0073858

FH-0701692

Meeting Minutes Transmittal/Approval
Unit Managers' Meeting
200 Area Groundwater and Source Operable Units
1200 Jadwin, Richland, Washington
July 18, 2007

APPROVAL: for Larry Romine Date: 8/29/07
Larry Romine, 200 Area Unit Manager, DOE/RL

APPROVAL: Arlene Tortoso Date: 8/16/07
Arlene Tortoso, 200 Area Assistant Manager, DOE/RL

APPROVAL: Craig Cameron Date: 8/21/07
Craig Cameron, 200 Area Unit Manager, EPA

APPROVAL: John B. Price Date: 8/16/2007
John Price, 200 Area Unit Manager, Ecology

Note pen and ink changes to Facilities section. C.E.C.

HARD COPY DISTRIBUTION
UNIT MANAGERS' MEETING,
200 AREA GROUNDWATER SOURCE OPERABLE UNITS
July 18, 2007

DOE/RL
(No hard copy distribution)

EPA

Craig Cameron	B1-46

Ecology

John Price	H0-57

FH

Janice Williams (original)	E6-35
Administrative Record (2)	H6-08
Correspondence Control	A3-01

Minutes of the 200 Area Unit Managers' Meeting of July 18, 2007 are attached. Minutes are comprised of the following:

Attachment 1	Agenda
Attachment 2	Attendance Record
Attachment 3	Agreements and Issues List
Attachment 4	Action Item List
Attachment 5	Operable Units and Facilities Status
Attachment 6	200-UP-1 Uranium
Attachment 7	200-UP-1 Carbon Tetrachloride
Attachment 8	Comparison of Maximum Carbon Tetrachloride Rebound Concentrations Monitored at 200-PW-1 Soil Vapor Extraction Sites
Attachment 9	O Well Location Map
Attachment 10	WMA B-BX-BY, Well Locations and Surrounding Facilities; Increasing Technetium-99 Concentrations under the BY Cribs
Attachment 11	Uranium Trend for Northwest Wells 299-E33-38, 299-E33-26 and 299-E33-34
Attachment 12	Uranium Trend for Southern Wells 299-E33-32, 299-E33-339 and 299-E33 and 338.
Attachment 13	Uranium Trend for Northern and Western Wells 299-E33-7, 299-E33-39 and 299-E33-14.
Attachment 14	Completion of the Time-Critical Removal Action for 200-UW-1 Operable Unit
Attachment 15	7/9/07 Raw Water Leak Synopsis

Attachment 1
FH-0701692

200 AREA UNIT MANAGERS' MEETING
DRAFT AGENDA

1200 Jadwin/Rm 1-C-1
July 18, 2007
8:30 – 10:15 AM

GROUNDWATER AND SOURCE OPERABLE UNITS

- Status Review of OUs

200-UW-1, 200-CW-3 AND FACILITIES

- Status Review
- Outstanding Action Items/Issues

200 Area Unit Managers Status Meeting
July 18, 2007

Please print clearly and use black ink

PRINTED NAME	ORGANIZATION	O.U. ROLE	TELEPHONE
Frank Roddy	DOE/RL	LW-1, MW-1, MG-1 SW 1+3, UR-1 wells	372-0945
Steven Simon	ODOE		(541) 963-0853
Rick Oldham	0044554	ECO	2-2426
Glen Triner	FH/D&D	UP-1 UW-1	430-1013
ROB ~~SIMON~~	FH		373-3285
Stuart Luttrell	FH	RCRA GWater Mon	376-4531 ~~6085~~
Phil Rogers	FH	MW-1/MW-24	376-5807
Craig Cameron	EPA		376-8665
John Price	ECY ~~Proj~~	Proj Mgr	372-7921
Gloria Cummins	FH	FO-1	372-2484
~~ECO~~ Brute	FH	CW-1 CS-1	376-2663
Sonya Moore	FH	TPA	372-3320
~~Arlene~~ Tortoso	DOE-RL	200 Area ~~FHO~~	373-9631
Dave Erb	FH	200 GW	3734457
James Williams	FH		372-3553
SJ Gamboa	FH	GW E	376-2680
Jenne Saar	FH	UW-1	376-3762
Zelma Jackson	ECY	200A	372-7910
Barbara Harper	CTUIR		541-966-2804
Glen Boyd	ECO	Unit Manager	372-7930

200 Area Unit Managers Status Meeting
July 18, 2007

Please print clearly and use black ink

PRINTED NAME	ORGANIZATION	O.U. ROLE	TELEPHONE
Ann Shattuck	FH	PW-1/3/6	376-8756
Virginia Rohay	FH	PW-1/3/6	373-3803
Rod Lobos	EPA		376-3749
Pam Ahkrum	FGG	MG UR ECO PM	373-7222
Larry Fitch	FH		376-7536
Mike Hickey	FGG	CW-5 SC-1 ES-1	373 3092
Rick Bond	ECY	SW-2 Facilities	372-7885
Dennis Faulk	EPA		
Mark Benecke	FH	BC Cribs	376-0002
Carol Bergin	FH	SW-2	374-2759
Tom Post	EPA		376-6623
Susan Harbuterskih	FH	BP-5	376-4623

Issue Resolution Meeting
Agreements and Issues List
July 18, 2007
200 Area Unit Managers' Meeting

Agreement: Unresolved Ecology comment on the 200-CS-1 RI Report

Ecology had requested that "USDOE should update those tables [in the 200-CS-1 RI Report] to match the presentation format agreed upon for the 200-PW-2/4 report." Ecology and DOE agree that inclusion of the reformatted tables in the Draft B FS will suffice to close out the Ecology comments on the RI Report. Ecology and DOE agree that the RI Report can be placed in the Administrative Record as a complete document, and that this Agreement will be placed in the AR with the RI Report.

Agreement: 200-CW-1 Waste Control Plan

The report on the Waste Control Plan was not current in the status report. Let the minutes reflect that the Waste Control Plan was signed and approved.

Agreement: 200-UR-1, 200-MG-1/2, ECO, 200-BP-1 OU Group title

The 200-BP-1 OU reference will be removed from future UMM reporting.

Agreement: Additional 200-CW-3 Reporting

Two items will be added to the 200-CW-3 reporting section for updates:

- Monthly status on the railroad car disposition
- Monthly status on the Ecology sites that can be addressed under the proximity site provision.

Agreement: Addition of Supplemental Characterization Section

Add a new section to cover supplemental work plan status, such as the Model Group 5 SAP.

Agreement: 200-LW-1/2 RI Report

In lieu of issuing the 200-LW-1/2 Remedial Investigation Report, a combined RI/FS will be issued for this OU.

OPEN ACTION ITEM TRACKING

Action #	Action/Subject	Assigned To	Owed To	Assigned Date	Original Due Date	Adjusted Due Date	Status
80	Send report from Remedial Action Decision Making panel (Tom Fogwell)	FH-Byrnes	ECY/EPA Price/Goswami/ Cameron	10/18/06	11/16/06		Panel requested more time to complete their report.
96	EPA needs to approve the 200-TW-1/2 Work Plan Addendum.	EPA-Lobos	RL-Foley	6/21/07			Completed 7/23/07
98	A response from Ecology to an email from Bryan Foley, sent to John Price in May and again on June 19, 2007. RL has requested Ecology to approve the last published version of the 200-TW-1/2/PW-5 Remedial Investigation Report based on a commitment to address specific outstanding regulator concerns from the last report in the next revision of the 200-TW-2 Feasibility Study.	Ecology-Price	RL-Foley	6/21/07	8/1/07		
99	Provide regulators with a task level schedule for FS preparation on 200-MG-1 and 200-MG-2.	FH-Ankrum	ECY/EPA Price/Cameron	7/18/07	7/25/07		
100	Ecology will provide a letter on how the RI will be included in the FS. Ecology to meet with Tony Miskho and Phil Rogers on July 30 to discuss pathforward on TSD closure plans.+	Ecology-Price	RL-Tortoso	7/18/07	7/30/07		

CERCLA 5-Year Review Action Items

Action #	Action/Subject	Assigned To	Due Date	Status
13-1	Complete a data quality objective process and sampling plan to further characterize the technetium-99 groundwater plume near T Tank Farm.	Fluor Hanford		Complete
14-1	Assess treatment options to address technetium-99 near T Tank Farm.	Fluor Hanford		Complete
15-1	Complete data quality objective process and sampling plan to further characterize the high soil conductivity measurements detected at B/C cribs and trenches.	Fluor Hanford	12/1/2007	
16-1	Increase the pump size in 200-ZP-1 extraction wells 299-W15-45 and 299-W15-47.	Fluor Hanford		Complete
17-1	Evaluate expanding the soil-vapor extraction operations. Also, specifically review converting former groundwater extraction well 299-W15-32 to a soil-vapor extraction well.	Fluor Hanford		Complete
18-1	Prepare an explanation of significant difference for 200-UP-1 Interim ROD	Ecology	6/1/2008	

Attachment 4

200 AREA UNIT MANAGERS' MEETING OPERABLE UNITS AND FACILITIES STATUS

July 18, 2007

200-UP-1, 200-CS-1, 200-CW-1 OU Group

200-UP-1

(M-15-17A, 11/30/10, Feasibility Study/Proposed Plan) Ecology

- The Uranium concentration for the April sampling of well 299-W19-36 identified a spike of 614 ug/L. The April sample for well 299-W19-36 is being re-run and the July sample was expedited.
- The July sample results identified a Uranium concentration of 445 ug/L, however the Tc-99 value is elevated (13,000 pCi/L).
- All other values remain below the interim RAOs of 9,000 pCi/L and 480 µg/L respectively **(Attachments 6 and 7)**.

- RI/FS Work Plan:
  - Six of 12 new 200-UP-1 wells (UP1, UP2, UP3, UP4, UP5, and UP11) required by the RI/FS Work Plan have been installed.
  - Planning for the remaining six wells (UP-6, UP-7, UP-8, UP-9, UP-10, and UP-12) has started.
- Tc-99 Increase @ S-Farm
  - The Tc-99 levels in well W22-44 increased from 3400 pCi/l to 6440 pCi/l in the last sampling (March of 2007). The derived groundwater standard is 900 pCi/l.
  - The well is located directly east of S farm; maps have historically shown these wells to form a plume of Tc-99 and nitrate (approximate dimensions 300 ft by 900 ft).
  - Data suggest a rather narrow wave of increased Tc-99 is passing through. The groundwater flow direction is currently to the east. Pre-1996 flow was to the southeast.
  - Past investigations concluded that the Tc-99 plume is associated with past tank leaks. The crib 216-S-3 released approximately 4.2 million liters between 1953 and 1956.
- Pump & Treat
  - On 4/19/07, the pumps in wells W-19-36 and W-19-43 were restarted. Currently, the project is pumping approximately 12 gpm. These two wells address the higher uranium groundwater concentrations found in the area.
  - As of 7/7/07 ~ 1,306,830 gallons had been pumped to LERF Basin #43.
  - Treatment of the water is scheduled to start August 20.

200-CS-1

Feasibility Study/Proposed Plan

- Activities to support Draft B of the feasibility study and proposed plan continue.

Remediation Investigation Report

At the June UMM it was reported that there has been an open question since January 2005 regarding the approval status of the 200-CS-1 Remedial Investigation Report. Subsequently the Draft A FS and PP were submitted in March 2006. The RI Report, Revision 0 was submitted to Ecology for approval on November 30, 2004. On January 28, 2005, Ecology sent a letter stating that "USDOE should update those tables to match the presentation format agreed upon for the 200-PW-2/4 RI report." RL is including relevant reformatted analytical data tables, which were included in the Rev. 0 RI Report, in Draft B of the Feasibility Study scheduled for submittal in September 2007. Therefore, RL requested Ecology approval of the RI Report, Rev. 0, as submitted, and Ecology concurrence that the Draft B FS, with the updated and reformatted tables, can close out the January 2005 Ecology comment. Ecology and RL agreed to craft the "agreement" words to be added as an Agreement within these meeting minutes.

200-CW-1

(M-015-38B, 5/31/09, Feasibility Study/Proposed Plan) Ecology

- Ecology comments on the Model Group 5 SAP were received on July 5, 2007. RL is evaluating the Ecology comments and the impact to the planned supplemental remedial investigation.
- The Waste Control Plan was submitted on June 15 and was approved by Ecology on July 17, 2007.

<u>200-ZP-1, 200-PW-1/3/6 OU Group</u>

200-ZP-1

(M-15-48B, 9/30/07, Feasibility Study/Proposed Plan) EPA

- Remediation Treatment Status:
  - Between October 1, 2006 and July 1, 2007 the 200-ZP-1 pump-and-treat system average pumping rate was approximately 257 gpm.
  - Currently 9 of ten 200-ZP-1 extraction wells are on line pumping at approximately 245 gpm. Extraction well 299-W15-765 is offline as the Purolite resin skid is still undergoing repair.
  - Purolite resin treatability test influent and effluent Tc-99 and nitrate concentrations in extraction well 299-W15-44 showed no change this month.
  - Trend data for carbon tetrachloride in well 299-W15-6 showed no significant changes from previous months.
  - The hookup of new extraction wells 299-W11-45 and 299-W11-46 to the ETF transfer lines is on schedule. A subcontract was awarded last week. Materials are being ordered and preparations are being made for field work.

The projected completion date is mid August.

- RI/FS Status:
  - FS Report:
    - Document is on schedule and is currently out for DOE-RL review.
    - DOE-RL comments are due July 13, 2007.
  - Proposed Plan:
    Decisional Draft is soon to be released for DOE-RL review.
- Tc-99 Investigation Status:
  - T Tank Farm Investigations:
    - Drilling has reached total depth in well T-4 well (C5243, 299-W11-48). A 90 ft screen has been installed in this well to optimize the well as a potential future extraction well.
    - Drilling reached 285 ft on 7/17/07 in well T-5 well (C5244, 299-W10-32, replaced by well C5855, 299-W10-33); groundwater was encountered at 229 ft. The first water sample was collected and a slug test was performed on 7/6/07.
  - Purolite Resin Treatability Testing:
    - The Purolite resin skid at extraction well 299-W15-44 went back on line June 26, 2007. Replacement parts have arrived for extraction well 299-W15-765. Installation is expected to be completed within the next week.

200-PW-1, 200-PW-3, & 200-PW-6

(M-15-45B, 9/30/07, Feasibility Study/Proposed Plan) EPA

- The PW-1/3/6 FS is progressing. The Decisional Draft was delivered to RL and ORP EIS team on July 2, 2007.
- EPA's comments on the PW-1/3/6 Remedial Investigation Report, Draft A, are being incorporated. Revision 0 is anticipated transmittal date is July 31, 2007.
- Soil Vapor Extraction System (SVE):
  - The SVE system was turned back on April 2, 2007 at Z-9 Area. The average flow rate through July 8, 2007 was 285 cfm.
  - Three narrow-diameter wells on the south side of Z-9 were converted to SVE wells and placed on line on 6/18/07.
  - The system is scheduled to move from Z-9 to Z-1A during the week of 7/30/07.
  - The passive system remains operational.
  - Monthly monitoring results for June 2007 are presented in **Attachment 8.**

<u>200-CW-2/4/5 & 200-SC-1 OU Group</u>

200-CW-2, CW-4, CW-5, & SC-1 (no change)

(M-15-40D, 4/30/08, Feasibility Study/Proposed Plan) EPA

- Draft TPA change packages are under review with RL for the 200-CW-5 and 200-SC-1 Operable Units.

200-TW-1 & 200-PW-5 OU Group

200-TW-1 & 200-PW-5 (no change)

(M-15-42D, 12/31/11, Feasibility Study/Proposed Plan for TW-1 & PW-5) EPA

- Need to resolve status of Work Plan Addendum addressing the treatability test at BC Cribs and Trenches.

200-TW-2 OU Group

200-TW-2 (no activity)

(M-15-42E, 12/31/11, Feasibility Study/Revised Recommended Remedy(ies) for TW-2) Ecology

200-PO-1, 200-PW-2/4, 200-MW-1 OU Group

200-PO-1

(M-13-10A, 9/30/07, RI/FS Work Plan) Ecology

- DQO
  Work continued on an internal draft of the 200-PO-1 DQO Report in support of the RI/FS Work Plan.

- SAP
  Work continued on a draft 200-PO-1 Characterization SAP to support the RI/FS Work Plan development. This SAP along with the existing Monitoring SAP (DOE/RL-2003-04 Rev.1) will be included in the Draft A Work Plan due to Ecology September 30, 2007.

- WORK PLAN
  Work continued on drafting the 200-PO-1 Draft A Work Plan.

200-PW-2 & 200-PW-4 (no change)

(M-15-43D, 12/31/10, Feasibility Study and Revised Recommended Remedy(ies)) Ecology

- At the March UMM Ecology stated that a letter is forthcoming on the TSD closure plans and the FS.

200-MW-1

(M-15-44B, 12/31/08, Feasibility Study/Proposed Plan) EPA

- Drilling the high-risk borehole in the 216-A-2 Crib continues and is at a depth of approximately 40 ft bgs as of July 9th. Radioactivity readings have recently been

dropping (consistent with that expected based on the nearby direct push and spectral gamma logging) and the work restriction have been reduced to that of controlled area (CA) from radiological area (RA). Drilling progress should now increase although seasonally high temperatures are expected to limit personnel time in the CA.

- A Draft B of the RI has been produced that incorporates EPA comments on Draft A. Draft B will be provided to EPA by mid-July for review.
- The direct push in 216-A-21 Crib is expected to begin July 12. Four sediment samples are scheduled to be collected.
- Waste site 216-Z-21 classified as "No Action" is recommended to be moved to the 200-MG-1 OU in accordance with Tri-Party Agreement Handbook Management Procedures, TPA-MP-14.

200-BP-5 & 200-LW-1/2 OU Group

200-BP-5
(M-13-06B, 3/31/07, RI/FS Work Plan, Completed) EPA
(M-15-21A, 10/31/10, Feasibility Study/Proposed Plan) EPA

Subsurface Geophysical Exploration, Modeling and Report:

- Well to well and surface inversions programs are being revised to reduce noise for convergence within 5% as required by DOE order 414C.

Work Plan:

- Met with EPA on June 25 for comment clarification.
- Work Plan is being revised to incorporate EPA comments.

Preparing planning documents for two groundwater monitoring wells this summer.

- EPA has approved the O well for drilling this summer (see Figure 1, **Attachment 9**).
- FH has recommended to EPA and DOE to wait on drilling the G well until further groundwater samples are collected from proximal wells in the confined aquifer.
- FH has provided DOE a transport flow presentation for the Tc-99 plume north of the 200 East Area which provides rationale for drilling the N well. A presentation with EPA is scheduled for July 25 to discuss approval of this well location.
- Currently working the excavation permits, waste DQO, and Description of Work for the N and O wells.
- Revising BP-5 Waste Control Plan for the two wells.
- Drilling is scheduled to start early August.

Groundwater Results:

- Tc-99 concentrations continue to increase in the wells under the BY cribs (see Figure 2 **Attachment 10**).
- Recent uranium concentrations have leveled and decreased in the well 299-E33-34 which is out of trend with wells 299-E33-38 and 299-E33-36 (see Figure 3,

Attachment 11). Note that this well had been used to portray a northwest flow direction.

- Recent uranium concentrations increasing in southern wells (Figure 4, **Attachment 12**).
- Uranium concentrations in northern and eastern wells (see 5, **Attachment 13**).

200-LW-1/200-LW-2

(M-15-46B, 12/31/11, Feasibility Study/Recommended Remedy) Ecology

- The RI Report comment resolution finalization is in process.

200-UR-1, 200-MG-1/2 & ECO OU Group

200-UR-1

- Radiological surveys for BC Control Area continue on a contingency basis.
- West Lake DQO strawman draft received and internal FH comments were provided to Gram Inc. last week for chapters 1-4 of the DQO.
- West Lake opportunistic field sampling complete – analysis in progress.
- It is proposed that all 200-UR-1 sites except West Lake and BC Control Area be reclassified as "No Action" in accordance with the Tri-Party Agreement Handbook Management Procedures, TPA-MP-14 and moved to 200-MG-1 Operable Unit (per previous TPA agreements).

200-MG-1/200-MG-2 Model Group 1 Sites

(M-15-49A, 12/31/08, MG-1 Feasibility Study/Recommended Remedy) Ecology

(M-15-49B, 12/31/08, MG-2 Feasibility Study/Proposed Plan) EPA

- Strategy and Communication Plans for preparation of 200-MG-1/2 Feasibility Studies is in process.
- Development of Feasibility Studies for 200-MG-1/2 Waste Sites has been initiated.
- Incorporation of 200-ST-1 sites into 200-MG-1 is pending approval of the 200-ST-1 TPA Change Request Package.

Ecological Risk Assessment

- Environmental Risk Assessment sampling data evaluation and report preparation is in process.
- A meeting that was originally planned to be held in August with the Tribes and other external stakeholder participants on the Ecological Risk Assessment will be moved to September to ensure all data is available for participant review. The purpose of the meeting is to review Phase III data collection results.

200-BC-1, 200-IS-1, 200-SW-1/2 OU Group

200-BC-1

(M-15-51, 4/30/10, Feasibility Study/Proposed Plan) EPA

- EPA comments received on Draft A DQO summary report and SAP addressing electrical resistivity correlation. Reviewed draft responses to comments with EPA 6/28. Incorporating recommendations of the Expert Panel.
- EPA approved SAP for Phase 1 of the excavation-based treatability test on 6/28/07. Will start DPT campaign at the end of July.
- Draft A of the Treatability Test Plan, including SAP, was transmitted to EPA 6/18/07.

200-IS-1

(M-13-27, 6/30/07, RI/FS Work Plan) Ecology

- The 200-IS-1 WP and SAPs was delivered to Ecology by June 28, 2007.

200-SW-1/2

(M-13-28, 9/30/07, RI/FS Work Plan) Ecology

- The 200-SW-1 and 200-SW-2 OU RI/FS Work Plan development continues with full intent of delivery to Ecology by September 30, 2007.
- All 200-SW-1/2 sites classified as "No Action" (12 total) are recommended to be moved to the 200-MG-1 OU in accordance with Tri-Party Agreement Handbook Management Procedures, TPA-MP-14.

D&D OUs

200-CW-3 EPA

- Excavation of site -7 is complete. MIS sampling for site 7 is complete.
- Continued work on the remediation completion reports for sites -2 and -3.
- Site -5 sample analysis validated and remediation completion report will be complete on 7/11/07.

200-UW-1 Ecology

- 200-W-42 VCP / UPR-200-W-163 – The Time Critical Removal Action (TCRA) authorized by DOE/RL-2005-71 was declared completed to the extent practicable by DOE on June 27, 2007, with Ecology concurrence on June 29, 2007. Future remedial actions for the 200-W-42, which may include additional sampling and remediation, have not been precluded by this agreement, and can continue under existing approved SAPs and work plans. The final remedial decision for 200-W-42 will be documented in the ROD. **Attachment 14** contains the closure agreement.
- ROD - Tri-Party workshops were completed on 6/15/07. ROD is currently undergoing final technical editing and will be sent out for final review before being sent for legal review.

- Responsiveness summaries to public comments on TPA Change Request for reclassifying Crib 216-U-12 to a RCRA Past Practice (RPP) unit were submitted to DOE and are in DOE concurrence. Approval will be requested at the July IAMIT meeting.
- TPA Change Request to change 216-U-15 from a CPP to a RPP were submitted to DOE, and are in DOE concurrence. Approval will be requested at the July IAMIT meeting.
- DOE continued working on remedial action goals (RAGs) for 200-UW-1. Currently, FH is preparing technical basis letters to be transmitted to the EPA and Ecology in July describing how the approach being proposed satisfies the applicable or relevant and appropriate requirements of WAC 173-340-747(8), and other State and Federal regulations and guidance.
- A cultural review of the Area C borrow source has been challenged by Yakama Tribes and Washington State Department of Archaeology & Historic Preservation (DAHP). DOE-RL is drafting letters to the DAHP and Tribes.
- The revised Sampling & Analysis Plan for the 241-U-361 Settling Tank was approved in June
- Phase II of the 241-U-361 Settling Tank (sampling tank sludge) has begun and is scheduled to be completed by mid-July.
- At 11:29 am on 7/9/07 a raw water leak resulted in the release of approximately 458,440 gallons. The Raw Water was leaked into around 216-U-1, with the majority of that collecting in the abandoned 2607-W5 Sanitary Sewer Tile Field. This area is north of 16th Street. It is estimated that the water covered less then 2 acres. The leakage came from a 12" ductile Raw Water line that had been cement lined during Project L-397. It is suspected that a 6 " hot-tapped connection, that was installed approximately 2 years ago to convert potable water supplies to 2 fire hydrants over to Raw Water, may have failed **(See Attachment 15).**

FACILITIES STATUS

- Preparation of Draft B *Remedial Design/Remedial Action Work Plan for the 221-U Facility* has been initiated.
- Issued the canyon waste acceptance study (June 2007).
- Preparing draft step 7 PUREX canyon DQO summary report text; preparing to set up interviews with Tribal representatives and ODOE.

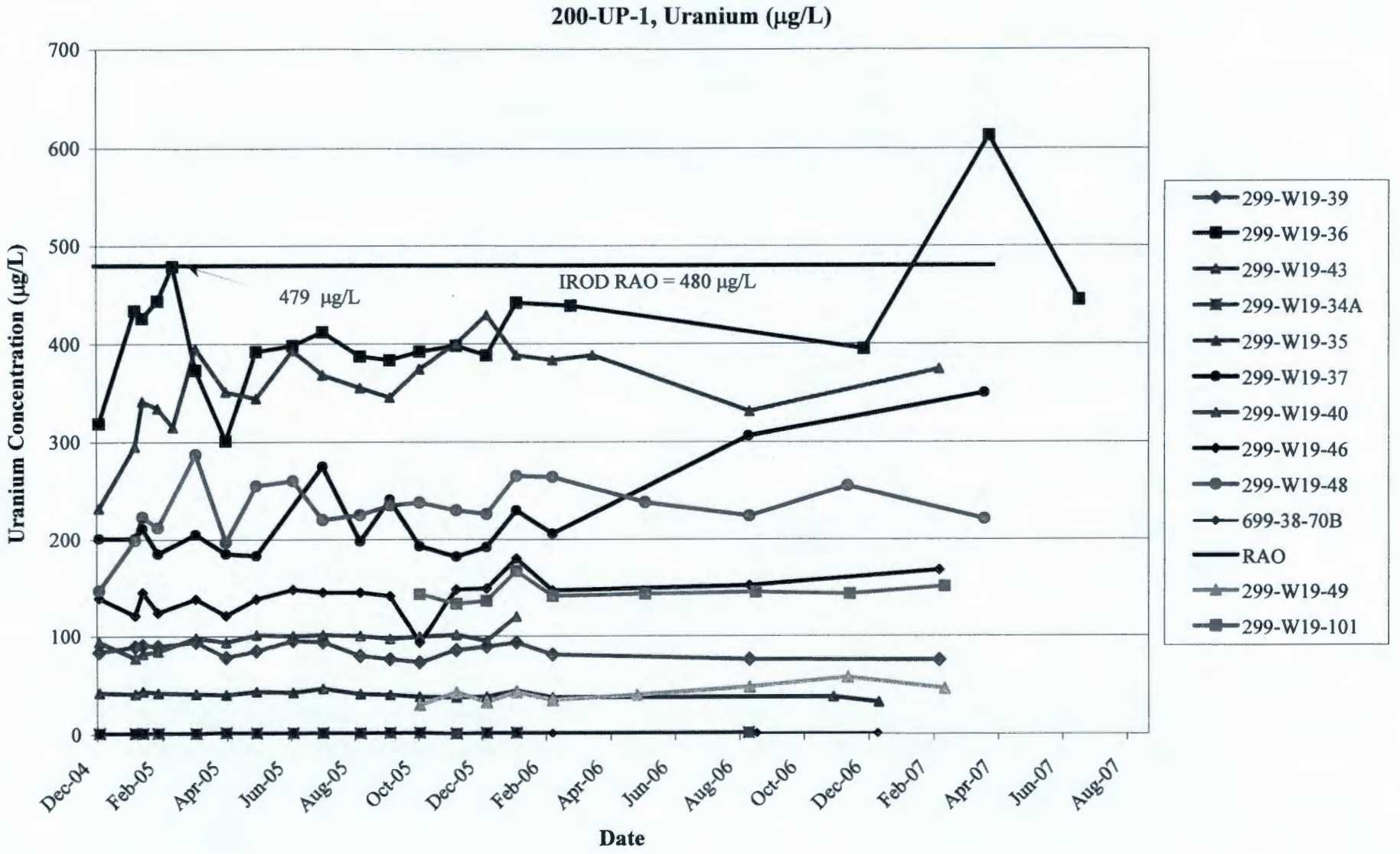
Facility Binning

Awaiting agency response to RL draft Tri-Party Agreement agreement-in-principle for Central Plateau facility disposition, which was transmitted to EPA and Ecology on June 18, 2007.

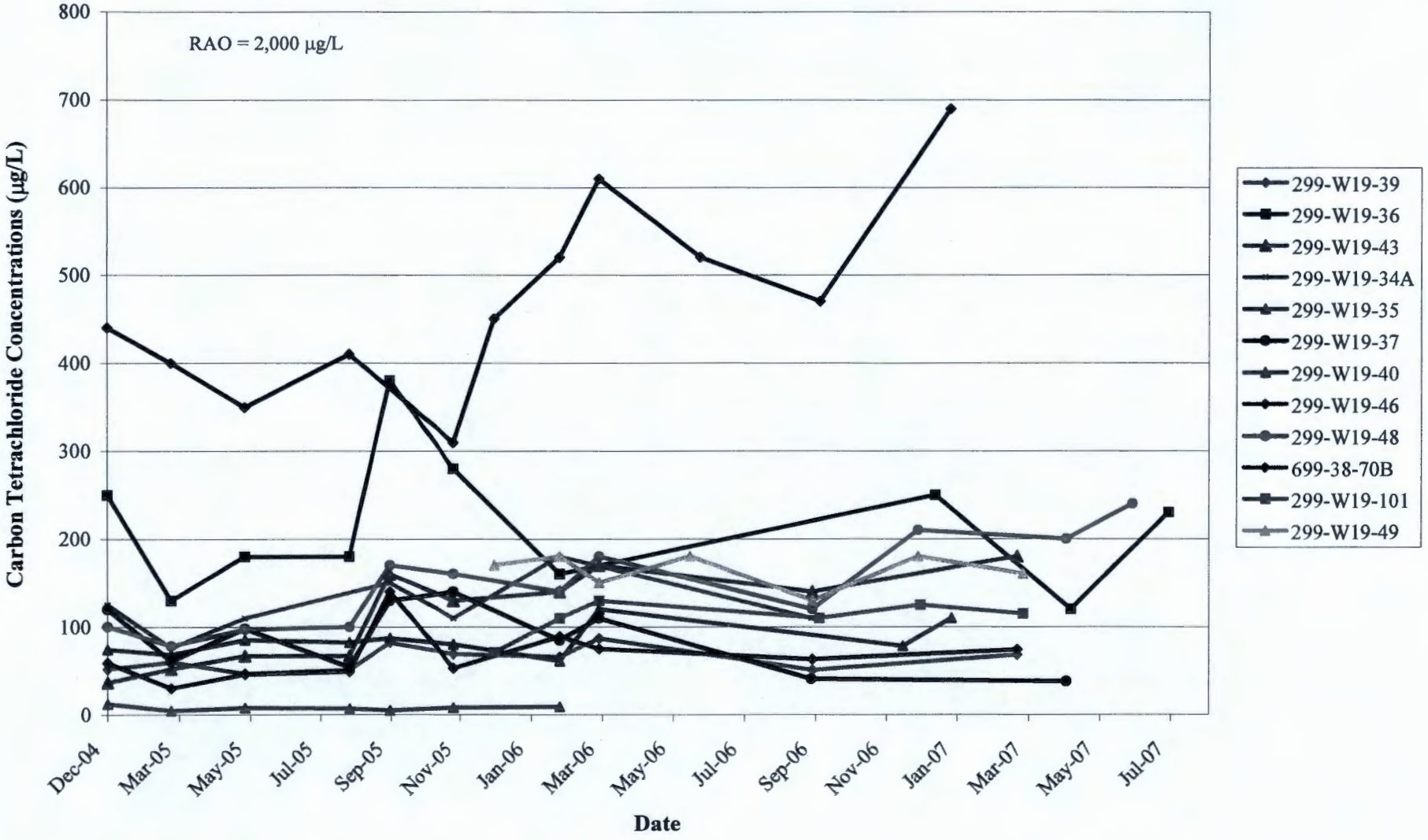
Responses to DOE responses C.E.C.

- S&M plans will be responded to a week later than anticipated.
- ~~Comments~~ on RD/RA work plan and AIP can be expected this week.

Note that an extension to review the AIP was taken by EPA and ~~Ecology~~ when ~~comment~~ letter was sent to respond to DOE responses July 19th. C.E.C.


200-UP-1, Uranium (µg/L)
Uranium Concentration (µg/L)
700
600
500
400
300
200
100
0
479 µg/L
IROD RAO = 480 µg/L
Dec-04
Feb-05
Apr-05
Jun-05
Aug-05
Oct-05
Dec-05
Feb-06
Apr-06
Jun-06
Aug-06
Oct-06
Dec-06
Feb-07
Apr-07
Jun-07
Aug-07
Date
299-W19-39
299-W19-36
299-W19-43
299-W19-34A
299-W19-35
299-W19-37
299-W19-40
299-W19-46
299-W19-48
699-38-70B
RAO
299-W19-49
299-W19-101

200-UP-1, Carbon Tetrachloride (µg/L)



Comparison of Maximum Carbon Tetrachloride Rebound Concentrations
Monitored at 200-PW-1 Soil Vapor Extraction Sites
FY 2003 - FY 2007

200-PW-1		July 2002 (Z-9) or October 2003 (Z-1A) - March 2004		July 2002 (Z-9) or April 2004 (Z-1A) - September 2004		October 2004 - June 2005		July 2005 - June 2006		July 2006 - June 2007	
Location (Well or Probe) /feet bgs	Site	Maximum Rebound Carbon Tetrachloride (ppmv)	months* of rebound	Maximum Rebound Carbon Tetrachloride (ppmv)	months* of rebound	Maximum Rebound Carbon Tetrachloride (ppmv)	months* of rebound	Maximum Rebound Carbon Tetrachloride (ppmv)	months* of rebound	Maximum Rebound Carbon Tetrachloride (ppmv)	months* of rebound
CPT-17/ 10 ft	Z-9	9.0	21	9.9	27	11.4	5	2.5	12	1.6	9
CPT-18/ 15 ft	Z-9	2.4	21	2.5	27	3.1	5	0	12		
CPT-4A/ 25 ft	Z-1A										
CPT-27/ 15 ft	Z-9									0	9
CPT-4E/ 25 ft	Z-1A			2.4	0	2.4	9	2.4	0	3.3	9
CPT-16/ 25 ft	Z-9	2.6	21	3.6	27	4.4	5	1.6	12	1.0	9
CPT-31/ 25 ft	Z-12										
CPT-32/ 25 ft	Z-1A	5.9	6			8.6	9	6.4	6	8.0	9
CPT-30/ 28 ft	Z-18	0	6			1.6	9	1.2	6	0	9
CPT-13A/ 30 ft	Z-1A	1.8	6	1.9	0	8.3	9	4.1	0	5.8	9
CPT-7A/ 32 ft	Z-1A	9.5	6	1.9	0	4.4	9	3.8	0	3.9	9
CPT-27/ 33 ft	Z-9	2.7	21	2.7	27	8.4	5	1.8	12		
CPT-1A/ 35 ft	Z-12	18.3	6	18.0	0	14.0	9	17.2	0	10.0	9
CPT-18/ 35 ft	Z-9									0	9
CPT-28/ 40 ft	Z-9					5.4	0			59.3	9
CPT-33/ 40 ft	Z-18					3.9	9			1.8	9
CPT-34/ 40 ft	Z-18			1.8	0	3.0	9	2.0	0	1.4	9
CPT-21A/ 45 ft	Z-9					7.9	0				
CPT-30/ 48 ft	Z-18									4.2	9
W15-220ST/ 52 ft	Z-9										
CPT-9A/ 60 ft	Z-9	35.9	21	35.9	27	32.4	5	29.2	12	16.2	11
CPT-28/ 60 ft	Z-9					68.3	0				
CPT-C3872 / 63 ft	Z-1A					15.5	9	9.9	6	16.8	9
CPT-16/ 65 ft	Z-9			4.2	27	6.7	5	5.6	0		
CPT-21A/ 65 ft	Z-9	150	21	150	27	170	0	167	12	193	11
CPT-1A/ 68 ft	Z-12					13.7	9			6.2	9
CPT-30/ 68 ft	Z-18										
CPT-13A/ 70 ft	Z-1A										
CPT-24/ 70 ft	Z-9			9.1	27			5.2	12		
CPT-32/ 70 ft	Z-1A					5.5	9			6.4	9
W15-219SST/ 70 ft	Z-9			5.7	22						
CPT-4A/ 75 ft	Z-1A										
CPT-18/ 75 ft	Z-9			8.3	27			4.3	12		
CPT-31/ 76 ft	Z-12										
CPT-33/ 80 ft	Z-18										
W15-82/ 83 ft	Z-9	85.8	21	85.8	27	95.8	5	8.1	12	3.9	9
CPT-21A/ 86 ft	Z-9	244	21	244	27	209	5	223	12	207	11
CPT-34/ 86 ft	Z-18										
W15-95U/ 86 ft	Z-9										
W15-218SST/ 86 ft	Z-9										
CPT-28/ 87 ft	Z-9	258	21	258	27	246	5	245	12	262	11
CPT-4B/ 90 ft	Z-1A										
CPT-1A/ 91 ft	Z-12										
CPT-4A/ 91 ft	Z-1A										
CPT-9A/ 91 ft	Z-9										
W15-85/ 91 ft	Z-9										
W18-252SST/ 100 f	Z-1A										
W18-152/ 101 ft	Z-12	12.4	6			16.0	9	16.2	6	16.3	9
W15-8U/ 103 ft	Z-9							10.4	12	14.1	9
CPT-4E/ 103 ft	Z-1A										
W18-167/ 106 ft	Z-1A	266	6			196	9	174	6	3.0	9
CPT-4F/ 109 ft	Z-1A					11.9	9			5.2	9
W18-165/ 109 ft	Z-1A	205	6			35.2	9	394	6	3.2	9
W15-217/ 114 ft	Z-9	458	21	467	27	374	5	19.7	12	16.5	9
CPT-24/ 118 ft	Z-9			15.3	27			23.9	12		
W15-220SST/ 118 f	Z-9			26.0	27			25.2	12		
W18-158L/ 120 ft	Z-1A										
W15-219SST/ 130 f	Z-9			0	22						
W18-249/ 130 ft	Z-18	41.0	6			64.9	9	24.1	6	19.7	9
W18-248/ 131 ft	Z-1A	180	6			249	9	67.0	6	131	9
W15-95L/ 144 ft	Z-9	40.3	21	40.3	27	26.7	5	25.7	12	18.0	9
W15-219SST/ 155 f	Z-9			9.5	22						
W15-220L/ 163 ft	Z-9			7.5	27			13.2	12		
W18-247L/ 167 ft	Z-18					9.3	passive	7.8	passive	10.0	passive
W18-246L/ 170 ft	Z-1A					22.0	passive	25.3	passive	14.7	passive
W15-219L/ 175 ft	Z-9			23.0	27			12.2	12		
W18-252L/ 175 ft	Z-1A					18.0	passive	16.9	passive	12.2	passive
W15-9L/ 176 ft	Z-9	13.1	21	13.1	27	2.1	5	5.4	12	7.9	9
W15-84L/ 180 ft	Z-9	25.9	21	25.9	27	23.0	5	14.0	12		
W15-6L/ 182 ft	Z-9										
W18-10L/ 183 ft	Z-18					12.2	passive	14.1	passive	13.8	passive
W15-220SST/ 185 f	Z-9										
W18-7/ 197 ft	Z-1A					24.6	passive	33.8	passive	39.3	passive
W18-12/ 198 ft	Z-18					9.9	passive	9.4	passive	4.8	passive
W18-11L/ 199 ft	Z-18					7.3	passive	9.0	passive	8.4	passive
W18-6L/ 208 ft	Z-1A					23.2	passive	24.4	passive	15.8	passive
W15-46/ 217 ft	Z-9							4.7	12	5.7	9

* - 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)

Carbon Tetrachloride Rebound Concentrations
Monitored at 200-PW-1 Soil Vapor Extraction Sites
July 2006 - June 2007

200-PW-1													
		07/26/2006	08/30/2006	09/26/2006	10/25/2006	11/30/2006	12/19/2006	01/31/2007	02/27/2007	03/21/2007	04/18/2007	05/29/2007	06/27/2007
Location	Site												
(Well or Probe)		CCl4	CCl4	CCl4	CCl4	CCl4	CCl4	CCl4	CCl4	CCl4	CCl4	CCl4	CCl4
/feet bgs		(ppmv)	(ppmv)	(ppmv)	(ppmv)	(ppmv)	(ppmv)	(ppmv)	(ppmv)	(ppmv)	(ppmv)	(ppmv)	(ppmv)
CPT-17/ 10 ft	Z-9				1.2	1.2	1.2	1.4	1.6	1.5			
CPT-18/ 15 ft	Z-9												
CPT-27/ 15 ft	Z-9				0	0	0	0	0	0			
CPT-4E/ 25 ft	Z-1A	0	0	0							3.2	3.3	1.8
CPT-16/ 25 ft	Z-9				0	1.0	0	0	1.0	0			
CPT-32/ 25 ft	Z-1A	0	0	0	0	1.2	2.1	3.4	6.0	5.7	8.0	7.6	7.1
CPT-30/ 28 ft	Z-1A	0	0	0							0	0	0
CPT-13A/ 30 ft	Z-1A	2.4	2.5	2.4	3.3	2.9	5.8	1.6	5.0	2.2	1.8	3.7	2.4
CPT-7A/ 32 ft	Z-1A	2.0	1.9	1.2	1.9	2.5	2.6	3.2	3.4	3.8	3.9	2.7	2.7
CPT-27/ 33 ft	Z-9												
CPT-1A/ 35 ft	Z-12	11.0	13.4	10.2	10.0	4.6	5.1	4.4	7.3	2.8	4.2	1.2	6.6
CPT-18/ 35 ft	Z-9				0	0	0	0	0	0			
CPT-28/ 40 ft	Z-9	5.5	4.3	4.8							8.6	59.3	4.9
CPT-33/ 40 ft	Z-18	0	1.3	1.6							1.5	1.8	1.4
CPT-34/ 40 ft	Z-18	0	1.3	1.3							1.2	1.4	1.1
CPT-21A/ 45 ft	Z-9												
CPT-30/ 48 ft	Z-9				0	4.2	3.1	2.9	1.5	1.1			
CPT-9A/ 50 ft	Z-9	32.8	40.7	43.3	30.6	42.6	42.0	43.7	39.5	27.4	39.7	39.1	43.6
CPT-9A/ 60 ft	Z-9	12.8	9.8	15.7	14.2	16.2	13.1	13.2	7.2	10.7	12.9	12.1	12.1
CPT-28/ 60 ft	Z-9												
CPT-C3872 / 63 ft	Z-1A	2.1	2.2	2.4	3.5	5.5	6.1	7.8	12.2	10.1	11.5	15.2	16.8
CPT-9A/ 64 ft	Z-9	33.8	33.8	33.9	28.1	32.3	28.9	16.7	29.9	26.1	23.4	31.4	32.4
CPT-16/ 65 ft	Z-9												
CPT-21A/ 65 ft	Z-9	153	132	137	123	120	123	127	138	101	119	105	193
CPT-1A/ 68 ft	Z-12	13.2	12.5	5.6							6.2	0	0
CPT-24/ 70 ft	Z-9												
CPT-32/ 70 ft	Z-1A	4.2	4.3	3.5							5.2	6.0	6.4
W15-219SST/ 70 ft	Z-9												
CPT-18/ 75 ft	Z-9												
W15-82/ 83 ft	Z-9				0	0	0	2.3	3.9	0			
CPT-21A/ 86 ft	Z-9	179	171	194	159	169	164	189	170	119	161	125	207
CPT-28/ 87 ft	Z-9	180	185	216	181	202	196	0	209	119	182	147	262
W18-152/ 101 ft	Z-12	10.8	12.5	13.3	13.0	14.4	13.8	15.1	16.3	13.1	13.8	12.6	13.7
W15-8U/ 103 ft	Z-9				2.4	6.1	1.2	4.6	14.1	1.7			
W18-167/ 106 ft	Z-1A	0	0	0	0	0	0	3.0	1.1	0	0	0	3.0
CPT-4F/ 109 ft	Z-1A	1.2	2.9	0							4.1	5.2	0
W18-165/ 109 ft	Z-1A	—(q)	0	0	0	0	0	2.5	2.2	0	0	0	3.2
W15-217/ 114 ft	Z-9				0	0	0	7.0	16.5	0			
CPT-24/ 118 ft	Z-9												
W15-220SST/ 118 ft	Z-9												
W18-249/ 130 ft	Z-18	4.6	19.4	18.1	16.8	18.4	8.8	19.7	16.1	16.0	15.0	15.4	18.1
W15-219SST/ 130 ft	Z-9												
W18-248/ 131 ft	Z-1A	—(m)	27.2	43.0	42.1	45.3	30.7	52.7	131	4.7	70.0	34.4	65.9
W15-95L/ 144 ft	Z-9				10.0	16.2	15.3	16.9	18.0	0			
W15-219SST/ 155 ft	Z-9												
W15-220L/ 163 ft	Z-9												
W15-219L/ 175 ft	Z-9												
W15-9L/ 176 ft	Z-9				4.7	2.3	2.2	3.5	7.9	4.7			
W15-84L/ 180 ft	Z-9												
W15-46/ 217 ft	Z-9				0	0	0	4.0	5.7	0			
		(m) Unable to sample; well in use by Vista Engineering											
		(q) Unable to sample; well in use for geophysical logging											

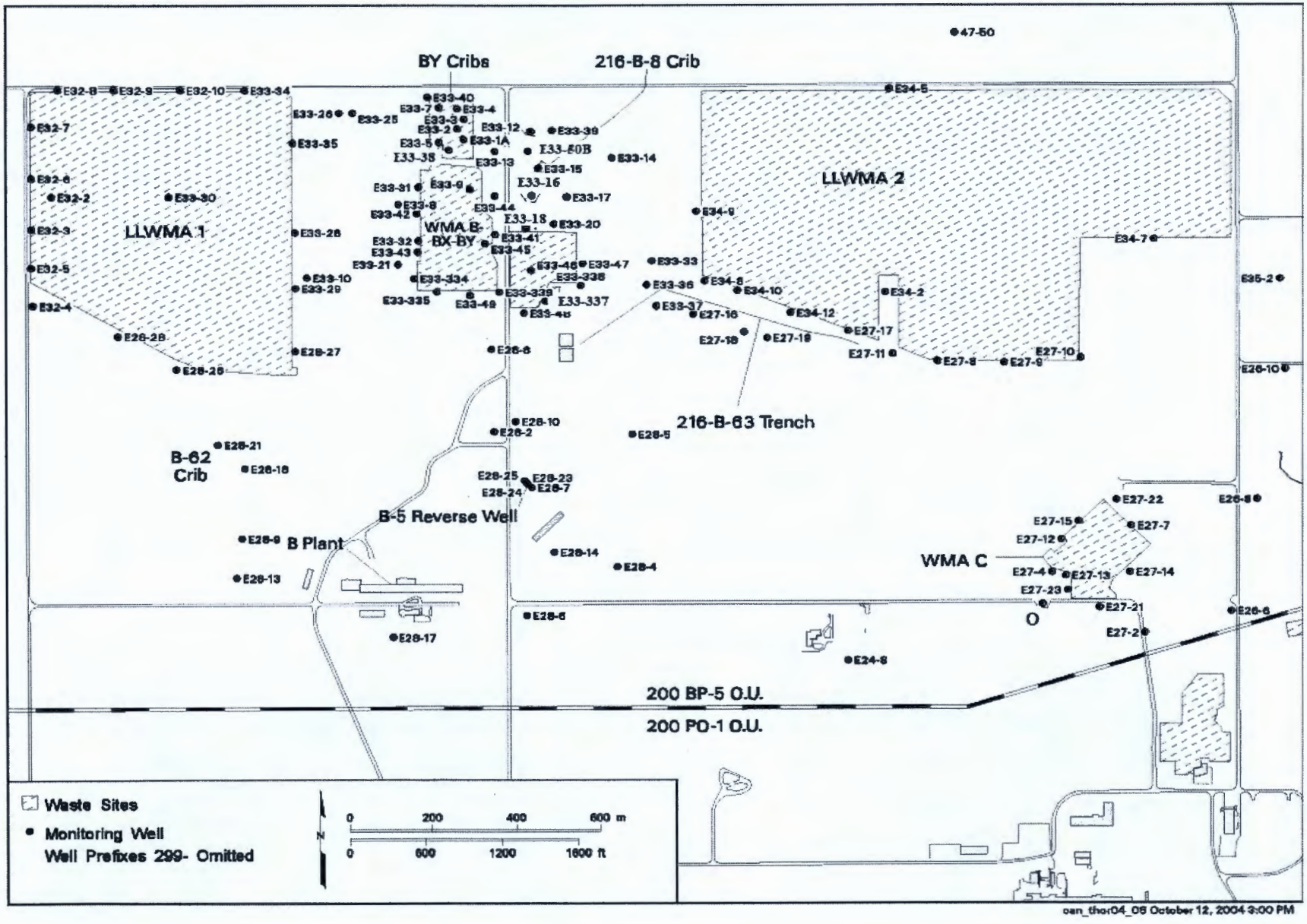
Attachment 8, Figure 2

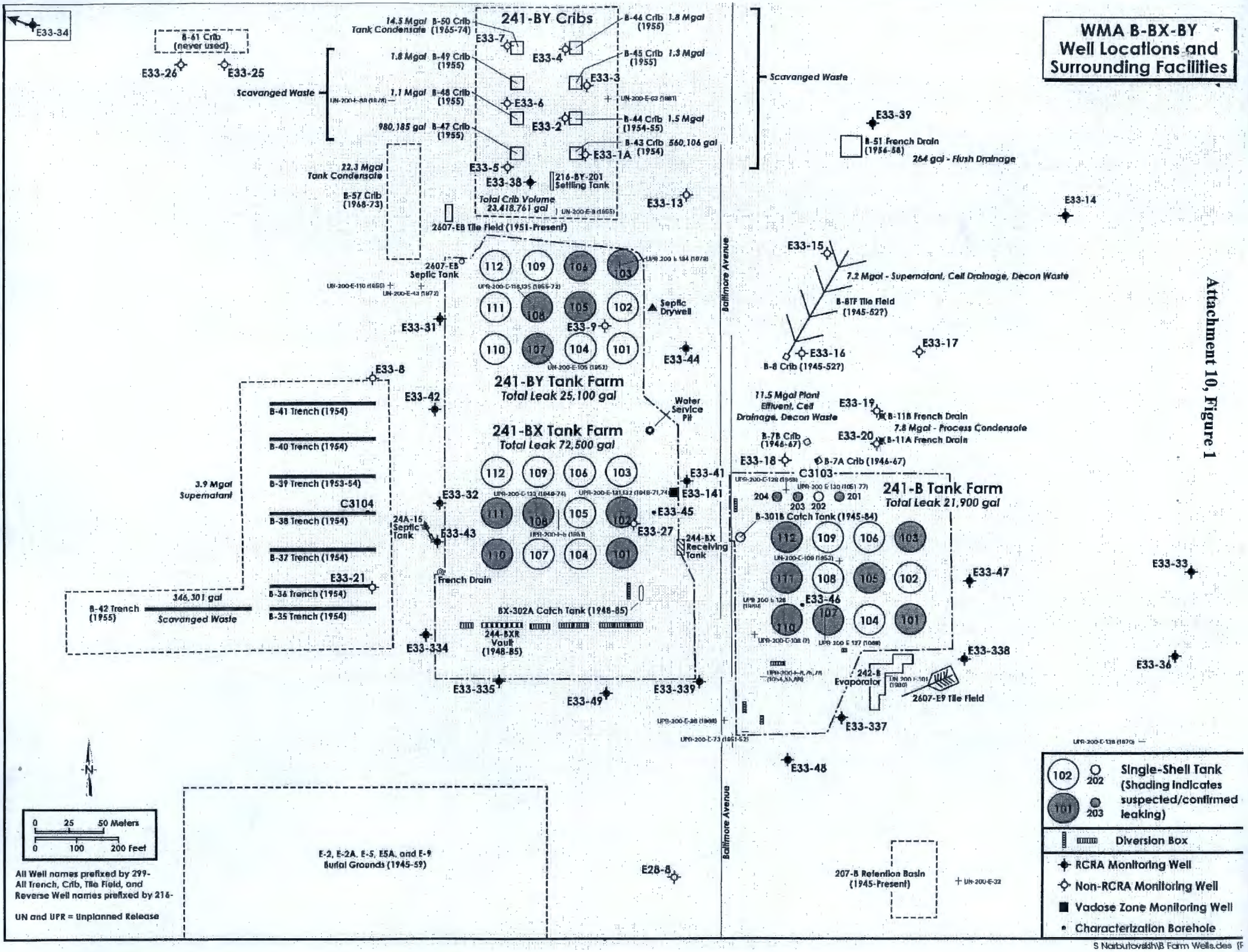
Carbon Tetrachloride Concentrations
Monitored at 200-PW-1 Passive Soil Vapor Extraction Wells
July 2006 - June 2007

200-PW-1												
	7/26/2006	8/29/2006	9/26/2006	10/26/2006	11/28/2006	12/20/2006	1/30/2007	2/28/2007	3/21/2007	4/16/2007	5/30/2007	6/27/2007
Location												
(Well or Probe)	CCl4	CCl4	CCl4	CCl4	CCl4	CCl4	CCl4	CCl4	CCl4	CCl4	CCl4	CCl4
/feet bgs	(ppmv)	(ppmv)	(ppmv)	(ppmv)	(ppmv)	(ppmv)	(ppmv)	(ppmv)	(ppmv)	(ppmv)	(ppmv)	(ppmv)
W18-6L/ 208 ft	---(b)	---(b)	15.8	3.7	1.4	0	4.8	4.9	8.1	8.5	11.3	12.3
W18-7/ 197 ft	11.0	15.3	0	5.6	6.0	2.1	7.8	14.1	11.8	21.1	39.3	18.4
W18-10L/ 183 ft	10.0	12.7	11.7	0	0	2.0	12.6	7.0	13.8	1.0	5.7	10.4
W18-11L/ 199 ft	3.0	8.4	1.3	0	0	0	4.5	3.4	3.2	0	3.3	4.3
W18-12/ 198 ft	0	4.8	0	0	0	0	1.3	0	0	0	0	1.4
W18-246L/ 170 ft	---(b)	---(b)	3.7	1.7	0	0	2.2	5.3	4.1	9.6	14.7	4.6
W18-247L/ 167 ft	0	5.7	1.0	0	0	0	1.4	0	5.1	0	0	10.0
W18-252L/ 175 ft	---(b)	---(b)	---(b)	---(b)	---(b)	---(b)	---(b)	2.1	4.5	8.1	12.2	12.0
	(b) disconnected for use by Vista Engineering for cross-well seismic investigation											

Attachment 8, Figure 3

Figure 1: "O" Well Location Map.





Attachment 10, Figure 1

Figure 2: Increasing Technetium-99 concentrations under the BY cribs.

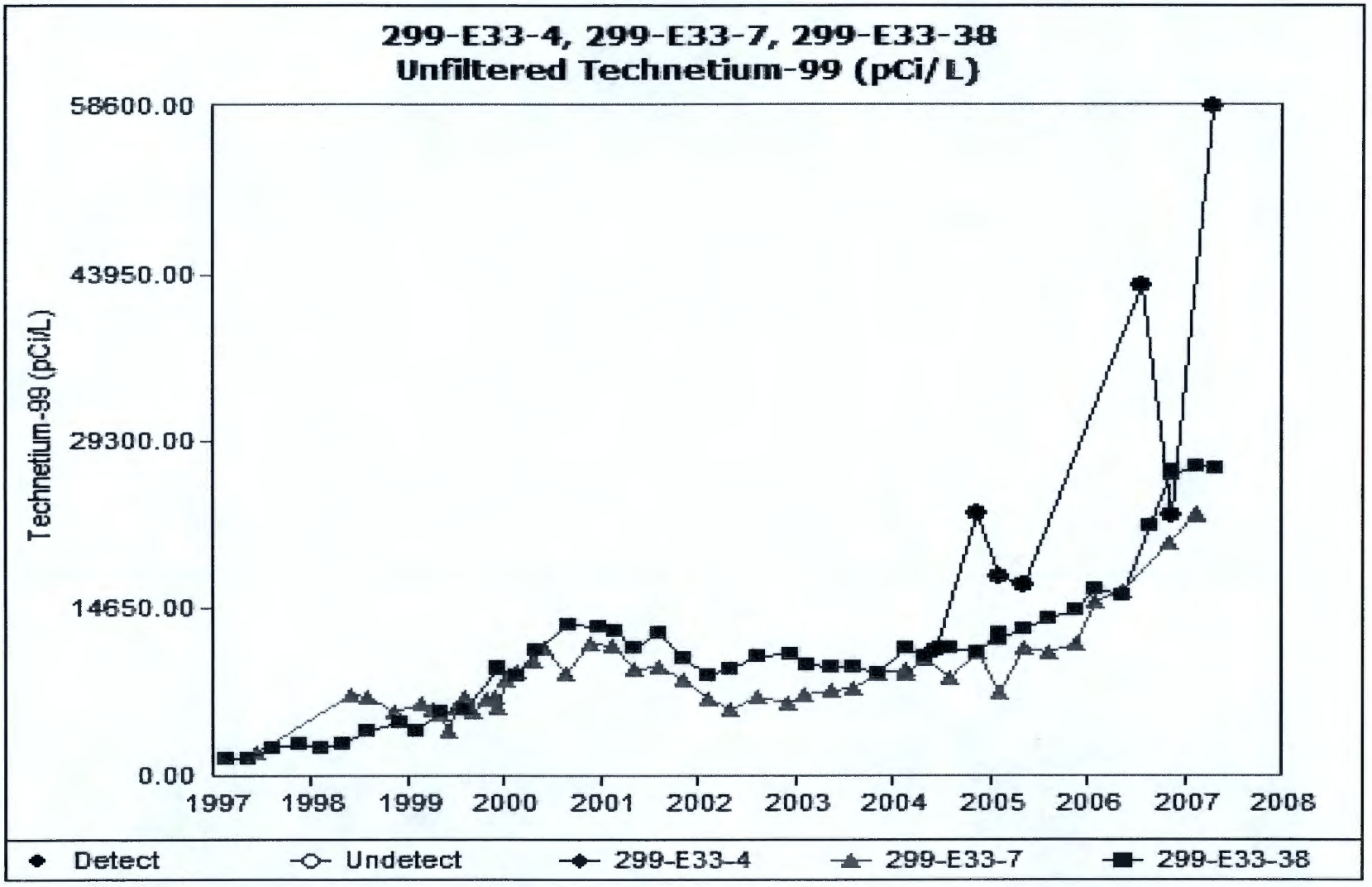


Figure 3: Uranium trend for northwest wells 299-E33-38, 299-E33-26 and 299-E33-34.

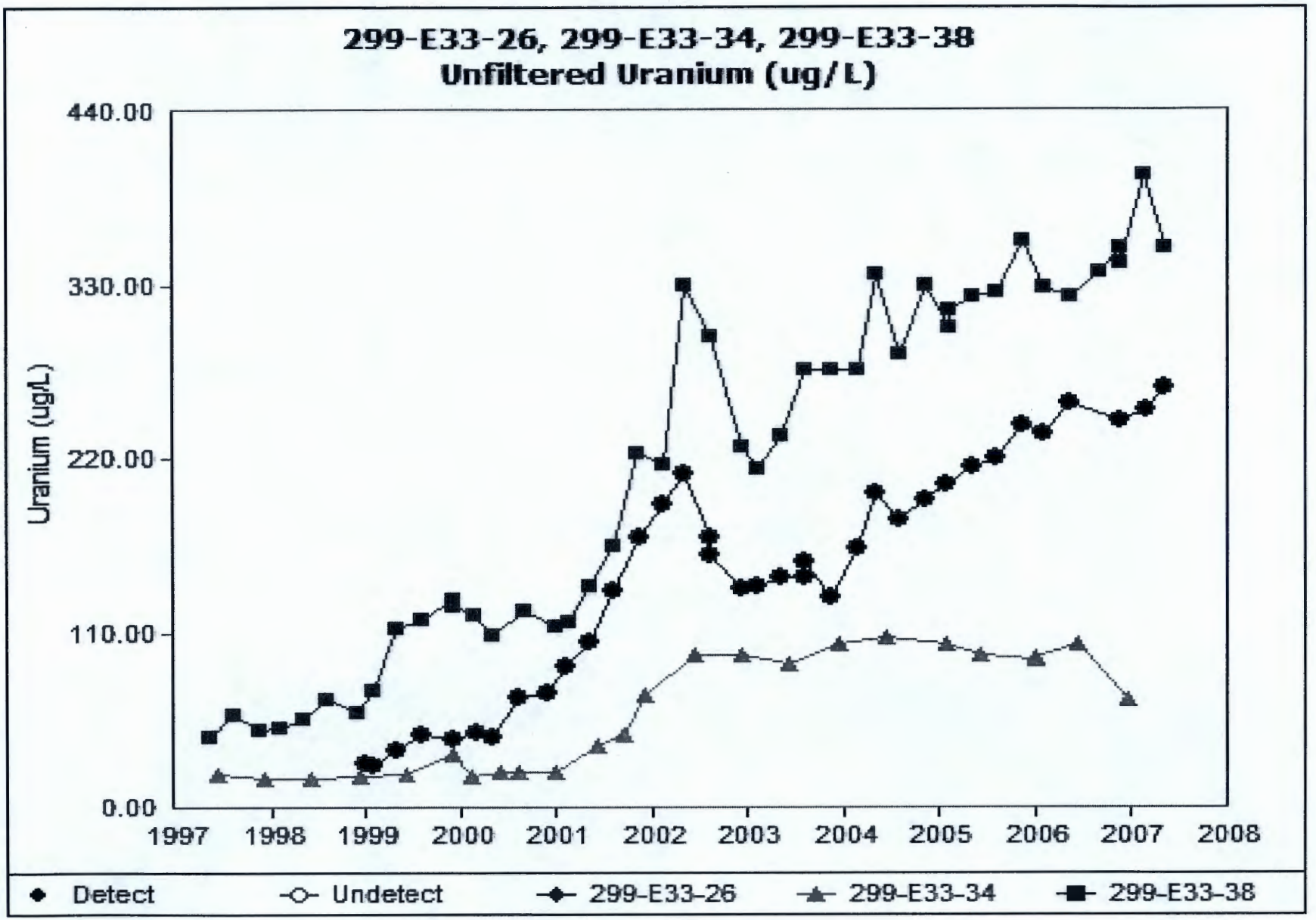


Figure 4: Uranium trend for southern wells 299-E33-32, 299-E33-339 and 299-E33-338.

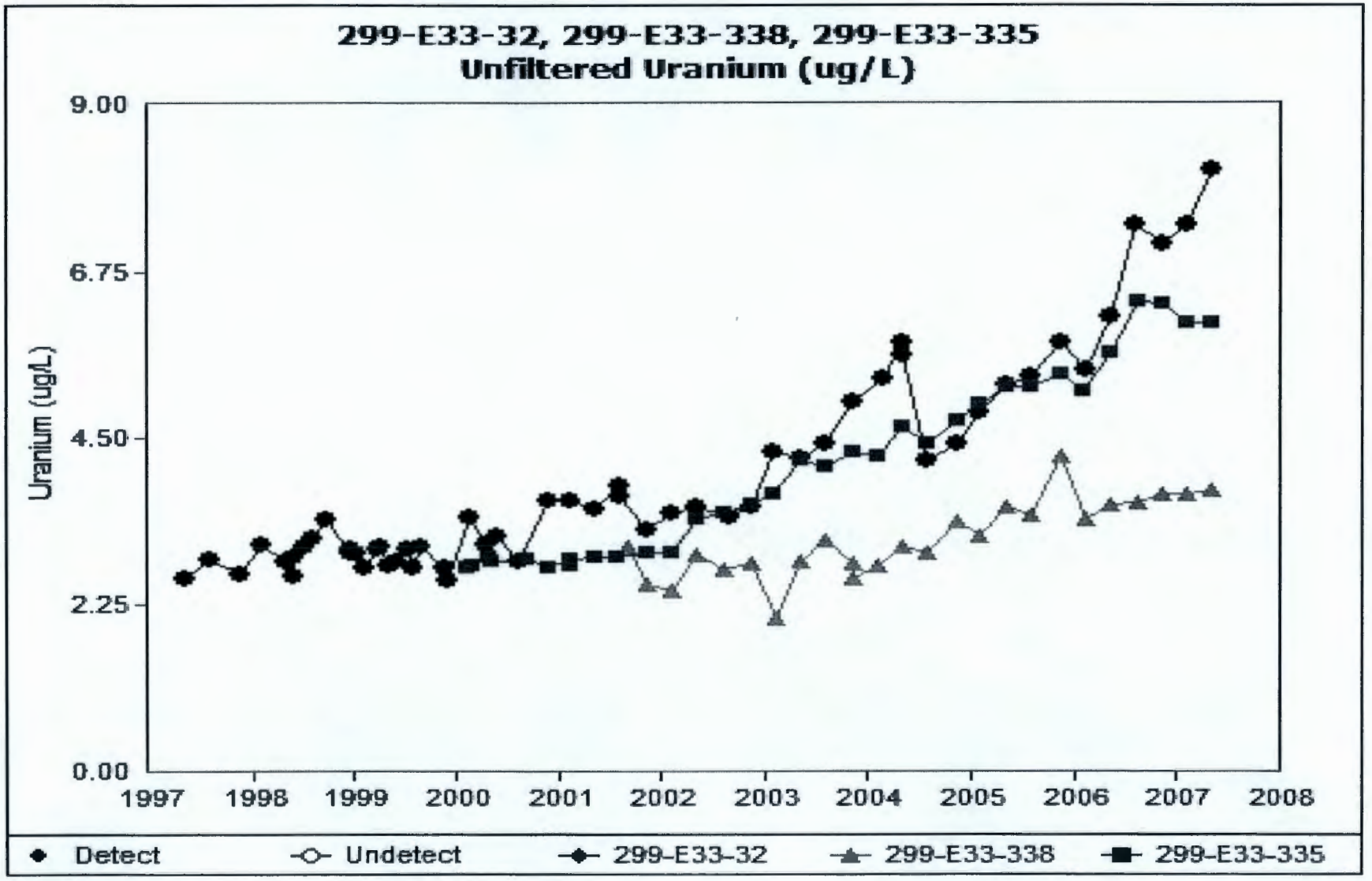
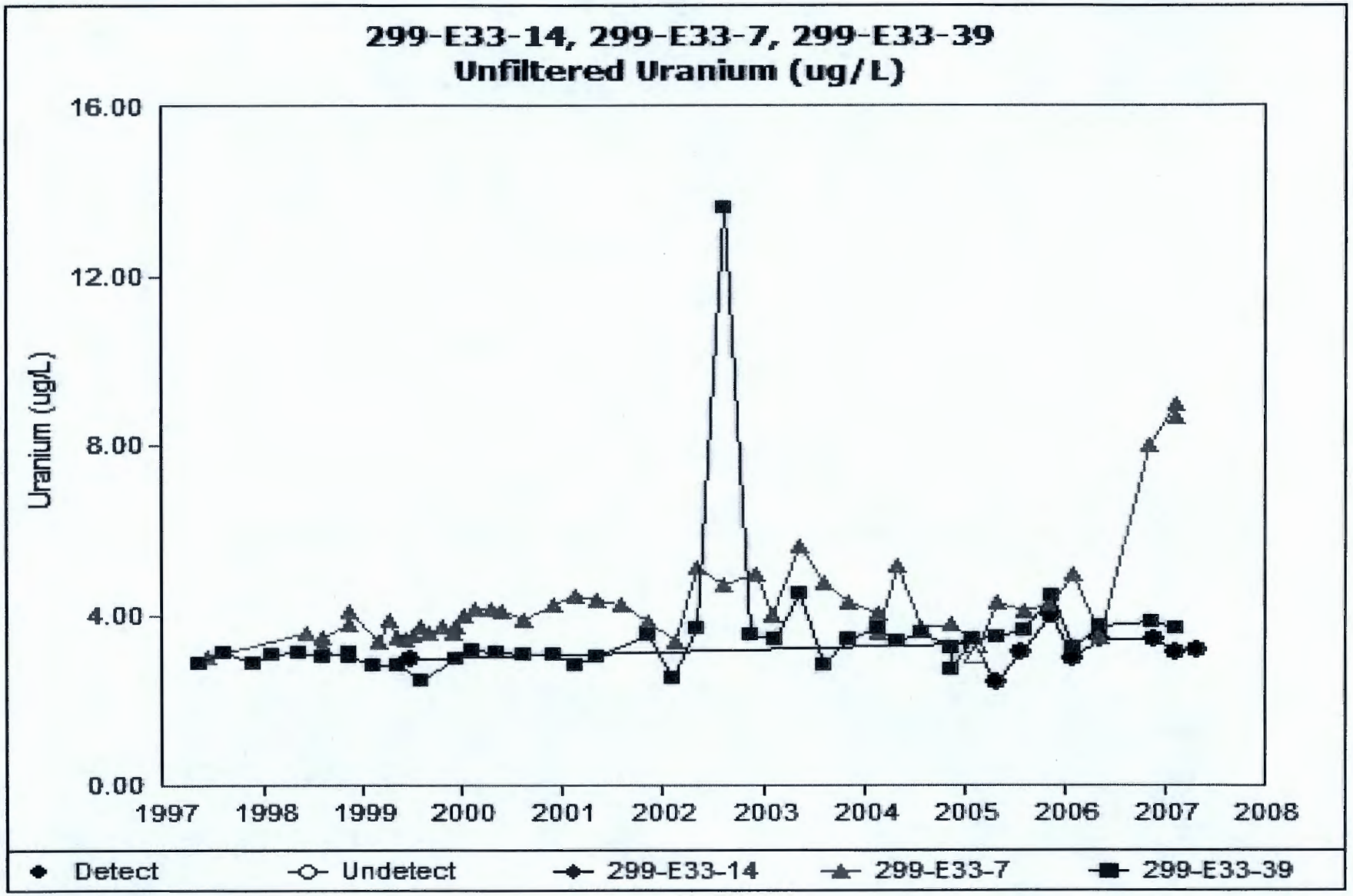


Figure 5: Uranium trend for northern and western wells 299-E33-7, 299-E33-39 and 299-E33-14.



COMPLETION OF THE TIME-CRITICAL REMOVAL ACTION FOR 200-UW-1 OPERABLE UNIT

In 2005, a time-critical removal action (TCRA) was approved to address releases (or potential releases) at the 200-UW-1 Operable Unit (OU) located on the Hanford Site, Richland, Washington (DOE/RL-2005-71). The 200-UW-1 OU is covered under the 200-UW-1 focused feasibility study (FFS) (*Focused Feasibility Study for the 200-UW-1 Operable Unit*, DOE/RL-2003-23) and proposed plan (PP) (*Proposed Plan for the 200-UW-1 Operable Unit*, DOE/RL-2003-24). A Record of Decision (ROD) for the 200-UW-1 OU is currently being prepared.

To support the proposed remedial actions for 200-UW-1, the following actions were authorized under the TCRA:

- Excavation of 200-W-42 Pipeline, sampling of pipeline trench and backfilling of trench area
  - From the proposed full height of the north and south ends of the 216-U-8 Barrier to a point approximately 20 feet beyond the barrier toe on each end;
  - From the proposed full height of the north end of the 216-U-12 Barrier to a point approximately 20 feet beyond the barrier toe; and
  - Between 216-U-8 and 216-U-12 beyond the barrier toes of each crib, that has not been addressed above.
- Rerouting of the Treated Effluent Disposal Facility (TEDF) line associated with the 216-U-12 Barrier
- Completion or partial removal of a concrete slab located near the 216-U-12 Barrier, if needed
- Removal and sealing of the 216-U-8 and 216-U-12 risers, and
- Relocation of any miscellaneous markers or utilities needed to support the barrier installations.

In 2006, the actions authorized under the TCRA were completed. The 200-W-42 pipeline was excavated to a depth of 15 feet, and contaminated soil was removed due to previous leaks from the 200-W-42 pipeline. Additionally, the four remaining actions were completed along with additional verification sampling. .

40CFR300.415(d) requires that, "Removal actions shall, to the extent practicable, contribute to the efficient performance of any anticipated long-term remedial action with respect to the release concerned." In addition, 40CFR300.415(g) states that, "If the lead agency determines that the removal action will not fully address the threat posed by the release and the release may require remedial action, the lead agency shall ensure an orderly transition from removal to remedial response activities."

The CERCLA removal activities associated with the *Action Memorandum for the Time Critical Removal Action for Support Activities for the 200-UW-1 Operable Unit* (DOE/RL-2005-71), have been completed to the extent practicable, and have contributed to the efficient performance of any anticipated long-term remedial action with respect to the release concerned. Therefore, DOE as the lead agency has determined that the time-critical removal action as described in DOE/RL-2005-71 has been completed.

The removal actions authorized under the TCRA will contribute to the final remedy for the 200-W-42 Pipeline. Future remedial actions for the 200-W-42 Pipeline, which may

include additional characterization and remediation, have not been precluded by the implementation of this removal action. The final remedial decision for the 200-W-42 pipeline will be made and documented in the 200-UW-1 ROD. Any potential sampling and maintenance for the 200-W-42 pipeline waste site may continue under an approved Sampling and Analysis Plan (SAP) and an approved Removal Action Work Plan (DOE/RL-2005-78).

The following signatures provide documented agreement between the DOE and the Ecology for completion of the actions authorized by the *Action Memorandum for the Time Critical Removal Action for Support Activities for the 200-UW-1 Operable Unit*:

Matt McCormick, On-Scene Coordinator
Department of Energy

6/27/07
Date

John Price, Project Manager
Washington State Department of Ecology

6/29/2007
Date

7/9/07 RAW WATER LEAK SYNOPSIS

1.0 Event Summary

At 11:29 am (as noted on the 283W Filter Plant computer) an increase Raw Water flow in the 200 West Area was noted. The Operator observed the increase, but believed the increase was due to the use of 1 or 2 truck fill stations (currently there is a substantial amount of roadwork being performed around the 200 areas).

A truck filling evolutions normally take approximately 10 minutes. After 15 minutes with no decrease in flow, the operator contacted the Distribution Supervisor and informed him of a potential Raw Water line failure in 200 West. The Distribution Supervisor contacted several operators in the field and had them commence a drive down of Raw Water lines in the 200 West Area. The leakage was noted on the west side of U-Plant and the Raw Water line was isolated and the leak stopped at 12:14 pm (see Figure 1)

Figure 1. Raw Water Leak, Looking North

Approximately 458,440 gallons of Raw Water was leaked to the surrounding ground, with the majority of that going into the abandoned 2607-W5 Sanitary Sewer Tile Field. (See Figure 2)

Figure 2. Water Flowing into the 2607-W5 Sanitary Tile Field

This area is north of 16th Street. It is estimated that the water covered less then 2 acres (See Figure 3, Leak area is denoted by blue shading).

Figure 3. Raw Water Leak Area (Locations are approximated)

RL was notified of the event at approximately 2:30 pm and the regulators were notified at approximately 3:00 pm.

At around 4:00 pm, tours were conducted for Kathy Conway and Steve Szendre of Washington State Ecology, and Cliff Clark of DOE-RL. Raja Randade, Jennie Seaver, Glen Triner, Richard Stephenson, Ted Perry and myself, all of FH, were in attendance. Central Maintenance has commenced development of a repair work package.

It was determined that the leakage came from a 12" ductile Raw Water line that had been cement lined during Project L-397. It is suspected that a 6 " hot tapped connection, that was installed approximately 2 years ago to convert potable water supplies to 2 fire hydrants over to Raw Water, may have failed.

2.0 Impacts to Waste Sites

Based on the fact that the leak occurred near several UW-1 waste sites, it is important to evaluate the potential impacts to these sites. In general, there were no apparent surface impacts to any waste site due to erosion even though the impacted area encompassed the 216-U-15 waste site.

No pooling occurred on the 216-U-15 waste site. The amount of water introduced to the waste site is believed to be no more than that introduced by winter snow melt based on soil condition observations roughly two hours after the event.

Although the project has done some general calculations predicting that it will take approximately 40 years for this water to move through the vadose zone if additional driving forces (i.e. future spills or preferential paths) are not added in the future. In an attempt to get some indication of movement of the wetting front, the project will be placing a data logger at the 299-W19-18 groundwater monitoring well.

No other waste sites appeared to be impacted. Refer to Section 5.0 for a summary level description of the waste sites located near the leak.

3.0 Area Wells

The project also reviewed wells in the area for the purpose of ensuring we do not have a potential area of concern associated with contamination or infiltration and to identify opportunities to gather data concerning the migration of water through the vadose zone.

Groundwater wells (W19-3 to W19-17) to have been D&D'd in 2005. The vadose zone wells, W19-9X, were D&D'd in 2002, while the W19-7X wells were D&D'd in 2005.

299-W19-3
299-W19-9
299-W19-11

299-W19-13
299-W19-14
299-W19-15
299-W19-16
299-W19-17 Known groundwater wells

299-W19-72 (50') Vadose zone wells
299-W19-73 (50')
299-W19-95 (182')
299-W19-96 (No depth data)
299-W19-97 (177')

Therefore efforts to measure groundwater response closer around 216-U-1/U-2 than the 299-W19-18 well are not available.

The project will be installing a data logger on this well by July 13, 2007, to track water level changes. This will give the project an idea if there is any mounding from the pipeline break. The data logger has the capability to also measure specific conductivity, which could be useful in picking up changes from this discharge. Raw (Columbia River) water should have a lower conductivity level than groundwater, but if it picks up contaminants from beneath the crib, it should possess a higher conductivity.

In addition, the project is evaluating using a neutron probe at well 299-W19-18 to identify the wetting front.

4.0 Current Actions

The following is a list of the actions planned or completed since the leak:

- Stop the leak (completed)
- Notify project personnel and regulators (completed)
- Conduct a radiological survey of the area (completed no contamination found)
- Install data logger on well 299-W19-18 (schedule for this week)
- Evaluate neutron probe measurements on well 299-W19-18 (next couple weeks)
- Fix raw water pipe (next couple weeks)
- Re-slope eroded areas (coming week)
- Evaluate need to berm or re-contour areas near major contamination (coming months)

5.0 Waste Site Summary

This section provides a short description of each waste site.

5.1 2706-W5

Site Description: The 2607-W5 Septic Tank is a single-compartment tank constructed of

concrete and has three entry openings on the top, each protected by a wooden cover. A pipe connects the septic tank to a concrete diversion box, and then to a second concrete diversion box before entering the drainfield. The septic tank and diversion box are currently located within an Underground Radioactive Material (URM) area related to the 216-U-1, 216-U- 2 cribs and the 241-U-361 stabilization.

The septic system has two drain fields. The original drain field is located west and north of the septic tank, outside the URM area boundary. The replacement tile field is located north and east of the septic tank.

Process Description: The 2607-W5 Septic Tank and associated drain field are designed to accept sanitary sewer effluent from U Plant facilities. In 1998, the system was being used by MO-107 and MO-419.

The original tile field was built in 1944. A replacement tile field was built east of the original tile field in 1955.

Site Characterization Information: This system was scheduled to have a tie-line installed that would redirect the 2607-W5 System to the 2607-W1 System. This tie-line was scheduled to be installed in the year 1997. The system was scheduled to be abandoned in 2000. Some components of the existing system may have been reutilized (septic tank, etc.). The old drain field was replaced in 1954.

Recent Activities: In April 2007, fixed contamination on the septic tank was backfilled with approximately 15 centimeters (6 inches) of clean dirt and the area posting was changed to Underground Radioactive Material.

5.2 216-U-15

Site Description: The site is the result of a deliberate discharge of liquid waste into a hole in the ground. No surface markers exist to identify the exact location of this waste unit. Originally, the site was delimited by a wooden fence and posted with Underground Contamination signs. The perimeter fence and all identification markings of this site were removed in 1971.

Process Description: Approximately 26,500 liters (7000 gallons) of material was discharged via an overground pipeline. The hole was backfilled and the piping was removed after the transfer was completed.

HW-50584 indicates conflicting information. The May 1957 monthly report states that 79,494 liters (21,000 gallons) of organic solution (RAX) was originally scheduled to be transferred to the PUREX plant, but was buried because it was found to be incompatible with the PUREX process. The material was buried, with minor ground contamination occurring when the overground line used to transport the material from 276-U leaked. One 8 inch culvert was replaced and the contaminated ground was dug up and buried.

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Site Characterization Information: The site was active during May of 1957. The site was deactivated by removing the above-ground piping and backfilling the hole. Hanford Plant coordinates were recorded as N-38270, W-73900. The site was also known as UPR-200-W-125.

Exploratory core samples were taken in 1970 at the point of listed coordinates. No radioactivity was detected (reference RHO-CD-673). The core sample results may have contributed to the removal of the Underground Radioactive Material signs.

In August 2002, translated GPS coordinates were used to locate the area documented in 1957 as the disposal pit site. No visual signs of the site were noted. Ground Penetrating Radar scans were done of several potential site locations in February 2005. GPR results found no subsurface disturbances, only a linear pipe anomaly, beneath the location identified as the spot documented with Hanford Site coordinates. A large disturbed area was noted west and south of the Hanford Site coordinate spot. This large disturbance was determined to be the most likely 216-U-15 site location.

5.3 216-U-1 & 2 Cribs

Site Description: The crib area has been surface stabilized with clean dirt. The wood timber cribs are co-located in a common Underground Radioactive Material area. Each crib is delineated with posts and chain with Cave-In Potential signs.

Process Description: The cribs received overflow from the 241-U-361 Settling Tank. The tank received cell drainage from the 5-6 tank in 221-U and waste from the 224-U Building until the Uranium Recovery process operations shut down in 1957. From July 1957 through May 1967, the 216-U-1&2 Cribs received waste from the 224-U Facility and equipment decontamination waste and reclamation waste from the 221-U canyon. The cribs are two wooden structures that operated in series.

Site Characterization Information: In 1995, the 200-UP-2 Operable Unit Limited Field Investigation project drilled three characterization boreholes (299-W19-95, 299-W19-96 and 299-W19-97) near the 216-U-1&2 Cribs. Borehole sediment samples and surface soil samples were collected and analyzed. No lateral movement of contaminants was identified in the vadose zone. An in-line camera survey was done of the stainless steel pipeline connecting 224-U to the 216-U-1&2 Cribs. The pipeline was found to be intact.

Due to the cave-in potential, only the perimeter of the cribs are radiologically surveyed annually.
In 1995, a characterization borehole was drilled through the 216-U-1 crib. The highest zone of contamination was found at a depth of 6 to 12 meters (20 to 40 feet). Maximum contamination levels in this zone included 2,400,000 pCi/g of strontium-90, 1,430,000 pCi/gm of cesium 137 and 438 pCi/g of plutonium 239/240.

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Recent Activities: The 216-U-1&2 Cribs and the 241-U-361 Settling Tank are located within a common radiologically controlled area. In 1992, the area was surface stabilized by scraping the contaminated surface soil and consolidating it near the 241-U-361 Tank. The contaminated soil was covered with 45 to 61 centimeters (18 to 24 inches) of clean backfill. Due to the UPR-200-W-19 event, the surface surrounding the 241-U-361 Settling Tank was covered with shotcrete. In 1994, contamination was found on the surface again, presumably caused by insect intrusion. The radiological posting was adjusted accordingly.

5.4 241-U-361Settling Tank

Site Description: The 241-U-361 Tank is an underground settling tank constructed of reinforced concrete. The 216-U-1&2 Cribs and the 241-U-361 Settling Tank are co-located within a common radiologically controlled area. It is posted with Underground Radioactive Material (URM). Due to the 1953 release, the surface surrounding the settling tank has been covered with shotcrete. The tank is posted with Inactive Miscellaneous Underground Storage Tank (IMUST) signs.

Process Description: The tank received cell drainage from the 5-6 tank in 221-U and waste from the 224-U building until the Uranium Recovery operations shut down in 1957. From July 1957 through May 1967, the 216-U-1&2 Crib system received waste from the 224-U facility and equipment decontamination waste and reclamation waste from the 221-U canyon via the 241-U-361 tank. The waste flowed through the 241-U-361 settling tank and then to the 216-U-1 and 2 cribs, located 26 meters (85 feet) west, via an underground pipe.

Site Characterization Information: Although some documents state that the tank was active from 1951 through 1957, others indicate the tank was active until 1967. Most documentation states the 216-U-1 and 216-U-2 Cribs were active until 1967. Since the cribs and the settling tank were connected, it is assumed that the correct end date for the 241-U-361 Settling Tank is 1967.

221-U and the 241-U-361 Settling Tank were constructed in 1944-1945. They are the same design as the 221-T and 241-T-361 Settling Tank and the 221-B and 241-B-361 Settling Tank. All the settling tanks were originally constructed with overflow piping connected to reverse wells. 221-T and 221-B began processing fuel with the bismuth phosphate process in 1944. The 241-T-361 and 241-B-361 reverse wells (216-T-3 and 216-B-5) both received waste from the settling tanks. But, both of these reverse wells were bypassed in 1946 and the waste was routed to cribs. The 221-U facility was never used for bismuth phosphate processing. It was converted to use tri-butyl phosphate for the uranium recovery process. It was activated in 1950. The 241-U-361 was constructed the same as the 241-T-361 and 241-B-361 settling tanks and also had an adjacent reverse well. Since the use of reverse wells in association with the other settling tanks was discontinued in 1946, the reverse well at 241-U-361 never received waste. Records show that well 299-W19-9, located adjacent to the 241-U-361 tank, was completed on August

26, 1944 to a depth of 92 meters (302 feet). In December 1949, the inlet lines to the well were cut and plugged. The waste line was extended from the 241-U-361 tank to the 216-U-1 and 216-U-2 Cribs.

Recent Activities: The manual tape was removed and the tank was interim stabilized in 1985. The 216-U-1 & 2 Cribs and the 241-U-361 Settling Tank are located within a common radiologically controlled area. In 1992, the area was surface stabilized by scraping the contaminated surface soil and consolidating it near the 241-U-361 Tank. The contaminated soil was covered with 45 to 61 centimeters (18 to 24 inches) of clean backfill. The surface surrounding the 241-U-361 Settling Tank was covered with shotcrete. In 1994, contamination specks were found on the surface again, presumably caused by insect intrusion. Approximately 63 square meters (700 square feet) of contamination was covered with clean dirt to restore the area to Underground Radioactive Material posting status. A Limited Field Investigation drilled three characterization boreholes (299-W19-95, 299-W19-96, 299-W19-97) and conducted an in-pipe camera survey of the pipeline to the 241-U-361 tank. In December 2006, vapor samples were collected from the tank and a video camera was lowered through a riser. Dose rates inside the tank were less than 150 millirad per hour. The void space in the tank is only approximately 0.6 meters (2 feet). Currently, the UW-1 project is sampling this tank.

5.5 UPR-200-W-19

Site Description: The site is an unplanned release. The area where the release occurred is covered with shotcrete and currently marked as a "Underground Radioactive Material" (URM) area that also contains the 216-U-1 Crib, 216-U-2 Crib, the 241-U-361 Settling Tank. A portion of the 2607-W5 tile field is also included in the URM area.

Process Description: See 216-U-1 Crib, 216-U-2 Crib, the 241-U-361 Settling Tank. In the Spring of 1953, organic wastes and cell drainage from the Tributyl Phosphate (TBP) process in 221-U and waste from 224-U (UO3) overflowed to the ground by way of the tank (241-U-361) and crib vents (216-U-1 and 216-U-2). Contamination readings of 11.5 rads per hour at a distance of 7.6 centimeters (3 inches) were reported over an area of approximately 4.6 square meters (50 square feet).

Site Characterization Information: In 1995, a Limited Field Investigation (LFI) was done of the 200-UP-2 Operable Unit. The 216-U-1&2 Cribs and the 241-U-361 Tank were included in the field investigation. A radiological survey the area was done with the ultrasonic ranging and data system (USRADS). At the time of the survey (1995), the 216-U-1&2 Cribs were posted as a Surface Contamination Area (SCA). The 241-U-361 Settling Tank was posted as an Underground Radioactive Material (URM) area. The 2607-W5 Septic Tank and Drain Field had no radiological posting. Due to borehole drilling activities at the 216-U-1&2 Cribs, a portion of the crib surface had been stabilized with gravel. Roughly 25,000 square meters of surface area was surveyed. The highest concentration of contamination points above established radiological background

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levels were located in the northwest and northeast corners of the survey area. Other high concentrations were identified along the eastern border of the 2607-W5 Septic Tank and Drain Field, in the area adjacent to the 216-U-1 and 216-U-2 Cribs, and in the vicinity of the 241-U-361 Settling Tank. As a result of this and other radiological surveys, the radiologically posted area was increased.

Recent Activities: In 1953, decontamination was attempted. The area was backfilled, delineated by a wooden fence, and posted with "Radiation Zone" signs. In 1992, contaminated soil in the vicinity of the 216-U-1&2 Cribs was scraped and consolidated near the 241-U-361 Tank. The surface surrounding the 241-U-361 Tank was surface stabilized with shotcrete. The area was downposted from a Surface Contamination Area to an Underground Radioactive Material area.