Fort George G. Meade

Operable Unit No. 4 – Status Update
(Performance Based Acquisition #2)

Restoration Advisory Board Meeting
July 15, 2010

John Cherry—ARCADIS APM

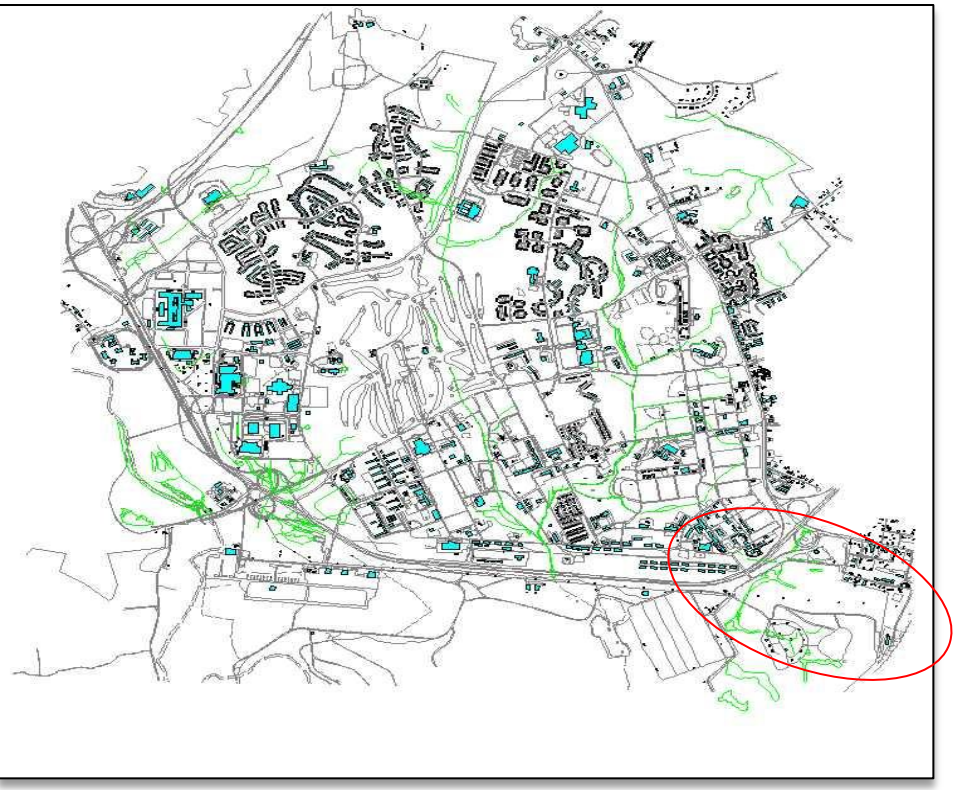
Tim Llewellyn—ARCADIS PM

Operable Unit-4 & LPA

TOPICS

- Contract objectives and site status overview
- Review of draft regional geologic structure
- Summary of on-going and planned Remedial Investigation (RI) activities (On- and Off-Post)
- Collaborative decision making with EPA & MDE
- Next Steps

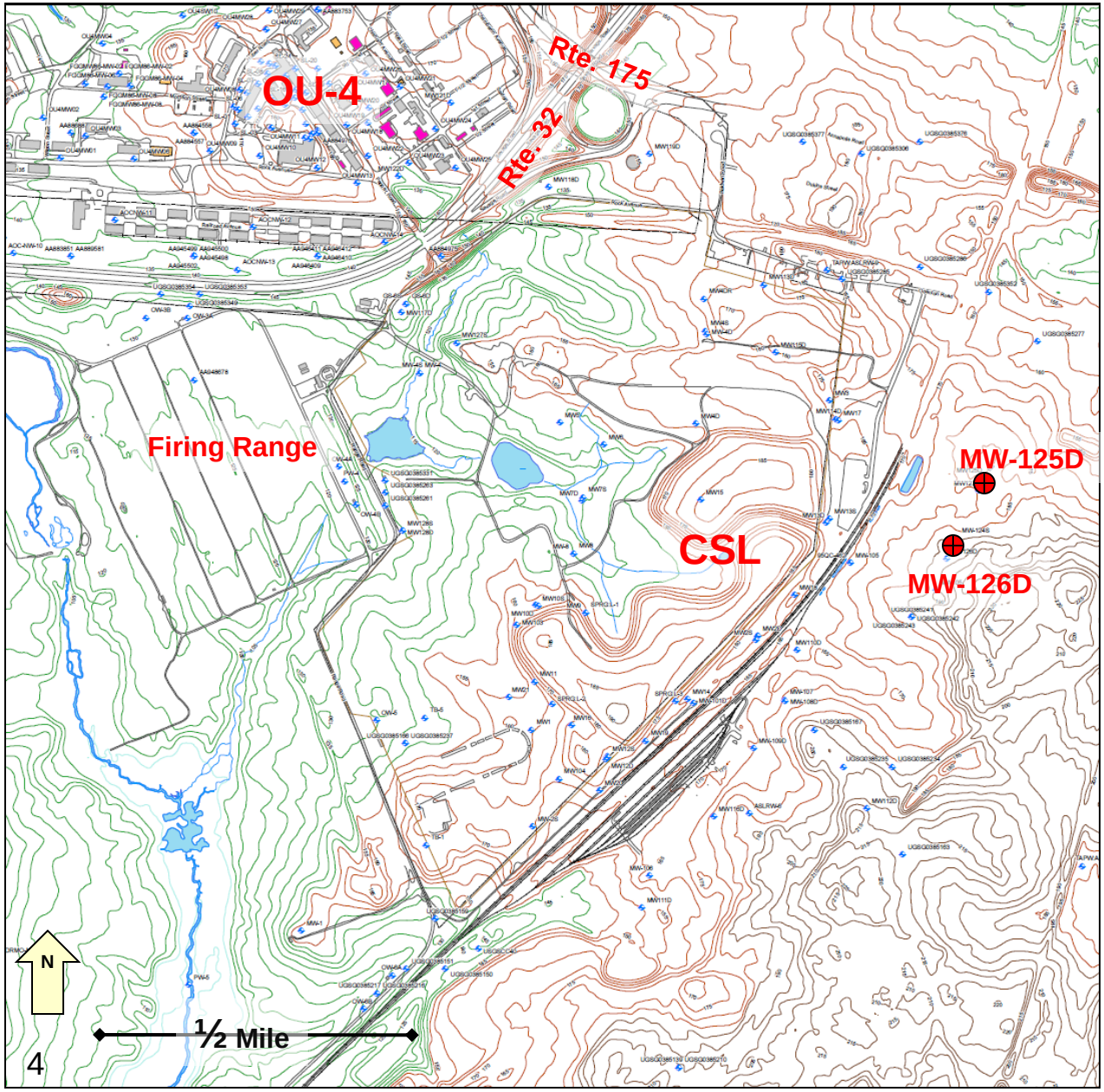
Operable Unit-4 & LPA



PBA #2 CONTRACT OBJECTIVES FOR OU-4

- Decision Document for OU-4
- Delineation Report for Lower Patapsco Aquifer (LPA) Contamination
- Remedy-in Place at OU-4 and LPA

OU-4 & LPA – Overview



GW contamination found in off-post wells (CCl_4, PCE, TCE) MW-126D

Potential off-post receptors include private wells

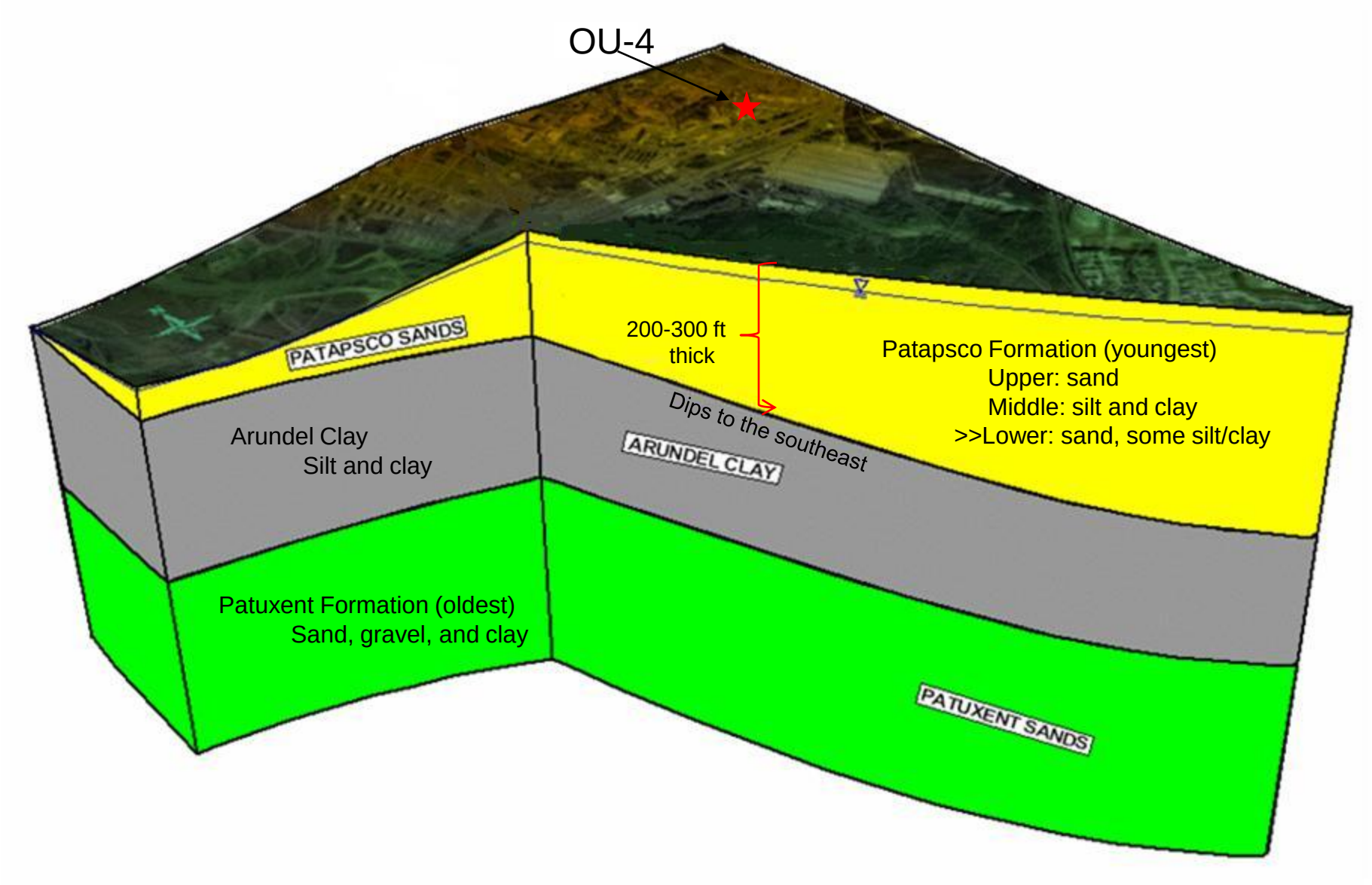
Off-post Interim Measures underway

Connection between OU-4 and off-site LPA groundwater contamination appears evident

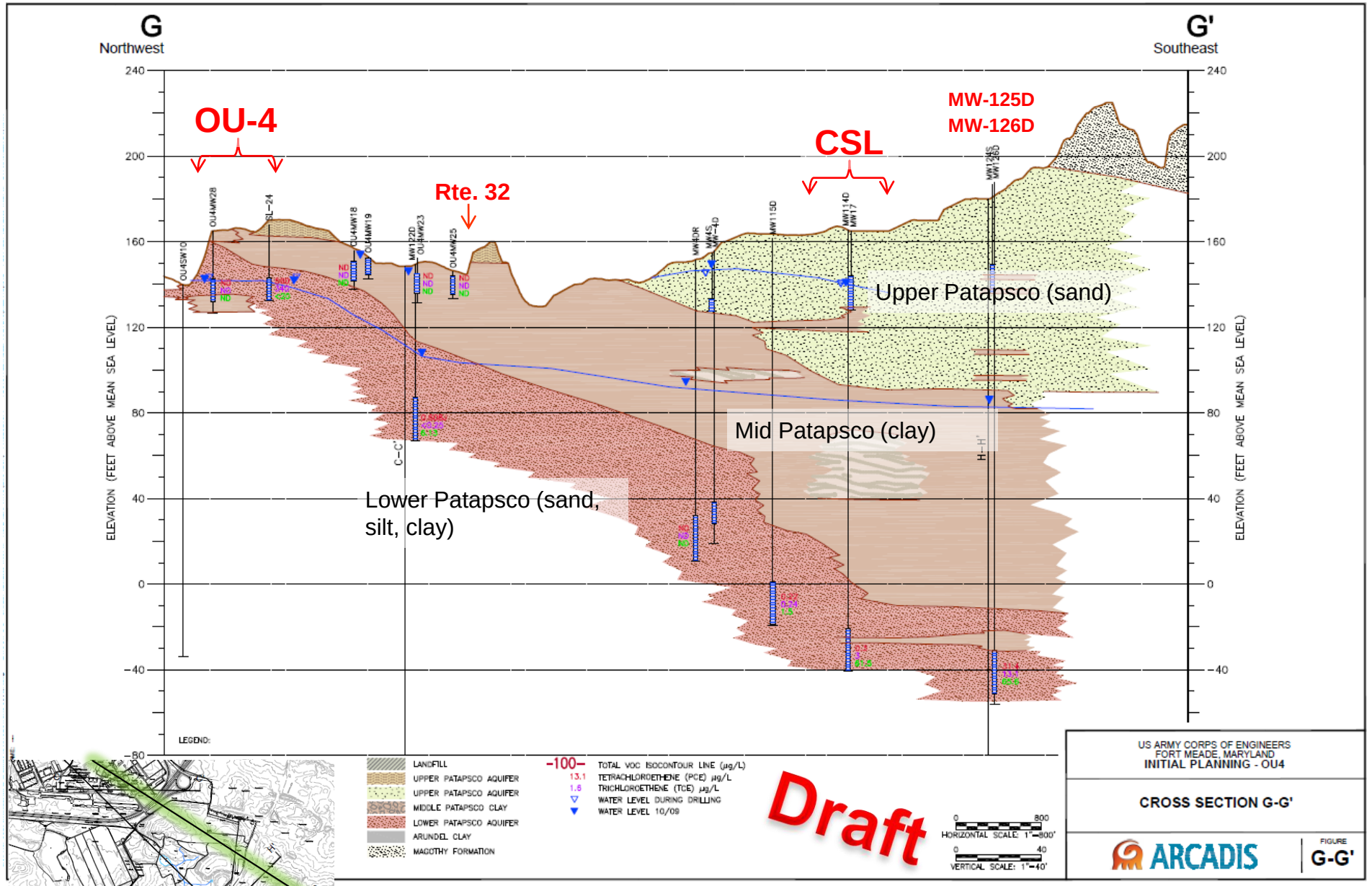
Potential PCE/TCE sources identified in OU-4

Elevated CCl_4 detected downgradient of OU-4

Regional Geologic Structure

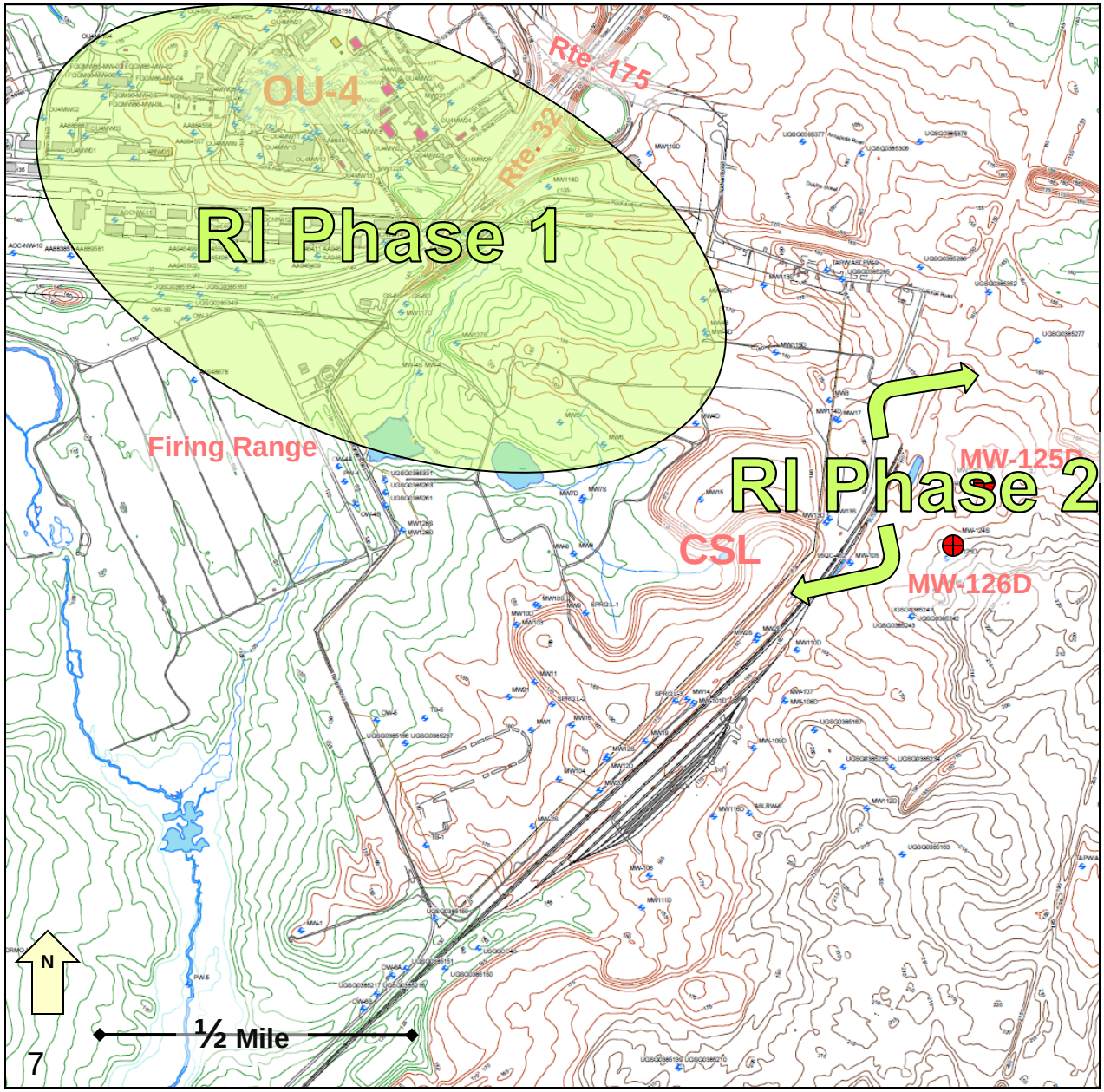


ARCADIS



- Surficial geology map and cross sections prepared based on thorough evaluation of all existing data.
- On-going drilling investigations will address data gaps.

OU-4 & LPA – Work Plan



Two supplemental Remedial Investigation (RI) phases in progress.

RI Phase 1 *(On-going)*

Approx. 40 borings in OU-4 area and south of Rte. 32

-Source evaluation, deep delineation

-Monitoring well construction

RI Phase 2 *(Sept?)*

Deep rotasonic borings, vertical aquifer profiling, monitoring well construction

Regular technical calls with EPA and MDE

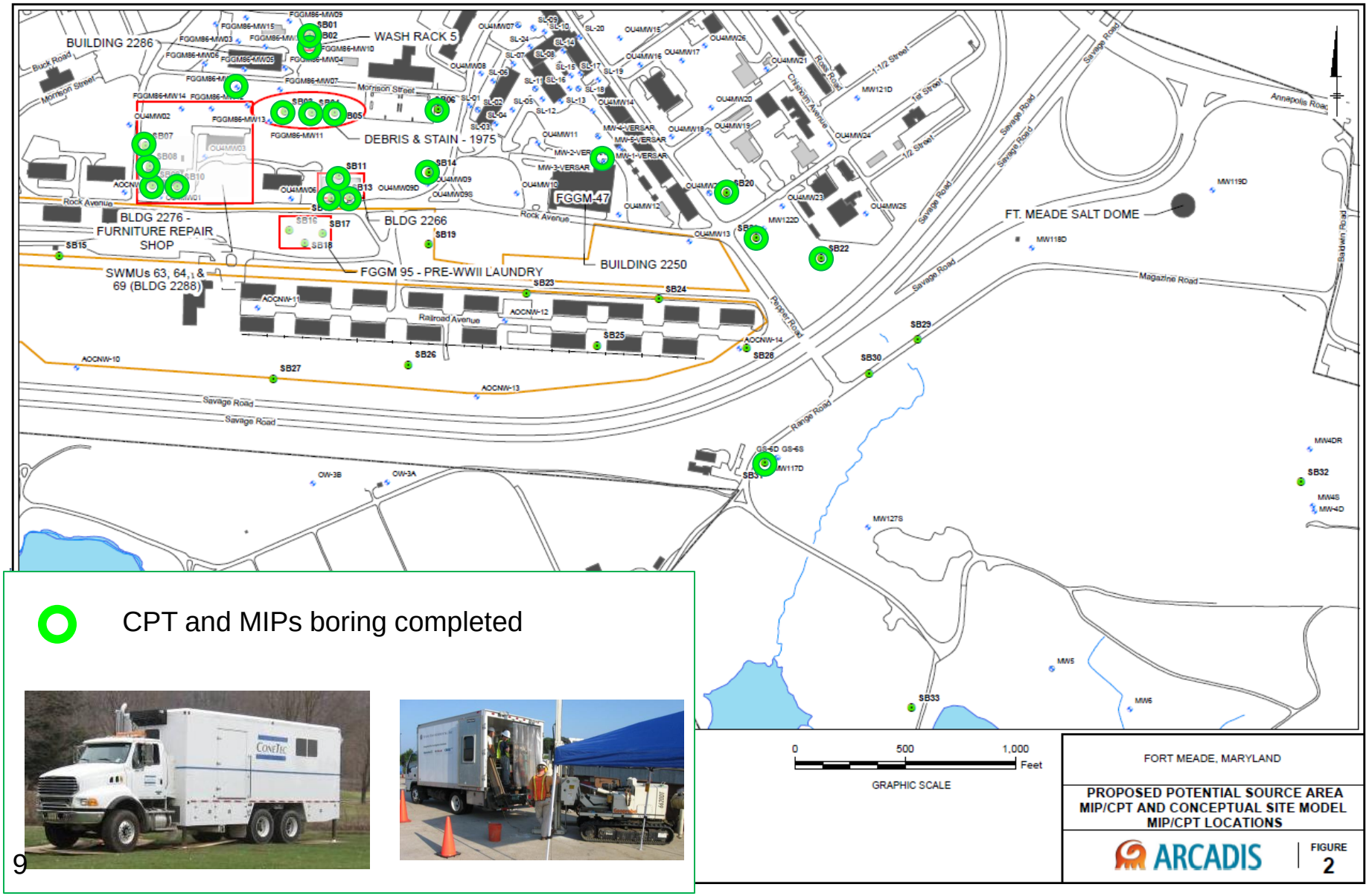
Remedial Investigation Equipment

- Cone penetrometer (CPT)

- Direct Push (Geoprobe) and Membrane Interface Probe (MIPs) rig

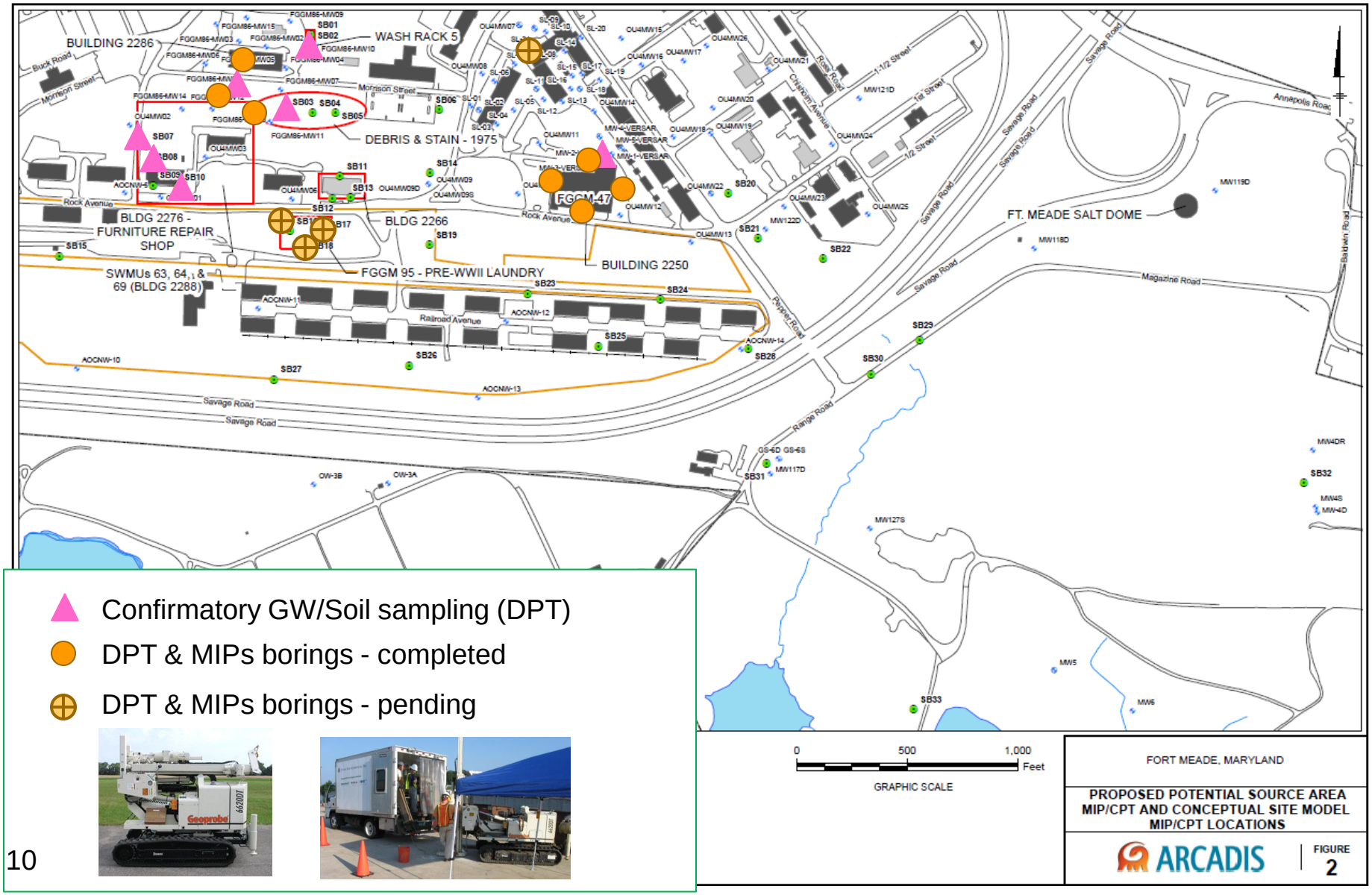
- Rotasonic drill rig

RI Phase 1: CPT & MIPs - Completed



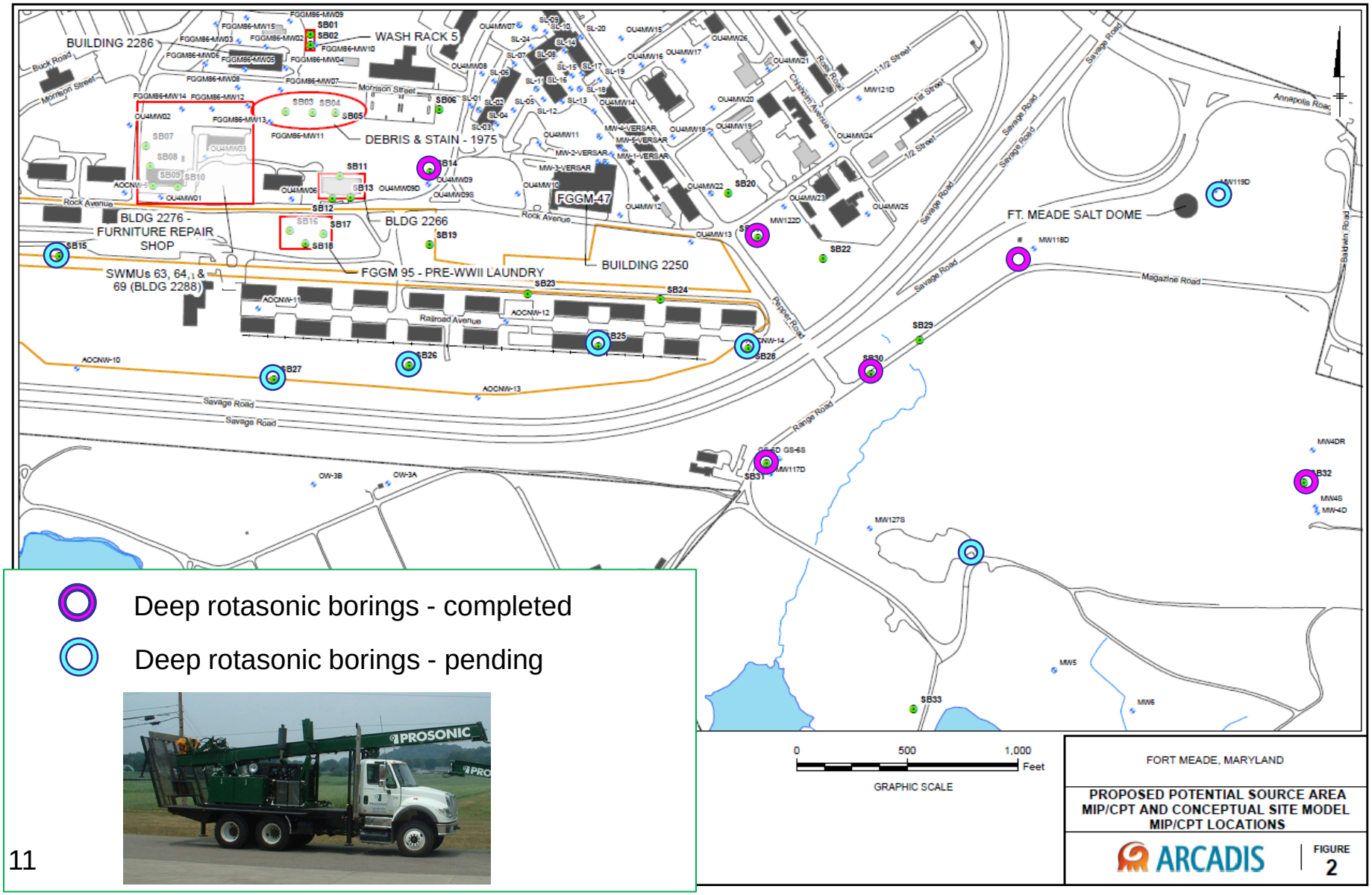
CPT and MIPs boring completed

RI Phase 1: Confirmatory GW/Soil Sampling and Supplemental DPT & MIPs borings



RI Phase 1: Rotasonic drilling and vertical aquifer profiling

(currently on-going)

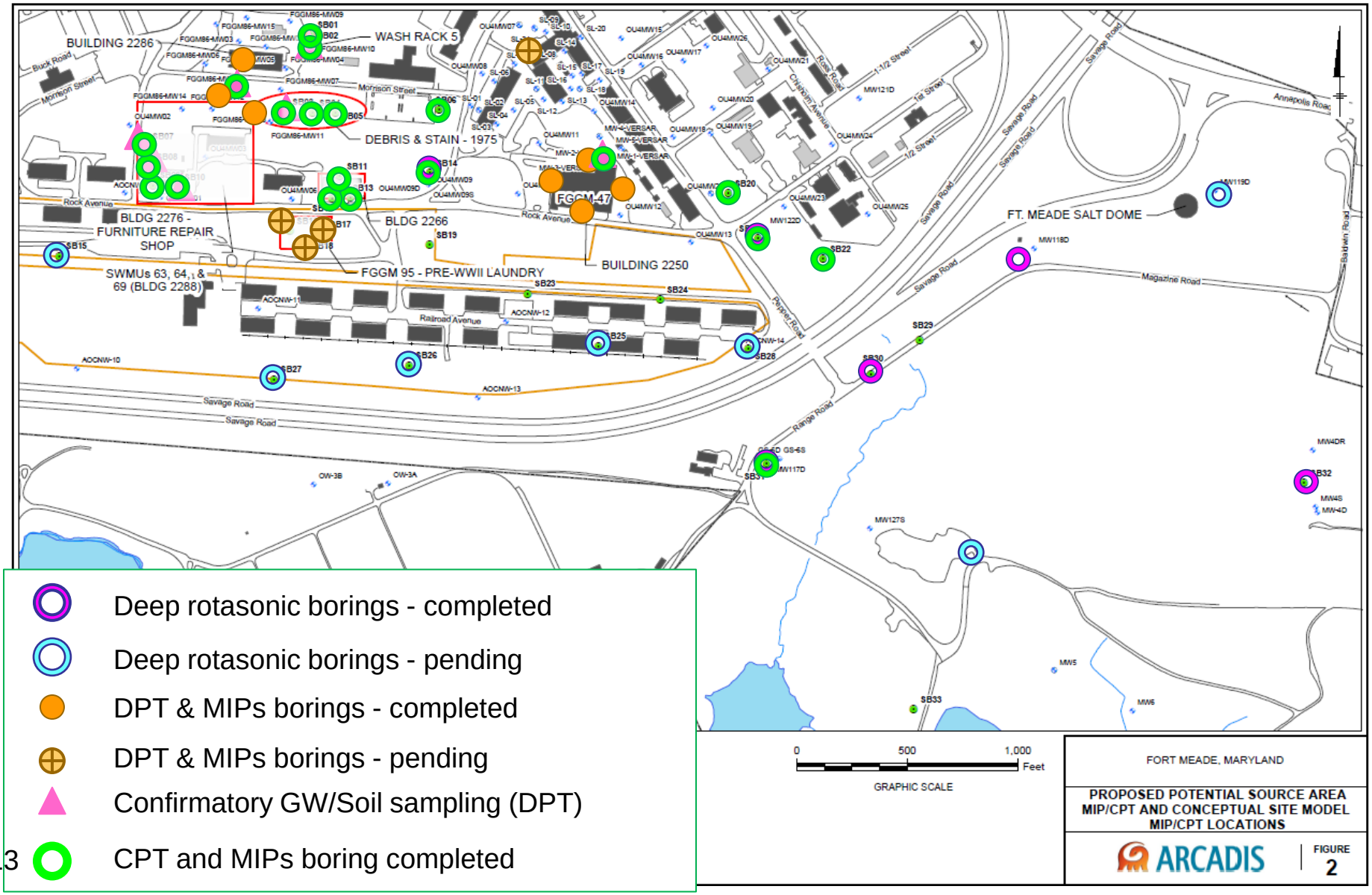


Rotasonic Drilling

Continuous cores for detailed logging to 250+ ft bgs

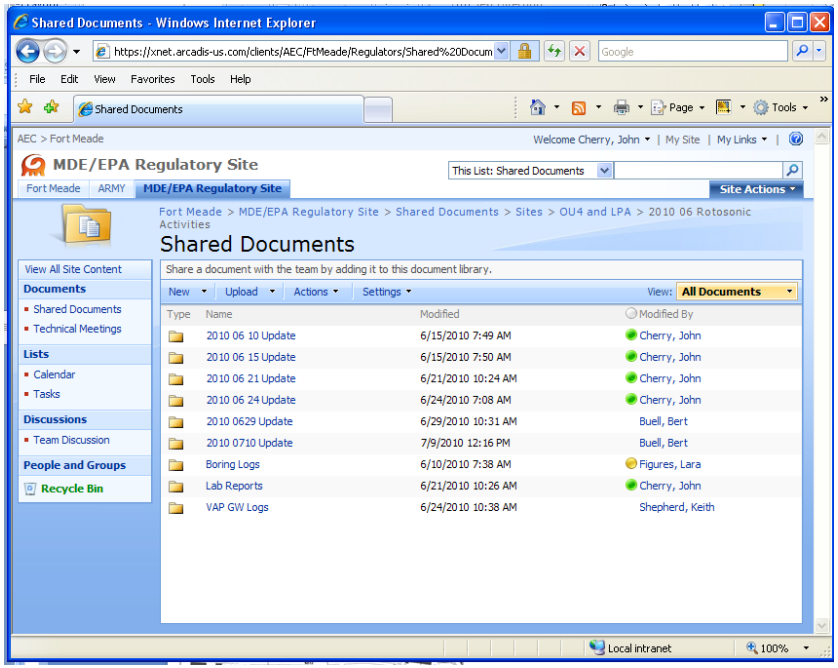
Multi-depth groundwater sampling for vertical aquifer profiling

RI Phase 1: Summary of Completed and Pending OU-4 RI Activities



EPA & MDE Collaboration

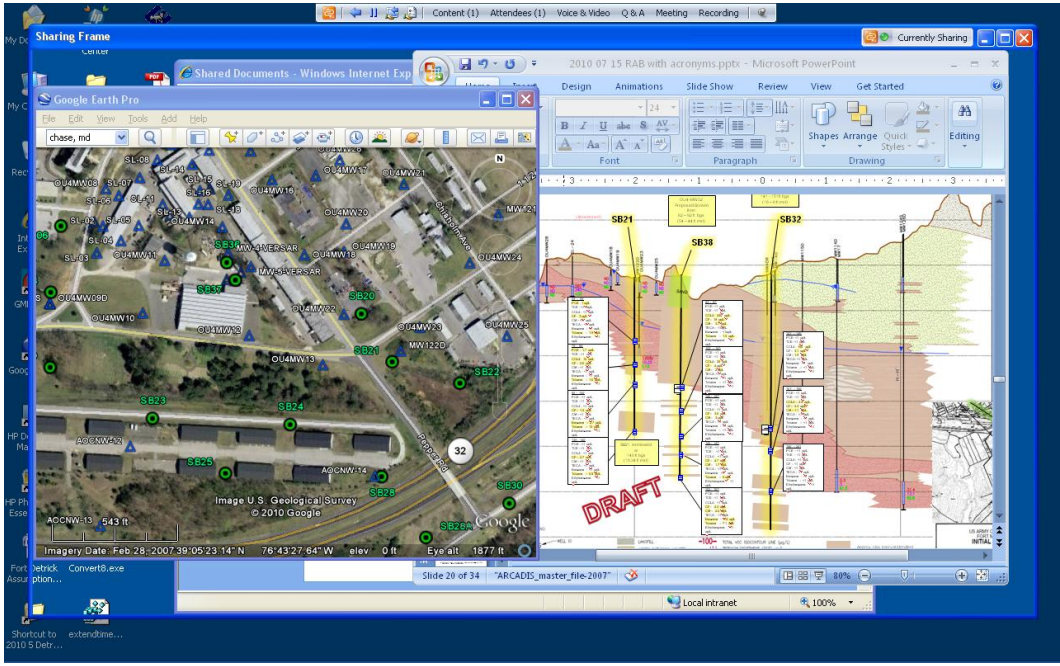
Dedicated Sharepoint Site



Information repository makes site data readily available:

- Boring logs
- Figures
- Laboratory reports

LiveMeetings

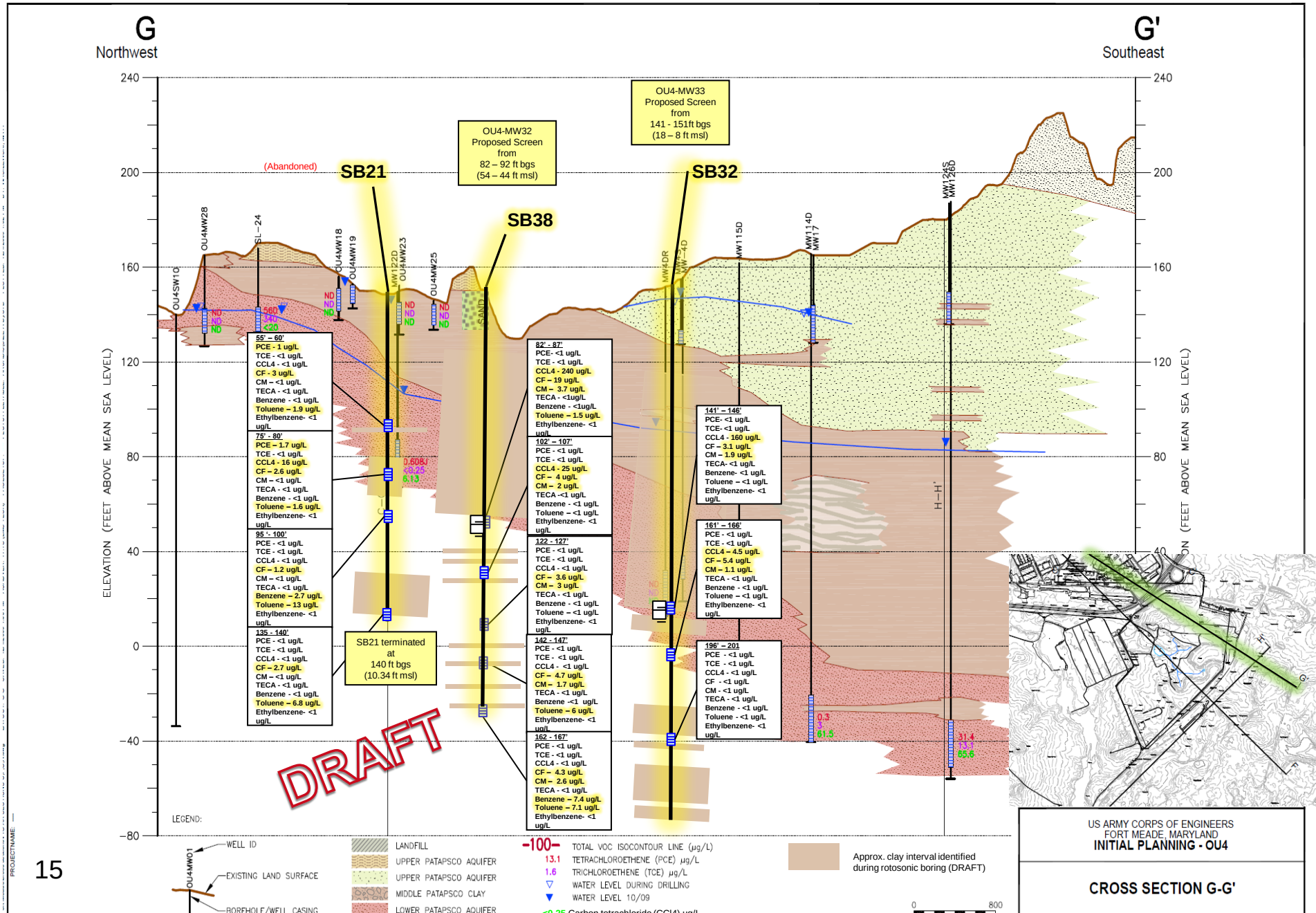


Virtual desktop sharing to enhance conference calls.

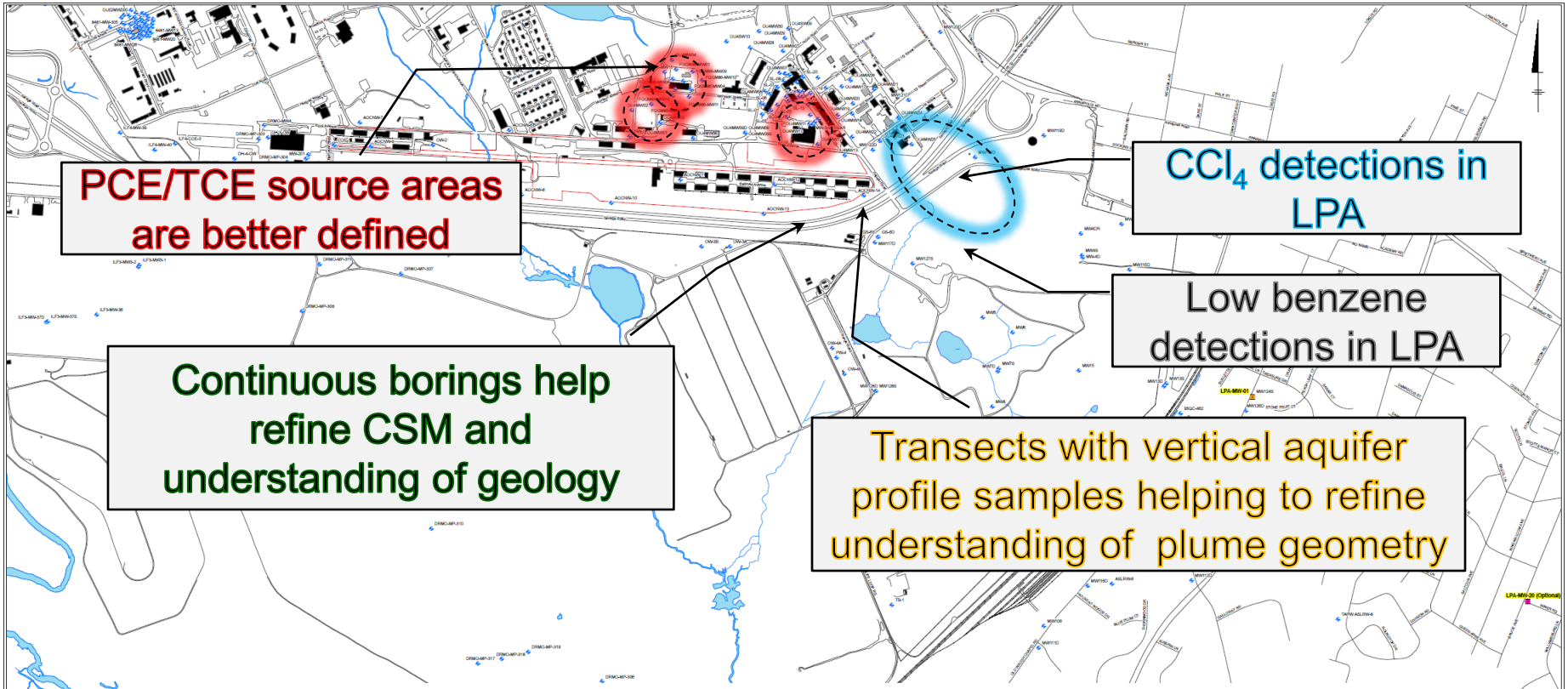
Real-time decisions:

- Boring depths
- Well construction specifications
- Scope modifications

Example of Annotated Cross-Section Used During LiveMeeting Discussions



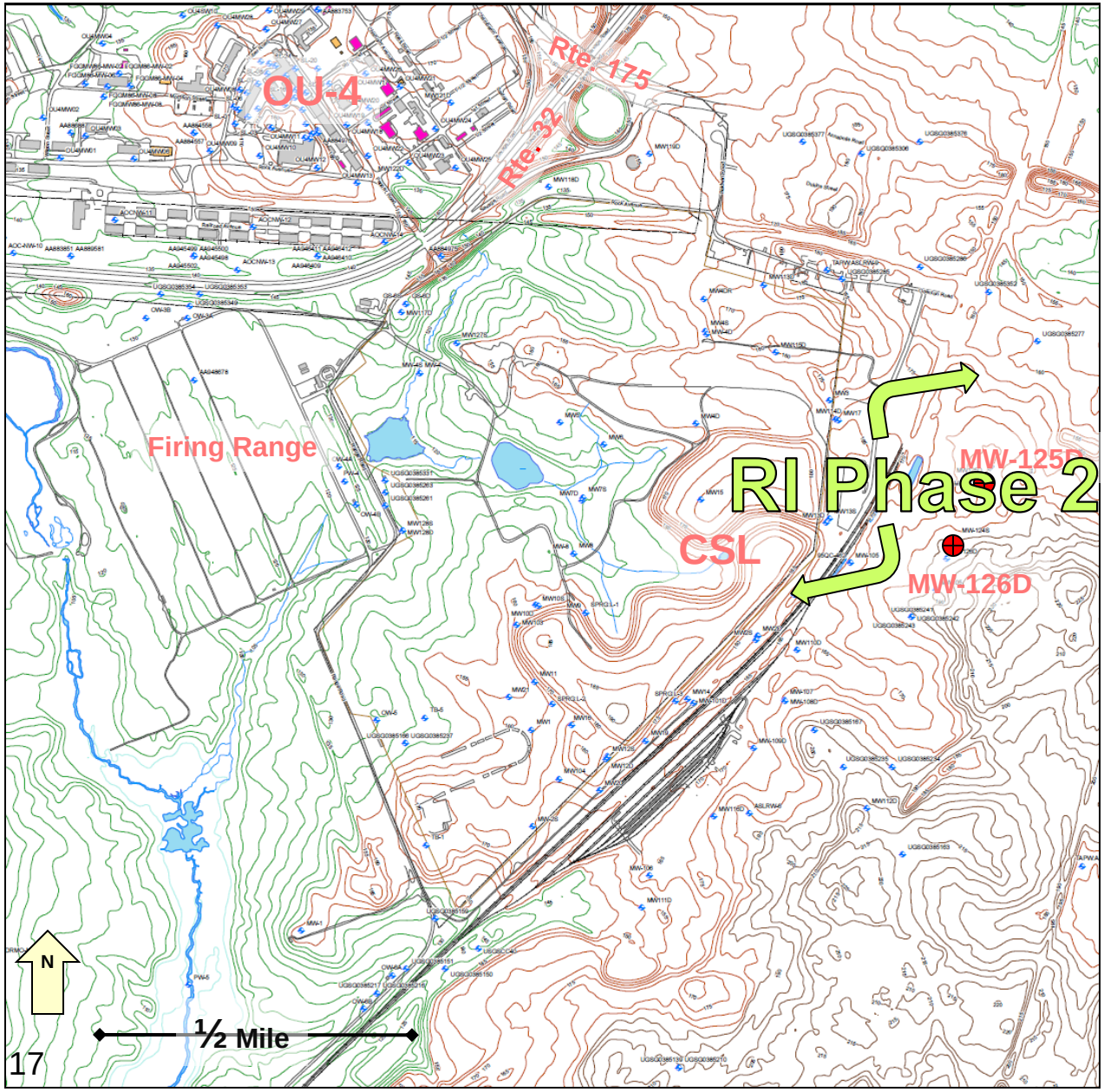
RI Phase 1: Preliminary Observations



Remaining Phase 1 Tasks:

- MIPs investigation around Former Laundry
- Additional rotosonic borings south of Rt. 32 and on AOC property
- Monitoring well construction, surveying, gauging, & sampling
- Thorough evaluation of complete data package; update CSM based on borings and analytical data

RI Phase 2: Off-Post LPA Investigation



Focus Area:
LPA/downgradient/off-post

Phase Objectives:
Plume delineation
(vertical, lateral, downgradient)

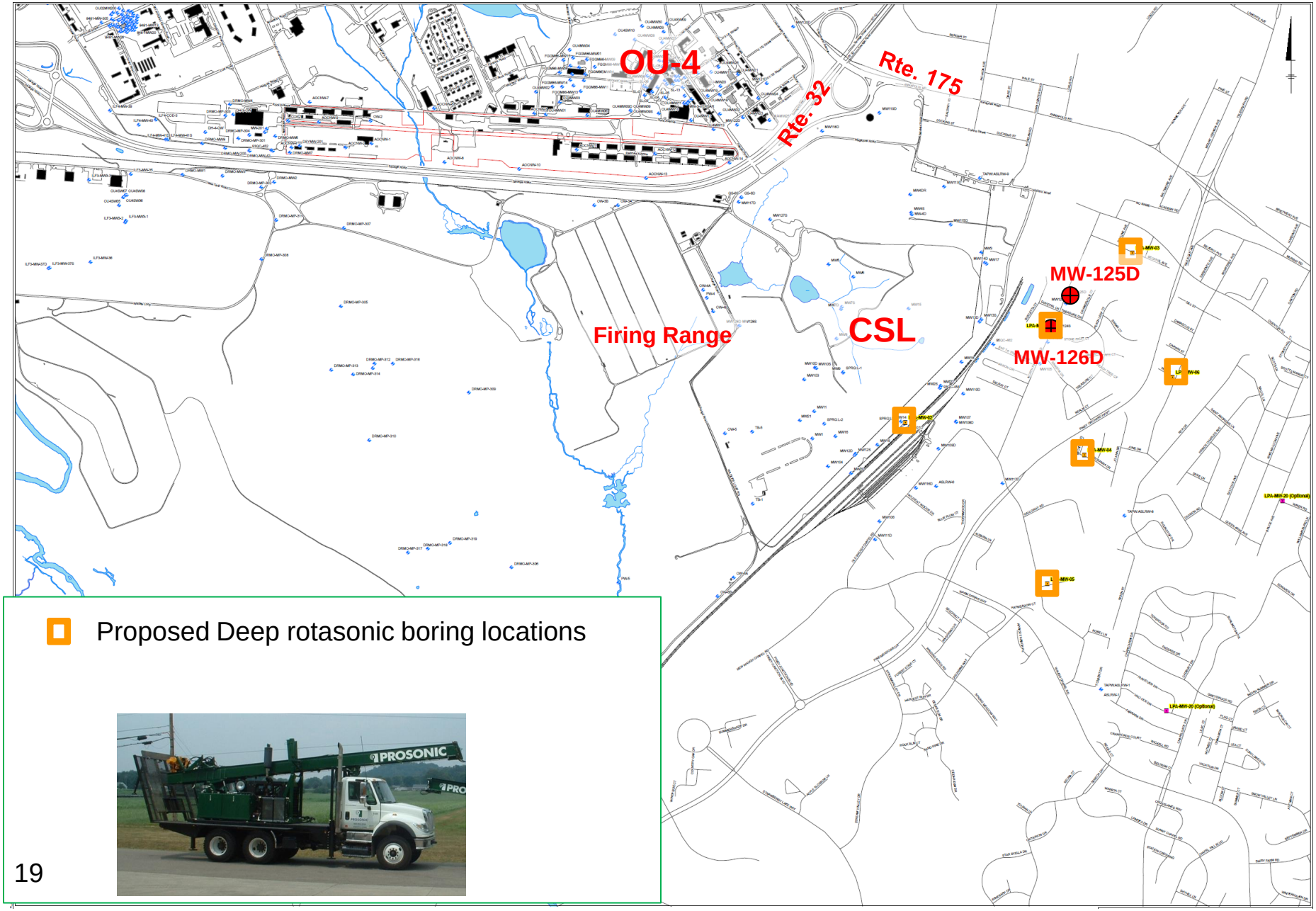
Approach:

- Rotasonic drilling; vertical profiling; monitoring well installation; frequent communication.

RI Phase 2: LPA Investigation Overview

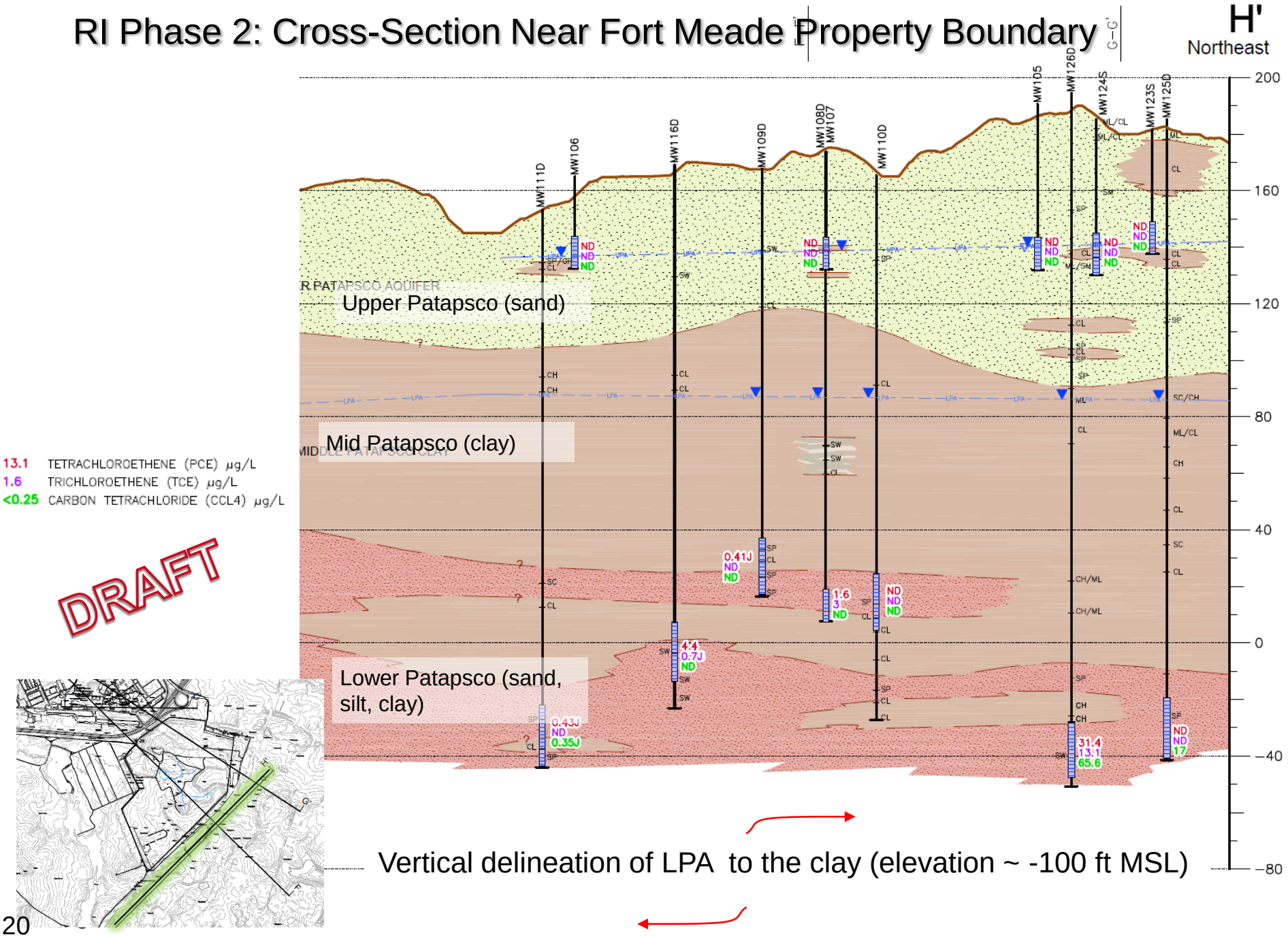
- Multi-level groundwater sampling in the LPA at multiple boring locations.
- Six boring locations identified based on data from existing wells, groundwater flow directions, travel times.
- Borings to be advanced to the Arundel Clay
- Two additional downgradient borings may be required.

RI Phase 2: Off-Post Well Locations



- Proposed Deep rotasonic boring locations

RI Phase 2: Cross-Section Near Fort Meade Property Boundary



Off-Post Drilling - Status

- Right-of-way (ROW) coordination with Anne Arundel County.
  - ROW application submitted to County on 7/12/10
  - Permit conditions to include drilling schedule restrictions.
- Public notification (newspaper notices, direct mailings, community meeting) – to be conducted in the weeks leading up to the start date
- Technical status calls with EPA/MDE to discuss progress and decision points will continue.
- Phase 1 (OU4) and Phase 2 (Off-post) results will be incorporated into the RI report

OU-4 & LPA – Next Steps

Summer 2010 – Complete RI Phase 1 (On-Post Investigation)

Fall 2010 – Complete RI Phase 2 (Off-Post Investigation)

Early 2011 – Finalize RI/FS

Mid 2011 – Finalize Proposed Plan

Acronyms and Abbreviations

AOC	Architect of the Capitol
APM	Assistant Project Manager
BGS	Below ground surface
BTEX	Benzene, toluene, ethylbenzene, xylene
CCl_4	Carbon tetrachloride
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CPT	Cone penetrometer
CSL	Closed Sanitary Landfill
CSM	Conceptual Site Model
DD	Decision Document
FGGM	Fort George G. Meade
FS	Feasibility Study
FT	Feet
FY	Fiscal Year
GW	Groundwater
ID	Identification
LPA	Lower Patapsco Aquifer
MCL	Maximum Contaminant Level
MIP	Membrane interface probe
MPC	Mid Patapsco Clay
OU-4	Operable Unit No. 4
PBA	Performance-Based Acquisition
PCE	Tetrachloroethene
PM	Project Manager
PPB	Parts Per Billion
RAB	Restoration Advisory Board
RAR	Remedial Action Report
RC	Response Complete
RI	Remedial Investigation
RIP	Remedy-in-Place
SL	Soil
TCE	Trichloroethene
UPA	Upper Patapsco Aquifer
µg/L	micrograms per liter
VOCs	Volatile Organic Compounds

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