



# THE MEMPHIS DEPOT TENNESSEE

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## ADMINISTRATIVE RECORD COVER SHEET

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**Final**

**Memphis Depot**

**BRAC Cleanup Team**

**Meeting Minutes**

**16 February 2006**

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<b>Project Team</b>	<b>Organization</b>	<b>Phone</b>
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Mike Perlmutter	CH2M Hill	770.604.9182 x645
John K. Miller	Mitretek Systems	703.610.2560

***BCT Business/Previous Meeting Minute Approval***

The BCT approved and signed the 19 January 2006 meeting minutes.

***BRAC Cleanup Plan (BCP) Version 9***

Mr. Holmes reported that the BCP was distributed to the BCT on 31 January 2006. Mr. Spann provided initial comments regarding Table A-1.

Mr. Ballard reported that EPA was not happy about the schedule delay in the submittal date for the final Dunn Field Disposal Sites Remedial Action Completion Report that pushed it into fiscal

year 2007. He said that EPA had contacted DLA to set up a meeting to discuss this important milestone as well as the delay submitting the BCP, which serves as the Site Management Plan for the Memphis Depot. He also said that EPA appreciated the team atmosphere of the Memphis Depot BCT, but EPA did plan to issue a letter to DLA regarding their schedule concerns. Mr. Dobbs emphasized that this team must meet its schedule commitments, and that he and Mr. Ballard were unhappy with the schedule delays.

Mr. Holmes reported that, pending BCT approval, the Dunn Field Disposal Sites Remedial Action fieldwork was scheduled to begin before the end of the February, one month sooner than presented on the schedule.

Mr. Spann suggested that MACTEC review BCP Section 6.8.1 with regard to the need for a BCT action item to evaluate excavation for the area around MW73 for CVOC source removal. Mr. Perlmutter reported that CH2M Hill considered excavation of that and other source areas during evaluation of soil vapor extraction (SVE) enhancements. In-situ thermal desorption (ISTD) was determined to be effective and less expensive than excavation. Mr. Nelson noted that the source appeared to be about 30 feet below ground surface making it very expensive to excavate, as compared to ISTD.

Mr. Ballard asked if the SVE enhancement cost evaluation took into account that the ISTD-enhanced SVE treatment area would shrink as concentrations that were not as high as the hot spots were reduced to the soil screening levels (SSLs), even though ISTD-enhanced SVE may not achieve SSLs in the most contaminated areas. Mr. Perlmutter replied that the cost estimate did not take into account the shrinking treatment area, but that ISTD would be more cost effective than excavation even with the added run time. Mr. Perlmutter continued that only about 20% of the area had very high concentrations in the soil and that the cost of operating the ISTD for a longer period to reduce the hot areas was still less expensive than excavation.

Following the discussion, Mr. Spann stated that the discussion had answered his questions about excavation near MW-73.

#### ***Source Areas Remedial Design (RD)***

Mr. Ballard pointed out that the 19 January 2006 meeting minutes reflected a statement by Mr. Nelson that the SSLs/Remedial Goals (RGs) evaluation technical memorandum (TM) being prepared by CH2M Hill would be an appendix in the Source Areas RD. Mr. Ballard stated that he did not want to see information regarding the potential change to SSLs and RGs in the RD. He agreed that it was appropriate to put the TM in the administrative record, but that it was separate from the RD. Mr. Dobbs and Mr. Spann agreed.

#### ***Dunn Field Land Use Control Implementation Plan***

Mr. Buxbaum reported that this would be his last BCT meeting, as he would soon start a new job. Once established in his new job, he agreed to send his contact information to Mr. Dobbs. He voiced pride in working with this team saying he has enjoyed it and has touted the successes of this team to many people.

Mr. Buxbaum reported after the January meeting he reviewed the LUCIP and that it was about 99% complete as CH2M Hill had appropriately incorporated his last comments. He said that he may amend the LUCIP one last time before returning it to CH2M Hill to include a placeholder for additional groundwater controls for the off-site portion of the plume. He felt that EPA may want the additional controls, which may require that access agreements with the property owners

include clauses stating all potable water sources are connected to Memphis Light Gas and Water (MLGW) system and stating that the property owners understand installation of groundwater wells is prohibited.

Mr. Buxbaum reported that he had not talked with Mr. Tom Lederle of the Department of Army (DA), but he and Mr. Buddy Wagoner informed Mr. Lederle that early transfer of the western side of Dunn Field was inappropriate based on the scope of the Source Areas Remedial Action. Mr. Buxbaum suggested that DDC provide DA a copy of the final Source Areas RD and point out the onsite construction to occur. He also suggested that DDC should suggest to DA that the RD be provided to any potential buyers as part of the disclosure process.

Mr. Buxbaum felt that this team and the active groundwater cleanup remedies to be implemented were "good news" stories, and he suggested that the team take all opportunities to advertise this success.

#### ***Off-Depot Zero-Valent Iron Permeable Reactive Barrier (ZVI PRB) Implementation Study***

Mr. Nelson presented information from the Rev. 0 Dunn Field ZVI PRB Implementation Study Work Plan currently being reviewed by the internal team. He described the process for constructing the columns and presented a schematic of the ZVI PRB installation equipment setup and process. He indicated that columns would be spaced one foot apart.

Mr. Miller asked if the homogeneity of the iron/sand mixture would be maintained as it replaced the guar gum/water mixture within the column or if there was the possibility of stratification to occur. Mr. Nelson responded that stratification was not considered likely; the tremie pipe would fill the column with iron/sand mixture from the bottom of the column moving to the top. Mr. Miller then asked if vibrations from the tremie pipe could cause stratification of iron/sand and guar gum/water mixtures. Mr. Nelson responded that Hayward Baker, Inc. (HBI) intended to use gravity flow to fill the column and that the guar gum mixture would be replaced by the iron/sand mixture. He also said that HBI would construct test columns to identify potential construction problems.

Mr. Ballard asked about CH2M Hill's quality control plans. Mr. Nelson described the Work Plan groundwater monitoring plan and presented a graphic showing the locations of performance monitoring wells to be installed as part of the study. Mr. Nelson reported that groundwater moving through the PRB would reach the two new down gradient monitoring wells after approximately 8 and 20 days, and would reach MW144 after about 40 days.

Mr. Nelson continued that core samples of the columns would be taken 30 days after installation to document if ZVI placement occurred properly. Mr. Holmes asked why CH2M Hill wanted to wait 30 days before taking the core samples. Mr. Nelson responded that the delay was to accommodate fieldwork and to allow the wall and groundwater to equilibrate. Mr. Miller voiced concern that 10-foot long cores might allow the ZVI material to fall out of the boring tube during retraction and offered several suggestions to reduce the chance. Mr. Holmes suggested that the cores be collected at different relative locations throughout the columns. Mr. Miller suggested archiving the cores and sampling throughout the core length.

Mr. Holmes suggested that CH2M Hill model the hydraulic conductivity of the PRB to determine the possibility for groundwater to move through the spaces between columns. The team discussed the pros and cons of constructing the test PRB with columns touching as opposed

to space between the columns. Mr. Ballard suggested one half of the PRB test wall be constructed with spaced columns and one half with columns touching.

Mr. Perlmutter commented that if the PRB reduced conductivity, then the entire PRB concept was questionable because the plume would spread out. He mentioned that constructing the entire PRB with columns touching would increase the costs, and he was also concerned about the constructability of the PRB with columns touching. Mr. Holmes said that one question to be answered by the study was if the ZVI installed using HBI's construction method would change conductivity.

Mr. Ballard and Mr. Miller suggested that monitoring wells be installed within the PRB using the injection borings. Mr. Nelson agreed to discuss with HBI the team's concerns about conductivity and permeability as well as the prospect of installing monitoring wells in the PRB. He reminded the team that HBI was not a well drilling company, and therefore may not be able to install the monitoring wells.

Mr. Nelson reported that the study schedule was to install the up gradient and down gradient monitoring wells in March, to conduct the baseline groundwater sampling event and slug test about a week after the monitoring wells installation. He continued that HBI planned to mobilize the drilling equipment on 17 April with construction of the test columns to begin 20 April. The TM would include the first two sampling events. The Rev. 0 TM is scheduled to be distributed on 1 July with the final TM to be distributed in conjunction with the Off-Depot Groundwater RD.

Mr. Ballard asked why CH2M Hill wanted to conduct the final four sampling events, because the 90% RD and the scope of work were to be completed before completing the sampling events. Mr. Nelson responded that they wanted to have a longer view of the reduction effect. Mr. Spann interjected that the final four events would also enable the team to look for any rebound as seen with the Early Implementation of the Selected Remedy (EISR).

Mr. Nelson said that the team had seen fairly rapid contaminant reduction with ZVI, but he wanted to see the longer-term effect up gradient and down gradient of the PRB. So, they wanted to monitor the whole reduction process. He said that CH2M Hill was moving ahead with the 90% RD because they anticipated the success of HBI's construction method, but they wanted to confirm its success.

Mr. Dobbs asked about the need for the 60% RD as there would be no sampling results to confirm the success of the construction method. Mr. Holmes responded that the 60% RD would include the location and the performance standards for the PRB. Mr. Nelson continued that the 60% RD would also include groundwater modeling results, the long term monitoring plan and other performance information.

Mr. Spann suggested that CH2M Hill consider a post-construction sampling event at 14 days instead of 40 days to speed up evaluation of the results. Mr. Ballard and Mr. Miller suggested that monitoring wells up gradient and down gradient of the wall should be aligned along the groundwater flow path through the PRB because there may be different concentrations levels along the length of the PRB that could skew the evaluation. Both agreed that the two monitoring wells proposed by CH2M Hill to monitor groundwater flowing by each end of the PRB should be moved to be aligned with other performance wells.

Mr. Nelson responded that CH2M Hill wanted the wells on the end to measure any mounding that may occur around ends of the PRB. Mr. Miller suggested that to measure mounding CH2M Hill should install wells immediately up and down gradient of the PRB as the water would mound on the up gradient side, not on the ends of the PRB. He also indicated that it was more important to see reductions down gradient along the flow path. Mr. Holmes commented that if HBI could determine the conductivity of the iron/sand mixture and could install monitoring wells within the PRB the results would provide important information. Mr. Ballard suggested that the team review available data on other completed PRBs to determine the impacts on conductivity.

Mr. Miller said he would provide comments on the PRB Implementation Study Work Plan on 17 February. Mr. Holmes said that a key question for CH2M Hill and HBI was the column spacing. Mr. Nelson said that CH2M Hill had evaluated the column spacing separately from HBI and that both had arrived at the same column spacing.

The team came to consensus on the need for the following performance standards:

- 1) Performance monitoring wells aligned with the gradient.
- 2) Monitoring wells installed inside the columns.
- 3) No monitoring wells are necessary at the end of the PRB to meet the study objective.
- 4) One new up gradient well (5') aligned with the down gradient wells.

While the BCT wanted the columns to overlap on part of the wall, Mr. Nelson needed to discuss with HBI the question of constructability. Mr. Perlmutter commented that another question for HBI would be if touching or overlapping columns would affect HBI's ability to maintain the column geometry.

Mr. Ballard requested that CH2M Hill include Dr. Ralph Ludwig on the distribution list and that he would provide the address. Mr. Ballard said that mobilization should occur when scheduled, as EPA and TDEC's review of the Work Plan would focus on the monitoring system that would come into play after construction.

#### ***Dunn Field Groundwater Interim Remedial Action (IRA)***

Mr. Holmes reported that all the recovery wells were operating properly and that the IRA Annual Report was on schedule. Mr. Spann said that he had spoken with Mr. Eddie Bouzed of TDEC's Water Pollution Control Division and requested that Mr. Bouzed speak with Mr. Akil Al Chokachi about MACTEC's request to change the Industrial Wastewater Discharge Permit limits in order to optimize the IRA system.

#### ***Main Installation Long Term Monitoring (LTM) Report***

Mr. Holmes reported that the LTM Report responses to regulator comments were submitted to the BCT via email on 15 February. Upon receipt of the BCT's approval of the responses, MACTEC would complete and distribute the final document.

#### ***Community Relations***

Mr. Holmes reported that the next Restoration Advisory Board meeting was scheduled for 20 April at 6 p.m. The community relations team would prepare the agenda with the anticipated presentation to include an update on Disposal Sites 3 and 10, the PRB Implementation Study as well as other activities. Mr. Spann suggested that the presentation include information on the

proposed public sale of the Dunn Field property. Mr. Dobbs directed Mr. Holmes to invite Mr. Harold Duck to the RAB in order to present the Dunn Field sale information. Mr. Holmes also said that the community relations team would prepare a fact sheet regarding the PRB Implementation Study.

### ***Schedule Review***

Mr. Holmes distributed and the team reviewed the deliverables matrix that provided deliverables and field activities upcoming in the next three months. He noted that the BCP dates were from the proposed master schedule dated 30 January 2006 and included in the Rev. 0 BCP Version 9.

Mr. Ballard noted that the BCP date for the submittal of the Rev. 0 BCP Version 9 should be 1 December 2005 as required by the Federal Facilities Agreement. Mr. Nelson indicated that the Source Areas Remedial Design Investigation TM would not be submitted on 17 February. He anticipated submitting it before mid-March.

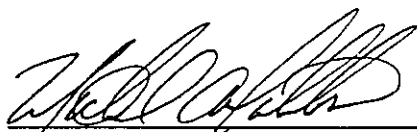
Mr. Ballard suggested that the annual land use control review be combined with the Annual LTM Report. Mr. Ballard also pointed out that a full review of the land use controls would be required in 2007 during the 5-year review.

### ***Dunn Field Disposal Sites Remedial Action (RA)***

Mr. Price reviewed BCT comments on the RA Work Plan Addendum and the MACTEC responses. The BCT provided verbal approval of the Work Plan Addendum. MACTEC will move forward to mobilize before the end of February. Mr. Holmes voiced confidence that MACTEC would provide the Disposal Sites RA Completion Report earlier than the proposed master schedule date since the field team would mobilize earlier.

### ***Next Meeting***

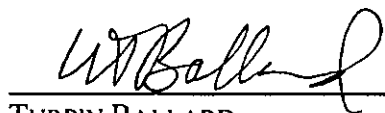
The BCT concurred not to meet in March. If necessary, MACTEC will coordinate a conference call to discuss any issues that arise. The BCT concurred to meet again in April. Mr. Dobbs suggested that the team may want to spend an extra day in Memphis depending upon PRB Implementation Study field work.



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Defense Distribution Center  
BRAC Environmental Coordinator  
BRAC Cleanup Team Member

4/20/06  
DATE



TURPIN BALLARD

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04/20/06

EVAN SPANN

DATE

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