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FINAL IR PARTNERING TEAM MEETING MINUTES 18 AND 19 AUGUST 2015 MCB CAMP
LEJEUNE NC
12/1/2015
CH2M HILL

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

MEETING DATES: August 18-19, 2015

LOCATION: Knoxville, TN

ATTENDEES: Bryan Beck/NAVFAC (by phone¹) Monica Fulkerson/CH2M
 Dave Cleland/NAVFAC Kim Henderson/CH2M
 Charity Delaney/MCB Camp Lejeune Keith LaTorre/CH2M (Day 2)
 Gena Townsend/EPA Region 4 Matt Louth/CH2M
 Beth Hartzell/NCDENR Mike Perlmutter/CH2M (Day 1)
 Randy McElveen/NCDENR Shaun Whitworth/Osage
 Marti Morgan/NCDENR (by phone²) James Macdonnell/Seppi

FROM: Kim Henderson/CH2M

DATE: December 1, 2015

August 18, 2015

I. Introductions, Logistics, Check-In

II. Review Agenda/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 – June 2015 meeting minutes are approved.

Some discussion during action items were as follows:

- During LUC inspections, Charity looked into where signs would be useful and recommended Sites 89, 35, 73, 41, 49, and 82. She recommended signs with QR codes linking to PP/ROD. The PP identifies a preferred alternative so Gena recommended linking to the RACR; however, Team discussed that since it is post-ROD, the RACR is a site file. Therefore, the Team decided to provide a link to the ROD.
- Gena recommended soil sampling following the water tower removal at Site 88 based on concerns for potential lead contamination from paint.

III. Base/Navy Time

Updates on the following were:

- **Five-Year Review** – The Base has completed review. The only major edit is that the Base name will need to change to “MCB Camp Lejeune and MCAS New River”. This applies to all documents. The Base name can be simplified to “Camp Lejeune” and/or the “Base” in text, figures, and tables if defined up front in the text (e.g., The Base consists of MCB Camp Lejeune and MCAS New River and

¹ Base/Navy Time, Vapor Intrusion Update, and SDZ topics

² UXO-24, UXO-23, UXO-28, UXO-29, and SDZ topics

is hereafter referred to as Camp Lejeune or the Base.). The only time to refer to MCIEAST-MCB CAMLEJ is when referring to the Commanding General (e.g., in a signature block). CH2M will post the final clean copy on the web portal and let the Team know it is posted and send a final clean copy to the Base and EPA. Base legal looked into the FFA during review to determine the appropriate signatory and recommended looking into updating it based on the dates. The Team discussed reopening the FFA and if it is reopened, there's the potential for additional primary document requirements to be subject to dispute resolution.

Action Charity – Check into the appropriate Base logo to use in documents.

- **UXO-19 ROD** – The Team discussed the principal threat waste (PTW) language. NAVFAC HQ sent an email to put MMRP RODs on hold if the language mentions that munitions are PTW. Revised language is being developed at the OSD level. Gena questioned whether the Navy is working with EPA on the PTW language and Dave is unsure. Chris Gamache with MC HQ is also working on this and Charity will check with him on the status.

Action Dave/Charity – Check with HQ on the principal threat waste (PTW) language for the UXO-19 ROD.

- **Lot 202** – A DLA Safety Officer discussed safety briefings with Charity and Industrial Hygiene. DLA agreed for OSHA health monitoring on their employees at the site; however, there is no current exposure pathway. A fact sheet is being developed to present the findings and recommendations from the ECP.
- **Vapor Intrusion** – EPA finalized their guidance. Additional sampling is planned at Building HP57. Recent quarterly sampling indicated PCE hits at other buildings at Site 88 that may be coming from the sewer line as a preferential pathway. Also, there has been a high water table and in the HPIA, buildings that were previously written-off or have VIMS, may need to be re-evaluated based on changed conditions. In the future, spray-in liners will be considered.
- **ATSDR** – Chris Fletcher is restarting the VI evaluation. The CAP is next week and a member is asking about Building 133, where there has not been a VI issue, and is questioning notification protocols on TCE sites. A FOIA review is being conducted on over 6,000 documents for release.
- **EPA** – Jennifer Tufts, an EPA hydrogeologist, plans to replace Gena and will attend the RAB next week and site visits are planned. She will also attend the December partnering meeting. The partnering plan can be reviewed at the December meeting.
- **DSMOA/SWMUs** – Dave will be working on 2016-2018 DSMOA for the State. The SWMUs will now be ER,N funded and Dave will discuss with Bryan and include them. Bryan and Dave will meet with CH2M to transition the SWMU sites.

IV. Vapor Intrusion Update

Objective: Discuss the planned at Building HP-57, review recent IRP VIMS O&M data, and review the schedule.

Overview: A presentation was reviewed by Matt. At Building HP-57, where previous TCE detections have occurred, additional sampling is planned this month to further investigate individual barracks rooms with a combination of HAPSITE and SUMMA Canisters. Screening will be conducted in bathroom areas of individual barracks rooms on the 1st floor and HVAC rooms on each floor. If TCE/PCE is detected in individual rooms on the 1st floor, the investigation will be expanded to individual rooms on the 2nd and 3rd floors. Indoor air sampling will also be conducted in Building 67 that is connected to Site 88 through the sewer and was not previously screened due to distance.

Additionally, this winter, a pilot study will be conducted for sewer mitigation/ventilation at the connection with Building HP57. Full implementation may also be protective of other buildings

connected to the sewer line; therefore, the plan for full implementation may be incorporated into the FS near the former Building 25 source area. Follow-up indoor air screening/sampling of Buildings HP55, 57, 58, and 59 (commercial buildings previously sampled) are also planned. If TCE/PCE is detected during the initial investigation, additional sampling will be conducted in Building 67.

The quarterly VIMS O&M conducted at 5 buildings at IRP Sites 78 and 88 through Round 13 indicate that the vacuum and flow measurements indicate the VIMS generally operating as designed. A high water table was observed. At Building 902, the SG11 probe was re-installed and differential pressure readings were consistent with design parameters. The concrete joints were sealed with caulk to reduce short circuiting.

The Round 11 VIMS Tech Memo and Round 12 Checklists are with Gena for review. The updated O&M Manual, VIMS Management Plan, and VI Evaluation Status Report are with the Base for review. The HP57 Pilot Study Work Plan is scheduled for submittal to the Navy/Base in October 2015 and to the Team in November 2015.

V. Site 89 AS

Objective: Review update on AS operations, June 2015 LTM results, plan for improvements, and schedule.

Overview: Presentations were reviewed by Shaun and Monica. The AS system operated from January 13 to April 20, 2015 and shut down again in June and July 2015 for power surges, sampling, and/or repairs.

Current operation of the horizontal wells are ~100 cfm and the vertical wells continue to be low (maximum of ~20 cfm at one well). An acid treatment is planned on the vertical sparge wells to remove suspected fouling on well screens and increase air flow. Nu-Well pelletized acid and biofouling agent will be used. A UIC notification is not needed for the treatment. The Team discussed the next options if this acid treatment does not work. The wells may be short-circuiting and may need to be re-installed in the future.

IR89-MW80DW2 (screened 105 to 110 ft bgs) is not in the LTM monitoring network and was last sampled in 2012. The well was sampled in June 2015 based on COC increases in co-located IR89-MW80DWR (screened 63 to 68 ft bgs). The concentrations were significantly higher than 2012 and a confirmatory sample was conducted last week. If the results are confirmed, the vertical extent is not defined. The deep contamination may be due to drag down during the previous shearing of the well.

The PRB results over time indicate continued degradation is occurring. The surface water results from June 2015 indicate no detections downgradient. Based on the previous exceedances, comparison to HHRA results (1999-2004) was conducted and the results indicate that the current concentrations are significantly lower.

Additionally, in the future, the existing PRB that was installed in December 2006 can be replenished through substrate injection. The plan is to conduct this after the AS has been turned off, since the PRB and PRB performance monitoring wells are located within the area of influence of the AS which will reduce the lifespan of the PRB. In the meantime, to reduce the potential for short-circuiting of air sparging, it is proposed to abandon 16 wells located within the area of influence of the AS and that are not currently being in LTM or performance monitoring network. A Tech Memo Work Plan for the well abandonment is planned for submittal in September 2015.

Action Monica – Include the data for the Site 89 wells recommended for abandonment in the Tech Memo Work Plan.

The next performance monitoring for the aerators is in September 2015 and for the PRB and MNA is in December 2015. For AS, groundwater performance monitoring is planned to be aligned with O&M schedule annually (Q1 FY 2016) or during system shutdowns.

VI. Site 96 RI

Objective: Update team on field investigation progress and the schedule.

Overview: A presentation was reviewed by Matt. Soil sampling via DPT was completed in July to identify possible sources of C VOCs in soil from the former UST. Samples were collected from 0-6 inches, 4-5 ft bgs, and 17-18 ft bgs for VOCs, SVOCs, PCBs, and metals. No PID readings/staining was observed. Clay was observed above the water table. 15 new monitoring wells were installed to assess downgradient groundwater. The locations for IR96-MW22 and IR96-MW23 pairs were moved based on the wetlands that prevented vegetation clearing access to the original locations. Preliminary soil data indicates VOCs, 1 SVOC, and metals exceeded screening values.

This month, slug testing was conducted, pore water and surface water sampling is planned for VOCs, and groundwater sampling is planned at all existing and newly installed wells for VOCs and NAIPIs, with select wells for SVOC and metals analyses.

The validated data will be in by November 2015 and soil figures will be sent to the Team for concurrence on additional delineation locations if needed.

Action CH2M – Look into any potential additional VI evaluation needed based on the soil data at Site 96.

Action CH2M – Include Building 1828 VI schedule in future Site 96 presentations to track the need for collecting an additional round of subslab soil gas and/or indoor air data during LTM/every 5 years (2018).

VII. Site 88 Field Activities

Objective: Provide an update on upcoming tracer study field activities, present June 2015 preliminary former ZVI soil mixing area soil sampling results, discuss monitoring well repair activities, review SWMU 615 RFI results and recommendations, and provide schedule.

Overview: A presentation was reviewed by Monica. The Phase I tracer study is planned to begin in September 2015 for the HDD well installation and vertical extraction well installation followed by permanganate injections, post-injection geophysical mapping, and IDW management in October 2015. The Phase II tracer study will also begin in October 2015 including installation of conveyance line HDD borings and recirculation system installation/start-up that is planned for 30-day operation. Post-recirculation performance monitoring, geophysical mapping, and site restoration is planned in November and December 2015.

Soil sampling was conducted to evaluate current conditions in former soil mixing area. Samples were collected at 4 locations for COCs at 4 depths at each location (5, 10, 15, and 20 ft bgs) adjacent to previous locations for comparison, adjacent to monitoring wells for comparison, and within the parking lot, upgradient, and downgradient. The preliminary results are as follows:

- Downgradient of the soil mixing area - PCE concentrations have reduced by 95% to 97% and TCE have reduced to below detection limits.
- In the middle of the soil mixing area (located near MW30/MW30IW well pair) - PCE has reduced 96% to 100% and TCE has reduced has to below detection limits. Based on lower soil concentrations, groundwater exceedances are unlikely related to a continuing soil source. The corresponding groundwater results at MW30 indicate that total COCs have reduced by 99% since soil mixing and at MW30IW, PCE and TCE has reduced to below detection levels and daughter products have increased since the 2010 ESTCP permanganate injections.
- Updgradient of the soil mixing area (located near MW31/MW31IW well pair) - PCE concentrations have been reduced by 56% to 99.98% and TCE has been reduced by 59% to 100%. The

corresponding groundwater results at MW31 indicate that total COCs have reduced by 99% since soil mixing and at MW30IW, total COCs have reduced by 80% since soil mixing.

In summary, COC exceedances of screening criteria occurred at all depth intervals; however, attenuation of COCs in soil and groundwater has been observed since completion of soil mixing with up to 100% reduction in PCE and TCE concentrations. The remaining COCs detected in groundwater do not appear to be associated with a residual source in soil. A HHRA will be completed with validated data that is due in mid-August. The results will be used to assess risk and evaluate whether to include soil in the FS.

Monitoring well repair activities were conducted as follows:

- IR88-MW09IW: Repaired with new well pad in January 2015 and re-surveyed TOC elevation in June 2015.
- IR88-MW16DW3: Rehabilitation was attempted by jetting out the sand in the top of casing but the casing was significantly damaged a few feet below ground surface and the well was abandoned in June 2015.
- IR88-MW20IW and IR88-MW20DW: Repaired with new well pads in June 2015 (previously paved over).

The SWMU 615 RFI was conducted from May 2013 – December 2014 and the results indicated no exceedances of CVOCs in soil and low concentrations of localized exceedances of PCE and TCE identified in surficial aquifer. SWMU 615 was transferred to IRP Site 88 on April 1, 2015 and will be included with Site 88 and evaluated in the FS.

The Draft Final FS is planned in Summer 2016.

Action Charity– Check with Bryan on collecting 3 composite surface soil samples for lead analysis in the vicinity of the former water tower at Site 88.

If lead is present in soil above NCSLs and background, the Team discussed handling it under RCRA vs CERCLA.

VIII. Site 82 Treatment Plant

Objective: Review the current status and operation of the treatment plant, discuss the approach for system evaluation, and review schedule.

Overview: Presentations were reviewed by Shaun and Monica. The media in the stripper tower was replaced in July 2015 and the media was heavily cemented. A new sand filter was installed to remove suspended solids from influent and help reduce iron fouling in stripper and carbon units in August 2015. The settling tank was modified in August 2015 by adding an air distribution line and restarted to enhance oxidation of iron and calcium, increasing settling rates by flocculation of process water as a pretreatment. Once settled out, sludge is removed from the bottom of the tank and processed through a filter press. The carbon filter media will be replaced in fall 2015. The system was restarted and fully operational as of August 10, 2015 and effluent samples were collected. PCA was not detected, TCE and cis-1,2-DCE were detected at low levels. Effluent sampling is planned for September and October and will continue monthly.

Additional system evaluation is planned for the new extraction wells proposed in hotspots and to evaluate treatment reliability over time. The approach is to gather desktop and field data to evaluate groundwater treatment system, evaluate the current configuration and loading and additional loading from hotspot recovery wells, and to prepare an evaluation report. Data needs include:

- System influent and effluent characteristics - VOCs/COCs (historical samples for each RW) and water quality chemistry (snapshot per RW or tight groups of wells).

- Plant operational information - Design and as-built plans; stripper tower dimensions, internals, packing depth, air blower type/capacity; pressure drop data; carbon vessel dimensions, carbon type/depth, pressure drop data; pump capacities; and review other operational problems/issues (e.g., controls, maintenance issues).

A treatment plant assessment is planned to include:

- Plant inspection by water treatment engineer
- Statistical analysis of influent (current and projected)
- Assess treatment plant effectiveness, identify deficiencies, and potential modifications for future conditions
- Flexibility and reliability assessment
- Treatment capacity and estimated performance for different operating scenarios (e.g., hydraulic, mass removal, operations)

The report will review the current process description and current conditions, document the Basis of Design with assumed influent conditions, discuss treatment capability/flexibility/reliability, identify potential alternatives for optimization (including capital and O&M cost estimates), and conclusions and recommendations.

Gena recommended tying this report to the previous optimization evaluation conducted.

A Tech Memo Work Plan is planned for submittal in September 2015. The data collection activities can be conducted in October-November 2015 with the evaluation in December 2015-January 2016 followed by the draft report in February 2016.

IX. Sites 6 and 82 SRI and UXO-22 Path Forward

Objective: Review SRI field activities, discuss remaining field activities, and the path forward for UXO-22.

Overview: A presentation was reviewed by Monica. Overall 35 monitoring wells were installed at Sites 6 and 82. Preliminary results were reviewed for the data that was analyzed on a quick turn-around time to determine if contingency delineation wells were needed. The validated groundwater results are due back in November 2015.

For source characterization, DPT is ongoing at Site 6 in the vicinity of the former chlorobenzene drums. The 7 DPT locations conducted to date indicate no elevated PID hits. Two surficial MWs were installed near TP10 and high PID hits were observed and a UCH MW was installed. Additional DPT is to be conducted downgradient of MW95. At Site 82, 8 MIP borings were advanced in the northern area and 12 MIP borings were advanced in the southern area hot spots.

Pore water sampling is planned to support plume delineation in the surficial aquifer in wetlands adjacent to Wallace Creek and locations will be selected following evaluation of groundwater analytical results.

Because previous investigations and risk assessment conclusions in the RI indicate unacceptable risk in Wallace Creek; therefore, Wallace Creek sediment and surface water sampling is planned to evaluate current conditions and risk to human health and ecological receptors and determine the path forward based on results. 21 sediment and 11 surface water samples are planned for analysis of VOCs, SVOCs, pesticides, PCBs, and metals and eco-specific parameters (SEM-AVS, TOC, salinity) and locations will be biased based on depositional areas identified in the field. If potential unacceptable risks to humans or ecological receptors are identified, additional investigation may be necessary.

Additional DPT at Site 6 in vicinity of IR06-MW95 and Wallace Creek pore water, surface water and sediment sampling is planned in October 2015.

The UXO-22 ESI Report is being prepared for submittal to the Navy/Base in September 2015 to include previous DGM and intrusive investigation results, DRMO area findings, and test pit and site walk findings. The conclusion is that there is widespread disposal in the surface and subsurface but that the explosive hazard is low. The options for recommendations are to consider surface clearance to address munitions debris on the surface and focus on wooded areas not previously cleared and/or to prepare an ESD to update the OU 2 ROD to include UXO-22 findings. The ESD would be prepared to add LUCs to OU 2 to include an intrusive activities control for MEC and consider additional fencing and gates to prevent trespassers from accessing the waste disposal areas.

Action CH2M – Generate a figure with proposed fencing locations at OU 2.

X. Site 78 Decision Trees

Objective: Present alternative technology evaluation and consensus on technologies to carry forward, discuss data gaps and consensus on follow-on investigation, and review path forward and schedule.

Overview: A presentation was reviewed by Monica and Mike. Three target treatment areas technologies for further evaluation are as follows:

- Northwest Woods - Pump and Treat, AS, MNA (as polishing step)
- Buildings 901/902/903 - Pump and Treat, ERD, MNA (as polishing step)
- Buildings 1601/1603 - Pump and Treat, ERD, MNA (as polishing step)

MNA was modeled and is projected out for hundreds of years.

Action CH2M – Look into the history of a potential waste oil tank in the vicinity of Buildings 901/902/903 at Site 78.

Follow-on investigation required prior to FS is to delineate plume at site boundaries and gather data to support the technology evaluation. Proposed additional monitoring and recovery well locations were presented by aquifer. In summary, 20 monitoring wells (5 surficial, 7 UCH, and 8 MCH) and 4 recovery wells (2 UCH and 1 MCH) and groundwater sampling for site-specific VOCs is proposed with aquifer testing. A bench-scale test utilizing media collected from Buildings 901/902/903 is also planned to evaluate ERD.

The Team discussed the potential for VI based on pulling contamination towards buildings and the potential for methane with ERD approaches.

Consensus - The Team agrees to the general approach for the data gap investigation at Site 78 as presented and updated real-time in the presentation in the August 2015 partnering meeting for the UFP-SAP to support the FS.

The UFP-SAP for data gap sampling can be drafted and submitted to the Navy and Base in December 2015 and to the Team in February 2016. The field activities are planned in 2Q16, including HPFF delineation activities previously presented.

The Draft Treatability Study Report is with the Navy and Base for review and is planned to submittal to the Team in August/September 2015.

XI. CIP Report

Objective: Review current status and schedule, review recent activities, review timing of community involvement activities, and review CERCLA requirements.

Overview: A presentation was reviewed by Kim. The Draft CIP was submitted to the Navy/Base in May 2015. The Base's comments are being addressed and RTCs will be provided. Pending Dave's review, the Draft CIP is planned for submittal to the Team in September 2015.

Recent activities include the Base and Navy are working on is to add the RAB website to public notices, they provided RAB meeting notification for the August meeting on Facebook, and are preparing updates to the RAB and public website.

The Technical Assistance for Public Participation (TAPP) and Technical Assistance Grant (TAG) programs were discussed and the CIP recommendation to present the availability of the programs to the RAB every 5 years.

Action Dave – Look into TAPP presentation materials for the RAB.

Action Gena – Look into TAG presentation materials for the RAB.

The CERCLA requirements were reviewed and all are being conducted with the exception of ROD public notices which have not been completed previously per the Administrative Record. Gena provided an example of a ROD public notice from Cherry Point and following the next ROD signature, a public notice will be prepared.

August 19, 2015

XII. Check-In

XIII. Partnering Exercise

Matt led a team-building exercise.

XIV. LTM

Objective: Review FY13 RTCs, FY15 Q3 sampling results at Sites 69 and 86, discuss FY15 and FY16 reporting schedule, provide Pilot Study updates, and schedules.

Overview: A presentation was reviewed by Monica. NCDENR comments on the FY13 report and responses were reviewed as follows.

- CSMs will be updated to include all potential risks and will be updated to reflect additional risks identified in post FY14 reports in future LTM reports. Where we are still investigating and there is uncertainty in pathways, they will be reflected once confirmed.
- At Site 35, The FY 2011 LTM Report recommended to reduce sampling frequency of U.S. Highway 17 median wells (IR35-MW72, IR35-MW72IW, IR35-MW72DW, IR35-MW73, IR35-MW73IW, IR35-MW74, and IR35-MW74IW) to once every five years. These wells will be sampled in FY 2016.
- Typographical errors or clarification recommendation comments will be addressed.

The results of the Site 69 sampling indicate that data are consistent with previous results. There were no VOCs in exceedance of the cleanup levels in the surficial aquifer; TCE, cis-1,2-DCE, and VC were detected in exceedance of cleanup levels in the UCH aquifer, and VC was detected in exceedance of the cleanup level in the MCH aquifer. Pesticides/PCBs were not detected and chromium exceeded the cleanup level at 2 locations. Chemical agent and degradation products were not detected in groundwater samples collected during the June 2015 LTM sampling event; therefore, the recommended path forward is to sample wells closest to the cap and leading edge of groundwater plume (18 of the 27 LTM monitoring wells) annually and re-evaluate the data and transport pathway annually. The next sampling event is planned in December 2015. Charity and Randy questioned whether it would be prudent to install wells closer the cap to confirm/compare to 2010 data. Gena indicated that over the past 15 years the plume has not changed since before the cap, new closer wells may not provide any additional information. Because infiltration was mitigated by the cap, the current well network is sufficient and as distal wells are clean, wells closer to the cap may be considered. Data presentation in the LTM report may be misleading since the wells in the center of the site with contamination are no longer sampled. The data can be presented pre- and post-cap.

The results of the Site 86 sampling indicate that data are consistent with previous results. In the surficial aquifer and UCH aquifer TCE and VC were detected in exceedance of cleanup levels. The next sampling event June 2016.

The Draft FY13 Annual Report was pending Gena's review and she indicated that she has no comments and the document will be finalized. The Draft FY14 Report is planned for submittal to the Navy/Base in August 2015 and to the Team in October 2015; however, Dave and Charity agreed to send the draft report to the Team concurrently in August 2015. The FY15 Q4 LTM event is planned for September 2015. The FY16 UFP-SAP is with the Navy/Base for review and is planned for submittal to the Team in September 2015. The FY15/FY16 Reports are planned in a phased approach starting in December 2015 through March 2017, approximately 24 weeks after sample collection. The Team discussed sending the EPA/NCDENR at the same time as the Navy/Base if possible to speed up the schedule.

The pilot study injection and monitoring wells were installed at Sites 3, 36, and 93 and baseline sampling was conducted in May 2015. The injections at Sites 3 and 36 were conducted in June 2015 and the bioreactor installation at Site 93 is was conducted in July 2015. Quarterly monitoring will begin in October 2015 and will be conducted through April 2016 followed by a draft report in September 2016.

XV. UXO-24 Field Update

Objective: Provide previous investigation history, review ESI approach, present site walk results, present DGM results and proposed test pit locations and gain consensus, and review schedule.

Overview: A presentation was reviewed by Keith. The ESI approach was to conduct a site walk to identify surface debris, a geophysical investigation to evaluate extent of potential buried debris, excavation of test pits to characterize debris, and soil sampling to evaluate presence or absence of contamination. The findings from the site walk that was conducted in the wooded area that was cleared for DGM were utility infrastructure (e.g., manholes, sanitary sewer, storm sewer, telephone), relatively little surface debris (e.g., rusted drums, concrete debris, tires, steel cable, concertina wire), and mounded areas. No munitions items were found.

The DGM results were reviewed and up to 12 test pits were planned to be excavated within areas of identified anomalies and 1 location where petroleum odors were observed during the PA/SI. The Team identified an additional location that was marked on the presentation. Surface soil sampling is planned within the waste disposal areas and subsurface soil samples are planned from the base of test pits based on the types of debris, PID readings, and soil staining or burnt material. One surface and subsurface soil will also be collected at the petroleum odor location. Samples will be analyzed for VOCS, SVOCs, metals, pesticides, and PCBs.

Consensus – The Team agrees to the 13 test pit locations identified in the UXO-24 presentation.

The test pitting and soil sampling investigation is planned in September/October 2015 pending ESS Amendment 1 Approval.

Action Charity – Check on the UXO-24 ESS approval.

Based on the exclusion zone, night work is recommended for the test pits adjacent to the highway.

Action CH2M - Notify Charity of the field schedule for UXO-24 as soon as possible, including the night work.

The Draft ESI Report is planned for submittal to the Navy/Base in February 2016.

XVI. UXO-23 Phase II NTCRA

Objective: Update field activities, discuss munition items found in fill material, and the schedule.

Overview: A presentation was reviewed by James. Field activities conducted to-date include survey of existing site conditions, established erosion control features and began excavation of fill material above geotextile fabric July 8, 2015. Munitions items were discovered in fill material – maximum one foot lifts for excavations, occasionally 6 inches due to background and equipment noise.

Additional fill was discovered over the area and the survey of existing conditions was compared to pre-existing conditions surveyed during Phase I of the NTCRA. Up to 2 additional feet of fill material was placed on western portion of 18 grid blocks. Initial estimates for the project were 10,400 tons (7,000 cubic yards) of contaminated soil to remove and approximately 4,800 cubic yards of ‘clean’ fill to be reused as backfill. Approximately 2,500 cubic yards were removed and stockpiled prior to discovery of munitions items and was left on site for future screening.

The base of the excavation was recalculated based on survey of current conditions and pre-existing conditions prior to Phase I and excavation is proceeding with UXO tech support to the base of excavation. Pot-holing of the base of excavation is being conducted based on visual ID of contaminated material (dark soils, skeet debris) ranging to 6 ft bgs. Gena questioned whether additional sampling would be conducted in deeper excavation areas. James explained that there is just more of the skeet material than anticipated and it is not an even/flat excavation floor and there is a clear limit to the skeet/stained soil vs native soil. The Team agreed additional sampling is not needed.

Backfilling and compaction has been started as grid areas are completed. To-date, 10,100 tons of contaminated soil has been excavated for off-site disposal and 7,800 tons of backfill material has been delivered. Excavation will continue through September 2015 followed by backfilling and site restoration in September/October 2015 and the project closeout report is planned for Winter 2015/2016.

Dave questioned when funding will run out since the excavation is halfway complete and the capacity for tons has already been met.

Action James – Provide Dave with estimates for completion of the UXO-23 Phase II NTCRA.

The Team discussed Randy’s recent email regarding an existing abandoned sewer line found at 3 ft bgs where black stained soil was identified beneath it in the western sidewall within a trench and it appears to include skeet material. One PAH and lead sample will be collected with a hand auger by CH2M along the side of the pipe within the black material. Based on the results, if contamination is identified, it will be addressed through the RI/FS/PP/ROD process.

Action CH2M – Collect one PAH and lead sample with a hand auger along the side of the pipe within the black material at UXO-23.

XVII. UXO-23 Phase II NTCRA MR Findings

Objective: Discuss the MR support findings, status, path forward, and schedule.

Overview: A presentation was reviewed by Keith. The initial MR support approach was to provide UXO support for the Phase II NTCRA below the geotextile liner, to remove anomalies in 1-ft lifts below the geotextile liner, and process any MEC/MPPEH. However, MPPEH was identified in the fill placed over the geotextile liner so the current approach is to provide UXO support above and below the geotextile liner, including the ‘clean fill’, and provide soil sifting operations for anomaly saturated soil stockpile in late August/September 2015. To-date, 11 MPPEH items have been found, 10 of the items were identified in the ‘clean fill’ above the geotextile liner and 1 item was found below the geotextile liner.

The MILCON contractor at Wallace Creek allegedly placed fill in the NTCRA area that was likely from excavation and construction activities south of Parachute Tower Road (southeast of UXO-28 boundary), resulting in the debris and munitions items found during the Phase II NTCRA. Some of the fill may also have come from Phase 1A Subarea 1 of the Borrow Pit that was likely from operational borrow pit area at the time and not investigated.

XVIII. UXO-23 RI

Objective: Present drum and mound soil sampling results and review remaining RI schedule.

Overview: A presentation was reviewed by Keith.

15 mounds were investigated with a hand auger and PID and no mounds exhibited staining or suspect debris. 6 mounds exhibited PID hits above 1 ppm and were sampled and 1 mound exhibited exceedances of both the Residential RSL and BTV for arsenic and benzo(a)pyrene. 10 container areas were investigated with a hand auger and PID. 7 areas exhibited PID hits above 1 ppm and were sampled and 3 areas exhibited exceedances of both the Residential RSL and BTV for benzo(a)pyrene.

Benzo(a)pyrene detections greater than screening levels and background are likely a result of site wide PAHs, not a result of the drums/containers and the isolated arsenic exceedance is within the range of background concentrations. The human health and ecological risk screening is underway but the preliminary assessment suggests no unacceptable risk.

The next steps after the completion of the NTCRA is to conduct the groundwater investigation in the theoretical shot fall zone.

XIX. UXO-28 PA/SI

Objective: Provide site background and history, discuss path forward options and approach, and review schedule.

Overview: A presentation was reviewed by Keith. The site boundary for UXO-28 was expanded based on Phase II NTCRA findings to encompass the area south of Parachute Tower Road and covers 75 acres.

At the June 2015 meeting, prior to the findings from the Phase II NTCRA, we discussed conducting a PA/SI. Path forward options were discussed including using the information known to date to document the PA/SI and to recommend an ESI or RI. The Team also considered combining documentation with the UXO-23 for FS/PP/ROD. Charity indicated that UXO-28 was created to cover the munitions items and that in the UXO-23 documentation, it could defer to UXO-28 to cover all the munitions items. UXO-23 will likely have LUCs for lead in groundwater and UXO-28 will likely have LUCs for intrusive activities based on the munitions. Based on timing, the documentation may be combined.

Consensus – The Team agreed to document the existing information for UXO-28 in a tech memo recommending an RI.

Charity indicated that a surface clearance is needed around the barracks south of Parachute Tower Road prior to October 2015. An ESS Amendment (with service approval requested) and separate tech memo work plan would be needed to conduct the surface clearance within the schedule. Timing would likely be September/October 2015 following the soil sifting at UXO-23.

Investigation activities are planned to evaluate the nature and presence of MEC/MPPEH and the potential for MC contamination, evaluate whether conditions pose potential risks to human health and the environment, and determine the path forward for UXO-28. Activities include vegetation clearance and utility locating, DGM in transects covering 5 acres and intrusive anomaly investigation, and environmental sampling for explosives residues and perchlorate. Metals were previously investigated site-wide during the Focused PA/SI for UXO-23 and no unacceptable risks to human health or ecological receptors and during the recent drum and mound investigation where metals detections did not exceed the BTV and screening criteria, except arsenic in one soil sample, which was within the range of background values.

Surface soil sampling is planned in 10 decision units plus 12 delineation samples and subsurface soil sampling is planned in 11 locations for explosives residues and perchlorate. If there are exceedances in subsurface soil, groundwater sampling will be conducted. The Draft UFP-SAP is planned for submittal to

the Navy/Base in October 2015 and the EPA/NCDENR in November 2015. Field Activities are planned for February/March 2016.

XX. SDZ

Objective: Provide update on EE/CA, plan for ESS/AAR, and discuss path forward and schedule.

Overview: A presentation was reviewed by Charity. The EE/CA was finalized in July 2015 recommending Alternative 3: “Previously Identified Anomaly Source Investigation and LUCs” of 10 terrestrial and 100 underwater anomalies. The LUCs consist of warning signs (Installed November 2014), visual inspection of public accessible areas for the presence of illumination flares or other training-related items, a public communication plan, establishing a Danger Zone 33 CFR 344, and five-year site reviews.

The CFR amendment is similar to a situation on-going in New River around K-2 Impact Area (active range project) so the current plan is to submit CFR modifications for both areas at the same time (met with ACOE in July 2015). For the K-2 Impact Area the modification will be to implement restrictions and for the Off-Base SDZ Area to implement a warning “Navigable waters in this area are open to unrestricted navigation. An unknown element of risk exists in this area due to the possible presence of unexploded projectiles.” The Base is in the process of presenting proposed paths forward for both sites to the CG and the next step will be to prepare an EA.

An ESS Amendment is planned for the reduced MRS to include underwater activities and mechanized operations. The ESS will need to be updated every 3 years. An AAR will also be prepared to remove arcs and conclude the work for the area outside the reduced MRS. The ESS Amendment and AAR are planned for completion in September 2015. The action will likely be conducted in FY17 based on funding.

XXI. UXO-29 PA/SI

Objective: Provide site background and history, discuss initial historical records review/aerial photography, the PA/SI approach, and review schedule.

Overview: A presentation was reviewed by Keith. During the MILCON support activities for the runway expansion, 8 MEC and 321 MPPEH items were identified and some were outside the identified boundary to the north. Based on the findings and location, there is potential for another firing point to the north of the one stated for ASR #2.29 in the 1946 reference. In the aerial photos from the 1940s and 1950s, there were open areas potentially used for training south of where the current location of perimeter road and some disturbed areas were noted north of the current location of perimeter road and there is the potential for another firing point to the north.

2.36-in rockets and 81mm and 60mm mortars were found during MILCON activities and the typical target distances for 2.36-in rockets are 100, 200, 300, and as far as 650 yards and for mortars, typically the firing point is a minimum of 600 yards down range.

The site boundary is proposed to extend north to the perimeter road. This would add ~104 additional acres to the site, totaling 286 acre.

Action Charity – Verify that the area south of Perimeter Road at UXO-29 is not cantonment and discuss potential plans for construction north of Perimeter Road with MCAS.

A site walk and reconnaissance was conducted into the southern woodlands and accessible areas were identified covering ~156 acres.

The updated field activities, based on the new boundaries and site walk, include vegetation clearance and utility locating, DGM in transects and intrusive anomaly investigation over approximately 9 acres (combined with the MILCON area clearance will total 13% coverage of the accessible areas), and environmental sampling for munitions constituents. Soil sampling is planned in 67 decision units in cleared areas and at 15 discrete locations in wooded areas for MC analysis. Subsurface soil sampling will

be based on results of the surface soil and groundwater sampling will be based on results of the subsurface soil.

The Team decided to initially focus the investigation in accessible areas and based on the findings, expand the investigation area into the inaccessible areas. Since Morgan Bay is accessible to the public, there is the potential for trespassers in the wetlands and wooded areas. Options for investigating the inaccessible areas include mag and dig, traditional DGM and intrusive, and aerial DGM (which would not be as effective in the wooded areas). This may not rule out the inaccessible areas but would provide some due diligence in those areas. The UFP-SAP will include a phased approach to include investigation of accessible areas and to conduct mag and dig and/or traditional DGM and intrusive in inaccessible areas.

A pedestrian area walking trail is along the edge of the wooded boundary and Charity recommended investigating that area and cleared accessible areas that are frequently accessed first.

The ESS is planned for completion in September 2015. The Draft UFP-SAP is planned for submittal to the Navy/Base in October 2015 and EPA/State in December 2015 followed by field activities in March-June 2016.

XXII. RAB Presentations

The Team reviewed the presentations for the RAB and made any changes real-time.

XXIII. FY15 Goal Update

The Team reviewed the goals and discussed the current status of each goal presented in a separate table.

XXIV. Parking Lot

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

XXV. Next Partnering Meeting

Start: December 1, 2015

End: December 3, 2015

Facilitator: Randy

Host: Matt

Chair: Gena

Timekeeper: Monica

Location: Richmond, VA

Start: March 16, 2016

End: March 17, 2016

Facilitator: TBD

Host: TBD

Chair: TBD

Timekeeper: TBD

Location: Atlanta, GA

The next RAB is scheduled for November 18, 2015. Topics include the FYR and Sites 6 and 82 Update.

Agenda Items for the next (December 2015) Partnering Meeting

Agenda Topic	Required Time
Standing Agenda Items:	
Check-in (30 minutes first day, 15 minutes second day)	45 minutes
Review agenda	15 minutes
Review action items, approve minutes from prior partnering meeting; read ground rules	30 minutes
Partnering exercise	45 minutes
Base/Navy time (SDZ Update)	1 hour
Review FY16 goals	30 minutes
Parking lot	15 minutes
Agenda items for next partnering meeting, team assessment, +/- review, checkout	30 minutes
Lunch	3 hours

Agenda Items for the next (December 2015) Partnering Meeting

Agenda Topic	Required Time
Breaks	1 hour
Time for Standing Agenda Items:	~9 hours
Technical Agenda Items:	
Sites 6 and 82 SRI Data Update and P&T Update	45 minutes
Sign Sites 69 and 86 RACRs and FY16 LTM UFP-SAP	15 minutes
Site 78 Background and Current Status (include VI)	45 minutes
Site 88 (Field Update, HP57 and VI Results)	45 minutes
Site 89 (AS system update and data review)	30 minutes
Site 96 RI Data Review	30 minutes
LTM and PS (Summary, FY14 Report RTCs, Data Review)	1 hour
SMP (Accomplishments/Goals)	30 minutes
FYR Recommendations	45 minutes
CIP Recommendations	30 minutes
UXO-06 Preferred Alternative	30 minutes
UXO-19 RD and UXO-22 ESI RTCs	30 minutes
UXO-23 (Phase II NTCRA)	45 minutes
UXO-23 and 28 (RI Update/Groundwater Sampling Plan)	1 hour
UXO-24 (Data Review)	30 minutes
UXO-29 PA/SI Approach	30 minutes
Updated Partnering Guide	30 minutes
Time for Technical Agenda Items:	~10 hours
TOTAL TIME	~19 hours³

³ The agenda will be drafted prior to the meeting and the required times and topics may be adjusted based on current site status.