



# THE MEMPHIS DEPOT TENNESSEE

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## ADMINISTRATIVE RECORD COVER SHEET

AR File Number 264

MEETING MINUTES

BASE CLEANUP TEAM

BRAC AND SCREENING SITES DATA EVALUATION WORKSHOP

October 15-16, 1997

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**MEETING MINUTES  
BASE CLEANUP TEAM  
BRAC AND SCREENING SITES DATA EVALUATION WORKSHOP  
October 15-16, 1997**

**In Attendance**

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**Abbreviations**

GU = Greg Underberg	DS = Dann Spariosu	GK = Glenn Kaden
JE = Jordan English	TT = Terry Templeton	SP = Shawn Phillips
JS = Julian Savage	VM = Vijaya Mylavarapu	SB = Scott Bradley
RT = Ramon Torres	DR = Dorothy Richards	KM = Karen Moran

**Acronyms**

ASAP	as soon as possible
BCT	Base Cleanup Team
RBC	Risk Based Criteria
UCL95	95% Upper Confidence Limit
µg	microgram
mg	milligram
kg	kilogram
ng	nanogram
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CEHNC	U.S. Army Corps of Engineers, Huntsville.
PCB	polychlorinated biphenyl
PRE	Preliminary Risk Evaluation

TBD to be determined  
FOSL Finding of Suitability to Lease

### Action Items

Action Items from October BCT Meeting		
Action Item	Responsible Party	Date
Perform surface soil sampling at Parcel 26.1.	CEHNC/CH2M HILL	TBD
Change text in EBS: Descriptions for Parcels 27.1 and 27.2 are reversed.	DDMT	TBD
Evaluate statements that acetone was stored outdoors in Parcel 31.	DDMT	TBD
Additional soil sampling at Parcel 31.	CEHNC/CH2M HILL	TBD
Perform additional soil sampling in Parcel 33.9	CEHNC/CH2M HILL	TBD
Confirm that Building 835 was not fumigated and, if appropriate, remove the statement from the EBS.	DDMT	TBD
Change database to indicate that Site 81 is in Parcel 33 not 24.	CH2M HILL	ASAP
Change EBS so that Parcel 33.7 includes Building 765.	DDMT	TBD
Sample indoor battery recharge operations area within Parcel 33.8.	CEHNC/CH2M HILL	TBD
Correct chlordane residential RBC	CH2M HILL	ASAP
Evaluate feasibility of air sampling in Building 925 and, if necessary, propose alternate building for air sampling.	DDMT/CH2M HILL	Before start of air sampling.
Submit dieldrin technical memorandum for review by BCT members.	CH2M HILL	11/14/97

### Parcel 21.1, Building 690

GU: Based on the category changes provided in the September 1996 revision of the CERFA categories and the documentation that there has not been a release in the building, the CERFA category changes from a 2 to a 1 for Parcel 21.1, Building 690.

### Parcels 21.2 and 21.3

GU: Parcels 21.2 and 21.3 remain as the previous category which is 4.

**Parcel 21.4, Building 685**

SP: Parcel 21.4, Building 685, will remain a Category 4 but the status from the environmental baseline survey will be updated to reflect that the staining on the floor and any acid releases have been neutralized, and the neutralizing agent is going to be cleaned out prior to leasing. No CERFA category change for Parcel 21.4. Table 5.1A will be updated from the EBS.

**Parcel 21.5, Grassy Areas in Parcel 21**

GU: Parcel 21.5, which is the grassy areas in Parcel 21, has dieldrin that exceeds BCT criteria as well as numerous PAHs. Therefore, it will remain as a Category 7.

**Parcel 22.1**

GU: Parcel 22.1 will remain a CERFA Category 7 due to detections of PAHs above screening criteria.

**Parcel 22.2**

GU: Parcel 22.2 includes exceedances of PAHs and dieldrin.

**Parcel 23**

GU: Parcels 23.1 through 23.5 remain as Category 1. There was no additional data collected, and they are clean buildings. For Parcel 23.6, the category is being changed from a 7 to a Category 3 which indicates that it is an area where release disposal and migration have occurred, but concentrations do not require removal or remedial action. There are detections above background, but none that exceed screening criteria.

**Parcel 23.7**

GU: Parcel 23.7 consists of Buildings 783, the igloos. There are elevated concentrations of arsenic and total dioxins at or just above criteria. The decision was to leave it at a CERFA Category 7.

**Parcel 23.8**

GU: Parcel 23.8 is the other igloo building. Due to arsenic exceedances there, that parcel will remain as a Category 7.

**Parcel 23.9**

GU: There was a gasoline spill here. However the sampling data does not indicate that there was an impact that required any action. Therefore, the area is CERFA Category 3.

**Parcel 23.10**

GU: There is one sample, A23.10, that contains slightly elevated dieldrin, but it is not above the residential criteria. Therefore, the CERFA Category remains at Category 3.

**Parcel 24.1**

GU: Due to vanadium detection and elevated PAHs in sample locations on the western edge along the railroad, the parcel remains a Category 7.

**Parcel 24.2**



GU: For Parcel 24.2, the Category remains at 7 due to one elevated concentration of arsenic at Site B24.2. This concentration is four times the BCT criteria.

**Parcel 24.3**

GU: Parcel 24.3 contains an RI site, Site 34. Sampling at that site indicated elevated levels of arsenic, lead, chromium, benzo(a)pyrene, and other PAHs which all above BCT criteria. Therefore, the parcel remains Category 7, pending the outcome of the RI.

**Parcel 26.1**

GU: For Parcel 26.1 there was no surface soil data collected, just subsurface soil data. The recommendation by the BCT is to leave the parcel at a Category 7, and perform some additional surface soil sampling biased to the areas where waste handling would have been expected.

**Parcel 26.2**

GU: Parcel 26.2 had the release of some petroleum products as indicated in the EBS. The Category then will change from a Category 7 to a Category 2.

**Preliminary Risk Evaluation****Group Discussion**

GU: The PRE will be performed on a site basis and then there would be a separate PRE performed for the BRAC data only. So we do a CERFA site as a unit and then if there are BRAC samples within a parcel we would handle that by essentially treating the BRAC subset within the parcel as another site. So now you've got all the components. You've got the CERCLA sites and the BRAC subset all tagged to a parcel so you can take the results of that PRE and do what we are doing in this exercise. Let's say we want to know what the risk is to Parcel 32, we would combine all of the BRAC components and all of the site components for that BRAC parcel.

GU: What we're talking about is organizing the PRE tables by site and by BRAC component and assigning a risk to that component. What the PRE does is instead of doing it sample by sample, it picks a representative concentration for that site.

SB: I think that is exactly it. There is going to be a list of those BRAC parcels that through the PRE process we have determined are in need of further evaluation. Then they are going to back out which sites within those BRAC parcels are in need of further evaluation. Those will be the actual sites that we need to look at for a full-blown risk assessment and potential remediation. These sites will need to be addressed in the ROD specifically.

GU: We are assuming that we are operating on the parcel level and not the subparcel level.

SB: Let's not go into subparcels yet. Ramon was thinking of this in terms of a map that showed all the sites and a transparency sheet over it with the Parcel configurations. If a parcel didn't indicate any concern in the PRE process, the sites underneath it would be clear as well.

GU: As long as the risk is grouped by site and BRAC parcel, we can mix and match it any way we like.

TT: Is what you are talking about now a way to avoid manually assigning that Subparcel label in the data tables?

GU: No, I'm thinking we want to do that anyway so we can pull the samples out of the database by subparcel in the future. This is a way of not having to redo the PRE based on a subparcel basis, which we cannot do because there isn't enough data.

#### Group Discussion

VM: What we will do on the SS and RI sites is calculate risk for individual samples and essentially risk contour between samples to show you where the hot spot is. Essentially, the hot spot is the center of the risk contour. The contour becomes the nature and extent in risk terms.

SP: That comes out of the PRE?

VM: Yes.

TT: How is that different than simply contouring the concentrations?

VM: It is not concentration. It is based on toxicity which are parameter specific, not concentration specific.

GU: [Contouring risk] is actually a better way of representing it. If we assign a risk number to a site, it is based on the "bulls-eye" of that site risk contour?

VM: Yes.

TT: This is going to be reproduced as a series of maps and tables?

GU: It will be a series of tables for each SS and RI Site.

TT: And from the PRE, you will do this concentration map?

GU: The table will be tabulated by sample location. There will be a risk number associated with each sampling locations. The risk map will be based on this.

TT: This will be on a per-site basis?

VM: Per sample basis.

#### Group Discussion

GU: Let me summarize the PRE discussion, within each main parcel, we are going to produce a PRE that looks at the BRAC data, the screening site data, and the RI data, separately. For the BRAC data, if we don't have adequate sampling density to come up with representative concentrations for each parameter, we are going to treat each of the sampling stations as a distinct site. So we'll produce a risk number based on the PRE at each one of the BRAC sample locations. For the RI and the screening sites, we will select a representative concentration for each of the constituents and calculate the risk based on the accumulation across all of the detected constituents.

#### EBS Corrections

GU: A correction to the EBS table, the Parcels for 27.1 and 27.2. In the EBS for Parcel 27, the response for remediation portion of that table, that text is reversed for Parcels 27.1 and 27.2. It should be repaired in the next version of the EBS.

GU: Due to elevated PAH concentrations in screening samples at Site 84, which is the north part of Building 972, the elevated PAHs and alpha-chlordane in one sample indicate that this parcel needs to stay at CERFA Category 7. We looked at the sampling density in Parcel 27 and indicated that even though that there is a concentration of sample locations at the north end of the building, additional samples are not needed based on process knowledge of operations at the building.

#### Parcel 27.2

GU: We are changing Parcel 27.2 to a CERFA Category 4 based on the fact that there has been some staining observed inside the building. The building was more recently retrofitted. The remediation mitigation column of Parcel 28.2 and 28.1 are reversed in the EBS.

#### Parcel 28.1

GU: Regarding Parcel 28.1, which is being defined here as the northern portion of the open area north of Building 1089, the depot will document that there was only storage of feed stock materials in that area and not hazardous materials. The remaining concern there involves the two BRAC samples at the railroad tracks. These BRAC samples were right at the BCT criteria for aluminum and iron. Therefore, if there is not a hazardous materials storage issue with this parcel, it can change to Category 3.

#### Parcel 28.2

GU: This parcel has been redefined to include the building and the soil surrounding it. It is essentially the southern portion of the entire Parcel 28. There are elevated concentrations of lead, chromium, and arsenic all above BCT criteria. Lead elevations are significant because they exceed the CERCLA remediation criteria for lead at 400 mg/kg. They exceed by a factor of 5 or 6. This site will have to go through the RI process and will likely require some remedial action based on the lead concentrations, primarily. Therefore the CERFA categorization changes from a 7 to a 6.

#### Action Item-Revised EBS

GU: The map needs to include Building 910, which is a concrete slab parallel to the railroad tracks in the northern portion of Parcel 31, which is referenced in the table but is not on the map. Parcel 33, Building 727, needs to be labeled.

#### Parcel 31

GU: One BRAC sample was clean. There has been some Law RI data which has not been looked at here, but will be later. There is a concern about reports of outdoor storage of acetone in the area. It is a large area with one sample, so the determination is to leave it at CERFA Category 7, and there will be additional soil sampling in Parcel 31 before the CERFA category is changed.

SP: Additionally, the concern about the outdoor acetone storage, wherever that statement was in print, we are going to look for that between now and the next BCT meeting.

**BRAC Site 32.1**

BRAC Site 32.1 has been redefined as the open areas within Parcel 32 from the northern end to the southern boundary of Building 835. There are two BRAC samples in that area, both of which do not exceed criteria, therefore, this redefined Parcel 32.1 can be classified as CERFA Category 3.

**Parcel 32.2**

GU: A release occurred within Parcel 32.2, which consists of Building 835 itself, however the release was contained within the building with absorbents and spill control. The building will remain as a Category 7 pending the outcome of air sampling performed within the next month. There is also a correction to the EBS on this building. It indicates that it was fumigated, and Building 835 was not, according to DDMT personnel.

SP: The purpose of the air sampling is not for the fumigation, but to see if any of the materials stored in the building are still in the building.

**Parcel 32.3**

GU: Parcel 32.3 has been redefined to include Building 865 and the surrounding open areas of it south of Building 835. It's the block of Parcel 32 south of Building 835, including Building 865. There are elevated concentrations of arsenic and benzo(a)pyrene. Therefore the CERFA categorization remains a 7 for this Parcel.

**Parcel 33.6**

GU: Parcel 33.6 should be changed to a CERFA Category 2 based on a new definition that includes mineral oil which is a petroleum product. There is a report of a mineral oil spill within that building.

SP: That was reportedly cleaned up and we will check the documentation on that from the EBS.

**Parcels 33.1 - 33.5**

GU: Parcels 33.1 - 33.5 are all buildings that are currently Category 1 and will remain so. There was a change in the database noted for Site 81, the CH2M HILL database needs to be changed to indicate that it is in Parcel 33. It is currently in Parcel 24.

SP: An additional correction that needs to be made upon review of the BRAC CERFA Parcel Map from the EBS, Parcel 33.7 does not include Building 765 and it needs to be delineated to include Building 765.

**Parcel 33.7**

GU: Parcel 33.7 remains a Category 7 due to PAH detections in surface soils.

**Parcel 33.8**

GU: Parcel 33.8 stays a CERFA Category 7 due to the PAH detections in surface soil.

SP: It is in the plan for demolition, and the recommendation of the BCT is to take a sample to see whether any metals were released from the battery recharge operations.

GU: Was the battery recharge operations outdoors? Do you know?

SP: No. It was inside.

GU: It would be at a drainage area. So we have additional sampling at 33.8, which is Building 863.

**Parcel 33.9**

GU: It was determined that Parcel 33.9 should stay as a Category 7 due to PAH concentrations at location E33.9. There was also some chromium and antimony exceedances at location E33.9. There is a request for some additional surface soil sampling within this parcel because there is such a large area that has a small amount of sampling.

SP: In particular, open storage area X11. In addition to what Greg said, there are several other sites within this parcel and within the Parcel 33.9. These are recognized sites such as Site 42, 80, 43, and 46. There are several RI caliber sites within Parcel 33.9.

**Parcel 33.10**

GU: Parcel 33.10, Building 753, is changing to a Category 1 because there is no indication that any hazardous materials were handled in that building.

The initial categorization of Parcel 33.10 into Category 2 may have been incorrect.

**Parcel 33.11**

GU: Parcel 33.11 remains a Category 2. This is a new Category 2 which indicates that there was a petroleum release. The EBS indicates that there was a petroleum spill, but TPH sampling indicated that it was below criteria.

**Parcel 34.2**

GU: Parcel 34.2 is categorized at CERFA Category 3, which indicates that there was a release but not at concentrations that require remedial action.

Chlordane was detected in one BRAC sample but at concentrations below residential risk criteria.

SP: The table needs to be corrected to show that for chlordane, the residential RBC is actually one order of magnitude higher than is indicated in the table.

#### Parcel 35

Parcel 35.5 consists of the surface soils and there are elevated metal concentrations in the soil. This area is slated for some sort of action for soils; therefore, the categorization for 35.5 changes from a 7 to a 6. The other Parcels in 35 are all buildings and they will remain as Category 7.

#### Air Sampling

##### Group Discussion

GU: We had a discussion about air sampling in six buildings. There was a concern raised that one of the buildings, Building 925, is well ventilated and is not a candidate for internal air sampling. This precipitated a discussion on the need for air sampling necessary to transfer parcels from a Category 7 to a Category 1, or other Category. The conclusion of the BCT was that although air sampling is not a CERCLA requirement, since we do not have any data for buildings that underwent typical storage operations at the DDMT, air sampling was necessary to indicate that there has not been an environmental impact within these buildings. The purpose of six samples would be to screen buildings to determine if there is a potential air impact. The results of the sampling would support the BCT's determination regarding release of hazardous substances in these buildings. On the issue of Building 925, if the building is not suitable for air sampling, we will use the contract scope to sample other, more appropriate, buildings.

#### Dieldrin and Other Site-Wide Issues

SP: How do we want to handle getting from [the approach that] Vijaya has worked with Dr. Ted Simon (EPA Region IV), to BCT approval for an action level for dieldrin?

VM: Before we make the issue for dieldrin, we need to consider some other issues that are site wide. One of them is PAHs. We seem to have really low levels of PAHs everywhere you look, not just along the railroad tracks, but everywhere else that you have looked. In my experience, I have not seen a site that I have looked for PAHs and not found it, but here it is the levels of PAHs that are of interest. The non-railroad track samples are low, below the detection limits. They are showing up as an interest since they are above the residential risk levels of 88 ppb for



benzo(a)pyrene. They are showing up, but they are not truly a release issue. We need to establish the approach.

We have some ideas about how to address site-wide PAHs. When you do the x-y plots and the data are compact (fall on the same straight line), they obviously come from the same source. It may be asphalt or vehicles.

The second issue is that you have inorganics across the site. You are planning on changing the CERFA category based on one exceedance of these criteria. What EPA has allowed in the past is doing population comparisons between onsite and background populations. If they are equivalent, you could have onsite data that exceed an arbitrary background number and still be part of the background distribution.

All these issues should be dealt with and then revisit the CERFA categorization.

SP: The approach you just discussed with dieldrin, the trimming of the background and comparing it to discreet areas on the facility, is this the same approach you are proposing for PAHs and metals?

VM: For PAHs it is slightly different. We are not necessarily dealing exclusively with background. Onsite you may have areas with low levels of PAHs that are above background and not tied to a specific release. In this case, the onsite data is the background.

You could take some parcels onsite that you know did not involve PAHs and use that data as the site-specific background dataset.

JE: What is the purpose of this approach? Do we not have good offsite background for PAHs?

VM: The type of asphalt you are using and how old it is or what kind of vehicles you are using could indicate that a site-specific background dataset for PAHs is warranted. For example, at Eglin Air Force Base, there is "real funny" asphalt that produces  $10^{-5}$  risk from PAHs.

SP: Ramon's discussion at the last BCT concerning PAHs was that at Glenview they had railroad tracks across the station and they had a much higher level that they thought was "normal" for their facility. Higher than the residential RBCs. Their approach was that since they are an industrial area and they do have rail here, we should establish what is normal for rail and then identify outliers. It seems to me that the only difference between what you are discussing now and what Ramon discussed last month is that Ramon would look at railroad tracks. If we looked at the mean for railroad tracks we would be higher.

RT: I talked to my toxicologist about this and Region IV had done this before and considers it to be a more conservative approach and a more common sense one.

JE: I would see that we would argue ourselves away from doing anything for a number of contaminants that are similar to what you see at similar facilities across the country. The real question is how are potential targets going to be affected by these constituents? The fact that they are there doesn't mean that there is necessarily any risk. The nature and the form that they are there in is the most critical issue. If they are in soil that is respirable, then that is a different issue than if they are lumped under asphalt [and inaccessible]. I think that is the way we need to look at it. I suspect that this is going to be a tough decision by the BCT. Not just to make the decision, but to defend how we made it.

SP: Let me ask you a question Ramon. At Glenview you established a sitewide railroad impacted background value for PAHs. When you looked at areas at the facility, would you only compare data around the railroads to the railroad background, and not, say, grassy areas?

RT: You would. You would only compare apples with apples.

VM: It would work like this. You would plot number of detections versus concentration. The data will follow a distribution pattern. If there is an outlier in the data, it will be identified distinct from the basewide data.

JE: Do we have enough background data from comparable facilities to determine what normal background for railroads is?

RT: Region IV has done that before at other bases. I know Ted is willing to work with Vijaya on that approach.

JE: I would like to determine if this is consistent with other sites across the country.

RT: That would be something that Ted and Vijaya can talk about. Yeah, if we saw something very high, we would assume that something happened.

JE: Otherwise we would relegate ourselves to dealing with it if it is an obvious hot spot or imminent health hazard. If we don't, we make the comment and show the comparison. Lets make sure that we compare our railroad to other peoples railroads. The same thing for roads and everything else. I expect that we will be close to other sites, but I want to make sure.

VM: This provides you with a means of dealing with the "gray" which you were not able to do with the comparison tables. A good case in point is arsenic. When you establish a cutoff of 20 [mg/kg] based on background you begin having a problem with a concentration of say 22

[mg/kg]. By doing this population comparison, you are taking the next step beyond the screening process.

JE: I understand what you are saying, but there is a political side to this as well. Arsenic is perceived to be like cyanide - "poison." You have to be able to defend what you are saying. If you start using population statistics with a lot of people, they are going to come back and say that the government is trying to make this stuff clear away. I want to be able to compare these numbers to other facilities and show that they too have high concentrations and are not a Superfund Site.

SP: One thing that I would be concerned with is that if we start comparing populations, say grassy areas versus railroads, we could end up remediating sites in areas with lower background distributions and not remediating sites with the same concentrations in areas of higher background concentration, like railroads. Is that reasonable? It might be because the exposure pathways are different. We just need to be able to explain that to someone.

JE: I want to be able to document that we are not treating this facility any different than others.

SP: Did Ted mention any other facilities that he had experience with?

VM: He said that he would send me the information, but didn't specify any other facilities.

SP: This is obviously an agenda item for the December BCT, once we have data in hand.

GU: The agenda item would be to compare the PAH data to offsite facilities as well as site specific background values.

#### **Removal Candidates**

SP: The base housing and the cafeteria were identified as two potential removal candidates.

RT: We would like to see a written plan on removal candidates. Identify those sites that are high priority for removal. We will discuss them at the next BCT meeting.

GK: It would be cheaper for the other contractors to document everything when they remove materials than for us to go through all the CERCLA documentation.

RT: You always jump into EE/CA and other documentation everytime. Provide the evidence that I removed that and here are the samples. You don't need all this documentation.

GK: If this is a voluntary action, then the City can do it.

The BRAC Clean-up Team Meeting Minutes from the October 1997 meeting are reviewed and approved for inclusion into the Administrative Record.



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