



GARY R. HERBERT  
Governor  
GREG BELL  
Lieutenant Governor

**State of Utah**  
DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER  
Executive Director

**Division of Oil, Gas and Mining**  
JOHN R. BAZA  
Division Director

**Technical Analysis and Findings**  
**Utah Coal Regulatory Program**

**PID:** C0150007  
**TaskID:** 4703  
**Mine Name:** HIDDEN VALLEY MINE  
**Title:** MIDTERM COMPLETION RESPONSE

**Summary**

On October 15th, 2014, the Division received the Permittees response to deficiencies identified during a recently conducted midterm review of the Hidden Valley mining and reclamation plan (MRP). The midterm review (Task ID #4604) was initiated on June 16th, 2014. Deficiencies were identified and provided to the Permittee to respond.

The Division has determined that additional information is required.

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**Operation Plan**

**Hydrologic General**

*Analysis:*

The midterm review of the Hidden Valley Mine identified a deficiency relative to three monitoring wells (HV-06-01, HV-06-02, HV-06-03) located in the Hidden Valley permit area. The Permittee was directed to provide the following revisions to the mining and reclamation plan (MRP):

The revision to the MRP must include the following:

- (1) Provide an update in the hydrology section of the MRP to discuss the monitoring wells. The update should include a narrative as well as a figure depicting their location.
- (2) Provide an update to the reclamation section of the MRP that discusses how the monitoring wells and associated pads will be reclaimed.
- (3) Provide an update to the reclamation section of the MRP that discusses how the monitoring wells will be capped and sealed.

On page 45 of chapter III of the MRP, the Permittee provides a discussion of the three monitoring wells. It's indicated that during final reclamation, "each drill hole will be sealed with cement from the bottom of the hole to ground level". Additionally, the Permittee provides a map that depicts the locations of the three monitoring wells on Plate IVa, Drill Hole Locations.

However, the Permittee failed to provide a discussion as to how the associated pads for the three monitoring wells will be reclaimed.

*Deficiencies Details:*

R645-301-760- The Permittee must provide a revision to the reclamation section of the MRP that discusses how the drill pads associated with monitoring wells HV-06-01, HV-06-02, HV-06-03 will be reclaimed. The initial midterm review (Task ID #4606) requested a discussion as to how the monitoring wells and their pads would be reclaimed. The Permittee discussed how the wells will be sealed and capped; however, upon review of the submitted information, it appears that a discussion as to how the pads will be reclaimed (i.e. natural drainage patterns established, re-vegetation efforts etc.) was not included.

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## Reclamation Plan

### General Requirements

*Analysis:*

On October 15, 2014 the Division received a response to the deficiencies noted in the 2011 annual report and Mid-Term. The deficiency noted in this section of the regulations included the following requests for the permittee to address:

During the Emery Deep mine's 2011 annual report review process, a commitment was identified that needed to be addressed. The commitment discusses the development of an investigative study into past reclamation practices conducted at the Emery Deep and Hidden Valley Mines. The following is the commitment as found on page 4a of Chapter 3 of the MRP.

The permittee is committed to develop an investigative study into past reclamation practices conducted at the Emery and Hidden Valley mine sites. The scope of the investigation shall include but not limited to:

1. Evaluate current vegetation and soil chemistry of all topsoil and subsoil stockpiles. Past reclamation sites of disturbed land are to be included within the scope of study. "A Reclamation Monitoring Study for the Emery Mine- Vegetation and Soils" was completed in 2003 and can be found in ChIII Appendix III-1.

2. Based on findings from the study, plans shall be developed to enhance the vegetation of each site. The plan is to be reviewed with Division of Oil, Gas and Mining (DOG M) prior to implementation of the plan. Period for implementing enhancement methods should be performed when warm season planting may be conducted.

3. The qualitative part of the study will be performed annually and the quantitative aspects will be performed between the 4th and 6th year, following initial implementation of enhancement methods. The present reclamation methods shall be correlated with the historical weather information obtained from an on-site weather station.

4. Based on the follow-up study, a total reclamation plan shall be developed for the Emery mine site. The plan is to incorporate and utilize the best reclamation practices found through the previous investigative studies. The final reclamation plan will be developed in conjunction with DOGM and submitted 12 months prior to initiating final reclamation.

The site visit conducted individually by Joe Helfrich, (Division Biologist), on July 29th, 2014 indicated that the site was stable and the silt fences were in good repair and functioning adequately. The vegetation on the B area was well established.

There have been no reclamation activities initiated on the A area to date. This may have been due in part to the exploration activities that were a part of the exploratory engineering study that was initiated in 2006 wherein several drill holes were completed but the portals on the A side were not opened.

It is recommended that the permittee meet with the Division staff to develop a reclamation strategy for the remaining disturbed portions of the Hidden Valley site.

**Permittee Response:**

Per Emery Deep mine's 2011 annual report and Hidden Valley mid-term review deficiency task 4604, CONSOL will initiate discussions with DOGM regarding development of a reclamation strategy for the remaining disturbed portions of the Hidden Valley Mine. With market changes in mid-2005, CONSOL requested that the reclamation of the "B" side seam bench be postponed. Submittal in 2006 of a Minor Exploration Permit for exploratory drilling and a Major Exploration Permit to re-open both "A" and "B" adits for test coal shipments followed with further requests to postpone reclamation due to the possibility of opening a large scale underground mine at the site. All water monitoring and sediment control maintenance have remained functional. At this time, CONSOL continues to evaluate and market this reserve along with the adjacent properties and will continue to request reclamation extensions through the annual review process. CONSOL continues to own in fee the 480 acres adjacent to the north side of the present permit boundary.

The information is adequate to meet the requirements of this section of the regulations. The application is recommended for approval.

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## Contemporaneous Reclamation General

### Analysis:

The B-seam portals were contemporaneously reclaimed in 1997. A commitment in the plan describes proceeding with reclamation of the A seam portals using techniques noted as successful on the B-seam area (MRP page 2-97B). Because the A-seam portals provide access to the A seam reserve, a request for deferral of the A seam portal reclamation until permit renewal in 2017 was included with the 2013 Annual Report,

In response to a request for further information on potential mining activity at the site (in accordance with R645-301-521.190, R645-301-522 R645-301-523), Consol stated 480 acres of fee coal are adjacent to the north side of the present permit boundary. This fee coal is in T 23 N, R 6 E, Sec 7 NE/4. Attachment C (dated 2009) provides a further listing of surface and mineral ownership that indicates the mine is surrounded by federal and state coal.

A minor exploration and major exploration permit were sought in 2006, the information provided shows the location of the boreholes and provides a suitable reclamation plan for them as follows: grading, scarification of soil, seeding with the mix on Chap III p. 8a, followed by raking. The Division suggests closely following the reclamation plan provided in Amendment 97B which describes the use of coarse fragments (rock) on the surface and the use of surface roughening for erosion control.

The information provided does not indicate whether exploration confirmed the likelihood of mining adjacent coal. The amendment states that ""CONSOL continues to evaluate and market this reserve along with the adjacent properties and will continue to request reclamation extensions through the annual review process."" It seems that the site is in temporary cessation status indefinitely.

### Deficiencies Details:

R645-301-121.200, Please correct the text on Chap III p. 8 in accordance with the following:

- 1) The permit area description in Sentence 2 on Ch III p. 8 is in error. The correct description is all of Sec 18 and the W1/2 sec 17 as shown on the accompanying map and on other Plates in the Hidden Valley MRP.
- 2) On Chap III p. 8, CONSOL has stated that the A-seam portals were reclaimed in 1997. This statement is in error. The B-seam portals were contemporaneously reclaimed in 1997. A commitment in the plan describes proceeding with reclamation of the A seam portals using techniques noted as successful on the B-seam area (MRP page 2-97B).

R645-301-244.100, The borehole reclamation plan should closely follow that provided in Amendment 97B which was successful. Amendment 97B describes the use of coarse fragments (rock) on the surface after grading and the use of surface roughening for erosion control. Please modify the borehole reclamation plan accordingly.

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## Bonding Determination of Amount

### Analysis:

The Permittee submitted an estimated bond calculation sheet showing the original 2004 dollar amount of \$95,501 escalated yearly to 2014 and then to 2019 in response to the midterm review bond deficiency.

Additionally, the deficiency from the midterm review, Task 4604, requested the permittee to provide updated cost estimates with supporting calculations, specifically line item and unit cost as well as line item estimates of the reclamation of the three monitoring wells HV-06-01, HV-06-02, and HV-06-03. Though the monitoring well site have been contemporaneously reclaimed, final reclamation work and plugging of the wells needs to be bonded for in the event that the Division must complete the work.

The rate of escalate that was used by Permittee does not match the Division's approved Historic Cost Index for Site Construction based on five-year averages. See table below for rate discrepancies

Permittee Escalation Rate	Division Approved Escalation Rate
1.02	1.016
1.04	1.032
1.05	1.038

1.02	1.013
-1.03	1.005
1.01	1.017
1.01	1.012
1.02	1.015
1.02	1.019
1.02	1.019
1.01	1.019

*Deficiencies Details:*

R645-301-830.140, -.110,-.410: The Permittee failed to provide supporting calculations for the estimates including line item and unit cost from R.S. Means Heavy Construction Cost Data Manual, the Caterpillar Handbook, or other appropriate resources. Permittee failed to supply the requested revised/update line item bonding cost estimates for the final reclamation and plugging of the three monitoring wells HV-06-01, HV-06-02, and HV-06-03 installed in 2006 and 2007. This information was requested in the Midterm review Task # 4604.

R645-301-830.300 The bonding summary sheet provided used incorrect escalation rates resulting in errors of the bond amount.

Please provide revised detailed line item bonding costs with supporting calculations for the all the demolition, earthwork and revegetation estimates, including the final reclamation of the three monitoring wells installed in 2006 and 2007. The bonding summary sheet and corresponding bonding calculation sheet need to be updated and appropriately escalated to 2019 dollars using the Division's approved escalation rates.

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