

Final

**Memphis Depot
BRAC Cleanup Team
Meeting Minutes**

March 18, 2004

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Project Team	Organization	Phone
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Land Use Control Implementation Plan (LUCIP)/Notice of Land Use Restrictions

Mr. Ballard said the LUCIP received EPA approval, and Mr. Buxbaum stated it received DLA/Army approval. Therefore, Rev. 1 LUCIP is considered final.

Mr. Buxbaum thanked Mr. Ballard for his help in coordinating the LUCIP with EPA and said this was the first LUCIP to be approved since the new Navy Principles. Mr. Buxbaum also praised the team for working so well together in producing a document that may be used as a template for the Department of Defense. Mr. Buxbaum suggested that TDEC informally review

the Notice and said he and Mr. Morrison would coordinate with either Mr. Steve Stout or Mr. Joe Sanders in TDEC legal.

Mr. DeBack said he would send Mr. Buddy Wagoner the LUCIP with directions to include the information in the Notice of Land Use Restrictions to the State. Mr. DeBack said the Corps of Engineers would sign the Notice for the Depot.

Mr. Buxbaum said he would review the Notice prior to submission to ensure it meets the State statutes. There will be two notices recorded: one for the Main Installation and one for Dunn Field. Mr. Buxbaum said the Notice was to be recorded within 60 days of remedial design (RD) approval. Mr. Buxbaum asked Mr. Morrison for his informal concurrence on the Notice. Mr. DeBack said that the Corps of Engineers committed to completing the Notice in 60 days for review and coordination with TDEC.

Mr. DeBack instructed Mr. Holmes to include submittal of the Notice on the deliverables schedule – 60 days after approval of the RD.

Finding of Suitability to Transfer (FOST) 3

Mr. DeBack said the Rev. 1 FOST 3 and the response to comments had been distributed. Mr. Ballard approved the comment responses. Mr. Dobbs will coordinate with Frontline to begin the public comment period on March 25, 2004 and run through April 26, 2004.

FOST 4

Mr. Holmes said that Ms. Cooper was preparing the document. FOST 4 includes the area approved in the Dunn Field ROD for unrestricted reuse. Mr. Morrison and Mr. Ballard approved changing the Environmental Condition of Property category for the subparcels within this area from Category 6 to Category 3, except the former pistol range, which will change to Category 4 based on the completed RA. MACTEC will create a new subparcel to delineate the area of groundwater contamination along northern fence line.

Main Installation (MI)

Remedial Design (RD)/Long Term Monitoring (LTM) Wells

Mr. Nelson said that comments were due by March 27, 2004. Mr. Nelson said that CH2M Hill was working on the design for the sodium lactate delivery and, based on the comments already received, that a mobile injection system would be most cost effective. Mr. Nelson said the design included biweekly injections at first then dropping back to monthly injections. Lactate injections were based on modeling and other information to meet the remedial action objectives (RAOs). According to the model maximum contaminant levels (MCLs) will be achieved in the whole plume within 10 years.

Mr. Nelson said that the focus of the treatment system was to treat the groundwater within the 100-ug/l contour (of TCE, PCE or carbon tetrachloride as at Treatment Area 2) as discussed and concurred by the BCT at the December 2003 meeting. The team discussed the investigation to further define the 100-ug/l contour. MACTEC will define the contour as part of a design-related investigation as well as the placement and number of injection wells needed. Injection quantities specified in the RD will be refined with MACTEC's data and are based on maintenance of anaerobic conditions in the aquifer as well as the defined location of the 100-ug/l contour.

The main revisions to the RD were the delivery system and period of performance, which were based on achieving anaerobic conditions and contamination levels trending downward. Mr. Ballard said that there should be an operating property and successfully (OPS) document that provides what to look for to determine that the system has achieved the RAOs and this document can be developed as part of the Remedial Action (RA) work plan or during the RA.

Mr. Holmes confirmed the RA process: inject until groundwater contamination levels reach 100 ug/l; watch for rebound, but let monitored natural attenuation (MNA) take over. If there is no rebounding trend, then there will be no more injections. Mr. Ballard said a technical memorandum (TM) could be used as an OPS document if it defines the treatment area, provides a better sense of the location of the 100-ug/l down gradient contour area, and includes trend predictions that could be compared with data through time.

[Clarification: Upon review of the minutes, the BCT determined that the RA process as described above might not be sufficient. Further discussion will be necessary on this subject.]

Mr. DeBack said not to get too complicated with the OPS TM, but that there must be some kind of matrix to justify reaching OPS. Ms. Gordon stressed the need for an exit point. Mr. Ballard said the exit point was in the ROD. Ms. Gordon said that if there was a one-time spike, then MACTEC should not start reinjecting. Mr. Ballard agreed, but reiterated that groundwater should be monitored for any trends. Mr. Nelson said that the pre-final RD document includes the MI ROD goal that sampling will continue until contaminants are below MCLs in groundwater for four consecutive sampling events and that matrixes for contingencies were developed in the RD.

Mr. Ballard said that in order to delete the site from the National Priorities List, EPA would need verification that all areas where total VOCs exceeded MCLs, even those that are not part of the remedial action, have achieved MCLs. The LTM calls for sampling of these areas as well as sampling to check for contaminant rebound.

The team discussed sampling procedures for a preliminary baseline groundwater sampling event to include existing wells in treatment areas and the number and location of wells to delineate the 100-ug/l contour.

Mr. Morrison said it would be easier for him to approve the approach if he could see it. Mr. Holmes said that MACTEC would collect samples, identify the proposed well locations on a map and send it to Mr. Morrison and Mr. Ballard. His goal is to reduce the number of wells to install. Mr. Nelson said that some of the wells for Treatment Area 2 could be used for LTM and some were monitoring points for the injection system. The final decision was that MACTEC could proceed to sample existing wells in the treatment areas using the sampling procedures in the approved QAPP and as described in the LTM. Expedited analysis would be acceptable. Locations for a limited number of new wells would then be proposed by MACTEC for review by the project team.

LTOA Closure Wells to Satisfy Data Quality Objectives (DQO)

MW94 at Site 78: Mr. Holmes said that as part of the monitoring well survey MACTEC collected water levels. He agreed to send Mr. Morrison the potentiometric surface map with that information and will also propose the location of an upgradient well.

MW39 at Site 34: The DQO was not satisfied because MW39, which was installed during the RI, was not screened at the bottom of the aquifer. Install a sister well to MW39 that will be screened to the clay. Mr. Morrison agreed.

MW140 northwest corner of MI in window: Install one well down gradient in the intermediate aquifer because MW34 has revealed contamination, although not typically above MCLs, and is a designated sentinel well. Mr. Morrison asked what would happen if the saturated thickness was greater than 20 feet. Mr. Holmes said that they'd put in a well, screen the bottom 20 ft, and if it were thicker, they'd come back and discuss it with the BCT.

MW142: The proposed well location will be reviewed with TDEC following installation of other wells proposed for the western portion of the MI and agreement will be reached prior to installation of MW142. However, the discussions will need to take place while the drill rig is in the field and, therefore, will require an expeditious review of the data. Mr. Holmes, Mr. Nelson and Mr. Morrison discussed that if the data from the well and other wells in this area fit the model, then this well should resolve the issue of releases the PCP dip vat area.

Mr. Morrison asked for a PCP sample based on what they encountered during drilling. If water is on top of the first clay unit encountered, collect a soil sample for SVOC analysis. Mr. Morrison agreed with the purpose of going deeper, if there was no water on top of the clay, to satisfy not only the PCP dip vat but also for use as a sentinel well.

MW21: Mr. Holmes confirmed with Mr. Morrison that MW66a location was acceptable with the goal to be up gradient from MW21, off-site.

WW62 – need for additional up gradient wells: CH2M Hill resampled MW62 per Mr. Morrison's request due to vinyl chloride levels in the last round of sampling. CH2M Hill found that there was two feet of water in the well and sample results revealed 134 ppb of TCE. Mr. Ballard asked if any LTM wells were slated for the area. Mr. Nelson answered, not directly. Mr. Morrison said that there was very little monitoring well control in that area, and that since there was a documented VOC release northwest of MW62, the area needed at least two (2) more monitoring wells between MW19 and MW62. Mr. Ballard agreed saying that the area needed two in order to triangulate, one between MW19 and MW62 and then one somewhere else, perhaps further south. He also said that if sample results indicate a plume at MW62, then the ROD would need an Explanation of Significant Differences because that area was more sensitive due to its proximity to the suspected window.

Mr. Morrison suggested single wells with 10-ft screens. Mr. Nelson said that MACTEC could install two wells between MW62 and MW19 down gradient from MW19 during the mobilization for design-related investigation wells. Mr. Morrison said not to space the wells greater than 200 ft apart.

Monitoring well survey

Mr. DeLano reported that two weeks ago MACTEC looked at the existing monitoring wells. Mr. Nelson will assist him to locate MWs 16, 23 and 24. He also looked at several wells scheduled for abandonment but will not make repairs. He remeasured several wells based on existing boring logs because the total well depths were off a bit. He said that well heights were still okay, but they needed to measure some of the 100-ft deep wells with something more substantial. Out of 10 wells with depth differences, Mr. DeLano said that maybe 3 wells needed to be redeveloped; replace pads at 3 wells; add well tags to 7 wells; and add locks to 25 wells.

Mr. Morrison said that he had not received the key in order to pull pump from MW66 and that his contractor really wanted to try and remove the pump. Mr. Holmes said he would check for the key and provide it to Mr. Morrison post haste.

PCP Dip Vat TM

Mr. Morrison said he had resolved several issues with Mr. Nelson, and that the only question remaining was the monitoring approach. He needs clarification on the number of monitoring wells. Mr. DeBack said that the LTM process would determine which wells would satisfy the criteria. Mr. Morrison said that he wanted to make sure the down dip, down gradient well was installed. Mr. Nelson confirmed that it would be. Mr. Morrison voiced his appreciation for all the work to resolve the PCP dip vat issue.

AI: Mr. Morrison to document his approval of the PCP Dip Vat TM in writing to the Depot.

Upgrade to Adobe

The team discussed the need to upgrade to Adobe 6. Mr. Ballard said did not have Adobe 6, but that will ask for it. Mr. Morrison said that in order for him to upgrade Mr. DeBack should send a letter regarding the decision to use DSMOA funds to upgrade.

AI: Mr. Ballard to determine when he can upgrade. Then Mr. DeBack will determine the date for team to officially upgrade.

Dunn Field

Remedial Design Work Plan (RD)

Mr. Ballard discussed several of his comments. Link the logic tree figure in the ROD to the RD work plan instead of recreating one. Upon completion of sampling for the ZVI study source treatment and distribution of the results in the technical memorandum (TM), the BCT should dedicate itself to scoping the RD. He suggested a scoping meeting to provide insight on the 60% design in order to save time creating the system.

CH2M Hill should issue the ZVI treatability study TM for review and revisions, and then the team should take the TM info and determine the design scope in order to meet RAOs based on the TM data before developing the response to comments document.

Upon conclusion of the discussion, Mr. Ballard approved the RD comment responses.

Mr. Holmes will work the permeable reactive barrier (PRB) into the post-ROD schedule somewhere in the middle of the design process as the ZVI and SVE design will probably be worked together.

ZVI Treatability Study

Mr. Offner provided an update of ZVI data in the treatment zone, up gradient and down gradient, through the February sampling event. He said the system continued to maintain negative ORP, so it maintained a good reducing environment in February: -400 to -200. He also said the system still showed good contaminate reduction of about 90% reduction for TCE and 1,1,2,2-PCA. He said that MW73 had levels of 1,1,2-TCA.

Mr. Offner said the last sampling event was scheduled for the first week of April. Mr. Morrison asked if the spacing for the injection was too tight. Mr. Offner said yes, but that CH2M Hill was looking to spread out there.

Mr. Ballard asked about initial sample results for MW134, which show low VOC concentrations. Mr. Offner was unable to explain low VOC concentrations. Mr. Morrison asked about the best ratio of iron. Mr. Offner said just less than 1 %. Mr. DeBack said that the different amounts was not a function of design, but was a learning curve to get good delivery. IW2 had the most iron and MW133, which is down gradient, showed a 99% reduction in contamination.

Mr. Offner said he received some good comments from Mitretek on the PRB pilot test and that the most important thing to come from the test was the concentrations.

ROD

Mr. Offner said he sent the natural resource damage assessment (NRDA) wording to Mr. Morrison on March 2 and needed his input. Mr. Buxbaum said that Mr. Morrison needed to ensure the NRDA wording was coordinated through the proper channels.

Mr. Buxbaum agreed with the comment responses. The final ROD would go to DLA on March 22. Mr. Dobbs said that DLA had already approved the ROD; so obtaining the appropriate signature should only take a day. Mr. Ballard said that since the remedy was not in dispute, the team could move ahead with the RD regardless of the status of the EPA signature authority issue.

AI: Mr. Morrison to coordinate NRDA wording with Mr. Offner.

Off-site access agreements

Mr. DeBack reported that the access process appeared to be moving, except for the railroad property, which may require initiation of the CERCLA access process. CH2M Hill has received the CAD drawing from MLGW with all the power lines coming into the substation. Mr. Offner indicated the need for another well near MW54 to see what was happening and that there was property along Menager in foreclosure where he could put it.

Mr. Buxbaum said that he was certain the team could exercise the CERCLA option, but that it would take time to put together the package, go before a judge and obtain a writ. If Mr. Blocher was not able to obtain the necessary access agreements by June 1, then the team should begin the CERCLA access process, as it would take several months to complete. The idea of starting the CERCLA access process may prompt owners who were not cooperating to sign the agreement. Mr. Holmes said that Mr. Blocher felt good about MLGW and Belz, but was concerned about the trucking company and the railroad. Mr. Holmes said Mr. Blocher had not really worked the residential lots.

Mr. DeBack asked Mr. Buxbaum to coordinate with Mr. Blocher and tell him what he needs to do reinforcing the fact that he has to document meetings in anticipation of preparing documentation for the CERCLA process. He will exercise the State's authority upon receipt of the property information and information about the contacts Mr. Blocher has already made.

Mr. Buxbaum said that the team discussed the license agreement regarding use of groundwater, and they were doing that separate from the access agreement. Mr. Ballard said to get access agreements for property that might be needed to stay ahead of the process in case the PRB pilot study data drives the PRB location southwest.

In reviewing the information provided by Mr. Blocher, Mr. Ballard identified a disparity between the lot numbers and addresses. Mr. DeBack instructed the Corps and MACTEC to obtain the appropriate information so that the property owner information matched the lot map.

AI: Mr. Offner will obtain GPS location of well location needed near MW54.

AI: Mr. DeBack will coordinate with Corps real estate office to stress access authority during discussions with property owners.

AI: Mr. Offner will coordinate with Monica Darby of MLGW about several wells.

AI: MACTEC will contact property tax department and determine who owns the property.

Groundwater Recovery System

Mr. Holmes reported that RW4 was down. MACTEC repaired the micro controller, but then it went down again. MACTEC replaced the micro controller and the pump, and restarted it this week. Mr. Holmes said that RW4 had been down in November, but he didn't know how long before then.

Mr. Holmes reported that RW8 was cycling this month with periodic low flow logs and the pump was down. MACTEC pulled the pump and will replace it late next week.

MACTEC will hang diffusion bags for the semi-annual sampling. Effluent samples were pulled on February 18, and sample results were about half of what they were in November with TCE concentrations reduced.

Mr. Ballard voiced concern that the system was not providing enough control between RW4 and RW5 and had allowed contamination to move past the hydrologic barrier. He wondered if enough contamination had moved past the barrier to affect MW54. Mr. DeBack said that besides having a pump problem, the area between RW4 and RW5 was on the edge of spacing that may allow incomplete capture. He noted that the 5-year review indicated that the spacing might be less than optimal.

MW54

Mr. Offner reported on past data since the well was installed in 1996. Mr. Ballard said that maybe the plume central area had shifted bringing more contamination to MW54.

Mr. Holmes asked what would cause a shift in flow. Mr. Ballard responded that it could be rebound in flow after 4 years of drought. Mr. Offner identified three locations for MWs to help design the PRB: two (2) in the MLGW substation area and one (1) in the residential area of Rozelle – not the railroad property.

Mr. Morrison asked about the continued use of the groundwater recovery system. It will not be used once the team implemented the ROD. Mr. Morrison suggested turning off the recovery system to see what happens when the aquifer rebounds to ensure proper placement of the PRB and of the down gradient ZVI injection zones. Rebound within the aquifer should occur within a week. The influence of the recovery wells was not extending to the PRB or the down gradient ZVI injection zones, but the change in groundwater flow from reasserting natural conditions may have an affect on that area. Mr. Offner said that there may be some benefit to the idea and that MACTEC had an upcoming sampling event during which to test it. Mr. Ballard said the team should give it some thought.

MACTEC would like to mobilize and start drilling in the next 30 days. That would not pose a problem for MLGW. MACTEC would start the property access process, as access agreements were part of their scope.

AI: Discuss temporary recovery well shutdown at next project team meeting.

Next Meeting

Mr. Dobbs will coordinate a scoping meeting to be held in Atlanta in April.

<u>SIGNED</u>	<u>5/20/04</u>
MICHAEL DOBBS	DATE
Defense Logistics Agency/Defense Distribution Center	
BRAC Environmental Coordinator	
BRAC Cleanup Team Member	

<u>SIGNED</u>	<u>5/20/04</u>
TURPIN BALLARD	DATE
Environmental Protection Agency	
Federal Facilities Branch	
Remedial Project Manager	
BRAC Cleanup Team Member	

<u>SIGNED</u>	<u>5/20/04</u>
JAMES MORRISON	DATE
Tennessee Department of Environment and Conservation	
Memphis Field Office	
Division of Superfund	
BRAC Cleanup Team Member	