592 0 File: 541.460.000n C.H.



## THE MEMPHIS DEPOT TENNESSEE

## ADMINISTRATIVE RECORD COVER SHEET

AR File Number <u>592</u>

## MEMORANDUM FOR THE RECORD

-

## 23 AUGUST 2000

SUBJECT: Meeting Minutes, BCT Review of the Draft Pre-Design Data Collection Plan for the Main Installation (MI).

 The on-board review of the subject work plan was held on 23 August 2000, at the TDEC Office, Mt Moriah Road, Memphis, TN. The following is the list of attendees: Shawn Phillips, DLA Turpin Ballard, EPA James Morrison, TDEC Brian Deeken, TDEC Brian Deeken, TDEC Jack Carmichael, USGS David Ladd, USGS Stephen Offner, CH2M HILL Dorothy Richards, Corps of Engineers Scott Bradley, Corps of Engineers Jordan English w/ TDEC participated in parts of the meeting.

2. Steve Offner presented an overview of the Draft MI Pre-Design Data Collection Plan. The Dunn Field Work Plan is a separate work plan, the Dunn Field wells are not shown in this work plan.

3. Turpin Ballard said that if there are no impacts from the study, the results will be folded into the Remedial Design Package report. If there is a significant change, as defined by a change in the treatment technology, then an Explanation of Significant Differences (ESD) would be required. Shawn Phillips asked what type of change would be considered a fundamental change, thereby requiring an additional public comment period. An example of a fundamental change is going from treatment to no treatment.

4. Offner said the findings would be documented in a Technical Memorandum to be included as part of the ROD. The Tech Memo would be finalized in March 2001. Turpin said that ROD development should continue and review the data, as it is available.

5. Jim Morrison said that he is flexible in the number of wells he has requested He believes that wells can have multiple uses in addressing groundwater issues. He needs to be convinced that there is enough data He said that soil samples can give you a false negative, based on his experience at Millington, therefore, the lack of CVOCs in the soil does not mean there is not DNAPL in the groundwater. Later in the day, the history of the observational approach used during the RI at the MI was discussed when Jordan English attended a portion of the meeting. The observational approach used by the BCT was implemented in some areas where operations could have caused impacts to the groundwater. In these areas soil borings were initially done. If there were exceedences of the U.S. EPA Region III "Soil to Groundwater Transfer Criteria" from the Region III Risk Based Concentration table, then groundwater from these areas was further sampled

in a second phase. Morrison's reference back to soil samples giving a "false negative" was in response to areas that did not go through a phase two round of sampling.

•

6. Offner discussed Figure 32-9, which shows total distribution of VOCs in subsurface soil, including the DRMO yard, Former Screening Sites 35, 36, and 37. VOC concentrations in the soil are in exceedance of the EPA's groundwater protection criteria. This was addressed during phase two RI sampling through PZ 6. Offner recommends a sampling location down gradient to satisfy one of the DQOs, as requested by TDEC. The general groundwater flow direction here is SW on both Conceptual Site Models (CSMs), although Morrison noted that there was a slight difference in flow direction between the two CSMs. PZ06 is still there. Offner will need to get an answer on the screen interval of this PZ.

7. Phillips said that for purposes of getting multiple uses out of one boring, to sample when we hit the top of the confining unit clay. Use hollow stem auger with a continuous sample. A Sudan Dye test will be used to test for DNAPL If the Sudan Dye test indicates DNAPL, finish the boring as a shallow well at the clay (*Please note that this approach was revised and discussed per paragraph 20 of these minutes*). Move adjacent to the shallow well and install a deeper well, developing it into confined sand for the purpose of satisfying the USGS promoted conceptual site model DQO. Is PZ06 finished at the bottom of the fluvial? How thick is the saturated thickness? Again, this is the question Offner was to answer.

8. Ballard said that if a well is not a critical point needed for remedial design, and if there is no contamination found, then there is no reason to install the deeper well. It was discussed that a decision tree should be developed to consider the possibilities. The tree should ask if there is evidence of a DNAPL source, and do we need that location for potentiometric control. Should the well be completed? The question was asked "how much additional cost is needed to install a well, once clay has been tagged." The answer was significant when future sampling, maintenance, and ultimate well closure is considered. Ballard said that if the BCT could agree to the logic tree it would save time.

9. Brian Decken asked if PZ06 was usable. Offner said it was, but it had been dormant, and the roadbox could not be opened in the most recent water level gauging event in April 2000. It was initially sampled after it was installed in 1998. Phillips said that PZ06 could be opened and looked at again.

10 Offner said that an OVA-FID will be used for field screening, and so will the Sudan Dye Test. A sample can be sent for a 24 hour turnaround at a local fixed based lab to tell if there are indicators of a DNAPL to install a well. The sample collected for off site analysis would be a saturated sample and would be analyzed for SW-846 Method 8260B. With a saturated sampled analyzed using this EPA method, the presence of a DNAPL, or even much lower levels of VOCs, would be certain. This would satisfy the DNAPL DQO.

11. Ballard asked if any detect should be considered as evidence of a DNAPL. Offner said, for threshold criteria purposes, that a reading of 100 ppm or greater on the OVA-FID could trigger collection of a sample for lab analysis for VOCs.

12. Jack Carmichael said that we should target the worst potential sites (as they relate to the confined sand aquifer) first, because they may have influence on other well locations. Discussion by the group and USGS included the topic of double casing any deeper well below the fluvial aquifer. USGS agreed that double casing these wells was the prudent method. Steve Offner also agreed. Jack Carmichael and David Ladd stated that the deeper wells near MW24 and well MW27, and the well cluster SE of wells MW18/MW38 should be installed first to better define the conceptual site model. Based on the findings from these wells and the sampling locations downgradient of the potential DNAPL sites, then additional deeper wells may be needed Carmichael and Ladd agreed that deeper confined wells on the NE, SE and SW portions of the MI were not needed at this time (see attached matrix for the location of the deeper wells agreed to).

13. The group discussed the southwest corner of the Depot, and the area near sites SS89, RI32 in great detail. The group agreed that 3 new fluvial wells would be installed in this area: One along the southern boundary of the Depot between MW22 and MW47; one well approximately 100' east of bldg 1084; and one well between the southern ends of bldgs 972 and 970. The wells would be keyed into the top of the confining unit clay (or rather into the base of the fluvial deposits). The elevation of the clay will be used to help confirm the CSM. BREAK.

14. Phillips asked about proceeding with the ROD. He said that we can look at the data as soon as it is available, and if it looks like a probable ESD, the ROD is still on schedule. Deeken said that if the ESD comes after the ROD is signed, that's bad as far as TDEC is concerned. The point being, if we as a group would have known that the ROD was going to need a significant change, yet we went ahead and signed the ROD without delay with knowledge that we would be changing it within a short period of time. He wants to make sure that the signed ROD has the correct remedy Turpin Ballard said that data is still collected after the ROD for remedial design. This data can be included in an ESD.

15. CH2M HILL should be able to mobilize in late September. Turpin Ballard said that if HILL has all comments today, the next version of the work plan should be a Draft Final, and would only require checking comment responses to finalize

16. An observational (or phased) approach was used in studying the Main Installation during the RI. Ballard asked why we are going back and opening up screening sites that were formally eliminated. Morrison's point is that soil analytical data can give a false negative to indicate if DNAPL exists and that the groundwater in the area down gradient of these sites was never investigated

17. The meeting moved to a review of the "Map Legend" sheet of the "TDEC Proposed Well Locations with DQOs to address Objective 2 of the Main Installation Pre-remedial

Design Work Plan" to determine if each site listed should be considered a Long Term Operational Area (LTOA). Morrison said that for a site to be considered a LTOA it must have operated for a long time, and had significant potential for a release. The results of the list are as follows:

- SS46 is to be captured with SS42-43, therefore SS46 drops out; however, Morrison stated that the new fluvial well had better be located down-gradient of SS42/43, or another well would be required.
- SS69 and TEC90 dropped out and will not be further investigated.
- RI58 and SS66 are to be combined; one fluvial well will serve for both and it will be installed SW of RI58.
- RI59: Phillips will talk to Jewel Edwards and Jack Kallal regarding past practices for pesticide usage and the use of solvents as a carrier for the pesticides.
- SS83: Phillips will talk to Mr Truitt about past practices and the type of hazardous materials used at this site Morrison asked why SS83 was sampled. Scott Bradley said it was because it was a site on the Dunn Field Buried Materials Map, Drawing 16-4 D.
- SS78 was added based on the concentrations of TCE found in the soil.
- All the other sites (RI27, RI32, SS34, SS35, SS42-43, SS80, and SS89) remained in the list.

18 Offner and the COE will review MW25 and MW26 to see if they were terminated into clay, and where the depths of the screened intervals are. This will help to address RI58/SS66, RI59 and the SE portion of the Depot.

19. Morrison stated that he wanted to see each specific site shown on a separate map, and he wanted the whole site to be identified (boundary of site indicated), not just a dot on a map. In addition, Morrison stated that he wanted the proposed monitoring well locations shown on these specific maps, not on a Depot-wide map that does not show the specific sites, buildings, roads, etc.

20. The wells to be installed near SS42/43 (former PCP dip vat) will be analyzed for SVOCs. PCP will be used as the indicator compound to determine if the groundwater has been impacted (presence of a DNAPL) from the former operations at the PCP dip vat.

21. At the end of the meeting Phillips and Ballard asked Morrison if each LTO area discussed during the meeting (and defined above) required the installation of a monitoring well Phillips and Ballard suggested the soil boring be initially screened in the field and a saturated soil sample collected at the top of the confining clay and analyzed at a fix-based laboratory to determine the presence or absence of DNAPL. If there were no indication that a DNAPL existed, then no well would be installed, per Phillip's and Ballard's suggestion. The boring would be grouted and abandoned. Morrison stated that he wanted to see a groundwater sample collected and analyzed from a well at each of the referenced LTOA locations. Phillips asked Morrison to reconsider the soil boring/fixed-

based lab analysis approach suggested to satisfy the DNAPL DQO. Phillips requested Morrison respond to him either Friday or early the following week.

A matrix indicating the sites and the number of new wells/sampling locations (and their purpose), as a result of the meeting, is attached.

Please, direct any questions or comments to Phillips, 901-544-0617.

|            |                                   |      |           | the second setting and the second second  |                                     |                            |
|------------|-----------------------------------|------|-----------|---|-------------------------------------|----------------------------|
| LI UA GILE | Site Description                  | FU # | Desc Site | Meeting Meeting   | Strategy                            | Well Purpose               |
| SS69       | Flame thrower/fire practice area  | FU2  | 1236      | Eliminated from further investigation   | NA                                  | NA                         |
|            |                                   |      |           | Shawn to interview Jewel Edwards and<br>Jack Kallal regarding pesticide/solvent |                                     |                            |
| RI59       | Pesticide mixing area, B-273      | FU2  | 1233      | usage   | TBD                                 | TBD                        |
|            |                                   |      |           |   | 1 boring with fluvial soil          | Addresses LTOA/DNAPL       |
| RI27       | Old recoupment area               | FU3  | 1631      | Stayed in list for investigation  | sample lab analysis*                | Dao                        |
|            |                                   |      |           | Both sites stayed in list for investigation                                     | 3 additional wells will be          | Addresses LTOA/DNAPL       |
| RI32       | Paint/sand blasting/SS31-33       | FL13 | 1632      | They are grouped as the SW corner of  | installed to the bottom of          | DQO (also provides         |
|            |                                   | 2    |           | the MI  | the fluvial deposits                | stratigraphy information   |
| SS89       | Paint, solvent, acid spills area  | FU3  | 1636      |   |                                     | needed for the CSM DQO)    |
|            |                                   |      |           |   | 1 boring with fluvial soil          | Addresses t_TOA/DNAPL      |
| RI34       | Maintenance shop and UST          | FU3  | 1633      | Stayed in list for investigation  | sample lab anatysis*                | DQO                        |
| TEC90      | Old Pond Area                     | FU3  | 1637      | Eliminated from further investigation   | NA                                  | NA                         |
|            |                                   |      |           |   | 1 boring with fluvial soil          | Addresses LTOA/DNAPL       |
| SS35       | DRMO Storage                      | FU4  | 20211     | Stayed in list for investigation  | sample lab analysis*                | DQO                        |
|            |                                   |      |           |   |                                     | Addresses LTOA/DNAPL       |
|            |                                   |      |           |   |                                     | DQO (also provides         |
|            |                                   |      |           |   |                                     | Information needed for the |
| SS42-43    | PCP dip vat/PCP UST               | FU4  | 20212     | Stayed in list for investigation  | 1 additional fluvial well           | CSM DQO)                   |
|            |                                   |      |           | Eliminated from further investigation   |                                     |                            |
|            |                                   |      |           | Data will be captured from well installed                                       |                                     |                            |
| SS46       | Pallet Drying                     | FU4  | 20215     | for SS42/43   | ZA                                  | NA                         |
|            |                                   |      |           |   | 1 boring with fluvial soit          | Addresses LTOA/DNAPL       |
| SS80       | Fuel and cleaner dispenser, B-720 | FU4  | 20213     | Stayed in list for investigation  | sample lab analysis*                | DQO                        |
|            |                                   |      |           | Shawn to interview Mr Truitt regarding  |                                     |                            |
| SS83       | Dried paint/POL disposal area     | FU4  | 20214     | ste operations  | 180                                 | TBD                        |
|            |                                   |      |           |   |                                     | Addresses LTOA/DNAPL       |
| SS78       | Bldg 678                          | FU5  | 2434      | Added to list for investigation   | 1 additional fluvial well           | DQO                        |
| RI58       | Pad 267 Old Pesticide shop        | FU6  | 2832      | SS66 to be combined with RI58 for   | 1 boring SE of RI58 with            | Addresses LTOA/DNAPL       |
| 0000       | Vehicle Maintenance Shon          | EIF  | 28.2      | invesugation  | nuvrai soii sampie iau<br>analvsis* |                            |
| 0000       | אבווותה ואומווותוומוותה מוומה     | 22   | 5 C C Z Z |   |                                     |                            |

| CSM Well Location  | Well Type       | Purpose  |
|--|-----------------|--|
|  | Intermediate    |  |
|  | depth (Confined |  |
| Near SS42-43 (PCP Dip Vat)                                 | Sand Aquifer)   | Confirm CSM  |
|  | Intermediate    |  |
| South Central Boundary of MI at location of existing well  | depth (Confined |  |
| MW24   | Sand Aquifer)   | Confirm CSM (also to check for vertical migration of TCE or PCE)   |
|  | Shallow depth   |  |
| Southeast of MW18 and MW38                                 | (Fluvial)       | Confirm water table conditions                                     |
|  | Intermediate    |  |
|  | depth (Confined |  |
| Southeast of MW18 and MW38                                 | Sand Aquifer)   | Checked for perched water table                                    |
| Former tocation of HY03 along the southern boundary of the | Shatlow depth   | Potentiometric control between the SE corner of the MI, offsite to |
| I  | (Fluvial)       | the SE, and convergence area near MW24                             |

.

• Note At these locations, a monitoring well may or may not be completed based upon the results of the saturated soil sample taken at the base of the fluvial deposits

•



