

## ATTACHMENT A

**Basic Remediation Company Follow-up Comments to  
Nevada Division of Environmental Protection Response comments, dated April 17, 2009 to:  
BMI Complex Off Site/ Phase IIIA Air Monitoring Summary Report Revision 1, 2009 and BMI  
Complex Dry/Moisture-Conditioned Ponds Area/ Phase IIIB Air Monitoring Summary Report  
Revision 1, NDEP Facility ID# H-000688**

### **Both Reports**

1. General Comment, BRC should indicate which toxicity equivalence factors (TEFs) were used to calculate dioxin/furan toxicity equivalents (TEQs).

**Response:** The World Health Organization 2005 (WHO) toxicity equivalence factors (TEFs) were used to calculate dioxin/furan toxicity equivalents (TEQs). Additional information can be found at: [http://www.who.int/ipcs/assessment/tef\\_update/en/](http://www.who.int/ipcs/assessment/tef_update/en/)

2. General Comment, it would be helpful to agree upon a condition or statistical test to indicate for a set of sampling data whether the downwind results are significantly higher than the upwind.

**Response:** Any discussion regarding a statistical test to indicate if downwind results are higher than downwind results should be evaluated in the context of the PAMP, Section 4.0 Action Levels 1. This section describes the process by which air monitoring results will be screened against the lowest value presented in Table 1 for a specific chemical compound. Due to the variety of activities and air pollutant sources at and near the BMI site, a large variation in results is to be expected. However, for the sake of data evaluation, BRC would propose a threshold of 25% to determine if downwind results are significantly higher than upwind results. A 5% significance level would appear to be too low based on the extremely low air pollutant concentrations and this impact on percent difference calculations.

3. General Comment, in general BRC has not adequately responded to the meeting minutes from the March 20, 2009 meeting.

**Response:** BRC would like to request additional and specific detail on this comment. In reviewing the meeting minutes, BRC has attempted to respond to meeting minutes where appropriate. To clarify and further address any potentially unresolved BRC action items, list of discussion items that may warrant further discussion are presented below:

Discussion item 1,b,i regarding current and future waste encountered at the slit trench area (STA): Waste encountered to date at the STA consist of a combination of general trash, potential organic and pesticide contaminated wastes, impacted soils, pyrophoric materials, dioxin wastes, and PCB wastes. BRC expects that future waste to be encountered at the STA will be similar, except perhaps for

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additional PCB wastes, which are not expected.

Discussion item 1,b,ii regarding geographic areas covered by the sampling near the slit trench area (STA): As discussed in the Attachment C of the previous Response to Comments, BRC installed and is currently operating two air monitoring station immediately north and south of the STA. These sites were selected based on: proximity to STA, safe site access, and long-term placement. Furthermore, the locations represent worse-case emissions as they are within approximately 100 feet of the STA.

Discussion item 2,a,i regarding hourly wind data: all meteorological data used for upwind/downwind calculations was one hour average wind speed and wind direction from the on-site meteorological tower.

Discussion item 3, additional articles were provided to the NDEP.

Discussion item 4 a, i regarding a work plan: work plans for off-site and vehicle emission sampling was presented by BRC with previous response to comments as requested by NDEP. Stand alone work plans for off-site and vehicle emission monitoring are presented under separate cover.

Discussion item 4 a, ii regarding rationale to reduce Phase IIIC sampling at the STA: BRC presented a rationale in Attachment C of the previous Response to Comments for the reduction in sampling parameters at the STA. At this point, however, BRC is withdrawing this request. However, the data collected in the STA through April 14, 2009 is being provided in electronic format to the NDEP.

4. General Comment, these reports would benefit from a discussion of the data versus baseline samples as well.

**Response:** Baseline/Phase 1 sampling was conducted from April 9 – May 9, 2009. Air monitoring was conducted in accordance with the PAMP and samples were collected for PM<sub>10</sub>, TSP, Metals, Chromium VI (CrVI), organic compounds (TO-4, TO-9, and TO-13), and asbestos. Results from this sampling indicated that PM<sub>10</sub> concentrations ranged from 2.7 to 43.4 ug/m<sup>3</sup>; TSP concentrations ranged from 1.9 to 63.3 ug/m<sup>3</sup>; CRVI concentrations ranged from 4.6 E-5 to 4.8 E-4 ug/m<sup>3</sup>. All CrVI concentrations exceeded the ambient air RBC presented in the PAMP.

Metals sampling resulted in detects for the majority of metal compounds. However, three metals consistently exceeded respective PAMP screening criteria and included Manganese, Arsenic, and Cadmium.

The TO-4 PUF sampling did not result in any detections - i.e. all chemical compounds were below respective detection limits.

The TO-9 PUF sampling had detections for numerous dioxin and furan compounds. However TEQ values were calculated for all compounds and compared to the ambient air PRG of 4.5 E-8 ug/m<sup>3</sup> for

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2,3,7,8-TCDD and none of the TEQ-calculated values exceeded the PRG.

The TO-13 PUF sampling had detections for Phenol (concentrations ranged from BDL to 0.043 ug/m<sup>3</sup>), 1,4-Dichlorobenzene (concentrations ranged from BDL to 0.017 ug/m<sup>3</sup>), 4-Methylphenol/3-Methylphenol (one detection of 0.017 ug/m<sup>3</sup>), Isophorone (one detection of 0.0055 ug/m<sup>3</sup>), Benzoic Acid (concentrations ranged from BDL to 0.18 ug/m<sup>3</sup>), 1,2,4-Trichlorobenzene (two detections of 0.0082 ug/m<sup>3</sup>), Naphthalene (concentrations ranged from BDL to 0.16 ug/m<sup>3</sup>), 2-Methylnaphthalene (concentrations ranged from BDL to 0.15 ug/m<sup>3</sup>), Dimethyl phthalate (concentrations ranged from BDL to 0.039 ug/m<sup>3</sup>), Acenaphthene (concentrations ranged from BDL to 0.011 ug/m<sup>3</sup>), Dibenzofuran (one detection of 0.0042 ug/m<sup>3</sup>), Fluorene (concentrations ranged from BDL to 0.0070 ug/m<sup>3</sup>), Hexachlorobenzene (one detection of 0.0040 ug/m<sup>3</sup>), Phenanthrene (concentrations ranged from BDL to 0.0049 ug/m<sup>3</sup>), and Di-n-Butylphthalate (concentrations ranged from BDL to 0.13 ug/m<sup>3</sup>). However, all concentrations were below respective PAMP screening criteria.

Based on a review of all Phase I/background and the Phase IIIA, Phase IIIB, and Phase IIIC data demonstrates a measurable difference between the organic compound air monitoring results collected prior to initiation of activities at the Eastside and CAMU areas. However, this means that the air monitoring program is working as planned and capturing site emissions.

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5. General Comment, the materials contained behind the text was inserted into the document out of order. For example, the Appendix A materials are not contained behind the Appendix A tabbed divider. Please implement BRC's standard operating procedure (SOP)-0 before providing Deliverables to the NDEP. Future Deliverables that do not comply with SOP-0 will be rejected without review.

**Response:** 5 copies of the report were produced and several copies may have had the Appendix A materials inserted prior to the tab divider. BRC and Tetra Tech acknowledge this error and will correctly insert Appendix materials on future reports.

6. Section 3.1.1, page 7, as discussed on March 20, 2009, BRC should make it obvious that the upwind/downwind determinations are made using hourly data. Please refer to note 2.a in the March 20, 2009 meeting minutes.

**Response:** As previously discussed upwind/downwind determinations were made using hourly average data from the on-site meteorological station.

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7. Section 3.2, page 10, BRC should endeavor to provide clear, concise interpretations of the data in future reports. For example, it is the belief of the NDEP that, regarding manganese, it should be plainly stated that there appears to be an upwind source and the Tronox industrial site appears to be the obvious conclusion.

**Response:** While BRC agrees that there are upwind sources for several metals (i.e., possibly the BMI plants) and organics (i.e., possibly the GWTS exhaust), BRC is proposing to gather focused data in this regard. Once this data is collected, BRC can factually support the interpretations requested by the NDEP.

8. Section 3.3, page 10, BRC states that there is insufficient data to draw conclusions. The output of this statement should be to collect additional data. The scope of work needs to be revised to address this matter. This comment will not be repeated for other sections of the report.

**Response:** Based on the upwind air monitoring results from the off-site, dry ponds, and STA areas, the data point to non-site related sources that could be impacting the results. In all reality, all of these (site and non-site) sources are in close proximity to each other and monitors are most likely influenced by all of these sources. In an attempt to resolve some of these issues, BRC is proposing to collect air samples upwind of the BMI plant sites.

9. Section 3.3, page 11, BRC states that research journal articles were provided to NDEP to support BRC's theory on volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs). BRC fails to discuss the fact that NDEP provided responses to these articles and the resultant expansion of the scope of work.

**Response:** BRC acknowledges that NDEP provided comments to BRC on the articles provided and that BRC will collect exhaust samples to confirm its hypothesis in this regard.

10. Section 3.5, page 12, this Section provides a summary of the path forward and next steps, however, there is no cross-reference to an actual work plan to complete the expanded scope of work. It is expected that a stand-alone work plan will be submitted to address the expanded scope of work.

**Response:** Two separate, stand-alone work plans have been prepared and are being submitted under separate cover with this RTC.

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11. Table 3, this table is nearly illegible due to the extremely small font size. Please address this matter in future reporting.

**Response:** The revised table format was intended to assist in reviewing electronic versions of the table in Excel format. Printed tables in future reports will have an increased font size to facilitate easier reading.

12. Appendix A, response-to-comments (RTC), general comment, it is noted that these RTCs and the respective Attachments were not located in Appendix A, they were actually located in the Tables section of the report.

**Response:** BRC and Tetra Tech acknowledge this error. This will be corrected in future reports.

13. Appendix A RTC 1, NDEP does not recall mention or rationale for discontinuation of air monitoring at the off-site locations and moisture controlled areas. Further, based on the data collected so far, and general lack of conclusions that BRC seems to be able to draw because of variability of upwind and downwind results (including exceedances of health benchmarks), potential interference from other sources, etc., it does not seem appropriate to discontinue the air monitoring at this time. See additional comments above. The path forward should be expanded to address this issue.

**Response:** As previously stated BRC believes that the upwind air sample results indicate that nearby sources may be impacting the results. The inherent and unavoidable limitation of this air monitoring program is that this site is adjacent to the BMI plant sites and emissions from these facilities are believed to be impacting results. The fact that upwind sample results from the off-site and STA sampling exceeded respective screening criteria point to a potential upwind source. For example, alpha-BHC exceeded the PAMP-established screening criteria at both off-site and STA upwind locations. These locations are in close proximity to the BMI plant site and BRC has reason to believe these emissions sources are being captured on the BRC air samples.

14. Appendix A, Attachment A, the NDEP has the following comments:
- a. Wind data needs to be used to support the selection of the upwind and downwind locations.

**Response:** The off-site air monitoring work plan includes an approach to conduct an upwind/downwind analysis using wind data and to conduct a statistical analysis on the data once this determination has been made.

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- b. The downwind location does not appear to be suitably located to address the likely source of manganese. Perhaps BRC could place a sampler north of Warm Springs Road and/or on the BRC property near the intersection of Warm Springs Road and Boulder Highway.

**Response:** BRC feels that locating a downwind air monitoring station at the intersection of Warm Springs Road and Boulder Highway would not be beneficial and wants to limit the impact of other potential sources. This location is subject to heavy traffic, haul truck operations, and other nearby sources. BRC requests approval to locate the downwind location at CAMU-S3 as proposed in the work plan.

15. Appendix A, Attachment C, BRC has not provided the supporting documentation discussed in the March 20, 2009 meeting. Thus sufficient justification to support the proposed reduction in analytical requirements has not been provided. Hence, BRC's request is denied.

**Response:** BRC is withdrawing this request.

16. Appendix A, this Appendix contains "Attachment C – Table 1" which appears to contain data relating to the Slit Trench Area. There does not appear to be any discussion of this data. A revised, stand-alone, technical memorandum is required to present and discuss this data.

**Response:** Since BRC is withdrawing the request for a reduction in the sampling being conducted at the STA, this issue is moot. BRC will submit a Phase IIIC report upon conclusion of the STA work.

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17. General comment, as noted in the body of the report, and Appendix A RTC 2, BRC does not have enough data to support the proposal to discontinue sampling. Hence the scope of work should be expanded to address this matter. As discussed above, this issue should be included in the stand-alone work plan will be submitted to address the expanded scope of work.

**Response:** At this time BRC does not feel that additional sampling will provide useful information. The data collected thus far does show that upwind samples appear to be impacted by nearby sources independent of the BMI site. BRC expects that continued sampling will only further validate this conclusion.



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18. General comment, please consider the comments provided above as many of these comments also apply to this report, however, these comments will not be repeated.

**Response:** BRC and Tetra Tech acknowledge this comment.

19. Section 2.5, page 6, the increased downwind concentrations on 1/16/09 should be discussed herein and in Section 3. See also comment below.

**Response:** BRC has made every attempt to evaluate site activities on January 16, 2009. While there might have been some continued emissions due to the combustion of STA pyrophoric materials, BRC is unable to further isolate any other site activities or causes that may explain the increased downwind concentration on that day.

20. Section 3.1.1, page 7, it is not clear how the statement “Meteorological data including wind speed and direction were measure continuously at the on-site meteorological monitoring station” relates to the statement in Section 3.1 “this analysis was performed with a limited meteorological dataset of five sample events”. Please clarify.

**Response:** The sentence relating to a “limited meteorological dataset” was used to indicate that even though meteorological data was collected for the five sample events, these events were spaced out over a four week period. Presenting two days of meteorological data per week over the four week period represented a limited dataset.

21. Section 3.3, pages 10 and 11, BRC should discuss what the possible source of the upwind dioxins/furans may be.

**Response:** BRC was referencing the general soils background for dioxins, which is non-zero. Additionally, BRC cannot rule out the sporadic presence of dioxins in the soils in the upwind plant areas.

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22. Appendix A, RTC 1, BRC's expectation should be to submit an approvable report. Please do not submit draft reports in the future.

**Response:** BRC and Tetra Tech acknowledge this comment. Future reports will not be submitted as draft.

23. Appendix A, RTC 4, BRC's argument regarding a purported "nearby source" of alpha-BHC and hexachlorobenzene does not have any apparent basis. Supporting information needs to be provided or the argument needs to be abandoned. In addition, BRC's response on total suspended particulate (TSP) does not appear to discuss the actual data. Until this information is reviewed by BRC and a supported position is developed, NDEP can not concur with BRC's response.

**Response:** With regards to the nearby sources of alpha-BHC and hexachlorobenzene, BRC will be conducting sampling across the plant sites and will address this issue when that data is available.

Regarding BRC's previous response to TSP, BRC did present the maximum recorded TSP concentration and indicated that based on the PAMP's PM<sub>10</sub> "threshold" value of 50 ug/m<sup>3</sup> in the difference between upwind and downwind concentrations as a standard for dust control effectiveness. The maximum recorded difference in TSP concentrations between upwind and downwind over the course of the four week sampling from 1/5/09 to 1/20/09 was 14.7 ug/m<sup>3</sup> recorded on 1/16/09. TSP is a more conservative indicator of dust than PM<sub>10</sub> so BRC feels that the dust control measures are being and have been appropriately implemented.

24. Appendix A, RTC 6, it is not clear how BRC can state "The statement made regarding a distinct pattern for metals is based upon the knowledge that the upwind/downwind analysis did not present any consistent trend". To restate, BRC appears to be stating that the trend is that there is no trend. It is not clear to the NDEP how this supports BRC's proposal to discontinue sampling.

**Response:** It is BRC's view, based on a review of the data, that there was no specific trend pointing to site activities as the apparent source of the air pollutants detected. BRC believes that consistency in the trends for all of the metals collected is an important consideration in order to show if the Site is in fact causing the impact. BRC cannot understand why there should not be a consistent trend for all metals, if the Site was causing the impact.

25. Appendix A, RTC 8, it does not appear that this issue was discussed in the text. There were markedly higher concentrations on 1/16/09 and this matter requires discussion. Also, it is suggested



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that a detailed review of the daily reports from BRC be completed to attempt to determine the source of these elevated concentrations.

**Response:** Please see response to Comment 19 above.