan.

R645-202-231 This was addressed in a previous portion of this exploration plan.

R645-202-232 No roads or other transportation facilities will be constructed. The regulations cited in this section are not applicable to this exploration plan because this is a helicopter drilling program.

R645-202-233 This was addressed in a previous portion of this exploration plan. During reclamation, any hand grubbed material will be distributed over the areas from which it was removed to enhance germination. Any topsoil that is removed for leveling purposes will be contained within silt fence.

R645-202-234 There will be no diversion of overland flows.

R645-202-235 The drill holes will be plugged which will be to preclude cross-connection. Impoundments will not be constructed.

R645-202-236 It is not anticipated that acid- or toxic-forming materials will be encountered during exploration because none have been encountered previously. Core samples taken from the 10 ft. interval above and below each minable coal seam will be analyzed for acid/toxic forming materials.

R645-202-241 This was addressed in a previous portion of this exploration plan.

R645-202-242 The method of revegetation described in a previous portion of this exploration plan is intended to encourage prompt revegetation and recovery of a diverse, effective, and permanent vegetative cover. The seed mix to be used is as follows (same mix approved in 2005):

### Seed Mix

		Pounds PLS/acre
Western Wheatgrass	Elymus smithii	2
Basin Wild Rye	Elymus cinereus	1
Intermediate Wheatgrass	Elymus hispidus	2
“Paiute” Orchardgrass	Dactylis glomeratus	2
Slender Wheatgrass	Elymus trachycaulum	2
Mountain Brome	Bromus carinatus	2
Perennial Ryegrass	Lolium perenne	1
Yellow Sweet Clover	Melilotus officianlis	1
“Rambler” Alfalfa	Medicago sativa	1
Lewis Flax	Linum lewisii	0.50
Small Burnet	Sanguisorbia minor	1

Prior to any seeding, the USFS will be consulted to ensure proper seed mixture.

The pure live seed (PLS) rating will be 99% containing a maximum of 1% weed none of which is noxious and only seed meeting the State Seed Act will be used. Certification tags will be retained by the permittee.

The vegetative cover resulting from this seed mix is considered capable of stabilizing the soil surface from erosion.

R645-202-243 This is addressed in a previous portion of this exploration plan.

R645-202-244 This is addressed in a previous portion of this exploration plan.

R645-201-323.500 This was addressed in a previous portion of this exploration plan.



Ark Land Company  
c/o Canyon Fuel Co., LLC  
Skyline Mines  
HC35Box 380  
Helper, Utah 84526  
435-448-2633

Dec. 6, 2005

Mr. James Kohler  
Bureau of Land Management  
Utah State Office  
PO Box 45155  
Salt Lake City, Utah 84145-0155

Re: Application for Coal Exploration Plan Approval, One Exploration Borehole, Federal Lease U-63214

Dear Jim:

Ark Land Company, a subsidiary of Arch Coal, Inc. is submitting this application for coal exploration plan approval for one exploration borehole to be drilled on Federal Lease U-63214 pursuant to 43 CFR 3482. The proposed exploration borehole is located at the head of Quitcupah Canyon north of Arch Coal's Sufco Mine facility in Sevier County, Utah. Approval is sought to conduct coal exploration drilling and reclamation activities during the summer of 2006.

Five copies of the exploration plan that meet the requirements of 43 CFR 3482.1(a) are included.

Sincerely,

Mark Bunnell  
Geologist  
Attach.

RECEIVED  
JAN 31 2006  
DIV. OF OIL, GAS & MINING

2005-12-29

**COAL EXPLORATION PLAN  
ONE EXPLORATION BOREHOLE  
FEDERAL COAL LEASE U-63214  
Quitcupah Canyon  
Sevier County, Utah  
Manti-La Sal National Forest**

**Exploration Plan  
Dec. 2005**

**ARK LAND COMPANY  
A Subsidiary of Arch Coal Inc.**

## **Introduction**

Ark Land Company (a subsidiary of Arch Coal Inc.) is submitting this Exploration Plan on behalf of Canyon Fuel Company, LLC, Sufco Mine to the United States Bureau of Land Management (BLM) as required in 43 CFR 3482 in order to obtain approval to conduct coal exploration and reclamation activities during the summer of 2006. The type of exploration proposed is wireline core drilling. One drill hole is proposed for drilling in coal managed by the BLM with surface management by the U.S. Department of Agriculture Forest Service on federal coal lease U-63214. Map 1 shows the location of the exploration areas.

The plan is formatted to address the specific requirements of 30 CFR Chapter VII Subchapters G and K and 43 CFR 3482, and, where applicable, those of the United States Forest Service (USFS), and the Utah Department of Oil, Gas and Mining (UDOGM). The U. S. Forest Service exploration stipulations are addressed in Appendix B. Requirements of the Utah Department of Oil, Gas and Mining (UDOGM) relative to the on-lease exploration plan are addressed in Appendix C.



**COAL EXPLORATION PLAN  
FEDERAL COAL LEASE  
UTU-63214**

**43 CFR 3482**

3482.1(a)(1) This exploration plan is submitted to the authorized officer to obtain approval to conduct exploration and reclamation activities. The exploration activities proposed are not considered casual use because heavy equipment will be employed and surface disturbance will occur.

3482.1(a)(2) Five copies of this exploration plan are delivered to the authorized officer. This exploration plan honors the BLM and USFS conditions of the federal coal leases involved including protection of the coal resources and reclamation of the disturbed surface. Reclamation is an integral part of the exploration activities and will progress as contemporaneously as practical with the other exploration activities.

3482.1(a)(3)(i) The name, address and telephone number of the applicant are:

Ark Land Company  
C/o Skyline Mines  
HC 35 Box 380  
Helper, Utah 84526 (work) 435 448-2633

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

Mark Bunnell  
Ark Land Company  
C/o Skyline Mines  
HC 35 Box 380  
Helper, Utah 84526 (work) 435 448-2633

The lessee of record is:

Canyon Fuel Company  
225 N. 5th Str., Suite 900  
Grand Junction, CO 81501  
(970) 263-5130

3482.1(a)(3)(iii) 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:

Mark Bunnell  
Ark Land Company  
C/o Skyline Mines  
HC 35 Box 380  
Helper, Utah 84526  
(work) 435-448-2633 (home) 435-637-6690

At times a consulting geologist may act as representative of the applicant. The BLM, USFS and UDOGM will be notified of the consulting geologist's name and address if one is used.

3482.1(a)(3)(iii) The exploration area is generally located in central Utah 10 miles northwest of Emery. Map 1 gives the location of the drill site and access routes. The drill site is located on federal coal lease U-63214. Heavy Equipment access to the exploration area will generally be via Forest Development Road FDR 007 which traverses federal coal leases SL-062583, U-47080, and U-63214 on both the Fishlake and Manti-La Sal National Forests. Access may also be obtained from FDR 044 which traverses federal coal lease U-76195 on the Manti-La Sal National Forest. Equipment capable of using the Link Canyon road may access the site on FDR 044 from the east.

The drill site (F-06) will be located adjacent to USFS road FDR 007 (Map 1). No road construction is planned.

Surface topography of the area is mountainous with some low rolling hills and deep drainages with elevations ranging from 7,500 ft to 9,400 ft. The major drainage in the area is Quitchupah Creek. Site F-06 is located near the head and along the north side of Quitchupah Canyon as shown on Map 1.

Rocks exposed in the exploration area belong to the Cretaceous age Blackhawk, Castlegate, and Price River Formations and the Cretaceous-Tertiary age North Horn Formation. The rock types are predominantly sandstone, siltstone, shale and coal. The major geologic feature in the exploration area is the escarpment created by the outcrop of the 200 ft thick Castlegate Sandstone.

Vegetation in the exploration area is comprised mostly of conifer timber and sage communities. The streams are not capable of supporting game fish. The exploration area is important habitat for raptors, elk, mule deer, cougar, bobcat, black bear, and small mammals. The area is habitat for a limited number of reptiles and amphibians.

Threatened and endangered species in the exploration area include sage grouse, bald eagle and peregrine falcon.

There are no known districts, sites, buildings, structures, or objects listed on, or eligible for listing on, the National Register of Historic Places in the proposed exploration area. There are known archeological resources located in the proposed exploration area but none are close to the proposed drill hole sites, seismic lines, or access routes.

3482.1(a)(3)(iv)(A) The general method to be followed during drill hole exploration, reclamation and abandonment is: 1) repair the Forest Development Roads where needed

and prepare the drill site, 2) wireline core drill, log and plug the exploration drill hole, 3) reclaim the drill site. No blasting will be done for site preparation. Repair of Forest Development Roads may include hauling gravel to fill rough areas on bedrock ledges and cover sandy areas on the road as well as grading rutted areas with a grader. Drill site preparation and reclamation will be done with a D-8 Cat dozer, and a trackhoe or rubber-tired backhoe. Equipment operators will use pick-up trucks for transportation.

Wireline core drilling will involve one truck-mounted 2000 ft. rated wireline core drill, two 3000 gallon water trucks, one or two auxiliary air compressor(s), two to three supply trailers, four pick-up trucks, a geophysical logging truck and one covered trailer. The drilling procedure for the exploration hole will be to continuously core drill from surface to approximately 10 ft. below the Lower Hiawatha seam. A mud tank system will provide proper hole stabilization as hole depths increase. The supply trailers will carry drill steels, coring equipment, drilling additives, cutting and welding equipment, a dog house and other supplies. Four pick-up trucks will be used by drillers to carry personnel, fuel and supplies. A 10,000 gal. frac tank may be placed at the drillsite for water storage. Due to drought conditions over the past few years, previous drilling projects in the area have shown that it is necessary to haul water from the streams at night and during the morning hours. By afternoon, stream flows may be too low to allow pumping. For this reason, water storage is important to allow continued drilling during afternoon and evening hours.

Water for site F-06 will be pumped from a 10,000 gal. storage tank via a temporary 2 to 3 inch hdpe water line at the north fork of Quitchumpah Creek or trucked from a location near Muddy Creek to the drill site. Water would be pumped using a diesel-powered triplex pump. The pump station would be completely contained with pit liner or brattice to ensure no possibility of soil contamination. The water line would be pulled in place and later removed in sections by pickup or ATV when adjacent to the existing road or by horseback when not adjacent to the road. The pump station and water line location are shown on map 2.



Water may be hauled from the North Fork and/or South Forks of Quitcupah Creek to the drill site or to a 10,000 gallon water (frac) storage tank or from a storage tank located near Muddy Creek (Map 2). The supply trailer will carry drill steels, coring equipment, drilling additives, cutting and welding equipment, a dog house and other supplies. Two pick-up trucks will be used by the drillers to carry personnel, fuel, and supplies and two pickup trucks will be used by the dirt contractor. The logging contractor will use a single axle 1 ton rated truck. The company representative and geological consultant will also use pick-up trucks for transportation. Equipment usage is tabulated as follows:

<b>Summary of Equipment Used in the Proposed Exploration License Area</b>				
<b><u>Phase</u></b>	<b><u>Equipment Type</u></b>	<b><u>Size or Capacity</u></b>	<b><u>Time in Area</u></b>	<b><u>Quantity</u></b>
Preparation	Equipment transport	20 ton	Brief	2
	Pickups, 4 wheel drive	½ to 1 ton	Constant	4
	Grader	D 14 Cat or similar	Brief	1
	Dozer	D 8 Cat or similar	Brief	1
Drilling	Wireline core rig	LS 244 or similar	Constant	1
	Water truck, small	1,500 gal	Constant	1
	Water truck, large	4,000 gal	Constant	2
	Pipe truck/transport	Semi, 40 ft flatbed	Constant	2
	Light plant, on trailer	5,000 watt	Constant	1
	Welder, on trailer	240 amp	Constant	1
	Tool trailer	2 ton	Constant	2
	Core trailer	2 ton	Constant	1
	Pickups, 4 wheel drive	½ to 1 ton	Constant	4
	ATV	1 person	Constant	3
	Geophysical logging truck	1 ton	Brief	1
Support	Pickups, 4 wheel drive	½ to 1 ton	Constant	4
	Track boom truck	D 8 Cat or similar	Constant	1
	Trackhoe	3 CY	Constant	1
	Backhoe	2 CY	Constant	1
	Frac tank with pump	18,000 gal	Constant	2
	Fuel truck/tank	2,000 gal	Constant	1
	Equipment transport	20 ton	Brief	2
	Triplex pump, skid mount	30 GPM	Constant	3
	Poly pipe winder, trailer	2,000 ft	Constant	1
	Boom truck, rear mount	3 ton	Constant	1
Reclamation	Equipment transport	20 ton	Brief	2
	Pickups, 4 wheel drive	½ to 1 ton	Constant	2
	Grader	D 14 Cat or similar	Brief	1
	Trackhoe	3 CY	Brief	1

<b>Estimated Frequency of Equipment Travel and Transport</b>			
<b>Phase</b>	<b>Equipment Type</b>	<b>Quantity</b>	<b>Number of Trips</b>
			<b>Per Week</b>
Preparation	Equipment transport	2	1
	Pickup, 4 wheel drive	4	28
	Grader	1	1
Drilling	Wireline core rig	1	1
	Pipe rod truck	2	1
	Tool trailer	2	1
	Core trailer	1	1
	Water truck, small	1	1
	Water truck, large	2	21
	Pickup, 4 wheel drive	4	28
	ATV	3	28
	Geophysical logging truck	1	1
Support	Equipment transport	1	1
	Pickup, 4 wheel drive	4	28
	Pickup and trailer combination	2	4
	Track boom truck	1	1
	Trackhoe	1	1
	Backhoe, rubber tired	1	1
	Frac tank with pump	2	1
	Fuel truck/tank	1	7
	Poly pipe winder	1	1
	Boom truck	1	1
Reclamation	Equipment transport	2	1
	Pickup, 4 wheel drive	2	14
	Grader	1	1
	Trackhoe	1	1

During the drilling operation, water and drilling fluid will be recirculated to the extent possible. Any returned cuttings and other materials will be captured in a container or in the mudpit at the drillsite. Cuttings and unneeded drill core that are not buried in the mudpit will be transported to Sufco Mine's permitted waste rock site along the Sufco haul-road to the south. Containment of possible fluid spills will be achieved by the use of brattice cloth or pit liner material, silt fence, and, if necessary, earthen berms. If spills occur, all affected materials will be removed from the site and disposed of at an approved location.

Fuel and/or lubricating oil containers not stored in a truck will be placed on the constructed drillsite. If stored off the drillsite, such containers will be placed on brattice, pit liner, or other acceptable ground cover at a site away from drainage channels and surrounded by pit liner, brattice, silt fence, or other acceptable containment structure. If

spills occur, cleanup will be conducted as stated above.

Repair of Forest Development Roads may include hauling gravel to fill rough areas on the road as well as grading rutted areas with a grader.

**3482.1(a)(3)(iv)(B)** Earth excavation will mostly be done for the drill site using a D-8 Cat. A track mounted backhoe and/or a rubber-tired backhoe may be used for construction of the mud pit. Excavation will include grubbing, removal and separate storage of the soil A horizon and, if needed, removal and separate storage of material below the soil A horizon to make a level drill site. Mud pits will be excavated in the material below the soil A horizon if there is sufficient soil depth. The only material disposed of at the drill sites will be cuttings and any drilling foam and/or mud which will be placed in the mud pits. Figure 1 one shows the planned drillpad construction layout.

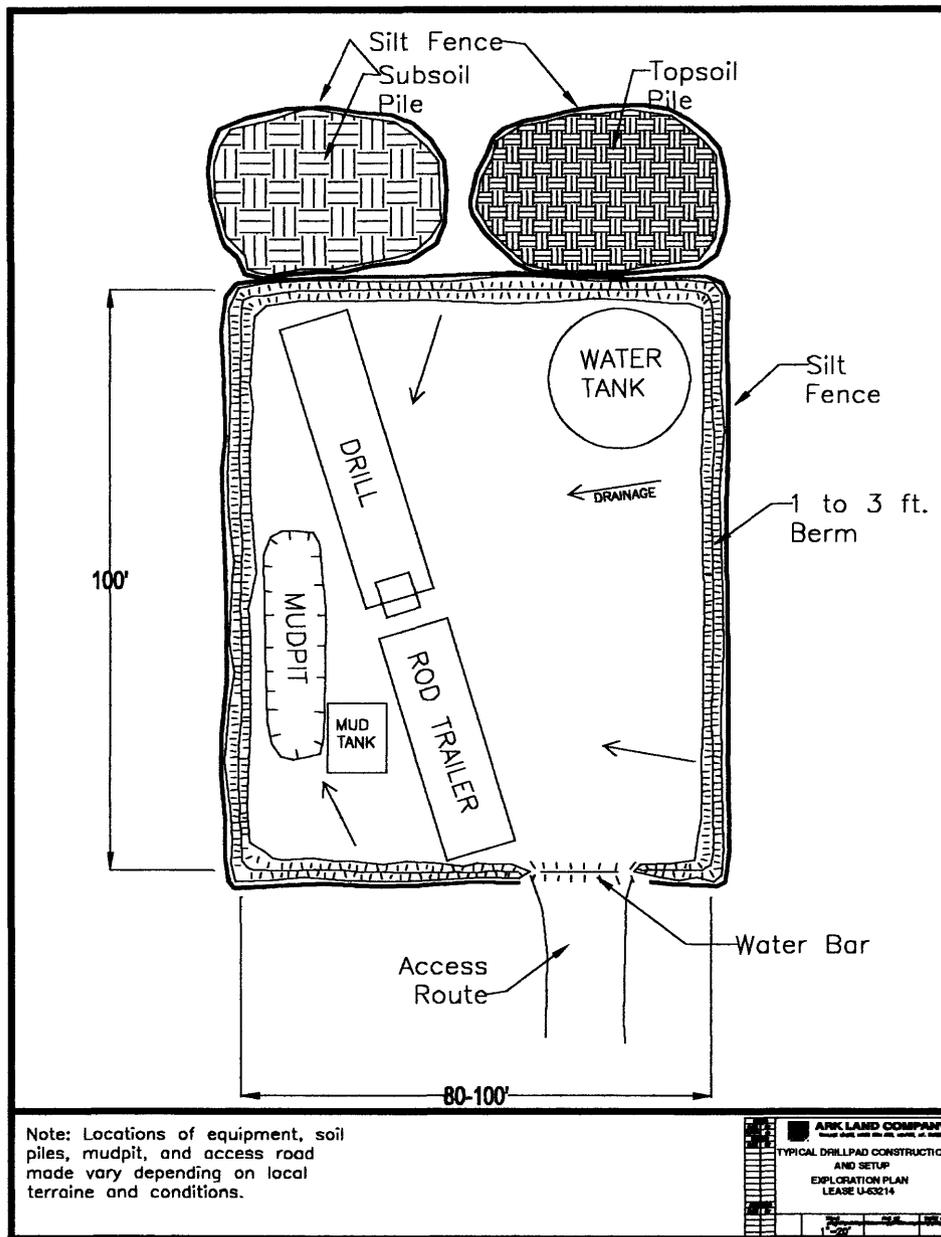


Figure 1. Typical drill pad construction and layout.

3482.1(a)(3)(iv)(C) The exploration drill hole will be plugged with a cement, cement/bentonite slurry, and/or holeplug to its full depth. The completion method includes pulling surface casing when possible; but when not possible, cutting it flush with the ground, then pumping or pouring the slurry through the drill pipe starting at the bottom of the hole. Plugging will then be done in stages by tripping-out of the hole 3-4 joints (60-80 ft) and pumping again. This process will be repeated to the surface. A brass identification tag will be placed in the concrete at the top of the drill hole stating the operator's name, drill hole number and legal description. The plugged hole will be flush with the ground surface.

Hole F-06 will not be completed as a water monitor well.

3482.1(a)(3)(iv)(D) The drill hole will be nominal 3.625 inches in diameter. The estimated depths of the proposed drill holes and other drill hole information is given in the following table. Drill site acreage is estimated for a 100 ft X 100 ft pad.

Drill Hole	Location	Total Depth	Disturbed Acreage		
		(ft)	Drill Site	Access Route	Total
F-06	SE NE, 13, 21S, 4E	1,100	0.23		0.23
	<b>Total</b>	<b>1,100</b>	<b>0.23</b>	<b>0.23</b>	<b>0.23</b>

3482.1(a)(3)(iv)(E) Borehole F-06 will not be completed as a piezometer (water monitoring) well.

3482.1(a)(3)(v) A time table for all exploration related activities is given below. It is anticipated that exploration activities will start as early as the first week of June 2006.

EVENT	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5
Prepare Forest Development Roads					
Prepare Drill Hole Site					
Core Drilling					
Reclaim Drill Hole Site					

The only coal removed during exploration activities will be core. Core will be three inches in diameter. Assuming an average thickness of 12 ft for the Upper Hiawatha coal seam and 10 ft for the Lower Hiawatha coal seam, less than 200 pounds of coal will be removed.

3482.1(a)(3)(vii) The measures to be used during exploration activities to comply with the performance standards of 43 CFR 3484.1(a) are given in Appendix A; those of the surface management agency (USFS) are given in Appendix B; and those of the approved state program (UDOGM) are given in Appendix C.

3482.1(a)(3)(viii) Two maps are included in this plan. The first (Map 1) is at a scale of 1:48,000 and is a general location and access map of the exploration area. The second map (Map 2) is at a scale of 1:36,000 and shows lands affected by the proposed exploration plan. This map shows existing roads, proposed access routes, drill hole location, and federal coal lease boundaries. It also shows the proposed location for obtaining water. Map 2 also shows the portion of Lease U-63214 that will be affected including existing bodies of surface water and topographic and drainage features. There are no occupied dwellings or pipelines located in the exploration area. No trenches will be dug, no structures constructed, and no debris disposed of in the exploration area.

3482.1(a)(3)(ix) The owner of record of the surface land is the United States and is administered by the United States Forest Service, Manti-La Sal National Forest.

3482.1(a)(3)(x) At this time the authorized officer has not asked for additional data.

## APPENDIX A

43 CFR 3484

3484.1(a)(1) The standards of the rules of this part are given in the following sections of this Appendix A.

3484.1(a)(2) The lands on which exploration activities will occur are not valuable nor prospectively valuable for oil, gas, or geothermal resources. The drill holes proposed will not be drilled to depths or formations where oil, gas, or geothermal resources have been encountered in this area or could be encountered.

3484.1(a)(3) The drill hole will be plugged as previously described in the reply to section 3482.1(a)(3)(iv)(C). The BLM will be notified of when plugging will begin. Water pollution potential will be minimized by keeping pollutants in their containers and away from the drill hole. Materials used during drilling operations will be selected to be as non-polluting as possible. All spills of polluting materials will be removed from the area and properly disposed of.

No mixing of surface and ground waters will occur due to abandonment by plugging.

Mud pits, when used, will be constructed to hold all drilling mud and foam. The pits will be surrounded by a field fence/barbed wire fence until dry and reclaimed. When mud pits cannot be constructed, portable containers will be used or the drilling mud, foam, and/or cuttings will be hauled off U.S. Forest Service land and disposed of properly.

3484.1(a)(4) Canyon Fuel Company will retain all drill and geophysical logs for at least one year and will make them available for inspection and analysis by the authorized officer. All drill cores through critical coal zones will be retained for at least one year.

3484.1(a)(5) The drillhole is not planned to be completed as water monitor well.

## APPENDIX B

The surface management agency is the U. S. Forest Service, Manti-La Sal National Forest. This Appendix includes exploration requirements from the Forest Service as stipulations with Ark Land's response or action and other Forest Service requirements. The exploration stipulations come from the Manti-La Sal National Forest Land and Resource Management Plan (1986) and those applicable stipulations from the Special Coal Lease Stipulations attached to federal coal lease UTU-63214. Other Forest Service requirements are addressed at the end.

### Coal Drilling Permit Stipulations

1. Before undertaking activities that may disturb the surface of previously undisturbed leased lands, the Lessee may be required to conduct a cultural resource inventory and a paleontological appraisal of the areas to be disturbed. These studies shall be conducted by qualified professional cultural resource specialists or qualified paleontologists, as appropriate, and a report prepared itemizing the findings. A plan will then be submitted making recommendations for the protection of, or measures to be taken to mitigate impacts, for identified cultural or paleontological resources.

If cultural resources or paleontological remains (fossils) of significant scientific interest are discovered during operations under this lease, the Lessee, prior to disturbance shall immediately bring them to the attention of the appropriate authority. Paleontological remains of significant scientific interest do not include leaves, ferns, or dinosaur tracks commonly encountered during underground mining operations.

The cost of conducting the inventory, preparing reports, and carrying out mitigating measures shall be borne by the Lessor.

Response/Action - Ark Land will have a cultural resource inventory and paleontological appraisal done by a third party contractor in the spring of 2006. The work will be done by a qualified contractor approved by the USFS. A plan will be submitted with recommendations for the protection of, or measures to be taken to mitigate impacts, should any cultural or paleontological resources be identified.

2. If there is reason to believe that Threatened or Endangered (T&E) species of plants or animals, or migratory bird species of high Federal interest occur in the area, the Lessee shall be required to conduct an intensive field inventory of the area to be disturbed and/or impacted. The inventory shall be conducted by a qualified specialist and a report of findings will be prepared. A plan will be prepared making recommendations for the protection of these species or action necessary to mitigate the disturbance.

Response/Action - If required, Ark Land will have field inventories done of threatened or endangered fauna and flora by a third party contractor in the early summer of 2006. The work will be done by qualified contractors approved by the USFS. A plan will be submitted with recommendations for the protection of, or measures to be taken to mitigate impacts, should any threatened or endangered fauna or flora be found.

3. The cost of conducting the inventory, preparing reports, and carrying out mitigating measures shall be borne by the Lessor.

Response/Action - Ark Land will bear the cost of conducting the inventories, preparing reports, and carrying out any mitigating measures.

4. If removal of timber is required for clearing of construction sites, etc., such timber shall be removed in accordance with the regulations of the surface management agency.

Response/Action - Ark Land does not plan to remove timber.

5. Existing Forest Service owned or permitted surface improvements will need to be protected, restored, or replaced to provide for the continuance of current land uses.

Response/Action - Ark Land will improve the surface of Forest Development Roads as needed following the recommendations of the USFS. A final grading of any ruts or other damage will be made after all activities are completed. Cattle guard by-passes will be used by equipment when available and where not, heavy planks will be laid on the cattle guard before crossing with equipment. Stock watering ponds will not be used and otherwise will not be affected by the exploration and reclamation activities.

6. In order to protect big-game wintering areas, elk calving and deer-fawning areas, sage grouse strutting areas, and other key wildlife habitat and/or activities, specific surface uses outside the mine development area may be curtailed during specified periods of the year.

Response/Action - Ark Land will not conduct exploration and reclamation activities during periods specified by the USFS to protect wildlife habitat and/or activities.

7. A pre-work meeting including the responsible company representative(s), contractors, and the Forest Service will be conducted at the project location prior to commencement of operations. Site-specific Forest Service requirements will be discussed at this time.

Response/Action - Ark Land will hold a pre-work meeting with the responsible company representative(s), contractors, and the Forest Service at the project location prior to commencement of operations. Site-specific Forest Service requirements will be discussed at this time.

8. A Road-Use Permit will be obtained from the Forest Service before equipment is transported onto National Forest System lands.

Response/Action - Ark Land will obtain a Road Use Permit from the Forest Service before equipment is transported onto National Forest System lands.

9. The Forest Service will specify times and locations, if any, that exploration activities may not occur.

Response/Action - Ark Land will obey any times and locations specified by the Forest Service in which exploration activities may not occur.

10. All surface disturbing activities including reclamation will be supervised by a responsible representative of the permittee/licensee who is aware of the terms and conditions of the project permits and licenses. A copy of the appropriate permits and licenses must be available for review at the project site.

Response/Action - Ark Land will have an employee or representative who is aware of the terms and conditions of the project permits and licenses present during surface disturbing activities including reclamation.

11. The Forest Service must be notified 48 hours in advance that heavy equipment will be moved onto National Forest System lands and that surface disturbing activities will commence.

Response/Action - Ark Land will notify the Forest Service at least 48 hours in advance of the movement of heavy equipment onto National Forest System lands and of when surface disturbing activities will commence.

12. Establishment of campsites and staging areas on National Forest System lands in support of this project is subject to Forest Service approval.

Response/Action - Ark Land will request Forest service approval before establishing campsites or staging areas for this exploration project.

13. The Forest Service will be notified of any proposed alterations to the plan of operations. Any changes to the existing plan are subject to Forest Service review and concurrence.

Response/Action - Ark Land will notify the Forest Service of any proposed alterations to the plan of operations and will not make alterations to the plan until the Forest Service has reviewed and concurred with the change.

14. Fire suppression equipment will be available to all personnel working at the project site. Equipment will include at least one hand tool per crew member consisting of shovels and pulaskis and one properly rated fire extinguisher per vehicle and/or internal combustion engine.

Response/Action - Ark Land or its contractors will provide fire suppression to all personnel working at the project site, including at least one hand tool per crew member consisting of shovels and pulaskis and one properly rated fire extinguisher per vehicle and/or internal combustion engine.

15. All gasoline, diesel and steam-powered equipment will be equipped with effective spark arresters and mufflers. Spark arresters will meet Forest Service specifications discussed in the USDA Forest Service Spark Arrester Guide, June, 1981. In addition, all electrical equipment will be properly insulated to prevent sparks.

Response/Action - Ark Land will ensure that all gasoline, diesel and steam-powered equipment is equipped with effective spark arresters and mufflers meeting USDA Forest Service Spark Arrester Guide, June, 1981. Also, all electrical equipment will be properly insulated to prevent sparks.

16. The permittee/licensee will be held responsible for damage and suppression costs for fires started as a result of operations. Fires will be reported to the Forest Service as soon as possible.

Response/Action - Ark Land understands that it will be held responsible for damage and suppression costs for fires started as a result of operations. Fires will be reported to the Forest Service as soon as possible.

17. The Forest Service reserves the right to suspend operations during periods of high fire potential.

Response/Action - Ark Land will, at Forest Service request, suspend operations during periods of high fire potential.

18. Water needed in support of operations will be properly and legally obtained according to State Water Laws. The locations of diversion, if on National Forest System lands, is subject to Forest Service review and approval.

Response/Action - Ark Land will properly and legally obtain the water needed in support of operations according to State Water Laws. Any diversions, if on National Forest System lands, will be reviewed and approved by the Forest Service. Water for exploration activities will be obtained from the north and/or south fork of Quitcupah Creek or from Muddy Creek (map 1). It is estimated that 0.7 acre-feet will be used for drilling and dust suppression.

19. There will be no unauthorized off-road vehicular travel.

Response/Action - Ark Land will ensure that no unauthorized off-road vehicular travel occurs.

20. Section corners or other survey markers, including claim corners, in the project area will be located and flagged for preservation prior to commencement of surface disturbing activities. The removal, displacement, or disturbance of markers will be approved by the proper authority.

Response/Action - Ark Land will locate and flag any section corners, survey markers, and claim corners that are in areas of planned surface disturbance for preservation prior to commencement of surface disturbing activities. Any removal, displacement, or disturbance of markers will be approved by the proper authority.

21. If cultural or paleontological resources are discovered during operations, all operations which may result in disturbance to the resource will cease and the Forest Service will be notified of the discovery.

Response/Action - Ark Land will cease all operations should cultural or paleontological resources be discovered and the Forest Service will be notified of the discovery.

### **Pre-Work Stipulations**

1. Gates will be kept closed unless otherwise notified.

Response/Action - Ark Land will keep all gates closed unless otherwise notified.

2. The permittee will be responsible for all damages to fences, cattle guards, resource improvements, roads, and other structures on National Forest system lands which result from operations. The Forest Service will be notified of damages as soon as possible.

Response/Action - Ark Land acknowledges responsibility for all damages to fences, cattle guards, resource improvements, roads, and other structures on National Forest system lands which result from operations. The Forest Service will be notified of damages as soon as possible.

3. All drilling fluids, muds, and cuttings will be contained on the project site in mud pits or portable containers. The pits will not be used for disposal of garbage, trash or other refuse.

Response/Action - Ark Land will contain all drilling fluids, muds, and cuttings in portable containers. Where these are not practical, drilling fluids, muds, and cuttings will be hauled off U.S. Forest Service land and disposed of properly. An MSDS will be provided the Forest Service for all drilling fluids and muds used. Garbage, trash or other refuse will be properly disposed of off U.S. Forest Service land.

### **Other Requirements**

1. Contaminated soil and gravel will be stripped and moved to an approved disposal site prior to reclamation.
2. Any disturbed drainages will be replaced to their approximate original configuration when the project area is reclaimed. At this time Ark Land does not plan to disturb any drainages.
3. All significant groundwater encountered during drilling will be reported to the Forest Service, including the depth and formation at which it was encountered, and an estimate of flow.
4. The permittee will clean-up all trash, garbage, and flagging and remove all drilling equipment and vehicles, and other such materials from National Forest System lands upon completion of exploration and reclamation operations.
5. All trash, garbage, and other refuse will be properly contained on the project site prior to disposal.
6. All drill holes to be plugged will be plugged in accordance with Federal and State regulations.
7. Exploration and reclamation operations will be coordinated with grazing permittees to prevent conflicts.
8. There will be no harassment of livestock and wildlife.
9. The permittee will be responsible for control of noxious weed infestations found to be a result of this exploration. All equipment coming into the exploration area from outside Utah will be steam cleaned to remove foreign seeds.

10. No timber will be removed during exploration and reclamation without prior approval.

#### **Road Use Stipulations**

1. Roads will not be used when they are wet and susceptible to major damage.
2. The permittee will be responsible for repair of damages to roads caused by its operations.
3. When possible, equipment will be transported to the exploration area on low-boy flat beds to avoid damage to road surfaces, cattle guards and culverts. Planks will be laid on cattle guards to distribute the weight of heavy equipment.
4. All traffic related to exploration and reclamation operations will maintain speeds commensurate with existing conditions.
5. Roads will be watered if dust becomes a problem or if excessive loss of material occurs.
6. Heavy equipment will not be transported in the exploration area during holiday weekends and the opening weekend of the regular big game hunting season. The Forest Service will specify the dates.

#### **Stipulation for Lands of the National Forest System Under Jurisdiction of the Department of Agriculture**

1. The permittee will comply with all the rules and regulations of the Secretary of Agriculture set forth at Title 36, Chapter II, of the Code of Federal Regulations governing the use and management of the National Forest System (NFS) when not inconsistent with the rights granted by the Secretary of the Interior in the permit. The Secretary of Agriculture's rules and regulations will be complied with for (1) all use and occupancy of the NFS prior to approval of a permit by the Secretary of the Interior, (2) uses of all existing improvements, such as Forest Service Development roads, within and outside the area permitted by the Secretary of the Interior, and (3) use and occupancy of the NFS not authorized by a permit approved by the Secretary of the Interior.

All matters related to this stipulation are to be addressed to:

Forest Supervisor

at: Manti-La Sal National Forest  
599 West Price River Drive  
Price, Utah 84501

telephone number: (801) 637-2817  
who is the authorized representative of the Secretary of Agriculture.

## APPENDIX C

The proposed exploration plan qualifies as minor exploration as described in State of Utah Coal Mining Rules R645 section R645-200-122.

R645-201-221 to 225 Applicable parts of these stipulations were addressed in previous portions of this exploration plan.

R645-201-310 to 323.300 Requirements of these sections were addressed in previous portions of this exploration plan.

R645-201-323.400 The requirements of R645-202 will be met as follows -

R645-202-100 This was addressed in a previous portion of this exploration plan.

R645-202-231 This was addressed in a previous portion of this exploration plan.

R645-202-232 No roads or other transportation facilities will be constructed.

The regulations cited in this section are not applicable to this exploration plan because no access routes will be constructed.

R645-202-233 This was addressed in a previous portion of this exploration plan. In addition, topsoil and subsoil piles will have properly constructed silt fences placed around them to minimize loss of material. During reclamation, grubbed material will be distributed over the areas from which it was removed to enhance germination.

R645-202-234 There will be no diversion of overland flows.

R645-202-235 The drill holes will either be plugged or completed as piezometers which, in both cases aquifers will be sealed to preclude cross-connection. Impoundments will not be constructed.

R645-202-236 It is not anticipated that acid- or toxic-forming materials will be encountered during exploration because none have been encountered previously. If adequate core recovery occurs, samples of drill core will be obtained from within 10 ft. of both roof and floor strata for each minable coal seam and analyzed for acid-toxic materials.

R645-202-241 This was addressed in a previous portion of this exploration plan.

R645-202-242 The method of revegetation described in a previous portion of this exploration plan is intended to encourage prompt revegetation and recovery of a diverse, effective, and permanent vegetative cover. The seed mix to be used is as follows -

(The seed mix to be used is the same mix used for the 2005 Muddy drilling project and is given below)

		<u>Pounds/Ac PLS</u>
Western Wheat grass	Elymus smithii	2.00
Basin Wild Rye	Elymus cinereus	1.00
Intermediate Wheat grass	Elymus hispidus	2.00
Yellow Sweet Clover	Melilotus officinalis	1.00
Rambler Alfalfa	Medicago sativa	1.00
Blue Leaf Aster	Aster glaucodes	0.25
Lewis Flax	Linum lewisii	0.50
Small Burnet	Sanguisorbia minor	1.00
Silvery Lupine	Lipinus argentis	1.00
True Mahogany	Cercocarpus argenteus	1.00
Bitterbrush	Purshia tridentate	1.00
TOTAL		11.75 PLS

Prior to any seeding, the USFS will be consulted to ensure the proper seed mixture is used.

Certification tags will be retained by the permittee.

The vegetative cover resulting from this seed mix is considered capable of stabilizing the soil surface from erosion.

R645-202-243 This is addressed in a previous portion of this exploration plan.

R645-202-244 This is addressed in a previous portion of this exploration plan.

R645-201-323.500 This was addressed in a previous portion of this exploration plan.