

BBSS Fly Ash Disposal Site



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Maryland Law for Coal Ash Disposal

“Any person who uses [coal ash] for landfill shall do so in a manner which complies with sound engineering practices.”

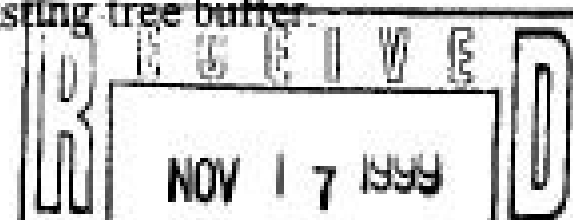
BBSS Site Design

- No liner
- No leachate collection
- Compaction of bottom layer 100 times more permeable than typical landfill design
- Pits left open for weeks or months
- Bathtub design

en applied to the Waugh Chapel Pit to predict peak sulfate concentrations in groundwater property boundary and at the nearest existing water supply well. Sulfate was modeled ie of its common presence in coal ash. Although sulfate is an indicator parameter for coal chate, it is neither a Federal nor a State of Maryland health-related drinking water eter nor a surface water quality parameter. A USEPA study report in January 1999 ded that increased concentrations of sulfate in drinking water did not produce adverse effects in the population studied.

Modeling results show that peak sulfate concentration is predicted to be about 245 mg/L at the property boundary, occurring at about 32 years after initial ash placement, if an 18-ay cover is placed over the compacted ash. At the nearest supply well, peak sulfate itration is predicted to be about 212 mg/L or less, occurring at about 39 years after initial cement. If less conservative (i.e., more realistic) input conditions are used in the model, ted peak sulfate concentrations are even lower (about 113 mg/L at the property boundary ing at 16 years, and about 102 mg/L at the supply well occurring at 18 years).

Based on these results, we propose to cover the ash in the Waugh Chapel Pit with 18 of clay (with hydraulic conductivity no greater than 10^{-7} cm/sec) and 12 inches of topsoil. monitoring wells will be installed at the locations specified by MDE, as shown in Figure 2. uld be noted that observed concentrations in the property boundary well MW-20 may be r higher than the model predicts for the property boundary, because the well will be set 0 to 15 feet from the boundary to avoid destruction of the existing tree buffer.



information, progress since my last update, and an updated schedule are provided below.

Background Information

Ash was first placed in 1995 in a ten-acre plot of Turner Pit in the corner bounded by Brickhe Road and Rt. 3. Groundwater flows in a southeasterly direction toward Rt. 3. Original capping requirements for this area were 6" of 10^{-5} cm/sec permeability soil covered with 6" of topsoil. CPSG increased the capping requirement to 12" of 10^{-6} cm/sec material with 12" of overlying topsoil in 1998. Sulfate concentration in monitoring well MW-7 along the Rt. 3 boundary of Turner Pit first exceeded the permitted sulfate limit of 500 mg/L in June of 1999, approximately 4 years following the start of ash placement. Concentrations continued to trend upward and CPSG responded by increasing the monitoring frequency, reducing the working area of ash to acres, and upgrading the capping requirement to 12" of 10^{-7} cm/sec permeability.

By the end of 2000, sulfate concentrations had risen to approximately 2000 mg/L at MW-7. CPSG sent a letter to MDE in March of 2001 outlining an action plan to evaluate the causes of the increased sulfate and to conduct a feasibility study to determine the best course of action to correct the problem.

Field data collected in 2001 from a new well cluster at MW-7 and soil borings indicated that:

- Sulfate concentrations at MW-7 decreased to 500 mg/L approximately 65 ft into the aquifer.
- A deep boring confirmed that ash was not in contact with groundwater and groundwater/ash separation was in compliance with permit requirements.

Ash Dumped at BBSS

3 million tons of ash

arsenic – 120,000 pounds

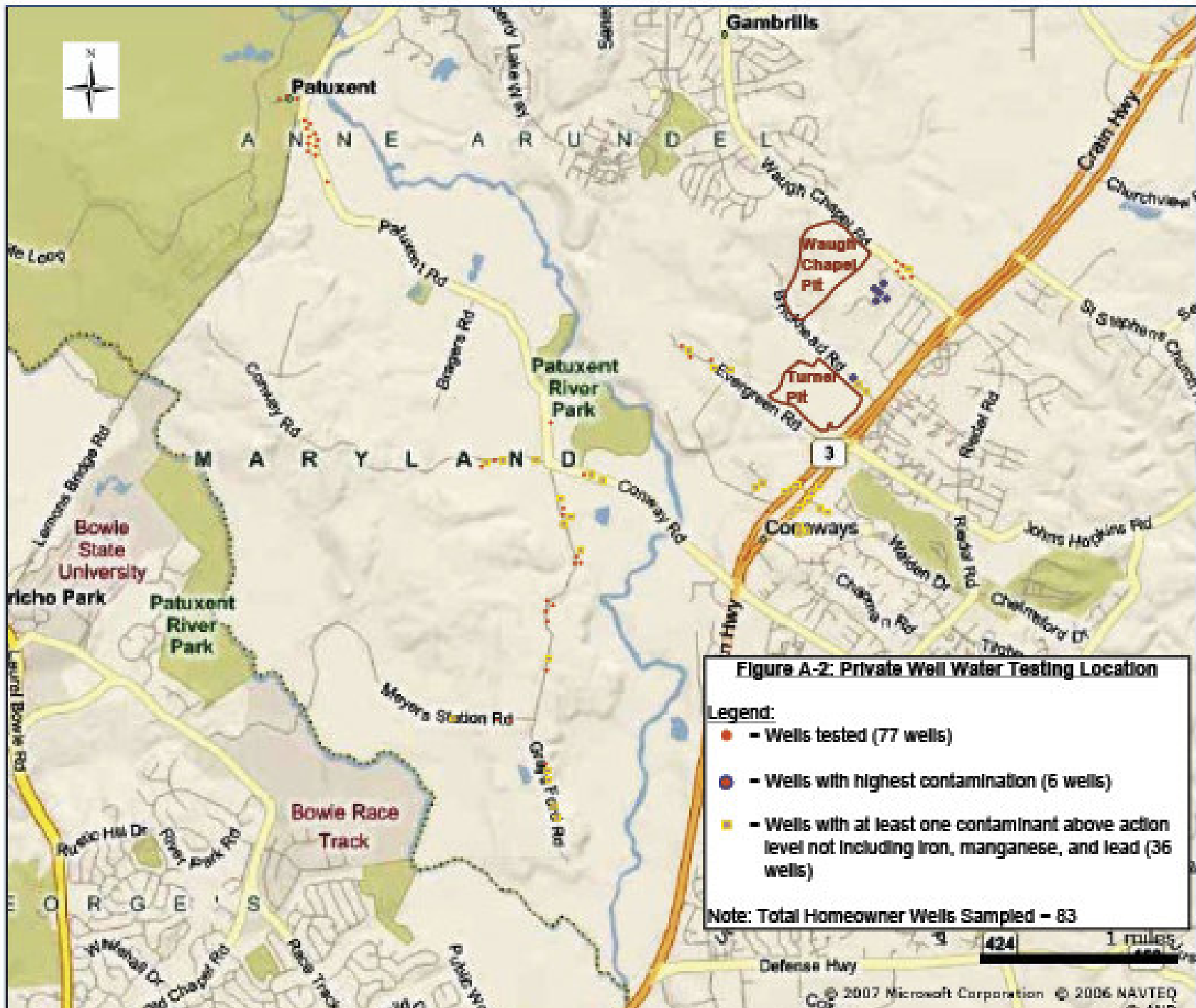
beryllium – 15,000 pounds

chromium – 186,000 pounds

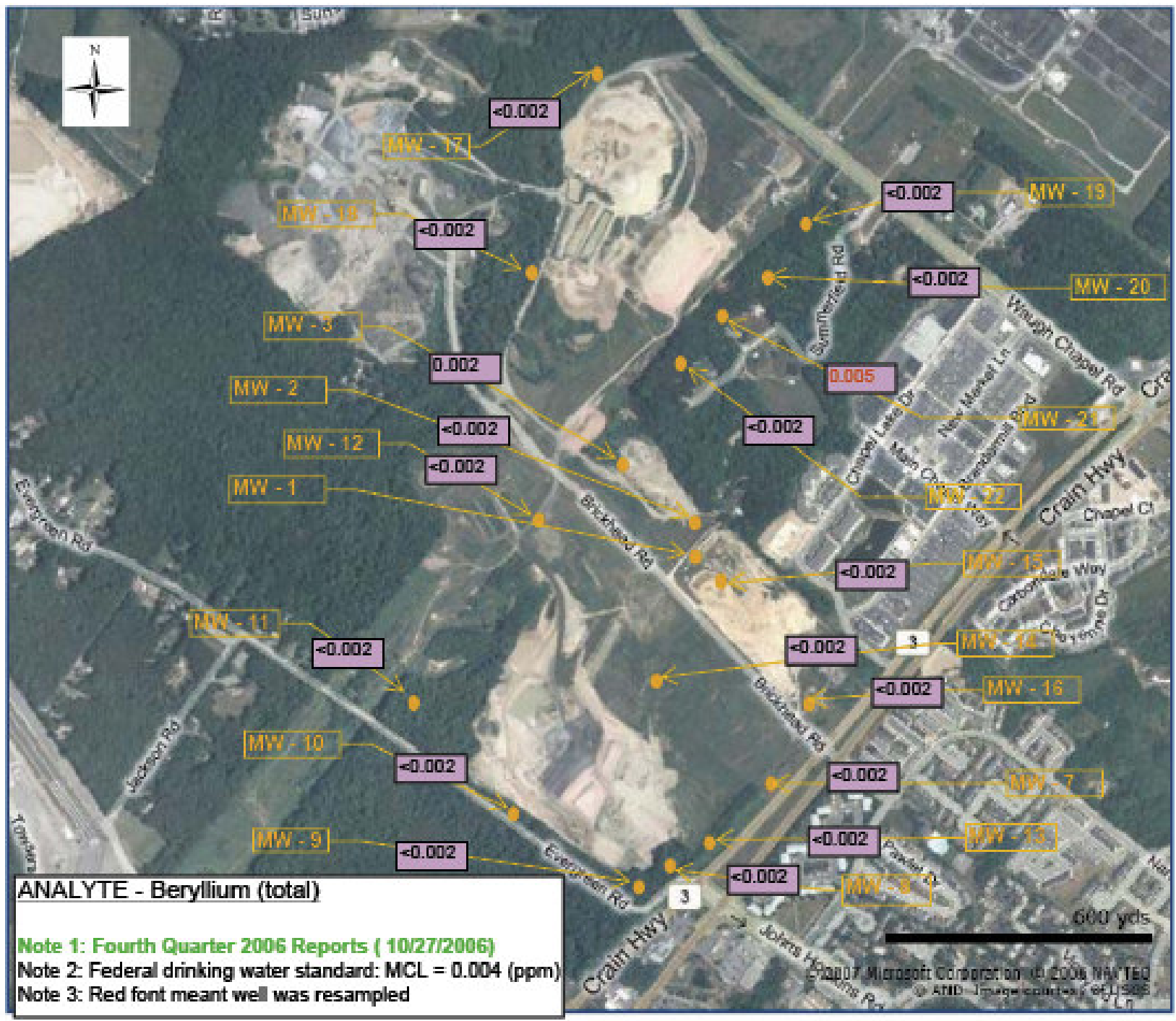
lead – 138,000 pounds

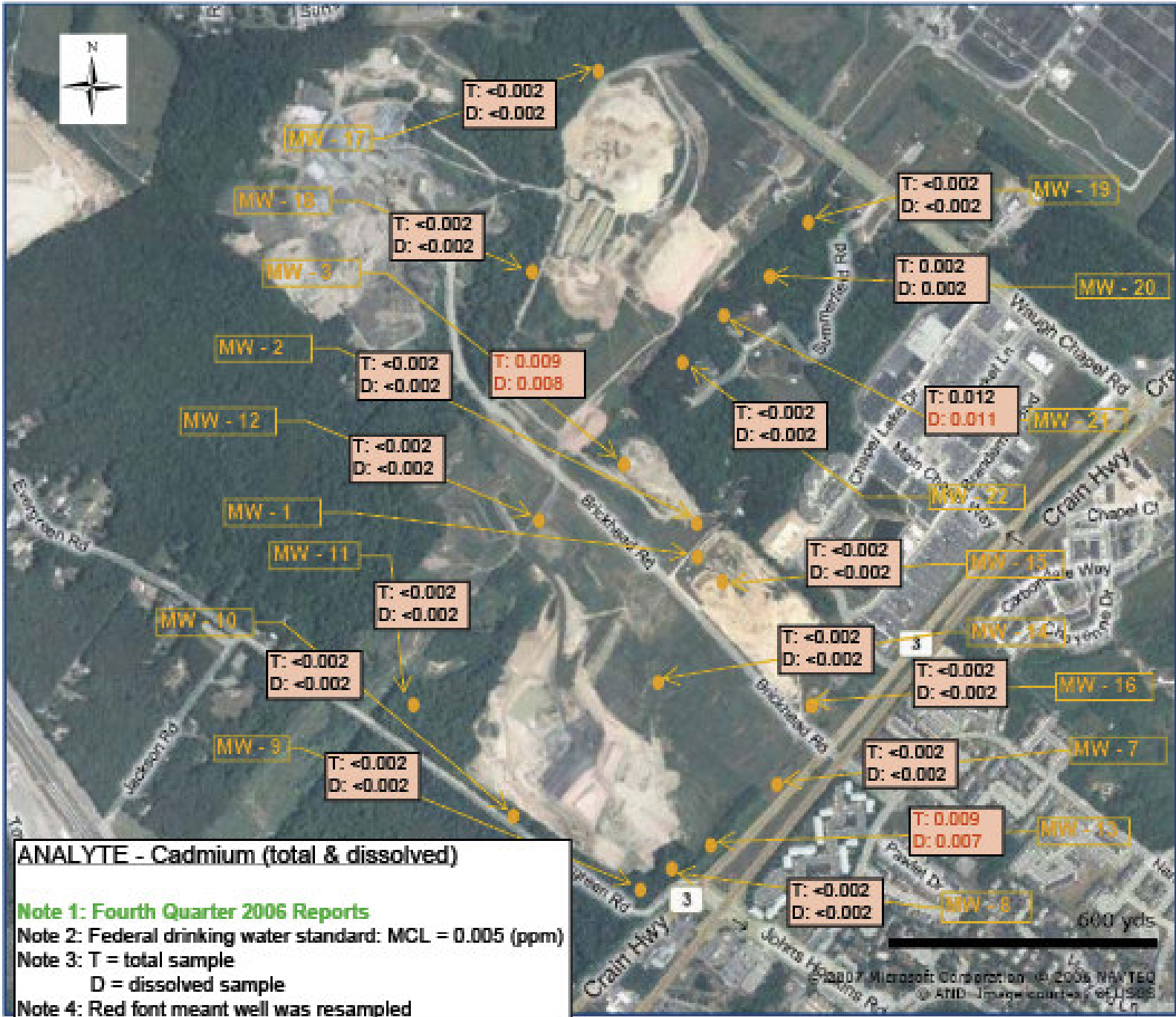
thallium – 30,000 pounds

zinc – 156,000 pounds









How Much Do We Know?

- Very limited testing.
- Full size of contamination plume is unknown.
- No monitoring wells across Crain Highway or south of Evergreen Road.

Any remediation measures should be considered interim measures.

Current remediation wells demonstrate flaw of hasty plans.

What Needs to Be Done

- Bring public water to affected homes.
- Permanently cease dumping at the Gambrills BBSS fly ash disposal pit.
- Increase remediation of the contamination at the BBSS pit.
 - The responsible parties should cover any financial costs involved.
 - Install liner in filled areas?
- Create real siting requirements for future fly ash disposal facilities.



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