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TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

May 3, 2011

TO: Internal File

THRU: Ingrid Campbell, Biologist and Team Lead *IC*

FROM: James Owen, Engineer *JO*

RE: Gob Vent Holes, West Ridge Resources, Inc., West Ridge Mine, C/007/0041, Task # 3809

SUMMARY:

On April 12, 2011, the Division of Oil Gas & Mining received an application for an amendment to the West Ridge Mine MRP. The amendment will allow the drilling of two new gob vent holes (GVH4 & GVH5) at the existing Bear Canyon GVH installation site. The new holes are needed to liberate excessive quantities of underground methane for the safety requirements. All drilling and surface disturbance will be within the existing permit area. GVH 4 will be drilled from the existing GVH pad with no new surface disturbance. GVH 5 will be drilled in an area that will require minimal (0.2 acres) disturbance next to a county road, approximately 400' down-canyon of the GVH pad. The applicant states that there is sufficient bonding currently in place to cover final reclamation costs.

This memo addresses compliance with the engineering (R645-301-500) and bonding (R645-301-800) sections of the Utah Coal Mining Rules.

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TECHNICAL ANALYSIS:

ENVIRONMENTAL RESOURCE INFORMATION

Regulatory Reference: Pub. L 95-87 Sections 507(b), 508(a), and 516(b); 30 CFR 783., et. al.

PERMIT AREA

Regulatory Requirements: 30 CFR 783.12; R645-301-521.

Analysis:

Permit area will not be changed or affected as a result of this amendment.

Findings:

Contents and information provided are sufficient enough to meet the minimum requirements of this section of the Utah Coal Mining Rules.

OPERATION PLAN

SUPPORT FACILITIES AND UTILITY INSTALLATIONS

Regulatory Reference: 30 CFR Sec. 784.30, 817.180, 817.181; R645-301-526.

Analysis:

The installation of these support facilities will follow the requirements and approved details for the previously installed gob vent holes. Appendix 5-14, included with a previously approved application, describes the GVH installation in details. Complete details of the GVH 4 and 5 can be found in Appendix 5-14A, which is an amendment to Appendix 5-14.

GVH 4 will be located within the existing GVH pad which is located at the end of Bear Canyon Road. GVH 5 will be located approximately 400' down-canyon from the existing pad, in a small area adjacent to and on the down-hill side of the existing roadway. All applicable

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provisions currently approved within Appendix 5-14 relating to existing GVH installation will apply to GVH 4 & 5.

The drill site for GVH 5 will be located between the road and the main drainage of Bear Canyon. The down-slope extent of the site is defined by a ring of naturally occurring boulders, along with several other boulders placed as a result of road improvement. The area between the boulders and the road will be backfilled to create an extension of the out slope of the shoulder of the road which will be referred to as a "pull-out". The existing boulder ring will be augmented with additional boulders placed to form an armored out-slope. The interior of the pull-out will be backfilled with a compacted (approx. 90%) granular borrow material. The average depth of the fill is depicted on will be about 4' thick.

When completed, the pullout will occupy an area measuring about 15' wide by 70' long. Much of the area was already disturbed during road construction. A layer of drain-rock gravel will be placed on the surface of the pull-out pad for additional structural integrity.

After the hole is completed, a flame arrestor will be installed at the well collar. The arrestor will be identical to the ones being used for the other gob vent holes. GVH 5 will not include an additional blower; instead a 12' low-pressure pipeline will connect the well to one of the existing blowers. The pipeline will be about 400' long and will be laid on the surface along the outside bank of the road. A set on concrete barricades (jersey barriers) will be installed along the side of the road in the vicinity in GVH 5 to provide protection to the exposed flame arrestor.

Findings:

Contents and information provided are sufficient enough to meet the minimum requirements of this section of the Utah Coal Mining Rules.

MAPS, PLANS, AND CROSS SECTIONS OF MINING OPERATIONS

Regulatory Reference: 30 CFR Sec. 784.23; R645-301-512, -301-521, -301-542, -301-632, -301-731, -302-323.

Analysis:

The following drawings were included with details of the GVH system: GVH Location Map, GVH Site Detail Maps, Pre-Construction Drawings (3A), During Drilling Drawing (3B), As Constructed Drawing (3C) Cross Section Drawing, and Drill Hole Details.

The following engineering/bonding related maps were included for replacement: existing land use, surface ownership, sub-surface ownership, mining projections, subsidence, and coal seam structure.

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All maps and drawings included were properly scaled and certified.

Findings:

RECLAMATION PLAN

APPROXIMATE ORIGINAL CONTOUR RESTORATION

Regulatory Reference: 30 CFR Sec. 784.15, 785.16, 817.102, 817.107, 817.133; R645-301-234, -301-412, -301-413, -301-512, -301-531, -301-533, -301-553, -301-536, -301-542, -301-731, -301-732, -301-733, -301-764.

Analysis:

Prior to final reclamation, all surface apparatus will be disassembled and removed. The disturbed area will be reclaimed to approximate original contour by removing the imported backfill materials and boulders. The backfill material will be removed down to the geotextile material, which will then be removed to re-expose the topsoil underneath. The native topsoil will then be scarified and re-seeded. All approved elements of the reclamation plan for GVH sites 1-3 will be specified and used for GVH 4 and 5.

Findings:

Contents and information provided are sufficient enough to meet the minimum requirements of this section of the Utah Coal Mining Rules.

MINE OPENINGS

Regulatory Reference: 30 CFR Sec. 817.13, 817.14, 817.15; R645-301-513, -301-529, -301-551, -301-631, -301-748, -301-765, -301-748.

Analysis:

The drill holes will be plugged and sealed in accordance with State and Federal regulations. An expandable plug will be installed at the bottom of the hole, and the entire length of the drill hole will then be filled with concrete to the surface.

Findings:

Contents and information provided are sufficient enough to meet the minimum requirements of this section of the Utah Coal Mining Rules.

BONDING AND INSURANCE REQUIREMENTS

Regulatory Reference: 30 CFR Sec. 800; R645-301-800, et seq.

Analysis:

Final reclamation for GVH 4 will tie to the reclamation of the existing blower units for the other GVH holes. Earthwork and revegetation costs are already included in the existing bonding calculations. Bonding calculation were provided for the removal, plugging, earthwork, and revegetation associated with the reclamation of GVH 5. The company estimates the following:

Mechanical equipment:	\$3,220
Plugging/filling well:	\$10,000
Earthwork:	\$1,072
<u>Revegetation:</u>	<u>\$1,232</u>
Total	\$15,524

As of April 7, 2011, the mine has two separate surety bonds posted for a total bonded amount of \$2,184,000. Principal holders include Rockwood Casualty Insurance Company and the National Union Fire Insurance Co. of Pittsburgh, PA. The current estimated reclamation cost for the mine is \$1,998,000, leaving a difference of \$218,000 in excess bond. The addition of GVH 4 and 5 will result in less than 1% increase. Therefore, not additional bond will need to be posted. Bonding information for the GVH installation is included inn Attachment 13 of Appendix 5-14A. Spreadsheet updates were included with the application.

Findings:

Contents and information provided are sufficient enough to meet the minimum requirements of this section of the Utah Coal Mining Rules.

RECOMMENDATIONS:

The amendment is recommended for approval at this time.