Fort Detrick Remedial Investigation/Feasibility Study

Restoration Advisory Board Meeting

21 July 1999 7:30 PM
Fort Detrick, Frederick, Maryland

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Fort Detrick RI/FS Area A Update

- **U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM) requested revisions to RI Risk Assessment**

Schedule:	**Completion Date**
RI & FS (Revised Draft Final)	Oct 99
Revised RI (Final)	Apr 00
FS (Final)	Apr 00
PP (PROPOSED PLAN)	May 00
DD (DECISION DOCUMENT)	Jul 00
RD (REMEDIAL DESIGN)	Apr 01
RA (REMEDIAL ACTION)	Jul 01
CC (CONSTRUCTION COMPLETE)	Oct 01
LTM (LONG TERM MONITORING)	Nov 21

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Fort Detrick RI/FS Area B Update

DOCUMENTS

Currently in Production

- **Area B RI Draft - USACHPPM Requested Risk Assessment Revisions in May 1999. Final Pending MDE Concurrence on Revisions**

	Completion Date
RI (Draft Final)	Oct 99
RI (Final)	Apr 00
FS (Draft)	May 00
FS (Draft Final)	Jul 00
FS (Final)	Jan 01
PP (NFA Sites)	Jun 00
DD (NFA Sites)	Jun 00
PP (FTD49/Area B GW)	Feb 01
DD (FTD49/Area B GW)	Apr 01
RD (FTD49/Area B GW)	Feb 02
RA (FTD49/Area B GW)	Apr 02

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Fort Detrick RI/FS Risk Assessment Revisions

BACKGROUND

- U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM) is charged, by the Surgeon General, to review Human and Ecological Risk Assessment documents. In addition, USACHPPM must concur with and sign all Decision Documents.

- USACHPPM began reviews of the Area A and Area B Risk Assessments in July 1998

SUBSTANTIVE COMMENTS BY USACHPPM

- In accordance with DOD policy and in compliance with the NCP, USACHPPM has requested that *all* exposure scenarios which are not representative of current or future projected land usage be removed.

REQUIRED RI REVISIONS

- Area A - Eliminate cumulative exposures which are not likely or projected for current and future mission use.
- Area B - Eliminate cumulative exposures which are not likely or projected for current and future mission use (add exposure scenarios for planned recreational use and conference center which is the projected mission use of the property).

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Area B Update

Completed and Scheduled Field Activities

COMPLETED

- Perimeter Sampling Accomplished - April 27 - May 5, 1999
- Quarterly Sampling Accomplished - June 29 - July 13, 1999 (low-flow technique)

  (All groundwater from wells with known or suspected contamination at or above 100 ug/L containerized for disposal on-site (500 gal).
- Water Level Survey Completed June 28, 1999
- Mobile Treatment System for Purge Water Purchased, June 1999

SCHEDULED

- Perimeter Sampling - August 31, 1999
- Quarterly Sampling - October 25, 1999
- EM61 Survey, Area B6 and Area B8 - September 1999
- Area B-3 Inactive surface soil/sediment sampling - August 1999
- Additional Residential Well Sampling Pending Right-of-Entry Agreements
- Air Sampling Robinson Basement - July/August 1999
- SVE test near B-11 pit - pending work-plan approval
- Dye trace study - FY00

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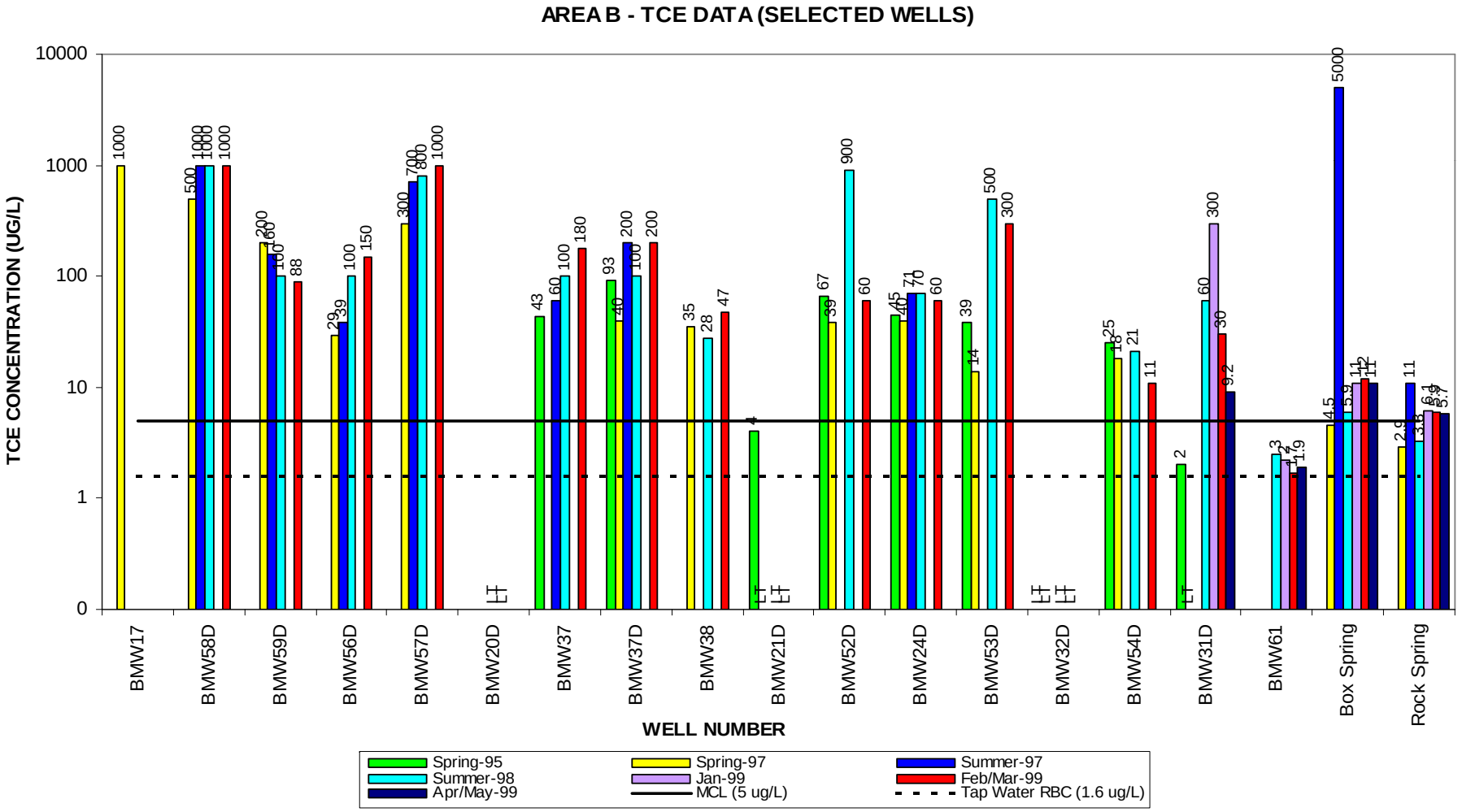
Sampling Data - Area B
TCE Data



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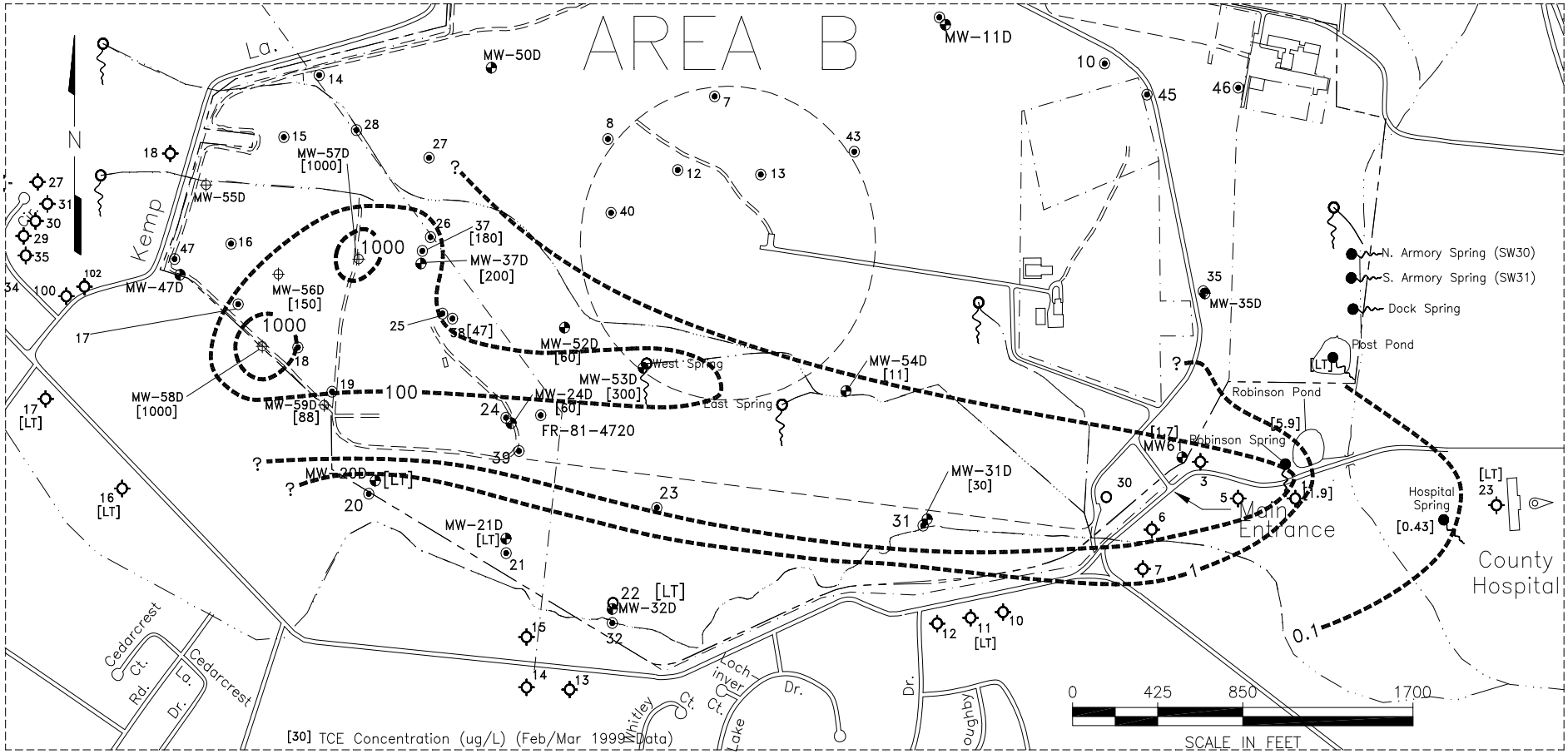
Sampling Data - Area B

New TCE Data - February/March 1999



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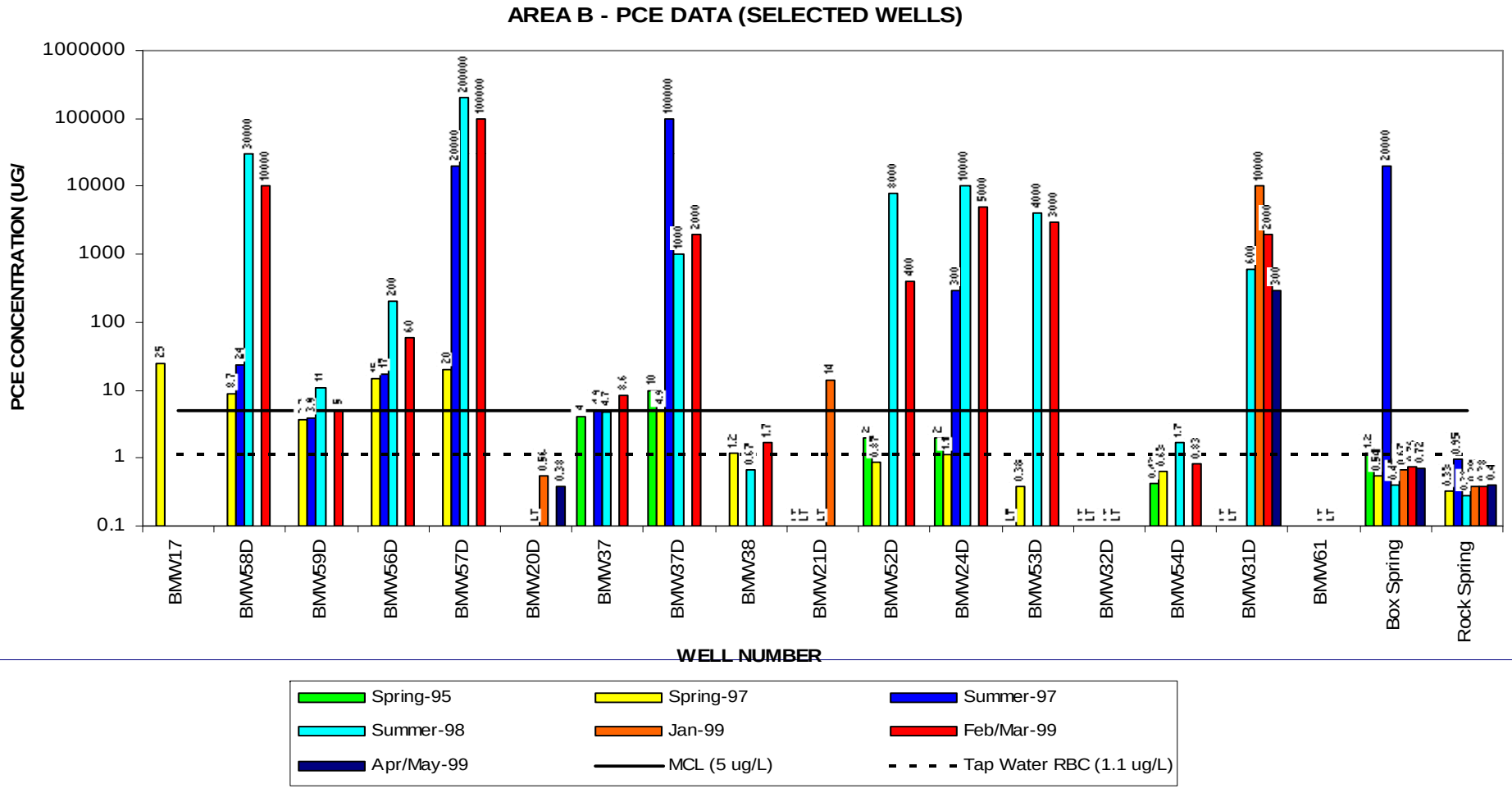
Sampling Data - Area B
PCE Data



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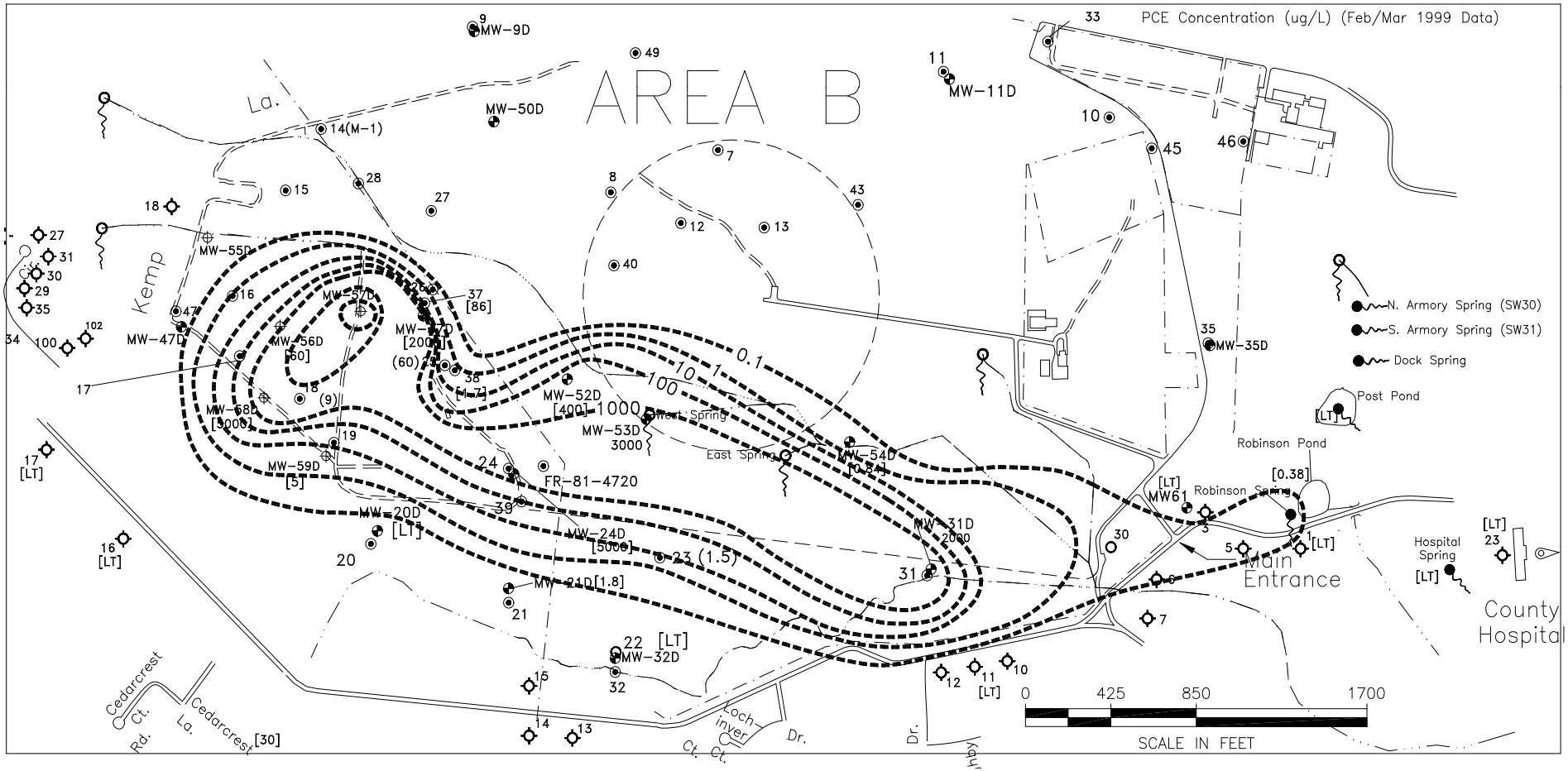
Sampling Data - Area B

New PCE Data - February/March 1999



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PCE DATA - RESIDENTIAL BOUNDARY WELLS

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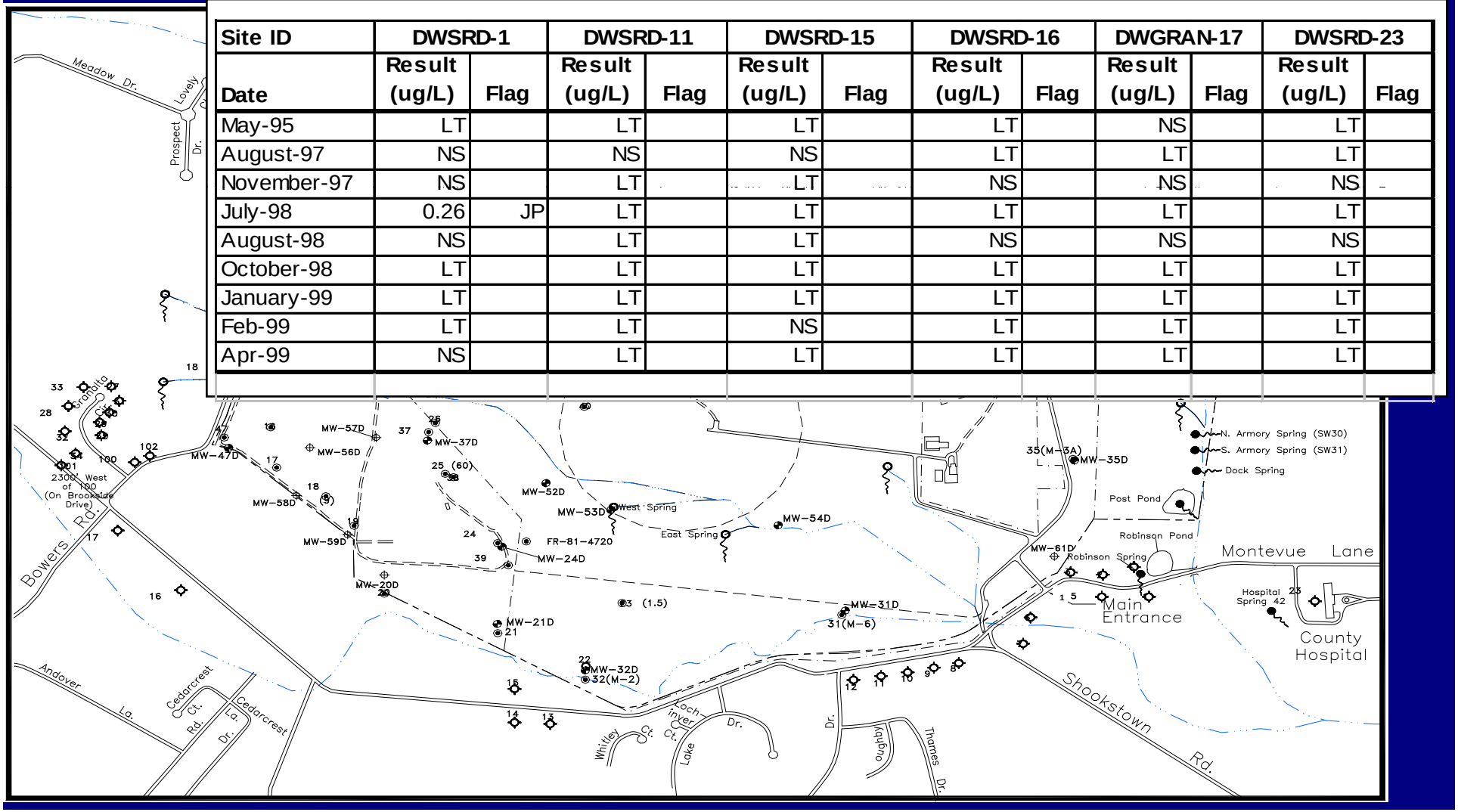
Site ID	DWSRD-1		DWSRD-11		DWSRD-15		DWSRD-16		DWGRAN-17		DWSRD-23	
Date	Result (ug/L)	Flag	Result (ug/L)	Flag	Result (ug/L)	Flag	Result (ug/L)	Flag	Result (ug/L)	Flag	Result (ug/L)	Flag
May-95	LT		LT		LT		LT		NS		LT	
August-97	NS		NS		NS		LT		LT		LT	
November-97	NS		LT		LT		NS		NS		NS	
July-98	0.26	JP	LT		LT		LT		LT		LT	
August-98	NS		LT		LT		NS		NS		NS	
October-98	LT		LT		LT		LT		LT		LT	
January-99	LT		LT		LT		LT		LT		LT	
Feb-99	LT		LT		NS		LT		LT		LT	
Apr-99	NS		LT		LT		LT		LT		LT	



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TCE DATA - RESIDENTIAL BOUNDARY WELLS

US Army Corps of Engineers
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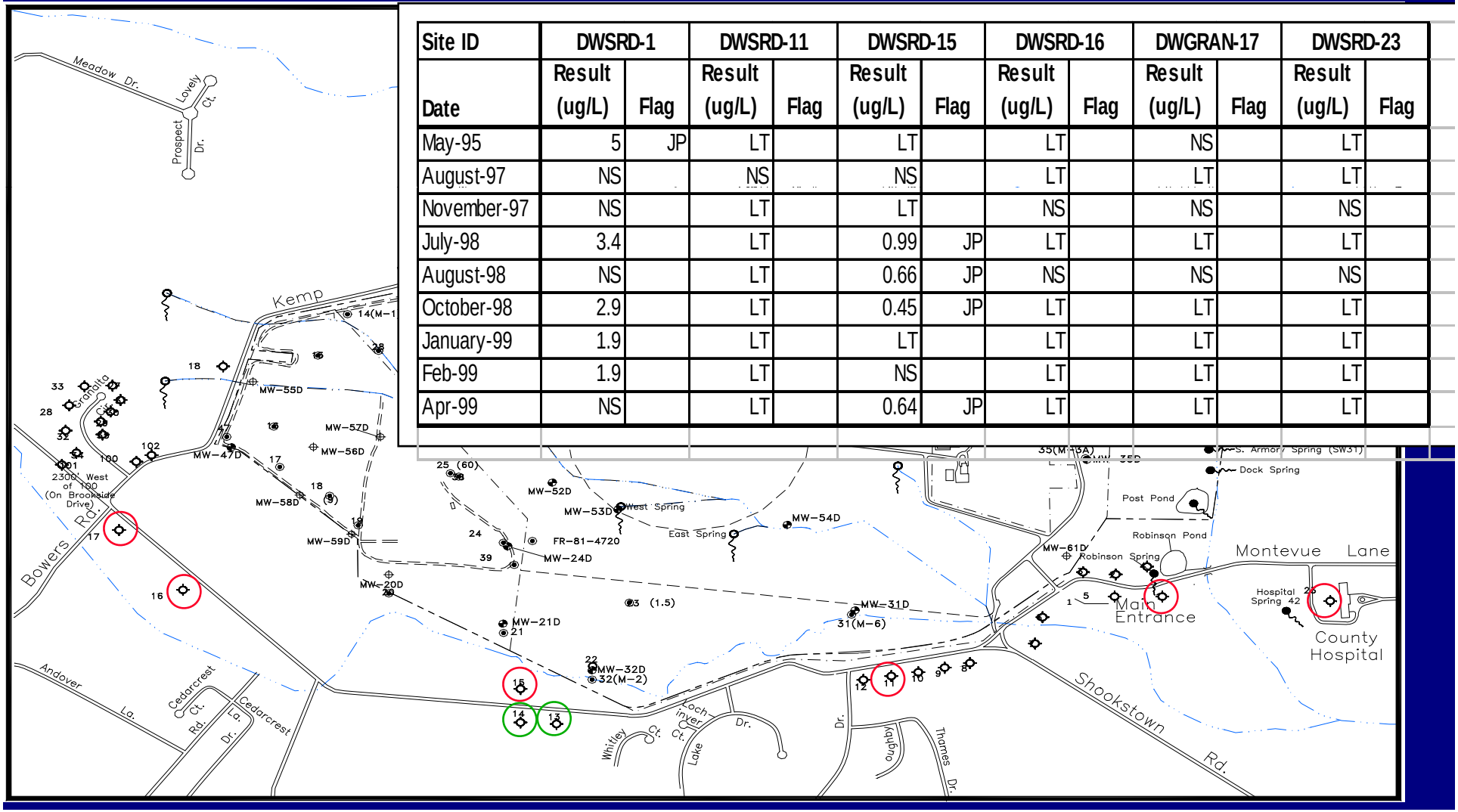
Site ID	DWSRD-1		DWSRD-11		DWSRD-15		DWSRD-16		DWGRAN-17		DWSRD-23	
Date	Result (ug/L)	Flag	Result (ug/L)	Flag	Result (ug/L)	Flag	Result (ug/L)	Flag	Result (ug/L)	Flag	Result (ug/L)	Flag
May-95	5	JP	LT		LT		LT		NS		LT	
August-97	NS		NS		NS		LT		LT		LT	
November-97	NS		LT		LT		NS		NS		NS	
July-98	3.4		LT		0.99	JP	LT		LT		LT	
August-98	NS		LT		0.66	JP	NS		NS		NS	
October-98	2.9		LT		0.45	JP	LT		LT		LT	
January-99	1.9		LT		LT		LT		LT		LT	
Feb-99	1.9		LT		NS		LT		LT		LT	
Apr-99	NS		LT		0.64	JP	LT		LT		LT	



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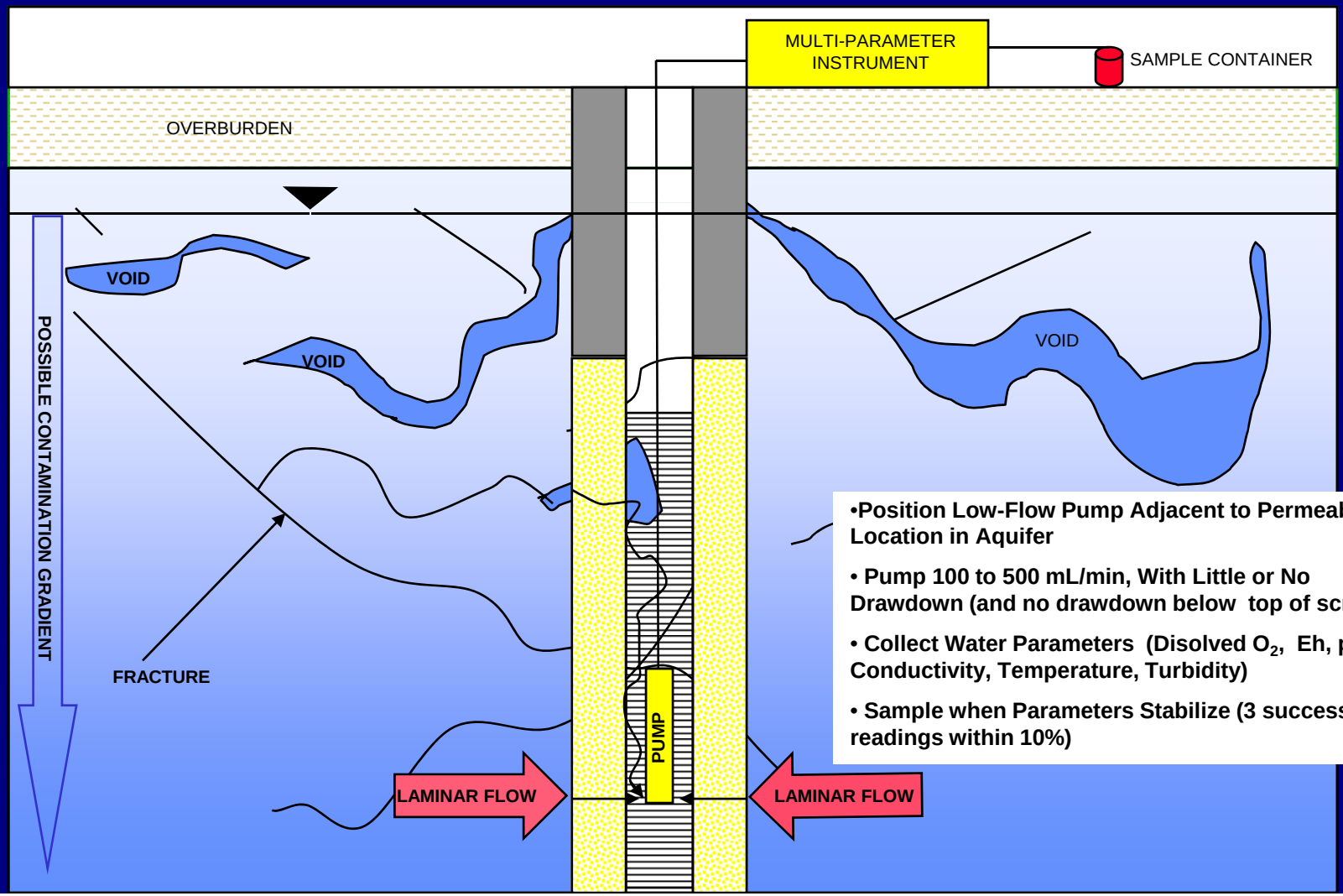
Low-Flow Sampling Method



- **Position Low-Flow Pump Adjacent to Permeable Location in Aquifer**
- **Pump 100 to 500 mL/min, With Little or No Drawdown (and no drawdown below top of screen)**
- **Collect Water Parameters (Disolved O_2, Eh, pH, Conductivity, Temperature, Turbidity)**
- **Sample when Parameters Stabilize (3 successive readings within 10%)**

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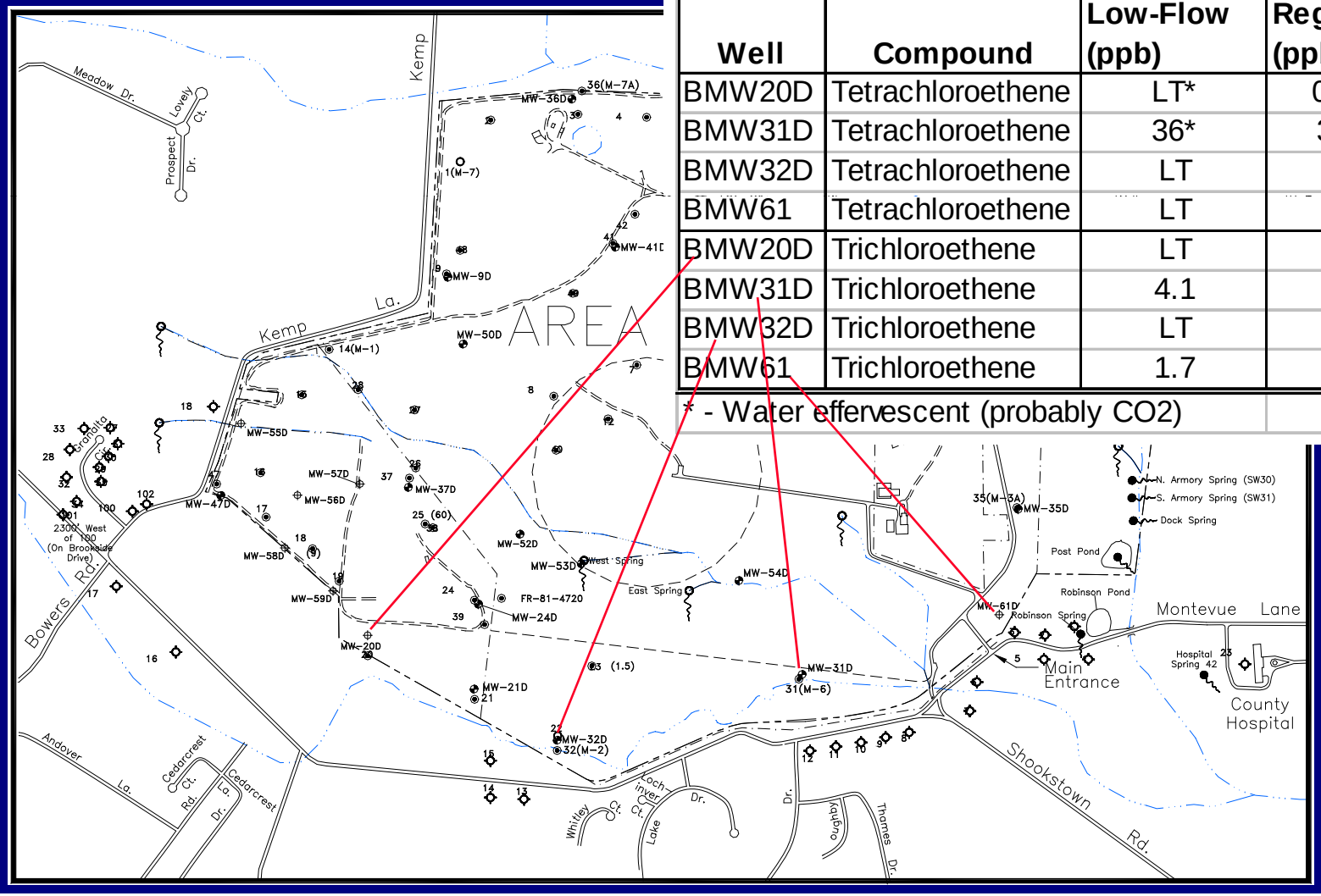
Low-Flow vs. Traditional Sampling Results (Perimeter Sampling - April/May 1999)

Well	Compound	Low-Flow (ppb)	Regular (ppb)
BMW20D	Tetrachloroethene	LT*	0.38
BMW31D	Tetrachloroethene	36*	300
BMW32D	Tetrachloroethene	LT	LT
BMW61	Tetrachloroethene	LT	LT
BMW20D	Trichloroethene	LT	LT
BMW31D	Trichloroethene	4.1	9.2
BMW32D	Trichloroethene	LT	LT
BMW61	Trichloroethene	1.7	1.9

* - Water effervescent (probably CO2)



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Groundwater Contour Map
(June 28 1999)

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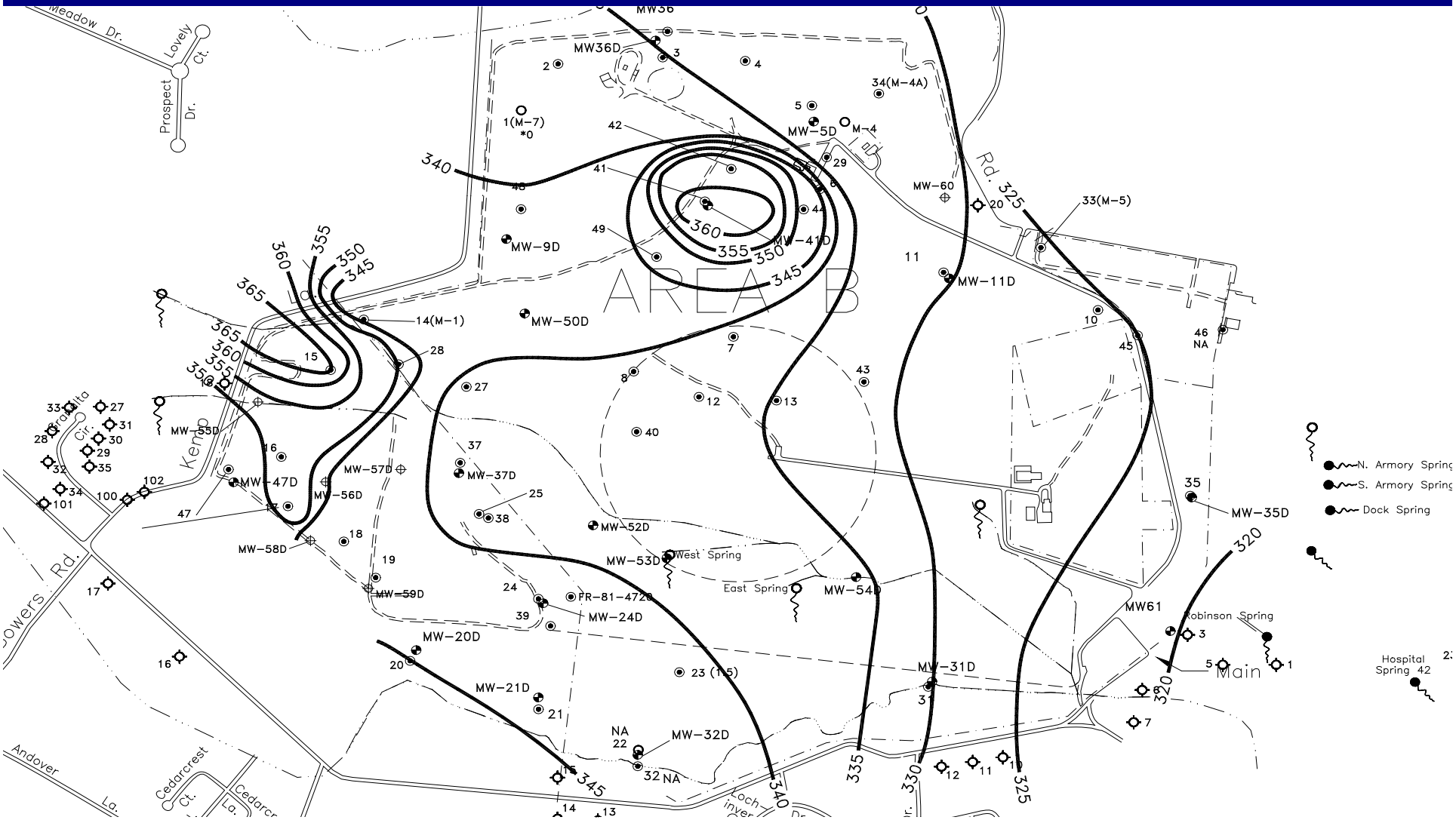

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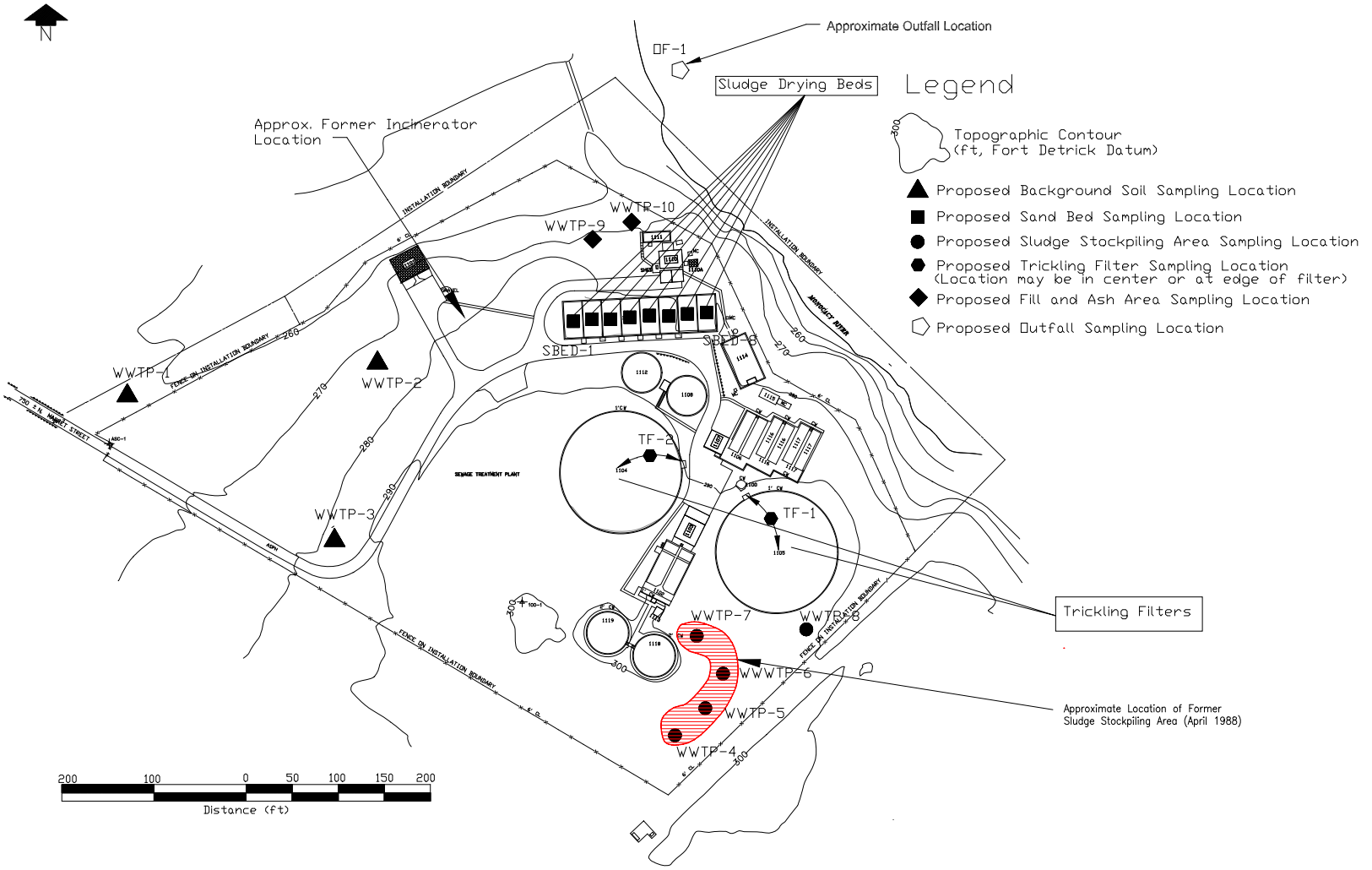
Area C ESI Update



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Area C ESI Update

COMPLETED

- Area C - Wastewater Treatment Plant Expanded Site Investigation (ESI)
  Sampled - three (3) background locations
  - five (5) sludge staging area locations
  - eight (8) sludge drying beds
  - two (2) trickling filters
  - the plant outfall (sediment)
  - one (1) soil fill location
  - one (1) incinerator ash location

PRELIMINARY RESULTS

- Arsenic elevated in some surface and subsurface soil samples compared to RBC and On-Site Background.
- Some On-Site Background Arsenic levels were elevated.
- Dioxin/Furans were above Residential RBC (4.3 ppt) in surface ash (29.4 ppt) and subsurface ash (134.9 ppt) and above Industrial RBC (38 ppt) in subsurface composite ash sample 2'-9' bgs (134.9 ppt).
- Mercury was above ambient water quality criteria in trickling filter effluent

FOLLOW-ON WORK

- A work plan to address dioxins/furans, arsenic, and mercury is currently being reviewed by EPA

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