Alton Coal Development, LLC
463 North 100 West, Suite 1
Cedar City, Utah 84720
Phone (435) 867-5311 Fax (435) 867-1192

December 3, 2019

Steve Christensen
Coal Program Manager
Oil, Gas & Mining
1594 West North Temple, Suite 1210
Salt Lake City, UT 84114-5801

Re: **Revised Exploration Plan, Alton Coal Development, LLC, Coal Hollow Mine, Kane County, Utah, C/025/0005**

Dear Mr. Christensen:

Alton Coal Development, LLC (ACD) is resubmitting the enclosed exploration plan for the Coal Hollow Mine. The exploration plan involves 1 drill site location (19DH004) which is located within the existing South Private Lease (SPL) of ACD's current Coal Hollow Mine permit with the mineral rights being managed by the BLM under the Alton Coal Lease UTU-81895 .

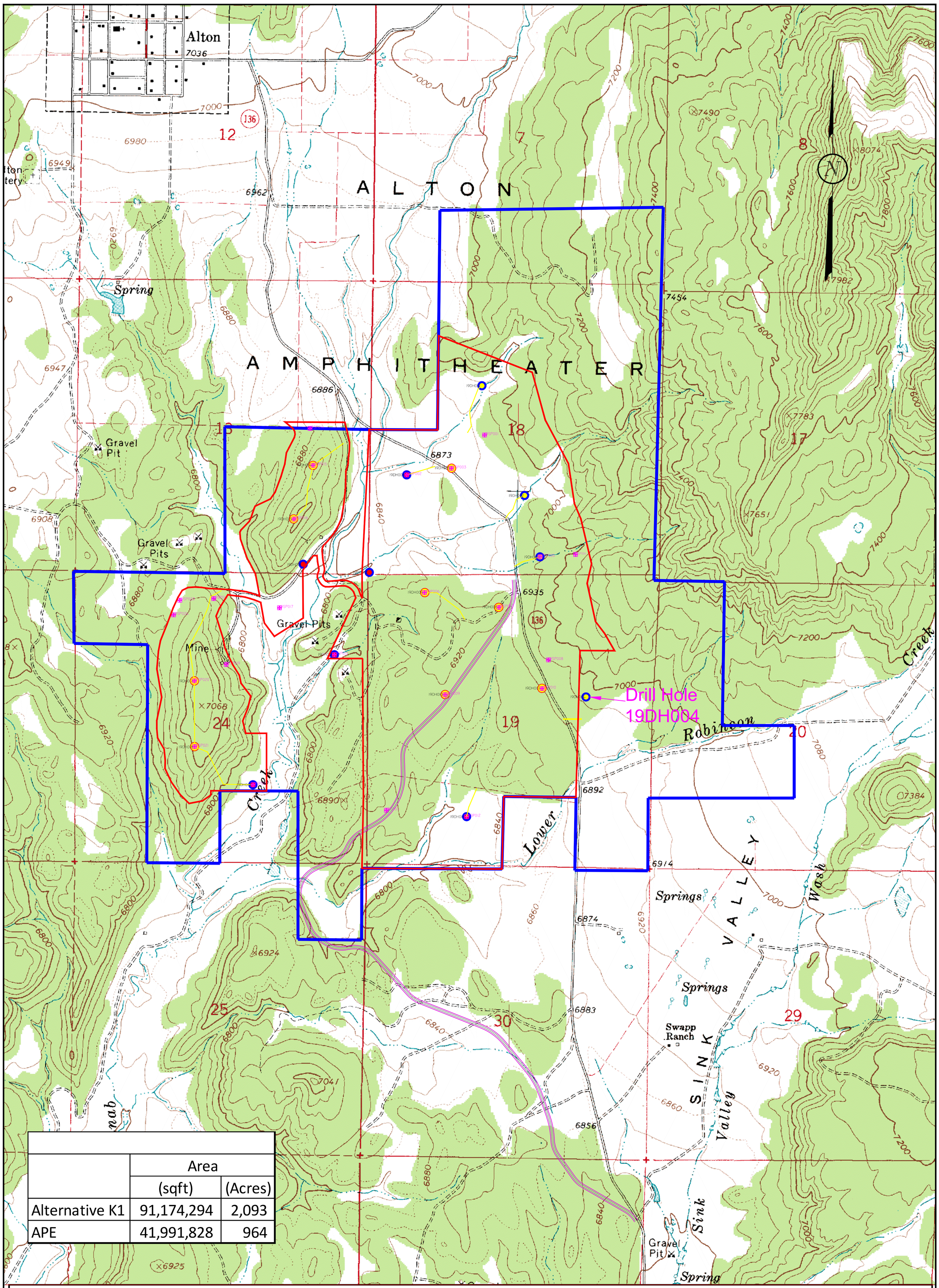
ACD has submitted an exploration plan for an additional 18 drill sites to the Bureau of Land Management, Kanab Field Office (BLM-KFO) on October 9, 2019 for review and subsequent license to execute the exploration activities within their responsibility. For coordination with the BLM, the primary contact at the BLM-KFO is James Holland and he can be contacted at (435) 644-1277 or jholland@blm.gov.

Drill site location 19DH004, as stated, is sited within the SPL and will be accessed from the bonded disturbance of the permitted Coal Hollow Mine and thus falls under the responsibilities of the Division of Oil, Gas & Mining to permit.

Please do not hesitate to contact me if you have any questions 435-691-1551.

Very truly yours,

B. Kirk Nicholes
Environmental Specialist
Alton Coal Development



	Area	
	(sqft)	(Acres)
Alternative K1	91,174,294	2,093
APE	41,991,828	964

LEGEND:

- Alt. K1 PERMIT BOUNDARY
- APE BOUNDARY
- SECTION LINE
- FOUND SECTION CORNER
- 19SP014 SOILS PIT
- 19DH007 CORE HOLE/OVERBURDEN CHARACTERIZATION
- 19DH004 CORE HOLE/OVERBURDEN CHARACTERIZATION/ MONITOR WELL LOCATION
- 19DH01 MONITOR WELL LOCATION

DRAWN BY: K. NICHOLES	CHECKED BY:
DRAWING: MAP 1	DATE: 02/07/19
	SCALE: 1" = 1000' Printed on 24" x 36"
JOB NUMBER: 0001	SHEET

REVISIONS

DATE:	BY:
XX/XX/XX	XX

2019

EXPLORATION PLAN

Atl. K1
COAL HOLLOW PROJECT
ALTON, UTAH

MAP 1

Alton Coal Development
Coal Hollow Project

463 North 100 West, Suite 1
Cedar City, Utah 84721
Phone (435)867-5331
Fax (435)867-1192

Introduction

Alton Coal Development, LLC (ACD) is hereby submitting this application for minor coal exploration with the Division of Oil, Gas, Mining (DOGM). The type of exploration proposed will be bore hole drilling. One (1) drill hole is proposed for drilling in coal managed by BLM with surface management by Private interest. The location will be within the Coal Hollow Mine South Private Lease within the current disturbance area of the mine office. As it is in this area of disturbance, ACD has right of Entry, see Coal Hollow MRP C/025/0005.

R645-200

Applicant

Alton Coal Development, LLC
Coal Hollow Project
463 N. 00 W.
Cedar City, Utah 84721
Attn: Clark Atwood
(work) 435-867-5331 (cell) 435-691-4071

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

B. Kirk Nicholes
Alton Coal Development, LLC
Coal Hollow Project
463 N. 100 W.
Cedar City, Utah 84721
(work) 435-867-5331 (cell) 435-691-1551

R645-201-225

Drilling

Drilling site location and projected depths are tabulated as follows:

Table 1

Site	Lat.	Long.	Projected TD	Coal Sample (Y/N)	Retained for Monitoring Well (Y/N)	Disturbance (sqft)
19DH004	4140971	371273	195	Y	Y	1200

Exploration will be conducted using a truck mounted drill rig. The anticipated drilling methods are as follows:

- Hollow stem auger drills the alluvium layer

- Air rotary drill the shale formation
- Core drill the coal bed
- Core drill the Dakota Formation under burden as determined by the geologist.

Wet drilling is not anticipated. However, drill pads have been sized to allow for “mud pit” if needed. Whenever possible, existing roads and trails will be used to access the drill hole sites. Logs will be kept of activities associated with the drilling process and will be provided to DOGM. The company selected to perform the drilling will be determined The onsite geologist for the Exploration Project will be Erik Petersen of Petersen Hydrologic, LLC. Mr. Petersen (Register Utah Professional Geologist #53 73615-2250) will provide oversight for proper collecting of material samples and core hole logging.

Generally, samples for geochemical analysis will be collected at every two-foot interval. In the lithologic units that are thicker than 10 feet, where practical, the samples will be composited into intervals no greater than 10 feet for analysis purposes. Levels at which appreciable water is contacted will be documented and provided to DOGM.

Support equipment will consist of two pickups trucks used to transport supplies and personnel.

Amount of Coal to be Removed: Coal will be removed in a 2" diameter core from one intercept of the seam per hole with an average intercept thickness of 14 feet, resulting in 0.0127 short tons of coal to be removed per hole and 0.127 short tons of coal for 14 holes of the project per the following calculations:

Volume of coal in ft^3 in one core hole = $\pi r^2 h$

▶ $3.14*0.0833^2*14 = 0.305\ ft^3$

Where:	constant	$\pi = 3.14$
	radius of core	$r = 0.0833$ ft
	height of core	$h = 14$ feet

Density of coal relative to density of water = 1.34

▶ $1.34*62.349 = 83.55\ lbs/ft^3$

Where: density of water = $62.439\ lbs/ft^3$

Short Tons of Coal in one hole = (volume in ft^3*density of coal in ft^3)/2000

▶ (0.305*83.55)/2000 = 0.0127 short tons

Total Short Tons removed from 1 holes = 0.0127*1 = 0.0127

Alton Coal will employ the following practices to protect the area from adverse impacts of exploration:

- minimize off-road activities;

- coreholes are located near pre-existing access routes or disturbed ground to minimize disturbance.
- coreholes are located in areas that are relatively flat grades (not greater than a 4% slope) thus eliminating the need for excavation at drill pads;
- Wet drilling is not anticipated to be utilized however pads will accommodate “mud pits”
- use industry standards for drilling boreholes;
- use of a spill prevention plan and protocol to prevent and contain spills;
- drill locations will be seeded using the seed mix provided in Table 2 to further promote a diverse, effective and permanent vegetative cover.
- sealing and abandonment of holes will be accomplished by filling the open borehole with unhydrated bentonite. Soil pits excavated near the Exploration Area have confirmed that sufficient formation water will be present to hydrate the bentonite for sealing the hole and minimizing disturbance to the hydrologic balance. Reference for utilizing unhydrated bentonite for sealing and abandonment is found in R655-4-2 Definitions.
- All equipment will be promptly removed from the Exploration Area when they are no longer needed for exploration.

R645-202-100

Access to drill hole 19DH004 will be from the facilities disturbance of the Coal Hollow Mine in the existing disturbance located west of the Mine Office. The drill pad will be approximately 30 ‘ x 40’ or 1200 sqft (0.028 acres). The disturbance will be under 5 acres; therefore, this is a minor exploration.

R645-202-210

Drill hole 19DH004 will remove 0.0127 tons of coal. Which will be less than 250 ton, therefore, this is a minor exploration.

R645-202-231

This area, being located in the disturbed Coal Hollow Mine Facilities area, is addressed in the MRP for Threatened and Endangered species.

R645-202-232

This exploration plan will be using existing roads and the existing disturbed area west of the Mine Office for access.

R645-202-233

The drill pad and associated equipment will be located on a area that the topsoil has been removed previously for the Mine Office.

R645-202-234

The drill hole will be located west of the Coal Hollow Mine Office. This area was leveled as part of the Mine Office pad and has no drainages or surface flows. ACD will ensure that drilling will be done during the winter when conditions are dry. In the event that water is required to

drill the hole, water will be acquired from the existing Coal Hollow Mine well which ACD has existing water rights.

R645-202-235

Drill Hole 19DH004 will be drilled in Tropic Shale and coal and will be developed into a monitoring well. Due to the location, it is unlikely to encounter water. At the time of completion, information for 19DH004 will be incorporated into the existing MRP and the bond amount accounted for in the existing Coal Hollow Bond.

R645-202-236

All associated drill hole cutting will be removed and buried within an existing pit and buried with 4' cover.

R645-202-241

At the drill location, there is no planed new disturbance.

R645-202-242.100

Upon completion of drilling activities, this location will be reclaimed as per the scheduled reclamation in the MRP for the Mine facilities.

R645-202-243

Drill Hole 19DH004 will be developed into a water monitoring well and will remain throughout mining. Reclamation of water monitoring wells is addressed in the Coal Hollow MRP.