FINAL

SPRING VALLEY

Partnering Meeting
Baltimore District, US Army Corps of Engineers

MEETING MINUTES

PURPOSE OF MEETING: Sampling Strategy Meeting

LOCATION: Baltimore District, US Army Corps of Engineers

DATE: April 18, 2001

TIME: 10:00 a.m. – 4:30 p.m.

Action items are *underlined and italicized*.

1. WELCOME/INTRODUCTION

CPT Peloquin provided the overview of the purpose of the meeting.

2. ENVIRONMENTAL SAMPLING

2.1 Develop General Chemical List

Lan Reeser stated the sampling will focus on the chemicals that were field tested based upon the Mark Baker, CENAB SV historian, and Jeff Smart, CBDCOM historian lists. Mark and Jeff were both involved in the early stages of the SV project reviewing the historic record. By field tested chemicals it is meant chemicals that were tested either for dispersion or persistency and the chemicals breakdown products. Precursors to these chemical agents are not included. Mr. Reeser stated that the USACE design team had just learned of a second Baker list that identifies chemicals that were loaded into 75 mm and 3" shells for testing at AUES. *The second Baker list will be reviewed to determine if additional chemicals need to be added to the proposed sampling plan.*

Ray Livermore summarized the sampling plan. Ed Bishop questioned the sampling of only two composites for lots outside of the CTA. The concern is the two composites will not have the

same statistical power to make decisions as the current process. *Parsons will evaluate the sampling protocol to determine what needs to be done to have approximately the same statistical power. CPT Peloquin also asked the effect of sampling compositing per the EPA's Soil Screening Level method over the CENAB method, i.e., two half lots.*

The lists were reviewed and discussed. Within the CTA every property will be sampled with quadrant sampling and one boring. Samples will be analyzed for arsenic. Within the CTA, properties within a specific POI will be analyzed for additional analytes at the 1918 level. For Sampling Plan 1 (POIs 7, 15,16,19) Harry Harbold recommended expanding the list of CWM related items for the subsurface sampling. Ed Bishop recommended deleting phosgene from the list since it is a gas. Drew Rak recommended removing carbon tetrachloride from the list. Harry Harbold and Rich Albright agreed with both recommendations. There was a discussion of sampling for Adamsite and Lewisite and associated breakdown products at specific POIs. These will be sampled for at these POIs. *Adamsite and any breakdown products will be researched*.

Within the CTA Sampling Plan 1, delete

- Chlorobenzene (volatile)
- Phosgene (gas)
- Carbon Tetrachloride (volatile)

Within the CTA Sampling Plan 2/3, delete

- Phosgene (gas)
- Chlorine (gas)
- Arsine (gas)
- Phosphorus (ubiquitous)
- Arsenic trioxide (use arsenic as indicator)
- Chloropicrin (volatile)
- Stannic Chloride (fairly innocuous)
- Diphenychloroarsine (use arsenic as indicator)
- Magnesium Arsenide (use arsenic as indicator)
- Chlorobenzene (volatile)
- Ethyl Mercaptan (odor would be obvious if compound present)
- Butyl Mercaptan (odor would be obvious if compound present
- Sodium Cyanide (use cyanide as indicator)

Within the CTA Sampling Plan 2/3, add

- Explosives and explosive breakdown products (*Parsons to supply*)
- Lewisite ABPs
- Adamsite and ABP

Within the CTA Sampling Plan 2/3, review (with respect to their chemical and physical properties)

- Carbon disulfide, carbon bisulfide (*determine if these are the same compound*)
- Bromoacetone
- Xylyl bromide

This results in the following lists for analytes:

List 1

- Arsenic
- Mustard
- Mustard ABP (Oxithiane, dithiane, thiodiglycol)

List 2 (Agents)

- Arsenic
- Mustard
- Mustard ABP (Oxithiane, dithiane, thiodiglycol)
- Lewisite ABP
- Adamsite and ABP (TBD)
- Hydrocyanic acid (ICP)
- Cyanogen chloride (ICP)
- Cyanide
- Carbon Disulphide

List 3 (Explosives and explosive breakdown products) *(Parsons to add to this list based upon the standard explosive list). DC Health will research the use of other explosive compounds, such as RDX.*

- Arsenic
- Tetryl
- Trinitrotoluene (TNT)
- Nitroglycerin
- 2,4 dinitrotoluene (2,4-DNT)
- 2,6 dinitrotoluene (2,6-DNT)

2.2 Develop list of additional sampling locations

The lists were then applied to the POIs. POI boundaries will be based upon the latest EPIC review.

POI	List	Notes
16	List 2	Borings will be placed at the center of each patch. This POI area will be extended per the revised EPIC review. Now named POI 16R.
19	List 1	
15	List 2	This POI area will be extended per the revised EPIC review. Now named POI 15R.
7	List 2 List 3	
13	List 2 List 3	
39	List 2 List 3	
38	List 3	Arsenic or other indicator of Adamsite
17		Potential dump area at end of ravine (truck turnaround), outside of the CTA. 2 composite arsenic samples per lot. Possible Geophysical investigation?

3. BASEMENT OF 4825

Air monitoring may be accomplished in 4825 basement during the Test Pit evaluation. Samples will be analyzed for a list TBD. *This will be evaluated by USACHPPM*. Rich Albright suggested arsine, acids (sulfuric, hydrochloric), chlorine, VOCs and SVOCs, mustard agent, mustard and lewisite ABPs. Drew Rak suggested, and Rich Albright agreed, that the detection limits of this type of analysis need to be identified before any sampling occurs to see if they would even be meaningful from a risk assessment standpoint.

4. PITS AND TRENCHES

4.1 Objective: ***Chris Evans (CENAB) led the discussion***

Locate areas that may need a re-evaluation for possible pit/trenches.

Match the geophysical survey with sampling to minimize impact on residents.

4.2 Assumptions

Focus is pits/trenches. Single item UXO items are not a concern

EPIC identified ground scars indicate potential burial sites

Overlapping ground scars (multiple years) indicate a highly suspect area

Stressed vegetation in a previous ground scar is also suspect

Cut/fill has an impact on prioritization

EM-31 is sufficient to locate pits/trenches

4.3 Recommendations

Priority 1 – Overlapping ground scars in undisturbed area (cut/fill ± ≤ 4').

Priority 2 – Overlapping ground scars in disturbed area (cut/fill: 4' < cut ≤ 10', 4' < fill ≤ 12').

Priority 3 – Ground scar and later stressed vegetation or single 1918 ground scar in in undisturbed area.

Priority 4 – Ground scar and later stressed vegetation in or single 1918 ground scar in disturbed area.

Priority 5 – Single ground scar (post 1918) in undisturbed area.

Priority 6 – Single ground scar (post 1918) in undisturbed area (cut/fill ± ≤ 4').

No further action

No ground scars

Cut > 10'

Fill > 12'

Note: Cut and fill refers to the ground scar or stressed vegetation, not the entire lot.

4.4 Procedure

Identify lots for geophysical data review (original EM-31 data). Review the 1993 EM-31 data. Does the data look adequate? Are there any identified anomalies? Were the anomalies addressed by the anomaly review board (ARB)?

Identify lots for new geophysical survey. Additional geophysics will be recommended if the above discussed review indicates additional data is required.

All lots will be prioritized per the above prioritization scheme. Additional surveys will accomplished base upon the prioritization.

4.5 Review Zone 1 Report

Chris Evans discussed the results of Zone 1. Marianne Cardwell stated the prioritization can be accomplished automatically using the GIS. This may also include inputting the anomalies. *Terry Slonecker will have his contractor identify the ground scars and stressed vegetation areas in all zones. Parsons will write an Arc script to automate the prioritization process. Chris Evans will proceed with the second phase of the process, evaluating the ARB reports.*

5. DISCUSSION OF OTHER ISSUES

There was a discussion about analyzing for SVOCs and VOCs in general. The partners agreed that these should not be investigated except for specific locations of potential burial in close proximity to AU. The intent is not to spend money unnecessarily where there is no real potential for, or the likelihood of finding, these compounds. Exceptions would be site specific, for example the POI 17 truck turnaround area.

Sampling will begin in Zone 1 or other areas where EPIC has identified ground scars and stressed vegetation. *Soil gas information received by DCEHA from the Gore Sorber company will be compared to the list received last year by CENAB from the same company.*