Meeting Minutes Transmittal/Approval
Unit Managers' Meeting
200 Area Groundwater and Source Operable Units
3350 George Washington Way, Richland, Washington
September 1999

- 078812

0053209

APPROVAL: _____ Date 4/25/00
Bryan Foley, 200 Area Unit Manager, RL (H0-12)

APPROVAL: _____ Date 5-2-00
~~Jack Donnelly~~, 200 Area Unit Manager, Ecology (~~B5-18~~)
Wayne Soper

APPROVAL: _____ Date 4-28-00
Dennis Faulk, 200 Area Unit Manager, EPA (B5-01)

APPROVAL: Arlene C. Tortoso Date 4/25/00
Arlene Tortoso, Groundwater Unit Manager, RL (H0-12)

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Meeting minutes are attached. Minutes are comprised of the following: 078812

Attachment 1	–	Agenda
Attachment 2	–	Attendance Record
Attachment 3	–	200 Area UMM Minutes - September 1999
Attachment 4	–	200-UP-1 Concentration Maps and Charts
Attachment 5	–	200-ZP-1 Concentration Maps and Charts
Attachment 6	–	200-ZP-2 Concentration Charts
Attachment 7	–	Draft Sampling and Analysis Instructions for the Diesel Spill Near Gable Pond
Attachment 8	–	BNFL Transfer Line Construction Activities Presentation Handout

Prepared by: Amy J. Jones Date 3/30/00
Amy J. Jones (H0-10)/Chloe Brewster

Concurrence by: Date
Michael Graham, BHI Groundwater/Vadose Zone Integration (H0-09)

Attachment 1

UNIT MANAGERS MEETING AGENDA

078812

3350 George Washington Way
September 23, 1999

8:00 a.m. **200 Area** **Room 1A14**

- Groundwater Monitoring Plans (No agenda items identified for this month)

- 200-UP-1 (5 minutes)
  - Status Project

- 200-ZP-1 (5 minutes)
  - Status Project

- 200-ZP-2 (10 minutes)
  - Soil Vapor Extraction Operating Data for 216-Z-1A Site
  - Non-Operational Soil Vapor Monitoring Data for 216-Z-9 Site
  - Passive Soil Vapor Extraction at 216-Z-1A Site

- 200-CW-1 Gable Mountain/B Pond and Ditches (10 minutes)
  - Status Work Plan
  - Status Fieldwork
  - Status Contained-In Determination Strategy
  - Diesel Spill Sampling Plan

- 200-CS-1 Chemical Sewer Waste Group (5 minutes)
  - Status Work Plan
  - BNFL Transfer Line Construction Activities

- 200-CW-5 U Pond/Z Ditches Cooling Water Waste Group (5 minutes)
  - Status Work Plan

- 200-BP-1 Operable Unit (10 minutes)
  - Summary FY00 Barrier Monitoring Work Scope

- 200-TW-1 and 200-TW-2 Operable Units (10 minutes)
  - Status TPA Change Package

Attachment 2

078812

Remedial Action and Waste Disposal Unit Managers' Meeting
Official Attendance Record – 200 Areas
September 23, 1999

Please print clearly and use black ink

PRINTED NAME	ORGANIZATION	O.U. ROLE	TELEPHONE
Bryan L. Foley	DOE-RL	200 Area UM	376-7087
T. Wooley	Ecology	200 CW-1	736-3012
Craig Swanson	CHI	200 Area GW	372-9353
George C. Henckel	BHI	Regul Ops	372-9381
Arlene C. Tortoso	DOE-RL	200-GW PM	373-8631
Dennis Faulk	EPA	RPM	376-8631
Stuart Luttrell	PNNL	GW Monitoring	376-6023
Phil Brackenbury	Numatec	BNFL Feed	372-1776
Bruce Ford	BHI	200 Area	372-9176
Garrett Day	BHI	Remediation GW operations	372-9052
Curt Wittreich	CHI	200 Area	372-9586
Mary E. Todd	CHI	200-CW-1 OU TASK Lead	372-9030

MEETING MINUTES
GROUNDWATER AND SOURCE OPERABLE UNITS
UNIT MANAGERS' MEETING -- 200 AREA
September 23, 1999

Attendees: See Attachment #2

Agenda: See Attachment #1

Topics of Discussion:

1. Groundwater Monitoring Plans - EPA requested that a high level discussion on activities in the 200 W Groundwater be included as an agenda item for the November UMM.

2. 200-UP-1 Project Status - A handout was provided (Attachment 4) with maps and charts. The overall Tc^{99}, U, and carbon tet concentrations are decreasing and the nitrate concentrations are consistent. Overall, the findings are as expected.

3. 200-ZP-1 Project Status - A handout was provided (Attachment 5) with maps and charts. Operations have been consistent since there was a chlorine injection in May to clear algae. Carbon tet concentrations are consistent with the RAD sampling of TC^{99}, I^{29}, and Tridium of extraction wells in October. A 5 year review for all NPL sites is coming up. EPA has decided to do a sitewide 5 year review to include all the OUs. The review will begin in March and is expected to be finished in May.

4. 200-ZP-2 - A handout was provided (Attachment 6) with charts and tables. Concentration data for carbon tet is shown to be consistent and the soil vapor monitoring data shows nothing unusual. EPA and DOE requested a monitoring plan for those wells that will be monitored during shutdown.

5. 200-CW-1

   - Status Work Plan - Comments from Ecology on the Work Plan have been incorporated. A redline has been generated by the ERC and will be submitted to DOE today.

   - Status Fieldwork - DOE had discussions with Ecology characterization data in the vicinity of completed test pit GP-2. Basalt is expected to be below a depth of 25 feet in this area. Ecology wants the deepest pit possible to basalt at the hottest area of contamination. This hot spot would be in the vicinity of test pit GP-2. However, test pitting is limited to a depth of 25 feet with available equipmentA decision on how to collect soil samples deeper than 25 feet at this location is pending.

     The ERC provided a status of the B-Pond borehole and noted that B Pond test pit sampling will start October 4th.

   - Status Contained-In Determination Strategy - The ERC provided a status of the hydrazine MDL study being performed in support of a contained-in determination.

- Diesel Spill Sampling Plan - Sampling and Analysis Instructions for the diesel spill near Gable Pond have been drafted and sent out for comments. A handout of the current draft was provided (Attachment 7). The spill is outside any current OU. The draft was discussed and Ecology noted that it is not prepared to concur with the cleanup verification effort at this time.

6. 200-CS-1

   - Status of Work Plan - The work plan is under regulator review and comments from Ecology are expected.

   - BNFL Transfer Line Construction Activities - A presentation and handout (Attachment 8) were provided by Phil Brackenburg, a representative from Lockheed. This was a notification that a pipeline associated with the vitrification plant may be needed that crosses the 216-A-29 DitchFormal discussions are pending.

7. 200-CW-5 U Pond/Z Ditches Cooling water Waste Group - Status Work Plan - The work plan is currently being drafted and is on schedule with the Draft A is due in December.

8. 200-BP-1 Operable Unit - Summary FY00 Barrier Monitoring Work Scope - The work scope planned for FY00 is similar to FY99 with the addition of drainage monitoring.

9. 200-TW-1 and 200-TW-2 Operable Units - Status TPA Change Package - . This change package is being finalized. DOE met with EPA on September 22. At this meeting it was established that EPA is the lead for 200-TW-1 and Ecology is the lead for 200-TW-2 EPA noted a need to brief the HAB on the package.

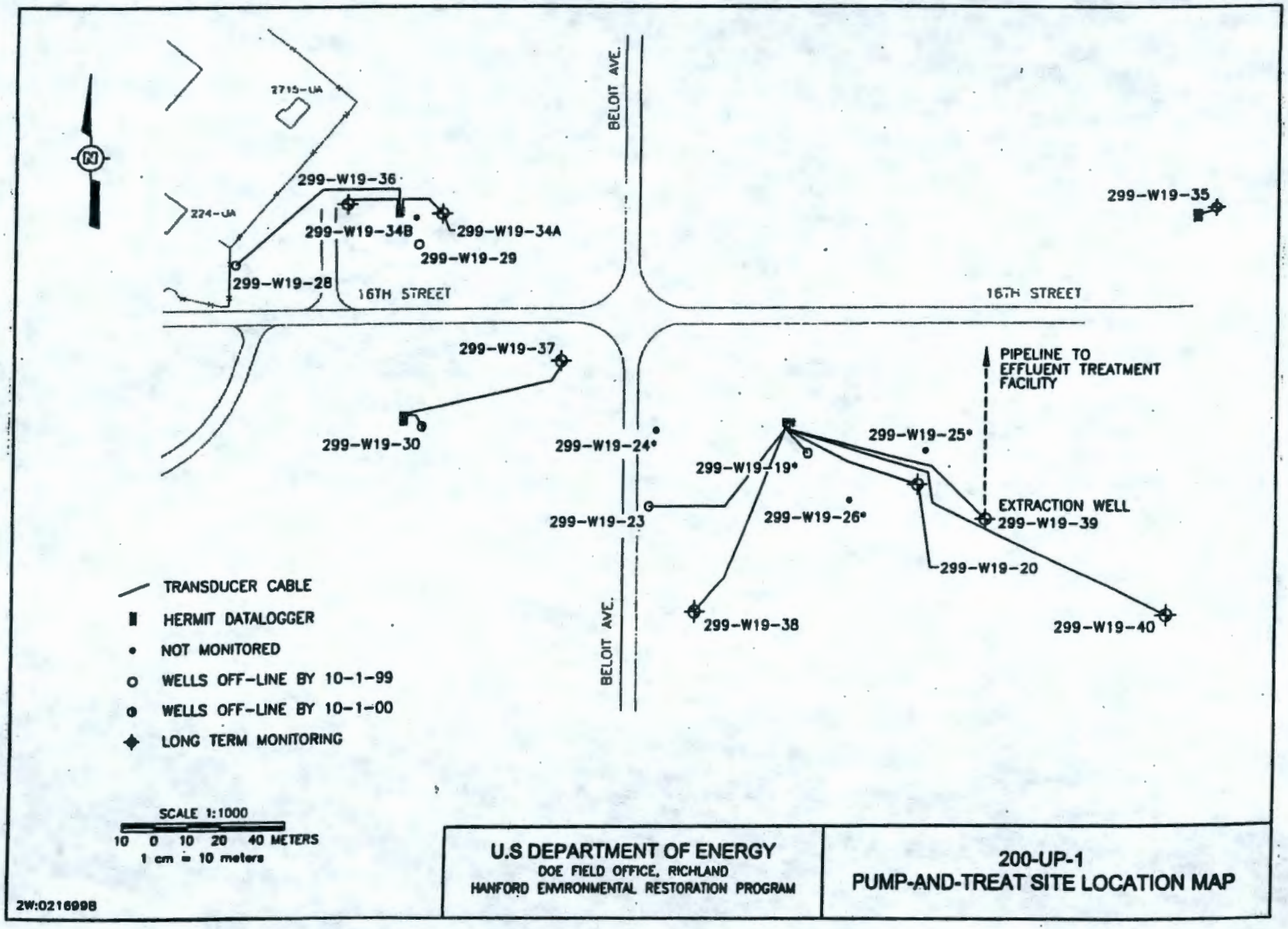
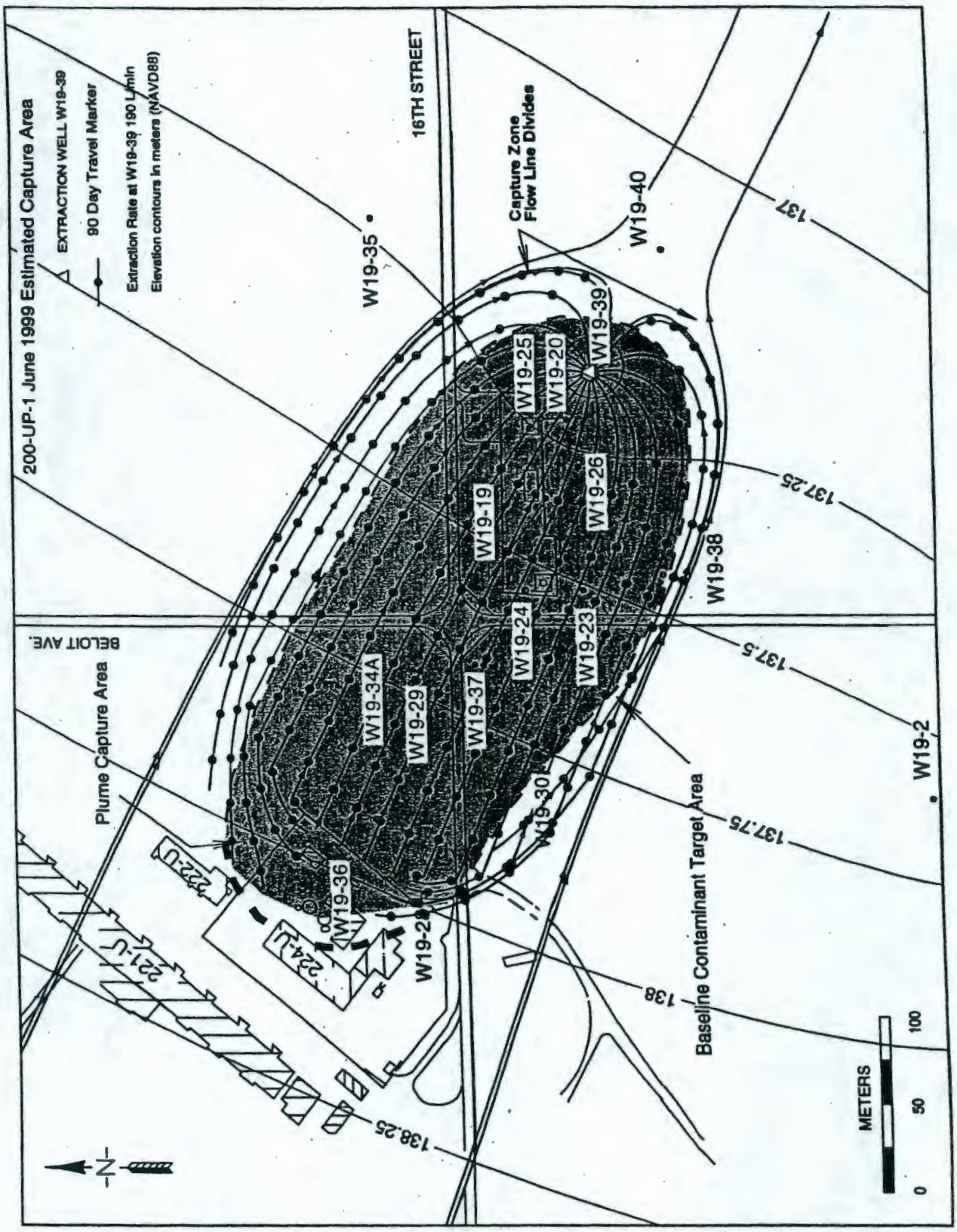


Figure 1-1. Site Location of the 200-UP-1 Pump-and-Treat Site Showing Extraction, Injection, and Monitoring Well Locations.

Attachment 4

Figure 1-4. 200-UP-1 Area of Capture Through June 1999.



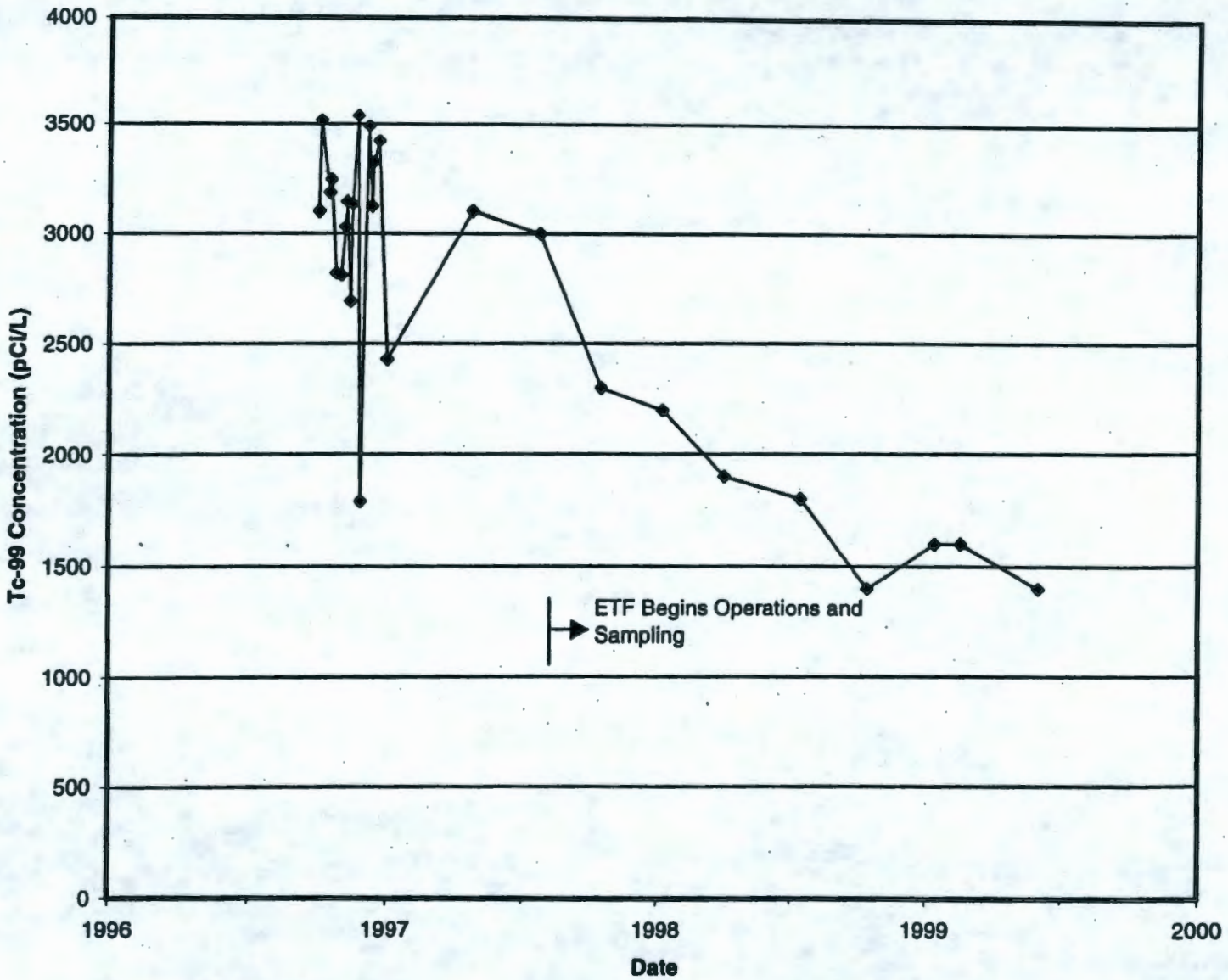


Figure B-1. Technetium-99 Concentration at Extraction Well 299-W19-39 through June 30, 1999.

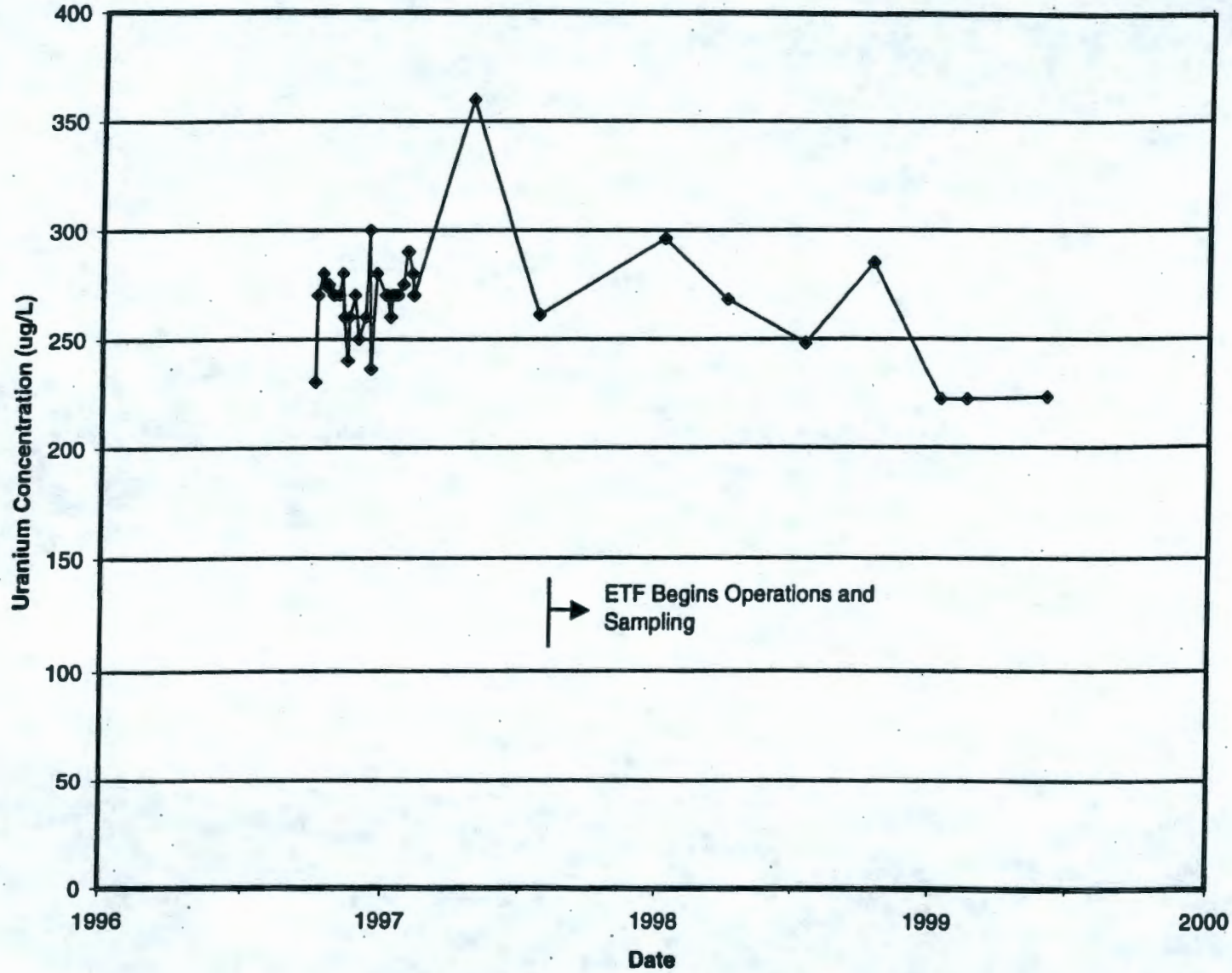


Figure B-2. Uranium Concentration at Extraction Well 299-W19-39 through June 30, 1999.

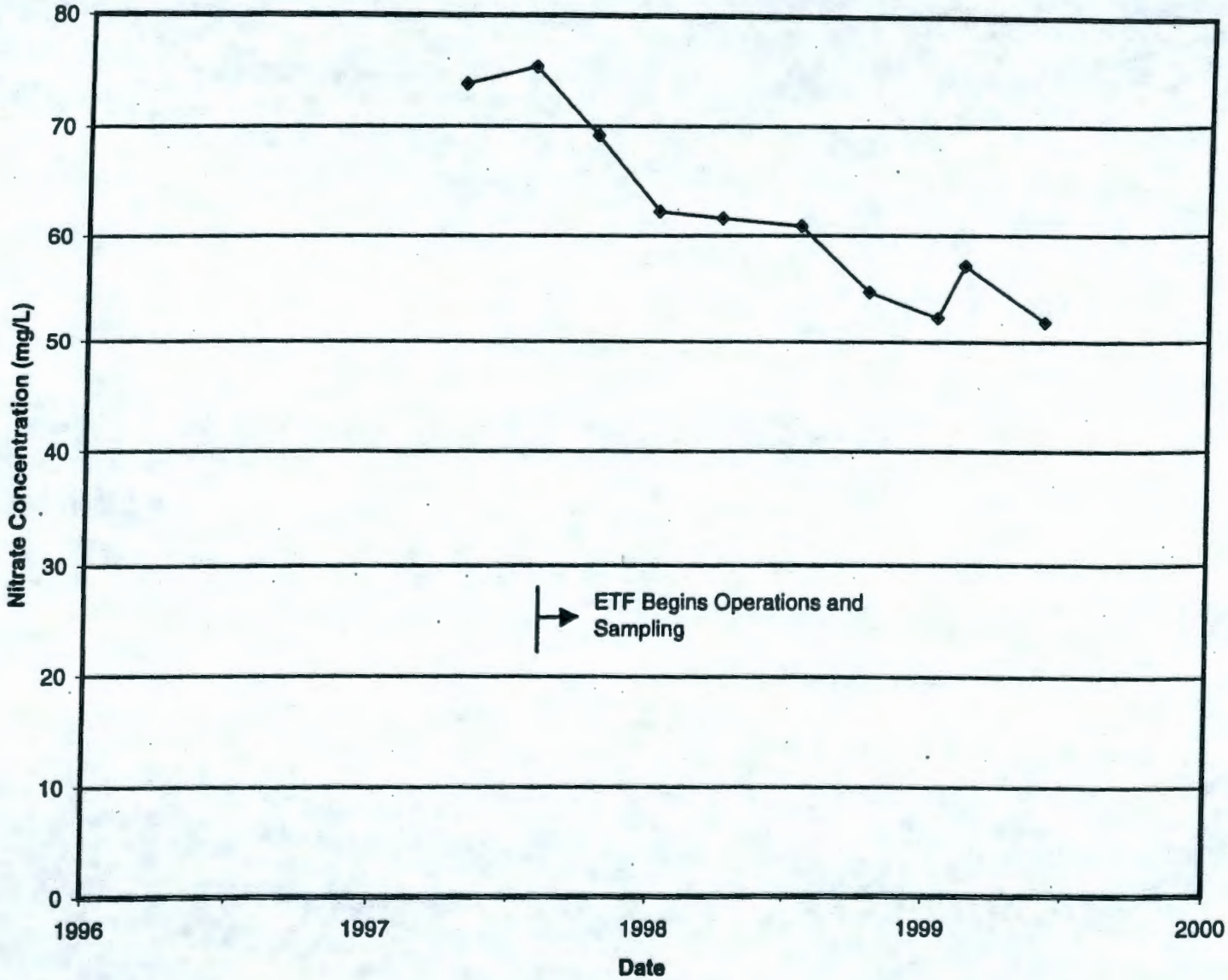


Figure B-4. Nitrate Concentration at Extraction Well 299-W19-39 through June 30, 1999.

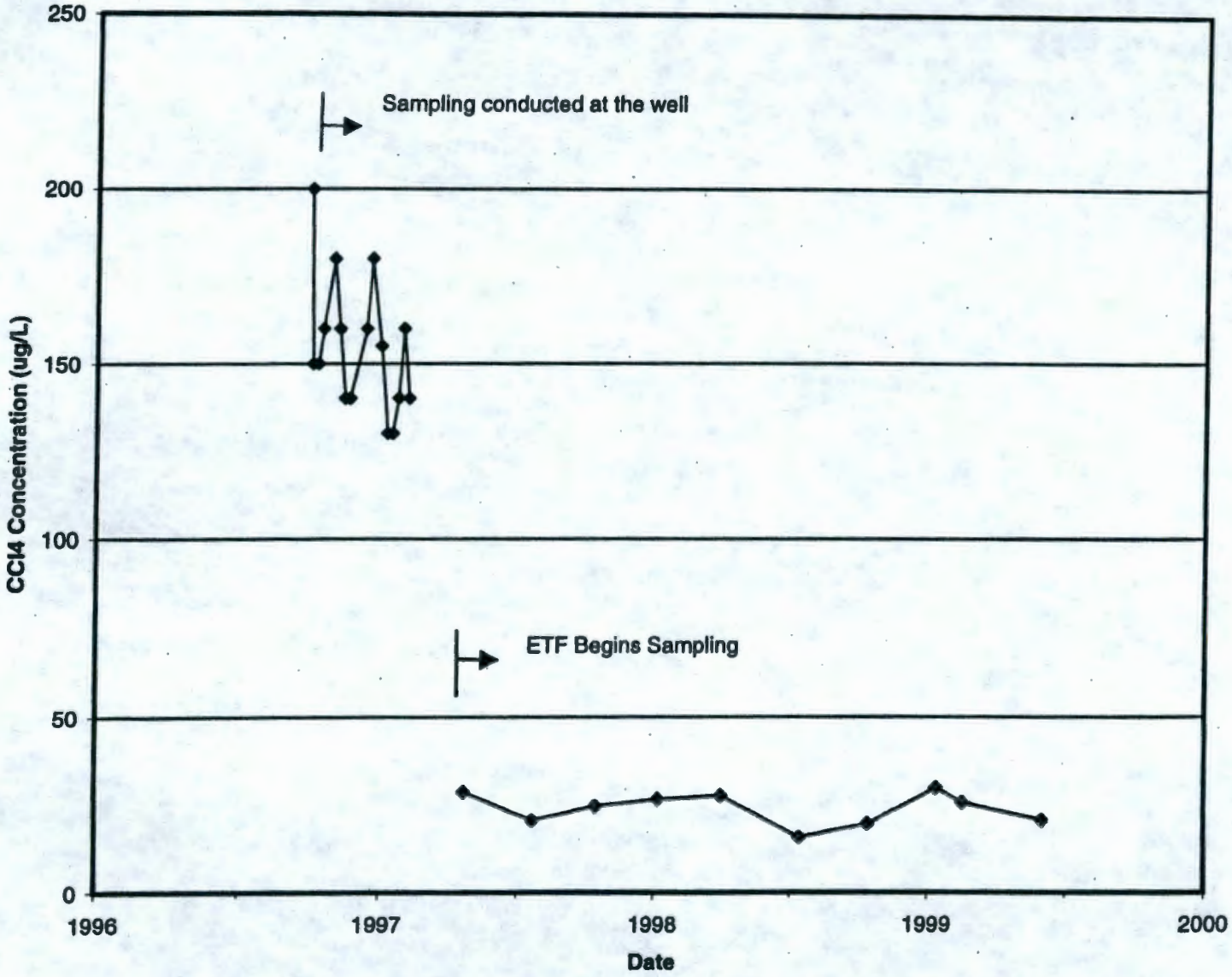


Figure B-3. Carbon Tetrachloride Concentration at Extraction Well 299-W19-39 through June 30, 1999.

Table 1-1. Quantity of Treated Groundwater and Contaminant Mass Removed Since Initiation of 200-UP-1 Pump-and-Treat Operations.

Attachment 4

Reporting Period	Liters Treated	Mass Technetium-99 Removed (g)	Mass Total Uranium Removed (g)	Mass Carbon Tetrachloride Removed (g)	Mass Nitrate Removed (kg)
March 1994 - November 1994[a]	3,898,550	3.41	4,422	Not Reported	N/A
December 1994 - August 1995	11,391,491	7.79	9,831	992	N/A
September 1995 - November 1995	17,198,571	3.95	3,895	630	N/A
December 1995 - March 1996	31,311,340	9.05	9,105	1,609	N/A
April 1996 - June 1996	22,459,108	5.40	6,845	1,569	N/A
July 1996 - September 1996	22,370,327	4.01	5,134	2,790	N/A
October 1996 - December 1996	20,300,000	3.33	5,607	2,980	N/A
January 1997 - February 1997[b]	2,667,600	0.83	963	73	N/A
February - March 30, 1997	Shutdown	N/A	N/A	N/A	N/A
March 31 - September 30, 1997	32,414,481	5.6	11,000	888	2,260
October 1 - December 31, 1997	20,390,054	3.31	6,300	572	1,530
January 1 - March 31, 1998	19,791,765	2.08	4,900	460	1,070
April 1 - June 30, 1998	33,538,750	3.58	8,680	907	2,150
July 1 - September 30, 1998	26,346,466	1.57	3,750	296	900
October 1 – December 31, 1998	22,174,396	1.49	4,910	341	979
January 1 - March 31, 1999	23,720,542	1.89	4,450	601	1,050
April 1 – June 30, 1999	24,369,400	2.29	5,400	600	1,400
Total	**408,677,375**	**59.59**	**95,192**	**15,308**	**11,339**

[a] Data from the treatability test as reported in *Treatability Report for the 200-UP-1 Operable Unit - Hanford Site* (DOE-RL 1995).

[b] Estimated values based on 189 L/min (50 gal/min) flow, running 24 hours/day, at 97.5% efficiency.

N/A = not applicable

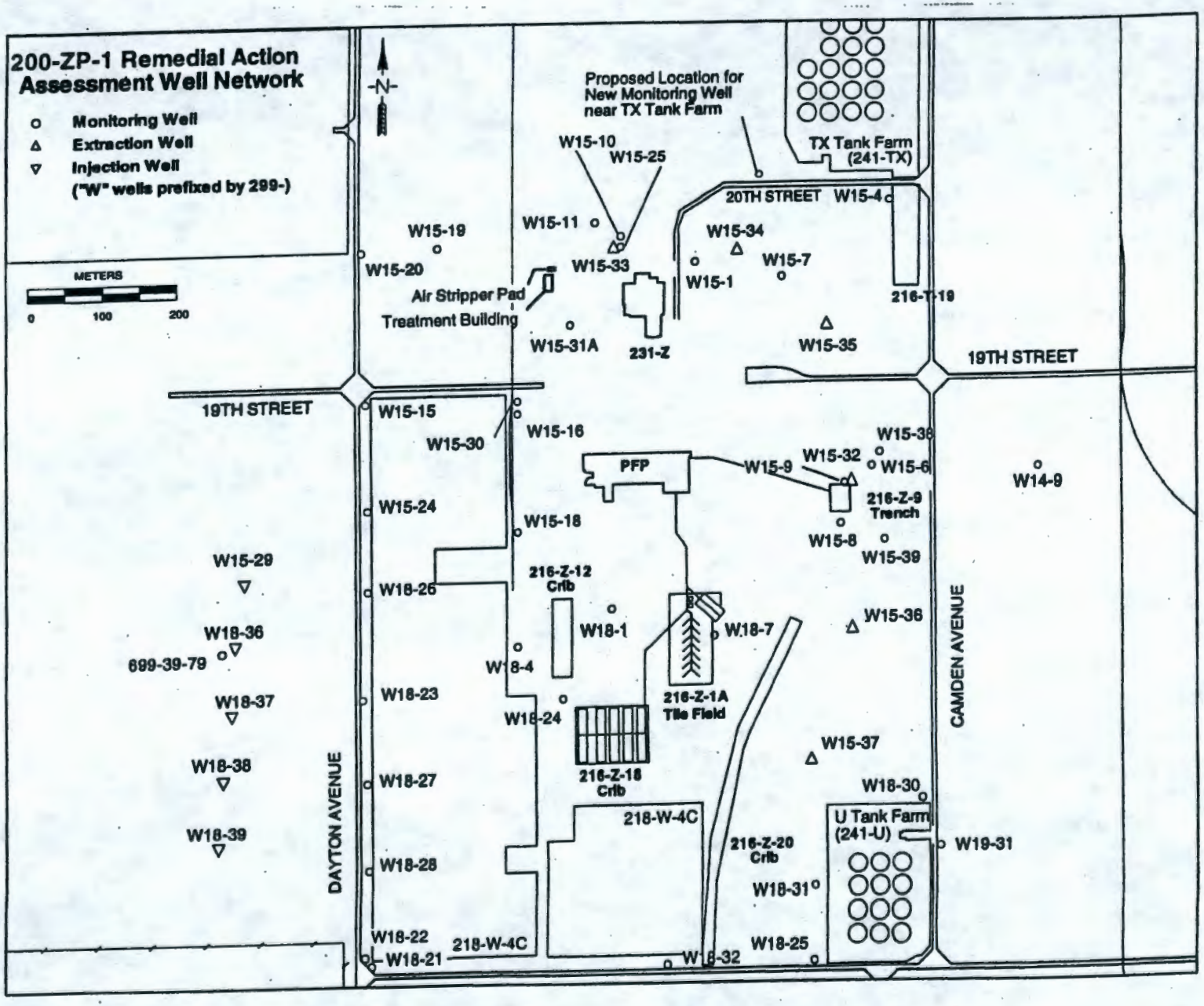


Figure 2-1. Plan View of the 200-ZP-1 Pump-and-Treat Site Showing Extraction, Injection, and Monitoring Well Locations.

ZP-1

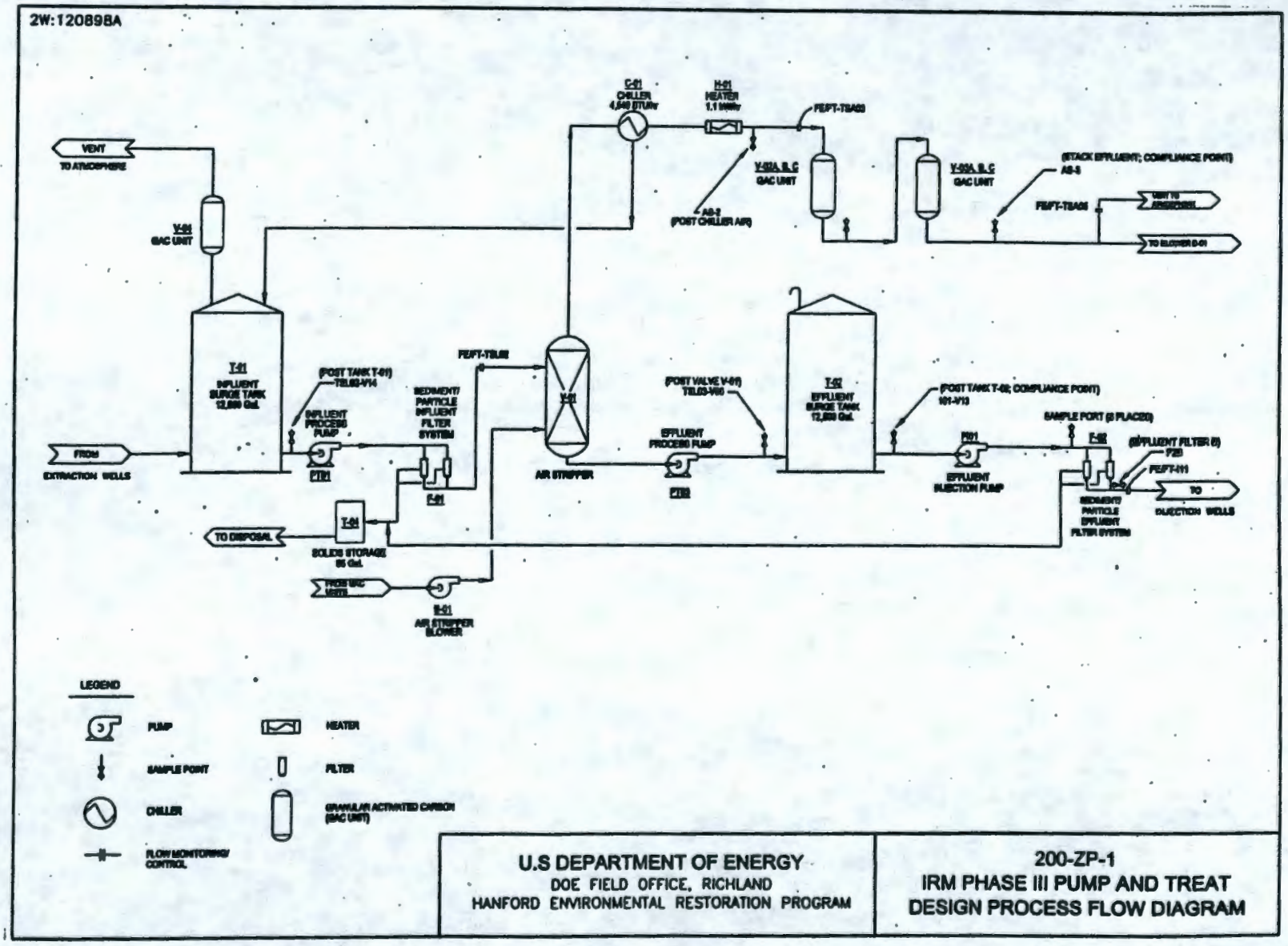


Figure 2-2. 200-ZP-1 Pump-and-Treat Process Flow Diagram.

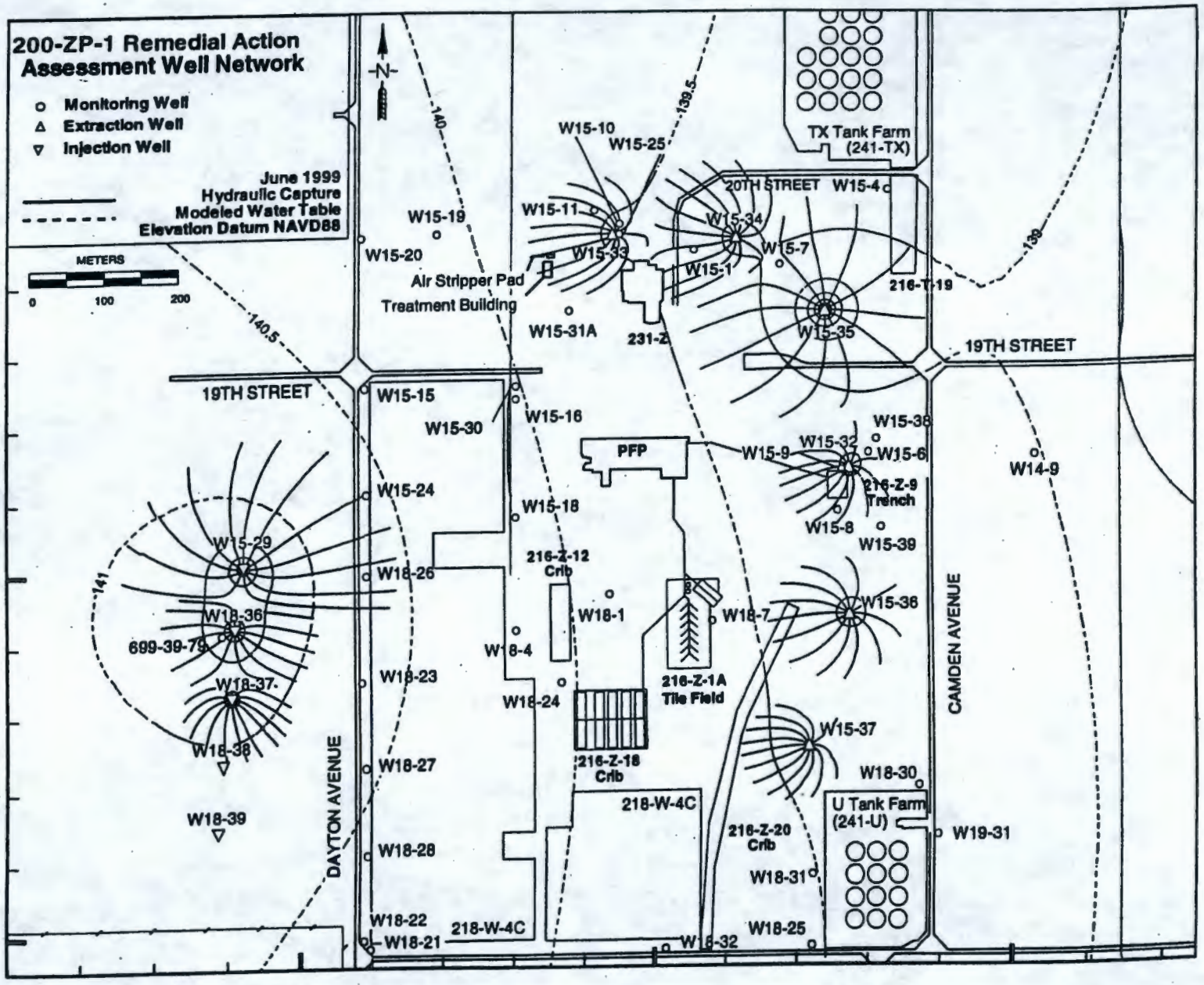
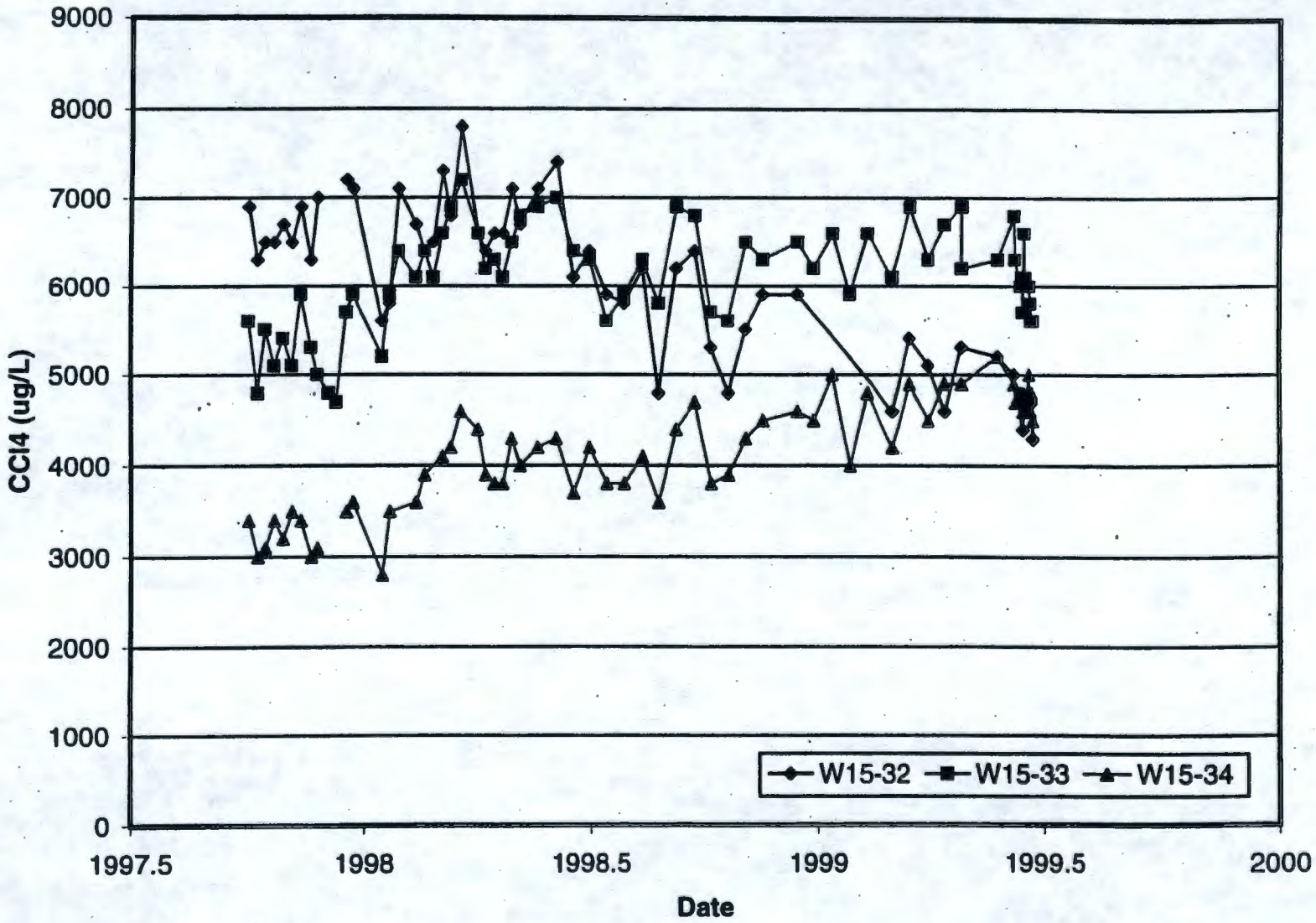


Figure 2-9. Hydraulic Capture Through June 1999.

Wells 299-W15-32, 299-W15-33, and 299-W15-34.



Attachment 5

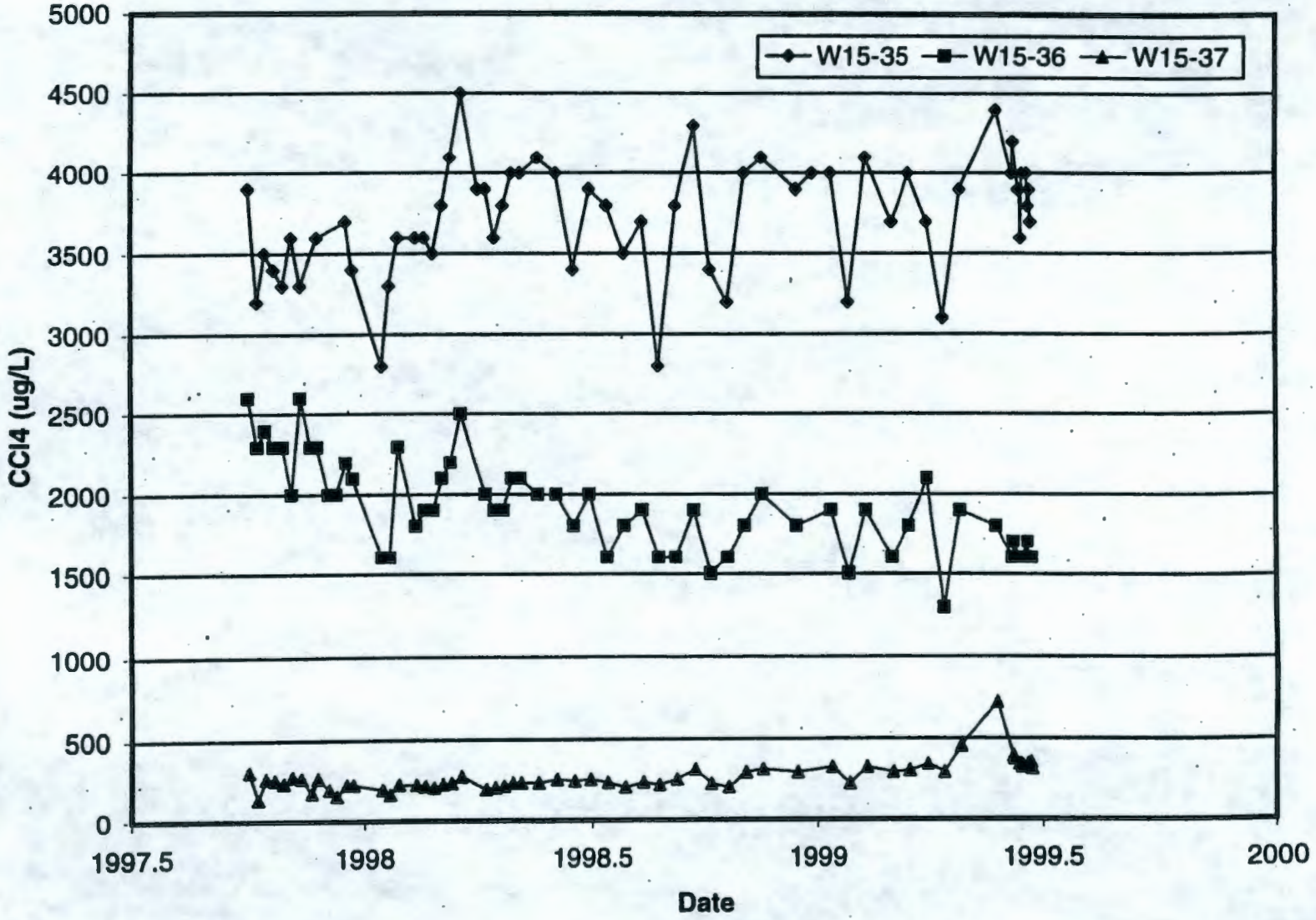


Figure D-2. Carbon Tetrachloride Concentrations at Extraction Wells 299-W15-35, 299-W15-36, and 299-W15-37.

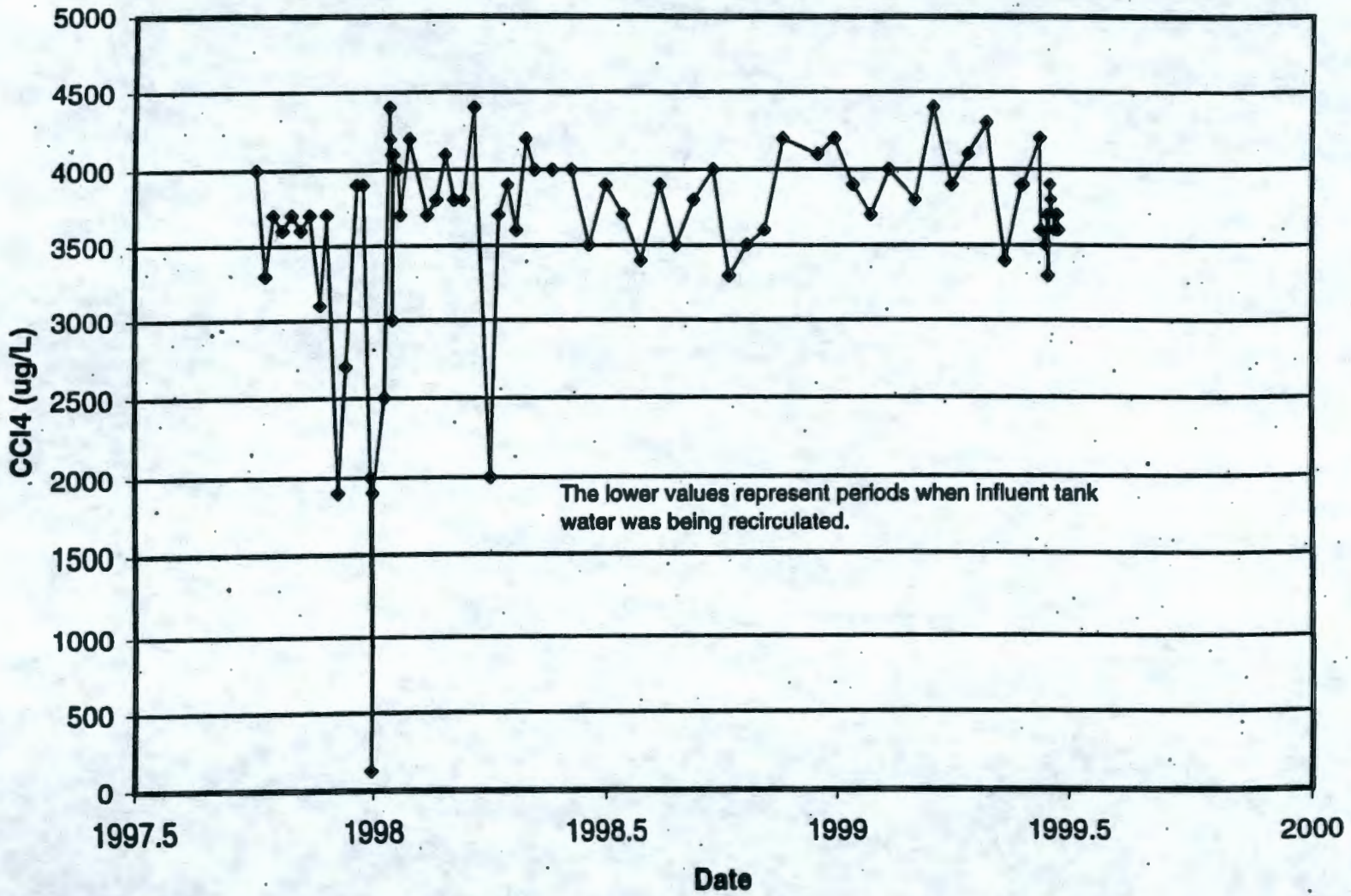


Figure 2-4. Carbon Tetrachloride Concentrations for Influent Tank T-01.

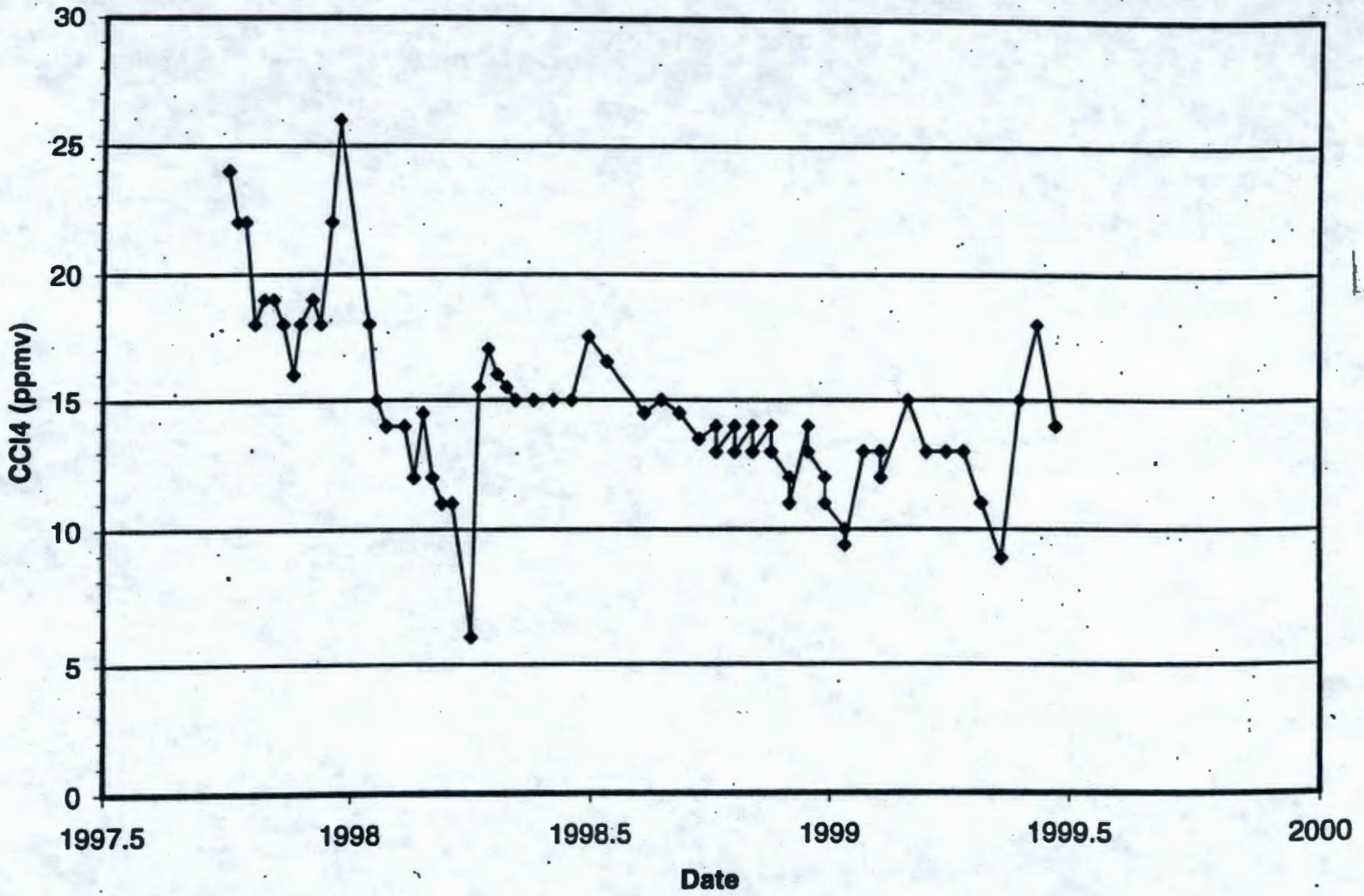


Figure 2-3. Carbon Tetrachloride Air Flow Concentrations Prior to Entering the Granular Activated Carbon Canisters.

Attachment 5

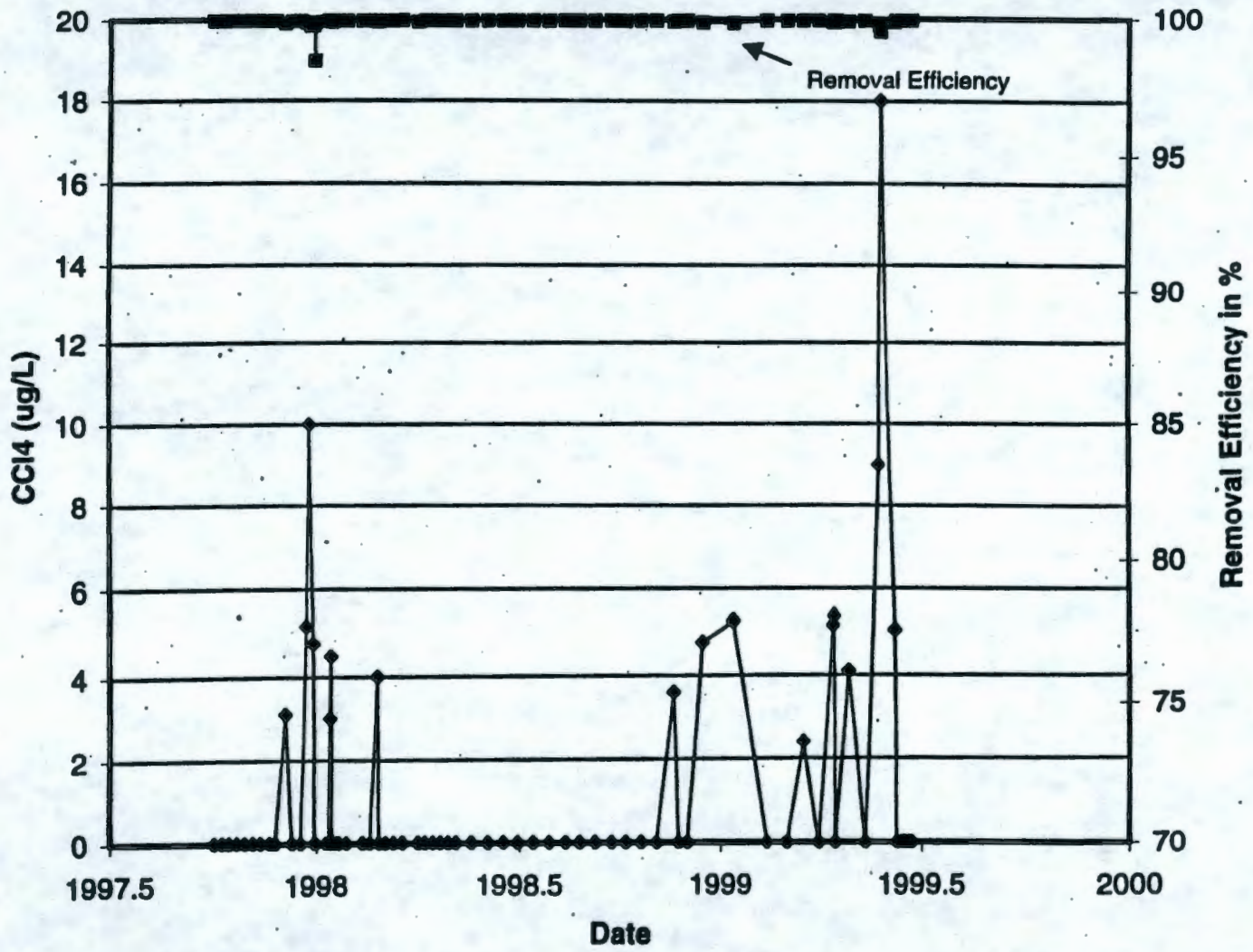


Figure 2-5. Carbon Tetrachloride Concentrations Past Effluent Tank T-02.

Table 2-1. Volume of Groundwater Treated and Mass of Carbon Tetrachloride Removed Since Startup of Operations at 200-ZP-1.

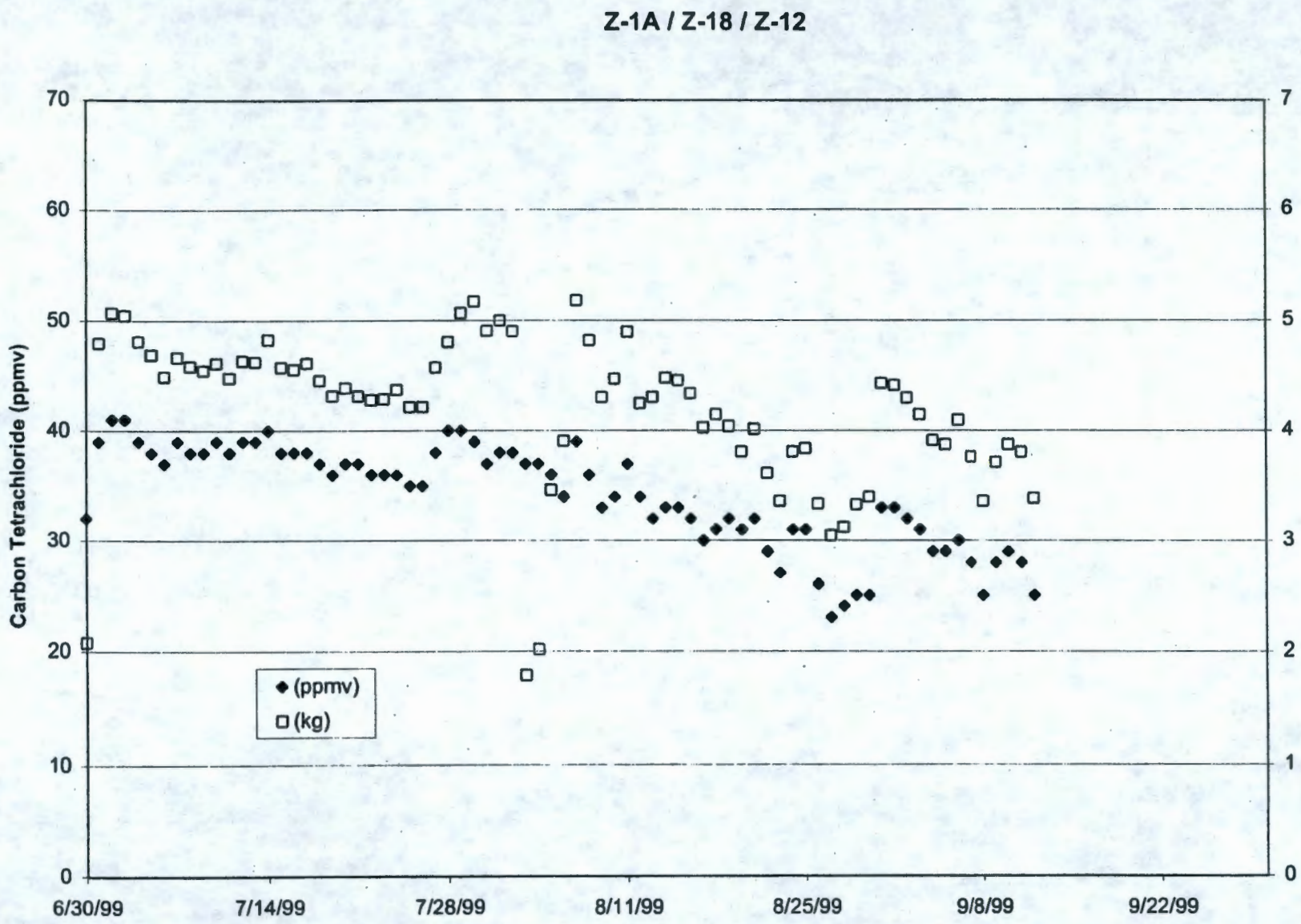
Reporting Period	Liters Treated	Mass of Carbon Tetrachloride Removed (kg)
August 1994 - July 1996	26,676,000	75.85
August 1996 – September 1996	33,232,327	60.96
October 1996 – December 1996	44,583,715	143.54
January 1997 - March 1997	69,869,604	237.2
April 1997 - June 1997	41,877,094	140.8
July 1997 – September 1997	62,469,305	228.8
October 1997 – December 1997	81,629,000	245.7
January 1998 - March 1998	72,791,000	279.5
April 1998 - June 1998	90,842,900	348.9
July 1998 – September 1998	90,899,200	338.1
October 1998 - December 1998	83,552,570	315.57
January 1999 – March 1999	77,079,156	310.2
April 1999 – June 1999	90,657,196	337.8
Total	**775,501,826**	**3,062.8**

Table 2-2. Average Concentrations for Each of the Extractions Wells and the Influent Tank at 200-ZP-1 During the Third Quarter of Fiscal Year 1999.

Well Name[a]	Minimum Value (µg/L)	Maximum Value (µg/L)	Mean Concentration FY98 (µg/L)	Mean Concentration 3rd Qtr FY99 (µg/L)	Mean Flow Rate[b] (GPM)	Overall Change
299-W15-33	5,600	6,900	6,000	6,187	13.9	Higher
299-W15-34	4,500	5,500	3,770	4,780	23.1	Higher
299-W15-35	3,100	4,400	3,660	3,864	83.0	Higher
299-W15-32	4,300	5,300	6,560	4,800	10.7	Lower
299-W15-36	1,300	2,100	2,040	1,664	48.2	Lower
299-W15-37	300	720	235	382	38.8	Higher
Influent Tank	--	4,300	3,530	3,731	--	Higher

[a] Wells listed from north to south.
[b] Some discrepancies in discharge rate at the different measurement locations were observed. These are still being resolved. Flow rates may actually be higher by about 15% to 20%.

Z-1A / Z-18 / Z-12



Attachment 6

ZP-2

Carbon Tetrachloride Rebound Concentrations
Monitored at 200-ZP-2 Soil Vapor Extraction Sites
July 1998 - August 1999

Attachment 6

200-ZP-2 Location (Well or Probe) /feet bgs	Zone	8/14/98 (a) CCl4 (ppmv)	9/29/98 CCl4 (ppmv)	11/5/98 CCl4 (ppmv)	12/1/98 CCl4 (ppmv)	12/31/98 CCl4 (ppmv)	1/26/99 CCl4 (ppmv)	2/23/99 CCl4 (ppmv)	3/22/99 3/23/99 CCl4 (ppmv)	4/26/99 CCl4 (ppmv)	5/25/99 CCl4 (ppmv)	6/28/99 CCl4 (ppmv)	07/30/99 CCl4 (ppmv)	09/14/99 CCl4 (ppmv)
79-03/ 5 ft	1									0	0	0		
79-06/ 5 ft	1			0	0	0	0	1.2	0	0	1.4	1.2		
79-11/ 5 ft	1	0	0	2.8	0	2.9	1.9	1.6	2.5	1.5	1.4	0		
86-05/ 5 ft	1												---- (m)	
86-05-01/ 5 ft	1													---- (p)
86-06/ 5 ft	1			---- (b)	0	0	0	1.5	1.9				---- (n)	0
87-05/ 5 ft	1									1.0	1.0	0		
87-09/ 5 ft	1	0	1.5	0	0	1.1	0	0	1.2	2.6	2.4	2.3		
94-02/ 5 ft	1												1.4	0
95-11/ 5 ft	1			0	0	1.5	2.5	---- (f)	---- (g)					
95-12/ 5 ft	1			1.2	0	1.2	1.3	1.2	---- (g)					
95-14/ 5 ft	1												---- (n)	---- (p)
CPT-13A/ 9 ft	2									0	1.0	0		
CPT-16/ 10 ft	2			1.5	0	0	0	1.0	0				---- (n)	0
CPT-17/ 10 ft	2			3.2	1.7	3.2	3.7	3.4	5.1				2.1	2.6
CPT-18/ 15 ft	2			0	0	5.0	4.5	4.6	3.3				1.3	3.5
CPT-31/25 ft	2									0	0	0		
CPT-32/ 25 ft	2	0	0	1.0	2.1	5.2	7.0	7.4	8.3	10.0	9.1	8.4		
CPT-30/ 28 ft	2			0	0	0	0	0	0	3.2	0	0		
CPT-7A/ 32 ft	2	1.4	1.7	1.7	2.4	2.6	5.4	3.5	3.5	3.2	3.7	2.6		
CPT-1A/ 35 ft	2									2.8	3.0	2.1		
CPT-33/ 40 ft	2									2.3	2.6	2.1		
CPT-34/ 40 ft	2									1.3	1.4	1.5	1.7	1.1
CPT-21A/ 45 ft	2												51.7	56.6
W15-220SST/ 52 ft (	2												---- (n)	1.6
CPT-28/ 60 ft	2												3.7	2.1
CPT-9A/ 60 ft	2												---- (n)	43.9
CPT-30/ 68 ft	2									3.0	1.6	1.7		
CPT-13A/ 70 ft	2									5.3	5.4	5.6		
CPT-24/ 70 ft	2												---- (n)	3.6
W15-219SST/ 70 ft (	2												---- (n)	7.6
CPT-31/76 ft	2									4.2	2.2	3.2		
CPT-33/ 80 ft	2									7.6	8.5	9.2		
W15-82/ 82 ft	2			46.4	19.2	23.1	22.1(e)	24.6	18.5				---- (n)	42.5
W15-95/ 82 ft	2			39.4	25.4	37.3	28.1	30.6	27.1				---- (n)	8.3
CPT-21A/ 86 ft	2			126	74.6	140	148	142	119	90.9	61.9	82.0	66.6	12.6
CPT-34/ 86 ft	2									0 (j)	---- (k)	---- (k)		
W15-218SST/ 86 ft	2												---- (n)	---- (q)
CPT-28/ 87 ft	2			184	65.2	203	170	156	176	98.6	53.4	93.1	49.3	151
CPT-1A/ 91 ft	2									4.2	0	2.4	2.1	3.3
CPT-4A/ 91 ft	2									10.9	14.1	14.4		
CPT-9A/ 91 ft	2			39.0	38.6	12.4	39.8	32.2	37.7	37.5	32.0	14.2	---- (n)	72.3
W18-252SST/ 100 ft	2	8.9	17.8	18.2	13.3	22.7	10.7	24.0	23.2					
W18-152/ 113 ft	2	11.1	0	27.9	3.4	25.2	31.7	33.3	3.3	4.7	4.4	2.0		
W15-217/ 115 ft	3			---- (c)	26.8	339	348(e)	418	561				68.6	267
CPT-24/ 118 ft	3			37.1	37.3	33.5	20.9	21.3	25.6				---- (n)	33.3
W15-220SST/ 118 ft	4												---- (n)	35.9
W18-158L/ 123 ft	3	---- (d)	143	172	172	---- (d)	267	288	399	492	329	310		
W18-167/ 123 ft	3	---- (d)	79.7	127	205	---- (d)	228	218	195	211	219	173		
W15-219SST/ 130 ft	4												---- (n)	46.5
W18-249/ 134 ft	3	---- (c)	20.4	215	23.3	208	188	139	76.9	81.1	77.1	90.9		
W18-248/ 136 ft	3	7.1	86.3	93.5	98.0	138	136	148	144	162	177	152		
W15-219SST/ 155 ft	5												---- (n)	24.2
W15-220SST/ 185 ft	5												---- (n)	13.4
W15-6L/ 189 ft	6			---- (c)	0	1.3	1.1	1.2	0 (h)					
W15-9L/ 189 ft	6			---- (c)	14.6	14.9	14.1	14.9	---- (c)				---- (n)	10.3
W18-7/ 200 ft	6	0	17.3	22.5	21.8	26.7	26.4	28.4	29.0					
W18-6L/ 208 ft	6	4.3	14.5	---- (c)	---- (c)	---- (c)	---- (c)	---- (c)	---- (c)					
W18-12/ 210 ft	6	1.2	3.8	7.5	12.0	13.6	12.2	18.5	15.9					

(a) sampled 8/14/98; analyzed 8/15/98
(b) probe 86-07R destroyed; substitute probe 86-06 after 11/98
(c) not in service
(d) access to Z-1A unavailable (no key)
(e) opened for vertical velocity profiling 1/6/99-1/19/99
(f) probe 95-11 clogged; substitute probe 94-02 after 2/99
(g) probe 95-11 clogged, probe 94-02 could not be located; probe 95-12 destroyed
(h) W15-6L tubing discovered on 3/23 to be separated at first splice (~ 50 ft of tubing in well); time of separation unknown.
(j) sample very difficult to pull. Approximately 1/8 L purge and sample.
(k) unable to pull sample from CPT-34/86'; attempted to pull from 60' but unable.
(m) probe destroyed
(n) sample pump failure
(p) unable to locate
(q) unable to pull sample due to low flow

Comparison of Maximum Carbon Tetrachloride Rebound Concentrations Monitored at 200-ZP-2 Soil Vapor Extraction Sites FY 1997 - FY 1999

Attachment 6

200-ZP-2			November 1996 -		October 1997 -		July 1998 -	
Location			July 1997		September 1998		August 1999	
(Well or Probe)	Site	Zone	Maximum Rebound	months*	Maximum Rebound	months*	Maximum Rebound	months*
/feet bgs			Carbon Tetrachloride	of	Carbon Tetrachloride	of	Carbon Tetrachloride	of
			(ppmv)	rebound	(ppmv)	rebound	(ppmv)	rebound
79-03/ 5 ft	Z-18	1	0	8	0	3	0	12
79-06/ 5 ft	Z-1A	1	not measured		not measured		1.4	12
79-11/ 5 ft	Z-1A	1	0	8	0	6	2.9	12
86-05/ 5 ft	Z-9	1	not measured		not measured		0	2
86-05-01/ 5 ft	Z-9	1	not measured		not measured		0	2
86-06/ 5 ft	Z-9	1	1.3	8	0	9	1.9	6
87-05/ 5 ft	Z-1A	1	not measured		0	3	1.0	12
87-09/ 5 ft	Z-1A	1	not measured		1.5	3	2.6	12
94-02/ 5 ft	Z-9	1	0	8	not measured		1.4	2
95-11/ 5 ft	Z-9	1	0	8	2.1	9	2.5	6
95-12/ 5 ft	Z-9	1	1.1	8	1.5	9	1.3	6
95-14/ 5 ft	Z-9	1	not measured		not measured		0	2
CPT-13A/ 9 ft	Z-1A	2	not measured		0	6	1.0	12
CPT-16/ 10 ft	Z-9	2	not measured		0	9	1.5	6
CPT-17/ 10 ft	Z-9	2	not measured		4.2	9	5.1	6
CPT-18/ 15 ft	Z-9	2	not measured		6.5	9	5.0	6
CPT-31/25 ft	Z-1A	2	not measured		0	6	0	12
CPT-32/ 25 ft	Z-1A	2	not measured		9.1	6	10	12
CPT-30/ 28 ft	Z-18	2	not measured		not measured		3.2	12
CPT-7A/ 32 ft	Z-1A	2	not measured		2.3	6	5.4	12
CPT-1A/ 35 ft	Z-18	2	2.0	8	1.4	3	3.0	12
CPT-33/ 40 ft	Z-1A	2	not measured		2.0	3	2.6	12
CPT-34/ 40 ft	Z-18	2	2.3	8	not measured		1.7	12
CPT-21A/ 45 ft	Z-9	2	65.6	8	52.7	9	57	2
W15-220ST/ 52 ft	Z-9	2	2	8	not measured		1.6	2
CPT-28/ 60 ft	Z-9	2	not measured		1.5	0	3.7	2
CPT-9A/ 60 ft	Z-9	2	45.5	8	41.1	0	44	2
CPT-30/ 68 ft	Z-18	2	1.7	8	not measured		3.0	12
CPT-13A/ 70 ft	Z-1A	2	5.2	8	not measured		5.6	12
CPT-24/70 ft	Z-9	2	not measured		3.2	9	3.6	2
W15-219SST/ 70 ft	Z-9	2	14.6	8	not measured		7.6	2
CPT-31/ 76 ft	Z-1A	2	4.0	8	not measured		4.2	12
CPT-33/ 80 ft	Z-1A	2	5.8	8	not measured		9.2	12
W15-82/ 82 ft	Z-9	2	28.9	8	5.5	9	46	6
W15-95/ 82 ft	Z-9	2	not measured		15.3	9	39	6
CPT-21A/ 86 ft	Z-9	2	221	8	206	9	148	6
CPT-34/ 86 ft	Z-18	2	36.3	8	5.9	3	0	12
W15-218SST/ 86 ft	Z-9	2	not measured		not measured		0	2
CPT-28/ 87 ft	Z-9	2	280	8	230	9	203	6
CPT-1A/ 91 ft	Z-18	2	3.9	8	not measured		4.2	12
CPT-4A/ 91 ft	Z-1A	2	not measured		7.7	3	14	12
CPT-9A/ 91 ft	Z-9	2	103	8	34.5	9	72	2
W18-252SST/ 100 ft	Z-1A	2	38.2	8	17.8	3	24	12
W18-152/ 113 ft	Z-12	2	46.8	8	11.1	3	33	12
W15-217/ 115 ft	Z-9	3	797	8	630	9	561	6
CPT-24/ 118 ft	Z-9	3	44.6	8	37.7	9	37	6
W15-220SST/ 118 ft	Z-9	4	21.9	8	not measured		36	2
W18-158L/ 123 ft	Z-1A	3	not measured		143	3	492	12
W18-167/ 123 ft	Z-1A	3	323	8	79.7	3	228	12
W15-219SST/ 130 ft	Z-9	4	298	8	not measured		47	2
W18-249/ 134 ft	Z-18	3	206	8	20.4	3	215	12
W18-248/ 136 ft	Z-1A	3	288	8	86.3	3	177	12
W15-219SST/ 155 ft	Z-9	5	59.6	8	not measured		24	2
W15-220SST/ 185 ft	Z-9	5	14.5	8	not measured		13	2
W15-6L/ 189 ft	Z-9	6	22.6	8	17.8	9	1.3	6
W15-9L/ 189 ft	Z-9	6	18.3	8	15.0	9	15	6
W18-7/ 200 ft	Z-1A	6	28.5	8	17.3	3	29	12
W18-6L/ 208 ft	Z-1A	6	36	8	31.3	6	15	12
W18-12/ 210 ft	Z-18	6	not measured		3.8	3	19	12

* - based on location (Z-1A/18/12 or Z-9) of monitoring point; specific points may be beyond SVE zone of influence during particular operating configurations

- Z-18 and Z-12 wells off-line Oct 96 - Apr 98
- CPT-1A, CPT-9A, and possibly CPT-7A appeared to be beyond SVE zone of influence in Oct 96 based on differential pressure (BHI-01105, p. 6-1)
- CPT-9A, CPT-21A, CPT-28 beyond SVE zone of influence in May 96 based on CCl4 concentrations and airflow modeling based on measured vacuums (BHI-01105, p. 6-1)

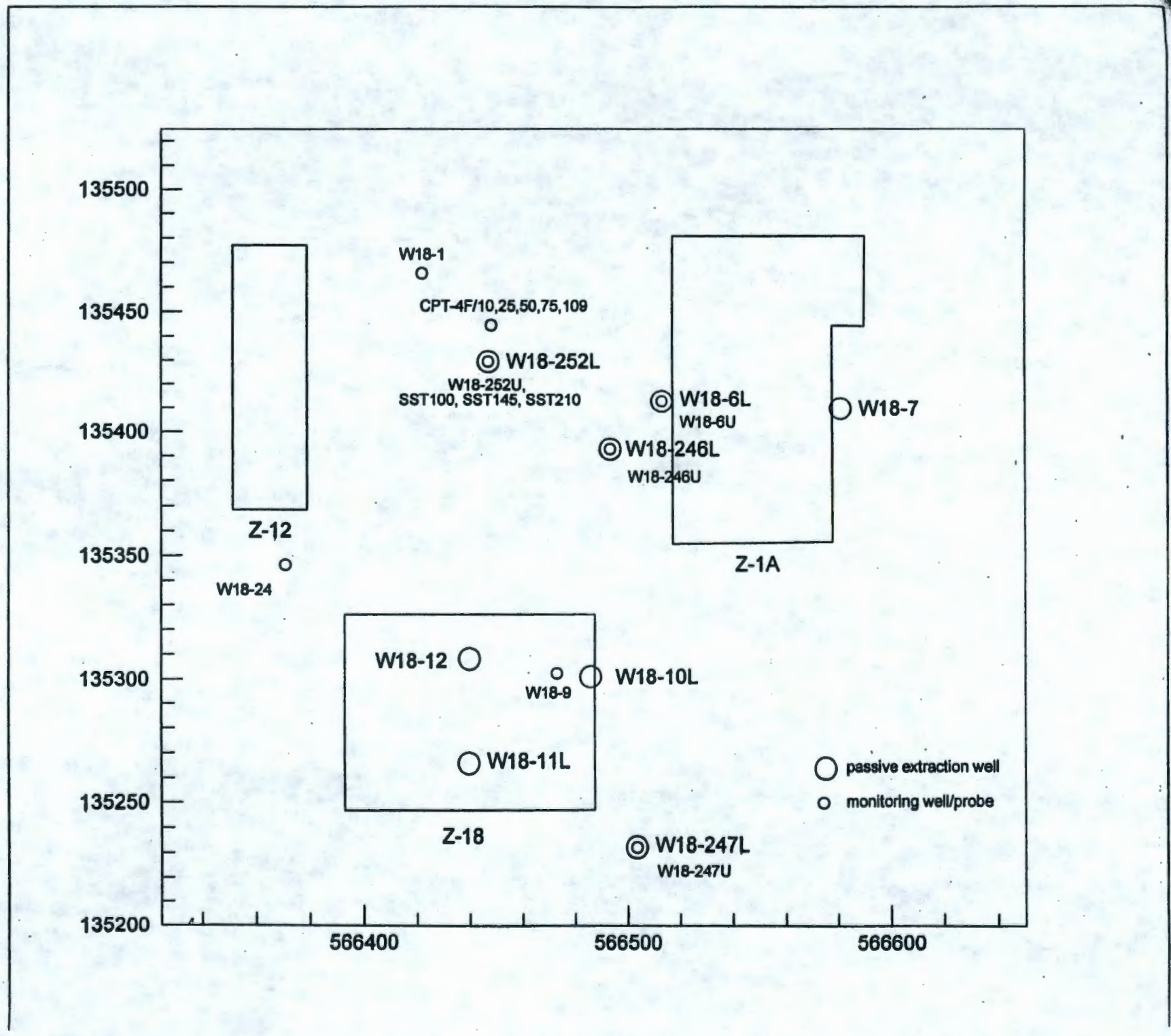


Figure 1. Locations of Passive Soil Vapor Extraction Wells

Attachment 6

1.0 INTRODUCTION

This document provides sampling and analysis instructions for collecting soil samples associated with a diesel fuel spill at the Gable Mountain Pond. Approximately 200 gallons of diesel fuel were released from a diesel-powered generator used to provide power for a temporary air-monitoring station. Samples will be collected to evaluate the effectiveness of the removal of the contaminated soil to levels at or below the *Model Toxics Control Act* (MTCA) Method A standard of 200 mg/kg.

The spill was discovered on August 17, 1999, when the field crew arrived at the Gable Mountain Pond site for test pit activities associated with the 200-CW-1 Operable Unit. Impacted soils were immediately excavated using a trackhoe and were placed on plastic sheeting. Approximately 15 cubic yards of soil were excavated and all visible contamination was removed. The excavation was surveyed with an organic vapor analyzer and no vapors were detected. The excavated soils were ultimately placed in plastic-lined containers and were transported to Arlington, Oregon, for disposal.

2.0 SAMPLING PLAN

A total of two soil samples will be collected from the excavation, as shown in Figure 1, and will analyzed for northwest total petroleum hydrocarbons as diesel (NWTHP-Dx). Grab samples will be collected from the bottom of the excavation. As each of the samples is retrieved from the excavation, an organic vapor analyzer will be used to screen the samples for organic vapors. The samples will the be transferred into appropriate sample bottles for shipment to the laboratory for analysis.

The detection limits and precision and accuracy requirements for each of the analyses to be performed are summarized in Table 1. The sample preservation, container, and holding time requirements for the analyses to be performed are summarized in Table 2.

All sampling will be performed by field personnel with Occupational Safety and Health Administration 40-Hour Hazardous Waste Worker Training.

Table 1. Data Quality Requirements.

Media	Analytical Method	Analytical Parameter	Regulatory Limit	Detection Limit	Precision	Accuracy
Soil	NWTPH-Dx	Diesel fuel	200 mg/kg	5 mg/kg	± 30%	± 30%

Table 2. Preservatives, Containers, and Holding Times.

Analyte/Test	Container	Quantity	Preservative	Holding Time
Soil: NWTHP-Dx	Amber glass	200 g	4°C	14 days

The procedures to be implemented for this plan should be consistent with those outlined in BHI-EE-01, *Environmental Investigation Procedures*, including the following:

- Procedure 1.5, "Field Logbooks"
- Procedure 2.5, "Data Package Validation Process"
- Procedure 3.0, "Chain of Custody"
- Procedure 4.2, "Sample Storage and Shipping Facility."

3.0 QUALITY ASSURANCE

Field quality control (QC) samples will not be collected; laboratory QC will be used to evaluate data quality for this limited sampling event. Data verification will be performed on the analytical data set primarily to confirm that sampling and chain-of-custody documentation is complete, sample numbers can be tied to the specific sampling location, samples were analyzed within the required holding times, and analyses met the data quality requirements specified in the sampling and analysis instruction.

4.0 HEALTH AND SAFETY

All field operations will be performed in accordance with Bechtel Hanford, Inc. health and safety requirements outlined in BHI-SH-01, *Hanford ERC Environmental, Safety, and Health.* A site-specific health and safety plan has been prepared for the investigation activities at the Gable

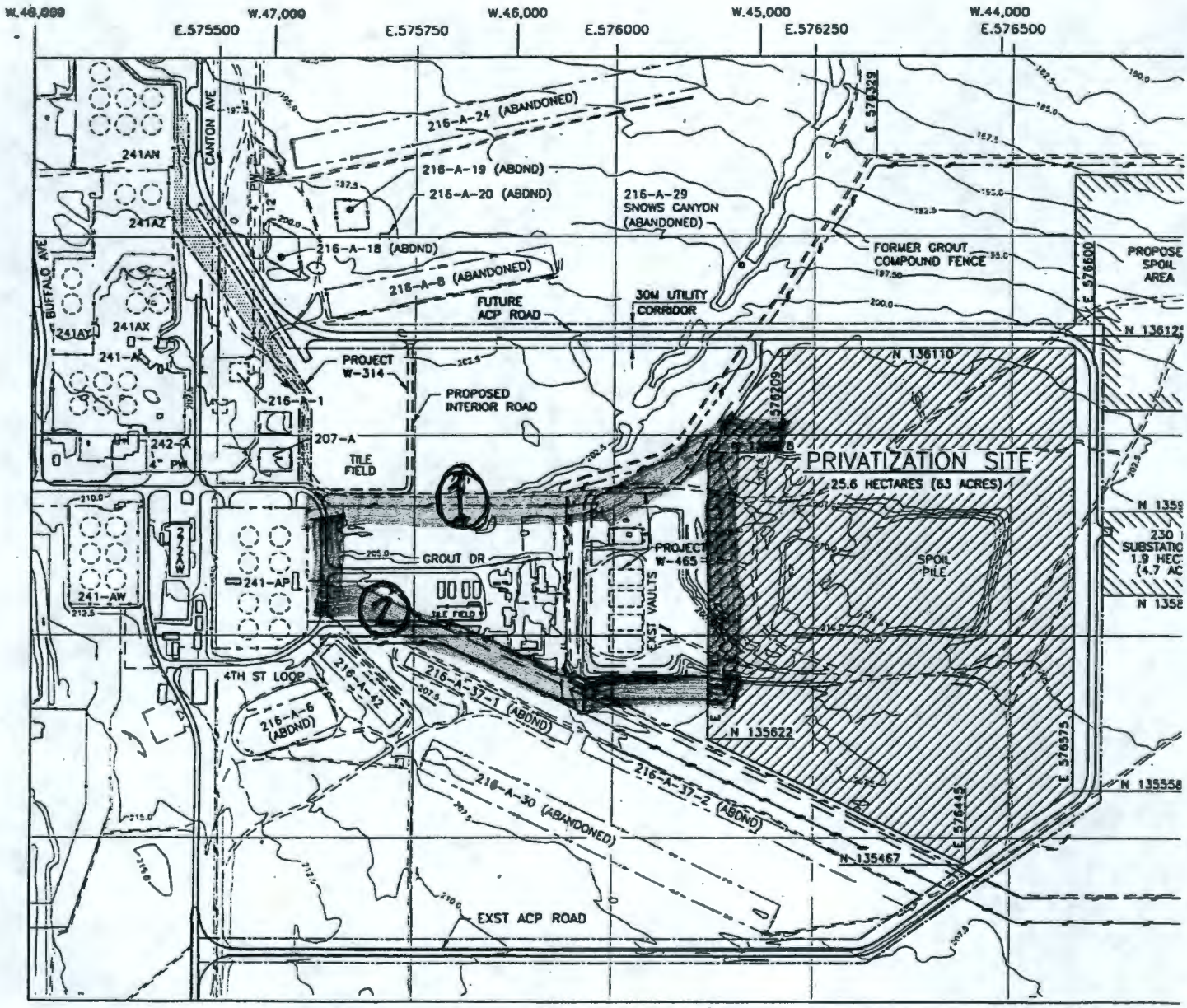
Mountain Pond as part of the 200-CW-1 Operable Unit. This plan will be used for the work to be performed under this sampling and analysis instruction.

5.0 REFERENCES

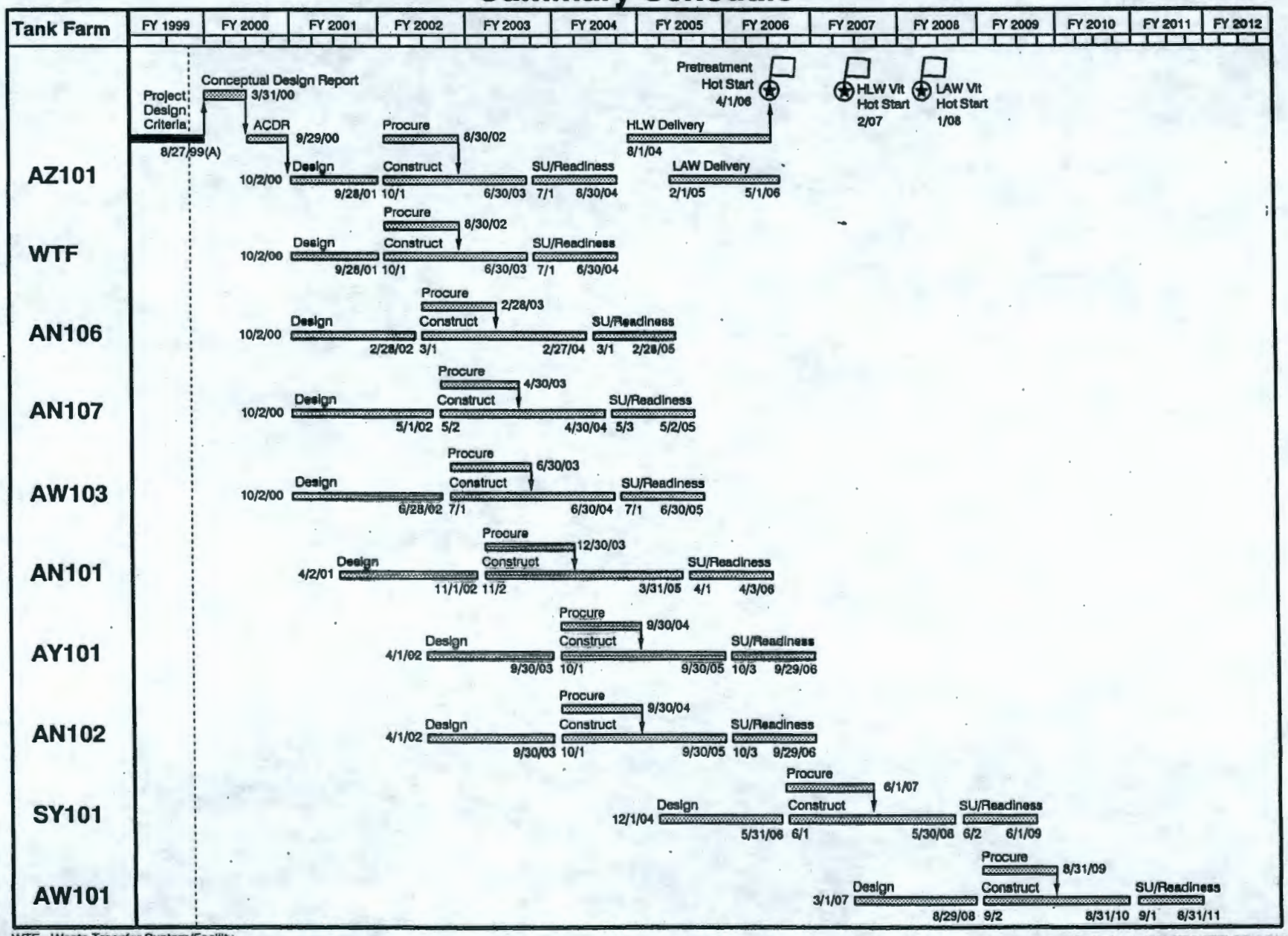
BHI-EE-01, *Environmental Investigations Procedures*, Bechtel Hanford, Inc., Richland, Washington.

BHI-SH-01, *Hanford ERC Environmental, Safety, and Health Program*, Bechtel Hanford, Inc., Richland, Washington.

Attachment 8



W-521 Waste Feed Delivery Systems
Summary Schedule



WTF - Waste Transfer System/Facility
Design Only Validation - 6/21/99, Full Project Validation - 4/14/00

September 1, 1999 (W521RBSL.DRW) D115

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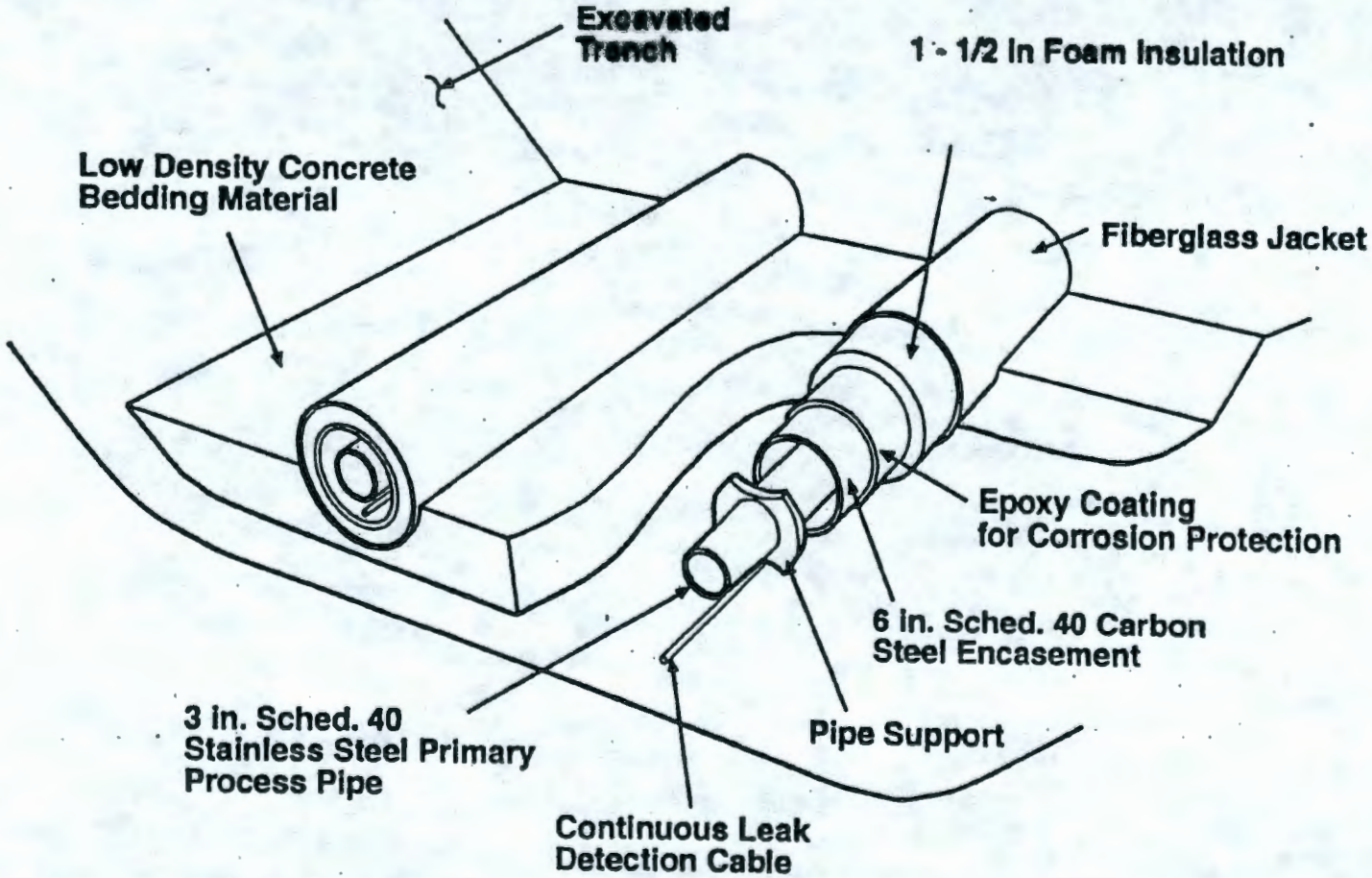

Figure 2-2. Replacement Cross-Site Transfer System Piping.

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