

Monitoring Well Abandonment  
Alabama National Guard  
Organizational Maintenance Shop 28  
Former Brookley Air Force Base  
Mobile, Alabama  
Contract No. W91278-06-D-006  
Task Order 0015

May 19, 2008

## **Introduction**

Aerostar Environmental Services, Inc. (AEROSTAR) has completed the monitoring well abandonment at the Alabama Army National Guard (AANG) Organizational Maintenance Shop 28 (OMS-28) site located on the former Brookley Air Force Base in Mobile, Alabama.

## **Background**

Temporary monitoring wells TW-1 through TW-5, permanent monitoring wells MW-10 and MW-11, and piezometers PZ-1 and PZ-2 were installed at the OMS-28 site as part of a Trichloroethylene (TCE) Investigation. A report detailing the findings of the TCE Investigation was submitted to the US Army Corps of Engineers (USACE) and Alabama Department of Environmental Management (ADEM) in April 2007. As a result of ADEM's review of the TCE Investigation Report, ADEM issued a letter to the Alabama Army National Guard dated June 28, 2007, requiring additional investigation at the site. In addition, ADEM required, in a letter dated August 17, 2007, that temporary wells TW-1 through TW-5 be properly abandoned because they were improperly installed. Permanent monitoring wells OMS 28-2 through OMS 28-7 were installed on March 26 through March 28, and April 1, 2008. These wells were intended as replacements for the temporary wells and piezometers at the site or were installed in locations thought to be more beneficial to the TCE Investigation. Because of this, temporary monitoring wells TW-1 through TW-5, and piezometers PZ-1 and PZ-2 were no longer needed and were scheduled for abandonment.

In preparation for the field effort, the U.S. Army Corps of Engineers (USACE) attempted to obtain right to enter the private property where permanent monitoring wells MW-10 and MW-11 are located. However, the homeowner would not allow USACE to enter the property to sample the wells and, in fact, demanded that the wells be removed from the property. Because of this, permanent monitoring wells MW-10 and MW-11 were scheduled for abandonment.

## **Well Descriptions**

Temporary monitoring wells TW-1 through TW-5 and permanent monitoring wells MW-10 and MW-11 were 2-inch PVC wells which were installed to depths between ten and fifteen feet below land surface (ft-BLS). Piezometers PZ-1 and PZ-2 were 1-inch PVC temporary piezometers installed to a depth of approximately 15 ft-BLS. All monitoring wells were completed as “stick up” wells with approximately two feet of the well casing rising above the land surface. Permanent monitoring wells MW-10 and MW-11 were completed with protective steel casings and a 2’ x 2’ concrete pad. Temporary wells TW-1 through TW-5 were installed without protective steel casings. Direct push piezometers PZ-1 and PZ-2 were completed as “flush mount” wells with protective vaults and 2’ x 2’ concrete pads.

## **Abandonment Procedures**

AEROSTAR abandoned temporary monitoring wells TW-1 through TW-5, permanent monitoring wells MW-10 and MW-11, and piezometers PZ-1 and PZ-2 in accordance with Underground Storage Tank requirements found in the ADEM Groundwater Branch Guidelines for Well Abandonment found at the ADEM website at <http://www.adem.state.al.us/WaterDivision/Ground/Hydrogeology/HydroInfo.htm> and Alabama Department of Environmental Management Administrative Code R. 335-6-15-.29(8)

Prior to the well abandonment activities, depth to water and total well depth was measured in each well. Following the collection of measurements, AEROSTAR supervised the removal of the concrete pads, protective covers, and vaults from the surface area surrounding permanent monitoring wells MW-10 and MW-11, and piezometers PZ-1 and PZ-2. Subsequent to the removal of the pads, covers, and vaults, each well or piezometer was pulled from the subsurface, and the well or piezometer annulus was pressure grouted from the bottom up with a neat cement mixture of 95% portland cement and 5% bentonite clay to insure that vertical migration of surface water into the surficial aquifer does not occur.

The area surrounding each monitoring well and piezometer was covered with soil and returned to its original grade.

See figure 1 for location of wells and piezometers that were abandoned.

**Waste**

All investigation derived waste (well casings, screen, and concrete rubble) generated during the well abandonment activities was collected during the well abandonment activities and disposed of off site as non-hazardous waste.

AEROSTAR appreciates the opportunity to provide these professional services. Should you have any questions or comments, please do not hesitate to contact me.

Aerostar Environmental Services, Inc.

Project Director/Project Manager

Marshall Eschete, P.G.

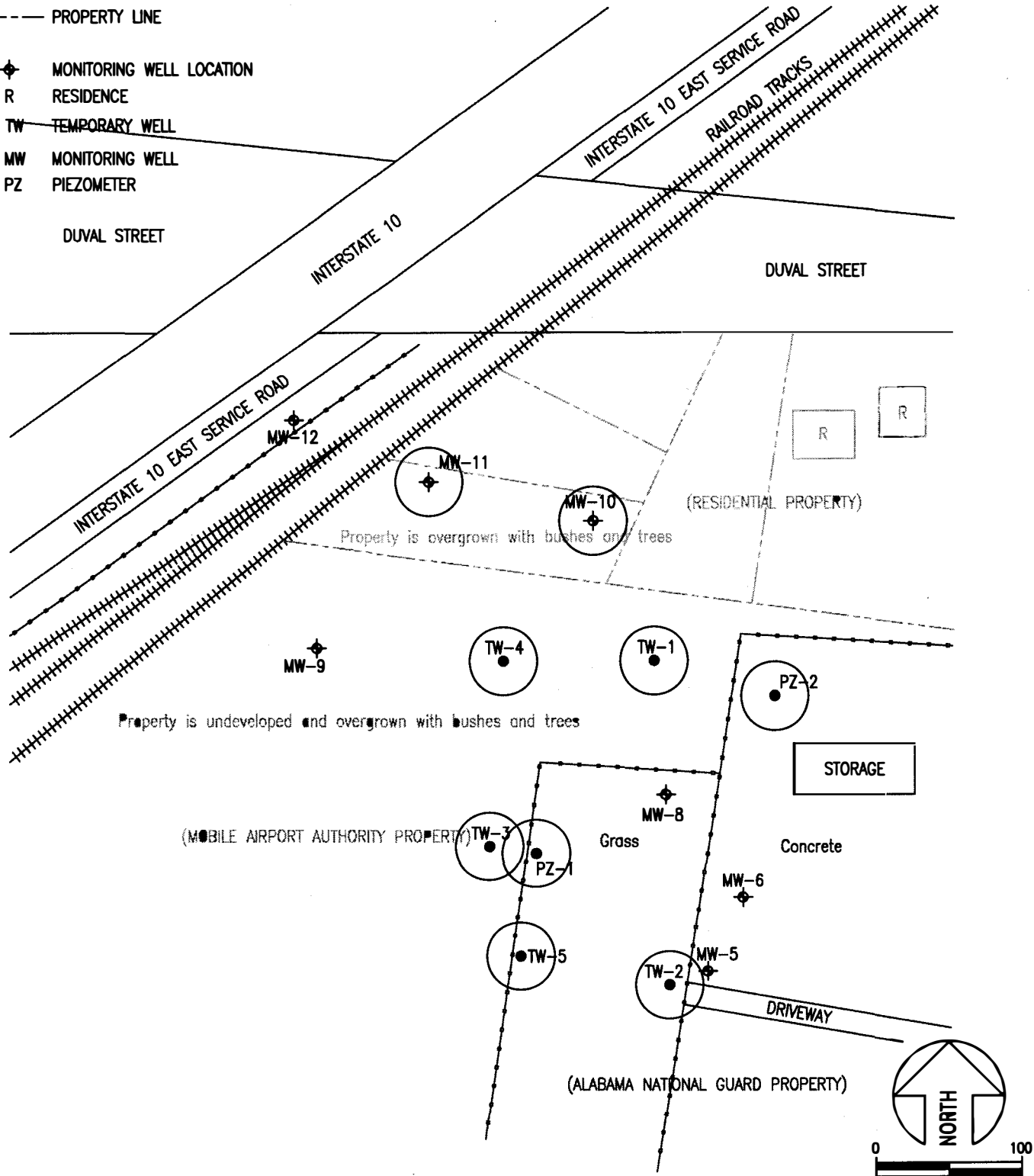
Marshall Eschete      05-19-08

(Signature)

(Date)

**LEGEND**

- FENCE
- - - - - PROPERTY LINE
- ◆ MONITORING WELL LOCATION
- R RESIDENCE
- TW TEMPORARY WELL
- MW MONITORING WELL
- PZ PIEZOMETER



**FIGURE 1- Well Abandonment Report**

OMS 28  
 BROOKLEY FIELD  
 MOBILE, ALABAMA

SCALE: 1" = 100'-0"  
 DATE: May 2008  
 DRAWN BY: Shirley