Department of Energy
Richland Operations Office
P.O. Box 550
Richland, Washington 99352

0065214

MAY 17 2005

05-AMCP-0239

Ms. Jane A. Hedges
Cleanup Section Manager
Nuclear Waste Program
State of Washington
Department of Ecology
3100 Port of Benton Boulevard
Richland, Washington 99352

Dear Ms. Hedges:

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) FINAL STATUS CORRECTIVE ACTION SEMIANNUAL REPORTS FOR JULY THROUGH DECEMBER 2004

The following reports are being transmitted for your information: "Results of Groundwater Monitoring for the 300 Area Process Trenches, Reporting Period: July - December 2004" (Attachment 1), and "Results of Groundwater Monitoring for the 183-H Solar Evaporation Basins, Reporting Period: July - December 2004" (Attachment 2). These reports are for the RCRA sites where groundwater is monitored under Final Status/Corrective Action programs and are submitted to fulfill the requirements of WAC 173-303-645(11)(g).

If you have questions, please contact me, or your staff may contact Michael Thompson, of my office, on (509) 373-0750, or Lori Huffman, Acting Director, Environmental Services Division, on (509) 376-0104.

Sincerely,

Matthew S. McCormick, Assistant Manager
for the Central Plateau

AMCP:KMT

Attachments

cc: See page 2

cc w/attachs:
M. Goldstein, EPA
Administrative Record (D.A. Isom)
Environmental Portal

cc w/o attachs:
R. L. Biggerstaff, FHI
J. V. Borghese, FHI
M. J. Hartman, PNNL
R. J. Landon, BHI
J. W. Lindberg, PNNL
S. P. Luttrell, PNNL
A. G. Mishko, FHI
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Results of Groundwater Monitoring for the 300 Area Process Trenches
Reporting Period: July - December 2004
Report Date: March 2005

J. W. Lindberg

INTRODUCTION

The 300 Area process trenches (316-5) are a Resource Conservation and Recovery Act of 1976 (RCRA) treatment, storage, and/or disposal unit in the Hanford Facility RCRA Permit (Ecology 2000). From 1975 through 1994 they received effluent discharges of dangerous mixed waste from fuel fabrication laboratories in the 300 Area. Groundwater monitoring at the 300 Area process trenches is conducted in accordance with Washington Administrative Code (WAC) 173-303-645(11), Corrective Action Program, and Part VI, Chapter 1 of the Hanford Facility RCRA Permit (Ecology 2000). The modified closure plan (DOE 1995), portions of which are incorporated into the Hanford Facility RCRA Permit, indicates that groundwater remediation is deferred to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) 300-FF-5 groundwater operable unit.

This report is one of a series of semiannual groundwater-monitoring reports on the corrective action program at the 300 Area process trenches. It fulfills requirements of WAC 173-303-645(11)(g) to report on the effectiveness of the corrective action program. This report covers groundwater-monitoring data collected during the period from July through December 2004.

This report includes four contaminants of interest for groundwater: volatile organic compounds cis-1,2-dichloroethene, trichlorethene, and tetrachloroethene and total uranium (chemical). Of these, only the volatile organic constituents are subject to regulation under RCRA. However, four constituents continue to be monitored.

OBJECTIVE

The objective of groundwater monitoring during the corrective action period is to demonstrate the effectiveness of the corrective action program by examining the trend of the constituents of interest to confirm that they are attenuating naturally, as expected by the CERCLA record of decision for the 300-FF-5 Operable Unit (ROD 1996). The 300 Area process trenches were closed under a modified closure/post-closure plan (DOE 1995) and continue to be in the groundwater corrective action program because groundwater contamination continues to exceed groundwater quality criteria (federal drinking water standards). Groundwater monitoring will continue for 30 years during the post-closure monitoring period.

RCRA GROUNDWATER-MONITORING PROGRAM

The groundwater-monitoring network for the 300 Area process trenches (Lindberg et al., 1995) includes four well pairs (see Figure 1). Each of the well pairs has one shallow and one deep well. The shallow wells are screened at the water table, and the deep wells are screened at the bottom of the unconfined aquifer (above the lacustrine and over-bank deposits of the Ringold

Formation lower mud unit). One of the pairs is upgradient, and the other three pairs are downgradient. The constituents of interest are total uranium (chemical), and the volatile organic compounds cis-1,2-dichloroethene, trichloroethene, and tetrachloroethene. Sampling frequency is semiannual, but during each semiannual sampling period the wells are sampled four times (monthly intervals). As a result, the wells are sampled during the months of January, February, March, June, July, August, September, and December. Groundwater samples are analyzed for the contaminants of interest.

GROUNDWATER FLOW DIRECTION

Measurements of depth to groundwater in each network well were collected when the wells were sampled. The water table during the July to December sampling events was predominately in its normal (low river stage) configuration. During low river stage periods the water table slopes to the southeast in the vicinity of the 300 Area process trenches, with the result that groundwater flows mainly to the southeast, discharging to the Columbia River. During high river stages, the water table may slope away from the river causing a temporarily reversed gradient in the vicinity of the 300 Area process trenches and bank storage of river water. However, there were no sustained periods of high river stage during the reporting period, and the normal southeastern groundwater flow direction was maintained.

Figures 2 and 3 (uranium maps) show contours of the water table during June 2004 and December 2004 (respectively). Both the June and December 2004 water table contours suggest a southeastern groundwater flow direction in the vicinity of the process trenches (low river stage configuration). Typically, low river stages occur during the summer, fall, and winter months, with high river stages occurring in the spring. Spring runoff during fiscal year 2004 was relatively low compared to most years, and the typical high-river-stage water table configuration never materialized. Groundwater response to river stage is described in detail in former semiannual reports on the RCRA 300 Area process trenches and in annual reports of the Groundwater Performance Assessment Project (e.g., Hartman et al., 2003, 2004, and 2005).

GROUNDWATER CONTAMINANT TRENDS

This section discusses concentrations of uranium[1], cis-1,2-dichloroethene (cis-DCE), trichloroethene, and tetrachloroethene (the contaminants of interest) in the well network during the reporting period. Table 1 lists the analytical results for each contaminant of concern in each well of the monitoring network.

[1] Please note that source, special nuclear and by-product materials, as defined in the Atomic Energy Act of 1954 (AEA), are regulated at DOE facilities exclusively by DOE acting pursuant to its AEA authority. These materials are not subject to regulation by the State of Washington. All information contained herein and related to, or describing AEA-regulated materials and processes in any manner, may not be used to create conditions or other restrictions set forth in any permit, license, order, or any other enforceable instrument. DOE asserts that pursuant to the AEA, it has sole and exclusive responsibility and authority to regulate source, special nuclear and by-product materials at DOE-owned nuclear facilities. Information contained herein on radionuclides is provided for process description purposes only.

Uranium

Uranium was detected in all 300 Area process trenches network wells during the reporting period. However, uranium concentrations exceeded the drinking water standard (30 ug/L) only at the three downgradient network wells that are screened at the water table. The highest concentration reported was 87 ug/L at well 399-1-10A in a sample collected September 14, 2004.

Table 1. Results of Groundwater Analyses for 300 Area Process Trenches Contaminants of Interest During July Through December 2004.

Well	Sample Date	cis-1,2-DCE, ug/L		Tetrachloro-ethene, ug/L		Trichloro-ethene, ug/L		Uranium, ug/L	
399-1-10A	7/12/2004	0.1	U	0.08	U	0.09	U	60	N
	8/30/2004	0.1	U	0.08	U	0.09	U	58.7	
	9/14/2004	0.1	U	0.08	U	0.09	U	63	
	12/15/2004	0.27	U	0.08	U	0.13	U	48.3	
399-1-10B	7/12/2004	0.17	J	0.08	U	0.09	U	0.095	N
	8/30/2004	0.1	U	0.08	UN	0.09	U	0.014	
	9/14/2004	0.1	U	0.08	U	0.09	U	0	U
	12/14/2004	0.27	U	0.08	UJN	0.13	U	0.313	
399-1-16A	7/14/2004	0.1	J	0.08	U	0.43	J	66.6	
	8/30/2004	0.1	U	0.08	UN	0.37	J	80.2	
	9/14/2004	0.33	J	0.08	U	0.48	J	87.8	
	12/15/2004	0.27	U	0.08	U	0.35	J	70.3	
399-1-16B	7/12/2004	280	ER	0.08	U	2.1		11	N
	8/30/2004	95	D	0.08	UN	2.3		12.7	G
	8/30/2004	95	D	0.08	UN	2.1		11.8	G
	9/14/2004	150	D	0.08	U	2.8		12.2	
	12/15/2004	130	D	0.08	U	2.2	J	10.9	
399-1-17A	7/14/2004	0.1	U	0.08	U	0.19	J	55.5	
	8/30/2004	0.1	U	0.08	UN	0.25	J	45.3	
	9/14/2004	0.1	U	0.08	U	0.21	J	53.8	
	9/14/2004	0.1	U	0.08	U	0.23	J	54.1	
	12/16/2004	0.27	U	0.12	J	0.31	J	51.1	
399-1-17B	7/13/2004	2.2		0.08	U	0.09	U	0.109	N
	8/30/2004	2.2		0.08	UN	0.09	U	0.029	
	9/14/2004	3		0.08	U	0.09	U	0.002	U
	12/16/2004	3.3	J	0.08	U	0.13	U	0.012	U
399-1-18A	7/13/2004	0.1	U	0.08	U	0.09	U	4.76	N
	8/30/2004	0.1	U	0.08	UN	0.09	U	5.52	
	9/14/2004	0.1	U	0.08	U	0.09	U	5.32	
	12/15/2004	0.27	U	0.08	U	0.13	U	4.54	
399-1-18B	7/13/2004	0.1	U	0.08	U	0.09	U	0.003	U N
	8/30/2004	0.1	U	0.08	UN	0.09	U	0.036	
	9/14/2004	0.1	U	0.08	U	0.09	U	0	U
	12/15/2004	0.27	U	0.08	U	0.13	U	0.010	U

D= Sample diluted before analysis. Result corrected for dilution.
E= Concentration exceeds the calibration range of the analytical instrument
G= Data evaluation indicates result is good (valid)

J= Value is an estimate (close to detection limit)
N= Spike recovery was outside control limits
R= Data evaluation indicates value is invalid and should be rejected
U= Below detection limit

The uranium plume continues to cover a large portion of the 300 Area, and there was very little change throughout the reporting period, as illustrated by Figure 2 (June 2004, just prior to the reporting period) and Figure 3 (December 2004, at the end of the reporting period).
The June and December 2004 maps were constructed from data from wells sampled for the 300-FF-5 Operable Unit. CERCLA and RCRA sampling and analysis are coordinated to avoid duplication of effort and to provide consistency for data interpretation purposes. The most concentrated portions of the uranium plume continued to be downgradient (southeast) of the process trenches and along the shore of the river as far south as well 399-4-9 (see Figure 1 for well location). Concentrations of uranium at the three downgradient network wells (wells 399-1-10A, -16A, and 17A) remained relatively constant throughout the reporting period and, on average, have changed very little since 2001 in wells 399-1-16A and -17A (Figures 4, 5, and 6). A sudden rise and subsequent slower decrease in uranium concentrations at well 399-1-10A starting in 2003 correspond to excavation and cleanup work immediately upgradient of the well (at the 618-5 burial ground). The uranium levels in this well have not returned to the levels observed before the sudden increase.

Cis-1,2-Dichloroethene

Cis-1,2-dichloroethene (cis-DCE) was detected at four wells in the 300 Area process trenches network during the reporting period. Only one of these three wells is screened in the upper portion of the unconfined aquifer (well 399-1-16A). The other three are screened in the lower portion of the unconfined aquifer (wells 399-1-10B, 399-1-16B, and 399-1-17B). Only well 399-1-16B had concentrations of cis-DCE that exceeded the drinking water standard (70 ug/L). At well 399-1-16B the concentrations were 280 (possibly a lab error), 95, 150, and 130 ug/L in July, August, September, and December 2004, respectively. The trend at well 399-1-16B (Figure 7) is variable, fluctuating between 95 and 170 ug/L, but overall appears to be neither decreasing or increasing. At well 399-1-17B, another well screened at the base of the unconfined aquifer, the reported results were 2.2 to 3.3 ug/L during the reporting period. The reported result of 280 µg/L at well 399-1-16B reported for July 2004 is most likely an error due to laboratory problems with dilution during the analytical procedure. In June 2004 a value of 200 ug/L was caused by the same lab dilution problem.

Trichloroethene

Trichloroethene (drinking water standard 5 µg/L) was detected at three wells in the 300 Area process trenches network during the reporting period. The well with the highest reported concentration was well 399-1-16B (2.8 µg/L). This well is screened at the base of the unconfined aquifer, and the source is most likely the 300 Area process trenches. The historical trend at this well shows that trichloroethene concentrations decreased since 1997, but have remained relatively stable since 2000. The source of trichloroethene at the other two wells (399-1-16A and 399-1-17A, screened at the water table) is likely off site to the southwest. Concentrations of trichloroethene in these wells are all below 1.0 µg/L.

Tetrachloroethene

In recent years tetrachloroethene has occasionally been detected in the well network downgradient of the 300 Area process trenches. It was detected at only one well (399-1-17A) during the reporting period. The reported level for this single detection was 0.12 μg/L. The drinking water standard is 5 μg/L.

CONCLUSIONS

The objective of the groundwater-monitoring plan is to examine the trend of the contaminants of concern to confirm that they are attenuating naturally. The overall concentration of uranium in network wells decreased during the years 1998 to 2001, but has been holding relatively stable since 2001. However, rising water table conditions during high river stages mobilizes vadose zone uranium and temporarily increases concentrations of uranium in the aquifer (as reported in earlier semiannual reports). The concentration of cis-DCE appears to be holding steady at levels above the drinking water standard (70 ug/L) in one well (399-1-16B) and is not affected by river stage.

DOE submitted a permit modification that includes a revision of the RCRA monitoring program for the 300 Area Process Trenches March 31, 2004. Ecology denied this modification on June 18, 2004. Ecology is preparing a draft of the changes to the 300 Area Process Trenches groundwater monitoring permit requirements as part of permit renewal. Until the Hanford Facility RCRA Permit renewal process is completed, the current RCRA monitoring plan remains adequate.

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Hartman, M.J., L.F. Morasch, and W.D. Webber, 2003, *Hanford Site Groundwater Monitoring for Fiscal Year 2002*. PNNL-14187, Pacific Northwest National Laboratory, Richland, Washington.

Hartman, M.J., L.F. Morasch, and W.D. Webber, 2004, *Hanford Site Groundwater Monitoring for Fiscal Year 2003*. PNNL-14548, Pacific Northwest National Laboratory, Richland, Washington.

Hartman, M.J., L.F. Morasch, and W.D. Webber, 2005, *Hanford Site Groundwater Monitoring for Fiscal Year 2004*. PNNL-15070, Pacific Northwest National Laboratory, Richland, Washington.

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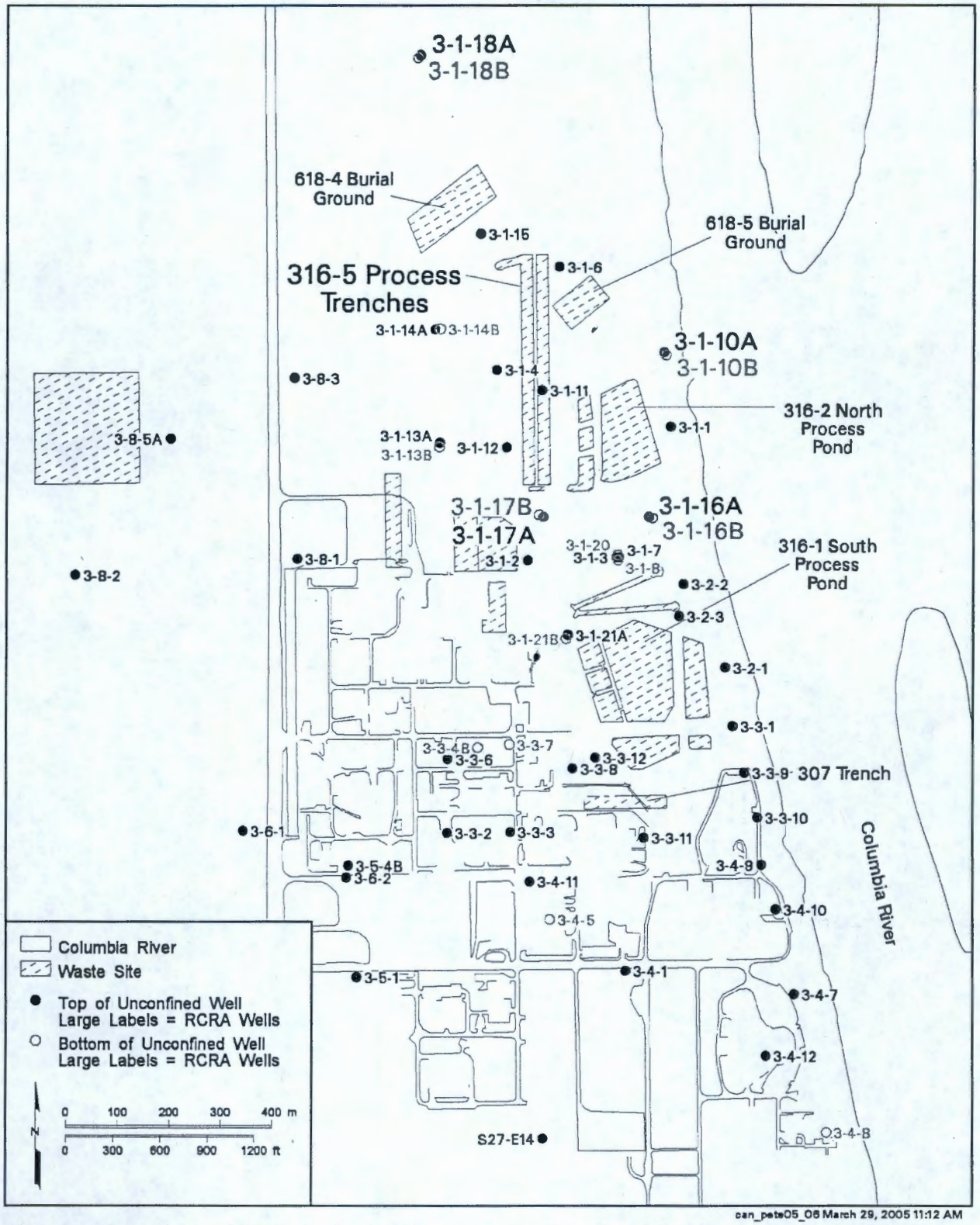

Figure 1. Locations of Wells in the 300 Area Process Trenches Monitoring Networks (after Lindberg et al., 1995). The four well pairs of the 300 Area process trenches network have larger labels.

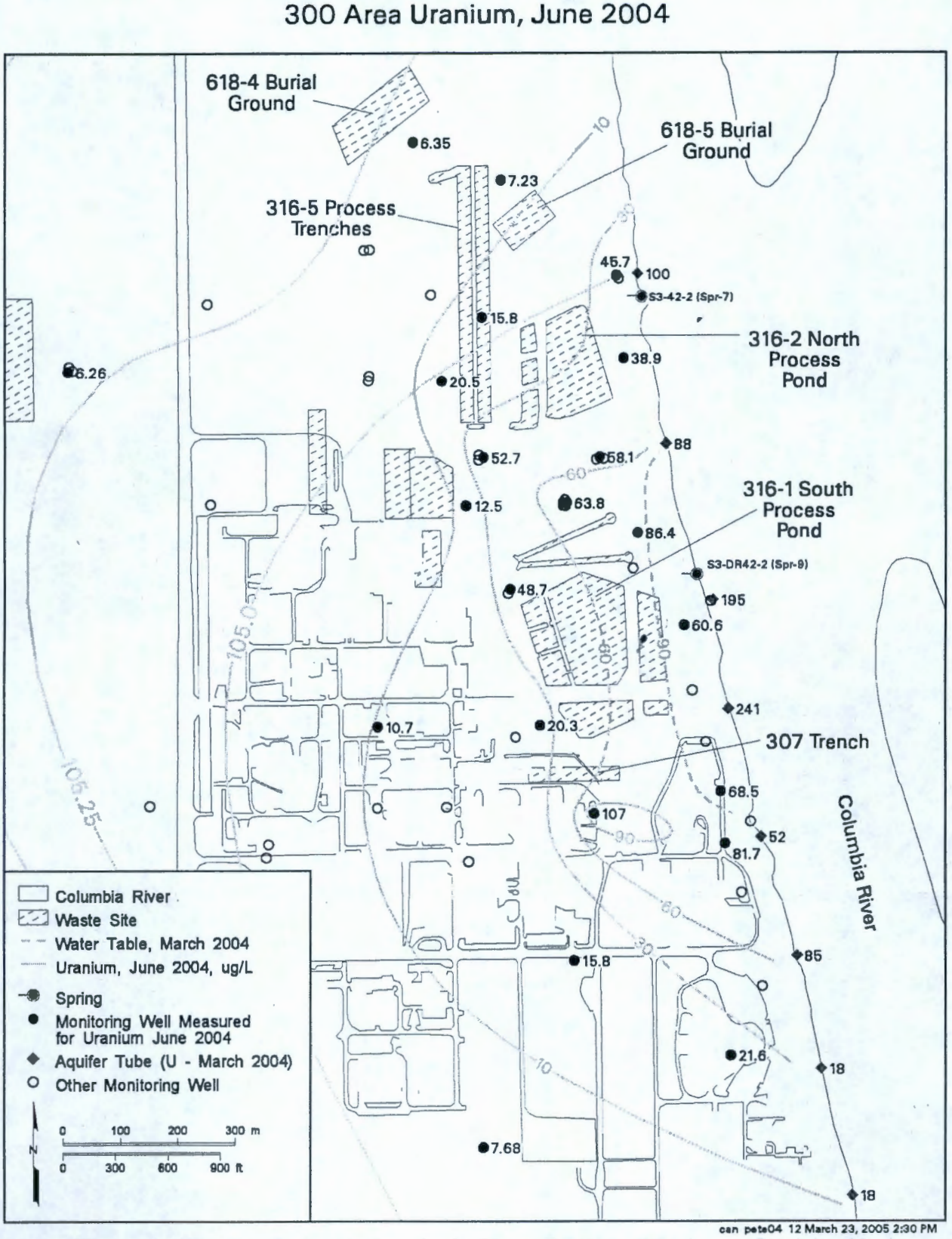

Figure 2. Uranium Concentrations in the Upper Portion of the Unconfined Aquifer in June 2004.

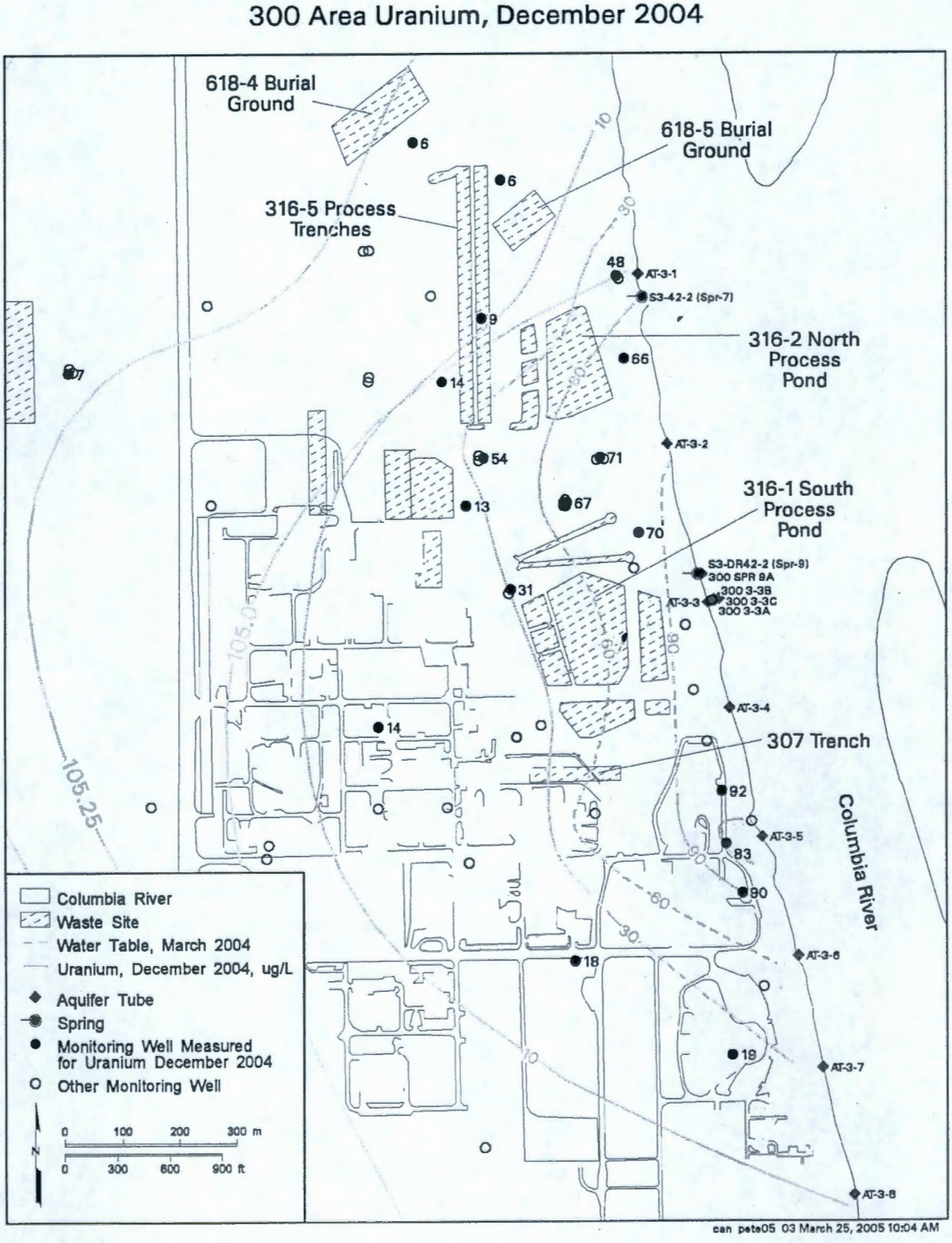

Figure 3. Uranium Concentrations in the Upper Portion of the Unconfined Aquifer in December 2004.

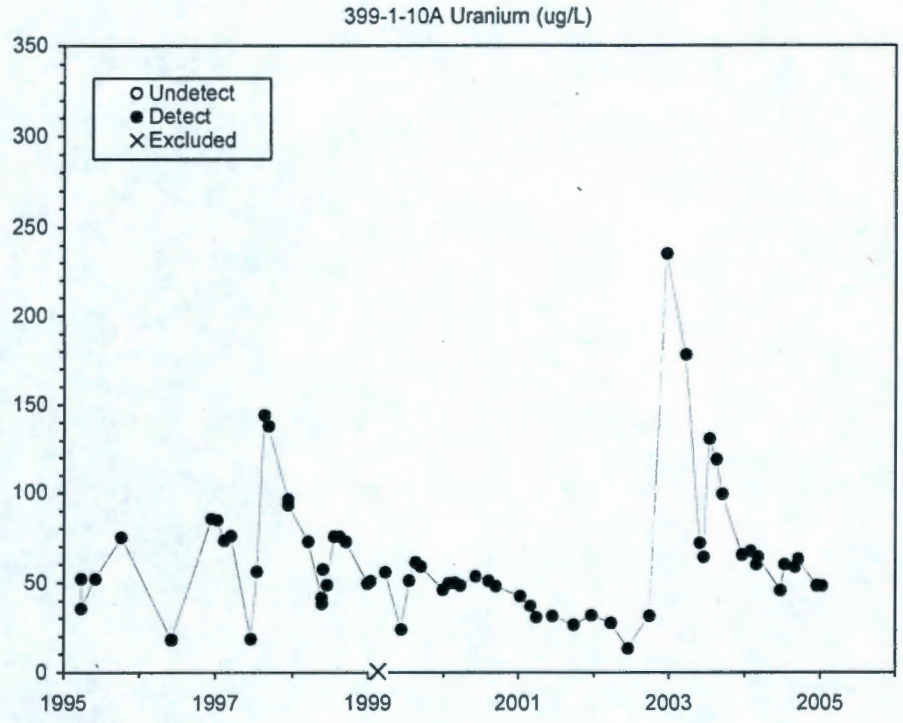

Figure 4. Uranium Concentrations in Well 399-1-10A.

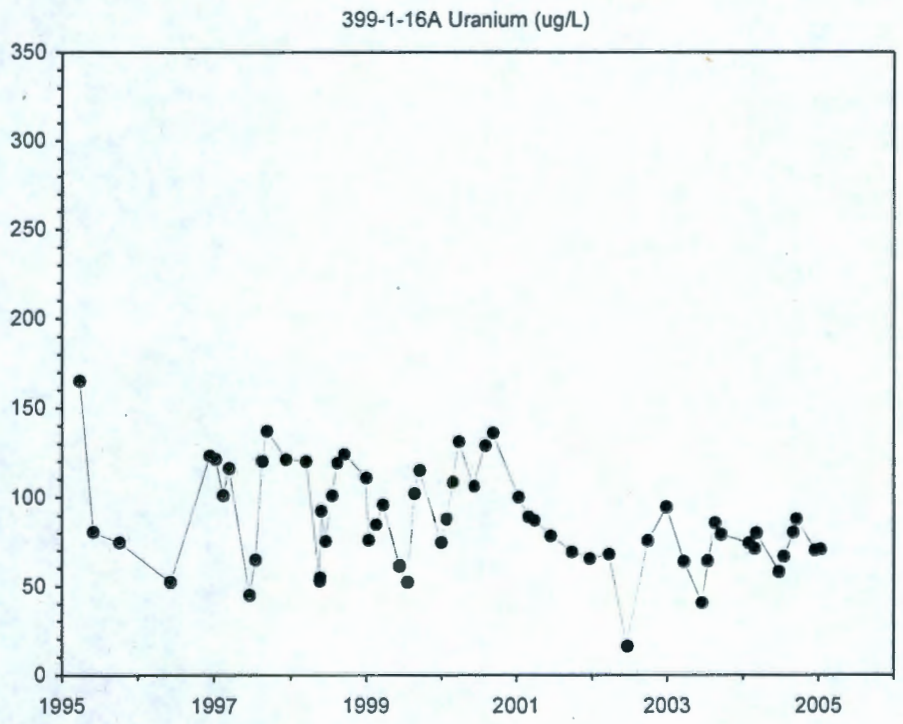

Figure 5. Uranium Concentrations in Well 399-1-16A.

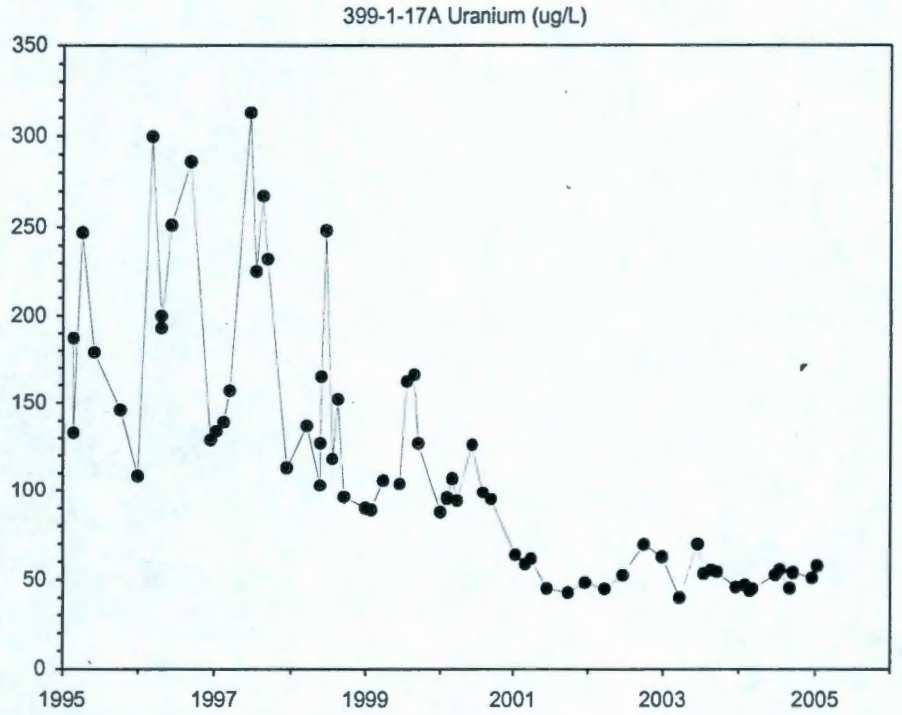

Figure 6. Uranium Concentrations in Well 399-1-17A.

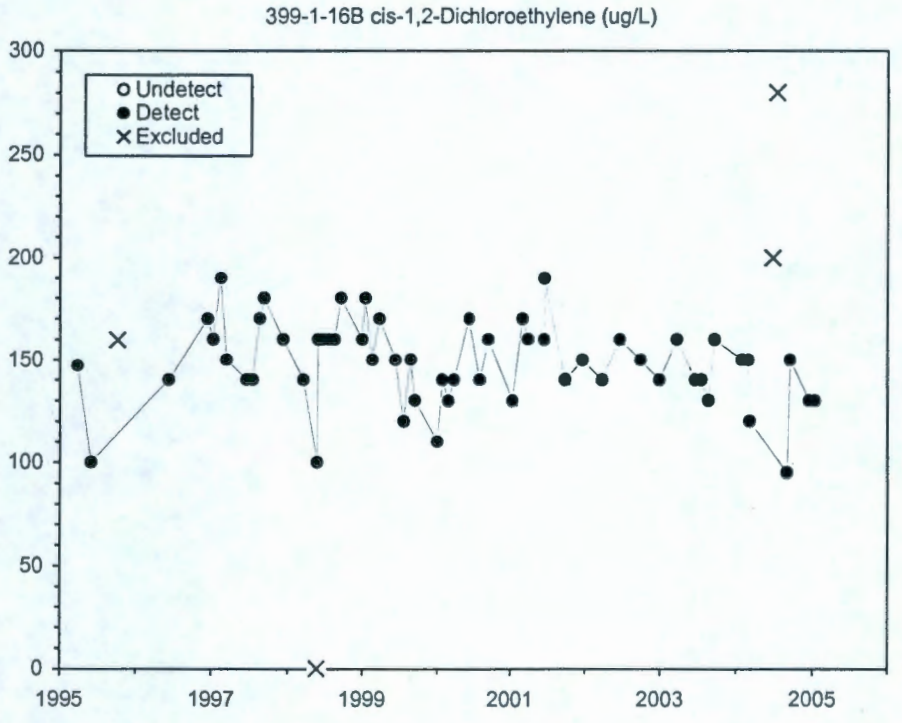

Figure 7. Cis-1,2-Dichloroethene Concentrations in Well 399-1-16B.

Results of Groundwater Monitoring for the 183-H Solar Evaporation Basins

Reporting Period: July-December 2004
Report Date: March 2005

M. J. Hartman

INTRODUCTION

The 183-H solar evaporation basins (183-H basins) were located in the 100 H Area of the Hanford Site, and have been demolished and backfilled under the Resource Conservation and Recovery Act of 1976 (RCRA) in the Hanford Facility RCRA Permit (Ecology 2004). Post closure actions remain for the 183-H basins. Groundwater is monitored in accordance with Washington Administrative Code (WAC) 173-303-645(11), Corrective Action Program, and Part VI, Chapter 2 of the Hanford Facility RCRA Permit (Ecology 2004). The waste discharged to the basins originated in the 300 Area fuel fabrication facility and included solutions of chromic, hydrofluoric, nitric, and sulfuric acids that had been neutralized. The waste solutions contained various metallic and radioactive constituents (e.g., chromium, technetium-99, uranium[1]). Between 1985 and 1996, remaining waste was removed, the facility was demolished, and the underlying contaminated soil was removed and replaced with clean fill.

This is one of a series of reports on corrective action monitoring at the 183-H basins. It addresses requirement of WAC 173-303-645(11)(g) to report twice each year on the effectiveness of the corrective action program. This report covers the period from July through December 2004.

The regulations in WAC 173-303-645(11) require corrective action activities to reduce contaminant concentrations in groundwater. The postclosure plan (DOE-RL 1997a), which was incorporated into Part VI of the Hanford Facility RCRA Permit in February 1998, deferred further actions at the 183-H basins to the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) interim action for the 100-HR-3 Operable Unit. The postclosure plan also requires monitoring to be conducted as described in the final status RCRA groundwater monitoring plan (Hartman 1997). That

[1] Please note that source, special nuclear and by-product materials, as defined in the Atomic Energy Act of 1954 (AEA), are regulated at DOE facilities exclusively by DOE acting pursuant to its AEA authority. These materials are not subject to regulation by the State of Washington. All information contained herein and related to, or describing AEA-regulated materials and processes in any manner, may not be used to create conditions or other restrictions set forth in any permit, license, order, or any other enforceable instrument. DOE asserts that pursuant to the AEA, it has sole and exclusive responsibility and authority to regulate source, special nuclear and by-product materials at DOE-owned nuclear facilities. Information contained herein on radionuclides is provided for process description purposes only.

plan included four contaminants of interest for groundwater: chromium, nitrate, technetium-99, and uranium. Of these, only chromium is a listed dangerous waste constituent subject to regulation under RCRA. However, all four constituents continue to be monitored because they are included by reference in the Hanford Facility RCRA Permit.

INTERIM REMEDIAL MEASURE

The interim remedial action applies to the 100-HR-3 groundwater operable unit, which is under the authority of a CERCLA record of decision. Groundwater is pumped from extraction wells, treated to remove chromium, and injected back into the aquifer. The objective of the interim remedial measure is to reduce the amount of chromium entering the Columbia River, where it is a potential hazard to the ecosystem. In October 2004, DOE modified the extraction and injection network. Current extraction and injection wells are listed below.

Extraction Wells	Injection Wells
199-H4-4	199-H3-2A
199-H4-11	199-H4-18
199-H4-12A	199-H3-3, -4, or -5
199-H4-15A	
199-H4-64	

Groundwater is sampled to monitor the effectiveness of the interim remedial measure and to monitor the entire 100-HR-3 Operable Unit (DOE-RL 1997b). This CERCLA monitoring is coordinated with RCRA monitoring.

The pump-and-treat system may be shut down when concentrations of hexavalent chromium are below 22 μg/L in wells specified in the record of decision, and data indicate that the concentration will remain below that value. The system may also be shut down if it proves ineffective or if a better treatment technique is found. The most recent operable unit report, covering calendar year 2003, concluded that chromium concentrations in groundwater are not consistently below 22 μg/L in compliance wells (DOE-RL 2004).

RCRA GROUNDWATER MONITORING PROGRAM

Four wells located in the 183-H chromium plume are monitored for corrective action program requirements (Figure 1). Three of the wells are completed at the top of the uppermost aquifer (Hanford formation): Well 199-H4-12A is an extraction well, well 199-H4-7 is a former extraction well, and well 199-H4-3 is a monitoring well that has historically shown the highest levels of chromium, nitrate, technetium-99, and uranium from the 183-H basins. Well 199-H4-12C is located adjacent to 199-H4-12A and is completed deeper in the Ringold Formation. This well consistently has elevated concentrations of chromium without 183-H co-contaminants.

Wells are sampled annually for RCRA, generally in November. Late fall is typically a period when river stage is low and the samples reflect nearly undiluted groundwater instead of a mixture of groundwater and river water held in bank storage. Therefore, contaminant concentrations in November are usually among the highest of the year.

CONTAMINANT TRENDS

This section discusses concentrations of chromium, nitrate, technetium-99, and uranium in groundwater. RCRA sampling was conducted in November 2004, and additional samples were collected at other times for the purposes of the CERCLA interim action. All available data are presented in Table 1 and pertinent results are discussed below. Figures 2 through 5 show data trends.

Concentrations of chromium in well 199-H4-3 remained at approximately the same levels observed in the past two years (Figure 2). Chromium levels in former extraction well 199-H4-7 remained below the interim action goal of 22 µg/L during all of 2004. In extraction well 199-H4-12A, chromium concentrations rebounded in fall 2004 from their June low, which was related to high river stage dilution effects. Chromium concentrations in deep well 199-H4-12C continued their gradual decline.

Fluoride concentrations remained low during the reporting period. The maximum concentration was 170 µg/L in well 199-H4-3, which is consistent with levels seen throughout the 100-H Area.

Nitrate concentrations show no overall increasing or decreasing trends in recent years in the three shallow monitoring wells (Figure 3). Levels were highest in well 199-H4-3, at 244 mg/L in November 2004. In extraction well 199-H4-12A, near the river, nitrate levels rebounded from their June low. Nitrate levels are low and declining in deep well 199-H4-12C (4.4 mg/L).

Technetium-99 concentrations have increased gradually since 2001 in well 199-H4-3, but remained below the 900 pCi/L drinking water standard in November 2004 (Figure 4). Levels in wells 199-H4-7, 199-H4-12A, and 199-H4-12C generally followed the same trends as chromium, nitrate, and uranium.

Uranium (Figure 5) concentrations were below the 30 µg/L drinking water standard in all wells except 199-H4-3 (93.5 µg/L). Uranium concentrations are variable in well 199-H4-12A, and increased from 0.64 ug/L in June 2004 to an average of 12.1 ug/L in November. Concentrations are stable in wells 199-H4-7 (2 to 4 ug/L since 1999) and 199-H4-12C (1 to 2 ug/L since 1990).

CONCLUSIONS

The current objective of RCRA corrective action monitoring is simply to track trends, not to determine the effectiveness of the interim remedial action. DOE submitted a permit modification that includes a revision of the RCRA monitoring program for the 183-H basins March 31, 2004. Ecology denied this modification on June 18, 2004. Ecology is preparing a draft of the changes to the 183-H basins groundwater monitoring permit requirements as part of permit renewal. Until the Hanford Facility RCRA Permit renewal process is completed, the current RCRA monitoring plan (Hartman 1997) remains adequate for the objective of tracking trends during the period of the interim remedial action.

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DOE-RL, 1997b, *Interim Action Monitoring Plan for the 100-HR-3 and 100-KR-4 Operable Units*, DOE/RL-96-90, U.S. Department of Energy, Richland, Washington.

Ecology, 2004, *Dangerous Waste Portion of the Resource Conservation and Recovery Act Permit for the Treatment, Storage, and Disposal of Dangerous Waste*, Permit No. WA7890008967, Rev. 8, September 2004, as amended, Washington State Department of Ecology, Olympia, Washington.

Hartman, M.J., 1997. *Groundwater Monitoring Plan for the 183-H Solar Evaporation Basins*, PNNL-11573, Pacific Northwest National Laboratory, Richland, Washington.

Table 1. Groundwater Monitoring Data for 183-H Basins, July-December 2004.

Well	Sample Date	Chromium, µg/L	Fluoride, µg/L	Nitrate, mg/L	Tc-99, pCi/L	Uranium, µg/L
	7/6/2004	65[a]				
199-H4-3	11/9/2004	82.2[c]	170 C	244 D	694	93.5
	11/9/2004	76.5[b]				
	9/28/2004	21[a]				
	10/4/2004	16[a]				
199-H4-7	11/1/2004	12[a]				
	11/4/2004	9[a]		44.7	15	2.69
	11/9/2004	16.9[b]	150 C	38.1 D	20.1	2.05
	9/28/2004	61[a]				
	11/1/2004	47[a]				
199-H4-12A	11/2/2004	35.8[b]	110	61.1 D	129	12.9
	11/4/2004	45[a]		48.7	89	11.3
	12/6/2004	36[a]				
	7/6/2004	132[a]				
199-H4-12C	11/4/2004	103[b]	81 B	4.43 D	0 U	1.74
	11/4/2004	119[c]				

[a] Hexavalent chromium analysis
[b] Total chromium analysis, filtered sample
[c] Total chromium analysis, unfiltered sample
B= Less than contract-required detection limit but greater than method detection limit
C= Analyte was detected in the associated quality control blank
D= Sample diluted for analysis. Result corrected for dilution.
U= Below detection limit

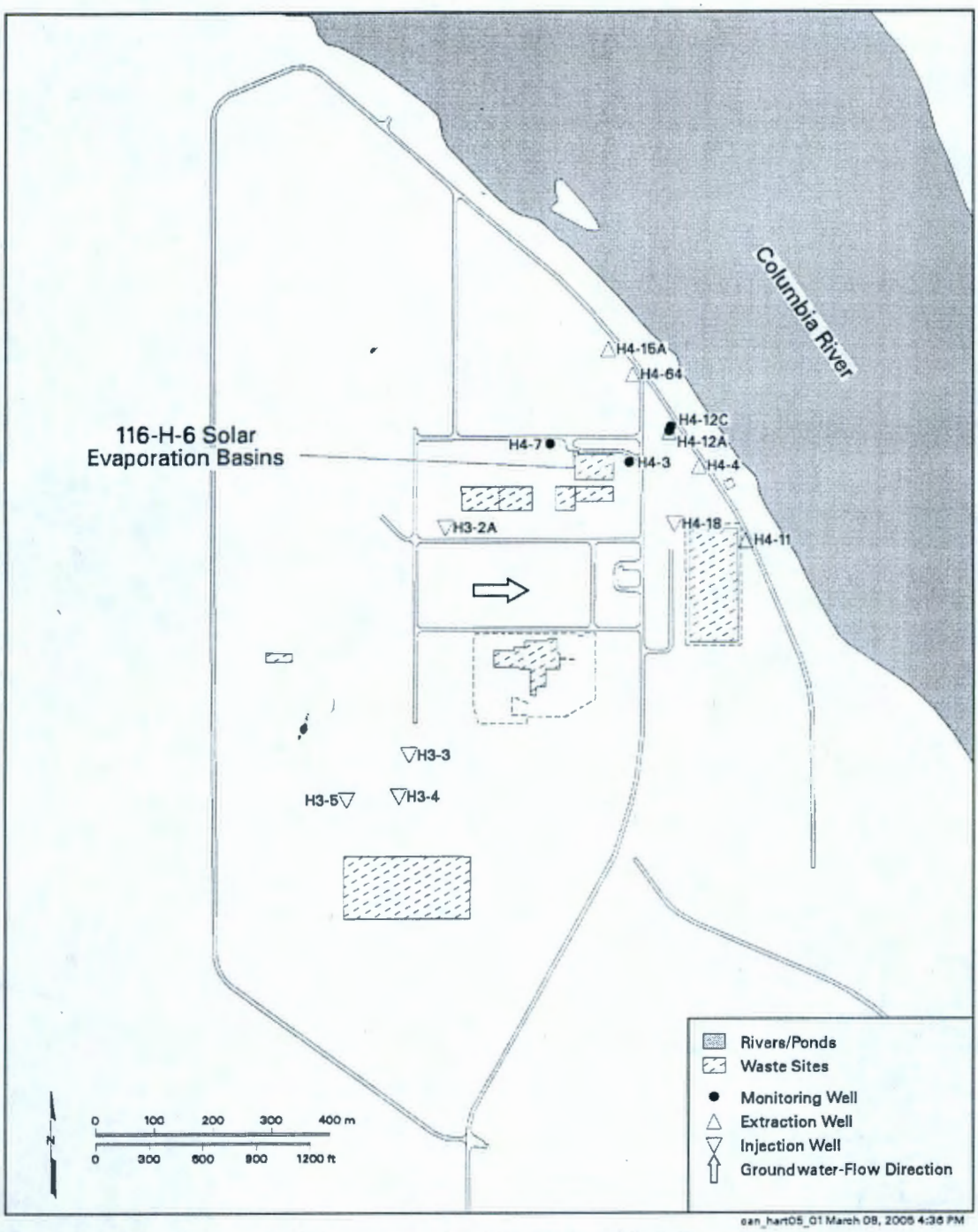

Figure 1. Monitoring Well Locations for 183-H (116-H-6) Basins.

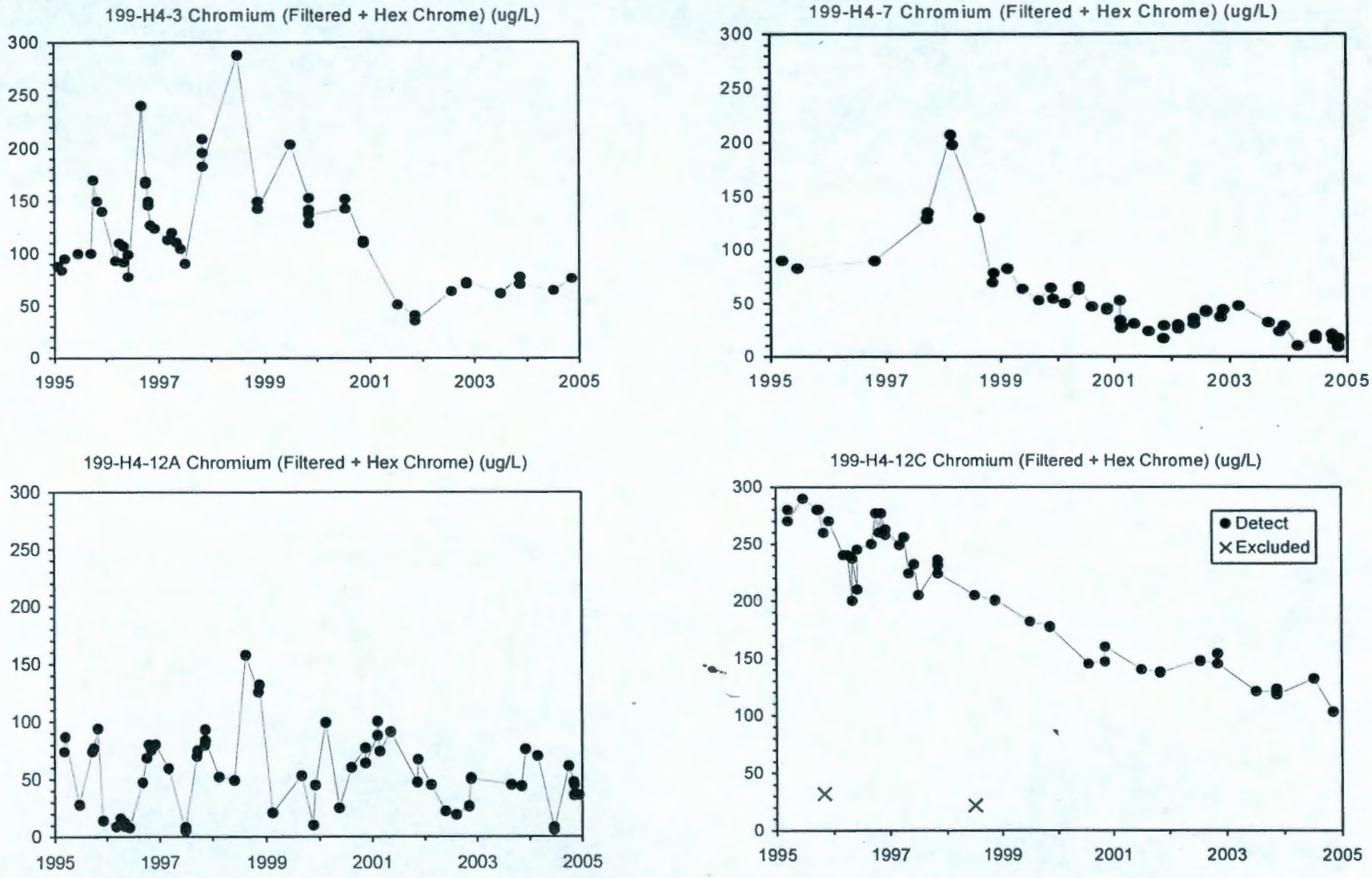

Figure 2. Dissolved Chromium in Wells Monitoring 183-H Basins.

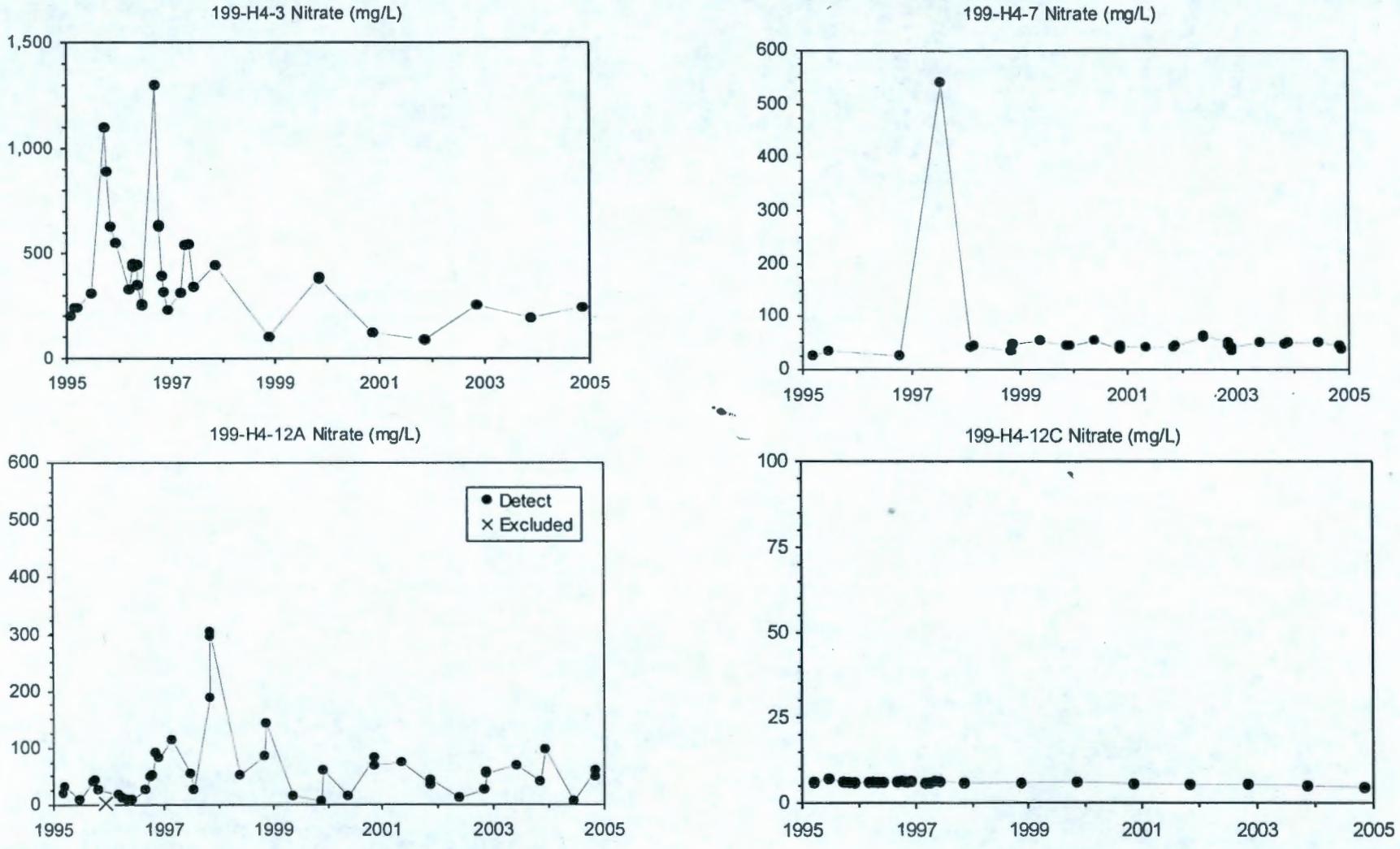

Figure 3. Nitrate in Wells Monitoring 183-H Basins.

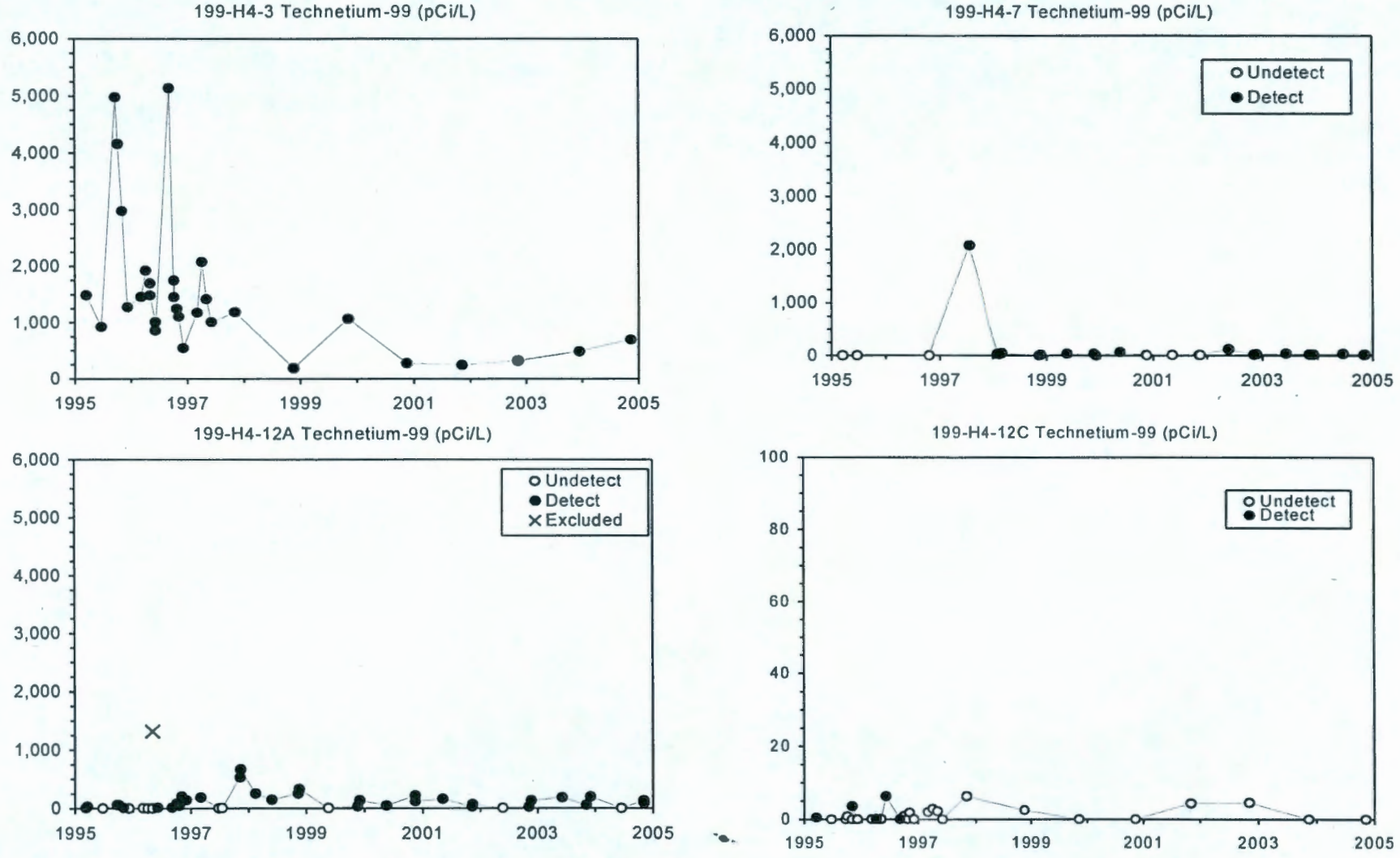

Figure 4. Technetium-99 in Wells Monitoring 183-H Basins.

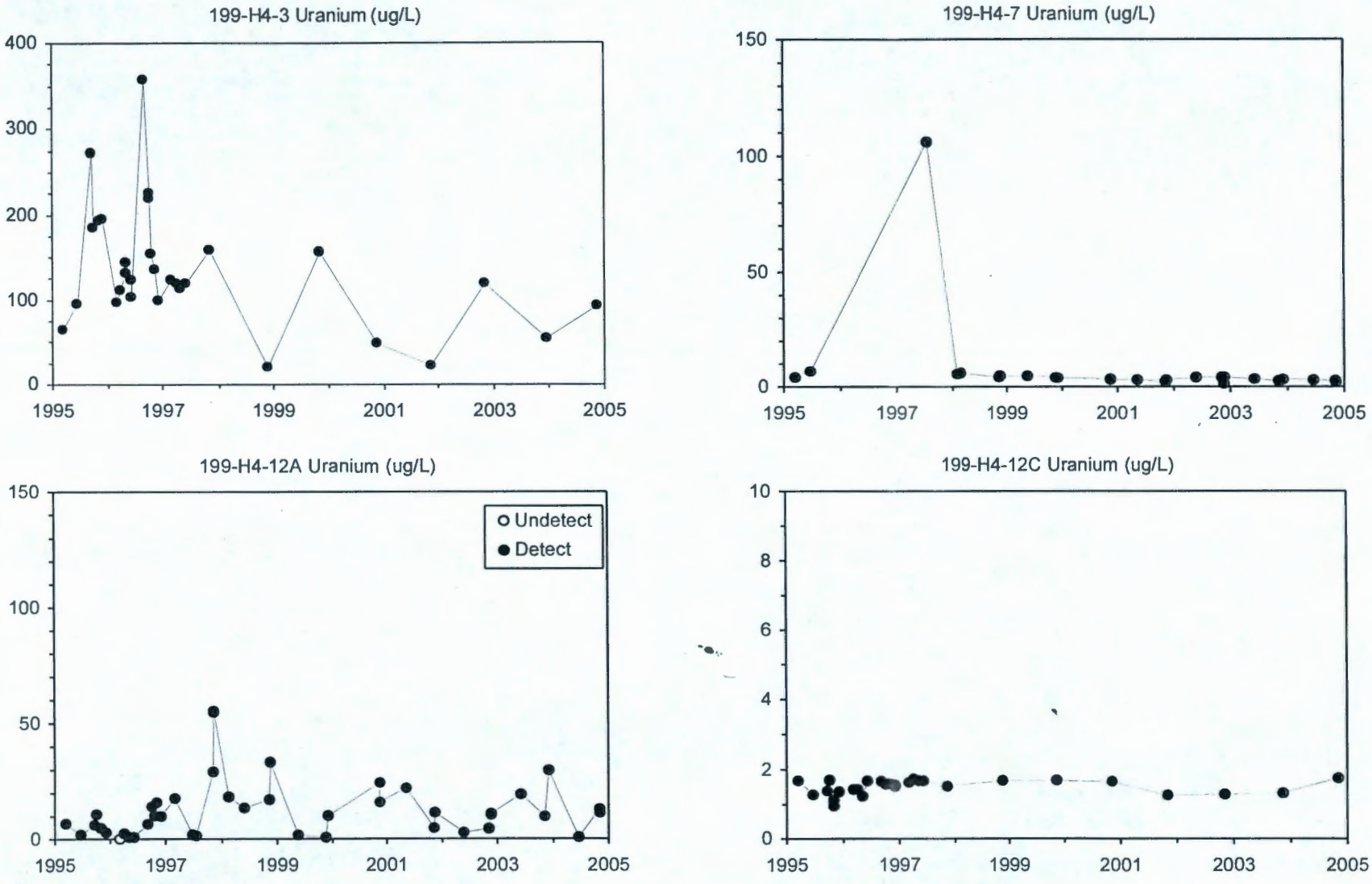

Figure 5. Uranium in Wells Monitoring 183-H Basins.