



283 Rucker Street
Anniston, Alabama 36205
Phone: 256.847.0780
Fax: 256.847.0905
matrixdesigngroup.com

October 6, 2015
Mr. Stephen A. Cobb, Chief
c/o Mrs. Brandi Little
Governmental Hazardous Waste Branch Land Division
Alabama Department of Environmental Management
P.O. Box 301463
Montgomery, Alabama 36130-1463

Subject: Response to ADEM Evaluation dated September 25, 2015 associated with the *Corrective Measures Implementation Plan, Soil Remediation, McClellan Baby Bains Gap Road Ranges, Range 23 and Range 25 East* dated May 2015

Dear Mr. Cobb:

On behalf of the McClellan Development Authority (MDA), Matrix Environmental Services, LLC (MES) and Envirocon, Inc. d/b/a Paradigm Environmental, Inc. (Envirocon), MES is pleased to submit the Responses to ADEM's Evaluation dated September 25, 2015 associated with the *Corrective Measures Implementation Plan, Soil Remediation, McClellan Baby Bains Gap Road Ranges, Range 23 and Range 25 East* dated May 2015 for your review.

Two hard copies and one electronic copy of the document have been provided to Mrs. Brandi Little. Please contact me at (256) 847-0780 (Anniston) or (770) 594-0331 (Atlanta) should you have any questions or comments.

Sincerely,
MATRIX ENVIRONMENTAL SERVICES, LLC

A handwritten signature in black ink that reads "Richard Satkin".

Richard Satkin, P.G
McClellan Program Manager

CC: Mrs. Brandi Little, ADEM (two paper copies and one electronic copy)
Mr. Robin Scott, MDA (transmittal letter only)
Mr. Andrew Simmons, Envirocon (transmittal letter only)
Matrix Project Files

ATTACHMENT
ADEM Evaluations
MDA's Response to ADEM Evaluation on the Corrective Measures Implementation Plan,
Soil Remediation
Baby Bains Gap Road Ranges-Ranges 23 and 25 East
dated May 2015
Fort McClellan, Alabama

General Comment

1. The Department requests that MDA submit a draft Environmental Covenant for the subject ranges before concurrence can be issued. Also, in the future, draft Environmental Covenants should be submitted with the Corrective Measures Implementation Plans (CMIP).

Response: In accordance with Part IV.B.5.a. of the Cleanup Agreement No. AL4 210 020 562 between the McClellan Development Authority (MDA) and the Alabama Department of Environmental Management (ADEM)(Department), the MDA must submit to the local zoning authority (or equivalent) and the Department a survey plat of the remediated areas that require land use controls within 90 calendar days of the approval of a final CMIP. Further, Part IV.B.6. requires that MDA record an environmental covenant in the probate judge's office of Calhoun County no later than the submission of the survey plat. At the current time, it is not known where any environmental covenants may be necessary. Only at the end of remediation activities will the location of areas requiring land use controls (i.e. environmental covenants) be determined. However, should an environmental covenant be necessary, the anticipated land use controls would be similar to FY15-01.00 that is in draft and submitted to ADEM June 8, 2015.

ADEM Evaluation: ADEM agrees with MDA's response. However, Part IV.B.6 of the Cleanup Agreement refers to the finalized version of the Environmental Covenant. ADEM requests that MDA submit a draft Environmental Covenant (EC) along with the CMIP in the event that there are issues or concerns with the draft EC that have to be resolved before the deadline for filing the finalized copy. Therefore, please submit a draft EC for the site. ADEM notes that the draft EC is subject to change pending the completion of the site remediation process. In addition, ADEM issued concurrence on Phase I of the BBGR CMIP in 2014. These ranges were remediated using ecological cleanup levels and require an EC. At the present time, the Department has not received a draft Environmental Covenant for the Phase I ranges.

Evaluation Response: *Please find attached DRAFT Environmental Covenants for MRS-2 and MRS-4 which contain portions of Range 23, Parcel 79Q and Range 25 East, Parcel 223Q. MDA would remind the Department that this is only a draft document and the Department should not make any decisions based on this document. It is expected that the covenant boundaries for the HTRW portions will change following the completion of field remediation activities.*

Phase I Environmental Covenant FY-15-01.00 for MRS-1 which contains CERFA parcel 83Q and 118Q-X (collectively known as Range 25) was recorded on October 5, 2015 in the Probate Judge office of Calhoun County.

Specific Comments

1. **Page 7, Section 2.5.** MDA lists antimony and lead as the only chemicals of concern (COC) on the subject ranges. However, the Remedial Investigation (RI) Report also indicates that 2, 4-dinitrotoulene is a COC at Range 23. Also, Figure 4-2 and the RI Report indicate that copper and zinc exceed background and ecological screening values in sediment on Range 23. Appropriate ecological risk-based remedial goals for sediments should be used during the chemical of ecological concern identification. Please address and revise the document accordingly.

Response: Constituents of Concern (COCs) are the Constituents of Potential Concern (COPC) that contribute significantly to unacceptable risk. The Alabama Risk-Based Corrective Action Guidance Manual (ARBCA, 2008) identifies a Constituent of Concern if the cumulative Incremental Lifetime Cancer Risk (ILCR) for a given receptor is greater than 1E-5. According to Table 6-80 of the Final-Revision 1 Remedial Investigation Report Baby Bains Gap Road Ranges (RI), the cumulative ILCR for 2,4-dinitrotoluene (2,4-DNT) is below 1E-5 and is therefore not considered a COC at Range 23. The Department referenced Figure 4-2 and noted the RI identified copper and zinc values exceeded background and ecological screening values in sediment on Range 23. The McClellan Development Authority (MDA) believes the Department meant to reference Figure 4-5 and copper and lead values exceeding background and ecological screening values. The Department would be correct in this instance and further evaluation of Range 23 was warranted. The Final-Revision 2 Identification of Ecological Risk-Based Remedial Goals Iron Mountain Road Ranges and Bains Gap Road Ranges (April, 2010) identified ecological risk based remedial goals (Eco-RBRG) of copper and lead in sediment as 69 mg/kg and 68 mg/kg, respectively. Two locations, HR-79Q-SW/SD02 and HR-79Q-SW/SD03 were identified on Figure 4-5 as having copper and lead values above the Eco-RBRG values and these locations will be included in the remediation of Range 23.

ADEM Evaluation: Please note that a COC is defined as a COPC that has a representative concentration at or above its respective PSV, in accordance with Section 2.5 in the ARBCA. Also, the Individual Excess Lifetime Cancer Risk (IELCR) is defined as the increase in the probability of an individual developing cancer due to exposure to a chemical of concern through a complete Route of Exposure, in accordance with Section 3.7.1 of the ARBCA.

ADEM notes that sample location HR-79Q-DEP04 and HR-84Q-DEP01 are designated as depositional sample locations on Range 23 and Range 25 East, respectively. The RI Report states that these depositional samples were collected at proposed surface water/sediment locations if surface water was not present during sample collection. These samples were collected several years ago. Please clarify if current site conditions are the same as when the depositional samples were collected several years ago during the remedial investigation. If the sediment is now saturated, MDA will be required to remediate the sample locations using the Eco-RBRGs for sediments. Also, please modify all relevant tables to include the sediment constituents.

Evaluation Response: *MDA confirms the site conditions match the conditions listed in the RI Report. These two locations will be remediated to the Eco-RBRGs listed for sediment. The Page 7 Section 2.5 and Page 10 Table 1 revisions are attached to this response.*

6. **Page 12, Section 3.4.1.** ADEM notes that MDA proposes to treat the contaminated soil with 0.03 mix ratio TerraBond LA. MDA used a Portland cement/TerraBond TS mixture during a previous soil remediation process. MDA states that Portland cement increases pH in almost all mixtures.

Therefore, MDA proposes to use the sole additive of TerraBond LA. The Department requests that MDA submits manufacturer's literature and manufacturer's testing results to support the treatment abilities of TerraBond LA. In addition, please explain how TerraBond LA solely provides both the solidification and stabilization benefits of a combination of Portland cement and an additional treatment additive.

Response: Attached to this response are the manufacturer's literature supporting the treatment abilities of TerraBond LA, a list of references of previously successful projects where TerraBond LA has been utilized, and the MSDS for TerraBond LA. The testing results requested above were provided in Appendix B, Treatability Study of this CMIP showing the successful stabilization of metals impacted soils specifically from the ranges covered under this CMIP.

ADEM Evaluation: The Department has reviewed the information that MDA has provided for the TerraBond LA. It has been determined that the documentation provided is incomplete and additional information and data are required for ADEM's consideration for approval. ADEM requests that MDA provide the following information:

- a. multiple extraction procedure (MEP) testing results
 - b. chemical composition of TerraBond LA
 - c. listing of products that go into the landfill
 - d. actual test data demonstrating effectiveness over time
 - e. notation of product approval for any sites in Alabama
 - f. clarification on which of the provided example projects specifically used TerraBond LA.
- ADEM notes the several different types of TerraBond materials are available and one of the examples indicates that TerraBond FBA was used to treat the soil. Also, please clarify if any soil samples were collected from the facilities over time after the TerraBond was used.

Please note the above list is consistent with the requests made in Phase I of the BBGR Ranges remediation during which MDA proposed to use TerraBond TS.

Evaluation Response: *Due to the lack of availability for the data requested by ADEM related to TerraBond LA, MDA proposes to utilize the Enviroblend product of EnviroMag Coarse as a stabilization reagent for this corrective measure. MDA proposes to utilize a mix ratio ranging from 1-5% to stabilize soils to below RCRA TCLP limits. Attached to this response are the product information sheets for EnviroMag Coarse. Also attached to this response is the Page 13 Section 3.4.1 Revision.*

9. **Page 20, Section 4.5 and Table 2.** ADEM requests that MDA collect at least one post-excavation five-point composite floor confirmation sample for each 2,500 square feet of excavated area. This provides an adequate amount of post-excavation samples and is consistent with the previous BBGR CMIP.

Response: This section now includes a revision to one five-point composite floor confirmation sample for each 5,000 square feet of excavated area, which is consistent with the EPA Superfund Lead-Contaminated Residential Sites Handbook. The Page 20, Section 4.5 and Page 24, Table 2 revisions are attached to this response.

ADEM Evaluation: ADEM previously approved a CMIP for the Phase I remediation of the BBGR Ranges. The approved CMIP stated that MDA would collect at least one post-excavation five-point composite floor confirmation sample for each 2,500 square feet of excavated area. ADEM requests that MDA collect the confirmation sample for each 2,500 square feet of excavated area for the

subject ranges as well. This will provide consistency with the approved CMIP that includes similar ranges. Please revise the document accordingly.

***Evaluation Response:** The Page 20, Section 4.5 and Page 24, Table 2 revisions are attached to this response to reflect the requested one post-excavation five-point composite floor confirmation sample for each 2,500 square feet of excavated area.*

11. **Page 22, Section 4.9.1.** MDA states that soil from offsite will be used as backfill on the subject ranges. Please revise this section to include a potential source(s) for the backfill soil.

Response: One of multiple potential sources identified for backfill soil is included in the revised text. The Page 22, Section 4.9.1 revision is attached to this response.

ADEM Evaluation: Please expand the text to identify the other potential backfill sources. This information is needed to ensure that the backfill is clean and not collected from contaminated areas.

***Evaluation Response:** Per a phone conversation between ADEM and MDA representatives on September 30, 2015, ADEM agreed that the language regarding backfill sources currently in the document was sufficient. MDA agreed to add polychlorinated Byphenols (PCB) Aroclor 1268 to the list of backfill sampling requirements to ensure any potential source of backfill will be clean prior to placement.*

16. **Appendix C, Page 10.** ADEM notes that MDA includes a detailed discussion outlining the steps used in the post-excavation confirmation sampling process. Please expand Section 5.2 to also include a more detailed discussion regarding the procedures that MDA plans to use during the pre-excavation confirmation sampling. Also, MDA states that the pre-excavation confirmation samples will be collected to ensure that the soil does not exceed ecological cleanup standard. Please revise the text to state that the pre-excavation samples do not exceed the residential cleanup standards as well as the ecological cleanup standards.

Response: This section / page have been revised to clarify the pre-excavation and post-excavation details. The Appendix C, Page 10 revision is attached to this response.

ADEM Evaluation: Please clarify if MDA plans to split the first 35 XRF (x-ray fluorescence) samples and send the samples to the laboratory to confirm XRF results (for quality control purposes) as done in the Phase I excavation. If not, please provide detailed rationale explaining why MDA proposes not to do so during this Phase II soil excavation.

Please add copper to the discussion regarding laboratory analysis (See specific comment 1). Also, please revise the text to state that five-point post-excavation confirmation samples will be collected every 2,500 square feet of excavated area (see specific comment 5). The post excavation discussion should state that the acceptance criteria for post-excavation XRF results will be 35% relative percent difference. Please address.

***Evaluation Response:** MDA confirms the first 35 XRF samples will be split and sent to the laboratory to confirm XRF results for quality control purposes. Copper has been added to the discussion regarding laboratory analysis and the acceptance criteria and frequency for post-excavation confirmation sampling has been included in the text. The Appendix C, Page 10 revision is attached to this response and incorporates the above listed requests.*

New Comment

21. **Appendix C, DQO 7.** For consistency, please revise the text to state that the selected cell size is 65' x 154' instead of 100' x100'.

Evaluation Response: The revised Appendix C, DQO 7 is attached to this response to incorporate the above comment.