

**US Army Corps
of Engineers
Baltimore District**

Fort Detrick Remedial Investigation/Feasibility Study and Area B-11 Removal Action

**Restoration Advisory Board Meeting
8 November 2000 7:30 PM
Fort Detrick, Frederick, Maryland**



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Area B-11 Removal Action Update

- Award (remainder of FY 00 funds) has been made
- Work plans in development
- Seismic refraction work has been started to determine depth to bedrock for freeze wall design

Schedule

- Work Plans Completed - Jan 01
- Mobilization - Feb 01
- Excavation/Removal April 01 to Aug 01
- Closure Report - Oct 01



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Area A Update

Completed

Revised RI (Final)

Date

Jun 00

Pending Schedule:

FS (Final)

PP (PROPOSED PLAN)

DD (DECISION DOCUMENT)

RD (REMEDIAL DESIGN)

RA (REMEDIAL ACTION)

CC (CONSTRUCTION COMPLETE)

LTM (LONG TERM MONITORING)

Completion Date

Dec 00

Jan 01

Winter 01

TBD

TBD

TBD

Nov 21

TBD - Partnering Team developing revised schedule based on changes agreed to in the FS.



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Area A FS Update

Issue - Pumping Rates at Building 568 have decreased from around an average of 14 gpm to 11 gpm. In order to assess whether this pumping rate is sufficient to capture water in the source area, water level measurements were made and a capture assessment performed.

Action - A limited number of wells were measured to assess the capture area for the existing pumping well at Building 568 (restricted to area of influence measured in 1995 and 1997 and just outside of that area).

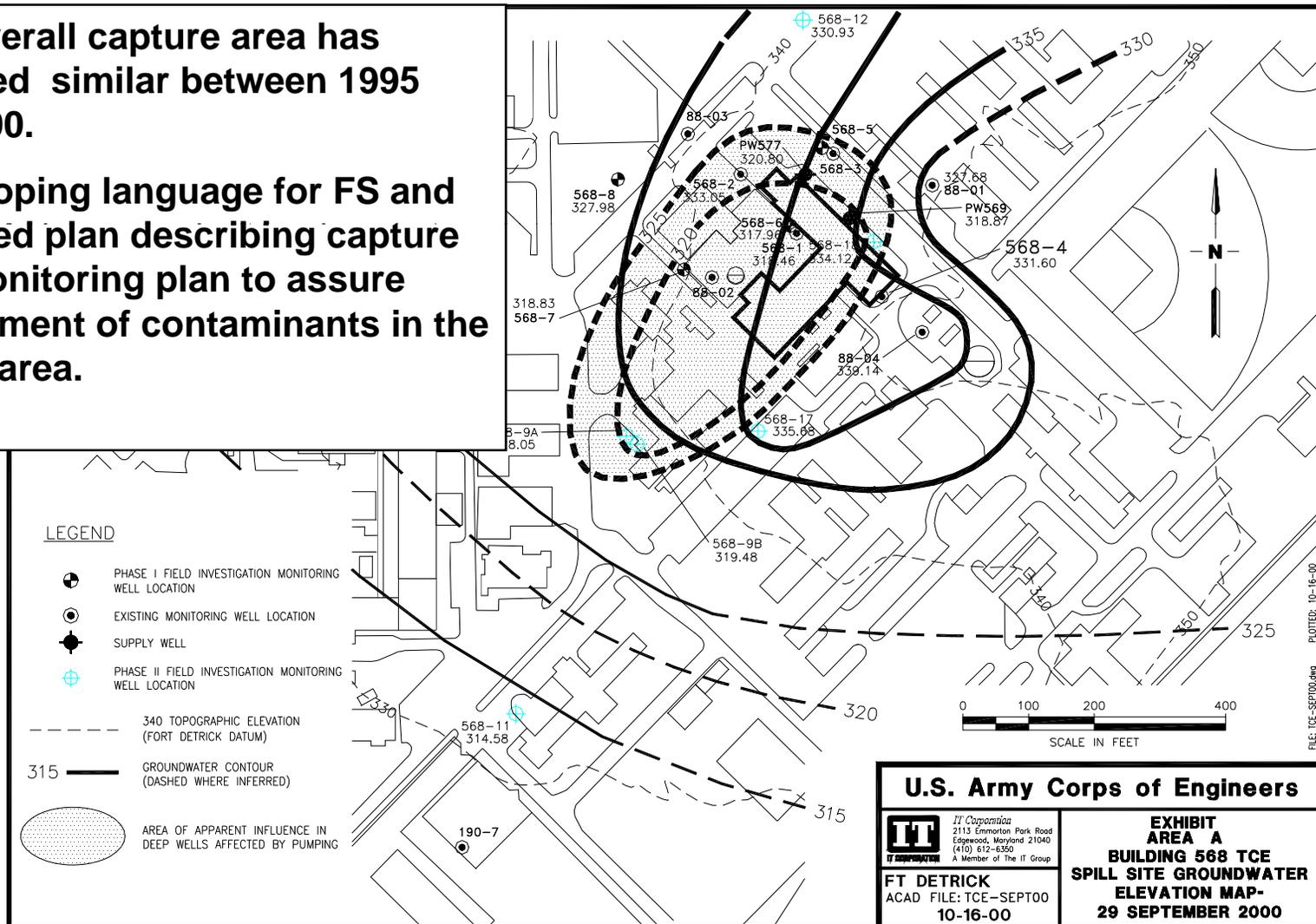


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Area A FS Update - Sept. 2000 Contour Map

- The overall capture area has remained similar between 1995 and 2000.
- Developing language for FS and proposed plan describing capture area monitoring plan to assure containment of contaminants in the source area.





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Area B Update

DOCUMENTS

COMPLETED

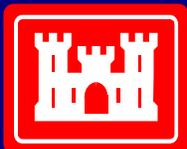
Engineering Evaluation/Cost Analysis (EECA) Area B-11 Chemical Waste Disposal Pits	(Feb 00)
EECA (Proposed Plan)	(May 00)
EECA (Decision Document)	(July 00)
Public Involvement and Response Plan	(July 00)
Groundwater Pilot Test Bench-Scale Work Plan	(Oct 00)
Human Health Risk Assessment Meeting for Groundwater with USEPA	(Oct 00)

PENDING

Completion Date

Groundwater Pilot Test Field Technology Assessment Work Plan	Winter 01
Quantitative Ecological Risk Assessment Work Plan	Schedule being developed
Dye Trace Study Work Plan	Dec 00
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
PP	Schedule being developed
DD	Schedule being developed
RD	Schedule being developed
RA	Schedule being developed

Area B sites may be presented as separate documents. The partnering group is assessing the content for these documents.



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Area B Update

Completed and Planned Field Activities

COMPLETED

- Area B Quarterly sampling completed August 00
- Residential Well Sampling requested by residents during and after proposed plan meeting completed Aug 4, 00
- Stream Gauging (USGS) - First Round Completed September 00
- Surface Geophysics (Completed Oct 00)

PLANNED

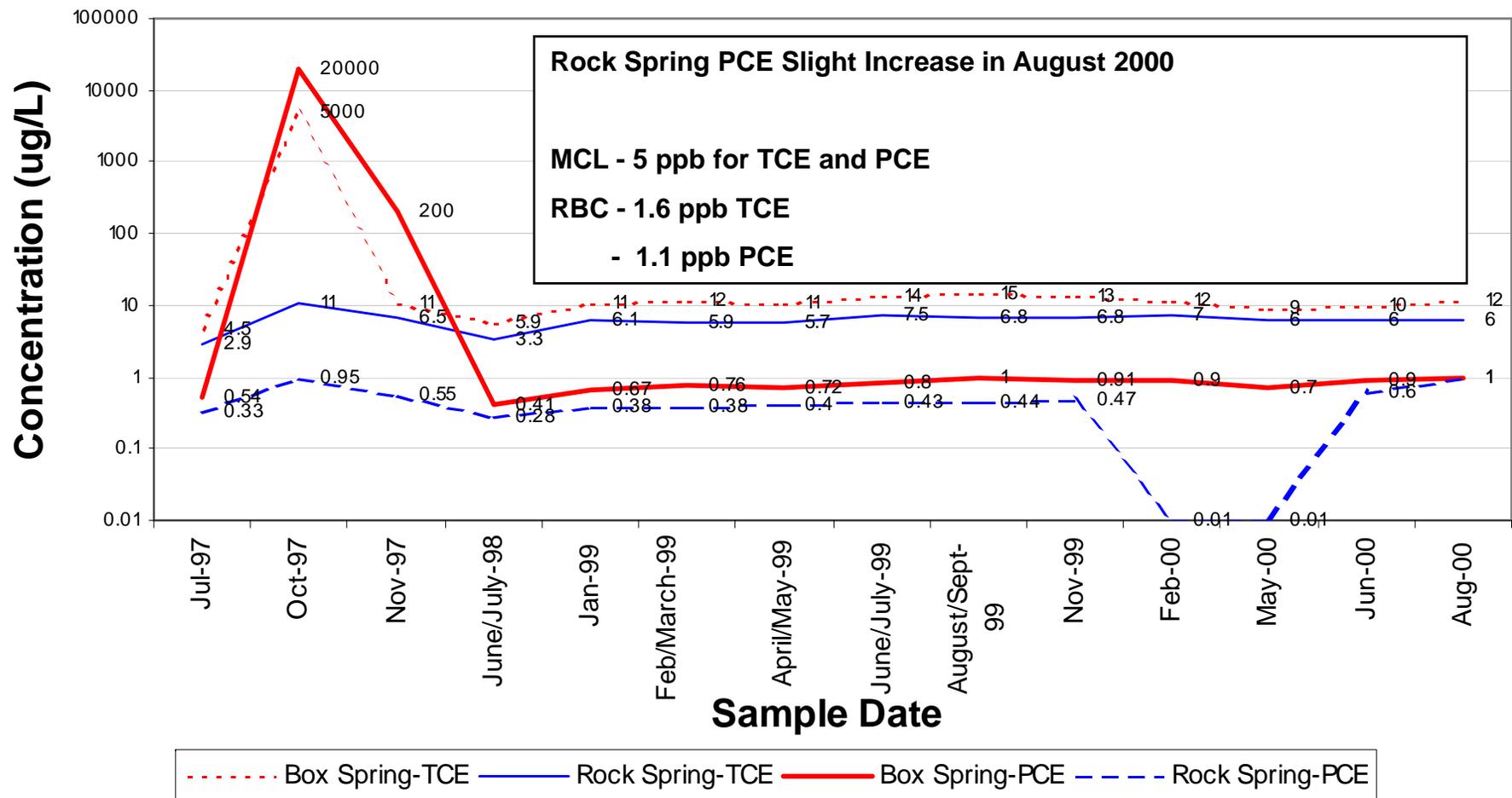
- Residential Well Survey (currently on-going)
- Well 57D Rehabilitation - End of November 00
- Additional periodic residential and on-post well and surface water sampling - Every 1.5 months.
- Dye trace study - Schedule being developed (December 00 - June 01)
- Dye trace study pre-tasks to include:
 - Geological Mapping (on-going, Complete Nov 00)
 - Stream Gauging (USGS, Spring 01)
 - Water Treatment System (Krantz) - ASAP - Currently coordinating
- In-situ Chemical Oxidation Pilot (Bench-Scale - Dec 00, Field Assessment if Promising - Fall 01)
- Lead and Clay Pigeon Removal at Skeet Range (TBD)



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





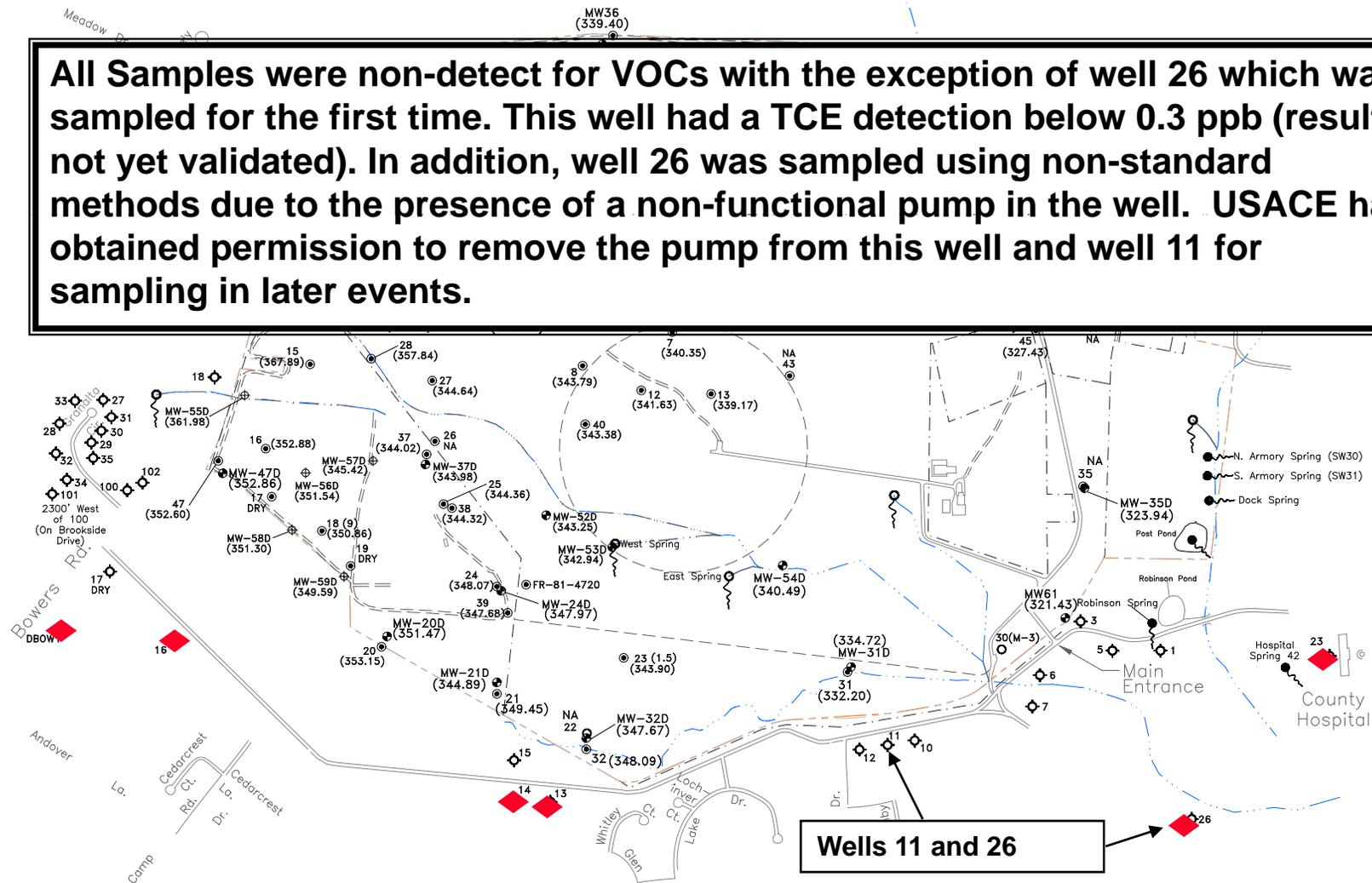
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RESIDENTIAL BOUNDARY WELLS

Sampling Locations Aug/Sep 00

All Samples were non-detect for VOCs with the exception of well 26 which was sampled for the first time. This well had a TCE detection below 0.3 ppb (result not yet validated). In addition, well 26 was sampled using non-standard methods due to the presence of a non-functional pump in the well. USACE has obtained permission to remove the pump from this well and well 11 for sampling in later events.

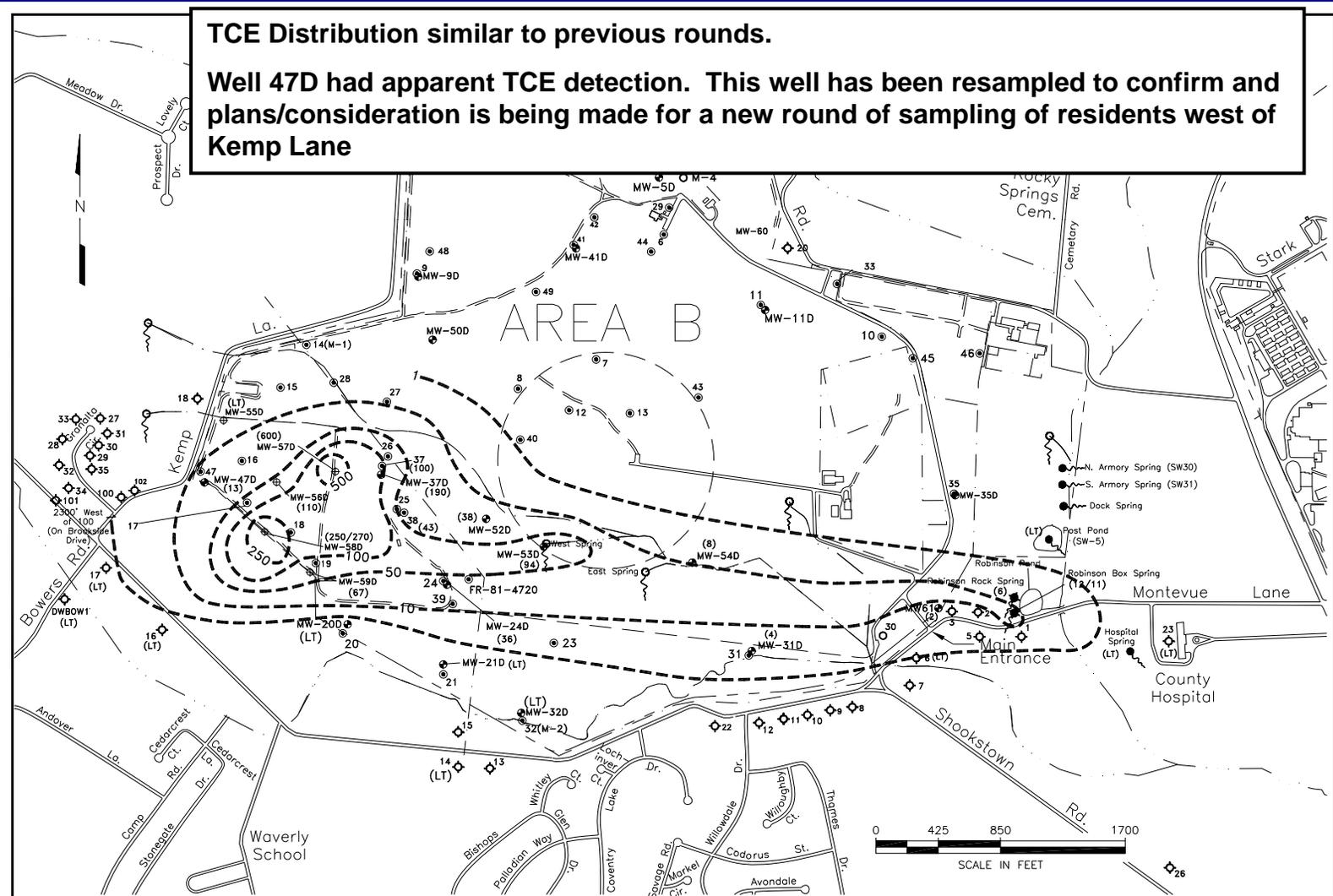




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TCE Plume (August 2000, Results not Validated)



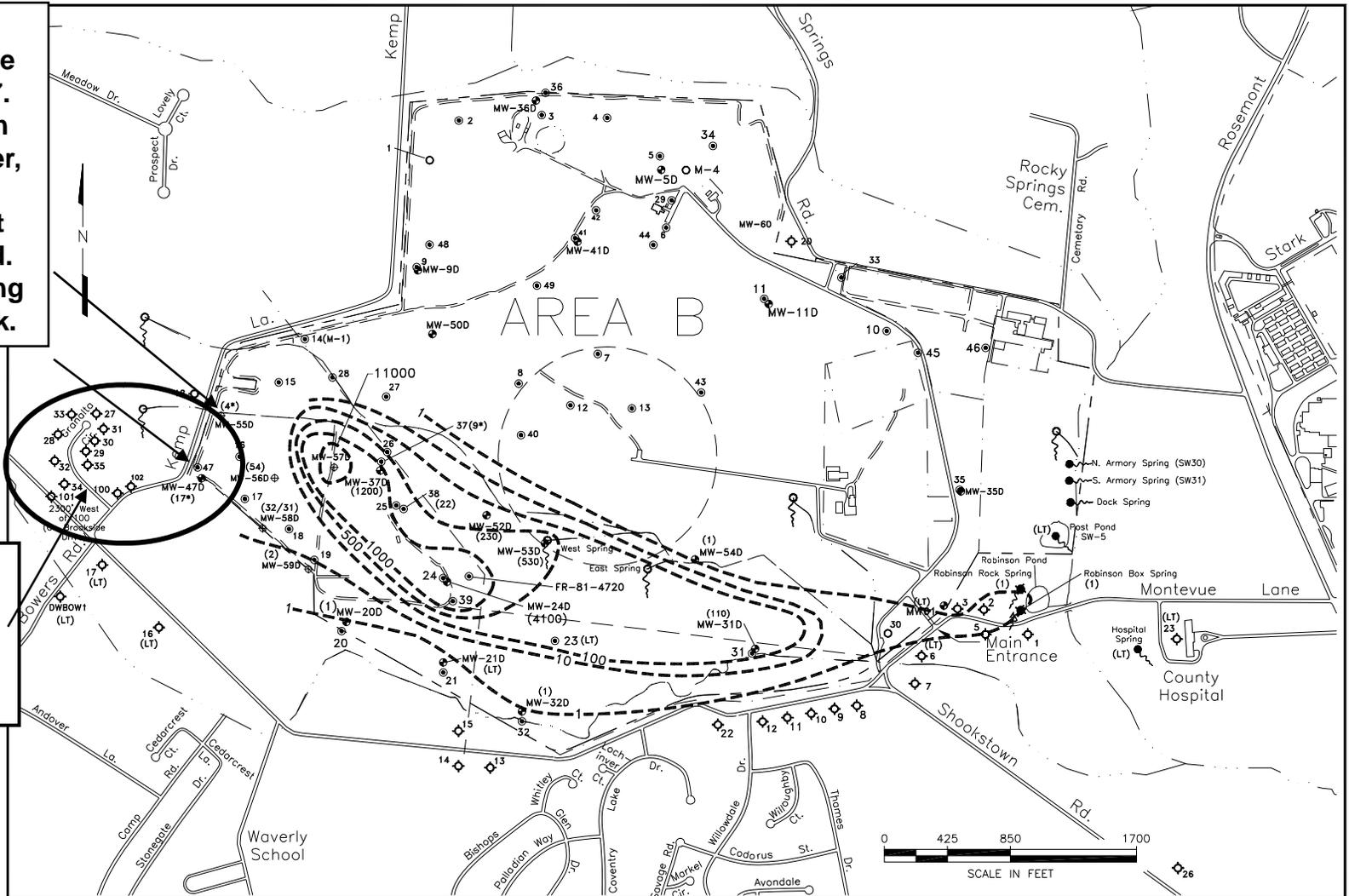


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US Army Corps PCE Plume (August 2000, Results not Fully Validated)
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Wells 47D and 55D were sampled for the first time since 1997. PCE was detected in these wells; however, examination of QA data has shown that this data is not valid. These wells are being resampled this week.

Plans for sampling residential wells in the area to the west of well 47D are being developed

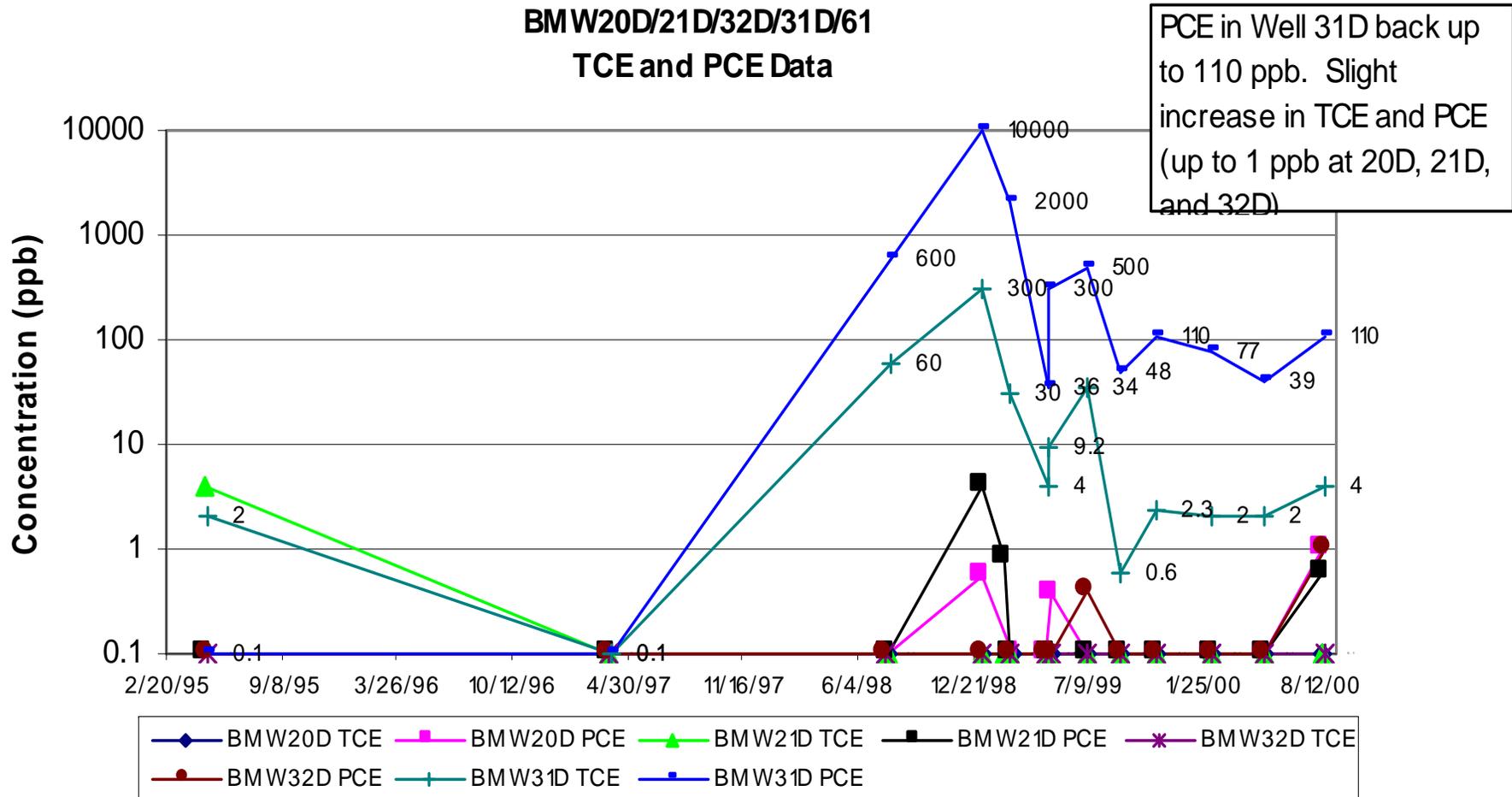




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TCE and PCE Data Trends - Perimeter Wells



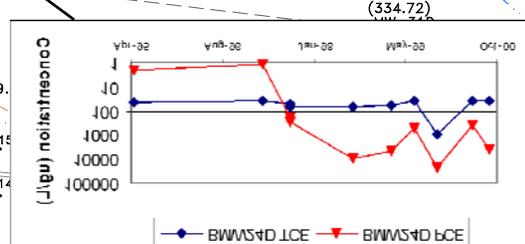
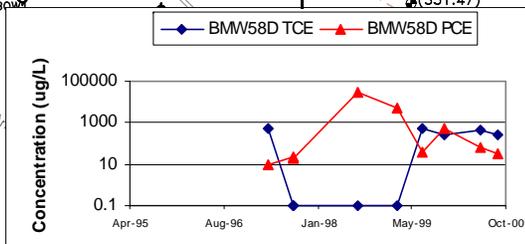
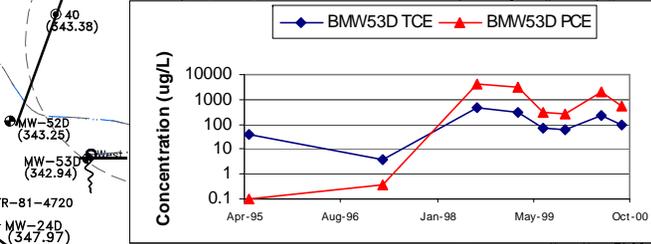
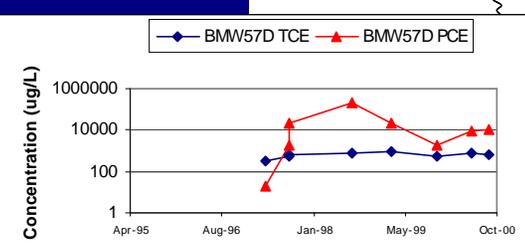
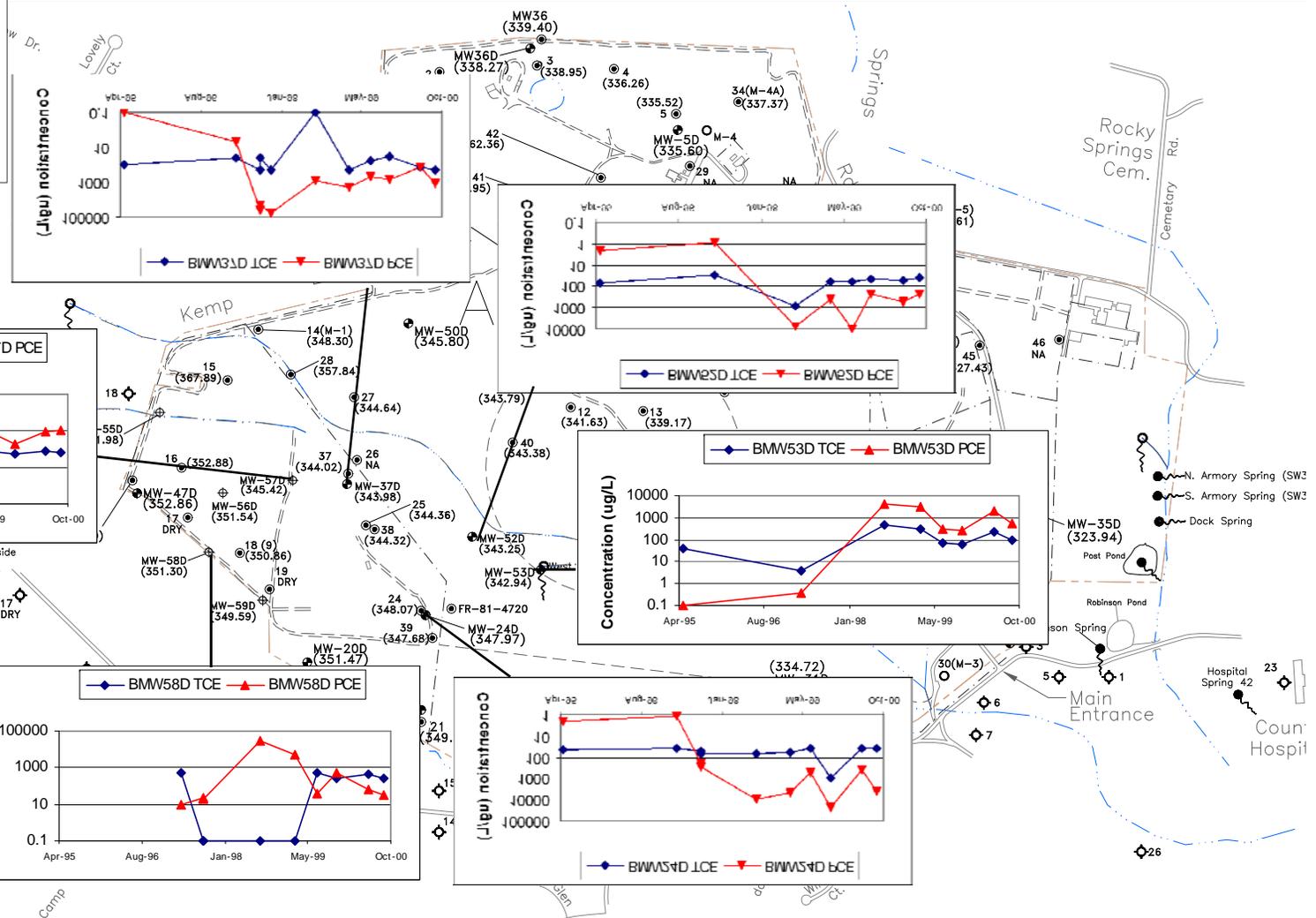


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Data Trends - Area B Interior Wells - Hot Spots

No significant decreases in concentrations observed for hot spot wells. Some increases (37D PCE from 150 to 1200 ppb, 24D PCE from 390 to 4100 ppb).





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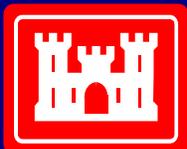
Additional Contaminant Sampling (Area B)

BACKGROUND

THERE WAS NO SAMPLING FOR CONTAMINANTS, OTHER THAN FOR VOCs, IN AREA B SUBSEQUENT TO THE INCREASE IN VOC CONCENTRATIONS IN 1997.

IF OTHER CONTAMINANTS WERE PRESENT THE REMEDIAL ALTERNATIVES FOR GROUNDWATER AND RISK ASSESSMENTS MAY REQUIRE REEVALUATION.

SAMPLING WAS REQUIRED TO ASSESS WHETHER THERE ARE ANY CONTAMINANTS OTHER THAN VOCs IN THE AQUIFER WHICH MAY HAVE BEEN RELEASED IN 1997 FROM THE PIT 11 AREA.

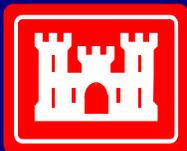


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Additional Contaminant Sampling (Data not yet Validated)

- **Sampled for Pesticides, PCBs, Herbicides, Semivolatile Organic Compounds, Metals, Cyanide**
- **Cyanide, Pesticides and PCBs Not Detected**
- **No Semivolatile Detected over RBCs or MCLs**
- **No Herbicides over RBCs or MCLs**
- **Iron, Arsenic and Manganese were reported above screening levels in Well 56D only (closest deep well to Pit 11)**
- **Data for non-volatile components generally consistent with 1997 data with well 56D showing the greatest variety of contaminants of any well at generally low concentrations.**



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Area C

- RI Risk Assessment Approach Currently Being Coordinated with USEPA
- USEPA Meetings Held at Fort Detrick Oct 19 and 20 to Plan

Deliverable

Final Area C RI

Final Area C FS

Final Proposed Plan

Final Decision Document

Old Schedule

Dec 00

April 01

TBD

TBD

Schedule will change based upon progress of the risk assessment team.