



Fort Monroe Environmental Update

March 25, 2010



Background

- 2005 Base Realignment & Closure (BRAC)
- Military Presence since 1600's
- Fort Monroe construction began in 1818
- Active from Civil War to 1950's
- More Recent Mission Administrative
- Total Acreage = 564.52 acres
- Reversionary Acreage = 371.77
- Federal (DoD) Ownership Acreage = 192.79

Reversionary Property

- Virginia State Law stipulates the Commonwealth cannot accept contaminated property
- Code of Virginia § 1-405.B “...No land containing environmental contamination shall be transferred or revert to the Commonwealth, unless and until all corrective action necessary to protect human health and the environment with respect to any environmental contamination...has been completed to the satisfaction of the Commonwealth...”

Introduction

- Team Approach & Environmental Cleanup Overview
- Environmental Cleanup Update
 - Conventional Contamination
 - Munitions Contamination
- Status of Remedial Investigation (RI) Sites
- Path Forward

Stakeholders

- FMFADA
 - Bill Armbruster & Conover Hunt, FMFADA
 - Julie Carver, Kent Boler, Steve Young & Richard Satkin, Matrix Design Group
 - David Knisely, Garrity & Knisely
- Virginia Department of Environmental Quality
 - Rick Weeks, Durwood Willis, Pat McMurray, Eric Salopek, Kyle Newman
 - Jim Pastorick, UXO Pro
- US Army
 - Rob Reali, BRAC Environmental
 - Robin Mills, Ft. Monroe DPW
 - Jay Foster, BRAC Manager
 - Contract Support

Comprehensive Environmental Response Compensation Liability Act (CERCLA) Cleanup Process

- Use CERCLA Process for Oversight
- Preliminary Assessment (PA)
 - Is/Was anything out there?
- Site Inspection (SI)
 - Is it a problem?
- Remedial Investigation (RI)
 - How bad is it?
- Feasibility Study (FS)
 - What is the best/most cost effective way fix it?
- Remedial or Removal Action (RA)
 - Let's clean it up!
- Army is Responsible for Cleanup of environmental contamination at Ft. Monroe now and into future

Environmental Contamination Concerns

- Conventional Environmental Sites & Areas of Interest
 - Landfill with Incinerator Ash Disposal Area
 - Rifle, Pistol & Skeet Ranges
 - Auto & Boat Maintenance Areas
 - Machine Shop
 - Gasoline Filling Station & Petroleum Hydrocarbon Releases
 - Photo & Graphic Aids Labs
 - Medical/Dental Clinic
 - Fire Fighting Training Area
 - Pesticide Release Area
 - Open Storage Areas and Railroad
 - Storm sewer outfalls and Moat
 - Site wide Sediments

Investigation of Conventional Environmental Contamination

- Investigation work primarily in 2008 & 2009
- Samples collected & analyzed:
 - 347 soil samples
 - 308 groundwater samples
 - 73 surface water samples
 - 52 sediment samples
 - 45 biota samples
 - 70 soil gas/air samples

Conventional Environmental Contaminants

- No Further Action (NFA) determination pending at 18 sites
- VDEQ has provided preliminary concurrence with NFA determinations at 13 sites
- VDEQ is currently evaluating 5 sites for NFA pending the conclusion of the human health/ecological reviews
- Remedial Investigation has initiated at the following:
 - Moat
 - Dog Beach Landfill
 - Bldg. 204/205

Moat

- Surface Acres of Water = Approx. 19 acres
- Average Depth = Approx. 8 feet.
- Average Width = Approx. 50 – 250 feet

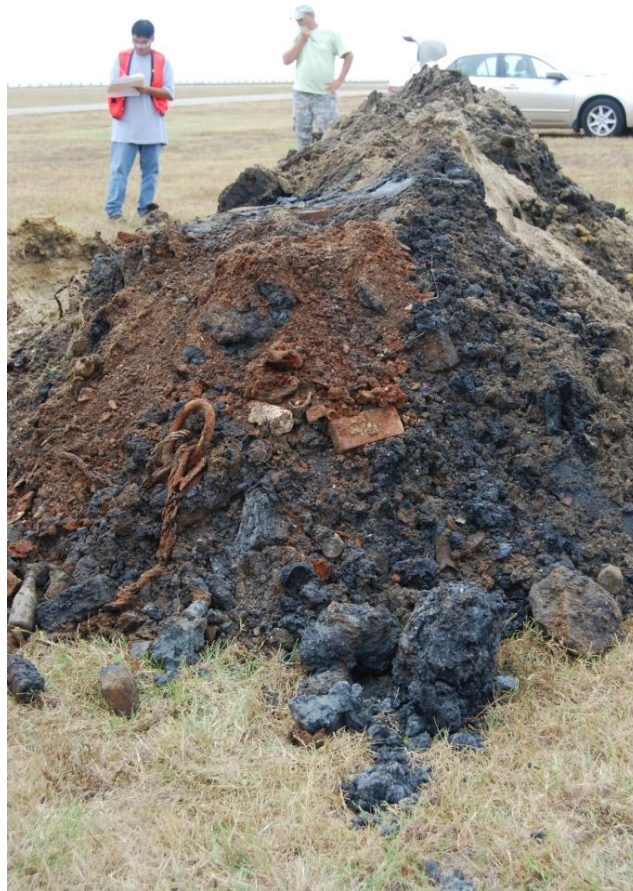
- Stone Structure/Earthen Channel
- Varying Sediment Depth
- Tidal Influenced & connected to Mill Creek

- Chemical Analysis Indicates metals, pesticides, other organics, PCBs
- Munitions & Explosives of Concern (MEC) evaluation indicated approx. 1800 anomalies
- Remedial Options to be determined subsequent to Remedial Investigation

Dog Beach Landfill

- Located northern end of installation, adjacent and south of Buckroe Beach
- Landfill received waste from 1930s to 1950s
- Material Disposed includes brick, concrete, plastic, lumber, steel rebar
- Landfill covers approximately 26 acres
- Test pits trenched during investigation identified materials expected in a sanitary/construction & demolition debris fill areas
- Future use is recreational

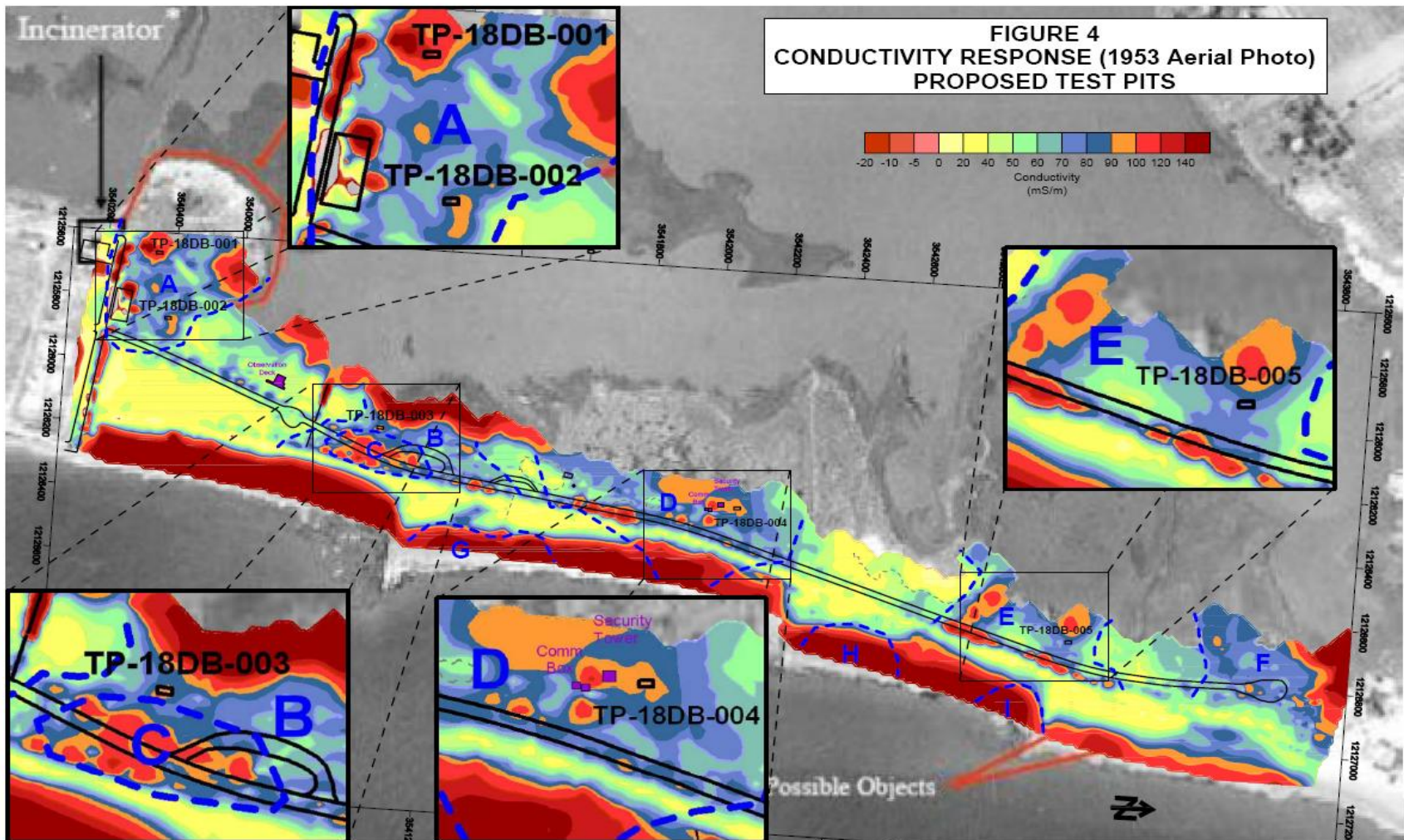
Dog Beach Test Pit #2 Excavation - Stained Soil/Debris



Dog Beach Test Pit #3 – Heavily Stained Soil Observed



Dog Beach Landfill Geophysical Investigation



Building 204/205

- Area structures supported a variety of heavy industrial operations which started in late 1800's
- Located adjacent to Marina
- Building used by U. S. Navy for maintenance support of small fleet vessels
- Potential Contaminants consist of VOCs, SVOCs and PAHs
- Bldg. 205 was originally used as a cable tank for laying underground mines.
- Navy EOD personnel identified 11 inert mines adjacent to Bldg. 205



Mill Creek

- Limited surface water, sediment and biota samples have been collected.
- Additional samples need to be collected in all media. 2nd round of biota sampling to occur in Spring 2010
- Possible Discarded Military Munitions (DMM) in Mill Creek from Ft. Monroe Disposal & Firing Points
- Concerns with possible encounters of DMM via swimmers, waders, boaters, windsurfers, fishing, crabbing, scuba diving, relic hunters, etc.
- Discussions with U.S. Army about conducting munitions investigations in Mill Creek similar to the munitions investigations conducted on land

Status of Munitions & Explosives of Concern (MEC) Investigation

- Areas Investigated = 13 Munitions Response Areas
- Total Acreage of Investigation = 453
- 76 Acres were rigorously evaluated
- Total number of MEC digs = 2085

Summary of Ft. Monroe Munitions Investigations

Study Area	Total Acreage	Acres Investigated As MRS	MEC/MD Finds	Anomalies Investigated	MEC/MD Description
Artillery Target Area	25.54	23.13	0	193	
Coastal Defense Batteries	68.86	12.25	5+	486	4" solid cannonball, 10" unfuzed cannonball, 2" solid grapeshot, 4.5" siege rifle, multiple unidentifiable MD in remaining lands
Battery Church/Montgomery	13.86	1.21	0	224	
Battery DeRussy	4.76	1.06	0	16	
Battery Irwin/Parrot	5.48	0.84	0	32	
Historic Fort	68.93	14.31	0	138	MD ID'd under asphalt, not removed
Building 205	0.93	0.93	0	0	
Moat	18.75	*	*	0	*
Anti-aircraft Artillery Area	70.13	13.04	2	376	3" Parrot Round, Incendiary Bomb Debris
Near-Shore Chesapeake Bay (**)	**	**	0	**	
Water Battery	3.25	1.46	0	39	
Main Cantonment Area	71.42	3.23	0	89	
Ordnance Storage Yard	11.36	0.01	0	24	
1940's Fill Area	90.17	4.4	0	175	
Transects	***	***	0	293	

Total: 453.48 75.87 7+ 2085

Land-Use Controls

- Deed Notification or Restriction: Protects landowner against conducting intrusive activities without approval
- Construction Support: Trained MEC personnel contacted prior to landowner conducting intrusive activities. Done in accordance with established USACE procedures
- Education: Provides vital literature to landowner on MEC presence and associated risks
- Signage: Provides visual notification/warnings on possible risks in the area

Army Construction Support

- Impossible to locate/remove all Discarded Military Munitions (DMM)
- Routinely required in similar situations
- Governed by specific Army guidance and procedures
- Construction support will always be required in areas that have not been investigated and completely cleared of Munitions and Explosives of Concern (MEC)
- Construction support response most likely to consist of either:
 - Explosive Ordnance Disposal (EOD) Tech. or EOD trained contractor on-site during all excavations
 - Standby “on-call” technicians
 - Type of construction support is dependent on the nature of the hazard
 - Type of construction support will be evaluated and specified in the Land-Use Control (LUC) plan and will be required to be provided for specific operations such as excavation

Path Forward

- Evaluate RI data for specific sites
 - Moat
 - Dog Beach Landfill
 - Bldg. 204/205
- Evaluate MEC Data
- Remedy Selection & Implementation
- Coordinate Future Action with Reuse Plan
- Continue discussion on Mill Creek due to recreational reuse potential
- Continue progress updates as needed