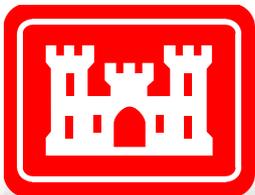




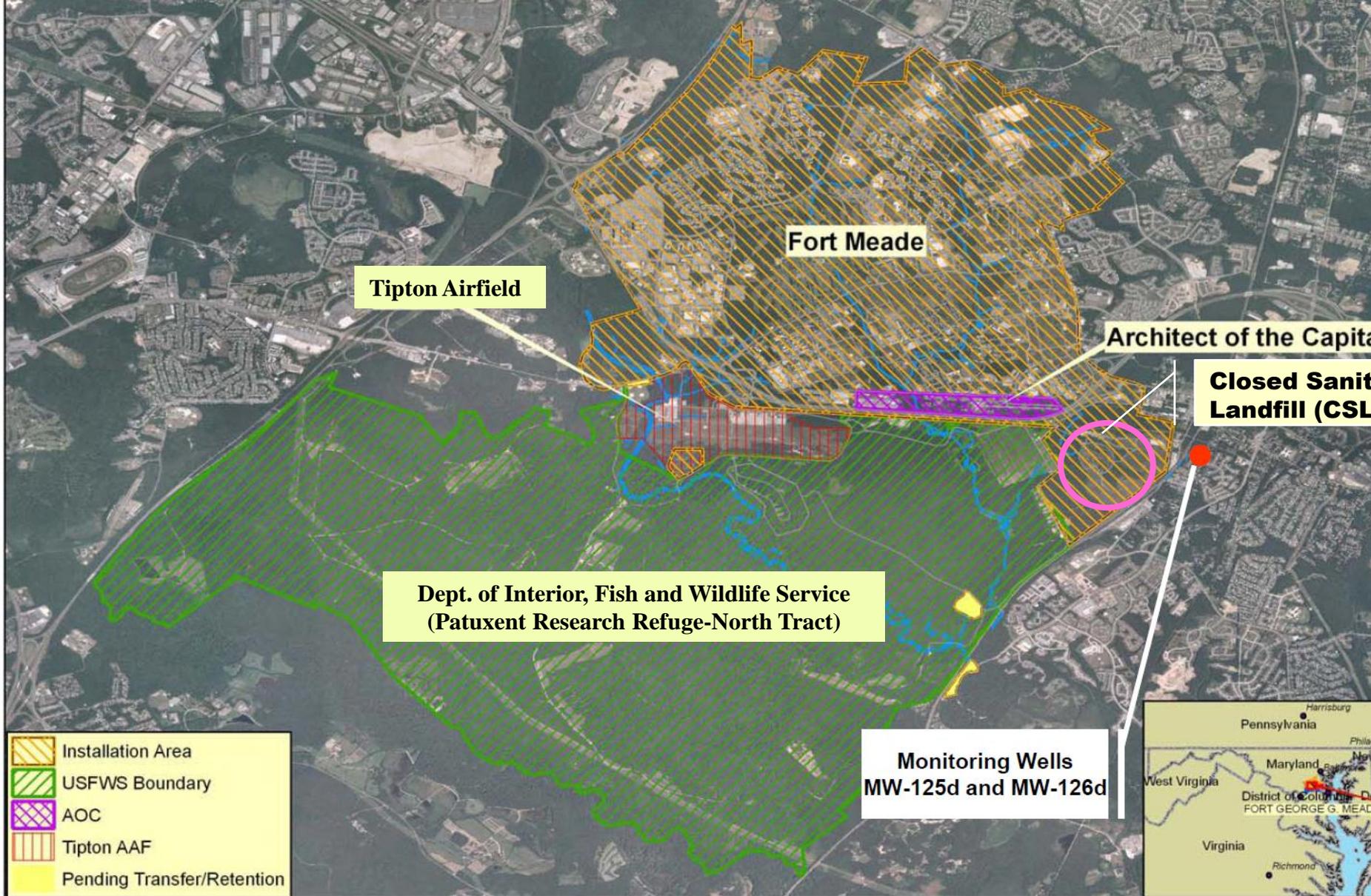
# Fort George G. Meade

## Groundwater Contamination, Odenton, MD Interim Measures Overview

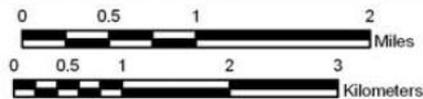
Restoration Advisory Board Meeting  
May 21, 2009



ARMY STRONG.™

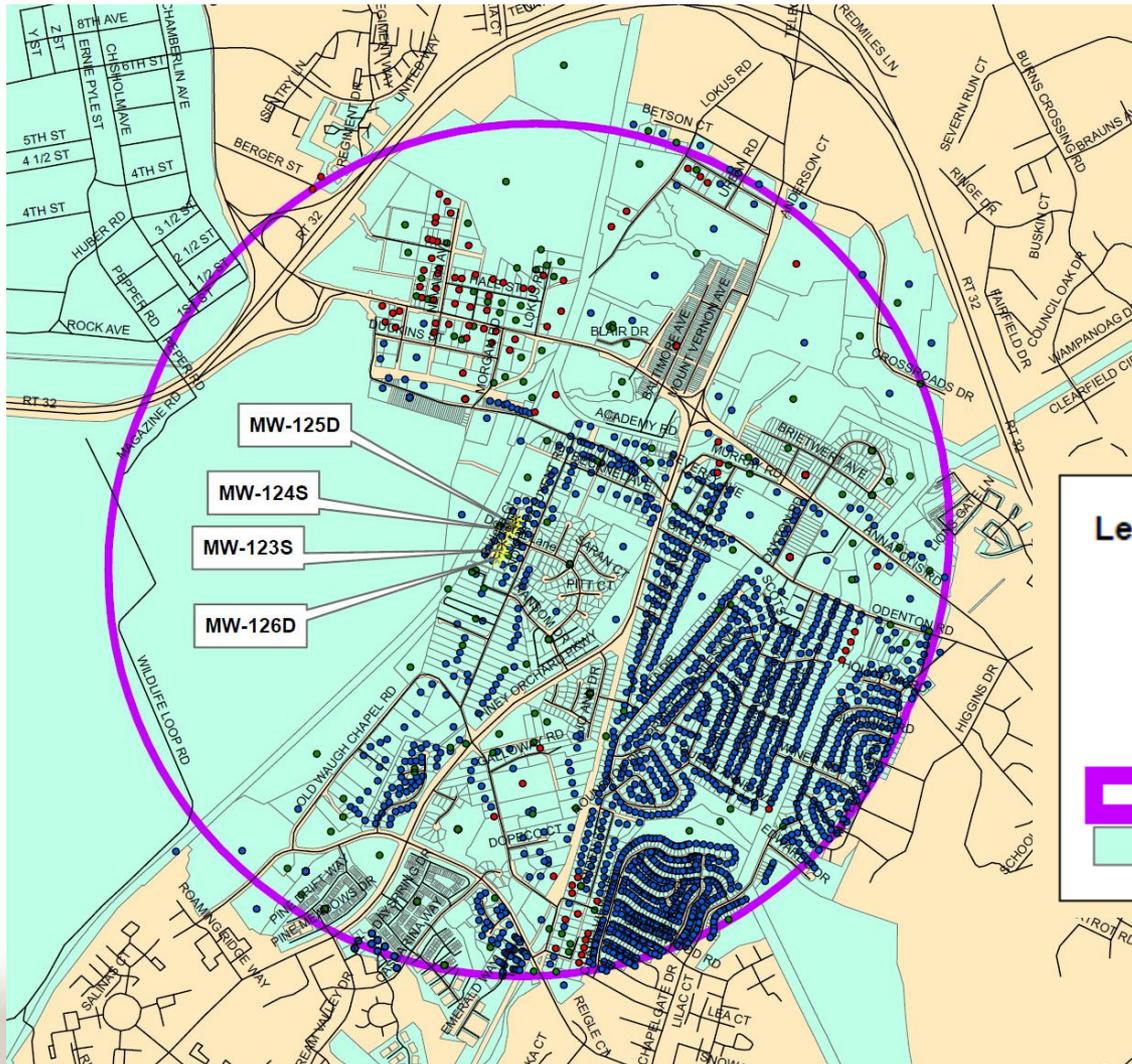


Created by:  
 Office of the Assistant Chief of Staff for Installation Management (OACSIM)  
 Base Realignment and Closure Division (BRACD)  
 Data Source: Geographic Information System Repository (GISR),  
 BRACD and Fort George G. Meade





# Study Area Location



1-mile radius surrounding MWs-125d and -126d located at North Patuxent Road and Dovetail Lane, Odenton, Maryland

**Legend**

-  Monitoring Wells
-  Developed Properties on Private Wells
-  Properties Not Developed
-  Developed Properties on Public Water
-  1 Mile Buffer of Monitoring Wells
-  Parcels in 1Mile Monitoring Well Buffer





# What is being done to protect the community?

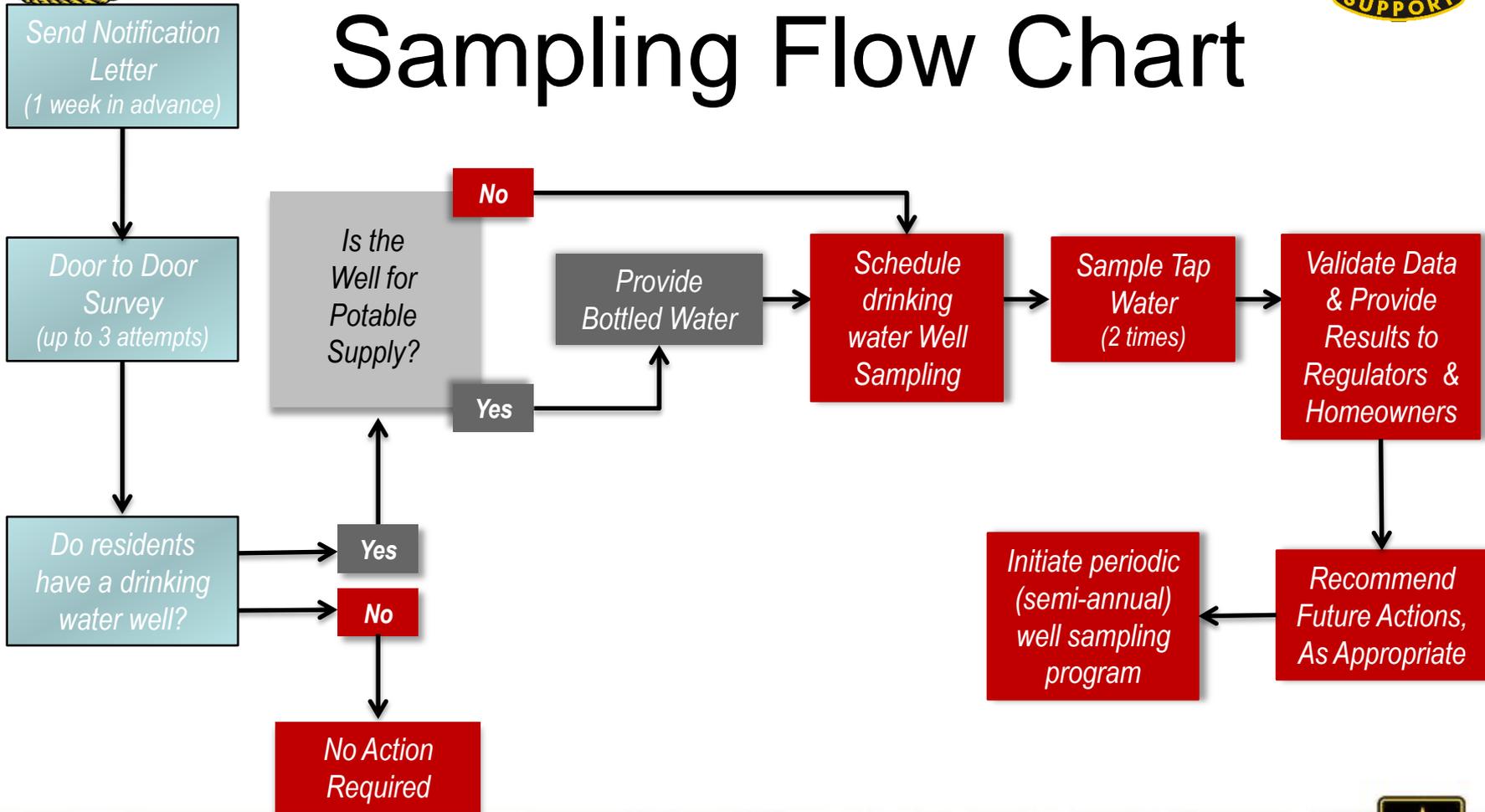


- Sample monitoring wells (two times)
- Conduct door-to-door survey to identify locations of drinking water wells in 1-mile radius
- Sample drinking water water supply wells
- Provide bottled drinking water to residents/businesses with drinking water wells
- Public Outreach (letters, meetings, etc.)
- Working in cooperation with U.S. Environmental Protection Agency (USEPA), Maryland Department of the Environment (MDE), and Anne Arundel County Department of Health (AACDH)





# Residential Well Sampling Flow Chart





# Public Outreach



- Letters to Residents
  - Pre-survey notification letters
- Public Meetings
  - At beginning of project to inform community
  - After fieldwork to share the information
  - Additional public meetings as necessary
- Restoration Advisory Board Meetings
  - As scheduled to discuss status and plans
- Contact Residents
  - Right of entry requests
  - Presentation of results to sampled property owners/tenants





# Well Sampling

- **Drinking Water Well Sampling**
  - Water samples collected from wells identified during the survey for VOC analysis
  - Sampled two times within a two-month period
  - Validated data provided to residents in timely manner
- **Monitoring Well Sampling**
  - GW samples collected from existing MWs-125d, -126d, -123s, & -124s
  - Each MW sampled two times within a two-month period
    - Round #1: April 16, 2009





# Monitoring Well Results



Analytes	Maximum Contaminant Level	MW-125d	2004 Results	2005 Results	2008 Results	2009 Results	MW-126d	2004 Results	2005 Results	2008 Results	2009 Results
<b>METALS</b>											
Lead	15		16.3	ND	NT	NT		14.4	ND	NT	NT
Thallium	2		6.9	ND	NT	NT		ND	ND	NT	NT
<b>VOLATILE ORGANICS</b>											
Acetone	-		49.2	120	ND	ND		ND	ND	ND	ND
Carbon Tetrachloride	5		21.3	20	25	20.3		4.1	3	51	21.8
Chloroform	-		0.85J	0.8	1J	ND		0.43J	0.29	2J	ND
Cis-1,2-Dichloroethene	70		ND	ND	<0.8	ND		0.42J	2.3	3J	0.69J
Tetrachloroethene	5		2.8	1.2	5	0.66J		12.4	6.5	51	11.5
Toluene	1,000		0.36J	1.8	ND	ND		0.5J	ND	ND	ND
Trichloroethene	5		0.5	0.28	1 J	ND		3.5	2.4	16	4.9

Analytes	MW-123s	2004 Results	2009 Results	MW-124s	2004 Results	2009 Results
METALS		All Below MCLs	NT		All Below MCLs	NT
VOLATILE ORGANICS		Dry Well	All ND		All ND	All ND





# Door-to-Door Survey



- Initiated April 29, 2009
- Projected completion May 29, 2009
- Over 2,500 properties within 1-mile radius

	1 <sup>st</sup> Attempt	2 <sup>nd</sup> Attempt	Totals
Properties Visited	2,595	922	
Surveys Completed	807	285	1031 (45%)
Private Wells (drinking)	38 (32)	9 (6)	47 (38)





# Next Steps



- Complete and compile results of survey
- Provide bottled water to properties with drinking water wells
- Request right-of-entries
- Sample drinking water wells
- Sample MWs
- Re-assess vapor intrusion based on GW sample results
- Prepare and submit reports



# Reporting

- Reporting efforts for this project include, but are not limited to, the following:
  - Interim Measures Work Plan (complete)
  - Letter Report of drinking water Well Survey
  - Interim Letter Report – Results of Round 1 Sampling Efforts
  - Vapor Intrusion Technical Memorandum (draft complete)
  - Investigation Derived Waste Letter Report
  - Interim Measures (IM) Report



# Project Schedule\*

- ✓ Monitoring Well Sampling #1 – March/April, 2009
- ✓ RAB Meeting #1 – March 26, 2009 (Completed)
- ✓ Final Interim Measures Work Plan – March 27, 2009 (Submitted)
- ✓ Public Meeting #1 – April 20, 2009 (Completed)
- ✓ Mail Letter to Residents – April 2009 (Completed)
- Door-to-Door Well Survey – April/May 2009 (in progress)
- RAB Meeting #2 – May 21, 2009

\* All dates are approximate



# Project Schedule\* (cont.)



- Drinking Water Well Sampling #1 – May 28, 2009
- Monitoring Well Sampling #2 – June 2009
- Drinking Water Sampling #2 – July /August 2009
- Supply Bottled Water – May/June 2009
- Public Meeting #2 - October 2009
- Final Interim Measures Report – December 2009

\* All dates are approximate



# Points of Contact



**U.S. Army Garrison Fort George G. Meade**  
**Directorate of Public Works-Environmental Division**  
**239 Chisholm Avenue**  
**Fort Meade, Maryland 20755-5115**

- Michael (Mick) Butler
  - Environmental Division Chief
  - 301-677-9188
  - [Mick.Butler@us.army.mil](mailto:Mick.Butler@us.army.mil)
- Paul Fluck, PG, REP
  - Environmental Restoration Manager
  - 301-67-9365
  - [Paul.v.fluck@us.army.mil](mailto:Paul.v.fluck@us.army.mil)



# Back-up Slides





# Geology/Hydrology Characteristics

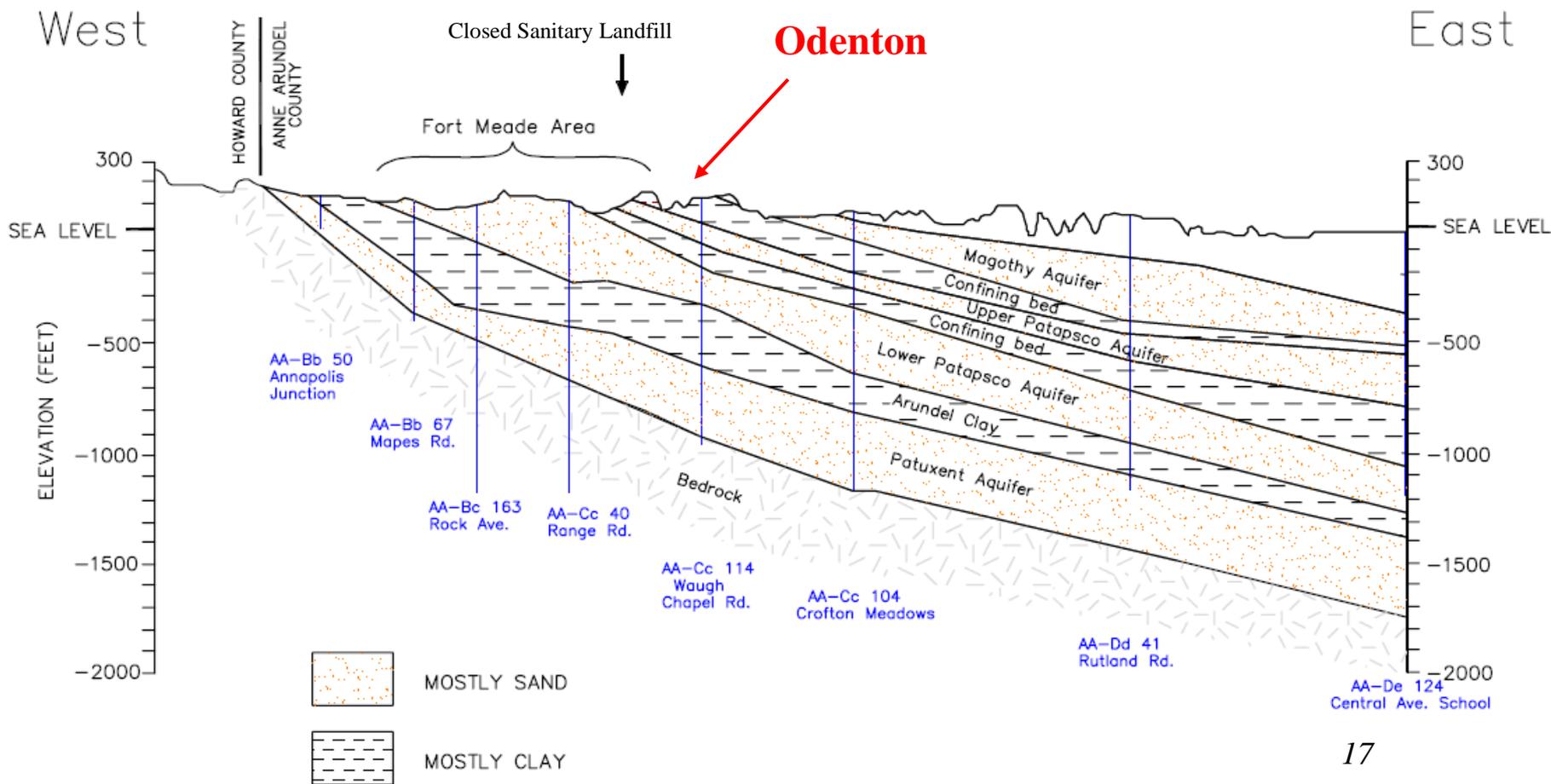


- The groundwater of concern is located in the Lower Patapsco Aquifer (deep aquifer), bounded by a clay confining layer
- Monitoring Wells 125d and 126d are screened in the Lower Patapsco Aquifer
- Monitoring Wells 123s and 124s are screened in the Upper Patapsco Aquifer





# Patapsco Aquifers





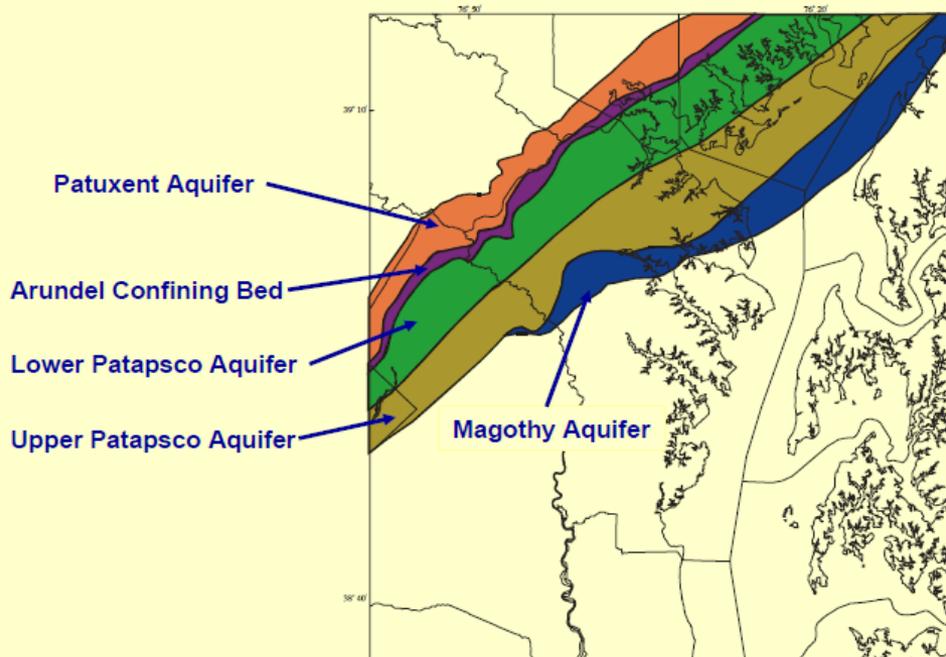
# Well Sampling (cont.)



- Data Analysis and Validation
  - All water samples analyzed by USEPA Method SW846/8260
  - Samples will be analyzed for VOCs including  $\text{CCl}_4$ , TCE, & PCE
  - A third-party data quality review and validation will be conducted for all samples (100%)
  - Laboratory and data validation will have a 3 day TAT
- Investigation Derived Waste Plan
  - MW water and related IDW will be containerized and disposed through Ft. Meade



## Estimated Outcrop Areas that may Function as Recharge Areas to the Deep Aquifers





## Gambrills/Odenton Area Water System Map

