

**Meeting Minutes Transmittal/Approval
Project Managers' Meeting
200 Area Groundwater and Source Operable Units
1200 Jadwin, Richland, Washington
September 18, 2008**

APPROVAL: *Al Farabee* Date: 10/15/08
Al Farabee, 200 Area Project Manager, DOE/RL

APPROVAL: *Arlene Tortoso* Date: 10/15/08
Arlene Tortoso, 200 Area Unit Manager, DOE/RL

APPROVAL: *Craig Cameron* Date: 10/21/08
Craig Cameron, 200 Area Project Manager, EPA

APPROVAL: *John B. Price* Date: 10-16-2008
John Price, 200 Area Unit Manager, Ecology

HFFACO Action Plan Section 4.1 requires signature of agreements and commitments made during the Unit Manager Meeting. Approval of these minutes documents approval of agreements and commitments documented in Attachment 3 to these minutes. Approval does not apply to any other attachments, which are included in these minutes for informational purposes.

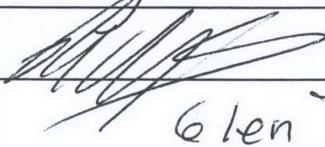
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Minutes of the 200 Area Project Managers' Meeting of September 18, 2008 are attached. Minutes are comprised of the following:

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, Technetium-99
Attachment 8	Carbon tetrachloride concentrations in extraction well 299-W15-6.
Attachment 9	Approval of the Carbon Tetrachloride Expedited Response Action (200-PW-1 Operable Unit) Soil Vapor Monitoring Plan for October 2008 through March 2009
Attachment 10	Change Notice for Modifying Approved Documents/Workplans In Accordance with the Tri-Party Agreement Action Plan, Section 9.0, Documentation and Records (TPA-CN-235)

200 Area Project Managers' Status Meeting
September 18, 2008

Please print clearly and use black ink

PRINTED NAME	ORGANIZATION	O.U. ROLE	TELEPHONE
Robert A. Danielson	WDOH	Ecology Support	727-0645
TM Crane	FH D&D	D&D	376-9789
Jenae Seaver	D&D Fluor	D&D	376-3762
Dale Black	FH TPA	TPA	376-0740
Jennifer Oleno	ECY	E	372-7988
Ed Cummins	FH	PO-1 PM	372-2484
Deborah Singleton	Ecology		372-7923
Greg Sinton	RL	CS-1, CW-1, CW-5, SC-1	373-7939
V. S. Decker	FH	SC-1, LW/2	376-4410
Phil Rogers	FH	MW-1/PW-24	376-5867
Tom Watson	FH	C.P.	376-5450
Kathy Davis	Fluor	PW-1/3/6	376-2848
Wade Woolery	DOERL	RL-40	372-2889
Ardene Tuboso	DOERL	200 Area Unit	373-9631
Craig Cameron	EPA		376-8665
	EPA		376-5245
Glen Turner	FH	OW-1 UP#1	430-1013
John Munsie	DOE	EVERYTHING	376-0057
Tom Krupp	FH	UP-1, CW-1	438-6453
Mark Benedek	FH	BC-1	376-0002

200 Area Project Managers' Status Meeting
September 18, 2008

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PRINTED NAME	ORGANIZATION	O.U. ROLE	TELEPHONE
Zelma Jackson	ECY	200 PO-1 Area GW-1	372-7910
John Winterhelder	FH	ENV.	372-8144
Stuart Lutfress	FH	GW	376-4531
Janice Williams	FH	M. C.	372-3553
Rick Bond	Ecology	Facilities	372-7885
Rick Oldham	FH	ECO	2-2426
Frank Reddy	DOE	grp l	372-0945
Mandy Jones	Ecology		372-7916
De. Bell	SP		
Virginia Rohay	FH	200-PW-1	373-3803
Ron Brink	FH	CS-1CW-1	376-2607
Gary Thomas	FH	BP-5	373-3907
Mac K Byrnes	FH	ZP-1 AM	373-3996
Mike Hickey	FH	CW-5 IS-1	373-3092
GREG BERLIN	FH	SW-1/2	374-2389
Ron Ball	FH	MG-1/2+ECO	373-3831
AL Farabee	DOE	FPD	376-8089

**200 Area Project Managers' Meeting
Agreements and Issues List
September 18, 2008**

Agreement: TPA-CN-235 for SGW-33891, Revision 1, Waste Control Plan for Supplemental Remedial Investigation Activities at Model Group 5, Large Area Ponds, Waste Sites Located Within the 200-CW-1 Operable Unit: Add nine auger soil sampling locations and five direct pushes at the 200-CW-1 Operable Unit (**Attachment 9**).

Issue: None identified

Delegations for September 18, 2008 UMM meeting:

EPA	Craig Cameron
Ecology	Mandy Jones for John Price
DOE/RL	Arlene Tortoso
	Al Farabee

200 Area Project Managers' Meeting

OPEN ACTION ITEM TRACKING							
Action #	Action/Subject	Assigned To	Owed To	Assigned Date	Original Due Date	Adjusted Due Date	Status
	NO ACTIONS						

CERCLA 5-Year Review Action Items						
Action #	Action/Subject	Assigned To	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.				Complete	
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	Third draft submitted by Ecology to DOE.	

S&GRP TPA Primary and Secondary Document Tracking List

Document Data				Status of Document							
Operable Unit/Project	Document Title	RL Document Owner	FH Document Owner	Primary or Secondary Document	Submit to	Date Submitted	Date Anticipated to be Submitted	Response Due from	Date Response is Received	Date Response is/was Due	Comments
200-BC-1	BC Chips Treatability Test Report for Phase I, Rev. 0	Greg Sinton	Gene Roosendaal	S	RL and EPA	9/12/2008	NA	NA	NA	NA	RL and EPA comments have been incorporated; document is with RL (9/12/08) for signature to issue as Rev. 0.
200-CW-5	Feasibility Study and Proposed Plan, Draft B	Greg Sinton	Mike Hickey	P	EPA	7/30/2008	NA	EPA		10/15/2008	
200-PW-1/3/6	DOE/RL-2007-27, Draft B, Feasibility Study for the 200-PW-1/3/6 Operable Unit	Arlene Tortoso	Kathy Davis	P	EPA		2/27/2009	EPA		TBD	Working on developing Draft B.
200-PW-1/3/6	DOE/RL-2007-40, Draft B, Proposed Plan for the 200-PW-1/3/6 Operable Unit	Arlene Tortoso	Kathy Davis	P	EPA		2/27/2009	EPA		TBD	Working on developing Draft B.
200-LW-1	Waste Control Plan	Frank Roddy	Jay Decker	S	Ecology	NA	NA	NA	NA	NA	The WCP is complete; it was officially issued on 8/21/08.
200-MW-1	Remedial Investigation, Rev. 0	Frank Roddy	Phil Rogers	P	RL to EPA		9/29/2008	RL to EPA		11/24/2008	This document will be submitted to RL and they will transmit it to EPA within 10 days.
200-MW-1	Remedial Investigation Report for Supplemental Investigations	Frank Roddy	Phil Rogers	P	EPA		1/24/2008	EPA		1/23/2009	This document will be submitted to RL and they will transmit it to EPA within 10 days.
200-MW-1	Remedial Investigation Report for Supplemental Investigations	Frank Roddy	Phil Rogers	P	EPA		1/24/2008	EPA		1/23/2009	This document will be submitted to RL and they will transmit it to EPA within 10 days.
200-SW-1/2	R/IFS Work Plan, Rev. 0	Frank Roddy	Greg Berlin	P	RL to Ecology		9/30/2008	Ecology		10/30/2008	RL transmitted the negotiated responses to Ecology's comments on Draft B of the work plan on 8/12/08. Rev. 0 will be transmitted from FH to RL during the week of 9/15/08. RL plans to transmit the Work Plan to Ecology for approval by 9/30/08.
200-MG-1/2	EE/CA for MG-1 and for MG-2	Frank Roddy	Roy Bauer	P	EPA and Ecology		10/15/2008	EPA and Ecology		12/10/2008	These documents will be submitted to RL and they will transmit them to EPA and Ecology within 10 days.
200-BP-5	Sample Analysis Plan for Groundwater Monitoring for BP-5, Rev. 2	Doug Hildebrand	Greg Thomas	P	RL with copy to EPA		12/15/2008	RL (& EPA)		2/9/2009	This document will be submitted to RL and they will transmit it to EPA within 10 days.
200-BP-5	R/IFS Work Plan/SAP, DOE/RL-2007-18 Rev.1	Doug Hildebrand	Greg Thomas	P	EPA		10/31/2008	EPA		12/31/2008	This document will be submitted to RL and they will transmit it to EPA within 10 days.
200-BP-5	DQO WMP-28945, Rev. 1	Doug Hildebrand	Greg Thomas	S	RL with copy to EPA		10/31/2008	RL (& EPA)		12/31/2008	This document will be submitted to RL and they will transmit it to EPA within 10 days.
200-PW-1 (formerly ZP-2)	Annual Soil Vapor Extraction System Performance Report	Arlene Tortoso	Mark Byrnes	S	RL and EPA	NA	NA	NA	NA	NA	Document issued 9/15/08

200 AREA PROJECT MANAGERS' MEETING STATUS

September 18, 2008

GEOGRAPHIC ZONE REMEDIATION

200 North Geographic Remediation

200-CW-3 - Remaining Sites RAWP: in comment incorporation following regulatory review.

Rail Car Disposition Options Study (no change)

The railroad car disposition options study will be transmitted to regulatory agencies in early FY09. Then DOE will discuss options with the agencies.

EE/CA for Buildings 212-N, P, R – targeted to be transmitted to Regulators in September.

Schedule Status: On schedule.

MIS Pilot Test Project

- SAP and Waste Control Plan: The SAP was approved by Ecology/EPA on September 8, 2008. The Waste Control Plan was approved by Ecology on August 28, 2008.
- Field planning for the FY09 excavations continues. The screening samples are currently scheduled for September 16 -18.

BC Control Zone Geographic Remediation

200-BC Control Area (BCCA) – Ecology Lead

- Over 20,000 tons have been remediated as of September 08, 2008 (approximately six acres).
- A Mitigation Plan has been developed and is currently with RL for review.

Schedule Status: On schedule.

U Plant Zone Geographic Remediation

200-UW-1 Ecology

- The final technical basis documents that describe how the STOMP modeling 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 have been provided to Ecology and EPA.
- The U-1/2, U-12, and 270-W Supplemental Deep Vadose Zone characterization DQO began on August 18, 2008 and will continue through the first of October (continued support of 200-UW-1 ROD).

Canyon Disposal Initiative

- 221-U Plant RD/RAWP: On schedule to be transmitted for regulatory review by COB September 25, 2008.
- 221-U Plant Ancillary Facilities Removal Action Work Plan: revised to incorporate accelerated schedule and surveillance and maintenance. EPA comments are under review.

Schedule Status: On schedule.

Central Plateau Key Facility Negotiations

- The Agreement in Principle for negotiation of central plateau facility disposition activities was signed by Tri Parties August 13. Negotiations to begin October 31, 2008.

Schedule Status: On schedule.

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

200-UP-1

- The wells supporting the U-Plant pump and treat are trending down with most wells below the interim RAOs of 480 µg/L and 9,000 pCi/L respectively (**Attachments 6 and 7**).
- RI/FS Work Plan:
 - Monitoring continues.
- Explanation of Significant Difference (ESD):
 - DOE/RL has provided minor comments on the third revision of the ESD.
- Pump and Treat
 - To date, the 200-UP-1 Pump and Treat System has extracted approximately 5.5 million liters of groundwater.
 - The pump and treat has been turned off due to the ETF upgrade outage. It is anticipated that pumping will be resumed sometime around October 17, 2008.

Schedule Status: On schedule.

200-CS-1

- Ecology/RL communications to reach agreement on specific clean-up actions and clean-up levels continue.

Schedule Status: Behind schedule according to DOE baseline.

200-CW-1
(M-015-38B, 5/31/09, Feasibility Study/Proposed Plan) Ecology
Supplemental Remedial Investigation

- Completed all 21 deep DPT soil samples collection.
- The four shallow DPTs in 216-T-4B for logging in were completed on September 9, and geo logging has begun.
- Test Pits (Augers) in 216-U-10 Pond, with eight total soil samples is scheduled for week of September 15.
- A TPA change notice on the Waste Control Plan for additional soil samples was signed September 12.

Schedule Status: On schedule.

200-BC-1, 200-IS-1, 200-CW-5, & 200-SW-1/2 OU Group

200-BC-1
(M-15-51, 4/30/10, Feasibility Study/Proposed Plan) EPA

- Started DPTs and logging in B-14 crib for Phase 3 of the BC Cribs and Trenches Treatability Test.
- Installed sixteen 7" DPTs in B-53A trench and completed gamma and neutron logging for Phase 4.
- Received final draft Electrical Resistivity Characterization (ERC) correlation report for first three boreholes.

Schedule Status: On schedule.

200-IS-1
(M-13-27, 6/30/07, RI/FS Work Plan) Ecology

- All 68 direct pushes are complete:
- All geophysical logging complete. Compiling the raw data. Mobilization for the soil sampling underway.

Schedule Status: Four weeks behind the FY 08 field schedule.

200-CW-5
(M-15-40D, 7/31/08, Feasibility Study/Proposed Plan) EPA

- Feasibility Study and Proposed Plan submitted July 30, 2008.
- The EPA review period has been extended to October 15, 2008.

Schedule Status: On schedule.

200-SW-1/2

(M-15-00, 12/31/11, Feasibility Study/Proposed Plan) Ecology

- Completed TPA milestone M-13-28 (Transmit RI/FS Work Plan (Draft B) to Ecology by September 30, 2007) on schedule.
 - Completed RI/FS Work Plan (Draft B) comment resolution meetings with RL and Ecology. Reached agreement on comment responses.
 - Work Plan (Rev 0) has been sent to RL for review, approval, and transmittal to Ecology.
- Geophysical investigations have been performed at 218-E-10, 218-E-12B, 218-W-4B, and 218-W-4C to support procedural closure of unused TSD landfill areas; report preparation is underway.

Schedule Status: On schedule.

200-ZP-1, 200-PW-1/3/6 OU Group

200-ZP-1

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

- Remediation Treatment Status:
 - Testing of the upgraded 200-ZP-1 treatment system began in late August 2008.
 - On Wednesday, September 3, 2008, the upgraded treatment system was demonstrated to Arlene Tortoso (DOE-RL). This demonstration included:
 - Reviewing well completions for the four new extraction wells.
 - Visiting one of the transfer stations.
 - Viewing the upgrades to the 200-ZP-1 treatment building.
 - Observing the capabilities of the new control room.
 - Observing a demonstration that showed the treatment system can now pump 500 gpm.
 - At the time of the demonstration, the 14 wells could produce a maximum of 370 gpm. Two of the discharge lines from two of the new extraction wells have since been re-routed to eliminate a pressure buildup that was occurring in the transfer station. The system was turned back on September 17, pumping at 425 gpm.
 - Additional groundwater modeling will be performed over the next couple of months to assist the optimum positioning of the T-7 and T-8 wells in the vicinity of the T Tank Farm. Dennis Faulk (EPA) and Arlene Tortoso (DOE-RL) gave their concurrence on drilling the T-6 well in the vicinity of WMAT-7.
 - The proposed locations for the first eight groundwater extraction wells have been identified by Matt Tonkin and were presented to DOE-RL, EPA and Ecology on September 17, 2008. These wells will be installed in FY2009.

- A DQO/SAP is currently being prepared that identifies the sampling and analyses that will be performed during the installation of these new extraction wells.
 - **Attachment 8** shows the latest carbon tetrachloride concentrations in extraction well 299-W15-6.
 - Tc-99 concentrations have been increasing in extraction well 299-W15-765. The ZP-1 treatment water is now at approximately 60% of the MCL.
- RI/FS Status:
FH is currently supporting the finalization of the 200-ZP-1 Record of Decision.

Schedule Status: On schedule.

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

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

- The plan and schedule for Draft B of the FS and PP were transmitted to EPA by RL. They are scheduled for submittal to EPA by February 27, 2009. Work is in progress on preparation of these documents.
- Soil Vapor Extraction System (SVE):
 - The SVE system started extraction at Z-9 on July 1, 2008.
 - The average extraction rate through August 31, 2008 was 318 cfm.
 - Monthly monitoring results for August 2008 for the soil vapor probes and wells were consistent with results from previous monitoring.
 - The plan for monitoring soil vapor probes and wells from October 2008 through March 2009 will be attached to these minutes after EPA and RL have approved it (**Attachment 9**).

Schedule Status: On schedule.

200-MW-1 & PW-2 OU Group

200-MW-1

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

- Preparation of the FS report continues. Draft for internal review is expected by September 29.
- The mini-RI for the supplemental investigations has been reviewed internally and comments have been incorporated. This report will be transmitted to DOE with the FS report.
- The RI (DOE/RL-2005-62) is scheduled to be issued for approval in September but may slip to October to allow for other priorities.

Schedule Status: On schedule to meet TPA interim milestone.

200-PW-2 & 200-PW-4

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

- The deep borehole in the 216-A-5 Crib reached total depth of 329 ft bgs on August 28, a groundwater sample was collected September 2, and the borehole is currently being decommissioned.
- The stop work at the 216-S-1/2 Crib has been lifted. Near-term field work includes filling the S-1 crib box with CDF, collecting a sample from the direct push at C6554, completing the direct push activities at the S-1 crib box (push to refusal, log borehole and collect a soil sample), and decommissioning the three direct push boreholes.

Schedule Status: On schedule to meet TPA interim milestone.

200-MG-1/2 & ECO OU Group

200-MG-1/200-MG-2 Model Group 1 Sites (no change)

(M-15-49A, 12/31/08, MG-1 EE/CA) Ecology

(M-15-49B, 12/31/08, MG-2 EE/CA) EPA

The M-15-49A and M-15-49B Milestones require engineering evaluations/cost analyses (EE/CAs) by December 2008. Work continues to prepare the EE/CAs.

Schedule Status: On schedule to meet the TPA interim milestones.

Ecological Risk Assessment

- A meeting was held with RL, EPA, Ecology, and FH on September 4, 2008 to discuss Ecology's proposed format for the Executive Summary to the CP ERA. The new format was adopted and the body of the document will be revised to reflect the new outline. Other, related issues were resolved in that meeting.
- A follow-on meeting was held with Ecology on September 11, 2008 to discuss remaining issues on the responses to Ecology comments on the CP ERA. Several concerns remain for subsequent discussions.

Schedule Status: The additional time associated with the resolution of Ecology's technical comments on Draft A of the CP ERA coupled with the agreements reached on the re-structure of the ERA report are expected to delay the document issuance by approximately six weeks. This means that the report is approximately four months behind schedule.

200-BP-5 & PO-1 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

Drilling:

- Drilled and completed ten wells this year.
- All wells have been added to the Sample Monitoring Program.

Analytical Sample Results from Completed Wells

- PNNL is working on sample analyses for four wells.
- Uranium isotopic analyses are being completed for the samples collected near the 299-E33-18 well by LBNL. This data will be discussed in the November 18 workshop.

Depth Discrete Sampling

Depth discrete sampling contract has been issued to PNNL. The sampling is on hold while key personnel are supporting the defense program.

200-BP-5 DQO Revision (WMP-28945 Rev 1):

Revised DQO has been sent out for review to site contractors, PNNL, DOE and EPA for review through September 30. This document is planned to be released in late October.

200-BP-5 Work Plan/SAP Revision 1 (DOE/RL-2007-18).

This document will be completed and released upon EPA approval of well placement discussion in revised DQO.

Schedule Status: On schedule.

200-PO-1

(M-015-25C, 12/30/09 200-PO-1 OU RI Phase II Report) Ecology

- Aquifer tube installation efforts have resumed in 200-PO-1 OU as identified in the 200-PO-1 RI/FS Work Plan.
- A groundwater sample was collected at the 216-A-5 Crib borehole C6552 on September 2, 2008 from an interval of 317.5 ft. bgs to 324.7 ft. bgs.

Schedule Status: On schedule to meet M-015-25C.

200-SC-1 & 200-LW-1 OU Group

200-SC-1

(M-15-40E, 12/31/10, Feasibility Study/Proposed Plan for 200-SC-1) EPA

- The 216-A-30, 216-B-55, and 216-S-6 borehole summary reports are in the approval cycle and the analytical data from these boreholes is being validated.

Schedule Status: On schedule.

200-LW-1/200-LW-2

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

- **216-B-6 health & safety DPT:** The push was started on September 9. The depth was 167.5 ft bgs before the push was stopped due to a mechanical problem on September 10. The push is expected to resume the week of September 15.

Schedule Status: On schedule.

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

200-TW-1 & 200-PW-5

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

- Field work schedule pushed back due to resolving soil subsidence issues, 216-S-13 borehole should begin within two weeks (drilling start expected week of September 15).
- A test plan for assessing the effects of fire on the function of the Hanford Barrier (located above the 216-B-57 Crib) is under development.

Schedule Status: Behind schedule.

200-TW-2 OU Group

200-TW-2

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

Schedule Status: Behind schedule.

200-UR-1

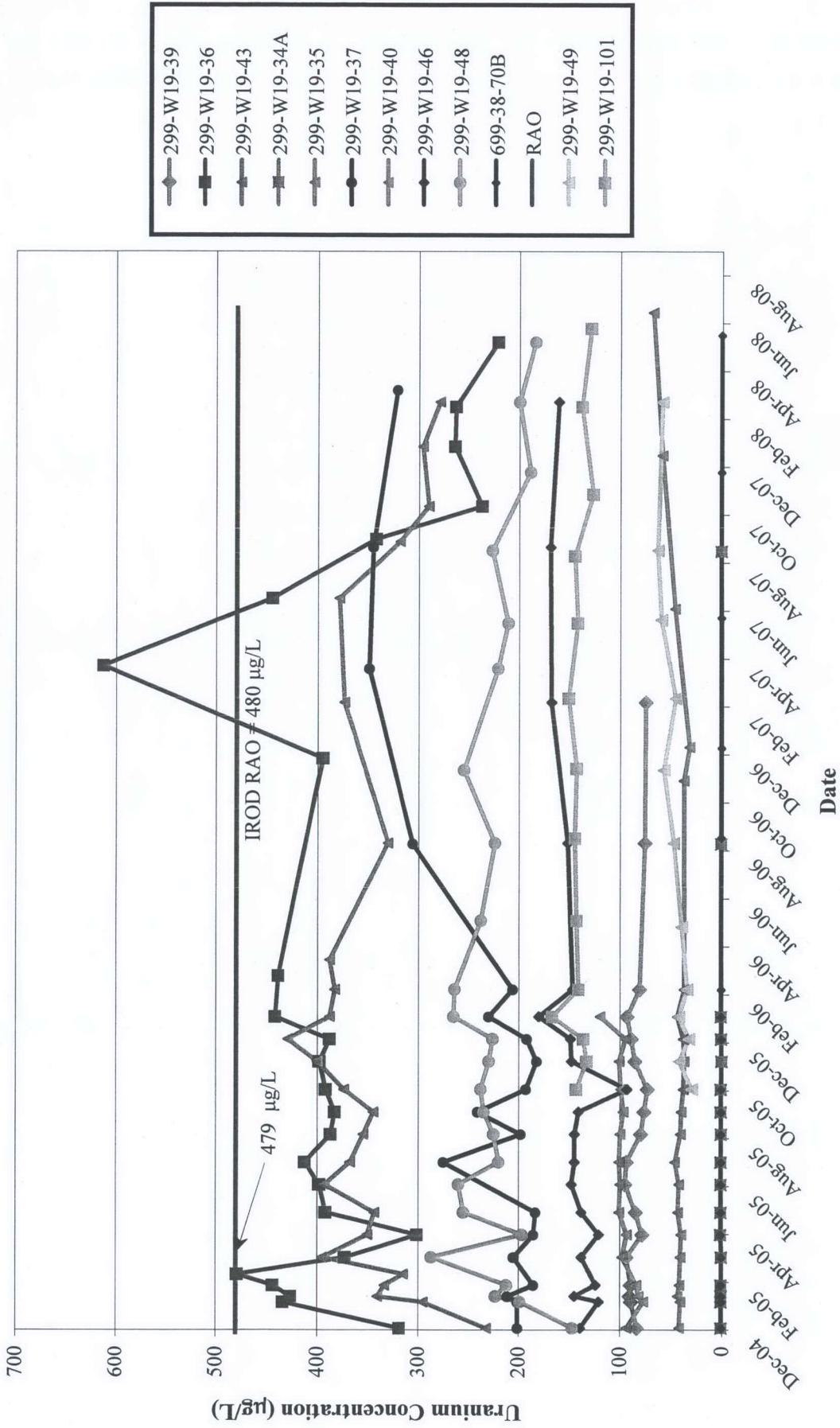
200-UR-1 Ecology

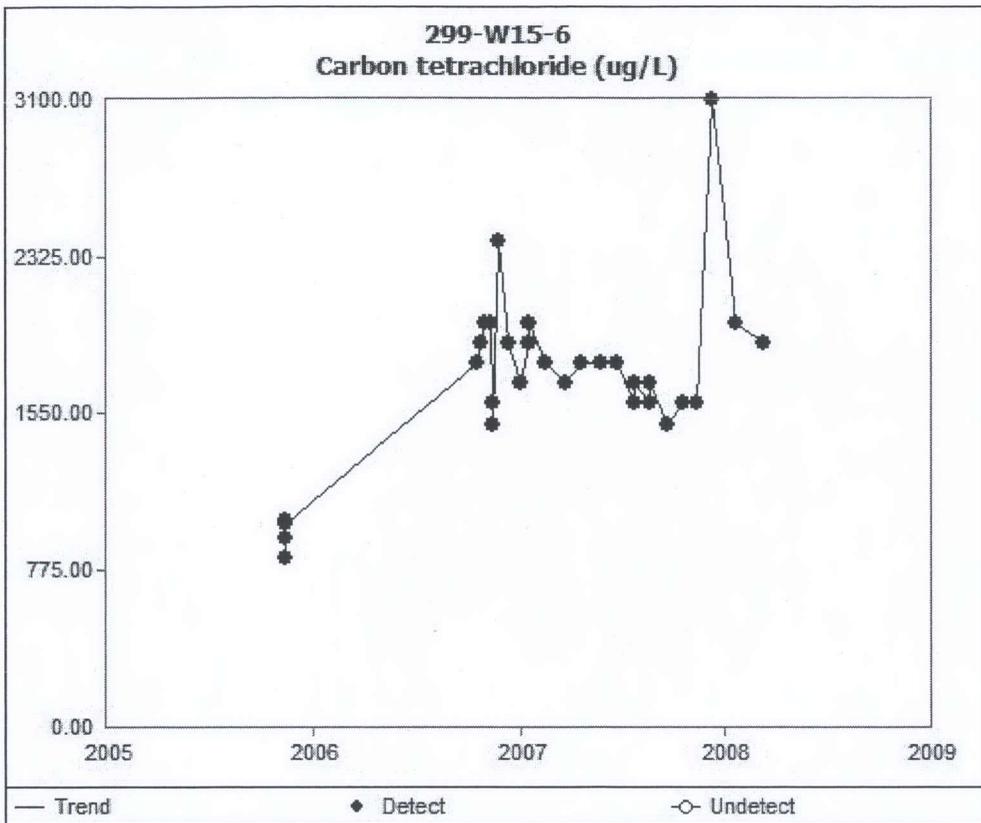
- BC Control Area
 - Working on remaining BCCA tasks.
 - Compile a report integrating all data related to BCCA characterization [MARSSIM Step: Characterization Survey].
 - Develop MARSSIM radiological counting statistics (Survey Readings based on Cs-137 as Surrogate) to be used by Hanford Radiation Control Technicians during closure surveys [MARSSIM Step: Final Status survey].
 - Develop MARSSIM radiological counting statistics for “Hot Spots” [MARSSIM Step: Final Status Survey].

- DQO(s) for above two items delayed: Conducting additional analysis of existing data.
- West Lake
 - Draft DQO incorporating Ecology comments being reviewed internally.
 - Draft SAP being reviewed internally.
- Other UR-1
 - Identifying appropriate OUs for balance (13) of 200-UR-1 waste sites.

Schedule Status: West Lake DQO and SAP twelve months behind DOE baseline.

200-UP-1, Uranium ($\mu\text{g/L}$)





Attachment 9, Figure 1

APPROVAL OF THE CARBON TETRACHLORIDE EXPEDITED RESPONSE ACTION
(200-PW-1 OPERABLE UNIT) SOIL VAPOR MONITORING PLAN FOR
OCTOBER 2008 THROUGH MARCH 2009

The Unit Managers for the Carbon Tetrachloride Expedited Response Action (200-PW-1 Operable Unit) approve the attached Soil Vapor Monitoring Plan for October 2008 through March 2009.

A. C. Tortoso 9/18/08 D. A. Faulk 9/18/08

A. C. Tortoso
U.S. Department of Energy
Richland Operations Office

Date D. A. Faulk Date
U.S. Environmental Protection Agency
Region 10, Hanford Office

CARBON TETRACHLORIDE EXPEDITED RESPONSE ACTION
SOIL VAPOR MONITORING PLAN FOR OCTOBER 2008 THROUGH MARCH 2009

Non-Operational Monitoring and Passive Soil Vapor Extraction Monitoring

This plan describes planned non-operational monitoring and passive soil vapor extraction monitoring to be conducted during October 2008 through March 2009 for the 200 West Area Carbon Tetrachloride Expedited Response Action (200-PW-1 Operable Unit). Operation of the soil vapor extraction system will be temporarily suspended during this time, and monitoring will be conducted at both the 216-Z-9 (Z-9) site and the 216-Z-1A/Z-18/Z-12 (Z-1A) site. Passive soil vapor extraction will be maintained at Z-1A wells during this time. Operating plans for use of the soil vapor extraction system will be submitted to the Unit Managers for approval prior to implementation.

Soil vapor monitoring will be conducted at vadose zone locations near the groundwater, the Cold Creek unit, and the ground surface at the Z-1A and Z-9 sites while they are not being actively remediated using the soil vapor extraction system. Anomalies in the monitoring results will be reported at the 200 Area Unit Manager Meetings. If carbon tetrachloride vapor concentrations increase such that the carbon tetrachloride contamination may impact human health or the environment (including groundwater), the Unit Managers will decide on the appropriate response to mitigate the problem (e.g., relocating the soil vapor extraction system to address the problem).

Scope: Monitor carbon tetrachloride soil vapor concentrations at selected probes and wells during non-operation of the soil vapor extraction (SVE) system (Tables 1 and 2). All of the probes and wells will be "non-operational," i.e., they will not be connected to the SVE system. Approximately eight non-operational wells have a passive soil vapor extraction system installed at the wellhead.

Passive soil vapor extraction is a remediation technology that uses naturally induced pressure gradients between the subsurface and the surface to drive soil vapor to the surface. In general, falling atmospheric pressure causes subsurface vapor to move to the atmosphere through wells, while rising atmospheric pressure causes atmospheric air to move into the subsurface. The passive soil vapor extraction systems will be used to remove carbon tetrachloride from the vadose zone.

Passive extraction wells will vent through aboveground canisters containing granular activated carbon (GAC). The wells will be monitored monthly using the sampling method used for the non-operational wells. The vapor concentration will be monitored both upstream and downstream of the GAC. The measured vapor concentrations will be used to estimate the amount of carbon tetrachloride extracted through each well during the month.

For monitoring the non-operational probes and wells and the passive extraction wells, the components of this scope are:

- Collect soil vapor samples in Tedlar bags for field screening
- Analyze soil vapor samples for carbon tetrachloride using a field screening instrument (the Bruel and Kjaer 1302 multi-gas analyzer)
- Evaluate concentration trends and report anomalous results to 200-PW-1 Unit Managers
- Include results in annual reports

Purpose and Objectives: The purpose of non-operational monitoring is to measure carbon tetrachloride concentrations in the vadose zone during the shutdown of the SVE system.

The objectives of monitoring the non-operational wells and probes are (1) to be cognizant of carbon tetrachloride concentrations and trends near the vadose-atmosphere and vadose-groundwater interfaces to evaluate whether non-operation of the SVE system is negatively impacting atmosphere or groundwater; and (2) to be cognizant of carbon tetrachloride concentrations and trends near the lower permeability Cold Creek unit to provide an indication of concentrations that can be expected during restart of SVE operations and to support selection of on-line wells.

The objectives of monitoring the passive soil vapor extraction system wells, which are all open near the vadose-groundwater interface, are: (1) to be cognizant of the carbon tetrachloride concentrations and trends near the vadose-groundwater interface to evaluate whether non-operation of the SVE system is negatively impacting groundwater; and (2) to quantify the mass of carbon tetrachloride removed using this technology.

Duration: Non-operational monitoring and passive soil vapor extraction monitoring will be conducted from October 2008 through March 2009 during FY 2009.

Monitoring Frequency: Monitoring will be conducted monthly.

Monitoring Locations: Locations were selected to focus carbon tetrachloride monitoring near the vadose-atmosphere and vadose-groundwater interfaces and near the Cold Creek unit (Table 1). At the recommendation of the technical lead, and with approval from the task lead, these monitoring locations could be revised based on developing trends, accessibility, and/or recommendations of the sampler. The 200-PW-1 Unit Managers will be advised of any changes to the monitoring locations. Monitoring locations are shown on Figure 1.

Data Management: The field screening data obtained from non-operational wells and probes and passive extraction wells are entered into a controlled field logbook, which is maintained by Lockheed Martin Services Inc (LMSI) Records Information Management (RIM) department. The 200-PW-1 technical lead organizes and maintains spreadsheets of the field screening data on a desktop computer. The field screening data are entered into the Hanford Environmental Information System (HEIS) database.

Data Reporting: All of the field screening data, and associated quality control data, are included in the annual performance evaluation report for soil vapor extraction operations. The 200-PW-1 Unit Managers will be advised of any anomalous results or new trends, based on comparison with results of previous carbon tetrachloride monitoring and evaluation by the 200-PW-1 technical lead.

Quality Assurance/Quality Control: Quality assurance/quality control requirements for sampling and analysis will be conducted at a level appropriate to field screening for volatile organic compounds, in accordance with the project quality assurance project plan. At a minimum, one field duplicate sample will be collected for every 20 vapor samples collected. A carbon tetrachloride standard and a blank sample will be analyzed at the beginning of the analysis of the vapor samples. This plan provides for continuation of ongoing, previously approved work using established methods and quality assurance/quality control requirements.

Table 1. Distribution of Selected Monitoring Locations.

Target Zone	Number of Monitoring Locations		
	Z-1A	Z-9	Total
Near-surface (3-20 m below ground surface)	6	9	15
Cold Creek unit (25-45 m below ground surface)	5	6	11
Groundwater (50-65 m below ground surface)	8 ^a	2	10
Total	19	17	36

^a Approximately eight available monitoring locations near the vadose/groundwater interface in the Z-1A area are being monitored as part of the passive soil vapor extraction system network (Table 2).

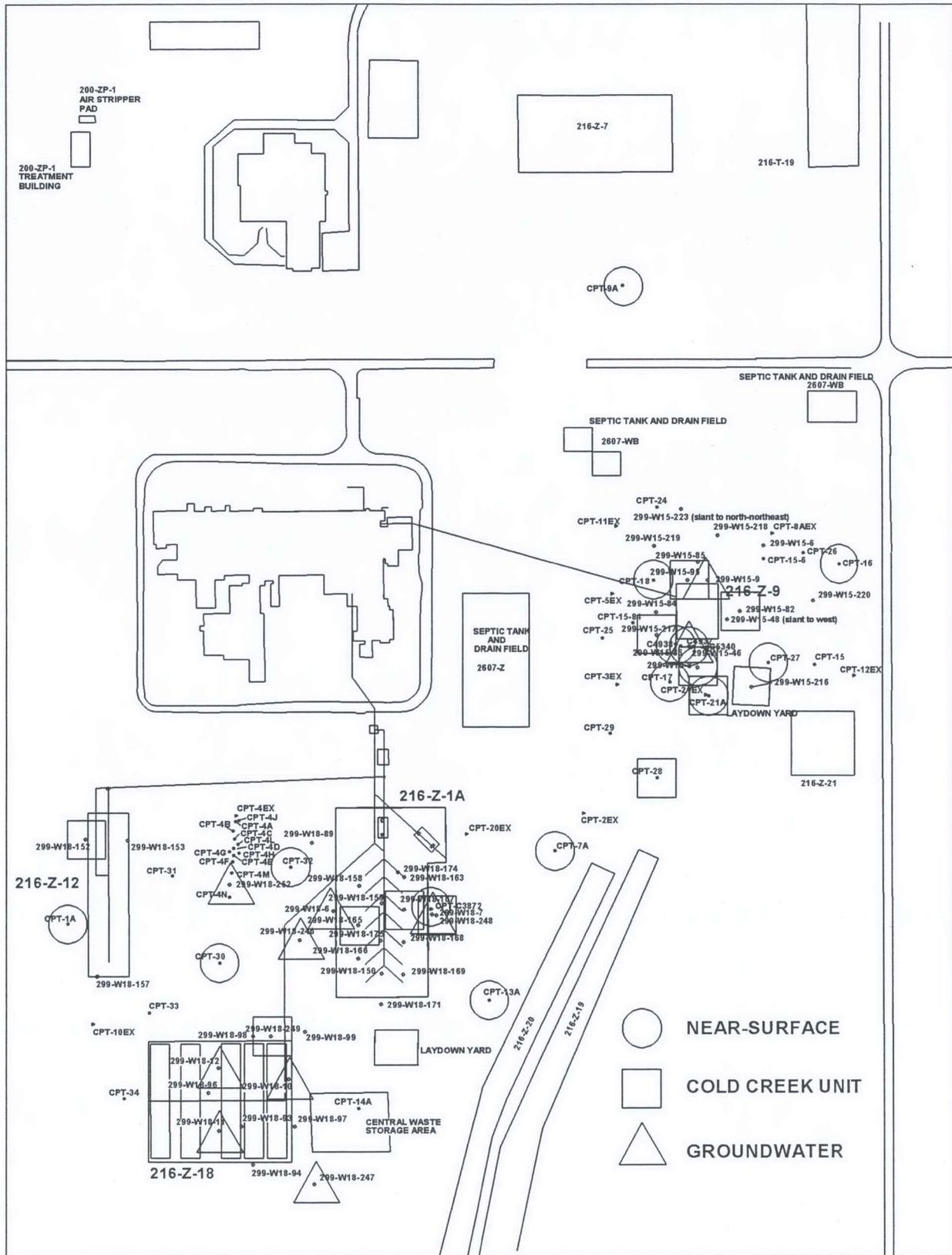
Table 2. Wells and Probes Selected for Non-Operational Monitoring and Passive Soil Vapor Extraction Monitoring.

Target Zone	Z-9	Depth (m)	Comment	Z-1A	Depth (m)	Comment
near-surface	CPT-17 10 ft (blue)	3	southwest of Z-9	CPT-32 25 ft (green)	8	west of Z-1A
near-surface	CPT-27 15 ft (blue)	5	southeast of Z-9	CPT-13A 30 ft (blue)	10	southeast of Z-1A
near-surface	CPT-16 25 ft (blue)	8	east of Z-9	CPT-7A 32 ft (yellow)	10	farfield northeast of Z-1A
near-surface	CPT-18 35 ft (blue)	11	northwest of Z-9	CPT-1A 35 ft (black)	11	west of Z-12
near-surface	CPT-9A 60 ft (blue)	18	farfield north of Z-9	CPT-30 48 ft (blue)	15	north of Z-18 (middle of Z-1A/Z-18/Z-12 field)
near-surface	CPT-21A 65 ft (green)	20	south of Z-9	CPT-C3872	19	east side of Z-1A
near-surface	C4937	20	south of Z-9	---	---	---
near-surface	C4938	20	south of Z-9	---	---	---
near-surface	C5340	20	south of Z-9	---	---	---
Cold Creek	W15-82	25	east side of Z-9	W18-165	33	within Z-1A
Cold Creek	CPT-21A 86 ft (red)	26	south of Z-9	W18-152	34	northwest corner of Z-12
Cold Creek	CPT-28 87 ft (red)	27	farfield south of Z-9	W18-167	37	within Z-1A
Cold Creek	W15-8U	31	south of Z-9	W18-249	41	northeast corner of Z-18
Cold Creek	W15-217	35	southwest corner of Z-9	W18-248	41	east side of Z-1A
Cold Creek	W15-95L	44	north side of Z-9	---	---	---
ground water	W15-8L	55	south of Z-9	W18-247L*	51	southeast of Z-18
ground water	W15-9L	57	north of Z-9, 11 m from W15-32 extraction well	W18-246L*	52	west of Z-1A
ground water	---	---	---	W18-252L*	53	west of Z-1A (middle of Z-1A/Z-18/Z-12 field)
ground water	---	---	---	W18-10L*	55	east side of Z-18
ground water	---	---	---	W18-7*	57	east side of Z-1A
ground water	---	---	---	W18-6L*	60	west side of Z-1A
ground water	---	---	---	W18-11L*	60	Z-18
ground water	---	---	---	W18-12*	60	Z-18

* Passive soil vapor extraction wells

Note: Colors refer to the color coding on the soil vapor probe tubing.

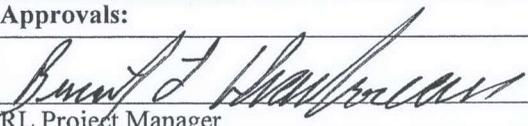
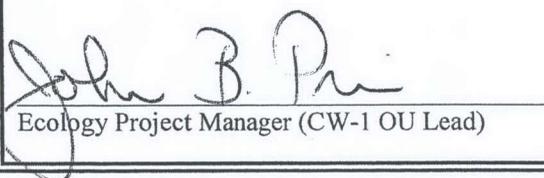
Figure 1. Location of Wells and Probes Selected for Non-Operational Monitoring and Passive Soil Vapor Extraction Monitoring



Attachment 10, Figure 1



Change Notice for Modifying Approved Documents/ Workplans
In Accordance with the Tri-Party Agreement Action Plan,
Section 9.0, *Documentation and Records*

Change Number TPA-CN-235	Document Submitted Under Tri-Party Agreement Milestone N/A	Date: 09/12/08		
Document Number and Title: SGW-33891, Revision 1, Waste Control Plan for Supplemental Remedial Investigation Activities at Model Group 5, Large Area Ponds, Waste Sites Located Within the 200-CW-1 Operable Unit		Date Document Last Issued: January 2008		
Originator: Ron C. Brunke		Phone: 376-2663		
Description of Change: Add nine auger soil sampling locations and five direct pushes at the 200-CW-1 Operable Unit.				
<p><u>B. Charboneau</u> and <u>J. Price</u> agree that the proposed change modifies an approved RL Lead Regulatory Agency workplan/document and will be processed in accordance with the Tri-Party Agreement Action Plan, Section 9.0, <i>Documentation and Records</i>, and not Chapter 12.0, <i>Changes to the Agreement</i>.</p> <p>Attachment 1 of the above referenced waste control plan has been modified to add nine augered soil sampling locations at 216-U-10 Pond, 216-A-25 Pond, 216-B-3 Pond, 216-S-16 Pond, 216-S-17 Pond and the 216-T4B Pond and to add 5 direct push locations at 216-B-3 Pond. The auger hole and direct push locations are added to Table 1 (CW-1 Soil Investigation Summary list) and are identified in shaded text. Location plats are also provided.</p>				
Justification and Impacts of Change:				
The sampling locations are added based on the results of spectral gamma geophysical logging, consistent with DOE/RL-2006-57, Revision 0, REISSUE, (Sampling and Analysis Plan for Supplemental Remedial Investigation Activities at Model Group 5, Large Area Ponds, Waste Sites Located Within the 200-CW-1 Operable Unit). The 5 direct pushes have been installed and are added to the well list.				
Approvals:				
 Brent J. Harbort RL Project Manager		9-12-2008 Date	<input checked="" type="checkbox"/> Approved	<input type="checkbox"/> Disapproved
 John B. Price Ecology Project Manager (CW-1 OU Lead)		9-12-2008 Date	<input checked="" type="checkbox"/> Approved	<input type="checkbox"/> Disapproved

Attachment 10, Figure 2

Table 1. CW-1 Soil Investigation Summary¹.

Waste Site	Identification Number	Activity Type ²
216-A-25		
	C5713	Direct push
	C5712	Direct push
	C6960*	Auger*
	C6961*	Auger*
216-B-3		
	C5714	Direct push
	C5715	Direct push
	C5716	Direct push
	C6962*	Auger*
	C6963*	Direct push
	C6964*	Direct push
	C6965*	Direct push
	C6966*	Direct push
	C6967*	Direct push
216-S-16P		
	C5719	Direct push
	C5720	Direct push
	C5724	Direct push
	C5725	Direct push – Deep ³
	C5726	Direct push
	C5728	Direct push
	C5729	Direct push
	C5733	Direct push - Deep ³
	C5734	Direct push
	C5735	Direct push - Deep ³
	C5737	Direct push
	C5738	Direct push
	C5727*	Auger*
216-S-17		
	C5741	Direct push
	C5742	Direct push
	C5743	Direct push
	C5744	Direct push
	C5745	Direct push
	C5747	Direct push
	C5748	Direct push - Deep ³
	C5749	Direct push
	C5750	Direct push - Deep ³
	C5753	Direct push
	C5754	Direct push

Attachment 10, Figure 3

Table 1. CW-1 Soil Investigation Summary¹.

Waste Site	Identification Number	Activity Type ²
	C5755	Direct push
	C5758*	Auger*
	C5759*	Auger*
216-T-4B		
	C5760	Direct push
	C5761	Direct push
	C5762	Direct push
	C5763	Direct push
	C6969*	Auger*
	C6970*	Auger*
216-U-10		
	C5765	Direct push - Deep ³
	C5766	Direct push - Auger
	C5767	Direct push - Auger
	C5768	Direct push - Auger
	C5769	Direct push
	C5770	Direct push
	C5771	Direct push
	C5772	Direct push
	C5773	Direct push - Auger
	C5854	Borehole ³
	C6968*	Auger*
216-U-11		
	C5774	Direct push - Deep ³
	C5775	Direct push
	C5778	Direct push
	C5779	Direct push
	C5781	Direct push
	C5783	Direct push
UPR-W-124		
	C5751	Direct push
	C5752	Direct push

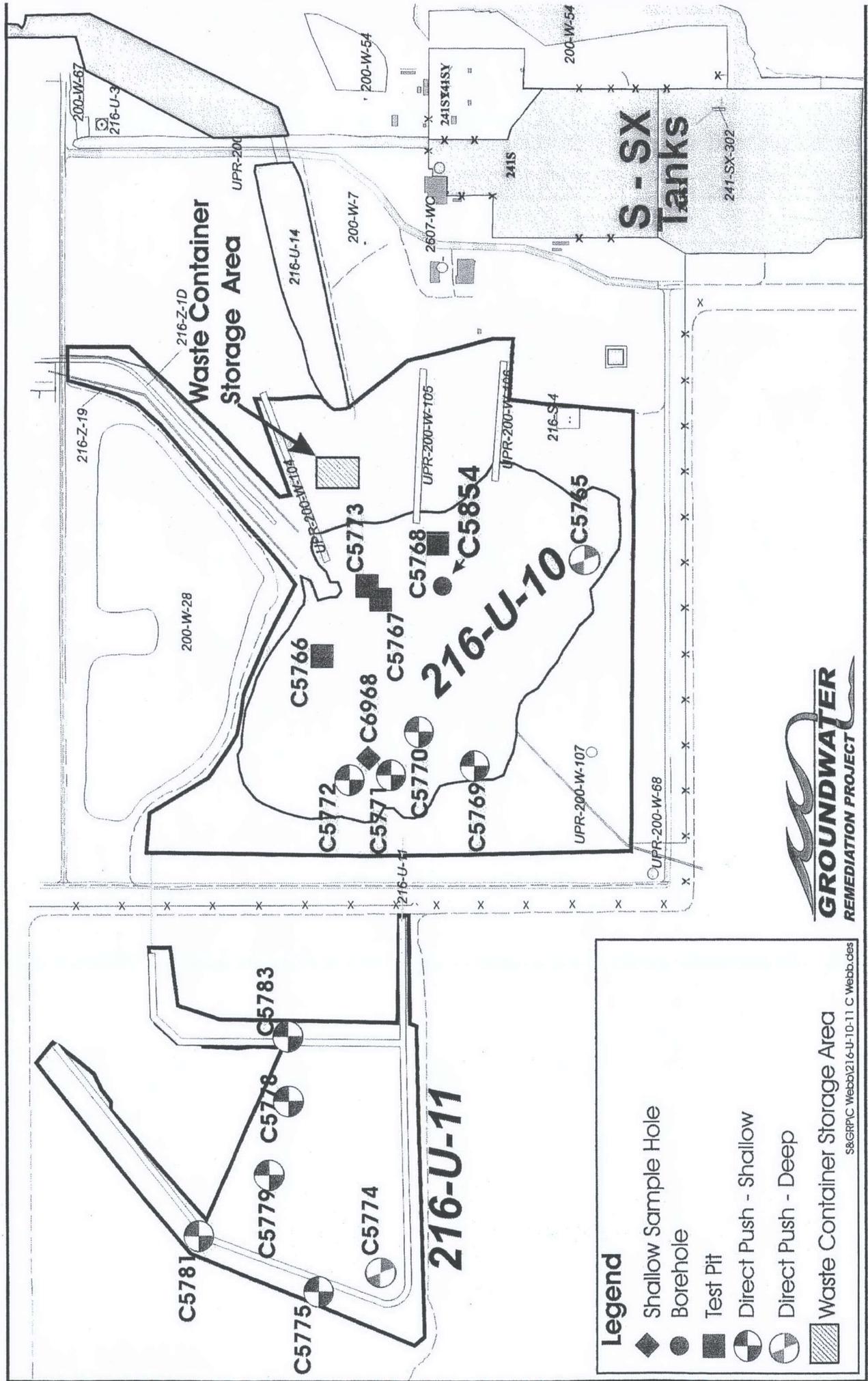
¹ Additional borings can be included based on findings and field conditions.

² All direct push and boreholes will be geophysically logged with a spectral gamma tool.

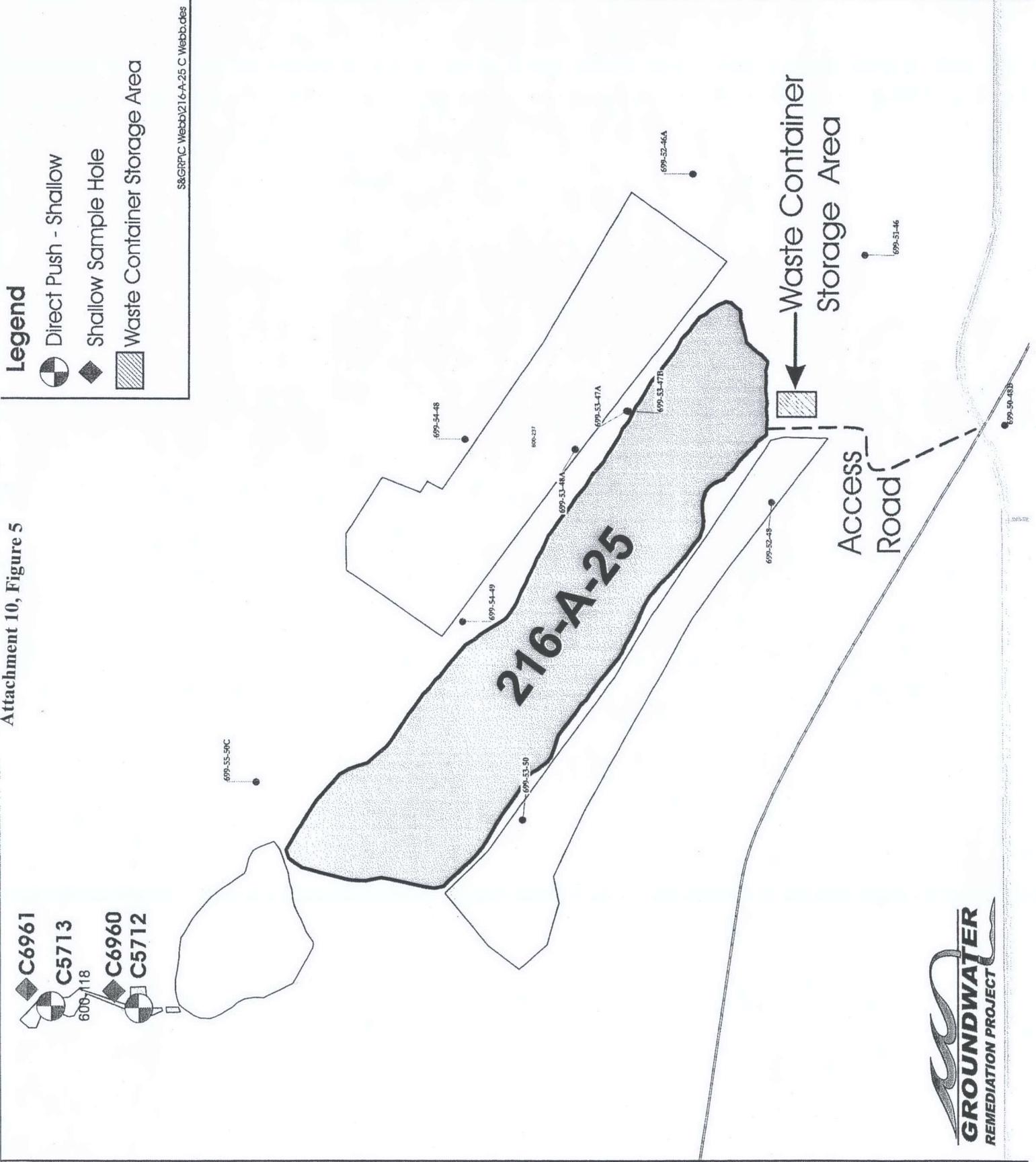
³ Borehole will be logged with a neutron probe for moisture.

* Added by Tri-Party Agreement Change Notice No. 235.

Attachment 10, Figure 4



Attachment 10, Figure 5



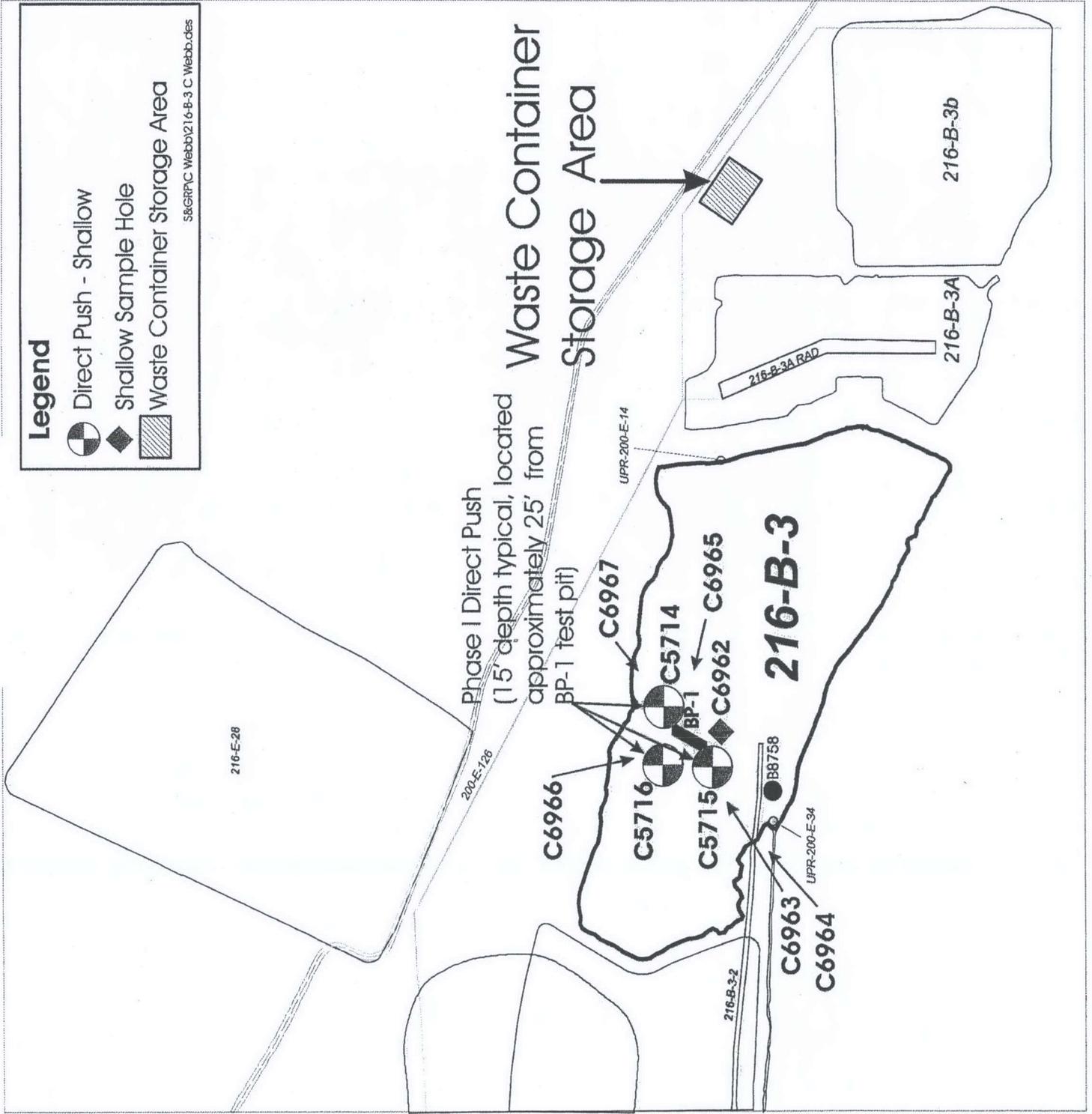
Legend

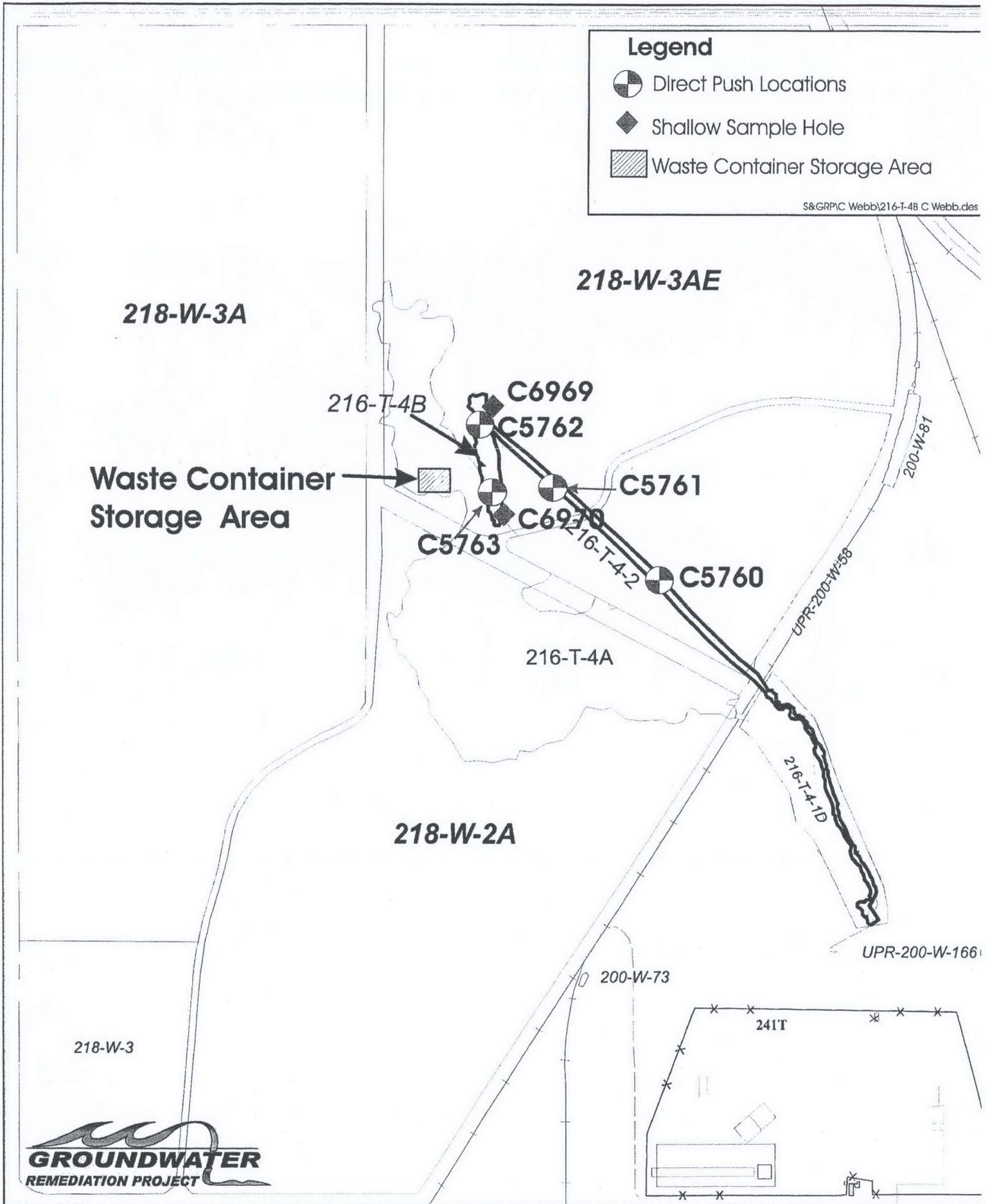
- Direct Push - Shallow
- Shallow Sample Hole
- Waste Container Storage Area

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Attachment 10, Figure 6





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