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

**IN THE MATTER OF:  
APPEAL AMENDMENT AM4,  
WESTERN ENERGY COMPANY,  
ROSEBUD STRIP MINE AREA B  
PERMIT NO. C198400B**

**CASE NO. BER 2016-03 SM**

**Petitioners' Statement of Undisputed  
Facts**

Pursuant to the Board's request at its meeting on September 30, 2016, and the Hearing Examiner's email of October 6, 2016, Petitioners Montana Environmental Information Center and the Sierra Club (collectively, "MEIC") submit the following statement of undisputed facts.

## **I. Introduction**

1. On December 4, 2015, the Montana Department of Environmental Quality (Department) approved the AM4 Amendment of the Area B Permit for the Rosebud Mine. Pet'rs' Ex. 1 at 7.

2. The AM4 Amendment of the Area B Permit increased the Area B permit area by 49 acres, Area B surface disturbance by 146 acres, mineable coal reserves by 12 million tons, and removal of the coal aquifer by 306 acres. Pet'rs' Ex. 1 at 1.

3. With the AM4 Amendment, the "total proposed permit area" for Area B operation is "6,231 acres." Pet'rs' Ex. 1 at 2.

4. In approving the application, the Department determined that "this amendment will not result in material damage to the hydrologic balance outside the permit area." Pet'rs' Ex. 1 at 6. The determination was based on the Department's cumulative hydrologic impact assessment. Pet'rs' Ex. 1 at 6 (citing Pet'rs' Ex. 2).

5. On January 4, 2016, Petitioners filed a written request for administrative review of the Department's approval of the AM4 Amendment of the Area B Permit.

## **II. Hydrologic Setting**

6. In 2006, the Department's Water Protection Bureau determined the upper and lower reaches of East Fork Armells Creek are impaired and not meeting

applicable water quality standards for supporting aquatic life. Pet'rs' Ex. 6 at 10-11; Pet'rs' Ex. 7 at 17-19; DEQ Ex. E, ¶¶ 17, 24.

7. The Water Protection Bureau's determination was made pursuant to the Department's established protocols for assessing compliance with water quality standards. Pet'rs' Ex. 6; Pet'rs' Ex. 7; DEQ Ex. E, ¶¶ 7, 15, 17, 23.

8. The Water Protection Bureau identified coal mining as a potential source of the pollution causing the creek to fail to meet water quality standards. Pet'rs' Ex. 6 at 12; Pet'rs' Ex. 7 at 19; DEQ Ex. E, ¶¶ 18, 25.

9. In official biennial reports to the U.S. Environmental Protection Agency since 2006, the Department reaffirmed its determination that the two segments of East Fork Armells Creek are not meeting water quality standards. Pet'rs Ex. 6 at 8-9; Pet'rs' Ex. 7 at 15-16.

### **III. The Department Failed Lawfully to Assess Compliance with Water Quality Standards for Aquatic Life.**

10. In addition to the Water Protection Bureau's determination that East Fork Armells Creek was not meeting water quality standards for aquatic life, Department Coal Program staff believed material damage was occurring in intermittent reaches of the creek due to increased concentrations of sulfate, chloride, and salinity. DEQ Ex. C, ¶¶ 45, 53; Pet'rs' Ex. 5 at 27; Pet'rs' Ex. 9 at 3.

Concentrations of sulfate and chloride in the creek exceeded toxicity thresholds for aquatic life. DEQ Ex. C, ¶ 47; Pet'rs' Ex. 2 at 2-4, 9-8, 9-68, fig. 9-93.

11. In approving the AM4 Amendment to the Area B Permit, the Department disregarded the Water Protection Bureau's determinations that both reaches of East Fork Armells Creek fail to meet water quality standards for aquatic life. Pet'rs' Ex. 1 at 8-9 ("The recent aquatic survey provides empirical evidence that Aquatic Life support is not adversely impacted by mining activity."); *accord* Pet'rs' Ex. 2 at 9-8. The Department also disregarded the concerns of Coal Program staff about material damage due to increased sulfate, chloride, and salinity. Pet'rs' Ex. 2 at 9-8.

12. The Department disregarded its prior determinations and concerns on the basis of an aquatic life survey conducted by consultants for Western Energy Company (WECO) in 2014. Pet'rs' Ex. 1 at 8-9; Pet'rs' Ex. 2 at 9-8.

13. "At the request of DEQ Coal Program Staff, [the Department's aquatic life specialist] David Feldman advised Penny Hunter [WECO's consultant who conducted the aquatic life survey] how to collect samples, **but was instructed not to advise her how the samples could be used to determine aquatic life health.**" DEQ Ex. E, ¶ 33 (emphasis added).

14. Department Coal Program staff instructed WECO's consultant not to follow the Department's protocols for assessing compliance with water quality standards. Pet'rs' Ex. 20 at 1; Pet'rs' Ex. 35 at 2.

15. Instead, by direction of Coal Program management, the Department instructed WECO's consultant to follow only the Department's protocol for sampling aquatic life, and not the protocol for assessing compliance with water quality standards. Pet'rs' Ex. 20 at 1.

16. The aquatic life survey conducted by WECO's consultant did not comply with the Department's protocols for assessing compliance with water quality standards. Pet'rs' Ex. 20 at 1; Pet'rs' Ex. 35 at 2; DEQ Ex. E, ¶¶ 33, 36.

17. After completing the survey, WECO's consultant made a presentation to the Department, in which she concluded, "Although EFAC [East Fork Armells Creek] supports aquatic life, aquatic life criteria are not met." Pet'rs' Ex. 10 at 12.

18. The Department admits, "[T]o determine whether aquatic life criteria [i.e., water quality standards] are met, DEQ **should conduct an evaluation using the most recent data as well as the most recent methodologies for evaluating this data.**" Pet'rs' Ex. 16 at 16 (emphasis added).

#### **IV. The Department Employed a Legally Erroneous Definition of Anticipated Mining, Which Unlawfully Limited Its Analysis.**

19. When the Department approved the AM4 Amendment to the Area B Permit, WECO's application for operations in Area F of the Rosebud Mine was pending before the Department. Pet'rs' Ex. 5 at 4.

20. Portions of the proposed Area F mining operations are located within the cumulative hydrologic impact area the Department established for the AM4 Amendment to the Area B Permit. Pet'rs Ex. 5 at 4.

21. While the AM4 Amendment application was pending, WECO and the Department identified pending or expected applications for anticipated mining in multiple locations in Area A and Area B. Pet'rs' Ex. 26; Pet'rs' Ex. 27 at 1.

22. In its cumulative hydrologic impact assessment for the AM4 Amendment to the Area B Permit, the Department defined "anticipated mining" as follows: "'Anticipated mining' includes the entire projected life through bond release of all **permitted operations** . . . ." Pet'rs' Ex. 2 at 5-1 (emphasis added).

23. Under Montana law, anticipated mining is defined to include "all operations **with pending applications**," not "all permitted operations," which is narrower. ARM 17.24.301(32) (emphasis added).

24. On the basis of its definition of "anticipated mining" the Department's cumulative hydrologic impact assessment excluded multiple operations with

pending applications, including Area F. Pet’rs’ Ex. 17 at 1; Pet’rs’ Ex. 19; Pet’rs’ Ex. 24; Pet’rs’ Ex. 27 at 1.

25. On May 3, 2013, the Department’s Coal Program Supervisor, Chris Yde, wrote WECO, stating that the company’s probable hydrologic consequences report should include “all **permitted** mining” and that “proposed cuts associated with **currently unapproved** [applications, i.e., operations with pending applications] **should not be included.**” Pet’rs’ Ex. 17 at 1 (emphasis added).

26. On May 16, 2013, WECO’s hydrology consultant wrote the Coal Program, stating that one option would be to evaluate “the significance of all **proposed** permits, including the permit under consideration.” Pet’rs’ Ex. 27 at 1 (emphasis added). The other option would only evaluate the “significance of [the] proposed permit” and “[n]o other pending or proposed permits that have not been approved would be a component of this modeling effort.” Pet’rs’ Ex. 27 at 1.

27. On May 16, 2013, representatives of WECO met with representatives of the Coal Program. Pet’rs’ Ex. 24. Supervisor Yde’s notes from the meeting incorrectly define “anticipated mining” as operations that are “approved—but not mined.” Pet’rs’ Ex. 24. He wrote that “proposed mining” does not include “mining that isn’t approved or part of the current application.” Pet’rs’ Ex. 24. “[P]roposed Area F and additional mining in Area A,” Yde wrote, “[are] not included.” Pet’rs’ Ex. 24.

28. WECO personnel subsequently wrote their hydrology consultant that based on “the Department’s newly defined potential mining” anticipated mining in “Area B-Extension” and potentially “Area F” “would need to be taken off” of the maps in the probable hydrologic consequences report. Pet’rs’ Ex. 19.

29. WECO’s hydrology consultant replied that based on the new definition of anticipated mining, it would omit maps showing Area F. Pet’rs’ Ex. 19; Pet’rs’ Ex. 26.

30. Neither the Department’s cumulative hydrologic impact assessment nor any documentation in the possession of the Department at the time of its decision approving the AM4 Amendment provided any factual basis for excluding Area F or other mining operations with pending applications from the Department’s cumulative hydrologic impact assessment. Pet’rs’ Ex. 5 at 5.

31. No documentation before the Department at the time it approved the AM4 Amendment and no *post hoc* documentation provided by the Department in this appeal assesses potential cumulative impacts from Area F and Area B to Armells Creek below the confluence of the East and West Forks of the creek. Pet’rs’ Ex. 5 at 5; *cf.* DEQ Ex. C, ¶¶ 19-20 (ignoring downstream hydrologic connection).

**V. The Department Failed Entirely to Assess Specific Conductance in Rosebud Creek Tributaries Despite Knowing that WECO Could Not Comply with Applicable Standards.**

32. Operations from the Rosebud Mine impact tributaries of Rosebud Creek, including Lee Coulee. Pet'rs' Ex. 2 at 9-11 & fig. 5-1; Pet'rs' Ex. 5 at 9.

33. The Rosebud Mine is permitted to discharge pollutants in water from seven locations (outfalls) in Area B into Lee Coulee. Pet'rs' Ex. 37 at 174.

34. Water quality standards for specific conductance apply to all tributaries of Rosebud Creek, including ephemeral tributaries. ARM 17.30.670(4).

35. Water quality standards for specific conductance in Rosebud Creek and its tributaries protect irrigated agriculture in southeastern Montana. 16 Mont. Admin. Reg. 2269, 2274 (Aug. 28, 2002).

36. Numeric water quality standards, including specific conductance standards, are criteria for determining if a proposed mining operation will cause material damage to the hydrologic balance. Pet'rs' Ex. 2 at 2-3 to -4.

37. WECO told the Department that "EC [referring to specific conductance] limits [from ARM 17.30.670(4)] would not be attainable" and "it would not be likely that WECO could comply with the proposed" water quality standards limiting electrical conductivity. Pet'rs' Ex. 37 at 12.

38. The Department's cumulative hydrologic impact assessment failed entirely to assess whether the cumulative hydrologic impacts of the proposed Area

B operations would cause violations of specific conductance standards in Lee Coulee or other tributaries of Rosebud Creek. *See generally* Pet’rs’ Ex. 2.

**VI. The Department Failed to Make a Material Damage Determination for East Fork Armells Creek in Section 15, Which Was Dewatered Following Strip-Mining.**

39. The Department failed to make a material damage determination with respect to the segment of East Fork Armells Creek in Section 15 of the Rosebud Mine, directly adjacent to Area B. DEQ Resp. Br. at 30-31; DEQ SDF at 12-13; Pet’rs’ Ex. 2 at 9-10 (“Without knowing the true nature of the stream flow and the interaction between groundwater and surface water, **a determination of material damage cannot be made.**” (emphasis added)).

40. Assessments by the Department and WECO described this reach of stream as intermittent to perennial before WECO strip-mined the land next to it. Pet’rs’ Ex. 2 at 9-9.

41. Water levels in the stream’s alluvium declined steeply following strip-mining adjacent to the creek and eventually went dry. Pet’rs’ Ex. 2 at 9-9 to -10.

**VII. The Department Failed Entirely to Assess Numeric Aquatic Life Standards for Nitrogen Despite Its Own Prior Determination that East Fork Armells Creek Is Not Meeting Water Quality Standards for Aquatic Life Due to Nitrogen Pollution.**

42. The Department’s Water Protection Bureau identified nitrogen pollution as a potential cause of the lower reach of East Fork Armells Creek’s

failure to meet water quality standards for aquatic life, albeit with low confidence. Pet'rs' Ex. 7 at 19; DEQ SDF at 19.

43. The Department admits operations of the Rosebud Mine contribute nitrogen pollution to the lower reach of East Fork Armells Creek, albeit in a “relatively minimal” amount. DEQ Ex. C, ¶ 36.

44. “[H]igh nitrogen may be in surface water samples due to residual chemicals from blasting.” DEQ Ex. C, ¶ 37 (quoting Pet'rs' Ex. 2 at 9-26).

45. “[M]any of the highest values [of nitrogen] have been detected downstream of active mining.” DEQ Ex. C, ¶ 37 (quoting Pet'rs' Ex. 2 at 9-26).

46. Numeric aquatic life standards for nitrogen apply to stream reaches in the cumulative hydrologic impact area, including East Fork Armells Creek. Pet'rs' Ex. 5 at 16; Pet'rs' Ex. 16 at 12; DEQ Ex. C, ¶¶ 41-42.

47. Applicable numeric water quality standards for nitrogen are material damage criteria that must be assessed to determine if cumulative hydrologic impacts will cause material damage. Pet'rs' Ex. 2 at 2-3.

48. The Department admits its cumulative hydrologic impact assessment failed entirely to assess whether the cumulative hydrologic impacts of mining and reclamation operations will cause violations of the applicable aquatic life standards for nitrogen. DEQ Br. at 25 (“DEQ concedes that it did not apply the more stringent numeric water quality standards for nitrogen that protect aquatic life

contained in Department Circular DEQ 12-A ('DEQ 12-A') to its analysis of EFAC.”).

49. Instead of assessing the more stringent nitrogen standard for aquatic life (1.3 mg/L), *see* DEQ Ex. C, ¶ 44, the Department’s cumulative hydrologic impact assessment only considered whether the cumulative hydrologic impacts of mining and reclamation operations would cause violations of the much less stringent nitrogen standard for human health (10 mg/L). Pet’rs’ Ex. 2 at 9-26, -78 to -80.

### **VIII. The Department Unlawfully Reversed the Burden of Proof in Its Material Damage Determination for Rosebud Creek.**

50. Rosebud Creek is within the cumulative hydrologic impact area. Pet’rs’ Ex. 2, fig. 5-1.

51. Area B mining operations occur within the Rosebud Creek drainage basin. Ex. 2 at 9-11 & fig. 5-1; Ex. 5 at 9.

52. WECO is authorized to discharge pollutants from outfalls in the Area B permit area located in Lee Coulee, which is tributary to Rosebud Creek. Pet’rs’ Ex. 37 at 174.

53. The Department determined that Rosebud Creek “gains salt” as it passes the confluence with Lee Coulee. Pet’rs’ Ex. 2 at 9-15.

54. Water quality in Rosebud Creek below Lee Coulee violates numeric water quality standards for specific conductance, which is a measure of salinity. Pet'rs' Ex. 2 at 9-15 & fig. 9-5.

55. In a prior cumulative hydrologic impact assessment for the Big Sky Mine, which is located in part in Lee Coulee, the Department predicted that mining would cause increased salinity in Rosebud Creek outside the mine permit area. Pet'rs' Ex. 13 at 9.

56. In its cumulative hydrologic impact assessment for the AM4 Amendment to the Area B permit, the Department found that: "The proposed operation is designed to prevent material damage to Rosebud Creek because as of 2013, there has not been a change in water quality in Rosebud Creek that can be directly attributable [sic] to mining in Lee Coulee, Miller Coulee, Cow Creek, Pony Creek, Hay Creek, or Spring Creek." Pet'rs' Ex. 2 at 9-15.

#### **IX. The Department Failed to Assess Impacts to Class I Groundwater.**

57. The Department admits water quality sampling from the unmined Rosebud coal aquifer between the Rosebud and Big Sky Mine has identified water within the range of Class I groundwater. DEQ Br. at 35.

58. The Department and WECO acknowledge that after mining water quality in the coal spoils aquifer will degrade to Class III groundwater and migrate

towards the portion of the unmined coal aquifer between the two mines. Pet'rs' Ex. 2 at 9-59; Pet'rs' Ex. 8 at 14.

59. The Department's cumulative hydrologic impact assessment failed entirely to assess impacts of the migrating spoils water on high quality Class I water. Pet'rs' Ex. 2 at 9-59.

Respectfully submitted,

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## **CERTIFICATE OF SERVICE**

I hereby certify that on this 25th day of October 2016, I submitted the foregoing Petitioner's Statement of Undisputed Facts to the Montana Board of Environmental Review and that I served a true and correct copy of the foregoing on the following counsel via email or hand delivery:

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