



DEPARTMENT OF THE ARMY
INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, PICATINNY
PICATINNY ARSENAL, NEW JERSEY 07806-5000
September 1, 2011



REPLY TO
ATTENTION OF

Environmental Affairs Division

SUBJECT: Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)/Interagency Agreement (IAG) Administrative Docket No. II-CERCLA-FFA-001-04: Final Meeting Minutes for the July 28th Technical Project Planning Meeting Military Munitions Response Program Remedial Investigation: Review is ER-A eligible

Mr. William Roach
U.S. Environmental Protection Agency
Region 2
290 Broadway, 18th Floor
New York, NY 10007-1866

Mr. Gregory Zalaskus
New Jersey Department of Environmental Protection
Emergency Management Program
East State Street, Floor 5, P.O. Box 028
Trenton, New Jersey 08625-0028

Dear Sirs:

Enclosed for your records are the Final Meeting Minutes for the July 28th Technical Project Planning Meeting Military Munitions Response Program Remedial Investigation.

The Army-approved minutes that have been modified based on comments contained in email from Greg Zalaskus. NJDEP PM, Lisa Voyce, member of the Restoration Advisory Board (RAB) and Mike Glaab, Civilian Co Chair of RAB (see attached.) I am also providing a response to comments for clarification on how the minutes were changed. Bill Roach gave his concurrence on the minutes on 30 August.

Sincerely,

Project Manager for
Environmental Restoration

Enclosures
CC (emailed only):
Mr. Jim Kealy, NJDEP
Mr. Joe Marchesani, NJDEP (hardcopy)
Ms. Barbara Dolce, TAPP Contractor
Mike Glabb, RAB Co-Chair
Remainder of the 10 November Attendee List

Attachment:
**Copies of emails providing comments or concurrence
to the Army Approved Minutes**

1. Copy of 29 August email from Bill Roach, EPA PM:

*From: Roach.Bill@epamail.epa.gov [mailto:Roach.Bill@epamail.epa.gov]
Sent: Tuesday, August 30, 2011 10:25 AM
To: Gabel, Ted Mr CIV USA IMCOM
Cc: subsurfacesolns@earthlink.net; gzalasku@dep.state.nj.us
Subject: Re: Army Minutes from the TPP Meeting (UNCLASSIFIED)*

Ted, I have no comments on these meeting minutes.

2. Copy of 25 August email from Mr. Mike Glaab, RAB CoChair:

*From: Michael [mailto:michaelglaab@att.net]
Sent: Thursday, August 25, 2011 2:28 PM
To: Gabel, Ted Mr CIV USA IMCOM
Cc: P. E. William A. Roach; Gregory Zalaskus; Barbara Dolce
Subject: RE: Army Minutes from the TPP Meeting (UNCLASSIFIED)*

Hello Ted:

Just a few possible typos noted. Suggestions are included in the attached file as inserted notes.

- “Mr. Zalaskus, NJDEP and Mr. Pastorick, UXO Pro, also indicated that stating there is a health and safety concern with intrusive investigations at this MRS is not sufficient. Additional information is required to definitively state that intrusive investigations cannot be completed. Ms. Maly, USAEC, suggested that the Army team ask USATCES and DDESB if intrusive work in the shell burial grounds would be allowed. Mr. Smith, PTA, also indicated that the evacuation distance would likely involve evacuating numerous surrounding towns and would affect several major highways.”
In addition, please note the following with regard to the record of discussion on page 5 concerning further investigation of certain locations where significant amounts of MEC may possibly exist:1. Though the word “drill” was uttered several times during the second day’s meeting it was not included in the minutes. The phrase “intrusive investigation” was used instead. This seems acceptable to me since I assume that “intrusive investigation” may be presumed to be inclusive of drilling for samples as a possible option.
2. Although the possibility of having to conduct an evacuation of Jefferson was specifically mentioned during the second day’s meeting the word “Jefferson” was not included in the minutes. However, since the minutes do clearly indicate discussion regarding possible evacuation of areas inside and outside the arsenal this seems acceptable.*

*Respectfully,
Michael Glaab*

3. Copy of 26 August email from Ms. Lisa Voyce, RAB member:

*From: Voyce, Lisa [mailto:Lisa.Voyce@hdrinc.com]
Sent: Friday, August 26, 2011 9:21 AM
To: Gabel, Ted Mr CIV USA IMCOM
Subject: RE: REMINDER: Army Minutes from the TPP Meeting (UNCLASSIFIED)*

Mr. Gabel,

Went through briefly, very nicely done sir.

One thing – p. 3, last bullet – please delete the “there” after “However”. Not needed.

4. Copy of 26 August email from Mr. Greg Zalaskus, NJDEP PM with internal memorandum from Jim Pastorick of UXOPRO:

From: njzalaskus [mailto:njzalaskus@comcast.net]
Sent: Friday, August 26, 2011 8:32 PM
To: Gabel, Ted Mr CIV USA IMCOM
Cc: Jim Kealy; Robert VanFossen
Subject: NJDEP TPP Meeting Minutes Comments

Ted: Please see NJDEP Emergency Management comments attached.

From: Jim Pastorick
To: Greg Zalaskus
Date: August 26 2011
Subject: Review of the Army Picatinny Meeting Report for July 28, 2011

Greg:

I reviewed the subject document and find that only the following item from my report are not included in the Army report:

- ⋆ ***There was discussion of PICA-13, the Inactive Waste Pit. Gravel mines were unexpectedly found there. This unexpected finding caused the IRP investigation at this site to be stopped. There was discussion about whether the MR project could help restart the PICA-13 investigation since it is an MEC issue that caused it to be stopped. Ted said that it is possible that the PICA-13 investigation could be added to the MR RI list of sites to have the excavation there completed under the MR project. But, he isn't sure how this will be resolved. Lisa said they will research if it is possible to add this site to the MEC RI because of the MEC that was found. Whatever resolution is decided, there will need to be new DQOs developed for MEC at this site because of this change to the CSM. It is possible that the Shaw work plan for trenching may not be adequate due to this new hazard.***

Please contact me if you have comments or questions on this document review.

Thank you,

Final Meeting Minutes
Technical Project Planning Meeting 2
Picatunny Arsenal Military Munitions Response Program Remedial Investigation
Picatunny Arsenal, New Jersey
July 28, 2011

Attendees:

Name	Organization	Email	Phone
Richard Braun	USACE	Richard.j.braun@usace.army.mil	410-962-2842
Richard Califano	ARCADIS/Malcolm Pirnie	Richard.califano@arcadis-us.com	201-398-4307
Ramon Cinton	USAEC	Ramon.a.cintronocasso@us.army.mil	210-466-0307
Barbara Dolce	PAERAB TAPP – Subsurface Solutions	subsurfacesolns@earthlink.net	973-729-8814
Nancy Flaherty	USACE	Nancy.e.flaherty@usace.army.mil	410-962-4256
Ted Gabel	PTA	Ted.gabel@us.army.mil	973-724-6748
Megan Garrett	USACE	Megan.g.garrett@usace.army.mil	410-962-6813
Michael Glaab	PAERAB	michaelglaab@att.net	973-663-9605
Jim Kealy	NJDEP	Jim.kealy@dep.state.nj.us	609-633-1352
John Malleck	EPA	Malleck.john@epa.gov	212-634-4332
Mary Ellen Maly	USAEC	Maryellen.h.maly@us.army.mil	210-466-0384
Joseph Marchesani	NJDEP	Joe.marchesani@dep.state.nj.us	609-292-0885
Deborah McKinley	USACE	Deborah.k.mckinley@usace.army.mil	410-962-6730
Virginia Michelin	PAERAB/Morris County P&D	vmichelin@co.morris.nj.us	973-829-8120
Laura Pastor	WESTON	Laura.pastor@westonsolutions.com	610-701-3445
Jim Pastorick	UXO Pro	jim@uxopro.com	703-548-5300
Bill Roach	EPA	Roach.bill@epa.gov	212-637-4335
Andy Schwartz	USACE	Andrew.b.schwartz@usace.army.mil	256-895-1644
JB Smith	PTA	Jb.smith1@us.army.mil	973-724-6730
Thomas Solecki	PTA	Thomas.j.solecki@us.army.mil	973-724-5818
Steve Stacy	ARCADIS/Malcolm Pirnie	Steve.stacy@arcadis-us.com	703-465-4234
Eric Stahl	WESTON	Eric.stahl@westonsolutions.com	610-701-3732
Ryan Steigerwalt	WESTON	ryan.steigerwalt@westonsolutions.com	410-612-5940
Lisa Szegedi	ARCADIS/Malcolm Pirnie	Lisa.szegedi@arcadis-us.com	201-398-4328
Lisa Voyce	PAERAB	Lisa.voyce@hdrinc.com	973-558-3910
Greg Zalaskus	NJDEP	Greg.zalaskus@dep.state.nj.us	609-984-2065

EPA – U.S. Environmental Protection Agency
 NJDEP – N.J. Department of Environmental Protection
 PAERAB – Picatunny Arsenal Environmental Restoration Advisory Board
 PTA - Picatunny
 TAPP – Technical Assistance for Public Participation
 USACE – U.S. Army Corps of Engineers
 USAEC – U.S. Army Environmental Command



Final Meeting Minutes
Technical Project Planning Meeting 2
Picatinny Arsenal Military Munitions Response Program Remedial Investigation
Picatinny Arsenal, New Jersey
July 28, 2011

The purpose of this meeting was to discuss the proposed technical approach for the Military Munitions Response Program (MMRP) Remedial Investigation (RI) program at Picatinny Arsenal (PTA). This approach is detailed in the *Draft Final Work Plan, Military Munitions Response Program Remedial Investigations*, Picatinny Arsenal, Morris County, New Jersey, July 2011. A copy of this document was sent to the agencies prior to this meeting. Issues/concerns discussed during the meeting are detailed below.

Operational Range Footprint – As discussed by Mr. Gabel and Mr. Smith, PTA has revised their operational range footprint. Ms. Pastor noted that this is not reflected in the current planning documents but will have the following effect on subsequent versions of the planning documents.

- The acreage of Munitions Response Site (MRS) PICA-006-R-01 (Former Operational Areas) will be increased by approximately 370 acres. While this will not change the MC and MEC approaches, as noted by Ms. Flaherty, USACE, and Laura Pastor, the planning documents will have to be modified to account for the additional acreage. This could include extending the munitions and explosives of concern (MEC) transects and using Visual Sampling Plan (VSP) to recalculate the number of gridded munitions constituents (MC) samples required.
- MRS PICA-013-R-01 (Inactive Munitions Waste Pit) will be optioned under the current CENAB contract and included in the RI. Since a portion of the Inactive Munitions Waste Pit MRS is now operational range, the acreage of this site will be decreased by approximately 42 acres. Ms. Pastor indicated this MRS will be added to the Work Plan (WP) in an addendum to be reviewed by the regulators and incorporated into the Final Work Plan.
- During discussion of the Sanitary Landfill/Dredge Piles, Mr. Gabel, PTA, indicated that the revised operational range footprint shown on the map is incorrect. The Weston team will work with Mr. Huggan, PTA, to obtain the correct Geographic Information System (GIS) layer.

MC Sampling – The following general MC sampling questions were raised during the presentation. MRS-specific questions are discussed in the MRS write-ups.

- Mr. Marchesani, NJDEP, asked if SW-846 6010B can be used to analyze for cadmium and chromium. Ms. Szegedi indicated that this analytical method can be used for both metals; however, this method cannot be used for speciation of chromium. Ms. Szegedi also noted that based on the munitions used at PTA, chromium has not been identified as a contaminant of potential concern.
- Mr. Zalaskus, NJDEP, was concerned about the use of pyrotechnics (*e.g.*, Flare Island in Picatinny Lake), and whether the list of MC of concern will cover these compounds. Ms. Szegedi explained that all areas with known pyrotechnics use are covered under the Installation Restoration Program (IRP).

Final Meeting Minutes
Technical Project Planning Meeting 2
Picatunny Arsenal Military Munitions Response Program Remedial Investigation
Picatunny Arsenal, New Jersey
July 28, 2011

- During a review of the unexploded ordnance (UXO) Find Map, Mr. Zalaskus, NJDEP, noted that several bottles of chemicals are listed including picric acid, dioxane, tetrahydrofuran, and ammonium nitrate (ANFO). Mr. Zalaskus asked if these chemicals are covered under the proposed MC sampling. As explained by Ms. Szegedi:
 - Picric acid – is an explosive compound on the current MC analytical list
 - Dioxane – is a solvent not associated with munitions
 - Tetrahydrofuran – is a solvent not associated with munitions
 - ANFO – is an explosive that is not included on the MC analytical list since there is no reliable analytical method, it is only associated with one munitions type used at PTA, and there are no NJDEP or EPA screening levels for this compound

- Mr. Marchesani, NJDEP asked what media will be included in the MC sampling. Ms. Szegedi answered that since surface water and groundwater are covered under the IRP, only soil and sediment samples will be collected under the MMRP MC sampling program.

- Ms. Dolce, TAPP, asked what happens when different screening levels have different values for the same parameter. Ms. Szegedi explained that the most stringent screening level will be used.

- Mr. Zalaskus, NJDEP, asked if the residential screening levels will be the cleanup levels. As explained by Ms. Szegedi, the screening levels are not cleanup levels and are only used to identify contaminants of potential concern. Cleanup levels are determined during the feasibility study, based on the results of the risk assessment. Mr. Gable, PTA, noted that using residential screening levels instead of industrial screening levels is a conservative approach.

- Ms. Maly, USAEC, asked how the MC characterization approach would be modified if burial pits were found. Ms. Szegedi indicated that if burial pits are found, it is likely a gridded approach would be implemented to define vertical and horizontal nature and extent. This would require a WP addendum.

Risk Assessment – The following questions were raised regarding the risk assessment.

- Mr. Schwartz, USACE asked what the first step is in the risk assessment. Mr. Califano explained the data will initially be evaluated to identify contaminants of potential concern.

- Ms. Voyce, PAERAB asked how surface and subsurface data would be aggregated. Ms. Szegedi explained that based on previous data from PTA, it is likely that the majority of MEC found will be from 0 to 2 feet below ground surface (bgs). All samples collected within two

Final Meeting Minutes
Technical Project Planning Meeting 2
Picatiny Arsenal Military Munitions Response Program Remedial Investigation
Picatiny Arsenal, New Jersey
July 28, 2011

feet bgs will be considered surficial and all samples below two feet bgs will be considered subsurface.

- During Mr. Califano's description of the phased Risk Assessment approach proposed for PTA, Ms. Voyce, PAERAB, asked if a data evaluation report will be prepared. Mr. Califano explained that the data will be validated, and the RA process will be followed. However, a separate data evaluation report will not be developed.

1926 Explosion Radius On and Off-Post MRS (PICA-003-R-01 and PICA-004-R-01) – The following questions were raised regarding this MRS. Note that UXO Pro submitted written comments regarding this MRS before this meeting. Where applicable, these questions were discussed during the TPP.

- Mr. Zalaskus, NJDEP, indicated they were uncomfortable with the assumption that the Former Projectile Range only used inert rounds. Ms. Szegedi and Mr. Smith, PTA, explained that this assumption was made based on historical maps and photographs since the firing point is extremely close to the slug butt (approximately 100 feet), there is no protective cover for the firing point, and there were numerous buildings very close to the range. Mr. Smith, PTA, also indicated it was likely that the high explosive (HE) range was the range on Picatinny Lake. Ms. Szegedi noted that the slug butt is being decontaminated under another contract. Mr. Zalaskus, NJDEP, indicated they accepted this explanation.
- During the discussion of the Engineering Evaluation/Cost Analysis (EE/CA), Mr. Zalaskus, NJDEP, asked why the majority of the MEC found were at the Child Development Center (CDC). Ms. Flaherty, USACE, and Mr. Smith, PTA, explained that the majority of MEC finds on-post, as well as off-post at the Mt. Hope Quarry, have been in undisturbed areas.
- Mr. Pastorick, UXO Pro indicated that the conceptual site model (CSM) for the 1926 Explosion Radius – Off-Post indicates that use of the off-post property is not expected to change in the future. Since these properties are not under Army control this statement is unsupported and is not accurate for the WP. Ms. Szegedi indicated that while each off-post property has been contacted, and has indicated they do not have plans to change the current property use. Ms. Pastor stated that the Weston team agrees that this statement is unsupported will be revised in the WP, as appropriate. The MEC HA will also reflect that the properties are not under Army control.

Additional discussions regarding this issue centered around the possibility of placing deed restrictions on the properties and how to avoid having the property owner change land use in the future without notifying the Army. During the Site Investigation (SI), the installation commander sent a letter to all the off-post property owners notifying them that their property is located within an MRS. Furthermore, if a zoning variance from commercial to residential

Final Meeting Minutes
Technical Project Planning Meeting 2
Picatiny Arsenal Military Munitions Response Program Remedial Investigation
Picatiny Arsenal, New Jersey
July 28, 2011

would be requested for any of these properties, the zoning board would need to review the application.

- Since the Army does not have control of the off-post properties, Mr. Glaab, PAERAB, indicated that this needs to be taken into consideration in the RI approach. Ms. Szegedi explained that for the MC, residential screening levels, which are the most conservative screening levels, are being used. Mr. Pastorick, UXO Pro, explained that there is no residential guidance for MEC.
- Mr. Zalaskus, NJDEP, asked how many craters were formed during the explosion. As explained by Ms. Szegedi, three large craters, two near the south-central portion of the installation and one near the installation boundary, were created in the explosion and are considered the explosion centers. However, there are only two shell burial grounds since two of the craters are so close to each other they became one shell burial ground.
- Mr. Pastorick, UXO Pro asked if EM requires intrusive investigation. Mr. Steigerwalt indicated that all anomalies will be processed and dug.
- Mr. Pastorick, UXO Pro asked if the MEC approach will determine if there are less than 3 MEC/acre in the inner radius, and if so, is that enough information. Mr. Steigerwalt responded that since it is known that MEC are present based on the EE/CA, as well as other historical reports, this information is sufficient and will be used for cost estimating purposes. Mr. Schwartz added that this information will also be used in the MEC HA.
- Mr. Kealy, NJDEP asked why 3 MEC/acre was selected since previous data collected from the CDC during the EE/CA indicate 6 MEC/acre. Mr. Steigerwalt indicated that 3 MEC/acre was selected as a more conservative value since the CDC is very close to the explosion center and using a higher number would reduce the amount of investigation required.
- Mr. Pastorick, UXO Pro asked for more information regarding the analog transect proposed for the Code 300 Area. Mr. Steigerwalt indicated that this approach is similar to a mag and flag or mag and record and that the locations of all anomalies detected will be recorded. The purpose is to look for areas of increased anomaly density to see if there is a potential target. In addition, during the survey, the field technician will be looking for ground features that support the presence of a target area.

Mr. Marchesani, NJDEP, asked if the anomaly locations would be recorded with enough accuracy that they could be easily re-located. Mr. Stacy explained that the GPS being used has sub-meter accuracy. In addition, as indicated by Mr. Steigerwalt, if an anomaly would need to be re-acquired in the future, a sweep of the area would be conducted to ensure the anomaly was located.

Final Meeting Minutes
Technical Project Planning Meeting 2
Picatiny Arsenal Military Munitions Response Program Remedial Investigation
Picatiny Arsenal, New Jersey
July 28, 2011

- Mr. Gabel, PTA, asked why there are grids on Mt. Hope Quarry since the quarry does not want us conducting additional work on their property. Ms. Szegedi explained that when the sampling approach was developed, a portion of off-post property was owned by Mt. Hope Hydro; this property has subsequently been purchased by Tilcon. During a discussion regarding access to Tilcon's property, Cliff Morris, the Mt. Hope Quarry manager, indicated that he would decide whether or not to grant access for the RI work based on the grid locations.

Shell Burial Grounds (PICA-010-R-01) – Numerous concerns were raised regarding this MRS during the meeting, and in written comments submitted by UXO Pro prior to the TPP. The concerns are listed below. Due to the volume of regulator concerns it was decided that a separate call/meeting would be held for this MRS at a future date.

- Mr. Kealy and Mr. Zalaskus, NJDEP, indicated that it is unknown exactly what was placed in the craters since the Navy used them for disposal for approximately 20 years. Therefore, quantities and types of waste cannot be documented.
- Mr. Zalaskus, NJDEP and Mr. Pastorick, UXO Pro, also indicated that stating there is a health and safety concern with intrusive investigations at this MRS is not sufficient. Additional information is required to definitively state that intrusive investigations cannot be completed. Ms. Maly, USAEC, agreed that the team will ask USATCES and DDESB if intrusive work in the shell burial grounds would be allowed. Mr. Smith, PTA, also indicated that the evacuation distance would likely involve evacuating numerous surrounding towns and would affect several major highways.
- Since the types of waste put in the shell burial grounds cannot be documented, Mr. Kealy, NJDEP, indicated that the sampling conducted under the IRP for this site may not be adequate. Mr. Pastorick, UXO Pro, agrees that since the groundwater data are 15 years old. Therefore, although groundwater sampling has been conducted, current data may be required since NJDEP considers this MRS a landfill. Therefore, while there may not be a current release, there could be a future release.
- As indicated by Mr. Pastorick, UXO Pro, the amount of fill placed over the waste in the craters is unknown. The WP indicates both 25 feet of fill is present and up to 25 feet of fill is present, which mean very different things. L. Pastor stated that the text in the WP will be checked and corrected as appropriate.
- Mr. Zalaskus, NJDEP, does not believe the WP approach for this MRS meets the criteria for an RI under the Technical Regulations since this site is a landfill.

Final Meeting Minutes
Technical Project Planning Meeting 2
Picatiny Arsenal Military Munitions Response Program Remedial Investigation
Picatiny Arsenal, New Jersey
July 28, 2011

- Mr. Marchesani, NJDEP, asked why 3D resistivity was not being considered for this MRS. Mr. Schwartz, USACE, indicated that 2D resistivity will provide adequate information or resolution to interpret burial depth. Seismic surveys will also be evaluated as part of the MRS characterization approach.

Green Pond Brook and DRMO Yard (PICA-005-R-01) – The following questions were raised regarding this MRS.

- Mr. Zalaskus, NJDEP, asked if the asphalt cover would be considered in the MEC HA. Ms. Szegedi indicated that all work conducted under the IRP would be considered. Mr. Smith, PTA, also explained that nothing found at the DRMO Yard so far has been live.
- Mr. Zalaskus, NJDEP, asked if geophysics was planned for the old burning grounds. Ms. Szegedi explained that since this site was investigated under the IRP, only the southern portion of the DRMO Yard needs to be characterized. During IRP work, there was a soil removal action for chemical contamination and geophysics was already conducted in the northern portion of the yard.

Former Operational Areas (PICA-006-R-01) – The following questions were raised regarding this MRS.

- Mr. Kealy, NJDEP, asked if IRP Site 20/24 is included in this MRS. Mr. Gabel, PTA, and Ms. Szegedi explained that it will be, but is not included in this version of the WP since Site 20/24 was formerly located in operational area. This portion of the Former Operational Areas will be included in the WP addendum (see previous discussion regarding PTA's revised operational range footprint). However, the burning ground previously located in this area is not part of the MRS since the burning ground is being closed out under RCRA.
- Mr. Roach, EPA, asked if the former burning grounds located within the Former Operational Areas was investigated for MEC when closed since the former burning grounds at the DRMO Yard were investigated for MEC. Mr. Smith, PTA, indicated that the burning grounds in the Former Operational Areas were not investigated for MEC prior to placing the cover. The only reason the DRMO Yard burning grounds were cleared prior to placing the cover was the high safety risk to workers due to the potential for ICM to be present.
- Mr. Pastorick, UXO Pro, asked if geophysical anomalies will be investigated at the sanitary landfill/dredge spoil piles and waste burial area. As indicated by Mr. Steigerwalt, EM31 transects will initially be traversed over the sites to determine extents and anomalous features extending beyond the existing soil caps. If anomalous features are present, additional delineation will be performed using an EM61. From the EM61 transect data, an anomaly list will be developed, reacquired and investigated.

Final Meeting Minutes
Technical Project Planning Meeting 2
Picatunny Arsenal Military Munitions Response Program Remedial Investigation
Picatunny Arsenal, New Jersey
July 28, 2011

- Ms. Dolce, TAPP, asked if anomalies in IRP Site 25/26 will be investigated. At this point Mr. Gabel, PTA, indicated the revised operational range footprints appear wrong on the map. Mr. Steigerwalt answered that if IRP Site 25/26 is located outside the operational range footprint it will be investigated. Refer to the previous operational range discussion.
- As explained by Ms. Szegedi, within the Former Operational Areas, gridded MC samples will not be placed on PTA's golf course at PTA's request. Ms. Dolce, TAPP, asked how many acres are included in the golf course and if excluding certain areas violates any VSP assumptions. Ms. Szegedi indicated that it is unknown how many acres are covered by the golf course; however, this area is not representative of the rest of the MRS since Mr. Smith, PTA, indicated the entire golf course has been disturbed and filled with potash. Ms. Szegedi explained that removing certain non-representative areas (*e.g.*, disturbed areas, building footprints) does not violate any VSP assumptions and the grid nodes (sample points) are still randomly distributed.
- During the MC approach discussion, Ms. Maly, USAEC, asked if samples collected from 6 to 12 inches bgs are considered surface. Ms. Szegedi indicated these samples are considered surface samples and the sampling depth was selected to be consistent with the IRP sampling.

Lakes MRS (PICA-008-R-01) – There are two lakes included in this MRS; Picatunny Lake and Lake Denmark. The MEC approach for each lake is different and is discussed separately below.

For Picatunny Lake, prior geophysical information is available. As part of the MEC approach for this lake approximately three miles of underwater DGM transects will be performed to fill data gaps identified in the existing geophysical data set. The existing data and data to be collected will be analyzed together to develop a composite dig list. It is estimated that approximately 25 anomaly locations will be selected for reacquisition and investigation including approximately 20% of the anomalies detected in the existing magnetic DGM data. Most of these targets are thought to be accessible from the lake shoreline. The following questions were raised regarding Picatunny Lake.

- Mr. Pastorick, UXO Pro, questioned if the prior geophysical data are sufficient to accurately locate anomalies selected for investigation. Mr. Steigerwalt indicated that all anomalies from the previous geophysical investigation will be re-mapped prior to reacquisition.
- Mr. Pastorick, UXO Pro asked how the underwater investigation will be conducted. Mr. Steigerwalt explained that an underwater EM will be used.
- Mr. Smith, PTA, noted that the bottom of Picatunny Lake is approximately three feet of mud, which would make the investigation difficult. Ms. Steigerwalt indicated that due to this, when possible, anomalies near the shoreline will be identified for investigation.

Final Meeting Minutes
Technical Project Planning Meeting 2
Picatunny Arsenal Military Munitions Response Program Remedial Investigation
Picatunny Arsenal, New Jersey
July 28, 2011

- Ms. Dolce, TAPP, asked how the number of targets (25) was selected and how the locations to be investigated will be selected. Mr. Steigerwalt explained that the number of targets was selected based on the existing locations of anomalies, as well as trends observed in the data. For groupings of anomalies, one or two anomalies within each group will be investigated to determine the nature of the anomalies.
- Mr. Pastorick, UXO Pro asked how the EM would be collected since this is the first use of underwater EM that Mr. Pastorick, UXO Pro has seen. According to Mr. Steigerwalt an EM sled will be towed on the bottom of the lake. PVC or some other method will be used to adjust the buoyancy of the sled.
- Mr. Kealy, NJDEP, asked if there was evidence of MEC use at Picnic Island. Mr. Smith explained that none of the existing historical documents indicate MEC use at this island. Mr. Steigerwalt added that anomalies identified around Picnic Island during the previous geophysical survey are assumed to be cultural debris.
- Mr. Smith, PTA, reminded the Weston team that both lakes are man-made; therefore, there are potential archaeological concerns.
- Mr. Kealy, NJDEP, asked if the entire lake is fenced. Mr. Smith responded that only sections of Picatunny Lake are fenced, with a portion of the lake accessible from off-post. However, all of the energetic storage areas are inaccessible. Mr. Gabel, PTA, pointed out that under a separate program a non-time critical EE/CA and Interim Land Use Control Plan are currently being developed to address interim actions at the MRSs on PTA.

For Lake Denmark, prior geophysical information is available. As part of the MEC approach underwater DGM transects will be performed across the northern portion of the lake to fill data gaps identified in the existing geophysical data set. Based on discussions during the MMRP training session, Mr. Steigerwalt proposed evaluating the size of a potential 60 mm target area using both range and deflection area and recalculating the VSP transect spacing. The existing data and the data to be collected will be analyzed together to develop a composite dig list. It is estimated that approximately five anomaly locations will be selected for reacquisition and investigation.

Land investigations will include approximately 10.9 miles of mag and dig transect surveys. A 100-foot by 100-foot grid will be placed at each of the three firing points to detect potential burial features. The data will be evaluated for large anomalous areas indicative of burial features. Such features, if detected, will be intrusively investigated. The following questions were raised regarding Lake Denmark.

Final Meeting Minutes
Technical Project Planning Meeting 2
Picatiny Arsenal Military Munitions Response Program Remedial Investigation
Picatiny Arsenal, New Jersey
July 28, 2011

- Mr. Smith, PTA pointed out that a white phosphorous mortar was recently found at Lake Denmark. Mr. Smith believes there's a report from 1934 that may discuss mortar delivery systems at PTA. So far, this report cannot be located.
- Mr. Gabel, PTA, indicated that the raw data from the geophysical investigation may be available. The Weston team will try to find these data.
- On the MEC characterization approach map, a large pink cone labeled firing range is present in the center of the lake. Mr. Smith, PTA, asked if that cone was large enough to represent the firing range for all the mortars used at this MRS. Mr. Steigerwalt indicated that this cone was developed based on the 4.2-inch mortar. He was unsure if all the other mortars would fall into this cone. The Weston team will confirm this.
- Mr. Smith, PTA, also asked if there would be a back end of the range, past the edge of the pink cone shown on the figure. Since this is unknown, Mr. Smith requested that three additional transects be added in Lake Denmark; one for each mortar type used in the lake (e.g., 60-mm, 81-mm, and 4.2-inch) based on the average distance each mortar would fire (e.g., potential impact areas).
- Based on information obtained during the geophysical discussion on July 27, 2011, Mr. Steigerwalt indicated that the transect spacing for Lake Denmark would be changed to be based on the Range Probable Error and Deflection Probable Error instead of the Hazardous Fragmentation Distance (HfD). Ms. Garrett, USACE, agreed with this approach.
- Mr. Kealy, NJDEP, asked about the location of the Lake Denmark picnic area. Mr. Smith, PTA, responded that the picnic area is accessible and is located near the 20-mm firing point.

Lake Denmark Off-Post (PICA-012-R-01) – The following questions were raised regarding this MRS.

- Ms. Szegedi explained that the majority of this MRS is the Radiation Technology, Inc. (RTI) Superfund Site. Currently, there is no financially solvent owner of RTI. To perform the RTI RI, the NJ court system was petitioned for access to the property. Mr. Gabel, PTA, asked if the MMRP RI could be conducted under the same court petition. We cannot; therefore, USACE is in the process of petitioning the NJ court system for MMRP RI access.

Inactive Munitions Waste Pit (PICA-013-R-01) – As discussed in the Operational Range Footprint section of these meeting minutes, the Inactive Munitions Waste Pit is not currently included in the WP; however, it will be optioned and included in a WP addendum. According to Mr. Smith, PTA, during an investigation for the source of a trichloroethylene (TCE) plume in the 600 Area, a burial pit was found approximately 12 to 14 feet bgs within the Inactive Munitions Waste Pit MRS. Items found in the pit include trucks, cars, inert fuzes, and granulated munitions; so far only one container of

Final Meeting Minutes
Technical Project Planning Meeting 2
Picatunny Arsenal Military Munitions Response Program Remedial Investigation
Picatunny Arsenal, New Jersey
July 28, 2011

granulated munitions has been found. Due to this, the trenching operations have stopped, but are expected to resume shortly. As part of the TCE source investigation the contractor is collecting soil samples from these trenches. The samples are being analyzed for volatile organic compounds with a subset of the samples analyzed for metals and explosives. The agencies want to ensure that the information and data currently being collected are used to refine the MEC and MC approach for this MRS once the MRS is optioned since it was not originally anticipated that a burial pit would be found (*e.g.*, vertical extent is important for burial pits). It should be noted that current trenching operations have exceeded the predicted bedrock depth (based on a well log). Information about the TCE plume investigation will be obtained from the contractor.

Inactive Munitions Waste Pit – Off-Post (PICA-014-R-01) – The following questions were raised regarding this MRS.

- Mr. Glaab, PAERAB asked if this MRS is located in Jefferson Township. According to Ms. Szegedi, it is, and it is owned by NJDEP, Fish & Wildlife Service (FWS). Mr. Smith, PTA, explained that PRA is in the process of trying to get a restrictive easement placed on this property.
- Since this property is owned by FWS, Mr. Kealy, NJDEP, asked if the MRS has a hiking trail. This property is very steeply sloped to the west and is nearly inaccessible. Mr. Smith, PTA, explained that FWS obtained the property since it was available, not due to the potential for recreational use.
- Due to the steep terrain, and since this MRS is only part of a safety fan, Mr. Pastorick, UXO Pro asked if there was any kick-out from the range, wouldn't the MEC have rolled down the hill. Ms. Szegedi agreed that it is likely that any kick-out would be at the bottom of the slope, which is why the MEC approach includes full coverage mag and dig surveys in accessible areas located primarily at the top of the ridge and the bottom of the slope.

300 Marsh Area – This is an IRP Site, not an MRS, and is located within the 1926 Explosion Radius MRS. The following questions were raised regarding this site.

- Ms. Maly, USAEC asked what the IRP site number is for the 300 Marsh Area. Ms. Flaherty, USACE, explained that originally this site was going to be characterized during the DRMO Yard investigation; however, it was ultimately decided that this site would be put into a separate contract. Therefore, the site does not have an IRP number.
- Mr. Pastorick, UXO Pro indicated that he does not remember seeing this site in the WP. As discussed by Ms. Szegedi, this site, which will be sampled in accordance with the existing site-wide IRP planning documents, has an existing Sampling and Analysis Plan (SAP) that was already reviewed and approved by the regulators. Therefore, it was not included in the WP.

Final Meeting Minutes
Technical Project Planning Meeting 2
Picatunny Arsenal Military Munitions Response Program Remedial Investigation
Picatunny Arsenal, New Jersey
July 28, 2011

However, since the analyses will be conducted by a different laboratory than is used by IRP, some of the laboratory-specific QAPP Worksheets needed to be filled out for this site. Therefore, it is included as Attachment 1 to the QAPP. It was requested that this site be pulled into the main body of the WP. Ms. Pastor responded that it would be included with the addendum so that it can be reviewed and incorporated up-front in the final WP.

Miscellaneous Items – Once the MRS-specific discussions were completed, the following additional items were discussed.

- A discussion was held regarding the exclusion zone required when anomalies are dug. As a conservative measure, the exclusion zone was based on the HFD for a 6-inch projectile. PTA indicated that if the exclusion zone can be reduced intrusive operations would be easier.
- Mr. Gabel asked why the regulator comments are due September 9th since this is 60 days after the submittal date, not 45 days. Ms. Pastor responded that the 60 day comment period was selected as more realistic, especially since EPA needs to submit a purchase order for their UXO contractor.
- Mr. Zalaskus indicated that further discussions on the Shell Burial Grounds will be required. NJDEP will be issuing a variance of the intent of an RI under the Tech Regs. Ms. Flaherty commented that the team needs NJDEP to provide the comment on the work plan. Mr. Pastorick commented that the comment in the work plan regarding the safety issues of intrusively investigating the Shell Burial Grounds needs to be supported by documentation from USATCES regarding the radius in which people would need to be evacuated. Mr. Pastorick also stated that if the cost of evacuation is too great, the Weston Team should put that in the work plan. The Weston Team agreed to discuss the safety issues with USATCES and DDESB.
- PTA indicated that a SHPO consultation will be needed for the WP. Ms. Pastor responded that the Weston team is currently working with Mr. Huggan regarding archaeological issues.
- Mr. Gabel indicated that the ESP cannot be completed until a decision is made by PTA regarding where and how demolitions activities can occur. There was no further discussion.

Action Items:

1. The Weston team will work with Mr. Huggan to obtain the correct operational range GIS layer.
2. The Weston Team will conduct a review of historical documents to determine if the amount of fill placed at the Shell Burial Grounds can be determined.

Final Meeting Minutes
Technical Project Planning Meeting 2
Picatinny Arsenal Military Munitions Response Program Remedial Investigation
Picatinny Arsenal, New Jersey
July 28, 2011

3. The Weston Team and USACE will discuss the intrusive investigation safety issues with USATCES and DDESB.
4. The Weston team will try to find the raw geophysical data for Lake Denmark.
5. The Weston Team will pull the 300 March Area discussion into main body of WP.

PROJECT: MMRP REMEDIAL INVESTIGATIONS PICATINNY ARSENAL
REVIEW Comments DRAFT TPP 2 Meeting Minutes, Picatinny Arsenal, July 2011
DATE: 30 August 2011

ITEM	COMMENTOR	COMMENT	ACTION
1.	Lisa Voyce, PAERAB	On p. 3, last bullet – please delete the “there” after “However”.	Concur. This has been corrected.
2.	Mike Glaab, PAERAB	On pg. 4, 1 st bullet, last sentence, please delete Ms. in front of Mr.	Concur. This has been corrected.
3.	Mike Glaab, PAERAB	On pg. 7, 1 st bullet, first sentence, change is to if.	Concur. This has been corrected.
4.	Mike Glaab, PAERAB	On pg. 7, 3 rd bullet, second sentence, change including to included.	Concur. This has been corrected.
5.	Mike Glaab, PAERAB	On pg. 9, should the heading for the Inactive Munitions Waste Pit (PICA-013-R-01) be PICA-014-R-01, as per the handout?	The handout refers to the Inactive Munitions Waste Pit – Off-Post MRS, which is PICA-014-R-01. This section discusses the on-post portion of the inactive munitions waste pit, which is PICA-013-R-01.
6.	Mike Glaab, PAERAB	For the 3 rd sentence under the 1 st bullet of Miscellaneous Items, change is to if.	Concur. This has been corrected.
7.	Mike Glaab, PAERAB	For the 1 st sentence under the 4 th bullet of Miscellaneous Items, change need to needed.	Concur. This has been corrected.
8.	Jim Pastorick, UXO Pro	There was discussion of PICA-13, the Inactive Waste Pit. Gravel mines were unexpectedly found there. This unexpected finding caused the IRP investigation at this site to be stopped. There was discussion about whether the MR project could help restart the PICA-13 investigation since it is an MEC issue that caused it to be stopped. Ted said that it is possible that the PICA-13 investigation could be added to the MR RI list of sites to have the excavation there completed under the MR project. But, he isn’t sure how this will be resolved. Lisa said they will research if it is possible to add this site to the MEC RI because of the MEC that was found. Whatever resolution is decided, there will need to be new DQOs developed for MEC at this site because of this change to the CSM. It is possible that the Shaw work plan for trenching may not be adequate due to this new hazard.	Please see the discussion in the meeting minutes, starting on pg. 10 under the <u>Inactive Munitions Waste Pit (PICA-013-R-01)</u> . As discussed, this site is an MRS that was not previously optioned since it was unknown if the revised operational range footprints would encompass the entire site. Since the revised operational footprint only encompasses a portion of the site, the eligible area of MRS PICA-013-R-01 will be optioned under the current CENAB contract and included in the RI. Once the site is added to the contract, it will be added to the Work Plan in an addendum to be reviewed by the regulators. Therefore, this MRS is covered under both the IRP (for solvents) and MMRP and discussions have already been held between the MMRP and IRP contactors to ensure there is information sharing and coordination between the MMRP and IRP efforts.