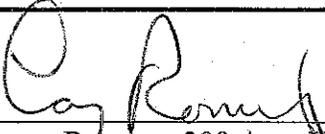
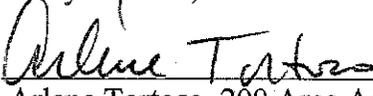
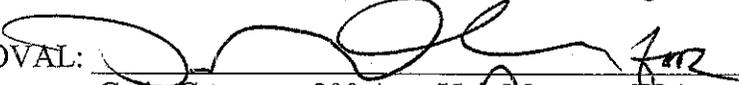
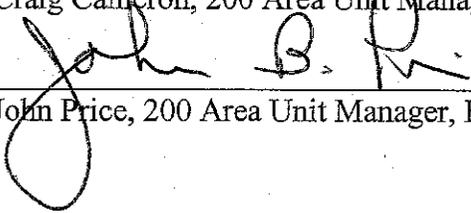


**Meeting Minutes Transmittal/Approval
Unit Managers' Meeting
200 Area Groundwater and Source Operable Units
1200 Jadwin Avenue, Richland, Washington
March 16, 2006**

APPROVAL:  Date: 4/26/06
Larry Romine, 200 Area Unit Manager, DOE/RL

APPROVAL:  Date: 4/19/06
Arlene Tortoso, 200 Area Assistant Manager, DOE/RL

APPROVAL:  for Date: 4/19/06
Craig Cameron, 200 Area Unit Manager, EPA

APPROVAL:  Date: 5/2/2006
John Price, 200 Area Unit Manager, Ecology

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EDMC

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

Attachment 1	Attendance Record
Attachment 2	Agenda & General Discussion
Attachment 3	UMM & TPA Quarterly Review Schedule, CY06
Attachment 4	Groundwater Operable Units Status
Attachment 5	Groundwater Operable Units Status Figures
Attachment 6	Groundwater Map with UP Wells
Attachment 7	Source Operable Units and Facilities Status
Attachment 8	Soil Vapor Extraction System Operating Plan
Attachment 9	Comparison of Carbon Tetrachloride Rebound Concentrations
Attachment 10	200-UW-1 Project Agreement/Change Control Form
Attachment 11	Agreements and Issues List
Attachment 12	Action Item List

200 Area Unit Managers Status Meeting
 March 16, 2006

Please print clearly and use black ink

PRINTED NAME	ORGANIZATION	O.U. ROLE	TELEPHONE
STEVE CHALK	RL-DEC	Public Involvement	T 2-8589
Sandra Lilligve	NPT-ERUM	treaties	208-843-7370
Shelley Cimen	OREGON		(541) 963-0853
R P 11080	FH		373-3235
Mary Todd Robertson	FH	200 websites	373-3920
Craig Cameron	EPA		376-8665
Dave Erb	FH	200A ^{recess} GW	373-4457
Jance William	FH	CP Integratn	372-3553
Lanny Dusek	FH	source chits	438-1756
Bryan Foley	DOE	Sn "	376-7087
Pod Lobos	EPA		
Kim Brunke	FH	Source	531-2780
Jenne Stubs	Ecology	200 websites	372-9956
John Man	DOE	GW	376-0057
Ray BAUER	FH	CP Eco	373-3931
Frank Roddy	DOE	200 Area	372-0945
Bruce Ford	FH	GRP	373-3809
Gloria Cummings	FH	EP + GRP	372-2484
Rosemary Guse	FH		376-1683

200 AREA UNIT MANAGERS' MEETING DRAFT AGENDA

1200 Jadwin/Rm 1-C1
March 16, 2006

GROUNDWATER OPERABLE UNITS STATUS (8:30-9:15)

- Action Items Review – 8:30-8:35
- Status Review – 8:35-9:15

SOURCE OPERABLE UNITS AND FACILITIES STATUS (9:15-9:45)

- Action Items Review – 9:15-9:20
- Status Review – 9:20-9:45

ISSUE RESOLUTION MEETING (10:00-11:30)

- (See Issues List)

General

- Open for Regulatory Topics or Action Items
 - TPA Change Package Approvals

200 AREA UNIT MANAGERS' MEETING

1200 Jadwin/Rm 1-C1

March 16, 2006

General Discussion

- FH presented a graphic depicting UMM schedule of activities for the calendar year 2006 (attachment #3).
- FH made a suggestion of replacing one UMM meeting per quarter with a TPA-quarterly preparation meeting. The Tri-Parties felt the status meeting was needed but would consider replacing the issue meeting with a TPA-Quarterly preparation meeting.

200 AREA UNIT MANAGERS MEETING AND TPA QUARTERLY REVIEW SCHEDULE FOR CY06 - updated 3/15/06

(numbers are calendar dates in the columns of given months)

	January	February	March	April	May	June	July	August	September	October	November	December
Last UMM Meeting Day + 12 Send Out Minutes for RL & Reg Review Call Actionees on Action List					2 Rosemary Rosemary			1 Rosemary Rosemary		3 Rosemary Rosemary		
Next UMM Meeting Day - 16 Provide TPA Presentation Updates				4 Note 4			4 Note 4			3 Note 4		
Next UMM Meeting Day - 14 Send Out TPA Presentation for RL Review				6 Rosemary			6 Rosemary			5 Rosemary		
Next UMM Meeting Day - 10 Send Out Request for Status Updates		6 Rosemary	6 Rosemary	10 Rosemary	8 Rosemary	5 Rosemary	10 Rosemary	7 Rosemary	11 Rosemary	9 Rosemary	6 Rosemary	11 Rosemary
Last UMM Meeting Day + 21 Return RL and Reg Comments on Minutes		9 Note 3	9 N/A	6 Note 3	11 Note 3	8 Note 3	6 Note 3	10 Note 3	7 Note 3	12 Note 3	9 Note 3	7 Note 3
Next UMM Meeting Day - 7 Send out Agenda & RSVP for Meeting Provide Status Updates Send Out TPA Presentation for Reg Review		9 Dee Note 4	9 Dee Note 4	13 Dee Note 4 Rosemary	11 Dee Note 4	8 Dee Note 4	13 Dee Note 4 Rosemary	10 Dee Note 4	14 Dee Note 4	12 Dee Note 4 Rosemary	9 Dee Note 4	14 Dee Note 4
Next UMM Meeting Day - 2 Finalize Status Updates, A&I List, Action List Send Out Minutes for Final Signatory Rvw		14 N/A Gloria	14 N/A N/A	18 Rosemary Rosemary	16 Rosemary Rosemary	13 Rosemary Rosemary	18 Rosemary Rosemary	15 Rosemary Rosemary	19 Rosemary Rosemary	17 Rosemary Rosemary	14 Rosemary Rosemary	19 Rosemary Rosemary
UMM Meeting Day (3rd Thursday) Provide Copies and Sign In Roster Facilitate Meeting Take Minutes & Collect Handouts, Roster Sign Hardcopy of Last Month's Minutes TPA Presentation Review & Comment	19 Dee Gloria Gloria Note 1 Gloria	16 N/A N/A N/A	16 Dee Mary Note 5 Note 1	20 Dee Lanny Note 5 Note 1 Lanny	18 Dee Bruce Note 5 Note 1	15 Dee Mary Note 5 Note 1	20 Dee Lanny Note 5 Note 1 Lanny	17 Dee Bruce Note 5 Note 1	21 Dee Mary Note 5 Note 1	19 Dee Lanny Note 5 Note 1 Lanny	16 Dee Bruce Note 5 Note 1	21 Dee Mary Note 5 Note 1
UMM Meeting Day + 5 TPA Presentation Copies to Mtg Location Distribute Last Month's Approved Minutes Send Out Action List Send Out Minutes for FH Review (Note 6)	24 Gloria Dee Gloria Gloria	21 N/A N/A N/A	21 Dee Rosemary Rosemary	25 Dee Rosemary Rosemary	23 Dee Rosemary Rosemary	20 Dee Rosemary Rosemary	25 Dee Rosemary Rosemary	22 Dee Rosemary Rosemary	26 Dee Rosemary Rosemary	24 Dee Rosemary Rosemary	21 Dee Rosemary Rosemary	26 Dee Rosemary Rosemary
UMM Meeting Day + 7 Return FH Comments on Minutes	26 Note 2	23 N/A	23 Note 2	27 Note 2	25 Note 2	22 Note 2	27 Note 2	24 Note 2	28 Note 2	26 Note 2	23 Note 2	28 Note 2
UMM Meeting Day + 12 (duplicate of 1st row) Send Out Minutes for RL & Reg Review Call Actionees on Action List	31 Gloria Gloria	28 N/A N/A	28 Rosemary Rosemary		30 Rosemary Rosemary	27 Rosemary Rosemary		29 Rosemary Rosemary		31 Rosemary Rosemary	28 Rosemary Rosemary	
Next UMM Meeting Day - 21 Send Out Request for TPA Pres. Update			30 Rosemary			29 Rosemary			28 Rosemary			28 Rosemary

Attachment 3

Notes

- Larry Romine, Arlene Tortoso, Craig Cameron, John Price
- Lanny Dusek, Mary Todd-Robertson, Bruce Ford, Jane Borghese, Jeannette Hyatt, Rob Piippo, Ron Brunke, Gloria Cummins
- Larry Romine, Briant Charboneau, Arlene Tortoso, Craig Cameron, Dennis Faulk, John Price
- Mark Benecke, Ken Allison, Mike Hickey, Lanny Dusek, Roy Bauer, Mary Todd, Virginia Rohay, Greg Berlin, Ann Shattuck, Tulanda Brown, Mark Byrnes, Gloria Cummins, John Winterhalder, Jane Borghese
- Jeanette Hyatt / Rob Piippo / Ron Brunke
- Attachments: 1 - Attendance Record, 2- Agenda, 3 - GW OU Status, 4 - GW OU Status Figures, 5 - Source OU & Facilities Status, 6 - Source OU and Facilities Figures, 7 - Agreements & Issues, 8 - Action Item List

200 AREA UNIT MANAGERS' MEETING GROUNDWATER OPERABLE UNITS STATUS

1200 Jadwin/Rm 1-C1
March 16, 2006

GROUNDWATER OPERABLE UNITS STATUS

200-UP-1 OU

- Rebound Study (Attachment 5, Figures 1-4):
 - Met with Ecology January 25, 2006, to discuss rebound study results.
 - At Ecology's request a draft letter report is currently being prepared that presents the results and conclusions from the rebound study. This draft letter report is scheduled to be presented to Ecology on Thursday, March 30.
- RI/FS Work Plan:
 - Four of the six 200-UP-1 wells (UP2, UP3, UP4, and UP11) have been installed. The fifth well (UP5) has now reached groundwater.

200-ZP-1 OU

- Remediation Treatment Status:
 - Between October 1 and February 12, 2006 the 200-ZP-1 pump-and-treat system our average pumping rate was 218 gpm (Attachment 5, Figure 5).
 - We are currently pumping at approximately 290 gpm.
 - Eight of the nine extraction wells are currently online. An electrical breaker panel needs to be replaced before the ninth well can be brought back on line. Competing priorities have prevented this repair from being completed to date.
 - A process air flow meter went out Saturday, March 11. The system is currently being run in manual mode during working hours and shut down at night. A replacement flow meter is on order. System should be back running 24 hours/day by the middle of next week.
 - Tc-99 concentrations in extraction wells 299-W15-765 and 299-W15-40 are climbing rapidly. Currently evaluating options for pre-treating water to remove Tc-99 prior to it reaching the process building. The 200-ZP-1 Remedial Design report has been updated to require routine Tc-99 analyses from multiple sampling points throughout treatment process. (Attachment 5, Figures 6 – 7).
 - The Tc-99 concentrations resulting from the mixing of water from all the extraction wells is estimated to be ~229 pCi/L as compared to the drinking water standard of 900 pCi/L.
- DNAPL Investigation Status:

- FH design work for hooking up well 299-W15-6 to the 200-ZP-1 treatment system is near completion. Will be issuing RFP for work in the next few weeks.
 - Loading testing on Z-9 cover is complete, instrumentation to be installed by end of March.
 - Finished P57 borehole (by Z-1A) to support cross well seismic work.
 - Slant well at Z-9 borehole is currently approximately 62.5 feet below ground surface.
 - Vertical sampling (hydraulic hammer rig) by Z-9, May time period.
- **New Well Status:**
 - Currently scheduled to drill 3 new wells in early April 2006 and 3 new wells in FY2007 (if needed) to help define extent of deep CCL4 contamination detected in vicinity of Old Laundry Facility and T Plant.
- **RI/FS Status:**
 - Remedial Design report has been updated and is on its way over to DOE-RL.
 - RI Report decisional draft is currently out for DOE-RL, PNNL, and CHG review. Comments are due Friday, March 17. This report is driven by a TPA milestone so we will be proceeding with only those comments received by March 17.
 - Feasibility Study started February 15, 2006 with a kickoff meeting with EPA, Ecology, PNNL, and feasibility study team. Minutes from the February 15, 2006 meeting are found in Attachment 5, Figure 8). PNNL is currently screening remedial technologies and beginning to evaluate uncertainty associated with data to be used to support baseline risk calculations.
- **Tc-99 Investigation Status:**
 - The initial draft of the DQO summary report is being revised based on the initial review by the FH-PNNL-CHG DQO technical team.
 - Well C4990 (T-3) is currently being drilled and is approximately 20 ft above the top of the Lower Mud Unit.

200-PO-1 OU

- **SAP:**
 - The 200-PO-1 Sampling and Analysis Plan Rev.1, was transmitted by DOE-RL to Ecology in August 2005 - Ecology sent an approval of the 200-PO-1 OU groundwater SAP to DOE-RL by letter dated February 23, 2006. DOE-RL is currently implementing the SAP.

- DQO Report:
 - Report on hold. Ecology waiting on legal input to determine regulatory path forward. FH developed a Statement of Work for a subcontract to complete the DQO process for a 200-PO-1 Supplemental Investigation effort.
- Wells:
 - Integrating with Waste Sites on planned 216-A-4 characterization well.
 - Integrating with ORP on planned wells at WTP which have been delayed to summer 2006.

200-BP-5 OU

- DQO Report:
 - The draft DQO report is approximately 90% completed.
 - Decision Maker review is in progress.
 - Two weeks are planned for review and two weeks for comment resolution.
 - The DQO is scheduled to be sent for review by the stake holders April 6th.
 - Wells have been identified in the DQO for the following.
 - Wells to ground truth HRR results under and proximal the BX-BY Tank Farms and surrounding waste sites. HRR results will be used to determine placement of wells.
 - Wells to determine potential sources of intercommunication between the unconfined and confined aquifer.
 - Wells to evaluate, characterize, and delineate potential and know groundwater plumes.
 - Contingency wells have been identified as well.
- Drilling SAP:
 - SOW for drilling SAP is being sent through the buyer to be awarded. The drilling SAP will include the following for completion in FY2006.
- New Wells:
 - Drill 3 new remedial investigation wells.
 - A well to define the width of the uranium plume to the north of well 299-E33-26.
 - A well to define the concentration of technetium between 699-49-57A and 699-52-57.
 - A well to define contamination in the Rattlesnake Ridge confined aquifer upgradient of the 299-E33-12 well.
 - Plan to drill three monitoring wells late this spring. Will initiate drilling SAP in February after completion of the draft DQO.
 - Sampled 299-E33-9.
- Modeling:

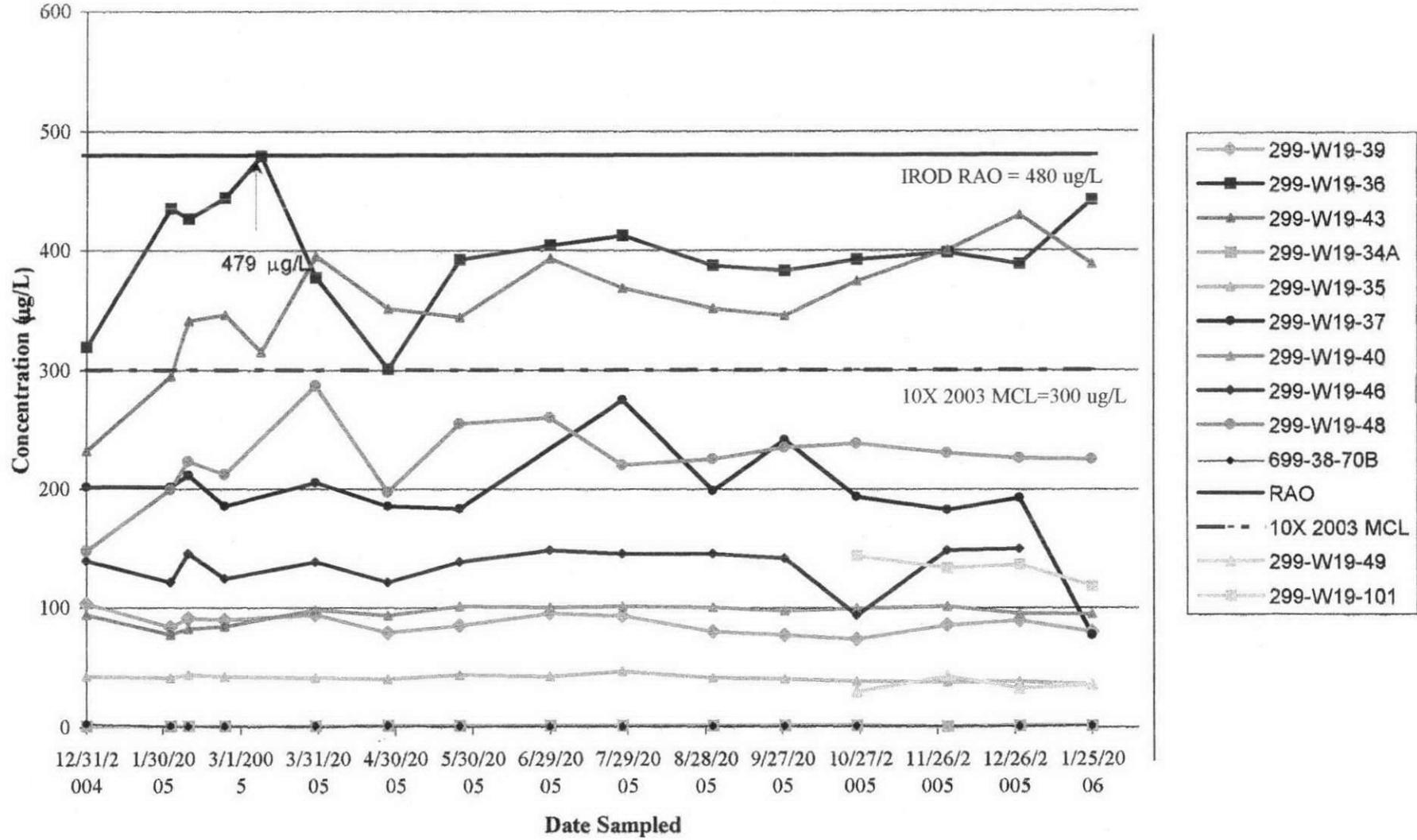
- The geostatistical modeling for BP-5 has been deferred to FY2008. The modeling will include groundwater wells proposed from the DQO to better define plume size and concentrations. Risk analysis will be derived from the results of the geostatistical modeling.
- Work Plan:
 - Working on SOW for subcontracting Work Plan and SAP. SOW is being reviewed and will be sent through the buyer to be awarded next week.

200-PW-1 (200-ZP-2) OU

- Soil Vapor Extraction System (SVE):
 - The DOE-RL and EPA project managers have approved the SVE operating plan for FY2006 (Attachment 8). Operations are scheduled to resume on April 1, 2006. We will be working closely with Vista Engineering to help them test the effectiveness of steam injection on enhancing the recovery of CCl4.
- The passive system remains operational.
- Monthly monitoring (Attachment 9)
 - Comparison of Maximum Carbon Tetrachloride Rebound Concentrations.
 - Monthly Carbon Tetrachloride Concentrations for monitoring wells update.

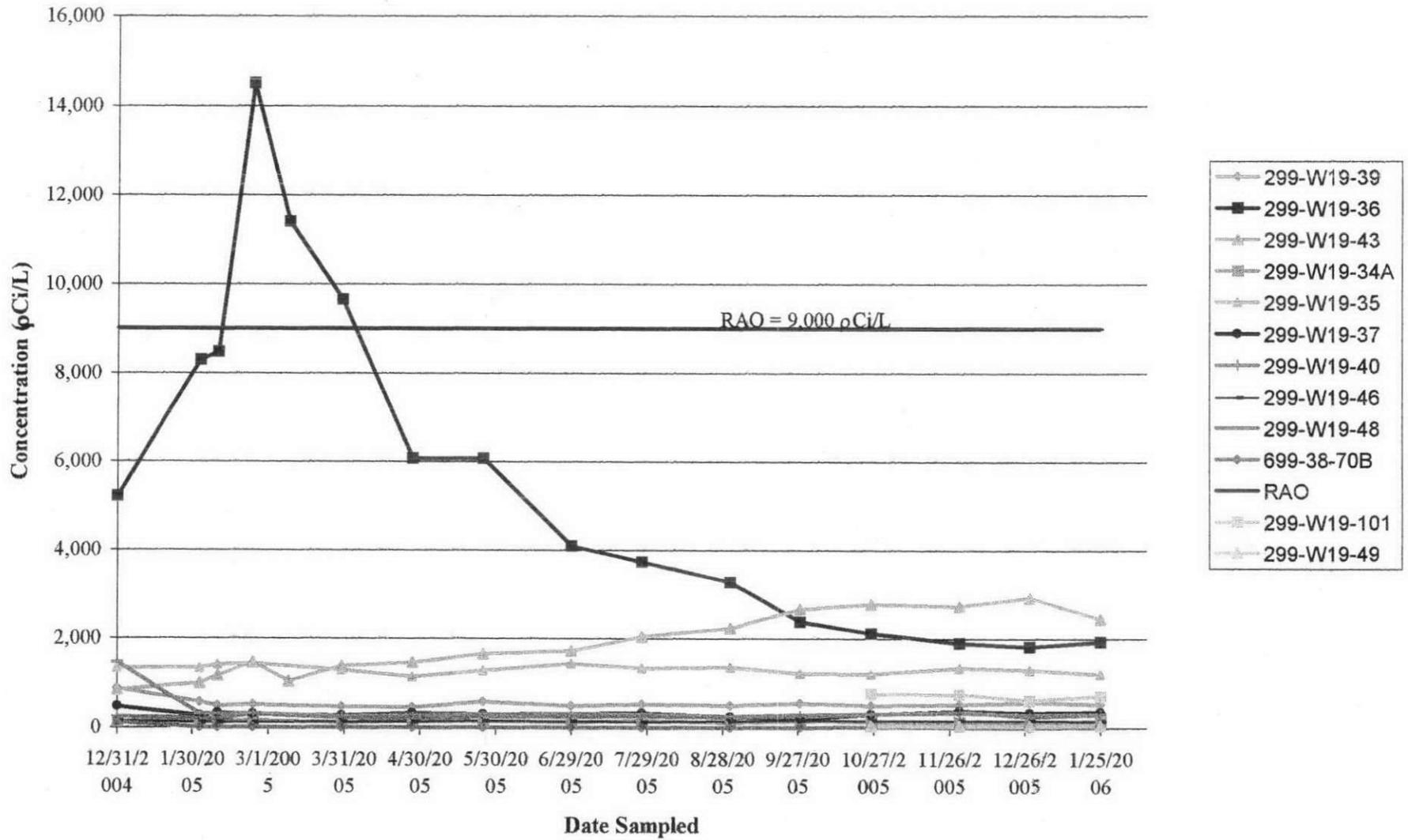
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200-UP-1 Rebound Study, Uranium Concentrations



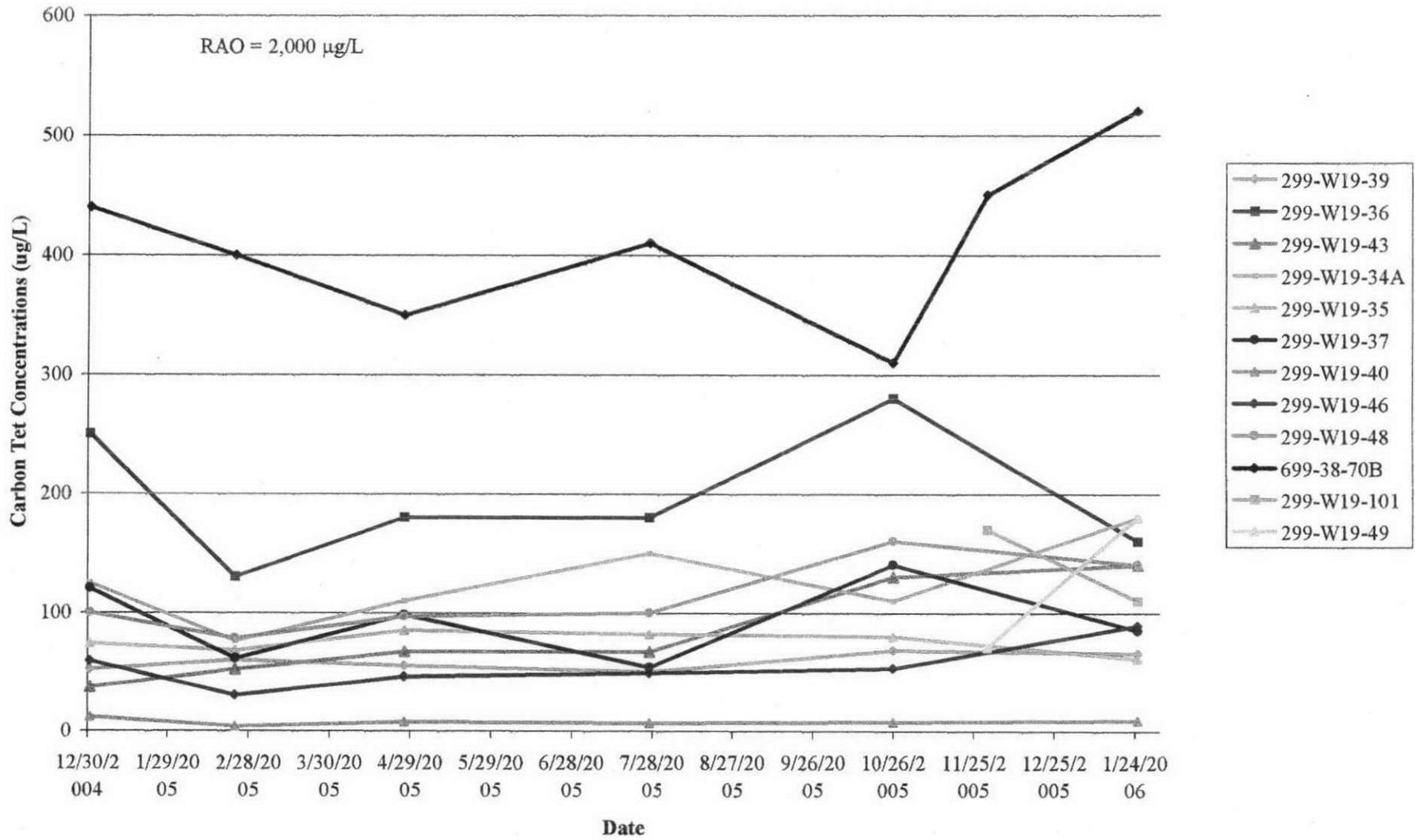
Attachment 5, Figure 1

200-UP-1 Rebound Study, Technetium-99 (pCi/L)



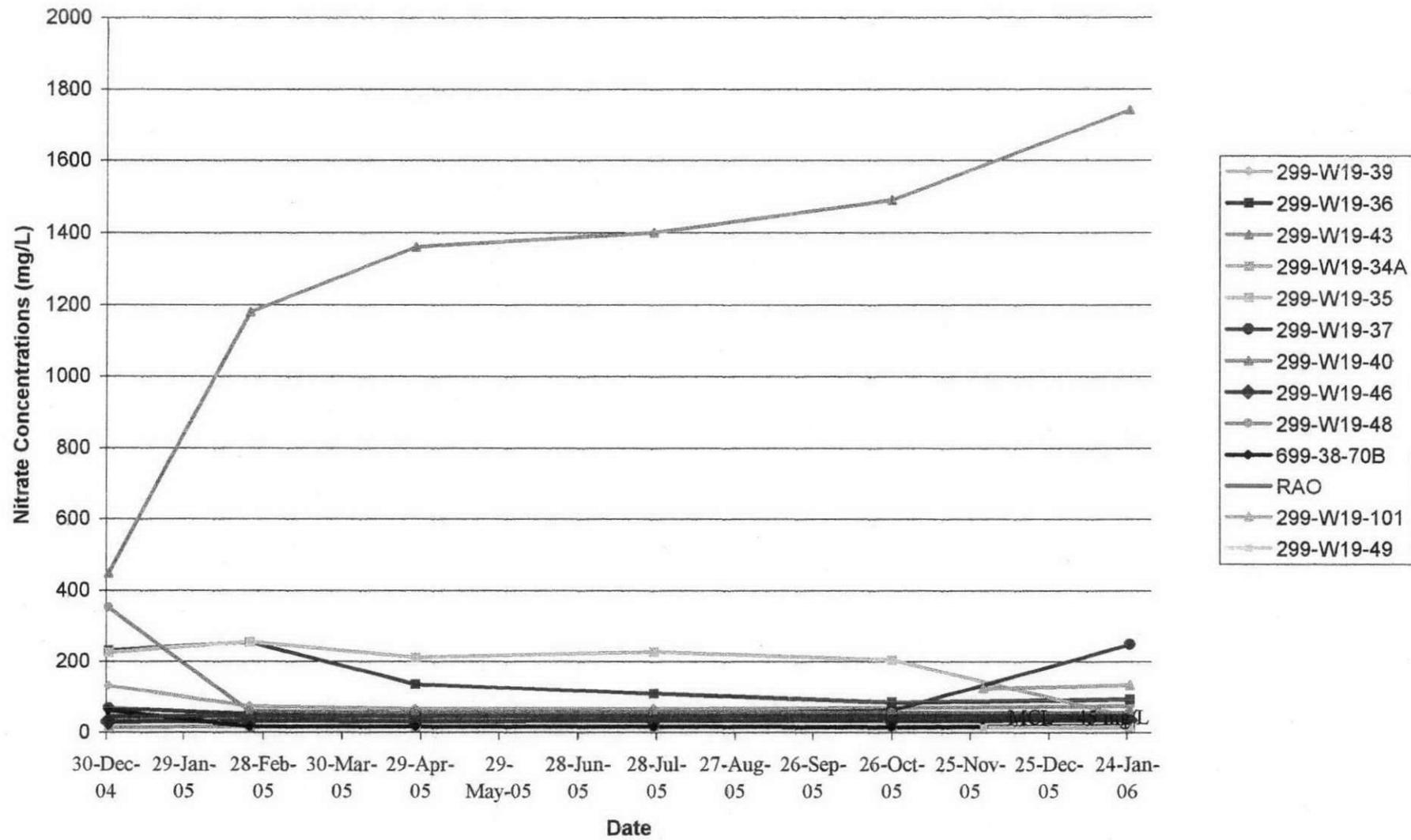
Attachment 5, Figure 2

Carbon Tetrachloride Rebound Study, 200-UP-1



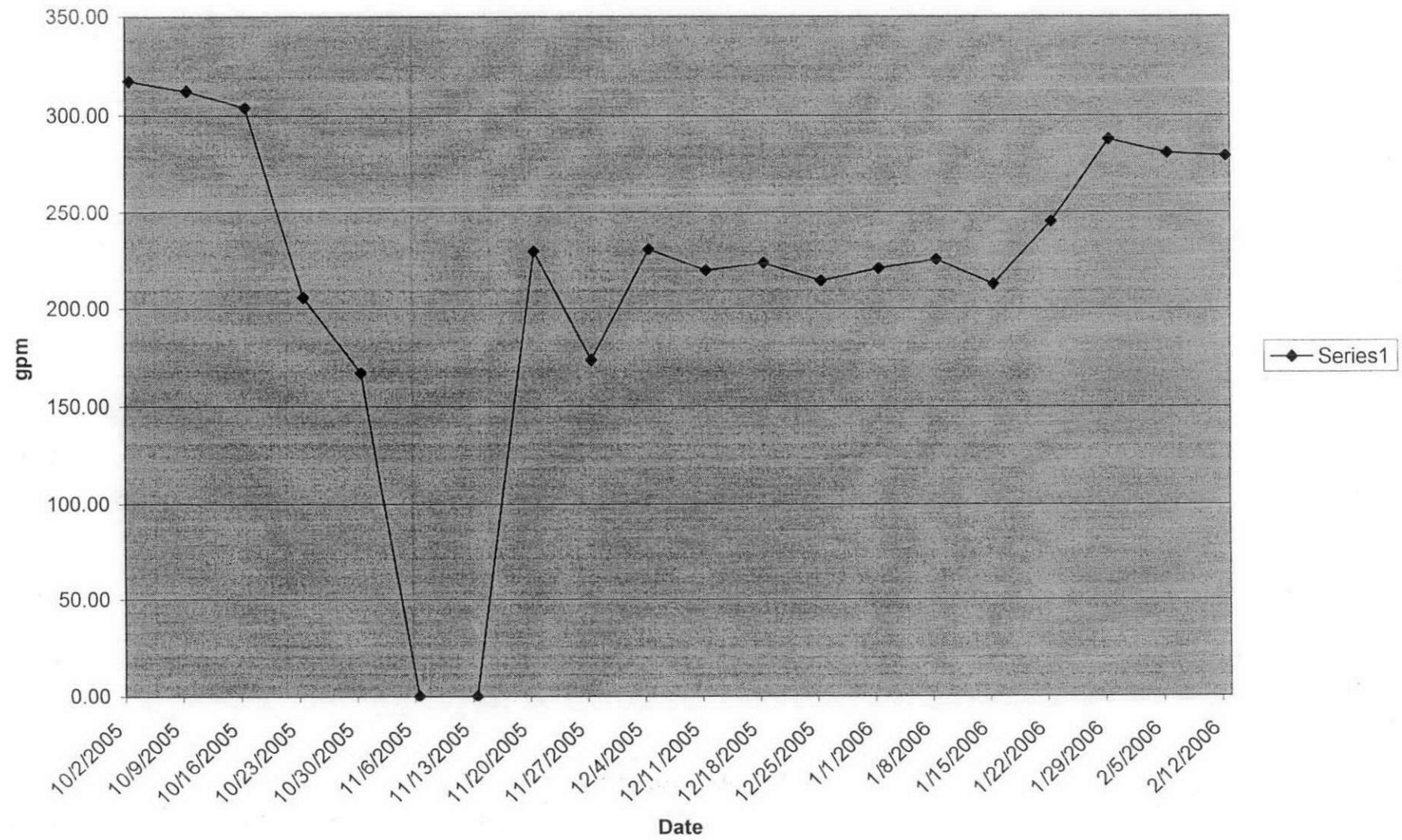
Attachment 5, Figure 3

Nitrate - Rebound Study 200-UP-1



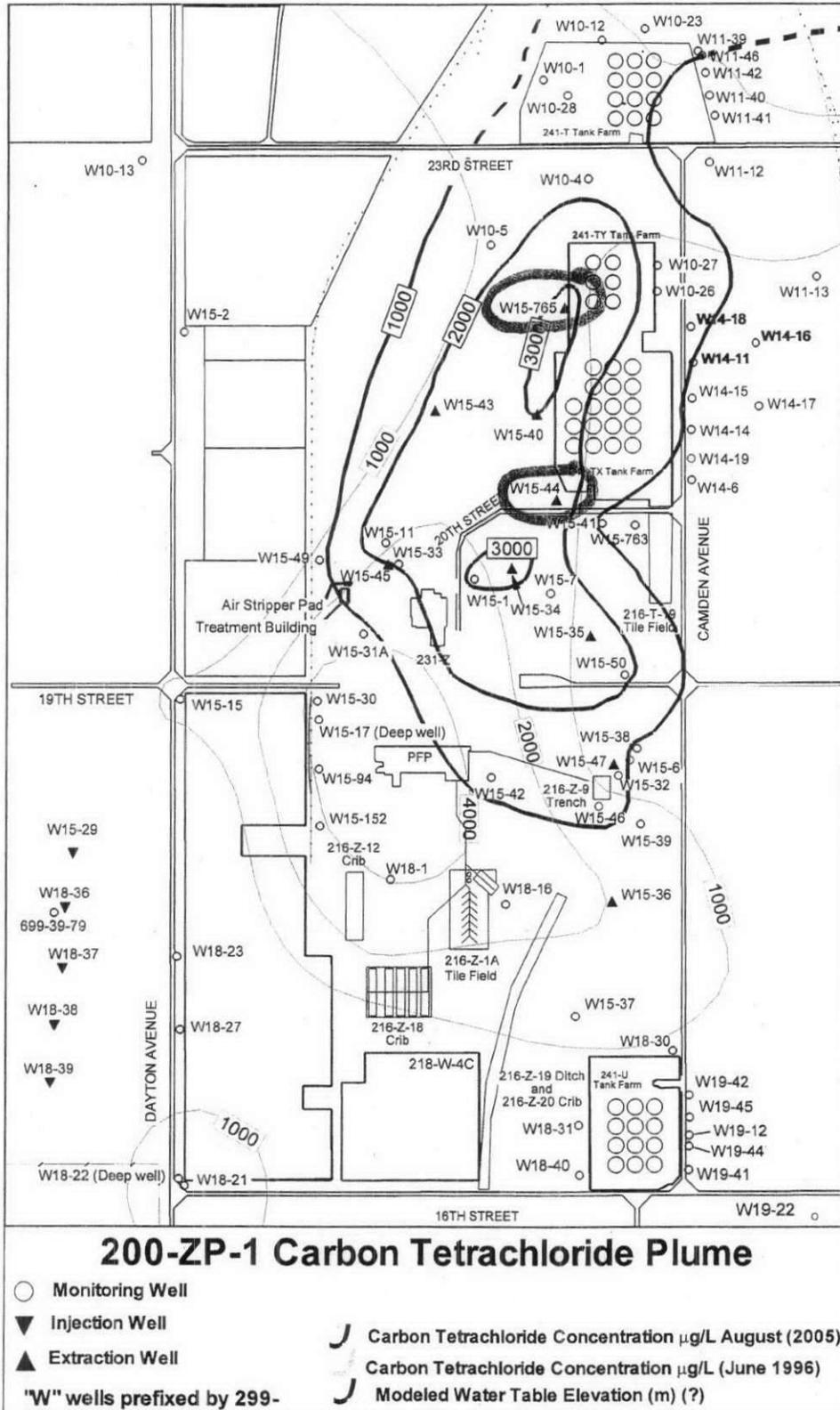
Attachment 5, Figure 4

200-ZP-1 Groundwater Pumping Rates

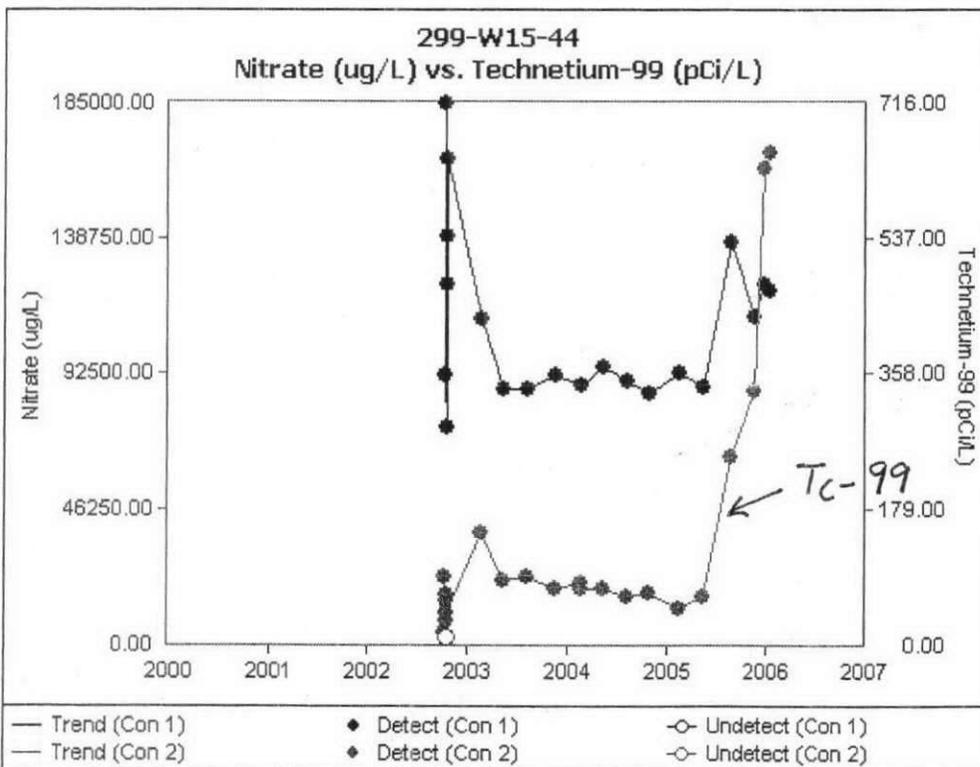
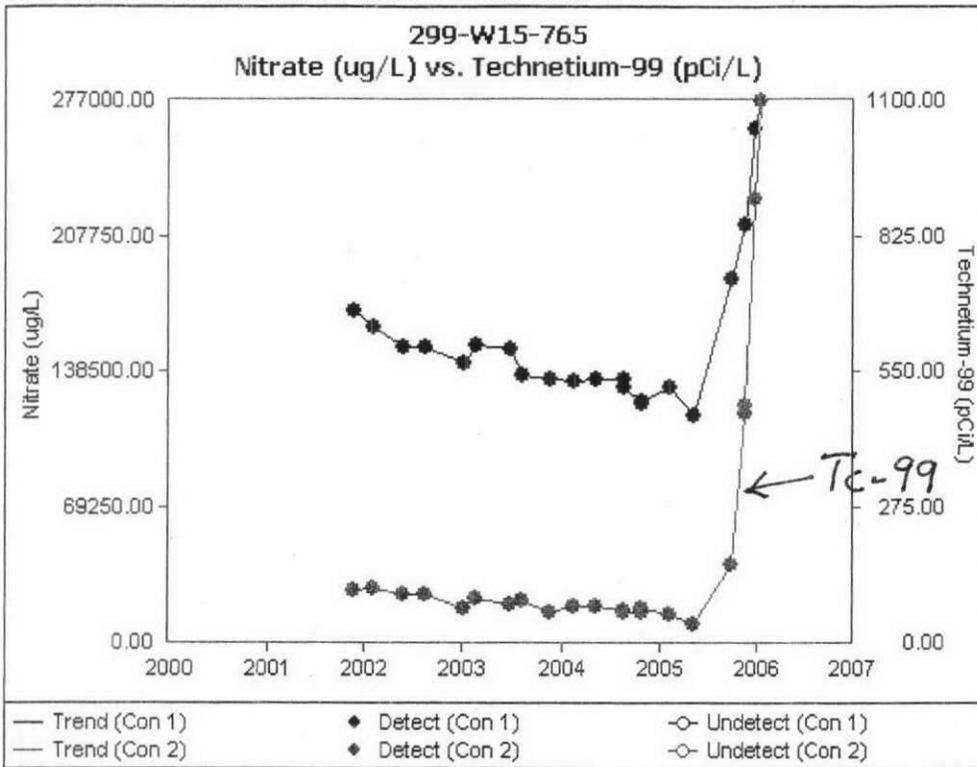


Attachment 5, Figure 6

v



Nitrate and Technetium-99 at New Extraction Wells



**200-ZP-1 Feasibility Study Kickoff Meeting Minutes
(meeting held 15 Feb 2006 9AM to 3 PM)**

Initial Screening of Technologies (Mike Truex)

Mike Truex discussed the screening of technologies.

It is important to match up the COCs being addressed by screening with BRA and FS. Arlene Tortoso asked that we please be sure to document in FS any COCs that are not being directly addressed.

Dennis Faulk clarified that MCLs will be the cleanup goals. TI Waiver and ACLs not necessary because Points of Calculation (POCs) will be adjusted spatially to reflect bounding edge at MCLS. Dennis would like to discuss based on training technical impracticability determination.

Consideration will have to be given to potential vadose source zones as part of the Principal Threat. The implications to FS are that selection and conceptual design of remedial technologies will have to consider significant contributions from vadose zone sources. This may require additional characterization of vadose zone sources. It may also require that remediation of vadose zone sources be conducted in conjunction with the application of any groundwater treatment technology that may be used.

Dennis Faulk concurred with Mike Truex that it made sense to evaluate technologies with respect to differing spatial scales and contaminant concentrations (i.e., concentrated small sources, concentrated large sources, and dilute regions of the plume) per Table 2 of Truex's handout.

Wes Bratton noted that the three dimensional distribution of contamination must be considered relative to screening and application of treatment technologies.

Dennis Faulk noted that the overall remedial strategy must take out the heart of the CCL4 in order to get distal compliance at MCLs.

Dennis Faulk noted that we must consider cost as a balancing criterion per NCP, not a threshold criterion.

Risk Assessment and Modeling (Marcel Bergeron)

Marcel Bergeron proposed that CCl4, Tc-99, U, I-29, chromium be used in risk calculations, but TCE, tritium, and nitrate be excluded. Tritium because of short half life, TCE would be taken care of along with CCl4.

The group noted that not all sources of TCE were coincident with sources of CCl4.

Rick Dinicola mentioned that it might be OK to treat CCL4 as a surrogate of TCE since TCE plume is within CCl4 plume.

Attachment 5, Figure 8

There was considerable uncertainty expressed throughout the meeting by many parties as to how and what type of modeling would be used as part of the remedy development. There was general recognition that groundwater modeling should be used to assist the determination of where POCs will be established beyond which MCLs are not violated. Dennis Faulk noted that TCE will be carried through the remedial decision process as a COC, but that modeling of TCE would not be required as part of BRA. Basically, that CCl4 and Tc-99 will be sufficient to demonstrate that action is needed from a baseline risk assessment.

Dib Goswami indicated that he thought that all 8 COCs needed to be included in the BRA. Dennis Faulk noted that all 8 COCs would be carried through, the question was whether full blown risk modeling was required for all 8 COCs to establish that there is a baseline risk. Dib Goswami expressed concern that cumulative effects might be missed if all 8 were not modeled.

Dennis Faulk noted that it has been decided that a reasonable restoration out year target is the year 2150, based on the Tri-Party HAB Advice Number 132. This is a key date for predicting that contaminant concentrations are below MCLs outside the core zone or at the POCs.

Dennis Faulk noted that nitrate may be a concern. If we cleanup all other COCs and do not address nitrate, we could still not be in compliance with MCLs for nitrate.

Dennis Faulk ask that we develop a proposal for what modeling would be required; both risk and fate and transport to groundwater. Provide the rationale.

Discussion among the group indicated that both the RI and especially the FS needs to clarify that there are two types of modeling, one is the fate and transport modeling from the vadose to groundwater and the subsequent movement of the groundwater; the second is the risk modeling. These are separate codes. The FS may do F&T modeling for select COCs and do risk calculation/modeling on a greater number of COCs.

Because of the PW-1 RI/FS milestone change and the recognition of considerable critical path modeling that may be required post-RI for ZP-1, Dennis Faulk offered to add 120 days to the TPA milestone M-015-48B. The offer was gratefully accepted by the team.

Dennis Faulk asked that we have a separate meeting where we discuss what parameters make a difference in modeling (See Action Item 12).

Dennis Faulk and Rick Dinicola wanted to be sure the concept of the CCl4 plume moving in two different directions (i.e., the upper portion moving differently from the lower portion) was taken into consideration.

Attachment 5, Figure 8

Dennis Faulk clarified that, where appropriate (i.e., outside the core zone), the commercial farmer scenario should be used instead of the residential farmer scenario, in part to be consistent with Idaho

Dennis Faulk noted that the core zone may be considered a waste management area. If this is the case, the remedy will have to address meeting MCLs just outside of this area. Also, that the FS would have to evaluate what it will take (cost and time) to restore the entire aquifer to drinking water quality. Also, the river is the boundary for the No Action alternative.

Dennis Faulk identified a State policy of No Further Degradation that must be considered in the ARAR analysis. How the spatial component of the No Further Degradation policy will be implemented is still under consideration and will affect the determination of POCs.

Also, Dennis Faulk noted that many of the ARARs in the Aggregate Management Study will be applicable at ZP-1.

For groundwater modeling, don't use a value of zero for sorption as the bounding lower value. Instead, use the lowest value measured at the site.

Technical Impracticability waivers and development of ACLs are generally not used in Region 10. Instead, the compliance boundaries are adjusted to meet MCLs.

It would be useful to identify the Principal Threats to groundwater in the RI report to set the stage for the FS.

Dennis Faulk requested that regular meetings be held on the FS similar to the workshops conducted by Vista.

The Hanford site might not be ready for a final ROD. Keep this in mind. Develop a contingency position that will allow the Tc-99 and CCl4 to be addressed as priorities.

Historically, the link between the risk assessment and the need for taking action has been weak. Make sure that the FS addresses this issue well.

Dennis Faulk asked that the risk assessment section of RI needs to address primary risk drivers that need to be addressed in the FS and ROD.

The logic for eventually establishing compliance locations should follow this basic structure: Groundwater models will include points of calculation. If contamination is shown to migrate outside of the WMA above MCLs, additional action will have to be taken as part of the remedy. A goal of the remedy is to minimize the area affected above MCLs.

Attachment 5, Figure 8

Also include in the discussion of the remedy in the FS that, based on what we currently know, the system has to be "this big" and run for "this long." Contingencies will have to be developed for when these assumptions are violated.

The ZP-1 ROD will require a discussion of Treatment, Storage, and Disposal facility jurisdiction.

There seems to be a general consensus that the ZP-1 FS must be coordinated with PW-1

Feasibility Study Approach and Issues

Dennis Faulk reminded us that the public expects us to do something about the very contaminated core area. He noted that the stakeholders (HAB?) are embarking on a "Great Groundwater Journey" soon.

He also said that he would like to be provided with an understanding of how complex modeling will be used to make remedy decisions.

Dennis Faulk suggested that a fear was that the remedy developed under the ZP-1 ROD would only serve to expand the Interim Actions, addressing only Tc-99 and CCl4. The "high bar" will be to address all 8 COCs.

He said the Central Plateau is being set up as a Waste Management Unit.

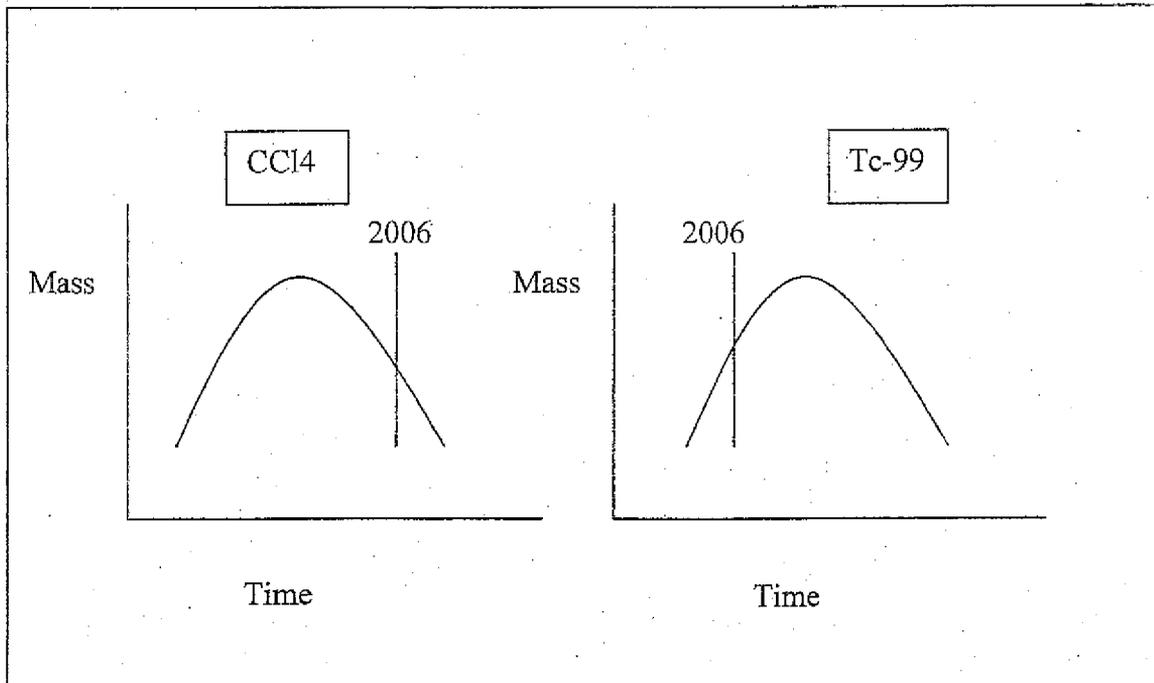
Dennis Faulk pointed out that how the BRA discussion is put together is essential. But taking credit for MNA must be done in the context of some other action.

Bruce Ford pointed out that reduction of the contaminant mass is the goal of this FS.

How the No Action alternative is developed is at the discretion of the FS team.

A discussion of release curves for CCl4 and Tc-99 ensued.

The figure below shows the concept behind the release curves that must be considered as part of remedy development.



Use the SSTPA for information on the release curves.

Dennis Faulk noted that the groundwater remedy should point to problems that originate in the vadose zone. He noted that the CCl₄ cleanup is already linked to the vadose zone cleanup.

Discussion of the entire day's subjects occurred. It was noted that the Executive Committee should be made aware of some of our key issues and our proposed approaches, but that we needed to boil down issues into a 30 minute discussion. Presentation to Executive Committee may occur in the April timeframe.

Finally, Dennis Faulk encouraged those of us developing the remedy to always take time to put on the regulator's hat and consider our positions from the position of having to defend it as a regulator.

Action Items

- 1) Describe the process, rationale, and logic for getting to the list of 8 COCs. Need to make the distinction between what is carried as a COC and what is modeled. Describe in "Joe 6-Pack" terms. Develop a proposal to EPA that lays out how COCs will be handled throughout FS and Remedy process (i.e., which of the eight COCs will be modeled and which will be carried through the process without modeling)? Also recognize that the 8 COCs have to be addressed consistently throughout the screening of technologies process, the BRA, the FS, PP, and ROD. This rationale and logic must be presented in the FS. This evaluation will have to

Attachment 5, Figure 8

be reviewed and discussed by all of the stakeholders. This needs to be done relatively soon. Mark Byrnes indicated he would take the lead on this.

- 2) Refine the CSM to
 - a. reflect that there are multiple hydrologic zones, a source plume, deep plume, and distal plume. All 8 COCs must be considered relative to these hydrologic zones.
 - b. Describe history of 8 COCs introduction to the environment based on inventories and other sources of information in quantitative, spatial, and temporal terms.
- 3) As part of technology screening, Mike Truex should be sure to identify the key cost drivers associated with any technologies carried forward to the FS.
- 4) Mitzi Miller asked Mike Truex to email Table 3 of handout to her for incorporation into RI.
- 5) Team needs to develop a strategy for how various types of models will be used in remedy development (i.e., risk analysis, groundwater modeling).
- 6) Describe the decision logic for developing remedial action objectives – make sure to include spatial (i.e., core zone vs. distal) and ARAR considerations.
- 7) Mike Truex will revise approach to screening of technologies to reflect today's comments
- 8) Need to continually be aware and resolve approaches between ZP-1 and UP-1.
- 9) Bruce Ford will take action to initiate revision of ZP-1 FS deliverable to add 120 days to the TPA milestone.
- 10) The results of the DNAPL study being conducted by Vista must be incorporated into the any modeling that needs to be done.
- 11) For FS analysis, make sure that most current data sets are being used in the analysis. Make sure to establish a date beyond which no additional data will be considered.
- 12) We need to describe and agree upon how various forms of modeling will be used in the FS remedy development. For groundwater, the team needs to develop a more robust understanding and position as to how groundwater modeling will be used to support remedy development. Issues to discuss and resolve include:
 - a. Source terms
 - b. Assumptions about current contaminant geometry
 - c. Fate analyses
 - d. Points of calculation
 - e. Incorporating data from inventories
 - f. Sensitivity analyses
 - g. Identification of key uncertainties

Attachment 5, Figure 8

- 13) Dib Goswami will provide Ecology's concerns regarding inventories, specifically relative to Tc-99, to DOE and EPA.
- 14) Chris Murray (PNNL) should update the 3-dimensional portrayals of the CC14 plume using the most recent data.
- 15) An official request for ARARs should be made soon after the initial screening of technologies is complete. But, start with the Aggregate Management Study.
- 16) Identify the Principal Threats to groundwater in the RI report to set the stage for the FS.
- 17) Need to acquire Idaho work on commercial farmer scenario.

FS/PP Implementation Schedule

2006

2007

Feasibility Study

MAR APR MAY JUN JUL AUG SEP OCT NOV DEC JAN FEB MAR APR MAY

Identify Screen Techs



Develop/Screen Alts



ARAR/RAO/PRG Dev.



Human/Ecol Risk Assess



Alternatives Modeling



Detailed Analysis



Comparative Analysis



Conclusions



Compile Draft FS Report



Issue Internal Draft FS



Issue Decisional Draft FS to RL



5/31/06

Issue Draft A FS to EPA



Proposed Plan

Prepare Draft Proposed Plan



Issue Internal Draft PP



Issue Decisional Draft PP to RL

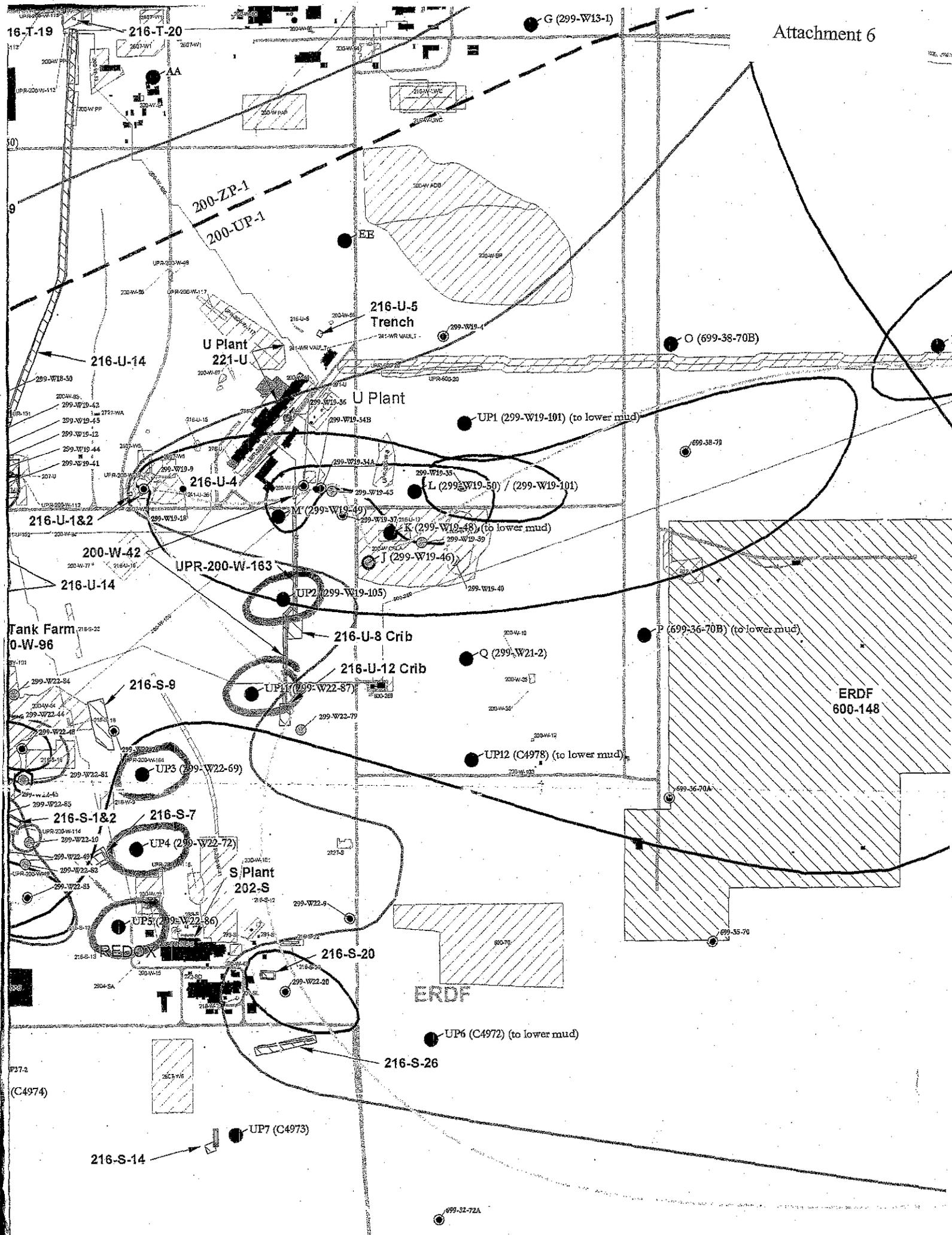


5/31/07

Issue Draft A PP to EPA



Attachment 5, Figure 8



16-T-19

216-T-20

G (299-W13-1)

50

9

200-ZP-1
200-UP-1

EE

216-U-5
Trench

O (699-38-70B)

216-U-14

U Plant
221-U

U Plant

UP1 (299-W19-101) (to lower mud)

299-W18-50
299-W19-42
299-W19-43
299-W19-12
299-W19-44
299-W19-41

216-U-4

L (299-W19-50) / (299-W19-101)

216-U-1&2

M (299-W19-49)

K (299-W19-48) (to lower mud)

200-W-42

UPR-200-W-163

J (299-W19-46)

216-U-14

UP2 (299-W19-105)

Tank Farm
20-W-96

216-U-8 Crib

P (699-36-70B) (to lower mud)

216-S-9

216-U-12 Crib

Q (299-W21-2)

UP1 (299-W22-87)

ERDF
600-148

299-W22-84
299-W22-44
299-W22-48
216-S-18
299-W22-81
299-W22-85

UP3 (299-W22-69)

UP12 (C4978) (to lower mud)

216-S-1&2

216-S-7

UP4 (299-W22-72)

S Plant
202-S

299-W22-49
299-W22-50
299-W22-83
216-S-13

UP5 (299-W22-86)

216-S-20

ERDF

299-W22-85
299-W22-86
299-W22-87
299-W22-88
299-W22-89
299-W22-90
299-W22-91
299-W22-92
299-W22-93
299-W22-94
299-W22-95
299-W22-96
299-W22-97
299-W22-98
299-W22-99
299-W22-100

REDOX

T

UP6 (C4972) (to lower mud)

216-S-26

(C4974)

UP7 (C4973)

216-S-14

699-32-72A

200 AREA UNIT MANAGERS' MEETING SOURCE OPERABLE UNITS AND FACILITIES STATUS

1200 Jadwin/Rm 1-C1

SOURCE OPERABLE UNITS STATUS

M-15 TPA Milestones

- Technical discussions of milestones began the week of February 13, 2006.

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

- Drilling started February 14, 2006. Contamination was encountered around 48 feet downhole, as anticipated. Drilling continues under a RWP. On March 9, 2006, the drill casing was at a depth of 52 feet downhole.
- Comments are being incorporated into the draft field summary report for A-8 borehole.
- Work is progressing on the 200-PW-1/3/6 RI Report. The report is on schedule to meet the October 31, 2006 TPA milestone date.
- Vista Engineering completed a cross-well seismic investigation in the 216-Z-1A area on 3/8/06. The results will be used to refine the stratigraphy under the waste site to support evaluation of contaminant migration pathways.
- Vista Engineering drilled a well 190 ft deep at the headend of Z-1A to support the cross-well seismic test. The well will be geophysically logged before it is decommissioned.
- PFP conducted the load test of the 216-Z-9 concrete cover slab on 3/03/06. Based on the results of the load test, Vista Engineering will be able to gain access to the 216-Z-9 trench to make measurements in the air space between the concrete cover slab and the trench floor to support the conceptual model of carbon tetrachloride evaporation during disposal. Vista plans to install the instrument tree in the air space during the week of 3/13/06.
- The interpretation and final report of the cross-well seismic investigation at Z-9 are anticipated in mid-March.

200-TW-2 & 200-PW-5 (no change)

200-CW-1 & 200-CW-3 (no change)

200-PW-2 & 200-PW-4

- The Decisional Draft FS and Proposed Plan were delivered to RL for review on March 9, 2006. Draft closure plans were also provided for review.

200-CS-1

- FS on schedule for Draft A submittal on March 31, 2006.
- PP on schedule for Draft A submittal on March 31, 2006.
- Closure Plans on schedule for Draft A submittal on March 31, 2006.
- Presented initial Feasibility Study, Proposed Plan and Closure Plan findings to Ecology February 06, 2006.

200-CW-5, CW-2, CW-4, & SC-1

- Meeting held to discuss U-Pond.
- Researching discrepancies between the September 1974 Battelle document and the RI data at U-Pond.

Ecological Risk Assessment (no change)

200-IS-1 & 200-ST-1

- Ecology provided position paper on Bayesian approach.
- FH set up meeting on March 8, 2006 to discuss Ecology comments on Bayesian approach.

200-LW-1/200-LW-2

- RI Report was delivered to Ecology on 2/28/2006 to support the TPA Milestone date.
- Ecology intends to ask for an extension on the review of RI Report.

200-MW-1

- RI Report is on schedule to support the 4/30/2006 TPA Milestone date.

200-UR-1 (no change)

200-SW-1/2

- Historical records research for the 22 Bin 3A and Bin 3B waste sites continues. Records have been assembled for each burial ground, and (where possible) on per trench and per waste package basis.
- The best, currently-available data (including over 145,000 burial records) is being used to support a mini-DQO process for non-intrusive investigations. These data have been converted from multiple spreadsheets to an ACCESS database.
- DQO workshops addressing non-intrusive characterization for the Bin 3A and Bin 3B sites are nearly complete.
 - A preliminary draft DQO summary report has been submitted to DOE and Ecology for review.

- Comments on DQO steps 1-7 have been received from DOE.
- Comments on DQO steps 1-6 have been received from Ecology
- Comments on Step 7 are being developed.
- Development of a corresponding Sampling and Analysis Instruction document is underway. These collaborative workshops have included participants from FH, DOE-RL, Ecology, and EPA.

BC Cribs and Trenches

- Letter from RL to EPA in December offered potential to excavate near-surface contamination under some conditions. Supporting efforts to resolve discrepancies in the remedial actions at BC Cribs include:
 - Status was presented to the HAB on 1/11/06. Path-forward is being developed.
 - Development of excavation criteria is proceeding with focus on “hot spots” representing potential intruder risk.
 - Recent meeting on 3/3/2006 provided additional clarification of EPA’s position

200-UW-1

- Field work per the Time Critical Removal Action (TCRA) RAWP continues. 200-W-42 pipeline from the south end of 216-U-8 to 216-U-12 crib has been removed. Sampling is expected to be done week of 3/13/06. Slab near 216-U-12 has been crushed and transferred to ERDF along with W-42 pipeline and contaminated soil. TEDF reroute excavated and piping installed. Pressure test occurring on 3/9/06.
- Obtained verbal authorization to complete the remainder of 200-W-42 pipeline except under caps or 16th Street. Submitted changes to TCRA AM, SAP and RAWP to address scope change. Approval was granted [see Attachment 10 – note in Summary Description that overall length of the 200-W-42 VCP is actually 560 m (1836 ft) and expansion of the scope adds approximately half that length, 302 m (990 ft)]. Expect to start new scope by end of March.
- RCRA/CERCLA integration issues between EPA and Ecology have been resolved. ROD development/review restarted. Tri-party reviews of draft responsiveness summaries restarted on 3/7/06. Delay of ROD approval beyond 1/2/06 compresses schedule for the installation of engineered caps on 216-U-8 and 12 cribs.
- Public comment period for TPA Change Request for reclassifying Crib 216-U-12 to a Past Practice unit was completed on 11/21/05. Responsiveness summaries are being worked.
- Barrier design for 200-U-12 is now expected to be a simple soil cover in lieu of a capillary break design. Ecology and EPA desire to have some instrumentation of soil cover. Proposed design ready for Ecology/EPA presentation.
- 90% Barrier Design being reviewed by FH. Draft RDR/RAWP in parallel review.
- PRGs/RAGs for 200-UW-1 need to be finalized. Modeling methodology and input parameters presented to both EPA and Ecology. Due to expected time to approve the modeling approach, we need to establish criteria for current project RTD.
- Haul Road construction into borrow area expected to be completed by mid-March. Paving planned to start for 3/16/06.

FACILITIES STATUS

- **U Plant Canyon Disposal Initiative (CDI)**
 - Continued development of Remedial Design Engineering Alternatives Studies
 - Canyon reactivation study (crane, HVAC, and electrical/lighting) (May)
 - Equipment size reduction/cell space optimization study (June)
 - Canyon demolition study (July)
 - Continued development of Removal Action Work Plan (RDR/RAWP)
- **Facility Binning (no change)**
- **Miscellaneous Facility D&D**
 - Planning to D&D five structures (2707E, 2713E, 2715E, 2719E and 2722E) that do not have active utilities and have already undergone initial demolition preparation activities. This effort provides fill-in work and a skills-sharpening opportunity for workers that are awaiting demolition work at PFP's 232-Z structure as its start has been delayed.
- **B-Plant Stack Downgrade to Minor Emission Status (no change)**
- **PUREX Stack Downgrade to Minor Emission Status (no change)**
- **209E, B-Plant, U-Plant, PUREX and REDOX Ventilation Transition to Intermittent Ventilation (no change)**

Attachment 8

APPROVAL OF THE CARBON TETRACHLORIDE EXPEDITED RESPONSE ACTION
SOIL VAPOR EXTRACTION SYSTEM OPERATING PLAN FOR FY 2006

The Unit Managers for the Carbon Tetrachloride Expedited Response Action (200-PW-1 Operable Unit) approve the attached FY 2006 Soil Vapor Extraction System Operating Plan.

A. C. Tortoso 3/1/06 D. A. Faulk 3-6-06

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

FY 2006 SOIL VAPOR EXTRACTION SYSTEM OPERATING PLAN FOR THE
CARBON TETRACHLORIDE EXPEDITED RESPONSE ACTION
(200-PW-1 OPERABLE UNIT)

Soil vapor extraction will be used at the 200-PW-1 Operable Unit (OU) during FY 2006 to remove carbon tetrachloride from the vadose zone. The primary objectives for this remediation are protection of the groundwater and mass removal. Only the 14.2 m³/min soil vapor extraction (SVE) system will be operated. Two sites will be remediated using SVE: the 216-Z-9 (Z-9) site and the 216-Z-1A/Z-18/Z-12 (Z-1A) site. Specific on-line wells have been selected prior to start-up at each site based on vapor monitoring, previous concentration trends, and location. These site-specific plans are included in this operating plan for approval by the Unit Managers prior to implementation. Based on characterization data collected at on-line wells during operation, the mix of on-line wells may be reconfigured during operations to optimize removal. These adjustments to the mix of on-line wells will not be submitted to the Unit Managers for approval prior to implementation but will be reported at Unit Manager Meetings. Ongoing passive soil vapor extraction will be maintained at Z-1A wells.

Soil vapor monitoring will be conducted at vadose zone locations near the groundwater, the Cold Creek unit (formerly called the Plio-Pleistocene layer), and the ground surface at the Z-1A and Z-9 sites while they are not being actively remediated using SVE. The soil vapor monitoring plan for both sites from April 2006 through September 2006 is included with this operating plan for approval prior to implementation. Monitoring results will be reported at the 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 vapor extraction system to address the problem).

The anticipated schedule for SVE operations and soil vapor monitoring is:

April 2006 through June 2006:	Operate the SVE system at the Z-1A site Monitor soil vapor concentrations at the Z-9 site
July 2006 through September 2006:	Operate the SVE system at the Z-9 site Monitor soil vapor concentrations at the Z-1A site

Vista Engineering Technologies, L.L.C. (VET) is planning to conduct vadose zone investigations at the Z-1A site in March 2006. VET plans to have these investigations completed before April 2006 in support of the start of vapor extraction operations at Z-1A. The Unit Managers agree that soil vapor extraction operations may be initiated a few days after April 1 in the event that VET needs a few extra days to complete their investigation.

SOIL VAPOR EXTRACTION SYSTEM OPERATING PLAN AT THE
216-Z-1A, 216-Z-18, AND 216-Z-12 SITE
April 2006 – June 2006

Twenty-six wells at the 216-Z-1A, 216-Z-18, and 216-Z-12 site (Z-1A site) are identified for potential soil vapor extraction (Table 1). Selected wells will be prepared for potential hook-up to the soil vapor extraction system during April through June 2006.

The last non-operational soil vapor monitoring at Z-1A prior to SVE restart will take place in mid to late March 2006. At that time, any sampling tubes will be removed from potential on-line wells. The current wellhead assemblies (configured for non-operational soil vapor monitoring) will not be disturbed until the monitoring has been completed and the tubing removed.

Passive soil vapor extraction is being conducted at the following Z-1A wells with lower intervals open between the Cold Creek unit and groundwater: 299-W18-6L, 299-W18-7, 299-W18-10L, 299-W18-11L, 299-W18-12, 299-W18-246L, 299-W18-247L, 299-W18-252L (Table 2).

For initial start-up operations at Z-1A, extraction will be implemented at five planned intervals in the Z-1A tile field: 299-W18-165, 299-W18-166, 299-W18-167, 299-W18-168, and 299-W18-174 (Table 1) (Figure 1). Start-up operations in FY 2001, FY 2002, FY 2003, FY 2004, and FY 2005 were also initiated using these five extraction intervals (a sixth interval selected in FY 2001 produced virtually no flow). Selecting the same set of initial wells will allow the rebound in FY 2006 to be compared to the rebound in previous years. (Note: The selection of initial on-line wells may need to be modified to accommodate the vadose zone investigations being conducted at Z-1A by Vista Engineering Technologies. However, every attempt will be made to use wells 299-W18-165, 299-W18-166, 299-W18-167, 299-W18-168, and 299-W18-174, as planned.)

These five intervals will be characterized on the first day of operations. During continued operations, all on-line wells will be characterized each week and all off-line wells, if requested, will be characterized during the 2nd, 4th, 6th, 8th, 10th, and final weeks, according to the attached sampling and analysis plan (Table 3). As before, the mix of on-line wells will be periodically changed during operations, based on changing concentrations, extraction interval locations, and operating experience. In general, the initial extraction wells will be nearer the primary carbon tetrachloride source (Z-1A Tile Field) and wells added later will expand operations away from this source.

The 200-PW-1 OU technical lead organizes and maintains spreadsheets of the characterization data on a desktop computer. The characterization data are included in the annual performance evaluation report.

SOIL VAPOR EXTRACTION SYSTEM OPERATING PLAN AT THE
216-Z-9 SITE
July 2006 – September 2006

Twenty-three wells at the 216-Z-9 site (Z-9 site) are identified for potential vapor extraction (Table 4). Selected wells will be prepared for potential hook-up to the soil vapor extraction system during July through September 2006.

The last non-operational soil vapor monitoring at Z-9 prior to SVE restart will take place in mid to late June 2005. At that time, any sampling tubes will be removed from potential on-line wells. The current wellhead assemblies (configured for non-operational soil vapor monitoring) will not be disturbed until the monitoring has been completed and the tubing removed.

For initial start-up operations at Z-9, extraction will be implemented at four planned intervals: 299-W15-217, 299-W15-82, 299-W15-9U, and 299-W15-9L (Table 4) (Figure 1). Start-up operations at Z-9 in FY 1998, FY 1999, FY 2001, FY 2002, and FY 2004 were also initiated using these four extraction intervals. (A slightly different set of initial wells was used in FY 2005). Selecting the same set of initial wells will allow the rebound in FY 2006 to be compared to the rebound in previous years. (The SVE system was not operated at the Z-9 site during FY2003 to avoid interfering with the characterization sampling to be conducted during drilling of well 299-W15-46.)

These four intervals will be characterized on the first day they are placed into operation. During continued operations, all on-line wells will be characterized each week and all off-line wells, if requested, will be characterized during the 2nd, 4th, 6th, 8th, 10th, and final weeks, according to the attached sampling and analysis plan (Table 3). The mix of on-line wells will be periodically changed during operations, based on changing concentrations, extraction interval locations, and operating experience. In general, the initial extraction wells will be nearer the carbon tetrachloride source (Z-9 Trench) and wells added later will expand operations away from this source.

The 200-PW-1 OU technical lead organizes and maintains spreadsheets of the characterization data on a desktop computer. The characterization data are included in the annual performance evaluation report.

VADOSE ZONE MONITORING PLAN FOR SOIL VAPOR EXTRACTION SITES
April 2006 – September 2006

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 April through September 2006 for the 200 West Area Carbon Tetrachloride Expedited Response Action (200-PW-1 Operable Unit). Non-operational monitoring will be conducted at the 216-Z-9 (Z-9) site during April through June 2006 while the soil vapor extraction (SVE) system is operating at the 216-Z-1A/Z-18/Z-12 (Z-1A) site. Non-operational monitoring will be conducted at the Z-1A site during July through September 2006 while the SVE system is operating at the Z-9 site. Passive soil vapor extraction monitoring will be conducted at the Z-1A site from April 2006 through September 2006.

Vista Engineering Technologies, L.L.C. will be conducting field investigations in the Z-9 and Z-1A areas during April 2006 through September 2006 as part of the investigation of dense, nonaqueous-phase liquid carbon tetrachloride (DOE/RL-2004-78). Non-operational monitoring and/or passive soil vapor extraction monitoring will be temporarily suspended at any existing well and/or probe that is being used to support these investigations. Other monitoring locations at the Z-9 and Z-1A sites will be adjusted as needed to accommodate these field activities.

Scope: Monitor carbon tetrachloride soil vapor concentrations at selected probes and wells during non-operation of the soil vapor extraction (SVE) system (Tables 5 and 6). At any particular time, all of the probes and some of the wells will be "non-operational," i.e., they will not be connected to the SVE system. Eight of the 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 carbon tetrachloride 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 accordance with GRP-EE-01-5.1
- Analyze soil vapor samples for carbon tetrachloride using the B&K field screening instrument in accordance with GRP-EE-05-4.0 at field screening level QC-1 (HNF-20635, Appendix B)
- Evaluate concentration trends for the Fluor Hanford Waste Disposal/Groundwater

Remediation Project

- Report results to 200-PW-1 Operable 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 measure 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 the 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 measure carbon tetrachloride concentrations and trends near the vadose-groundwater interface; 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 April 2006 through September 2006 during FY 2006.

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 5). These monitoring locations may be revised by the 200-PW-1 OU task lead based on developing trends, accessibility, and/or recommendations of the sampler. The 200-PW-1 Operable Unit Managers will be advised of any changes to the monitoring locations. Monitoring locations are shown on Figures 2 and 3.

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 OU technical lead organizes and maintains spreadsheets of the field screening data on a desktop computer. The field screening data are included in the annual performance evaluation report.

Attachment 8

References:

DOE/RL-2004-78, 2004, Work Plan for Integrated Approach for Carbon Tetrachloride Source Term Location in the 200 West Area of the Hanford Site, U.S. Department of Energy, Richland Operations Office, Richland, Washington 99352.

GRP-EE-05-4.0, *Analysis of Volatile Organic Compounds in Vapor Samples Using the Bruel and Kjaer 1301 and Innova 1312 Multi-Gas Analyzers*, Fluor Hanford, Inc., Richland, Washington.

GRP-EE-01-5.1, *Soil-Gas Sampling*, Fluor Hanford, Inc., Richland, Washington.

HNF-20635, *Groundwater Remediation Project Quality Assurance Project Plan (GRP-QA-001)*, Appendix B, "Additional QA Requirements Specific to Onsite Measurement," Fluor Hanford, Inc., Richland, Washington.

Table 1. Wells Available for Soil Vapor Extraction System Operations at the 216-Z-1A/Z-18/Z-12 Site, April through June 2006

Potential On-Line Wells	Reason	Initial Wells
299-W18-6U	Mass removal	
299-W18-89	Mass removal	
299-W18-93	Mass removal	
299-W18-94	Mass removal	
299-W18-96	Mass removal	
299-W18-97	Mass removal	
299-W18-98	Mass removal	
299-W18-99	Mass removal	
299-W18-152	Mass removal	
299-W18-153	Mass removal	
299-W18-157	Mass removal	
299-W18-158L	Mass removal	
299-W18-159	Mass removal	
299-W18-163L	Mass removal	
299-W18-165	Mass removal	X
299-W18-166	Mass removal	X
299-W18-167	Mass removal	X
299-W18-168	Mass removal	X
299-W18-169	Mass removal	
299-W18-171L	Mass removal	
299-W18-174	Mass removal	X
299-W18-246U	Mass removal	
299-W18-247U	Mass removal	
299-W18-248	Mass removal	
299-W18-249	Mass removal	
299-W18-252U	Mass removal	

Table 2. Passive Soil Vapor Extraction Wells at the 216-Z-1A/Z-18/Z-12 Site, FY 2006

Passive Soil Vapor Extraction Wells	Reason
299-W18-6L	Groundwater Protection
299-W18-7	Groundwater Protection
299-W18-10L	Groundwater Protection
299-W18-11L	Groundwater Protection
299-W18-12	Groundwater Protection
299-W18-246L	Groundwater Protection
299-W18-247L	Groundwater Protection
299-W18-252L	Groundwater Protection

Attachment 8

Table 3. Sampling and Analysis Plan for Soil Vapor Extraction System Operations, April through September 2006

When to Monitor	on-line wells	off-line wells	vacuum wellhead	flow	CCl4	CHCl3	CH2Cl2	MEK
					carbon tetrachloride	chloroform	methylene chloride	MEK
first day of operations	X		X	X	X	X	X	X
beginning of 2nd week	X	X	X	X	X	X	X	X
beginning of 3rd week	X		X	X	X	X	X	X
beginning of 4th week	X	X	X	X	X	X	X	X
beginning of 5th week	X		X	X	X	X	X	X
beginning of 6th week	X	X	X	X	X	X	X	X
beginning of 7th week	X		X	X	X	X	X	X
beginning of 8th week	X	X	X	X	X	X	X	X
beginning of 9th week	X		X	X	X	X	X	X
beginning of 10th week	X	X	X	X	X	X	X	X
beginning of 11th week	X		X	X	X	X	X	X
beginning of 12th week	X		X	X	X	X	X	X
last day of operations	X	X	X	X	X	X	X	X

Fax copy of monitoring records to 200-PW-1 OU Technical Lead (Virginia Rohay at 373-3974) by close of day following monitoring.

Attachment 8

Table 4. Wells Available for Soil Vapor Extraction System Operations at the 216-Z-9 Site, July through September 2006

Potential On-Line Wells	Reason	Initial Wells
299-W15-6U	Mass removal	
299-W15-6L	Groundwater Protection	
299-W15-8U	Mass removal	
299-W15-8L	Groundwater Protection	
299-W15-9U	Mass removal	X
299-W15-9L	Groundwater Protection	X
299-W15-82	Mass removal	X
299-W15-84U	Mass removal	
299-W15-84L	Mass removal	
299-W15-85	Mass removal	
299-W15-86	Mass removal	
299-W15-95U	Mass removal	
299-W15-95L	Mass removal	
299-W15-216U	Mass removal	
299-W15-216L	Groundwater Protection	
299-W15-217	Mass removal	X
299-W15-218U	Mass removal	
299-W15-218L	Groundwater Protection	
299-W15-219U	Mass removal	
299-W15-219L	Groundwater Protection	
299-W15-220U	Mass removal	
299-W15-220L	Groundwater Protection	
299-W15-223	Mass removal	

Table 5a. Distribution of Selected Monitoring Locations During Soil Vapor Extraction System Operations at the 216-Z-1A/Z-18/Z-12 Site, April through June 2006

Target Zone	Number of Monitoring Locations		
	Z-1A	Z-9	Total
Near-surface (3-25 m below ground surface)	5	9	14
Cold Creek (25-45 m below ground surface)	0	8	8
Groundwater (50-65 m below ground surface)	8 ^a	5	13
Total	13	22	35

^a 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 5b. Distribution of Selected Monitoring Locations During Soil Vapor Extraction System Operations at the 216-Z-9 Site, July through September 2006

Target Zone	Number of Monitoring Locations		
	Z-1A	Z-9	Total
Near-surface (3-25 m below ground surface)	11	3	14
Cold Creek (25-45 m below ground surface)	6	2	8
Groundwater (50-65 m below ground surface)	8 ^a	0	8
Total	25	5	30

^a 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 6a. Non-Operational Wells and Probes Selected for Monitoring During Soil Vapor Extraction System Operations at the 216-Z-1A/Z-18/Z-12 Site, April through June 2006

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-4E 25 ft (white)	8	north central in Z-1A/Z-18/Z-12 field
near-surface	CPT-18 15 ft (white)	5	northwest 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-27 33 ft (red)	10	southeast 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-34 40 ft (green)	12	west of Z-18
near-surface	CPT-16 65 ft (red)	20	east of Z-9			
near-surface	CPT-21A 65 ft (green)	20	south of Z-9			
near-surface	CPT-24 70 ft (green)	21	northwest of Z-9			
near-surface	CPT-18 75 ft (red)	23	northwest of Z-9			
Cold Creek	299-W15-82	25	east side of Z-9			
Cold Creek	CPT-21A 86 ft (red)	26	south of Z-9			
Cold Creek	CPT-28 87 ft (red)	27	farfield south of Z-9			
Cold Creek	299-W15-8U	31	southside of Z-9			
Cold Creek	299-W15-217	35	southwest corner of Z-9			
Cold Creek	CPT-24 118 ft (red)	36	northwest of Z-9			
Cold Creek	299-W15-220 SST/118 ft (red)	36	east of Z-9			
Cold Creek	299-W15-95L	44	north side of Z-9			
ground-water	299-W15-220L 163 ft	50	east of Z-9	299-W18-247L*	51	southeast of Z-18
ground-water	299-W15-219L 175 ft	53	northwest of Z-9	299-W18-246L*	52	west of Z-1A
ground-water	299-W15-84L 180 ft	55	west of Z-9	299-W18-252L*	53	middle of Z-1A/Z-18/Z-12 field
ground-water	299-W15-9L	57	11 m from 299-W15-32 extraction well	299-W18-10L*	55	east side of Z-18
ground-water	299-W15-46	66	southside of Z-9	299-W18-7*	60	east side of Z-1A
ground-water				299-W18-11L*	60	Within Z-18
ground-water				299-W18-12*	60	Within Z-18
ground-water				299-W18-6L*	63	west side of Z-1A

* Passive soil vapor extraction wells

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

Table 6b. Non-Operational Wells and Probes Selected for Monitoring During Soil Vapor Extraction System Operations at the 216-Z-9 Site, July through September 2006

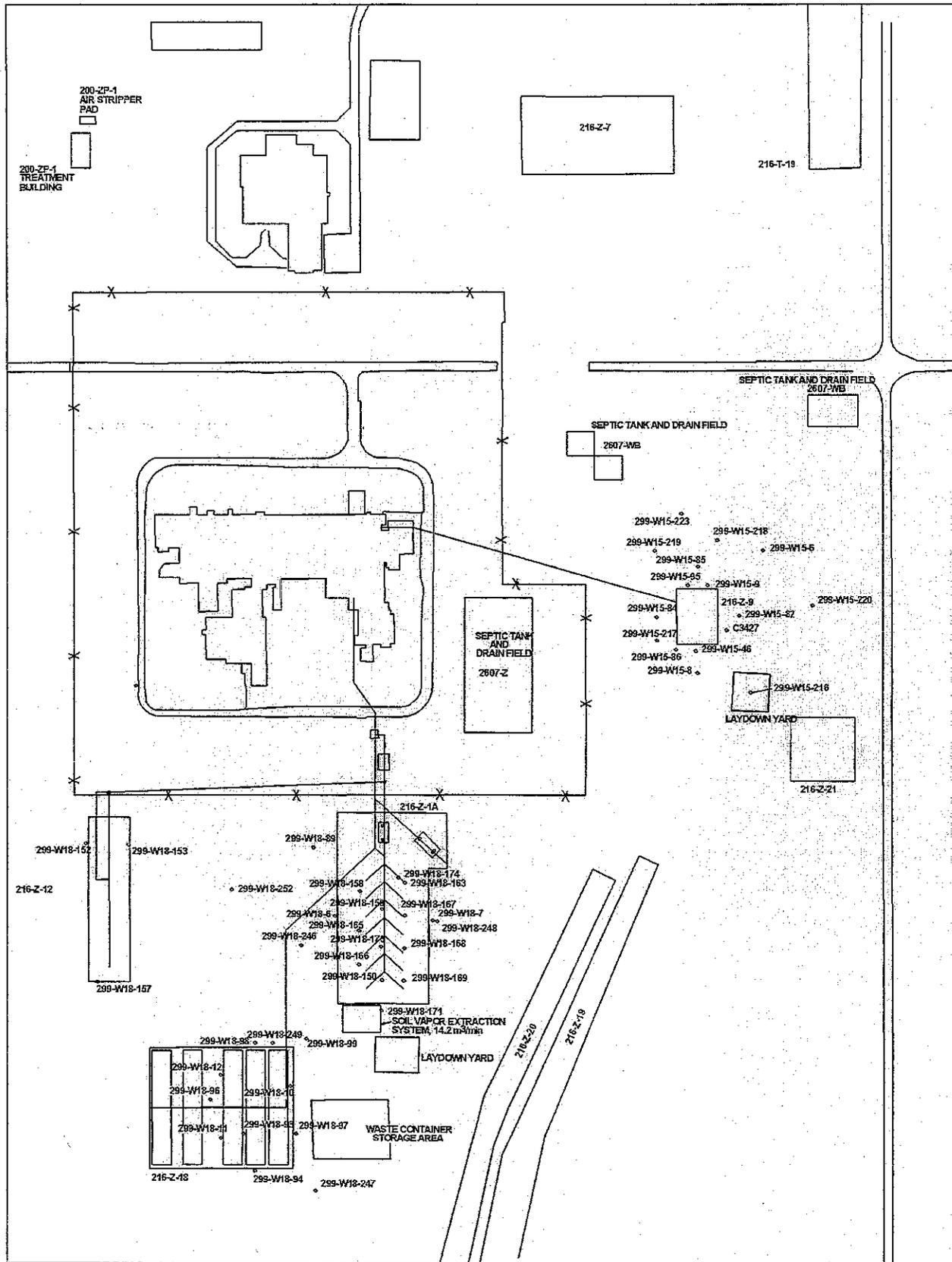
Target Zone	Z-9	Depth (m)	Comment	Z-1A	Depth (m)	Comment
near-surface	CPT-28 40 ft (blue)	12	farfield south of Z-9	CPT-32 25 ft (green)	8	west of Z-1A
near-surface	CPT-21A 45 ft (green)	14	south of Z-9	CPT-4E 25 ft (white)	8	north central in Z-1A/Z-18/Z-12 field
near-surface	CPT-9A 60 ft (blue)	18	farfield north of Z-9	CPT-30 28 ft (green)	9	north of Z-18 (middle of Z-1A/Z-18/Z-12 field)
near-surface				CPT-13A 30 ft (blue)	10	southeast of Z-1A
near-surface				CPT-7A 32 ft (yellow)	10	farfield northeast of Z-1A
near-surface				CPT-1A 35 ft (black)	11	west of Z-12
near-surface				CPT-33 40 ft (green)	12	between Z-18 and Z-12
near-surface				CPT-34 40 ft (green)	12	west of Z-18
near-surface				CPT-C3872 61 ft	19	east side of Z-1A
near-surface				CPT-1A 68 ft (yellow)	21	west of Z-12
near-surface				CPT-32 70 ft (red)	21	west of Z-1A
Cold Creek	CPT-21A 86 ft (red)	26	south of Z-9	299-W18-152	31	northwest corner of Z-12
Cold Creek	CPT-28 87 ft (red)	27	farfield south of Z-9	299-W18-167	32	within Z-1A
Cold Creek				CPT-4F 109 ft (red)	33	north central in Z-1A/Z-18/Z-12 field
Cold Creek				299-W18-165	33	within Z-1A
Cold Creek				299-W18-249	40	northeast corner of Z-18
Cold Creek				299-W18-248	40	east side of Z-1A
ground-water				299-W18-247L*	51	southeast of Z-18
ground-water				299-W18-246L*	52	west of Z-1A
ground-water				299-W18-252L*	53	middle of Z-1A/Z-18/Z-12 field
ground-water				299-W18-10L*	55	east side of Z-18
ground-water				299-W18-7*	60	east side of Z-1A
ground-water				299-W18-11L*	60	within Z-18
ground-water				299-W18-12*	60	within Z-18
ground-water				299-W18-6L*	63	west side of Z-1A

* Passive soil vapor extraction wells

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

Attachment 8

Figure 1. Location of Extraction and Monitoring Wells at the 216-Z-1A/Z-18/Z-12 and 216-Z-9 Sites



Comparison of Maximum Carbon Tetrachloride Rebound Concentrations
 Monitored at 200-PW-1 Soil Vapor Extraction Sites
 FY 2001 - FY 2006

200-PW-1 (200-ZP-2) Location (Well or Probe) /feet Biss	Site	July 2001 - June 2002		July 2002 - September 2003		July 2002 (Z-9) or October 2003 (Z-1A) -		July 2002 (Z-9) or April 2004 (Z-1A) -		October 2004 - June 2005		July 2005 - February 2006	
		Maximum Rebound Carbon Tetrachloride (ppmv)	months* of rebound										
79-03/5 ft	Z-18												
79-06/5 ft	Z-1A												
79-11/5 ft	Z-1A												
86-05/5 ft	Z-9												
88-05-01/5 ft	Z-9												
88-09/5 ft	Z-9												
87-05/5 ft	Z-1A												
87-09/5 ft	Z-1A												
94-02/5 ft	Z-9												
95-11/5 ft	Z-9												
95-12/5 ft	Z-9												
95-14/5 ft	Z-9												
CPT-13M/9 ft	Z-1A												
CPT-16/10 ft	Z-9	3.2	6	6.6	15	9.0	21	9.9	27	11.4	5	2.5	8
CPT-17/10 ft	Z-9	1.4	6	2.4	15	2.4	21	2.5	27	3.1	5	0	8
CPT-18/15 ft	Z-1A	3.4	10	1.3	0			2.4	0	2.4	9	1.5	0
CPT-4E/25 ft	Z-1A	2.6	12	2	15	2.6	21	3.6	27	4.4	5	1.8	8
CPT-16/25 ft	Z-9	1.1	6										
CPT-31/25 ft	Z-12												
CPT-32/25 ft	Z-1A	13.0	12	8.3	6	6	6			8.6	9		
CPT-30/28 ft	Z-18	0	12	1.6	6	2	6			1.6	9		
CPT-13M/30 ft	Z-1A	2.8	12	1.6	6	0	6	1.9	0	8.3	9		
CPT-1A/32 ft	Z-1A	5.6	12	3.9	6	9.5	6	1.9	0	4.1	9	4.1	5
CPT-27/33 ft	Z-9	1.5	6	1.7	15	2.7	21	2.7	27	8.4	5	3.8	8
CPT-1A/35 ft	Z-12	11.3	12	22.0	15	18.3	5	18.0	0	14.0	9	1.8	5
CPT-28/40 ft	Z-9									5.4	0	17.2	5
CPT-33/40 ft	Z-18	2.3	12							3.9	8		
CPT-34/40 ft	Z-18	2.2	12	1.6	0			1.8	0	3.0	9	2.0	6
CPT-21M/45 ft	Z-9			1.5	1					7.9	0		
WIS-220SST/52 ft	Z-9	45.3	6	35.9	15	35.9	21	35.9	27	32.4	5	29.2	8
CPT-8M/60 ft	Z-9	56.5	6							68.5	0		
CPT-29/60 ft	Z-9			4.2	15			4.2	27	15.5	9	6.3	5
CPT-C38Z/61 ft	Z-1A			90.0	16	150	21	150	27	170	0	5.3	2
CPT-16/65 ft	Z-9	not measured								13.7	9	167	8
CPT-21M/65 ft	Z-12	133	6										
CPT-1A/69 ft	Z-18	5.5	12										
CPT-30/69 ft	Z-18												
CPT-13M/70 ft	Z-1A	7.7	12	4.7	15			9.1	27			3.9	3
CPT-24/70 ft	Z-9							5.7	22			5	9
CPT-32/70 ft	Z-1A			1.9	1								
WIS-219SST/70 ft	Z-9	7.1	3	4.5	15			8.3	27			0	3
CPT-4M/75 ft	Z-1A												
CPT-18/75 ft	Z-9												
CPT-31/75 ft	Z-12												
CPT-33/80 ft	Z-18												
WIS-82/83 ft	Z-9	86.7	6	86.8	15	85.8	21	85.8	27	95.8	5	8.1	8
CPT-21M/83 ft	Z-9	186	6	206	15	244	21	244	27	209	5	223	8
CPT-34/86 ft	Z-18												
WIS-90U/86 ft	Z-9			1.6	2								
WIS-219SST/86 ft	Z-9			256	15								
CPT-28/87 ft	Z-9	229	6										
CPT-4E/90 ft	Z-1A	3.2	10										
CPT-1A/91 ft	Z-12	10.7	10										
CPT-4M/91 ft	Z-1A	7.5	2										
CPT-9M/91 ft	Z-9	74.3	6										
WIS-85/91 ft	Z-9												
WIS-252SST/100	Z-1A												
WIS-182/101 ft	Z-12	25.7	12	20.7	6	12.4	6			16.0	9	15.4	5
WIS-8U/103 ft	Z-9											10.4	8
CPT-4E/103 ft	Z-1A	16.1	12	243	6	266	6			196.0	9	174	5
WIS-167/106 ft	Z-1A	297	12										
CPT-4E/106 ft	Z-1A												
WIS-185/109 ft	Z-1A	278	12	328	6	205	6			11.9	9	394	5
WIS-217/114 ft	Z-9	93.6	6	444	15	458	21	467	27	35.2	9	18.7	8
CPT-24/118 ft	Z-9			27.8	15			15.3	27	374	5	28.9	3
WIS-220SST/118	Z-9			27.5	3			26.0	27			25.2	3
WIS-181U/120 ft	Z-1A	163	3										
WIS-219SST/130	Z-9			23.1	1			0	22				
WIS-249/130 ft	Z-18	195	12	463	6	41.0	6			64.9	9	22.5	5
WIS-249/131 ft	Z-1A	306	12	182	6	180	6			249	9	67.0	5
WIS-58U/144 ft	Z-9	31.8	6	25.1	15	40.3	21	40.3	27	26.7	5	22.6	8
WIS-219SST/155	Z-9			6.8	1			9.5	22				
WIS-220U/153 ft	Z-9							8	27			18.2	3
WIS-219U/175 ft	Z-9							23	27			1.9	8
WIS-9U/176 ft	Z-9	16.9	6	13.1	15	13.1	21	13.1	27	2.1	5	5.4	3
WIS-84U/180 ft	Z-9	not measured		25.9	15	25.9	21	25.9	27	23.0	5		
WIS-6U/182 ft	Z-9												
WIS-220SST/185	Z-9												
WIS-7/187 ft	Z-1A												
WIS-12/198 ft	Z-18												
WIS-6U/208 ft	Z-1A												
WIS-46/217 ft	Z-9											4.7	8

* - based on location (Z-1A/7/12 or Z-9) of monitoring point; specific points may be beyond SVE zone of influence during particular operating configurations
 - based on Z-18 and Z-12 wells; office Oct 96 - Aug 98
 - CPT-1A, CPT-9A, and possibly CPT-7A appeared to be beyond SVE zone of influence in Oct 96 based on differential pressure (BH-01105, p. 6-1)
 - CPT-8A, CPT-21A, CPT-28 beyond SVE zone of influence in May 98 based on CCL concentrations and airflow modeling based on measured values (BH-01106, p. 6-1)

Carbon Tetrachloride Rebound Concentrations
Monitored at 200-PW-1 Soil Vapor Extraction Sites
October 2004 - February 2006

200-PW-1 (200-ZP-2) Location (Well or Probe) /feet bgs	Site	11/17/2004	12/28/2004	01/19/2005	02/24/2005	03/10/2005	03/18/2005	05/05/2005	05/26/2005	06/23/2005	08/04/2005	08/19/2005	09/28/2005	10/25/2005	11/01/2005	11/28/2005	12/20/2005	01/26/2006	02/23/2006
		CCl4 (ppmv)																	
CPT-17/ 10 ft	Z-9	5.5	5.3	6.4	7.1		11.4					2.5	2.1	---	1.4	1.2	1.2	1.3	1.5
CPT-18/ 15 ft	Z-9	0	1.5	3.1	0		0					0	0	0	0	0	0	0	0
CPT-4E/ 25 ft	Z-1A							2.4	1.9	1.8	1.5	1.3	0						
CPT-16/ 25 ft	Z-9	1.1	4.4	2.3	2.0		2.0				1.2	1.0	1.2	1.6		1.2	1.4	1.1	1.1
CPT-32/ 25 ft	Z-1A	0	1.7	2.7	5.5		8.0	8.6	6.6	6.8						1.1	3.4	4.0	4.8
CPT-30/ 28 ft	Z-1A	0	1.3	1.5	1.6		0	0	0	0				1.2		0	1.1	0	0
CPT-13A/ 30 ft	Z-1A	3.0	0	7.1	2.5		8.3	6.6	1.5	3.6	3.9	3.3	3.2	3.6		4.1	3.9	3.6	3.5
CPT-7A/ 32 ft	Z-1A	1.5	2.2	3.9	2.9		4.4	3.2	2.6	2.4	2.3	2.2	2.1	2.3		2.7	2.2	2.8	3.3
CPT-27/ 33 ft	Z-9	1.3	8.4	2.2	3.2		2.2				1.2	1.0	1.0	1.8		0	0	0	0
CPT-1A/ 35 ft	Z-12	4.7	14.0	13.2	11.3		4.3	6.0	11.1	9.2	6.6	6.6	9.2	17.2		9.1	3.6	7.7	6.0
CPT-28/ 40 ft	Z-9									5.4									
CPT-33/ 40 ft	Z-18							3.9	1.1	1.9									
CPT-34/ 40 ft	Z-18							3.0	1.1	1.9	2.0	1.7	1.4	1.8					
CPT-21A/ 45 ft	Z-9								7.4	7.9									
CPT-9A/ 50 ft	Z-9	39.4	48.4	48.4	46.4		50.8	50.3	53.9	49.7	50.6	44.0	51.8	52.8		50.9	50.6	48.1	50.4
CPT-9A/ 60 ft	Z-9	32.4	27.5	29.2	30.6		30.7	11.6	31.8	30.5	18.3	18.0	29.2	25.5		21.2	18.6	17.4	11.4
CPT-28/ 60 ft	Z-9							68.3	68.0	60.0									
CPT-C3872 / 61 ft	Z-1A	1.1	4.4	5.9	7.6		9.9	11.8	14.6	15.5				4.0		4.3	3.7	5.1	6.3
CPT-9A/ 64 ft	Z-9	20.1	2.8	26.1	19.8		35.4	31.5	39.1	36.8	38.3	36.6	38.6	38.6		36.9	36.9	33.4	36.2
CPT-16/ 65 ft	Z-9	3.5	6.7	4.9	5.1		5.2				4.7	4.3	5.5						
CPT-21A/ 65 ft	Z-9	79.9	146	143	161		166	170	153	147	167	153	147	151		137	140	139	146
CPT-1A/ 68 ft	Z-12							6.2	13.7	2.0									
CPT-24/ 70 ft	Z-9										3.9	3.6	3.8						
CPT-32/ 70 ft	Z-1A							5.5	3.4	4.5									
W15-219SST/ 70 ft	Z-9																		
CPT-18/ 75 ft	Z-9										0	0	0						
W15-82/ 83 ft	Z-9	---	---	---	95.8	30.6	---	---	---	---	1.7	4.9	7.6	8.1	1.4	---	---	---	---
CPT-21A/ 86 ft	Z-9	179	184	191	209		208	206	204	196	223	187	209	208	196	---	---	---	---
CPT-28/ 87 ft	Z-9	231	223	227	245		246	244	238	232	245	216	230	241	219	---	---	---	---
W18-152/ 101 ft	Z-12	10.4	12.3	14.6	13.3		16.0	14.8	13.2	13.4				12.7	14.2	14.5	15.4	15.2	
W15-8U/ 103 ft	Z-9										0	1.3	6.8	10.4	2.6	5.1	3.1	4.5	
W18-167/ 106 ft	Z-1A	---	---	---	37.4		20.4	26.7	20.2	196.0				63.1	174	---	---	---	---
CPT-4F/ 109 ft	Z-1A							7.8	7.7	11.9									
W18-165/ 109 ft	Z-1A	---	---	---	35.2		15.0	22.2	30.8	10.4				65.1	394	220	161	160	
W15-217/ 114 ft	Z-9	---	---	---	39.6		374				11.2	0	15.9	16.1	1.7	8.4	11.6	19.7	
CPT-24/ 118 ft	Z-9										20.4	14.7	23.9						
W15-220SST/ 118 ft	Z-9										23.1	21.3	25.2						
W18-249/ 130 ft	Z-18	---	51.5	52.2	33.7		64.9	55.3	36.5	36.8				22.5		22.0	12.2	12.4	17.1
W15-219SST/ 130 ft	Z-9																		
W18-248/ 131 ft	Z-1A	---	---	---	70.5		249	173	169	155				67.0	23.1	---	---	---	---
W15-95L/ 144 ft	Z-9	---	---	---	26.7		24.8				2.4	15.9	15.8	15.8	16.7	19.0	19.9	22.6	
W15-219SST/ 155 ft	Z-9																		
W15-220L/ 163 ft	Z-9										13.2	12.9	12.0						
W15-219L/ 175 ft	Z-9										0	0	1.9						
W15-9L/ 176 ft	Z-9	---	---	---	2.1		---	---	---	---	0	0	1.6	4.0		0	0	4.0	5.4
W15-84L/ 180 ft	Z-9	22.0	18.0	22.0	16.1	23.0	---	---	---	---	---	---	---	---	---	---	---	---	---
W15-46/ 217 ft	Z-9										0	0	1.9	3.0	---	0	0	4.7	---
(h) Depths to probes measured through existing tubing. 60 ft deep probe confirmed and sampled. The other two depths measured (50 ft and 64 ft) could not be correlated to original depths (70 and 91 ft); these two probes were sampled also.																			
(i) Unable to sample; tubing will be installed																			
(j) Unable to sample before removal of tubing to support cross-well seismic investigation.																			
(k) Sampled on 3/10/05 prior to removal of tubing to support Vista Engineering cross-well seismic investigation.																			
(m) Unable to sample; well in use by Vista Engineering																			
(n) Unable to sample; aboveground tubing needs to be repaired. Repaired and sampled on 11/1/2005.																			
(o) On 10/25/05, well 299-W15-46 sampled at a depth of approximately 172 ft. E-tape could only be advanced to a depth of 173 ft.																			
(p) Unable to pull representative sample.																			

Carbon Tetrachloride Concentrations
 Monitored at 200-PW-1 Passive Soil Vapor Extraction Wells
 October 2004 - February 2006

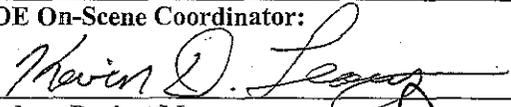
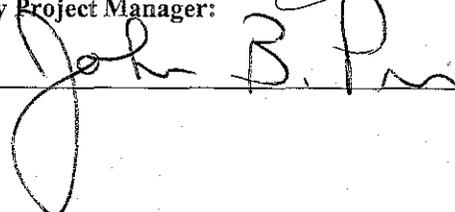
200-PW-1 (200-ZP-2)	10/11/2004	11/15/2004	12/29/2004	1/21/2005	2/28/2005	3/18/2005	5/5/2005	5/31/2005	6/22/2005	8/17/2005	9/26/2005	10/19/2005	11/23/2005	12/15/2005	1/27/2006	2/28/2006
Location (Well or Probe) /feet bgs	CCl4 (ppmv)	CCl4 (ppmv)	CCl4 (ppmv)	CCl4 (ppmv)	CCl4 (ppmv)	CCl4 (ppmv)	CCl4 (ppmv)	CCl4 (ppmv)	CCl4 (ppmv)							
W18-6L/ 208 ft	8.6	20.3	21.2	21.1	18.4	22.9	23.2	17.0	13.4	15.0	24.4	19.8	---(b)	---(b)	---(b)	---(b)
W18-7/ 197 ft	18.6	21.6	20.8	6.8	24.6	23.1	21.9	5.0	19.0	0	0	9.2	11.7	15.8	16.2	
W18-10L/ 183 ft	4.3	4.0	10.0	5.9	11.6	12.2	7.6	2.8	2.3	0	9.2	8.4	11.6	4.0	12.1	13.0
W18-11L/ 199 ft	0	4.8	6.9	2.5	2.8	7.3	6.7	1.6	2.0	1.2	9.0	0	5.9	0	7.6	9.0
W18-12/ 198 ft	1.4	1.7	8.1	0	5.2	9.9	5.6	0	0	1.9	2.4	0	1.6	0	4.9	9.4
W18-246L/ 170 ft	14.7	21.1	20.7	16.8	19.7	22.0	21.1	8.1	9.8	25.3	9.5	13.0	---(b)	---(b)	---(b)	---(b)
W18-247L/ 167 ft	0	0	4.6	0	4.4	6.4	6.4	0	9.3	7.8	2.2	0	0	2.4	5.1	7.6
W18-252L/ 175 ft	0	13.3	16.8	1.4	14.4	18.0	11.3	0	14.8	0	16.9	0	---(b)	---(b)	---(b)	---(b)
								(b) in use by Vista Engineering for cross-well seismic investigation								

200-UW-1 Operable Unit Project Agreement/Change Control Form	
Document Number/Title:	Date Document Last Issued:
DOE/RL-2005-71, <i>Action Memorandum for the Time-Critical Removal Action for Support Activities to the 200-UW-1 Operable Unit</i> , Rev. 0	November 8, 2005
DOE/RL-2005-78, <i>Support Activities to the 200-UW-1 Operable Unit Removal Action Work Plan</i> , Rev. 0	January 3, 2006
DOE/RL-2005-75, <i>Sampling and Analysis Plan for Support Activities to the 200-UW-1 Operable Unit</i> , Rev. 0	December 15, 2005
Originator: Deanna L. Klages	Phone Number: 373-6312
Summary Description:	
<p>The overall length of the 200-W-42 VCP is approximately 244 m (800 ft), with the initial work scope identified as removal of one-half of the pipeline. The documents state:</p> <ul style="list-style-type: none"> Excavate approximately 122 m (400 ft) of the 200-W-42 VCP, sample pipeline trench, and then backfill the trench area (sampling of the trench will provide characterization data that will be used for other removal and remedial activities, such as the 200-IS-1 and the 200-UW-1 OU projects, and will also be used in determining whether the Remedial Action Objectives have been achieved); <p>The work scope is now expanded to include the removal of the remaining 122 m (400 ft) of the 200-W-42 VCP up to the 270W Neutralization Tank, but excluding the length of pipeline running underneath 16th Street. The Project's existing trained work force and equipment can be utilized and funding is available, which supports the streamlining of this cleanup effort.</p> <p>The phrase, "whichever is deeper" will also be deleted from all documents, in reference to the required depths of the excavations.</p> <p>In the above mentioned SAP, for the 200-W-42 VCP Excavations sampling activities, removal of the remaining estimated 122 m (400 ft) of pipeline will be completed. Therefore, the following sampling activities will be added to the sampling scope for the 200-W-42 VCP.</p> <ul style="list-style-type: none"> For the area between the north end of the initial excavation, which is north of 216-U-8 and the south side of 16th Street, 1 multi-incremental sample plus 2 replicate samples will be collected for analyses and 2 discrete volatile samples will be collected in addition to 1 trip blank for volatile analyses only. For the excavation area north of 16th Street to the 270W Tank, 1 multi-incremental sample plus 1 replicate sample will be collected for analyses and 2 discrete volatile samples will be collected in addition to 1 trip blank for volatile analyses only. <p>Both excavation areas will be 1 decision unit. Each multi-incremental sample and replicates will consist of a minimum of 50 sampling increments combined, and with a 20 gram minimum sample amount for each of the different analyses to be completed.</p>	

Justification and Impact of Change:

The Project is already mobilized and working on the 200-W-42 VCP removal. The Project's existing trained work force and equipment can be utilized and funding is available, which supports the streamlining of this cleanup effort.

Additionally, during the UP-1 Rebound Study, it was identified that the UPR-200W-163 release associated with the 200-W-42 VCP line-break may be contributing to an increase in groundwater contamination levels, and if so, is an imminent threat to groundwater. Therefore, removal of the remaining 200-W-42 VCP, including the cleanup of the UPR-200W-163 release, is needed, further justifying this time-critical removal action.

DOE On-Scene Coordinator: 	Date 3/14/06
Ecology Project Manager: 	Date 3-15-2006

**Issue Resolution Meeting
Agreements and Issues List
March 16, 2006
200 Area Unit Managers' Meeting**

Issue: Assigning New WIDS Entries (e.g., Pipelines) to OUs – (Ecology)

Issue Statement: Ecology noted that ORP/CH2M Hill are having pipelines added to WIDS; Ecology feels a strategy is needed for pipelines that are not assigned to soil site OUs.

Issue Actions: Ecology will also discuss the concern with Tank Farms. Parties need to work on a strategy. Specific actions were captured in the Action Item List to support reaching resolution at or shortly following the next UMM.

Issue Status: The Tri-Parties agreed that this issue could be dealt with through the associated action.

Issue Resolution: Closed. See Action #64.

**200 Area Unit Managers' Meeting
OPEN ACTION ITEMS & TRACKING**

Action #	Action/Subject	Assigned To	Owed To	Assigned Date	Original Due Date	Adjusted Due Date	Date Complete	Status
53	Review original TPA and early change packages for better understanding on requirements for 2008 M-015 milestone; mock up change package to provide clarification of requirements to meet 2008 milestone to be included in next modification to M-015.	All - Williams	All	02/17/05	TBD	TBD		Being resolved through M-15.
53a	Provide clarification wording for M-015 completion criteria at next meeting. Discuss TPA Milestone wording for M-15-00C Draft A of RI/FS.	All - Williams	All	04/21/05	07/30/05	TBD		Being resolved through M-15.
60	Finalize Central Plateau Facility Binning Report, DOE/RI-2005-54	RL/FH - Romine	EPA/Ecology	04/21/05	05/19/05	TBD		Being resolved through M-15.
64	Determine solution to adding pipelines not associated with an OU into WIDS with only a TBD in the OU field versus needing to link them to Waste Management Areas (WMAs).	All - Stuitts	All	08/18/05	09/15/05	Next UMM meeting		Jennie Stuitts to check on status. Need to provide status on MP-14 approval.
64a	Discuss with ORP (Janet Badden of CH2M) drafting necessary TPA changes.	Ecology - Stuitts	All	08/18/05	09/15/05	01/13/06		See action 64 status
65	Schedule 200-PO-1 Regulatory Path forward meeting with Ecology	DOE - Tortoso	Ecology	9/15/2005	10/20/2005	4/30/2006		Being resolved through M-15.
65a	Ecology will send place holder letter to DOE	Ecology-Price	RL	12/15/2005	1/19/2006		2/23/2006	Closed by 2/23/06 letter, Price to Charboneau.
66	Schedule meeting on 200-UP-1 RI Report Historical Data Analysis & COPCs	Ecology - Price	RL	10/20/05	11/17/05		1/20/2006	Closed -Meeting held.
68	200-UP-1 Ecology set up meeting to discuss rebound study	Ecology - Zelma	RL/FH	12/15/05	01/19/06		1/25/2006	Closed - Meeting held.
69	200-UP-1 DOE provide projected end dates with 2 year monitoring sampling	DOE - Tortoso	Ecology	12/15/05	01/19/06		2/1/2006	Closed through 200-UP-1 Completion Strategy.

**DISTRIBUTION
UNIT MANAGERS' MEETING,
200 AREA GROUNDWATER SOURCE OPERABLE UNITS**

DOE/RL

Steve Bertness	A6-39
Bryan Foley	A6-38
Larry Romine	RMIS
Arlene Tortoso	RMIS

EPA

Craig Cameron	B1-46
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Ecology

Brenda Jentzen	RMIS
Tina Masterson-Heggen	H0-57
John Price	H0-57
Jennie Stults	H0-57
Jean Vanni	H0-57

FH

Lanny Dusek	RMIS
Gloria Cummins	RMIS
Bruce Ford	RMIS
Jane Borghese	E6-35
Mark Byrnes	RMIS
Virginia Rohay	RMIS
L. Craig Swanson	RMIS
Mary Todd-Robertson	E6-35

CHG

Curt Wittreich	RMIS
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PNNL

Stuart Luttrell	K6-96
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Oregon State/Tribes

Shelly Cimon	EMAIL
Stan Sobczyk	EMAIL
Sandra Lilligren	EMAIL

Administrative Record (2)	H6-08
Correspondence Control	A3-01

Please inform Dee Goodson – FH (373-4456)
of deletions or additions to the distribution list.