



U.S. Army Corps of Engineers
Mobile District

CESAM-EN-GG

13 October 2003

**MEMORANDUM FOR EN-GE & EN-GG (Doug Webb; Ellis Pope, PE; Ed Herman, Chief EN-GG; John N. Baehr, PG; & Ross McCollum, PG)
THRU: EN-GG (Damon M. Young)**

SUBJECT: Removal Action at LaGarde Park, Phase II.

1. **LOCATION:** Anniston, Alabama
2. **CONTRACT NO.:** DACA01-01-D-0007
DELIVERY ORDER NO.: 0009
3. **PREPARED FOR:** U.S. Army Corps of Engineers-Mobile District (USACE-Mobile)
4. **ATTENDEES:** Solutions To Environmental Problems, Inc. (STEP)
Explosive Ordnance Disposal Technology (EODT)
MHF Logistical Solutions (MHF)
Damon Young, Geologist, USACE-Mobile District
5. **PURPOSE:** For the continued removal of all contaminated areas exceeding the Nuclear Regulatory Commission (NRC) Residential Surface Soil Screening Levels and areas three-times background (6,040 counts per minute) levels of Cobalt⁶⁰ and Cesium¹³⁷.
6. **DISCUSSION:**

General

Overall: The U.S. Army Corps of Engineers, Mobile District (USACE-Mobile) contracted Solutions To Environmental Problems, Inc. (STEP) to perform a removal action of radioactive material at LaGarde Park in Anniston, Alabama. The initial removal consisted of approximately 30yds³ of radioactive contaminated soils, confirmation/closure sampling, transportation and disposal of radioactive waste, and restoration of the site. The original site investigation revealed several areas within the "hot spot" zone from soil and tree root samples with the presence of Cobalt⁶⁰ and Cesium¹³⁷. Due to the known levels above the derived concentration guideline levels (DCGL), the Alabama Department of Public Health requested that all soil be excavated and removed. For the removal action, contaminated areas exceeding the Nuclear Regulatory Commission (NRC) Residential Surface Soil Screening Levels and areas three-times background (6,040 counts per minute) were excavated and placed in approved storage containers (i.e. IPI-90-SC, Gasket Sealed, 12-Gauge Carbon Steel, 90 ft³), for shipping offsite (see Figure 1).

During the initial removal action USACE and STEP determined that 13 boxes were not enough to complete the project. During the second phase of the removal action, STEP disposed of 15 out of 28 carbon steel boxes. USACE and STEP determined that the area below ground surface consisted of higher amounts than originally anticipated. Because of this the removal action has been currently postponed pending further study of the site. The 13 remaining boxes have been left inside the fenced in area of the park and will remain there until disposal at a later date and time.

During the process of shipment, USACE and STEP decided to dig a few test pits. During this, STEP's crew uncovered an old metal trashcan full of broken glass and vials. All of the vials had been opened (i.e. previously before burial) and several blue tops were found next to the trashcan. USACE determined that these vials did not fit the description of chemical warfare material (CWM) used in training exercises at the former chemical training school of Ft. McClellan. The glass and surrounding soil did not register above background levels with the survey meter. STEP sent a sample to the lab to see if any residue may be found on the broken glass.

USACE was able to obtain several Ariel photographs from the Ft. McClellan Transition Force (TF) office that pertained to the original site. These photos dated from 1954, 1961 and 1969 provide an approximate size of the assumed training/burial site. These figures are listed in the Conclusions and Recommendations.

Weather: Mostly sunny with temperatures in the upper 80's to lower 90's. During the working day the humidity and temperature combination did not reach levels to hinder operations.

Safety and Health

In general, safety and health procedures were followed during the reporting period as per the Site Specific Safety and Health (SSSH) Plans for the site listed above. The onsite engineer also known as the SSSH officer EODT personnel regularly monitored the job site. The STEP SSSH officer/engineer established an exclusion zone around the indicated area at the start of each day's work. The SETP SSSH officer/engineer performed a safety briefing to each individual working with in or surrounding the exclusion zone. Each excavated zone was monitored for low-level radioactive waste (LLRW) by a certified health physicist (CHP). The STEP CHP used a gamma scintillater probe (Ludlum Model 44-10) and a Micro "R" Meter (Ludlum Model 19) to perform excavation surveys and monitor onsite levels.

Field Activities

22 Sept 2003 (Mon.): STEP and EODT crew mobilized onsite. Crew unloaded all boxes for the second phase of the removal action. Rain set in for the afternoon and crew decided to come back tomorrow and check the ground surface.

23 Sept 2003 (Tues.): STEP decided to return on Sunday, 28 Sept 2003. Ground surface is too saturated to excavate. Additional weight from the water will hinder shipping operations and prices.

28 Sept 2003 (Sun.): STEP and crew mobilized onsite and moved boxes up to the top of the hill to begin operations in the morning.

29 Sept 2003 (Mon.): STEP and crew began excavating on all locations. Given each area is potentially contaminated with limits above NRC, crew will not concentrate on one particular area. Crew has excavated to depths below that of the backhoe. Crew benched off the slopes to provide access deeper removal. Excavated pits reached as much as 15 feet bgs. (see Figures 2 and 3).

30 Sept 2003 (Tues.): Crew continued with removal of soil from all locations. USACE instructed STEP to move further upgradient from all digging locations. Crew excavated approximately 6 feet bgs. with readings at or above 18K counts per minute. This suggests a much larger area than originally anticipated (see Figure 4). Crew has completed filling all 28 boxes. STEP was notified that all boxes are to remain inside the fenced in area until shipment. Crew will have to move one box at a time down the hill to load on the trucks.

1 Oct 2003 (Wed.): USACE and STEP met with TF-Scott Bolton on storage of boxes down hill on the side of Sumerall Gate Road until the trucks arrive. USACE contacted E. Pope to discuss this issue. USACE E. Pope and D. Webb agreed for shipping purposed only could STEP leave at the road. USACE notified STEP of agreement and also to leave any remaining boxes not shipped within the fenced area of the site.

2 Oct 2003 (Thurs.): USACE and STEP decided to dig a few test pits while waiting for the trucks to arrive. During this STEP crew uncovered an old metal trashcan full of broken glass and vials. All of the vials were opened and several blue tops were found next to the trashcan. USACE determined that these vials did not fit the description of CWM. The glass and surrounding soil did not register above background levels with the survey meter. STEP sent a sample to the lab to see if any residue may be found on the glass. USACE instructed STEP and crew to fill the open pits with contaminated soil, move as much clean soil from surrounding surface to fill in the area and set up several silt fences to prevent washing of possible surface contamination downgradient (see Figure 5).

* Note: USACE-Employee D. Young ran a UXO gate accidentally. USACE notified Foster Wheeler Safety of the incident. USACE then made a physical appearance and apology to the Safety director and Supervisory Unexploded Ordinance Officer (SUXO). Both agreed it happens onsite, just to pay attention and call next time. USACE notified Project Manager E. Pope.

7. FIGURES:



Figure 1: IPI-90-SC, Gasket Sealed, 12-Gauge Carbon Steel, 90 ft³.

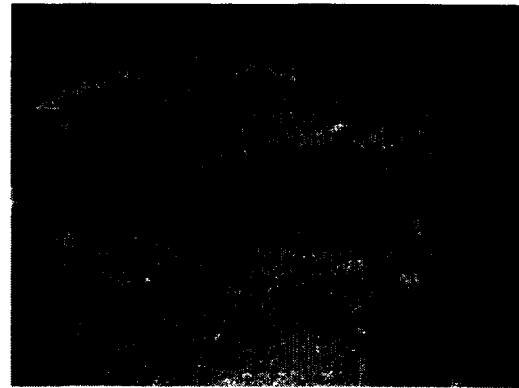


Figure 2: Open pit at locations R-10, R-11 and R-12.



Figure 3: Down hole view of locations R-10, R-11 and R-12.



Figure 4: Test pit, located upgradient of R-1 with counts per minute at or above 18K.

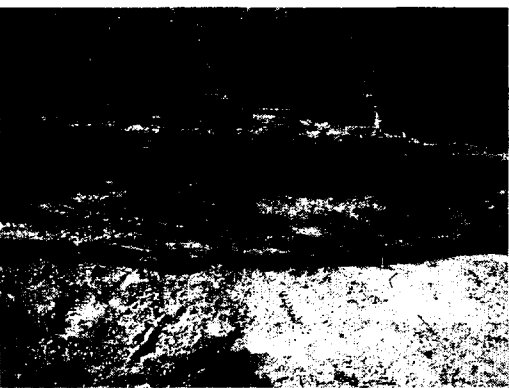


Figure 5: Area 1 after excavation process with requested silt fences.

8. CONCLUSIONS AND RECOMMENDATIONS:

- ✓ Although levels of contamination were not reduced in all locations, activities were a success.
- ✓ STEP and crew will wait until additional funds can be obtained to move remaining boxes offsite.

USACE personnel continued with an inquiry on Thursday, 9 Oct 2003. Following a safety meeting with Foster Wheeler, SHAW, JPA and TF team, USACE viewed several Aerial Photographs of Area 1 within LaGarde Park. These photographs give a good indication that the actual site was approximately 0.75 acres to 1-acre in size. This would include almost the entire fenced in area of the site. Photographs taken in 1954 do not show any indication of a disturbed area within the now LaGarde Park. However a road leading up to the site can be seen (see Figure 6). Photographs taken in both 1961 and 1969 show the site in plain view from above (see Figure 7 and Figure 8).



LOCATION NOT PRESENT in 1954
HOWEVER THE ROADWAY LEADING
UP TO THE CURRENT SITE
IS PRESENT.

SITE APPROXIMATELY 180 FEET
FROM ROADWAY

SITE STILL
SEEN IN 1969,
7 YEARS BEFORE
TRAPPING OVER
TO THE CITY
OF ANNISTON



Figure 8: 1969 Aerial Photograph.

Given the previous history and surroundings of the proposed training/burial site, it is possible soil within the entire area may be contaminated above NRC limits. USACE-Geologist, D. Young investigated further into the open pits. The soil is a CH material and appears to be natural. Several desiccation cracks can be seen in filled with an SC material (i.e. topsoil). This could be a reliable theory as to how the contamination got in to the clay. As the crew would extract material from within the pits, it would only radiate at or below background levels. This could mean contamination is further below ground or due to the surrounding geometric shape of the pit (i.e. combination of sidewall and bottom radiation). Several of these desiccation cracks can be seen throughout the clay (see Figure 9).

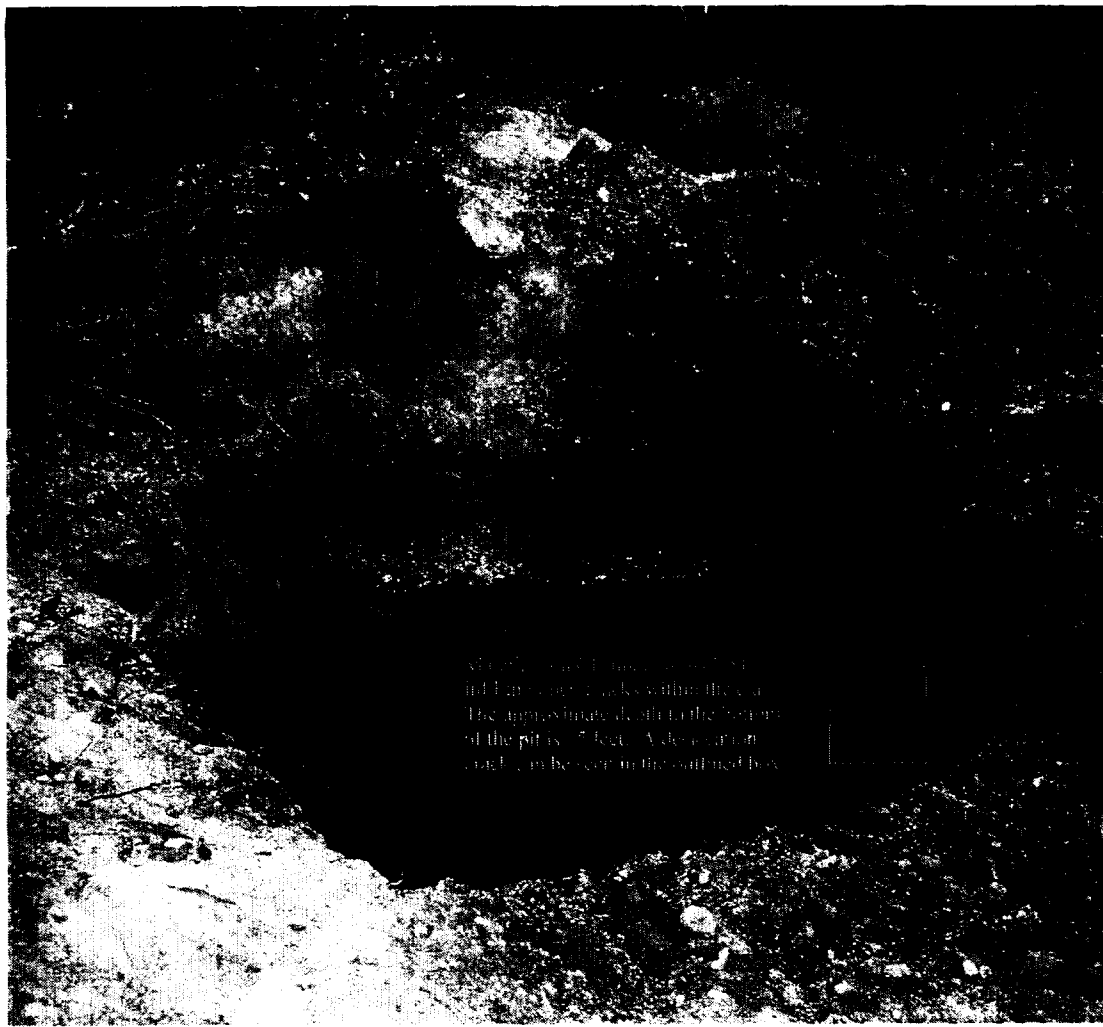


Figure 9: Desiccation cracks seen within the sidewalls of the open pits (hard to see, could not get a good view due to depth of hole).

Another possible but unlikely theory is the material was at one time used as shielding for a former burial site. This is unlikely due to the clay appears to be natural or undisturbed. Several indication from the State and local authorities have given rise to this, however there is no physical evidence of this and all information is circumstantial.

Note: This report of strictly for a compilation of field notes from COE messenger. All recommendations and comments are primarily opinionated except for those indicated as "*". Recommendations and Conclusions were made after several questions and comments from various personnel. For an actual record of events and data, the contractors (STEP) notes and final report should be reviewed.

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