

**US Army Corps
of Engineers
Baltimore District**

Fort Detrick Remedial Investigation/Feasibility Study

**Restoration Advisory Board Meeting
21 August 2002 7:30 PM
Fort Detrick, Frederick, Maryland**



**US Army Corps
of Engineers
Baltimore District**

Fort Detrick

Area B-11 Removal Project Status



- No lost time accidents (567 days)

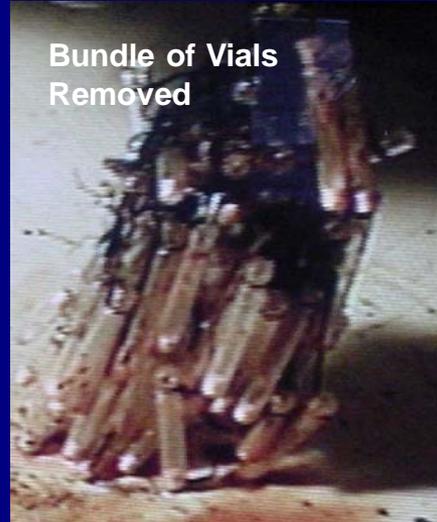
SITUATION AS OF 12 JUNE 2002 RAB MEETING:

-Operations were suspended due to upgrade of systems to handle biological material.

DEVELOPMENTS SINCE 12 JUNE 2002:

- Operations resumed 18 June 2002
- 1100 tons of soil removed as of 8/14/02
- Vials and medical waste removed
- 12 Drums recovered (as of 8/15/02)
- Main Issue – Heat – Tent temperatures sometimes near 100 F by 9-10AM.

Cool Suits/tube suits being used to deal with heat.



Bundle of Vials
Removed



Tube Suit



Drums Removed from
Excavation



14 8:1



**US Army Corps
of Engineers**
Baltimore District

Fort Detrick

Area B-11 Removal Project Status

Drum Removal Summary

- **12 drums removed as of 8/15/02 (all 55-gallon except for one 5-gallon plastic)**
- **All are generally in poor condition or are severely damaged**
- **5 were empty**
- **6 had material in them and were overpacked waiting characterization**
- **Several had an indication that volatile organic compounds (VOC) may be in them. VOCs have been the primary groundwater contaminant in Area B**



13 9:35 AM



13 9:22 AM





13 9:31 AM



13 9:33 AM





14 8:17 AM



Fort Detrick

US Army Corps Area B-11 Removal Project Status (Continued) of Engineers

Baltimore District

- **Process Upgrades:**

- Fogging unit purchased for interior disinfection in case pathogenic material is found and potentially released in tent.

- Checked and confirmed adequacy of bleaching procedure using multiple strengths of bleach (5 applications in each batch)

- **Production Delays**

Soil removal has been limited to 50% to 75% projected output due in part to:

- **Heat.** High temperatures have limited production.

- **Biological Waste:** The large number of pieces of biological waste (mostly syringes) have caused a slow-down in operation

Fogging Unit



HEPA UNIT





Fort Detrick

US Army Corps of Engineers Area B-11 Removal Project Status (Continued) Baltimore District

•New Schedule

- Operations restarted on June 18, 2002
- Pit 1 to be completed by **April/May 2003**
- Planning and setup for pits 2,3,4 scheduled for 2003 pending funding

• Funding

- Additional \$3.2 million obtained.
- FY03 funds should be available to complete Pit 1





Fort Detrick RI/FS

Area A Update

US Army Corps
of Engineers
Baltimore District

No New Items Completed Since Last RAB Meeting

Pending Schedule:

Semi-Annual Sampling Report
LTM (Five Year Review)

Estimated Completion Date

September 02
July 06

Items Completed:

Area A Long-Term Monitoring (LTM) Plan
Area A LTM Sampling (1st round)

Completed Date

April 02
May 02



US Army Corps
of Engineers
Baltimore District

Fort Detrick RI/FS

Area A Update May 2002 Sampling TCE Results

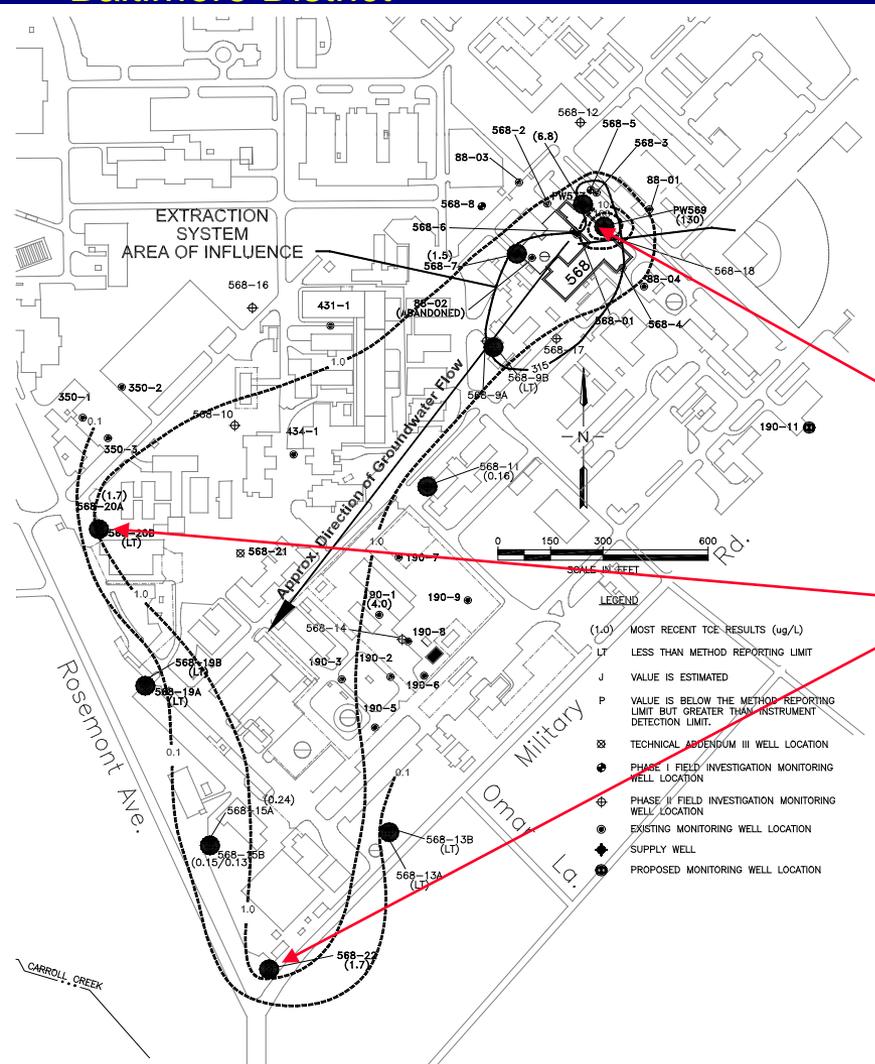
The objectives of the Area A monitoring are to:

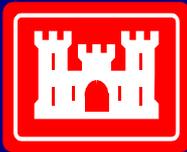
- 1) Assess whether concentrations of trichloroethene (TCE) above the Federal Maximum Contaminant Level (MCL, 5 parts per billion, ppb) are moving off Fort Detrick Property and
- 2) Assess containment of contaminants in the source area near Building 568.

Data was collected from Area A wells in May 2002

- The Concentrations near building 568 diminish rapidly from the source area, groundwater levels indicate flow in the direction of a pumping well at building 568.
- Maximum boundary concentrations were 1.7 parts per billion (below the Federal MCL)
- Based upon the data acquired, it appears that the high-levels of TCE contamination around Building 568 are being contained and levels above the MCL are not leaving Fort Detrick.

Additional long-term monitoring is scheduled for fall/winter 2002/2003





Fort Detrick RI/FS

Area B Update

US Army Corps
of Engineers
Baltimore District

DOCUMENTS

COMPLETED

Engineering Evaluation/Cost Analysis (EECA) Area B-11 Chemical Waste Disposal Pits	(Feb 00)
EECA (Proposed Plan)	(May 00)
EECA (Decision Document)	(July 00)
Public Involvement and Response Plan	(July 00)
Chemical Oxidation Bench-Scale Test Work Plan	(Oct 00)
Photographic Analysis (USEPA EPIC Study)	(Mar 01)
Chemical Oxidation Bench-Scale Test Report (Final)	(July 01)

PENDING

Groundwater Pilot Test Field Technology Assessment Work Plan
Area B Additional Investigation Work Plan
Dye Trace Study Work Plan (Final)
RI
FS
PP
DD
RD
RA
Area B-1 Site Close-Out Document
Area B-18 Site Close-Out Document
Area B Background and B-20 North Follow-On Work Plan

Completion Date

Pending Funding
Pending completion of Background Study
Pending Funding
Schedule being developed
Pending Completion of Background Study
Pending Completion of Background Study
August/September 02

* Additional sites are being evaluated for Close-Out Documents.



US Army Corps
of Engineers
Baltimore District

Fort Detrick RI/FS

Area B Update

Completed and Planned Field Activities

COMPLETED TASKS SINCE LAST MEETING

- Quarterly Sampling of wells in and surrounding Area B – August 2002

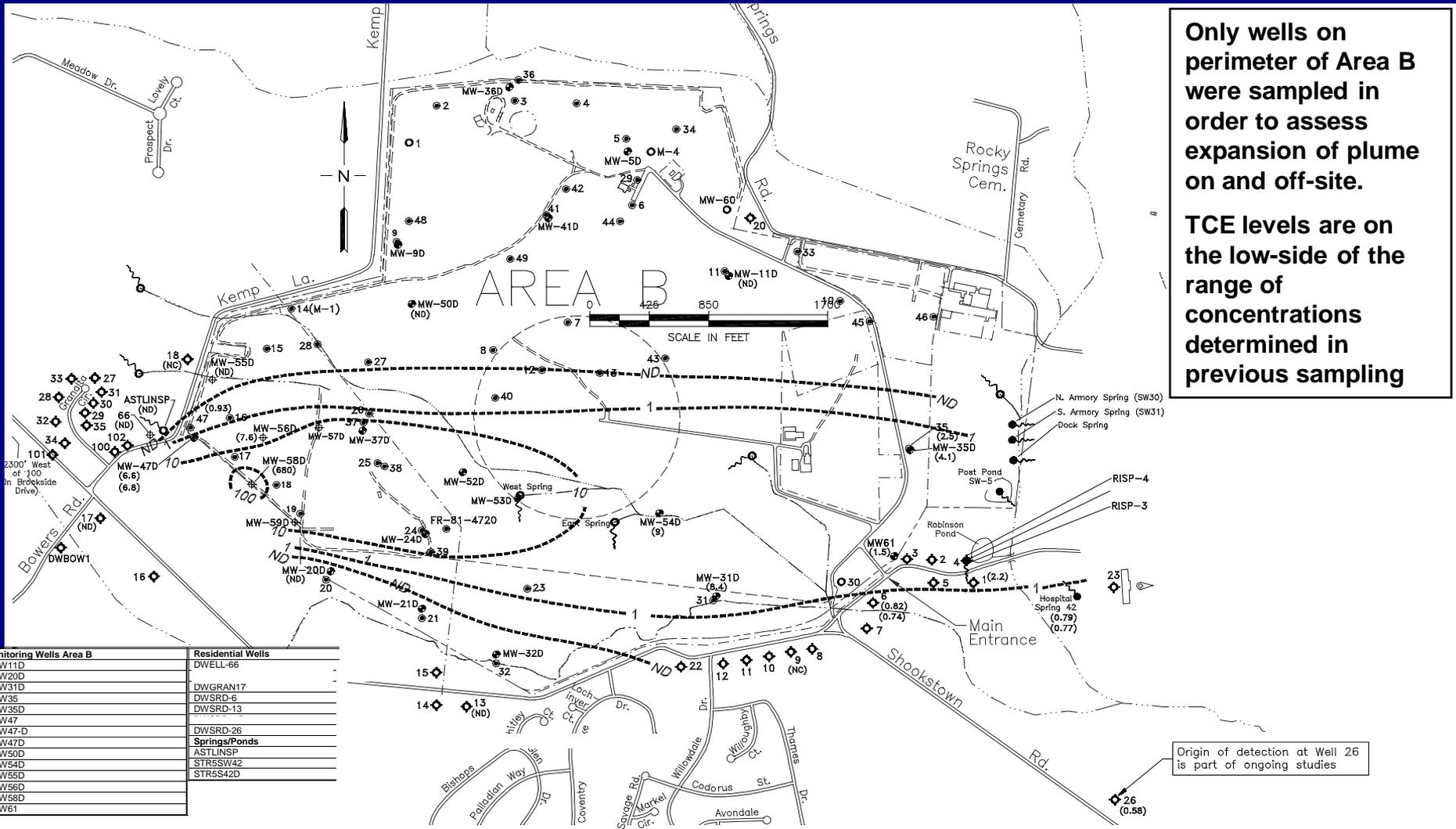
PLANNED

- Additional periodic residential and on-post well and surface water sampling - Every 3 months.
- Dye Trace Study - Schedule being developed (funding dependent).
- Water Treatment System (Krantz) - On-hold pending funding.
- Area B Background Study to assess metals concentrations in background for comparison with site data.
- Additional Residential well research downgradient of Area B to aid in monitoring groundwater contamination.



**US Army Corps
of Engineers
Baltimore District**

Fort Detrick RI/FS Quarterly Sampling results TCE Plume (May 2002)





Fort Detrick RI/FS

RESIDENTIAL BOUNDARY WELLS AND SURFACE WATER Sampling Locations Data May 2002

US Army Corps
of Engineers
Baltimore District

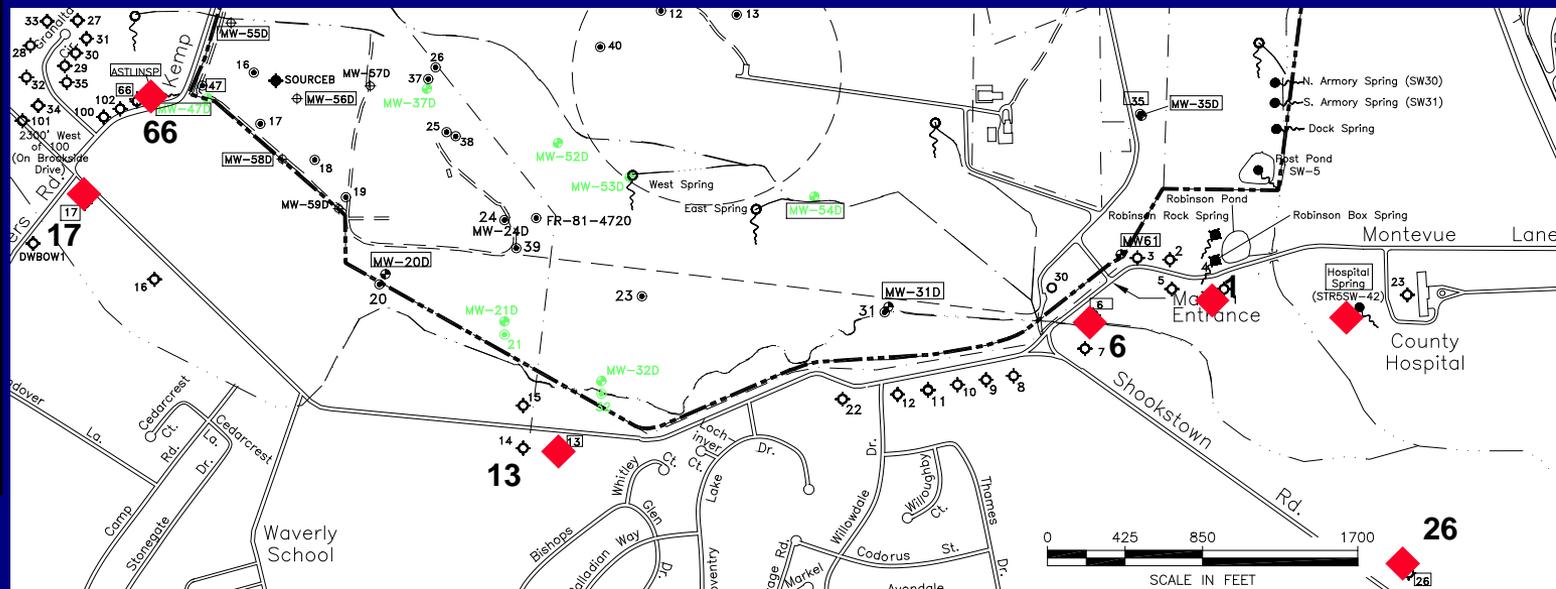
Site Type	Site ID	Sample ID	Sample Date	Analyte Description	Concentration	Unit Measure	Lab Qualifiers	MCL
Well	DWELL-66	DWELL-66	05/09/2002	1,1,1-Trichloroethane	0.31	ug/L	J	200
Well	DWSRD-26	DWSRD-26	05/16/2002	1,1,1-Trichloroethane	0.24	ug/L	J	200
Well	DWSRD-6	DWSRD-6	05/09/2002	1,1,1-Trichloroethane	0.087	ug/L	J	200
Well	DWSRD-1	DWSRD-1	05/16/2002	1,1-Dichloroethane	0.071	ug/L	J	No MCL
Well	DWSRD-1	DWSRD-1	05/16/2002	Benzene	0.12	ug/L	J	5
Well	DWSRD-26	DWSRD-26	05/16/2002	Benzene	0.11	ug/L	J	5
Well	DWSRD-1	DWSRD-1	05/16/2002	Butane	2.6	ug/L	J	No MCL
Well	DWSRD-1	DWSRD-1	05/16/2002	Butane, 2-methyl-	1.3	ug/L	J	No MCL
Well	DWSRD-1	DWSRD-1	05/16/2002	Carbon Disulfide	0.3	ug/L	J	No MCL
Well	DWSRD-26	DWSRD-26	05/16/2002	Carbon Disulfide	0.12	ug/L	J	No MCL
Spring	STR5SW-42	STR5SW-42	05/09/2002	Carbon Disulfide	0.13	ug/L	J	No MCL
Spring	STR5SW-42	STR5SW-42D	05/09/2002	Carbon Disulfide	0.1	ug/L	J	No MCL
Well	DWSRD-1	DWSRD-1	05/16/2002	Chloroform	0.27	ug/L	J	80
Well	DWSRD-26	DWSRD-26	05/16/2002	Chloroform	0.14	ug/L	J	80
Spring	STR5SW-42	STR5SW-42	05/09/2002	Chloroform	1.4	ug/L	J	80
Spring	STR5SW-42	STR5SW-42D	05/09/2002	Chloroform	1.4	ug/L	J	80
Well	DWSRD-1	DWSRD-1	05/16/2002	cis-1,2-Dichloroethene	0.16	ug/L	J	70
Well	DWSRD-26	DWSRD-26	05/16/2002	cis-1,2-Dichloroethene	0.17	ug/L	J	70
Well	DWSRD-6	DWSRD-6	05/09/2002	cis-1,2-Dichloroethene	0.31	ug/L	J	70
Well	DWSRD-6	DWSRD-6D	05/09/2002	cis-1,2-Dichloroethene	0.28	ug/L	J	70

Site Type	Site ID	Sample ID	Sample Date	Analyte Description	Concentration	Unit Measure	Lab Qualifiers	MCL
Well	DWSRD-26	DWSRD-26	05/16/2002	methyl tert butyl ether	1.6	ug/L	J	No MCL
Well	DWSRD-1	DWSRD-1	05/16/2002	Pentane	1.4	ug/L	J	No MCL
Well	DWSRD-1	DWSRD-1	05/16/2002	Propane	2.5	ug/L	J	No MCL
Well	DWSRD-1	DWSRD-1	05/16/2002	Tetrachloroethene	0.22	ug/L	J	5
Well	DWSRD-26	DWSRD-26	05/16/2002	Tetrachloroethene	0.16	ug/L	J	5
Spring	STR5SW-42	STR5SW-42	05/09/2002	Tetrachloroethene	0.077	ug/L	J	5
Well	DWSRD-26	DWSRD-26	05/16/2002	Toluene	0.16	ug/L	J	1000
Well	DWSRD-1	DWSRD-1	05/16/2002	Trichloroethene	2.2	ug/L	J	5
Well	DWSRD-26	DWSRD-26	05/16/2002	Trichloroethene	0.58	ug/L	J	5
Well	DWSRD-6	DWSRD-6	05/09/2002	Trichloroethene	0.82	ug/L	J	5
Well	DWSRD-6	DWSRD-6D	05/09/2002	Trichloroethene	0.74	ug/L	J	5
Spring	STR5SW-42	STR5SW-42	05/09/2002	Trichloroethene	0.79	ug/L	J	5
Spring	STR5SW-42	STR5SW-42D	05/09/2002	Trichloroethene	0.77	ug/L	J	5
Well	DWSRD-1	DWSRD-1	05/16/2002	Trichlorofluoromethane	0.26	ug/L	J	No MCL
Well	DWSRD-26	DWSRD-26	05/16/2002	Trichlorofluoromethane	0.13	ug/L	J	No MCL
Spring	STR5SW-42	STR5SW-42	05/09/2002	Trichlorofluoromethane	0.18	ug/L	J	No MCL
Spring	STR5SW-42	STR5SW-42D	05/09/2002	Trichlorofluoromethane	0.17	ug/L	J	No MCL

Low-levels of volatile compounds have been found at all sampled locations with the exception of locations 17 and 13. These contaminants have generally been found in Area B as well; however, there may be more than one source for some of the contaminants besides Area B.

All concentrations are well below USEPA drinking water standards (MCLs).

Wells 13, 17, 66 are the only wells sampled that are used for residential purposes.



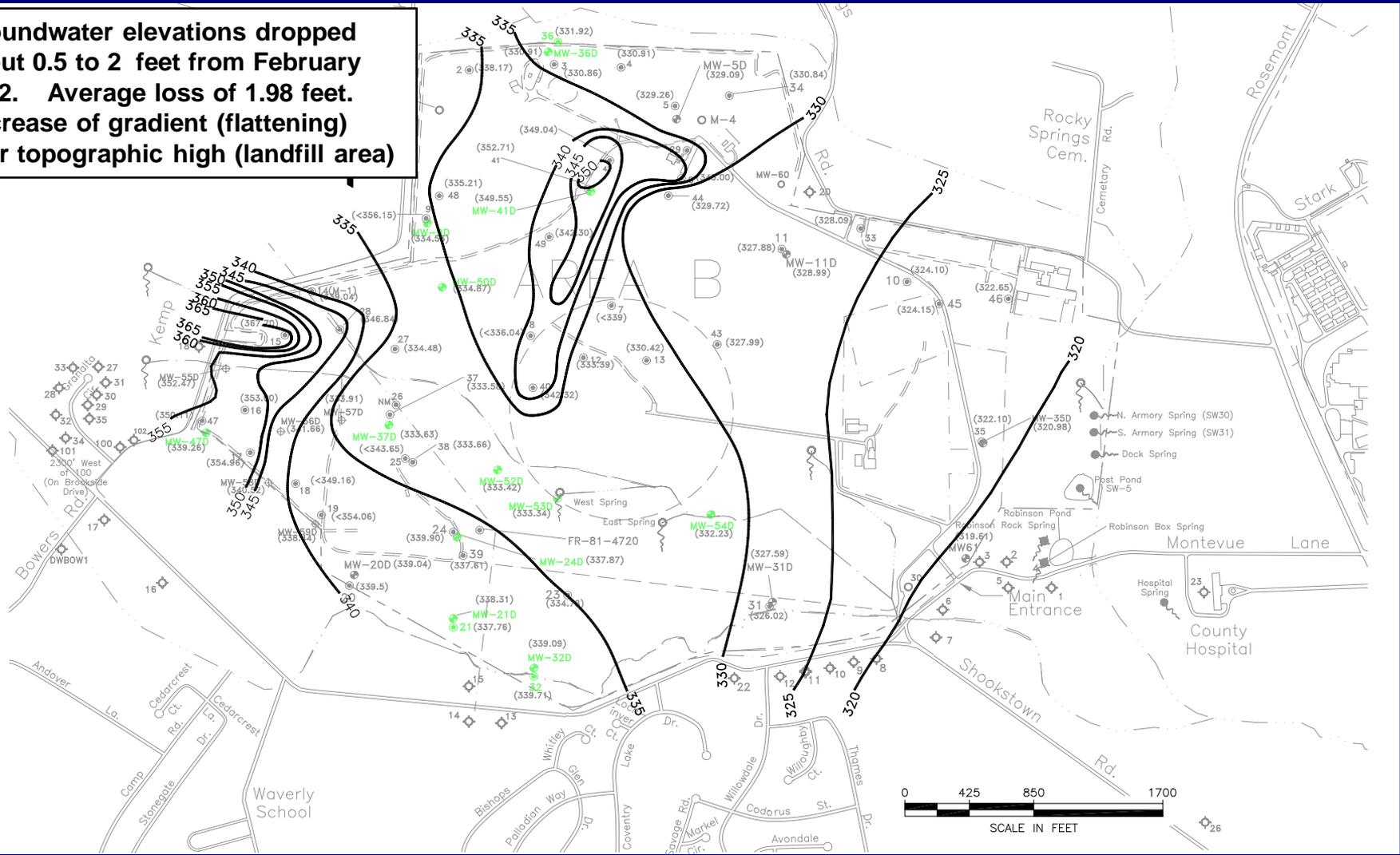


Area B Water Levels

August 5, 2002

US Army Corps
of Engineers
Baltimore District

Groundwater elevations dropped about 0.5 to 2 feet from February 2002. Average loss of 1.98 feet. Decrease of gradient (flattening) near topographic high (landfill area)





US Army Corps
of Engineers
Baltimore District

Area C Update

- Currently finalizing assessment of groundwater data.
- Final Report has been funded.
- Scheduled to be completed Winter 03.

