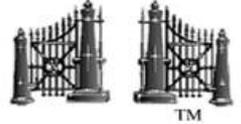




Agenda for 27 March 2013 Picatinny Arsenal Restoration Advisory Board

US Army Garrison



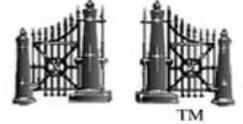
Picatinny Arsenal

- **Attendance, Introductions & Correspondence**
- **Old Business**
- **TAPP Contract Financial Report and Path Ahead**
- **Military Munitions Response Program
Remedial Investigation**
- **Mid Valley Groundwater Remedial Action**
- **26 Sites Proposed Plan for No Further Action
with Monitoring & next Proposed Plan**
- **Synopsis and Next Meeting**



TAPP Financial Report Update

US Army Garrison



Picatinny Arsenal

Contract awarded September 2011 with 2 Option Years via Purchase Order;
1st option year was exercised

FY 12 Picatinny Contract:

Contract Value	\$22,413.16
Spent to Date	\$19,389.23 <u>5</u>
Remaining	\$3,023.93 of billings up to February

FY 13 Picatinny Contract Option Year 1:

Next Purchase Order Value \$23,218.50

Discuss on sending portion back and fund next Option Year

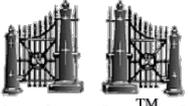
Method of selecting what TAPP reviews done by Doodle polls with a minimum of two votes in favor needed for a review.

Recent reviews: Green Pond Brook LTM Report, Former Burning Grounds Hybrid Cover, MidValley Groundwater Remedial Design, EPA memorandum on NFA Proposed Plan

Suggested upcoming reviews: 600 Hill FS Addendum; MMRP RI Report; Marsh (SI) Report; Annual Reports for Area Groundwater; New 26 Site Proposed Plan; and PICA 111 Proposed Plan



US Army Garrison



Picatinny ArsenalTM

Military Munitions Response Program Remedial Investigation

Lakes Munitions Response Site

27 March 2013



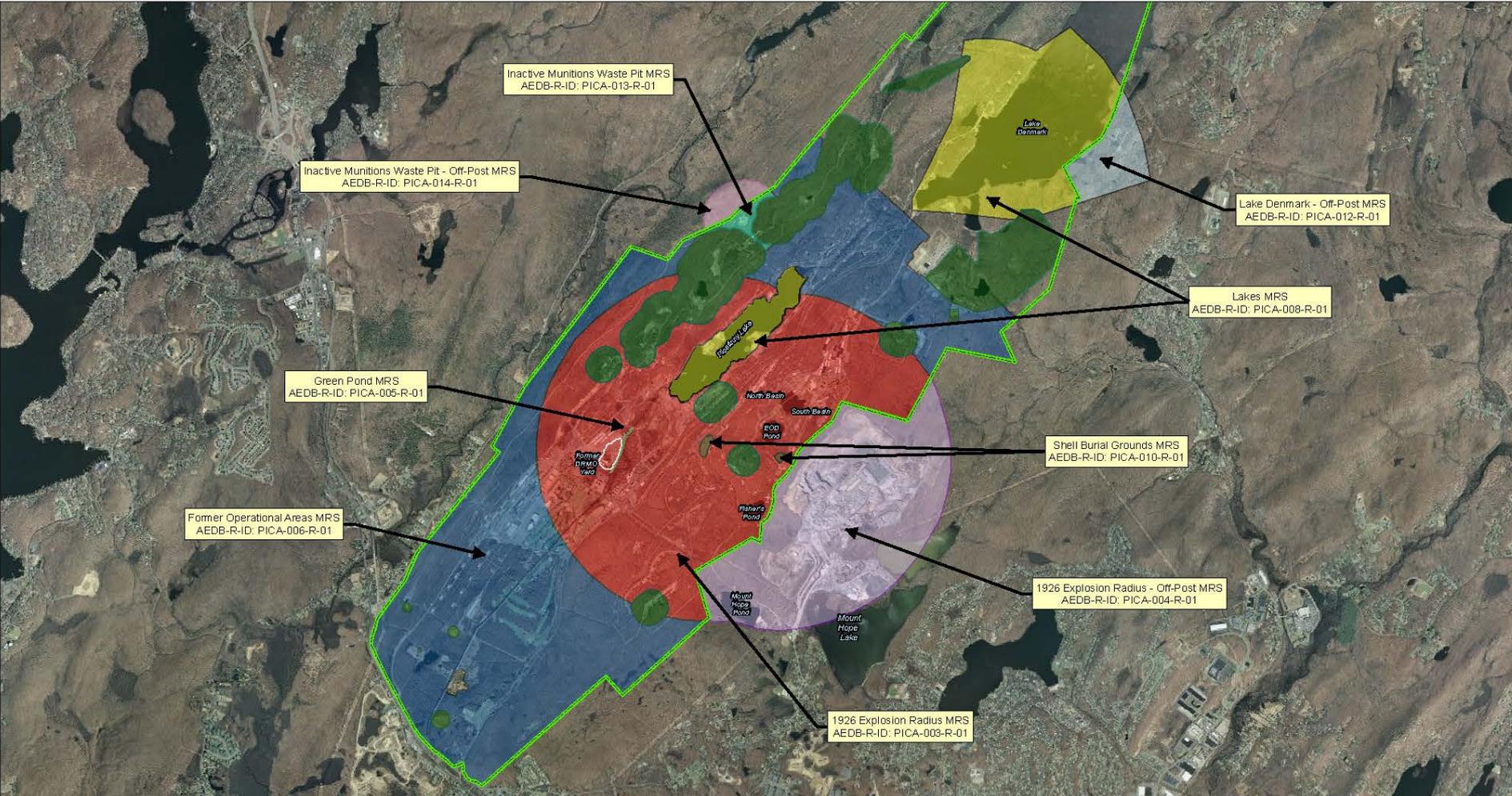


Military Munitions Response Program Munitions Response Sites

US Army Garrison



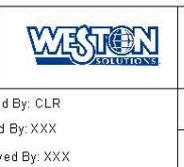
Picatinny Arsenal



Legend	
	Installation Boundary
	Former Operational Areas
	Operational Range Areas
	Green Pond
	Areas of Interest
	Inactive Munitions Waste Pit
	Inactive Munitions Waste Pit - Off-Post
	Munitions Response Sites
	Lake Denmark - Off-Post
	1926 Explosion Radius
	Lakes
	1926 Explosion Radius - Off-Post
	Shell Burial Grounds

NOTES:
 Base Imagery: NJ 2007 Natural Color Imagery
 Data Source: Army GIS Layers (August 2011)
 Coordinate System: UTM Zone 18N
 Datum: WGS84. Units: Feet

Picatinny Arsenal
 Morris County,
 New Jersey



Created By: CLR	3/22/2013	Contract # W912DR-09-D-0006
Verified By: XXX		D O 0002
Approved By: XXX	File: Y:\Picatinny\MXD\VR1_Sep2012\AIRMRS_Loc.mxd	

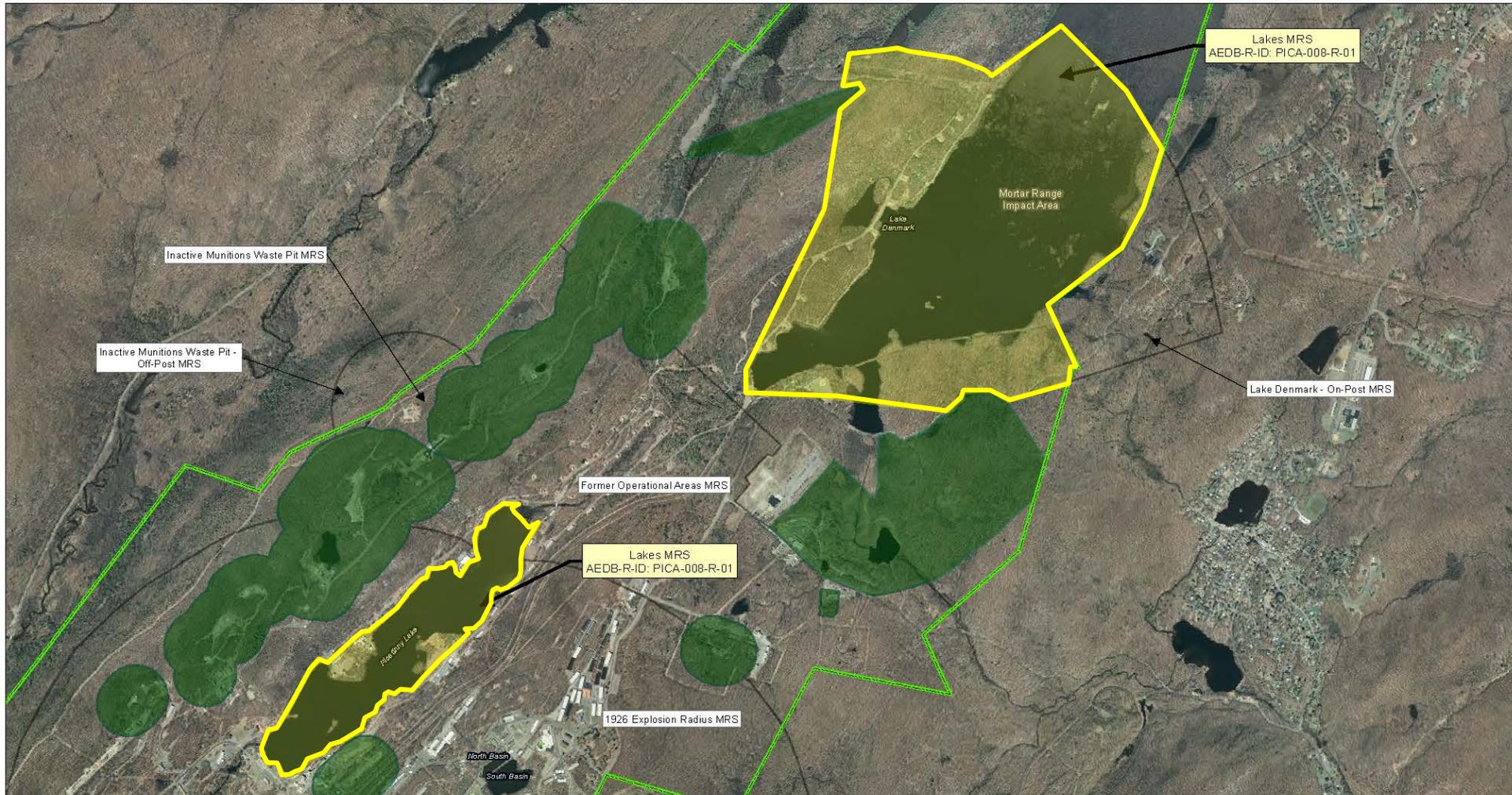


Military Munitions Response Program Lakes Munitions Response Site

US Army Garrison



Picatinny Arsenal



Legend

- Installation Boundary
- Operational Range Areas
- Munitions Response Site Boundaries
- Lakes MRS

NOTES:
 Base Imagery: NJ 2007 Natural Color Imagery
 Data Source: Army GIS Layers (August 2011)
 Coordinate System: UTM Zone 18N
 Datum: WGS84. Units: Feet

Picatinny Arsenal
 Morris County,
 New Jersey

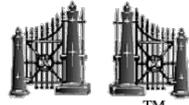
Created By: CLR
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 Approved By: XXX

Date: 2/25/2013	Contract No. W9120R-09-D-0006 Delivery Order 0002
File: Y:\P\kate\y\MO\DW_L_Sep2012\MLake.mxd	



Military Munitions Response Program Lakes Munitions Response Site

US Army Garrison



Picatinny Arsenal

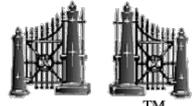
- Includes the water and surrounding land portions of Picatinny Lake and Lake Denmark
- Total area: 125 acres
 - Land portion: 17 acres
 - Water portion: 108 acres
- RI Objective: Collect data to define nature and extent of munitions and explosives of concern (MEC)
- Field investigation included land-based and underwater geophysical surveys and anomaly investigations
- Investigation results will be used to assess explosives hazards





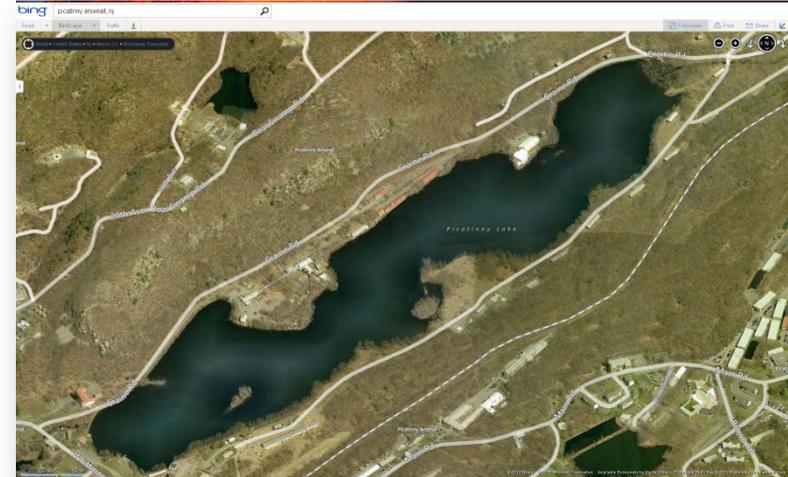
Lakes Munitions Response Site Picatinny Lake

US Army Garrison



Picatinny ArsenalTM

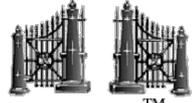
- MEC may be present at Picatinny Lake due to:
 - Release of munitions from explosive-related accidents at former production buildings
 - Testing of a 3-inch Barbette gun
 - Storage of smokeless powder and explosives
 - Potential pyrotechnic testing at Flare Island
 - Approximately 85% of Picatinny Lake falls within the 1926 explosion radius
- MD has been detected along the Picatinny Lake shoreline
- A previous digital magnetic survey of the lake identified 125 anomalies
- Additional geophysical surveys are needed in deepest portion of the lake to confirm findings





Lakes Munitions Response Site Picatinny Lake

US Army Garrison



Picatinny Arsenal

- Side-scan sonar surveys performed across the lake to assess bottom conditions and to identify obstacles
- Bathymetry data collected to determine when to raise and lower sensor to maintain constant altitude
- Underwater electromagnetic (all metals) geophysical surveys conducted along pre-planned transects to detect anomalies
 - 2.82 miles of transect surveys (July 2012)
 - 25 anomalies selected from newly collected and preexisting data
- Underwater anomalies reacquired and investigated using dive operations (November 2012)



Side-scan sonar

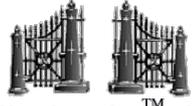


Side-scan sonar surveys at Picatinny Lake



Lakes Munitions Response Site Picatinny Lake

US Army Garrison



Picatinny ArsenalTM



DGM system preparation at Picatinny
Lake dock

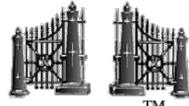


DGM platform construction and
deployment vessel



Lakes Munitions Response Site Picatinny Lake

US Army Garrison



Picatinny ArsenalTM



Waterproof EM61 High Power Sensor
on adjustable survey arm

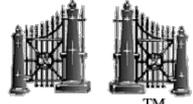


DGM system deployment



Lakes Munitions Response Site Picatinny Lake

US Army Garrison



Picatinny Arsenal



Support vessel for dive operations

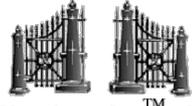


Diver preparation and anomaly reacquisition. The circle-line search method is used to locate the anomaly/anomalies.



Lakes Munitions Response Site Picatinny Lake

US Army Garrison



Picatinny Arsenal



A single clump attached to a buoy line is lowered to the bottom. A second line with knots tied at increments of a specified length is attached to the clump.

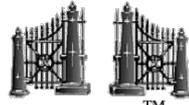


The diver then uses this second line to circle around the clump at increasing or decreasing radii while searching. After one complete circle, the diver moves out or in one knot as required.



Lakes Munitions Response Site Picatinny Lake

US Army Garrison



Picatinny Arsenal



Shallow water dive operations

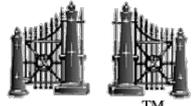


Example items recovered in Picatinny Lake



Lakes Munitions Response Site Picatinny Lake

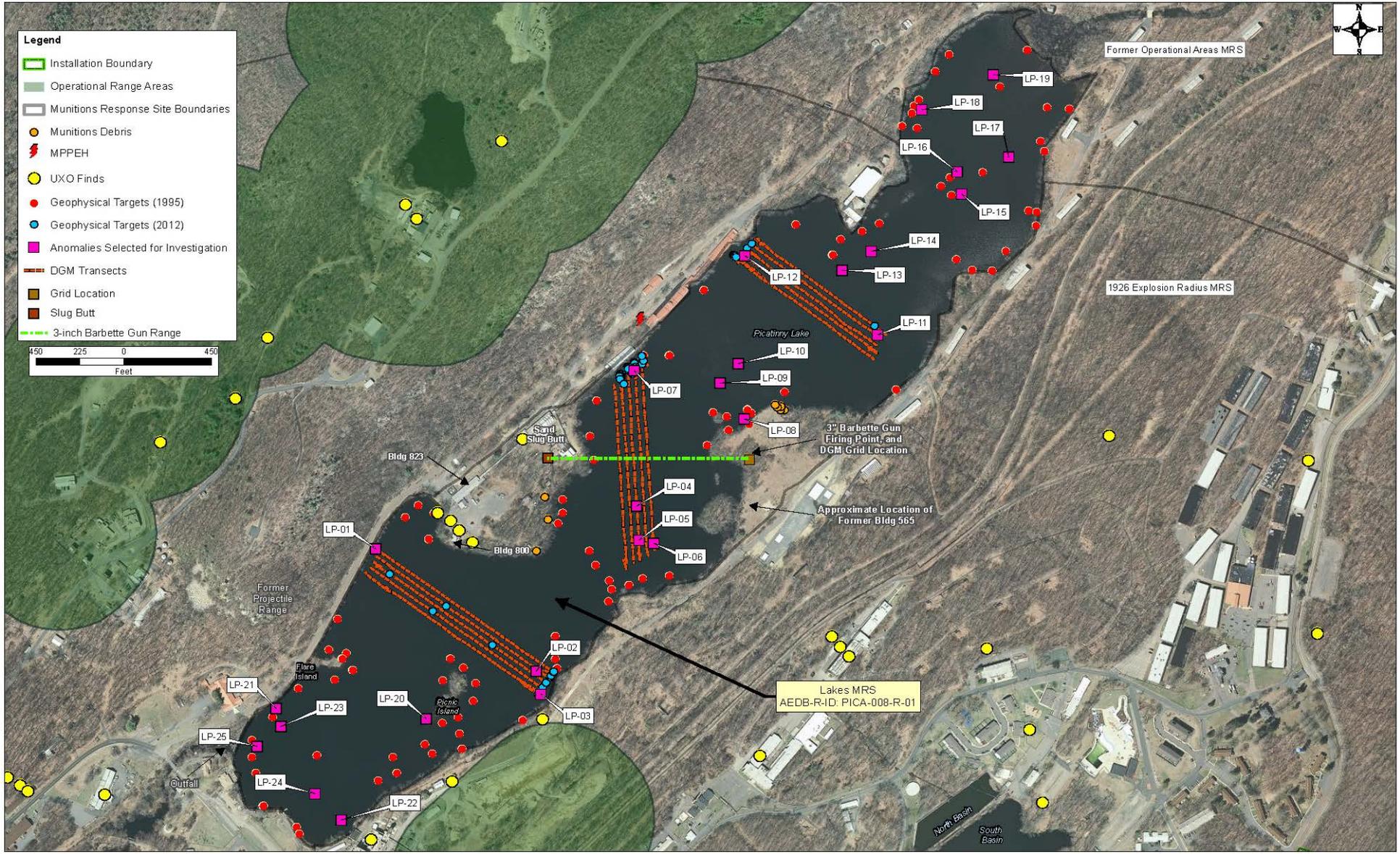
US Army Garrison



Picatinny Arsenal



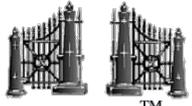
- Legend**
- Installation Boundary
 - Operational Range Areas
 - Munitions Response Site Boundaries
 - Munitions Debris
 - MPPEH
 - UXO Finds
 - Geophysical Targets (1995)
 - Geophysical Targets (2012)
 - Anomalies Selected for Investigation
 - DGM Transects
 - Grid Location
 - Slug Butt
 - 3-inch Barbette Gun Range





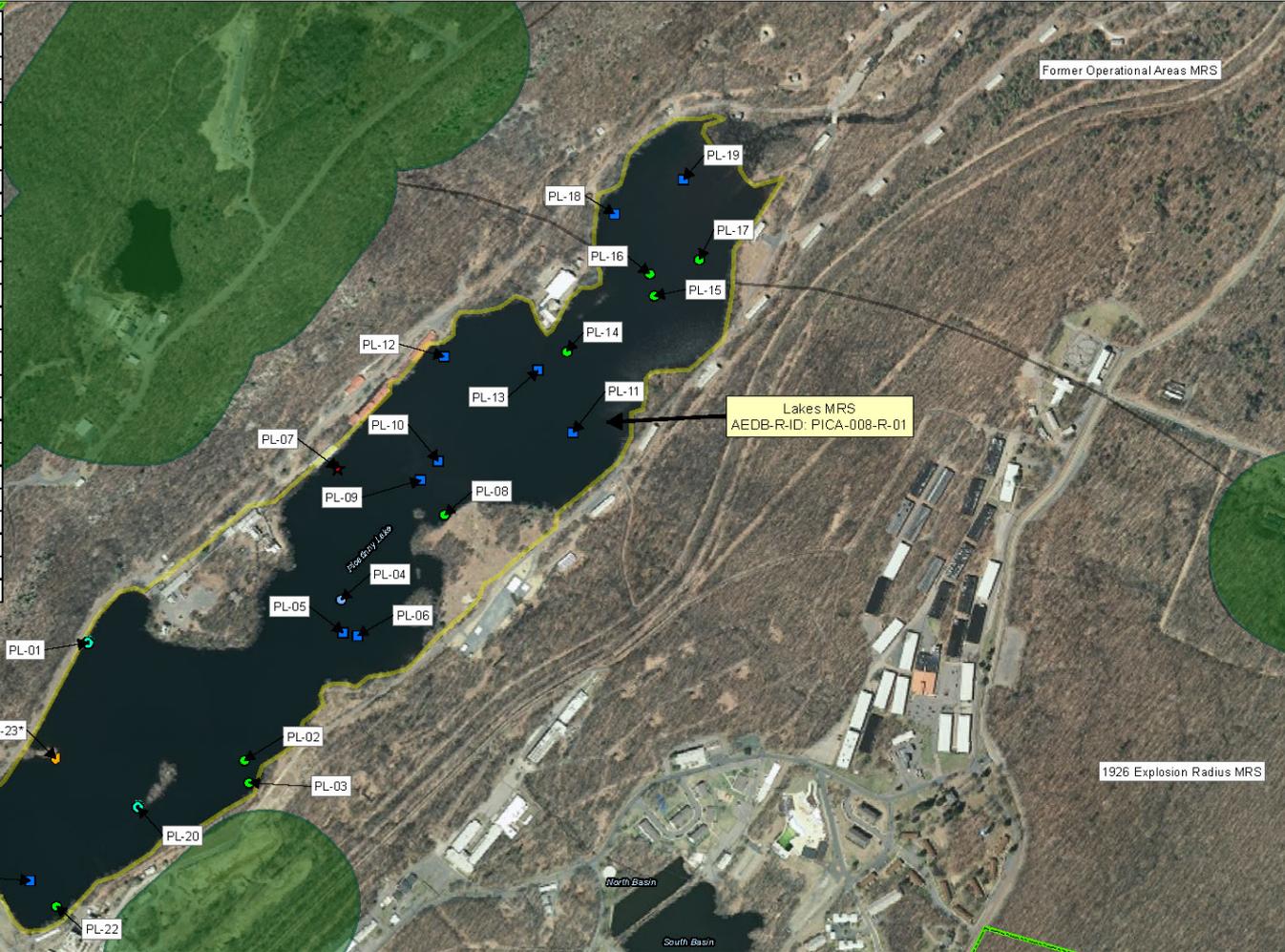
Lakes Munitions Response Site Picatinny Lake

US Army Garrison



Picatinny Arsenal

Picatinny Lake Intrusive Investigation Results	
Anomaly ID	Narrative
PL-01	Geologic Item (Hot Rocks)
PL-02	Cultural Debris
PL-03	Cultural Debris
PL-04	No Contact (No audible response)
PL-05	No Find (Audible response, anomaly could not be found)
PL-06	No Find (Audible response, anomaly could not be found)
PL-07	MEC (Supplemental charge for a 155mm)
PL-08	Cultural Debris
PL-09	No Find (Audible response, anomaly could not be found)
PL-10	No Find (Audible response, anomaly could not be found)
PL-11	No Find (Audible response, anomaly could not be found)
PL-12	No Find (Audible response, anomaly could not be found)
PL-13	No Find (Audible response, anomaly could not be found)
PL-14	Cultural Debris
PL-15	Cultural Debris
PL-16	Cultural Debris
PL-17	Cultural Debris
PL-18	No Find (Audible response, anomaly could not be found)
PL-19	No Find (Audible response, anomaly could not be found)
PL-20	Geologic item (Hot Rocks)
PL-21	MD (Expended smoke canister)
PL-22	Cultural Debris
PL-23*	MD (Remnants of flares)
PL-24	No Find (Audible response, anomaly could not be found)



Legend	
	Installation Boundary
	Operational Range Areas
	Munitions Response Site Boundaries
	Lakes MRS
	Cultural Debris (Non ordnance related items)
	Geologic Item (Hot Rocks)
	Munitions Debris
	MEC
	No Contact (No audible response)
	No Find (Audible response, anomaly could not be found)

SOURCE:
Base Imagery: NJ 2007 Natural Color Imagery
Data Source: Army GIS Layers (August 2011)
Coordinate System: UTM Zone 18N
Datum: WGS84 Units: Feet

Picatinny Arsenal
Morris County,
New Jersey



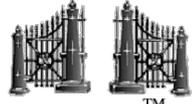
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Verified By: XXX
Approved By: XXX

Date: 3/26/2013
Contract No.: W912D R-09-D-0006
Delivery Order: 0002
File: Y:\P\ba\y\MEC\01_Shp\2012\01\Map\lakes_mrs_data_updates.mxd



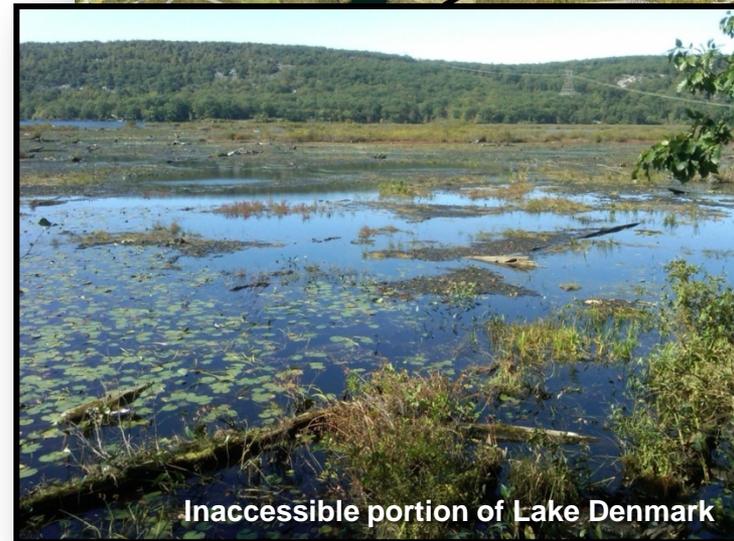
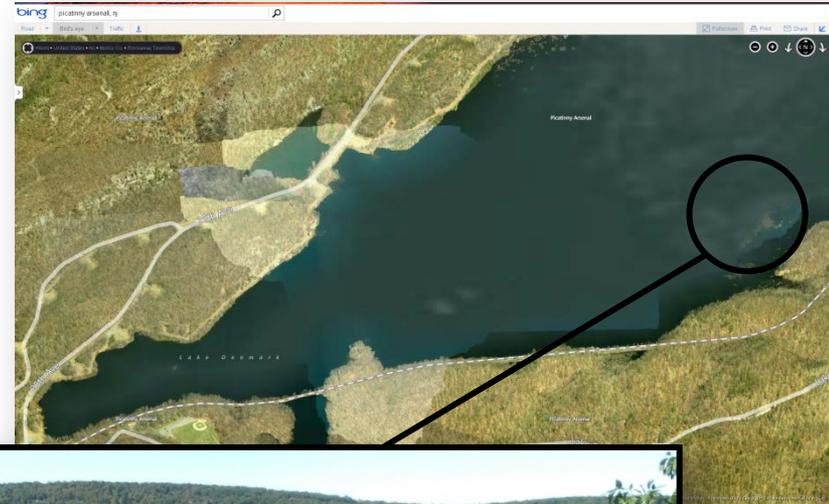
Lakes Munitions Response Site Lake Denmark

US Army Garrison



Picatinny Arsenal
TM

- MEC may be present at Lake Denmark due to a 60mm, 81mm, and 4.2 inch mortar testing range and overlapping 20mm range
- A previous digital magnetic survey of the lake identified several anomalies
- Additional geophysical surveys were needed to assess the northern portion of the lake
- A majority of the northeastern portion of the lake is inaccessible due to vegetation

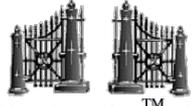


Inaccessible portion of Lake Denmark

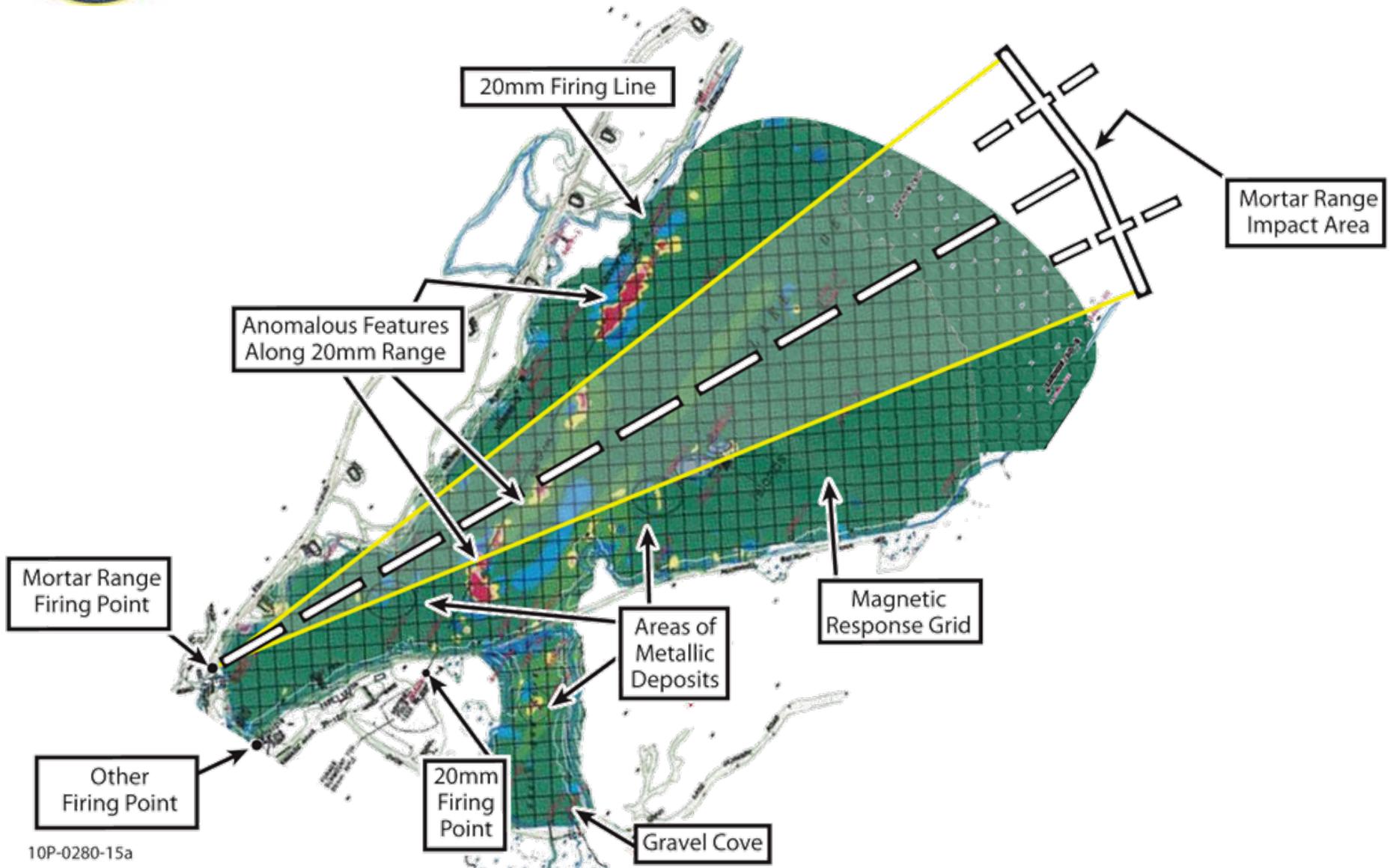


Lakes Munitions Response Site Lake Denmark

US Army Garrison



Picatinny Arsenal





Lakes Munitions Response Site Lake Denmark

US Army Garrison



Picatinny Arsenal

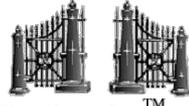
- The northeastern portion of Lake Denmark is shallow water
- Underwater electromagnetic (all metals) geophysical surveys conducted in accessible portions of the lake
 - 3.08 miles of transect surveys (July 2012)
 - 10 anomalies selected from newly collected and preexisting data
- Underwater anomalies reacquired and investigated using dive operations (November 2012)





Lakes Munitions Response Site Lake Denmark

US Army Garrison



Picatinny Arsenal



Floatable and waterproof EM61 High Power Sensor

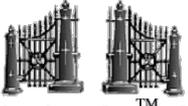


DGM sensor deployment

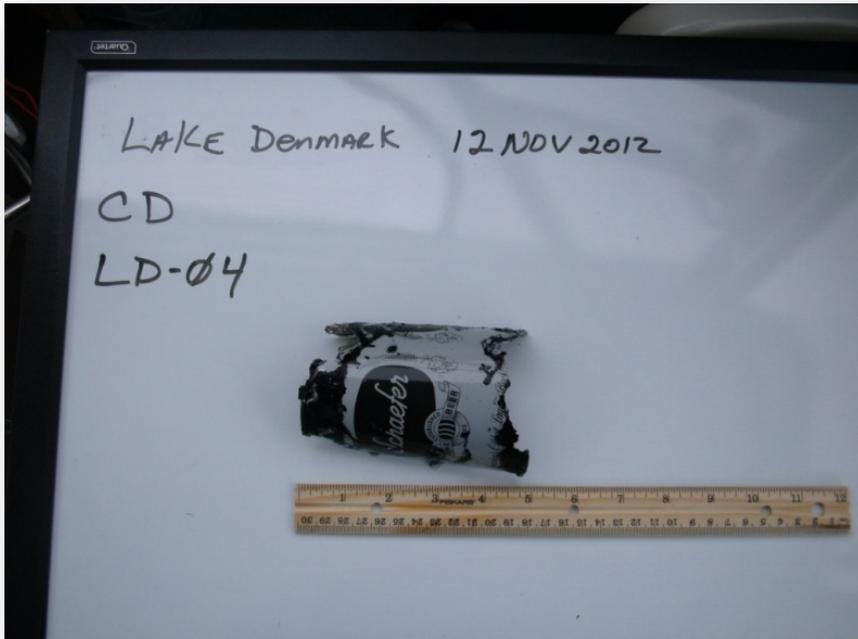


Lakes Munitions Response Site Lake Denmark

US Army Garrison



Picatinny Arsenal



Cultural debris in Lake Denmark

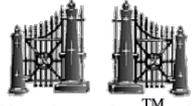


60mm practice mortar recovered in
Lake Denmark

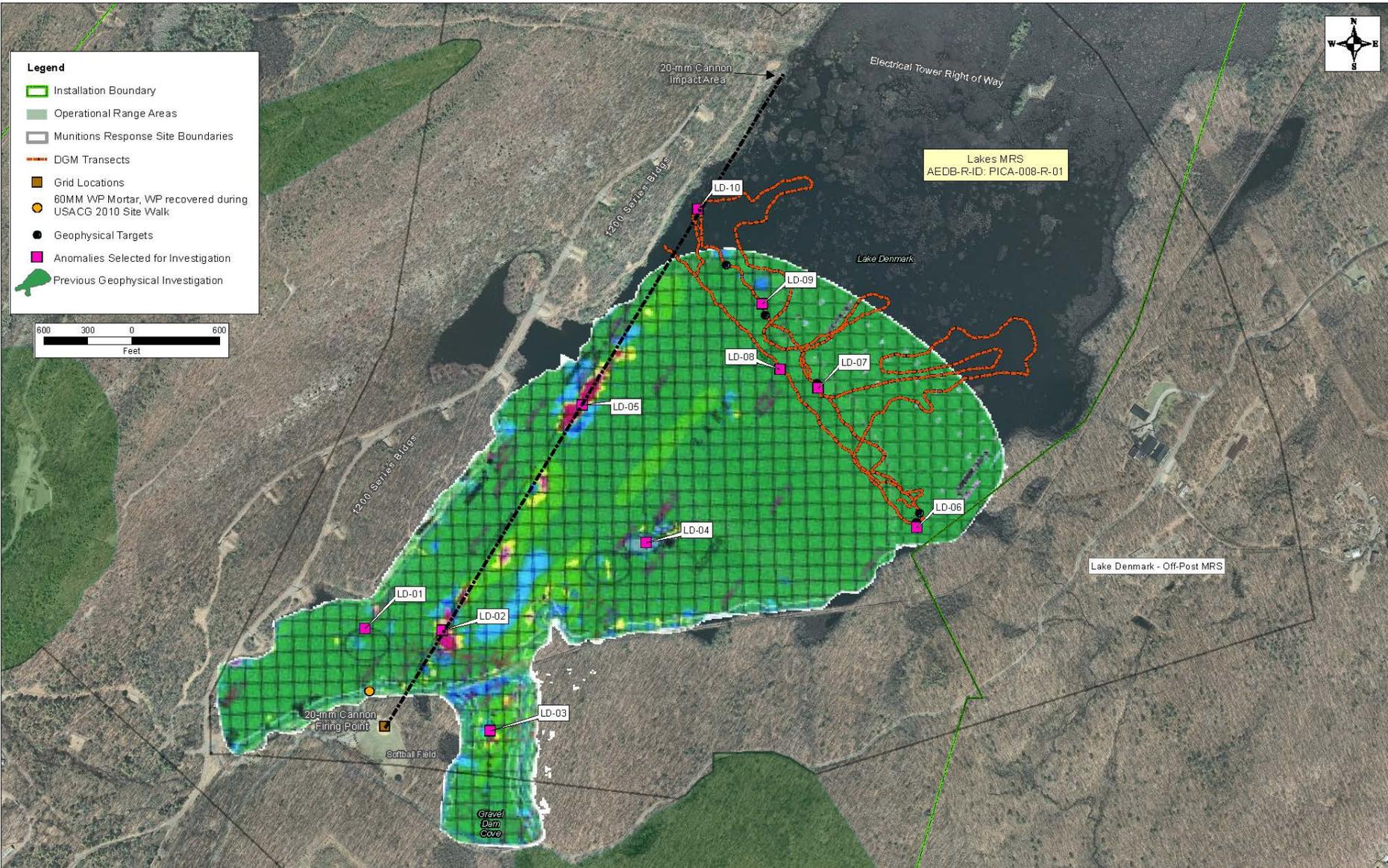


Lakes Munitions Response Site Lake Denmark

US Army Garrison



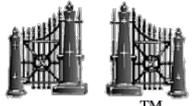
Picatinny Arsenal





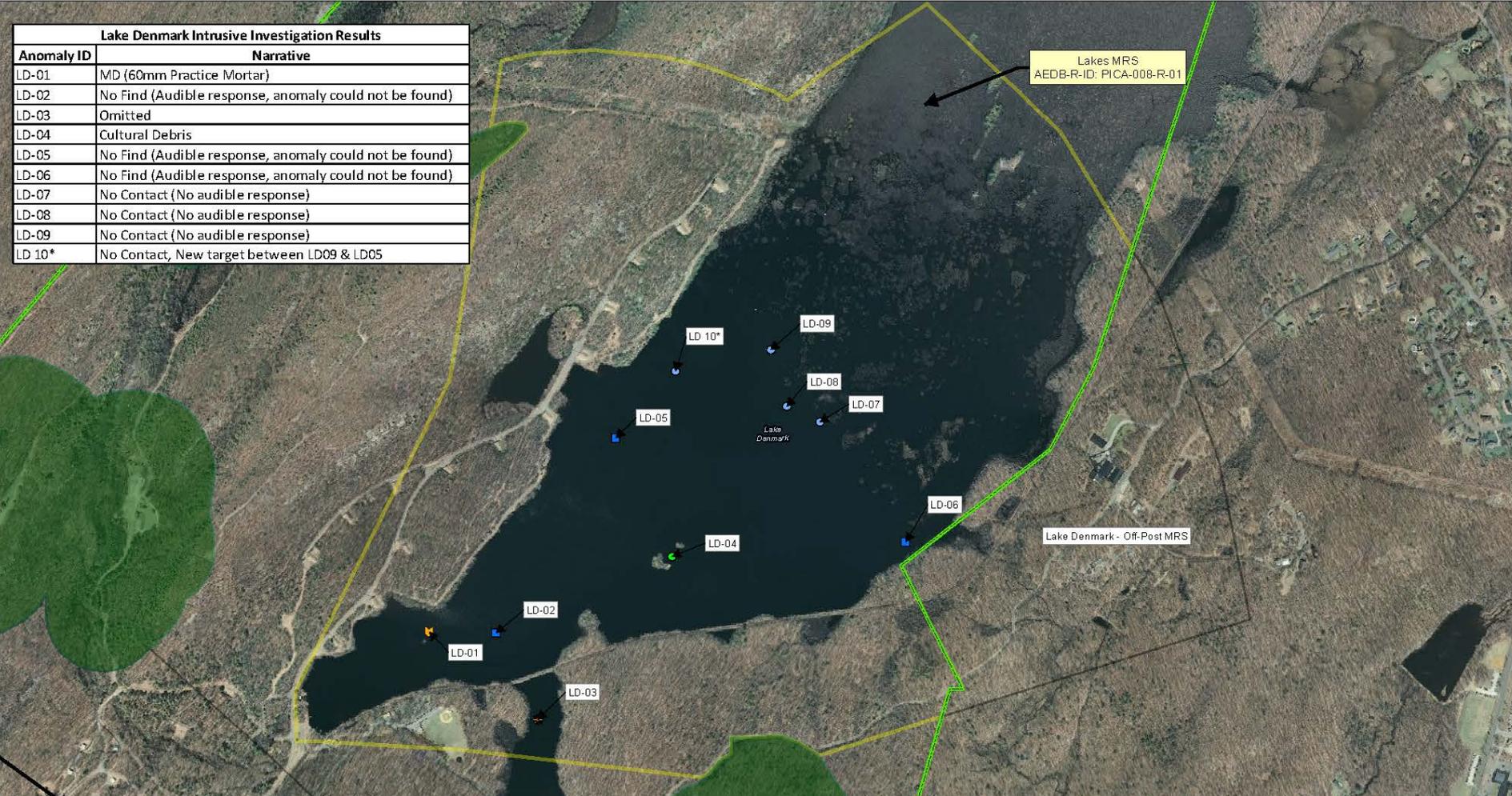
Lakes Munitions Response Site Lake Denmark

US Army Garrison



Picatinny Arsenal

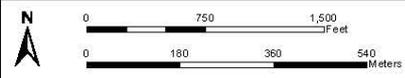
Lake Denmark Intrusive Investigation Results	
Anomaly ID	Narrative
LD-01	MD (60mm Practice Mortar)
LD-02	No Find (Audible response, anomaly could not be found)
LD-03	Omitted
LD-04	Cultural Debris
LD-05	No Find (Audible response, anomaly could not be found)
LD-06	No Find (Audible response, anomaly could not be found)
LD-07	No Contact (No audible response)
LD-08	No Contact (No audible response)
LD-09	No Contact (No audible response)
LD-10*	No Contact, New target between LD09 & LD05



Legend	
	Installation Boundary
	Operational Range Areas
	Munitions Response Site Boundaries
	Lakes MRS
	Cultural Debris (Non ordnance related items)
	Munitions Debris
	No Contact (No audible response)
	No Find (Audible response, anomaly could not be found)
	Omitted

SOURCE:
Base Imagery: NJ 2007 Natural Color Imagery
Data Source: Army GIS Layers (August 2011)
Coordinate System: UTM Zone 18N
Datum: WGS84. Units: Feet

Picatinny Arsenal
Morris County,
New Jersey



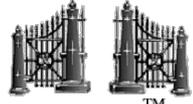
Created By: CLR
Verified By: XXX
Approved By: XXX

Date: 3/26/2013
Contract No.: W912D R-09-D-0006
Delivery Order: 0002
File: Y:\P\katsky\MO\081_Sep12012\MLake_Denmark_081_Restrip_update.mxd



Status/ Schedule

US Army Garrison



Picatinny Arsenal

- Lake Denmark – Off-Post MRS Non-Intrusive Visual Survey: April 2013
- Community Involvement Plan (CIP)
 - Final Version, February 2013
- 300 Marsh Area
 - Submittal of draft letter report for Regulator review: April 2013
 - Final letter report: June 2013
- Remedial Investigation Report
 - Submittal of draft RI report to Regulators: July 2013
 - Final RI report: October 2013



RAB UPDATE

Mid Valley Groundwater

March 27 2013

US Army Garrison



Picatinny Arsenal, NJ





Presentation Agenda

US Army Garrison



Picatinny Arsenal, NJ

- Brief review of site and site issues
- Reminder on remedial design concepts
 - public meeting on June 21 2012
 - Barbara reviewed and summarized the RD
- Construction and implementation summary
- Next steps



Status of CERCLA Process

US Army Garrison



Picatinny Arsenal, NJ

- ✓ Remedial Investigation (Characterization of Site)
- ✓ Feasibility Study (Assessment of possible remedies)
- ✓ Proposed Plan (Public document to solicit input on preferred remedy)
- ✓ Record of Decision (Final legal document selecting remedy)
- ✓ Remedial Action (Implement Remedy)
- Long Term Operation, Monitoring and Maintenance



Selected Remedy

US Army Garrison



Picatinny Arsenal, NJ

- In-situ bioremediation with MNA for TCE contaminated groundwater
- MNA for RDX contaminated groundwater
- Soil removal for RDX contaminated soil



US Army Garrison



Picatinny Arsenal, NJ

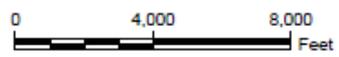
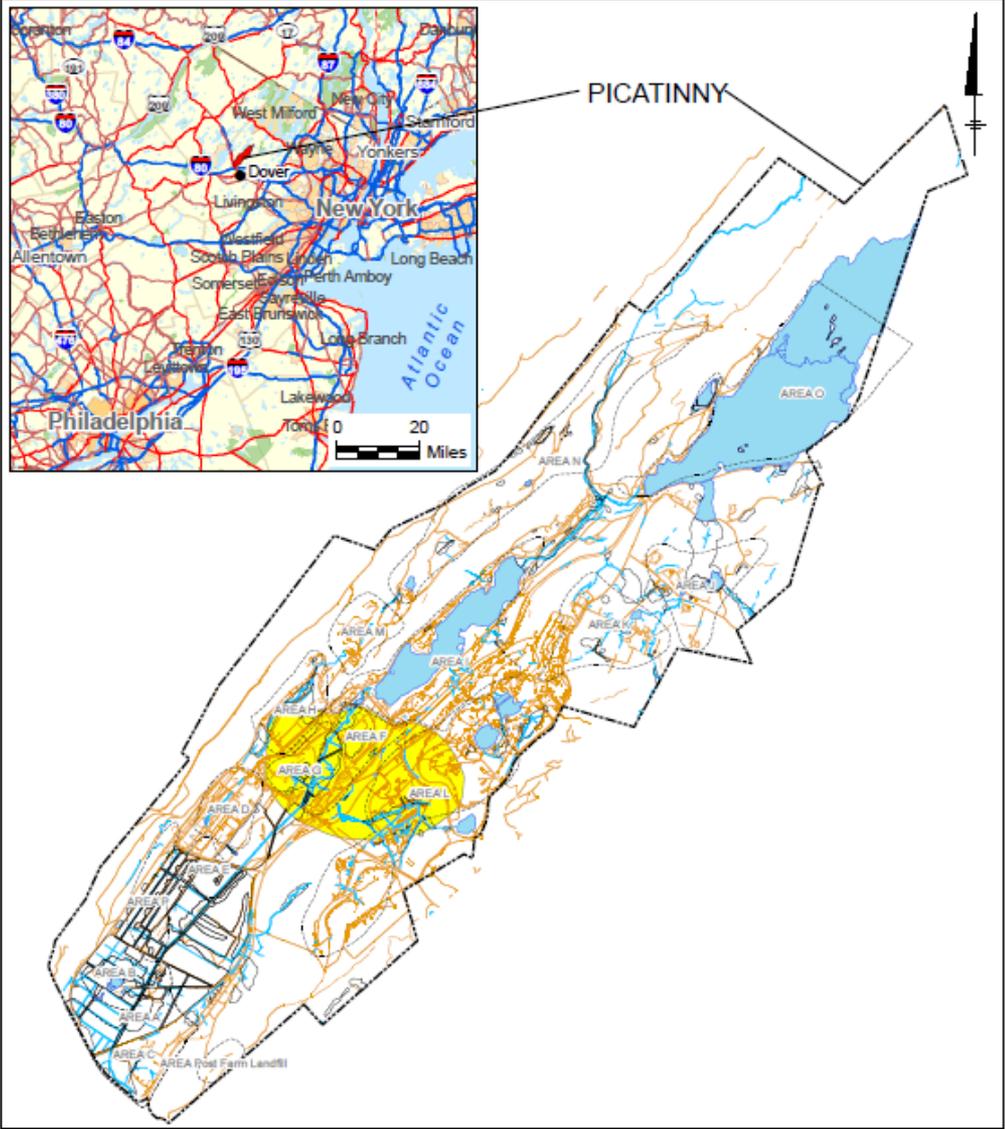
Brief Review of Site and Site Issues



US Army Garrison



Picatinny Arsenal, NJ



- LEGEND:
- SURFICIAL HYDROLOGY
 - ROAD
 - MID-VALLEY AREA
 - AREA BOUNDARY
 - PICATINNY BOUNDARY

MID-VALLEY GROUNDWATER (PICA-204)
PICATINNY ARSENAL, NEW JERSEY

**LOCATION OF MID-VALLEY AREA
AND PICATINNY**



FIGURE
1



Site Background

US Army Garrison



Picatinny Arsenal, NJ

- Broadly distributed groundwater impacts
- Several sites aggregated into a single groundwater study site due to common elements
- Historical site uses included:
 - Propellant manufacturing
 - Testing facilities
 - Recycling facility (DRMO PICA 072)
 - Munitions assembly
 - Disposal area (Shell Burial Areas)



Regional Conceptual Site Model

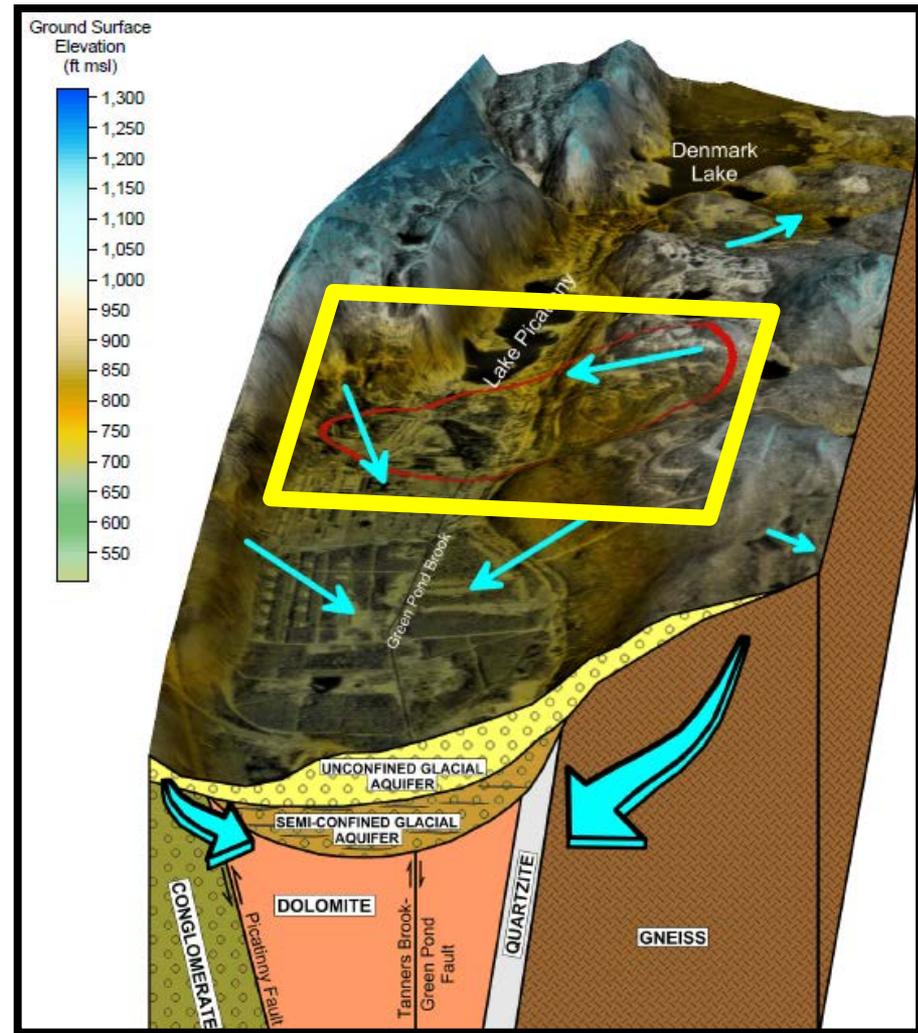
US Army Garrison



Picatinny Arsenal, NJ

- **Geology**

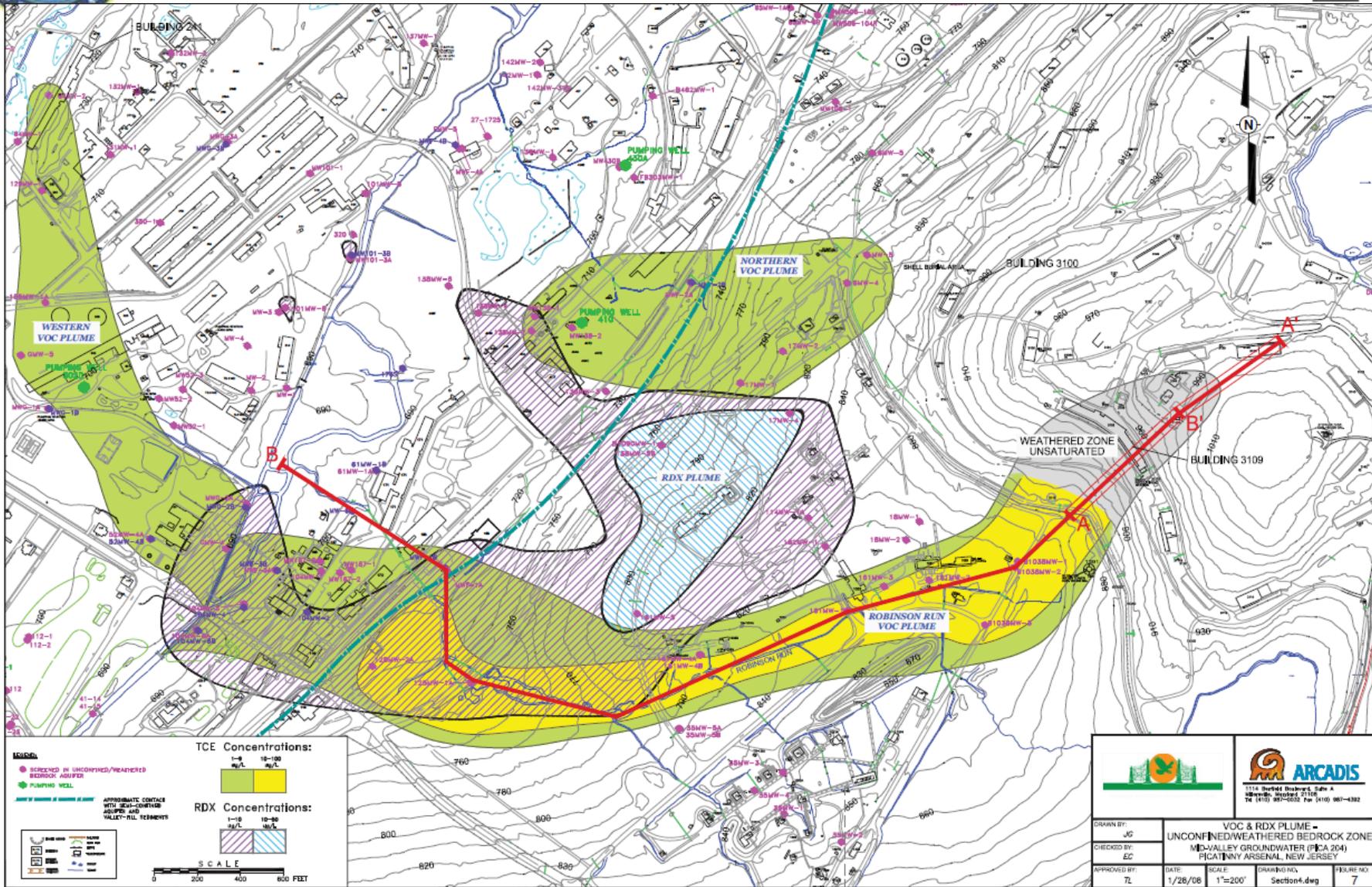
- Glacial valley fill with bedrock uplands
- Surface water bodies present include Robinson Run and Green Pond Brook
- Groundwater flow directions are towards the valley (Green Pond Brook) and locally towards Robinson Run





Shallow Groundwater

US Army Garrison





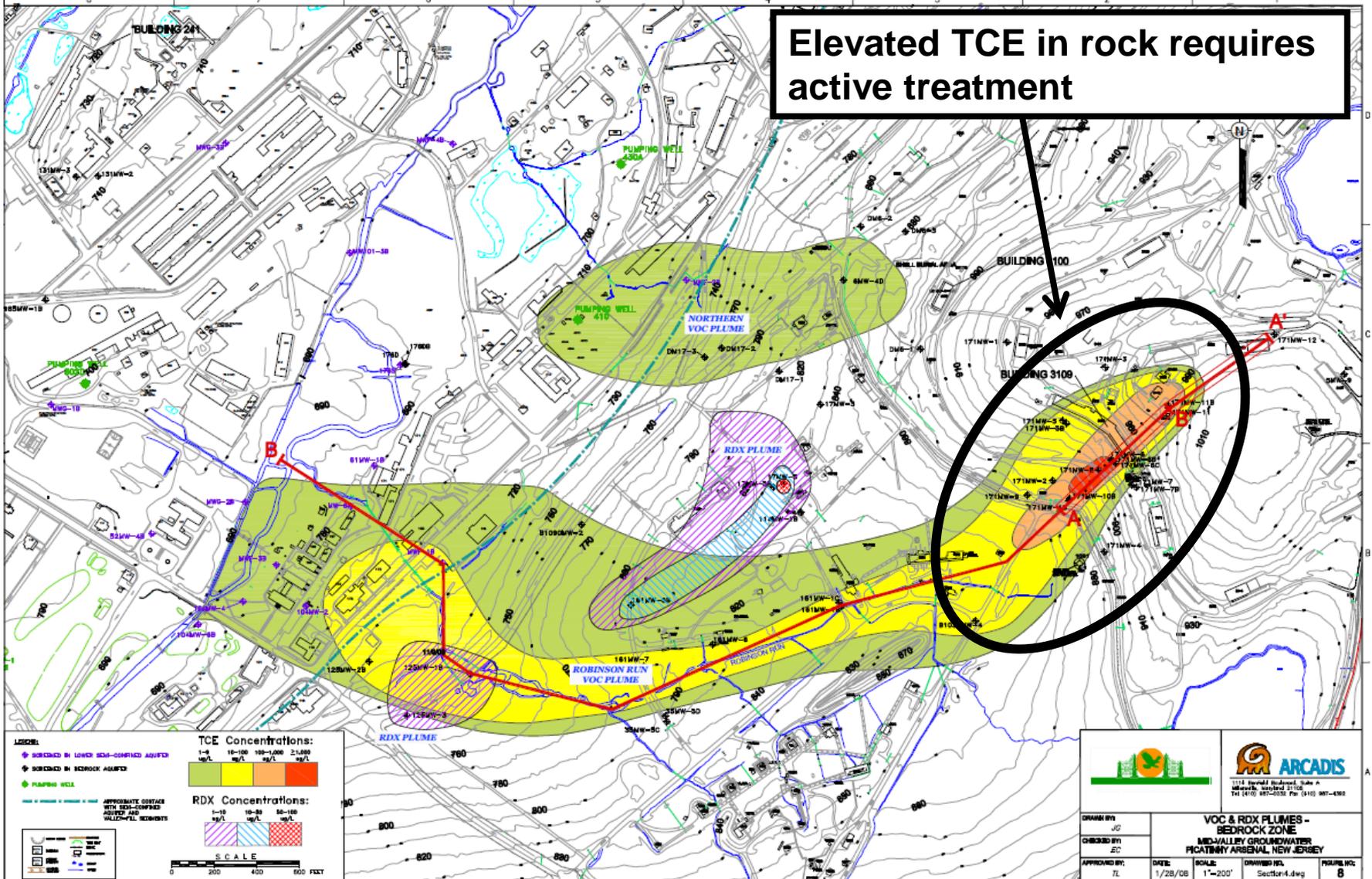
Deeper Groundwater

US Army Garrison



Picatinny Arsenal, NJ

Elevated TCE in rock requires active treatment



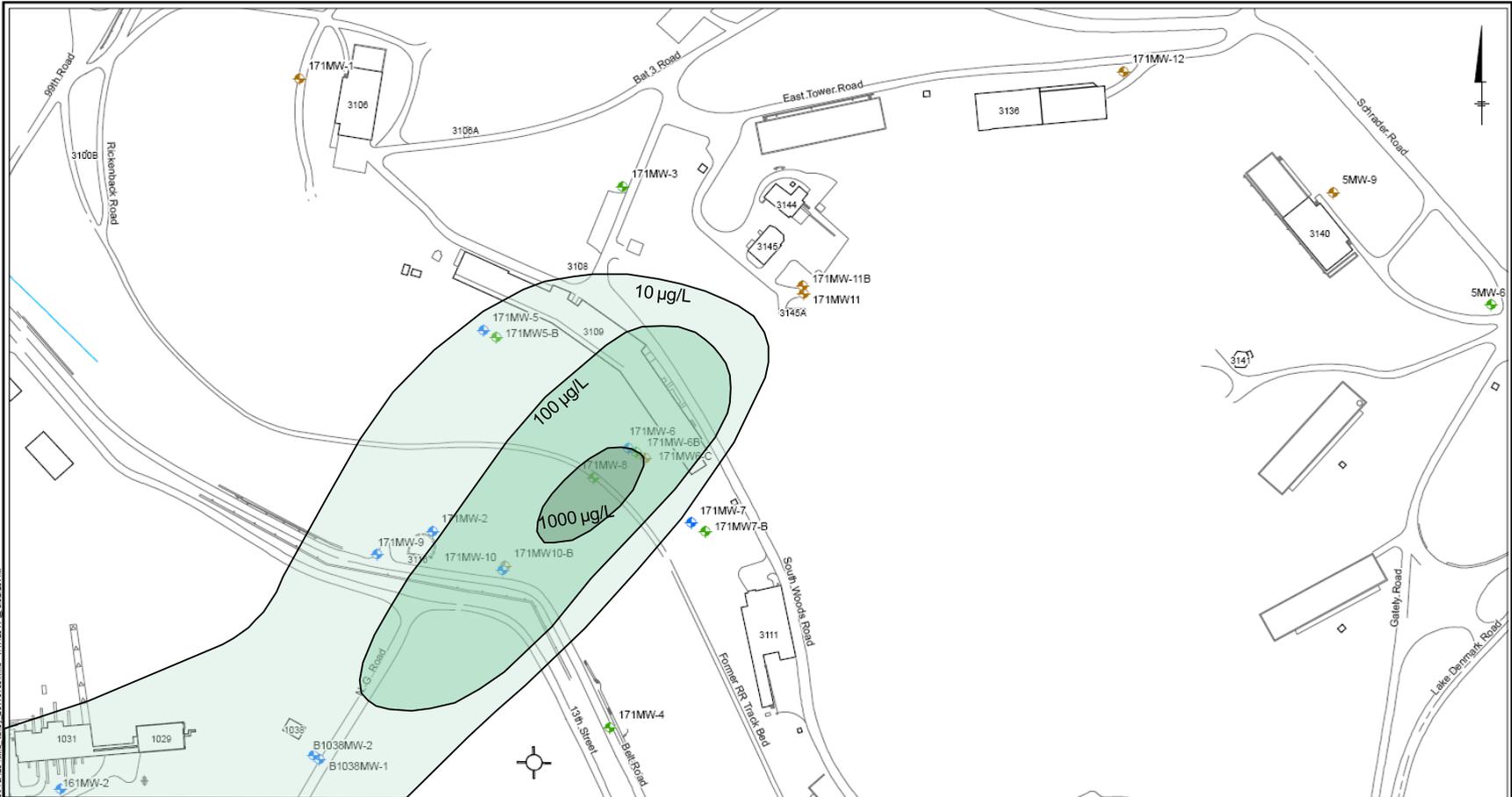


TCE Distribution Building 3109

US Army Garrison



Picatinny Arsenal, NJ



G:\GIS\Access\Picatinny\GIS\Projects\Picatinny\3109\1172011_0322_28.AM

- LEGEND:
- ◆ SHALLOW BEDROCK WELL, < 65 FT DEPTH BGS
 - ◆ INTERMEDIATE BEDROCK WELL, 65 - 100 FT DEPTH BGS
 - ◆ DEEP BEDROCK WELL, > 100 FT DEPTH BGS
 - ROAD
 - BUILDING

NOTE:
BGS - BELOW GROUND SURFACE



● Observation Wells



US Army Garrison



Picatinny Arsenal, NJ

Reminder on Remedial Design Concepts

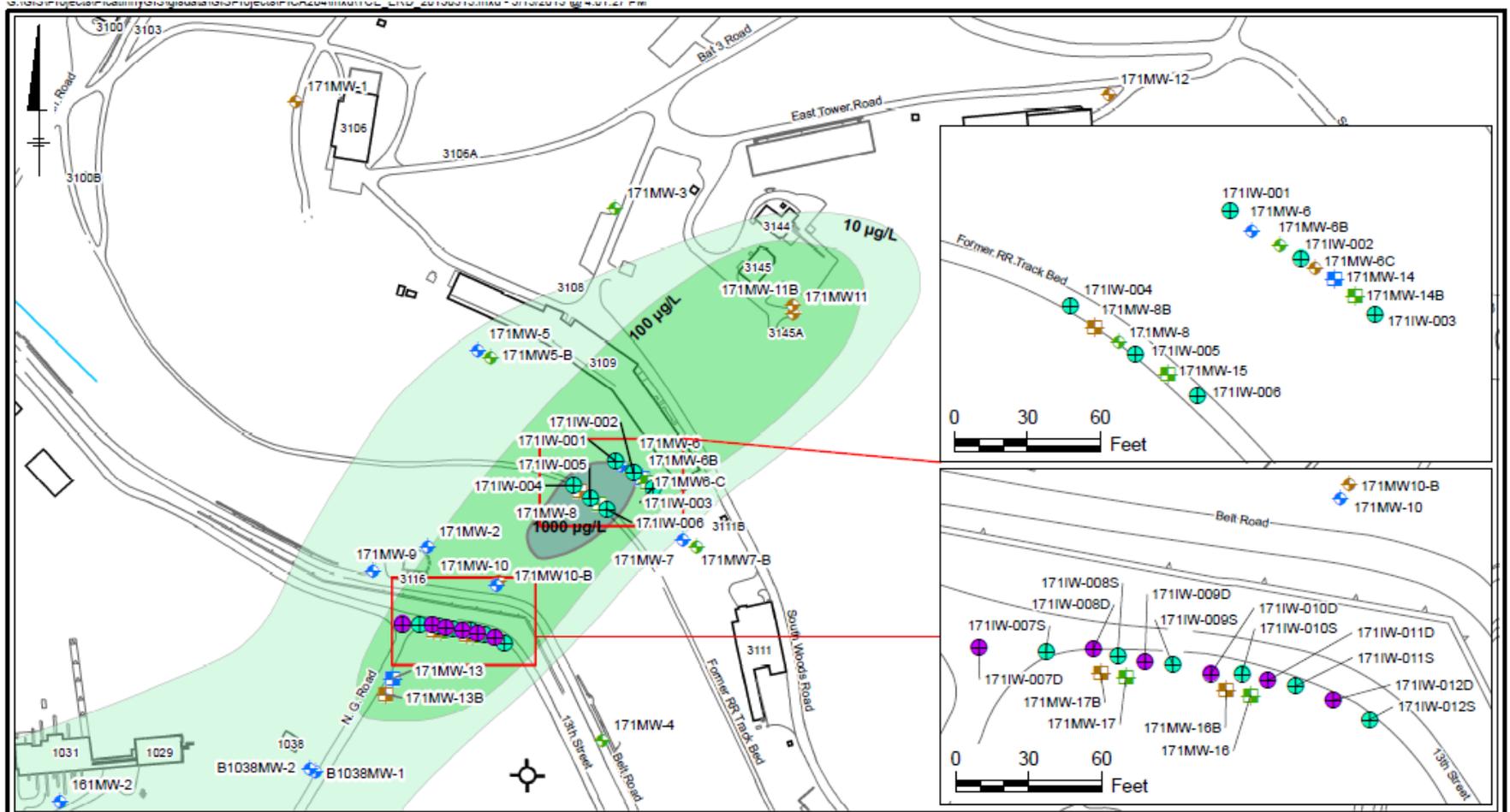


In-Situ Bioremediation for TCE



- Injections emulsified vegetable oil (EVO) at head of plume where concentrations are highest
 - 18 injection wells in bedrock
- MNA on downgradient portion of plumes
- Time to achieve remedial goals approximately 35 years
 - Time without treatment 190 years

In-Situ Bioremediation



LEGEND:

- EXISTING SHALLOW BEDROCK WELL, < 65 FT DEPTH BGS
- EXISTING INTERMEDIATE BEDROCK WELL, 65 - 100 FT DEPTH BGS
- EXISTING DEEP BEDROCK WELL, > 100 FT DEPTH BGS
- PROPOSED DEEP INJECTION WELL
- PROPOSED SHALLOW MONITORING WELL
- PROPOSED INTERMEDIATE MONITORING WELL
- PROPOSED DEEP MONITORING WELL

GRAPHIC SCALE
0 230 460 Feet

MID-VALLEY GROUNDWATER (PICA-204)
PICATINNY ARSENAL, NEW JERSEY

LAYOUT OF FOCUSED ENHANCED REDUCTIVE DECHLORINATION (ERD) WELL NETWORK

ARCADIS

FIGURE **11**



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Picatinny Arsenal, NJ

Construction and Implementation Summary

UXO Avoidance



UXO Avoidance





Well Installation



US Army Garrison



Picatinny Arsenal, NJ



Well Installation



US Army Garrison



Picatinny Arsenal, NJ



Surface Completions



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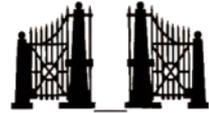
Picatinny Arsenal, NJ



EVO Injections



US Army Garrison



Picatinny Arsenal, NJ







Remaining TCE Plumes and RDX Plumes



- MNA for the Northern and Western TCE plume (20 years and 35 years respectively)
- Soil removal and MNA for the RDX plumes (15 years for the shallow plume and 35 years for the deeper plume)



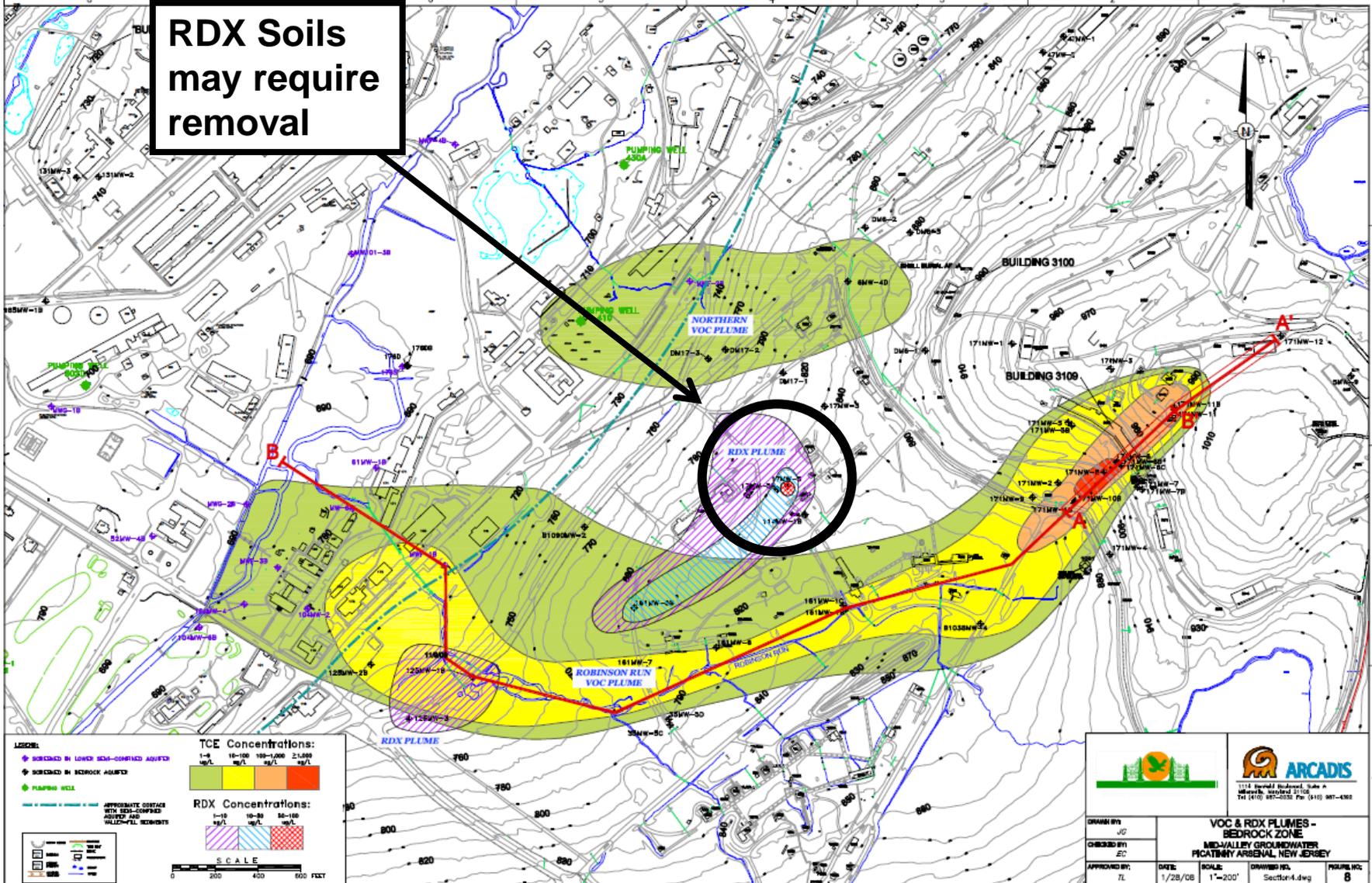
RDX Soil Removal

US Army Garrison



Picatinny Arsenal, NJ

**RDX Soils
may require
removal**



Site 162 Settling Tank Area



Site 162 Concrete Catch Basin Area





Next Steps

- Continue periodic EVO injections and MNA sampling for groundwater
- Assess extent of RDX contaminated soils and conduct a removal action in 2013, if necessary



RAB Update

26 Site Proposed Plan

March 27 2013

US Army Garrison



Picatinny Arsenal, NJ





Public Meeting

US Army Garrison



Picatinny Arsenal, NJ

- Public Meeting held on March 7 to open the public comment period for the 26 Site Proposed Plan
- Full transcript of the meeting is available
- Comments may be submitted during the 30-day comment period (March 7 to April 6 2013)
- Information on how to submit comments provided tonight



Presentation Agenda

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Picatinny Arsenal, NJ

- Site Information
 - Locations
 - Histories
 - Summary of Findings
- CERCLA Risk Assessment Process and Results
- Recommended Alternative and NJDEP Regulations
- Public Comment Period Information



Status of CERCLA Process

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Picatinny Arsenal, NJ

- ✓ Remedial Investigation (Characterization of Site)
- ✓ Feasibility Study (Assessment of possible remedies)
- Proposed Plan (Public document to solicit input on preferred remedy)
- Record of Decision (Final legal document selecting remedy)
- Remedial Action (Implement Remedy)



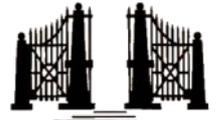
Site Information



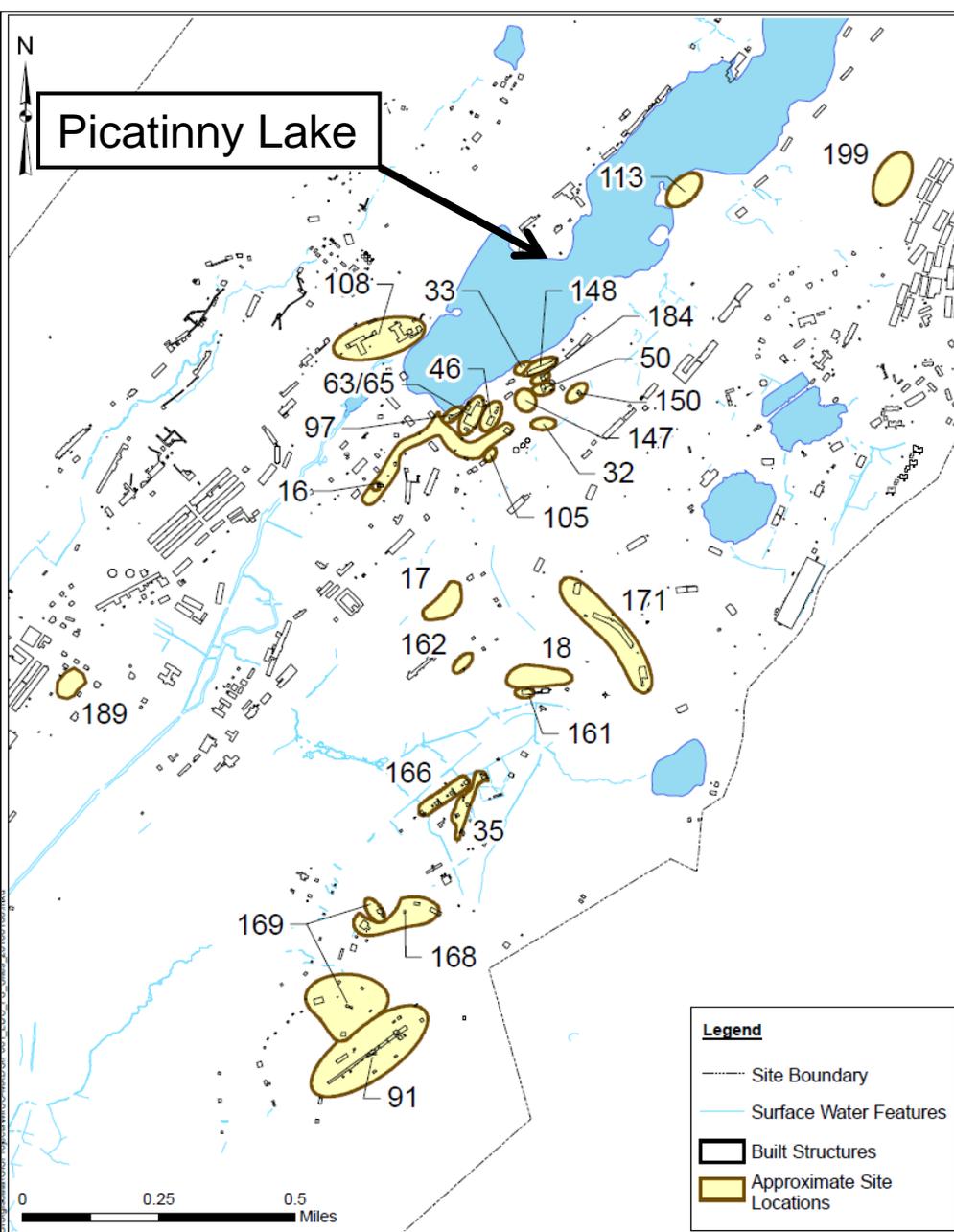
- The 26 industrial sites are scattered throughout the Arsenal and range in size from less than an acre to several acres
- Most are no longer active and many of the structures have been demolished
- The issues regarding the applicable regulations for the sites ["soils dispute"] has been discussed numerous times over the years at the RAB



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Picatinny Arsenal, NJ



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**SITE LOCATIONS
 PICATINNY ARSENAL, NEW JERSEY**

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 DRAWN
 M. GRESS
 PROJECT NUMBER
 GP06PICA.P011.NJ001

DEPARTMENT MANAGER
 M. NICHIPORIN
 CHECKED
 K. TIPTON
 DRAWING NUMBER
 1



Included Sites

- Site 17 Northern Tetryl Pits
- Site 18 Southern Tetryl Pits
- Site 16 Guncotton Line
- Site 50 Still House and Storage
- Sites 63/65 Former Power Plant
- Site 32 Storage Tanks
- Site 33 Storage Tanks
- Site 46 90 Day Waste Storage
- Site 97 Eng. Maintenance Shop
- Site 105 Propellant Plant
- Site 147 Poach House
- Site 148 Nitrocellulose Production
- Site 150 Propellant Plant
- Site 184 Refr. and Inert gas plant
- Site 108 Ordnance Fac./Flare Is.
- Site 113 Propellant Plant
- Site 35 Nitroglycerin Proc. Area
- Site 91 Rocket Motor Assembly
- Site 161 Nitration Building
- Site 166 Storage Magazines
- Site 168 Propellant Process Area
- Site 169 Propellant Plants
- Site 162 Spent Acid Storage Tanks
- Site 171 Ordnance Facilities
- Site 189 Apple Orchard
- Site 199 Abandoned Pistol Range



Site Information

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Picatinny Arsenal, NJ

- Site uses included
 - Former Disposal Pits (2)
 - Former Industrial Process Line (1)
 - Former explosive manufacturing/maintenance shops (15)
 - Former Power Plant (1)
 - Above ground tanks/controlled waste storage (2)
 - Ordnance/flare testing facility (1)
 - Former magazines (2)
 - Apple tree orchard (1)
 - Former pistol range (1)



Site Information

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Picatinny Arsenal, NJ

- Current status and actions taken
 - Waste soil removed at former disposal pits
 - Partial capping by new building/parking area at former Industrial Process Line
 - Building demolition and removal of tanks
 - 14 other focused removal actions for soils and former sumps/catch basins



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Picatinny Arsenal, NJ

Site Environmental Investigations



Environmental Investigations



- Extensive investigations under CERCLA and other programs have been conducted at each of these sites between the 1990's and 2000's
- Environmental media (soil, groundwater, sediment, surface water) have all been analyzed
- Example: Site 17 Northern Tetryl Pits - Four environmental investigations conducted with over 150 soil samples collected, in addition to sediment samples, and groundwater samples

Site 17 Former Tetryl Pits

A photograph of a wooded area with a paved road in the foreground. The trees are bare, and the ground is covered in dry leaves and brush. The sky is blue.

Site 17 Former Tetryl Pits



Site 171 Ordnance Facilities



Site 148 Nitrocellulose Facility





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Picatinny Arsenal, NJ

CERCLA Risk Assessment and Applicable Regulations



CERCLA Requirements

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Picatinny Arsenal, NJ

- CERCLA sites are assessed through a site specific risk assessment process overseen and approved by the EPA
- Unacceptable health and ecological impacts are required to advance the site to any action
- None of these sites have unacceptable impacts for the current and anticipated use

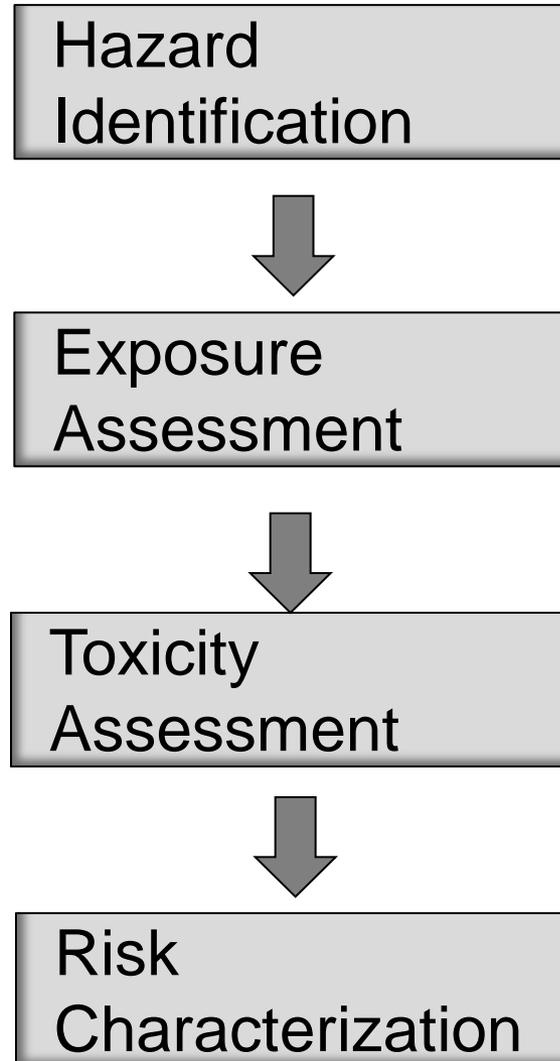


What is the Risk Assessment?

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Picatinny Arsenal, NJ





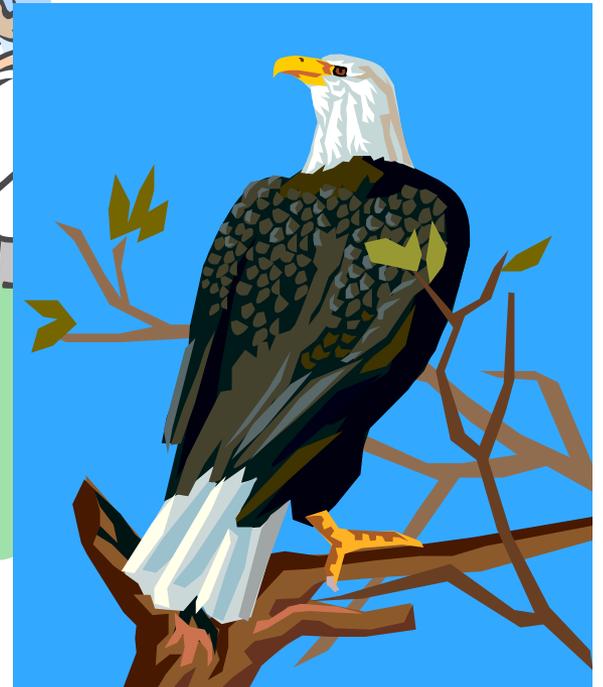
Hazard Identification



- Chemicals found in soils, sediment, surface water, and groundwater are screened against risk based criteria
- If above these conservative levels then they are advanced through to the quantitative risk assessment



Exposure Pathways





Exposure Assessment

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Picatinny Arsenal, NJ

- Assumes exposure across the site and not within one small area
- One elevated concentration on the site should not drive an action because it is not reasonable to assume a person spends their working life outside in a single small area
- CERCLA assesses risk for the current and anticipated future use—military/industrial



Toxicity Assessment

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Picatinny Arsenal, NJ

- Assesses the possible health affects of chemicals based on the dose and their toxicity



Risk Characterization

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Picatinny Arsenal, NJ

- Quantitative assessment of possible health risks based on the hazard assessment; exposure pathways; and toxicity assessment
- Acceptable cancer risk—1 in 10,000



Risk Assessment Results

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Picatinny Arsenal, NJ

- Based on the CERCLA process none of these sites have unacceptable health or ecological impacts for the current and anticipated use (Military/Industrial)
- However, they cannot be released for unrestricted use (residential) which assumes greater exposure



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Picatinny Arsenal, NJ

Recommended Action and NJDEP Regulations



Recommended Action



- No Further Action with Annual Reporting to EPA (and NJDEP) verifying that the land use has remained the same
- Picatinny has numerous site access controls in place as part of the general management of the Installation and these will apply at all of the sites included in this Proposed Plan



Recommended Action

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Picatinny Arsenal, NJ

- Selected action ensures conditions remain protective of human health and the environment
- CERCLA 5-year reviews will be conducted at these sites to ensure risk assumptions are still valid



“Soils Dispute”

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- Picatinny is a “Superfund Site” regulated under CERCLA
- Do the NJ State soil remediation standards apply to a CERCLA site with acceptable health risks for the current and anticipated use (military/industrial)?
- EPA and the Army have concurred that the NJ State soil remediation standards do not and the proposed remedy for these sites is No Further Action with Annual Monitoring
- DEP is not in agreement with this decision and will not concur with the remedy



CERCLA vs NJDEP

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Picatinny Arsenal, NJ

- CERCLA is a site specific risk based program based on a trigger threshold of additional cancer risk of 1 in 10,000
- NJDEP regulation is a compliance based program requiring clean up of anything above standards calculated based on general exposure assumptions and a trigger threshold of additional cancer risk of 1 in 1,000,000



CERCLA vs NJDEP

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Picatinny Arsenal, NJ

- Because of these differences although the Army and EPA are in agreement that under CERCLA there is no risk trigger for an action, NJDEP in some cases does not agree.
- This is a CERCLA site and that program is the driving regulation



What's Next?

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Picatinny Arsenal, NJ

- Public Comment on the proposed remedy will be evaluated
- Comments will be addressed in the Record of Decision (ROD)
- A Remedial Design will present how this proposed remedy will be implemented



Proposed Plan

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Picatinny Arsenal, NJ

- Copies of the Proposed Plan are available for review at:
 - Rockaway Township Library (973) 627-2344
61 Mount Hope Road
Rockaway Township, NJ 07866
 - Mon. – Fri. 9 am – 9 pm
 - Sat. 9 am – 5 pm
 - Sun. 1 pm – 4 pm

 - Morris County Library (973) 285-6930
30 East Hanover Avenue
Whippany, NJ 07981
 - Mon. – Thur. 9 am – 9 pm
 - Fri. – Sat. 9 am – 5 pm
 - Sun. noon – 5 pm



Public Comment Period

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Picatinny Arsenal, NJ

- Written comments accepted until April 6 2013
- Send to
Mr. Ted Gabel
IMPI-PWE
Environmental Affairs Division Building 319
Picatinny, NJ 07806
- Email to
ted.b.gabel.civ@mail.mil



Site Information

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Picatinny Arsenal, NJ

- The 26 industrial sites are scattered throughout the Arsenal and range in size from less than an acre to several acres
- Most are no longer active and many of the structures have been demolished



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Picatinny Arsenal, NJ

Included Sites

- Site 69 Surveillance Labs
- Site 117 Precision Machine shop
- Site 123 Metal Plating Shop
- Site 187 Oil and Acid Storage
- Sites 207 Lumber and Pipe Shed
- Site 60 Photography Lab
- Site 145 Propellant Mixing Area
- Sites 53,95,96 Waste Oil Fac.
- Site 134 Service Shops
- Site 136 Metallurgy Lab
- Site 185 Applications Lab
- Site 175 Helicopter Support Fac.
- Site 172 Parking Area (bld. 3328)
- Site 173 Propellant Testing Lab
- Site 174 Old Sewage Plant
- Site 186 Firehouse
- Site 176 Little League Baseball Fld.
- Site 177 Sewer Line Breaks
- Site 7 Propellant Test Area
- Site 10 Chemical Burial Pit
- Site 164 General Purpose Magazine
- Site 27 Salt Storage Area
- Site 119 Storage Magazines
- Site 121 Storage Magazine
- Site 208 Former Dog Pound



Former Site Uses

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Picatinny Arsenal, NJ

Laboratory/Testing Facilities (3)
Machine and Maintenance Shops (4)
Plating Shop (1)
Storage Facilities (5)
Munitions Loading and Manufacture (2)
Laundry (1)
Helicopter Maintenance Facility (1)

Sewage Pump House/Sewer Line (2)
Baseball Field (1)
Disposal Area (1)
Salt Storage Area (1)
Refrigeration unit (1)
Former magazines (3)
Former rifle range (1)
Parking Area (1)



Path Forward

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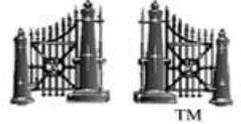


Picatinny Arsenal, NJ

- Many of these sites are similar to the sites discussed tonight
- Feasibility Study is complete
- Draft Proposed Plan is prepared
- Public Meeting will be scheduled Summer 2013

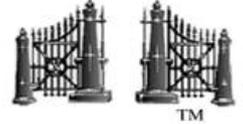


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Picatinny Arsenal

Update-in-a-Minute
Installation Restoration Program
27 March Presentation to the
Picatinny Arsenal
Restoration Advisory Board



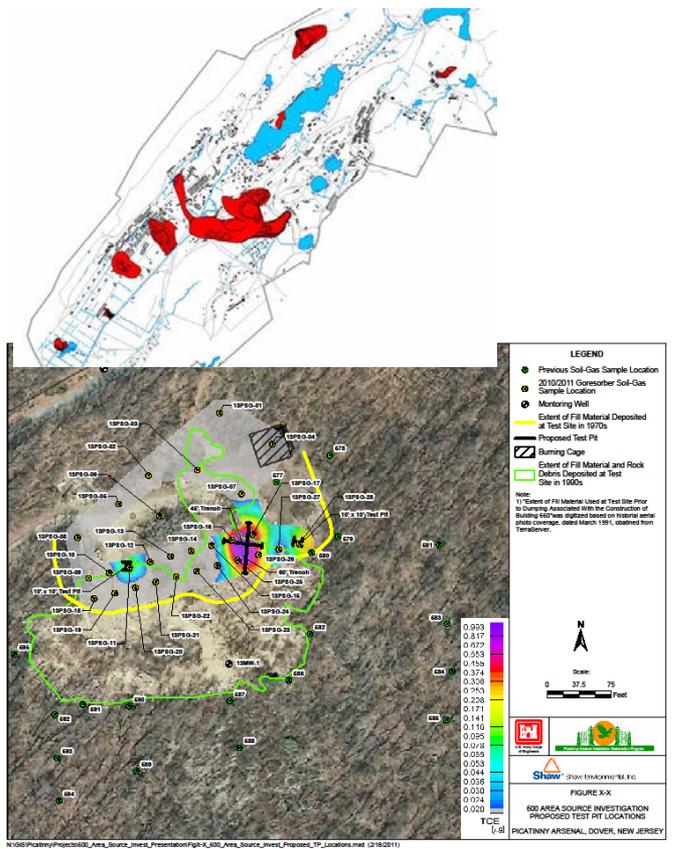
Status of Investigations

Most Installation Restoration Program Remedial Investigations considered complete

- **Continued Groundwater and Surface Water Monitoring:**
 - Area D (Downtown Picatinny) Groundwater Plume
 - Area E (Building 95) Groundwater
 - Post Farm Groundwater
 - Area B (near Truck Gate) Groundwater
 - Green Pond and Bear Swamp Brook
 - Area C or Southern Boundary Groundwater
 - Group 1 (800 Area),
 - Group 3 (3500 Area) and
 - Site 78 (Building 91)
- **Former Skeet Range Remedial Investigation Report considered approved. Next step would be Feasibility Study but finding of MMRP adds uncertainty to procurement. Contracting package needs to be bundled with other.**
- **MidValley Groundwater Plume Vapor Phased Intrusion Report approved with one building left.**
- **600 Hill Groundwater Plume: Army to provide report. VI study completed and approved. Army installed well/boring at an upgradient location as requested by NJDEP. Results showed no TCE, so boring will be closed.**
- **Lake Picatinny sampling as required by NJDEP and EPA delayed until Spring.**

Source of TCE in 600 Hill Groundwater identified

Plan ahead:

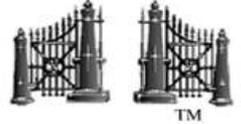


- FS in Nov to include alternatives for removals of TCE and TCE and munitions
- Installed well as the NJDEP required- Did not change the FS
- Contract out in FY 13 or FY 14 for the remediation



Status of Feasibility Studies (FSs)

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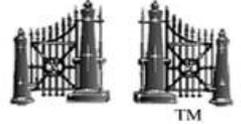
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- **600 Hill Groundwater to be submitted by May**
- **Lake FS: Document will need to be revised (once again) based on sampling results**
- **25 Site, PICA 111 Sites, Non-Lakes FS, 45 Site FSs: Ready to move based on agreement with the EPA**
- **5 Site FS: Issue needs resolution**



Status of Current Draft Proposed Plans

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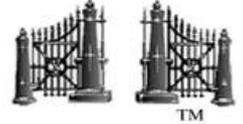
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- **26 Site NFA Proposed Plan: Public comment period underway**
- **600 Hill GW Proposed Plan: Awaiting results of investigation**
- **PICA 111 Proposed Plan: Being modified based on the model of the 26 Site PP**



Status of Records of Decision

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Picatinny Arsenal

- **Signed RODs, Implemented:**

- Site 20/24 considered complete except LUC monitoring
- Post Farm: Action is considered complete except for monitoring
- Green Pond/ Bear Swamp Brook: Only monitoring remains
- Area D Groundwater: Permeable Reactive Barrier monitoring continues
- Site 25/26: ICs and vegetative cover considered complete
- Site 180 ROD: Complete except LTM
- Area E Groundwater: Consider complete except for the MNA monitoring
- 13 Sites Institutional ROD PICA 20- Approved by EPA, LUC ongoing
- Site 61/104 considered complete
- Area B Groundwater: Considered *Remedy* in Place
- Site 31/101 DRMO Yard:
- Southern Boundary/Area C
- Group 1 GW and soils
- Group 3 GW and surface water
- Site 78, PICA 13 GW and SW
- MidValley Groundwater

- **Next up**

- 26 Sites NFA Record of Decision

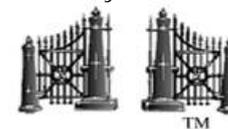
- **Signed now being implemented**

- **Former Burning Grounds (PICA 02): Incinerator operating and new burning grounds open. Remedial Design will be submitted next calendar Year. Contractual issues need to be resolved.**

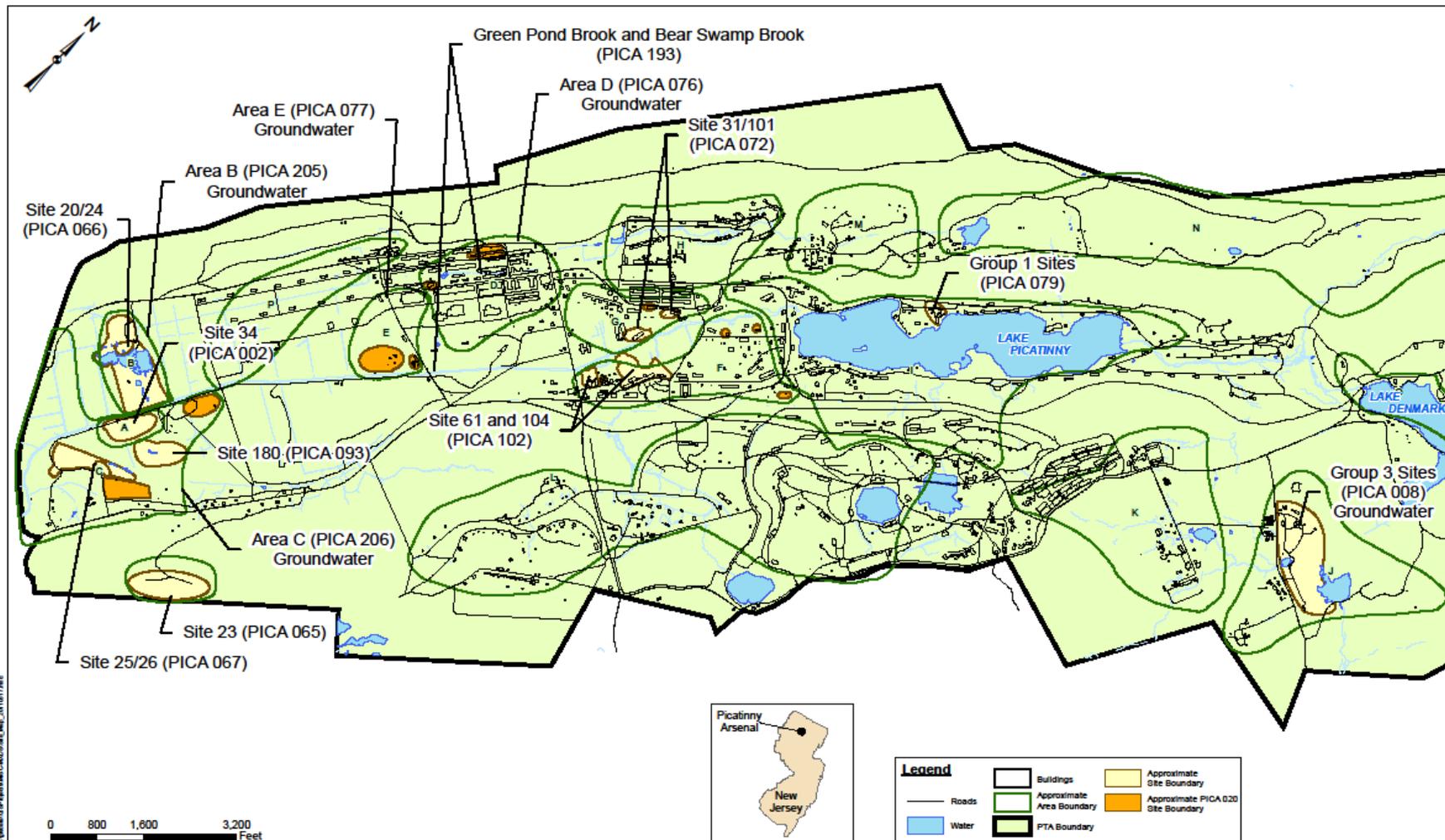


Sites with signed Records of Decision

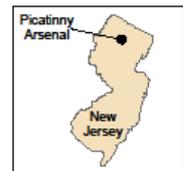
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Picatinny Arsenal



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Legend	
	Buildings
	Roads
	Water
	Approximate Site Boundary
	Approximate Area Boundary
	Approximate PICA 020 Site Boundary
	PTA Boundary

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REMEDIAL LOCATIONS PICATINNY ARSENAL, DOVER, NEW JERSEY

PROJECT MANAGER J. L. BULLOCK	DEPARTMENT MANAGER M. HANSEN
DRAWN J. BULLOCK	CHECKED J. BULLOCK
	DRAWN NUMBER 1-1

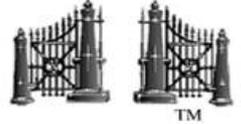
Remedial Designs

- Mid-Valley Groundwater Remedial Design: essentially approved by regulators
- Former Burning Ground Remedial Design: still in Procurement



Remedial Action Reports & Long Term Monitoring Reports

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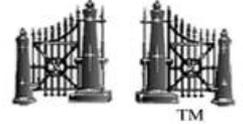
Picatinny Arsenal

- **Post Farm**
- **Site 180**
- **Site 25/26**
- **Area B GW**
- **Area E GW**
- **Area D GW**
- **Green Pond Brook/Bear Swamp Brook**
- **Site 104/61 Report**
- **Area C GW Interim**
- **Former DRMO Yard Remedial Action**
- **Group 1 GW**
- **Group 3 GW**
- **PICA 13/Site 78 GW**
- **LUC Annual Certification**



Programmatic Developments

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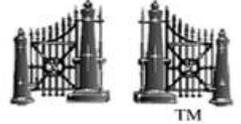


Picatinny Arsenal

- **Budget for FY 13 set: FY 14 is a major effort**
- **Community Involvement Plan Revised**
- **Classified Exemption Area Report**
- **DSMOA (Mechanism to fund the NJDEP): 2-year Joint Execution Plan (JEP) for 2012-2014 submitted by Picatinny and approved**
- **2012 Installation Action Plan**



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Picatinny Arsenal

INSTALLATION MANAGEMENT COMMAND



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“Sustain, Support and Defend”