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THE MEMPHIS DEPOT
TENNESSEE

ADMINISTRATIVE RECORD
COVER SHEET

AR File Number 631

FINAL

BRAC Cleanup Team

Meeting Minutes

July 19, 2001

Attendees

BRAC Cleanup Team	Organization	Phone
John De Back	Defense Logistics Agency (DLA)/ Memphis Depot Caretaker Division (Depot)	(901) 544-0622
Turpin Ballard	Environmental Protection Agency, Region IV (EPA)	(404) 562-8553
James Morrison	Tennessee Department of Environment and Conservation, Memphis Field Office, Division of Superfund (TDEC)	(901) 368-7958
Project Team		
LTC Daniel Welch	Defense Logistics Agency	(703) 767-6255
Mike Dobbs	Defense Distribution Center	(717) 770-6950
David Ladd	U.S. Geological Survey	(615) 837-4773
Clyde Hunt	Corps of Engineers/Depot RPM	(901) 544-0617
Dorothy Richards	Corps of Engineers	(256) 895-1463
Sam Sang	Corps of Engineers	(256) 895-1631
John Rollyson	Corps of Engineers	(931) 455-3580
Peggy DuBray	Corps of Engineers	(931) 454-6630
John Whiting	Corps of Engineers	(334) 694-4216
Earl Edris	Waterways Experiment Station	(601) 634-3693
Stephen Offner	CH2M Hill	(770) 604-9182 x302
David Nelson	CH2M Hill	(770) 604-9095
Kent Friesen	Parsons Engineering	(307) 637-0286
Kraig Smith	Jacobs Engineering	(615) 331-9232 x229
Denise Cooper	Cooper & Associates	(901) 767-1249

Meeting Minutes

BCT reviewed and signed the May 2001 meeting minutes.

Review of Project Status

Remedial Process Optimization Presentation

LTC Daniel Welch reported that DLA created the Remedial Process Optimization (RPO) program to evaluate the effectiveness of remedial actions in order to ensure that actions are protective of human health and the environment, that actions meet cleanup objectives, that actions are cost effective, and that the appropriate data is collected to monitor actions to ensure they are protective and meet cleanup objectives.

As part of the RPO program at the Memphis Depot, Parsons Engineering evaluated the development of a soil vapor extraction (SVE) pilot test, reviewed monitored natural attenuation data, and developed decision trees for remedial actions and for monitoring. Using data collected from Dunn Field and the Main Installation (MI), Parsons evaluated the use of vegetable oil to enhance bioremediation and the use of diffusion samplers for monitoring and site characterization. Parsons also evaluated the schedule to complete and cost to complete to ensure they were reasonable. Parsons then generated a list of recommendations for the BRAC Cleanup Team to use when making remedial action decisions.

Memphis Depot RPO opportunities included conducting a soil vapor extraction (SVE) pilot test at Dunn Field, calculating vadose zone cleanup levels for Dunn Field, evaluating enhanced bioremediation of MI groundwater, evaluating the groundwater monitoring program, predicting cleanup times, using diffusion samplers, locating sources of groundwater contamination at the MI, and developing cleanup goals.

Mr. Kent Friesen reported that Parsons' recommendations included obtaining additional total organic carbon (TOC) data for the Main Installation in order to model the effectiveness of various nutrients, including vegetable oil, for enhanced bioremediation. Mr. Steve Offner indicated TOC data would be collected during the Long Term Operational Area fieldwork.

Mr. Friesen continued that Parsons recommended the SVE pilot test at Dunn Field because the fluvial sand was very well suited for SVE and a need existed to evaluate SVE effectiveness in the loess. Conducting the SVE pilot test would help the BCT to identify and reduce uncertainties associated with remedial alternatives, to optimize the parameters necessary to ensure the protectiveness of remedial actions and ensure that remedial action objectives were met, and to collect data necessary to evaluate remedial alternatives while collecting remedial investigation samples. The SVE pilot test also included soil vapor monitoring.

Parsons also recommended a method to evaluate cleanup levels for soil gas vapors in case the BCT selected SVE as a remedial action in order to know when to turn off the SVE system. Mr. Friesen indicated Parsons did not calculate actual cleanup levels. He continued that soil gas monitoring would allow the BCT to evaluate the SVE system's progress in reaching cleanup levels without collecting soil samples. Regulators may still require soil samples to confirm that the source was removed, but soil gas monitoring would optimize evaluation of the effectiveness of the SVE system.

Dunn Field Remedial Investigation

Mr. Offner updated the BCT on the Dunn Field document submittal schedule. He reported that CH2M Hill was incorporating into the Dunn Field Remedial Investigation (RI) Report additional information such as soil data from Parsons Engineering's Chemical Warfare Materiel (CWM) Engineering Evaluation/Cost Analysis and subsurface soil data collected from the excavations at CWM Sites 24 A and B. Mr. Offner reported that there was sufficient groundwater data collected from the monitoring wells in the area of CWM Sites 24 A and B.

Mr. Offner indicated that the new data required CH2M Hill to recalculate some of the baseline risk assessment tables. CH2M Hill also modeled the off-site human health risk from volatile organic compounds (VOCs) for residences above groundwater contamination. Mr. Offner reported that the preliminary risk evaluation indicated risks in the range of 10^{-7} to 10^{-9}, within the acceptable health risk range.

Mr. Jim Morrison requested verification that the pilot test data would be collected in time for use in the Dunn Field Feasibility Study (FS). Mr. Offner responded that most of the pilot test data will be collected real time and all but a few monitoring points have been installed.

The BCT reviewed and approved the Dunn Field document submittal schedule (See attached).

Dunn Field SVE Treatability Study Work Plan

Mr. David Nelson reported that the SVE treatability study/pilot test would be used to screen SVE as a presumptive remedy prior to development of the Dunn Field FS. The pilot test work plan included using two existing extraction wells screened in the loess and fluvial deposits, using four existing monitoring points with four screens each and installing three additional monitoring points.

The pilot test work plan included the collection of several different types of samples to determine volatile organic compound levels, hazardous ambient conditions, oxygen and carbon dioxide, velocity/flow and pressure. The pilot test design also included filtering the air before releasing it to the atmosphere in order to ensure the community's safety.

After the pilot test, Jacobs will prepare a technical memorandum to include a description of the effectiveness of the SVE system and recommendations. The memo will be incorporated into the Dunn Field FS.

Delegation to Sign Manifests

Mr. Smith and Mr. Offner reported receipt of the delegation letter from the Defense Logistics Agency.

Adobe Acrobat 5.0

Ms. Richards provided copies of the software as follows:

TDEC: 3
DLA/DDC: 2
Depot: 2
WES: 1
CESAM: 1
CH2M HILL: 1

Administrative Record (AR)

Mr. Clyde Hunt requested input from Mr. Ballard and Mr Morrison about having upcoming AR documents formatted in Adobe Acrobat. Both agreed

FOST # 2

Mr John De Back indicated the 30-day public comment period of FOST #2 was completed, and the public provided no comments. He anticipated the Army Material Command would sign the FOST in September 2001.

Record of Decision (ROD)/Land Use Control Assurance Plan (LUCAP)

Mr. Ballard said the Land Use Control Assurance Plan was with the Department of Defense (DoD) for 72-hour review. Depending upon what came out of DoD's review, Mr. Ballard indicated that the EPA was prepared to sign the ROD and anticipated it would be signed in August 2001.

Mr. Ballard continued that the Land Use Control Implementation Plan (LUCIP) would be part of the remedial design. He suggested that the LUCIP include a plan for communicating the deed restrictions to the appropriate parties. Mr. Morrison indicated that he needed to confirm TDEC's Office of General Counsel acceptance of the LUCAP. TDEC's signature on the ROD was conditional upon the LUCAP.

Depot Redevelopment Corporation (DRC) Update

The BCT, Mr. Jim Covington and Mr. Gene Burr discussed MW63 that was damaged during the DRC's construction project. Mr. Covington will work with Mr. De Back and Mr. Hunt to rectify the situation.

Part B Permit Facility Closure/Building 949 Soil Remediation

Mr. Rollyson indicated the contract for closure of Building 308 was issued to Jacobs on July 16, 2001. Jacobs will issue the work plan to the BCT on July 30. Mr. Kraig Smith requested a 2- to 3-week review from the BCT and indicated the work plan was not a large document. Mr. Morrison and Mr. Ballard requested that the work plan include a clear plan for waste characterization and disposal.

Dunn Road RR Tracks

Mr. Rollyson reported the contract was awarded to S&W Asphalt on July 13, 2001, and that the pre construction conference was scheduled for the week of July 23. He anticipated that the project would be completed during August.

Restoration Advisory Board

The BCT suggested scheduling a RAB meeting on November 15, 2001, to present the Dunn Field Remedial Investigation. Mr. Hunt will coordinate the schedule for presentations and upcoming activities with Ms. Richards and Frontline.

Semi-Annual Groundwater Quality Report

Mr. Smith provided groundwater sampling data collected during the latest groundwater extraction system operations and maintenance sampling event in February 2001 Most of the wells indicated trends of decreasing volatile organic compound levels, with a couple of exceptions. Mr. Smith and the BCT discussed the findings for each of the extraction system monitoring wells. Jacobs will use diffusion samplers to collect samples from the extraction monitoring well system during the next sampling event scheduled for August 2001. Mr. Ballard requested that the next report discuss the presence of 1,1,2,2-tetrachloroethane, a compound of concern for Dunn Field.

Long Term Operational Area (LTOA) wells on Main Installation

Mr. Nelson reported that the funding request was with Mr. Mike Dobbs for signature. Ms. Peggy DuBray indicated the contract could be awarded within three to four weeks of receiving the

Dunn Field Submittal Schedule

Dunn Field Remedial Investigation	Duration (days)	Start	Finish
Submit Rev 0 RI Report to BCT	0		24-Aug-01
BCT Review of Rev 0 RI Report	60	25-Aug-01	24-Oct-01
BCT Provide Comments on Rev 0 RI Report	0		24-Oct-01
Respond to BCT Comments on Rev 0 RI Report	15	24-Oct-01	8-Nov-01
Prepare Rev 1 RI Report	30	24-Oct-01	23-Nov-01
Submit Rev 1 RI Report to BCT	0		23-Nov-01
BCT Review of Rev 1 RI Report w/ Concurrence	30	23-Nov-01	23-Dec-01
Prepare Rev 2 RI Report Slip Sheets	15	23-Dec-01	7-Jan-02
Submit Final Slip Sheets to Rev. 2 RI Report	0		7-Jan-02
Dunn Field Feasibility Study			
SVE Treatability Study			
Submit Rev 0 SVE Treatability Study Workplan to BCT	0		6-Aug-01
BCT Review of Rev. 0 Workplan	30	6-Aug-01	5-Sep-01
BCT Provide Comments on Rev. 0 Workplan	0		5-Sep-01
Prepare & Submit Rev 1 Workplan	7	5-Sep-01	12-Sep-01
Mobilize for Field Activities	0		13-Sep-01
Install Vapor Wells and Perform SVE Tests	21	13-Sep-01	4-Oct-01
Prepare Report of Findings Tech Memo for Rev. 0 FS	24	5-Oct-01	29-Oct-01
Prepare & Submit Rev 0 FS to BCT	56	3-Sep-01	29-Oct-01
BCT Review & Submit Comments on Rev 0 FS	60	29-Oct-01	28-Dec-01
Respond to BCT Comments on Rev 0 FS	15	28-Dec-01	12-Jan-02
Prepare & Submit Rev 1 FS	30	28-Dec-01	27-Jan-02
BCT Review of Rev 1 FS w/ Concurrence	30	27-Jan-02	26-Feb-02
Prepare & Submit Rev 2 FS Slip Sheets	15	26-Feb-02	13-Mar-02
Dunn Field Proposed Plan			
Prepare & Submit Rev. 0 Proposed Plan to BCT	30	4-Jan-02	3-Feb-02
BCT Review & Submit Comments on Rev. 0 Proposed Plan	30	3-Feb-02	5-Mar-02
Respond to BCT Comments on Rev 0 Proposed Plan	7	5-Mar-02	12-Mar-02
Prepare & Submit Rev 1 Proposed Plan	21	5-Mar-02	26-Mar-02
BCT Review of Rev 1 Proposed Plan w/ Concurrence	30	26-Mar-02	25-Apr-02
Prepare & Submit Rev 2 Proposed Plan Slip Sheets	7	25-Apr-02	2-May-02
Public Comment Period	30	7-May-02	6-Jun-02
Dunn Field Record of Decision			
Prepare & Submit Rev. 0 ROD to BCT	45	3-Feb-02	20-Mar-02
BCT Review & Submit Comments on Rev 0 ROD	60	20-Mar-02	19-May-02
Respond to BCT Comments on Rev 0 ROD	15	19-May-02	3-Jun-02
Prepare & Submit Rev 1 ROD	30	19-May-02	18-Jun-02
BCT Review of Rev 1 ROD w/ Concurrence	30	18-Jun-02	18-Jul-02
Prepare & Submit Rev 2 ROD Slip Sheets	7	18-Jul-02	25-Jul-02
Process Final ROD through DLA	15	25-Jul-02	9-Aug-02
Process Final ROD through EPA & TDEC	30	9-Aug-02	8-Sep-02

signed funding request. Mr. Smith indicated the BCT had approved the work plan. Jacobs would schedule the subcontractor upon contract award.

Mr. Nelson indicated the sampling criteria had changed based on the RPO recommendations. Mr. Morrison and Mr. Ballard discussed sampling techniques necessary at the former PCP dip vat area to ensure that the "one-time only" samples accurately represented groundwater conditions. Ms. Richards indicated she was working funding documents for the U.S. Geological Survey to collect vertical flow measurements in order to determine the best sampling technique. Ms. Richards tasked Mr. Nelson to coordinate a conference call with CH2M Hill, USGS, Mr. Ballard and Mr. Morrison.

The LTOA work plan specified use of rotosonic drilling methods on three to four wells. Mr. Smith confirmed that Jacobs was contracting with a rotosonic drilling firm.

Dunn Field Interim Remedial Action for Groundwater

Mr. Smith updated the BCT on the groundwater extraction system at Dunn Field. Jacobs identified a problem with thermal indicators due to an electrical wiring problem that caused the pumps to burn out. Mr. Smith had the electrical subcontractor rewire the affected pumps. Mr. Smith reported that the system had been running since the first of June and that monitoring indicated plume capture on the south end of the extraction system. He also reported that Jacobs must replace the flow meter at the effluent point to the sanitary sewer.

8/16/01

JOHN DE BACK — DATE
Memphis Depot Caretaker Division
BRAC Environmental Coordinator

8/16/01

TURPIN BALLARD — DATE
Environmental Protection Agency
Federal Facilities Branch
Remedial Project Manager

8-16-01

JAMES W. MORRISON — DATE
Tennessee Department of Environment and Conservation
Division of Superfund
BRAC Cleanup Team member

FINAL

Long Term Operational Area (LTOA) Monitoring Wells Discussion

Addendum

To

Final July 2001 BRAC Cleanup Team Meeting Minutes

Attendees on August 1, 2001

BRAC Cleanup Team	Organization	Phone
John De Back	Defense Logistics Agency (DLA)/ Memphis Depot Caretaker Division	(901) 544-0622
Turpin Ballard	Environmental Protection Agency, Region IV (EPA)	(404) 562-8553
James Morrison	Tennessee Department of Environment and Conservation, Memphis Field Office, Division of Superfund (TDEC)	(901) 368-7958
Project Team		
Clyde Hunt	Corps of Engineers/Memphis Depot Caretaker Division	(901) 544-0617
Jack Carmichael	U.S. Geological Survey (USGS)	
David Ladd	U.S Geological Survey	(615) 837-4773
Greg Hileman	U.S Geological Survey	
Stephen Offner	CH2M HILL	(770) 604-9182
David Nelson	CH2M HILL	(770) 604-9182
Kraig Smith	Jacobs Engineering	

Borehole Flowmeter Testing at MWs 89 and 90

The BCT discussed with the U.S. Geological Survey the need to test vertical flow in monitoring wells 89 and 90 based on previous experiences on the Millington project. CH2M HILL indicated the data may be useful to determine appropriate well construction and sampling techniques for Long Term Operational Area (LTOA) wells associated with SS42, SS43, SS80 and NE6 (Building 702) that may encounter the absence of significant saturated thickness in the fluvial deposits, the absence of a significant clay layer underlying the fluvial deposits, and a relatively thick saturated zone from the top of the water column to the first clay layer within the underlying intermediate aquifer

USGS's experience indicates high vertical flow rates in many wells with screened intervals greater than 10 feet and that vertical flow data from one well is not necessarily representative of vertical flow conditions at other proposed well locations. The BCT agreed that USGS would not test the vertical flow in MWs 89 and 90.

Construction Approach for Four Wells in North Central Portion of Main Installation

CH2M HILL presented the approach and the goal to place the wells downgradient of the LTOAs. The clay layer in this area of the MI pinches out creating a window to the intermediate aquifer. The team discussed different well construction methods to decrease the potential impact of vertical flow and to allow collection of samples that accurately represent groundwater conditions, including installing nested wells, installing a new type of casing with multiple screened intervals instead of one long screen, and installing traditional screened casing then inserting blank riser at appropriate locations and using packing material to separate the screened intervals during sampling.

For the wells associated with NE6 and SS80, the BCT agreed that the team will drill to the first clay layer within the saturated zone (whether in the fluvial or intermediate aquifer), then make a field decision regarding where to set the multiple screen intervals. Based on CH2M HILL's conceptual model, it is assumed that these wells will be set in the intermediate aquifer using rotosonic drilling techniques. If the intermediate aquifer shows signs of significant saturated thickness (i e., saturated thickness >10 ft), then saturated soil samples will be collected from areas that appear to have permeability changes based on visual observations of cores and analyzed for VOCs on a 24 hr TAT basis. If any contaminants are present, multiple screens will be placed across the corresponding zones. The locations for analytical soil samples and well screen intervals will be a BCT field decision

For the wells proposed for the former PCP dip vat area (SS42 and SS43), the BCT agreed that the team will install the first well within the LTOA (i.e., a source well). If a significant clay layer is present at the base of the fluvial deposits and depending upon groundwater flow direction (assuming a significant saturated thickness is found), then the team will likely install the next well to the south of the LTOA. If the referenced clay layer is not present and depending upon the groundwater flow direction in the intermediate aquifer, then the team will likely install the next well to the north of the LTOA. Regardless, a well will be set at the LTOA and the top of casing will be surveyed, so that the groundwater level can be triangulated with the adjacent, corresponding wells The second well at SS42/SS43 will then be installed downgradient from that "source well".

The BCT agreed that if the fluvial deposits are not significantly saturated and the clay is present at SS42/SS43 then the team will collect a soil sample at the clay interface with 24 hour TAT for SVOCs (PCP being the target analyte) to the determine the presence of contamination, and the boring will be plugged and abandoned. If the fluvial deposits are sufficiently saturated and the clay is present, then the team will drill into the clay about five feet to establish and confirm the competency of the clay in that location and complete the well in the saturated zone of the fluvial aquifer.

To determine the saturated thickness, the team will pull back the drilling rods and let the well stand a sufficient amount of time for water to enter the boring. If the fluvial deposits at SS42/SS43 are not significantly saturated and there is no underlying clay layer and there is a relatively thick saturated zone from the top of the water column to the first clay layer within the underlying intermediate aquifer, then the same well installation procedures will apply as referenced for NE6 and SS80, except the soil samples will be analyzed for SVOCs.

Low Flow Sampling for SVOCs at the Wells Slated for the Former PCP Dip Vat and for VOCs at the Wells slated for NE6 and SS80

The BCT agreed the team would perform low flow, minimal draw-down sampling on the wells associated with the former PCP dip vat to determine SVOCs levels. If mult-screened wells are installed in this area, then packers will be used to isolate each screened interval of the well. It was also decided that low flow, minimal draw-down sampling would be conducted for VOCs in the multi-screened wells installed at NE6 and SS80.

Current Status of the LTOA Proposal

Jacobs Engineering indicated they were awaiting the notice to proceed from the Mobile Corps, who was awaiting the funds from DDC. If Jacobs received notice to proceed within the next couple of weeks, they intended to begin well construction in late August The BCT agreed that Jacobs could begin on the other LTOA wells. The BCT also agreed to be present, if provided sufficient notice, during drilling of the four wells proposed for the north central portion of the Main Installation in order to assist with the field decisions.

Mr. De Back instructed Mr. Smith to contact the tenants directly regarding the scheduled well construction activities and to keep Mr. Hunt informed. Mr. Smith has a contact for Barnhart Crane and Rigging and will request a contact for the Memphis Police Southeast Precinct Station from Mr Gene Burr of the Depot Redevelopment Corporation.

In a brief addendum to the workplan, CH2M HILL will include an explanation of how the team will select screen intervals and construction details as well as how samples will provide representative data regarding VOCs and SVOCs, primarily PCP.

8/16/01

JOHN DE BACK — DATE
Memphis Depot Caretaker Division
BRAC Environmental Coordinator

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FINAL PAGE

ADMINISTRATIVE RECORD

FINAL PAGE