810 0

File: 541.460.000n
C.H.

THE MEMPHIS DEPOT
TENNESSEE

ADMINISTRATIVE RECORD
COVER SHEET

AR File Number 810

Final

Memphis Depot

BRAC Cleanup Team

Meeting Minutes

October 20, 2004

BRAC Cleanup Team	Organization	Phone/email
Michael Dobbs	Defense Logistics Agency (DLA)/Defense Distribution Center (DDC) J-3/J-4E	717.770.6950
Turpin Ballard	Environmental Protection Agency, Region IV (EPA)	404.562.8553
James Morrison	Tennessee Department of Environment and Conservation, Division of Superfund (TDEC)	615.532.0910
Project Team	**Organization**	**Phone**
Jesse Perez	AFCEE	
Tom Holmes	MACTEC Engineering	770.421.3373
Denise Cooper	MACTEC Engineering	901.767.1249
Bruce Railey	Corps of Engineers – Huntsville	256.895.1463
David Nelson	CH2M Hill	770.604.9182 x645
Kinzie Gordon	Mitretek Systems	303.779.2664
John K. Miller	Mitretek Systems	703.610.2560

Previous Meeting Minute Approval

The BCT provided additional comments, approved and signed the minutes from the September 20 - 21, 2004 meeting.

Dunn Field Discussion of Preliminary Results

Top of Clay and Potentiometric Surface

Mr. Holmes updated the team on sample results from the newly installed monitoring wells. The combined TCE and PCA concentrations at MW159 were high enough that the 500 µg/l contour was extended westward. He also provided the updated potentiometric surface and top of clay maps based on October 2004 sampling data. The team discussed concentrations that ranged from 2 µg/ to 5,300 µg/l in wells a few hundred feet apart.

Mr. Holmes pointed out the steep top of clay slope between MW150 and MW159. The team ended this discussion until the Additional Wells discussion later in the meeting.

Early Implementation at Dunn Field Technical Memorandum (TM)

Mr. Holmes said the zero-valent iron (ZVI) contractor, ARS, had ordered the iron. Mr. Holmes planned to move a couple of the injection points from Area 2 to augment Area 1 in order to address the high TCE and PCA concentrations at the new wells. He intends to update the injection point map, distribute it next Tuesday via email, and obtain BCT approval by the end of next week.

Mr. Holmes asked if the TM needed to be revised based on the new data. Mr. Ballard suggested either removing references to Area 2 or including justification in the Phase 1 completion report for moving the points from Area 2 to Area 1.

The team finalized the TM concurrence letter and obtained BCT signature.

ZVI Injection Schedule, Procedures and Sampling

Mr. Holmes said ARS will mobilize to the site on November 15, 2004, and injections will begin around November 18. It will take about 30 days to complete the injections. Mr. Holmes asked if a TDEC representative would be present during injections. Mr. Morrison and Mr. Ballard both indicated someone from their agencies would be present to observe. Mr. Holmes said the field team would work 10 day shifts with a break for Thanksgiving, and that they plan to demobilize before Christmas. Mr. Ballard asked if ARS would collect samples from the injection boreholes to confirm the top of the clay elevations. Mr. Holmes said there was no plan to collect samples. He said the injections would not provide precise top of clay elevations, but the pressure increase as ARS injects the iron would indicate the top of clay. The field team would obtain the elevations of the MLGW transmission line and tower clearance requirements and would check the elevations during the field work.

Mr. Holmes said the Dunn Field scope of work contained the same procedures used during the ZVI Treatability Study but iron quantities would be higher. Mr. Holmes said the contract contains performance standards based on a target level of iron to be injected in each interval, and that ARS must be within a certain percentage of that target.

Mr. Ballard asked if the scope provided for areas with contaminant stratification. Mr. Holmes said it did. Mr. Holmes said the field team was installing diffusion bags in MW159 and had already installed bags in MW158. Mr. Holmes said he was not really seeing stratification from the wells where they had collected multiple samples using the low flow procedures. He reported that he was not seeing vertical flow in MW152 or MW155. There was some vertical flow indicated in other wells, but not much.

Mr. Nelson said the procedures included injecting the ZVI in the down gradient locations first and moving up gradient. Mr. Holmes said the plan was to collect groundwater samples three months after injections. Mr. Nelson said he had discussed with Mr. Holmes the need to collect samples from existing wells over a longer period than was currently scoped.

Mr. Holmes talked about installing additional wells, some necessary to further define the conceptual site model (CSM). He will distribute figures indicating injection points and additional monitoring wells to the BCT for review and comment. He planned to distribute the Early Implementation project work plan by the end of next week, for information only. Ms. Gordon asked if work plan would include the data quality objectives (DQOs) for the wells, and Mr. Holmes said it would.

Additional Monitoring Wells for CSM and Plume Delineation and Updated Modeling

Mr. Ballard spoke of his conversation with Mr. Jack Carmichael, U.S. Geological Survey regarding the BCT's determination that 500 µg/l was an acceptable amount to leave for monitored natural attenuation (MNA). Mr. Carmichael told Mr. Ballard that in his opinion it would be acceptable, but to use current data to model contaminant fate and transport to the Memphis aquifer in order to update the modeling in the Dunn Field Feasibility Study. Mr. Ballard said that Mr. Carmichael also thought monitoring should occur to delineate the anomaly where the clay pinches out north of the MLGW substation. Mr. Holmes said that the DQOs would include identifying the edge of the clay in the monitoring wells proposed for the area between MW153 and MW40 and to the east of there.

Mr. Nelson said there was a problem with MW40 in that it was installed in 1990, and it supposedly hit clay, but the data did not indicate which clay was present or the thickness of the clay. He suggested having Mr. Carmichael present during well installation to better understand the hydrogeology of the area. Mr. Ballard asked if the proposed wells would provide better data on the area around MW40 and if clay was encountered then the field team could go through the clay and go down to determine which aquifer was beneath the clay. Mr. Nelson said it was possible, but that the clay could be 80 feet thick (as seen on the MI). He said that during previous field activities a boring drilled next to MW40 never hit clay, but went past the bottom of MW40. The boring was about 5 – 10 feet from MW40. Mr. Ballard reiterated that if a boring did not hit the bottom of the fluvial, then it could keep going. And if it did hit clay, then it could keep going to determine the clay thickness.

The team discussed installing one monitoring well between MW150 and MW49, one between MW151 and MW152, one east of MW79 to obtain better data on the clay trough. Mr. Holmes said the DQOs included drilling into the clay at least 10 feet. Mr. Ballard indicated the lack of monitoring well control along the western or eastern slope of the trough.

Mr. Nelson suggested the need for using the current data in 3-dimensional model to determine the fate and transport of contaminants entering what appears to be a window in the clay north of the MLGW substation. He voiced concern for basing cleanup decisions on a 1-dimensional model based on one or two degradation factors as there was more statistical uncertainty with the 1-dimensional model as compared to a 3-dimensional model. Mr. Miller said that running a 3-dimensional model with such little data may not provide the information Mr. Nelson wanted.

Mr. Holmes returned the discussion back to the data collected from the newly installed wells and the additional wells. He said that the team did not see much vertical flow in MW152, MW155 or MW153. Ms. Gordon asked about the screened interval. Mr. Holmes said the wells were screened 20 foot starting from the top of clay.

Mr. Ballard reiterated that at MW40 the top of clay contours indicated an elevation of about 186 feet going to nothing, but no vertical flow. He and Mr. Morrison found this interesting. Mr. Holmes pointed out that the elevation at MW126 dropped from 221 feet to 184 feet mean sea level. Mr. Ballard speculated that perhaps the top of clay slopes down more before it disappeared at MW40.

Mr. Morrison said if the team did not feel comfortable with top of clay and potentiometric surface data from MW40, then install another well there. Mr. Holmes confirmed that was the plan. Mr. Ballard suggested that if the clay elevation between MW153 and MW40 was intermediate, then perhaps the clay was steeply sloping and did not drop off.

Mr. Holmes asked if additional DQOs were necessary at MW40 with the theory that the clay was not present. Mr. Nelson said that there were clay stringers throughout the fluvial aquifer. Mr. Ballard said that MW40 was an old well where the DQOs were to just drill until hitting clay and to not continue past the clay. He said that Mr. Holmes should try to tie DQOs back to the project when deciding the number and location of monitoring wells. He said not to refine the DQOs just because the geologists on the team were curious. He said the well must be linked to a critical project need such as long term monitoring, assessing contaminant migration, or collecting boring data necessary to conduct modeling.

Ms. Gordon asked if the plan was to drill down until reaching the Memphis Sand. Mr. Holmes replied, yes it was. Mr. Ballard said he had discussed the locations with Mr. Carmichael and had asked if he could be present for the boring at MW40. Mr. Ballard was told that the contact with

the top of the Memphis could not be clearly determined through field observations and that Mr. Carmichael did not feel his time would be well spent in that way.

Mr. Holmes proposed six locations for additional monitoring wells. He thought a screen should be added to the top of MW159, given the concentrations, as it was screened at the bottom and there was about 10 feet at the top of the saturated zone that was not screened. Mr. Ballard suggested that if stratification occurred in the top diffusion bag, which was still below the top of the water table, then it would suggest another well. If stratification did not occur, then it may not be that critical although it was always nice to have it fully screened. Mr. Morrison voiced concern that there was no vertical flow in MW153 given the drop off in top of clay.

Mr. Ballard suggested that Mr. Holmes retain a sample if the boring reached the Memphis sand. Mr. Morrison requested a plume map with contours showing 10,000 µg/L, 1,000 µg/L, 500 µg/L and 100 µg/L contours. Mr. Holmes will include it with the distribution of the injection location map early next week.

Mr. Morrison asked about putting the permeable reactive barrier (PRB) outline on one of the maps in the TM. Mr. Holmes said the maps included a line indicating the southernmost point of Area 1, which will probably be the PRB location, but the actual location was not yet designed. The results of the Early Implementation project would provide valuable data regarding placement of the PRB.

Status Updates

Remedial Action Sampling and Analysis Plan

Mr. Holmes said MACTEC distributed the plan for review about 3 weeks ago and that comments were due in about a month.

Community Information Plan (CIP)

Mr. Holmes reported that DDC had the CIP for review. Upon completion of their review, Mr. Holmes will then be distributed it to the BCT. He anticipated distribution in the next month. He clarified that it was a post-ROD update of the 1999 Community Relations Plan.

Finding Of Suitability to Transfer 4

Mr. Holmes reported that DLA and DA had approved the draft, and he anticipated distribution to the BCT next week.

Main Installation Remedial Action Work Plan (RAWP)

Mr. Holmes said that MACTEC was working to incorporate all the pre-design data. He planned to distribute Rev. 0 to the BCT in about a month, after the internal review. The team wants to be in the field by spring 2005.

Disposal Site RAWP

Mr. Holmes said he anticipated distribution to the BCT next week. He said it may take a little longer for BCT review due to the changes.

Remedial Design (RD) Groundwater Sampling

Mr. Nelson provided elements of the sampling plan. Sampling should begin next week prior to the ZVI injections. He said samples would include VOCs and geophysical parameters.

Dunn Field Off-Depot Zero-Valent Iron (ZVI) RD

Mr. Nelson reported that CH2M Hill was working the RD with plans to submit it, but it would not move onto the RAWP phase until after completion of the Source Area RD (Soil Vapor

Extraction [SVE] and on Depot ZVI) and mobilization for the on site ZVI. Mr. Nelson said there would be a lag to install the SVE.

Mr. Holmes said that the RDs underway included the Source Area RD (SVE/ and on Depot ZVI), the off Depot ZVI (Early Implementation project), and the off Depot PRB. CH2M Hill has distributed the final Disposal Sites RD. Mr. Ballard said that the whole point for separating the on and off Depot ZVI was timing. If that was no longer the plan, then he questioned preparing different RDs.

Mr. Nelson said CH2M Hill was working the three RDs, and would not be able to really speed up deliver of documents. He has obtained funding for the off-Depot ZVI RD and his team was working it. Ms. McMath questioned why the schedule would change. Mr. Nelson said that the off-Depot ZVI RD would come out sooner than the Source Area RD, but that the ZVI would go in the ground at the same time – off and on site.

Mr. Dobbs said that the project team discussed installing the additional wells then determine the need for additional injections. Mr. Nelson said that the ROD provided contingency actions for placement of the PRBs and ZVI depending upon what the pre-design data indicated. Mr. Holmes said that there could be all kinds of contingencies depending upon the data from the wells. He said that project team determined that, based on the new sampling data, there would not be a Phase 2 of the Early Implementation project as some of the Area 2 wells would be moved to Area 1. Mr. Ballard interjected that if there was a long lag time between the Early Implementation ZVI injections and the on-Depot ZVI then a contaminant slug may move past the proposed treatment area.

Mr. Ballard said if there were three treatment components then there should be three RDs. He said it was the team's site management decision to have two ZVI RDs – one on-Depot and one off-Depot.

Mr. Dobbs tasked MACTEC and CH2M Hill to look at the situation and determine a timeline based on the data.

AI: MACTEC and CH2M Hill to discuss the situation and provide Mr. Dobbs with a recommendation.

Mr. Nelson said that CH2M Hill would distribute a 30% Source Area RD because it was a fairly complicated design, and he wanted to get team input and buy-in early in the process. He planned to distribute the 30% for internal review by November 18.

Off-Depot Monitored Natural Attenuation and Long Term Monitoring (LTM)

Mr. Nelson said the wells would be helpful to develop the LTM plan based on the most recent CSM. He asked if TDEC had determined responsible parties and started designing a treatment for the northeast plume migrating onto Dunn Field. Mr. Morrison said TDEC was working the issue, but to keep the plume in the LTM plan. Mr. Nelson agreed and said that was his intent.

Permeable Reactive Barrier (PRB) RD

Mr. Nelson said the PRB RD was on hold pending the results of the Early Implementation action and its affect on groundwater. He also said that the additional off-Depot ZVI might also affect where the PRB location. He intended to wait until receipt of the data to determine its affect on the PRB RD schedule.

Groundwater Interim Remedial Action (IRA) Operations & Maintenance

Mr. Holmes said that the field team would collect the diffusion bags on October 21, and that all the recovery wells were working.

BRAC Cleanup Plan (BCP) and Revised Schedule

Mr. Holmes said that MACTEC was working the BCP document. He anticipated distributing it in a couple of weeks. He was working with CH2M Hill on the schedule.

Mr. Nelson asked if the BCP contained a time frame for moth balling the Groundwater IRA. Mr. Ballard said that once the team completed the on-site Dunn Field remedial actions, then they could discuss a timeline for moth balling the IRA. Mr. Nelson asked if the Source Area RD should discuss moth balling the IRA. Mr. Dobbs replied yes.

Mr. Ballard said the Source Area RD should include injecting ZVI up to the non-pumping water level, but that until the RA meets the objectives then it is hard to say when to moth ball the IRA. Mr. Holmes said it was not in the BCP, and it should be in the RD.

Deliverables schedule

Mr. Ballard asked about the deliverables schedule as he hasn't seen it in a while. He asked that it be updated and distributed as there were a lot of deliverables due soon.

AI: MACTEC update and distribute deliverables matrix prior to next BCT.

No Dig restriction

Mr. Jim Covington, Depot Redevelopment Corporation, asked what the no dig restriction really meant and what areas were affected. He said that up to this point, the dirt from the sewer lines installation projects had gone back into the excavation. He now has a tenant who wants to put in a foundation without long term red tape. Mr. Ballard said that in his opinion the tenant could take the excavated dirt and spread it out somewhere else on the facility because he would be taking industrial contaminated dirt and putting it on top of industrial contaminated dirt.

Mr. Covington asked for something in writing, such as letter, to attach to the lease agreement saying that this tenant can spread the dirt somewhere else on the facility. Mr. Ballard asked if any of the lease agreement language said excavated dirt must be sent off-site for disposal. Mr. Covington said that the deed was vague and simple said to manage it appropriately.

Mr. Nelson said the no dig restriction was specific to the former PCP Dip Vat. He said not to dig below 10 feet and not to remove the concrete cover unless it was replaced. Mr. Holmes said that information would be included in the Notice of Land Use Restrictions being worked by Mr. David Buxbaum. Mr. Holmes said that the restrictions had not changed anywhere else on the facility. Mr. Covington requested clarification of the current restriction for this potential lessee. Mr. Morrison suggested developing a set of Frequently Asked Questions to provide this type of information. Mr. Nelson said that the lease restriction indicated the lessee must obtain written approval from the Army, so he suggested obtaining a letter from the Corps of Engineers (COE), Mobile providing approval to dig.

Mr. Holmes agreed to contact Mr. Harold Duck, COE Mobile, about this issue. Mr. Dobbs suggested obtaining a boiler plate from COE about this issue, and he wanted to ensure Mr. Covington received something that provided clear directions about what was expected. Mr. Morrison suggested it include a caveat that if during the course of excavations the tenant uncovered hazardous material, then they must come to the government and not put it back in the excavation. Mr. Dobbs told Mr. Covington that if he needed something fast from DLA, he would provide a letter on DLA letterhead with this information. He said that the team must do everything possible to promote reuse. Mr. Nelson suggested the form letter be attached to the notification requirements.

AI: MACTEC to work with COE Mobile to obtain the necessary documentation and provide it to Mr. Covington.

Next Meeting

The next meeting will be held at MACTEC's office in Kennesaw, GA on December 16. Internal team meeting scheduled for December 15 with an on-board review of the 30% Source Area RD.

1/20/05

MICHAEL DOBBS — DATE
Defense Distribution Center
BRAC Environmental Coordinator
BRAC Cleanup Team Member

1/20/05

TURPIN BALLARD — DATE
Environmental Protection Agency
Federal Facilities Branch
Remedial Project Manager
BRAC Cleanup Team Member

1-20-05

JAMES MORRISON — DATE
Tennessee Department of Environment and Conservation
Memphis Field Office
Division of Superfund
BRAC Cleanup Team Member

FINAL PAGE

ADMINISTRATIVE RECORD

FINAL PAGE