M67001.AR.005906
MCB CAMP LEJUENE
5090.3a

FINAL MEETING SUMMARY IR PARTNERING TEAM MEETING 28 NOVEMBER TO 29 NOVEMBER 2012 MCB CAMP LEJEUNE NC

02/19/2013

CH2M HILL

Marine Corps Installations East – Marine Corps Base Camp Lejeune IR Partnering Team Meeting Minutes

MEETING DATES: November 28-29, 2012

LOCATION: Charlotte, NC

ATTENDEES:

Bryan Beck/NAVFAC
Dave Cleland/NAVFAC
Charity Rychak/MCIEAST MCB CAMLEJ
Patti Vanture/MCIEAST MCB CAMLEJ
Gena Townsend/EPA Region 4
Beth Hartzell/NCDENR
Randy McElveen/NCDENR
Marti Morgan/NCDENR
Chris Bozzini/CH2M HILL
Kim Henderson/CH2M HILL
Matt Louth/CH2M HILL
Cathy Weber/Osage
Shaun Whitworth/Osage
Monica Fulkerson, Keri Hallberg, Dan Hockett, Teg Williams/CH2M HILL attended topics

FROM: Kim Henderson/CH2M HILL

DATE: February 19, 2013

November 28, 2012

I. Introductions, Logistics, Check-In

Charity introduced Patti Vanture who joined MCIEAST-MCB CAMLEJ. Kim noted that some project managers will be attending from the CH2M HILL Charlotte office to present their topics. Marti indicated that Jim Batesons/NCDENR is their new environmental section head.

II. Review Agenda

Because no comments were received on the SDZ ESI, the groundwater sampling methods topic was proposed to be moved up to 3:00 pm and if time permits, a topic will be moved up from Day 2 to 4:30 pm.

III. Review Ground Rules/Action Items/Meeting Minutes

The status of Action Items identified during the previous meeting and on-going Action Items are tracked in the attached spreadsheet.

Consensus: September 2012 meeting minutes are approved.

IV. Base/Navy Time

Charity reviewed current Base topics as follows:

- **ATSDR –** Initiated vapor intrusion investigation based on letter from Jerry Ensminger. ATSDR visited the Base in November for a meeting to discuss data availability. CH2M HILL and Catlin have been supported. Their schedule is planned for completion within a few months.
- **NBC** - Plans to do a piece on Camp Lejeune's cleanup program the week of December 10, 2012.
- **RAB Site Visit** - Took place November 17 and was successful. Michael Curtis was planning to bring a reporter for a local newspaper who could not attend and he may attend the next RAB meeting.
- **SWMU 574 –** During MILCON for a new Hazmart facility within the HPIA area, stained soils were identified and removed and a SWMU was opened. A RCRA Facility Investigation was conducted and there were no unacceptable risks but there were RSL exceedances of primarily PAHs in soil. Beth indicated the State's

position is that although there are no unacceptable risks, because the concentrations were above the residential RSLs, an action would be needed. LUCs were considered but the State indicates that RCRA would define the LUC as a "clean" boundary. The Team discussed stepping out and collecting additional samples but because the site is within the HPIA and there are limited sampling locations based on surrounding paved/graveled areas, identifying a "clean" LUC boundary would not be likely. Randy noted that it seems the site would never be able to meet RCRA requirements.

Transferring to CERCLA was discussed as an option since risk assessments are acceptable under CERCLA. Gena raised concerns about transferring the site just because the rules are different. The Team discussed the requirements for transfers from RCRA to CERCLA and the rationale for why Sites 15 and 96 were transferred. Gena raised concerns of instituting a LUC at a SWMU where there is no unacceptable risk within the boundary of a CERCLA site where there are similar concentrations but no LUCs. She indicated that the SWMU is located within HPIA, OU 1 and there is justification that this is an extension of that contamination and the SWMU is part of and addressed as part of OU 1.

Beth and Marti planned to write a paper on the Federal Remediation Branch table and the purpose of the RSLs as screening levels but Beth discussed it with RCRA folks and the discussion was not successful but that the issue could be elevated within NCDENR. Bryan indicated that Kirk was going to discuss at Tier 2.

Charity did recently discuss a potential for industrial LUCs across the HPIA with the Base but previous data and soil concentrations have been risk managed with no further action. Gena recommended that the State document their requirement and the Base respond. Based on this, Beth recommended that Charity respond in writing to Beth's comment letter on the SWMU 574 RFI requesting clarification of the RCRA policy on no further actions and what levels need to be achieved.

Action Charity – Respond to the NCDENR's comment letter on SWMU 574 to request clarification of the RCRA policy on no further action and what levels need to be achieved and copy Gena.

V. UXO-23 NTCRA Update

Objective: Provide update of activities performed to date, present results for post-excavation composite base soil samples, present location of geotextile layer that is being installed, and project closeout.

Overview: A presentation was reviewed by Cathy. A summary of activities completed since last meeting was provided as follows:

- Soil treating and waste sampling is complete
- Excavated over 20,000 tons of non-hazardous soil and shipped to landfill (~52,000 total tons)
- Identified potential UXOs
- Conducted post excavation base composite base soil samples
- Commenced geotextile layer installation
- XRF screened and replaced over
- Commenced backfilling
- Maintained E&S controls

UXOs were found and EOD responded; they were mostly practice blanks with the exception of 2 rifle grenades from the 1940s/1950s.

Composite post excavation soil sampling (1 composite of 4 samples every 5,625 sq ft) completed. Current status map was shown and ~25 grids to 2 ft with good post-excavation results, results pending from ~5 grids, and ~18 grids where the geotextile layer will be installed where residual skeet debris remains post 1-ft removal. Estimated depths remaining in this area (mostly PAHs and some lead and skeet remains at Base of removal) for removal based on visual observations in test pits ~4,000 CY that would need confirmation with analytical results. Geotextile being installed last week and this week.

XRF screening of the overlying fill was conducted, the goal was 300 mg/kg and the average of 30 XRF readings was 168 mg/kg. Borrow pit soils (~22,000 CY) are also being used for backfilling.

E&S controls have been maintained and are inspected daily and sediment basins were effective through Tropical Storm Sandy.

Conclusions were presented as follows:

- 1 ft of soil removal nearly complete
- An additional 1 ft removed from 25 grids
- Lead and PAHs have been delineated horizontally
- Geotextile will cover 19 grids with residual PAHs and lead (approx. 2.6 acres)
- Geotextile area will be demarcated with orange construction fence and signage

The proposed path forward is to:

- Complete backfilling
- Stabilization measures to be implemented
- 1 ft of fill will be placed over geotextile area
- Site will be seeded to provide grass layer stabilization
- Site to be temporarily closed out
- Erosion control basins and other measures to be removed

Randy requested to let him know when the sedimentation basins will be removed since he noted that one of the northern locations had shot remaining. Cathy indicated that this will be conducted within the next 2 weeks.

Restoration will be completed in December 2012 and the contract allows for repairs to be made through March 2013. The Draft NTCRA Summary Report is targeted for March 2013 and to be finalized in April 2013.

The Team discussed the UXO items found and that only 1 ft bgs was cleared within the NTCRA area and whether items may remain. Gena asked if additional investigation is needed as part of the RI/FS and suggested that the potential source and history be researched. A records search was completed previously as part of the earlier PA/SIs and only skeet range activities were documented. Charity indicated she can talk to EOD and noted that borrow pit fill could have been used historically. Gena indicated that the RI/FS will not be sufficient unless the UXO is addressed and the sampling is appropriate and Randy agreed. Geophysics was recommended outside the NTCRA area as part of the RI, primarily north in the wooded area. Randy also raised concerns about the southwestern area. He noted that 10% DGM in the wooded area to the north would provide due diligence and Gena agreed. An ESS would be needed for the additional investigation activities.

Action Charity – Look into Base historical uses of the skeet range and whether borrow pit fill may have been used in the past.

Action Cathy – Provide Charity with a map of the Skeet Range, included the site boundaries, UXO items found, and surrounding area.

VI. UXO-23 RI

Objective: Review investigation approach, sign UFP-SAP, provide field update, and review schedule.

Overview: A presentation was reviewed by Matt. The background was reviewed and the UFP-SAP was originally scoped as an ESI but in the September 2012 meeting, the Team agreed to initiate an RI to further delineate nature and extent of lead and PAHs based on the findings during the NTCRA. The UFP-SAP was updated to an RI so the groundwater and creek sampling could move forward. The UFP-SAP was finalized in October 2012 and changed pages were provided for the Groundwater Sampling SOP.

The North Area investigation was completed in November 2012 to confirm the presence of PAHs in north area groundwater and confirm potential ecological risks from lead in Bearhead Creek and drainages. In the north area, 2 permanent shallow wells were installed to confirm PAHs and if PAHs were detected at similar concentrations, 8

additional shallow MWs were planned. MW01 and MW02 were installed and no PAHs were detected. Therefore, the installed wells were abandoned and the 8 additional wells are not needed.

Work remaining includes:

- A site walk to look for any additional skeet piles
- Installation of 9 permanent wells (8 shallow; 1 deep) in the shot fall zone following completion of the NTCRA and collect groundwater samples for lead analysis
- Collect 2 additional surface soil samples in Grid D-10 where elevated lead concentrations (> 400 mg/kg) were detected during previous XRF investigation
- Collect up to 16 sediment and surface water samples in Beaver Dam Creek and drainages for lead and PAHs
- Delineate the horizontal and vertical extent of lead and PAH impacts in subsurface soil within the NTCRA area

Matt asked whether an Interim Tech Memo would be needed to document the work conducted to-date. The Team agreed that no Tech Memo is needed and the results can later be presented in the RI.

Randy raised concerns regarding not collecting PAHs samples in Beaverdam Creek. Kim explained that sediment and surface water samples were collected for lead and PAHs during previous investigations and based on the risk assessments, only lead was present at concentrations posing potential ecological risks. Randy requested that this be documented in the UFP-SAP and RI.

Following the NTCRA, a UFP-SAP Addendum will be completed to further evaluate the lead and PAHs at depth in the shot fall zone and based on the UXO findings, an MR investigation. The path forward is to gather the information that Osage collected and develop a sampling strategy to present at the February meeting to include DGM and intrusive activities. The Team discussed the plans for further MR investigation and whether investigation east of utility corridor would be needed. Matt recommended a phased approach to start west of the utility corridor and to base any further investigation on those findings.

Action Cathy – Provide CH2M HILL with a figure and GIS layer of the Skeet Range area where the remaining skeet and lead and PAHs are present 1 ft bgs.

VII. UXO-01 (ASR#2.64) NTCRA Update

Objective: Review background, remedy completion, monitoring well installation and closeout criteria.

Overview: A presentation was reviewed by Cathy. The soil treatment and disposal was completed and resulting confirmation samples were below PRGs. Five monitoring wells were installed and quarterly sampling is planned via low-flow sampling. The first quarter sampling was completed and turbidity was closely monitored to collect samples when <10 NTU. Preliminary results indicate that dissolved lead was not detected in the initial samples (below detection limit 4 µg/L).

The path forward was presented. Soil removal is complete and 847 tons of treated soil was transported to Subtitle D Landfill for disposal. The last post-excavation soil sample from the excavation base was completed and antimony, arsenic, and lead concentrations were less than the PRGs. Five groundwater monitoring wells were installed and quarterly groundwater sampling initiated and dissolved lead was less than the NCAC 2L GW Standard. Sampling is planned in January, April, and July 2013. The Team discussed future groundwater sampling and agreed to await the results of the January sampling to be discussed at the February meeting.

The Draft Closeout Report is planned for submittal in March 2013 to include both soil and groundwater.

VIII. Henderson/Hickory Pond

Objective: Review conclusions, discuss responses to comments, and determine path forward.

Overview: A presentation was reviewed by Dan and he passed out a memo of the NCDHHS comments, received yesterday. The report conclusions were reviewed as follows:

- Potential RME hazards were identified from ingestion of fish from PCBs in Henderson Pond and mercury in Hickory Pond. Concentrations were within reported state and/or national ranges but are above national median. National ranges also include impacted water bodies.
- CTE hazards from ingestion of fish were within acceptable USEPA levels.
- Risk calculations are conservative and assume only fish from either Henderson or Hickory Pond is ingested; there are no unacceptable risks if only ¼ of fish ingested is from Henderson or Hickory Pond.

Comments on the ecological risk assessment were reviewed. NCDENR requested clarification of hardness values and adding the State sediment screening value for bis(2-ethylhexyl)phthalate. EPA comments on the ecological risk assessment requested changes to some specific TRVs, changes to some ingestion rates, and checking of unit conversions. The comments will be resolved and do not result in changes to the conclusions.

Action Gena – Provide references for TRVs for aluminum, barium, and zinc based on Henderson and Hickory Ponds comments.

Comments on the human health risk assessment were reviewed. No comments were received from NCDENR. EPA recommends a local background study and that use of published fish tissue data should not be considered background, changes in the cancer slope factor for CTE calculation, and combining species for composite sampling. The comments will be resolved and do not result in changes to the conclusions.

Fish tissue and potential background were further discussed as follows.

- The use of literature data was not intended as a background comparison but was provided as a source of information and for general comparison since fish tissue data is not commonly collected at the Base. The data were not used to eliminate risks and the comparison was removed from the HHRA section and updated in the conclusions section. Additional comparisons will be made to other published fish tissue concentrations and discussion added to explain that the ranges were used for comparison and is from all types of water bodies, including those impacted by PCBs and/or mercury.
- There are uncertainties in the data and risk assessment that are not due to background since the potential risks identified are conservative and use assumed ingestion rates rather than actual/measured exposure rates.
- Collecting background may introduce additional uncertainty and not support decision-making, particularly since the ponds are stocked with fish brought in from off-Base locations.

Gena indicated that the comment for data comparisons was more related to comparing to State of North Carolina values rather than national values. Dan noted that the report did compare to the State's Division of Water Quality database values for PCBs and mercury. Gena feels that the State comparison is more relevant and recommended removing the references to national values. The report was revised to address the initial comments and will be updated based on this partnering discussion.

Gena also recommended the report state only the facts and potential implementation of fish advisories based on discussions with NCDHHS. Randy and Charity recently discussed fish tissue warnings with NCDHHS and the State has evaluated mercury but has not fully evaluated PCBs to-date.

Gena questioned the source and whether there is enough information to develop a path forward. The Team discussed the previous sediment results and rationale for fish tissue sampling. PCBs were present in the sediment and fish tissue in Henderson Pond. PCBs were not detected in the fish tissue in Hickory Pond and sediment was not collected. The non-cancer hazard indices were reviewed (RME HI = 4 and CTE HI = 0.3). Gena raised concerns with arbitrarily putting a fish advisory in-place and not addressing the source.

Action CH2M HILL – Conduct further data review of sediment in Henderson Pond and the potential source of PCB contamination to ensure there is not a continuing source of PCBs and nothing to remediate for discussion at the next meeting.

Action Gena – Check on EPA review of responses to comments on the Henderson and Hickory Ponds Report.

IX. UXO-14 NTCRA

Objective: Review background, proposed removal areas, initial soil sampling, soil stabilization, excavation and disposal, final soil sampling, site restoration and survey, close-out criteria, and schedule.

Overview: A presentation was reviewed by Shaun. The background was reviewed. The site was historically identified as Building RR-53 and was used for pistol and small arms training from 1950 through 1990s. The PA/SI was completed in 2009 and the Expanded SI was completed in 2011 and potential unacceptable risk was identified associated with lead and antimony in surface soil. The EE/CA was completed in 2012 and the preferred removal action alternative is *in situ* soil stabilization with excavation 0 – 1 ft. depth and offsite disposal with Project Action Limits for antimony of 31 mg/kg and lead of 443 mg/kg.

The proposed stabilization and removal areas were shown and pre-excavation soil sampling recommended to:

- Evaluate whether proposed soil excavation lateral boundaries are sufficient to remove COCs above PALs
- Samples will be analyzed for total antimony and lead
- Sample depth (0-1 ft.) is based on interval sampled during the PA/SI and Expanded SI
- 20 samples spaced approximately every 30 ft. of linear sidewall
- 20 step out samples will be collected 5 ft. out from the initial sample and will be held at lab pending initial sample

Soil stabilization and waste sampling is planned. EnviroBlend will be distributed across the removal area at a dose of 4% by weight and tilled into soil to a depth of 1 ft. Once the soil has been stabilized, waste characterization samples will be collected and analyzed for TCLP lead. One five point composite sample will be collected from each removal area. Waste samples will verify that soil is non-hazardous. Once soil has been characterized and accepted for disposal at a subtitle D landfill, the material will be direct loaded into waiting trucks. An estimated total of 410 tons of stabilized soil will be excavated and disposed offsite.

Post-excavation soil sampling will consist of divining the removal areas into sample grids and one aliquot from each grid will be composited for laboratory analysis of total lead and antimony. Soil samples will be collected from a depth of 0 – 3” below excavation grade.

The close-out criteria for path forward is as follows:

- Treat soil in-place to render non-hazardous
- Excavate soil to established boundaries
- Dispose of treated soil to Subtitle D Landfill
- Collect post-excavation samples from base until antimony and lead are below PRGs
- Submit Project Close-out Report and No Further Action Decision Document

The draft work plan/SAP is planned for submittal in December 2012 followed by the final in January 2013. Pre-excavation soil sampling is planned for February 2013 followed by removal and site restoration in March/April 2013 and reports in May 2013.

Gena reviewed the Action Memo and it is with EPA legal for review. There are some comments anticipated on the ARARs and the format of the tables. She noted that the Action Memo will need to be finalized before the NTCRA is initiated.

X. Groundwater Sampling Methods

Objective: Clarify SOP for low-flow (micro-purge) groundwater purging and sampling and optimize groundwater monitoring well purging approach to align with the data quality objectives of various stages of the project life-cycle.

Overview: A presentation was reviewed by Teg. Based on NCDENR comments over the past couple of years, this topic was proposed to resolve and clarify the comments and path forward. Proposed updates to the low-flow sampling SOP were presented as follows:

- Minimal drawdown during purging and sampling defined as goal of less than 0.3 meters, or maximum of 5% of static water column
- No minimum purge volume if drawdown criteria are met and parameters stabilize

- If water level drawdown exceeds 5% of the static water column, then purging will be conducted using the well volume approach

Teg reviewed the purging methods (well volume, low-flow or micro purging, and no purge) and compared the pros and cons of each method. Low-flow is preferred for sampling during the investigation stage because it minimizes turbidity. If other methods are not applicable based on low hydraulic conductivity and drawdown though, the well volume method is used as default.

Randy noted that he is not necessarily an advocate of the 3 to 5 well volume approach and 1 well volume is acceptable to him but EPA's guidance indicates 3 to 5 well volumes and the SOP is based on EPA guidance. Charity asked if there is a maximum purge volume for the well volume method. Teg indicated that there is not and it is based on a balance of the water level and water quality parameters and it depends on the size of the well.

Randy is concerned with deep wells with water coming up into the riser a long distance, like a deep submerged well. Teg indicated that in this situation, micro-purging is tried rather than well volume based on the potentially high purge volume for disposal. The objective with the micro-purging is to balance flow to minimize drawdown. If this cannot be achieved, the well volume approach would be used or a pneumatic packer with a submersible pump beneath to ensure the screen is sampled. Randy asked whether a no purge method could be used in these deep wells. Teg indicated that a weighted PDB could be installed to the screen depth and this approach relies on groundwater flux as purging and the PDB is recommended by the manufacturers to remain in-place at least 2 weeks.

Patti asked whether during low-flow sampling if water quality parameters are checked every 10 minutes. Teg indicated that it depends on the flow-rate and readings are typically collected between 10-15 minutes. Charity asked if there is a minimum purge volume for low-flow methods. Teg indicated that there is and it is at least several tubing volumes and specified in the SOP.

There are a few sites at the Base where hydraulic conductivity is too low for low-flow. Randy indicated that at new sites you wouldn't know. Teg responded that when drilling new wells, the goal is not to install the screens in tighter zones because contaminants take the path of least resistance and the screens are typically set in coarser-grained material.

Charity recommended adding the hydraulic conductivity information to site-specific work plans. This information can be included in the future in the sampling rationale sections. Teg recommended a flow diagram to outline the process, particularly for new sites. Randy agreed.

Randy is ok with no purge methods for specific wells in specific conditions, (e.g., LTM) and where data are shown to be consistent with other methods. Previous data should be available from using other sampling methods from the investigation phase for comparison with no purge LTM data. Chris noted that no purge methods are sometimes used at sites where there is a lot of existing data (e.g., Site 89) and site-wide data is being collected.

The Team agreed that for future sampling well volume or low-flow purging methods during initial and final phases of site management are acceptable along with updates to the low-flow SOP. No purge methods were proposed during LTM. Using snap samplers vs hydrasleeves where applicable were also discussed. They are essentially competing technologies but for MNA, hydrasleeves may be better due to the larger volumes.

The Team discussed the path forward and the proposed updates to the low-flow sampling SOP were accepted by the Team with clarification that there is a minimum purge volume of at least several tubing volumes. The Team also accepted the use of no flow methods for LTM and sites where there is a lot of historical data.

XI. UXO-06 RI Field Activities

Objective: Refresh team on UXO-06 background, review RI objectives and approach, provide update on RI activities, and review schedule of RI/FS.

Overview: A presentation was reviewed by Matt. The background was reviewed. The objectives of the RI are to further evaluate the nature and extent of subsurface MEC in uninvestigated and undeveloped areas within the

site and along the boundary. Transect-based DGM or mag-and-dig and 100% intrusive investigation are planned over 6.9 acres with 32-foot spacing in areas likely to be developed in the future and 109-foot spacing in remaining portions of site. Environmental sampling is planned for MC if MEC/MPPEH with exposed fillers is identified or MEC is disposed via detonation.

The vegetation clearing, survey, and utility locating was completed. During the survey, a 3.5-inch practice rocket was found and EOD removed it since the ESS was not yet in place. DGM was completed over 5.7 acres and anomaly reacquisition and intrusive investigation and mag and dig is ongoing. 2,027 of 3,253 targets have been intrusively investigated to-date. MPPEH identified included 3.5-inch practice rockets, rifle grenades, and small arms ammunition. A demo was conducted in November of a 2.6-inch rocket determined to be practice.

Charity reminded the Team that the Base's goal is to be able to walk away from the cantonment area with NFA.

Field activities are planned through December 2012. The Draft RI Report is planned for April 2013 followed by the Final in July 2013 and the FS.

XII. UXO-19 RI/FS

Objective: Present update on MILCON support and provide RI/FS schedule.

Overview: A presentation was reviewed by Matt. Construction support is ongoing within and outside of the UXO-19 MRS. The Former First Aid Station, located within UXO-19, was demolished in mid-October and intrusive investigation via mag and dig was conducted. A 60mm HE M49 projectile was discovered and BIP and post-BIP sampling was conducted. A battery burn pit was also discovered of approximately 5 gallons of partially burned batteries in an area approximately 3 ft wide by 3 ft long by 6 ft deep. The batteries and soil were excavated and batteries separated and placed in a 55-gallon drum, labeled as hazardous waste, and stored at <90-day storage facility pending disposal. The soil was stockpiled on plastic and sampled for VOCs, SVOCs, metals, and explosives residues and there were no exceedances of screening criteria.

Confirmation soil samples were collected for full suite from the sidewalls and base of excavation. Zinc exceeded the SSL, residential RSL, and background in 1 sidewall sample and antimony exceeded the SSL in 1 sidewall sample but was at a similar concentration to background. The sidewall was overexcavated and resampled for zinc and zinc was detected below screening levels. A groundwater was also sample collected via DPT for metals and there were no exceedances.

The battery burn pit results will be incorporated in the RI/FS in December 2012 and the Draft RI/FS is planned for submittal to the Navy/Base in January 2013 and to the Team in February 2013. The key components can be presented at the February meeting followed by the Final RI/FS in April 2013 and choosing the preferred alternative in May 2013.

XIII. FY13 SMP

Objectives: Discuss NCDENR responses to comments and review schedule.

Overview: A presentation was reviewed by Kim. The NCDENR comments and responses were discussed as follows.

<u>Comment 1</u>: OU1 Site 21 appears to be located in place of OU 1 Site 78 N. If this is true please clarify that Site 78 N replaced Site 21 in the paragraph on page 8-14 and throughout the report. <u>Response</u>: The Site 21 label is intended to be associated with the non-industrial LUCs and will be moved.

<u>Comment 2</u>: The Schedule 4-1, for UXO-02, follows Description and Previous Investigations for UXO-14 and other schedules in Sections 4 and 5. <u>Response</u>: The locations of the schedules will be QC'd and corrected in the final.

<u>Comment 3</u>: The RI/FS schedule for UXO-19 list a draft RI/FS in February 2012. It is November and no RI/FS reports for this site have been submitted for review. Please rework the schedule with appropriate dates. <u>Response</u>: The Draft RI/FS was planned for submittal in September 2012 but based on the battery pit findings, the report will be submitted in early 2013. The schedule will be updated in the final.

Comment 4: Based on our discussions at the last partnering meeting, IRP Site 49 was put on hold for a year while additional monitoring was completed. Please make appropriate corrections to the schedule. Response: The schedule will be updated to reflect this meeting's partnering decisions.

Comment 5: Figure 8-21 is labeled as Site 73 but is a figure showing Site 88. Response: Figure 8-21 will be updated to include the CSM for Site 73.

Comment 6: Under Previous Investigation/Action at Site 85 in Table 8-77 on page 8-113 we should include a discussion of the battery pile removal that was completed as part of the recent PA/SI or ESI. This action should be well documented. Some of the battery piles were under tree roots. Response: The table will be updated to reflect the details of the battery removal at Site 85.

Comment 7: UXO-20 indicated that an NFA was assigned in 2010. I recall that a site or SWMU had LUCs on it. Was that part of UXO-20 or another site within or adjacent to UXO-20? Response: Site 16 (OU 8) has LUCs in-place and recently, the Base instituted LUCs at Site 15 for conservativeness.

The Draft SMP was submitted October 2012 and EPA comments are pending. Gena indicated she reviewed and has no further comments. Responses to comments will be provided and the Final SMP is planned for submittal in December 2012/January 2013.

Charity and Dave discussed posting the document based on the file size and requested a reduced file size if possible. Kim requested what copies the Team would like distributed for the final:

Bryan – hard copy/CD
Charity – hard copy/CD
Dave – enterprise
Gena – hard copy/CD
Patti – hard copy/CD
Randy – CD

November 29, 2012

XIV. Check-In

XV. Partnering Exercise

Gena led a team-building exercise.

XVI. Site 49 Data and Path Forward

Objective: Review current status and new data and discuss path forward.

Overview: A presentation was reviewed by Chris. The RI/FS was finalized in August 2012 and the Draft PRAP was submitted in August 2012. As decided during the September 2012 meeting, an additional round of data was collected.

IR49-MW01 was resampled on October 24, 2012 and analyzed for select VOCs. VOCs data have now been collected from IR49-MW01 over a 17 month period. VOCs are degrading steadily over time indicating a 40% reduction of TCE and 20% reduction of VC and cis-1,2 DCE. Concentrations of benzene and cis-1,2 DCE are now below NCGWQS and 1,1,2,2-PCA concentration is approaching NCGWQS. The average groundwater seepage velocity is ~0.03 ft/day and since April 2011, groundwater has moved ~20 ft., and low level VOCs were detected in pore water samples.

The data indicates that there is limited evidence of biological degradation as concentrations of degradation products are decreasing with the parent compound. Other forms of MNA are likely at work (e.g., dilution, adsorption, dispersion). Based on the trends, the projection is to meet the NCGWQS in 2016. The potential revised FS costs based on a reduction in time frame to meet cleanup goals were reviewed. The MNA costs would be decreased significantly whereas the other components have more capital costs and are not as impacted.

The path forward was discussed and whether there is enough information to justify MNA or collect additional data, conduct a treatability study, or select another remedial alternative.

Randy indicated that the State typically prefers an active remedy for NC2L exceedances but for this site, MNA is acceptable based on the isolated and low concentrations.

Gena indicated that based on the data collected over time, velocity, and trends indicating that the concentrations will continue to decrease over time that there should be enough data to justify MNA.

The path forward is to prepare a Tech Memo to reflect the updated data and costs based on the new data and update the PRAP to reflect the new data.

Consensus: The Team agrees to prepare a Tech Memo to summarize the latest Site 49 groundwater data, subsequent trend analysis, and updated cost information to support MNA as the preferred alternative and update and resubmit the PRAP and proceed with the ROD.

The Team discussed the schedule and the Tech Memo and Draft PRAP should be submitted in early January 2013 to plan for the public meeting in February 2013.

XVII. LTM Update

Objective: Review FY2012 LTM data, plan for FY2012 LTM Report and FY2013 LTM, and review schedule.

Overview: A presentation was reviewed by Chris. The background, LTM approach, and trends were reviewed for each site and the key points and recommendations for each site were discussed as follows:

- **Site 3:** Only benzo(a)anthracene and naphthalene are consistently above RGs, naphthalene is trending upwards in side gradient well MW06, and LUCs are in-place and protective. The recommendations are to initiate biennial LTM (next round would be 2014 and data would be available for the next FYR) until RGs are achieved, then conduct quarterly LTM for closeout and maintain LUCs. Gena indicated that if changes in frequency are recommended, justification needs to be provided.
- **Site 6:** Additional characterization is ongoing, chlorobenzene appears to be trending downward at location of historically highest concentration, and LUCs are in-place and protective. The recommendations are to put LTM on hold until the supplemental characterization is completed and revise the monitoring scheme based on new data.
- **Site 35:** TCE concentrations are trending downward, vinyl chloride concentrations are trending upward upgradient of the air sparge system and source area, and LUCs are in-place and protective. The recommendations are to continue annual LTM and quarterly LTM of the air sparge area throughout the duration of active sparging and maintain LUCs.
- **Site 36:** In general, concentrations are steady but relatively low, there were no detections in surface water, and LUCs are in-place and protective. The recommendations are to conduct biennial LTM and maintain LUCs. Gena indicated that the remedy for this site may need to be re-evaluated in the Five-Year Review.
- **Site 73:** Vinyl chloride concentrations are trending upward in the source area, TCE and cis-1,2-DCE concentrations are trending downward across the site to below 2Ls, and the biobarrier appears to be effective; however, TOC concentrations have fallen below 5 mg/L. The recommendations are to continue annual LTM of Site 73 and semi-annual LTM of the Site 73 biobarrier wells, plan on another biobarrier injection, and maintain LUCs. The Team discussed the timing for the additional injections, and Dave will plan for a year end project for potential funding in FY13 and if not then FY14.
- **Site 78:** Vinyl chloride concentrations are trending upward in the source area, TCE concentrations are fluctuating, but overall trending downward in the source area but trending upward in the downgradient areas of Site 78S, and LTM, LUCs, and status of P&T should be updated/revisited based on results from the current investigation work. The recommendations are to update the LTM well network and LUCs based on the results of the Additional Study.
- **Site 82:** CVOCs are trending upward in shallow and intermediate source area but trending downward in the deeper wells, new areas of contamination are being identified, and effectiveness and status of P&T

should be evaluated. The recommendations are to update the LTM well network and LUCs based on the results of the Additional Study.

- **Site 93:** Cis-1,2-DCE concentrations are trending upward or steady upgradient and downgradient, vinyl chloride concentrations are trending upward in the source area, and LUCs are in-place and protective. The recommendations are to continue annual LTM of Site 93 and maintain LUCs.

The LTM report for FY12 is currently being prepared and the outline and consolidation of figures were presented. To reduce redundancy, recommendations included removing some of the sampling details with the exception of deviations from the work plan (since it is included in the UFP-SAP), removing text box exceedance figures, and combining the plume and trend graphs on one figure. The Team agreed to these changes.

In November 2012, the FY2011 LTM Report was finalized and the Draft FY2013 LTM UFP-SAP was submitted to Navy/Base and is awaiting Base review. The next LTM event is planned in December 2012.

XVIII. Site 69 ROD/RD Update

Objective: Review Site 69 background and the schedule for the ROD and RD.

Overview: A presentation was reviewed by Monica. The site background was reviewed. Navy and Base comments were just received on the Draft ROD and RD and the RTCs were submitted today. The reports will both be submitted to the Team in early December 2012.

The RD was not planned to be finalized until after the ROD is signed. Dave raised concerns about meeting the FY2014 RIP date if the RD is not finalized until the ROD is signed. The Team discussed finalizing the RD once reviewed and determined this approach to be acceptable. Gena noted that the Navy is at risk if there are changes needed.

Charity noted that the site is being encroached on with the MARSOC facility. Dave questioned the need for an Applicability Determination and the purpose. The Team discussed that the previous determination was prepared in 2009 for the RI activities and potential risk may need to be reevaluated by the appropriate contractor for the planned Remedial Action (e.g., well abandonment, installation, and groundwater sampling for MNA and LTM) based on the potential for migration since the previous sampling. Similar to an ESS determination, the Applicability Determination would evaluate and justify whether there is still a low risk for the activity and a full CSS would not be needed. Charity noted that a recent determination was completed for the Henderson/Hickory Pond work based on the proximity to Site 74 and Kim will forward the documents to Dave.

Action Charity and Dave – Contact Jim Taylor/MARCORSYSCOM to discuss the path forward for assessing potential hazards at Site 69 during the Remedial Action and regroup.

XIX. Site 78 Update

Objective: Provide background, update on the expanded groundwater investigation, bench scale results, and schedule.

Overview: A presentation was reviewed by Monica. The site background was reviewed. Monica showed the EVS model and 3D groundwater plumes for CVOCs and BTEX for Site 78 North and South.

Dave asked whether the North plume is delineated. Monica showed that in Site 78N that where the CVOC plume is moving off-site there are wells (one is at a different depth than the contamination) further out that are clean so it is delineated from a big picture perspective. For BTEX, the downgradient Site 78N plume blends with the HPFF plume. In summary, VOCs are migrating offsite to the northwest and future plume refinement may support further remedy evaluation.

The deeper downgradient well installed at Site 78S in the hot spot area based on the last partnering meeting discussion and there were no detections of VOCs. Charity asked whether the shallow groundwater data had been evaluated with respect to VI. The buildings were previously evaluated during the Basewide VI evaluation based on data at the time and the new data will be evaluated during the next phase. Monica noted that in the downgradient area where there were previously no VOC exceedances, no groundwater VOCs exceeded VI

screening levels. In summary, the plume is delineated from a big picture perspective but plume refinement may support future remedy evaluation.

Preparing a TM report is planned for submittal in February 2013 that will include revisions to LUCs and the LTM program based on recent data. Following the treatability study, the remedy effectiveness will also need to be re-evaluated, potentially using MODFLOW-SURFACT and discontinuing the pump and treat system.

For the Treatability Study, the Bench Scale Study will be conducted in November/December 2012 to evaluate sulfate for effectiveness at degrading BTEX and subsequent treatment of CVOCs with EHC following the formation of iron sulfides in the shallow zone. Dave noted that the BTEX is from UST and CVOCs should be the focus and once treated, the UST program will address the BTEX. The benefit of sulfate is that recent studies indicate that ideally, sulfate treatment can generate iron monosulfide (that acts like ZVI) that can degrade TCE to ethane. The results will be presented at the next meeting.

The Treatability Study work plan is planned for submittal in February 2013 followed by injections in Q2 2013.

XX. Sites 6 and 82 Field Update

Objective: Provide background, provide an update on the supplemental investigation, and schedule.

Overview: A presentation was reviewed by Monica. The Site 6 investigation activities included a soil gas survey, confirmation soil sampling, well installation, groundwater sampling (PDBs and low stress), groundwater gauging, and hydraulic conductivity testing. The maximum detection of chlorobenzene was 3,500 µg/L in surficial aquifer and the next highest detection was 2,800 µg/L located ~200 ft downgradient in UCH aquifer. CVOCs were at relatively low concentrations and cis-1,2-DCE concentrations were consistently higher than the parents, indicating a mature plume. Gena noted that CVOCs are a new issue in this Site 6 area. Chris noted that the new data needs to be evaluated with respect to LTM data. Gena noted that the applicable Site 82 labeled wells should also be considered during the evaluation. The Team discussed the path forward for evaluating the data and conducting quarterly source area gauging and sampling.

Action CH2M HILL - Pull and review the original RI data for Sites 6 and 82 and compare to current data.

Charity noted that when DRMO moved, debris and scrap metal were left behind and the Base sent a letter to DLA with pictures and the DLA requested a scope and cost estimate.

The Site 82 investigation activities included a soil gas survey, confirmation soil sampling, well installation, groundwater sampling (PDBs and low stress), and groundwater gauging. The results were reviewed and new areas of elevated CVOC concentrations in groundwater have been identified to the north and VOCs were detected in porewater. Additional information needs are being coordinated with Rhea to evaluate cones of depression at recovery wells, TOC data for recovery wells, and accessibility to recovery wells for water level measurements. Dave noted that Osage is taking on the O&M in January 2013. The Team discussed the path forward for evaluating the data with respect to LTM data and potentially collecting pore water samples upgradient of WN03 and downgradient of MW04/05UCH/06LCH. Charity noted that groundwater data to the east from the Base landfill and from UXO-17 should be reviewed as part of data evaluation.

Action Charity - Provide Monica with landfill groundwater data.

The next steps are to conduct fate and transport modeling, technology evaluation, and an MNA evaluation. Gena indicated that the source area needs to be addressed first. She also suggested installation of PDB bags at depth within the creek bed for delineation. Samples could also be collected within the wetland to determine a gradient. Gena would like to determine whether contamination is discharging or going beneath the creek. The Team agreed with pore water sampling in the wetland to determine a gradient.

Based on the new data, the Team discussed potential future remedial actions and Chris noted that if there are budget constraints and an action is needed in the near-term, a consideration could be to install a few additional recovery wells within the source areas to tie into the existing system.

Randy asked whether NAIPs were collected during LTM and if not than recommended to consider them.

The Draft Supplemental Investigation Report is planned for completion in Q2 2013. Quarterly sampling is planned at Site 6 through July 2013.

XXI. Vapor Intrusion Update

Objective: Provide an update on the 5-year update work plans for IRP sites and UST/RCRA sites, provide 3rd round of VIMS performance monitoring results, discuss results of the additional sampling activities at Building 902, discuss recent findings and path forward at HPFF - Building 1005, and review schedule.

Overview: A presentation was reviewed by Keri. The 5-year update work plan for IRP includes the sampling approach presented in June 2012 with the addition of a Building TC942 at Site 93 identified during screening process for the UST/RCRA work plan that was previously listed as unoccupied. Two additional subslab samples are planned. The IR UFP-SAP is with the Base for review and is planned for Team submittal in December 2012.

The 5-year update work plan for UST/RCRA sites includes recommendations from Phase III to install and sample one new subslab soil gas probe in Building 1111 (HPFF) and collect an additional round of subslab soil gas sampling at Building AS4105 at SWMU 336. Eleven new sites with associated buildings were also identified during screening. The UST/RCRA Work Plan is planned for submittal in February 2013.

VIMS have been installed in 7 buildings and start-up was conducted in February/March 2012. Quarterly performance monitoring is being conducted for 1 year and 3 events have been conducted to-date in March, June, and September in 2012. The performance monitoring includes vacuum and flow measurements from each node to evaluate fan/blower performance, pressure differential from subslab probes to evaluate the overall negative pressure induced beneath the slab, indoor air sampling to evaluate concentrations of target VOCs in indoor air, and exhaust sampling to evaluate the type and concentration of target VOCs removed from the subslab. Exceedances in indoor air have been detected at Buildings 902, 1005, and 1115.

At Building 902, additional sampling was conducted to confirm whether there was an indoor source. Passive samples were collected near the exhaust and some TCE was found to be re-entering through the windows near System 1 and extending the piping is recommended at this location. Pressure differential measurements were collected and ≤0.01 inches of water was present in all subslab probes except SG-63 and installation of an additional suction node is recommended. A Hapsite survey was conducted and identified indoor sources for TCE as solvents used in maintenance shop.

At Building 1005, additional indoor air, subslab soil gas, soil, and groundwater sampling was conducted to identify potential contamination sources and pathways. Petroleum compounds were elevated in the subslab and VOCs were detected in groundwater exceed GWSLs beneath the building. The impacts appear limited to the Work Reception Area and there are influences from the AS and biopulsing. Rain is also influencing vapor migration into building and an entry point was found as a crack between the slab and exterior wall where high PID readings were detected.

Additional actions planned in November/December 2012 include the following:

- Further delineate groundwater impacts through installation of 6 shallow monitoring wells
- Identify preferential pathways through investigation of utilities below the building
- Determine the vertical vapor profile through installation and sampling of 6 nested vapor monitoring probes (8 ft bgs, 4 ft bgs, and subslab)
- Further evaluate precipitation influences through pressure differential monitoring through 1-2 rain events
- Repair potential vapor entry points such as sealing of cracks
- Consider VIMS improvements based on the results (e.g., additional suction nodes, increase fan size)

The remaining quarterly monitoring event is planned for December 2012 followed by a summary report in May 2013.

Funding for future VIMS O&M was discussed and only Site 88 will be required through CERCLA.

XXII. OUs 1 and 2 Metals Data

Objective: Review background, previous investigations and findings, recent groundwater sampling and risk screening results, and review and discuss path forward.

Overview: A presentation was reviewed by Kim. Additional groundwater metals data were collected based on the Five-Year Review recommendations**.** A summary for each OU is provided as follows.

<u>OU 1</u>

- Groundwater COPCs were identified in the surficial aquifer (arsenic, beryllium, cadmium, cobalt, copper, iron, lead, manganese, thallium, vanadium) and Upper Castle Hayne aquifer (chromium).
- Path forward is to complete summary TM in January 2013 and to add metals COCs to LTM in the surficial aquifer wells every 3 years to evaluate trends over time. This will be included in the FY2015 LTM UFP-SAP. A confirmation sample for chromium and hexavalent chromium from IR78-GW84IW in the Upper Castle Hayne aquifer is recommended to confirm potential risks.

<u>OU 2</u>

- Previous and recent investigation results were reviewed indicating potential metals impacts.
- Soil COPCs were identified for human health (thallium and hexavalent chromium) based on RME and no CTE risks; and ecological (antimony, cadmium, hexavalent chromium, chromium, copper, iron, lead, manganese, mercury, selenium, thallium, zinc).
- Groundwater COPCs were identified in the surficial aquifer(aluminum, arsenic, beryllium, cobalt, copper, iron, manganese, thallium).
- Path forward was discussed for soil to further evaluate potential source areas (e.g., the batteries and debris, including munitions-related debris, in the drainage) and ecological risks and for groundwater to re-evaluate site-wide human health risk and incorporate into LTM.
- Gena and Randy recommended removal of debris in the drainage. The Team discussed whether this would be CERCLA or house-keeping action as part of the DRMO re-location and that because the area is a known waste disposal site to only remove based on visual and cover to stabilize the drainage.
- The Team recommended pulling together all the data presented for evaluation in one TM with recommendations, including a recommendation for removal of debris in the drainage. Marti recommended a scatter plot evaluation as part of the TM.

The Team discussed the need for ESDs and Randy raised concerns regarding documentation. Because metals were identified as COCs in the RODs, and LTM for metals was included in the selected remedy, an ESD would not be needed. The recommendation for re-evaluation was included in the last Five-Year Review, the evaluation will be documented in a TM that will be included in the Administrative Record and the next Five-Year Review.

XXIII. Site 35 Air Sparge Update

Objective: Review recent groundwater results, discuss air sparge operation, determine path forward, and schedule.

Overview: A presentation was reviewed by Chris. The LTM data was reviewed and VOCs are decreasing over time. The soil gas sampling probe needs to be replaced to be leak-checked and sampled if needed. There was a blowout from the air sparge system in September 2012 and allowed 3 weeks for the site and system to equilibrate before restarting in October 2012 with 120-160 cfm.

The Biochlor model was updated to reflect the current max concentrations from the air sparge well and indicated that the TCE and VC would not reach the creek. The DCE may reach the creek in 2052 at 3 µg/L.

The exit strategy from the ROD and current status was reviewed where 1 of 3 conditions will be met to shut down the air sparge system:

1. Reduction of COC concentrations of 75% in source area wells, or
    - 73% total VOC reduction in Upper Castle Hayne groundwater within 100-ft of air sparge since baseline

2. Groundwater modeling indicates that contaminant levels have been reduced to levels protective of Brinson Creek, and COC reduction in source area wells demonstrating an asymptotic trend prior to achieving the target 75% reduction, or
    - Biochlor modeling shows current concentrations are protective of Brinson Creek
3. System operation for 3 years
    - 23 month round collected July 2012

The Team discussed leaving the air sparge system operating or continuing with quarterly or semiannual or annual monitoring. Gena prefers to see that the VC is declining before the system is turned off. The path forward is to review the December data in February and make the final decision in February or May at the latest. The Team agreed to await re-installation of the soil gas sampling point based on the next round of data.

XXIV. Site 89 Air Sparge Work Plan

Objective: Review background, proposed remedial action, site preparation, horizontal and vertical air sparge well installation, monitoring well network, and site restoration and survey.

Overview: A presentation was reviewed by Shaun. Dave noted that Sepi is completing the PRBs and aerators and Osage will be completing the air sparge well installation. Randy asked whether the aerators in the creek would be installed prior to the air sparging. Dave indicated that based on funding, the aerator installation is planned afterwards.

Air Sparging is the selected remedy to treat source area groundwater and two HDD sparge wells will diffuse larger plume (PCA, TCE, and VC) in surficial aquifer approximately 30 ft. bgs and three vertical sparge wells will treat deeper impacts (70 ft.) of PCA, TCA, DCE, PCE, and TCE near well MW80DW. The well installation details and methods were reviewed.

Site preparation will include at topographic survey to obtain the surface elevation along the proposed horizontal well borehole paths, GPR if evidence suggests that underground structures are present in the vicinity of the HDD wells entry pit, temporary erosion control measures will be installed around the HDD well entry pits, and site control measures including safety fencing will be installed to distinguish between the work zone and the staging/lay-down area.

Monitoring well installation is planned to evaluate the effectiveness of the AS system. Eight new monitoring wells will be installed and six existing wells will be abandoned and reinstalled. Prior to system startup, 25 AS performance monitoring wells will be gauged, measured for ORP, DO, and sampled for VOCs to establish baseline conditions.

Site restoration will include seeding to ensuring permanent grass cover over disturbed areas and to provide erosion and sediment control and surveying the new wells.

The Team discussed potentially using the existing compressors and housings at Sites 35, 73, or 89 for this work or at SWMU 350. The Site 89 compressor may not be working. The plan was to use one 200 HP compressor with a constructed building for housing.

Action Chris – Look into compressor sizes and specs for Sites 73 or 89.

The schedule for the draft work plan is for submittal in December 2012 to be finalized in January and initiate site preparation activities in February 2013. The well installation is planned in March 2013 for completion in May 2013 followed by a Closeout Report and O&M Manual in June 2013.

XXV. FY 2013 Goal Update

The Team reviewed the FY 2013 goals and discussed the current status of each goal. The goals were color-coded to identify high priority document reviews (red), upcoming document submittals (yellow), and documents close to finalizing (green). The goals are presented in a table at the end of these minutes.

XXVI. Parking Lot

There were no items remaining in the parking lot after the meeting.

Randy received a request from Bruce Reed for a report related to the rapid refueler where creosote was present and to look into potential hazardous waste.

Action Randy and Patti – Look into the report (document no 15387) for the rapid refueler and provide an update on results.

XXVII. Next Partnering Meetings

Start: February 19, 2013 at 1 pm
End: February 21, 2013
Facilitator: Kim
Host: Charity
Chair: Dave
Timekeeper: Beth
Location: Wilmington, NC

Start: May 21, 2013
End: May 22, 2013
Facilitator: TBD
Host: TBD
Chair: TBD
Timekeeper: TBD
Location: Richmond, VA (backup Raleigh, NC)

The next RAB dates are February 21 and May 30.

XXVIII. Agenda Topics for Next Partnering Meetings

Agenda Items for the February 2013 Partnering Meeting

Agenda Topic	Required Time
Standing Agenda Items:	
Check-in	30 minutes
Review agenda	15 minutes
Review action items, approve minutes from prior partnering meeting; read ground rules	30 minutes
Facilitation exercise	30 minutes
Base/Navy time	1 hour
Review FY2013 goals	30 minutes
Parking lot	15 minutes
Agenda items for next partnering meeting, team assessment, +/Δ review, checkout	30 minutes
Lunch	3 hours
Breaks	1 hour
Time for Standing Agenda Items:	**8 hours**
Technical Agenda Items:	
Site 49 PRAP and TM RTCs	30 minutes
Site 69 ROD/RD RTCs	30 minutes
Site 78 Bench Scale Results and LTM/LUCs Update	30 minutes
Sites 6 and 82 Data Evaluation Update	30 minutes
Site 86 FS RTCs Preferred Alternative	30 minutes
Site 89 AS RAWP RTCs (Osage)	30 minutes
Site 89 PRB RAWP (Sepi)	30 minutes
UXO-01 (ASR#2.64) GW Update (Osage)	30 minutes
UXO-06 RI Field Update	30 minutes
UXO-14 NTCRA Update (Osage)	30 minutes
UXO-19 RI/FS	30 minutes

Agenda Items for the February 2013 Partnering Meeting

Agenda Topic	Required Time
UXO-21, 22, and 24 UFP-SAP RTCs	30 minutes
UXO-23 Field Update (Osage)	30 minutes
UXO-25 PA/SI RTCs	30 minutes
Henderson/Hickory Ponds	30 minutes
Vapor Intrusion Update	30 minutes
Metals at OU 2 Update	30 minutes
Site 35 AS Update	30 minutes
Time for Technical Agenda Items:	**9 hours**
TOTAL TIME	**17 hours**

The agenda will be drafted prior to the meeting and the required times and topics may be adjusted based on current site status.

Fiscal Year 2013 Goals

Goal #	Site	Goal	Complete by	Status as of 11/29/12	Future Agenda Items
1.	6/82	Supplemental Investigation Report	28 February 2013	On track	Data evaluation update
2.	49	Final RI/FS	30 July 2012	Complete	
3.	49	Technical Memo	15 January 2013	On track	RTCs
4.	49	Draft Final PRAP	15 January 2013	On track	RTCs
5.	49	Final PRAP	20 February 2013	On track	
6.	49	Public Meeting	21 February 2013	On track	
7.	49	Draft ROD	15 March 2013	On track	
8.	49	Final ROD	30 June 2013	On track	
9.	69	Draft ROD	6 December 2012	Pending comments	RTCs
10.	69	Final ROD	30 March 2013	On track	
11.	69	Draft RD	7 December 2012	Pending comments	RTCs
12.	69	Final RD	30 March 2013	On track	
13.	78	Additional Delineation Summary Tech Memo	28 February 2013	On track	LTM & LUCs update
14.	78	Treatability Study Work Plan	28 February 2013	On track	Bench scale results
15.	78	Draft Report	30 September 2013	On track	
16.	86	Draft FS	15 January 2013	On track	RTCs & select preferred alternative
17.	86	Final FS	1 March 2013	On track	
18.	86	Draft PRAP	30 March 2013	On track	
19.	86	Final PRAP	15 May 2013	On track	
20.	86	Public Meeting	May 2013	On track	
21.	86	Draft ROD	May 2013	On track	
22.	86	Final ROD	August 2013	On track	
23.	88	Draft FS	16 March 2012	On hold	
24.	88	Final FS	TBD	On hold	
25.	88	Draft PRAP	TBD	On hold	
26.	88	Final PRAP	TBD	On hold	

Fiscal Year 2013 Goals

Goal #	Site	Goal	Complete by	Status as of 11/29/12	Future Agenda Items
27.	88	Draft ROD	TBD	On hold	
28.	88	Final ROD	TBD	On hold	
29.	89	Final ROD	30 August 2012	Pending signatures	
30.	89	Draft RD	15 October 2012	Complete	RTCs
31.	89	Final RD	30 November 2012	Complete	
32.	89	Draft Remedial Action Work Plan for Sparge Wells (Osage)	15 January 2013	On track	RTCs & Update
33.	89	Draft Remedial Action Work Plan for PRB (Sepi/Tetra Tech)	30 January 2013	On track	Present workplan
34.	89	Remedial Action Closeout Report	TBD	TBD	
35.	96 (Former SWMU 360)	Complete Delineation for SRI/FS	TBD	TBD	
36.	LTM	Final FY2011 Report	30 December 2012	On track	
37.	LTM	Draft FY2012 Report	30 April 2013	On track	
38.	LTM	FY2013 UFP-SAP	30 December 2012	On track	
39.	UXO-01 (ASR# 2.64)	Draft NTCRA Report – Soil/GW	30 March 2013	On track	GW results
40.	UXO-01 (ASR# 2.64)	Final NTCRA Report – Soil/GW	30 May 2013	On track	
41.	UXO-06	Draft RI/FS	30 March 2013	On track	RI assessment
42.	UXO-06	Final RI/FS	30 May 2013	On track	
43.	UXO-14	Final EE/CA	30 July 2012	Complete	NTCRA Update
44.	UXO-14	Action Memo	30 October 2012	Pending comments	
45.	UXO-14	Removal Action	February 2013	On track	Field update
46.	UXO-19	Draft RI/FS	30 January 2013	On track	RTCs
47.	UXO-19	Final RI/FS	30 March 2013	On track	
48.	UXO-21	Draft Phase II ESI UFP-SAP	30 December 2012	On track	RTCs
49.	UXO-22	Draft PA/SI Report	30 January 2013	On track	RTCs
50.	UXO-22	Final PA/SI Report	30 March 2013	On track	
51.	UXO-22	Draft RI/UFP-SAP	30 January 2013	On track	RTCs
52.	UXO-23	Draft ESI/RI	TBD	TBD	Phase 1 analytical data

Fiscal Year 2013 Goals

Goal #	Site	Goal	Complete by	Status as of 11/29/12	Future Agenda Items
53.	UXO-23	Final ESI/RI	TBD	TBD	
54.	Skeet Range (UXO-23)	Draft NTCRA Report	March 2013	On track	Update
55.	Skeet Range (UXO-23)	Final NTCRA Report	April 2013	On track	
56.	UXO-24	Draft Revised UFP-SAP	30 December 2012	On track	RTCs
57.	UXO-24	Draft PA/SI Report	30 April 2013	On track	
58.	SDZ	Draft ESI Work Plan	31 October 2012	Complete	
59.	SDZ	Final ESI Work Plan	31 December 2012	Complete	
60.	Vapor Intrusion Monitoring Plan	UFP-SAP	30 December 2012	On track	Update
61.	UST/RCRA VI Work Plan	Work Plan	30 December 2012	On track	
62.	SMP	Draft FY13 SMP	15 January 2013	Complete	
63.	SMP	Final FY13 SMP	15 January 2013	On track	
64.	Verona Loop (UXO-25)	Draft PA/SI	30 December 2012	On track	RTCs
65.	Verona Loop (UXO-25)	Final PA/SI	28 February 2013	On track	
66.	Henderson/Hickory Pond	Final Summary Report	1 March 2013	On track	HHS Update
67.	Five-Year Review Recommendations	Tracking Sheet (OUs 1 and 2 TMs, LUCIPs for ESD sites and OUs 1 and 2)	See spreadsheet	Ongoing	Update

Red - high priority document reviews
Yellow – upcoming/recent document submittals
Green – comments received/finalizing document