



**Subject: Final Minutes, Quarterly Restoration Advisory Board (RAB) Meeting  
Longhorn Army Ammunition Plant (LHAAP)  
Location of Meeting: Conference Call  
Date of Meeting: July 15, 2020, 6:00 PM Central Daylight Time (CDT)**

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**Meeting Participants:**

Army BRAC:	Rose M. Zeiler
USACE:	Aaron Williams
USAEC:	Andrew Maly
Bhate:	Kim Nemmers
APTIM:	Bill Foss
HDR, Inc.	Philip Werner
USEPA Region 6:	Janetta Coats, Bill Rhotenberry, and Kent Becher-USGS Liaison
TCEQ:	April Palmie
USFWS:	Paul Bruckwicki
RAB:	Present: Judy VanDeventer, Deon Hall, John Fortune, Charles Dixon, Richard LeTourneau, and Sharron McAvoy Absent: Terry Britt; John Pollard, Jr., Tom Walker, and Nigel R. Shivers
Public:	Laura-Ashley Overdyke (Executive Director of the Caddo Lake Institute [CLI]); George Rice (CLI)

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An agenda for the RAB meeting, a color copy of the Bhate Environmental Associates, Inc. (Bhate) slide presentation, and handouts (see list at end of meeting minutes) were provided for meeting attendees via electronic mail (e-mail).

**Welcome and Introduction**

Ms. Rose Zeiler, the RAB Co-Chair, called the meeting to order at 6:05 pm. Ms. Zeiler stated that each slide number would be called out by the presenter to help everyone but also asked that everyone state their name at the beginning of their discussion since we cannot see one another. Ms. Zeiler stated that the agenda was on Slide 4/Page 4 of the presentation.

Ms. Zeiler presented Slide 5, stating that the RAB is held every 3 months, and explained the mission of the RAB is to promote community awareness and obtain constructive community review and comments on environmental restoration activities. Given that there were no new attendees, Ms. Zeiler skipped Slide 6 though she explained the purpose of the slide.

Ms. Zeiler encouraged everyone to visit the website ([www.longhornaap.com](http://www.longhornaap.com)) where information is available for upcoming field work in July and August. For Slide 7, Ms. Zeiler asked if anyone had heard from John Pollard. Ms. Sharron McAvoy stated that she had not heard anything. Ms. Judy VanDeventer joined later in the call and also stated she had not heard anything. An action was taken by Ms. Zeiler to write Mr. Pollard a letter asking about his continued interested in being a member of the RAB. The letter is to be sent certified to verify receipt.

Ms. Zeiler asked if the RAB members had reviewed the January 2020 RAB meeting minutes. Mr.



Richard LeTourneau made a motion to approve the January 2020 meeting minutes. Mr. John Fortune seconded the motion.

### **RAB Meeting Format and Presentation**

Ms. Zeiler explained that it is unknown if the October 2020 RAB meeting will be able to be held in person. Ms. Zeiler asked for input assuming that the option to meet in person is still not allowable. Ms. Janetta Coats, from the community perspective, suggested that people needing hard copies should make a request for a hard copy. Mr. LeTourneau and Ms. VanDeventer requested hard copies. Ms. Zeiler stated that Mr. Pollard was sent a hard copy because he receives RAB material by regular mail, but that her assumption that having e-mail meant having a computer may not be correct. Ms. VanDeventer was asked to poll the RAB members to determine whether a teleconference platform like Zoom was requested or if the call in option was acceptable and then who needed hard copies prior to the meeting in October 2020. Ms. April Palmie asked if the current format was acceptable if everyone had copies of the slides whether hard copy (paper) or electronic and can call in. Ms. Zeiler stated that hard copies will be printed in the future and could be left at a location for the public to pick up or be mailed in sufficient time to receive it. Ms. Kim Nemmers asked for actual mailing addresses from those wanting a hard copy to allow for sending via overnight mail via Federal Express. Ms. Zeiler concluded the discussion that we will keep the lines of communication open to determine the best approach for the next meeting.

Ms. Zeiler asked if anyone knew of anyone interested in joining the RAB. Mr. Fortune said he would keep his ears open and didn't know that new RAB members were needed. Ms. Zeiler stated that the Army is always looking for more RAB members.

### **COVID-19 Status Update**

Ms. Nemmers stated that a combination of an Executive Order and Proclamation issued by the Texas governor on July 2, 2020, required wearing face coverings in public spaces, maintaining 6 feet of social distancing, and minimizing group sizes to 10 people or less. Ms. Nemmers explained that these requirements may be less strict in areas with decreasing trends but overall does apply to a majority of the State. Regardless, Ms. Nemmers explained that the reason for the meeting being done remotely is to ensure everyone's safety and still communicate the information for LHAAP.

### **Defense Environmental Restoration**

#### Overview of Sites

Ms. Nemmers discussed the documents currently in progress. Ms. Nemmers explained that Remedial Action Operation (RA-O) Reports are being prepared for LHAAP-12, LHAAP-46, and LHAAP-58. Ms. Nemmers stated that RA-O occurs following remedy implementation at a site. In addition, Ms. Nemmers stated that there are several Remedial Action Completion Reports (RACRs) being prepared for remedies implemented at LHAAP-04, LHAAP-16, and LHAAP-50. Ms. Nemmers explained that the remedies at LHAAP-04 and LHAAP-16 were completed last year but that the remedy implementation at LHAAP-50 was completed this spring. Ms. Nemmers stated that the other document in process is the quarterly report for the groundwater treatment plant



(GWTP).

Ms. Nemmers stated that the field work completed since the RAB meeting in January 2020 included a new well installed at LHAAP-46 to define the plume. Ms. Nemmers stated that the new monitoring well was just sampled in July 2020. Ms. Nemmers stated that groundwater sampling had been completed at several sites, including LHAAP-04 to assess the remedy implemented, and that surface water sampling had been completed. Ms. Nemmers explained that injections had been completed at LHAAP-50 as the remedial action.

#### LHAAP-04

Mr. Bill Foss provided an update on groundwater sampling at LHAAP-04 to assess the performance of the injections completed. Mr. Foss stated that the site is a former wastewater treatment plant site that has perchlorate above the Protective Concentration Level (PCL.) Mr. Foss stated that the purple dots on the Slide 11 figure are the November 2019 injection points. Mr. Foss stated that two monitoring events (February and May 2020) have been completed since the injections were completed. On Slide 12, Mr. Foss explained that each of the five monitoring wells that previously had perchlorate present are demonstrating that perchlorate is detected below the PCLs in the May 2020 event, which is good news but will need to be verified in subsequent quarterly monitoring events.

#### LHAAP-50

Mr. Foss then discussed LHAAP-50, explaining that the Record of Decision (ROD) had selected a remedy of Monitored Natural Attenuation (MNA). After years of sampling, MNA was determined to not be successful, and so the contingency remedy of in-situ enhanced bio remediation (ISEB) was selected as the contingency remedy via an Explanation of Significant Difference (ESD). The injections for the ISEB were completed in March 2020. Emulsified vegetable oil, nutrients and microbes were injected into 12 locations. Mr. Foss explained that six of the injections were from 18 to 60 feet below ground surface (bgs) and that the other six injections were 1 foot bgs to 35 feet bgs. Mr. Foss stated that the first quarterly performance sampling was completed a week prior to the meeting. On Slide 14, Mr. Foss pointed out the location of the injections as the yellow dots with arrows and explained that the injections were focused on the heart of the plume. Mr. Foss said that the remedy performance would be presented at later RAB meetings.

#### LHAAP-46

Mr. Foss explained that monitoring well LHSMW21 had solvents detected that required additional delineation. Mr. Foss pointed out that the groundwater flow is generally straight east. So, a new monitoring well was installed as shown on Slide 15 about a month ago and that a groundwater sample was collected earlier in the month of July 2020. Mr. Foss stated that the data will be used to determine if the plume is defined.

#### Look Ahead

Ms. Nemmers then discussed the 3-month look ahead for LHAAP field work. Ms. Nemmers explained that LHAAP-03 required some additional excavation and then backfilling to be completed once weather allowed. Ms. Nemmers said that LHAAP-17 had the same issue where



it required backfilling, weather allowing. Ms. Nemmers said that RA-O sampling was completed at LHAAP-50 and that RA-O sampling was in progress at LHAAP-16. Ms. Nemmers stated that RA-O sampling at LHAAP-04 was planned for August 2020.

Ms. Nemmers discussed the document look-ahead and explained that several of the documents that were presented before would be finalized in the coming months. Ms. Nemmers stated that the Land Use Control (LUC) Management Plan is updated annually as sites progress. Ms. Nemmers explained that the LUC Management Plan Update could be pushed back to allow for the recordation of two new LUC boundaries this year as the document is usually prepared in September. Ms. Nemmers explained that the quarterly reports sometimes include the LHAAP-18/24 groundwater data and the one for the Second Quarter will include the June 2020 semi-annual sampling information. Ms. Nemmers explained that the GWTP treats extracted groundwater from site LHAAP-18/24 though it has treated groundwater from LHAAP-16 in the past, prior to the recent remedy implementation.

#### Groundwater Treatment Plant

On Slide 18, Ms. Nemmers explained that the data is included in a handout. Ms. Nemmers explained that the graph shows water treated and discharged to the Harrison Bayou. Ms. Nemmers stated that there have not been any issues with the GWTP as evidenced by the similar volumes of water of a little over 400,000 gallons discharged in the recent months. Ms. Nemmers pointed out that the higher volumes of water discharged include water discharged from the INF Pond.

#### Surface Water Sampling

Ms. Nemmers said that Slide 19 includes the surface water results from the first two quarters of 2020 and that perchlorate detections are low level.

#### Status of Regulation of Perchlorate under the Safe Drinking Water Act

Ms. Zeiler explained that the Environmental Protection Agency (EPA) issued a final action on perchlorate under the Safe Drinking Water Act (SDWA) in June 2020. Ms. Zeiler explained that the 2011 determination to regulate perchlorate was withdrawn. As stated in Slide 20, Ms. Zeiler explained that the EPA's determination to not regulate perchlorate is based upon perchlorate not occurring frequently and at levels of public health concern in drinking water and that regulation would not provide a "meaningful opportunity for health risk reduction for persons served by public water systems." Ms. Zeiler then shared that LHAAP will continue to the use Texas Commission on Environmental Quality (TCEQ) PCL of 17 micrograms per liter ( $\mu\text{g}/\text{L}$ ) at sites with RODs signed after the dispute was resolved and for LHAAP-50. Ms. Zeiler then presented Slides 21 and 22 as shown. Ms. VanDeventer, Mr. Fortune, and Ms. Laura-Ashley Overdyke (on half of the Caddo Lake Institute) requested copies of the EPA document entitled "Perchlorate Recommendations for Public Water Systems" to which Ms. Zeiler agreed to send. Ms. Zeiler explained that Slide 23 is from EPA headquarters (HQ). Mr. Bill Rhotenberry stated that the EPA HQ is stating that the EPA is still regulating perchlorate via the health advisory despite a maximum contaminant level (MCL) not being developed.



LHAAP-18/24, LHAAP-29, and LHAAP-47

Mr. Aaron Williams stated that he was on Slide 24 that showed the three sites to be discussed and then introduced Mr. Philip Werner as the Project Manager for HDR, Inc., who is managing the other three sites at LHAAP (LHAAP-18/24, LHAAP-29, and LHAAP-47) that required a ROD. Mr. Werner started with Slide 27 for LHAAP-47 explaining that field work commenced on May 27, 2020, and will finish up no later than July 29, 2020. Mr. Werner explained that the ongoing work is follow-on to two prior investigations at LHAAP-47. Mr. Werner explained that a new well had been installed to replace a dry well that previously had high levels of trichloroethylene (TCE). Based upon the results from that monitoring well, additional investigation was scoped. The first investigation was done in November 2019 and corroborated the summer 2018 field results. The ongoing investigation includes an additional 27 direct push technology soil borings and collection of 110 soil samples and 33 groundwater samples. Mr. Werner explained that there were approximately 4 soil samples per soil boring within both saturated and unsaturated zones, and then groundwater grab samples were also collected. Mr. Werner explained that in some soil borings, two grab groundwater samples were collected, such as one from the shallow aquifer and one from the upper intermediate aquifer. Mr. Werner explained that the purpose of the investigation is to identify the source, extent, and potential presence of residual dense non-aqueous phase liquid (DNAPL). Mr. Werner stated that groundwater samples were collected from 6 of 7 existing monitoring wells dating back to 2008 to evaluate groundwater contamination. Mr. Werner stated that 7 of the 8 new monitoring wells have been installed. Based on data collected in the field, an upper intermediate well was installed in place of the deep well that had been planned. The other six monitoring wells included three shallow zone and upper intermediate zone wells. Mr. Werner explained that the wells would be developed and then sampled.

On Slide 28, the soil results for TCE are presented from the June 2020 field effort. An onsite mobile laboratory was used to collect real-time data. Initially eight locations were pre-selected. A total of 27 soil borings were eventually advanced. Mr. Werner explained that the results led the investigation to extend to the northeast and to the south and southwest from Building 46A. Mr. Werner said that high hits of TCE were detected.

On Slide 29, Mr. Werner explained that the groundwater plume is based upon direct push technology shallow groundwater grab samples for TCE.

On Slide 30, Mr. Werner explained that the results are for TCE in grab groundwater samples for the Upper Intermediate groundwater zone aquifer. Again, Mr. Werner explained that the results mimic the information from the shallow groundwater grab samples. Mr. Werner pointed out that some of these direct push technology points within this plume actually came up dry and the plume will be refined in the report presenting the information.

On Slide 31, Mr. Werner stated that the slide shows TCE results in the shallow and upper intermediate zone wells. Mr. Werner stated that the blue locations are the new wells that are being installed in July.



Mr. George Rice asked if DNAPL had been detected at LHAAP-47. Ms. Zeiler explained that DNAPL itself had not been identified but that residual DNAPL appears to be present due to the high levels of TCE. Ms. Zeiler said that based on Dr. John Cherry's rule of thumb the concentrations are within the 10-percent range of solubility, which is indicative of DNAPL.

Mr. Werner then presented Slide 25 explaining that HDR, Inc., had finalized the Proposed Plan and RODs for LHAAP-18/24 and LHAAP-29. The LHAAP-18/24 ROD was signed and distributed on March 2, 2020. Initial LUC notifications and public notices were completed in March 2020 as presented on Slide 25. Mr. Werner said that the Pre-Design Investigation Work Plans for LHAAP-18/24 and LHAAP-29 will hopefully start soon for issuance as draft in November 2020 and January 2021 respectively. The ROD was signed for LHAAP-29 in September 2019.

### **Next RAB Meeting Schedule and Closing Remarks**

Ms. Zeiler then discussed the next meeting with the RAB members. It was decided that the next RAB Meeting will be held on **Wednesday, October 21, 2020**, with the **meeting starting at 6:00 pm CDT**. Ms. Zeiler assumes we will be meeting by teleconference. Ms. Zeiler said that Ms. VanDeventer will poll the RAB members to identify preferences for using Zoom or other methods or continue with a teleconference. Ms. Zeiler said that we know of three RAB members that want hard copies but will explore alternatives for providing hard copies to the public. Ms. Zeiler suggested a mid-September deadline for making decisions on the RAB format and documents.

### **Adjourn**

The meeting adjourned at 7:05 pm CDT.

### **July 2020 Meeting Attachments and Handouts:**

- Color Copy of Bhate Presentation Slides
- GWTP – Processed Groundwater Volumes Handout
- Surface Water Sampling Handout