Fort Detrick Remedial Investigation/Feasibility Study

Restoration Advisory Board Meeting
10 January 2001 7:30 PM
Fort Detrick, Frederick, Maryland

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Baltimore District

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Fort Detrick RI/FS
Area A Update

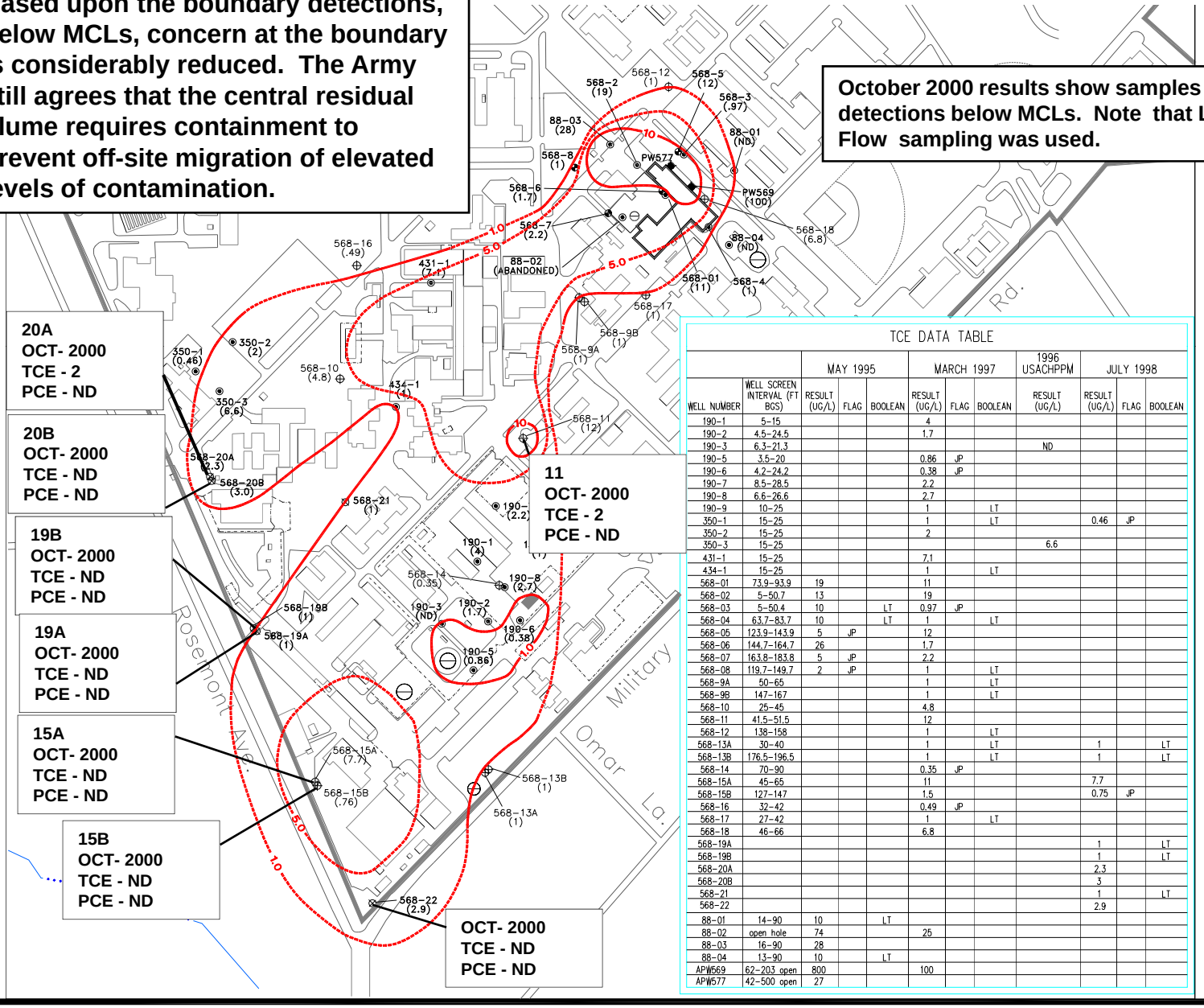
Completed	Date
Revised RI (Final)	Jun 00

Pending Schedule:	Completion Date
FS (Final)	Feb 01
PP (PROPOSED PLAN)	Feb 01
DD (DECISION DOCUMENT)	Mar/Apr 01
RD (REMEDIAL DESIGN)	TBD
RA (REMEDIAL ACTION)	TBD
CC (CONSTRUCTION COMPLETE)	TBD
LTM (LONG TERM MONITORING)	Nov 21

AREA A BOUNDARY WELL RESAMPLING - Background - At the October 2000 partnering meeting it was decided to sample southern boundary wells in Area A and one interior well in order to establish a current baseline from which language for the FS, Proposed Plan and Decision Documents could be crafted.

Based upon the boundary detections, below MCLs, concern at the boundary is considerably reduced. The Army still agrees that the central residual plume requires containment to prevent off-site migration of elevated levels of contamination.

October 2000 results show samples had detections below MCLs. Note that Low-Flow sampling was used.



TCE DATA TABLE

WELL NUMBER	WELL SCREEN INTERVAL (FT BGS)	MAY 1995 RESULT (UG/L)	MAY 1995 FLAG	MAY 1995 BOOLEAN	MARCH 1997 RESULT (UG/L)	MARCH 1997 FLAG	MARCH 1997 BOOLEAN	1996 USACHPPM RESULT (UG/L)	JULY 1998 RESULT (UG/L)	JULY 1998 FLAG	JULY 1998 BOOLEAN
190-1	5-15				4						
190-2	4.5-24.5				1.7						
190-3	6.3-21.3							ND			
190-5	3.5-20				0.86	JP					
190-6	4.2-24.2				0.38	JP					
190-7	8.5-28.5				2.2						
190-8	6.6-26.6				2.7						
190-9	10-25				1		LT				
350-1	15-25				1		LT		0.46	JP	
350-2	15-25				2						
350-3	15-25							6.6			
431-1	15-25				7.1						
434-1	15-25				1		LT				
568-01	73.9-93.9	19			11						
568-02	5-50.7	13			19						
568-03	5-50.4	10		LT	0.97	JP					
568-04	63.7-83.7	10		LT	1		LT				
568-05	123.9-143.9	5	JP		12						
568-06	144.7-164.7	26			1.7						
568-07	163.8-183.8	5	JP		2.2						
568-08	119.7-149.7	2	JP		1		LT				
568-9A	50-65				1		LT				
568-9B	147-167				1		LT				
568-10	25-45				4.8						
568-11	41.5-51.5				12						
568-12	138-158				1		LT				
568-13A	30-40				1		LT		1		LT
568-13B	176.5-196.5				1		LT		1		LT
568-14	70-90				0.35	JP					
568-15A	45-65				11				7.7		
568-15B	127-147				1.5				0.75	JP	
568-16	32-42				0.49	JP					
568-17	27-42				1		LT				
568-18	46-66				6.8						
568-19A									1		LT
568-19B									1		LT
568-20A									2.3		
568-20B									3		
568-21									1		LT
568-22									2.9		
88-01	14-90	10		LT							
88-02	open hole	74			25						
88-03	16-90	28									
88-04	13-90	10		LT							
APW569	62-203 open	800			100						
APW577	42-500 open	27									

LEGEND

(.97) TCE CONCENTRATION ug/L

LT LESS THAN METHOD REPORTING LIMIT (REPORTED LIMIT USED IN CONTOURING)

J VALUE IS ESTIMATED

P VALUE IS BELOW THE METHOD REPORTING LIMIT BUT GREATER THAN INSTRUMENT DETECTION LIMIT.

⊗ TECHNICAL ADDENDUM III WELL LOCATION

PHASE I FIELD INVESTIGATION MONITORING WELL LOCATION

PHASE II FIELD INVESTIGATION MONITORING WELL LOCATION

EXISTING MONITORING WELL LOCATION

SUPPLY WELL

RESERVATION BOUNDARY

STREAM

FENCE

1.0 TCE ISOPLETH ppb (DASHED WHERE INFERRED)

-DATA FROM WELL 350-3 NOT USED TO GENERATE ISOPLETHS DUE TO AGE OF DATA AND INCONSISTENCIES WITH CURRENT SURROUNDING WELL DATA.

NOTES:

- THE MOST RECENT SUMMER 1998 DATA WERE USED. WHERE THEY DO NOT EXIST, DATA FROM PREVIOUS STUDIES WERE USED.
- DATA CONTOURED ON A LOGARITHMIC SCALE (ug/L)

0 150 300 600

SCALE IN FEET

PLOT: 11-14-00

FILE: FT DETRICK\ANEWLOC-A

U.S. Army Corps of Engineers

the i group

FT DETRICK

ACAD FILE: ANEWLOC-C

3-15-99

EXHIBIT 4-2

AREA A

TCE ISOPLETH MAP

FORT DETRICK

FREDERICK, MARYLAND

Fort Detrick RI/FS Area B Update

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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)

PENDING	**Completion Date**
Photographic Analysis (USEPA EPIC Study)	Jan 01
Groundwater Pilot Test Field Technology Assessment Work Plan	Winter 01
Quantitative Ecological Risk Assessment Work Plan	Schedule being developed
Dye Trace Study Work Plan	Feb 01
Chemical Oxidation Bench-Scale Test Report	Feb 01
RI (Draft Final)	Schedule being developed
RI (Final)	Schedule being developed
FS (Draft)	Schedule being developed
FS (Draft Final)	Schedule being developed
FS (Final)	Schedule being developed
PP	Schedule being developed
DD	Schedule being developed
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Area B sites may be presented as separate documents. The partnering group is assessing the content for these documents using EPIC Study and existing information.

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Area B Update

Completed and Planned Field Activities

COMPLETED OR ON-GOING TASKS SINCE LAST MEETING

- Area B Quarterly sampling completed November 00. Perimeter sampling December 00 (data not avail.)
- Well 57D Rehabilitation - Partially Completed end of November 00, well silted in, making plans for silt removal without addition of substantial amounts of water to the area.
- Resampling of well 47D (data is provided in this presentation).
- In-situ Chemical Oxidation Pilot (Bench-Scale - started).

PLANNED

- Residential Well Survey (Approx.. 1200 wells identified from west of Area B to the Monocacy River, 90% of survey complete, will be presented in the Dye Trace Study Work Plan)
- Additional periodic residential and on-post well and surface water sampling - Every 1.5 months.
- Dye trace study - Schedule being developed (tentatively March 01 - Sept 01)
- Dye trace support study - Stream Gauging (USGS, Spring 01)
- Water Treatment System (Krantz) - Currently coordinating
- Lead and Clay Pigeon Removal at Skeet Range (Pending Approval of Plan)

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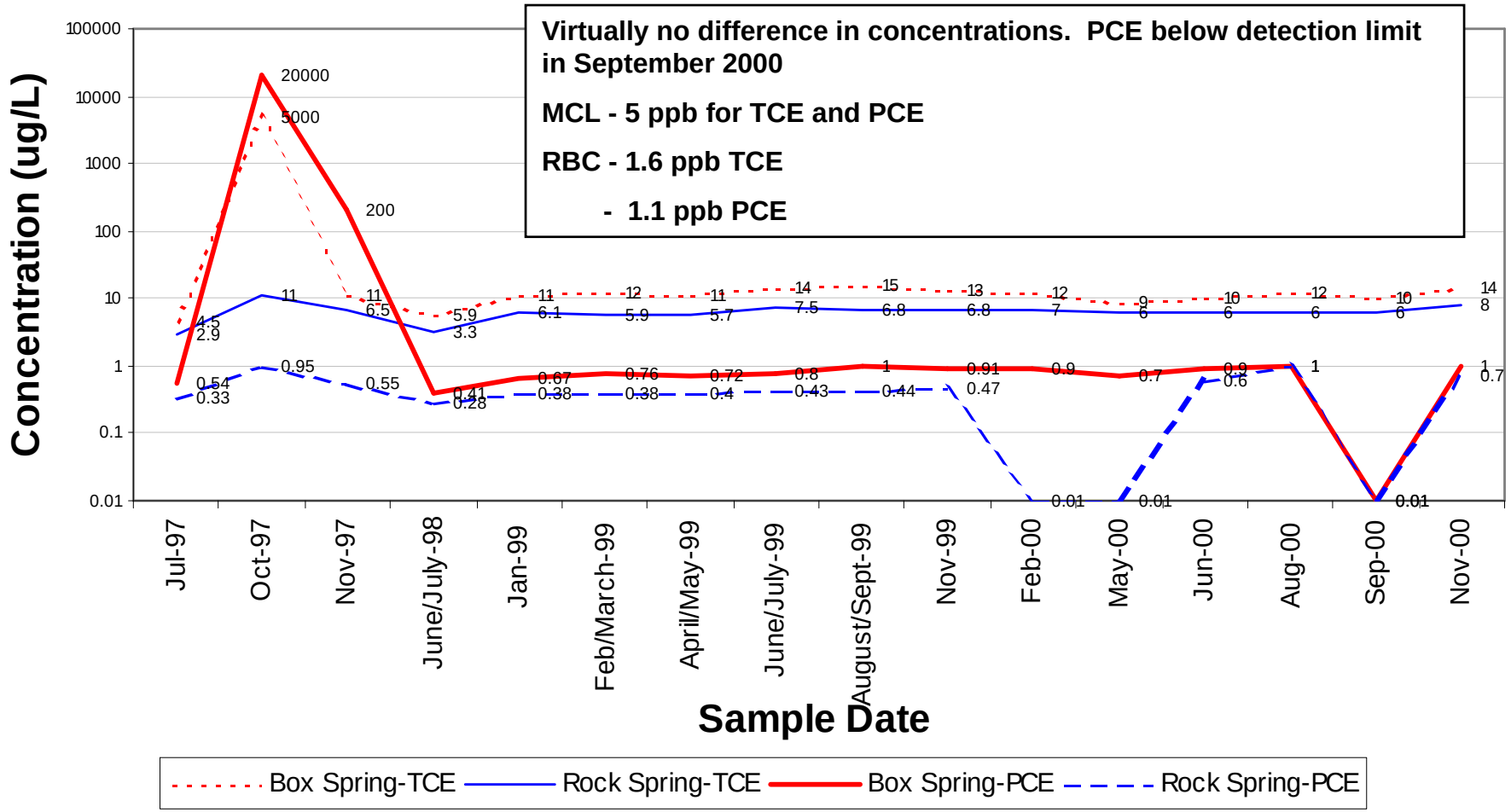
Surface Water Sampling Data - PCE and TCE
Robinson's Box and Rock Springs



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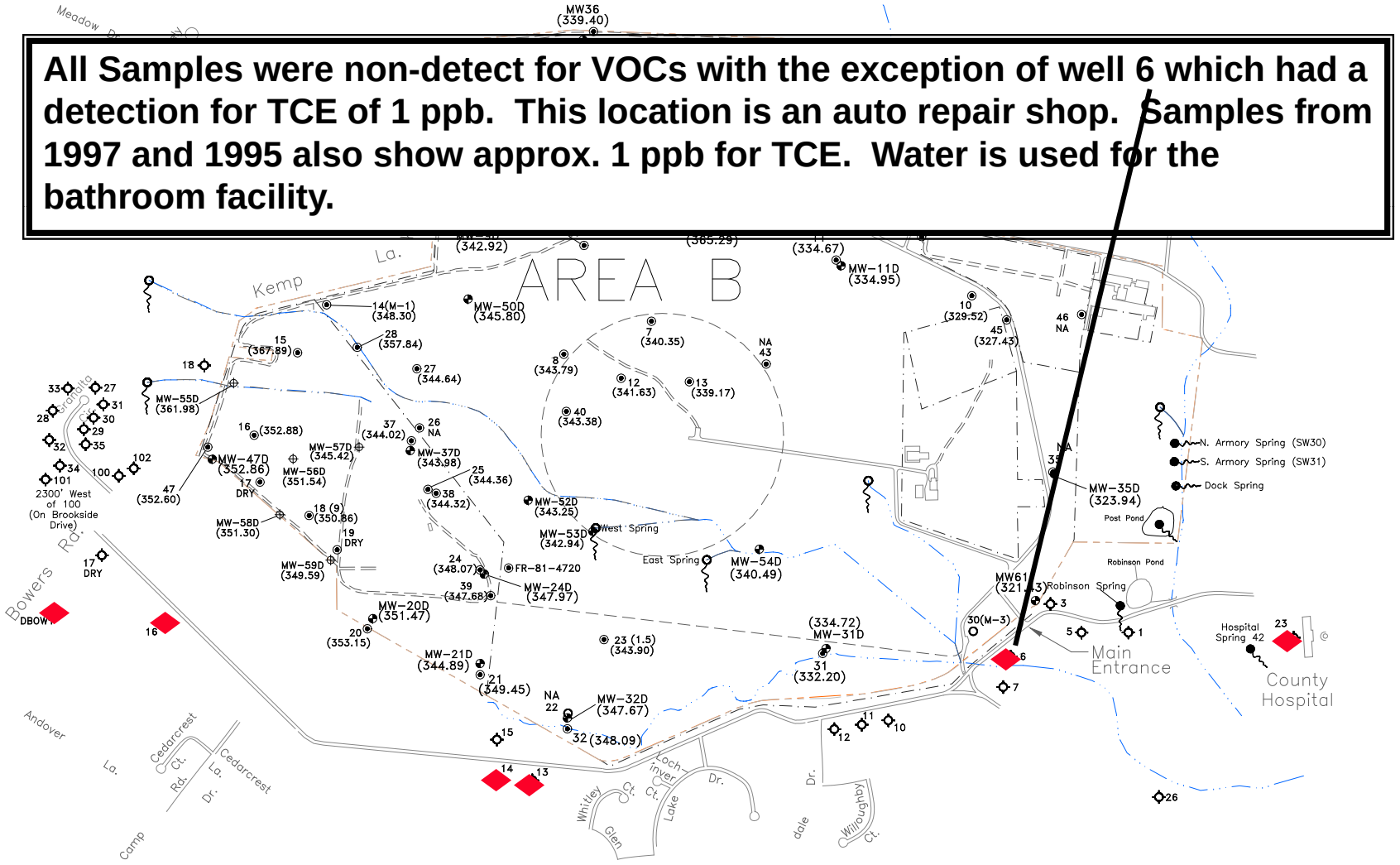
RESIDENTIAL BOUNDARY WELLS

Sampling Locations November 00

All Samples were non-detect for VOCs with the exception of well 6 which had a detection for TCE of 1 ppb. This location is an auto repair shop. Samples from 1997 and 1995 also show approx. 1 ppb for TCE. Water is used for the bathroom facility.



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TCE Plume (November 2000, Results not Validated)

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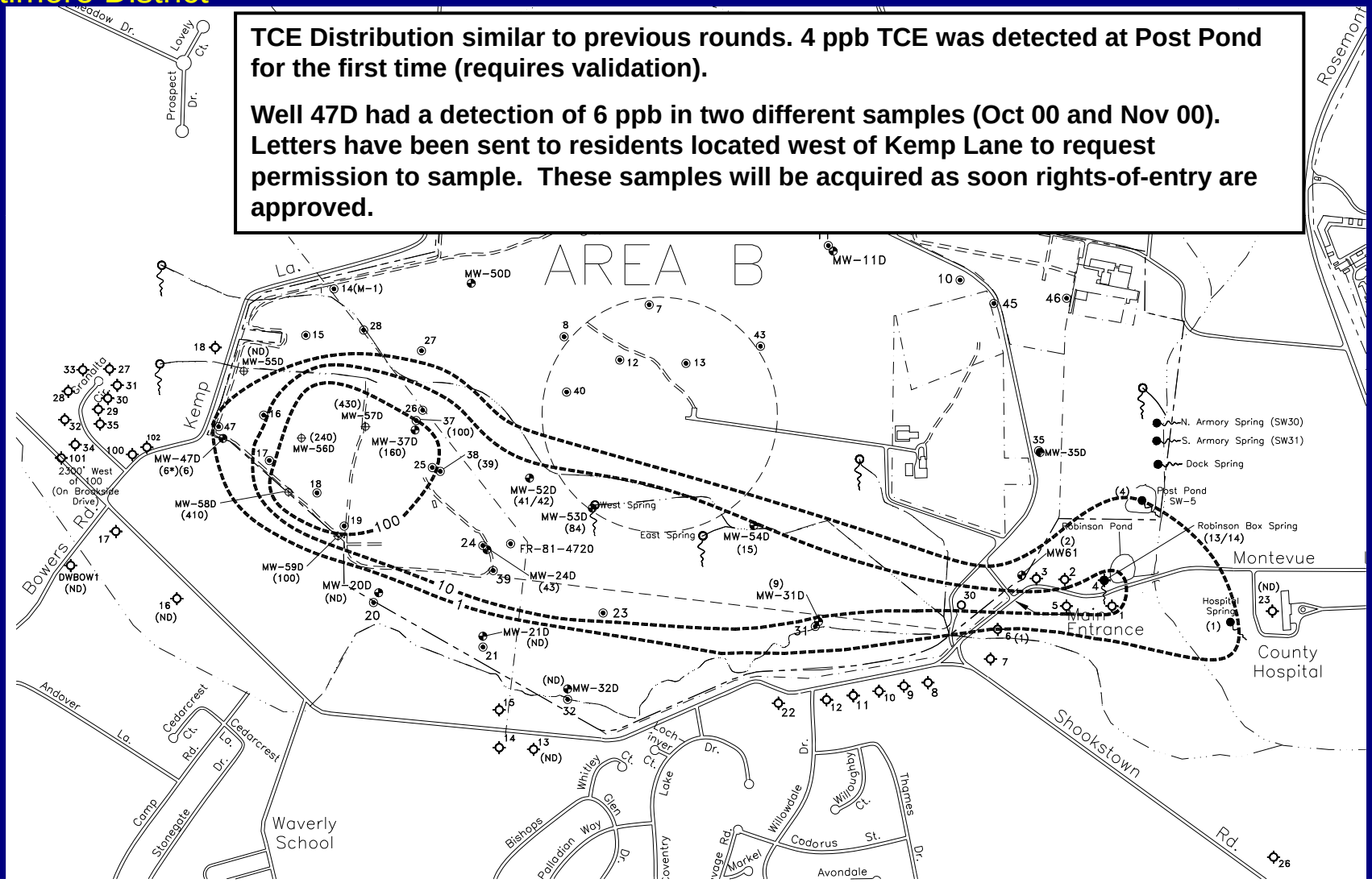
TCE Distribution similar to previous rounds. 4 ppb TCE was detected at Post Pond for the first time (requires validation).

Well 47D had a detection of 6 ppb in two different samples (Oct 00 and Nov 00). Letters have been sent to residents located west of Kemp Lane to request permission to sample. These samples will be acquired as soon rights-of-entry are approved.



Well Elevations - Residents West of Area B

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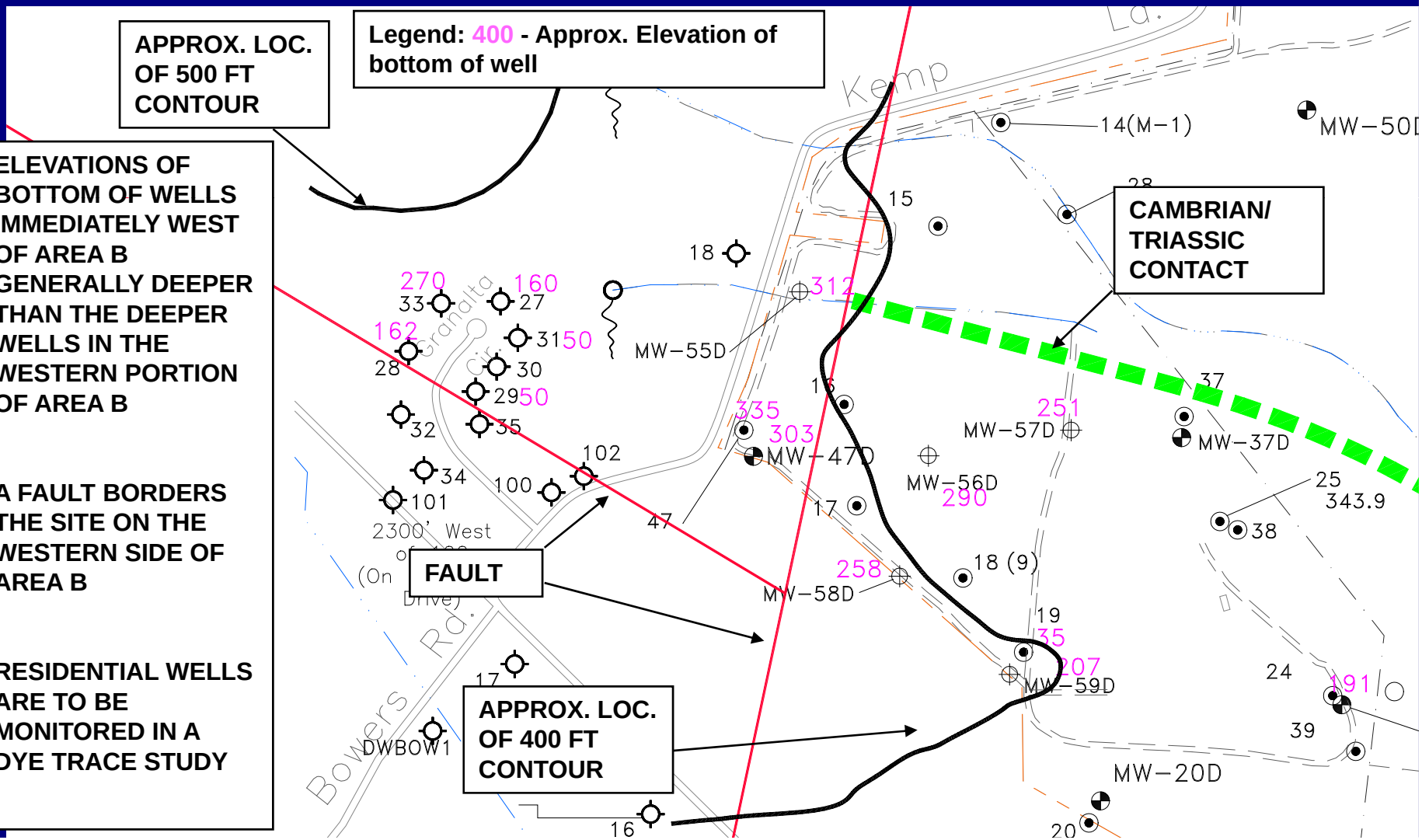
APPROX. LOC. OF 500 FT CONTOUR

Legend: 400 - Approx. Elevation of bottom of well

ELEVATIONS OF BOTTOM OF WELLS IMMEDIATELY WEST OF AREA B GENERALLY DEEPER THAN THE DEEPER WELLS IN THE WESTERN PORTION OF AREA B

A FAULT BORDERS THE SITE ON THE WESTERN SIDE OF AREA B

RESIDENTIAL WELLS ARE TO BE MONITORED IN A DYE TRACE STUDY



Area B Water Levels November 00

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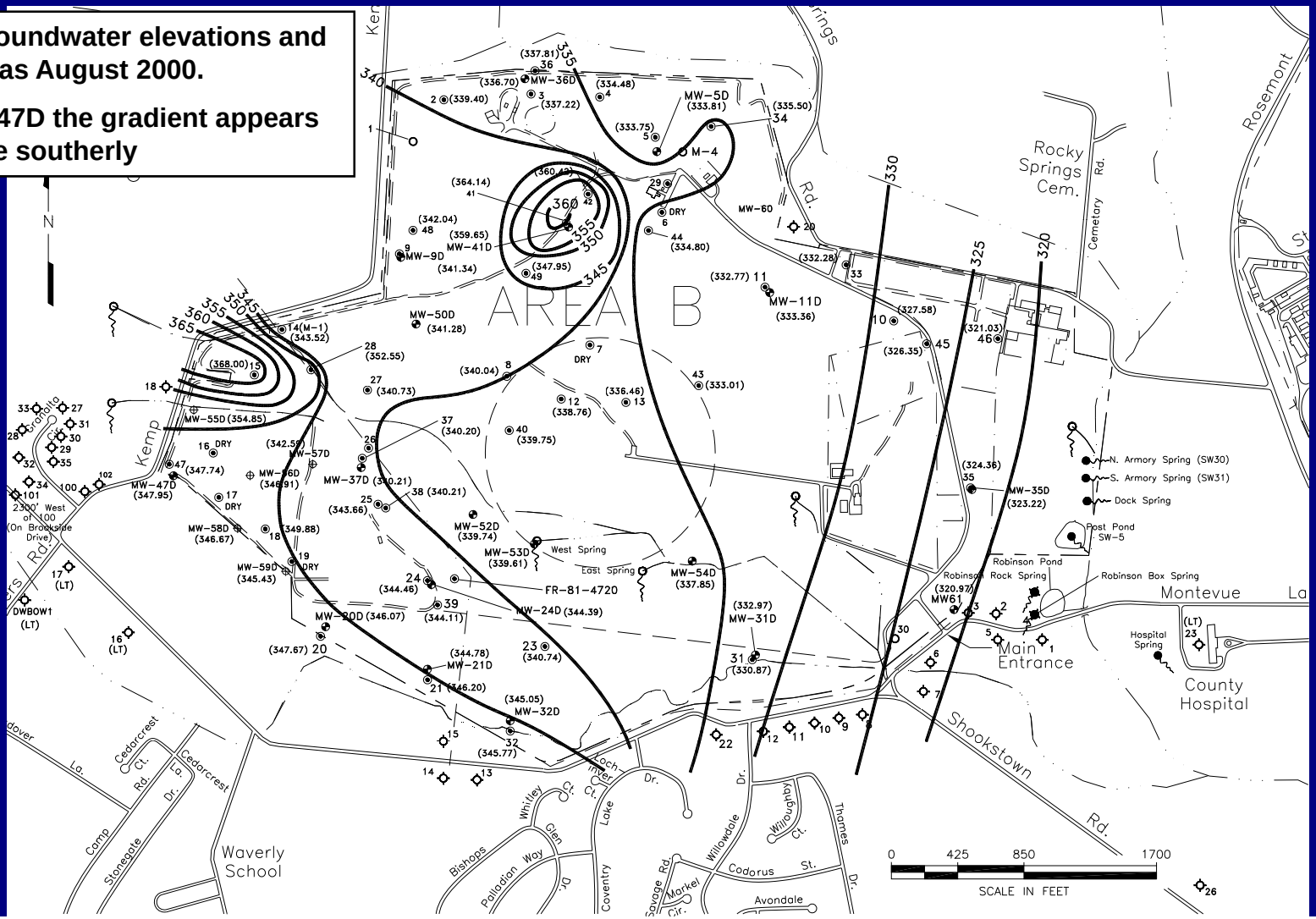
Similar groundwater elevations and gradients as August 2000.

Near well 47D the gradient appears to be more southerly



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PCE Plume (November 2000, Results not Fully Validated)

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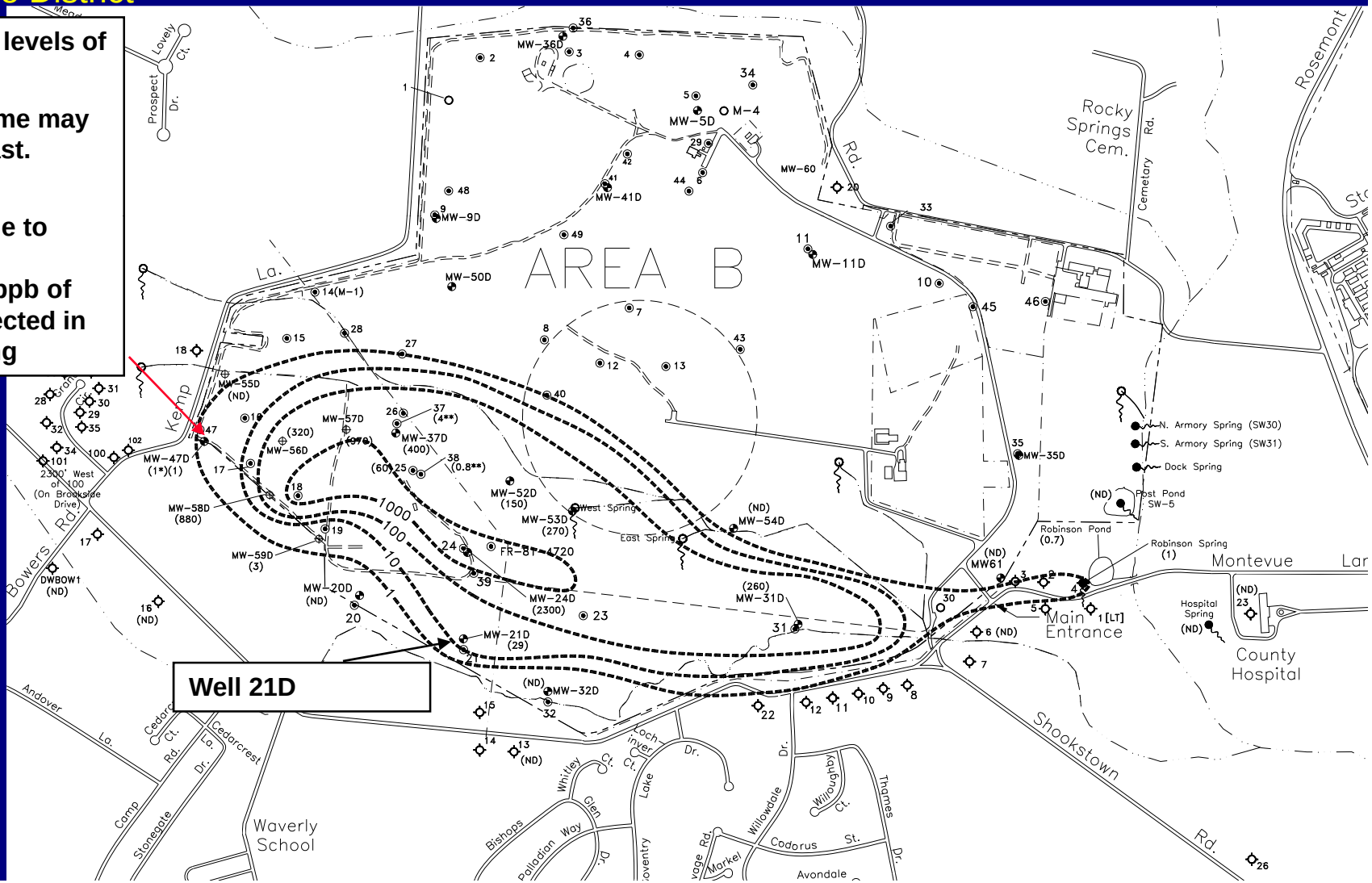
Overall lower levels of PCE in area.

Center of plume may be shifting east.

Well 47D was resampled due to August 2000 detection. 1 ppb of PCE was detected in the resampling



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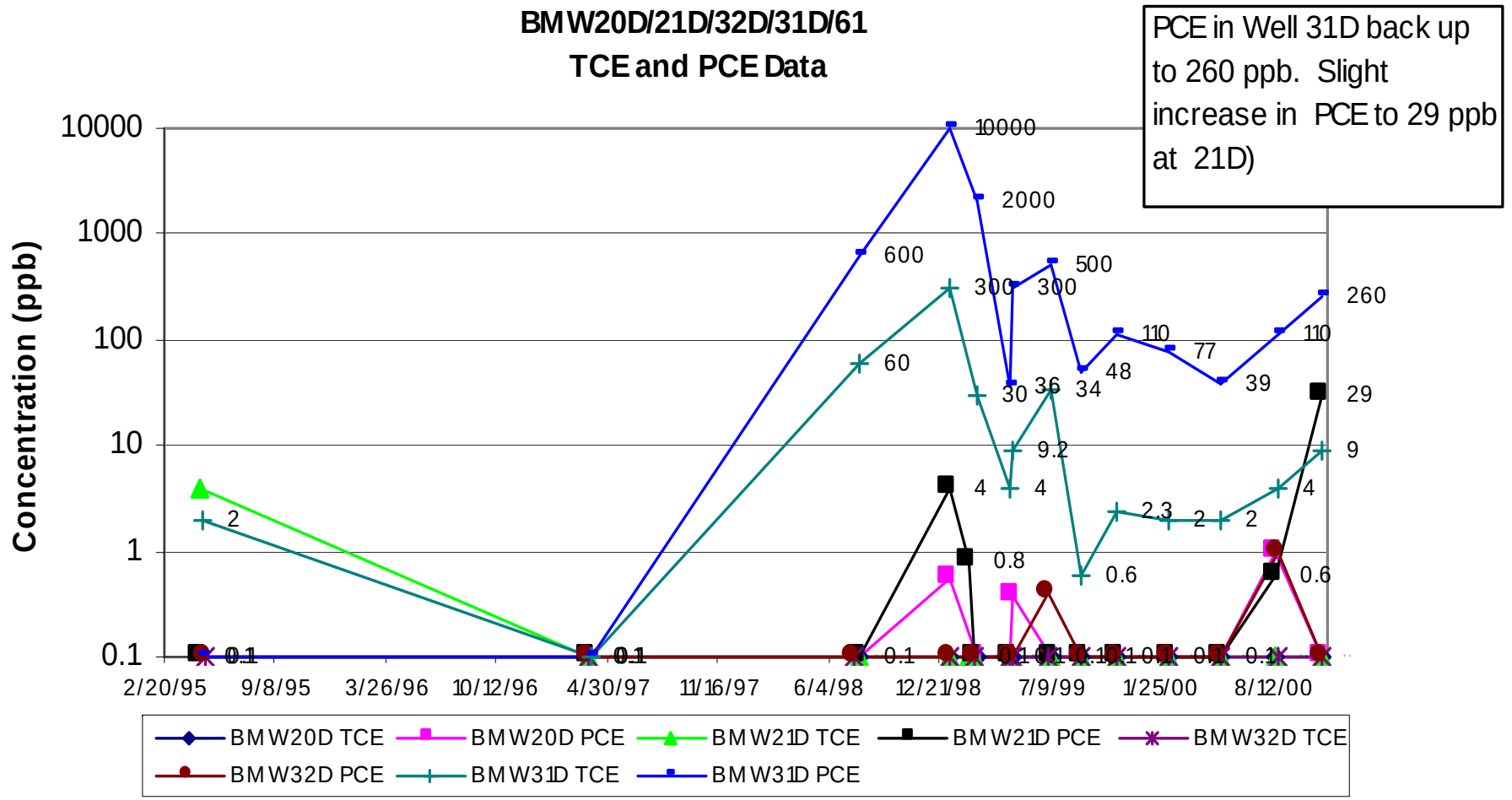
TCE and PCE Data Trends - Perimeter Wells



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Data Trends - Area B Interior Wells - Hot Spots

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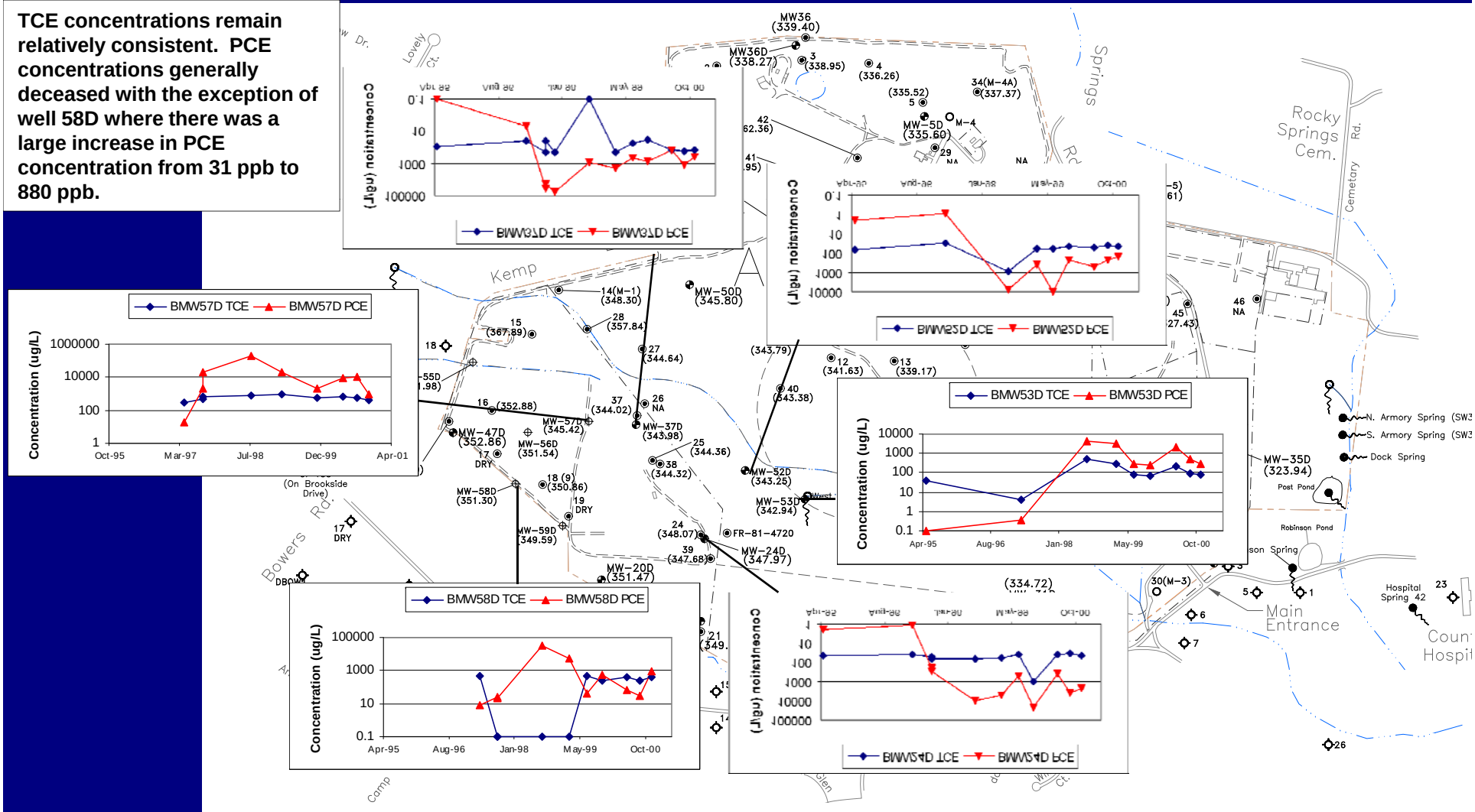
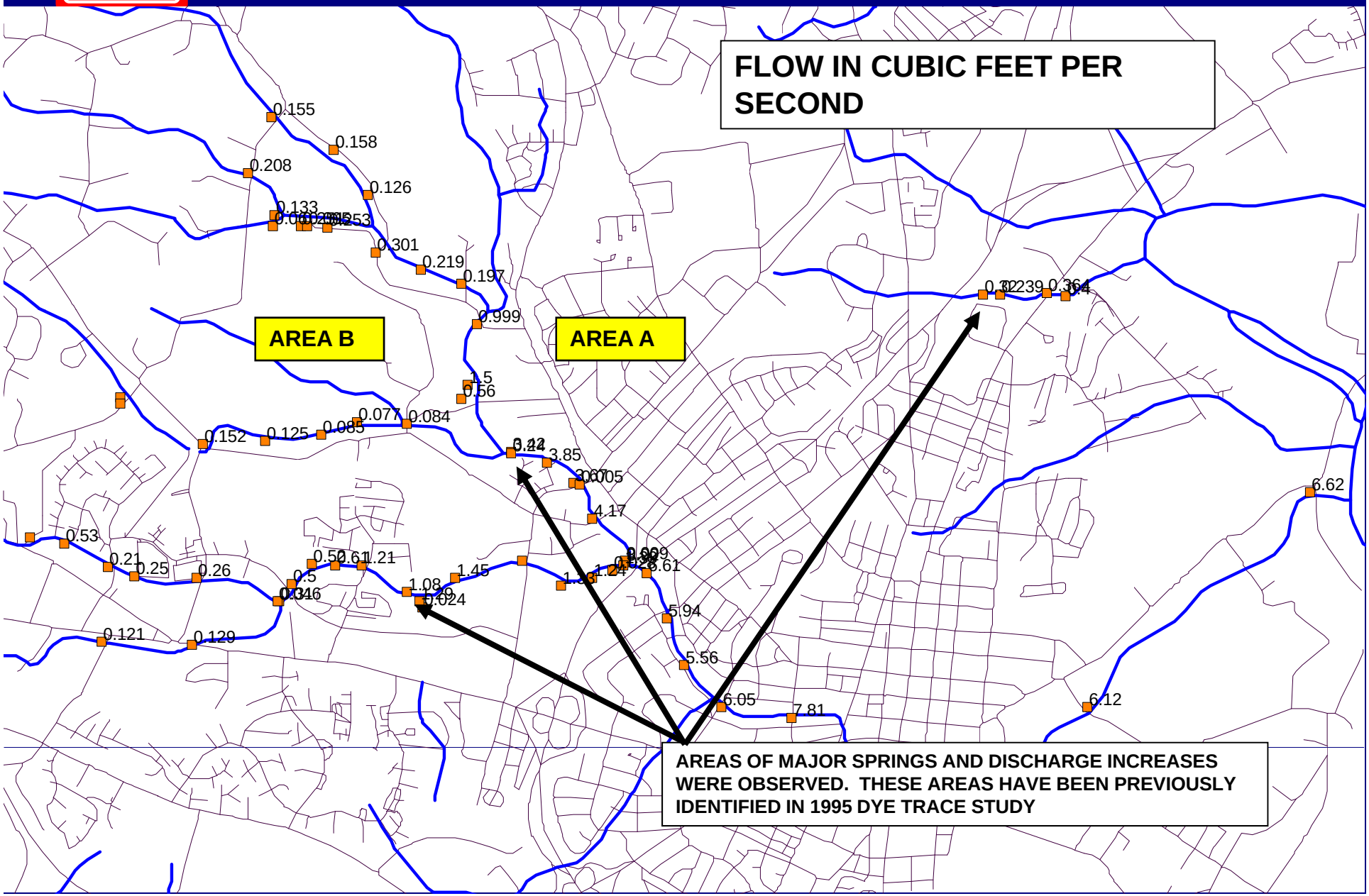
TCE concentrations remain relatively consistent. PCE concentrations generally deceased with the exception of well 58D where there was a large increase in PCE concentration from 31 ppb to 880 ppb.



Results of - Stream Gauging



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Area C Update

- **The major finding of the study has been a larger area of ash disposal than previously anticipated. Ash is distributed in one core area and as thin lenses over a larger area.**
- **Based upon analytical data the ash is most likely non-hazardous.**
- **Currently evaluating strategies to streamline the RI which includes interim ash disposal.**
- **RI/FS funding constraints may preclude finalization of the RI/FS this fiscal year**