



November 13, 2015

Sent via electronic mail

Mr. Dusty Weber
Signal Peak Energy, LLC
Bull Mountain Coal Mine #1
100 Portal Drive
Roundup, MT 59072

Permit ID: C1993017
Revision Type: Major Revision
Permitting Action: Deficiency
Subject: TR3; First Round Acceptability Deficiency

Dear Dusty:

The Department of Environmental Quality (DEQ) has completed its acceptability review regarding Signal Peak Energy, LLC's (SPE) application for Major Revision TR3. The following deficiencies must be adequately addressed before DEQ can determine the application acceptable:

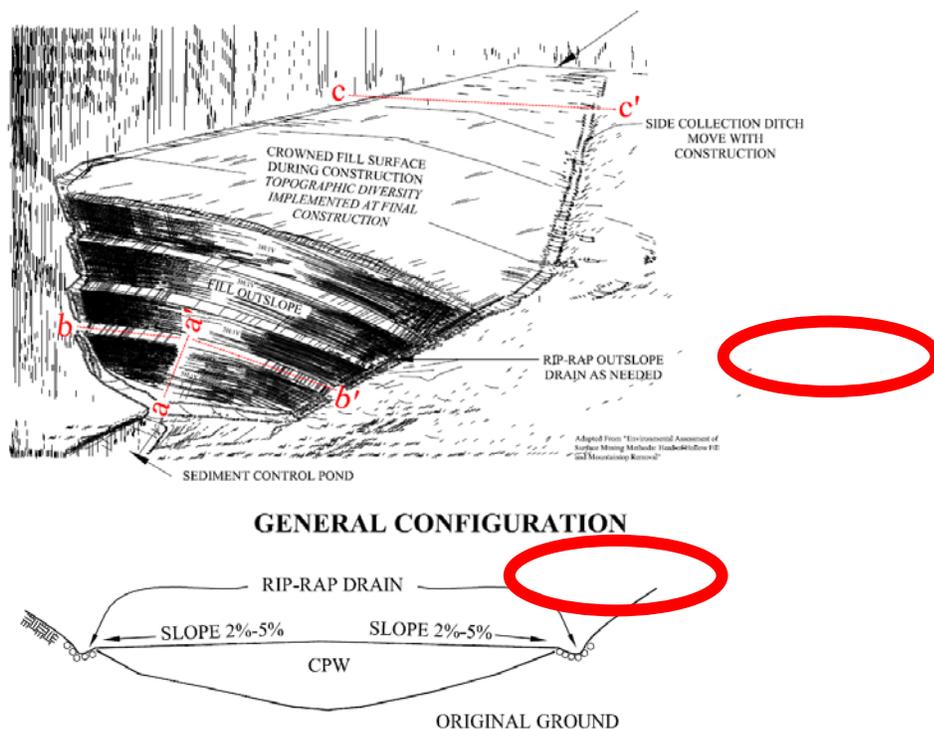
ARM 17.24.302(1): Page 313-8 of the application states: "WDAs stockpile locations are shown on Map 308-2, Map 901-1 and Map 901-1A". The stockpile locations must be depicted on the legend and depicted clearly on maps Map 901-1 and Map 901-1A.

ARM 17.24.302(1): The CAD data used in the creation of Pond E Calculations, Pond E Design, WDA Pond 3 Calculations, and WDA Pond 3 Design must be submitted to DEQ in order for DEQ to complete its review of TR3.

ARM 17.24.302(1): Sheet C1 of Sediment Pond E- TR2 design is missing labeled topography completely shown in drawings. Furthermore, the operator must eliminate crossing topography lines from C1.

Sheet C2 of Sediment Pond E-TR2 Details must show a complete design of Pond E Spillway. Cross-section B only depicts the existing ground surface and it must also depict the spillway.

ARM 17.24.302(1): Riprap drain is depicted on Map 901-1 and Map 901-1A Waste Disposal Area #1 and #2 General Arrangement and Waste Fill. Please remove the riprap out-slope drains depicted on Map 901-1 and Map 901-1A since they are no longer used in the design of WDA #1 or #2.



SECTION b-b'

ARM 17.24.302(1): The narrative on page 314-8, Section 3.2.3 Undisturbed Area incorrectly references Table 314-7 (culverts) in regard to diversion ditches. Table 314-8A is the correct reference.

ARM 17.24.304(1)k: In the section under "Original Surface Disturbance Area Survey," page 304(1)k-4, the second sentence references "Table 313-2A." Table 313-2A is either the wrong reference or the wrong table was inserted into the .pdf document. In the .pdf submitted Table 313-2A is titled "Comparison of Premine to Postmine Vegetation Types." According to the text this table should contain soil information on aerial extent of soil types. Additionally, the vegetation table noted above is also listed as 313-2F. Please correct the error.

Page 304(1)k-11 in the first paragraph references Appendix 304(11)-1. DEQ was not able to locate the reference in the current permit documents or any of the submittal documents. Please fix the reference or add the Appendix.

Under the section titled "Soil Salvage Depths and Estimated Volumes", pg. 304(1)k-13, the operator states that lift 2 and 3 soils may be stockpiled in the same footprint and may marginally mix. Then a statement is made that affirmative demonstration may be submitted to allow mixing of the Lift 2 and 3 stockpiles.

It has been noted that at times the lift 3 materials can reach greater than 35% rock content and consist mainly of cobble, Stone or Boulder size classes (75->600 mm diameter [USDA]). This is caused from salvaging the soft sandstone layers to gain enough material to meet permitted WDA

cover requirements. These larger rocky materials need to be kept separate from the finer soil type materials, and used as the base layer when surfacing the coal waste materials.

Mixing the two piles is acceptable while the lift 3 materials remain soil or soil parent materials with a rock content less than or equal to 35% (MDEQ suitability criteria) and a size class of coarse gravels (20-75 mm diameter [USDA]) or smaller.

Please consider these parameters for the language noted in the soil salvage depths section.

ARM 17.24.305(1)(d): Disturbance limit boundaries do not include Pad #3, or pads, road and facilities outside of the main facilities area. Per rule, the applicant must show the boundaries of all areas proposed to be affected over the estimated total life of the proposed mining operations.

ARM 17.24.313 Reclamation Plan: In the “Soil Removal, Storage, and Redistribution Plan” page 313-8, the second sentence in the first paragraph after the bulleted paragraph reads, “The volume of soil salvaged from the WDA 1 and associated facilities to date shown on table is presented in Table 313-2C.” The shown on table statement, underlined here, is new text. The statement is not clear as to which table is showing the soil salvage volume.

Please clarify this statement.

ARM 17.24.313(1)(d)(v): DEQ was able to confirm that the WDA #2 footprint, when excavated to bedrock, will provide more than 4 feet of cover material needed for reclamation of WDA #2. DEQ calculated approximately 7 feet of cover material available for reclamation when the WDA #2 fill level is excavated to bedrock. This amount was calculated by comparing 3D surfaces of the current pre-WDA #2 to a topographic map the department created from elevations of bedrock depicted in Figure 3, Major Revision TR2 (WDA2) contained in Appendix 901-1B Waste Disposal Areas Stability Analysis and Geotechnical Report. Please estimate how much cover material will be placed in each of the WDA subsoil/suitable Stockpiles. The volume of cover material in each subsoil/suitable stockpiles is needed to verify the size of the footprint needed for each of the piles and to insure that the post-mine topography of the WDA can be achieved.

ARM 17.24.313(1)(d)(v): Please provide the CAD data associated with the pre regrade 3d surface and the presoiling 3d surface used to calculate the postmine grading volumes displayed in Table 313-1A. This information is necessary for DEQ to verify that postmine topography of WDA #1 and #2 can be achieved.

ARM 17.24.314: Pad #3, and associated access roads and culverts are not shown on Map 314-1 General Grading and Surface Water Control Plan. Please include this information in Map 314-1 and submit associated CAD files.

ARM 17.24.314(2): WDA Subsoil Stockpile #4 appears to lie within a floodplain area, and may constrict overflows from Rehder Creek. It also appears that there is a potential for Rehder Creek flood flows to be routed to WDA Sediment Pond 3, either via ditch WDA2-1A, or along the access road adjacent to Rehder Creek. Please clarify and/or modify the drainage control in the area of WDA Stockpile #4 to avoid potential impacts to the hydrologic balance, and to prevent unplanned routing of Rehder Creek to WDA Sediment Pond 3.

ARM 17.24.314(3): In Appendix 314-5, PHC, the discussion of deep underburden in Section 3.6.2.2 references Appendix 314-7, however no Appendix 314-7 could be located.

ARM 17.24.314(3): In Appendix 314-5, PHC, in Section 3.3.2 on page 314-5-12, the third paragraph states it is infeasible to expect an overburden well to produce sufficient water for beneficial use. Although often the case, this is not universally true. Some overburden units are utilized successfully for beneficial uses, primarily for stock water wells (for example, Charter's well in Township 6 N, Range 27 E, Section 22). Please revise this statement to reflect that the overburden can and is used for beneficial uses.

ARM 17.24.314(3): In Appendix 314-5, PHC, in Section 3.3.3 on page 314-5-13, the first paragraph states the Mammoth coal outcrops east and west of the mine. Please also include that the coal outcrops south of the mine.

ARM 17.24.314(3): In Appendix 314-5, PHC, in Section 3.5.6 on page 314-5-39, the first full sentence states "...during mining of panels 1 than was observed..." It appears this should read "...during mining of panels 1 and 2 than was observed..."

ARM 17.24.314(3): In Appendix 314-5, PHC, in Section 3.5.6 on page 314-5-39, the last paragraph states all mine gob water quality parameters were within the range of baseline values except for nickel. In reviewing Table I-1 in Attachment I, the reported values for sodium in both gob water samples were higher than the maximum values reported for baseline in the Mammoth coal and the overburden. Please note this elevated sodium in Section 3.5.6.

ARM 17.24.314(3): In Appendix 314-5, PHC, in Section 5.1.3 on page 314-5-48, the last sentence of the second paragraph states "...very near, or just above, that have..." It appears this should read "...very near, or just above, panels that have..."

ARM 17.24.314(3): In Appendix 314-5, PHC, in Section 6.2.7 on page 314-5-61, the discussions of Scenarios 1 and 2 ambiguously refer to a 50 year timeframe without defining that starting point of the Scenarios. DEQ understands that the particle tracking scenarios are based on the flow conditions at the end of the 50 year postmine transient model, which would mean the end of the particle tracking Scenarios is 100 years after the end of mining. The description of the timeframe for the particle tracking Scenarios is also similarly unclear in Appendix 314-6, Groundwater Model, Section 4.1.6. Please clarify the 50 year timeframes described in Appendix 314-5, Section 6.2.7 and Appendix 314-6, Section 4.1.6 relative to the end of mining. Please also include a general discussion of the expected effects of gob water on groundwater quality outside the permit boundary beyond the 50 year timeframe including the effects of advection, dispersion, sorption, and mixing with other waters.

ARM 17.24.314(3): In Appendix 314-5, PHC, in Section 6.5.3 on page 314-5-70, the first paragraph states three wells will be removed during the first five years of mining. As this period has passed, please update this section to describe the current status of these wells.

ARM 17.24.314(3): In Appendix 314-5, PHC, please include the median values for the Mammoth coal and overburden baseline Table I-1 in Attachment I

ARM 17.24.321(1)(a): The 321 narrative must reference Tables 314-7 and 314-8A as they applied to drainage control.

ARM 17.24.321(1): Please depict the swale on the profile for Map 321-8 17 Drainage Secondary Road Bypass at station 24+75 and must depict how the bypass ties into the 17 Drainage Road at station 24+75.

ARM 17.24.639(1)(b): This rule precludes constructing a sediment pond in a major stream course. Please add a berm or provide another method(s) of separation between WDA Pond 3 and the south fork of Rehder Creek and, if possible, steepen the spillway. The berm elevation should be, at minimum, five feet above the immediately adjacent channel invert and extend from Stockpile #4 to the north end of the pond. The berm should be located close to the pond excavation to maximize channel conveyance and minimize disturbance of the stream course. Alternatively, please provide water surface modeling that demonstrates a different berm height or no berm is required.

ARM 17.24.639(2): Labeled topographic lines must be depicted on Pond E Calculations Map and WDA Pond 3 Calculations Map. The topographic lines must be labeled at a frequency that will allow for DEQ to insure that sediment ponds are including the entire drainage area. Furthermore, Pond E Calculations Map must depict labeled topographic lines on the west side of the map.

ARM 17.24.640(28)(a): The amount of water entering sediment pond WDA Pond 3 from Culvert WDA2-1 presents an erosion hazard to the excavated slope. Please provide a detail design for a channel at the outlet of Culvert WDA2_1 that can provide adequate protection for the pond slope. The detail(s) can be added to the WDA Pond 3 design.

ARM 17.24.702: Power lines cross several soil stockpiles along the perimeter of proposed WDA #2. The location of power lines may interfere with stockpile operation and maintenance. Consider relocating the power lines to accommodate stockpile operation and maintenance needs.

ARM 17.24.702: Collection ditches around stockpiles along the northern flanks of WDA #1 and WDA #2 appear to route runoff water from stockpiles water to sediment ponds. These collection ditches are not required around stockpiles, and may result in the transport of soil material from soil stockpiles to WDA ponds. It is recommended that berms, supplemented by traps and silt fences be used to maintain soil on the stockpile footprint. Please clarify the usage of collector ditches around stockpiles.

ARM 17.24.901: DEQ has reviewed Map 900-5 and Drawing 900-5 and finds little evidence of gate road collapse. Contrary to the SPE's assertions that 'subsidence has already occurred over gateroads', Map 900-5 and Drawing 900-5 show that subsidence over gate roads has not occurred or is so limited as to be inconsequential presently.

Additionally, contrary to the SPE's assertions that "it is highly unlikely to be even visually noticeable on the surface", Appendix 901-1B *Waste Disposal Area (WDA) #1 and #2 Stability and Settlement Analyses* acknowledges the possibility for topographic impacts caused by differential subsidence over gateroad/longwall operations: *'Also, in the case of gateroads (the entries between longwall panels) surface subsidence is expected to occur over time. Surface subsidence over gateroads is planned and helps minimize the "trough impact" of drainages transecting over multiple longwall panels.'* With respect to monitoring, inspections of WDA #2 should be conducted quarterly to identify any areas that may be affected by subsidence.

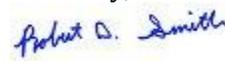
Updates to Section 901 reference Map 900-5 and Drawing 900-5, but do not discuss the result of this analysis or address the known subsidence condition over gateroads. Please discuss the results of subsidence, including the existing status of subsidence over gateroads and mined panels.

ARM 17.24.1102 and ARM 17.24.1104: The following must be revised in the bond calculation.

- 1.) The cost to remove railroad track and ties is \$13.10 per foot and ballast is \$6.65 per cubic yard: 2015 RSMMeans 02 41 13.33.
- 2.) The cost to remove power lines and poles included only 15,000 feet of power lines. A more accurate accounting must be made as the annual field map appears to depict more than 15,000 feet of power lines. For your information, RSMMeans calculates removal of power lines on a by pole basis: \$297 for up to 30' tall poles and \$355 for over 30' tall poles. This could lessen your liability.
- 3.) Additional information must be submitted for plugging the Madison Wells; for example, average depth and exactly how the holes will be sealed from top to bottom. Currently, if the Department assumes the bottom of the hole will be cemented in from 9,400' to 7,650' that 150 bags of 1:1 sand/cement will not be sufficient to fill a 7" hole. In addition, it appears that bentonite will be used between 2,850' to 7,650' and the table does not include a cost for bentonite.
- 4.) The cost to retrieve the longwall equipment from underground does not appear to be adequate if we assume the last move took 16 days or 48 shifts with extensive preparatory planning. SPI must assume a worst case scenario without preparation as this will likely be the situation if the mine were to go out of business. Appendix 313-1 Reclamation cost is missing bond calculations for infrastructure constructed on the permit while implementing MR 200 thru MR 231. This includes the plate press building and associated water tank, pumpable crib pads #4 -#6, enlargement of rock stockpile #1, culverts: A-3, G-5, G-6, borehole 121 and associated water pipe, fire water line for load out and silo. The operator must update Appendix 313-1 to include bond calculations for reclaiming infrastructure constructed on the permit from implementing MR 200 thru MR 231.

Please feel free to contact Robert D. Smith at 406-444-7444 with questions regarding this letter.

Sincerely,

 for

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