Chapter 4
Land Use and Air Quality
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## Chapter 4 Land Use and Air Quality

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S.D. Oil, Gas & Mining 04/03/07
R645-301-410 Land Use

Co-Op mining property and adjacent area is currently used for grazing, recreation and coal mining. Plates 1-2 and 1-3 coupled with Table 1-3 show the fee ownership and leasehold interests adjacent to the permit boundary and the fee ownership of contiguous areas. This information provides a guide to the land uses of the various parcels.

Surface Land Status/Mine Plan

The land within the Bear Canyon Mine permit area fall under the jurisdiction of the State of Utah, U.S Forest Service, Emery County, and private surface owners.

County zoning ordinances classify the permit area as MG-1 (Mining and Grazing) and CE-1 (Critical Environment) as shown on Plate 1-2. Site Plan approval has been issued by Emery County to approve mining.

Ownership

Plates 1-2 and 1-3 show the ownership of property within and contiguous to the permit boundaries. Ownership of land parcels within the permit boundaries are designated by capital letters. See Chapter 1, Table 1-3, for letter designation.
Surface Managing Authorities

Plate 1-2 shows the surface ownership for each parcel within the permit boundaries. The local, state, and federal managing authorities are Emery County, State of Utah, Bureau of Land Management and the U.S. Forest Service.

Utility Corridors and Other Right-of-Ways

Co-Op has been granted a mine access right-of-way in Section 26 along the Paved County Road accessing Bear Canyon. Utility corridors, such as power lines, telephone lines and water pipes, are shown on Plates 5-2. All coal mining and reclamation operations will be conducted in a manner which minimizes damage, destruction, or disruption of services provided by oil, gas, and water wells; oil, gas, and coal slurry pipelines, railroads, electric and telephone lines; and water sewage lines which pass over, under, or through the permit area.

No oil, gas, or water wells, pipelines, railroads, electric and telephone lines, or water and sewer lines exist within the permit area except those associated with the mining operation, as described in R645-301-521 and shown on plates 5-2A thru 5-2G.

Special use Permits and Leases

Co-Op leases land owned and leased by COP Development Company. Special use permits and information are shown in I.
Other than coal, no minerals of value have been mined within the lease and permit area. No other mineral resources are known to be present in commercial quantities however there is potential for discoveries.

**Coal Ownership and Mines (Permit Area and Contiguous Areas)**

Coal ownership and mines in the permit area and contiguous areas are shown on Plate 1-3 and listed with addresses in R645-34-112.330, Table 1-1.

**Coal Leases**

The following coal leases are held by Co-Op adjacent to the permit area. For the locations of these coal leases, please refer to Plate 2-3.

- Trail Canyon Permit Area
- Bear Canyon Permit Area
- BLM U-024316
- BLM U-024318
- BLM U-46484
- BLM U-020668
- BLM U-38727
- BLM U-61048
- BLM U-61049

**Mineral Leases**

- BLM U-024316 (See Appendix 1-E).
- BLM U-024318 (See Appendix 1-E).
- BLM U-46484
- BLM U-020668
- BLM U-38727
- BLM U-61048
- BLM U-61049

**Oil and Gas Ownership and Leases**
Co-Op represents no interest in oil or gas leases in the permit area. Federal Oil and Gas Leases U-38968 and U-58422 lie within the same area.

**R645-301-411 Environmental Description**

**HISTORICAL AND CULTURAL RESOURCES**

**SCOPE**

The project area is situated in the Wasatch Plateau mining area, approximately 15 miles west-southwest of Huntington, Utah USGS 7.5 Minute topographic quads of the project area include those and adjacent areas.

Surface within the large intensive survey area include privately owned, state, and Bureau of Land Management (BLM) administered lands, and U.S. Forest Service.

**Environment and Locality**

The Co-op Mining Company (Co-Op) project area is located on the east flank of the Wasatch Mountain Range. The highland locations are situated above the 8,000-ft. elevation adjacent to the and within Manti-LaSal National Forest while the larger mine facility in Bear Canyon lies at the base of the Wasatch Plateau between the 6,800 and 8,000-ft. elevations.
The survey area contains a wide variation of associated vegetation communities because of variations in soil, slope, elevation, and subsurface moisture retention. The rolling ridges and arroyos of the survey units incorporate pinyon and juniper communities within the broken arroyo drainage system; there plants gradually reduce their dominance upon the high flats where sagebrush vegetation exists. Serviceberry, rabbitbrush, and scattered saltbush plants also exist along these drainages. The steeper areas ascending the plateau contain mountain shrub communities, which include live oak and mountain mahogany. North-facing slopes contain Douglas fir in the drainages above the upper juniper zone.

411.100 Pre-Mining Land Use Information

History of Land Use

Prior to the beginning of the Holocene Epoch (about 10,000 years ago), the pluvial conditions of the Pleistocene in the eastern Great Basin and in the Wasatch Range began to decrease. The gradual heating and drying trend of the Anathermal (about 10,000 to 7,500 years ago) was accelerated until about 4,000 years ago, although this occurrence varied in different localities throughout the West relative to local conditions. The ecosystems of the project area were influenced by these climatic changes from cool and wet through a period of increasing desiccation. About 4,000 years ago, the climate in the Intermountain West became cooler and
wetter than at present with a subsequent remigration of floral and faunal species from the upper elevations back into the lower basins. These fluctuations in climate affected prehistoric human occupation patterns in the West, as shall be noted in a later section.

Land use techniques employed in the project area have ranged from hunting-gathering activities, which began during the pleistocene, to primitive farming technology practiced along the river bottoms by the Fremont peoples as early as 1,500 years ago. With the introduction of the Euro-American settlers in the 19th century, modern farming technology, including horticulture and livestock production, became established in the Castle Valley area. From the historic period to the present, the general project area has been primarily utilized as livestock grazing land. Some horticulture related to the livestock industry has developed along the alluvial creek bottoms that extend to the east along the drainages. In addition, some coal mining has occurred during the 19th and 20th centuries at the Wattis mines to the North and at the site of the existing mine.

The South East Utah coal region encompasses lands in general, state, county, and private ownership. Land use management plans for public and National Forest Lands generally allow for mine and mine-related activities.

Coal mining has been an integral part of the region's economy. Mining and related construction activity dominate employment in Emery county. Active mining is going on in areas adjacent to the project area.
Historically, the livestock industry has been an integral part of the region's economy. Early settlers depended on range land for grazing sheep, cattle and horses. As time passed, grazing operations became smaller, more numerous, and directly associated with small farms. Timber also has been tied to an integral part of the economy of the region, but on a much smaller scale than the livestock industry. Early settlers needed fence posts, corral poles, house logs, mine timber, railroad ties and lumber; numerous small sawmills supplied local needs. As time passed and needs diminished, most mills went out of business. Recently however, commercial timbering has begun to increase in the region.

411.110 Use of Land Existing at Time of Filing

The uses of the land at the time of filing of the permit application were coal mining, wildlife habitat, livestock grazing and outdoor recreation.

411.120 Capability of Land to Support a Variety of Uses

Present land capability and productivity will be only slightly reduced compared to the after mining capability due to the small area of actual surface disturbance. Mining activities have proceeded on the current lease areas of Co-Op historically with only minor effects on productive capabilities in terms of soils, topography, vegetation or hydrology. The soils indigenous to the area affected by the operations are described in Chapter 2. Vegetation is discussed in Chapter 3.
Surface water in the permit area is limited to surface run-off that flows most heavily
during the spring and early summer months and then normally dry up. The quality and quantity
of this water and of the ground water will be identified in Chapter 7.

Land productivity in terms of plant products before any mining will not differ greatly
from future productivity due to the small area of actual surface disturbance. Early settlers
depended upon range land for grazing sheep, cattle and horses. Timber was active, but on a
much smaller scale than grazing. Early settlers needed fence posts, house logs and railroad ties.

The permit area affected by surface operations and facilities of the underground Bear
Canyon mine is capable of supporting grazing and recreational uses. Grazing is most probable
within Leases U-024316 and U-38727. Farming in the area is prohibited by the steep and rocky
terrain.

Current and future land use will suit the physical features of the mine plan area, which is
mostly steep and rocky. Such land is well suited for management as multitude area and coal
mining fits appropriately into the overall land use scheme.

Land productivity data were obtained from the U.S. Soil Conservation Service, and are
included in Chapter 3.

Present management emphasized livestock and wildlife grazing, and watershed
development. Coal preparation and management facilities are located on fee land.
Grazing. Private land owned by COP Development Company in and contiguous to the Permit area is presently used for grazing. Grazing occurs on Leases U-024316, U-020668, U-38727, U-61048, and U61049 is managed by the U.S. Forest Service.

Recreation. Recreational use of the area affected by mining operations consists primarily of hunting and camping. Heavy hunting of mule deer occurs on the area. Camping frequently occurs on land adjacent to the property. The property owned by C.O.P. Development Company in and adjacent to the permit is currently leased to Sportsman's, Inc. as part of a Private Hunting Unit (PHU). This PHU includes a hunting cabin located adjacent to the Wild Horse Ridge within the permit. Recreational access to this facility is provided by the Bear Canyon Haul Road, the Wild Horse Ridge #3 and #4 Mine access roads.

Forestry. Merchantable timber is found within the mine permit area primarily on the flanks and top of McCadden Ridge within Lease U-024316, although much of the area is covered by pinyon pine and juniper. Limited resources also exist in the bottom of Bear Canyon, primarily within the Right Fork area.

Mining. The type and extent of mining activities are discussed in detail in Chapter 5.
411.130 Land Use Classifications Under Local Law

The land within the Bear Canyon Mine permit area fall under the jurisdiction of the State of Utah, U.S Forest Service, Emery County, and private surface owners.

County zoning ordinances classify the permit area as MG-1 (Mining and Grazing) and CE-1 (Critical Environment) as shown on Plate 1-2. Site Plan approval has been issued by Emery County to approve mining.

411.140 Cultural and Historical Resources Information

The Division of State History was contacted in reference to that portion of ground in T16S, R7E, Sec. 23, 24 and 25 that has been or may be disturbed. It was the conclusion, in both conversations, that:

a. There are no known sites of any significance existing in the area in question.

b. That the majority of the land in question has been previously disturbed due to earlier mining activities.

c. That a survey of areas of future disturbance may be advantageous but to survey ground which is disturbed serves no purpose.
However, in the event that C. W. Mining is in a position to permit new facilities on disturbed ground, it has committed to a thorough Paleo-Archo Survey prior to any new disturbances. Also, should any evidence of Pale-Archo finds be discovered in the course of present construction, the site will be roped off and construction halted until the Historical Division is contacted. However, a survey was conducted the summer of 1984 and 1990 for those areas which may be adversely impacted by subsidence. This information was submitted as Appendix 4-A. Appendix 4-B contains the results of a survey of the Wild Horse Ridge Area which was conducted in 1982. Appendix 4-C contains the results of a survey of the Wild Horse Ridge Tank Seam Area conducted in 2001. Appendix 4F contains the results of a 2004 cultural resource survey of the Wild horse Ridge subsidence area. Appendix 4H and 4I contain 2006 cultural resource studies for the Mohrland lease and fee area addition.

At the request of the U.S. Forest, an additional thorough literature search will be conducted for any cultural resources within those areas that may be adversely impacted by subsidence. Co-Op Mining Company commits to conducting this literature search prior to any retreat mining within the Wild Horse Ridge area.

Application of the National Register Criteria of Eligibility, as defined under 36 CFR 60.6, indicates that there is one site within the permit area which would be considered a candidate. This is the Bear Creek Rock Shelter (Site 42 EM 1572).

411.141 Cultural and Historic Resources Maps

These maps are located inside the reports on the specific areas.
Coordination With State Historic Preservation Officer

During the permitting of the Bear Canyon Mine, Co-Op counseled with the Utah Division of State Historical Preservation Office and agreed to an on-site survey. The survey was conducted by John A. Senulis, an approved archaeologist (Senco-Phenix). The survey and results are included as Appendix 4-A. Co-Op is committed to take all necessary steps to protect any sites deemed necessary in the event any are located. Mr. Senulis also conducted a survey of the Federal Lease U-024316. The results of this survey can also be found in Appendix 4-A.

Two surveys of the Wild Horse Ridge area have been conducted. The first was a survey by Kenneth Juell of the University of Utah Archaeological Center in 1982. This survey covered drill sites and access roads both on top of the ridges and in the canyon.

According to Beaver Creek Coal Company, the survey revealed (Site 42 EM 1572) and a single other historic resource. The historic resource (42 EM 1572) was excavated by Nielson & Schleisman in July, 1982. The report of the excavation is included in Appendix 4-B. The other historic resource was found on the ridge while moving from one sample section to another. It was not considered significant or diagnostic.
A survey was also conducted by Heather Weymouth of Sagebrush Consultants in 1999. The results of this survey is also included in Appendix 4-B. No additional cultural resources were identified.

411.143 Identification of Historic and Archeological Resources

See 411.140, 411.141, and 411.142.

Additionally C. W. Mining Company conducted a search for paleontologic date within the general area. The purpose of the search was to:

a. Identify all known paleontologic sites within the designated area.

b. Identify stratigraphic horizons which are potential producers of paleontologic resources.

c. Evaluate the uniqueness of known or potential fossil sites compared to similar or duplicate faunas from the same stratigraphic horizon in other nearby areas.

Most of the ground surface within the general area is composed of the Masuk Member of the Cretaceous Mancos Shale. The Masuk is the uppermost shale member of the marine Mancos, overlying the Emery Sandstone Member and underlying the Star Point Sandstone. The lithology of the Masuk is silt, mudstone, and shale. It is about 1,000 ft. (305 m) thick in the permit area, and covers most of the area in question. Above the Masuk Member is the Star
Point Sandstone, transitional marine_nonmarine sandstone bed which is approximately 500 ft. (152m) thick.

The marine Masuk Shale contains a widespread fauna consisting of abundant foraminifera (Maxfield, 1976). Ammonoids, bivalves, gastropods, fish and turtle teeth (Fisher, 1960), and probably also ostracodes (Lessard, 1973).

The Star Point Sandstone, a deltaic sequence, has produced only trace fossils from the general area. Burrowing remains of two generic types have been described from the Star Point Sandstone by Howard (1972) and Marley et al. (1979).

In every case these fossils have been reported over broad areas surrounding the study site; therefore, it is almost certain that the Masuk Shale and the Star Point Sandstone within the study area contain similar fossils.

Although no specific paleontologic sites within the designated study area are reported in published literature, there are many occurrences in the surrounding areas, strongly indicating the presence of these same fossils at the study site.

Previous paleontologic investigations demonstrate widespread occurrences of the faunas within Late Cretaceous marine and nonmarine strata in this area. Therefore, all fossils which likely occur within the study site are almost certainly duplicated in surrounding outcrops of Masuk Shale and Star Point Sandstone.
The Paleontologic resources within the permit area are neither particularly abundant nor unique compared to their counterparts in similar stratigraphic horizon within the general area. Based upon present knowledge, development of this site would not pose a threat to the paleontologic resources of the area.

411.144 Protection of Historic and Archeological Properties

A variety of archaeological and historic techniques are available for use in avoiding and protecting sites, or for mitigating potential adverse affect to significant cultural resources. Such actions, once proposed, are contingent upon comments from relevant Department of Interior agencies and Utah State Preservation offices. Avoidance procedures are the most effective means of preserving cultural resources and will be implemented in the event that a site is uncovered.
**411.200 Previous Mining Activity**

The permit area in was the site of an active coal mine. There is very little information available concerning the history of previous mining activity in Bear Canyon. The following information was taken from *Central Utah Coal Fields*, Utah Geological & Mineralogical Survey, 1972 and from local people who were in the area back to the 1940's.

Bear Canyon enjoyed two periods of activity between 1885 and 1906, during which the coal seams were worked spasmodically. The Bear Creek Mine was owned and operated by Sam Holl (Mcelpay, 1949) and later by George A.S.R. Two seams were mined; the Bear Canyon Seam and the Hiawatha Seam. After 1906, the mine operated steadily and continuously. The twelve prospects in the canyon produced about 8,000 tons in 1906. Coal was removed with pick and shovel. Mining areas were dictated by the locations where seams were exposed.

Beginning in 1906, the land was transferred from George A. Smith to the Freed family, and in 1931 to Freed Coal and Coke. In 1943, the land was transferred to Karsen Co., and then back to Freed in 1946.

During this time, the mine was operated by a man named Stobaugh. Stobaugh used powder to loosen the coal and horses to haul the coal out of the mine. Most of the mining was done by hand. The initial area with erratic haulways shown on Plate 5-1A, was mined during this period. R. McCandless and S. McCarther operated the mine up until 1957, using similar methods. The area mined during this period is also shown on Plate 5-1A with a more regular
pattern. From 1938 to 1957 the mine produced over 150,000 tons from the Bear Canyon Mine. Co-Op entered the Blind Canyon Seam through these workings.

In 1957, the land was transferred from Freed to Huntington Corp., and then Peabody Coal in 1971. From 1971 to 1977, various exchanges took place between Peabody and Nevada Electric Investment. In 1980, the original Co-Op lease area was transferred from Peabody to C.O.P. Development. In 1990 the Wild Horse Ridge was transferred from Nevada Electric to COPD. In December 1996 the Mohrland area was transferred from Intermountain Power Agency to C.O.P Development
### R645-301-412 Reclamation Plan

### 412.100 Post-Mining Land Use Plan

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Div. of Oil, Gas & Mining
412.110 Method For Achieving Post-Mining Land Use

R645-301-540 describes in detail, the abandonment steps and revegetation/reclamation activities to be used to achieve the proposed post-mining land uses.

Area Cleanup. Solid waste generated in the abandonment operation will be disposed as described in R645-301-541.300.

Recovering of the General Area. Grading and backfilling will be done to achieve a final contour suitable for the wildlife/grazing/recreation habitat specified as the post-mining land use.

Wind Protection Barriers. In addition to the wind protection provided by the soil stabilation, rock wind barriers may be constructed by a small portion of the rock generated during the mining operation. During abandonment small piles of the rock may be formed where needed to provide protection and stability to reclaimed areas.

Scarifying Areas. Operational areas will be scarified after backfilling and grading prior to topsoil redistribution. Steep slope areas which must remain after abandonment will receive special ripping to create ledges, crevices, pockets and screeis. This will allow better soil retention and vegetation establishment.
Distribution of Topsoil. Topsoil from the stockpile will be spread over the disturbed areas in such a manner as to prevent excessive compaction.

Fertilization and Neutralization. Fertilization or neutralization as determined as necessary by soil testing will be done.

Seeding and Tree Planting. Vegetation will be established to prevent erosion, to optimize the effect and to provide cover. Perennial woody species will be emphasized, along with those of proven nutritional value and ability to support wildlife and grazing. The types and amounts of such vegetation are discussed in Chapter 3 R645-301-321.

Moisture Retention. All regraded and topsoiled areas will be mulched or otherwise treated to promote germination of seeds and to retain moisture. Various other methods available are listed below:

1. Straw--Terrace Benches
2. Mulch--Wood mulch may be sprayed on terrace banks
3. Soil Retention Blanket--Wood fiber held by plastic net may be used on steeper banks.
4. Jute Mesh and Straw--Burlap material holding straw may be used on the steepest banks.
5. Tackifier--Mulch with tackifying agent may be used on steep banks.

Maintenance. Fencing, irrigation and weed control will be used only as needed, according to operational testing results.
Regrading and Reseeding. Erosion that develops in completed areas will be minimized by repeated grading and seeding.

Success Monitoring and Extended Responsibility Period. Vegetation and water will be monitored during the applicable period of liability to determine success of abandonment reclamation. A determination of revegetation success will then be made.

412.120 N/A

412.130 Alternative Post-Mining Land Use

No proposed post-mining land use is different from the pre-mining land use.

412.140 Considerations of Surface Owners

Consideration has been given to make all of the proposed land use consistent with owner plan and applicable Utah and local land use plans. Additionally correspondence will continue between C. W. Mining Company and the land owners to assure proposed post mining land use will be consistent with their land use plans. Copies of this correspondence will be included in Appendix 4-C.

412.200 Land Owners Comments

This is included in Appendix 4-C.

412.300 Suitability and Compatibility

Plans for final fills and surface regarding is discussed in Chapter 5.
R645-301-420 Air Quality

R645-301-421 Compliance with the Clean Air Act

Coal mining and reclamation operations are conducted in compliance with the Clean Air Act and the Utah State Department of Health Air Conservation Regulations as outlined in the Air Quality Approval Order found in Appendix 4-G.

R645-301-422 Coordination and Compliance with Utah Bureau of Air Quality

C. W. Mining Company is operating under Approval Order # DAQE-145-02 (Appendix 4-G) issued by the State of Utah Department of Environmental Quality Division of Air Quality. Additionally C. W. Mining Company is regularly inspected by representative of the Division of Air Quality to assure compliance with the Approval Order and the Clean Air Act and the Utah State Department of Health Air Conservation Regulations.

R645-301-423 Air Pollution Control Plan

C. W. Mining Company will control air pollution by watering roads, drop points, and storage piles as outlined in Approval Order # DAQE-145-02 found in Appendix 4-G.
Land Use

Doelling, H.H. 1972. Wasatch Plateau coal field. In Doelling,


Post-mining Land Use


Environmental Protection Agency. 1976. Erosion and Sediment Control. EPA 625/3_76_006, p.44.


5.6 BIBLIOGRAPHY


Ascroft, Gaylen L. and Richardson, E. Arlo, Map of Freeze_Free Season, State of Utah. Utah Agricultural Experiment Station, Utah State University and Department of Commerce, ESSA, Environmental Data Services.


Berry, Michael S. 1974. The Evans Mound: Cultural Adaption in S.W. Utah.


Nielsen, Asa S. and Dean Schleisman. An Archeological Test Excavation to Determine National Register Potential at Bear Creek Rock Shelter (42 EM 1572). Brigham Young University Museum of Peoples and Cultures Technical Series No. 82-43.
Appendix 4-A

PALEO-ARCHAEOLOGICAL SURVEY

This information was relocated to the confidential binder on 9/18/05.

Confidential files are located at the Division of Oil Gas and Mining 1594 West, North Temple, SLC, Utah.
Appendix 4-B

WHR Resource Survey

This information was relocated to the confidential binder on 9/18/05.

Confidential files are located at the Division of Oil Gas and Mining 1594 West, North Temple, SLC, Utah.
Appendix 4-C
Property Owners Statement
December 14, 1990

State of Utah  
Division of Oil, Gas & Mining  
355 West North Temple  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203

Gentlemen:

Please be advised that the pre-mining use of the real property now being used for mining operations by Co-op Mining Company at its Bear Canyon Mine, was for wildlife, recreation and livestock grazing. C.O.P. Coal Development Co., as the land owner, presently anticipates that the land will be used for coal mining activities for the next several years, after which time, the land will once again be used for wildlife, recreation and livestock grazing.

Very truly yours,

[Signature]

Joseph O. Kingston, President  
C.O.P. Coal Development Co.

JOK/kj
Appendix 4-D
Air Quality Monitors
Figure 4D-1  Air Quality Monitor Locations, Huntington Canyon, Emery County, Utah
Figure 4D-2  Wild Horse Ridge, October 1977 thru April 1978, All times.
Figure 4D-3  Valley Floor, October 1977 thru April 1978, All Times.
Figure 4D-4  Meeting House Ridge, October 1977 thru April 1978, All times.
Figure 4D-5  Mac Faddin Station. December 1977 thru April 1978, All times.
Figure 4D-6  Meeting House Canyon, December 1977 thru April 1978, All times.
Figure 4D-7  Rilda Canyon, December 1977 thru April 1978, All times.
Figure 4D-8  Co-Op Mine, October 1977 thru April 1978, All times.
Appendix 4-E

Wild Horse Ridge Tank Seam Resource Survey

This information was relocated to the confidential binder on 9/18/05.

Confidential files are located at the Division of Oil Gas and Mining 1594 West, North Temple, SLC, Utah.
Appendix 4F Cultural Resource Study of the Bear Canyon Subsidence Area

This information was transferred to the confidential MRP on March 25, 2008.
September 20, 2010

Joseph R. Miller
Castle Valley Mining LLC
424 Lewis Hargett Circle, Suite 250
Lexington, KY 40503

Dear Mr. Miller:

RE: Notification of Company Name and Ownership Change for DAQE-AN0102400003-10, dated June 17, 2010 Castle Valley Mining LLC: Bear Canyon Mine
Project Number: N010240-0005

The Utah Division of Air Quality (DAQ) has received your request on September 7, 2010 for a name and ownership change for the holder of the above-referenced Approval Order (AO). This AO can be found online at http://www.airquality.utah.gov/Permits/DOCS/AOs%202010/AN0102400003-10.pdf.

According to your request, we have noted in our records that the holder and party responsible for complying with the terms and conditions contained in the above-referenced AO has been changed to 'Castle Valley Mining LLC'. This change took effect on the date of this letter.

The charge for the review done in making this change is a flat fee plus a filing fee as authorized by the Utah Legislature. You will receive an invoice for these charges shortly. If you have any questions, please contact Chad Harris, who may be reached at (801) 536-4069.

Sincerely,

M. Cheryl Heying, Executive Secretary
Utah Air Quality Board

Timothy R. Andrus, Manager
New Source Review Section

TRA:CDH:sa
June 17, 2010

Mark Reynolds
Hiawatha Coal Company
P.O. Box 1240
Huntington, UT 84528

Dear Mr. Reynolds:

Re: Approval Order: Modification to AO (DAQE-145-02) to Increase Coal Production
    Project Number: NO10240-0003

The attached document is the Approval Order for the above-referenced project. Future correspondence on this Approval Order should include the engineer's name as well as the DAQE number as shown on the upper right-hand corner of this letter. The project engineer for this action is Enqiang He, who may be reached at (801) 536-4010.

Sincerely,

M. Cheryl Heying, Executive Secretary
Utah Air Quality Board

MCH:EH:sa

cc: Southeastern Utah District Health Department
STATE OF UTAH
Department of Environmental Quality
Division of Air Quality

APPROVAL ORDER: Modification to AO (DAQE-145-02)
to Increase Coal Production

Prepared By: Enqiang He, Engineer
Phone: (801) 536-4010
Email: ehe@utah.gov

APPROVAL ORDER NUMBER
DAQE-AN0102400003-10
Date: June 17, 2010

Hiawatha Coal Company
Bear Canyon Mine
Source Contact:
Mr. Mark Reynolds
Phone: (435) 687-5777

M. Cheryl Heying
Executive Secretary
Utah Air Quality Board

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Div. of Oil, Gas & Mining
Abstract

Hiawatha Coal Company operates an underground mine located in Emery County, which is an attainment area for all criteria pollutants. The company has requested a modification to its existing AO (DAQE-145-02), dated February 22, 2002, to increase production from 1.95 to 5 million tons of coal per year. NSPS Subpart Y (Standards of Performance for Coal Preparation Plants) regulations apply to this source. NESHAP and MACT regulations do not apply to this source. Title V regulations apply to this source.

There will be 2.91 tons per year increase in PM$_{10}$ emissions. The potential to emit totals, in tons per year, will be as follows: PM$_{10}$ 16.00, NO$_x$ 0.31, SO$_2$ 0.61, CO 0.36, and VOC 2.44. The totals do not include emissions from off-highway mobile equipment.

This air quality AO authorizes the project with the following conditions and failure to comply with any of the conditions may constitute a violation of this order. This AO is issued to, and applies to the following:

**Name of Permittee:**

Hiawatha Coal Company  
P.O. Box 1240  
Huntington, UT 84528

**Permitted Location:**

Bear Canyon Mine  
Eleven miles west of Huntington, Utah on state Highway 31  
Huntington, UT

**UTM coordinates:**  
491,700 m Easting, 4,361,900 m Northing, UTM Zone 12

**SIC code:**  
1241 (Coal Mining Services)

Section I: GENERAL PROVISIONS

1.1 The owner/operator shall comply with UAC R307-107. General Requirements: Unavoidable Breakdowns. [R307-107]

1.2 All definitions, terms, abbreviations, and references used in this AO conform to those used in the UAC R307 and 40 CFR. Unless noted otherwise, references cited in these AO conditions refer to those rules. [R307-101]

1.3 The limits set forth in this AO shall not be exceeded without prior approval. [R307-401]

1.4 Modifications to the equipment or processes approved by this AO that could affect the emissions covered by this AO must be reviewed and approved. [R307-401-1]

1.5 All records referenced in this AO or in other applicable rules, which are required to be kept by the owner/operator, shall be made available to the Executive Secretary or Executive Secretary’s representative upon request, and the records shall include the two-year period prior to the date of the request. Unless otherwise specified in this AO or in other applicable state and federal rules, records shall be kept for a minimum of two (2) years. [R307-401-8]

1.6 At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any equipment approved under this AO, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable
operating and maintenance procedures are being used will be based on information available to the Executive Secretary which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. All maintenance performed on equipment authorized by this AO shall be recorded. [R307-401-4]

I.7 The owner/operator shall comply with UAC R307-150 Series. Inventories. Testing and Monitoring. [R307-150]

Section II: SPECIAL PROVISIONS

II.A The approved installations shall consist of the following equipment:

II.A.1 Bear Canyon Mine
Underground coal mining with surface loadout facility

II.A.2 South Crusher*
Type: Primary Crushing, Hammer Mill, max. capacity rated at 450 tons per hour (tph)

II.A.3 Wildhorse Crusher*
Type: Primary Crushing, rated capacity unknown

II.A.4 Lump Crusher (high ash)
Type: Primary Crushing, Granulator, rated at 300 tph

II.A.5 Lump Screenage Crusher
Type: Primary Crushing, rated at 50 tph

II.A.6 Gundlach Crusher
Type: Primary Crushing, max. capacity rated at 700 tph

II.A.7 Oversize Crusher
Type: Secondary Crushing, rated at 50 tph

II.A.8 Secondary Picking Screen
Max. capacity rated at 450 tph

II.A.9 Wildhorse Screen
Max. capacity rated at 900 tph

II.A.10 Upper Screen
Max. capacity rated at 900 tph

II.A.11 Lower Screen
Max. capacity rated at 900 tph

II.A.12 Storage Tank*
One (1) vertical above-ground unleaded gasoline storage tank rated at 11,000 gallons
II.A.13 **Storage Tank***
One (1) above-ground diesel storage tank rated at 11,000 gallons

II.A.14 **Storage Tank***
One (1) above-ground diesel storage tank rated at 16,000 gallons

II.A.15 **Storage Tanks***
Two (2) above-ground stoker oil storage tanks rated at 14,000 gallons

II.A.16 **Storage Tank***
One (1) above-ground diesel storage tank rated at 1,000 gallons

II.A.17 **Storage Tank***
One (1) above-ground diesel storage tank rated at 8,000 gallons (installed in 1999)

II.A.18 **Storage Tank***
One (1) above-ground anti-freeze storage tank rated at 2,000 gallons

II.A.19 **Space Heaters**
Four (4) space heaters located at Shower House, Scale House, Shop Building and the Coal Stoker, rated at 225,000 Btu/h, 225,000 Btu/h, 150,000 Btu/h and 250,000 Btu/h, respectively.

II.A.20 **Miscellaneous Equipment**
Including conveyors*, diesel fired front-end loaders, oil burner/space heater and other mobile equipment necessary for facility management.

*Not subject to 40 CFR 60 Subparts OOO or Kb

**II.B Requirements and Limitations**

II.B.1 **Production and Consumption Limitations**

II.B.1.a The production limit of 5 million tons of coal per rolling 12-month period shall not be exceeded. [R307-401-8]

II.B.1.b Coal consumption in the Shower House, Scale House, Shop Building and Coal Stoker space heaters shall not exceed 65 tons per rolling 12-month period. [R307-401-8]

II.B.1.c To determine compliance with a rolling 12-month total the owner/operator shall calculate a new 12-month total by the twentieth day of each month using data from the previous 12 months. Records of production/consumption shall be kept for all periods when the plant is in operation. Coal consumption shall be measured by the number of loader buckets put in the bin (the loader bucket capacity is known). Production/consumption shall be recorded on an operations log. The records of production/consumption shall be kept on a daily basis. [R307-401-8]
II.B.2 **Requirements on Fugitive Dust Sources**

II.B.2.a Hiawatha Coal Company shall comply with a fugitive dust control plan acceptable to the Executive Secretary for control of all dust sources associated with the Bear Canyon Mine. Hiawatha Coal Company shall submit the fugitive dust control plan to the Executive Secretary, attention: Compliance Section, for approval within 30 days of the date of this AO. [R307-205]

II.B.2.b Visible fugitive dust emissions from haul-road traffic and mobile equipment in operational areas shall not exceed 20% opacity at any point. Visible emission determinations shall use procedures similar to Method 9. The normal requirement for observations to be made at 15-second intervals over a six-minute period, however, shall not apply. Visible emissions shall be measured at the densest point of the plume but at a point not less than 1/2 vehicle length behind the vehicle and not less than 1/2 the height of the vehicle. [R307-205]

II.B.2.c The following haul road lengths shall not exceed

A. 1.40 miles in length for unpaved access roads

B. 0.24 miles in length for paved haul roads. [R307-401-8]

II.B.2.d The owner/operator shall cover all unpaved haul roads and wheeled-vehicle operational areas with road base material. [R307-401-8]

II.B.2.e The owner/operator shall use chemical suppressant and/or water to maintain opacity limits from the haul roads and wheeled-vehicle operational areas. Application frequencies for chemical treatment and water spray shall follow the requirements in the fugitive dust control plan. If the temperature is below freezing, the owner/operator may stop applying water to the haul roads and wheeled-vehicle operational areas.

Records of water application shall be kept for all periods when the plant is in operation. The records shall include the following items:

A. Date and time treatments were made

B. Number of treatments made and quantity of water applied

C. Rainfall amount received, if any

D. Records of temperature, if the temperature was below freezing. [R307-401-8]

II.B.2.f Water sprays or chemical dust suppression sprays shall be installed at the following points to control fugitive dust emissions:

A. All crushers

B. All screens

C. All conveyor transfer points

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The sprays shall operate to meet the opacity limits or as determined by the Executive Secretary. [R307-401-8]

II.B.2.g The storage piles shall be watered and/or chemically treated to maintain 20% opacity limit. Records of water and/or chemical treatment shall be kept for all periods when the plant is in operation. Records of water and/or chemical treatment shall be made available to the Executive Secretary or Executive Secretary’s representative upon request. [R307-401-8]

II.B.3 Limitations on Fuels

II.B.3.a The owner/operator shall use only diesel fuel not to exceed 0.05% sulfur by weight or gasoline in stationary equipment or mobile equipment operated onsite. [R307-401-8]

II.B.3.a.1 Sulfur content shall be determined by ASTM Method D2880-71 or D-4294-89, or approved equivalent. The sulfur content for diesel fuel shall be tested if directed by the Executive Secretary. The percent by weight of the sulfur contained in the fuel can be obtained from the fuel oil certifications. Certifications of fuels shall be either by Hiawatha Coal Company’s own testing or test reports from the fuel marketer. Records of fuel test reports on sulfur content shall be available on-site for each load delivered. [R307-401-8]

II.B.3.b The owner/operator shall use coal in the coal-fired space heaters. [R307-401-8]

II.B.3.b.1 The sulfur content of the coal shall not exceed 0.60%. Sulfur content in coal shall be determined by ASTM Methods D3177-75 or D4239-85, or approved equivalent. The sulfur content shall be tested if directed by the Executive Secretary. Records of coal test reports on sulfur content, if any, shall be available on-site. [R307-401-8]

Section III: APPLICABLE FEDERAL REQUIREMENTS

In addition to the requirements of this AO, all applicable provisions of the following federal programs have been found to apply to this installation. This AO in no way releases the owner or operator from any liability for compliance with all other applicable federal, state, and local regulations including UAC R307.

NSPS (Part 60), A: General Provisions
NSPS (Part 60), Y: Coal Preparation Plants

PERMIT HISTORY

This AO is based on the following documents:

Incorporates modeling analysis dated December 28, 2009
Incorporates additional information dated December 14, 2009
Incorporates additional information dated September 2, 2009
Is Derived From revised Notice of Intent dated July 21, 2009
Incorporates additional information dated June 23, 2009
Incorporates additional information dated April 6, 2009
Incorporates additional information dated January 4, 2009
Incorporates Notice of Intent dated November 17, 2008
Supersedes the AO (DAQE-145-02) dated February 22, 2002

ADMINISTRATIVE CODING

The following information is for UDAQ internal classification use only:

Emery County
CDS B
Attainment Area, NSPS (Part 60), Title V (Part 70) Area source

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ACRONYMS

The following lists commonly used acronyms and associated translations as they apply to this document:

- **40 CFR**: Title 40 of the Code of Federal Regulations
- **AO**: Approval Order
- **BACT**: Best Available Control Technology
- **CAA**: Clean Air Act
- **CAAA**: Clean Air Act Amendments
- **CDS**: Classification Data System (used by EPA to classify sources by size/type)
- **CEM**: Continuous emissions monitor
- **CEMS**: Continuous emissions monitoring system
- **CFR**: Code of Federal Regulations
- **CO**: Carbon monoxide
- **COM**: Continuous opacity monitor
- **DAQ**: Division of Air Quality (typically interchangeable with UDAQ)
- **DAQE**: This is a document tracking code for internal UDAQ use
- **EPA**: Environmental Protection Agency
- **FDCP**: Fugitive Dust Control Plan
- **HAP or HAPs**: Hazardous air pollutant(s)
- **ITA**: Intent to Approve
- **LB/HR**: Pounds per hour
- **MACT**: Maximum Achievable Control Technology
- **MMBTU**: Million British Thermal Units
- **NAA**: Nonattainment Area
- **NAAQS**: National Ambient Air Quality Standards
- **NESHAP**: National Emission Standards for Hazardous Air Pollutants
- **NOI**: Notice of Intent
- **NOx**: Oxides of nitrogen
- **NSPS**: New Source Performance Standard
- **NSR**: New Source Review
- **PM10**: Particulate matter less than 10 microns in size
- **PM2.5**: Particulate matter less than 2.5 microns in size
- **PSD**: Prevention of Significant Deterioration
- **PTE**: Potential to Emit
- **R307**: Rules Series 307
- **R307-401**: Rules Series 307 - Section 401
- **SO2**: Sulfur dioxide
- **Title IV**: Title IV of the Clean Air Act
- **Title V**: Title V of the Clean Air Act
- **TPY**: Tons per year
- **UAC**: Utah Administrative Code
- **UDAQ**: Utah Division of Air Quality (typically interchangeable with DAQ)
- **VOC**: Volatile organic compounds