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and Western Energy Company

**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

**Respondent-Intervenors' Supplemental
Statement of Disputed Facts**

Pursuant to the Board's request during the Board meeting held on September 30, 2016, and the Hearing Examiner's subsequent emails dated October 4 and October 6, 2016, Respondent-Intervenors International Union of Operating Engineers, Local 400, Natural Resource Partners, L.P., Northern Cheyenne Coal Miners Association, and Western Energy Company respectfully submit this Supplemental Statement of Disputed Facts.

Respondent-Intervenors incorporate by reference the Statement of Disputed Facts previously filed by Respondent Montana Department of Environmental Quality (the "Department" or "DEQ") in response to Petitioners MEIC's and Sierra Club's Motion for Summary Judgment. Respondent-Intervenors join with, and incorporate by reference, the

Filed with the
MONTANA BOARD OF
ENVIRONMENTAL REVIEW
This 9 day of November, 2016
at 4:31 o'clock P.m.
By: Hillary Houle

Department's objection to Petitioners' being allowed to file a statement of undisputed facts after their Motion for Summary Judgment was briefed and Respondents and Respondent-Intervenors had already filed their opposition to that motion.

RESPONSE TO STATEMENT OF UNDISPUTED FACTS

Without waving its objections, Respondent-Intervenors reply to Petitioners' Statement of Undisputed Facts as follows. Petitioners' assertions of fact are set out in bold, with Respondent-Intervenors' responses included below each assertion:¹

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.

Respondent-Intervenors' Response: Undisputed.

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.

Respondent-Intervenors' Response: Undisputed.

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

Respondent-Intervenors' Response: Undisputed.

4. In approving the application, the Department determined that "this

¹ Respondent-Intervenors further note that they were further prejudiced by the Petitioners' failure to comply with Paragraph 3.c., of the Hearing Examiner's Draft Order instructing that the Petitioners' Statement must "[i]mmediately upon filing of the motion, be-emailed in a word processing format to Respondent-Intervenors." Petitioners failed to do so, even upon request from counsel for Respondent-Intervenors.

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).

Respondent-Intervenors’ Response: Undisputed.

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.

Respondent-Intervenors’ Response: Undisputed.

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.

Respondent-Intervenors’ Response: Undisputed.

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.

Respondent-Intervenors’ Response: Respondent-Intervenors object on the basis that this allegation was not included in Petitioners’ memorandum in support of their Motion for Summary Judgment and Respondent-Intervenors have not, therefore, had sufficient time or opportunity to ascertain the truth of this statement, nor to make any argument regarding its meaning, if true, for the parties’ legal theories. To the extent a response is required, Respondent-Intervenors dispute this allegation. None of Petitioners’ citations for this allegation support the allegation or expressly say anything at all about whether the Department

has an established protocol or whether it followed that protocol in this case.

Respondent-Intervenors note that the 2006 Attainment Record for Upper East Fork Armells Creek incorrectly stated that the mine had cut through the stream channel, relying on a supposed statement by a mine employee. *See* Pet'rs' Ex. 6 at 5; DEQ Ex. 6 ¶¶ 24-26. That assertion was and is false, *see* 2016 Attainment Record for Upper East Fork Armells Creek (attached as new Ex. A), and could have been shown to be false in 2006 through observation of the stream, suggesting that any protocol that might exist for ensuring the accuracy of the Water Protection Bureau's assessments may not have been followed when preparing the 2006 Attainment Record for Upper East Fork Amells Creek.

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.

Respondent-Intervenors' Response: Disputed. Petitioners' Exhibit 6, the 2006 Attainment Record for Upper East Fork Armells Creek, lists mining as a potential source of "alteration in stream-side or littoral vegetative covers," not as a source or potential source of any pollution. Pet'rs' Ex. 6 at 12. Moreover, as discussed in Respondent-Intervenors' response to Petitioners' Allegation No. 7, above, the Department has since concluded that mining is not the cause of any such alteration in littoral vegetative covers. *See* Ex. A. Petitioners cite to DEQ Ex. E ¶ 25 in support of their allegation. That document states that the assertion that mining may have caused alteration in littoral vegetative covers was based solely on a conversation between Department staff and a supposed mine employee and could not be confirmed through any physical observation. *Id.* It does not in any way support the allegation that the Department found mining to be a potential source of pollution in the upper reach of East Fork

Armells Creek.

Respondent-Intervenors also dispute this allegation on the basis that the 2006 Attainment Record for Lower East Fork Armells Creek, Pet'rs' Ex. 7, only notes that coal mining, along with agriculture and transfer of water from another watershed, is a possible, unconfirmed source of one or more minerals and nutrients in the stream. *See id.* at 19. It does not say for which constituent coal mining may be the source, nor does it provide the amount of any such constituent coal mining could possibly introduce to the stream, nor whether such constituent could be a possible cause of a failure to meet water quality standards.

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.

Respondent-Intervenors' Response: Disputed. Respondent-Intervenors admit that the Department's biennial attainment records submitted since 2006 state that the two segments of East Fork Armells Creek are impaired. However, Respondent-Intervenors object to Petitioners' assertion that the Department reaffirmed any such determination. The Department had not reassessed the streams since 2006 until this year and each subsequent report during that period was merely copied from the data collected and analysis conducted in 2006. *See* DEQ Ex. E, ¶ 16.

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

Respondent-Intervenors' Response: Paragraph III does not include supporting citations, and Respondent-Intervenors interpret this statement as an argument rather than an assertion of fact, so no response is required. To the extent a response is required, Respondent-Intervenors deny

this allegation and incorporate by reference Respondent-Intervenors' Opposition to Petitioners' Motion for Summary Judgment at 33-43, 45-52. Respondent-Intervenors note that the Affidavits of Eric Urban and Penny Hunter expressly deny this allegation.

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.

Respondent-Intervenors' Response: Disputed. Petitioners' citations to DEQ Ex. C do not support its allegation. DEQ Ex. C ¶ 45 merely states that, during the application review process, the Department asked the mine to provide additional information, including an aquatic life survey, to address any concerns regarding potential material damage from certain constituents. Pet'rs' Ex. 5 at 27 states that “[c]oncerns were raised that *potential inputs of additional salinity, sulfate, and chloride . . . may cause material damage.*” (Emphasis added). Such conditional concerns in no way substantiate Petitioners' allegations of material damage at the time the Cumulative Hydrologic Impact Assessment (“CHIA”) was being conducted. It is the Department's personnel's job to address potential concerns during the CHIA process and that they sought to do so does not in any way suggest that they believed material damage was occurring, as Petitioners allege. The Department's ultimate finding in the CHIA that mining operations in the AM4 area are designed to prevent material damage refutes Petitioners' allegation.

Petitioners' allegation that concentrations of sulfate and chloride in East Fork Armells Creek "exceeded the toxicity thresholds" for aquatic life is also false, as explained in greater detail in Respondent-Intervenors' Opposition to Petitioners' Motion for Summary Judgment at 45, 49-52, which Respondent-Intervenors incorporate by reference in this response.

Petitioners' allegation is incorrect in part because there are no established "toxicity thresholds" in Montana for sulfate and chloride, which are instead subject to narrative standards. *See* Resp.-Int'vrs' Ex. 4 at 6. Numeric guidelines are used simply to inform the Department's analysis of a stream's ability to support its beneficial uses. *E.g.*, Pet'rs' Ex. 2 at 2-4; Resp.-Int'vrs' Ex. 4 at 6. Moreover, even those narrative standards requiring support of aquatic life are not applicable to ephemeral streams and Upper East Fork Armells Creek is ephemeral for most of its length. *See* Pet'rs' Ex. 2, *e.g.*, at 8-8 and 9-6; Pet'rs' Ex. 6 at 5; Resp.-Int'vrs' Ex. 10 at ¶¶ 27. Mont. Admin. R. 17.30.637(4).

Finally, Petitioners' citations to the CHIA are misguided. One of the CHIA passages Petitioners cite clearly states that the numeric guideline for chloride and sulfate for aquatic life "is not an enforceable standard, and it serves only as guidance for evaluating the suitability of pre- and postmine water quality for aquatic life use." Pet'rs' Ex. 2 at 2-4. The CHIA also noted that "[e]ven in baseline samples, the sulfate threshold for aquatic life were exceeded. Macroinvertebrate communities in Eastern Montana are likely adapted to high sulfate water." Pet'rs' Ex. 2 at 9-8 (emphasis added); *see also* Hunter Decl. at ¶ 28. Therefore, mere exceedence of a numeric guideline does not imply toxicity to aquatic life. In fact, the Department concluded in the CHIA that Upper East Fork Armells Creek *does* support aquatic life. *See* Pet'rs' Ex. 2 at 9-7 to 9-8. The Department's responses to comments in its Written Findings further explain that the results of the aquatic life survey "show that the aquatic

environments in upper [East Fork Armells Creek] support a diverse assemblage of aquatic insects, and consist of taxa commonly found in eastern Montana prairie streams. The recent aquatic survey provides empirical evidence that Aquatic Life support is not adversely impacted by mining activity.” Pet’rs’ Ex. 1 at 9.

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.

Respondent-Intervenors’ Response: Disputed. Respondent-Intervenors admit that the Department concluded that “Aquatic Life support is not adversely impacted by mining activity.” Pet’rs’ Ex. 1 at 8-9; *accord* Pet’rs’ Ex. 2 at 9-8. Respondent-Intervenors dispute that, in coming to that conclusion, the Department disregarded any previous determination that East Fork Armells Creek was not meeting water quality standards for aquatic life. Petitioners cite no affidavit or other evidence to support the allegation that the Department did not consider the 2006 surveys to which Petitioners refer. The fact that the Department concluded in 2015, based on recently acquired data, something different than it concluded in the 2006 attainment records does not mean that the Department did not consider those earlier records. In fact, the Department *did* consider the earlier attainment determinations, as evidenced by its response to comments on this exact topic. *See* Pet’rs’ Ex. 1 at 8-9. There it explained that it did consider the conclusions of the earlier attainment records and gave the rationale for its

conclusion that East Fork Armells Creek's aquatic life was not adversely affected by mining activity.

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.

Respondent-Intervenors' Response: Disputed for the reasons described in Respondent-Intervenors' response to allegations 10 and 11, above. Respondent-Intervenors again admit that the Department and its staff may have, at earlier times, had concerns or made determinations that they later, in the CHIA and Written Findings, decided were not, or no longer, valid. The fact that the Department came to a different conclusion in 2015 than in 2006 and that any concerns it had were assuaged during the application review process does not logically lead to the conclusion that the Department disregarded those previous determinations or concerns. Again, Petitioners provide no evidence for this allegation in the face of contrary evidence showing that the Department (i) conducted a lengthy evaluation and produced a three hundred and twenty-nine page CHIA evaluating and addressing the specific concerns Petitioners refer to, *see* Pet'rs' Ex. 5 at 27; and (ii) considered the 2006 water quality data for East Fork Armells Creek, along with other data in concluding that mining did not adversely affect aquatic life in that stream, Pet'rs' Ex. 1 at 8-9; *see also* 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).

Respondent-Intervenors' Response: Respondent-Intervenors do not have sufficient information to determine whether this allegation is accurate and therefore dispute it.

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.

Respondent-Intervenors' Response: Disputed. Pet'rs' Ex. 20 is an email from the Department instructing Western Energy's expert consultant, Penny Hunter, to conduct an aquatic life survey using the procedures Petitioners themselves cite as governing in their own brief. *See* Pet'rs' Br. at 67 (citing Pet'rs' Ex. 34, "Sample Collection, Sorting, Taxonomic Identification, and Analysis of Benthic Macroinvertebrate Communities Standard Operating Procedure," WQPBWQM-009); Pet'rs' Ex. 20; Pet'rs' Ex. 11 at 2 ("Survey protocols and taxonomic identification of the benthic community followed both MDEQ's sampling and analysis protocols in *Sample Collection, Sorting, Taxonomic Identification, and Analysis of Benthic Macroinvertebrate Communities Standard Operating Procedure . . .* and USEPA's *Rapid Bioassessment Protocols for Use in Streams and Wadeable Rivers . . .*"); Hunter Decl. at ¶ 35.

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.

Respondent-Intervenors' Response: Disputed. Emily Hinz of the Department's Coal Program instructed Ms. Hunter to use two Department guideline documents in conducting the aquatic life survey. Pet'rs' Ex. 20 at 1. Ms. Hinz did tell Ms. Hunter she was not required to apply metrics to the data collected. *Id.* Petitioners dispute that that statement amounts to the

Department instructing Ms. Hunter not to follow “the protocol for assessing compliance with water quality standards.” Petitioners offer no support for the allegation that Coal Program management directed Ms. Hinz to give those instructions to Ms. Hunter.

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.

Respondent-Intervenors’ Response: Disputed. Respondent-Intervenors incorporate by reference their response to allegations Nos. 14 and 15. The documents Petitioners cite in support of this allegation suggest that the Department did not require Ms. Hunter to complete all of the analysis normally used to make a stream impairment determination. They say nothing at all about whether or not Ms. Hunter complied with the Department’s protocols for assessing compliance with water quality standards for the purpose of assessing whether a proposed mining operation would cause material damage to the cumulative hydrologic balance outside the permit area. Whether Ms. Hunter applied any specific metrics to the data she collected has no effect on the quality of that data. Hunter Decl. at ¶ 38-39. Moreover, in addition to following the Department’s protocol, as discussed in the response to allegation No. 14, Ms. Hunter did calculate a numerical metric based on the data she collected, and compared the data she collected to regionally-defined reference conditions, just as Petitioners have stated the Department is required to do. *See* Pet’rs’ Br. at 67; Pet’rs’ Ex. 2 at 9-8 (CHIA); Pet’rs’ Ex. 11 at 4; Hunter Decl. at ¶¶ 40-42. Petitioners apparently confuse the methodology for determining water quality impairment of a stream with the protocols applicable to sampling for a material damage determination. *See* Hunter Decl. ¶¶34-35.

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.

Respondent-Intervenors’ Response: Disputed. The specific statement Petitioners quote referred to data collected in the 1970s. Resp.-IntHunter Decl. at ¶¶ 44, 47. Ms. Hunter made no such conclusion about present-day conditions. Hunter Decl. at ¶ 47. In fact, the presentation was meant to demonstrate that present-day studies of aquatic life in East Fork Armells Creek are unlikely to show effects from mining. *Id.*

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).

Respondent-Intervenors’ Response: Respondent-Intervenors dispute this allegation only to the extent that it characterizes the Department’s interrogatory response as an “admission.” Respondent-Intervenors do not dispute that the Department believes that evaluating the most recent data using the most recent effective methodologies is a good way to determine whether water quality standards are being met. It is likely for that reason that the Department has required Western Energy to perform continued monitoring of aquatic life in all streams affected by mining as a condition of its granting approval of AM4. *See* Pet’rs’ Ex. 1 at 8.

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

Respondent-Intervenors’ Response: Paragraph IV does not include supporting citations, and Respondent-Intervenors interpret this statement as an argument rather than an assertion of fact, so no response is required. To the extent a response is required, Respondent-Intervenors deny

this allegation and incorporate by reference Respondent-Intervenors' Opposition to Petitioners' Motion for Summary Judgment at 33-43, 45-52.

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.

Respondent-Intervenors' Response: Undisputed.

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.

Respondent-Intervenors' Response: Disputed. Respondent-Intervenors' object to the relevance of this allegation on the basis that Petitioners declined to make any public comment regarding a need to consider impacts from mining in Area F during the public comment period, thereby waiving their right to challenge the Department's decision now.

Respondent-Intervenors admit that part of Area F falls within the cumulative hydrologic impact area ("CIA") drawn by the Department. *See* Pet'rs' Ex. 2 at Fig. 5-1. However, based on the Department's subsequent analysis and resulting determination that there is no hydrologic connection between Area F and AM4; *see, e.g.,* DEQ Ex. B (Yde Decl.) at ¶¶ 24-26, Pet'rs' Ex. 2 at Fig. 8-5; Respondent-Intervenors dispute any allegation that Area F falls within the regulatory definition of cumulative hydrologic impact area, since Area F is not an area "within which impacts to the hydrologic balance from the proposed operation may interact with the impacts of all previous, existing, and anticipated mining on surface and ground water systems." Mont. Admin. R. 17.24.301(32).

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.

Respondent-Intervenors’ Response: Disputed. It is unclear what Petitioners mean by “identified.” Petitioner cites to two Western Energy documents. Pet’rs’ Ex. 26 is a map showing the mine area. It labels the AM4 area and a potential “Area B-Extension.” Pet’rs’ Ex. 27 is a document prepared by Western Energy’s hydrologic expert consultant that mentions potential Area B applications as well as minor revision applications for Area A. None of these applications or potential applications are “anticipated mining” as it is defined by Mont. Admin. R. 17.30.670(32) and to the extent Petitioners assert otherwise, Respondent-Intervenors object on the basis that that is a legal assertion, not a statement of fact. Furthermore, neither of the cited documents says anything about the Department identifying any pending or expected applications for anticipated mining in Areas A and B.

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).

Respondent-Intervenors’ Response: Undisputed.

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).

Respondent-Intervenors’ Response: Respondent-Intervenors object to this statement because it is a legal argument, not a statement of fact. The text of the cited regulatory provision speaks for itself. To the extent a response is required, Respondent-Intervenors dispute the allegation.

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.

Respondent-Intervenors’ Response: Disputed. The only pending applications at the time the Department conducted the CHIA were the one for Area F and two minor revision applications for Area A. DEQ Ex. B (Yde Decl.) at ¶¶ 20-22. Minor revisions, by definition, do not have any effect on the hydrologic balance and were excluded for that reason. *See* Mont. Admin. R. 17.24.301(66) and (72); DEQ Ex. B (Yde Decl) at ¶ 20. Area F was excluded, as discussed in the responses to Allegations Nos. 20 and 30, because it has no hydrologic connection to AM4 within the CIA.

As noted before, if there were pending applications for other operations Petitioners thought should have been considered in the CHIA, the time to make that known was during the public comment period. Petitioners did not do so, and so the Department was not on notice that there was any need to consider including other potential applications in the CHIA.

Moreover, the documents Petitioners cite simply do not support their allegation. Ex. 17 and 19 discuss only applications for minor revisions. Ex. 24 is a page of handwritten meeting notes whose meaning is far from clear on its face and certainly does not establish a position of the Department regarding its rationale for including or excluding areas from the CHIA. Ex. 27 makes reference to minor revision applications and potential operations whose applications were not yet pending. The relevance of these documents is questionable at best, and they say nothing about any reasoning behind any decision by the Department to exclude any operations with pending applications from its analysis.

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).

Respondent-Intervenors' Response: Disputed. Respondent-Intervenors admit that Chris Yde sent an email to Dicki Peterson of Western Energy on May 3, 2013 that contained the plain words quoted above. Respondent-Intervenors dispute any explicit or implicit allegation made by Petitioners through their use of selective omissions and bolding, for which no support is given. The entire paragraph Petitioners quote from reads:

The PHC needs to be comprehensive for areas A, B, and C. The PHC should include analysis of potential hydrologic impacts for all permitted mining in Rosebud Mine areas A, B, and C, as well as the proposed cuts in Area B (AM4). There is no need to complete PHC's for individual areas, as the Rosebud Mine as a whole needs to have a single comprehensive analysis for all surface water and groundwater impacts. The proposed cuts associated with currently unapproved minor revisions for Area A should not be included.

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.

Respondent-Intervenors' Response: Disputed. The cited document, written by Western Energy consultant Michael Nicklin, was written for and sent to Western Energy personnel—not the Department—for Western Energy's consideration. Respondent-Intervenors admit that

some of the words Petitioners quote do appear in the cited document, though not with the omissions, additions, and emphasis omitted and added by Petitioners in their allegation. The text of Pet'rs' Ex. 27 is the best evidence of what that document says and, to the extent it is relevant to this contested case, the Board should rely on that document and not Petitioners' selective quotation and argumentative interpretation of it.

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.

Respondent-Intervenors' Response: Disputed. Respondent-Intervenors object to Petitioner's characterization of Mr. Yde's notes as incorrectly defining the term "anticipated mining."

That is a legal conclusion and not a statement of fact. Respondent-Intervenors dispute that Mr. Yde's notes can be conclusively read, without any corroborating testimony or other evidence, to mean that he defined "anticipated mining" at all, let alone as operations that are approved but not mined. From the handwritten abbreviated notes alone, it is not clear whether the notes reflect Mr. Yde's thoughts, Department determinations, somebody else's opinion, or something else. 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.

Respondent-Intervenors' Response: Disputed. Some of the words Petitioners quote appear in the cited document. However, Respondent-Intervenors object to the argumentative nature in which Petitioners selectively quote and present those words. Such argument is not a statement of fact. Respondent-Intervenors also dispute Petitioners' interpretation of the cited document and submit that the document itself in its entirety is the best evidence of its contents. *See* 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.

Respondent-Intervenors' Response: Disputed. In Pet'rs' Ex. 19, Western Energy's consultant plainly wrote that he suggested removing one map (Pet'rs' Ex. 26) – which showed Area F, as well as Areas A, B, C, D, and E – not multiple maps. He did not write that he would remove all maps showing Area F.

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.

Respondent-Intervenors' Response: Disputed. The CHIA demonstrates that AM4 and Area F are located several miles apart in separated drainages: AM4 occurs in the East Fork Armells Creek drainage and Area F, if approved, would take place in the West Fork Armells Creek drainage. Those drainages are separated within the CIA and only intersect some 17 miles north of the Area B Permit area where no interaction of impacts from the two separate mine areas could be detected. *See* Nicklin Decl. at ¶ 50 (“[b]y the time the waters do join, the water will

be dominated by contributions from other portions of each of the East Fork Armells Creek and West Fork Armells Creek drainages. Any potential changes associated with AM4, in the unlikely event they occur, will not be discernible.”). There is no surface water connection between the two within the cumulative impact area designated by the Department. See *id.*; Pet’rs’ Ex. 2 Figures 5-1 and 8-1 (CHIA). In discovery Petitioners admitted that the confluence of West Fork Armells Creek and East Fork Armells Creek occurs well downstream of the cumulative impact area boundary and, critically, that they do not contest the Department’s determination of the cumulative impact boundary. Pet’rs’ Dep. at 68-69. By their admission in discovery, and contrary to their contention in summary judgment, mixing that occurs so far downstream is not relevant to the Department’s analysis and properly excluded from consideration in the CHIA.

Data and figures in the record demonstrate the absence of any interaction between the two areas for groundwater. Potentiometric maps included in the CHIA (e.g., Pet’rs’ Ex. 2 at Fig. 8-5), and explained by expert Dr. Michael Nicklin, demonstrate that there is no groundwater connection between Area F and AM4. Nicklin Decl. at ¶ 48. Those figures demonstrate that the drawdown impacts of AM4 are highly localized and therefore will not directly impact Area F. *Id.* Upon questioning in deposition on behalf of Petitioners, the designated organizational deponent conceded that the Petitioners knew of no hydrologic connection between the two areas. Resp.-Int’vrs’ Ex. 2 at 92:18 (Rule 30(b)(6) Deposition of Petitioners). Petitioners admit that there will be no interaction—and thus no cumulative impact—between AM4 and Area F.

The sole evidence Petitioners cite for this allegation does nothing to support it. Petitioners asked in an interrogatory for documents wherein a person “discussed or considered

the propriety of considering potential hydrologic impacts from the proposed Area F operation . . .” Pet’rs’ Ex. 5 at 5. The Department answered that the topic had been discussed but no documents regarding that discussion existed. *Id.* That hardly means, as Petitioners casually assert, that the Department had no documents providing a factual basis for excluding Area F from the assessment. Respondent-Intervenors contend that the Department did, in fact, consider impacts from Area F in its assessment, as the sections of the CHIA cited above and in their response to Allegation No. 20 proved that there would be no cumulative hydrologic impacts between Area F and AM4.

Respondent-Intervenors again note that Petitioners declined to raise this issue in their public comments and have therefore waived any right to complain about the scope of the Department’s assessment at this late stage.

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).

Respondent-Intervenors’ Response: Undisputed. As noted in Respondent-Intervenors’ responses to Allegation No. 30, the confluence of East Fork Armells Creek and West Fork Armells Creek are outside of the cumulative impact area, which Petitioners have admitted.

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

Respondent-Intervenors’ Response: Paragraph V does not include supporting citations, and Respondent-Intervenors interpret this statement as an argument rather than an assertion of fact,

so no response is required. To the extent a response is required, Respondent-Intervenors deny this allegation and incorporate by reference Respondent-Intervenors' Opposition to Petitioners' Motion for Summary Judgment at 33-35, 41-43.

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.

Respondent-Intervenors' Response: Undisputed.

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.

Respondent-Intervenors' Response: Disputed. Pursuant to Montana Pollutant Discharge Elimination System (MPDES) Permit No. MT00223965, Western Energy Company is authorized to discharge water from 7 outfalls that drain to Lee Coulee Creek. Pet'rs' Ex. 37 at 129, 174. "Each outfall is originally associated with a sediment pond or basin. . . . The sediment ponds or basins collect mine drainage and provide time for settling of suspending solids, such that the discharge will comply with applicable effluent limitations. *Id.* at 131. Permit No. MT00223965 establishes average daily and maximum monthly effluent limitations for discharges (*id.* at 160) as well as alternative effluent limitations for "precipitation-driven discharge events." *Id.* at 161, 163. By state law, authorized discharges from outfalls permitted under a valid MPDES permit are exempted from the definition of "pollution." See M.C.A. § 75-5-103(30)(b)(i). Therefore, Western Energy Company is not authorized to discharge pollutants from outfalls in the Area B permit area located in the Lee Coulee drainage.

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

Respondent-Intervenors' Response: Respondent-Intervenors object to this statement because it

is a legal conclusion rather than a statement of fact.

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).

Respondent-Intervenors' Response: Respondent-Intervenors object to this statement because it is a legal conclusion rather than a statement of fact. To the extent that Petitioners assert that water quality standards for specific conductance have actually had the effect of protecting irrigated agriculture in southeastern Montana, they cite no evidence for that assertion and Respondent-Intervenors do not have sufficient information to dispute or admit the allegation. Respondent-Intervenors note that Petitioners did not allege in their comments and even in the issues newly raised in briefing that agricultural uses along Rosebud Creek would be harmed by the proposed mining in AM4.

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.

Respondent-Intervenors' Response: Respondent-Intervenors object to this statement because it is a legal conclusion rather than a statement of fact. Insofar as Petitioners purport to characterize the cited portion of the CHIA, Respondent-Intervenors dispute that characterization. The report states that numeric water quality standards are included among the various material damage criteria for surface waters and also notes that ephemeral streams are not subject to specific numerical water quality standards. *See* Pet'rs' Ex. 2 at 2-3.

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.

Respondent-Intervenors’ Response: Disputed. The quoted language (aside from that in brackets) does come from a letter sent by a Western Energy employee to the Department; however Petitioners mischaracterize it by selectively quoting the letter and presenting it out of context. Jesse Noel wrote in 2012, in a comment to a proposed permit, that “it would not be likely that WECO could comply with the proposed limits using the proposed BPCTCA [“Best Practicable Control Technology Currently Available”].” Pet’rs’ Ex. 37 at 12. At that time, Western Energy had not yet investigated other technologies that might enable compliance. Noel Decl. ¶ 14. The Department issued a permit with those limits, and Western Energy has complied, and will continue to comply, with all permit limits. Petitioners’ implicit suggestion that Western Energy’s expression of concern over whether it could comply with proposed limits is evidence that Western Energy does not now meet those limits is incorrect.

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.

Respondent-Intervenors’ Response: Disputed. The CHIA specifically concluded that “as of 2013, there has not been a change in water quality in Rosebud Creek that can be directly attributable to mining in Lee Coulee, Miller Coulee, Cow Creek, Pony Creek, Hay Coulee, or Spring Creek.” Pet’rs’ Ex. 2 at 9-15. In so concluding, the Department considered data points collected from two monitoring stations in Rosebud Creek, upstream and downstream of its confluence with Lee Coulee. *Id.* The Department found that “concentrations of TDS,” a

measurement related to specific conductance, “measured at the downstream station has not increased over time, and similarly no trend can be seen in the difference in concentration between the upstream and downstream stations.” *Id.*

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

Respondent-Intervenors’ Response: Paragraph VI does not include supporting citations, and Respondent-Intervenors interpret this statement as an argument rather than an assertion of fact, so no response is required. To the extent a response is required, Respondent-Intervenors deny this allegation and incorporate by reference Respondent-Intervenors’ Opposition to Petitioners’ Motion for Summary Judgment at 43-45.

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)).

Respondent-Intervenors’ Response: Disputed. Respondent-Intervenors dispute the assertion that 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. After identifying all available information, the Department determined that it lacked sufficient information about the premine baseflow in Section 15 to determine “*past material damage.*” Pet’rs’ Ex. 2 at 9-10 (emphasis added); *see also* Pet’rs’ Ex. 1 at 9; DEQ Statement of Disputed Facts at 12-13. The Department concluded that “[r]egardless of the nature of the

reaches in Section 15 and Section 8, the proposed action *is designed to prevent material damage to those reaches.*” Pet’rs’ Ex. 2 at 9-10. (emphasis added).

40. Assessments by the Department and WECO described this reach of stream [the segment of East Fork Armells Creek in Section 15 of the Rosebud Mine, directly adjacent to Area B] as intermittent to perennial before WECO strip-mined the land next to it. Pet’rs’ Ex. 2 at 9-9.

Respondent-Intervenors’ Response: Disputed. Petitioners cite to a paragraph of the CHIA that identifies four surveys of Section 15 as follows. In the 1970s, before mining in the area, the reach was described as having some water most of the year. In surveys conducted in 1984, also prior to mining, there was no flow at a measurement point in the reach. In a 1995 wetlands survey, after mining had commenced in the area, the reach was identified as having wetlands. In 2014 field visits, Department staff observed a dry grassy bottom with riparian trees. Finally, assessments conducted on behalf of Respondent-Intervenors in response to Petitioners’ extra-record evidence refute this contention. *See* Nicklin Decl. ¶ 23; Hunter Decl. ¶¶ 22-26; Steere Decl. ¶ 5. The 30-year-old report of Probable Hydrologic Consequences Petitioners cite in support of their claim that Section 15 of upper East Fork Armells Creek was previously intermittent or perennial was compiled shortly after years of above-average precipitation. Nicklin Decl. at ¶ 23. This would be a contributing factor to intermittency. *Id.* The increased precipitation, coupled with water flow due to ponding in the vicinity of Section 15, both make it “unclear if the conditions described for Section 15 in [the study relied upon by Petitioners is] purely indicative of natural intermittent conditions.” *Id.*

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.

Respondent-Intervenors' Response: Disputed. The CHIA states that alluvial water levels in East Fork Armells Creek near Section 15 “started to steadily decline starting in the mid 1980s and continued to decline through the 1990’s.” Pet’rs’ Ex. 2 at 9-9. Mining adjacent to Section 15 began in 1992, well after the decline in alluvial water levels began. *Id.* The CHIA states one specific monitoring well (WA-209) started to decline in 1989 with the biggest declines between 1993 and 1995, before going dry in 1999. *Id.* at 9-9 to 9-10.

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.

Respondent-Intervenors' Response: Paragraph VII does not include supporting citations, and Respondent-Intervenors interpret this statement as an argument rather than an assertion of fact, so no response is required. To the extent a response is required, Respondent-Intervenors deny this allegation and incorporate by reference Respondent-Intervenors’ Opposition to Petitioners’ Motion for Summary Judgment at 43-45.

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.

Respondent-Intervenors' Response: Undisputed.

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.

Respondent-Intervenors' Response: Disputed. The Affidavit of Emily Hines, formerly a hydrologist in the Coal Section of the Industrial and Energy Minerals Bureau, which is

purportedly quoted by Petitioners in Allegation No. 43, states in full: “With respect to coal mining’s impact in aquatic life support in the lower segment of [East Fork Armells Creek] which runs from Colstrip to the mouth at Armells Creek, the surface and alluvial water quality data analyzed by the Department for the Rosebud Mine indicated that the relative contribution of nitrogen from the Rosebud mine is minimal[.]” DEQ Ex. C. ¶ 36. Ms. Hines further explains that the CHIA identified agricultural activities, city runoff and municipal sources as potential sources. *Id.* at ¶ 37. In context, Ms. Hines’ statement indicates the Department’s conclusion that if there is any contribution of nitrogen from Rosebud Mine, it is minimal *relative* to these other sources.

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).

Respondent-Intervenors’ Response: Disputed. The Affidavit of Emily Hines, formerly a hydrologist in the Coal Section of the Industrial and Energy Minerals Bureau states, which is purportedly quoted by Petitioners in Allegation No. 44, states in full: “The CHIA indicates that ‘[h]igh nitrogen may be in surface water samples due to residual chemicals from blasting minerals, *from agricultural activities, or from city runoff and municipal sources . . .*’” DEQ Ex. C. ¶ 37 (emphasized text omitted in Petitioners’ Allegation No. 44).

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).

Respondent-Intervenors’ Response: Disputed. The Affidavit of Emily Hines, formerly a hydrologist in the Coal Section of the Industrial and Energy Minerals Bureau states, which is purportedly quoted by Petitioners in Allegation No. 45, states in full: “The CHIA indicates that . . . ‘[m]any of the highest values have been detected downstream of active mining *and in*

areas actively used by livestock. (See CHIA p. 9-26).” DEQ Ex. C. ¶ 37 (emphasized text omitted in Petitioners’ Allegation No. 45).

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.

Respondent-Intervenors’ Response: Disputed. The discovery responses cited by Petitioners in Allegation No. 46 stated that the numeric aquatic life standards for nitrogen apply *only* to wadeable streams. Pet’rs’ Ex. 5 at 16. The Department stated that Rosebud Creek is “the only stream analyzed within the CHIA that is a wadeable stream for its entire reach.” DEQ Ex. C. ¶ 41. With specific reference to East Fork Armells Creek, the Department stated that only two reaches in upper East Fork Armells Creek have ever been historically described as having intermittent flow and lower East Fork Armells Creek has only “reaches” with intermittent to perennial flow. *Id.*

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.

Respondent-Intervenors’ Response: Disputed. Respondent-Intervenors object that Allegation No. 47 is a conclusion of law, so no response is required. To the extent a response is required, Respondent-Intervenors incorporate by reference Respondent-Intervenors’ Opposition to Petitioners’ Motion for Summary Judgment, at 35-41.

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.”).

Respondent-Intervenors’ Response: Disputed. The quoted language from the Department’s Brief in Allegation No. 48 states that the Department did not apply the numeric water quality standards for nitrogen in DEQ Circular 12-A to its analysis of East Fork Armells Creek. This language does *not* indicate that the Department failed to assess whether the cumulative impacts of mining and reclamation would cause violations of the applicable aquatic life standards for nitrogen. The Department concluded, based upon “past observations in monitoring wells” that the distance between AM4 and East Fork Armells Creek “should be sufficient to prevent (through dilution) high concentrations of nitrate from blasting from entering the stream via spoil recharge and ultimately alluvial contributions to baseflow.” Pet’rs’ Ex. 2 at 9-26. The Department’s assessment of the probability of AM4 actually contributing nitrogen to East Fork Armells Creek was a threshold analysis regarding whether AM4 would cause violations of the applicable aquatic life standards that made further analysis unnecessary.

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.

Respondent-Intervenors’ Response: Undisputed. Respondent-Intervenors note that the Department’s analysis would be unchanged even if the aquatic life standard had been assessed for the reasons discussed in response to Allegation Nos. 42-48.

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

Respondent-Intervenors' Response: Paragraph VIII does not include supporting citations, and Respondent-Intervenors interpret this statement as an argument rather than an assertion of fact, so no response is required. To the extent a response is required, Respondent-Intervenors deny this allegation and incorporate by reference Respondent-Intervenors' Opposition to Petitioners' Motion for Summary Judgment at 31-43.

50. Rosebud Creek is within the cumulative hydrologic impact area. Pet'rs' Ex. 2, fig. 5.1.

Respondent-Intervenors' Response: Respondent-Intervenors admit that portions of Rosebud Creek are located within the boundaries of the CIA analyzed by the Department. Pet'rs' Ex. 2, fig. 5-1. However, the Department's subsequent analysis and the record demonstrate that the impacts of AM4 will not interact with the Rosebud Creek drainage. Neither surface water nor groundwater will move from AM4 into the Rosebud Creek drainage. Pet'rs' Ex. 2 at 9-5 (Cow Creek), 9-13 (Lee Coulee), 9-14 (Miller Coulee, Pony Creek, Rosebud Creek) and 9-16 (Spring Creek). Surface water from AM4 flows north, away from Rosebud Creek and its tributaries, *see* Nicklin Decl. ¶ 14, while groundwater is prevented from draining into Lee Coulee (and from there into Rosebud Creek) by a groundwater drainage divide located south of AM4, *id.* at ¶ 17.

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

Respondent-Intervenors' Response: Undisputed, but Respondent-Intervenors note that AM4 operations will not occur within the Rosebud Creek drainage basin.

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.

Respondent-Intervenors’ Response: Disputed. Pursuant to Montana Pollutant Discharge Elimination System (MPDES) Permit No. MT00223965, Western Energy Company is authorized to discharge water from seven outfalls that drain to Lee Coulee Creek. Pet’rs’ Ex. 37 at 129, 174. “Each outfall is originally associated with a sediment pond or basin. . . . The sediment ponds or basins collect mine drainage and provide time for settling of suspending solids, such that the discharge will comply with applicable effluent limitations. *Id.* at 131. Permit No. MT00223965 establishes average daily and maximum monthly effluent limitations for discharges (*id.* at 160) as well as alternative effluent limitations for “precipitation-driven discharge events.” *Id.* at 161, 163. Under applicable state law, authorized discharges from outfalls permitted under a valid MPDES permit are exempted from the definition of “pollution.” See M.C.A. § 75-5-103(30)(b)(i). Therefore, Western Energy Company is not authorized to discharge pollutants from outfalls in the Area B permit area located in the Lee Coulee drainage.

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

Respondent-Intervenors’ Response: Undisputed. Rosebud Creek has been monitored at two stations, both upstream and downstream of the confluence with Lee Coulee—the tributary most affected by mining in Area B. Pet’rs’ Ex. 2 at 9-15. Drainages in this region gain salts as they reach the mainstem. Schafer Decl. at ¶ 17. The critical information supporting the Department’s material damage determination is that fact that the “concentration of TDS measured at the downstream station has not increased over time,

and similarly no trend can be seen in the difference in concentration between the upstream and downstream stations.” 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.

Respondent-Intervenors’ Response: Disputed. Allegation No. 54 overstates the CHIA’s finding regarding specific conductance and salinity in Rosebud Creek. The CHIA states that “most water quality samples collected since 1980 on Rosebud Creek near Lee Coulee have exceeded the water quality standard for specific conductance defined in ARM 17.30.670. While most samples exceed the standard for specific conductance, they are also mostly below the standard for SAR [sodium adsorption ratio].” Pet’rs’ Ex. 2 at 9-15 & fig. 9-5. Respondent-Intervenors’ note that this statement does not suggest that exceedances of the electrical conductivity standard come from anything other than a natural exceedance of the standard.

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.

Respondent-Intervenors’ Response: Disputed. Allegation No. 55 is an inexact summary of the *Written Findings, Prepared By: Montana Department of State Lands for Big Sky Mine, Lee Coulee, Area B, Peabody Coal Company, Rosebud County, Montana* (November 1988).

Pet’rs’ Ex. 13 at 1. The text associated with salinity states:

The impact to the Rosebud Creek alluvial aquifer outside the permit area is predicted to be an 11 percent rise in TDS [total dissolved solids] (Draft EIS MDSL/OSMRE 1988). This increase in TDS may affect land management practices or cause impacts outside the permit area where the local water table is very near to the surface; existing subirrigated areas consist largely of deep-rooted alfalfa and for this reason, impacts to existing beneficial uses are expected to be minimal.

Id. 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.

Respondent-Intervenors’ Response: Disputed. The quoted language in Allegation No. 56 fails to include the following sentence from the CHIA which further explains the agency’s analysis and reads: “The drainage area and volume of water carried by Rosebud Creek is much larger than the volume of water contributed by Lee Coulee, and consequently the water chemistry of Rosebud Creek is dominated by runoff and groundwater contributions upstream of Lee Coulee.” Pet’rs. Ex. 2 at 9-15.

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

Respondent-Intervenors’ Response: Paragraph VIII does not include supporting citations, and Respondent-Intervenors interpret this statement as an argument rather than an assertion of fact, so no response is required. To the extent a response is required, Respondent-Intervenors deny this allegation and incorporate by reference Respondent-Intervenors’ Opposition to Petitioners’ Motion for Summary Judgment at 31-43.

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.

Respondent-Intervenors' Response: Disputed. The use of the phrase “water quality sampling” is inexact. In its brief the Department acknowledged that a single measurement taken in 1996 from a single well that is located outside the area where Area B spoils water moves toward the Big Sky Mine (i.e., the “[g]roundwater flow from spoils water near this well moves north away from the Big Sky Mine”) included a EC measurement of 880 μ S/cm. DEQ Br. at 35-36.

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.

Respondent-Intervenors' Response: Disputed. Allegation No. 58 overstates the conclusions of both the Department and Western Energy regarding groundwater impacts. With regard to migration of spoils water, the Department stated that “[u]pon saturation, movement of water from some of the Area B spoils is anticipated to be to the southeast rather than toward [East Fork Armells Creek]. (Western Energy Co., 2015). Movement of Area B spoil water toward [East Fork Armells Creek] alluvium is likely to be limited to the northeast portion of Area B, and these impacts are discussed in Section 9.2.5.1.1. Spoil water from the southern and western parts of Area B will be directed to the area between the Rosebud Mine and the Big Sky Mine, and eventually to the Big Sky Mine permit areas.” Pet’rs’ Ex. 2 at 9-58 to 9-59. With respect to groundwater quality, the Department concluded that,

Area B spoil water quality, described above, averages 3,686 mg/L and, in general, exceeds the quality of Rosebud coal between the two mines. Mixing of spoil with

the background Rosebud coal water will take place as groundwater from the spoil moves south. . . . Due to the natural spatial and temporal variability of water quality in Area B spoils, the unmined coal between Area B and the Big Sky Mine, and Big Sky Area A spoils there is no generally accepted methodology to predict impacts with any certainty. Due to a large deposit of clinker throughout much of the area between the two mines, enhanced aquifer recharge will serve to dilute spoil water quality impacts in this area, therefore it does not appear that a parameter will increase to a level that renders the water unsuitable for domestic use or livestock and wildlife watering, or harmful, detrimental, or injurious to the beneficial uses listed for Class II and Class III groundwater.”

Pet’rs Ex. 2 at 9-59. Western Energy’s PHC concluded that “[a]s re-saturation of the backfill continues, salt concentration are expected to be extremely variable and peak at a concentration potentially two to three times that of the baseline coal groundwater and then decline to some equilibrium value after being flushed by one or more pore volumes of groundwater. The impacts of mining will likely result in deterioration of groundwater quality within some areas of the mine backfill to a degree that will require at least temporary reclassification of the groundwater to a lower usage class.” Pet’rs’ Ex. 8 at 13-14.

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.

Respondent-Intervenors’ Response: Disputed. The Department’s CHIA first analyzed the impacts of migrating spoils on groundwater generally based upon the best information available about the numeric water quality of groundwater. *See* Pet’rs Ex. 2 at 9-59 (identifying known TDS concentration measurements in Rosebud coal and then comparing same to spoils water TDS measurements). The Department noted that there is “natural spatial and temporal variability of water quality in Area B spoils, the unmined coal between Area B and the Big Sky Mine, and Big Sky Area A spoils” that precluded a its ability to predict the impacts to

groundwater with certainty. *Id.*

ADDITIONAL FACTS IN SUPPORT OF RESPONDENT-INTERVENORS' OPPOSITION
TO SUMMARY JUDGMENT

Background

1. Western Energy operates the Rosebud Mine on approximately 25,752 permitted acres near Colstrip, Montana. The Rosebud Mine has five individual permit areas: Area A, Area B, Area C, Area D, and Area E. Pet'rs' Ex. 2 at 3-1.
2. The Rosebud Mine encompasses three drainages, from east to west: the Rosebud Creek drainage (portions of Area B, Area D, and Area E sit within this drainage); the East Fork Armells Creek drainage (AM4, other portions of Area B, small portions of Area D, Area A, and most of Area C sit within this drainage); and the West Fork Armells Creek drainage (part of Area C and all of the proposed Area F sit within this drainage).
See Nicklin Decl.
3. On June 15, 2009, Western Energy applied for an amendment to its Area B Permit, seeking to expand the permit area by 49 acres – Amendment Application 04 (“AM4”). Pet'rs' Ex. 1 at 1. Approval of the application would increase the amount of surface disturbance by 146 acres and would increase mineable coal reserves in Area B by 12.1 million tons. Pet'rs' Ex. 1 at 1.
4. Since Western Energy first filed its application in 2009, the Department has issued, and Western Energy has responded to eight rounds of deficiencies. Pet'rs' Ex. 1 at 1.
5. In support of its AM4 application Western Energy submitted a 448-page Comprehensive Evaluation of Probable Hydrologic Consequences (“PHC”) identifying the likely hydrologic impacts from mining within AM4 in accord with Mont. Admin. R. 17.24.314(3). Pet'rs' Ex. 8. The PHC evaluates the proposed Amendment's effect, if

any, on groundwater and surface water within and near mine Areas A, B, and C's permit boundaries. *Id.* at 7. In making these evaluations, the PHC describes both the baseline (pre-mine) conditions, short-term effects (during mining and reclamation), and long-term impacts (post-mining and bond release). *See id.* at I-II (demonstrating organization of analysis). The PHC relies on a multitude of data sources and modeling, including a regional groundwater model (the "Rosebud Mine model"), which was used to characterize the Rosebud Mine as a whole and to evaluate the localized impacts of the proposed AM4 operations. *See id.* at 7-9 and Attachments D and E; *see also* Nicklin Decl. at ¶ 7, Resp.-Int'vrs' Ex. 6.

6. At the Department's request, Western Energy also submitted a 117-page Addendum to the Comprehensive Evaluation of Probable Hydrologic Consequences ("PHC Addendum") in January 2015 addressing "the long-term effects of mining on surface water flow and quality and alluvial groundwater flow and quality." Pet'rs' Ex. 32, at 1. Where the PHC was developed based on data collected through water year 2011,² the Addendum incorporates additional data collected in 2012 and 2013 (and Attachment 1 includes some data collected in 2014). Pet'rs' Ex. 32 at 1 and Attachment 1 at 1. The Addendum also adds an evaluation of AM4's potential impact on the alluvium of East Fork Armells Creek, a survey of aquatic life in upper East Fork Armells Creek, and an evaluation of the potential effects of the use lignin sulfonate for dust suppression instead of magnesium chloride. *Id.* at 1-2.
7. Petitioners' counsel submitted Comments on the AM4 permit amendment on August 3, 2015. Pet'rs' Ex. 1 at 4; Resp.-Int'vrs' Ex. 1. Petitioners did not identify their concerns

² The water year used for purposes of these analyses runs from October 1-September 30. *See* Pet'rs' Ex. 8 at 9 (PHC).

over the analysis of impacts from Area F and the scope of the CHIA during the permit review process. Resp.-Int'vrs' Ex. 1. Petitioners did not identify their concerns regarding the evaluation of already-permitted areas of Area B directly rather than only to the extent the already-permitted areas of Area B will interact with the impacts of AM4 during the permit review process. *Id.*

8. The Department issued its Written Findings approving the AM4 permit application on December 4, 2015. The document includes the 2015 CHIA, which was incorporated by reference as Attachment 1, and Western Energy Company's Response to Objections to DEQ's Acceptability Determination for Rosebud Area B Expansion. *See* Pet'rs' Ex. 1. The Written Findings explain the genesis of the AM4 application, the Permit and Review Chronology, and concludes that

DEQ has made an assessment of the cumulative hydrologic impacts of all anticipated coal mining on the hydrologic balance within the cumulative impact area. *See* Attachment 1 [the CHIA] which is incorporated into these findings by reference. In that assessment, DEQ has determined that "this amendment will not result in material damage to the hydrologic balance outside the permit area.

Id. at 5–6.

9. The Department issued the CHIA ("CHIA") on December 4, 2015, in conjunction with the Written Findings. The CHIA analyzes AM4's anticipated hydrologic impacts in accord with Mont. Admin. R. 17.24.314(5). As part of that process, the 329-page CHIA examines AM4's probable effect on surface water, groundwater, and water resource uses, and assesses whether the proposed permit is "designed to minimize impacts to the hydrologic balance inside and outside the permit area and to prevent material damage to the hydrologic balance outside the permit area." Pet'rs' Ex. 2 at 9-

1. The Department's Written Findings, relying on the CHIA, concluded that AM4 satisfied this requirement. Pet'rs' Ex. at 5-6.
10. The Department's Written Findings included responses to the comments submitted by the Petitioners. *See* Pet'rs' Ex. 1 at 8.
11. The Department approved AM4 on December 4, 2015. Pet'rs' Ex. 1. The agency conditioned its approval on Western Energy's adoption of mitigation and monitoring measures designed to prevent AM4's causing any material damage to the hydrologic balance outside the permit area.³ *Id.* at ¶ 23.
12. Petitioners filed a Request for Hearing on January 4, 2016. Petitioners did not identify their concerns regarding the evaluation of already-permitted areas of Area B directly rather than only to the extent the already-permitted areas of Area B will interact with the impacts of AM4 in their Notice of Appeal and Request for Hearing.

Interaction of AM4 with Other Parts of the Rosebud Mine

Rosebud Creek Drainage

13. Neither surface water nor groundwater will move from AM4 into the Rosebud Creek drainage. Pet'rs' Ex. 2 at 9-5 (Cow Creek), 9-13 (Lee Coulee), 9-14 (Miller Coulee, Pony Creek, Rosebud Creek) and 9-16 (Spring Creek). Surface water from AM4 flows north, away from Rosebud Creek and its tributaries, *see* Nicklin Decl. at ¶ 14, while groundwater is prevented from draining into Lee Coulee (and from there into Rosebud Creek) by a groundwater drainage divide located south of AM4, *id.* at ¶ 17. Area B, which includes AM4, was designed to prevent impacts to the Rosebud Creek tributaries

³ The Department decided that “[g]roundwater monitoring must be expanded in order to adequately determine the potential effects of mining to the hydrologic balance outside the permit area.” Pet'rs' Ex. 1 at ¶ 23.

through the use of sediment ponds that collect both point-source discharges and surface runoff. These sediment ponds are presently much larger than are needed to collect a 10 year 24-hour storm. Hence, there is very little risk of surface water runoff reaching Lee Coulee Creek and/or Rosebud Creek. Nicklin Decl. at ¶ 14-16. Groundwater from the AM4 spoils is prevented from reaching Rosebud Creek because mining occurs on the other side of a groundwater drainage divide from the Rosebud Creek drainage. *Id.* at 17.

Area F

14. AM4's impacts on the cumulative hydrologic balance will not interact with those of Area F. Figures E-5 and E-9 of Attachment E to the PHC show that the impacts of AM4 will be highly localized and will not reach Area F, and that water in each area flows to separate groundwater and surface water drainages. Nicklin Decl. at ¶ 48. The CHIA demonstrates that AM4 and Area F are located several miles apart in separated drainages: AM4 occurs in the East Fork Armells Creek drainage and Area F, if approved, would take place in the West Fork Armells Creek drainage. Those drainages are separated within the Cumulative Impact Area and only intersect some 17 miles north of the Area B Permit area where no interaction of impacts from the two separate mine areas could be detected. *See* Nicklin Decl. at ¶ 50 (“[b]y the time the waters do join, the water will be dominated by contributions from other portions of each of the East Fork Armells Creek and West Fork Armells Creek drainages. Any potential changes associated with AM4, in the unlikely event they occur, will not be discernible.”). Thus, there is no surface water connection between the two within the cumulative impact area designated by the Department. *See id.*; Pet’rs’ Ex. 2 Figures 5-

1 and 8-1 (CHIA) (defining the cumulative impact area and showing the confluence of West Fork Armells Creek and East Fork Armells Creek).

15. In discovery Petitioners admitted that the confluence of West Fork Armells Creek and East Fork Armells Creek occurs well downstream of the cumulative impact area boundary and, *critically*, that they do not contest the Department's determination of the cumulative impact boundary. Pet'rs' Dep.at 68-69.
16. Data and figures in the record demonstrate the absence of any interaction between the two areas for groundwater. Potentiometric maps included in the CHIA (Pet'rs' Ex. 2 at Fig. 8-5), and explained by expert Dr. Michael Nicklin, delineate that there is no groundwater connection between Area F and AM4. Nicklin Decl. at ¶ 48. Those figures demonstrate that the drawdown impacts of AM4 are highly localized and therefore will not directly impact Area F. *Id.*

East Fork Armells Creek

17. The Department has also determined that East Fork Armells Creek is ephemeral "from headwaters to near Colstrip." Pet'rs' Ex. 6 at 5; Pet'rs' Ex. 2 at 8-8; Hunter Decl. at ¶¶ 16, 23, and 27.
18. AM4 will not interact with Section 15 of East Fork Armells Creek because "any drawdown in water due to AM4 is highly localized, meaning that any significant drawdown will be limited to the immediate vicinity of AM4. No drawdown associated with AM4 mining will reach Section 15." Nicklin Decl. at ¶ 22.
19. The Department evaluated evidence of possible dewatering and concluded that, without accurate information about the stream's flow pre-mine, it was impossible to determine whether the mine had actually caused dewatering. Pet'rs' Ex. 2 at 9-10.

20. The 30-year-old Probable Hydrologic Consequences report Petitioners cite in support of their claim that Section 15 of upper East Fork Armells Creek was previously intermittent or perennial was compiled shortly after years of above-average precipitation. Nicklin Decl. at ¶ 23. This would be a contributing factor to intermittency. *Id.* The increased precipitation, coupled with water flow due to ponding in the vicinity of Section 15, both make it “unclear if the conditions described for Section 15 in [the study relied upon by Petitioners is] purely indicative of natural intermittent conditions.” *Id.*
21. The photograph Petitioners’ submit as evidence that the stream is “dry” actually shows evidence that the stream likely was recently filled with water because the channel is muddy, indicating that the presence of water has precluded upland vegetation, and that cows were recently present to take advantage of the water. Hunter Decl. at ¶¶ 23-26. The most recent observation demonstrates the presence of water in the area. Steere Decl. at ¶ 5 and accompanying photographs (showing water flow in Section 15); *see also* Nicklin Decl. Ex. A (attaching photographs from the September 2015 Benthic Survey showing surface water present in Section 15).

Water Quality Impacts of Rosebud Mine and AM4

22. The quality of water discharged from the Rosebud Mine does not actually differ from East Fork Armells Creek and Rosebud Creek. Schafer Decl. at ¶ 7.

Nitrogen

23. AM4 will not increase nitrate plus nitrite nitrogen in East Fork Armells Creek. Not a single sample of the surface water of East Fork Armells Creek collected upstream of town of Colstrip has exhibited a nitrate plus nitrite concentration exceeding permissible

limits; 12 samples downstream of Colstrip (taken between 1980 and 1990) have.

Nicklin Decl. at ¶ 27. The downstream sample site “location is downgradient of Colstrip’s wastewater treatment plant and also north of residential/commercial lawns of Colstrip which are common sources of nitrate plus nitrite nitrogen.” *Id.*

24. The Department addressed concerns related to nitrite-nitrate pollution in its response to comments, explaining that “[t]he lower portion of [East Fork Armells Creek] receives nitrogen-rich effluent from numerous sources including: runoff from the town of Colstrip, the water treatment plant, infiltration and runoff from the golf course (with fertilized and irrigated greens, agriculture, and grazing.” Pet’rs’ Ex. 1 at 9 (DEQ’s Written Findings). The primary causes of nitrogen pollution include urine and manure from livestock grazing near streams, wastewater treatment facilities, and residential and commercial lawns. *See* Nicklin Decl. at ¶¶ 27–28; Schafer Decl. at ¶ 13; Steere Decl. at ¶ 3.

25. Although it is theoretically possible for nitrate to enter East Fork Armells from Rosebud Mine if blasting is not conducted properly, the data do not support that theory in this case. Schafer Decl. at ¶ 12. Water quality monitoring results of effluent from the mine demonstrate that stormwater discharge is not contributing nitrogen and nitrate to East Fork Armells Creek. *Id.* Given the low rate of groundwater seepage within the mine spoil compared to the alluvium groundwater flow rates, it is highly unlikely that nitrogen from blasting in the spoils could cause either a violation of water quality standards or change the use of any stream or groundwater outside the permit area. Nicklin Decl. at ¶ 28.

26. Although the Department's attainment record (based on data last collected in 2005) identified nitrate-nitrite from blasting at the mine as a potential cause of impairment *with a low level of confidence*, it did not *determine* that nitrate-nitrite as nitrogen was a cause. *See* Pet'rs' Ex. 5 at 15.

Salinity

27. While there may be an increase of as much as 13% in TDS in the alluvium between Areas A and B over average baseline levels, such an increase is within the natural variability of TDS in that reach. Nicklin Decl. at ¶ 31; Schafer Dec. at ¶ 16.

28. Rosebud Creek has been monitored at two stations, both upstream and downstream of the confluence with Lee Coulee—the tributary most affected by mining in Area B. Pet'rs' Ex. 2 at 9-15 (CHIA). Drainages in this region gain salts as they reach the mainstem. Schafer Decl. at ¶ 17. The critical information supporting the Department's material damage determination is that fact that the “concentration of TDS measured at the downstream station has not increased over time, and similarly no trend can be seen in the difference in concentration between the upstream and downstream stations.” Pet'rs' Ex. 2 at 9-15.

Aquatic Life

29. In a June 3, 2014 deficiency notice, the Department asked Western Energy to conduct an aquatic life survey of Upper East Fork Armells Creek. *See, e.g.*, Pet'rs' Ex. 2 at 9-8; Hunter Decl. at ¶ 5. The Department's responses to comments in its Written Findings further explain that the results of the aquatic life survey “show that the aquatic environments in upper [East Fork Armells Creek] support a diverse assemblage of aquatic insects, and consist of taxa commonly found in eastern Montana prairie

streams. The aquatic survey provides empirical evidence that Aquatic Life support is not adversely impacted by mining activity.” Pet’rs’ Ex. 1 at 9. The aquatic life community she found in East Fork Armells Creek is similar to that found in other analogous streams in the region not affected by mining. Hunter Decl. at ¶ 16. The HBI’s qualitative descriptors apply to conditions in Wisconsin, where the index was originally formulated. *Id.* at ¶ 41. Whereas the HBI scores found in the aquatic life survey might indicate “poor” or “very poor” conditions in Wisconsin, it does not mean that they indicate such conditions in eastern Montana. *See* Hunter Decl. at ¶¶ 41-42.

30. The Department’s Water Quality Standards Attainment Record for Lower East Fork Armells Creek, from Colstrip to the Mouth relies on limited data last collected in 2005 and, before that, not since the 1970’s. *See* Pet’rs’ Ex. 7 at 17; Pet’rs’ Ex.2 at 9-7 and 9-8; Hunter Decl. at ¶¶ 13-14. The attainment record is for the stretch of East Fork Armells Creek downstream of Colstrip, it addresses water that is subject to the influence of many factors beyond just mining, including, among other things, agriculture, cattle, the Colstrip Power Plant, the Colstrip water treatment facility, municipal runoff, and runoff from the golf course. *See, e.g.,* Hunter Decl. at ¶ 14.
31. Chloride, sulfate, and salinity are not covered by numerical standards. *See* DEQ Circular DEQ-7 at 6. Rather, they are governed by a narrative standard, which in the case of East Fork Armells Creek, requires levels allowing the stream to provide a beneficial use for aquatic life. *See id.*; Pet’rs’ Ex. 2 at 9-8; Hunter Decl. at ¶ 27-28. On the basis of that narrative standard and study and analysis conducted by Western Energy and itself, the Department concluded that, “[b]ecause the stream still maintains

its C-3 uses . . . the beneficial use of the stream is still maintained.” Pet’rs’ Ex. 2 at 9-8.

32. AM4 is designed to prevent material damage. Pet’rs’ Ex. 2 at 9-8 (“The proposed mine plan is designed not to contribute additional chloride to the stream”); Schafer Decl. at ¶¶ 11, 16, 18; Nicklin Decl. at ¶ 26.

33. “Even in baseline samples, the sulfate thresholds for aquatic life were exceeded. Macroinvertebrate communities in Eastern Montana are likely adapted to high sulfate water.” Pet’rs’ Ex. 2 at 9-8; *see also* Hunter Decl. at ¶ 28. In other words, even water with no influence from mining has sulfate concentrations above the guideline thresholds. As a result, sulfate exceedances downstream from the mine cannot be attributed to mining operations. *See* Hunter Decl. at 8. Fig. 9-93 in the CHIA does not contain data sufficient to show that there has been an increase in sulfate levels in East Fork Armells Creek over the life of the mine. *See* Nicklin Decl. at ¶ 41.

34. In 2015 Ms. Hunter gave the Department a presentation in which she described conditions in Eastern Fork Armells Creek in the mid-late 1970’s prior to any effects from mining. *See* Pet’rs’ Ex. 10; Hunter Decl. at ¶¶ 44-47.

Groundwater Classification

35. Groundwater classification in the East Fork Armells Creek alluvium varies between Class I and Class III. Nicklin Decl. at ¶ 38. Class II and Class III groundwater precisely are the most frequent classifications of groundwater in the Rosebud coal stratum. *Id.* at ¶39. Only a few samples of the Rosebud coal stratum identified water as Class I. *Id.* Including these outlier samples, “the average classification of the alluvium between areas A and B is Class III.” *Id.* at ¶ 37.

36. The slight increase in TDS is not expected to have any impact on the groundwater classifications for any water, whether classified as Class I, II, or III. Nicklin Decl. at 38.

Dated: July 22, 2016

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that on the 9th day of November 2016, I caused a true and correct copy of the foregoing Respondent-Intervenors' Supplemental Statement of Disputed Facts, to be served on the following via electronic mail:

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