



# Fort Detrick Remedial Investigation/Feasibility Study

## Status Update

Fort Detrick Restoration Advisory Board Meeting  
13 June 2007  
Fort Detrick, Maryland



# Status Update Discussion

- **Area A Long-Term Monitoring**

Building 568 TCE Spill (FTD 66)

Water Towers (FTD 68)

- **Area B Former Disposal Sites**

Area B-2 (FTD 50)

Area B-3 Inactive (FTD 51)

Area B-6 (FTD 69)

Area B-8 (FTD 70)

Trenches North of B-8 (FTD 70)

Area B-10/B-10 Grove (FTD 71)

Area B-11 (FTD 49)

Area B-18 (FTD 70)

- **Area B Five No Further Action Sites**

B-Ammo (FTD 07)

B-20 North (FTD 43)

B-20 South (FTD 43)

B-Grid (FTD 05)

B-Skeet (FTD 29)

- **Area B Groundwater (FTD 72)**



# Area A Long-Term Monitoring



# Area A

## Long-Term Monitoring

- **Area A Water Towers (FTD 68)**
  - Monitoring conducted in September 2006 and March 2007
  - No issues noted
  - CERCLA Five-Year Review to be completed Summer 2007 to evaluate the selected remedy to ensure that it continues to be effective and protective
- **Building 568 TCE Spill Site (FTD 66)**
  - Groundwater sampling conducted September 2006 and March 2007
  - Data presented on the following slides
  - CERCLA Five-Year Review to be completed Summer 2007 to evaluate the selected remedy to ensure that it continues to be effective and protective



# Building 568 (FTD 66) TCE Concentrations March 2006

TCE Concentrations over the majority of the site continue to decline, especially in the source area:

## PW569

May 95 – 800 µg/L

May 02 – 130 µg/L

Sep 06 – 11 µg/L

Mar 07 – 7.2 µg/L

Slight increase observed in one well only.

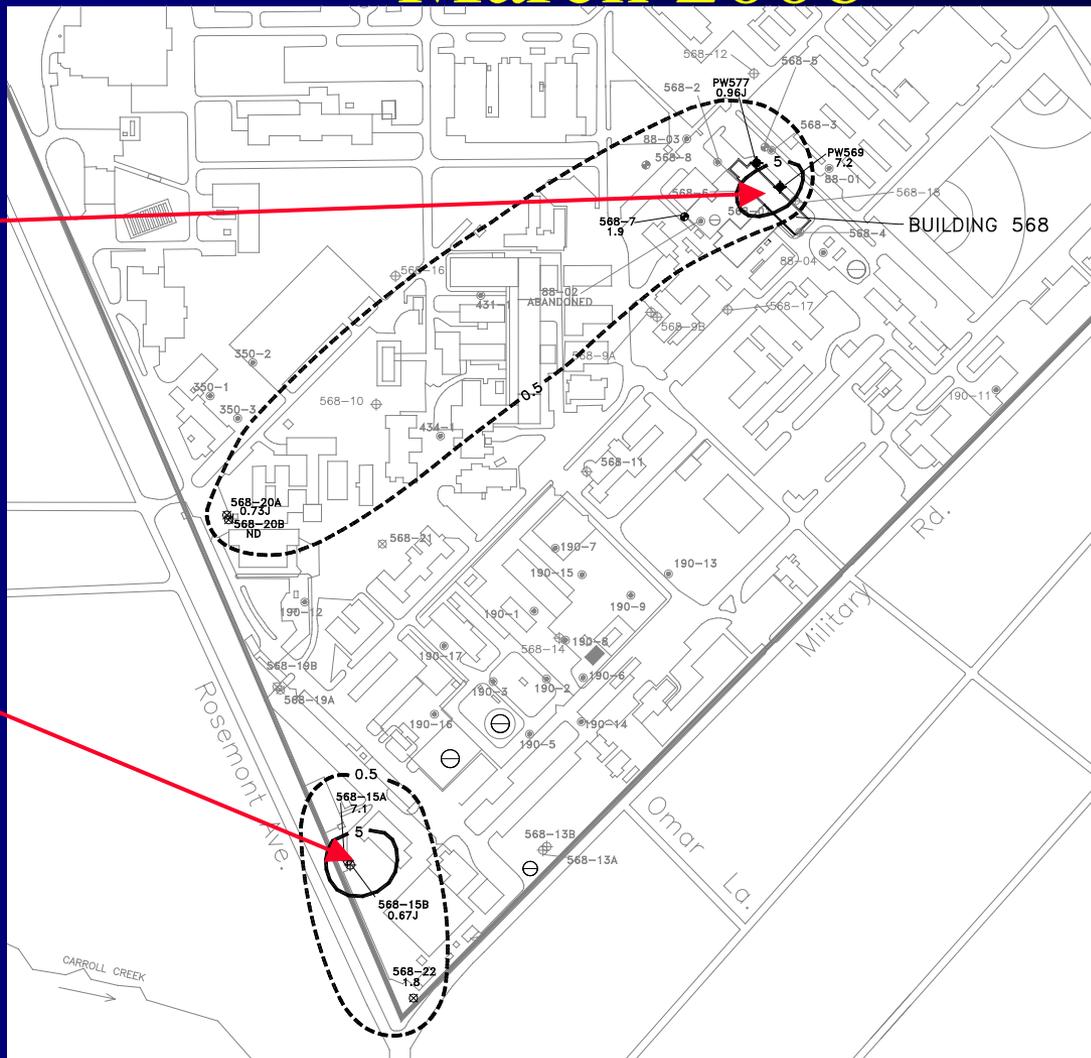
## 568-15A

Mar 06 – 3.8 µg/L

Sep 06 – 5.8 µg/L

Mar 07 – 7.1 µg/L

The MCL for TCE is 5 µg/L. Potential corrective actions will be considered in the 5-Year Review.





# Area B Former Disposal Sites



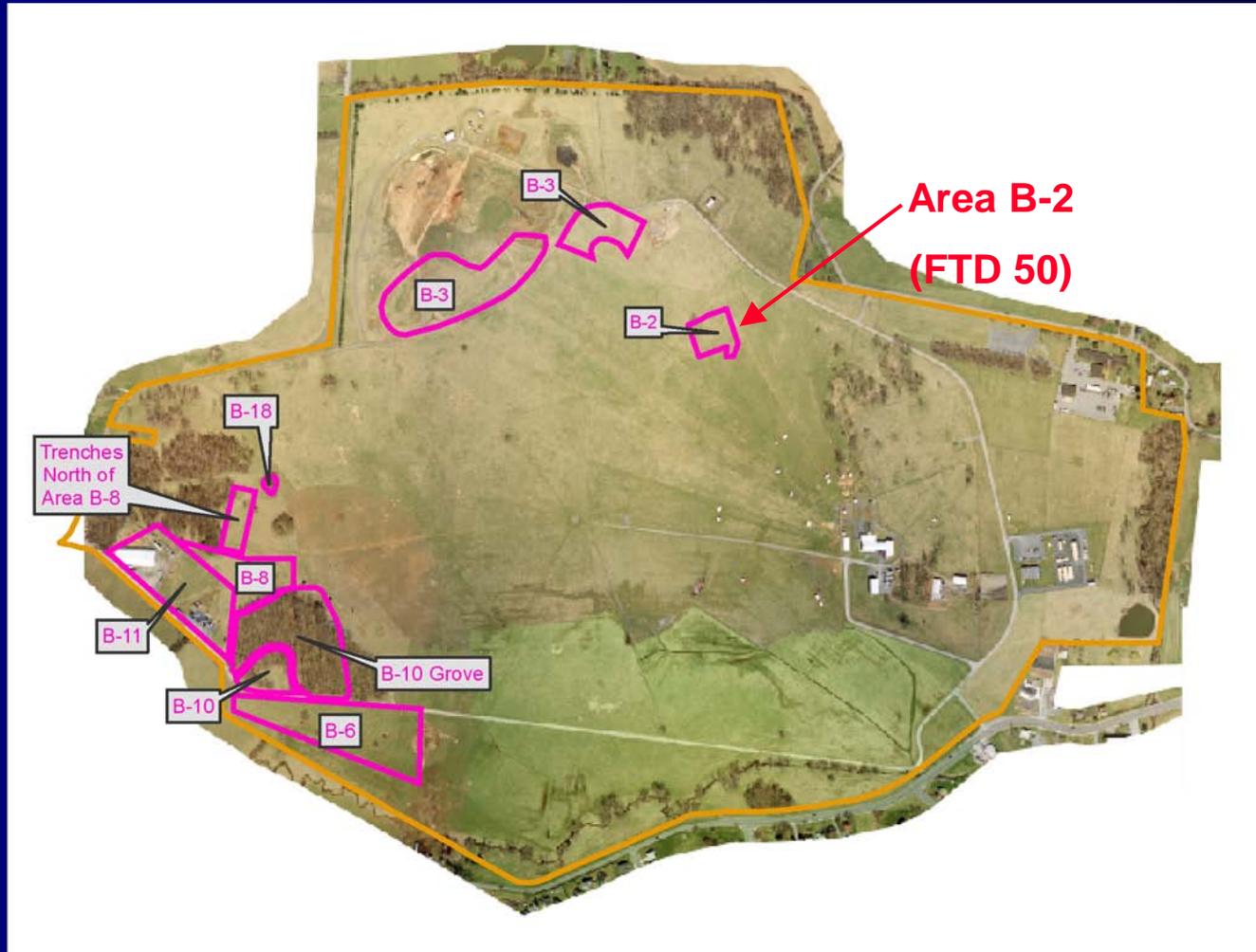
# Area B Former Disposal Sites





# Area B Former Disposal Sites

## Area B-2 (FTD 50)





# Area B Former Disposal Sites

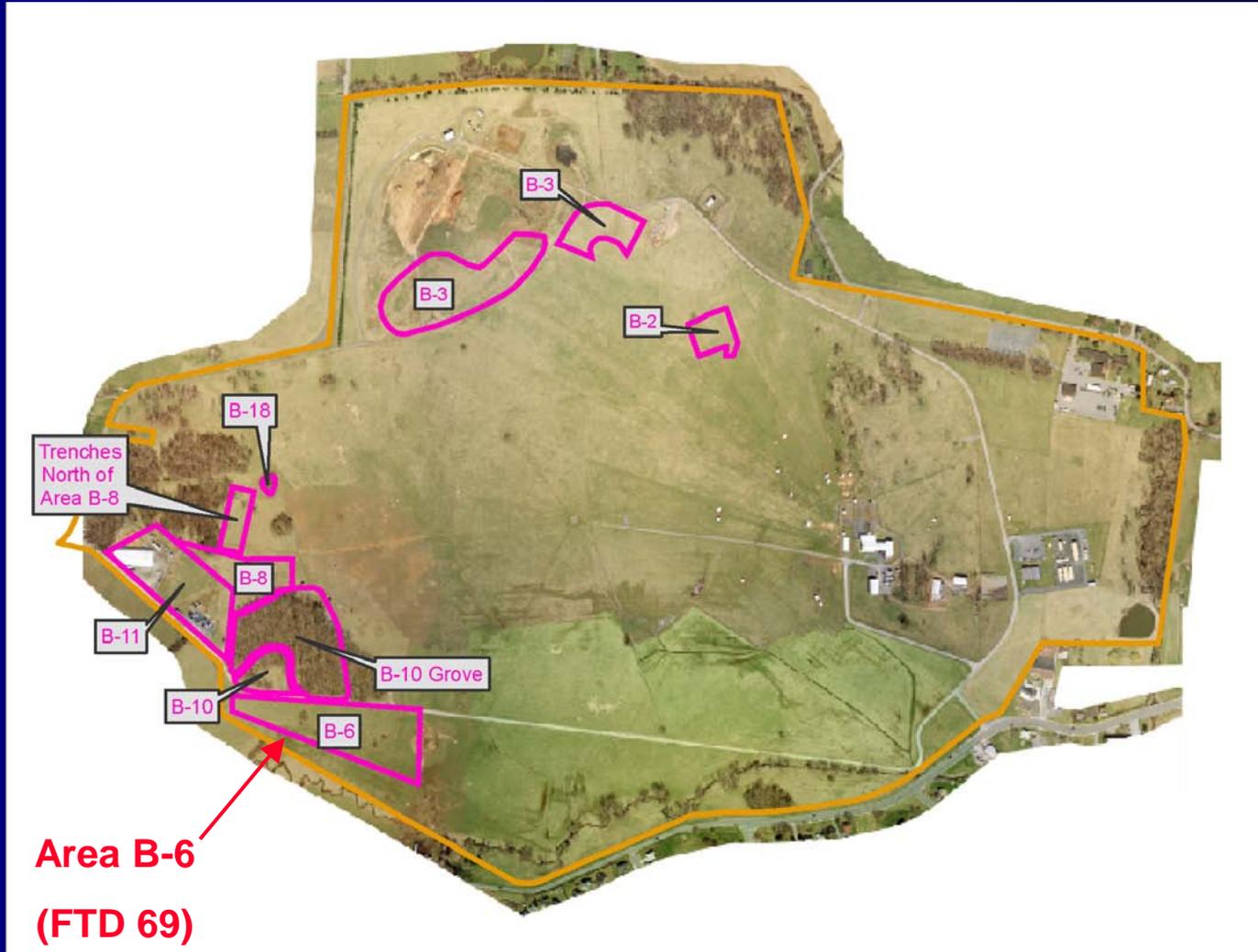
## Area B-2 (FTD 50) Schedule

- ✓ Remedial Investigation/Feasibility Study finalized in October 2006
- Proposed Plan has been reviewed and commented on by MDE. The PP has been revised as Draft Final and resubmitted to MDE and the RAB. Scheduled to be finalized in June 2007
  - Proposed Plan selects Presumptive Remedy of low-permeability cap in accordance with COMAR 26.04.07.21 for Sanitary Landfill Closure
- Public Comment Period to occur in Summer 2007
- Decision Document to officially record the selected remedy in Fall 2007
- Landfill Cap design in Fall/Winter 2007
- Landfill Cap installation in Spring 2008



# Area B Former Disposal Sites

## Area B-6 (FTD 69)



**Area B-6**  
**(FTD 69)**



# Area B Former Disposal Sites

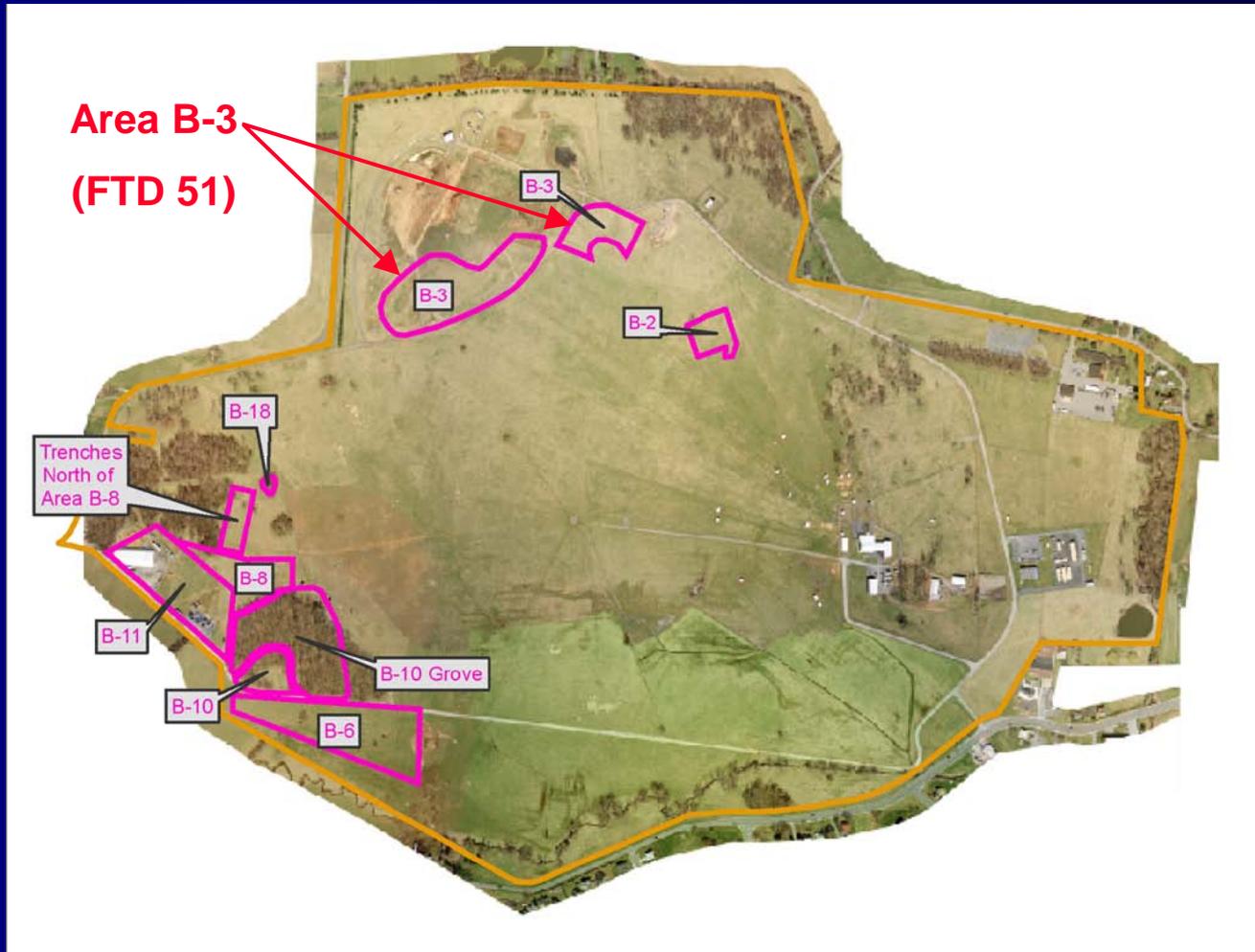
## Area B-6 (FTD 69) Schedule

- ✓ Remedial Investigation/Feasibility Study finalized in February 2006
- Proposed Plan and Public Comment Period to occur in Fall 2007 [to be combined with Area B-3 (FTD 51) and WDA (FTDs 49, 70, 71)]
- Decision Document to officially record the selected remedy in Fall 2007
- Landfill Cap design in Fall/Winter 2007
- Landfill Cap installation in Spring 2008



# Area B Former Disposal Sites

## Area B-3 Inactive (FTD 51)





# Area B Former Disposal Sites

## Area B-3 Inactive (FTD 51) Schedule

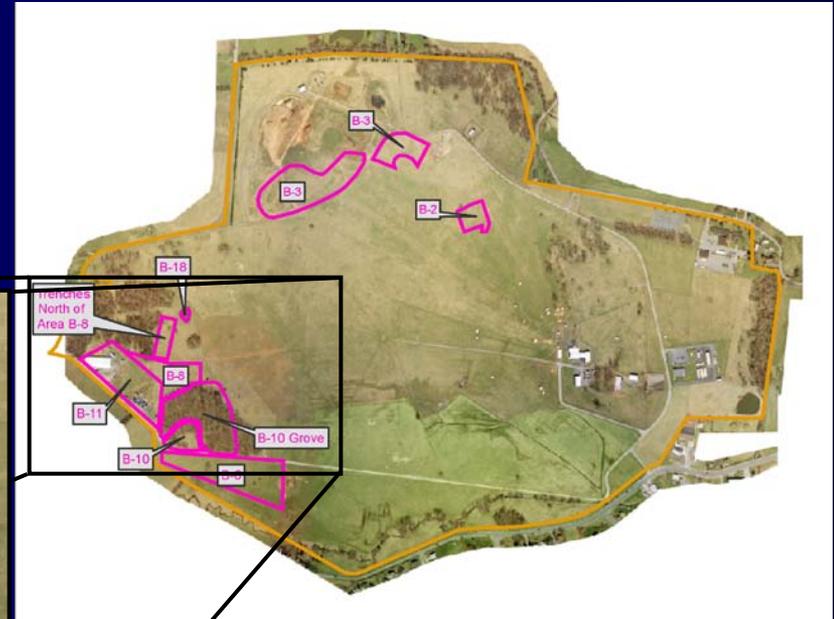
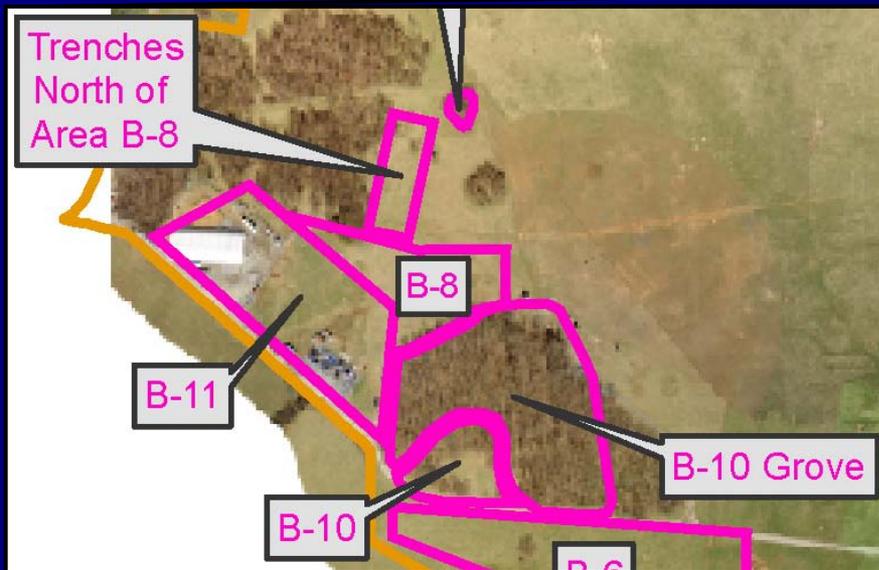
- ✓ Remedial Investigation/Feasibility Study submitted to MDE for review
- Proposed Plan and Public Comment Period to occur in Fall 2007 [to be combined with Area B-6 (FTD 69) and WDA (FTDs 49, 70, 71)]
- Decision Document to officially record the selected remedy in Fall 2007
- Landfill Cap design in Fall/Winter 2007
- Landfill Cap installation in Spring 2008



# Area B Former Disposal Sites Western Disposal Areas (FTDs 49, 70, 71)

Western Disposal Areas are:

- Area B-8 (FTD 70)
- Trenches North of B-8 (FTD 70)
- Area B-10 (FTD 71)
- Area B-10 Grove (FTD 71)
- Area B-11 (FTD 49)





## Area B Former Disposal Sites Western Disposal Areas (FTDs 49, 70, 71) Schedule

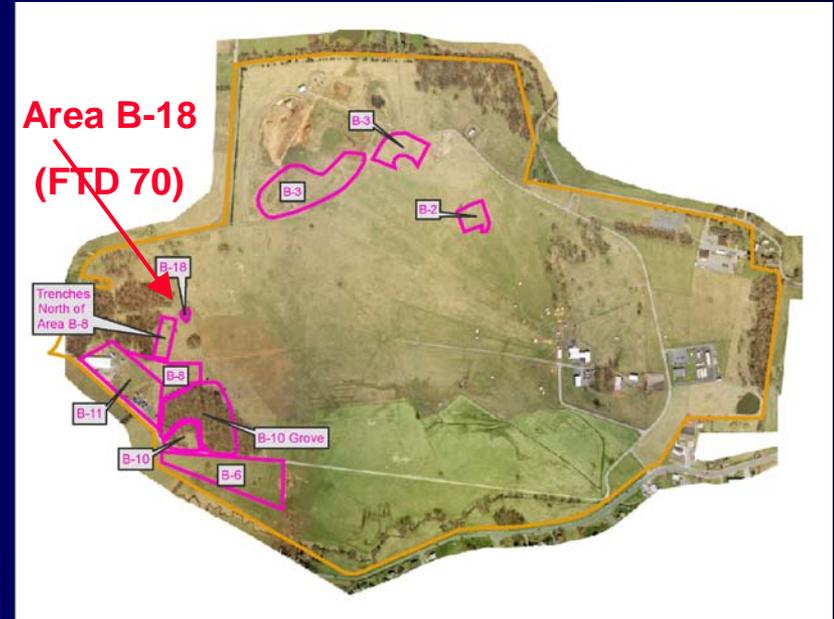
- ✓ Remedial Investigation/Feasibility Study submitted to MDE for review
- Proposed Plan and Public Comment Period to occur in Fall 2007 To be combined with Areas B-6 (FTD 69) and B-3 (FTD 51)
- Decision Document to officially record the selected remedy in Fall 2007
- Landfill Cap design in Fall/Winter 2007
- Landfill Cap installation in Spring 2008



# Area B Former Disposal Sites

## Area B-18 (FTD 70)

- ✓ Site Inspection Work Plan has been reviewed by MDE and is currently being finalized
- Field Work scheduled for July 2007



Surface metal debris will be removed and geophysical investigation will be performed to verify that there is no buried waste



# Area B Five NFA Sites (No Further Action Sites)



# Area B Five NFA Sites

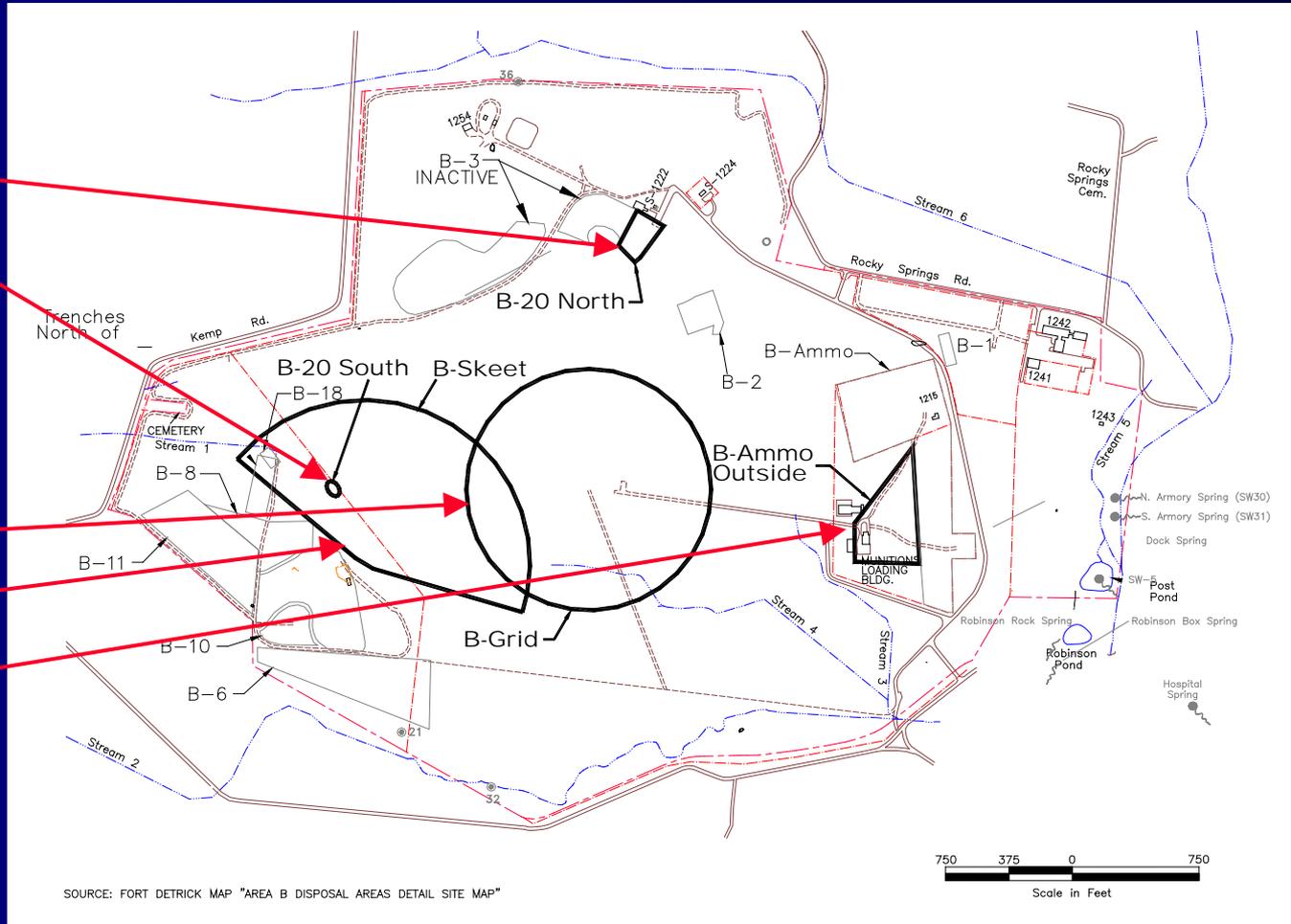
**B-20 North  
(FTD 43)**

**B-20 South  
(FTD 43)**

**B-Grid  
(FTD 05)**

**B-Skeet  
(FTD 029)**

**B-Ammo  
(FTD 07)**





# Area B Five NFA Sites

- Remedial Investigation Report was finalized in June 2007 for the 5 Area B NFA Sites:
  - B-Ammo (FTD 07)
  - B-20 North (FTD 43)
  - B-20 South (FTD 43)
  - B-Grid (FTD 05)
  - B-Skeet (FTD 29)
- Based on soil sampling for each site, the report indicated no unacceptable risks to human health and the environment
- A No Further Action Proposed Plan is being drafted for public comment in Summer 2007 (will be combined with Area B-2 PP)
- No Further Action Decision Document expected by Fall 2007



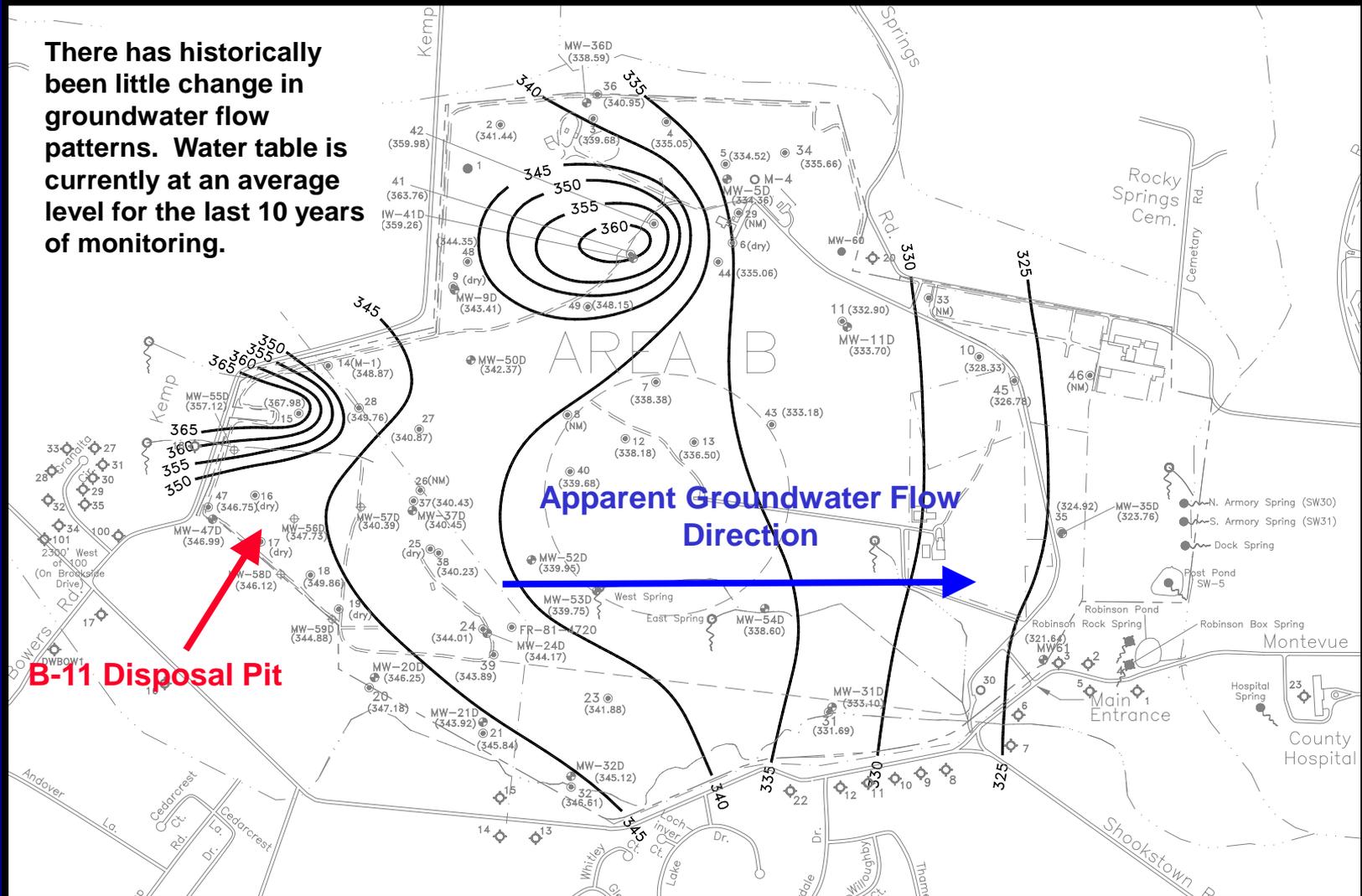


# Area B Groundwater – FTD 72



# Area B Groundwater (FTD 72) Contours September 2006

There has historically been little change in groundwater flow patterns. Water table is currently at an average level for the last 10 years of monitoring.



**B-11 Disposal Pit**

**Apparent Groundwater Flow Direction**



# Area B Groundwater (FTD 72) Monitoring

- September 2006 sampling was completed
- December 2006 sampling was completed
- March 2007 sampling was completed, but laboratory quality control issues prompted a partial re-sample in May 2007
- June 2007 sampling is scheduled to be conducted



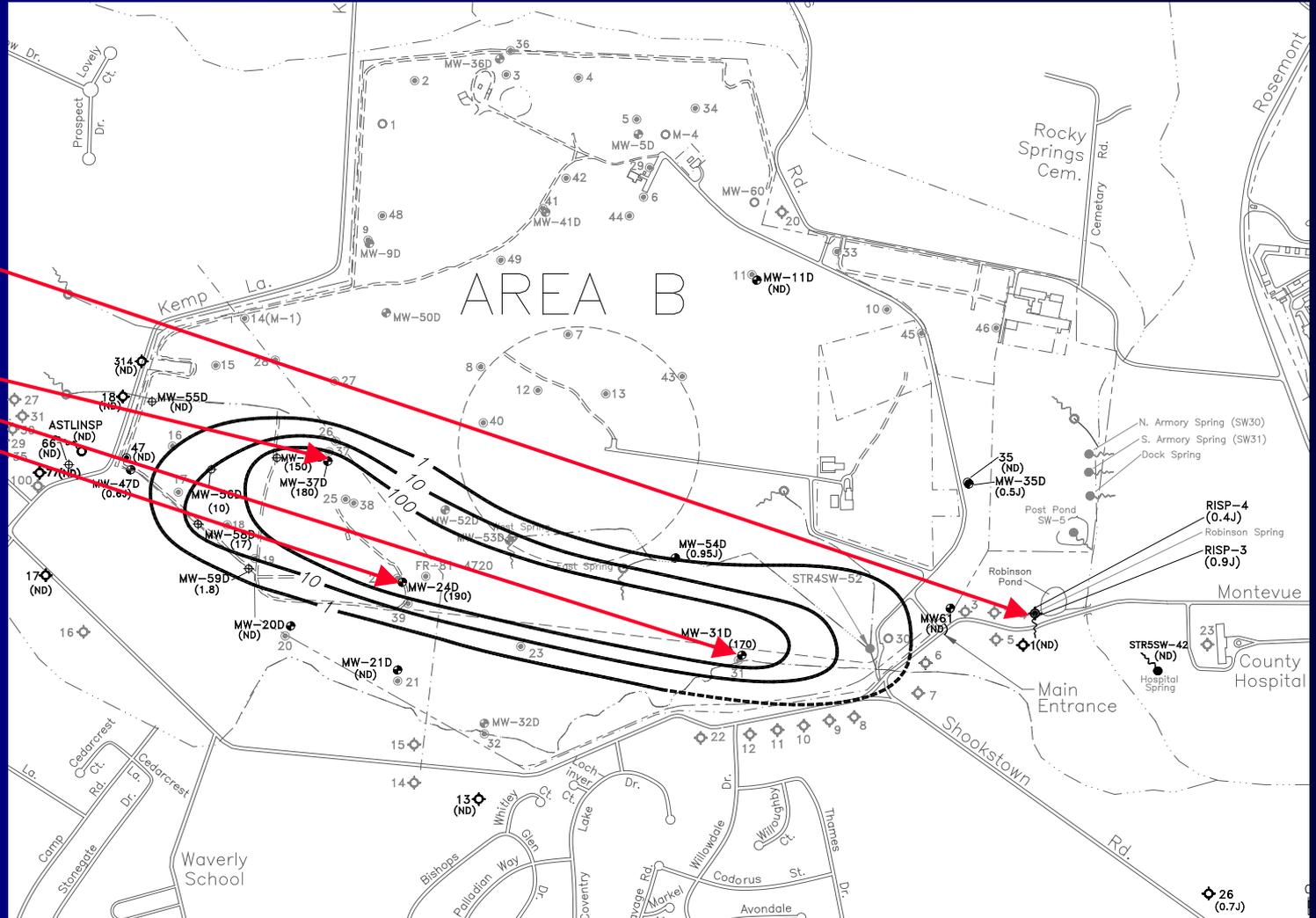
# Area B PCE Concentrations September 2006

Robinson Spring is  
highest off-post  
detection at 0.9  $\mu\text{g/L}$

BMW37D 180  $\mu\text{g/L}$

BMW31D 170  $\mu\text{g/L}$

BMW24D 190  $\mu\text{g/L}$





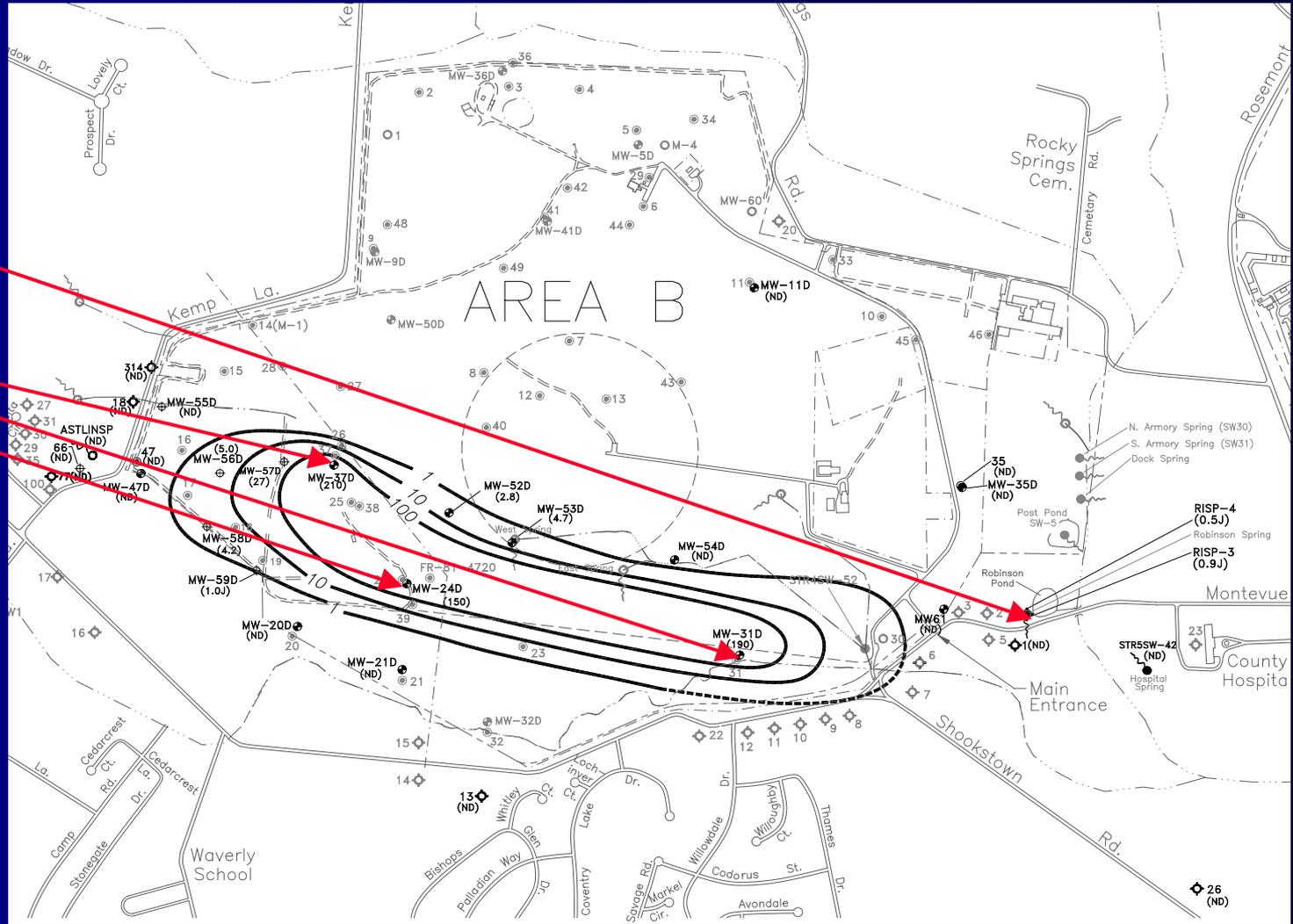
# Area B PCE Concentrations December 2006

Robinson Spring is  
highest off-post  
detection at 0.9 µg/L

BMW37D 210 µg/L

BMW31D 190 µg/L

BMW24D 150 µg/L





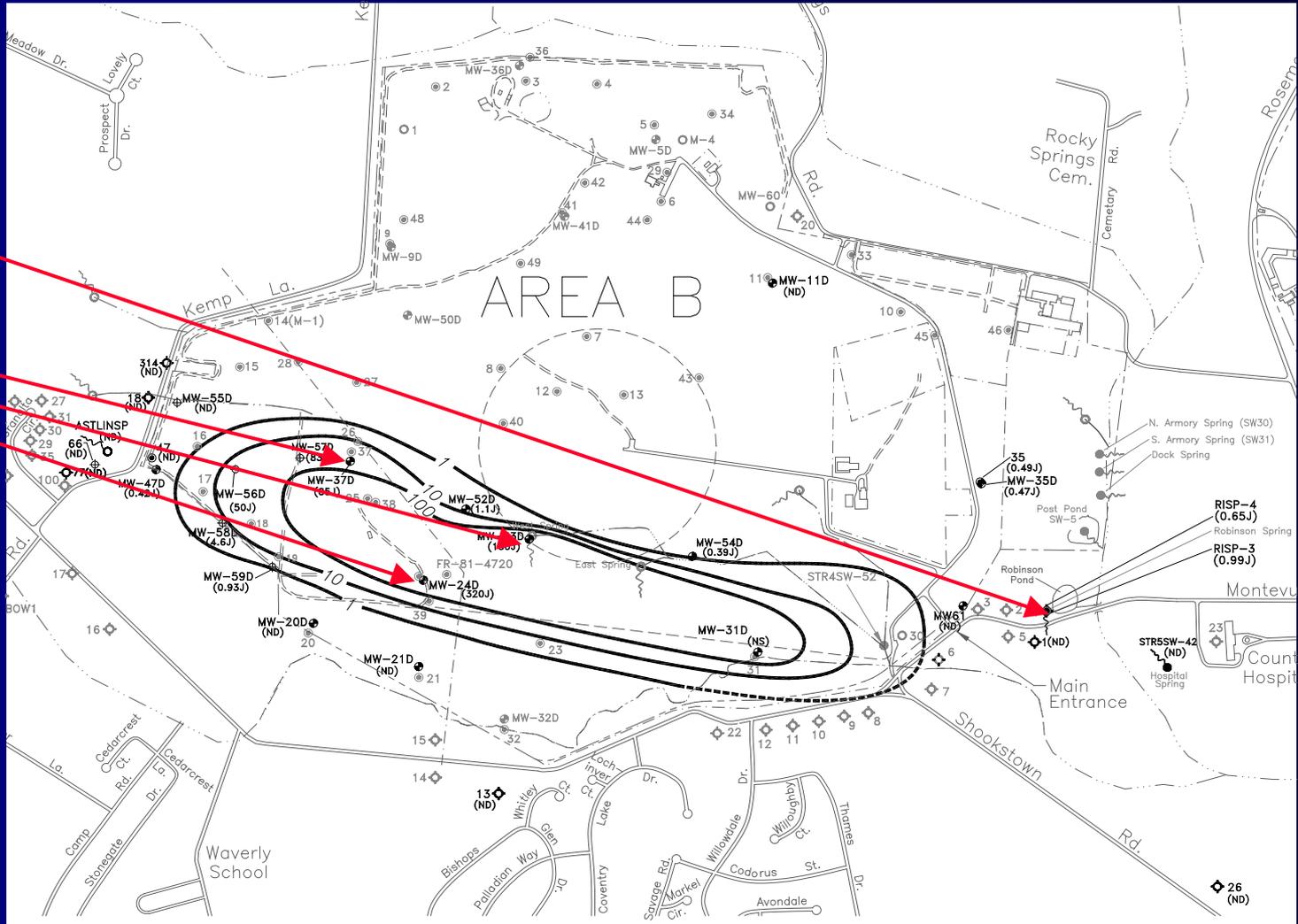
# Area B PCE Concentrations March/May 2007

Robinson Spring is  
highest off-post  
detection at 1.0 µg/L

BMW37D 85 µg/L

BMW53D 130 µg/L

BMW24D 320 µg/L

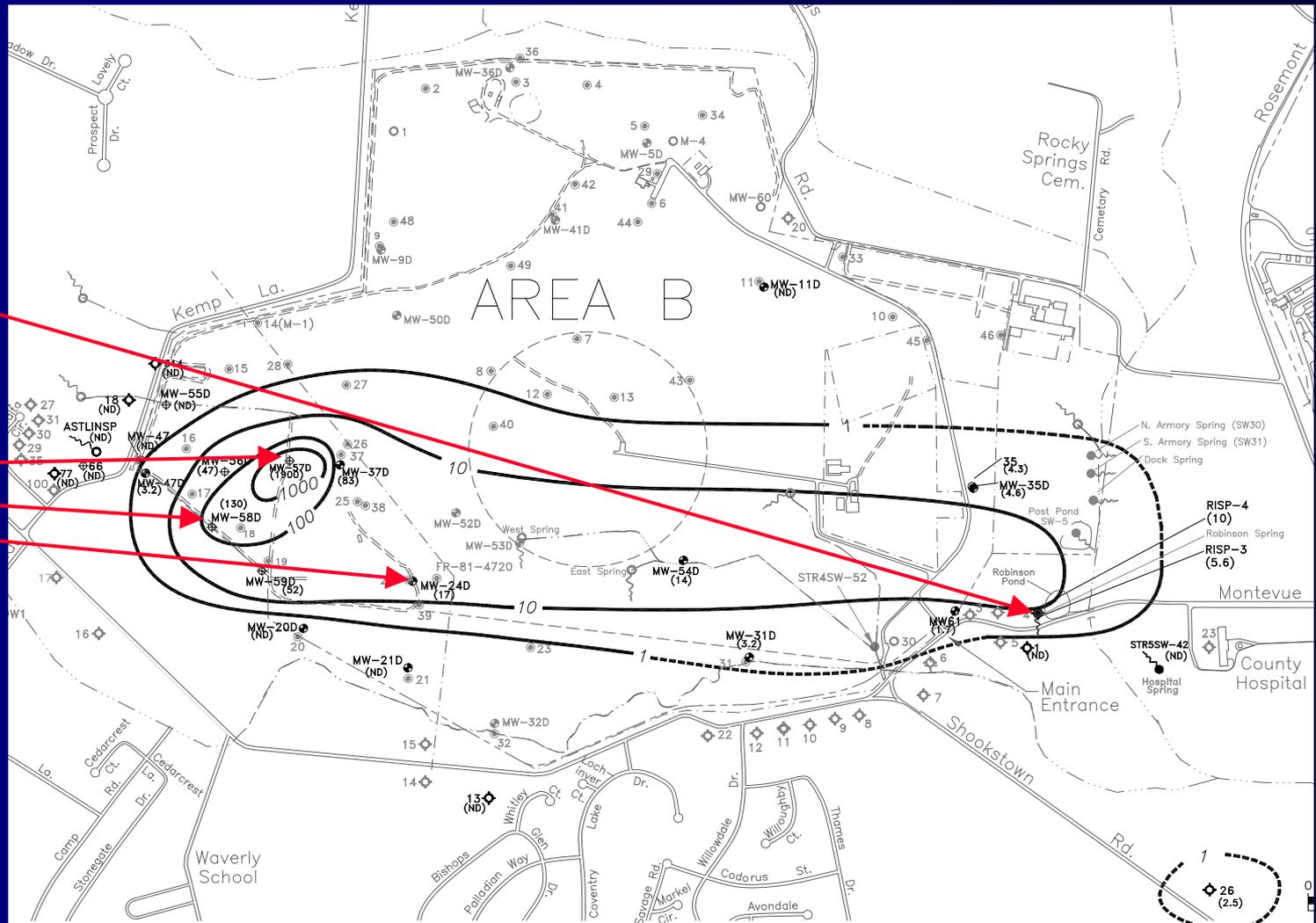




# Area B TCE Concentrations September 2006

Robinson Spring is highest off-post detection at 10 µg/L

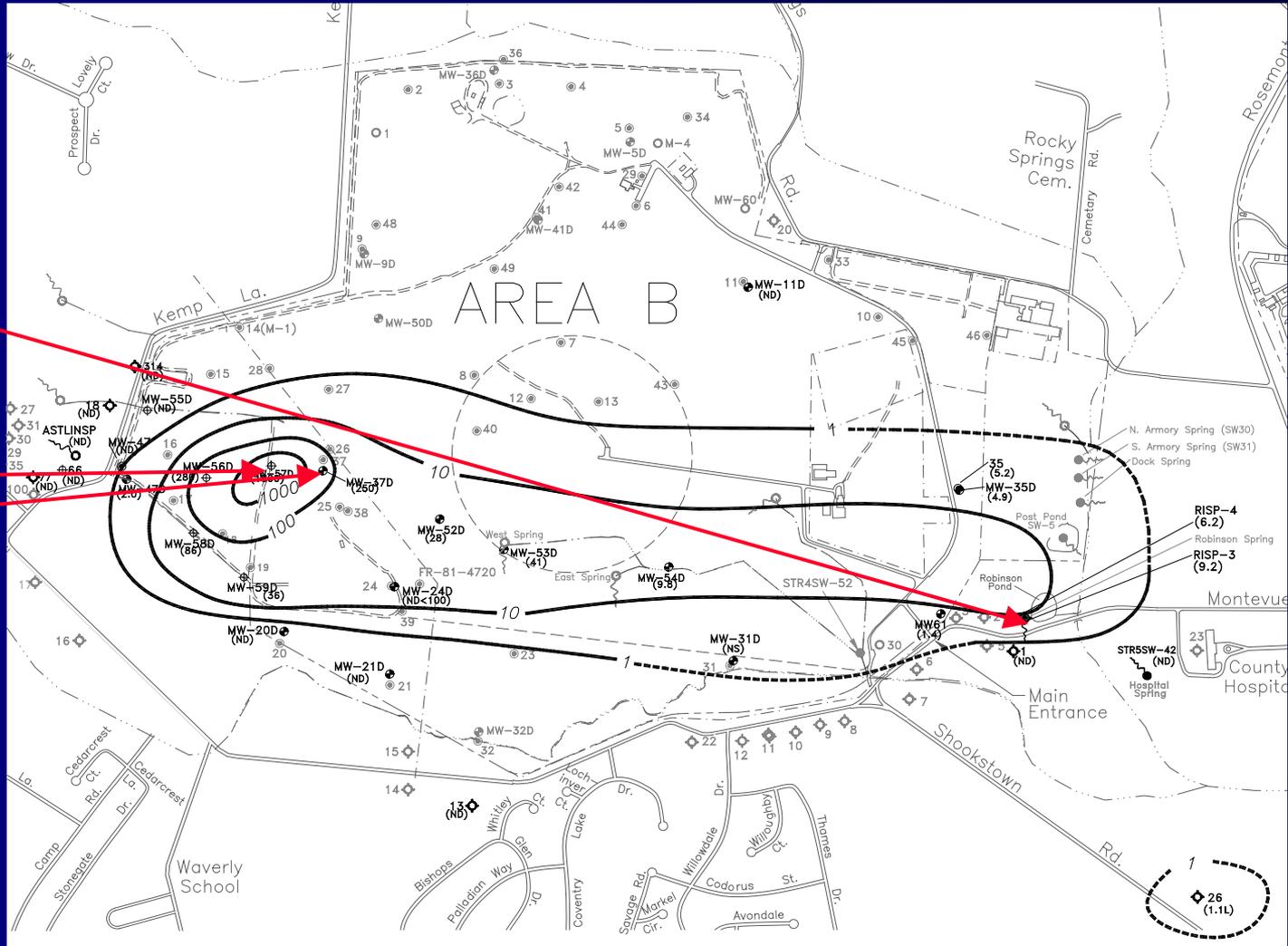
BMW57D 1900 µg/L  
BMW58D 130 µg/L  
BMW24D 170 µg/L







# Area B TCE Concentrations March/May 2007





# Area B Groundwater (FTD 72) RI/FS Process

- Remedial Investigation
  - Identify Nature and Extent of Contamination
  - Calculate Risk
- Feasibility Study
  - Develop Remedial Action Objectives
  - Evaluate Remedial Alternatives to Include
    - In-Situ Chemical Oxidation
    - Enhanced Bioremediation



# Area B Groundwater (FTD 72) RI/FS Path Forward

- An Army-MDE meeting was held 6 June 2007 to discuss the path forward
  - MDE is concerned that the nature and extent of contamination has not been sufficiently determined given the difficult hydrogeologic (karst) environment
  - Army will present existing data and interpretations, together with a proposed path forward for completion of the groundwater investigation, to MDE in a technical memorandum by August 2007



# Summary of Upcoming Activities

## • June 2007

- Finalize Area B-2 (FTD 50) Proposed Plan
- Conduct Area B Periodic Sampling

## • Summer 2007

- Finalize Area B-3 Inactive (FTD 51) RI/FS
- Finalize Western Disposal Area [B-8/Trenches (FTD 70), B-10 (FTD 71), B-11 (FTD 49)] RI/FS
- Submit Area B Groundwater (FTD 72) Technical Memorandum to MDE
- Finalize Proposed Plan for Five No Action Sites
- Conduct Public Comment for Area B-2 (FTD 50) and Five No Further Action Sites (FTDs 07, 43, 29, 43, 05)
- Site Inspection (Geophysical Investigation) at Area B-18 (FTD 70)
- CERCLA Five-Year Review for Area A Long Term Monitoring Sites



# Important Reminder

- Just a reminder,
- When you leave tonight, please press the green button on either side of the doors to exit. The center bar is for emergency exit only and will set off alarms.
- Thank you