FT. McCLELLAN BCT MEETING MINUTES
PARTNERING SESSION #58
MONTGOMERY, AL
FEBRUARY 17-18, 2004

AGENDA ITEM	RESPONSIBILITY	NOTES
Check In Guest Introduction and Roles	Host: Jim Grassiano Leader: Ron Levy Recorder: Steven Moran	See Attendees List – Attachment A.
Ground Rules	BCT	Attachment B provides the ground rules, as revised in January 2001.
Agenda	BCT	Attachment C provides the draft March agenda. Attachment D provides the February meeting summary.
Accept Previous Minutes	BCT	The team reviewed the draft January minutes, and accepted the minutes as final.
Action Items	BCT	Action items were reviewed and updated, as indicated in Attachment D.
Long-Term Planning (BCP)	BCT	IT provided a final BCP on December 21, 2001.
Goals/Metrics Update	BCT	The team began brainstorming this topic during the June 1998 meeting, and also began development of preliminary goals for consideration by the group. This topic requires the BCT to set aside schedule time to address.
Facilitator Observations	Not present	David Smith was unable to attend this meeting due to prior commitments.

ATTACHMENT A

LIST OF PARTICIPANTS
BCT SESSION #58
MONTGOMERY, AL
FEBRUARY 17-18, 2004

Participants Feb. 17:
Ron Levy, Ft. McClellan (FTMC)
Lisa Holstein, FTMC
Bill Shanks, FTMC
Jeffrey Devine, US Army Corps of Engineers, Mobile District (USACE, Mobile District)
Jim Grassiano, Alabama Department of Environmental Management (ADEM)
David Lavoy, ADEM
Brandi Little, ADEM
Tim Wright, ADEM
David Busch, ADEM
Deirdre Hahn, ADEM
Doyle Brittain, US Environmental Protection Agency, Region IV (EPA)
Steve Moran, Shaw Environmental Inc. (Shaw)
Greg Sisco, Shaw
Miki Schneider, JPA
Linda Balcom, Matrix

Additional Participants Feb. 18:
Christie Wright, ADEM

Teleconference participant for portion of Ranges West of Iron Mountain Range review:
Karen Thorbjornsen, Shaw
Paul Goetchius, Shaw

ATTACHMENT B

BCT GROUND RULES

General:

1. Leave rank and title at the door, and have a free and open discussion on any subject affecting the BCT.
2. Work smarter, not harder: create ways to simplify and streamline the BCT process.
3. Identify and express individual team members' sensitive issues, and agree to keep them within the team.
4. Alert other team members of any changes in cost or schedules.
5. Rotate meeting leaders.
6. Have fun.

Meeting Behavior:

1. Come prepared; do your homework.
2. Participate fully: offer your perspective and advice for the benefit of the whole team.
3. Listen to others' views and opinions, try to understand their needs, respect them, and work to resolve differences, and support team decisions.
4. Draw out other members: be open to other ideas and different perspectives.
5. Avoid interruptions and side conversations.
6. Call time out when necessary.
7. Make decisions by consensus: all in agreement, all owning the decision.
8. Turn off cell phones.

ATTACHMENT C

BCT MEETING AGENDA

1. Check In

2. Guest Introduction/Role in Meeting

3. Review Ground Rules (Attachment B to these minutes)

4. Finalize Agenda with additions and/or subtractions (Item 9 of this Attachment)

5. Accept Previous Meeting Minutes

6. Review Action Items from Previous Minutes (Attachment D to these minutes)

7. Review Long-Term Planning (BCP)

8. Goals/Metrics Update

9. Accomplish Agenda Items (Item 9 of this Attachment)

10. Meeting Summary Review

- Set next meeting date
- Set next meeting agenda
- Set time and date for conference call
- Set meeting dates for next six months
- Review action and consensus items
- Review and evaluate Partnering Process

ITEM #9
DRAFT MARCH AGENDA
BCT MEETING
TELECONFERENCE

Wednesday, March 3, 2004

1300 – 1315	Phone Check-in/Finalize Minutes/Agenda/Action Items	BCT
1315 – 1330	Document Status Tracking	Lisa
1330 – 1315	JPA Update	Miki
1315 – 1415	Comment and Responses on NGB sites • Old Water Hole • Range L – Lima Pond • Sinkholes at Pelham Range • Water Supply Wells	Shaw
1415 – 1430	30-60-90% Updates	Shaw

Parking Lot

ATTACHMENT D

MEETING SUMMARY
With
ACTION ITEMS

Next BCT Meeting: Teleconference March 3, 2004

Primary Agenda: See Item #9

February Meeting Summary:

Check-In – Participants introduced themselves and are listed on Attachment A.

Finalize Agenda and Minutes – The team reviewed the draft minutes for the January meeting and accepted them as final without changes.

Action Items – The BCT reviewed action items; the updates are presented in Attachment D at the end of this text.

Document Status Tracking – Lisa provided the team with the latest version of the document status tracking spreadsheet. She pointed out the items needing BCT priority attention.

UXO Update – None provided.

JPA Update – Miki said most JPA activity is stalled due to upcoming local elections in Anniston. Matrix is currently working on several Site Investigations; fieldwork should start soon. Other work includes Landfill 3 and Fill Area Northwest of Reilly Airfield.

Soldiers Chapel – ADEM will review the document (in particular, the soil removal appendix) and respond accordingly. Jim indicated that written comments would be issued in about 2 weeks.

Motor Pool 3100 – ADEM will review the document, compile NFA information from their UST group, and respond accordingly. EPA has concerns about the benzene level in groundwater; Doyle indicated that this needs to be addressed. The Army indicated that they will look into an NFA with LUCs for the site.

Ranges West of Iron Mountain Road – Greg Sisco presented a comprehensive summary of the work performed at the Ranges West of Iron Mountain Road. (RWIMR). The PowerPoint presentation detailed project chronology and included a retrospective of almost 5 years of planning, fieldwork, and reporting. In addition, previous BCT meeting discussions and decisions made on the RWIMR were reviewed in the presentation.

Issues identified by ADEM and EPA in the January BCT meeting were discussed. On the second day, Karen Thorbjornsen and Paul Goetchius of Shaw were contacted via telephone to discuss responses to EPA comments on the aggregation of data and the heterogeneity of soil types at RWIMR. The result of

site walks and XRF screening performed by ADEM on January 12 – 14, 2004 were also presented to the BCT. Jim Grassiano stated that a letter was being drafted by ADEM that would indicate that lead was not considered to be a problem in soil at RWIMR. However, he said ADEM still needs to review potential data gaps in groundwater as a result of the dry wells and hoped a letter on this topic would be forthcoming shortly.

Ron stated that the Army wants to start a FOST on the Eastern By-Pass Corridor. He indicated that LUCs (for highway use only) would be placed on the corridor and that a portion of the highway would require UXO construction support.

Doyle handed out EPA responses to the draft comment response packages reviewed during the BCT meeting in January. Although the group did not review the EPA responses, he indicated that they should be appended to the meeting minutes (Attachments F, G, and H). He stated that EPA would not support an NFA decision at RWIMR. EPA believes that the nature and extent of contamination has not been defined and that additional samples would be needed to characterize RWIMR. Doyle stated that an RI/FS with a complete baseline risk assessment was required.

Landfill No. 3 – Steve presented the most recent round of Landfill No. 3 groundwater sampling data. The data, collected in September and October 2003, generally shows the same distribution of contaminants as indicated in previous rounds.

30-60-90% Updates – Steve Moran provided the update on Shaw's activities for the project team. Shaw is completing fieldwork at all sites, and expects to be done at Choccolocco Corridor by the end of February.

Work is underway on several documents including Report of Findings for T-38 and LF 3. Shaw is also working on RIs for the BBGR ranges, BGR ranges, and Range K.

Future Meetings and Conference Calls – BCT Meetings May 27-28, July 27-28, and October 26-27. Conference calls will be at 10am CST on March 30, May 25, June 29, August 24, September 28, and November 30.

Status of Action Items

Action Item No.	Responsible Team Member	Due Date	Status	Action Item
03/1/7	Philip	Feb. 2003	SNR	Review Soldiers' Chapel Removal Report in light of written comments on the SI report for discussion during February BCT meeting.
04/1/1	Jeanne	January	Done	Send team email to coordinate February meeting in Montgomery on RWIMR and BBGR SLERA.
04/1/2	Steve	January	Done	Provide Doyle and Mike with copies of RWIMR report and BBGR SLERA (paper copy to Doyle; CD to Mike).
04/2/1	Steve	March	SNR	Send electronic data to Deirdre (ADEM), Linda Balcom (Matrix), and Doyle (EPA) for Landfill No. 3.
04/2/2	Steve	Feb. 27	SNR	Send comments out to Lisa (FTMC) to distribute prior to March 3 conference call.

SNR=Status Next Report

ATTACHMENT E
FACILITATOR NOTES AND OBSERVATIONS

No facilitator present.

ATTACHMENT F

DRAFT

EMAIL & US MAIL

4WD-FFB

Mr. Ron Levy
BRAC Environmental Coordinator
U.S. Army Garrison/Transition Force
Environmental Office
291 Jimmy Parks Boulevard, Bldg. 215
Fort McClellan, AL 36205-5000

SUBJ: Responses to EPA and ADEM comments on Draft SI for the Ranges West of Iron Mountain Road (RWIMR) (Draft Site Investigation Report, Ranges West of Iron Mountain Road, Parcels 73Q-X, 91Q-X, 115Q, 116Q-X, 117Q-X, 129Q-X, 151Q, 181(7), 194(7)/518(7), 200Q, 201Q, 228Q, 229Q-X, 231Q, 232Q-X, Washington Tank Range, and 1950 Rocket Launcher Range, Fort McClellan, Calhoun County, Alabama, August 2003)

Dear Mr. Levy:

The Environmental Protection Agency (EPA) has reviewed the subject document transmitted by your December 22, 2003, email. EPA understand these to be draft comments. EPA's draft response comments are enclosed. Upon receipt of a formal transmission from you, EPA will finalize our comments and formally transmit them to you. As draft comments, they are subject to change based on the final version of your comments. If you have any questions, please call me at (404) 562-8549.

Sincerely,

Doyle T. Brittain
Senior Remedial Project Manager

Enc.

cc: Lisa Holstein, Ft. McClellan
Philip Stroud, ADEM
Jeanne Yacoub, Shaw

D.Brittain/dtb:4WD-FFB:28549:02-06-04:FTMC04-01-RWIMP 02-17-04

D.BRITTAIN
FL/AL/MS
Fed. Oversight
Section

Draft Site Investigation Report, Ranges West of Iron Mountain Road, Parcels 73Q-X, 91Q-X, 115Q, 116Q-X, 117Q-X, 129Q-X, 151Q, 181(7), 194(7)/518(7), 200Q, 201Q, 228Q, 229Q-X, 231Q, 232Q-X, Washington Tank Range, and 1950 Rocket Launcher Range, Fort McClellan, Calhoun County, Alabama, August 2003

EPA Response to Army Response to Comments

GENERAL COMMENTS

1. It must be kept in mind that the purpose for a Site Investigation is to determine whether or not a CERCLA release has occurred. This having been demonstrated by the subject document now requires the next step in the CERCLA process, i.e., a Remedial Investigation and Feasibility Study (RI/FS) with a comprehensive human health and ecological risk assessment.

General Response to All Comments Provided by EPA:
Many of the reviewer's comments seem to indicate that the reviewer was not privy to the previously conducted and agreed-upon protocols for decision-making, and the resultant Fort McClellan (FTMC) BRAC Cleanup Team (BCT) decisions from numerous technical meetings and discussions.

Response to General Comment No. 1:
Disagree. The reviewer cites the general CERCLA process without regard to site management decisions made by the BCT, of which the reviewer's agency, EPA, is a member. EPA senior remedial project management was in attendance at the February 2003 BCT meeting when "the BCT concurred with the recommendation for NFA [No Further Action] and unrestricted reuse for all parcels, except 114Q-X and 221Q-X" (Final Approved *BCT Meeting Minutes*, February 11-12, 2003).

Also, the reviewer should recall that a substantial portion of the Ranges West of Iron Mountain Road (RWIMR), including Parcel 73Q-X where lead was detected in surface soil at one location at a concentration of 3,180 mg/kg, has been deeply altered during construction of the Anniston Eastern Bypass (see Figure 1-4 of SI Report). BCT decisions regarding risks to human health and the environment have been greatly influenced by the reuse of the property. This information has been presented to the BCT and discussed on numerous occasions.

At the October 2001 BCT meeting, EPA requested that a Preliminary Risk Assessment (PRA) be performed for the RWIMR. The results were presented at the April 2002 BCT meeting. Based on the risk drivers identified in the PRA, two additional rounds of supplemental sampling were performed at Parcel 114Q-X and Parcel 221 Q-X. It must be kept in mind that the BCT agreed that Parcel 114Q-X and Parcel 221Q-X *do* require the next step(s) in the CERCLA process; i.e., Remedial Investigation/Feasibility Study (RI/FS). Therefore, these parcels were removed from the SI Report for the RWIMR.

To fully understand the responses to these comments, the reviewer must be familiar with the following BCT and FTMC references cited herein:

References:

1. ***Final Approved BCT Meeting Minutes:***
    2. ***January 2001***
    3. ***September 2001***
    4. ***October 2001***
    5. ***April 2002***
    6. ***August 2002***
    7. ***January 2003***
    8. ***February 2003.***

9. ***IT Corporation (IT), 2000,*** **Site-Specific Field Sampling Plan, Ranges West of Iron Mountain Road, Parcels 181(7), 194(7), 518(7), 73Q-X, 91Q-X, 114Q-X, 115Q-X, 116Q-X, 117Q-X, 129Q-X, 151Q, 200Q, 201Q, 228Q, 229Q-X, Washington Tank Range, and 1950 Rocket Launcher Range, Fort McClellan, Alabama,** ***December.***

10. ***IT Corporation (IT), 2001a,*** **Site-Specific Field Sampling Plan Attachment, Site Investigation at Former Rifle Grenade Range North of Washington Ranges, Parcel 221Q-X, Fort McClellan, Alabama,** ***February.***

11. ***IT Corporation (IT), 2001b,*** **Site-Specific Field Sampling Plan Addendum, Ranges West of Iron Mountain Road, Parcels 181(7), 194(7), 518(7), 73Q-X, 91Q-X, 114Q-X, 115Q-X, 116Q-X, 117Q-X, 129Q-X, 151Q, 200Q, 201Q, 228Q, 229Q-X, Washington Tank Range, and 1950 Rocket Launcher Range, Fort McClellan, Alabama,** ***March.***

12. ***EPA Work Plan concurrence letter dated June 8, 2001:*** **Site-Specific Site Investigation Sampling Plan Addendum for the Ranges West of Iron Mountain Road, Parcels 181(7), 194(7), 518(7), 73Q-X, 91Q-X, 114Q-X, 115Q-X, 116Q-X, 117Q-X, 129Q-X, 151Q, 200Q, 201Q, 228Q, 229Q-X, Washington Tank Range, and 1950 Rocket Launcher Range, Fort McClellan.**

13. ***Shaw Environmental, Inc. (Shaw), 2003,*** **"Selecting Site-Related Chemicals for Human Health and Ecological Risk Assessments for FTMC: Revision 1,"** ***Technical Memorandum, April 28.***

14. ***Shaw Environmental, Inc. (Shaw), 2003,*** **"Selecting Site-Related Chemicals for Human Health and Ecological Risk Assessments for FTMC: Revision 2,"** ***Technical Memorandum, June 24.***

EPA Response to General Comment No. 1:

EPA has two responses:

15. ***EPA attended the February 2003 BCT meeting where data were presented regarding the subject sites. However, the data in the subject document*** **is not as EPA understood**

in the February 2003 meeting. EPA's position has clearly been that anytime there has been a CERCLA release, an RI/FS/BRA must be conducted. Examples of EPA's position are:

16. May 7, 2001 letter. SUBJ: Draft-Final Engineering Evaluation / Cost Analysis for the Small Arms Ranges at Iron Mountain Road Skeet Range, Parcel 69Q; Range 19, Parcel 75Q; Range 13, Parcel 71Q; and Range 12, Parcel 70Q.

17. June 7, 2001 letter. SUBJ: Draft Range 23A Site Investigation Report, December 2000.

Copies are attached. EPA's position on SIs and EE/CAs versus RI/FS/BRAs on ranges where a CERCLA release has been identified has not changed. Where an EPA decision is requested to be made during an on-board review, it is incumbent on the agency conducting the briefing to accurately and completely present all of the data and related information necessary for a final EPA decision, and consistent with what is in the draft report.

18. In general, EPA agrees with the purpose of, and need for, an SI. In specific, EPA agrees with the data that have been collected on the subject SI. However, EPA does not agree with the interpretation that has been made of that data. This is not a new issue but dates back to the same issue as identified in the above two EPA letters and the resistance posed by the Army then and subsequently to conduct an RI/FS/BRA at ranges at FTMC where a CERCLA release has been identified. The data that have been collected in the subject SI indicate that a number of anthropogenic contaminants have been measured including metals, pesticides, nitroaromatics, and perchlorate. Many of these exceed Site Specific Screening Levels (SSSLs) and Ecological Screening Values (ESVs) in surface water, ground water, surface soil, and subsurface soil. Based on the data contained in the subject document, EPA will not approve a No Further Action decision.

2. **Application of Tier II Background Screening:** According to RAGS Part A, background screening is conducted to distinguish site-related contamination from naturally occurring or other non-site related levels of chemicals. Process-related chemicals, i.e., lead bullets at firing ranges, provide undeniable evidence that lead detected at levels exceeding site-specific background is site-related and should be carried forward into the risk assessment. A statistical evaluation, no matter what the degree of statistical significance, cannot substitute for forensic evidence from site history. This comment was written because lead was the eliminated based on Tier II and Tier III background reviews. For example, lead bullets were potentially used at many of the ranges and lead in surface soil had a maximum concentration of 3,180 mg/kg. In addition to lead detected in surface soil, lead was also detected above its ESV and background (where appropriate) in surface water, sediment, and groundwater.

The issue of how lead and other site related constituents are evaluated was commented on by EPA in the August 7, 2003, review of the Review and Comments Report for the Data Evaluation Report and Screening Level Ecological Risk Assessment, Baby Bains Gap Ranges (dated July 2003). Many of the comments for the SLERA for the Baby Bains Gap Ranges dealt with the interpretation of the geochemical processes, potential natural sources of metals such as lead or arsenic, and the characteristics of soils present at the ranges that are important in affecting the behavior of the inorganics of interest.

Additionally, if lead bullets or bullet fragments are present at any range contained in this document, then this range should be further evaluated to determine the potential ecological risk derived from particulate lead ingestion.

Response to General Comment No. 2:
Paragraph No. 1. Disagree. It is important to note that lead was not eliminated from consideration based on Tier III (geochemical evaluation) site-to-background comparison. Lead was not subjected to geochemical evaluation because it passed the Tier II statistical site-to-background comparison, which consists of the Slippage test and Wilcoxon rank sum (WRS) test. The Slippage test is a test of upper tails, and is used to identify potential hot-spot (localized) contamination. In order to fail the test – i.e., in order to identify a metal as a potential contaminant – a certain number of site samples must contain the metal at concentrations above the maximum background concentration. Only 3 sample(s) in the Parcel 73(Q) *et al.* surface soil data set (n = 101) exceed the maximum background measurement for lead. Given the background surface soil sample size of 67, a total of 7 site samples would have to exceed the maximum background measurement in order for lead to fail the Slippage test and be carried forward for geochemical evaluation.

The WRS test is designed to detect slight but pervasive contamination. Its focus is the central tendency (specifically, the median) of the two data sets being compared. Because the median of a data set is not affected by a few extreme values, the WRS test often does not detect a difference between background and site data sets such as lead in Parcel 73(Q) *et al.*, which is a highly right-skewed distribution. (But again, the WRS test is not designed to identify hot-spot contamination.) The Slippage test and WRS test are thus practically redundant in cases such as Parcel 73(Q) *et al.*, where the lead distribution is highly right-skewed. The former test provides no additional information that complements the latter.

The Slippage test was incorporated into the FTMC site-to-background comparison methodology at the request of EPA Region 4. Shaw previously expressed concern about this test because of its lack of conservatism. Shaw noted in its responses to EPA comments on the installation-wide work plan, that it demonstrated a lack of conservatism in comparisons performed using data from sites at FTMC. Just as an exercise, in response to this and similar comments, Shaw performed both the Hot Measurement test (comparison of the site MDC to the background 95th upper tolerance limit [UTL] or 95th percentile) and the Slippage test (a = 0.05) on TAL metals data for soil at Parcels 66, 94, and 202. For Parcel 66, 9 of the 23 TAL metals failed the Hot Measurement test and two of the metals failed the Slippage test. For Parcel 94, 11 metals failed the Hot Measurement test and only one metal failed the Slippage test. Nine metals failed the Hot Measurement test for Parcel 202, whereas none of the metals failed the Slippage test. Shaw performed a similar comparison for groundwater data from Parcel 202. In this comparison, four metals failed the Hot Measurement test and none of the metals failed the Slippage test (the Slippage test could not be performed for 11 of the 23 metals in groundwater because their maximum background measurements were nondetect). Similar comparisons have been performed using site and background soil data from other facilities, and in those comparisons a greater number of metals failed the Hot Measurement test than failed the Slippage test.

Shaw recommends the Hot Measurement test for site-to-background comparisons as the test of upper tails. This test provides the necessary level of conservatism that allows the proper identification of hot spots such as surface soil sample JF0009, which contains the site maximum of 3,180 mg/kg lead. Sample JF0009, along with four other surface soil samples, exceeds the background 95[c] UTL of 63.8 mg/kg. Application of the Hot Measurement test instead of the Slippage test would have resulted in a geochemical evaluation for lead. Sample JF0009 would thus have been properly identified as containing an anomalously high lead concentration. This sample contains the highest lead of the site and background data sets, but it contains only moderate amounts of aluminum, calcium, iron, magnesium, and manganese, indicating that the excess lead does not have a natural source. Such a sample would have been readily identified as anomalous on a geochemical correlation plot, had lead passed to the next stage of evaluation. However, Shaw performed the background comparison pursuant to EPA direction, and in this instance, sample JF0009 could not be identified as a contaminant.

[Paragraph No. 2] The following text will be added to the beginning of Section H.2.0, "Geochemical Evaluation Methodology":

"Naturally occurring trace element concentrations in environmental media commonly exceed regulatory screening criteria. For example, trace element distributions in uncontaminated soil tend to have very large ranges (two to three orders of magnitude are not uncommon), and are highly right-skewed, resembling lognormal distributions. These trace elements are naturally associated with specific soil-forming minerals, and the preferential enrichment of a sample with these minerals will result in elevated trace element concentrations. It is thus important to be able to identify these naturally high concentrations and distinguish them from potential contamination.

"If an analyte fails statistical comparison to background, then a geochemical evaluation is performed to determine if the elevated concentrations are caused by natural processes. The importance of geochemical evaluations in distinguishing between site and background data sets has been recognized in the industry . . ."

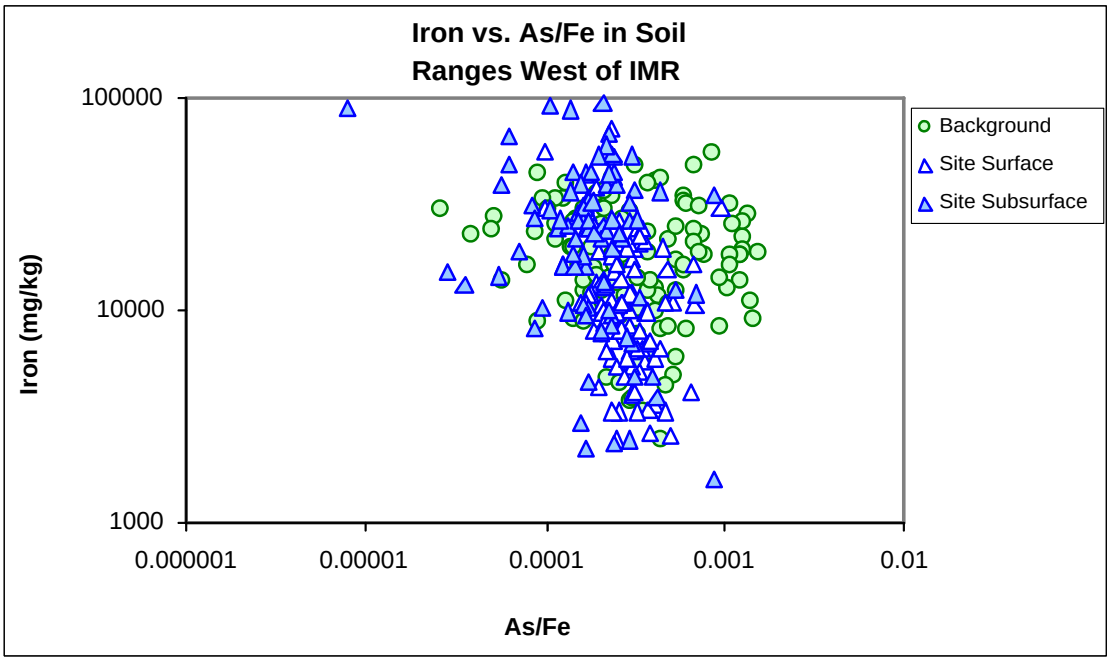
The original distribution of trace elements in the source rocks is of interest because they are the ultimate source (for instance, felsic rocks are enriched in Be, mafic rocks are enriched in Cr, sulfide mineralized zones are enriched in Cu, Pb, Zn, etc.). However, as the weathering and soil-forming processes proceed, these trace elements reapportion themselves among the weathering products in unique ways which are governed by their behavior under environmental conditions. Some elements are leached from the soil and others become concentrated. Some elements are controlled by solubility and others by sorption processes. The elemental concentrations and elemental ratios in a well-developed soil are determined by the chemical weathering environment and biogeochemical soil-forming processes, and no longer reflect the source rock composition. A basic principle of soil science is that environmental conditions are far more important than source material in controlling the composition, texture, and mineralogy of soil.

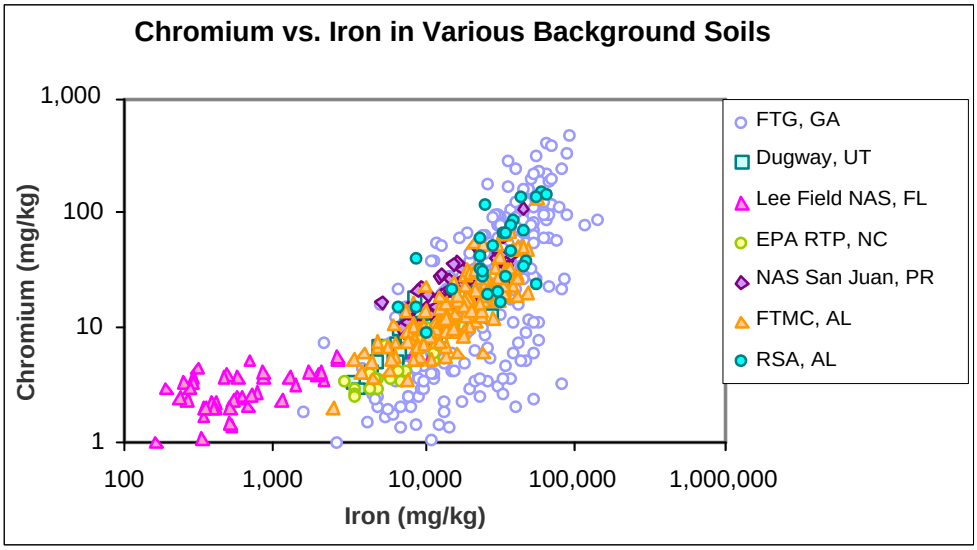
The methodology does not assume any associations. The associations provided in the reports (in the form of correlation plots) are based entirely on observations. The first step in the geochemical evaluation is to explore the elemental associations. For instance, for lead, the correlations of Pb/Al, Pb/Fe, Pb/Mn and Pb/Ca are evaluated, and the best correlation is used for the interpretation. Some elements tend to have exclusive associations at sites. For instance, Shaw has observed that vanadium is exclusively associated with iron at over thirty separate installations (many with multiple investigated sites) across the country where they have performed geochemical evaluations. Other elements such as Ni and Cr show better associations with Al at some sites and better associations with Fe at other sites. Barium, Pb, and Co show strong correlations with Mn at some sites that have enough Mn in the soil to form discrete Mn-oxides, but in low-Mn environments these elements are distributed on clays and/or iron oxides instead. In arid sites where caliche layers have developed Ba and Sr are highly correlated with

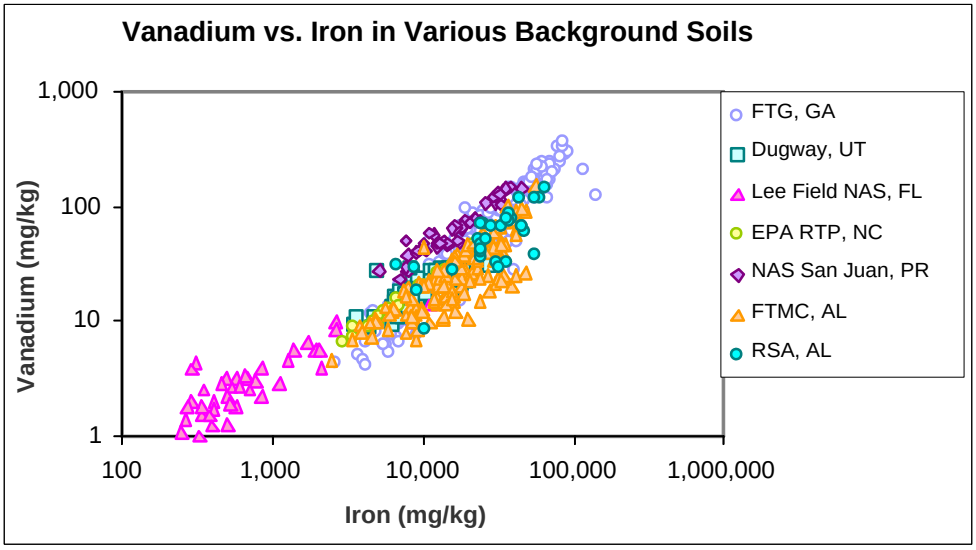
Ca. In other words, the data tells us what the associations are.

The value of the geochemical technique lies in its emphasis on mechanistic explanations for elevated trace element concentrations. Statistical evaluations, while useful, are inadequate for explaining high trace element concentrations. This is why, after the initial statistical comparisons to background are done (Tiers 1 and 2), we depart from quantifiable evaluation and consider geochemistry (Tier 3). These geochemical evaluations are inherently qualitative. This was discussed at the January 2003 BCT meeting.

There is no reasonable way to define an acceptable threshold R







Disagree. It should be noted that it is valid and appropriate to combine soil data from noncontiguous sites for purposes of geochemical evaluation (Tier III). The elemental ratios that are the basis of the geochemical evaluations are relatively constant across the site and are not influenced by soil type. This issue was discussed during the January 2003 BCT meeting, where Shaw exhibited multi-site correlation plots that combine background soil data from various facilities across the country (two such plots are included in the Response to General Comment 2). These plots reveal that elemental ratios in soil are consistent over broad areas, regardless of soil type or geology.

Aggregating data for purposes of geochemical evaluation improves the resolution of trends in the site data, which serves to enhance the identification of anomalous samples that contain excess trace element.

Furthermore, Figure 4-1, Site Geological Map does not show _ data. The information displayed on Figure 4-1, Site Geological Map is relevant to _____ be inferred from the type of bedrock present, this inference would be inherently inaccurate due to the composition of the regolith at FTMC consisting of both residual and transported soil. The reviewer is referred to Table 4-1 (Soil Descriptions) of the Draft SI Report to assist in making more accurate statements regarding soil types within the study area.

Table 4-1 of the SI Report presents a summary of soil types present within the RWIMR study area (the source for the soils data is the Calhoun County Soil Survey (USDA, 1961). Table 4-1 indicates seven soil series are present; however, two soil series (Anniston & Allen and Stony Rough Land) make up approximately 96% of the study area.

Using geographic information systems, the soil series that are present at RWIMR, their composition, percent of study area they comprise, and the number of sample locations within each type, were determined. This information is summarized in the table below:

Soil Series and Composition	Percent Occupied in RWIMR Study Area	No. Of Sample Locations Within Each Soil Type
Anniston and Allen Series (Gravelly loam composition)	53%	83

Stony Rough Land Series (Sandstone composition)	43%	39
Jefferson Series (Stony fine sandy loam composition)	3%	0
Philo and Stendal Series (Local alluvium composition)	1%	2
Atkins Series (Silty loam composition)	<1%	1
Mine or quarry	<1%	1

EPA Response to Specific Comment No. 4
The response is sufficient. Our concerns on the issue of data aggregation are covered by General Comment No. 4.

5. **Page 6, Appendix J, Para 1.** This paragraph discusses the use of the Tier II and Tier III review of data. A reference to where this data is located in this document needs to be added to the text.

Response to Specific Comment No. 5:
Disagree. It is a standard and accepted practice in document construction that the main body-of-text refer to any associated appendices--not the other way around.

EPA Response to Specific Comment No. 5
The response is sufficient.

6. **Page 6, Appendix J, Para 2.** The paragraph discusses the first step in the screening of chemicals to determine if they are COPECs. The text should be expanded to briefly discuss the chemicals determined to be COPECs after the Tier I review. This discussion should be followed by text briefly describing chemicals retained as COPECs after Tier II, followed by a brief Tier III discussion.

Response to Specific Comment No. 6:

Agree. Text will be included to discuss the constituents eliminated as COPECs via the various screening procedures.

EPA Response to Specific Comment No. 6
The response is sufficient.

7. Figure 1-3. On Figure 1-4, the legend needs to add an explanation of the dashed lines present on the figure.

Response to Specific Comment No. 7:
Disagree. The legends on Figures 1-3 and 1-4 clearly indicate that the “dashed lines” represent

“UNIMPROVED ROADS AND PARKING”.

EPA Response to Specific Comment No. 7:
The response is sufficient.

ATTACHMENT G

May 7, 2001

EMAIL & US MAIL

4WD-FFB

Mr. Ron Levy
BRAC Environmental Coordinator
U.S. Army Garrison
Environmental Office
Building 215, 15th Street
Fort McClellan, AL 36205-5000

SUBJ: Draft-Final Engineering Evaluation / Cost Analysis for the Small Arms Ranges at Iron Mountain Road Skeet Range, Parcel 69Q; Range 19, Parcel 75Q; Range 13, Parcel 71Q; and Range 12, Parcel 70Q; Fort McClellan

Dear Mr. Levy:

The Environmental Protection Agency (EPA) has reviewed the subject document and offer the enclosed comments for your consideration. Thank you for your cooperation. If you have any questions, please call me at (404) 562-8549.

Sincerely,

Doyle T. Brittain
Senior Remedial Project Manager

Enc.

cc: Lisa Kingsbury, Ft. McClellan
Ellis Pope, USA/COE
Phil Stroud, ADEM
Jeanne Yacoub, IT

May 7, 2001

EMAIL & US MAIL

4WD-FFB

Mr. Ron Levy
BRAC Environmental Coordinator
U.S. Army Garrison
Environmental Office
Building 215, 15th Street
Fort McClellan, AL 36205-5000

SUBJ: Draft-Final Engineering Evaluation / Cost Analysis for the Small Arms Ranges at Iron Mountain Road Skeet Range, Parcel 69Q; Range 19, Parcel 75Q; Range 13, Parcel 71Q; and Range 12, Parcel 70Q; Fort McClellan

Dear Mr. Levy:

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Jeanne Yacoub, IT

bcc: Ted Simon, EPA/OTS
Sharon Thoms, EPA/OTS
Martha Brock, EPA/EAD

D.Brittain/dtb:4WD-FFB:28549:04-24-01:FTMC01-Iron Mt Rd EECA

D.BRITTAIN _____
DODRS

Environmental Protection Agency Comments on the
Draft-Final Engineering Evaluation / Cost Analysis for the
Small Arms Ranges at Iron Mountain Road Skeet Range, Parcel 69Q;
Range 19, Parcel 75Q; Range 13, Parcel 71Q; and Range 12, Parcel 70Q

GENERAL

1. Page 1-1, first paragraph, says that this subject Engineering Evaluation / Cost Analysis (EE/CA) complies with BRAC and CERFA requirements for investigation and cleanup of the subject range parcels. It continues to say that the BRAC environmental restoration program at FTMC follows the CERCLA process. EPA agrees with these statements, and in general the appropriateness of an EE/CA at different times during the CERCLA process. What is not clear is how this specific EE/CA fits into the CERCLA process. Specifically, it appears that a PA/SI has been completed, and the EE/CA is being conducted which will be followed by an RI/FS, Proposed Plan, and ROD. For example, Page 2-12 states that detailed investigations have not been conducted at these ranges to date, but offers no explanation of that additional investigation. It appears that this investigation will be a part of that RI/FS which EPA considers appropriate. In addition, please clarify whether the removal is being conducted as a time-critical or non-time-critical removal. This needs to be explained.

2. Page 1.1, last paragraph, and Page 3-4, third paragraph say that groundwater will be investigated as part of the Site Investigation (SI) field activities. More appropriately, the groundwater should be investigated as a part of the RI/FS.

3. Pages 2-1 thru 2-4 indicate that only a small part of the subject ranges will be covered by this EE/CA but makes no mention of any investigation for the remaining areas. Specifically, the total area of the Skeet Range is 13 acres but less than 5 acres were characterized. The total area of Range 19 is 1529 acres but only 5 to 7 acres were characterized. The total area of Range 13 is 549 acres but only about 5 acres were characterized. The total area of Range 12 is 311 acres but only about 5 acres were characterized. It should be stated that the EE/CA is dealing with hot spot removal, and appropriately so, but that the entire area will be characterized under an RI/FS.

4. Page 2-1, third paragraph states that the Skeet Range is within the impact zone of two unexploded ordnance (UXO) ranges: a rifle grenade range and Combat Range #2. Page 2-14, third paragraph states that rockets were observed at the Skeet Range. The environmental investigation and cleanup of these other ranges including those portions that overlay the Skeet Range, and any similar situation affecting the other ranges, needs to be stated. If Chemical Warfare Agents have been handled within the Skeet Range or any of the other subject ranges, the environmental investigation and cleanup of these other ranges should be stated. Likewise, if Chemical Warfare Agents were not handled within these ranges, this needs to be clearly stated.

5. Page 2-3, last paragraph mentions the main target zone/bullet impact area being the side of a hill. In general, this is a common practice for firing ranges. It is also EPA's understanding that when bullets begin to ricochet, a layer of fresh dirt is usually bulldozed down the side of the hill

to provide a clean backstop. Any investigation and cleanup of the backstops on the sides of these hills needs to consider this layering effect.

6. EPA questions the adequacy of the number and locations of samples collected under the EE/CA, as noted in more detail in the risk assessment sections below. This should be better addressed in the EE/CA and thoroughly addressed in the RI/FS.

7. Page 2-15, first paragraph. EPA wrestles with the issue of composite samples. While they have an appropriate use, EPA questions their use in this EE/CA and certainly when the statement is made that they were collected to represent the "worst case" scenario. Composite samples tend to average out the impacts of "worst case" scenarios thereby resulting in a value that might be misleading. Consider the example of a man standing with one foot on a block of ice and the other in a pot of boiling water. On the average, he could be considered to be comfortable.

8. Page 3-1, first paragraph states that *The remedial actions discussed in this EE/CA should not have an effect on any future remedial actions.* EPA suggests that this statement be replaced with the statement that *The remedial actions discussed in this EE/CA will be consistent with the long term remediation of these areas.*

9. Page 3-2, third paragraph and other places within this document mention another work plan. However, that other work plan is not explained until Page 4-23 (*Reporting/Design Work Plans*). For clarity, it is suggested that the section entitled *Reporting/Design Work Plans* on Page 4-23 be moved to the first place in this EE/CA where those work plans are mentioned.

10. Page 3-5, second paragraph. This paragraph is unclear. Two sentences that cause the most confusion are: *Since no part of the range areas is included in the proposed highway, maintenance worker contact with potentially contaminated soil will be minimal. Therefore, highway construction is considered the upper bound on potential exposure to lead-contaminate soil in the Eastern Bypass corridor.* Why is the Eastern Bypass being discussed if it is not a part of the range areas?

11. Page 4-5, first paragraph mentions lead being observed below the planned 3-foot depth. How much lead was found? What are the plans for cleaning up this lead? What effect will unremoved lead have on human health and the environment, and in particular to leaching into the groundwater? How does this compare with the: "U.S. Army Corps of Engineers. Engineering and Design Ordnance and Explosives Response, Manual No. 1110-4009, June 23, 2000, and Ordata II, NAVEODTECHDIV, Version 1.0, and Cruell, Michell, and others. May 1999. 'Existing Ordnance Penetration Into Earth.' Presented at UXO Forum 1999"?

12. Page 4-27, second paragraph mentions discharging the treated decontamination fluids into the Anniston Water Works and Sewer Board. It is suggested that the statement be made here that this will be done in accordance with any applicable NPDES permit.

13. Page 4-40, first paragraph. It is suggested that mention be made of the Community Response Plan, and the Information Repository. It is also suggested that the RAB be briefed and given the opportunity to provide input into the EE/CA. Please clarify how the removal will comply with the Community Relations requirements found at 40 C.F.R. §300.415(n).

HUMAN HEALTH RISK ASSESSMENT

1. Adequacy of Sampling

Samples have been collected over the areas of the ranges in which lead fragments are visible. Hence, other areas which may be frequented by receptors are uncharacterized. This is a significant data gap in the risk assessment. The total area of the Skeet Range is 13 acres and less than 5 acres were characterized. The total area of Range 19 is 1529 acres and the area characterized is 5 to 7 acres. The total area of Range 13 is 549 acres and about 5 acres have been characterized. The total area of Range 12 is 311 acres and about 5 acres have been characterized. EPA's understanding of the subject document is that these uncharacterized areas will be used in an open space/passive recreation land use scenario. Without sampling, it is impossible to determine whether such land use is appropriate or whether the use poses an unacceptable risk.

19. **The areal extent of contamination has not been characterized.**

Additionally, the soil samples were sieved to remove lead fragments. Such a procedure is appropriate for human health risk assessment to address a current exposure. The size fraction of soil assumed to be contacted by a receptor is the small particulate fraction that adheres to the skin and is available for incidental ingestion. However, the lead fragments will degrade in time and the lead concentration in the small particulate size fraction of soil will presumably increase. Nowhere in the document is this discussed or acknowledged.

20. **Fate-and-transport of the lead fragments has not been considered.**

2. UXO and the Skeet Range

The document indicates that part of the Skeet Range contains UXO. In fact, the photographs included in an appendix document the presence of intact rockets. EPA considers any land use that includes uncontrolled access to this range to be inappropriate. The UXO shown in Appendix E is in the characterized area. Is there UXO in the uncharacterized regions that will be used in an open space/passive recreation land use scenario?

21. **Has UXO been characterized in all of the open space areas? Are there plans to clear the UXO?**

3. Screening Values for Lead Based on Non-Residential Exposure

The adult lead model recommended by EPA has been used to develop cleanup levels for lead based on two exposure scenarios: (1) road construction activities and (2) recreation. The model has been applied correctly but the exposure assumptions are not appropriate. The text of Appendix H indicates that the receptor for the adult lead model is a pregnant woman. This understanding is incorrect. The receptor is a woman of child-bearing age. The bones of a woman of child-bearing age

serve as a reservoir for lead. The lead in the bones is mobilized into the blood stream when this woman becomes pregnant. Thus, the fetus may be exposed to lead contacted by the mother years before the onset of pregnancy.

The road construction scenario does not appear to be well thought out. In fact the text on page H-5 seems to indicate that the length of time clearing/grubbing and grading will occur is 270 days - the length of human gestation. The relationship between the time needed for clearing and grubbing and the length of human pregnancy was not made clear. Given the uncertainty of the road building activities, an exposure frequency (EF) of 250 days per year, an averaging time (AT) of 365 days and a soil ingestion rate (IRs) of 50 mg/day are most appropriate. The other exposure factors in the model are correct. Use of these exposure factors provide a cleanup level of 1350 mg/kg for lead to be applied as an area average.

The open space/passive recreation scenario should use the same exposure factors. This assumes that a woman of child-bearing age will walk or jog 5 days a week in this passive recreation area. Hence, the cleanup level to be applied as an area average is also 1350 mg/kg.

22. **The cleanup level for lead that should be used for both the road building and open space scenarios is** 1350 mg/kg.

ECOLOGICAL RISK ASSESSMENT

General Comments

1. Overall protection of human health and the environment is a threshold criterion that must be satisfied in order for an alternative to be eligible for selection. The finding of effectiveness of alternatives in Section 4.3.1 on Page 4-37, however, indicates that none of the alternatives provide protection of the environment in areas outside the area to be developed as a retirement community and that only "some" protection of human health is provided in these areas by the action alternatives. Text copied from Page 4-37 summarizes EPA's concern.

> *For areas where the future land use is either passive recreation or Eastern Bypass Corridor, some protection of human health is provided as measures are taken to prevent unacceptable human contact with contaminated soils; however, no protection of ecological receptors is afforded by these alternatives in these areas*.

Because Alternatives Two, Three, Four, and Five afford no protection of ecological receptors in areas where the future land use is designated as either passive recreation or Eastern Bypass Corridor (Page 4-37), the six alternatives evaluated in the EE/CA fail to meet the National Contingency Plan's threshold criterion of *Overall Protectiveness for Human Health and the Environment,* which must be satisfied in order for an alternative to be eligible for selection. The EE/CA must be revised to include alternatives having remediation goal concentrations for each exposure-route and receptor combination that provide adequate protection of human health <u>and</u> the environment.

2. The EE/CA states that there are no sensitive habitats in the area of the firing ranges. However, several ranges provide foraging habitat for the endangered gray bat. Whether or not there are

endangered bats or sensitive natural areas in the immediate vicinity, EPA's policy is that the absence of sensitive species and endangered species is insufficient reason to forego completion of an ecological risk assessment and development of remedial objectives for protection of the environment.

3. The streamlined risk evaluation is initiated to project the current and potential future risk to human health and the environment if no cleanup action is taken at the site (USEPA, 1993). The evaluation of risk is performed using sampling data from the site. Therefore, sampling data must be sufficient to support the development of a risk assessment of baseline conditions. Sampling data for the site failed to cover the areal extent of terrestrial habitat where exposure to humans and ecological receptors could occur, given no action. Specifically, the impact zones, where highest contaminant exposures are likely to occur, were not sampled for the streamlined risk evaluation. (They were only sampled for TCLP.) The sampling data are therefore inadequate to estimate reasonable maximum exposures for evaluating potential post-closure uses of the Iron Mountain Road ranges.

4. Each of the ranges has an extensive fan with acreage vastly exceeding the small acreage evaluated in the investigation. The number of surface soil samples was 86, or a little over 20 for each of the four ranges. Sampling occurred in areas in the "perimeter of the anticipated impact zone to determine the extent of lead contamination for excavation purposes" (Page 2-13). A composite sample from the impact zone of each range was evaluated by TCLP to determine landfill disposal options. Sampling is insufficient given the vast acreage of the range fans.

Further, no justification is provided that the degree and extent of sampling in the range fans is adequate to characterize risks under baseline conditions. Only about 20 samples were taken of surface soil for each range area, and the area of each range investigated comprised only a small portion of the acreage identified as within its potentially impacted fan. A streamlined risk evaluation of baseline conditions is necessary to justify taking a removal action and identify what current or potential future exposures should be prevented.

5. Due to the limited amount of sampling in the range-impacted areas, future sampling should continue to include full scans, rather than limiting the analysis to lead and a handful of other chemicals of potential ecological concern identified in the ecological risk assessment. It must be determined that chemicals other than lead are not associated with the impact zones before they can be eliminated as chemicals of potential ecological concern. Given the deficiencies in the data, they are inadequate to limit the set of chemicals of potential ecological concern at this time.

6. Also, there is insufficient information on the concentrations of site-related chemicals in the impact zones. It must be noted that areas with visible shells and bullet fragments were generally not sampled, and any fragments of bullets, etc. that happened to be in the samples were removed prior to shipment to the laboratory (Page 2-12). The reasoning was that visible bullets and shells would be removed as part of the remediation, however, this is only the case, apparently, for the areas to be developed as a retirement community. The environmental sampling will tend to under-predict the concentrations of lead in site soils. If the lead particles disintegrate over time, the concentrations measured by taking the bullet fragments out will under-predict potential future exposures.

7. The sampling precludes a particular alternative selection by assuming areas around the impact zones will be excavated (lack of sampling these areas), bullet fragments will be removed (removing bullet

fragments from samples), and areas in the range fan outside the perimeter of the sampling will not need to be assessed (lack of sampling these areas). An assessment of the potential risks in absence of any action being taken at the ranges is necessary to allow flexibility in considering all of the risk management alternatives. The risk assessment currently provides inadequate information for the risk manager to make an informed decision.

8. Range 12 is identified as "passive recreation" in the Comprehensive Reuse Plan. No removal action is proposed for Range 12. However, the Draft Final EE/CA tries to obfuscate the fact that a perimeter of bullet fragments was visually surveyed for Range 12 by not showing it on Figure 2-12. The statement in the EE/CA on Page 2-15, lines 33 through 34, that concentrations were below unacceptable risk levels should be viewed with caution. Inadequate sampling of Range 12 may have taken place.

9. Bart Reedy and Sharon Thoms spent an entire year working with Fort McClellan representatives to develop the Installation-Wide Work Plan (IWWP), with detailed instructions on how to write the ecological risk assessment. Yet, procedures for conducting the ecological risk assessment as agreed to in the Final Installation-wide Work Plan circa July 1999 were not followed. Many standard components of a risk assessment, which were in the work plan, were left out. Lacking was the section in Appendix G on the conceptual site model, contaminant fate and transport mechanisms, ecotoxicity mechanisms and potential receptor categories, complete exposure routes, and wildlife screening assessment endpoints. After the screening step is finished, as in any risk assessment, there is an uncertainties discussion. The IWWP should be consulted for organization and content.

10. The EE/CA indicates that any fragments of bullets, etc. were removed from samples prior to shipment to the laboratory (Page 2-12). This practice can provide information to evaluate current ecological risks due to exposure routes involving contact with dusts and ingestion of contaminated prey items by wildlife. However, not addressed was potential future exposure to lead fragments as they break down and disintegrate into the soil. The risk assessment must address potential future risk as well as risk under current conditions. Adequate sampling data are necessary to characterize potential future risk, i.e., risks that would be present if the bullet fragments were allowed to remain in the soil indefinitely.

11. Certain potential exposure routes specific to wildlife were not addressed, such as intentional ingestion of lead shot by birds with gizzards. Removal of bullet fragments from the samples prevents the use of the sampling data to evaluate this pathway of potential exposure in the ecological risk assessment. No exposure pathway analysis was included in the ecological risk assessment.

12. The removal action goals provided in the report fail to consider the goal to minimize potential migration of contamination in subsurface soils to ground water via leaching. A remediation goal for soils, designed to protect against future ground-water leaching, should be developed for inclusion in the EE/CA, else justification should be provided that such a removal action goal is unnecessary or will be covered elsewhere.

Specific Comments

1. *Section 2.3.2, Nature of Contamination, Page 2-12.* While a select few soil samples were analyzed for volatile organic compounds, semivolatile organic compounds, and target analyte list metals,

sediment samples were analyzed for metals, nitroexplosives, and perchlorate. Since lead is present in the Remount Creek and drainage ditches at concentrations often higher than in soils, other site-related constituents in soils are probably also present in sediments, but have not been tested. Also, nitroexplosives and perchlorate were not tested in the soils. This discrepancy should be addressed.

2. *Section 2.3.1.1, Soil Sampling, and Section 2.3.1.2, Visual Survey, Pages 2-13 through 2-14*. The text in Section 2.3.1.1 indicates that visual observations of the presence of lead shot/bullet fragments were used to select soil sampling locations, such that the perimeter of the impact zone was defined. Section 2.3.1.2, however, indicates that a visual survey was conducted at Range 12, Range 13, and Range 19 – but not at the Skeet Range. Therefore, the text is unclear on how sampling locations were selected around the perimeter for the Skeet Range without the visual survey. Also, Figures 2-9 through 2-12 are labeled with titles including the phrase "and extent of bullet fragments" when two of the figures (Figures 2-9 and 2-12) fail to display any visual survey information. Figure 2-12 for Range 12, which was indicated to have had a visual survey, lacks denotation of the boundaries of the visual extent of bullet fragments (Page 2-14, lines 9-10). Also, Appendix B should be referenced on Page 2-14 for providing the GPS data. Information is provided in Appendix B for the three ranges that were surveyed visually, including Range 12. It should be noted that the entire portion of Range 12 has been identified as passive recreation in

the Comprehensive Reuse Plan; and no removal action is planned for Range 12 (Page 2-15, lines 32 through 34).

3. *Section 2.3.1.4, Composite Waste Characterization Soil Samples, Page 2-15*. The EE/CA indicates that five (Page 2-12) select impact zone locations were sampled to form a separate composite sample for each range. No information is provided, other than a statement that they came from the impact zones, of where the individual locations making up the composite samples were taken. No information is provided on how the samples were collected. Locations for the composite samples should be shown on the figures and GPS coordinates presented in Appendix B, as was done for all other samples.

4. *Section 2.3.1.4, Composite Waste Characterization Soil Samples, Page 2-15*. The text in lines 11 through 14 indicates that PCB analysis was performed on the composite samples. However, PCB results are not provided in Table 2-11 or in Appendix D.

5. *Section 2.3.2, Extent of Contamination, Page 2-16, lines 12 through 18.* The ditch at the Skeet Range having high concentrations of lead and arsenic should also be identified as having concentrations exceeding background, human health, and ecological screening values. The concentration of lead in the ditch was 2,070 mg/kg (Figure 2-13).

6. *Section 3.4.1, Chemical-Specific ARARs and TBC Guidance, Page 3-4, lines 29 through 30.* The EE/CA concludes that habitat is poor for the gray bat in Remount Creek and therefore ecological risks need not be considered in setting chemical-specific TBCs. However, Appendix G on the ecological risk assessment contradicts Section 3.4.1 in that high quality foraging habitat for the gray bat exists at Ranges 12 and 13 and that moderate foraging habitat exists at the Skeet Range. Remount Creek is ephemeral only in certain limited areas. EPA recommends that the ecological risk assessment for the Iron Mountain Ranges continue on to the next step of the ecological risk assessment process toward eventual establishment of TBCs for ecology of soils and sediments. Because certain ranges areas will

likely be restricted to humans, management of potential ecological risks will become important remedial objectives. Text on Page 3-4 is misleading with regard to gray bat foraging and must be revised.

7. *Appendix G, Section G1.1, Habitat Description, Page G-2.* The habitat for the Skeet Range and Range 19 may not provide good habitat for the Federally endangered gray bat *(Myotis grisescens).* However, the Skeet Range does provide moderate habitat (Garland 1996). The Skeet Range should not be reinterpreted as poor quality habitat based on dry streambed observations during the drought in 2000.

8. *Appendix G, Section G1.1, Habitat Description, Page G-1.* Text fails to mention nearby Mountain Longleaf Pine habitat as identified in the Installation-Wide Work Plan, which might occur within the extent of the range fan. Description of Remount Creek fails to mention that the creek discharges into Cane Creek, which flows offsite through Anniston. Text should be expanded. Include a reference to discussions of habitat in the Installation-Wide Work Plan.
9. *Tables G-1 through G-5.* Include a column on each table to show the station ID where the maximum concentration was detected. Include data validation flags on concentrations.

10. *Tables G-1 through G-6.* In EPA's comments on the Installation-Wide Work Plan, EPA indicated that the maximum concentration should be screened against the ecological screening value (ESV). Footnote 5 on the tables indicates that constituents whose average concentration was less than the SV were eliminated as chemicals of potential concern in the screening process. Because there are so few samples and because the range areas most likely to be impacted were not sampled, the average concentrations inadequately represent reasonable maximum exposure. Even if the sampling locations had been properly located, the average concentration to represent reasonable maximum exposure for the risk assessments is the 95 percent upper confidence limit on the mean.

11. *Section G1.4, Lines of Evidence Discussion, Skeet Range Surface Soil, Page G-7.* The text appears to conclude that PAHs of potential ecological concern in soils are associated with the firing areas; however, insufficient evidence is available. First, the text is incorrect. PAHs were detected in samples SS05 and SS40, not in SS06. SS05 is not directly adjacent to the firing area nor is it closer to the firing area than other samples where PAHs were not detected. There is insufficient sampling data to evaluate whether PAHs are associated with the firing area. Of the 14 soil samples analyzed for organic compounds, only one (SS27) was located in the Lead Area and only three (SS29 through SS31) were located in the Area Requiring Land Use Restrictions (Figure 2-9). The bulk of the samples for PAHs were taken in and around the parking lot or in other areas outside of the range fan.

12. *Table G-1.* Maximum concentration of antimony was 3.8 mg/kg in SS32 not 11.3 mg/kg. Fluoranthene shows one detection, yet a minimum and maximum concentration are reported. Concentrations in table should be checked.

13. *Section G1.4, Lines of Evidence Discussion, Skeet Range Surface Soil, Page G-8.* While lead is clearly identified as a chemical of potential ecological concern, there is more uncertainty with respect to manganese. Manganese detections were not substantially elevated with respect to background. The pattern of detection was sporadic. However, its association with the Lead Area is suggested by relatively high concentrations in SS27. Given the limited analysis for manganese in range-impacted areas, it becomes difficult to rule out the possibility the manganese may be site related. Additional sampling may be necessary to address this uncertainty.

14. *Section G1.4, Lines of Evidence Discussion, Range 12 Surface Soil, Page G-8.* The conclusions that copper and lead are the only chemicals of potential ecological concern are based on only three samples for TAL/TCL. Only one of the three (SS12) was collected in an area appearing to be within the range fan. (However, SS12's location with respect to impact areas is unclear on Figure 2-12.) Only the maximum concentration is relevant to a screening-level risk assessment, given the limited data available. Additional data is necessary to adequately screen Range 12 before a determination regarding potential risk from copper can be made.
15. *Section G1.4, Lines of Evidence Discussion, Range 13 Surface Soil, Page G-8.* The exclusion of zinc as a chemical of potential ecological concern is uncertain because only five samples were analyzed for zinc, and only one of the five samples was located within an area defined on Figure 2-11 for berm excavation, based on visual and chemical data. The other four samples were located in the parking lot or near the edge of a potentially impacted zone. The mean concentration of zinc probably underestimates reasonable maximum exposure.

16. *Section G1.4, Lines of Evidence Discussion, Range 13 Surface Soil, Page G-8.* The highest concentrations of antimony, copper, lead, and zinc were located in SS20, within an area designated for land use restrictions but not for active remediation. It is unclear why the area for excavation did not include the spot where maximum concentrations were detected. Rationale should be revisited.

17. *Section G1.4, Lines of Evidence Discussion, Range 19 Surface Soil, Page G-8.* The five samples with TAL/TCL scans for Range 19 did include samples in the firing line and the berm, however, samples are noticeably absent in the center of Range 19 on Figure 2-10. It is unclear whether concentrations measured accurately represent reasonable maximum exposure.

18. *Table G-4*. The maximum concentration of copper in surface soil at Range 19 was 75.5 mg/kg in sample SS20, duplicate. The concentration of copper in the table should be corrected.

19. *Section G1.4, Lines of Evidence Discussion, Remount Creek Surface Water, Pages G-8 and G-9.* The sampling of surface water was very limited. Remount creek was not sampled in the vicinity of Range 19. Ranges 12 and 13 only have one upgradient and one downgradient sample apiece. Ranges 12 and 13 warrant additional sampling because they provide quality foraging habitat for the gray bat.

20. *Figure 2-13.* Lead was detected in surface water at locations SW/SD09 and SW/SD13 but is not shown on Figure 2-13 for those locations.

21. *Section G1.4, Lines of Evidence Discussion, Remount Creek Sediment, Page G-9.* The highest concentrations of lead and arsenic in the drainage ditch at the Skeet Range at SW/SD10 should not be ignored simply because they are in a drainage ditch. If the ditch is dry some of the time, these samples should also be considered for potential human health risks. The drainage ditch may provide habitat for semi-aquatic ecological receptors even if it is dry part of the year. The materials in the drainage ditch can also provide a continuing source of metals to Remount Creek as they wash into the creek over time. If the ditch is losing water, it might provide a source of lead influx to ground water. High concentrations in the ditch cannot simply be ignored.

22. *Page G-9, between Section G1.4 and G1.5.* No uncertainties section is included in the ecological

risk assessment as specified in the Installation-Wide Work Plan. An uncertainties section should be added.

REFERENCE

USEPA 1993. *Guidance on Conducting Non-Time-Critical Removal Actions Under CERCLA,* U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response, Washington DC. EPA 540-R-93-057. August 1993.

ATTACHMENT H

June 7, 2001

EMAIL & US MAIL

4WD-FFB

Mr. Ron Levy
BRAC Environmental Coordinator
U.S. Army Garrison
Environmental Office
Building 215, 15th Street
Fort McClellan, AL 36205-5000

SUBJ: Draft Range 23A Site Investigation Report; December 2000
Fort McClellan

Dear Mr. Levy:

The Environmental Protection Agency (EPA) has reviewed the subject document. Comments are enclosed. Please note that upon completion of the subject report, EPA considers the next appropriate step at Range 23A to be a Remedial Investigation, Feasibility Study, and Baseline Risk Assessment (RI/FS/BRA). Please consider these comments in the preparation of the final report.

Thank you for your cooperation. If you have any questions, please call me at (404) 562-8549.

Sincerely,

Doyle T. Brittain
Senior Remedial Project Manager

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Mr. Ron Levy
BRAC Environmental Coordinator
U.S. Army Garrison
Environmental Office
Building 215, 15th Street
Fort McClellan, AL 36205-5000

SUBJ: Draft Range 23A Site Investigation Report; December 2000
Fort McClellan

Dear Mr. Levy:

The Environmental Protection Agency (EPA) has reviewed the subject document. Comments are enclosed. Please note that upon completion of the subject report, EPA considers the next appropriate step at Range 23A to be a Remedial Investigation, Feasibility Study, and Baseline Risk Assessment (RI/FS/BRA). Please consider these comments in the preparation of the final report.

Thank you for your cooperation. If you have any questions, please call me at (404) 562-8549.

Sincerely,

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D.Brittain/dtb:4WD-FFB:28549:06-07-01:FTMC02-Range23A

D.BRITTAIN _____
DODRS

Environmental Protection Agency Comments on the
Draft Range 23A Site Investigation Report; December 2000

1. Page 1-1, Section 1.0 - The statement is made that Range "23A consists of 22, 245 acres". Apparently Pelham Range was intended here rather than Range 23A.

2. Page 1-1, Section 1.1 - The statement is made that "Fort McClellan is under no obligation to conduct a formal Remedial Investigation/Feasibility Study (RI/FS)." No information is provided to support this conclusion. Nevertheless, EPA disagrees. For reasons cited below, additional investigation is needed at Range 23A. Further, an RI/FS is more appropriate than additional work as some form of Site Investigation (SI).

3. Page 1-1, Section 1.1 - The statement is made that "Because this is only a preliminary investigation, work was conducted according to the scope of work prepared by the Mobile District (COE) and not according to a formal U.S. Environmental Protection Agency (EPA) protocol." This causes EPA concern because:

   23. It does not follow formal EPA protocol, so without good justification, EPA can not approve it.
   24. It is contrary to the September 9, 1993, guidance from the Deputy Secretary of Defense in support of the President's July 2, 1993, five-part program in that no mention is made of the participation of the Alabama Department of Environmental Management (ADEM) or EPA, and that it is a study that leads to a study rather than to action.

4. Pages 1-2 - 1-4, Section 1.3.2 - The bulk of the discussion is on petroleum based fuels [total petroleum hydrocarbons (TPH)] that were used at the site with a minor discussion of the explosives that were also used at the site. The remainder of the report appears to be similarly balanced. While EPA is concerned about the petroleum products and their decomposition products, EPA is more concerned about the explosives and their decomposition products.

5. Page 2-4, Section 2.3 - The statement is made that "Sample sizes, types, and containers, as presented in Tables 2-3 and 2-4, generally conformed to the *Field Sampling Plan*. EPA questions use of the word "generally." What deviations, if any, were made and what were their likely effect?

6. Page 2-6, Section 2.5 - The statement is made that "The IDW containers remained at Range 23A during the sampling, and well abandonment. The containers were removed at the end of the sampling effort. The IDW containers were transported to the Forestry Compound at Pelham Range." On May 17, 2001, during a tour of Pelham Range, EPA identified 29 IDW drums at Range 23A with the date of "1-19-00." This raises two concerns:

   25. It is contrary to the statement made on Page 2-6, Section 2.5, of the subject report. Why the discrepancy?
   26. Have the contents of these drums been characterized? If so, what are the results? If not, they need to be characterized now. That information should be provided in the

subject report. EPA requests that this information also be provided separate from the report to EPA as soon as possible.

7. Problems experienced during the field sampling and laboratory analysis in the subject SI include:

Page 2-6, Section 2.6.1

27. Field decontamination procedures were modified in the field.

28. No rinsate blanks were planned for the field activities so no suitable VOC and SVOC containers were available for sampling the rinsate blank for the constituents.

29. A laboratory extraction problem was encountered.

30. Re-extraction and analysis of samples was done outside of holding times.

Page 4-2 et al, Section 4.2.2.1

31. The presence of contaminants was contributed to the use of a gasoline powered hand auger during field activities.

Page 4-5, et al, Section 4.2.3.1

32. The presence of contaminants was contributed to field contamination. What was the source of that contamination in the field?

EPA is concerned over the number and nature of these problems.

8. Page 4-9, Section 4.2.6.1 - EPA does not understand the logic of the statement that "Bromodichloromethane - - - was indicative of field contamination because it is used as an extraction solvent in the laboratory."

9. Page 5-1, Section 5.0 - The statement is made that:

The conclusions of this data evaluation process include the following:

33. Sediment samples indicate that the TPH contamination is migrating off of the training site.

34. Concentrations of nickel in the subsurface soils, copper in the surface water, and 1,3 Dinitrobenzene in the groundwater exceed comparison criteria.

The next two paragraphs discuss the offsite migration of TPH and mitigation measures recommended.

However, the next paragraph talks about the need for additional sampling and a risk assessment when the range becomes inactive to determine whether remediation is necessary. Even though these contaminants are in the surface water and ground water, no mention is made about offsite migration.

The point being that, as stated in Comment 4 above, the major emphasis of this report is on TPH which EPA considers important with a reduced emphasis on the explosives which EPA considers

more important.

10. This report indicates that contamination is present at Range 23A. However, the nature and extent of that contamination has not been characterized in the soil, sediments, surface water, or ground water. Questions that EPA has include:

35. At each location where a contaminant was measured, was that sample taken on: The leading edge of the contamination? The trailing edge of the contamination? A side edge of the contamination? The center of the contamination? How do you know?
36. What are the boundaries of the contaminated area in the soil, surface water, and ground water?
37. Is the contamination migrating? If so, at what rate, and in which direction?
38. What effect is the contamination having on the environment in the intermittent stream, wetland, and Cane Creek?
39. What risk does this contamination pose to human health and the environment?
40. What is the best remedial action for Range 23A?

These types of questions are best answered in a Remedial Investigation, Feasibility Study, and Baseline Risk Assessment (RI/FS/BRA) which EPA considers the next appropriate step at Range 23A. It is EPA's understanding that Range 23A is inactive; therefore, it is timely for that RI/FS/BRA to be conducted now.