

# EXHIBIT A

**BEFORE THE BOARD OF ENVIRONMENTAL REVIEW  
OF THE STATE OF MONTANA**

**IN THE MATTER OF: APPEAL  
AMENDMENT APPLICATION  
AM3, SIGNAL PEAK ENERGY  
LLC'S BULL MOUNTAINS MINE  
NO. 1, PERMIT NO. C1993017**

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**CASE NO. BER 2016-07 SM  
  
FINDINGS OF FACT,  
CONCLUSIONS OF LAW, AND  
ORDER**

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## **INTRODUCTION**

This case has three parties: (1) the Department of Environmental Quality ("DEQ" or "the Department"); (2) the Petitioner, Montana Environmental Information Center ("MEIC" or "Petitioner"); and (3) the Respondent-Intervenors Signal Peak Energy, LLC ("Signal Peak" or "SPE").

This case concerns MEIC's appeal of DEQ's decision to approve a new amendment ("AM3") under SPE's Bull Mountains Mine No. 1 permit C1993017 (the "Permit").

## **PROCEDURAL HISTORY**

On October 5, 2012, Signal Peak sought approval for amendment to its mining and reclamation plan from the DEQ. Signal Peak sought to increase the amount of coal to its permitted area for its Bull Mountains No. 1 Mine. On September 13, 2013, DEQ notified SPE that the application was technically acceptable and on October 18, 2013, issued its approval of the permit and required a reclamation bond of \$11,194,411. Ord. on SJ at 3 (Nov. 13, 2019).

On November 18, 2013, MEIC, pursuant to Mont. Code Ann. § 82-4-206(1) and (2), as well as, Mont. Admin. R. 17.24.425(1), filed a notice of appeal and request for hearing before the Montana Board of Environmental Review ("BER" or "Board"). The Board appointed a hearing examiner for procedural purposes but retained substantive jurisdiction of the matter. In April and May of 2014, the parties filed cross-motions for summary judgment and agreed that the matter could be

decided on motions. The Board heard oral argument on the motions on July 31, 2015.

The Board ultimately granted summary judgment to MEIC on January 14, 2016. The Board remanded the matter to DEQ for proceedings consistent with the Consent Decree and Order (“Consent Decree”) filed on January 11, 2016. The Consent Decree expressly stated the Department’s determination on the revised application “will be subject to a new challenge and review” under the Montana Strip and Underground Mine Reclamation Act and the Montana Administrative Procedure Act. Ord. on SJ at 3-4.

On remand, DEQ considered additional information, assessed the probable cumulative impacts of all anticipated coal mining on the hydrologic balance of the cumulative impact area, updated Appendix 314-5 to the Probable Hydrologic Consequences (“2016 PHC”), determined the application to be acceptable, notified the public regarding its acceptability determination, and received and responded to public comments, including comments from MEIC.

Based on its new written findings and public comment on the new permit, the Department issued its AM3 Permit written findings, Cumulative Hydrologic Impact Assessment (“CHIA”), responses to public comments, and a revised reclamation bond calculation of \$11,194,411 on July 12, 2016. Prior to this date, no mining had occurred within the permit amendment area, and thus, at that time there were no existing impacts from subsidence. Ord. on SJ at 4.

On August 11, 2016, MEIC timely appealed the new permit to the Board pursuant to the Consent Decree (a “new challenge and review”). In its Notice of Appeal (“NOA”), MEIC stated that DEQ violated the law in approving the application in the following ways:

1. Signal Peak’s application and the Department’s CHIA “do not affirmatively demonstrate that there is sufficient high quality water [sic] available to replace spring and stream reaches that may be dewatered due to subsidence-related impacts.” (NOA ¶ 5).
2. Signal Peak’s reclamation plan does not provide “specific hydrologic reclamation plans for spring and stream reaches until specific water resources are impacted by longwall mining activities.” (NOA ¶ 6).
3. The bonding amount determined by the Department is improper because it “omits funding for multiple measures that the reclamation plan . . . identifies.” (NOA ¶ 7).

On February 1, 2019, MEIC filed a Motion for Summary Judgment, and DEQ and SPE each filed Motions for Partial Summary Judgment. The Motions were all fully briefed in April 2019. Former hearing examiner Sarah Clerget scheduled the motions for oral argument in June 2019; it was later cancelled after a motion by MEIC pointing out that the jurisdiction originally conferred to the hearing examiner was for procedural purposes only. The matter was then brought before the BER as an action item at its May 2019 meeting. At its May meeting, the Board voted unanimously to “refer to our counsel, acting as hearing examiner, the pending summary judgment motions in the matter of Signal Peak Energy, Bull Mountains Coal Mine No. 1, for the preparation of a proposed decision in accordance with MAPA, which then would be brought back to the Board for further proceedings.” Bd. Mtg. Tr. 37:21-38:3; 56:9-19 (May 31, 2019). Oral Argument was then reset,

and Hearing Examiner Clerget issued an Order on the parties' pending motions in November 2019.

In her Order, Hearing Examiner Clerget dismissed Petitioner's reclamation bonding claims on summary judgment. Ord. on SJ at 15-17, ¶ 2, 29-30, ¶ 1-4. Following that decision, the parties again sought clarification on Ms. Clerget's jurisdiction. The matter was then brought before the BER as an action item at its December 2019 meeting, wherein the Board clarified that it intended to transfer its authority to the hearing examiner. The parties then proceeded with pretrial filings and from August 18, 2020 through August 21, 2020, former Hearing Examiner Clerget conducted a four-day virtual evidentiary hearing on the "central issue" of the physical and legal availability of the Deep Underburden Aquifer ("DUA")<sup>1</sup> to serve as a source of replacement water for beneficial uses in the vicinity of the Mine (i.e., seasonal livestock watering and domestic uses) lost or diminished by AM3. Tr. 4:5-9, 960:8-22; Ord. on SJ at 17, ¶ 3.

During the hearing, former Hearing Examiner Clerget reserved ruling on the Motions for Judgment on Partial Findings. Tr. 396:23 through 403:18. The parties filed their Proposed Findings of Fact and Conclusions of Law on December 18, 2020. On January 21, 2021, Hearing Examiner Andrew Cziok took responsibility for this matter as a hearing officer of this contested case. On March 31, 2021, Caitlin Buzzas assumed responsibility as the presiding Hearing Examiner. Hearing

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<sup>1</sup> The Board acknowledges that DUA and Deep Underburden ("DUB") are not technically equivalent terms, as the DUB refers to a geologic unit, and the DUA refers to the hydrologic function of that geologic unit.

Examiner Buzzas issued Proposed Findings of Fact and Conclusions of Law on July 30, 2021.

DEQ submitted its Exceptions on Points of Law to Proposed Findings of Fact and Conclusions of Law (“DEQ’s Exceptions”) on September 3, 2021. MEIC submitted its Exceptions to Hearing Examiner’s Proposed Findings of Fact and Conclusions of Law (“MEIC’s Exceptions”) on September 15, 2021. SPE submitted its Exceptions to Proposed Findings of Fact and Conclusions of Law (“SPE’s Exceptions”) on September 15, 2021. DEQ submitted its Response to MEIC’s Exceptions on October 27, 2021. MEIC submitted its Response to SPE’s Exceptions on November 5, 2021. SPE submitted its Response to MEIC’s Exceptions on November 5, 2021.

On April 8, 2022, the Board heard oral arguments from the parties and began deliberations regarding the parties’ Exceptions. On May 23, 2022, the Board continued its deliberations, and on June 10, 2022, the Board concluded its deliberations and approved these Findings of Fact, Conclusions of Law, and Order.

### **LEGAL STANDARD**

The Montana Administrative Procedure Act (“MAPA”), Mont. Code Ann. § 2-4-101, *et. seq.*, and the Montana Strip and Underground Mine Reclamation Act (“MSUMRA”), Mont. Code Ann. § 82-4-201, *et. seq.*, govern this contested case.

The Department reviews an application for a mine permit revision as prescribed by the MSUMRA and its implementing rules to determine whether the

proposed operation is lawful. Mont. Code Ann. §§ 82-4-201, *et seq.* A mine permit applicant must affirmatively demonstrate compliance with MSUMRA and its implementing rules. Mont. Code Ann. § 82-4-227(1). Additionally, Mont. Code Ann. § 82-4-253(3)(d), requires the operator of a mine to replace water supplies immediately and then on a more permanent basis “in like quantity, quality, and duration.”

Montana Administrative Rule ARM 17.24.304(1)(f)(iii) and Mont. Code Ann. § 82-4-222(1)(n) state that a mine permit application must include “a description of alternative water supplies, not to be disturbed by mining, that could be developed to replace water supplies diminished or otherwise adversely impacted in quality or quantity by mining activities so as not to be suitable for the approved postmining land uses.” To approve a mine permit application, DEQ must 1) confirm in writing that the proposed alternative water supplies could be developed to replace water supplies diminished or otherwise adversely impacted by mining activities in “like quantity, quality, and duration” and 2) consider whether the proposed replacement water could be obtained, legally and otherwise. Mont. Code Ann. § 82-4-253(3)(d); Admin. R. Mont. 17.24.304(1)(f)(iii); Ord. on SJ at 20, 27.

As the party asserting the claim at issue, MEIC has the burden of presenting the evidence necessary to establish the facts essential to a determination that the Department’s decision violated the law. *Mont. Env’tl. Info. Ctr. V. Mont. Dep’t of Env’tl. Quality*, 2005 MT 96, ¶ 16. The “facts essential” must be proved by a

preponderance of the evidence. *Id.* ¶ 22. In this contested case MEIC has the burden of proving by a preponderance of the evidence that DEQ’s decision to issue the permit violated the law. *Id.*; Ord. on SJ at 14.

### **FINDINGS OF FACT**

Having reviewed the evidence submitted, the Hearing Officer made the following factual findings, which the Board has adopted without change (except for correcting obvious typographical errors):

#### **I. BACKGROUND AND PROCESS**

1. The Bull Mountains Mine No. 1 (the “Bull Mountains Mine”), which is the only active underground coal mine in Montana, is located in Musselshell and Yellowstone Counties, approximately 15 miles southeast of Roundup, Montana. DEQ Ex. 5 at 3-1; Ord. on SJ at 8, ¶ 2.

2. AM3, which is depicted in Figure 3-2 of the Cumulative Hydrologic Impact Assessment ("CHIA") (DEQ Ex. 5 at 13-4) and in Figure 1 of the Written Findings (DEQ Ex. 4 at 2), is located at the hydrological divide between the Yellowstone River Basin and the Musselshell River Basin. DEQ Ex. 5 at 4-1; DEQ Ex. 4 at 2; Ord. on SJ at 8, ¶ 3.

3. The Bull Mountains Mine No. 1 was first permitted in 1993 to a company called Meridian Minerals. Ord. on SJ at 8.

4. DEQ then transferred the permit from Meridian Minerals to numerous entities after 1993. DEQ Ex. 5 at 3-2.

5. In 2008 Signal Peak sought to obtain Meridian Minerals' permit, and DEQ approved transfer of Meridian Minerals' permit to SPE. DEQ Ex. 5 at 3-2.

6. SPE operates the Bull Mountains Mine under Surface Mine Permit C1993017 (the "Permit"), first issued by DEQ in 1993. DEQ Ex. 5 at 3-2; Ord. on SJ at 3 and 8, ¶ 1.

7. The Mine targets the Mammoth coal seam, an approximately 8-foot to 12-foot-thick coal seam underlying the Mine. DEQ Ex. 5 at 9.2.4, Figure 4-4, Figure 9-8; Tr. 468:14-25, 469:1-24.

8. Strata above the Mammoth coal seam is referred to as the overburden, while strata below the Mammoth coal seam is referred to as the underburden. Tr. 469:22-25, 470:1-2.

9. The underground Bull Mountains Mine is located within lithologies depicted in Figure 4-4 of the AM3 CHIA, which is a stratigraphic column showing the "type of geologic material which occur beneath the surface of the earth" in the vicinity of the Bull Mountains Mine, including multiple coal layers, one of which is the Mammoth coal. DEQ Ex. 5 at 13-10; Tr. 468:14-470:20.

10. The overburden and the underburden consist of layers of rock including clinker, sandstone, silty sandstone, coal, siltstone, and claystone. Typically, these layers are thin and alternate between the various lithologies. DEQ Ex. 5 at 4-2, 13-10, Figure 4-4; Tr. 469:3-470:17.

11. The Mine conducts longwall mining, an underground mining method

that removes the entire Mammoth coal seam in advancing panels, allowing overburden rocks to “flex downward, fracture (creating a fractured zone) and collapse or cave into the void (forming a caved zone),” causing the overburden above the removed coal seam to subside. DEQ Ex. 5 at 3-2, 9-8; Ord. on SJ at 9, ¶ 6.

12. Each longwall panel consists of a block of coal approximately 1,250 feet in width and 15,000 feet to 23,000 feet in length. DEQ Ex. 5 at 9-8.

13. As approved, AM3 will expand the mine from five longwall panels to fourteen longwall panels. DEQ Ex. 5 at 3-1.

14. As of July 2016, five of the fourteen permitted longwall panels – approximately 36% of the permitted coal reserves – had been mined and the overburden subsided. DEQ Ex. 5 at 9.2.4.2.

**a. Prior Permitting and Appeal**

15. The Order on the Parties' Cross-Motions for Summary Judgment at pages 3-4, the procedural history of pre-remand matters heretofore decided by the Board which culminated in *In re Signal Peak Energy*, BER-2013-07 SM, Findings of Fact, Conclusions of Law and Order, at 56 (Jan. 14, 2016), and the associated January 11, 2016 Consent Decree (FOFCOL and Orders collectively referred to as “*Bull Mountains Mine Part I*”) are incorporated by reference as if fully set forth herein.

16. *Bull Mountains Mine Part I* found a potential for material damage to the hydrologic balance outside the permit boundary resulting from the migration of

gob water and granted summary judgment in favor of Petitioner, vacated AM3, and ordered SPE and the Department to reinitiate the application and review process.

*Bull Mountains Mine Part I* at 87-88; DEQ Ex. 4 at 5; Tr. 414:16-415:19; 426:1-3; Ord. on SJ at 3.

17. In *Bull Mountains Mine Part I*, Petitioner did not challenge AM3 based on alleged uncertainties in the legal and physical availability of the Deep Underburden Aquifer. Tr. 415:4-19; 11/18/2013 Notice of Appeal; *Bull Mountains Mine Part I* at 2.

18. On January 14, 2016, the Board, finding potential for material damage to the hydrologic balance outside the permit boundary resulting from the long-term migration of gob water – granted summary judgment in favor of Petitioner, vacated AM3, and ordered Signal Peak and the Department to reinitiate the application and review process. *Bull Mountains Mine Part I* at 87-88; DEQ Ex. 4 at 7; Tr. 414:16-25, 415:1-19, 426:1-3; MSJ Order at 3.

19. In vacating AM3, the Board noted uncertainties regarding the physical and legal availability of the DUA enunciated in Appendix 3M of Signal Peak's 2013 Groundwater Model. *Bull Mountains I* at 12-13, FOF ¶ 32; Tr. 433:21-25, 434:1-20, 537:5-6; MEIC Ex. 17 at Appendix 3M.

20. Pursuant to *Bull Mountains Mine Part I*, the Department reopened the AM3 application and reinitiated the AM3 acceptability review process. DEQ Ex. 4, at 1, 5-6; *Bull Mountains Mine Part I* at 87-88; January 11, 2016 Consent Decree at

3-4, ¶ 1.

21. A timeline of the AM3 application review and approval process on remand is detailed in the Department's Written Findings. DEQ Ex. 4 at 6-8.

22. After remand from the Board in 2016, Signal Peak submitted (and the Department considered) additional information, including the 2016 Comprehensive Evaluation of Probable Hydrologic Consequences ("2016 PHC"), the 2015 Deep Underburden Groundwater Model Report, the 2016 Groundwater Model Report, and improved and refined monitoring data. DEQ Ex. 4 at 7; SPE Ex. 2; Ord. on SJ at 4; Tr. 416:11-22, 428:9-25, 429:1; 443:18-25, 444:1-18, 544:14-24.

23. The Department relied on multiple sources of information to support their decision to approve AM3 in 2016, including permit documents and other information compiled by DEQ. Tr. 543:2-13, 544:14-24.

24. Permit documents the Department relied on to make its findings related to the 2016 AM3 approval include, but are not limited to: (1) Appendix 314-5, the 2016 PHC (DEQ Ex. 9); (2) Appendix 314-6, the 2016 Groundwater Model Report (DEQ Ex. 10); (3) Appendix 314-7, the Deeper Underburden Model Report (DEQ Ex. 11); (4) Appendix 313-2, the Spring Mitigation Plan (DEQ Ex. 7); (5) Appendix 313-3, the Stream Reclamation Plan (DEQ Ex. 8); and (6) Permit Section 304 baseline data on hydrologic resources and geology. DEQ Ex. 4 at 7; Ord. on SJ at 3-4; Tr. 428:9-429:7; Tr. 488:20-489:10, 543:2-13.

25. Additional information the Department relied on to make its findings

related to the 2016 AM3 approval included, without limitation: monitoring data from the Bull Mountains Mine annual hydrology reports, sources cited in the CHIA including MBMG reports and DNRC and MBMG databases, and guidance on combined appropriations from DNRC. Tr. 467:9-12, 479:1-15, 482:4-19, 492:13-493:3, 494:7-19, 496:3-6, 497:8-22, 533:10-21. 538:20-539:1, 543:2-13, 544:14-19, DEQ Ex. 5, 11-1 through 11-2; DEQ Ex. 21.

26. Some of these sources that the Department relied on to make its findings related to the 2016 AM3 approval contained new or additional information that was not contained within sources that the Department relied on to make its findings related to the 2013 AM3 approval. Such new or additional information is contained within the 2016 PHC (DEQ Ex. 9), the 2016 Groundwater Model Report (DEQ Ex. 10), the 2015 Deep Underburden Groundwater Model Report (DEQ Ex. 11), and additional monitoring data. DEQ Ex. 4 at 5; DEQ Ex. 5 at 9-15; Ord. on SJ at 3-4; Tr. 416:11-22, 428:9-429:1, 443:18-444:18, 544:14-24.

27. The 2015 Deep Underburden Groundwater Model Report and the 2016 Groundwater Model Report are “mathematical representation[s] of groundwater movement” and “useful tool[s] for evaluating various aspects of groundwater, including water quantity and water quality issues.” Tr. 410:2-13.

28. “[G]roundwater modeling is a mathematical representation of groundwater movement beneath the earth,” and is “a useful tool for evaluating various aspects of groundwater, including water quantity and water quality issues.”

Tr. 410:2-13.

29. The Department used the 2015 Deep Underburden Groundwater Model Report “to provide an understanding of the geologic and hydrologic characteristics of the deep underburden, as well as the ability to store and transmit water . . . [and] to confirm that impacts from mining in the deep underburden were expected to be extremely minimal.” Tr. 436:16-23; DEQ Ex. 5 at 9-25.

30. Neither Signal Peak nor the Department conducted hypothetical simulations of the 2015 Deep Underburden Groundwater Model. Tr. 868:24-25, 869:1-3.

31. The 2016 Groundwater Model Report “simulates the overburden, Mammoth coal, and underburden, primarily focusing on impacts to groundwater levels in the Mammoth coal, lower portions of the overburden . . . and the upper portion of the underburden” resulting from mining. Tr. at 432:16- 433:12; DEQ Ex. 5 at 9-15; DEQ Ex. 9 at 314-5-3, 314-5-58; DEQ Ex. 10, at 314-6-1, 314-6-28.

32. On May 24, 2016, the Department completed its review and determined the revised AM3 application acceptable. SPE Ex. 8; DEQ Ex. 4 at 5.

33. As approved, AM3 will add 7,161 acres to the permit area, expand the underground mine plan, and add approximately 176 million tons of coal to the permitted life-of-mine reserves. DEQ Ex. 4 at 1; DEQ Ex. 5 at 3-1; Ord. on SJ at 8-9, ¶ 5.

34. Following the Department's acceptability determination, Petitioner

filed objections to the AM3 application, in part, based on alleged uncertainties in the physical (i.e., quality and quantity) and legal availability of the Deep Underburden (DUB) and the adequacy of reclamation bonding. SPE Ex. 9 at 2-3; DEQ Ex. 1; DEQ Ex. 2; DEQ Ex. 3; Ord. on SJ at 10-12, ¶¶ 11-14.

35. Petitioner's Objections (DEQ Ex. 1) included the comments of Mark A. Hutson, P.G. (DEQ Ex. 2), which as pertinent herein, raised concerns that it was "uncertain" whether SPE would have the ability to apply for and receive an exempt well permit from the Montana Department of Natural Resources ("DNRC"). DEQ Ex. 2 at 2.

36. Additionally, Petitioner's Objections contained a letter from the Western Environmental Law Center, which discussed the uncertainty of replacement water quantity and quality based on the 2013 AM3 application materials. DEQ Ex. 3 at 11-12, 24-35; Ord. on SJ at 10, ¶ 12. This letter from the Western Environmental Law Center predated the 2016 AM3 application. DEQ Ex. 3 at 1.

37. The Department considered and responded to Petitioner's objections and concluded that any springs potentially impacted by subsidence and requiring mitigation could be replaced by exempt wells because the springs' flow rates do not exceed the exempt well 35 gallon per minute pumping limit. DEQ Ex. 6 at 5-6, ¶ 8; DEQ Ex. 21; Tr. 537:19-539:1, 542:2-7.

38. Based on information contained in the revised AM3 application and other information compiled by the Department, the Department prepared Written

Findings including a Cumulative Hydrologic Impact Assessment or “CHIA”. DEQ Ex. 4; DEQ Ex. 5; Tr. 442:20-443:5.

39. The CHIA – part of the Department’s Written Findings – evaluated “the cumulative impacts of existing, previous, anticipated mining on the hydrologic balance in the cumulative impact area around the mine,” and “determine[d] for the purpose of the permit decision if the proposed operation is designed to prevent material damage to the hydrologic balance.” Tr. 442:2-19, 407:5-15; DEQ Ex. 5 at 2-10, 10-4.

40. The CHIA concluded that AM3 is designed to “minimize disturbance of the hydrologic balance on and off the mine plan area and to prevent material damage to the hydrologic balance outside the permit area.” DEQ Ex. 5 at 2.1; Tr. 442:13-19.

41. For the reasons stated in the CHIA and Written Findings, the Department approved AM3 in July 2016. DEQ Ex. 4 at [1], 17; DEQ Ex. 6, Appendix III; DEQ Ex. 5; Tr. 417:5-418:4, 441:17-443:

**b. Current Appeal History**

42. On August 11, 2016, Petitioner challenged the Department’s approval of AM3 and requested a contested case hearing before the Board pursuant to Mont. Code Ann. § 82- 4-206(1)-(2) and ARM 17.24.425(1). SPE Ex. 9.

43. Petitioner’s Notice of Appeal and Request for Hearing did not renew its original AM3 objections regarding the potential for material damage to the

hydrologic balance outside the permit boundary (whether resulting from the migration of gob water or otherwise). *See generally* SPE Ex. 9.

44. The Board assigned the contested case proceeding to the Hearing Examiner, and, on September 30, 2016, the Hearing Examiner granted SPE's Motion to Intervene. Ord. on SJ at 3; January 17, 2017 Order on Motion to Intervene at 1.

45. Petitioner's reclamation bonding claim was dismissed for lack of evidence and failure to exhaust administrative remedies on summary judgment. Ord. on SJ at 15-17, 29-30 (citing *Seal v. Woodrows Pharmacy*, 1999 MT 247, ¶ 36; *Newville v. State Dept. of Family Service*, 267 Mont. 237, 257 (1994); *Durbin v. Ross*, 276 Mont. 463, 477 (1996); BER 2016-03 SM, Board Order, June 6, 2019, ¶¶ 15-17; BER 2016-03 SM, Order on Motion in Limine, March 15, 2018 at 5, 7-8).

46. Evidence and testimony was received on Petitioner's remaining claims following partial summary judgment: (a) that SPE's application and the Department's CHIA "do not affirmatively demonstrate that there is sufficient high quality water available to replace spring and stream reaches that may be dewatered due to subsidence-related impacts" and (b) that SPE's reclamation plan does not provide "specific hydrologic reclamation plans for spring and stream reaches until specific water resources are impacted by longwall mining activities." SPE Ex. 9 at 1-3, ¶¶ 1-6; Tr. 416:23-417:4; Ord. on SJ at 5, 12, ¶¶ 14-15.

47. The Hearing Examiner conducted a four-day virtual evidentiary

hearing from August 18, 2020 to August 21, 2020 on the “central issue” of the physical and legal availability of replacement water. Tr. 4:5-9, 960:8-22; Ord. on SJ at 17.

48. Petitioner presented testimony from three witnesses at hearing: Mr. James Jensen (standing), Mr. Mark Hutson (qualified expert in geology, hydrogeology, and fluvial sedimentology), and Mr. Martin Van Oort (fact witness for exhibit authentication and relevance of 30(b)(6) deposition transcript). Tr. 11:18-19, 33:22, 89:22, 96:2-13, 365:15-24.

49. The Department presented testimony from one witness at hearing: Mr. Martin Van Oort (qualified expert in geology, surface and groundwater hydrology, and groundwater modeling). Tr. at 405:16-19, 412:21-25, 413:1-4.

50. Signal Peak presented testimony from two witnesses at hearing: Mr. Judd Stark (qualified expert in coal mining, coal mine permitting, permit compliance, environmental monitoring, and reclamation) and Dr. Michael Nicklin (qualified expert in surface water and groundwater hydrology and groundwater modeling). Tr. 731:10-21, 808:11-18.

51. After the close of Petitioner’s case-in-chief, the Department and Signal Peak moved for Judgement on Partial Findings (i.e., directed verdict) on Petitioner’s claims. Tr. 396:23 through 403:18.

52. The Hearing Examiner reserved ruling on the Motions for Judgment on Partial Findings. Tr. 396:23 through 403:18.

## II. CONTESTED CASE PROCEEDING

### a. Standing

53. Petitioner relies on Mr. Jensen for associational standing. Tr. 11:18-19, 33:22.

54. Mr. Jensen lives in Helena, Montana, approximately 300 miles from the Bull Mountains Mine. Tr. 34:1-7, 63:23-25, 64:1.

55. Mr. Jensen has lived in Helena, Montana since 1985. Tr. 34:1-7, 36:1-3.

56. Mr. Jensen was employed as Petitioner's Executive Director. Tr. 34:1-7.

57. As Executive Director, Mr. Jensen has authorized Petitioner's litigation against coal companies and their federal and state regulators, including this litigation against Signal Peak and the Department. Tr. 46:1-25, 47:1-10.

58. Mr. Jensen understands Petitioner must establish associational standing to maintain each litigation against coal companies and their federal and state regulators. Tr. 47:17-21.

59. Mr. Jensen filed a standing declaration on behalf of Petitioner in this matter on January 25, 2019. *See generally* SPE Ex. 17; Tr. 65:20-25.

60. Mr. Jensen has a deep connection to the Bull Mountains and has been visiting them regularly for the last 35 years "[a]t least once every two years." Tr. 34:13 to 35:9; Tr. 37:18-17.

61. Mr. Jensen did not dispute that there are no public lands above the Mine. Tr. 65:1-4.

62. Mr. Jensen has never visited the Mine's underground workings or surface facilities. Tr. 52:5-13.

63. Mr. Jensen does not own or lease (and has never owned or leased) real property in the vicinity of the Mine. Tr. 64:21-25.

64. Mr. Jensen has not appropriated (and has never appropriated) surface water or groundwater rights in the vicinity of the Mine. Tr. 65:5-11.

#### **b. Deep Underburden Aquifer Water Quantity and Quality**

65. "The main hydrologic issue regarding subsidence at [the Mine] is the potential for loss or diminution of the quantity of groundwater and surface water, and impacts to wells, springs, ponds, and stream reaches as a result of subsidence-related fracturing of overburden shales and sandstones." Ord. on SJ at 9, 17-21; DEQ Ex. 5 at 9-8; Tr. 432:2-9.

66. The thirty-one springs identified in Table 314-3-1 provide water used for livestock watering. SPE Ex. 27 at Table 314-3-1; DEQ Ex. 7, at 313-2-2.

67. Table 314-3-1 lists 31 "springs potentially requiring mitigation following mining impacts." SPE Ex. 27 at Table 314-3-1; Tr. 509:23-510:23, 747:18- 748:19, 804:17-805:3.

68. The thirty-one springs identified in Table 314-3-1 "have substantial and reliable flow/discharge or consistent/reliable pond levels and may be impacted

by mining.” DEQ Ex. 7 at 313-2-1; SPE Ex. 27 at 314-3-1.

69. The Department concluded in the CHIA, thirty-three “springs . . . demonstrated regular seasonal or annual flow conditions with median flow rates greater than 0.5 gpm (Table 7-1 and Figure 6-3). Many of these springs provide a reliable source of water to support livestock . . . .” DEQ Ex. 5 at 7-4; *see* Tr. 448:1-16, 449:3-12 (discussing Table 7-1 and Figure 6-3 from the CHIA).

70. A network of eleven stations monitor “stream” water quantity and quality. DEQ Ex. 5 at 7.1.2.1, 7.1.3.1.

71. Most stream reaches are dry, except below spring issue points. DEQ Ex. 5 at 7.1.2.1.

72. The Spring Mitigation Plan requires Signal Peak to mitigate “all springs that have a history of beneficial use or are necessary to support postmine land uses, not just those listed in Table 314-3.1.” DEQ Ex. 7 at 313-2-2.

73. Signal Peak reports monitoring results to the Department on a semi-annual and annual basis. Tr. 721:14-722:1, 755:19-756:21; *see e.g.* SPE Ex. 36.

74. No springs identified in the CHIA that may be impacted by mining have median flow rates over 35 gallons per minute. MEIC Ex. 15, Table 314-3-1; DEQ Ex. 5 at 12-16, Table 7-1; Tr. 542:2-7.

75. As of July 2016, 9 springs had been undermined: 17415, 17115, 17145, 17165, 17185, 17315, 17515, 17255, and 17275. DEQ Ex. 5 at 9-9.

76. As of July 2016, 5 of the 31 springs listed in Table 314-3-1

(approximately 16%) had been undermined. DEQ Ex. 5 at 9.2.4.2; DEQ Ex. 9 at 57, ¶ 5.1.1; at 59, ¶ 5.2.1; SPE Ex. 27 at 314-3-1, Table 314-3-1.

77. The CHIA evaluated the undermined springs in detail and concluded: “As described in [CHIA] Section 9.2.4.2, impacts due to subsidence include diminution of spring flows at spring 17145, and increases in SC at spring 17275. [SPE] has begun to implement remedial mitigation measures at spring 17145, and continues to monitor water quality and quantity to assess whether recently identified impacts are temporary in nature, or will require more permanent solutions.” DEQ Ex. 5 at 9-12; DEQ Ex. 9 at bates 187-222; Tr. 502:14-506:24, 889:1-24.

78. The CHIA concluded that Spring 17145 (Bull Spring) evidenced a diminution of flow potentially attributable to subsidence, and the Department required mitigation at this spring. The Department’s CHIA stated “This physical evidence, in conjunction with unexpected diminution of flows from Bull Spring suggests that Bull Spring may have been impacted by undermining. In accordance with permit obligations defined in Appendix 314-3, Spring Impact Detection and Mitigation, [SPE] initiated interim mitigation procedures to address the potential flow depletions. Continued monitoring of Bull Spring, and execution of the Interim Mitigation Plan proposed by [SPE] will inform whether permanent mitigation procedures will be necessary.” DEQ Ex. 5 at 9-10; DEQ Ex. 9 at 314- 5-40 and 314-5-58; Tr. 506:25-507:5, 651:2-12, 814:9-816:21.

79. As of the time of the AM3 approval in 2016, the Department had not

required temporary or permanent mitigation at springs 17275, 17415, 17165, or 17185. DEQ Ex. 5 at 9-10; Tr. 506:25-507:5.

80. Temporary mitigation measures proposed for Spring 17145 (Bull Spring) prior to approval of AM3 included utilizing a nearby pond and hauling water. SPE Ex. 30; Tr. 164:6-18, 427:6-13, 828:13-829:5.

81. The temporary mitigation measures implemented for Spring 17145 (Bull Spring) did not require replacement water from the DUA. Tr. 427:14-17.

82. Other than the temporary mitigation measures implemented for Spring 17145 (Bull Spring), sourcing replacement water (from the DUB or otherwise) had not been required at the time of the AM3 approval in 2016. Tr. 427:14-17.

83. “Stream monitoring consists of the collection of water quality parameters and flow measurements at eleven established surface water monitoring stations within and outside of the permit area.” DEQ Ex. 5 at 6-1.

84. “In most years, streambeds are dry, except below spring issue points.” DEQ Ex. 5 at 7-3.

85. AM3 identifies the maximum extent of flowing stream reaches below springs that may be impacted by subsidence and may require mitigation. DEQ Ex. 8 at attached Figure 313-3-1.

86. Stream reach water quality shows “high variability in sampling results” and is generally higher in dissolved parameters in the summer when the ground is not frozen, and lower in dissolved solids in the winter. DEQ Ex. 5 at 7-5

through 7-6; Tr. 493:11-494:6.

87. The Stream Function Impact and Restoration Plan “describes the measures which will be taken to maintain and restore the function of streams during and after mining.” DEQ Ex. 8, Stream Function Impact and Restoration Plan at 313-3-1; Tr. 438:22-440:13.

88. These include “reestablishing stream flow, repairing fractures, and correcting changes to channel gradient to avoid excessive erosion.” DEQ Ex. 8 at 313-3-8; Tr. 439:16- 440:8.

89. The Stream Function Impact and Restoration Plan contemplated replacing flowing stream segments below springs using excess water from spring mitigation. DEQ Ex. 8 at 313-3-9; Tr. 373:14-374:3, 440:9-13, 598:13-20, 600:4- 21.

90. The CHIA described this stream channel repair stating, “Subsidence associated with the northern end of longwall Panel 4 in March 2014 resulted in a change in topography which would have impounded the flow of the 17-drainage. In response to this subsidence, and with concurrence of DEQ, SPE reconstructed the 17-drainage channel downstream from the end of longwall Panel 4 to restore the natural drainage connectivity and ensure passage of stream flows to maintain the hydrologic balance.” DEQ Ex. 5 at 9-8.

91. The monitoring schedule of each monitoring station is reviewed on an annual basis in consideration of observations during the prior water year and anticipated future impacts. SPE Ex. 28 at 4, ¶ 2.2.

92. Inherent uncertainty exists regarding the effects of subsidence on springs and stream reaches; subsided springs and stream reaches may evidence a range of negative and positive qualitative and quantitative changes, such changes may be temporary or permanent, and such changes may or may not be attributable to mining. DEQ Ex. 7 at 6; DEQ Ex. 8 at 3.0; DEQ Ex. 9 at 74-75, ¶ 6.5.1; Tr. 181:7 through 190:24, 711:16:22, 825:22-25, 826:1-25.

93. Factors relevant to whether springs and stream reaches will be impacted by subsidence include (1) depth of mining from the ground surface; (2) thickness and type of strata between the springs and stream reaches and mined strata; (3) nature of subsidence; (4) percentage of watershed contributing to water resource; (5) land slope and topography; (6) local geologic anomalies associated with water resource; (7) the yield of the water resource, and (8) the proximity of the spring or stream reach to the subsidence. DEQ Ex. 9 at 74-75, ¶ 6.5.1; Tr. 511:2-25, 512:1-12.

94. Spring monitoring data evidences considerable natural variability in spring discharge (and the resultant downgradient stream reaches), and “[t]he exact length of each perennial and intermittent reach is directly related to the amount of precipitation the local watershed has received.” DEQ Ex. 8 at 2.0.

95. Owing to the “inherent difficulties” and “complexities” of spring and stream reach impact assessment, it is “impracticable to meaningfully project the likelihood, or probability,” that a given spring or stream reach will be impacted by

subsidence and require mitigation. DEQ Ex. 9 at 74, ¶ 6.5.1.

96. Notwithstanding, because springs and stream reaches are not directly disturbed by longwall mining operations, anticipated impacts “are much more limited” and “much less” pronounced than other mining methods. Tr. 437:16-25, 438:1-9, 439:3-24, 500:24-25, 501:1-25, 502:1-17.

97. The deep underburden consists of an outcropping of rocks belonging to the Tongue River member of the Fort Union Formation. MEIC Ex. 21 at 3.2.5. These outcroppings are observed in Fattig, Halfbreed, Razor, and Pompeys Pillar Creek drainages. DEQ Ex. 11 at p.3. This suggests that these massive sandstones represent large fluvial channels that are linear and continuous throughout the Bull Mountains area. MEIC Ex. 21 at 3.2.5; DEQ Ex. 11 at p.3. These sandstone formations are likely many miles wide and reflect a high sinuosity or continuous meandering of the paleostream. MEIC Ex. 21 at 3.2.5.

98. The DUA aquifer is a “confined” (i.e., pressurized) aquifer in the “massive” and “relatively deep sandstones” of the deep underburden approximately 355-405 feet below the surface of the Mine. DEQ Ex. 5 at 9-24; DEQ Ex. 11 at 1-4.

99. The DUA extends over a broad area throughout the Bull Mountains area, approximate dimensions are about 14 miles wide and 22 miles long trending along the axis of the Bull Mountains syncline. DEQ Ex. 9 at 52, ¶ 3.6.2.2.

100. In 2009, Signal Peak installed the Office Supply Well (“OSW”), a public water supply well completed in the DUB. SPE Ex. 24 at 1.

101. The OSW, a public water supply well completed in the DUB with an average pumping rate of 6 gallons per minute, was permitted by the State of Montana in 2009. DEQ Ex. 9 at 51-52, ¶ 3.6.2.1; SPE Ex. 24 at 1, ¶ 1.0, at 1-5, ¶ 2.0.

102. On June 5, 2009, Signal Peak conducted a 24-hour OSW pump test (“OSW Pump Test”) to assess the hydraulic conductivity, transmissivity, and storativity of the DUB. SPE Ex. 24 at 2-3; Tr. 852:17-853:17.

103. Signal Peak reported the results of the OSW Pump Test (including lithologic logs, pump and recovery test results, water quality results, and monitoring well logs) in the Office Well Completion and Pump Test Report. SPE Ex. 24 at 1.

104. The OSW Pump Test Report projected a 3-foot drawdown in the nearest private well (approximately 4,200 feet from the OSW) if the OSW was continuously pumped at a rate of six gallons per minute for twenty years. SPE Ex. 24 at 3.

105. Signal Peak installed DUB monitoring wells BMP-121, BMP-128, and BMP-129. SPE Ex. 24 at 1, ¶ 1.0; at 5-6, ¶ 3.0; Tr. 845:9-25, 846:1-20.

106. Since conducting the OSW Pump Test in July 2009, DUB monitoring well “BMP-121 has shown no water level effects from mining or pumping at the OSW.” DEQ Ex. 5 at 9-25, Figure 9-40 at 13-69; DEQ Ex. 9 at 314- 5-41; SPE Ex. 36 at 13; Tr. 237:3-240:14.

107. Since conducting the OSW Pump Test in July 2009, the OSW pump rate has averaged four gallons per minute. Tr. 913:2-6.

108. DUB monitoring wells BMP-128 and BMP-129 – installed in 2014 – exhibited “excellent capacity” and stability. SPE Ex. 36 at 10-15, ¶ 3.5.3; Tr. 909:13-19.

109. Neither SPE nor the Department conducted hypothetical simulations of drawdown from replacement wells using the 2015 Deep Underburden Groundwater Model prior to the 2016 approval of AM3. Tr. 565:18-21, 566:5-23, 868:24-869:3.

110. Signal Peak subsequently developed the 2016 PHC, which assessed the probable hydrologic consequences of AM3. DEQ Ex. 9 at 18, ¶ 1.1, Tr. 428:9- 18.

111. The 2016 PHC considered available information, including the OSW Pump Test Report, DUB well discharge rates, DUB well logs, and DUB domestic wells, to assess the hydraulic conductivity of the deep underburden. *See generally* DEQ Ex. 9; Tr. 909:8-19.

112. The 2016 PHC evaluated spring discharge rates in the vicinity of the Mine. DEQ Ex. 9 at 9, ¶ 3.4.5, Figure 16-1, Figure 16-2.

113. The 2016 PHC concluded that spring flow rates in the vicinity of the Mine are “highly variable over time” and “[a] majority of the springs [...] exhibited no flow from 2003 to 2015 or occasional flow, i.e. not enough to develop a meaningful hydrograph.” DEQ Ex. 9 at 39, ¶ 3.4.5.

114. The 2016 PHC concluded that “[t]here is presently no evidence of surface water quality impacts associated with mining.” DEQ Ex. 9 at 59, ¶ 5.2.1; Tr. 814:9-25, 815:1-25, 816:1-21, 866:23-25, 867:1-3.

115. The 2016 PHC assessed the deep underburden and DUA. DEQ Ex. 9 at 38, ¶ 3.3.4, at 51, ¶ 3.6.2, at 52, ¶ 3.6.2.2, at 78, ¶ 6.5.4.

116. The 2016 PHC considered and relied upon, in part, the 2009 Office Supply Well (“OSW”) Pump Test Report and the underlying 24-hour OSW pump test (“OSW Pump Test”) to assess the deep underburden and DUA. DEQ Ex. 9 at 38, ¶ 3.3.4, at 51, ¶ 3.6.2.1, at 58, ¶ 5.1.5.

117. The 2016 PHC evaluated the DUB’s existing and designated groundwater uses. DEQ Ex. 9 at 93, Table 4C.

118. The 2016 PHC concluded that the DUB is an existing source of groundwater for purposes of private wells, public water supply wells, and livestock and wildlife watering. DEQ Ex. 9 at 93, Table 4C.

119. The Department considered available information, including the 2015 Deeper Underburden Groundwater Model Report, OSW Pump Test Report, MBMG Reports, drilling/well logs in the permit, and MBMG and DNRC records of wells and water rights in the DUB to assess the water bearing properties of the deep underburden. DEQ Ex. 5, CHIA; Hrg. Tr. Day 2, at 436:16-23; Hrg. Tr. Day 3, at 477:2-10, 479:11-480:21, 482:4-485:8, 489:5-491:4, 519:17-520:10, 521:5-9, 543:2-13.

120. Petitioner presented testimony from Mr. Hutson (qualified expert in geology, hydrogeology, and fluvial sedimentology) on the issue of DUB water quantity. Hrg. Tr. Day 1, at 96:2-13.

121. Mr. Hutson testified that the Department's conclusion that the DUB is a possible source of replacement water is flawed because the Department did not quantify the amount of water in the DUB or (2) quantify the anticipated impact on existing users if replacement water is sourced from the DUB. Hrg. Tr. Day 1, at 103:1-104:16.

122. Mr. Hutson testified that a "sandy layer" or "sandy zone" exists in the DUB, but questioned the continuity of the sands. Hrg. Tr. Day 2, at 277:14-279:7, 293:1-295:11, 306:2-307:6; Hrg. Tr. Day 1, at 200:13-201:24, Hrg. Tr. Day 4, at 940:9-23.

123. Mr. Hutson did not quantify or otherwise calculate the anticipated replacement water need resulting from AM3. Tr. 139:22-140:2, 207:5-8, 270:22- 24.

124. Mr. Hutson based his opinion of the nature of continuity of the deeper underburden sands on general knowledge of the fluvial systems and the Fort Union Formation, and on literature review. Hrg. Tr. Day 2, 276:2-25, 277:1-6, 279:11-20.

125. Mr. Hutson agreed that the DUB "might produce enough water for mitigation purposes," explaining "I think it could. It's a possibility." Hrg. Tr. Day 2, at 278:23-279:10.

126. Water quality impacts to the DUB as a result of AM3 are not anticipated due to the hydraulic separation between the DUB and the upper underburden and Mammoth coal. DEQ Ex. 5, CHIA at 9-25.

127. DUB baseline water quality is Class II and more consistent than other

hydrostratigraphic units in the vicinity of the Mine. DEQ Ex. 5 at 7.2.5.

128. Historic and current surface and groundwater uses in the vicinity of the Mine include public water supply, private water supply, livestock, wildlife, irrigation, and industrial uses. DEQ Ex. 5 at 8.0.

129. Groundwater wells are primarily completed in the underburden, while springs are primary sourced from the overburden. DEQ Ex. 5 at 8.0, 8.5.

130. The Department identified and evaluated the surface water rights within the AM3 surface water Cumulative Impact Area. DEQ Ex. 5, CHIA at 8-1, Figure 8-2 at 13-24, Table 8-2 at 12-40; Hrg. Tr. Day 2, at 449:13-450:15.

131. Signal Peak owns nearly half of the surface water rights within the AM3 surface water Cumulative Impact Area. DEQ Ex. 5 at 8.5, Figure 8-2.

132. The majority of surface water rights within the Cumulative Impact Area are for livestock use. DEQ Ex. 5, CHIA at Table 8-2 at 12-40; Hrg. Tr. Day 2, at 450:7-15.

133. DUB baseline arsenic concentrations (representative of natural conditions) range from non-detect to 0.0679 mg/L. DEQ Ex. 5 at 7-15, 7.2.5, 9-25, 9.2.6.5; 9.2.6.7.1, Table 7-11 at 12-33; Hrg. Tr. Day 4 at 761:25, 762:1-17.

134. The maximum value of arsenic detected in the DUB (0.0679 mg/L) exceeds the CHIA's guidelines for livestock watering (0.01 mg/L). DEQ Ex. 5, CHIA at 7-15, Table 7-11 at 12-33; Hrg. Tr. Day 3, at 549:11-18; Hrg. Tr. Day 4, at 764:10-21.

135. “Arsenic occurs naturally at concentrations which can exceed human health standards in groundwater in the Fort Union Formation.” DEQ Ex. 5, CHIA at 9-29, 8-1; Hrg. Tr. Day 3, at 549:19-23.

136. Domestic wells completed in the DUA likely contain natural levels of arsenic over the DEQ-7 HHS standard for arsenic. DEQ Ex. 5 at 8.2.

137. The OSW – a permitted public water supply well sourced from the DUA – has never exceeded the DEQ-7 HHS standard for arsenic. DEQ Ex. 5 at 9.2.6.5.

138. “The OSW, also completed in the deeper underburden, has shown no exceedances of the arsenic HHS and is permitted as a public water supply.” DEQ Ex. 5, CHIA at 9-25.

139. Mr. Hutson did not dispute that the OSW has never exceeded the human health standard for arsenic. Hrg. Tr. Day 1, at 226:6-11.

140. DUB baseline sodium concentrations (representative of natural conditions) range from 297 mg/L to 469 mg/L. DEQ Ex. 5 at Table 7-11.

141. DUB baseline median sodium concentration (356 mg/L) exceeds the CHIA’s recommended guidance for livestock watering (300 mg/L). DEQ Ex. 5 at Table 7-11; Tr. 548:13-25, 549:1-10.

142. The CHIA’s recommended guidelines for livestock watering “are not enforceable standards but are used by DEQ for guidance in evaluating suitability of pre and postmine water quality for livestock use.” DEQ Ex. 5, CHIA at 2-4, 2-7;

Hrg. Tr. Day 3, at 548:23-549:3.

143. Mr. Hutson did not know whether commercially available treatment systems exist for sodium. Hrg. Tr. Day 1, at 217:15-22 *compare to* Hrg. Tr. Day 4, at 874:1-10 (Dr. Nicklin noting that treatment systems are available for sodium).

144. Mr. Hutson is not an expert in water treatment and did not present testimony on water treatment, including the viability or availability of water treatment methods such as reverse osmosis treatment systems. Hrg. Tr. Day 1, at 215:10-20.

145. The Department identified no legal barriers precluding the DUA as a source of replacement water. DEQ Ex. 6, Appendix III to Written Findings, Public Comment Response at 5-6, ¶ 8; Hrg. Tr. Day 3, at 542:14-17.

**c. Legal and Physical Availability of the Deep Underburden Aquifer**

146. AM3 identifies the DUB as a possible source of replacement water for springs adversely and permanently impacted by subsidence. DEQ Ex. 7, Spring Mitigation Plan at 313-2-3 through 313-2-5; MSJ Order at 9, ¶ 8.

147. Based on the well logs, the approximate thickness of the DUB ranges from 45 feet to 80 feet. DEQ Ex. 11, DUB Report at 2; Hrg. Tr. Day 4, at 844:5- 9.

148. The DUB is “the first substantive water-bearing unit underlying the Mammoth coal” in the vicinity of the Bull Mountains. DEQ Ex. 11, DUB Report at 1, Figure 314-7-4; Hrg. Tr. Day 3, at 516:9-20.

149. The maximum flow rate of any particular DUB well (if required for

permanent replacement water mitigation needs) is not anticipated to exceed 14.2 gallons per minute. DEQ Ex. 5, CHIA at 12-16, Table 7-1; SPE Ex. 27, Spring Impact Detection and Mitigation at Table 314-3-1; MEIC Ex. 15 Table 314-3-1; Hrg. Tr. Day 4, at 856:8-22.

150. The Department concluded the likely amount of replacement water required for each potential mitigation site informs whether the DUB can legally serve as a source of replacement water. Tr. 543:14-20.

## **DISCUSSION**

### **I. LEGAL FRAMEWORK and BURDEN of PROOF**

The Board's role in the contested case proceeding is to receive evidence from the parties and enter findings of fact based on the preponderance of the evidence presented and conclusions of law based on those findings. Mont. Code Ann. § 2-4-612. The Department reviews an application for a mine permit revision as prescribed by MSUMRA and its implementing rules to determine whether the proposed operation is lawful. Mont. Code Ann. §§ 82-4-201, et seq. A mine permit applicant must affirmatively demonstrate compliance with MSMURA and its implementing rules. Mont. Code. Ann. § 82-4-227(1). A mine permit application must include "a description of alternative water supplies, not to be disturbed by mining, that could be developed to replace water supplies diminished or otherwise adversely impacted in quality or quantity by mining activities." Admin. R. Mont. 17.24.304(1)(f)(iii); Mont. Code Ann. § 82-4-222(1)(n). Additionally, the operator of a mine is required

to replace water supplies immediately and then on a more permanent basis “in like quantity, quality, and duration.” Mont. Code Ann. § 82-4- 253(3)(d).

The relevant analysis and the agency action at issue is contained within the four corners of the Written Findings and CHIA. *In re Signal Peak Energy (Bull Mountains Mine No. 1)*, BER 2013-07-SM, Findings of Fact, Conclusions of Law and Order (Jan. 14, 2016) at 56, ¶ 66; 80-81, ¶ 124. The Board may utilize the agency’s experience, technical competence, and specialized knowledge in the evaluation of evidence. Mont. Code Ann. § 2-4-612(7). As outlined in the Order Denying Request to Reclaim jurisdiction, the Board, pursuant to its authority under MAPA, transferred jurisdiction to the hearing examiner. Therefore, the hearing examiner steps into the shoes of the Board and has jurisdiction to hear and make findings of fact and retain “broad discretion to assess and assign the relative weight and credibility of conflicting evidence presented.” *Smith v. TYAD, Inc.*, 2007 Mont. Dist. LEXIS 348, \*46-47 (citing *Tefft v. State*, 271 Mont. 82, 94, 894 P.2d 317, 325-26 (1995)).

The law has established the burden of proof as follows:

“[A]s the party asserting the claim at issue, MEIC had the burden of presenting the evidence necessary to establish the facts essential to a determination that the Departments decision violated the law.” MEIC, 2005 MT 96, ¶ 16. The “facts essential” must be proved by a preponderance of the evidence. *Id.* ¶ 22. In this contested case hearing, therefore, MEIC has the burden of proving by a preponderance of the evidence that DEQ’s decision to issue the permit violated the law. *Id.*

Board Ord. COL ¶ 5 (June 6, 2019). Based on the law and as established in the prior

hearing examiner's Order on Summary Judgment, the burden of proof lies with MEIC to establish by a preponderance of the evidence that DEQ's decision to issue the AM3 permit to Signal Peak violated the law.

**a. Standing**

Under Mont. Code Ann. § 82-4-206(1) the Petitioner must have an interest that may be adversely affected by the Department's challenged decision to initiate and maintain a contested case. "An organization may assert standing either as an entity or by the associational standing of its members." *New Hope Lutheran Ministry v. Faith Lutheran Church of Great Falls, Inc.* 2014 MT 69, ¶ 27, 374 Mont. 229, 23, 328 P.3d 586, 593. Petitioner asserts associational standing based on the purported standing of its member and Executive Director Mr. Jensen. Tr. 11:18-19. 33:22.

To establish standing, a plaintiff must show (1) an "injury in fact," which is concrete and particularized, as well as actual or imminent; (2) the injury is caused by the defendant's conduct, such that it can be fairly traced to the challenged action; and (3) a favorable decision will likely redress the injury. *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 112 S. Ct. 2130 (1992); *Clark Fork-Pend Oreille Coal v. DEQ*, 1997 Mont. Dist. LEXIS 804, at \*7 (Feb. 19, 1997); *Conservation Cong. V. United States Forest Serv.*, 2019 WL 4464037, at \*5 (E.D. Cal. Sept. 18, 2019). Associations have standing if (1) at least one of their members has standing; (2) the interests of the lawsuit are germane to the purpose of the organization; and (3) the members' individual participation is not required. *Park Ctny. Env'tl. Council v. DEQ*,

2020 MT 303, 402 Mont. 168, 477 P.3d 288.

Montana Courts have generally allowed plaintiffs standing where the injury is tied to an environmental impact. In *Heffernan v. Missoula City Council* the Montana Supreme Court held that neighbors' and the neighborhood associations' statements of specific personal and legal interest were sufficient to establish standing with regard to their challenge to a new subdivision. 2011 MT 91, 360 Mont, 207, 255 P.3d 80. Among other things, the neighbors' specific interests included that the wildlife in the neighborhood was an important value and that the development of a subdivision would erode property values and create soil issues and light pollution. *Id.* Therefore, standing was shown based on the injury of these environmental factors amongst other factors.

In *Clark Fork-Pend Oreille Coal v. DEQ*, the Court gave standing to plaintiffs based on their "regular use" and enjoyment of the Blackfoot River for "recreational purposes." 1997 Mont. Dist. LEXIS 804, at \*7 (Feb. 19, 1997). The Court stated that: "Plaintiffs allege they regularly use and enjoy the Blackfoot River for recreational purposes. The procedural requirements of the MMRA (Metal Mine Reclamation Act) provide protection of the uses supported by the waters of the Blackfoot River. These elements are sufficient to grant standing." *Id.*

Here, Mr. Jensen is a member of MEIC, an organization that has interests in the environmental protection of the Bull Mountains. Tr. 34:5-7 and 37:8-11. Mr. Jensen has a deep connection to the Bull Mountains. Tr. 34:13 to 35:9. He has been

visiting the Bull Mountains since the 1980's and intends to continue to visit the Bull Mountains regularly. *Id.*; and Tr. 37:21 to 38:12. Mr. Jensen regularly visits portions of the Bull Mountains that are being undermined by Signal Peak. Tr. 35:24-35. Mr. Jensen testified that the mining has caused "considerable subsidence" in the Bull Mountains. Tr. at 39:20 to 40:4 and Tr. at 80:18. The impacts of mining affect Mr. Jensen's use and enjoyment of the Bull Mountains. Mr. Jensen stated "he feels threatened" by the cracks caused by the mining. He worries about breaking an ankle and he "would never ride a horse up in that country." Tr. at 39:20 to 40:2. If the Board were to halt mining in the Bull Mountains, Mr. Jensen's concerns would be relieved at least in part. Tr. at 40:19 to 41:12.

MEIC has shown that Mr. Jensen has standing because, as he testified, his use and enjoyment of the Bull Mountains has been negatively impacted by the Mine. Mr. Jensen's "regular use" and enjoyment of the Bull Mountains for "recreational purposes" is sufficient to establish standing. Additionally, MEIC has standing because Mr. Jensen is a member of MEIC and protecting the Bull Mountains is germane to MEIC's goals of environmental protection.

#### **b. Physical Availability of the Deep Underburden Aquifer**

The central issue in this matter is the availability of replacement water in terms of its quality, quantity, and legal availability. Montana Administrative Rules require that an application for an underground coal mining permit take into account replacement water. Specifically, the application must include, "a description of

alternative water supplies, not to be disturbed by mining, that could be developed to replace water supplies diminished or otherwise adversely impacted in quality or quantity by mining activities so as not to be suitable for the approved postmining land uses[.]” ARM 17.24.304(1)(f)(iii).

Therefore, during the permitting process, Signal Peak was required to affirmatively demonstrate that there were alternative water supplies not to be disturbed by mining that could be developed to replace water supplies diminished or otherwise adversely impacted in quality or quantity by AM3. Mont. Code Ann. § 82-4-227(1). Another way to state this is that MEIC was required to show, by a preponderance of the evidence, that DEQ violated the rules by identifying a replacement water source that could not be used to replace springs and stream reaches that may be dewatered by AM3. Ord. on SJ 1-15, 29; ARM 11.24.304(1)(f)(iii).

**i. Quality of Water**

MEIC argues that the arsenic and sodium levels in the deep underburden aquifer make the quality of the water a reason why it could preclude its use as replacement water. Ord. on SJ at 28. MEIC further claims that Signal Peak and the Department’s failure to provide for the treatment of this water as part of a reclamation plan render the plan violative of MSUMRA requirements. *Id.*

Water quality impacts to the DUB as a result of AM3 are not anticipated due to the hydraulic separation between the DUB and the upper underburden and

Mammoth coal. DEQ Ex. 5, at 7-15 and 9-25, Table 7-11 at 12-33; Hrg. Tr. Day 3, at 549:11-18; Hrg. Tr. Day 4, at 764:10-21; Hrg. Tr. 548:13-25, 549:1-10. Historic and current surface and groundwater uses in the vicinity of the Mine include public water supply, private water supply, livestock, wildlife, irrigation, and industrial uses. DEQ Ex. 5 at 8.0. While the Department stated that water quality impacts were not anticipated, arsenic and sodium is present in the DUB. For livestock, both the maximum value of arsenic and the median baseline of sodium concentrate detected in the DUB exceed the CHIA's guidelines for livestock watering. DEQ Ex. 5, at 7-15 and 9-25, Table 7-11 at 12-33; Hrg. Tr. Day 3, at 549:11-18; Hrg. Tr. Day 4, at 764:10-21; Hrg. Tr. 548:13-25, 549:1-10.

Regarding water for human consumption, domestic wells completed in the DUA likely contain natural levels of arsenic over the DEQ-7 HHS standard for arsenic. DEQ Ex. 5 at 8.2. However, the OSW – a permitted public water supply well sourced from the DUA – has never exceeded the DEQ-7 HHS standard for arsenic. DEQ Ex. 5 at 9.2.6.5. While it is shown that arsenic and sodium are present, it was not shown that this precludes the water in the underburden from being used as a replacement source. Signal Peak and DEQ dispute the fact that arsenic and sodium levels in the underburden will be above the requisite levels and state that even if they are elevated, a simple commercially-available filtration system would solve the problem. Ord. on SJ at 28-29.

Mr. Hutson stated that he is not an expert in water treatment and did not

present testimony on water treatment, including the viability or availability of water treatment methods such as reverse osmosis treatment systems. Hrg. Tr. Day 1 at 215:10-20. Mr. Hutson did not know whether commercially available treatment systems exist for sodium. Hrg. Tr. Day 1 at 217:15-22. Mr. Hutson also did not dispute that the OSW has never exceeded the human health standard for arsenic. Hrg. Tr. Day 1 at 226:6-111. From the facts presented in testimony and in the record, MEIC did not show by a preponderance of the evidence that the amounts of arsenic and sodium impact the quality of the water to the degree that it prevents it from being used as replacement water.

## **ii. Quantity of Water**

There is also uncertainty regarding the quantity of replacement water in the DUB. First, will it be needed? If so, how much will be needed? Are there barriers that would make getting the water impossible? Ord. on SJ at 22. Since these factors are uncertain, the Department has answered these questions in terms of cumulative hydrologic probabilities, as MSUMRA and the rules contemplate, stating that: (1) replacement water will likely not be needed; (2) if replacement water is needed, it likely will not be more than 35 gpm or 10 acre-feet/year; and (3) there are likely no barriers that would prevent the replacement water from being used. Ord. on SJ at 22. MEIC, in turn, argues that replacement water will almost certainly be needed, and it could be needed in excess of 100 gpm. *Id.*

Mr. Hutson testified that the Department's conclusion that the DUB is a

possible source of replacement water is flawed because the Department did not (1) quantify the amount of water in the DUB or (2) quantify the anticipated impact on existing users if replacement water is sourced from the DUB. Hrg. Tr. Day 1 at 103:1-104:16. Mr. Hutson agreed that the DUB “might produce enough water for mitigation purposes,” explaining “I think it could. It’s a possibility.” Hrg. Tr. Day 2 at 278:23-279:10.

While it would certainly be helpful to know the quantity of the water with some certainty, the law determines the permitting requirements that the Department must follow. The applicable administrative rule requires an application for an underground coal mining permit to include “a description of alternative water supplies, not to be disturbed by mining, that could be developed to replace water supplies...” ARM 17.24.304(1)(f)(iii) (emphasis added).

The Department considered available information, including the 2015 Deeper Underburden Groundwater Model Report, OSW Pump Test Report, MBMG Reports, drilling/well logs in the permit, and MBMG and DNRC records of wells and water rights in the DUB to assess the water bearing properties of the deep underburden. DEQ Ex. 5, CHIA; Hrg. Tr. Day 2, at 436:16-23; Hrg. Tr. Day 3, at 477:2-10, 479:11-480:21, 482:4-485:8, 489:5-491:4, 519:17-520:10, 521:5-9, 543:2-13. The Department found that the maximum flow rate of any particular DUB well (if required for permanent replacement water mitigation needs) is not anticipated to exceed 14.2 gallons per minute. DEQ Ex. 5, CHIA at 12-16, Table 7- 1; SPE Ex. 27,

Spring Impact Detection and Mitigation at Table 314-3-1; MEIC Ex. 15 Table 314-3-1; Hrg. Tr. Day 4, at 856:8-22. The Department concluded that “the deep underburden is extensive” and “it has the characteristics to serve existing and viable designated use, and to also provide mitigation water that may ultimately be needed in accordance with the mitigation measures defined in the permit.” DEQ Ex. 9, PHC at 315-5-62; Hrg. Tr. Day 4, at 817:2-19.

While the quantity of water in the underburden is unknown, there was no evidence presented to show this violated the law. The Department is required by the administrative rules to describe “alternative water supplies” that “*could* be developed to replace water supplies” ARM 17.24.304(1)(f)(iii) (emphasis added). However, no evidence was shown to conclude that the “description of alternative water supplies” required an exact or specific quantity. Nor was it shown that the quantity was such that the water could not be used at all, making it unavailable.

## **II. LEGAL AVAILABILITY OF THE DEEP UNDERBURDEN AQUIFER**

MEIC argues that the Department failed to affirmatively demonstrate that there is sufficient water which is legally available in the deep underburden aquifer to replace impacted water resources above the mine. DEQ Prop. FOFCOL at 61. DEQ’s analysis of legal availability of replacement water is based on guidance from the DNRC that Signal Peak could use exempt wells to replace any impacted springs. Tr. at 541:2 to 542:2. MEIC argues that the provision in the DNRC guidance document applies to housing developments and not coal mines permitted under

Mont. Code Ann. Title 82. MEIC Prop. FOFCOL at ¶ 74-81. However, it was not shown by a preponderance of the evidence that there is a legal barrier that precludes the deep underburden aquifer from use.

AM3 identified the DUB as a possible source of replacement water for springs that are adversely and permanently impacted by subsidence. Ord. on SJ at 9, ¶ 8; DEQ Ex. 7, Spring Mitigation Plan at 313-2-3 through 313-2-5. Pumping water from the DUB, if necessary, will be done on a case-by-case basis, and if multiple springs are impacted, they would be mitigated using multiple wells spaced widely throughout the area. This could easily supply low flow rates that springs have. Hrg. Tr. Day 3 at 536:1-13. The Department concluded the likely amount of replacement water required for each potential mitigation site informs whether the DUB can legally serve as a source of replacement water. Tr. 543:14-20. The Department has the plans, tests, and reports to mitigate the impact on surface and underground water as shown in the Spring Mitigation Plan, The Stream Function Impact and Restoration Plan, the 2016 PHC, and the OSW Pump Test and Report.

Additionally, The Department identified no legal barriers precluding the DUA as a source of replacement water. DEQ Ex. 6, Appendix III to Written Findings, Public Comment Response at 5-6, ¶ 8; Hrg. Tr. Day 3, at 542:14-17. In fact, the ability of the DUB to “furnish alternative water supplies for shallow wells and springs adversely affected by mining” has been recognized for many decades. MEIC Ex. 19, Thompson Report at 43; Hrg. Tr. Day 3, at 484:18-485:16. Further, Mr.

Hutson did not testify to any legal barriers precluding the DUB as a source of replacement water. Hrg. Tr. Day 3, at 542:8-13. Specific and actualized legal barriers were not shown by a preponderance of the evidence. Therefore, MEIC did not meet its burden of proof to show that water sources in the DUB are legally unavailable.

### **III. THE PARTIES' EXCEPTIONS TO THE HEARING EXAMINER'S PROPOSED FINDINGS OF FACT AND CONCLUSIONS OF LAW**

#### **a. MEIC's Exceptions**

Although not specifically enumerated in its briefing, MEIC's Exceptions are addressed by the Board as follows:

##### **i. Deference to DEQ**

MEIC argues that *Mont. Env'tl. Info. Ctr. v. Mont. Dep't of Env'tl. Quality*, 2005 MT 96 holds that DEQ is not entitled to the deference afforded agencies upon judicial review. MEIC Exceptions, at p. 2. The Board agrees with MEIC. Compare Mont. Code Ann. § 2-4-704(2) with § 2-4-612(7). Nonetheless, the Board "may utilize" DEQ's "experience, technical competence, and specialized knowledge.... in the evaluation of evidence." Mont. Code Ann. § 2-4-612(7). The Board, and the proposed FOFCOL, appropriately utilize DEQ's "experience, technical competence, and specialized knowledge.... in the evaluation of evidence" but do not afford DEQ judicial-type deference in contested cases under its consideration.

##### **ii. Failure to Address "Reclamation"**

MEIC argues that ARM 17.24.405(6)(a) (the “Reclamation Regulation”) controls, not ARM 17.24.304(1)(f)(iii) (the “Mitigation Regulation”). MEIC Exceptions, at p. 4. According to MEIC, the Reclamation Regulation imposes a more likely than not standard of proof, while the Mitigation Regulation imposes a “mere possibility” standard of proof. *Id.* The Board concludes that the Mitigation Regulation controls because the central issue in this matter is the availability of replacement water in terms of its quality, quantity, and legal availability. This is the express purview of the Mitigation Regulation, as opposed to the Reclamation Regulation, which specifically pertains to efforts directed at restoring the land affected by mining activities, i.e. “work conducted on lands.” Mont. Code Ann. § 82-4-203(44). However, as discussed in the next paragraph, it does not matter which regulation controls in this case for purposes of MEIC’s argument.

### **iii. “Impossible” Standard of Proof**

MEIC argues that the proposed FOFCOL imposes an “impossible” standard of proof. This argument is founded on the proposition that the word “could” in the Mitigation Regulation means that the alternative water sources identified in the permit application must have only a “mere possibility” of being developed as replacement water sources. MEIC Exceptions, at pp. 4-15. Whether the Reclamation Regulation or the Mitigation Regulation controls, the Board concludes that the identified alternative water sources, combined, must more likely than not be capable of being developed as alternative water sources sufficient to provide the necessary

replacement water. Given the purpose of MSUMRA, it would be illogical to conclude that the Mitigation Regulation implies a “mere possibility” standard of proof. Thus, MEIC’s argument fails. It must be noted, however, that because multiple alternative water sources are identified, no one water source needs to meet the “more likely than not” standard.

In this case, the permit application identified four sources of replacement water – the mine pool, overburden aquifers, rainfall and snowmelt, and the DUA. FOF 146; MSJ Order, at 9. In this case the parties focused on the DUA. The findings of fact show that the DUA is likely capable of alone providing the necessary replacement water needs. FOFs 74, 98 – 119, 126 – 145. In addition, the other sources may be available and at least one of the other identified sources has already been used to supply replacement water. FOFs 69, 80, 129. It is clear from a reading of the Proposed FOFCOL as a whole that the Hearings Examiner applied a preponderance of the evidence standard of proof. Proposed FOFCOL, *generally*, and at pp. 8, 39, 40, 44, 45, 48, 49, 51—54. MEIC’s attempt to pull language out of context to show otherwise is not persuasive.

#### **iv. Burden of Proof**

While the exceptions in this case were being briefed, the District Court of Rosebud County reversed the Board in a case involving MSUMRA and held that DEQ and the mining permittee had the burden of proof on appeal to the Board of a permit issuance. *Mont. Env'tl. Info. Ctr. V. Mont. Dep't of Env'tl. Quality*, No. DV-

19-34 (Mont. 16th Judicial Dist. Ct., Oct. 28, 2021). That case has been appealed to the Montana Supreme Court. *See* Mont. Sup. Ct. Order of March 30, 2022 in *Mont. Env'tl. Info. Ctr. & Sierra Club v. Western Energy Co.*, DA 22-0067. At this time, the Board is bound to follow the precedent of *Mont. Env'tl. Info. Ctr. v. Mont. Dep't of Env'tl. Quality*, 2005 MT 96, which held that the party appealing to the Board from a DEQ decision carries the burden of proof. *Id.*, ¶ 16. The Board is also bound to follow the MSUMRA regulation that places the burden of proof on the appealing party. ARM 17.24.425(7)<sup>2</sup>. The Board is not bound to follow the Montana 16th Judicial District Court's October 28, 2021 decision in *Mont. Env'tl. Info. Ctr. V. Mont. Dep't of Env'tl. Quality*, No. DV-19-34. *See Murray v. Motl*, 2015 MT 216, ¶ 16.

However, because this case was not decided on a directed verdict after MEIC's case in chief but was tried to its conclusion, based upon Findings of Fact 65—150 and Conclusions of Law 22 and 23, if the burden of proof were reversed, the result would be the same. Conclusion of Law 26 has been added, and the Order section has been drafted to reflect this conclusion.

#### v. **Water Quantity Analysis**

MEIC argues that the water quantity analysis in the proposed FOFCOL is unsupported because DEQ failed to quantify the total replacement water needs or

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<sup>2</sup> Subsection (7) states that “[t]he burden of proof at such hearing is on the party seeking to reverse the decision of the *board*.” (Emphasis added). Subsection (7) as written cannot be correct. A party cannot seek to reverse the Board's decision, in front of the Board, prior to the Board even making a decision. Because “[t]he law never requires impossibilities,” § 1-3-222, MCA, it is apparent that this subsection's reference to the “board” can be attributed to a scrivener's error and should instead reference the “department,” i.e. DEQ.

quantity of the water in the DUA available to meet those needs. MEIC Exceptions, at pp. 17-20. However, several of the Hearing Examiner’s Findings of Fact indicate otherwise. *See* FOFs 22, 24, 119, 123, and 149. This includes but is not limited to the 2016 PHC’s conclusion that “the deep underburden is extensive” and “has the characteristics to serve existing and viable designated use, and to also provide mitigation water that may ultimately be needed in accordance with the mitigation measures defined in the permit.” *Id.* This is in stark contrast to the fact that MEIC’s own expert made no water quantity determination or calculation of the anticipated need for replacement water, and he even admitted that the DUA “might produce enough water...” *See* FOFs 123 and 125. Considering these facts, MEIC’s Exception in this regard is, itself, unsupported.

**vi. Water Quality Analysis**

MEIC further argues that it was erroneous to conclude that the water contained in the DUA is of sufficient quality due to the levels of sodium and arsenic present. MEIC’s Exceptions, at pp. 17-20. The Hearing Examiner addressed this concern, ultimately determining (based on FOFs 134—144) that the water in the DUA was not shown to be of insufficient quality considering the availability of effective water treatment systems. MEIC points to no facts in the record to persuade the Board otherwise.

**vii. Lack of Bonding for Water Treatment**

MEIC does argue that it is improper to consider water treatment options

because such treatment was not included in the required bonding. MEIC's Exceptions, at pp. 19-20. However, the Hearing Examiner already disposed of this issue on summary judgment (*see* MSJ Order, at p. 29), and MEIC provides no compelling reason for the Board to revisit the same.

#### **viii. Legal Availability Analysis**

MEIC also challenges the Hearing Examiner's determination that it failed to demonstrate a legal barrier that would preclude the use of the DUA as unsupported. MEIC Exceptions, at pp. 20-23. To the contrary, the basis of this determination is set forth in FOFs 37, and 145—150. Indeed, even if replacement water is necessary, the preponderance of evidence indicates that the quantity required from any particular well likely would not exceed 14.2 gpm. FOF 149. Exempt permits for such wells are legally available. *Clark Fork Coalition v. Tubbs*, 2016 MT 229, ¶¶ 12-13; Mont. Code Ann. § 85-2-306(3)(a)(iii). MEIC again fails to persuade the Board that insufficient basis exists for the Hearing Examiner's conclusion.

#### **ix. General Failure to Address Proposed Findings**

MEIC also argues that the Hearing Examiner's Proposed FOFCOL erroneously failed to individually address each of MEIC's proposed findings of fact. MEIC Exceptions, at pp. 23-25. However, the Hearing Examiner was under no such obligation, and requiring the Hearing Examiner or the Board to do so would impose an undue burden. *See State ex re. Montana Wilderness Ass'n v. Board of Natural Resources & Conservation*, 200 Mont. 11, 39-40 (1982). The Board therefore rejects

this Exception.

**x. Failure to Address Design Standards Violations**

MEIC asserts that the Hearing Examiner erred in failing to resolve its claims concerning DEQ and SPE's alleged violations of spring monitoring and impact detection requirements. MEIC Exceptions, at pp. 25-26. MEIC notably failed to preserve this argument for the present appeal, the same is not relevant to the subject matter at issue herein, and the Hearing Examiner likewise rejected this argument. The Board rejects this Exception accordingly.

**xi. Failure to Address 2013 100 GPM Replacement Water Needs Estimate**

MEIC next argues that the Hearing Examiner failed to address the 100 gpm replacement water estimate in the 2013 groundwater model contained in SPE's prior permit application. MEIC Exceptions, at pp. 26-28. As noted in subsection v. above (Water Quantity Analysis), the Proposed FOFCOL adequately addressed the issue of the available water quantity and relied on substantial evidence in support. *See* FOFs 22, 24, 119, 123, and 149. Moreover, the specific 100 gpm figure was in fact addressed in the Hearing Examiner's discussion of this issue. *See* Proposed FOFCOL, at p. 46. The Board rejects MEIC's Exception in this regard.

**xii. Failure to Address DEQ's Admission That Water Assessment Was Mistaken**

MEIC also asserts that the Hearing Examiner erred in failing to address DEQ's purported admission that its analysis in the CHIA was mistaken. MEIC

Exceptions, at pp. 16-17, 28-29. In particular, MEIC points to the CHIA's assessment that the DUA had sufficient water quantity for "any mitigation wells which may become necessary in the future[,]" apparently concluding that DEQ's expert witness's subsequent testimony that this in fact referred to any *probable* mitigation wells as opposed to any *possible* mitigation wells amounted to an admitted mistake on DEQ's part. *Id.* The Board is not persuaded by this essentially semantic argument, as the applicable authorities contemplate a determination of the "*probable* hydrologic consequences" of the proposed operation. Mont. Code Ann. § 82-4-222(1)(m) and ARM 17.24.314(3) (emphasis added). The Board rejects this Exception accordingly.

**xiii. Finding of Fact 54 Unsupported**

MEIC next asserts that FOF 54 is unsupported because it refers to the "Rosebud Mine" instead of the mine at issue herein – the "Bull Mountains Mine." MEIC Exceptions, at p. 29. In light of this apparent typographical error, the parties have since stipulated that FOF 54 may be revised to reflect the correct mine, the "Bull Mountains Mine," without requiring the Board to review the entire record before doing so. The Board accepts this Exception in this regard, and FOF 54 has been revised consistent therewith.

**xiv. Findings of Fact 77-82, 92, and 95 Unsupported**

MEIC also asserts that FOFs 77-82, 92, and 95 are not supported by substantial evidence and/or are procedurally improper. MEIC Exceptions, at p. 29.

For the reasons addressed in response to MEIC’s Exceptions ix.—xii. above, the Board rejects this Exception.

**xv. Finding of Fact 97 Unsupported – “Likely Many Miles” vs. “May Be Several Miles”**

MEIC claims that FOF 97 is not supported by substantial evidence because its determination that the referenced fluvial sandstone channels in the DUB “are likely many miles wide” conflicts with the language of the cited evidence stating that those channels “may be several miles wide.” MEIC Exceptions, at pp. 30-31. After reviewing the applicable references, the Board finds that FOF 97 is supported by the evidence. This Exception is therefore rejected.

**xvi. Finding of Fact 97 Unsupported – Continuity of Formation**

MEIC also argues that FOF 97 is not supported by substantial evidence because its determination that the referenced sandstone formation is not “continuous” as stated. MEIC Exceptions, at pp. 31-32. Again, after reviewing the applicable references, the Board finds that FOF 97 is supported by the evidence. This Exception is likewise rejected.

**xvii. Finding of Fact 99 Unsupported**

MEIC next asserts that FOF 99 is not supported by substantial evidence because its finding regarding the extent of the DUA conflicts with certain expert testimony presented at the hearing. MEIC Exceptions, at p. 32. However, upon review of the relevant evidence, the Board concludes that this Exception essentially

raises another semantic argument and finds that substantial evidence supports FOF 99. This Exception is therefore rejected.

**xviii. Finding of Fact 114 Unsupported**

MEIC argues that FOF 114 is improper and unsupported by substantial evidence because it does not acknowledge the alleged design standard violations raised in Exception x. and because the CHIA supposedly rejected the 2016 PHC’s analysis. MEIC Exceptions, at p. p. 32-33. After review of the language quoted in FOF 114, coupled with the reasons stated in subsection x. above, it is clear that FOF 114 is accurate and supported by the evidence. The Board rejects this Exception accordingly.

**xix. Finding of Fact 123 Unsupported**

MEIC claims that FOF 123 is also unsupported on the basis that the evidence shows that Mr. Hutson relied on Dr. Nicklin’s calculation of replacement water needs. MEIC Exceptions, at pp. 33-34. MEIC all the while acknowledges that “Mr. Hutson did not *independently* quantify replacement water needs[.]” *Id.*, at p. 33 (emphasis in original). This, along with the reasons set forth in subsections x. and xi. above, demonstrates that this Exception is without merit. The Board therefore rejects the same.

**xx. Finding of Fact 130 Unsupported**

MEIC argues next that FOF 130 is unsupported by substantial evidence because, while the evidence demonstrates that DEQ identified surface water rights,

the evidence does not indicate that DEQ actually evaluated those rights. MEIC Exceptions, at p. 34. The Board finds that substantial evidence supports FOF 130 and rejects this Exception accordingly.

**xxi. Finding of Fact 143 Unsupported**

MEIC also claims that FOF 143 is unsupported by substantial evidence because it in part relied on Dr. Nicklin's inexpert testimony regarding the availability of water treatment systems for sodium. MEIC Exceptions, at pp. 34-35. However, the Hearing Examiner accepted and relied on this testimony, and the Board is not convinced of any error in this regard. The Board therefore rejects this Exception.

**xxii. Finding of Fact 145 Unsupported**

Lastly, MEIC argues that FOF 145 is unsupported by substantial evidence based on its claim that DEQ's legal availability analysis for replacement water was flawed. MEIC Exceptions, at p. 35. This amounts to a repeat of MEIC's argument addressed in Exception viii. discussed above. For the same reasons set forth therein, the Board rejects this Exception.

**b. DEQ's Exceptions**

**i. MEIC's Exempt Well Permits Argument**

DEQ's first Exception asserts that MEIC's exempt well permits argument should not have been considered by the Hearing Examiner because it was untimely raised. DEQ Exceptions, at pp. 2-4. However, this issue is moot in light of the

Hearing Examiner's consideration and rejection of this argument, and the Board need not address the same. The Board accordingly rejects this Exception.

**ii. DEQ's Response to MEIC's Exempt Well Argument**

DEQ next argues that the Hearing Examiner erred in finding that DEQ and SPE did not specifically discuss a provision in DNRC guidance cited by MEIC in support of its legal availability argument. DEQ Exceptions, at pp. 4, 9-14. DEQ goes on to request that the Board remove the last two sentences of the first paragraph of the "Legal Availability of the Deep Underburden Aquifer" section on page 48 of the Proposed FOFCOL and that the Board adopt DEQ's Proposed Conclusion of Law No. 13. DEQ Exceptions, at p. 14. Upon review of DEQ's Response to MEIC's Proposed FOFCOL and DEQ's Proposed FOFCOL, it is apparent that DEQ did indeed address the DNRC guidance provision at issue. The Board therefore accepts DEQ's Exception to the extent it correctly states that the parties did in fact address the subject DNRC guidance provision. However, the Board is not persuaded that DEQ's requested relief is necessary and will instead omit from its Order the language stating that the other parties did not address said provision.

**iii. Conclusions of Law 21 and 22**

DEQ also asserts that Conclusions of Law 21 and 22, which pertain to the burden of proof herein, should be deleted and replaced with DEQ's Proposed Conclusions of Law Nos. 3 and 4. DEQ Exceptions, at pp. 4-6, 14-16. The Board has already concluded that DEQ and SPE prevail on this issue regardless of which

party has the burden of proof. Moreover, these Conclusions of Law, which were proposed by the Hearing Examiner after considering the evidence, likewise support this result. The Board therefore rejects DEQ's Exception on this basis.

**iv. Opposition to MEIC's Standing**

DEQ's last Exception addresses language contained in the last paragraph of page 54 of the Proposed FOFCOL suggesting that DEQ had opposed MEIC's standing in this matter. DEQ Exceptions, at pp. 16-17. Upon review of the relevant documents, it is apparent that DEQ did not in fact challenge MEIC's standing herein, and MEIC presented no argument to the contrary. The Board accordingly accepts this Exception and will omit the subject language from its Order.

**c. Signal Peak's Exceptions**

**i. Hearing Examiner Appointment**

SPE's first Exception raises a procedural concern with respect to the appointment of the current Hearing Examiner, Caitlin Buzzas. SPE Exceptions, at pp. 4, 5-8. SPE essentially argues that, because the Board did not specifically appoint Ms. Buzzas as Hearing Examiner, and she instead assumed this role by simply replacing a prior Hearing Examiner from Agency Legal Services ("ALS"), the particularity requirement set forth in Mont. Code Ann. § 2-4-611(1) was not clearly satisfied. *Id.* In other words, SPE is concerned that ALS, not the Board, appointed Ms. Buzzas, and that ALS did so without demonstrating compliance with Section 2-4-611(1)'s provision stating that "[a] hearing examiner must be assigned

with due regard to the expertise required for the particular matter.” *Id.*, at pp. 5-6. SPE thus requests the Board to include certain proposed language as a matter of caution in the event of judicial review of this matter. *Id.*, at pp. 7-8. The Board will include the requested language in the Conclusions of Law section below as a matter of caution only.

**ii. Uncertainty Regarding Volume of Replacement Water**

SPE’s next Exception requests the modification of the first sentence of the last paragraph on page 47 of the Proposed FOFCOL to clarify that the exact amount of water in the DUB is not known and cannot be known. SPE Exceptions, at pp. 8-9. Upon review of the language at issue, the Board finds no ambiguity or lack of clarity when read in full context. When read in full context, the sentence merely means that the precise amount of water in the underburden is unknown. The Board therefore rejects this Exception.

**iii. Conclusions of Law 21 and 22**

SPE also argues that Conclusions of Law 21 and 22 should be modified to distinguish a party’s burden of proof as a permitting applicant as opposed to a party’s burden of proof, and it suggests the inclusion of specific language. SPE Exceptions, at pp. 10-11. Having already concluded that DEQ and SPE prevail on the issue of the existence of replacement water regardless of which party has the burden of proof, the Board rejects SPE’s Exception to the extent that it relates to the burden of proof. However, the Board finds that SPE’s Exception is well-taken to the

extent that it requests the inclusion of an additional sentence concerning DEQ's confirmation that SPE satisfied its obligation to demonstrate the existence of replacement water, and that sentence will be added to Conclusion of Law 22 below.

**iv. Conclusion of Law 23**

Lastly, SPE asserts that Conclusion of Law 23 should be replaced with two separate conclusions to avoid conflating MEIC's claim regarding SPE's replacement obligation and its separate claim regarding SPE's reclamation obligation. The Board finds that this Exception is well-taken and should be accepted. Conclusion of Law 23 will be replaced with the two separate conclusions of law proposed by SPE as Conclusions of Law 24 and 25.

**CONCLUSIONS OF LAW**

From the foregoing findings of fact, the Board makes the following conclusions of law:

1. The Department reviews an application for a mine permit revision as prescribed by the Montana Strip and Underground Mine Reclamation Act ("MSUMRA") and its implementing rules to determine whether the proposed operation is lawful. Mont. Code Ann. §§ 82-4-201, *et seq.*; DEQ Ex. 5 at 1.0, 2.0.
2. DEQ may not approve the AM3 Amendment unless the applicant affirmatively demonstrate compliance with MSUMRA and its implementing rules. Mont. Code Ann. §§ 82-4-227(1).
3. MSUMRA and its implementing rules require a permittee to replace

water uses permanently contaminated, diminished, or interrupted by the Mine “in like quality, quantity, and duration.” Mont. Code Ann. § 82-4-253(3)(d); Ord. on SJ at 19.

4. Accordingly, a mine permit application must include, among other things, “a description of alternative water supplies, not to be disturbed by mining that could be developed to replace water supplies diminished or otherwise adversely impacted in quality or quantity by mining activities so as not to be sustainable for the approved postmining land uses.” Mont. Code Ann. § 82-4- 222(1)(n); Admin. R. Mont. 17.24.304(1)(f)(iii); Ord. on SJ at 18-19.

5. The contested case provisions of the Montana Administrative Procedure Act (“MAPA”) and its implementing rules govern hearings before the Board. Mont. Code Ann. §§ 82-4-206(2); 2-4-101, *et seq.*

6. The relevant analysis and the agency action at issue is that contained within the four corners of the Written Findings and CHIA. *In re Signal Peak Energy (Bull Mountains Mine No. 1)*, BER 2013-07-SM, Findings of Fact, Conclusions of Law and Order (Jan. 14, 2016) at 56, ¶ 66; 80-81, ¶124.

7. On October 9, 2020, the Board confirmed its intent to appoint Agency Legal Services (“ALS”) as the Hearing Examiner for this matter. When the individual who presided over the contested case hearing left ALS, this contested case was assigned to another attorney within ALS, and then, subsequently to Hearing Examiner Buzzas, who reviewed the record and prepared the Proposed

FOFCOL. Although the assignment to Hearing Examiner Buzzas occurred without Board action, the Board finds that her assignment made subject to the Board's appointment of ALS as the Hearing Examiner for this contested case, satisfied the requirements of Mont. Code Ann. § 2-4-611 because the Board finds that Ms. Buzzas had the requisite experience to complete the remaining tasks for this contested case at the time of her assignment.

8. In their role as the finder of fact, the Presiding Hearing Examiner retains "broad discretion to assess and assign the relative weight and credibility of conflicting evidence presented." *Smith v. TYAD, Inc.*, 2007 Mont. Dist. LEXIS 348, \*46-47 (citing *Tefft v. State*, 271 Mont. 82, 94, 894 P.2d 317, 325-26 (1995)).

9. Except as otherwise provided by statute, the common law and statutory rules of evidence govern a contested case proceeding. Mont. Code Ann. § 2-4-612(2).

10. In a contested case, "as the party asserting the claim at issue, MEIC had the burden of proof in presenting the evidence necessary to establish the facts essential to a determination that the Department's decision violated the law." MEIC, 2005 MT 96, ¶ 16.

11. The "facts essential" must be proved by a preponderance of the evidence. *Id.* ¶ 22. MEIC thus has the burden of proving by a preponderance of the evidence that DEQ's decision to issue the permit violated the law. *Id.*

12. MEIC's standing has been challenged in this case, and thus must prove

it has standing.

13. A person with an interest that is or may be adversely affected may request a hearing before the Board on the approval of an application to revise a mine permit. Mont. Code Ann. § 82-4-206.

14. Petitioner must have an interest that may be adversely affected by the Department's challenged decision to initiate and maintain a contested case. Mont. Code Ann. § 82-4-206(1).

15. "An organization may assert standing either as an entity or by the associational standing of its members." *New Hope Lutheran Ministry v. Faith Lutheran Church of Great Falls, Inc.*, 2014 MT 69, ¶ 27, 374 Mont. 229, 236, 328 P.3d 586, 593.

16. Petitioner asserts associational standing based on the purported standing of its member and Executive Director Mr. Jensen. Tr. 11:18-19. 33:22.

17. "An association has standing to bring suit on behalf of its members, even without a showing of injury to the association itself, when: (1) at least one member would have standing to sue in his or her own right; (2) the interests the association seeks to protect are germane to its purpose; and (3) neither the claim asserted nor the relief requested requires the individual participation of each allegedly injured party in the lawsuit." *Cnty. Ass'n for N. Shore Conservation, Inc. v. Flathead Cty.*, 2019 MT 147, ¶ 20, 396 Mont. 194, 207, 445 P.3d 1195, 1203, *reh'g denied* (Aug. 20, 2019) (citing *Heffernan v. Missoula City Council*, 2011 MT

91, ¶ 28, 360 Mont. 207, 255 P.3d 80).

18. MEIC has met its burden in regard to the standing of Mr. Jensen. FOF ¶ 53-64.

19. Next, MEIC must prove by a preponderance of the evidence that DEQ's decision to issue the permit violated the law by concluding that the DUB was a possible source of replacement water. Board Ord. COL ¶ 5 (June 6, 2019).

20. MSURMA and its implementing rules contemplate uncertainty; accordingly, certainty that the proposed alternative water supplies could be developed to replace water supplies diminished or otherwise adversely impacted by mining activities is not required. Ord. on SJ at 21 (“The best that can be hoped for with respect to a future hydrologic impact is to know, from the science – the available data combined with the best predictions by the best predictors – what is reasonably likely or potentially probable.”).

21. Montana Administrative Rules require that an application for an underground coal mining permit take into account replacement water. Specifically, the application must include, “a description of alternative water supplies, not to be disturbed by mining, that could be developed to replace water supplies diminished or otherwise adversely impacted in quality or quantity by mining activities so as not to be suitable for the approved postmining land uses” ARM 17.24.304(1)(f)(iii).

22. Signal Peak was required to affirmatively demonstrate that there were

alternative water supplies not to be disturbed by mining that could be developed to replace water supplies diminished or otherwise adversely impacted in quality or quantity by AM3. Mont. Code Ann. § 82-4-227 (1). DEQ confirmed that Signal Peak satisfied this obligation by investigation into the geologic and hydrologic properties of the deep underburden aquifer as compared to the anticipated probable replacement. FOF ¶¶ 65-150.

23. Signal Peak affirmatively demonstrated that there are water supplies that could be developed to replace water supplies diminished or otherwise adversely impacted as contemplated by Mont. Code Ann. § 82-4-227 (1). FOF ¶¶ 65-150.

24. Because MEIC's sole expert witness questioned but proffered no evidence or opinion rebutting Signal Peak's and DEQ's conclusion that the deep underburden aquifer could be developed to replace water supplies diminished or otherwise adversely impacted in quality or quantity by AM3 and conceded that the deep underburden aquifer could be used for that purpose, MEIC has failed to meet its burden to prove its claim by a preponderance of the evidence that DEQ violated the law in approving the AM3 permit amendment by failing to require provision for adequate replacement water. FOF ¶¶ 122-125, 139, 143-144.

25. Because MEIC failed to present credible evidence challenging the sufficiency of Signal Peak's reclamation plans, MEIC has failed to meet its

burden to prove its claim by a preponderance of the evidence that DEQ violated the law in approving the AM3 permit amendment by failing to require adequate reclamation plans. FOF ¶¶ 70, 72, 73, 83-96, 120.

26. Alternatively, if it were DEQ and Signal Peak's burden to prove by a preponderance of the evidence that DEQ did not violate the law in approving the AM3 permit amendment, they have met that burden. FOF ¶¶ 65-150.

### **ORDER**

1. Based on the foregoing Findings of Fact and Conclusions of Law MEIC failed to meet their burden of proof to show that DEQ's action in approving the AM3 permit amendment violated the law.

2. Alternatively, Signal Peak has affirmatively demonstrated by a preponderance of the evidence that DEQ's approval of the AM3 permit did not violate the law.

Therefore, IT IS ORDERED

- a. That Signal Peak and DEQ's Motion for Directed Verdict is GRANTED as to the legal and physical availability of the deep underburden aquifer;
- b. That, alternatively, if the burden of proof were deemed to be that of DEQ and/or Signal Peak, such burden has been satisfied by a preponderance of the evidence;
- c. That judgment is entered in favor of DEQ and Signal Peak, MEIC's appeal is DISMISSED, and DEQ's approval of the AM3 Permit is AFFIRMED.
- d. That the Board hereby provides notice to the Parties that they may be entitled to judicial review of this Order, pursuant to Mont.

Code Ann. § 2-4-702 and that pursuant to Mont. Code Ann. § 2-4-702, proceedings for review must be instituted by filing a petition in District Court within 30 days after service of this final agency decision of the Board.

DATED this 16<sup>th</sup> day of June, 2022.

*/s/ Steven Ruffatto*

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STEVEN RUFFATTO

Board Chair

Board of Environmental Review