

RESPONSE TO COMMENTS

**DRAFT SITE INVESTIGATION REPORT
AND DECISION DOCUMENT AT THE
GOLF COURSE, PARCELS 178(7), 83(7) AND 141(7)
FORT MCCLELLAN, ALABAMA
RESPONSE TO COMMENTS BY FORT MCCLELLAN**

- Comment 1:** **Page ii, Table of Contents: Comment - Change the page number on the first page ii to page i. Rationale - Two page ii's are numbered as ii and there is not a page i.**
- Response 1:** Agree. The page numbers will be revised.
- Comment 2:** **Page ii, Table of Contents: Comment - Add “and Analysis Request/Chain of Custody Records” after “Logs” in the title for Appendix A. Rationale - The title in the Table of Contents does not match the title used on Appendix A in the report.**
- Response 2:** Agree. The table of contents will be revised in order to remain consistent with the title of Appendix A.
- Comment 3:** **Table of Contents, Page iv: Comment - Change the first page iv to iii. Rationale - Two pages are numbered as iv and there is not a page iii.**
- Response 3:** Agree. The page numbers will be revised.
- Comment 4:** **Table of Contents, List of Tables, Title: Comment - Change “Sample Quantities” to “Samples” in the title for Table 3-2. Rationale - The changes are needed to make the title description in the List of Tables match the title used on the table.**
- Response 4:** Agree. The reference to Table 3-2 will be revised to remain consistent with the name of the table.
- Comment 5:** **Table of Contents, List of Tables, Title: Comment - Delete “Temporary” in the title for Table 3-3. Rationale - The changes are needed to make the title description in the List of Tables match the title used on the table and permanent wells are listed in the table.**
- Response 5:** Agree. The reference to Table 3-3 will be revised to remain consistent with the name of the table.
- Comment 6:** **Table of Contents, List of Tables, Title: Comment - Change “Sample Quantities” to “Samples” in the title for Table 3-5.**

Rationale - The changes are needed to make the title description in the List of Tables match the title used on the table.

Response 6: Agree. The reference to Table 3-5 will be revised to remain consistent with the name of the table.

Comment 7: **Table of Contents, List of Tables, Title: Comment - Add “and Surface Water” after “Groundwater” in the title for Table 3-6.**
Rationale - The changes are needed to make the title description in the List of Tables match the title used on the table and surface water parameters are included in the table.

Response 7: Agree. The reference to Table 3-6 will be revised to remain consistent with the name of the table.

Comment 8: **Table of Contents, List of Figures, Title: Comment - Delete “Site” before “Geologic” and add “of the Golf Course, Parcels 178(7), 83(7) and 141(7)” after “Map” in the title for Figure 4-1.**
Rationale - The changes are needed to make the title description in the List of Figures match the title used on the figure.

Response 8: Agree. The reference to Figure 4-1 will be revised to remain consistent with the name of the figure.

Comment 9: **Figure 1-1: Comment - Rotate the inset 90 degrees clockwise.**
Rationale - The inset appears to have been rotated 90 degrees counterclockwise from the actual orientation indicated on the base map.

Response 9: The parcel was rotated 90 degrees counterclockwise in order to best fit the outline and surrounding area of this parcel on a sheet of 11”x17” sheet of paper. The north arrow in the upper left corner was adjusted accordingly. To place the outline as suggested would require presenting an “E” sized figure or larger.

Comment 10: **Page 1-3, line 1: Comment - Add “west” before “central”.**
Rationale - The parcel is located in the west central part of the Main Post.

Response 10: Agree. The text will be revised.

Comment 11: **Page 1-4, line 1: Comment - Change “Department” to “Directorate”.** **Rationale - The correct title is “Directorate of Engineering and Housing” instead of “Department of Engineering and Housing”.**

- Response 11:** Agree. The text will be revised.
- Comment 12:** **Page 3-1, line 19: Comment - Insert a space between “3-1” and “through”. Rationale - The punctuation of the sentence is incorrect if the space is not added.**
- Response 12:** Agree. The text will be revised.
- Comment 13:** **Table 3-1, Sample Location Rationale: Comment - Change “unimproved road” to “railroad” in the sample location Rationale for Sample Location PPMP-178-SS04. Rationale - The unimproved road referenced appears to actually be the railroad.**
- Response 13:** The sample location is actually located in or near the fairway close to the tree-line that parallels Cane Creek (as seen in the sketch on the Sample Collection Log [Appendix A]). The text in Table 3-1 will be revised for this location.
- Comment 14:** **Table 3-1, Sample Location Rationale: Comment - Delete “between an unimproved road and 13th Avenue” in the sample location Rationale for Sample Location PPMP-178-SS05. Rationale - There does not appear to be an unimproved road in this area.**
- Response 14:** The unimproved road referred to is actually the golf cart path. The text will be revised to incorporate the change to golf cart path.
- Comment 15:** **Table 3-1, Sample Location Rationale: Comment - Change “an unimproved road” to “the railroad” in the sample location Rationale for Sample Location PPMP-178-SS07. Rationale - The unimproved road referenced appears to actually be the railroad.**
- Response 15:** The unimproved road referred to is actually the golf cart path. The text will be revised to incorporate the change to golf cart path.
- Comment 16:** **Table 3-1, Sample Location Rationale: Comment - Change “unimproved road” to “railroad” in the sample location Rationale for Sample Location PPMP-178-SS08. Rationale - The unimproved road referenced appears to actually be the railroad.**
- Response 16:** The unimproved road referred to is actually the golf cart path. The text will be revised to incorporate the change to golf cart path.
- Comment 17:** **Table 3-1, Sample Location Rationale: Comment - Change “east of an unimproved road, between the unimproved and Galloway Gate Road” to “north of the Golf Course Pump House and west of**

Galloway Gate Road” in the sample location Rationale for Sample Location PPMP-178-SS10. Rationale - The change will provide a better description of the actual location. There is not an unimproved road as referenced.

- Response 17:** The unimproved road referred to is actually the golf cart path. The text will be revised to incorporate the change to golf cart path.
- Comment 18:** **Page 3-3, line 22: Comment - Change “Parcel 83(7)” to “Parcels 83(7) and 141(7)”. Rationale - Temporary wells were installed at Parcel 141(7) as well as Parcel 83(7).**
- Response 18:** Agree. The text will be revised.
- Comment 19:** **Page 3-3, lines 24-25: Comment - Verify accuracy of the sentence “The temporary wells were installed, developed, purged/sampled, and removed within a matter of hours”. Rationale - The sentence appears to conflict with information on page 3-4, lines 9-14 which indicates more than one day would have been required on most of the wells.**
- Response 19:** Agree. Groundwater samples collected by QST from QST wells were installed on May 18, 1998 and sampled May 19, 1998. The text will be revised.
- Comment 20:** **Table 3-5, Sample Depth: Comment - Correct the information in the Sample Depth column for Sample Locations SI07-GWS01 and SI07-GWS05. Rationale - The sample depths for these sample locations appear to be incorrect based on the information in Table 3-3.**
- Response 20:** Agree. The data for all monitoring well sample depth/screen intervals will be verified with the well construction logs and revised.
- Comment 21:** **Page 3-7, lines 27-29: Comment - Need to indicate that copies of the analysis request and chain of custody records are included in Appendix A. Rationale - Copies are included in Appendix A and the statement will make it easier for personnel looking at the report to find them.**
- Response 21:** Agree. The text will be revised.
- Comment 22:** **Page 5-1, line 13: Comment - Change “Appendix H” to “Appendix G”. Rationale - The summary statistics for background metals samples are included in Appendix G, there is not an Appendix H.**

- Response 22:** Agree. The text will be revised.
- Comment 23:** **Page 5-2: Comment - Add information for anions in the analytical results summary for surface soils. Rationale - Analytical results for anions are included in Table 5-1 but nothing is provided in the summary.**
- Response 23:** Agree. The text will be revised.
- Comment 24:** **Page 5-2, line 13: Comment - Change “Appendix H” to “Appendix G”. Rationale - The summary statistics for background metals samples are included in Appendix G, there is not an Appendix H.**
- Response 24:** Agree. The text will be revised.
- Comment 25:** **Page 5-3: Comment - Add information for SVOCs, PCBs and TOC in the analytical results summary for subsurface soils. Rationale - SVOCs, PCBs and TOC are included in the analytical suite for subsurface soil samples in Table 3-2 but no analytical results are provided in the summary.**
- Response 25:** Agree. PCBs, SVOCs, and TOC should be mentioned. The text will be revised to include mention of the results of these analyses.
- Comment 26:** **Page 5-3, line 13: Comment - Change “Appendix H” to “Appendix G”. Rationale - The summary statistics for background metals samples are included in Appendix G, there is not an Appendix H.**
- Response 26:** Agree. The text will be revised.
- Comment 27:** **Page 5-4, line 4: Comment - Change “Appendix H” to “Appendix G”. Rationale - The summary statistics for background metals samples are included in Appendix G, there is not an Appendix H.**
- Response 27:** Agree. The text will be revised.
- Comment 28:** **Page 5-5: Comment - Add information for anions in the analytical results summary for surface water. Rationale - Analytical results for anions are included in Table 5-4 but nothing is provided in the summary.**
- Response 28:** Agree. The text will be revised.

- Comment 29:** Page 5-5: Comment - Add information for anions in the analytical results summary for sediment. Rationale - Analytical results for anions are included in Table 5-5 but nothing is provided in the summary.
- Response 29:** Agree. The text will be revised.
- Comment 30:** Page 5-6: Comment - Add information about TOC and grain size analytical results for sediment. Rationale - Table 3-7 indicates that TOC and grain size were included in the analytical suite for sediment but no information is provided on them.
- Response 30:** Agree. The text and appendices will be revised.
- Comment 31:** Page 6-1, lines 15-17: Comment - Add “anions” to the list of chemical constituents detected. Rationale - Anions were included in the analytical suites and the tables of analytical results indicate they were found.
- Response 31:** Agree. The text and appendices will be revised.
- Comment 32:** Page 6-2, line 36: Comment - Add “health” after “human”. Rationale - The sentence is incorrectly worded if the word is not added.
- Response 32:** Agree. The text will be revised.
- Comment 33:** Appendix B, Boring Logs and Well Logs: Comment - Delete the information on SI07-GWS03, SI07-GWS04 AND SI07-GWS06. Rationale - These locations are not used in this report and should not be included in Appendix B.
- Response 33:** Disagree. Although no wells were installed at these locations, surface and subsurface soils were collected and reported as part of Section 5 of the report.
- Comment 34:** Appendix D: Comment - Complete the information in the Sample Location column in the Survey Data table. Rationale - The sample location information does not have the entire description of the sample locations included. It also appears that the SI-83 listings should be SI07.
- Response 34:** Agree. The appendix will be corrected and revised to include the appropriate sample location descriptions.

- Comment 35:** **Appendix F: Comment - Acronyms used in this appendix should be added to the List of Acronyms. Rationale - An extensive number of acronyms are used in this appendix but very few are included in the List of Acronyms. Adding the acronyms would greatly assist personnel using the report. Could not find anything to explain several of the acronyms in any part of the document.**
- Response 35:** A complete list of all acronyms used in IT documents will be provided in the back of each document as a foldout 11"x17" insert. This will provide a readily available acronym list for the reader.

DECISION DOCUMENT COMMENTS

- Comment 1:** **Page 2, Site Background, first column, line 15: Comment - "18,946" should be changed to "18,929". Rationale - The correct acreage of the Main Post is 18,929 acres.**
- Response 1:** Agree. The text will be revised.
- Comment 2:** **Page 4, Site Investigation, second column: Comment - Add information about analysis for TOC and grain size on sediment at the end of the first paragraph. Rationale - Information about TOC and grain size is not addressed although included in the analytical suite for sediment.**
- Response 2:** Agree. The text will be revised.
- Comment 3:** **Page 7, Signature Blocks: Comment - Change the signature block for COL Treuting to Glynn D. Ryan, Site Manager. Rationale - COL Treuting was replaced by Mr. Ryan.**
- Response 3:** Agree. The text will be revised.
- Comment 4:** **Figure 1: Comment - Rotate the inset 90 degrees clockwise. Rationale - The inset appears to have been rotated 90 degrees counterclockwise from the actual orientation indicated on the base map.**
- Response 4:** The parcel was rotated 90 degrees counterclockwise in order to best fit the outline and surrounding area of this parcel on a sheet of 11"x17" sheet of paper. The north arrow in the upper left corner was adjusted accordingly. To place the outline as suggested would require presenting an "E" sized figure or larger.

**DRAFT SITE INVESTIGATION REPORT
AND DECISION DOCUMENT AT THE
GOLF COURSE, PARCELS 178(7), 83(7) AND 141(7)
FORT MCCLELLAN, ALABAMA
RESPONSE TO COMMENTS BY
U.S. ARMY CORPS OF ENGINEERS MOBILE DISTRICT**

General Comment

**Mobile District concurs in the “No Further Action”
recommendation.**

Response: Comment noted.

Specific Comments

Comment 1: Page ES-1, Line 33. Suggest adding “health” after “human”.

Response 1: Agree. The text will be revised.

Comment 2: Page 1-1, Lines 19-22. This discussion should clarify the reason that “QST was not able to collect all of the data”; i.e., direct push refusal before groundwater was encountered. The way the sentence is currently written would lead the reader to think that QST was not capable of doing the work, which was not the case.

Response 2: Agree. The text will be revised to clarify the reason that QST was unable to collect all of the data.

Comment 3: Page 1-2, Line 26. Remove “Draft”.

Response 3: Agree. The text will be revised.

Comment 4: Page 1-3, Line 2. Please verify the Golf Course acreage. It doesn’t seem possible that it is only 46 acres. Table 6.0.1 in the EBS says 146 acres.

Response 4: Agree. The text will be revised to reflect that the golf course is comprised of 146 acres.

Comment 5: Page 1-3, Line 12. Please verify the road names. Are they not “Galloway Gate “Road and Baltzell Gate Road”? That is what they are called in Table 3-1.

Response 6: Agree. The street names will be revised.

Comment 6: **Page 3-4, Line 14. The QST well development logs are not included in Appendix C as stated here.**

Response 6: The well development logs from QST could not be located and subsequently could not be included as part of Appendix C. The text will be revised to reflect this situation.

Comment 7: **Appendix D. The sample location information is missing from the Table. The first column lists the samples, but doesn't give the sample number.**

Response 7: The appendix will be revised to include the sample numbers.

DRAFT DECISION DOCUMENT

Comment 1: **Page 2, Middle Column. See Comment No. 5 regarding the acreage.**

Response 1: The text will be revised to reflect the parcels' size as 146 acres.

Comment 2: **Page 2, Third Column. See Comment No. 6 regarding road names.**

Response 2: The text will be revised with the correct road names.

**DRAFT SITE INVESTIGATION REPORT AT THE
GOLF COURSE, PARCELS 178(7), 83(7) AND 141(7)
FORT MCCLELLAN, ALABAMA
RESPONSE TO COMMENTS BY
U.S. ENVIRONMENTAL AGENCY, REGION 4**

OVERALL TECHNICAL COMMENTS

Comment 1: **The Draft SI is well organized and well written. An appropriate number of samples have been collected from logical locations. As a result, the information presented in the Draft SI supports the No Further Action recommendation for this site. However, the following general and specific Comments, should be addressed in the Final SI.**

Response 1: Comment noted.

General Comment

Comment 1: **Contamination is found in many of the samples from the Golf Course. As a result of this contamination, unrestricted reuse can not be supported. However, re-use of this property as intended by the Army, namely for recreation and not residential development is completely reasonable. Therefore, as transmitted in the EPA comments on the accompanying Decision Document, Land Use Controls that prevent undue exposure should be placed upon this property by the Army.**

Response 1: Based on discussions with EPA and ADEM during the August 2000 BCT meeting at Fort McClellan, this site will be released for unrestricted future use.

Comment 2: **Some of the sample numbers and sample names are marked out on the sample collection logs. Placing the initials by the mark out of the person who made changes to the sample numbers and sample names is good practice and prevents possible errors from being made. In the future, all mark outs should be initialed.**

Response 2: Agree. IT will ensure that all corrections are completed in this manner for documentation generated in the future.

Specific Comments:

Comment 1: **Page ES-1, Third Paragraph, Line 24. The text states "The concentrations of 4,4'-DDD and 4,4'-DDE marginally exceeded their respective ESV..." The term "marginally exceeded" is not appropriate for**

a technical report. Quantitative amounts would be more helpful. Please use the numerical amount in which the concentration was exceeded in the text.

Response 1: IT disagrees that the term is not appropriate for a technical report. However, the text will be revised.

Comment 2: **Table 3-1, Last Row (PPMP-178-SW/SD03). The final meaning of the sentence is unclear because something has been omitted. The sentence is incomplete and ends with the word "and". Please insure that the sentence is completed.**

Response 2: Agree. The error is most likely due to a formatting. The table will be reformatted.

Comment 3: **Page 3-6, Section 3.2, Second Paragraph, Lines 24 and 25. The text states "...the highest point on top of each monitoring well casing were surveyed within ± 0.01 -foot (± 0.3 centimeters) ..." However, ± 0.01 foot is not equal to ± 0.3 centimeters. Please change the text to ± 0.03 centimeters.**

Response 3: Disagree. 0.01 feet is equal to 0.3048 centimeters.

Comment 4: **Page 5-2, Third Paragraph, Lines 11-13. The text states "With the exception of arsenic (six locations), the metals concentrations were within background concentrations. The arsenic results were within the range of background values (Appendix H)." However, many of the metal concentrations (including arsenic) are above the background concentrations. Please correct this discrepancy in the text.**

Response 4: Based on discussions with EPA during the August 2000 BCT meeting at Fort McClellan, comparison to background range is not unreasonable in determining metals of concern.

Comment 5: **Page 5-3, Section 5.2, Second Paragraph, Lines 11-13. The text states "With the exception of one arsenic result, the concentrations of these metals were within background concentrations. The arsenic result was within the range of background values (Appendix H)." However, many of the metal concentrations (including arsenic) are above the background concentrations. Please correct this discrepancy in the text.**

Response 5: Based on discussions with EPA during the August 2000 BCT meeting at Fort McClellan, comparison to background range is not unreasonable in determining metals of concern.

Comment 6: Page 5-1, Line 13; Page 5-2, Line 13; Page 5-3, Line 13 and Page 5-4, Line 4. The text refers to background values which are supposedly to be found in Appendix H. Appendix H is not in the report. Furthermore, the background values are found in Appendix G. Please address the discrepancy.

Response 6: The text will be revised. The reference should be made to Appendix G.

Comment 7: Appendix B, Well Logs. Monitoring wells number GSBP-83-MW01 and GSBP-83-MW02 do not show the amount of stickup of the well casing. Please address the discrepancy.

Response 7: Agree. This number will be supplied in the available blank for the stickup.

RISK ASSESSMENT COMMENTS

General Comments

Comment 1: Many chemical constituents in the document are eliminated in the COPC selection because they fall within the "range of background values." Comparison to a range of background values is not generally a conservative approach to use in eliminating contaminants that exceed screening criteria from further consideration. A detailed "weight-of-evidence" discussion is needed in the text if the metals exceeding screening criteria are to be dropped from further consideration. Preliminary Risk Evaluation calculations may also be useful in determining the potential future risks associated with metal concentrations in groundwater.

Response 1: Based on discussions with EPA during the August 2000 BCT meeting at Fort McClellan, comparison to background range is not unreasonable in determining COPCs.

Comment 2: Appropriate Land Use Controls should be placed on this property ensuring that exposure is limited, thereby protecting Human Health and the Environment.

Response 2: Based on discussions with EPA and ADEM during the August 2000 BCT meeting at Fort McClellan, this site will be released for unrestricted future use.

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RESPONSE TO COMMENTS BY
ENVIRONMENTAL PROTECTION AGENCY REGION 4**

General Comments

Comment: I have reviewed the Decision Document for the parcels 178, 83 and 141. No significant discrepancies were noted and therefore no technical comments are offered. However, there are numerous elevated contamination concentrations found in the sampling results. It is my opinion that the Army should transfer this property for use as a Golf Course with Land Use Controls attached to the deed, and, further the Land Use Controls should be memorialized within the forthcoming effort of the Land Use Control Assurance Plan, (LUCAP) and follow-on Land Use Control Implementation Plan,(LUCIP).

Discussions should be initiated that result in redundant controls that provide for the adequate protection of Human Health and the Environment while providing the City of Anniston with a viable and productive Golf Course. I look forward to those discussions.

Response: Based on discussions with EPA and ADEM during the August 2000 BCT meeting at Fort McClellan, this site will be released for unrestricted future use.

**DRAFT SITE INVESTIGATION REPORT
AND DECISION DOCUMENT AT THE
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FORT MCCLELLAN, ALABAMA
RESPONSE TO COMMENTS BY ADEM**

General Comments

Comment 1: ADEM believes that the number of surface soil samples (six total) above background, site-specific screening (SSSLs), and ecological screening levels for arsenic is significant. ADEM is aware that wells SI07-GWS02 and SI07-GWS05 show several metals (aluminum, barium, iron, lead, manganese, and vanadium), GSBP-83-MW02 (aluminum, iron, and manganese), and GSBP-83-MW01 (manganese) above background and SSSL's. ADEM is aware that the high metal concentrations are a possible result of high turbidity. ADEM is aware that past sampling techniques will be compared to new sampling techniques (slow purging) that were agreed upon by the BCT. Five existing temporary monitoring wells will be resampled for unfiltered metals at Fort McClellan. The results of the resampling will help in evaluating wells SI07-GWS02, SI07-GWS05, and GSBP-83-MW02 as to their metal concentrations and if indeed that the concentrations are due to high turbidity. However, the site has been a golf course for an extended length of time. Unrestricted use should not be considered. Active recreation, such as the golf course, should be the intended use.

Response 1: Based on discussions with EPA and ADEM during the August 2000 BCT meeting at Fort McClellan, this site will be released for unrestricted future use.

Comment 2: Forms and logs presented in all appendixes should be completed in full, reviewed, and signed by appropriate personnel. Examples include: Sample Collection Log for PPMP-178-SW/SD01 (Appendix A); lacking signatures for "Logged BY/Date": _____, "Reviewed BY/ Date: _____"; "Comments" should include reference to Boring Logs, weather, Chain of Custody reference, direct push methods, hand auger methods, etc.; "Sketch Location" should show the location of the sampling points and reference them to nearby points of interest; units for "Start Depth" and "End Depth" should be in "Feet". Appendix B "Boring Logs and Well Logs" is lacking signatures for "Signature of inspector".

Response 2: IT will ensure that all paperwork is filled out properly in the future.

Comment 3: The surface seal for the temporary wells should be noted on the "Temporary Monitor Well Construction Form" and should include that

the wells were sealed with plastic sheeting taped to the well, and anchored with sandbags. All blanks should be filled in. If no information is available, then a “N/A” should be noted in the blank.

Response 3: Monitoring wells GSBP-83-MW01 and GSBP-83-MW02 were installed as permanent wells that include a concrete pad, and steel protective casing. The text and appendices will be revised (where necessary) to include these descriptions. In Appendix B, *Draft Site Investigation Report*, 1999, written by QST, it is mentioned that a bentonite seal was placed above the sand pack when possible. There is no other surface completion information for QST’s temporary wells mentioned.

Specific Comments

Comment 1: Pages i,ii,iii,iv/Table of Contents: The page numbers are not correct. Please correct.

Response 1: Agree. The page numbers will be revised.

Comment 2: Page iv/Acronyms: Please review the report for acronyms. The List of Acronyms on Page iv is incomplete.

Response 2: A complete list of all acronyms used in IT documents will be provided in the back of each document as a foldout 11”x17” insert. This will provide a readily available acronym list for the reader.

Comment 3: Page ES-2/ES/Lines 4-6: See General Comment No. 1.

Response 3: Based on discussions with EPA and ADEM during the August 2000 BCT meeting at Fort McClellan, this site will be released for unrestricted future use.

Comment 4: Figure 1-1: Figure 1-1 does not give a general location of Ft. McClellan in reference to its location in Alabama. A map location of Ft. McClellan geographically in the State of Alabama would help. Figure 1-1 shows the Ft. McClellan boundaries but does not say that the area is Ft. McClellan. Please add “Ft. McClellan” and other features to the Map.

Response 4: The current figure provides relevant information concerning the site investigation completed at the Golf Course, Parcels 178(7), 83(7) and 141(7). The state and county locations for Fort McClellan are mentioned in the text. A figure indicating the location in respect to the entire state of Alabama is not necessary. However, if the BCT agrees to add another figure, IT will add one to the document.

- Comment 5:** Page 3-2/Section 3.1.3/Line 36: Change the “continuously wrapped” to “factory slotted”.
- Response 5:** The well screen is constructed of continuous wrapped PVC. PVC continuous wrap screen is constructed similar to steel continuous wrap screen. A thin ribbon of PVC wire (heated, semi-solid state) is wrapped around a circular array of longitudinal PVC rods. The wire is attached by a heat weld producing a one-piece unit.
- Comment 6:** Page 3-3/Section 3.1.3/Line 1: Explain to the reader what a “number 1 filter sand” represents (size, clean washed, environmentally safe, etc).
- Response 6:** The text will be revised with the explanation of number 1 filter sand.
- Comment 7:** Page 3-4/Section 3.1.3/Line 4: Please indicate how the bentonite chips were hydrated (pouring potable water, distilled water, deionized Type II water, using existing formation water, etc.).
- Response 7:** Agree. The text will be revised to incorporate the method used to hydrate the bentonite pellets.
- Comment 8:** Page 3-4/Section 3.1.3/Lines 9-10: This sentence states that the wells were developed by surging with a “2-inch submersible pump”. Was the well physically surged with the submersible pump or was it swabbed with a mechanical device that is designed for well development? Submersible pumps are not designed for surging and swabbing. Please clarify.
- Response 8:** In efforts to “remove the residual materials remaining in the wells after installation has been completed” and trying “to re-establish the natural hydraulic flow conditions of the formations which may have been disturbed by well construction, around the immediate vicinity of each well” (EPA, *Environmental Investigations, Standard Operating Procedures, and Quality Assurance Manual*, 1996) both surge blocks and submersible pumps are used. While the submersible pumps were being used to develop the wells, the well developer was encouraged, in the early stages of development, to move the submersible pumps in an up and down fashion to encourage any residual materials to enter the well. These residual materials could then be pumped out of the well in order to re-establish the natural hydraulic flow conditions.
- Comment 9:** Page 3-3/Section 3.1.3/Lines 22-36: It is unlikely that a sand pack was tremied between a 2-inch borehole and a 1.25-inch OD PVC slotted screen. Please clarify.
- Response 9:** The only records available concerning the sand pack of the temporary wells installed by QST are the well diagrams and the approved work plan.

Appendix B, page B-5, of QST's *Draft Site Investigation Report*, 1999, states "Sand pack was tremied into the annular space to a point 5 ft above the top of the screen, except in those cases where the top of the screen was above ground surface in which case the sand pack extended to ground surface. . .". The text will be revised with the appropriate placement of the sand pack.

Comment 10: **Page 3-4/ Section 3.1.3/Lines 1-2: Add text detailing the completion of a temporary monitoring well, for example; "plastic sheeting was place around the riser and taped to the PVC.....".**

Response 10: Monitoring wells GSBP-83-MW01 and GSBP-83-MW02 were installed as permanent wells that include a concrete pad, and steel protective casing. The text and appendices will be revised (where necessary) to include these descriptions. In Appendix B, *Draft Site Investigation Report*, 1999, written by QST, it is mentioned that a bentonite seal was placed above the sand pack when possible. There is no other surface completion information for QST's temporary wells mentioned.

Comment 11: **Page 3-5/Section 3.1.5/Lines 3-4: Sampling of VOCs is not recommended using the Fultz positive gear displacement pump. Please clarify.**

Response 11: The wells were actually purged and sampled with a peristaltic pump. The volatiles were collected using the straw method (EPA, *Environmental Investigations, Standard Operating Procedures and Quality Assurance Manual*, Appendix E, 1996). The tubing was filled via suction applied by the pump head, removed from eht well and allowed to drain into the sample vial. This was repeated as many times as necessary until all the vials were filled. The text will be revised to clarify this situation. IT will continue to collect samples using the procedure outlined in the IWWP. If the water is still turbid after 5 well volumes, IT will decrease the purge rate to between 0.1 L and 0.5 L/min. If parameters still have not stabilized after an additional well volume, the field crew will let the well sit for a maximum of 24 hours and return to collect a sample with a bailer.

Comment 12: **Page 3-8/Section 3.5/Lines 18-20: The report suggests that "analyses" of the IDW is acceptable and that the "Liquid IDW" was discharged as non regulated waste to the FTMC wastewater treatment plant on the Main Post". Where are the results in the report or at least reference a document that they can be found?**

Response 12: An agreement between the FTMC wastewater treatment plant on the Main Post and IT has been arranged for the discharge of liquid IDW. Upon receiving the analytical results of the Liquid IDW samples (analyzed for VOCs, SVOCs and Metal, typically), the liquid IDW is discharged to the wastewater system of the Base. Analytical results are provided by the IT

contracted laboratory. Files of the IDW analytical results are stored at the IT site trailers and at the IT offices in Knoxville, TN.

Comment 13: **Appendix A: See General Comment No. 2.**

Response 13: IT will ensure that all paperwork is filled out properly in the future.

Comment 14: **Appendix B: See General Comment No. 2. Drilling Methods need to be described in the Monitoring Well Installation Detail Form.**

Response 14: Agree. The forms will be revised.

Comment 15: **Appendix F/Attachment A/Data Validation Qualifier Entry Verification Report: The table starting with sample No. KA0001 and ending with Sample No. KM2007 needs units for all results. Note: There are two Attachments A in Appendix F. Please clarify. Also need units for sample No. BQ3019 and ending with Sample No. BQ3020**

Response 15: Agree. The table will be revised with the units of measure.

DECISION DOCUMENT COMMENTS

General Comments

ADEM believes that the number of surface soil samples (six total) above background, site-specific screening (SSSLs), and ecological screening levels for arsenic is significant. ADEM is aware that wells SI07-GWS02 and SI07-GWS05 show several metals (aluminum, barium, iron, lead, manganese, and vanadium), GSBP-83-MW02 (aluminum, iron, and manganese), and GSBP-83-MW01 (manganese) above background and SSSL's. ADEM is aware that the high metal concentrations are a possible result of high turbidity. ADEM is aware that past sampling techniques will be compared to new sampling techniques (slow purging) that were agreed upon by the BCT. Five existing temporary monitoring wells will be resampled for unfiltered metals at Fort McClellan. The results of the resampling will help in evaluating wells SI07-GWS02, SI07-GWS05, and GSBP-83-MW02 as to their metal concentrations and if indeed that the concentrations are due to high turbidity. However, the site has been a golf course for an extended length of time. Unrestricted use should not be considered. Active recreation, such as the golf course, should be the intended use.

Response: Based on discussions with EPA and ADEM during the August 2000 BCT meeting at Fort McClellan, this site will be released for unrestricted future use.

Specific Comments

Comment 1: **Figure 1:** Figure 1 shows the Ft. McClellan boundaries but does not say that the area is Ft. McClellan. Please add “Ft. McClellan” and other features to the figure.

Response 1: Agree. The figure will be revised indicating the boundary and other features of the Main Post at Fort McClellan.