



DEPARTMENT OF THE ARMY
HUNTSVILLE CENTER, CORPS OF ENGINEERS
P.O. BOX 1600
HUNTSVILLE, ALABAMA 35807-4301

November 16, 2006

REPLY TO
ATTENTION OF:

Design Center for Ordnance
and Explosives Directorate

Mrs. Brandi Little
Alabama Department of Environmental Management (ADEM)
Engineering Services Section
Governmental Hazardous Waste, Land Division
1400 Coliseum Boulevard
Montgomery, Alabama 36110-2059

Dear Mrs. Little,

This letter transmits one copy of the revised *Final Letter Report Site Characterization M1.01 Parcel and M3 Miscellaneous Properties, Ordnance and Explosive Response at Fort McClellan, Alabama*, October 2006.

This letter and transmittal has been forwarded to Mr. Jim Pastorick at UXO Pro (1 copy), Mrs. Lisa Holstein of the Ft. McClellan Transition Force (8 copies), and Mr. Art Holcomb of Tetra Tech, EC (letter and CD).

I certify under penalty of law that *Final Letter Report Site Characterization M1.01 Parcel and M3 Miscellaneous Properties, Ordnance and Explosive Response at Fort McClellan, Alabama*, October 2006, was prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If you require additional information, please contact the undersigned at (256) 895-1567 or e-mail Daniel.D.Copeland@hnd01.usace.army.mil.

Sincerely,

A handwritten signature in black ink, appearing to read "Daniel D. Copeland".

Enclosures

Daniel D. Copeland
Contracting Officer Representative



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
U.S. ARMY GARRISON
FORT McCLELLAN, ALABAMA 36205-5000

NOV 16 2006

Office of the Site Manager

Mr. Stephen Cobb
Governmental Hazardous Waste Branch, Land Division
Alabama Department of Environmental Management (ADEM)
P.O. Box 301463
Montgomery, Alabama 36130-1463

Dear Mr. Cobb:

Please find attached a letter from the Huntsville Center Corps of Engineers transmitting the revised *Final Letter Report Site Characterization M1.01 Parcel and M3 Miscellaneous Properties, Ordnance and Explosive Response at Fort McClellan, Alabama*, October 2006. The Army requests ADEM concurrence with the actions taken for the M1.01 Parcel and the M3 Miscellaneous Property, that is, a one foot clearance for munitions and explosives of concern (MEC) and construction support, for subsequent construction activities, as required by ADEM and as negotiated between the Army and the Anniston-Calhoun County Fort McClellan Development Joint Powers Authority (JPA). These actions are presented in the previously mentioned letter report and in the *Site Specific Final Report M1.01 Parcel and M3 Miscellaneous Property Fort McClellan, Alabama*, March 2003.

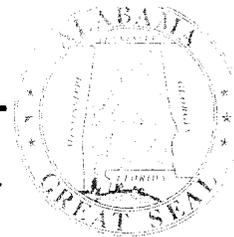
The Army performed a 1-foot clearance of MEC for the M1.01 Parcel and the M3 Miscellaneous Property (M1.01/M3 Miscellaneous properties) in 2002; and this action was documented in the *Site Specific Final Report M1.01 Parcel and M3 Miscellaneous Property Fort McClellan, Alabama*, March 2003. In response to meetings and discussions among the Army, ADEM, and the JPA, the Army conducted a clearance to depth of six grids in the M1.01/M3 Miscellaneous properties in December 2004 through January 2005 to demonstrate that the previous one-foot clearance was an appropriate remedy. No MEC items were found. Munitions debris items were found in five of the six grids, and all munitions debris was from training items. The clearance of six grids was documented in the *Final Letter Report Site Characterization M1.01 Parcel and M3 Miscellaneous Properties, Ordnance and Explosive Response at Fort McClellan, Alabama*, February 2005. During a meeting on April 8, 2005, the Army and ADEM agreed that construction support in the M1.01/M3 Miscellaneous properties would be sufficient to mitigate any potential risk involved in redevelopment of the properties. ADEM required JPA and the Army to determine a suitable level of construction support for the properties. The Army and the JPA negotiated the level of and the funding for this construction support, and the Army made the funding available through the Environmental Services Cooperative Agreement. The Army revised the letter report in October 2006 to include this construction support. The Army is seeking ADEM concurrence with the actions taken for the M1.01 Parcel and the M3 Miscellaneous Property as described in the March 2003 report and in the letter report as revised in October 2006.

If you have any further questions, you may contact Mrs. Karen Pinson at 256-848-6851 or E-mail karen.pinson@us.army.mil.

Sincerely,

Scott J. Bolton
Site Manager

Attachment



ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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ONIS "TREY" GLENN, III, P.E.

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January 19, 2007

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Field Operations: 272-8131
Laboratory: 277-6718
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RE: ADEM Review and Concurrence: *Final Letter Report Site Characterization M1.01 Parcel and M3 Miscellaneous Properties*; dated November 16, 2006
Fort McClellan, Calhoun County, Alabama
Facility I.D. No. AL4 210 020 562

Dear Mr. Bolton:

The Alabama Department of Environmental Management (ADEM or the Department) has reviewed Fort McClellan's *Final Letter Report for M1.01 and M3*. The October 2006 report was revised to include the Department's requirement of construction support for all present and subsequent construction activities in this area. ADEM has reviewed the subject document and concurs with it as written.

If you have any questions or concerns regarding this matter please contact Mrs. Brandi Little at 334-274-4226 or via email at blittle@adem.state.al.us.

Sincerely,

Stephen A. Cobb, Chief
Governmental Hazardous Waste Branch
Land Division

SAC/TPS/BCL/mal

cc: Mr. Doyle Brittain/EPA Region 4
Mr. Lee Coker/USA COE, Mobile District
Mrs. Tracy P. Strickland/ADEM
Ms. Karen Pinson/Army
Ms. Miki Schneider/JPA

POD JAN 26 07 4:11:40





13 November 2006
FWHN-FTMC-06-0041

Ms. Wanda Hampton
Contracting Officer
US Army Engineering and Support Center, Huntsville
P.O. Box 1600
Huntsville, AL 35807

Subject: Final Letter Report, Task Order 01, Site Characterization, M1.01 Parcel and M3 Miscellaneous Properties, Ordnance and Explosive Response at Fort McClellan, Alabama, Contract Number DACA87-99-D-0010.

Dear Ms. Hampton:

The following contains the details of the final letter report for this task order.

SITE LOCATION

Fort McClellan is located northeast of the City of Anniston, Calhoun County, Alabama. To the west are the areas known as Weaver and Blue Mountain. To the North is the City of Jacksonville. The Talladega National Forest is to the east of the post. Figure 1 shows the location of the M1.01 Parcel and M3 Miscellaneous Properties and the six grids that were sampled.

SITE HISTORY

The M1.01 Parcel and M3 Miscellaneous Properties were used by the Army as a maneuver area for training military personnel and as a corral and stable area for horses. The area was sampled in early 2000 by Zapata Engineering as part of the Eastern Bypass EE/CA. In 2002, Tetra Tech EC Inc. (formerly Foster Wheeler Environmental) and their subcontractor USA Environmental conducted a clearance to one foot over this area. The area received a statement of clearance from the U.S. Army Corps of Engineers, Huntsville and was transferred to the local Joint Powers Authority (JPA).

OBJECTIVE

The objective of this additional site characterization was to geophysically survey and intrusively investigate the six grids shown on Figure 1. The reason for conducting the sampling was to collect additional information requested by the Alabama Department of Environmental Management (ADEM) to determine if the clearance to one foot that was performed in 2002 was an appropriate removal action for the M1.01 Parcel and Miscellaneous Properties.



DISCUSSION

Tetra Tech ECI received a Request for Proposal (RFP) for the site characterization in the M1.01 Parcel and M3 Miscellaneous Properties and a revised Statement of Work (Attachment A) for Site Characterization at Ft. McClellan. The Site Specific Work Plan was prepared and submitted, and on December 8, 2004 a Notice to Proceed with non-intrusive work was provided. The Notice to Proceed with intrusive work was granted on December 15, 2004. The characterization was completed on January 13, 2005.

The six grids were chosen by the JPA and ADEM during a meeting that was held in October 2004. The grids selected were: D05, D41, E29, G20, G24, and G64. Field work began with the location survey, to locate the six grids, and the brush clearing of the grids to allow for a proper geophysical survey. During this first phase it was determined that one grid, E29 could not be completely surveyed due to the presence of standing water in approximately half the grid. ADEM was contacted and after a brief meeting in the field between ADEM, the Army, and TTEC management it was decided that a portion of Grid E50 would be cleared adjacent to E29 to make up for the area of E29 that could not be sampled. Before starting the geophysical survey, the geophysical survey team conducted an equipment validation in the TTEC geophysical test plot. This data is available on the CD that accompanies this report.

Once the TTEC geophysicist had processed and ensured the validation data was within acceptable parameters, the team began collecting geophysical data within the six grids. The team used the EM-61 Mk II to collect the geophysical data and the Constellation Laser Positioning System (CLPS) to collect location data. Geophysical data was processed by the site Geophysicist. Dig sheets were produced along with geophysical maps of each grid for the intrusive teams to use. Raw and processed geophysical data is provided on the CD that accompanies this letter report. The dig sheets and geophysical maps are included in Attachment C.

Reacquire was performed using two methods for this task order. The first method consisted of using tape measures to measure the distance from the known corner stakes to the selected anomaly location. The second method involved the use of the Vulcan Laser Positioning System. Both a Schondstedt Cx-52 and Vallon VMX series hand held instrument were used to help pin point the anomaly location. Pin flags were used to mark the location. Each flag was labeled with the grid number and anomaly number in permanent ink.

Intrusive activities began in the three G grids located south of Summeral Gate Road and then moved to the three grids north of the road. Hand tools, a backhoe, and mini-excavator were used to investigate anomalies within these grids. Intrusive results are included in Attachment B and are discussed in the Findings section below.

Product Quality Control (QC) was performed using a MIL-STD 1916 approach while process QC was conducted using the three phase process as described in the Final Site Specific Work Plan for this task. The six grids were considered one lot that contains a total of 120 lanes, of which 32 lanes were randomly selected and were geophysical surveyed using the same procedures and equipment used for the initial survey. Each grid has 20 lanes and they were number as follows; D05 (Lanes 1-20), D41 (lanes 21-40), E29/50 (lanes 41-60), G20 (lanes 61-

80), G24 (lanes 81-100), and G64 (lanes 101-120). Table 1 shows the grids and lanes that were selected for sampling under this plan. All data was processed by the Project Geophysicist and the selected anomalies were intrusively investigated. Final QA acceptance sampling was conducted with no withholds being noted. A DA Form 948 was issued indicating the entire area had passed government QA sampling on January 13, 2005. The raw and processed QC data is also on the CD that accompanies this letter report, with the dig sheets and geophysical maps being presented in Attachment C.

Table 1
QC Lanes Selected for Sampling

Lane Assignments						
Grids:	D05	D41	E29/50	G20	G24	G64
Lane	1	28	42	61	85	108
Lane	11	30	48	69	88	110
Lane	14	35	57	71	90	111
Lane	20	37	60	72	92	115
Lane		39		73	93	117
Lane				80	95	120
Lane					97	

FINDINGS

Within all six grids large amounts of Non Munitions Debris was found and in each grid Munitions Debris was found that was consistent with the type of items found during the previous EE/CA and one foot clearance. No munitions related items were found that were inconsistent with the findings during the Archives Search Report, EE/CA and one foot clearance. A break down of items found within each grid is located in Attachment B. A brief summary of the munitions related findings by grid is provided below.

- In grid G20 several pieces of galvanized fence pipe at depths from 14” to 36” were recovered that had been marked with “60mm” and a serial number (12, 15, etc.). This caused a minor delay while all parties involved with this task order determined the origin of these pipes. It was determined that the pipes were part of a geophysical test grid used by Zapata Engineering in 1999 for a geophysical prove out as part of the Eastern Bypass EE/CA. Three (3) 60mm training mortars were also found at 12”, 13” and 20” deep. These were training mortars that contain no explosive hazard and are classified as munitions debris (MD).
- In grid G24 one partial illumination type rifle grenade was located at 3”. This item was expended and contained no energetic or pyrotechnic filler and was classified as MD.
- In grid G64 two (2) rifle grenades were found, one was an illumination round at 12” the second was a smoke round at 6”. Both items were expended and contained no energetic or pyrotechnic filler and were classified as MD.
- In grid D05 no MD was located.

- In grid D41 four (4) 2.36” M7 Practice Rockets at 3”, 4”, 10”, and 18” were located. Two (2) of the four rockets were perforated to confirm that they were practice. The items were practice rockets. None of the 4 rockets contained energetic material or pyrotechnic filler and were classified as MD.

- In grid E29/50 one practice rifle grenade was located 14”. This item was expended and contained no energetic material or pyrotechnic filler and was classified as MD.

The Archive Search Report (ASR) has information that this particular area was used during the early 1900’s as a stable and corral for horses. During the one foot clearance large amounts of horseshoe nails and similar small metal was reported. During this additional characterization large areas of these nails were identified in all 6 grids and required mechanical excavation to clear. The geophysical maps provided in Attachment C show the large areas of heavy concentrations and photographs are provided in Attachment E that show the size of these nail pits.

Table 2 gives a brief summary of the pounds of MD and Non-MD located within the six selected grids.

Table 2
Pounds of MD and Non-MD per grid

	NON-MUNITIONS DEBRIS	MUNITIONS DEBRIS
D05	172	0
D41	110	6
E29/50	96	1
G20	106	26
G24	203	1
G64	142	5

These totals include ALL anomalies: Mapped and Mag and Dig (Regular and QC)

As described in the work plan, the assigned UXOQC randomly selected anomalies that had been identified as “No-dig” anomalies by the site geophysicist and changed them to “Dig” anomalies. Table 3 below shows these anomalies and what was located when these items were investigated.

**Table 3
No-Dig Anomalies Selected for Sampling**

Target ID	Grid	Priority	Geo Comments	MEC Item?	Item Description/Comment
154	D05	no dig,	small-noise	N	nails @ 2"
172	D05	no dig,	small-noise	N	no find
182	D05	no dig,	small-noise	N	6" wire @ 2"
215	D05	no dig,	data gap	N	no find
130	D41	no dig,	data gap	N	no find
55	E29/50	no dig,	small-noise	N	nail @ 10"
71	E29/50	no dig,	data gap	N	no find
113	G20	no dig,	small-noise	N	m5 mousetrap
114	G20	no dig,	small-noise	N	no find
115	G20	no dig,	small-noise	N	no find
151	G24	no dig,	grid corner	N	corner stake
156	G24	no dig,	small-noise	N	1.5"x4" metal @ 7"
178	G24	no dig,	small-noise	N	nails@ 6"
191	G24	no dig,	small-noise	N	no find
123	G64	no dig,	small-noise	N	3"x2" metal@ 2"
126	G64	no dig,	small-noise	N	6" nail @2"
127	G64	no dig,	small-noise	N	2"x4" metal @2"
139	G64	no dig,	small-noise	N	2" nail @ 2"

During the QC process no items were recovered that met the criteria for a QC rejection condition. All 6 grids were turned over for government QA inspection and subsequently passed the government QA inspection on the first inspection on January 13, 2005. A full list of items recovered during QC sampling can be viewed in Attachment B. The governments QA report is in Attachment F.

CONCLUSION

Six grids in the M1.01 Parcel and M3 Miscellaneous Property were chosen by JPA and ADEM for geophysical mapping and intrusive investigation. The objective of this sampling was to determine if the one foot clearance performed in 2002 was the appropriate response action for this area. The findings of this sampling showed no UXO or evidence of UXO, i.e. fragmentation, in any of the grids. Munitions debris was found in five of the six grids. Four munitions debris items were located below 12". Most important to note from this sampling were that all of the munitions related items found were training items. The original conceptual site model defined this area as a training area. To date, with the exception of the one 60 mm HE mortar, all items found during the initial clearance and the resampling have been items associated with training activities.

The important facts to note about the sampling results are outlined below:

- 1) The purpose of any ordnance clearance is to remove items that are dangerous to the public welfare, not to remove scrap metal. None of the items found during this sampling contained an explosive hazard.
- 2) There were over 3100 items removed from these six grids during the previous one foot clearance and this sampling. To find 7 items that met failure criteria in the top foot shows that the initial one foot clearance discovered 99.8% of the items in the top foot. Although 100% is always the goal, it is well understood in the UXO industry that current technology does not allow for 100% clearance.
- 3) The grids selected for this sampling were the most heavily contaminated grids during the one foot clearance. Logically, the probability of finding missed items would be greater in these grids.
- 4) The original decision to clear to one foot was based on the past history (as described in the ASR), the results of the one foot clearance performed along Summerall Gate Road and the Flying J, the Clearance to Depth performed in the M2 Parcel, and the probable depths of penetration of the practice items that could be found. Four items were found below the one foot depth. Two of these items, the rifle grenade and the M7 practice 2.36" rocket are direct fire weapons and the possibility of these penetrating below one foot is very minute. While the 60 mm training mortars are indirect fire weapons, the propellant charges used for training typically are not of sufficient quantity to allow for deep penetration. The purpose of these training mortars is to allow those firing them to see where they land. While a limited number of the training mortars may have penetrated below one foot, it is more likely that any of these items found below one foot are there as a result of soil movement or the accumulation of leaf detritus over the 50 or more years since their firing.

Based on the discussion above, the Army believes that the one foot clearance previously performed on the M1.01 Parcel and the M3 Miscellaneous Property was an appropriate response action and the original conceptual site model is valid. No further clearance is recommended; however, for any subsequent construction activities in the M1.01 Parcel and the M3 Miscellaneous Property the Army is providing construction support throughout the M1.01 Parcel and M3 Miscellaneous Property as required by ADEM and as negotiated with the JPA. The property is still considered safe and may be used for any purpose for which the land is suited.

All attachments and both the raw and processed QC data are provided on the CD that accompanies this letter.

Should you require additional information, please contact Todd Biggs, Task Order Manager, or me at (256) 820-7904.

Sincerely,



Arthur B. Holcomb, P.E.
Vice President

Enclosures:

Figure 1 – M1.01 Parcel and M3 Miscellaneous Properties

Attachment A – Statement of Work

Attachment B – B1 – Intrusive Results

B2 – QC Intrusive Results

Attachment C – C1 – Geophysical Dig Sheets

C2 – Geophysical Maps

C3 – Geophysical QC Dig Sheets

C4 – Geophysical QC Maps

Attachment D – D1 – Daily SUXOS Report

D2 – Daily QC Reports

D3 – DA Form 948s

D4 – Intrusive Team Field Logs

Attachment E – Photographs

Attachment F – Government QA Report

CF: Mr. Dan Copeland, US Army Engineering & Support Center, Huntsville
Dr. John Potter, US Army Engineering & Support Center, Huntsville
Ms. Suzanne Murdock, US Army Engineering & Support Center, Huntsville
Mr. Ron Levy, US Army Garrison, Fort McClellan Transition Force
Ms. Lisa Holstein, US Army Garrison, Fort McClellan Transition Force