



## Technical Assistance Committee (TAC) Meeting

OU2 - Offsite Groundwater Investigation and  
Public Water Supply Design

Naval Weapons Industrial Reserve  
Plant (NWIRP) Bethpage  
June 17, 2011

## OU2 GROUNDWATER INVESTIGATION - BACKGROUND



- NGC operated the NWIRP Bethpage from 1941 until 1996; also owned and operated its own facility adjacent to NWIRP
- NYSDEC OU2 ROD selected a remedy for Northrop Grumman and the Navy to address the regional groundwater contaminant plume
  - Operation of the ONCT
  - Hot Spot Treatment at GM-38
  - Additional Groundwater investigation of the plume
  - Long Term Monitoring of the groundwater
- Navy expanded GM-75 Area program to address other areas within the OU2 Plume: Program now called OU2 Groundwater Investigation to reflect expansion

## OU2 GROUNDWATER INVESTIGATION - PURPOSE



- Delineate area of groundwater contamination in areas south of NGC/NWIRP Bethpage
- Program consists of:
  - Vertical profile borings - used to quickly screen areas for the presence, depth, and concentration of contamination
  - Permanent monitoring wells - to confirm presence/absence of contamination and develop trends

## OU2 INVESTIGATION - VERTICAL PROFILE BORING AND MONITORING WELL PROGRAM



- A vertical profile boring is a 12-inch diameter hole drilled into the ground. At select depths, the drilling is stopped, a device is lowered to depth, and a sample of the water is collected
- The borings will extend to the Raritan Clay Layer at a depth up to 840 feet below ground surface
- 36 groundwater samples will be collected per boring and analyzed for VOCs

## OU2 INVESTIGATION - VERTICAL PROFILE BORING AND MONITORING WELL PROGRAM



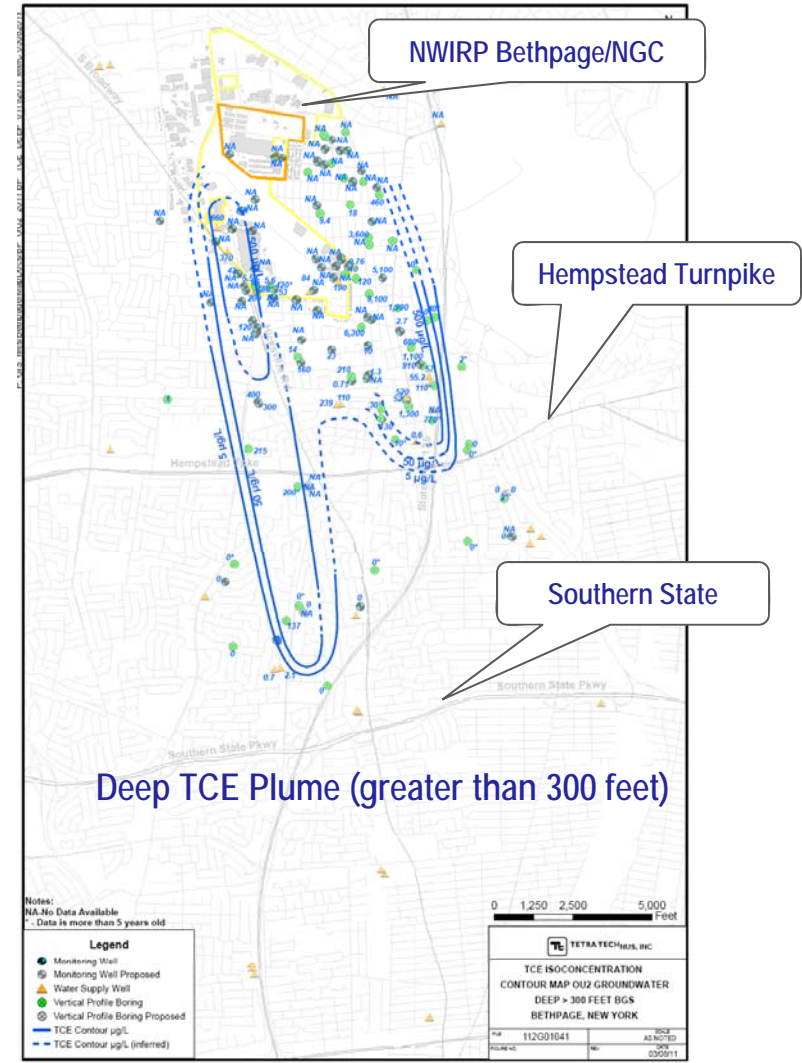
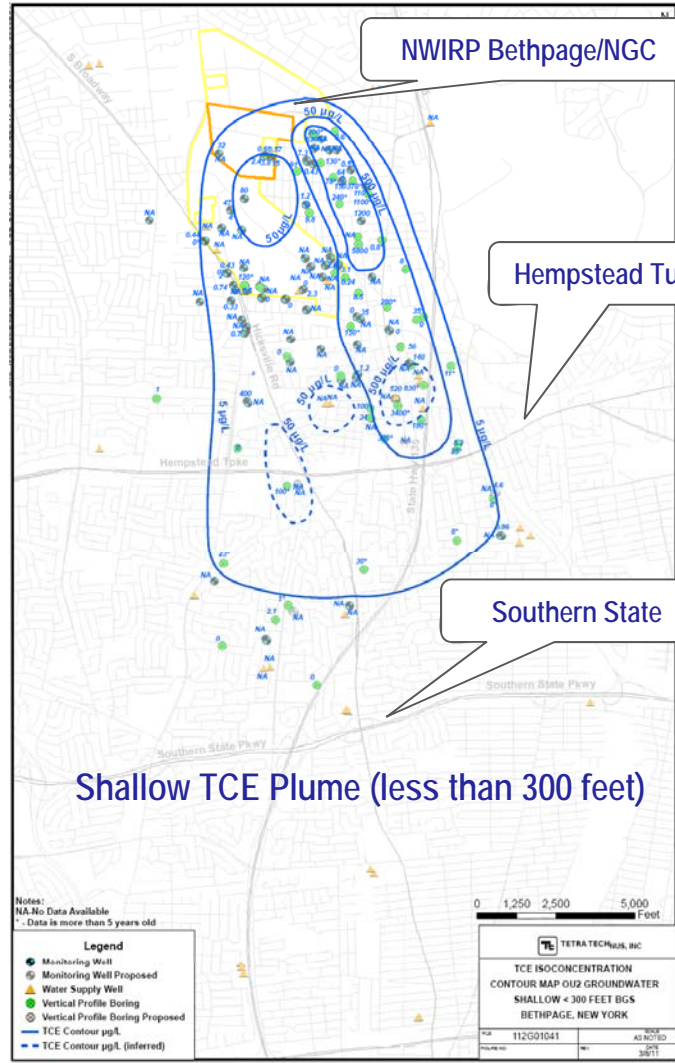
- Each boring requires 4 to 6 weeks to complete
- Six locations were completed in 2009
- Additional borings and monitoring wells are currently being installed through 2012
  - Two borings and five wells have been completed since October 2010; northwest of Aqua New York and north of SFWD Plant No. 1
  - One boring is in progress; north of SFWD Plant No. 3
  - One boring is planned for an area between SFWD Plant No. 3 and Aqua New York

## OU2 INVESTIGATION - VERTICAL PROFILE BORING AND MONITORING WELL PROGRAM



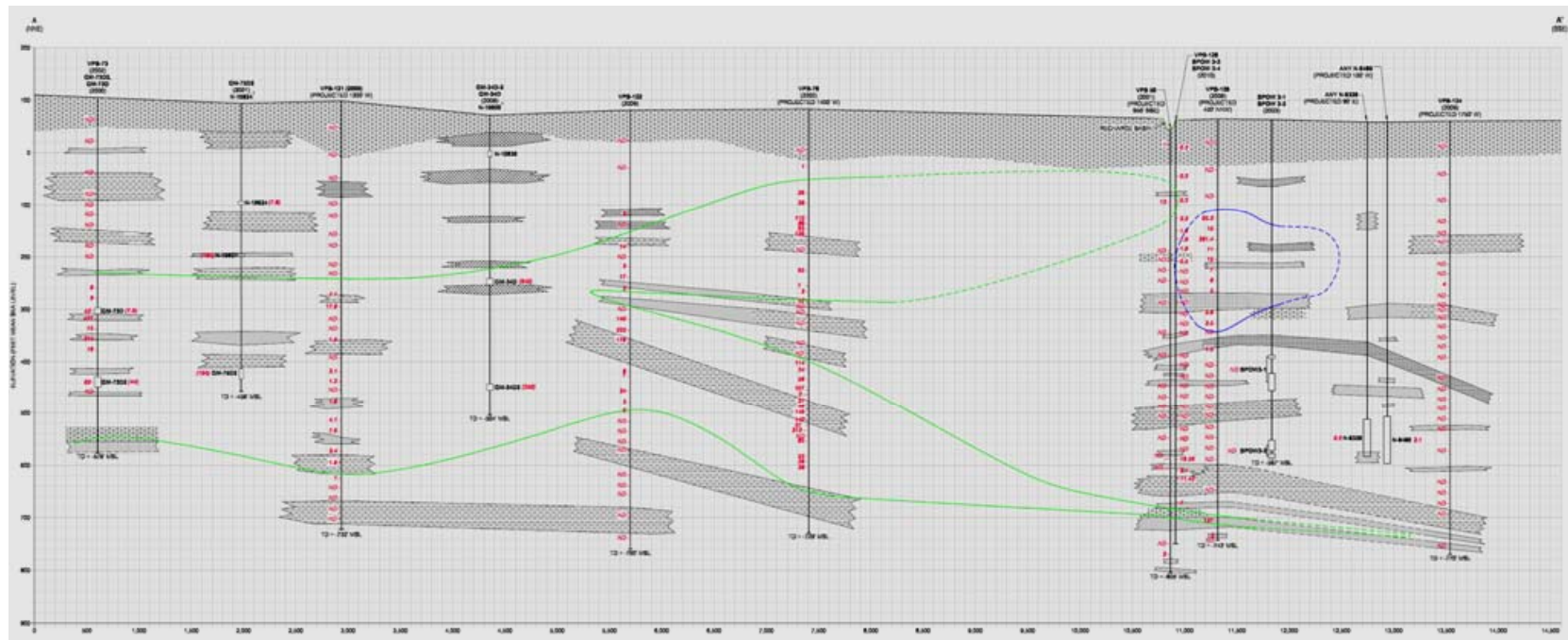
- One boring and two (+/-) wells are planned south of GM-34D
- One boring and two (+/-) wells are planned north of SFWD Plant No. 6
- Several borings are planned north and northwest of BWD Plant 6
- One boring and two (+/-) wells are planned north of MWD
- Conduct connectivity evaluations of water supply wells and monitoring wells
- Long-term monitoring of wells by NGC

# OU2 INVESTIGATION - VERTICAL PROFILE BORING AND MONITORING WELL PROGRAM





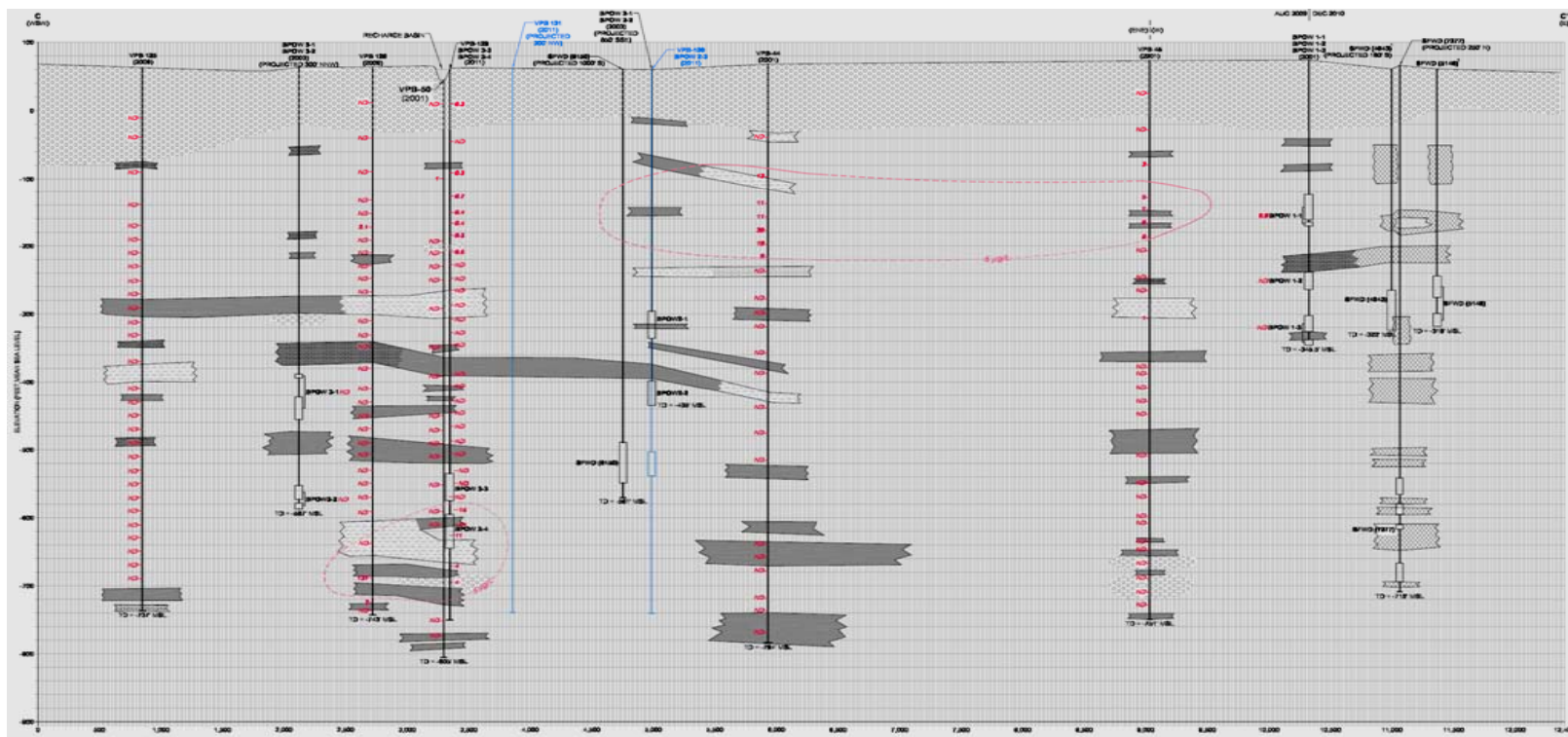
### Cross Section A-A', North to South, Western Plume



# OU2 INVESTIGATION - VERTICAL PROFILE BORING AND MONITORING WELL PROGRAM







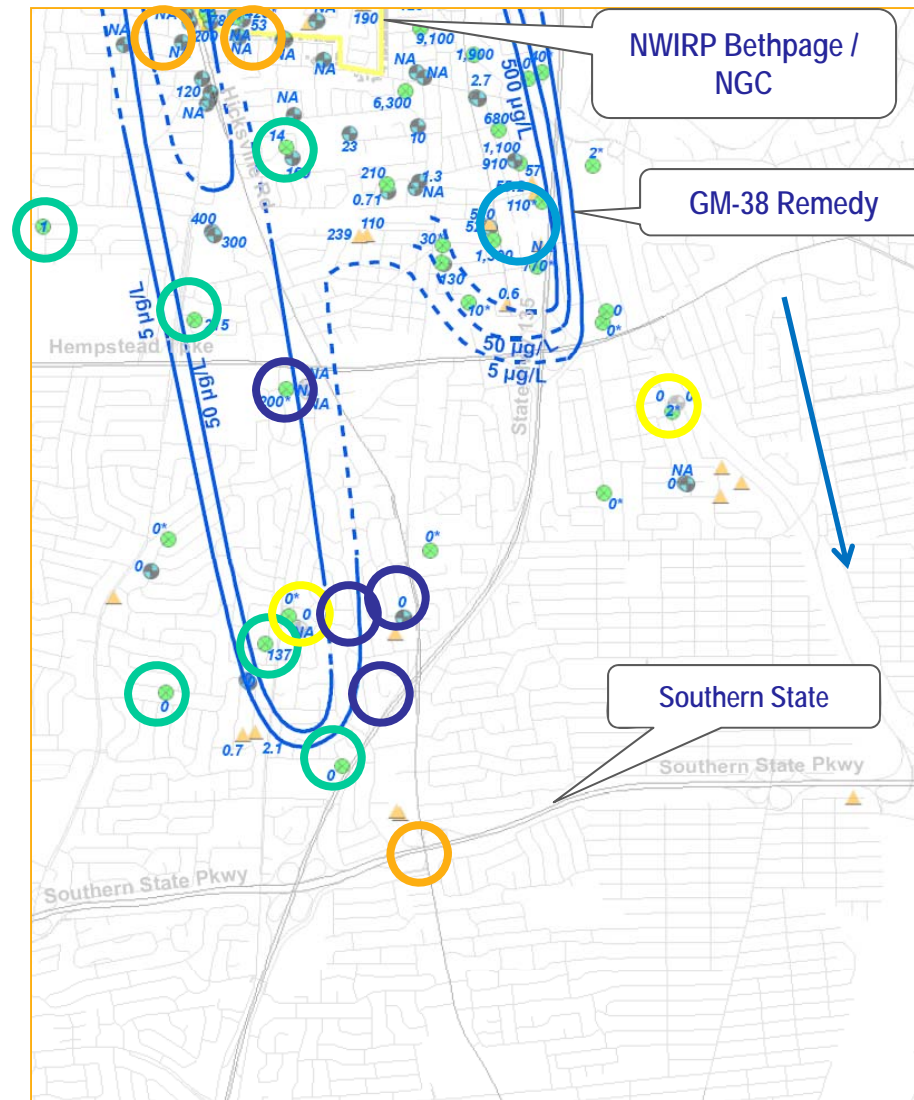
Cross Section C-C', West to East, South of Hempstead Road



# OU2 INVESTIGATION - VERTICAL PROFILE BORING AND MONITORING WELL PROGRAM



-  2009 VPBs Installed
-  2010/2011 VPBs and Wells Installed
-  2010/2011 VPBs and Wells In progress ( 6 months)
-  2011/2012 VPBs and Wells Being Evaluated



# OU2 INVESTIGATION - VERTICAL PROFILE BORING AND MONITORING WELL PROGRAM



# OU2 INVESTIGATION - VERTICAL PROFILE BORING AND MONITORING WELL PROGRAM



Questions

## OU 2 PUBLIC WATER SUPPLY DESIGN

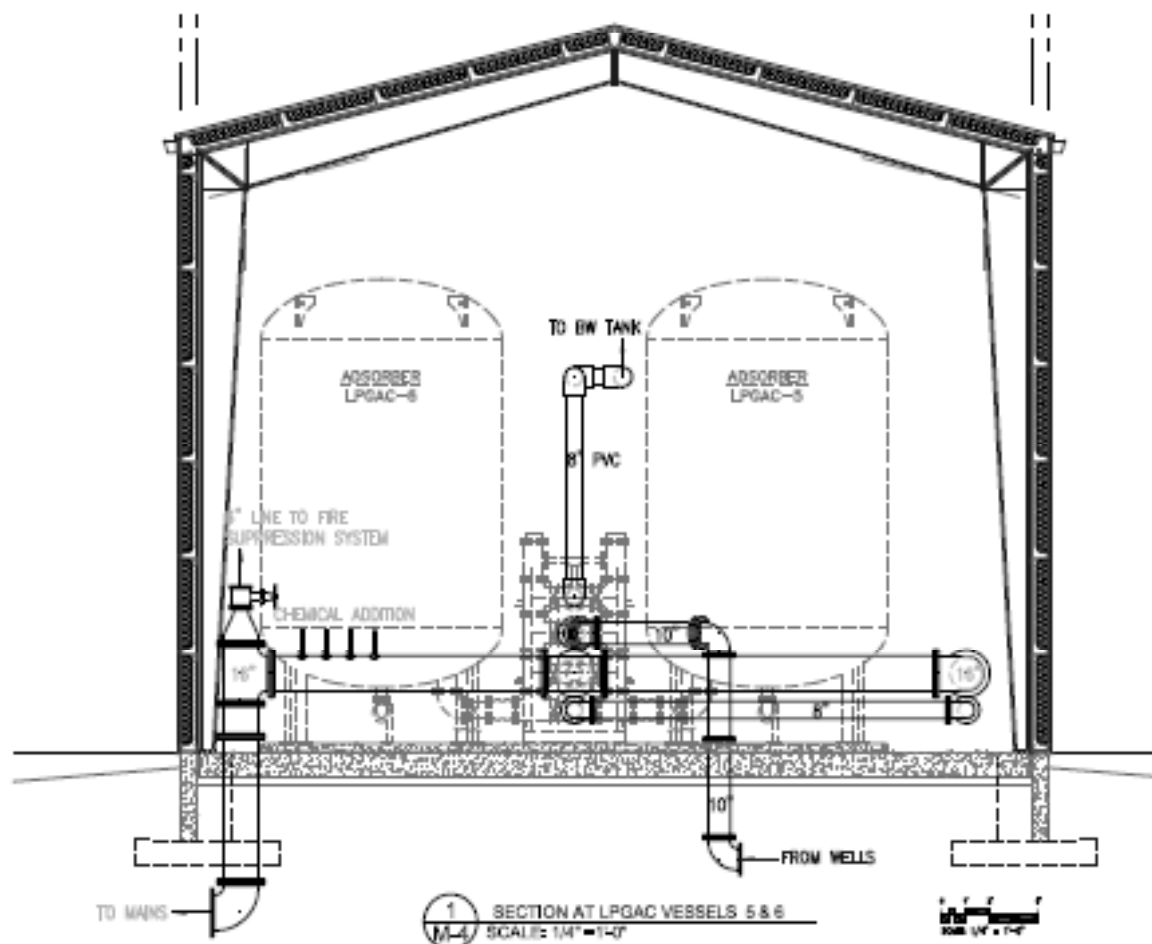


- Navy is currently designing a Granular Activated Carbon treatment system for an offsite Public Water Supply
- 4,200 gallons per minute system
- Design started in 2009 and will be completed in 2011
- Currently are working with NCDOH and Town of Hempstead on permits
- Construction is anticipated to start in early 2012

## OU 2 PUBLIC WATER SUPPLY DESIGN



### Liquid Phase Granular Activated Carbon System - Profile



# OU2 ACTIVITIES



## Questions