

**JOINT BASE MCGUIRE-DIX-LAKEHURST (JB MDL)  
LAKEHURST TECHNICAL REVIEW COMMITTEE MEETING  
JULY 27, 2016**

**1) Attendees:**

Ms. Carla Struble, Project Manager, USEPA  
Mr. Rob Alvey, Hydrogeologist, USEPA  
Ms. Donna Gaffigan, Case Manager, NJDEP  
Mr. Joseph Marchesani, Hydrogeologist, NJDEP  
Ms. Lisa MacCarrigan, Pinelands Commission  
Mr. Nelson Santiago, Ocean County Dept. of Health  
Ms. Theresa Lettman, Pinelands Preservation Alliance  
Mr. Michael Figura, Environmental Engineer, Joint Base McGuire-Dix-Lakehurst  
Ms. Susan Trussell, Project Manager/JBMDL PBR, USACOE, Tulsa District (by phone)  
Ms. Andrea Graham, Technical Lead, USACOE, Baltimore District (by phone)  
Mr. Chuck Lechner, Technical Support/Lakehurst Sites, USACOE, Baltimore District (by phone)  
Mr. Jim Bedessem, Technical Lead, Arcadis (by phone)  
Mr. Tom Crone, Asst. Project Manager, Arcadis  
Ms. Whitney Plasket, Lakehurst Task Manager/Technical Lead, Arcadis  
Ms. Katrina Harris, Bridge Consulting/Arcadis

**2) Handouts:**

- Meeting Agenda
- Presentation Slides

**3) Opening, Introductions, Administrative Items, Minutes:**

Mr. Michael Figura called the meeting to order at 10:12 a.m., and everyone introduced themselves.

Mr. Tom Crone asked for any comments on the April 27, 2016 minutes. Ms. Carla Struble suggested fixing the grammar at the top of page 4, 2<sup>nd</sup> paragraph, last sentence. No other comments were offered, and Mr. Crone advised the minutes would be finalized with the one change.

Mr. Crone reviewed the agenda and meeting objectives.

Mr. Crone reviewed Action Items from the last meeting, and the team updated the Action Items.

Ms. Lisa Carrigan announced this would be her last meeting as she had resigned from the Pinelands Commission. The team wished her well in her new job.

#### 4) Update on Areas A/B and C:

Mr. Crone stated there are six sites included in Areas A/B and C and displayed a map showing the location of Areas A/B and C.

Mr. Crone advised that Arcadis had received funding the prior week to proceed with the recommendations in the plume stability study report for active remediation at three sites. He stated Arcadis is recommending monitored natural attenuation for LF029 and AT014 and likely turning the bioventing system back on and expanding the system at AT016.

Mr. Crone reviewed a chart showing the status of documents and sampling.

- **MNA/PSS Update – Year 2, Quarter 3:** The year-two third-quarter data was submitted to the regulators on March 8th; review is not required but any comments will be addressed in the final plume stability report.
- **Final MNA/PSS Report:** The draft Plume Stability Report was sent to the regulators on April 28. The draft report carries forward the recommendations from the year-one report that three sites return to active remediation and provides recommendations on the other three sites.
- **Semi-Annual Report:** JB MDL completed its review on July 20<sup>th</sup>; comment from the regulators are at their discretion.
- **Pre-Design Summary and Pilot Test Notification:** Submitted to regulators on July 25; work includes drilling and pilot study to better understand groundwater impacts. Pilot test will begin at end of August and last for several days.
- **Semi-Annual Sampling:** The next semi-annual sampling is scheduled for October 2016.

Ms. Whitney Plasket presented a summary of the sampling results from April 2016 for Area A/B groundwater, noting there were no significant changes from prior sampling events. She noted the April event included all the wells since it was a semi-annual event. She reviewed detections as noted on the displayed map and noted the only significant change in detections above PQLs was at monitoring well CF with tetrachloroethene detected at 810 ug/L. She noted there were no detections at monitoring well MWAB-7 where there have been occasional TCE detections in the past; Mr. Crone noted the well had been purged. Ms. Plasket noted a petroleum-like substance was observed at the top of monitoring well EZ, and it will be further investigated during upcoming sampling events.

Mr. Figura asked if the system at LF042 was turned on to address the elevated level of tetrachloroethene in well CF, and the group discussed whether it should be turned back on. The group agreed Arcadis will evaluate turning the system back on, and Ms. Plasket said Arcadis will need to look at air permit requirements.

Mr. Rob Alvey asked if Arcadis used Hydrasleeves, and Mr. Crone said Hydrasleeves had been used. Mr. Alvey advised a new version is available for sampling where PFOAs might be present. Mr. Crone said Arcadis had discussed the Hydrasleeves with the manufacturer who had advised they did not have any PFOA components.

Mr. Crone and Mr. Figura discussed the need to exchange information about well sampling being done by Arcadis with Hydrasleeves and the PFOA SI contractor. Mr. Crone said Arcadis will provide Mr. Figura with a list of wells with Hydrasleeves in them, and Mr. Figura will let Arcadis know which wells the SI contractor will be sampling. Ms. Donna Gaffigan asked if the removal of a Hydrasleeve would have any impact on the sampling results, and Ms. Plasket stated it would not.

Mr. Crone discussed the preparation of an Explanation of Significant Difference (ESD) for sites where compounds have been detected that were not listed in the Record of Decision. He noted the ESD will also address a remedy change. The group discussed whether there was a need for the ESD. Ms. Struble said she would discuss with EPA management, and Mr. Figura said he would check with the Air Force chain of command, as well as check the minutes from a meeting with EPA risk assessors about which standards need to be met. Ms. Struble requested Mr. Figura send her an email outlining why an ESD is being proposed; Mr. Crone said Arcadis will prepare the rationale in the next few weeks and send to Mr. Figura.

Mr. Crone briefly discussed the exit strategy and advised it will be in the Remedial Design which will be sent to the regulators for review.

Ms. Plasket discussed the next steps at TT013, LF042, and TT017. She stated Arcadis had completed a limited field event scope to include purge testing at select wells and a limited geoprobe investigation to determine soil COC concentrations at TT013 and TT017. She advised the AS/SVE systems at TT013 and TT017 were being turned back on until these systems are expanded or replaced. She noted Arcadis is developing a remedial design to summarize additional data, pilot testing, and modify or replace existing treatment systems. Ms. Plasket stated the installation of the treatment systems will occur early in 2017.

Ms. Plasket advised the PDI and confirmation sampling had been completed in early May. She showed on an aerial photograph where xylenes in soil exceed the remedial goal. Mr. Crone discussed the sampling results at Site TT017 and noted Arcadis will be recommending no further action for soil at that site.

Ms. Plasket and Mr. Crone discussed the temporary well sampling locations and the purge testing performed. Mr. Crone noted the purpose was to gather additional data for designing treatment systems.

Ms. Plasket and Mr. Crone discussed the pilot test scope and objective. Ms. Plasket stated the objective is to look at design parameters. She noted they would be starting with a SVE step test which is a very conservative test. She stated they would then proceed with an AS step test, and a Continuous Rate test. Mr. Alvey stated these looked like appropriate steps.

Mr. Crone discussed the NJ requirements for air sparge, and Mr. Joe Marchesani said the Air Force could seek a variance.

Ms. Plasket showed and discussed additional maps showing the details of the pilot testing. She noted well installation would start August 9 and the pilot test would be done the week of August 29. She advised the results would be reported in the Remedial Design.

Mr. Crone discussed the next steps at LF029, AT014, and AT016. He noted the Air Force recognized the regulators are reviewing the MNA/Plume Stability Study Report recommendations, but the Air Force did move forward and fund the recommendations.

Mr. Alvey said he would like to do a site visit during the pilot test, and Mr. Crone said he would keep the pilot test schedule updated in Arcadis' weekly reports.

#### **5) Update on Area H:**

Mr. Crone displayed a map showing Area H. He noted the Annual Progress Report had been submitted to the regulators for review on April 7<sup>th</sup>. Ms. Struble advised EPA did not have any comments, and she will send an email so advising the Air Force.

Ms. Plasket reviewed the April 2016 sampling results. Mr. Crone noted the pump and treat system had been down for a month.

Ms. Plasket said the next semi-annual sampling event is scheduled for October 2016.

#### **6) Update on Areas D, I/J, and K:**

Mr. Crone displayed a map showing Areas D, I/J and K. He advised one minor comment from EPA had been received on the Annual Progress Report. Ms. Gaffigan said she would check on the status of NJDEP's comments.

Ms. Plasket said the next semi-annual sampling event is scheduled for November 2016.

#### **7) Military Munitions Response Program Remedial Investigation Update:**

Mr. Figura displayed a map showing the sites, which are numbered ZZ001 through ZZ006, and stated the sites consist of:

- Site 1, Sub-Target Site: Established during WWII as a practice target set-up in the shape of a German U-Boat.
- Site 2, MALRE Site: Installed temporary anchors for aircraft landing system; holes were created with the use of C4.
- Site 3, Lakehurst Proving Grounds: Ranges used for testing of both high explosive and chemical munitions.
- Site 4, Small Arms Range: Located on the western Lakehurst area boundary.
- Site 5, Trap Range: Located in wooded area to the north.
- Site 6, Rifle Range: Located in northeast; site includes a rifle, pistol, and skeet range.

Mr. Figura discussed the Lakehurst Proving Grounds (Site ZZ003) Parachute Jump Circle Investigation, noting all anomalies had been investigated. He pointed out the locations where the two chemical munitions had been found—one containing mustard and one containing phosgene. He showed photographs from the tour of the Explosive Destruction System (EDS), including the Deputy Commissioner of NJDEP. He noted the phosgene round was safely detonated on July 15, and the mustard round was safely detonated on July 17. He said the site would be completely demobilized within the next two weeks. Mr. Figura said the draft remedial investigation report is due to the Air Force early August and will be distributed to the regulators in late September or early October. He advised future plans for the site include awarding a surface clearance/advanced classification scope of work in FY2017 with the work to be conducted in FY2018. He advised an IRA will be awarded in FY2018 and conducted in FY2019-2020. Mr. Figura noted a smaller area had been investigated previously and 100 percent coverage is now being proposed.

Mr. Figura next discussed the MALRE remedial investigation (Site ZZ002) which is being conducted by Bay West. He advised a ground penetrating radar survey had been done across the entire site to identify anchor locations, as well as a magnetometry survey. He said potential anomalies had been identified including 13 possible anchor locations. Mr. Figura said the Air Force is planning to go out next month and hand dig the anomalies. He advised soil sampling will also be conducted to determine if there has been any impact; if contamination is found in the soil, groundwater would then be sampled.

Mr. Figura next discussed the Small Arms Range (ZZ004). He stated two new monitoring wells are being installed this week to confirm the impact of metals on the groundwater.

Mr. Figura reviewed the field work performed at the Trap Range (ZZ005). He said the recommendations at this site were to perform a removal action to remove lead and PAHs above remedial goals which would be developed in an EE/CA. He advised regulators will be receiving the EE/CA next month followed by a work plan and Action Memorandum.

Mr. Figura next discussed Site ZZ006, which consists of 3 smaller sites. He said the recommendations, based on the sampling results, are to perform a removal action at the former Rifle Range to remove lead-contaminated soil, and this site will also be in the EE/CA. He said at the former Pistol Range, in the northeast corner of the Rifle Range, 176 XRF and laboratory samples were collected and analyzed for lead and other metals. He said a removal action is also recommended to remove lead above removal goals, as well as the installation of one new groundwater monitoring well to determine if groundwater is impacted. Mr. Figura said at the Former Skeet Range, to the west of the Rifle Range, 107 XRF and laboratory samples were collected and analyzed for metals and PAHs. He said the results show the areas with elevated levels of PAHs are within the areas with elevated lead and metal proposed for remediation.

Mr. Figura reviewed the results from the Former Submarine Target (ZZ001) removal action. He advised 75 pieces of munitions and explosives of concern had to be detonated in two separate detonations, with all being three-inch practice bombs with a spotting charge. He noted they were not high explosive.

Mr. Figura reviewed the reporting schedule noting the RI Report and Well Sampling Report for the Former Submarine Target are due in September 2016. He said the RI Report for the Proving Grounds Parachute Jump Circle Targets is due in October 2016. Mr. Figura advised the EE/CA for the Trap Range and Rifle, Pistol and Skeet Ranges is due in August 2016, with the IRA Work Plan also due in August 2016, followed by the Action Memorandum in September 2016.

## **8. Five-Year Review:**

Mr. Figura advised EPA had two minor comments on the five-year review which the contractor is addressing through responses to comments. He said the report would then be finalized and distributed to the regulators.

## **9. Open Discussion:**

Mr. Figura invited discussion or comments. No comments were offered.

## **10. Action Items** (no. 1 from January 27, 2016 meeting; nos. 2-8 from April 27, 2016 meeting; nos. 9-11 from July 27, 2016 meeting):

1. Arcadis to update the Basewide QAPP, worksheet #15, to reflect final dispute resolution regarding the Pineland Standards as suggested by Ms. Gaffigan. (PENDING. Mr. Crone noted the update is being developed and should be distributed in a few weeks.)
2. Mr. Figura to send to Ms. Gaffigan the email regarding groundwater sampling by Bay West (COMPLETED).
3. Mr. Figura to check with Weston and provide Mr. Alvey with data on Lakehurst groundwater monitoring points, including coordinates and elevations. (PENDING. Mr. Figura said the information will be included with the RI report which should be submitted in September.)
4. Mr. Figura distributed memo about step-out sampling at Proving Grounds for informational purposes; let Mike know of any needed changes or comments. (PENDING. Ms. Struble said EPA sending comments this week relating to copper; Mr. Figura acknowledged sampling was completed by the contractor at risk and will discuss any additional sampling or data EPA thinks is needed. Mr. Figura will let Ms. Struble know exactly when sampling was conducted.)
5. Mr. Figura to check on whether the correct term or Livens projectile or projector. (COMPLETED. Projectile is correct term.)
6. Arcadis to review Mr. Alvey's suggestion regarding additional sampling. (COMPLETED. Mr. Crone agreed additional sampling would be needed to support a proposed MNA remedy; however, MNA is not being considered as an option. Arcadis may look at again in the future.)
7. Arcadis to review solar-powered spray aeration system trends. (PENDING. Arcadis will look at the data at the end of the year for comparison and in the future; will add to annual report.)
8. Ms. Struble to advise Mr. Figura on EPA's review time for the five-year review report. (COMPLETED)

9. Arcadis will provide Mr. Figura with a list of wells with Hydrasleeves, and Mr. Figura will let Arcadis know which wells the SI contractor will be sampling.
10. Ms. Struble will discuss proposed ESD with EPA management. Mr. Figura will check with the Air Force chain of command, as well as check the minutes from a meeting with EPA risk assessors about which standards need to be met. Mr. Figura will send Ms. Struble an email outlining why an ESD is being proposed; Arcadis will prepare the rationale in the next few weeks and send to Mr. Figura.
11. Arcadis will keep EPA informed of pilot scale testing so a site visit can be scheduled.

**11. Next Meeting:**

The next TRC meeting is scheduled for October 26 in Building 5 at 10:00 a.m.

The meeting was adjourned at 12:07 p.m.

## LAKEHURST 2016 DOCUMENT TRACKING

IRP Documents			
Area/Site	Document	Date <sup>1</sup>	Notes
D, I/J, K	Final 2015 Annual Report	8/18/16	
H	Final 2015 Annual Report	8/18/16	
A/B, C	Final 2015 Plume Stability Study	8/26/16	
A/B, C	Draft 2016 Semi Annual Progress Report	<i>August 2016</i>	
C	AT016 Confirmatory Sampling Notification	<i>October 2016</i>	

MMRP Documents			
Area/Site	Document	Date <sup>1</sup>	Notes
Site ZZ001 (Submarine Target)	Draft RI Report	<i>September 2016</i>	
Site ZZ001 (Submarine Target)	Draft Well Sampling Report	<i>September 2016</i>	
Site ZZ002 (MALRE site)	Draft Well and Boring Location Report	March 2016	
Sites ZZ005 (Trap Range) and ZZ006 (Rifle, Pistol and Skeet Ranges)	Draft EE/CA	<i>June 2016</i>	
Sites ZZ005 (Trap Range) and ZZ006 (Rifle, Pistol and Skeet Ranges)	Draft IRA Work Plan	<i>June 2016</i>	

Footnotes:

1. Dates which appear in italics are planned submittal dates.