



Fort Detrick Remedial Investigation/Feasibility Study

Status Update

Fort Detrick Restoration Advisory Board Meeting
15 August 2006
Fort Detrick, Maryland



Status Update Discussion

- **Performance-Based Contract (PBC) Remediation Areas**
 - Area B-2
 - Area B-18
 - Area B Periodic Monitoring
- **Long-Term Monitoring**
 - Area A Building 568 TCE Spill
 - Water Towers
- **Other Area B Sites (formerly Close-out Sites)**



Major Remediation (PBC) Areas Area B

- Area B-2
- Area B-3
- Area B-6
- Area B-8
- Trenches North of B-8
- Area B-10/Grove
- Area B-11
- Area B-18
- Area B Groundwater





Area B PBC

Completed and Upcoming Activities

- **Area B-2 Remedial Investigation/Feasibility Study**
 - Draft developed and submitted to MDE on 12 July 2006
 - Currently under MDE Review
 - Successful completion of the Area B-2 RI/FS is expected to “pave the way” for the remaining disposal sites
- **Area B-18 Site Inspection**
 - Draft work plan to be submitted to MDE in August 2006
- **Area B-6 and other Disposal Sites**
 - RI/FS for each site to be submitted to MDE by November 2006
- **Area B Periodic Monitoring**
 - Periodic sampling conducted December 2005, March 2006, and June 2006
 - Next monitoring scheduled for September 2006



Area A PBC

Completed and Upcoming Activities

- **Area A Long-term Monitoring**
 - Semi-annual LTM for Building 568 TCE Spill and Water Towers conducted in March 2006
 - Next monitoring scheduled for September 2006



Area B-2

Remedial Investigation/Feasibility Study



Area B-2 Remedial Investigation Feasibility Study

- Discussions with MDE in December 2005 resulted in a mutual understanding of the requirements necessary to close out Area B disposal sites
 - EPA Presumptive Remedy for CERCLA Landfills is an appropriate approach to streamline the process
 - Maryland COMAR 26.04.07.21 for sanitary landfill closure considered to be relevant and appropriate requirement
- Draft RI/FS was developed and submitted to MDE on 12 July 2006
- The Area B-2 RI and FS were submitted as one document for several reasons
 - To improve efficiency by minimizing redundant information and shortening overall review time
 - To accelerate the schedule
 - To provide a better understanding of the big picture. The reviewer can see the proposed remedy in the FS to better understand the data needs of the RI. This is consistent with the Presumptive Remedy approach
- Existing data used to characterize site
- Qualitative risk assessment performed



Presumptive Remedy

- EPA Preferred technologies to be used at all appropriate sites.
- For Landfills, the presumptive remedy is containment based on historical patterns of remedy selection and scientific-engineering evaluations.
- Benefits of following the presumptive remedy process:
 - Focused data collection
 - Stream-lined site assessments
 - Accelerated remedy selection decisions
 - Time and cost savings
 - Hazardous waste sites are remediated faster
 - Promotes consistency in remedy selection.



Area B-2 FS Alternatives

- **1) No Action**
 - Provides baseline for which to evaluate other alternatives
 - Not considered protective of human health and the environment
 - Does not meet Applicable or Relevant and Appropriate Requirements (ARARs)
 - Cost - \$0
- **2) Landfill Cap and Land Use Controls**
 - Construction of impermeable landfill cap to contain waste in place
 - Considered protective of human health and the environment
 - Meets ARARs, including COMAR 26.04.07.21 for Sanitary Landfill Closure
 - Cost \$423,000
- **3) Excavation and Disposal**
 - Excavation of waste materials and combination off-site and on-site disposal
 - Precautionary measures include negative pressure containment structure and testing for biological pathogens
 - Considered protective of human health and the environment
 - Meets ARARs
 - Cost \$39,900,000



Area B-18 Site Inspection



Area B-18



View of B-18 to Northeast



Stream that sinks at Area B-18



Debris Found in Area B-18

- Area B-18 is a former sinkhole located in a cluster of trees.
- Historical disposal by the Army was reportedly surface rather than subsurface.



Area B-18 Site Inspection

- The Army proposes to remove all surface metal debris and perform geophysics to verify that there is no significant subsurface waste material present
- A draft Site Inspection work plan will be submitted to MDE in August 2006
- If there is no subsurface waste material, the Army believes there is no significant threat to human health and the environment



Area B Periodic Monitoring

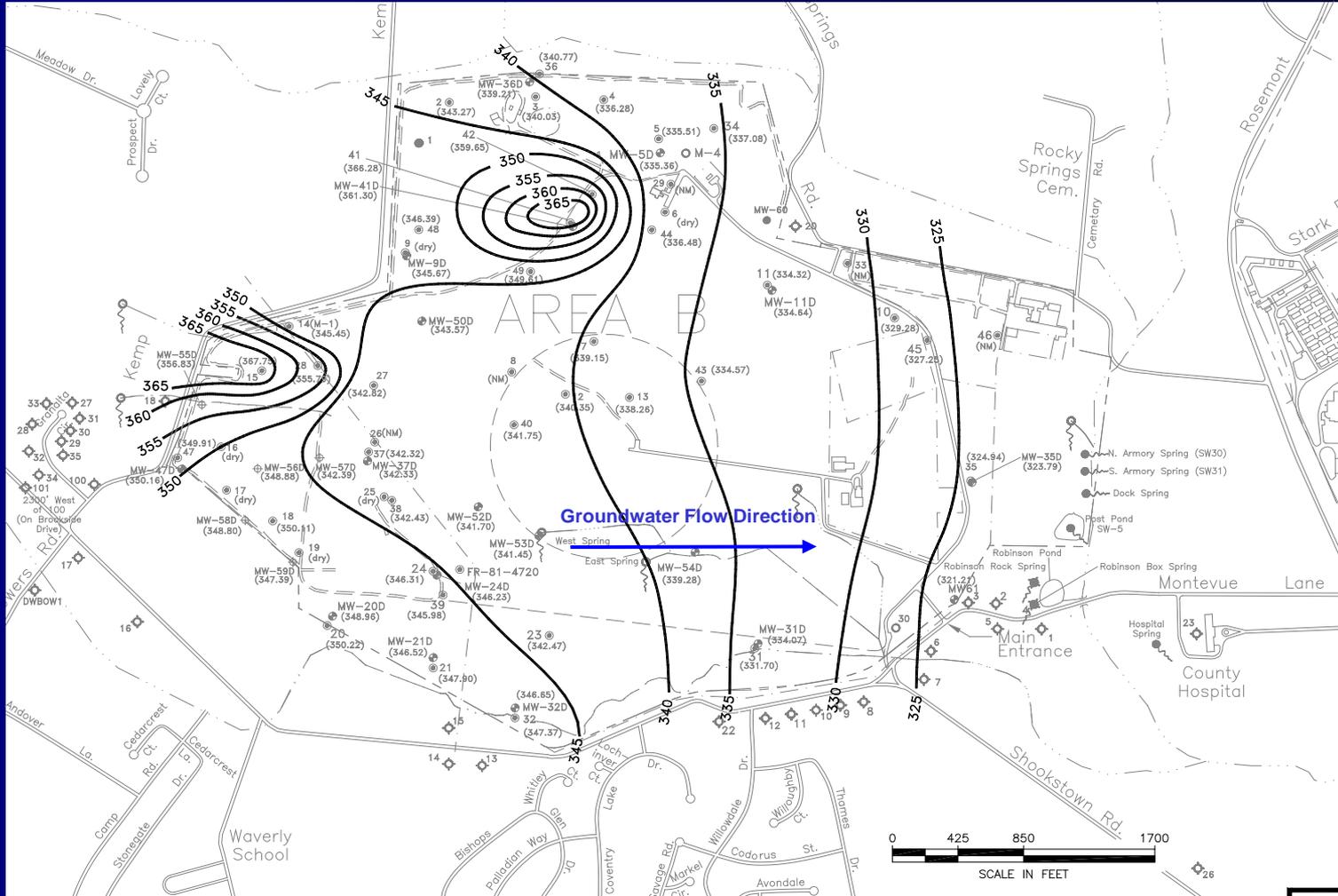
December 2005

March 2006

June 2006



Area B Groundwater Contours June 2006



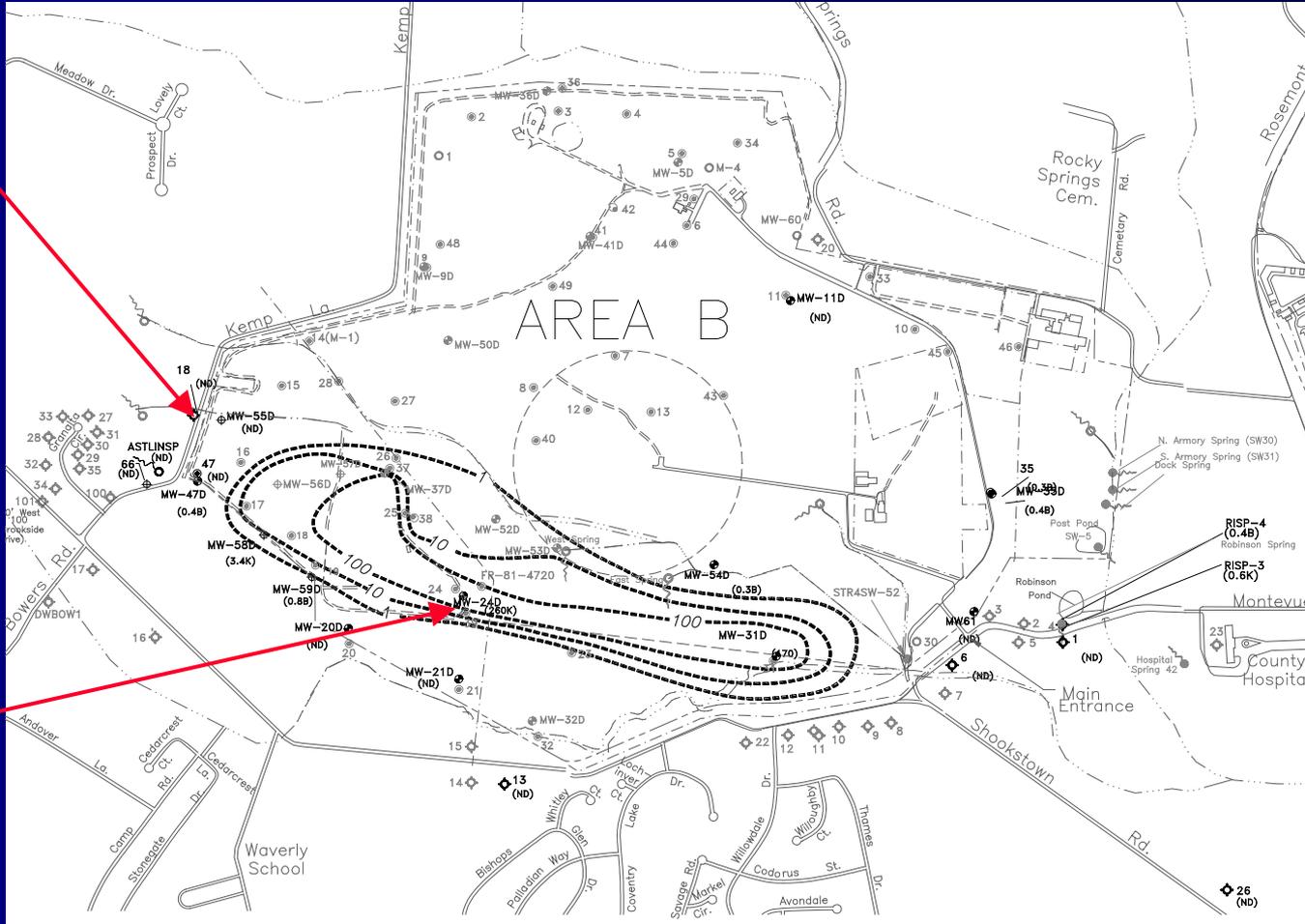


Area B PCE Concentrations December 2005

PCE detection observed in September 2005 for DWGRAN-18 was not confirmed in December 2005 or subsequent sampling events

Extent of PCE plume relatively unchanged from previous sampling.

Significant drop in BMW24D from 2100 µg/l to 260 µg/l.

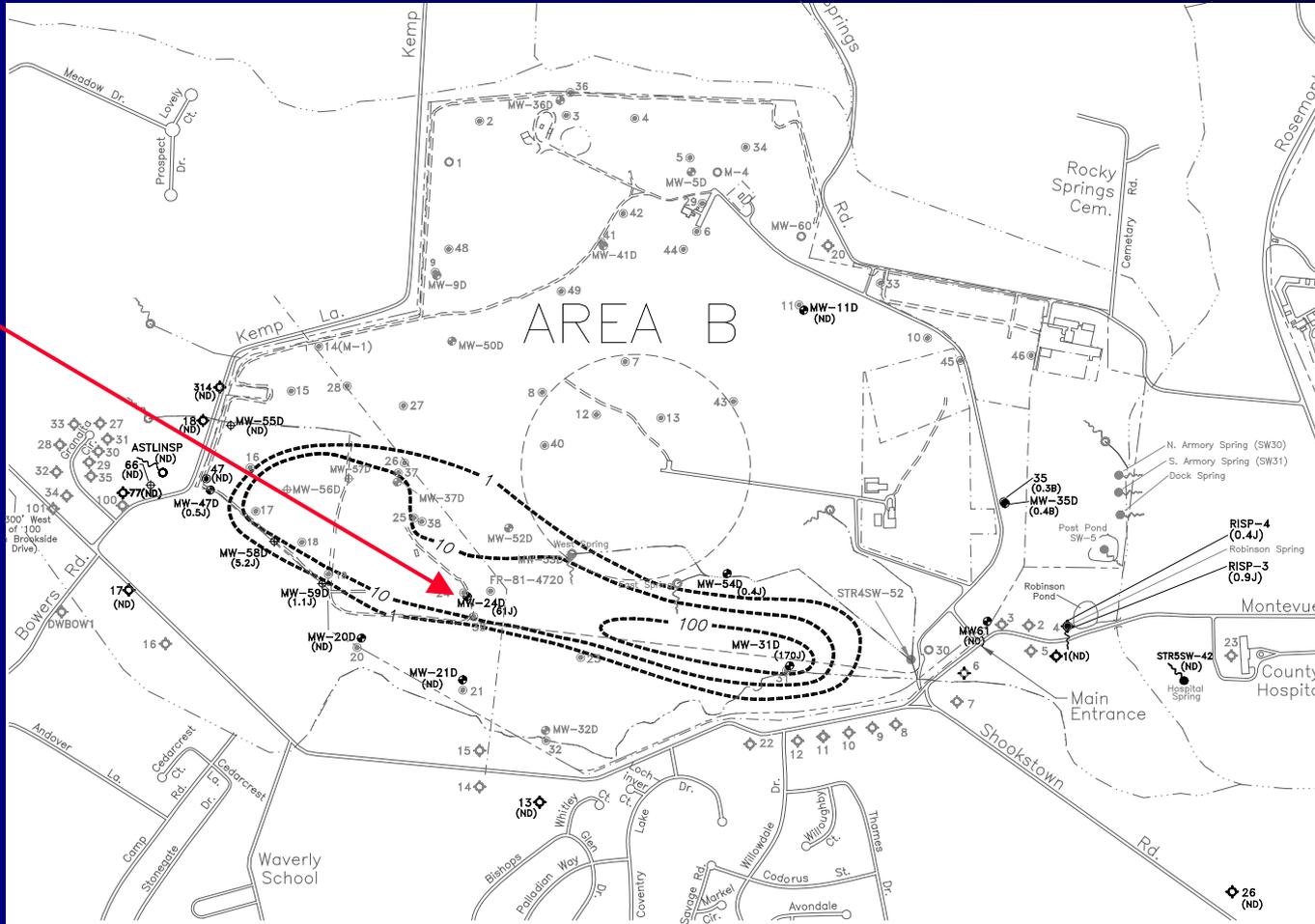




Area B PCE Concentrations March 2006

Extent of PCE plume relatively unchanged.

Another significant drop in BMW24D from 260 µg/l to 61 µg/l.

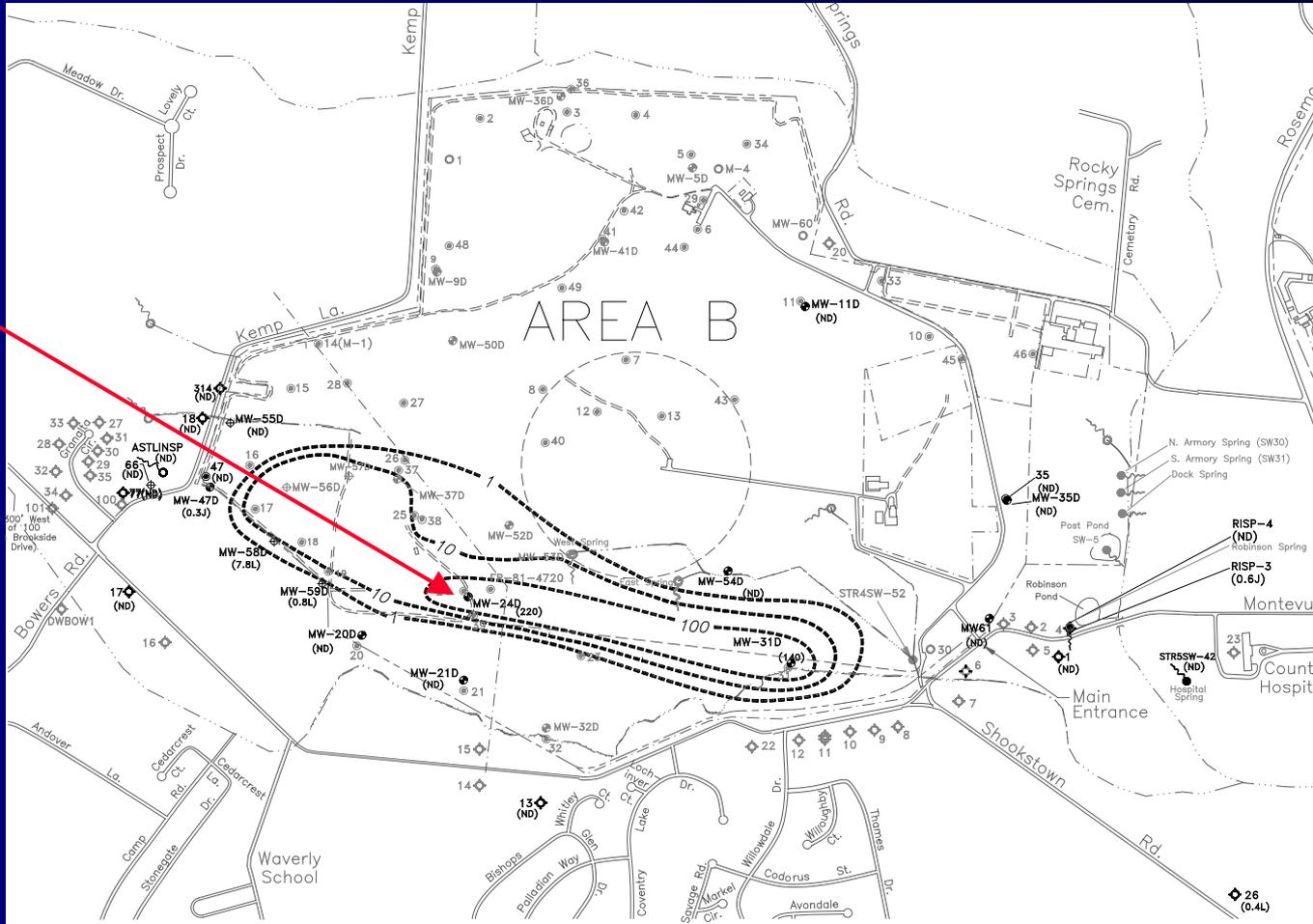




Area B PCE Concentrations June 2006

Extent of PCE plume relatively unchanged.

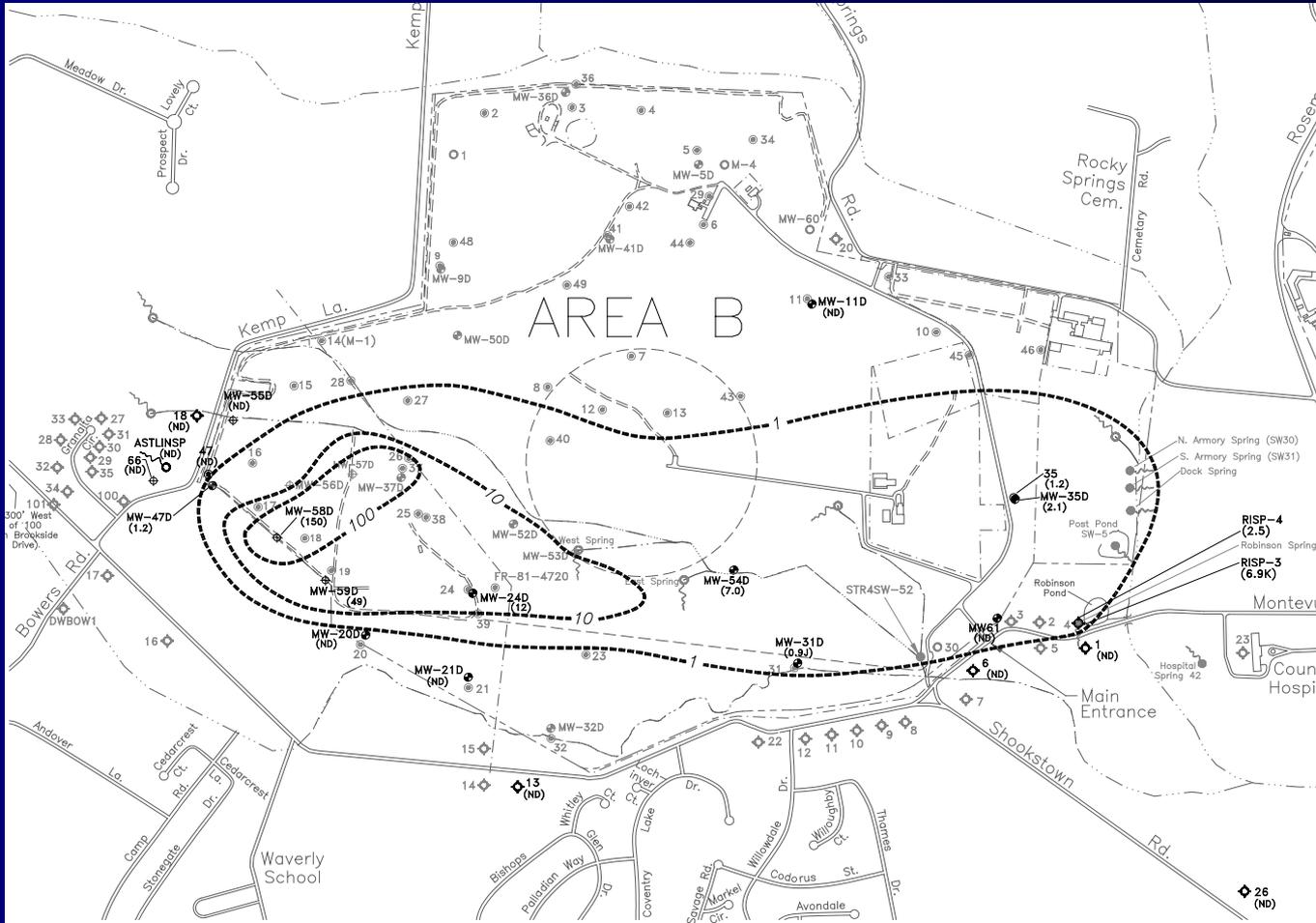
BMW24D increase from 61 $\mu\text{g/l}$ to 220 $\mu\text{g/l}$.





Area B TCE Concentrations December 2005

Extent of TCE plume relatively unchanged.

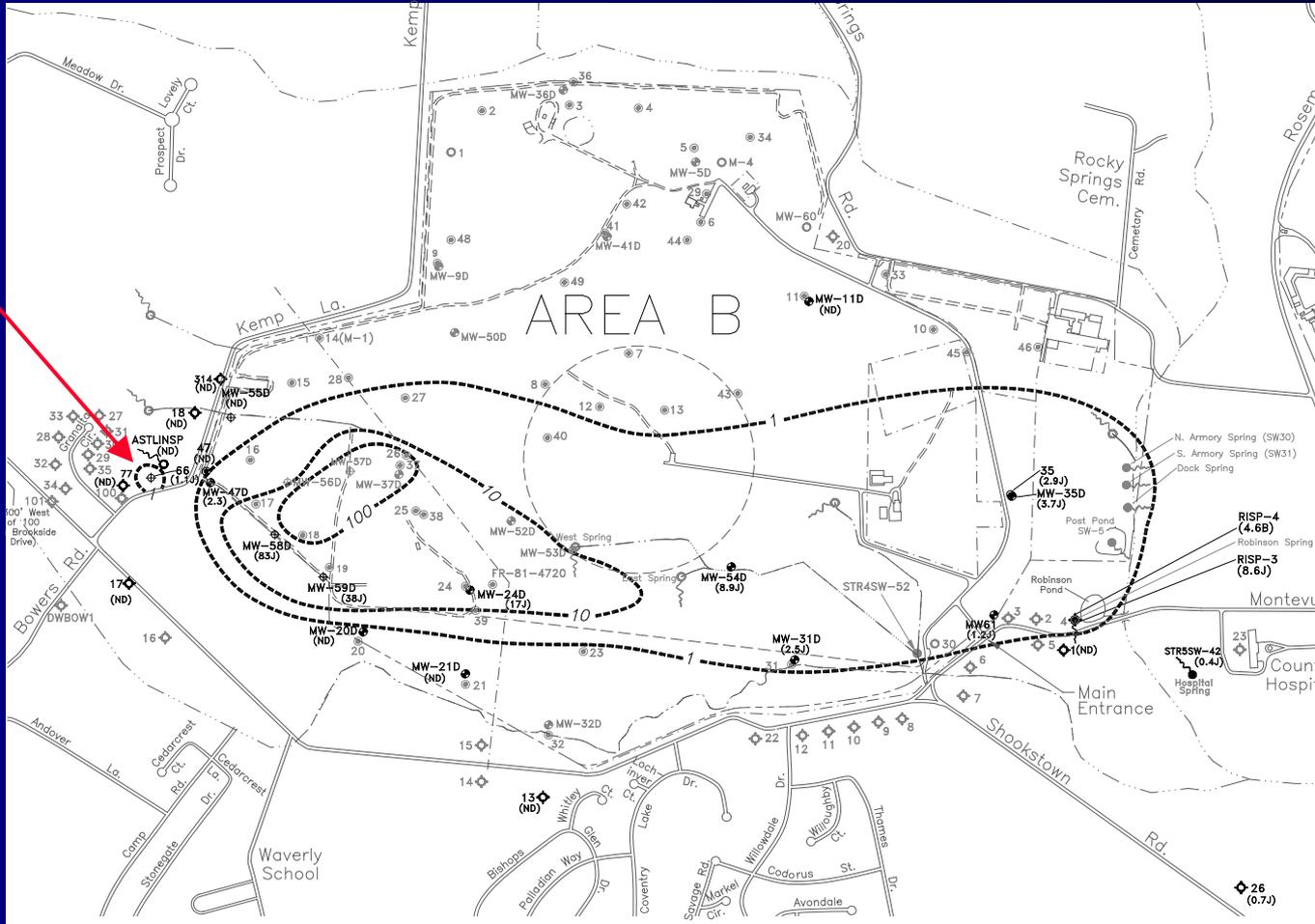




Area B TCE Concentrations March 2006

Extent of TCE plume relatively unchanged.

TCE detection in DWELL-66 near the lower detection limit.

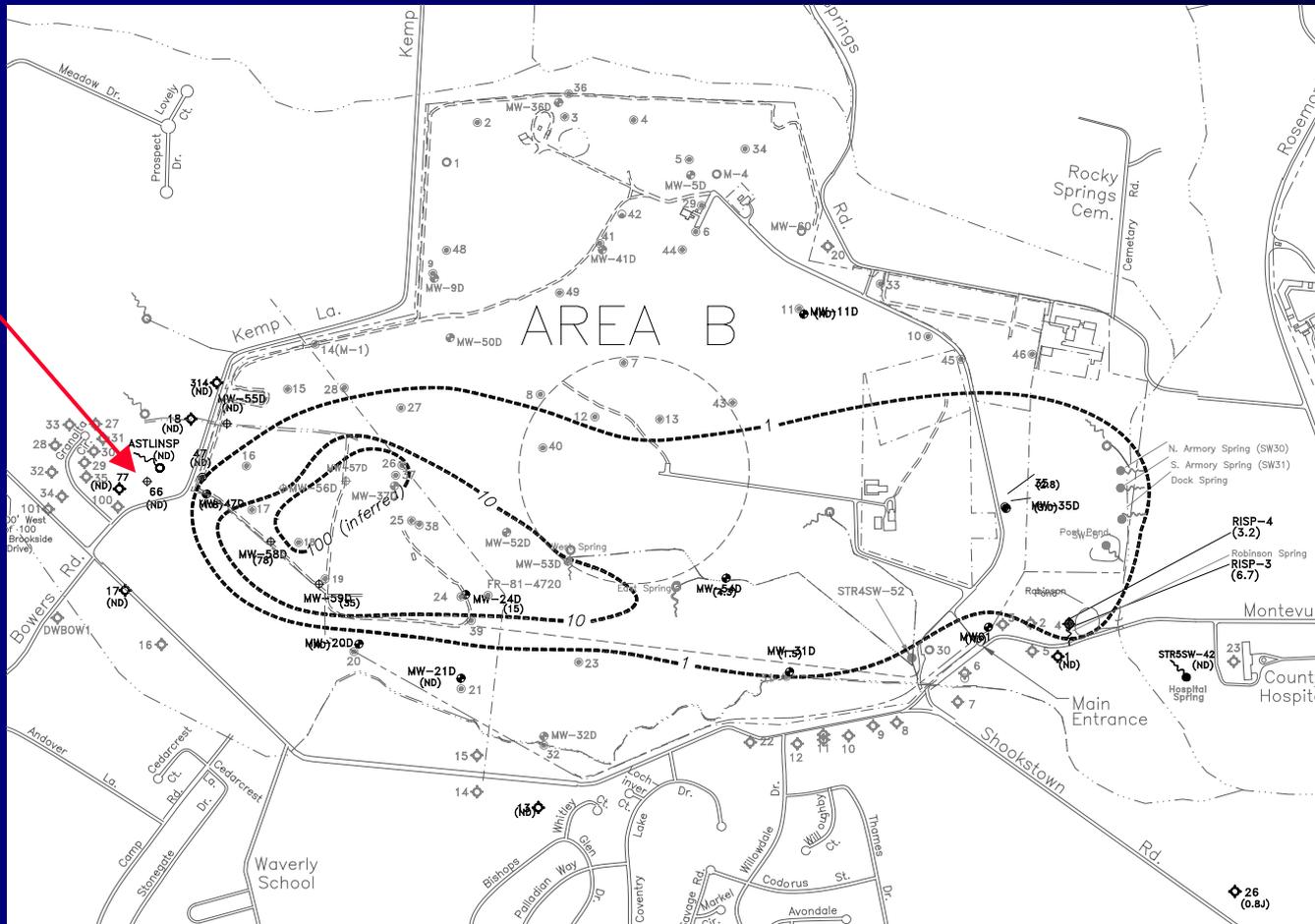




Area B TCE Concentrations June 2006

Extent of TCE plume relatively unchanged.

Previous TCE detection in DWELL-66 not confirmed in June 2006.





Area B TCE Concentrations June 2006

Historical Values
for:

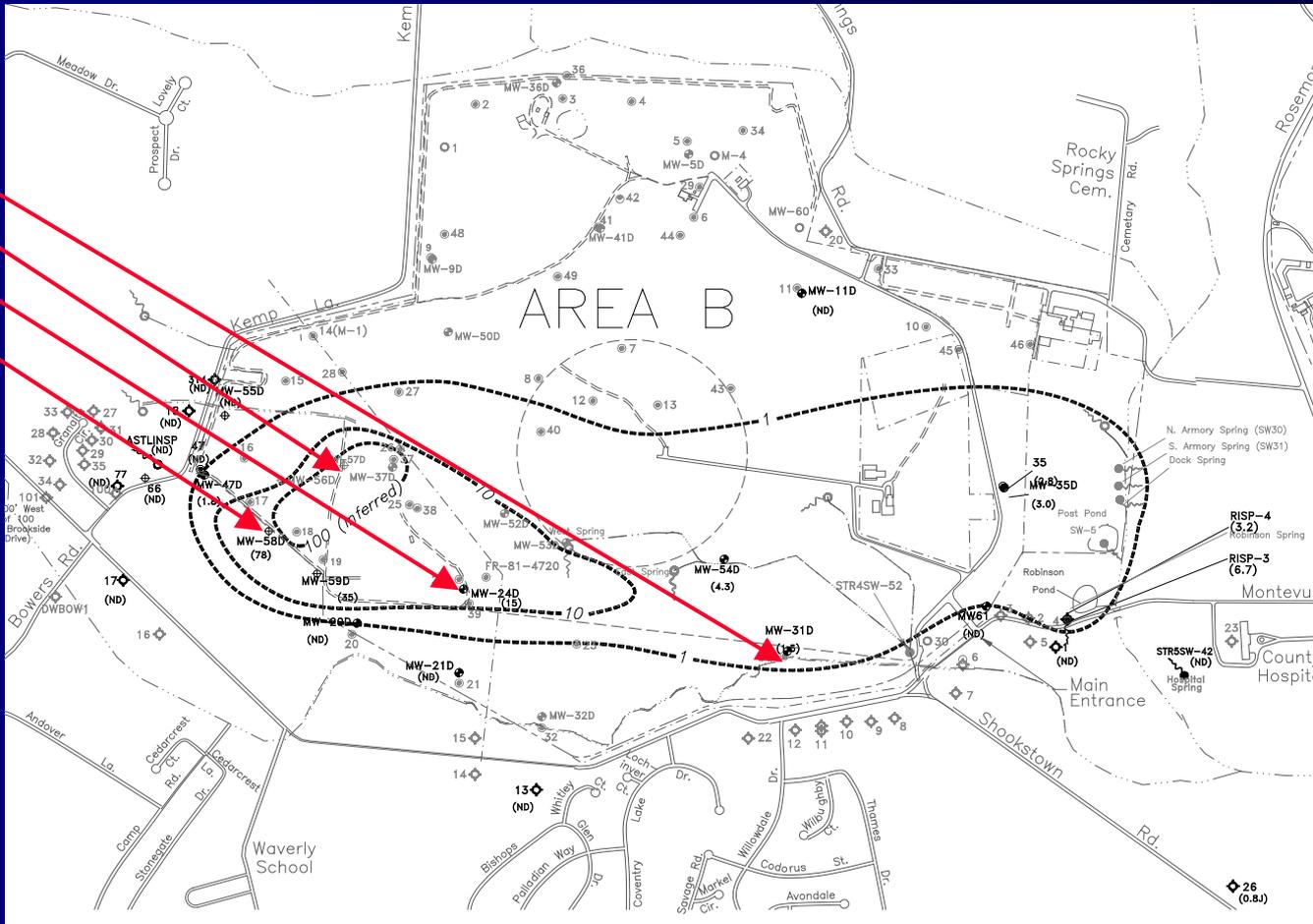
BMW31D

BMW57D

BMW24D

BMW58D

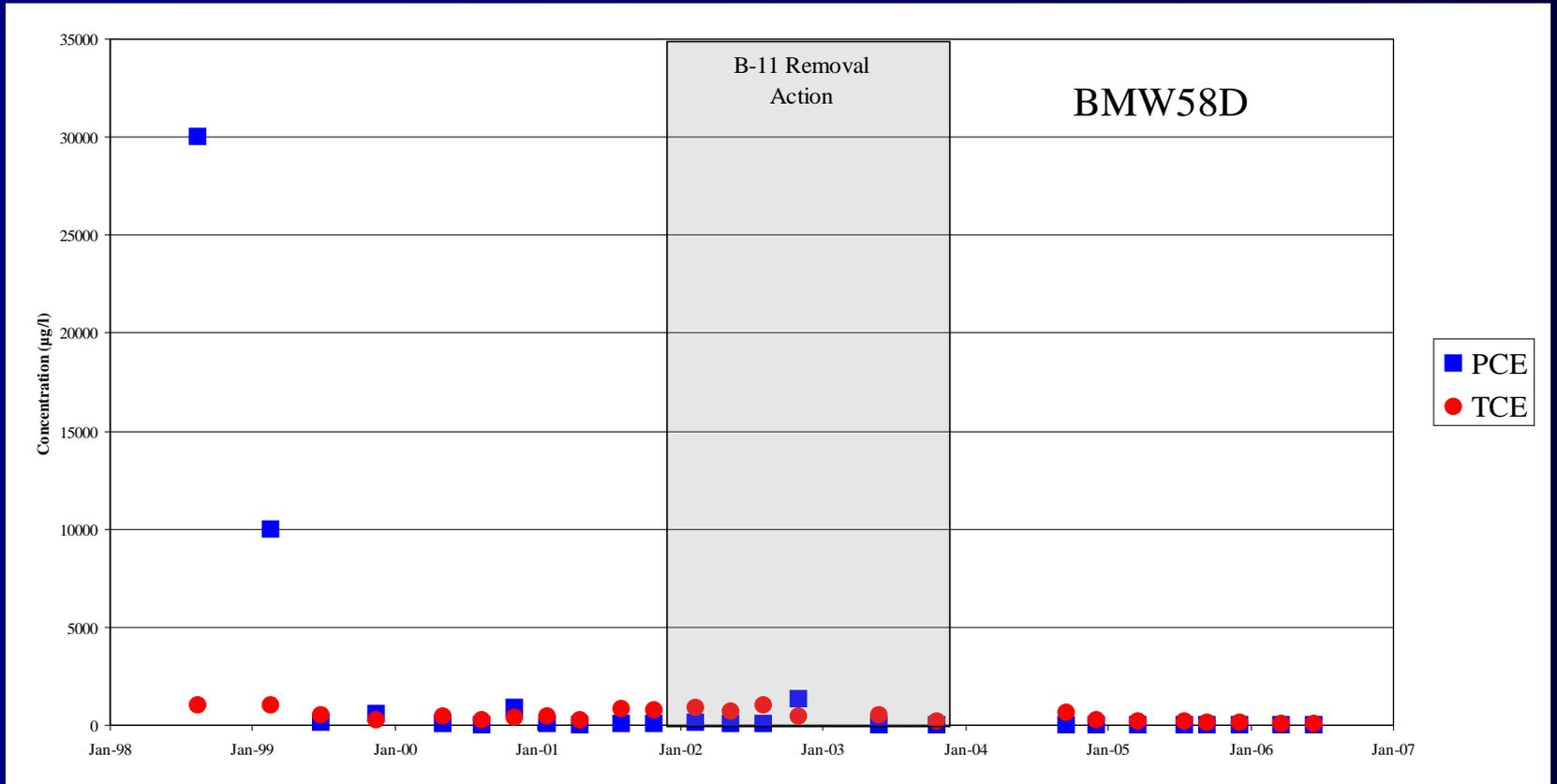
Shown on Next
Slides





BMW58D

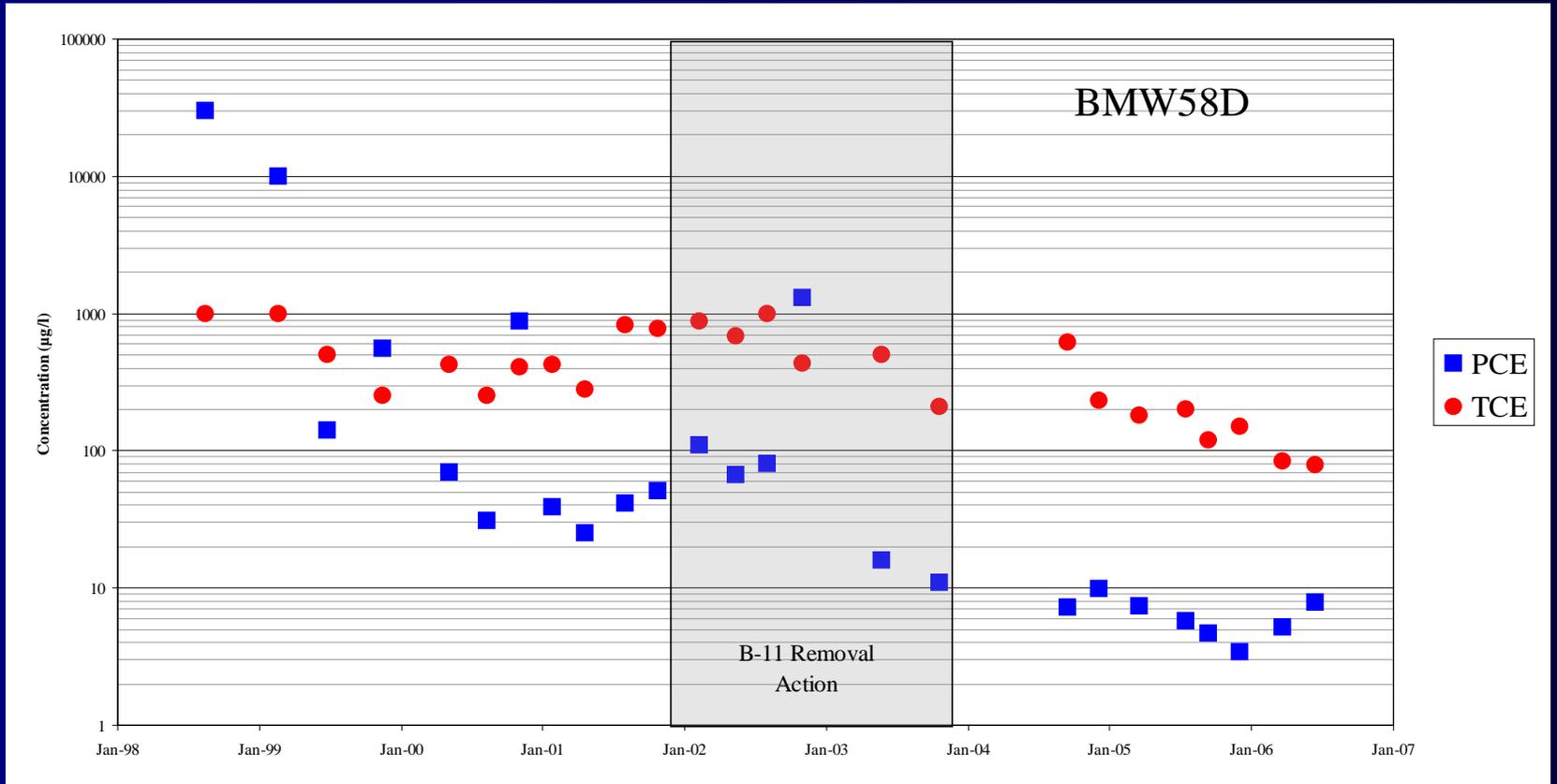
PCE and TCE Concentrations





BMW58D

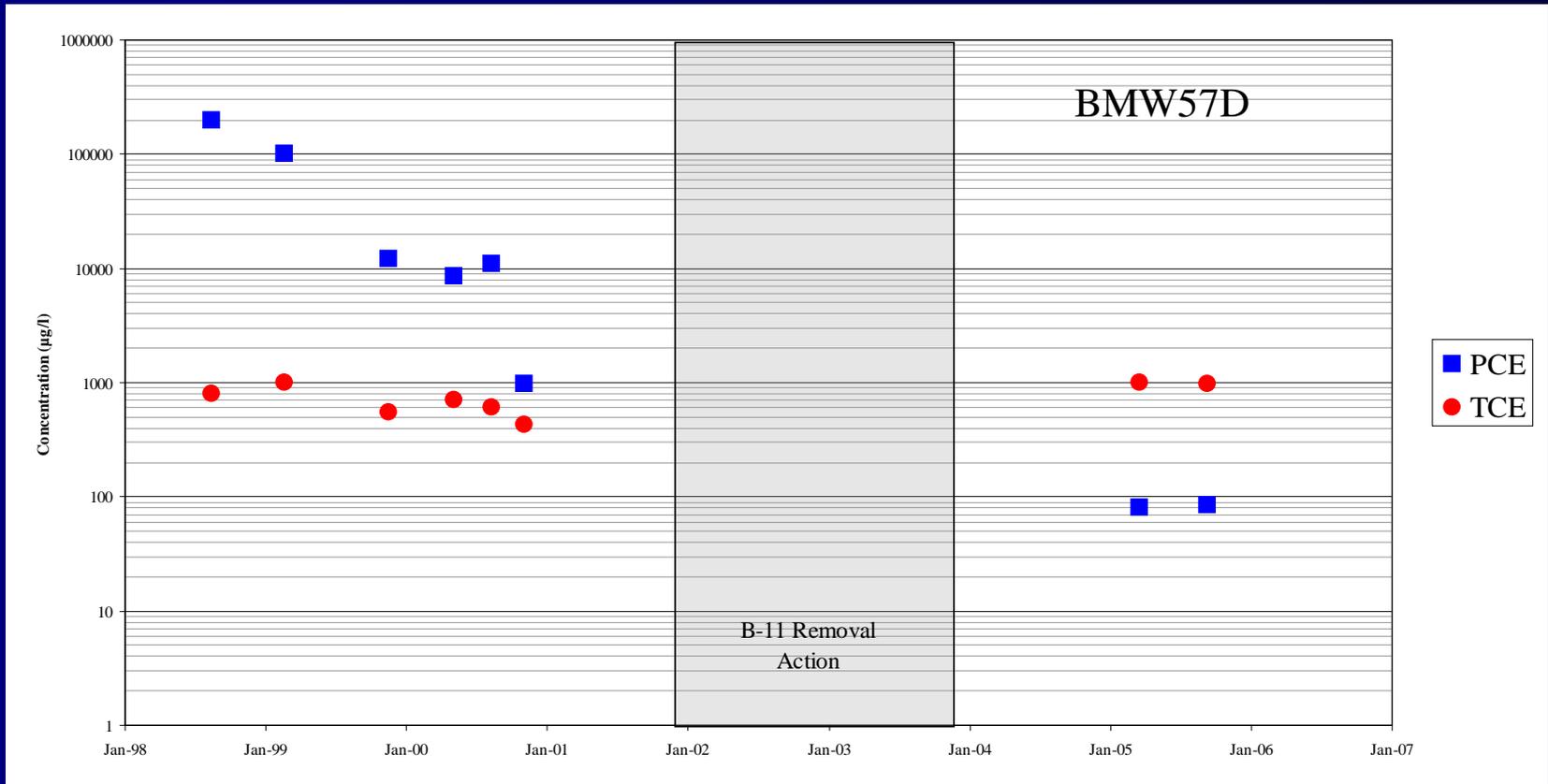
PCE and TCE Concentrations





BMW57D

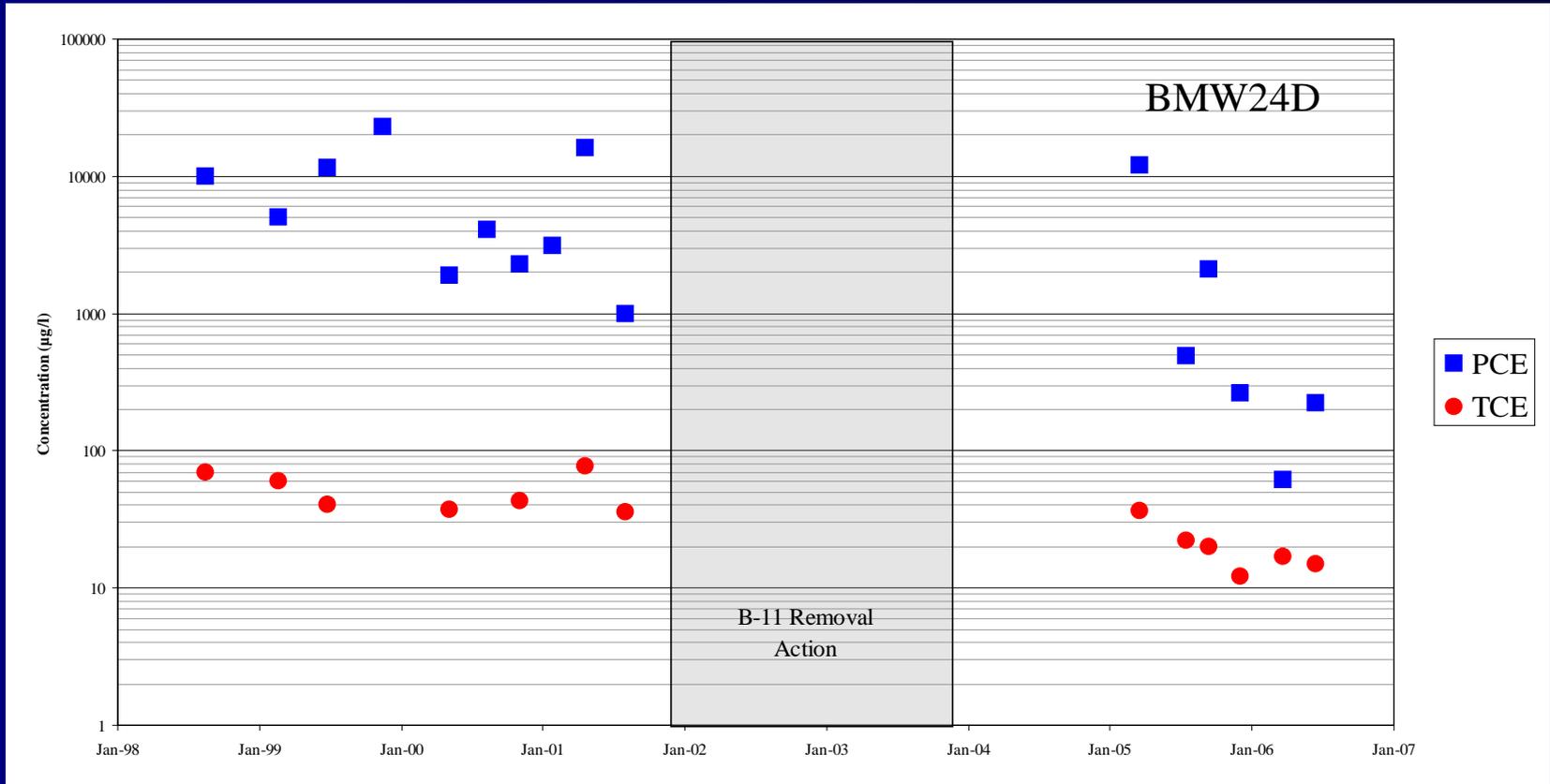
PCE And TCE Concentrations





BMW24D

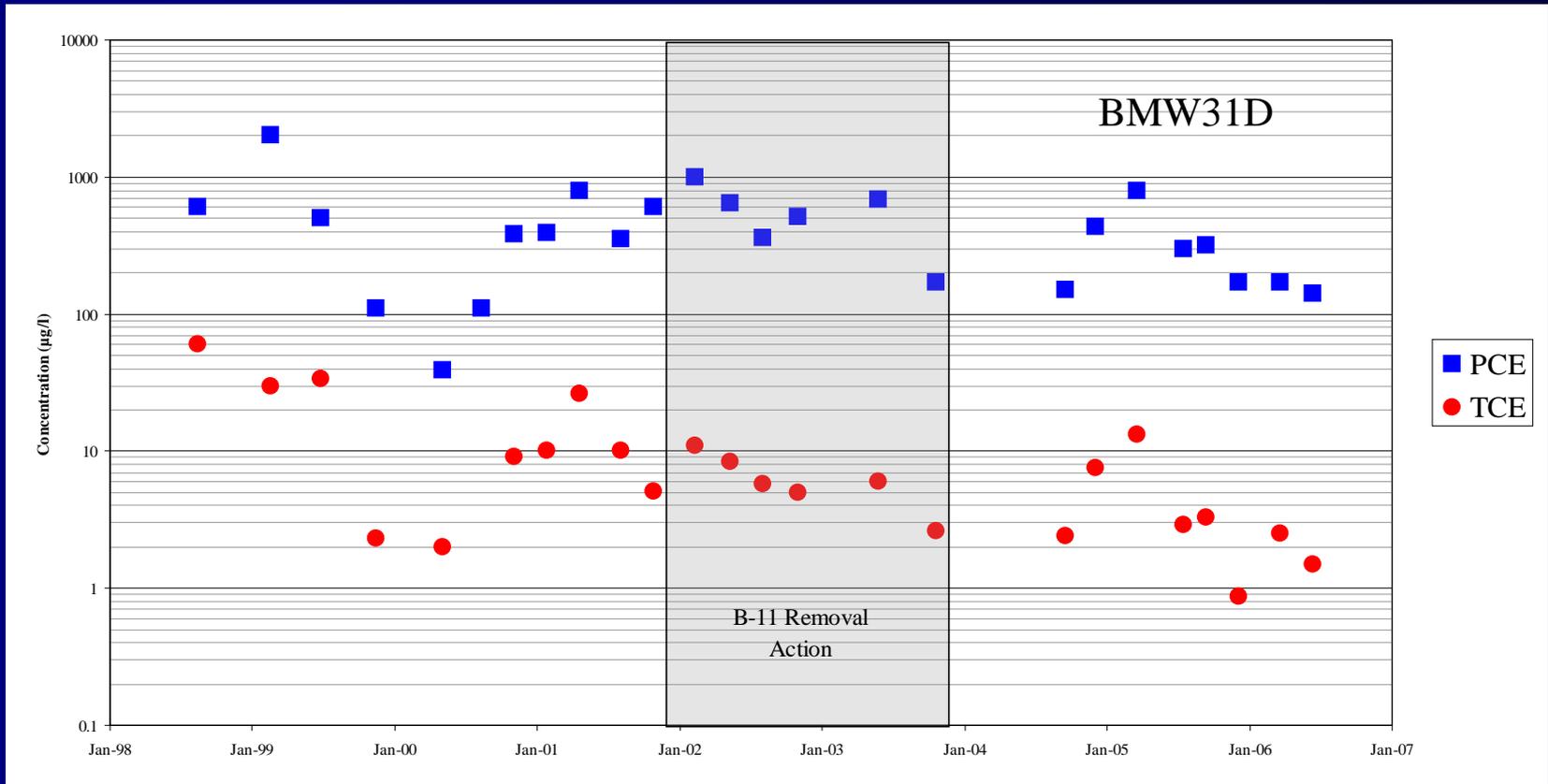
PCE and TCE Concentrations





BMW31D

PCE and TCE Concentrations



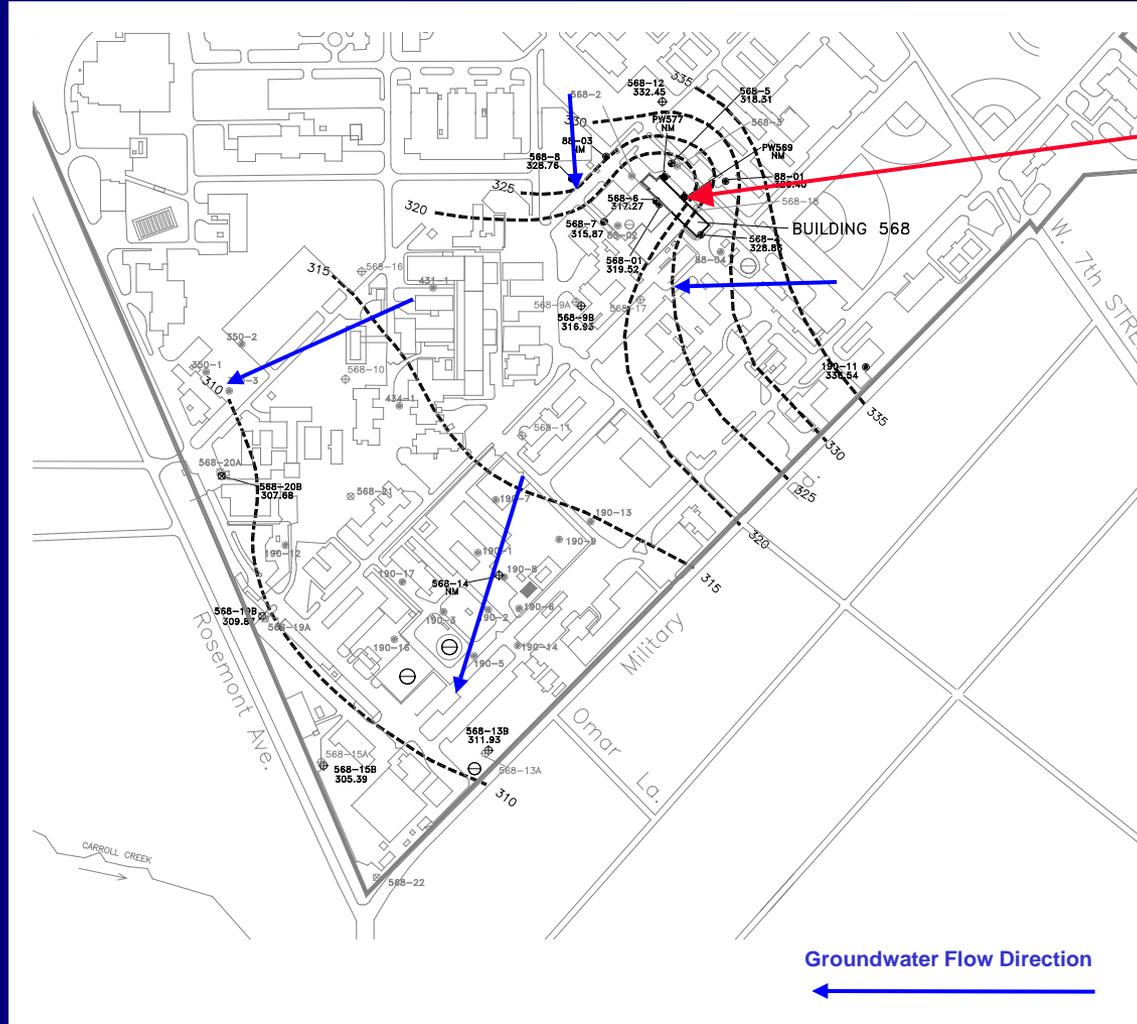


Area A Long-Term Groundwater Monitoring

March 2006



Area A Deep Groundwater Contours – March 2006

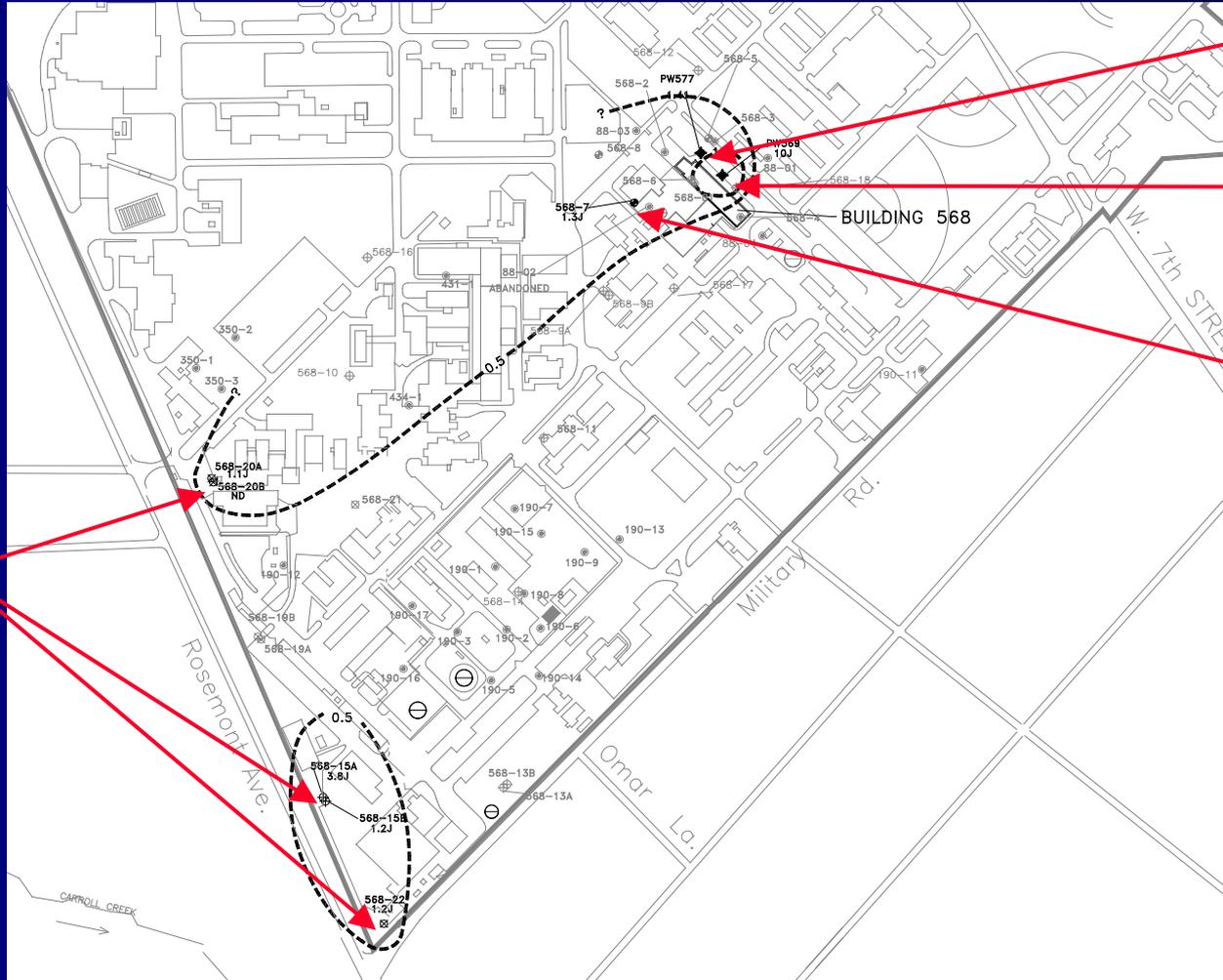


Building 568 TCE Spill Site

Water Extraction and Treatment System Creates Cone of Depression in Groundwater



Area A TCE Concentrations



Concentrations continue decreasing, as all but one well are below the MCL of 5 µg/l

Below MCL at Boundary

PW577
new low (1.4 µg/l)

PW569
new low (10 µg/l)

568-7 (1.3 µg/l)



Area A Water Towers



NOTICE
LAND USE CONTROL SITE
Before Digging, Trenching, or
Disturbing Soil in This Vicinity,
Call the Environmental Management
office at: 301-619-3918
Site ID FDD 68 NWT

No concerns
identified with
Area A water
towers during
March 2006
Long-term
Monitoring



NOTICE
LAND USE CONTROL SITE
Before Digging, Trenching, or
Disturbing Soil in This Vicinity,
Call the Environmental Management
office at: 301-619-3918
Site ID FDD 68 NWT

Land Use
Control signs
have been
posted at all
three water
towers



Other Area B Sites (Close-out Sites)



Other Area B Sites

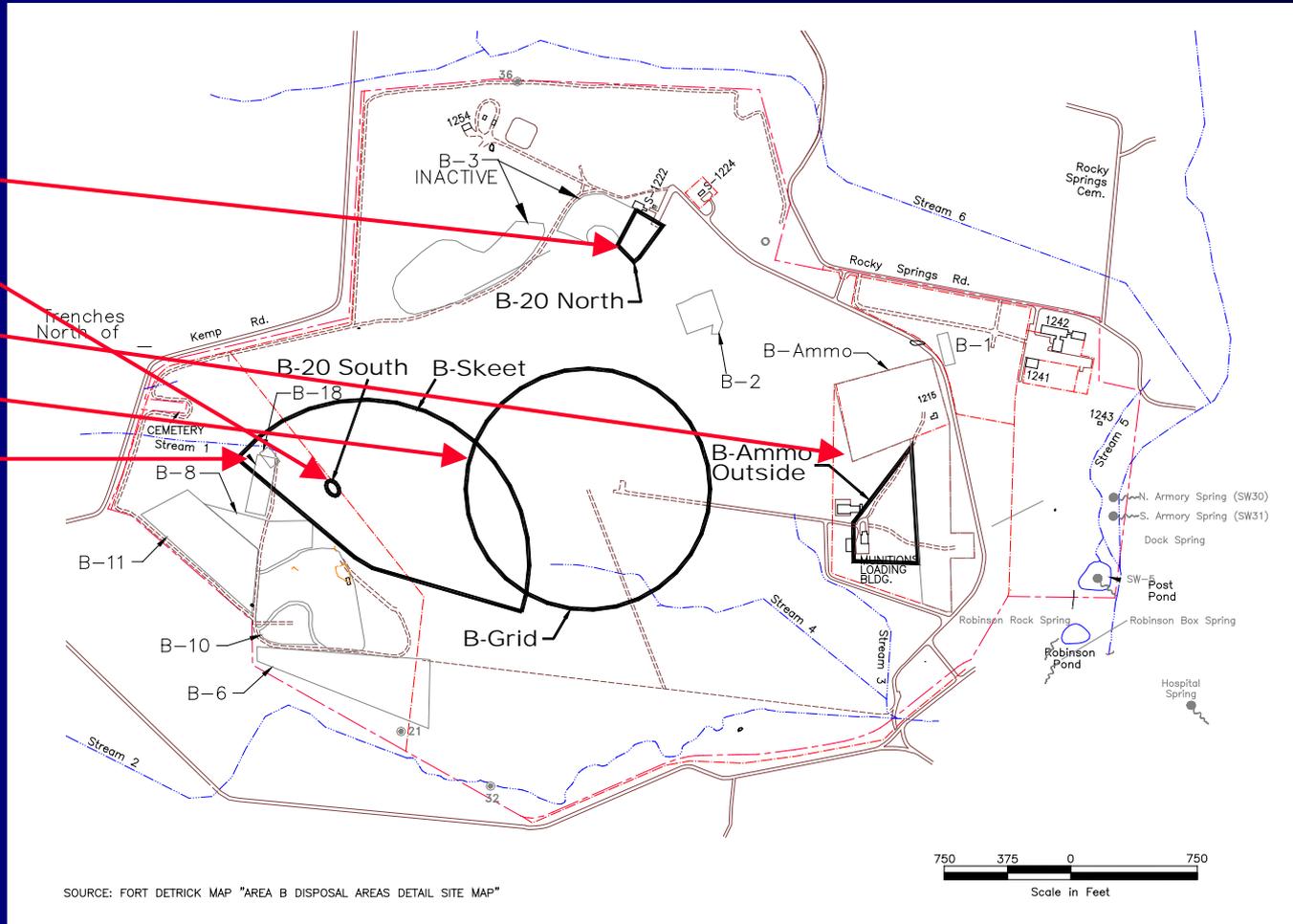
B-20 North

B-20 South

B-Ammo

B-Grid

B-Skeet





Other Area B Sites

- Remedial Investigation Report is being developed for the 5 Area B Sites:
 - B-Ammo
 - B-20 North
 - B-20 South
 - B-Grid, and
 - B-Skeet
- Report will include a Risk Assessment to determine if there are potential risks to human health and the environment
- Scheduled for Submittal to MDE on 1 September



Upcoming Activities

- **August 2006**
 - Submit Area B-18 Site Inspection Work Plan
- **September 2006**
 - Address MDE comments on Area B-2 RI/FS and finalize
 - Submit RI for 5 Area B Sites (Close-out Sites)
 - Area A Long-Term Monitoring
 - Area B Periodic Sampling
 - Site Inspection at Area B-18
- **October/November 2006**
 - Submit Area B-3 RI/FS
 - Submit Area B-6 RI/FS
 - Submit Area B-8 RI/FS
 - Submit Area B-10 RI/FS
 - Submit Area B-11 RI/FS
- **December 2006**
 - Area B Periodic Sampling
- **March 2007**
 - Area A Long-Term Monitoring
 - Area B Periodic Sampling