FH-0500267

0063963

Meeting Minutes Transmittal/Approval
Unit Managers' Meeting
200 Area Groundwater and Source Operable Units
1200 Jadwin Avenue, Richland, Washington
January 14, 2003/February 20, 2003/March 20, 2003/April 17, 2003/May 15, 2003, June 18, 2003/July 17, 2003/August 21, 2003/October 16, 2003/November 20, 2003/ December 18, 2003

APPROVAL: Arlene Tortoso Date: 2/17/05
Arlene Tortoso, Groundwater Unit Manager, DOE/RL

APPROVAL: Larry Romine Date: 2-17-05
Larry Romine, Federal Project Director, 200 Area D4 & Waste Site Remediation, DOE/RL

APPROVAL: Craig Cameron Date: 2/17/05
Craig Cameron, 200 Area Unit Manager, EPA

APPROVAL: John B. Price Date: 2/17/05
John Price, 200 Area Unit Manager, Ecology

Attachment 1	--	January 14, 2003 200 Area UMM – Agenda, Meeting Minutes, Current Action Log, 200-UP-1, 200-ZP-1 and 200-PW-1 Status Report, Comparison of Maximum Carbon Tetrachloride Rebound Concentrations Monitored at 200-PW-1 Soil Vapor Extraction Sites FY 1997- FY 2003, U Plant Area Waste Site FFS Annotated Outline.
Attachment 2	--	February 20, 2003, 200 Area UMM – Agenda, Meeting Minutes, Current Action Log, 200-UP-1, 200-ZP-1 and 200-PW-1 Status Report, Comparison of Maximum Carbon Tetrachloride Rebound Concentrations Monitored at 200-PW-1 Soil Vapor Extraction Sites FY 1997- FY 2003
Attachment 3	--	March 20, 2003, 200 Area UMM – Agenda, Meeting Minutes, Current Action Log, 200-UP-1, 200-ZP-1 and 200-PW-1 Status Report, Comparison of Maximum Carbon Tetrachloride Rebound Concentrations Monitored at 200-PW-1 Soil Vapor Extraction Sites FY 1997- FY 2003, Well 299-W23-19 Specific Conductance Report
Attachment 4	--	April 17, 2003, 200 Area UMM – Agenda, Meeting Minutes, 200-UP-1, 200-ZP-1 and 200-PW-1 Status Report, Current Action Log Comparison of Maximum Carbon Tetrachloride Rebound Concentrations Monitored at 200-PW-1 Soil Vapor Extraction Sites FY 1997- FY 2003,
Attachment 5	--	May 15, 2003, 200 Area UMM – Agenda, Meeting Minutes, Current Action Log, 200-UP-1, 200-ZP-1 and 200-PW-1 Status Report, Comparison of Maximum Carbon Tetrachloride Rebound Concentrations Monitored at 200-PW-1 Soil Vapor Extraction Sites FY 1997- FY 2003, 1,4 Dioxane and 216-S-20 Crib Information and 200-BP-5 Groundwater Operable Unit Wells Scheduled to be Sampled in June.
Attachment 6	--	June 18, 2003, 200 Area UMM – Agenda, Meeting Minutes, Current Action Log, 200-UP-1, 200-ZP-1 and 200-PW-1 Status Report, Comparison of Maximum Carbon Tetrachloride Rebound Concentrations Monitored at 200-PW-1 Soil Vapor Extraction Sites FY 1997- FY 2003

Attachment 7	--	July 17, 2003, 200 Area UMM – Agenda, Meeting Minutes, Current Action Log, Comparison of Maximum Carbon Tetrachloride Rebound Concentrations Monitored at 200-PW-1 Soil Vapor Extraction Sites FY 1997- FY 2003,
Attachment 8	--	August 21, 2003, 200 Area UMM – Agenda, Attendance Record, Meeting Minutes, Current Action Log, 200-UP-1, 200-ZP-1 and 200-PW-1 Status Report, Comparison of Maximum Carbon Tetrachloride Rebound Concentrations Monitored at 200-PW-1 Soil Vapor Extraction Sites FY 1997-FY 2003
Attachment 9	--	October 16, 2003, 200 Area UMM – Agenda, Attendance Record, Meeting Minutes, Current Action Log. 200-UP-1, 200-ZP-1 and 200-PW-1 Status Report, Comparison of Maximum Carbon Tetrachloride Rebound Concentrations Monitored at 200-PW-1 Soil Vapor Extraction Sites FY 1997-FY 2003, 200-BP-5 Groundwater Sample Collection Status, 200-PW-2/4 OU FY03 Drilling Characterization Activities, FY2004 Vapor Extraction System Work Plan for Trench T-04 in the 218-W-4C Burial Ground, Approval of the Carbon Tetrachloride Expedited Response Action (200-PW-1 Operable Unit) Soil Vapor Monitoring Plan for October 2003 Through March 2004.
Attachment 10	--	November 20, 2003, 200 Area UMM – Agenda, Attendance Record, Meeting Minutes, Current Action Log,. 200-UP-1, 200-ZP-1 and 200-PW-1 Status Report, Comparison of Maximum Carbon Tetrachloride Rebound Concentrations Monitored at 200-PW-1 Soil Vapor Extraction Sites FY 1997-FY 2003, Ecology Schedule Outline of Unit Managers' Meetings, Talking Points-U Plant Closure Area, Handout of Information on Borehole Work at the 216-B-58 Waste Site and the 216-B-26 Trench, Vapor Extraction at Trench T-04 in 218-W-4C, Central Plateau Terrestrial Ecological DQO/SAP Schedule and Activities Descriptions – Revision 4 Draft, Meeting Minutes – Groundwater Protection Program Meeting with Ecology to Discuss a Hexone Waste Site.

Attachment 11	--	December 18, 2003, 200 Area UMM – Agenda, Attendance Record, Meeting Minutes, Current Action Log. 200-UP-1, 200-ZP-1 and 200-PW-1 Status Report, Comparison of Maximum Carbon Tetrachloride Rebound Concentrations Monitored at 200-PW-1 Soil Vapor Extraction Sites FY 1998-FY 2004, UMM TPA Quarterly Review (10/03-12/03), Redline/strikeout version of UMM TPA Quarterly Review (10/03-12/03), FY 2004 Waste Sites Remedial Action Project Schedule, 200-CW-1 FS Revised Alternatives, Results of Recent CERCLA Sampling Activities at 200-BP-5 OU, Remedial Investigation Report 200-UP-1 Operable Unit Draft Outline 1

Prepared by: _____ Date 2/17/05
Linda DeLannoy, Project Systems & Support (H8-49)

Concurrence by: _____ Date 2/18/05
Mary Todd-Robertson, FH Groundwater Protection Program (E6-35)

UNIT MANAGERS' MEETING AGENDA

825 Jadwin Avenue
January 14, 2003

1 p.m. – 3 p.m. 200 Area Room 340

General (10 minutes)

- Outstanding Action Items (attached)
- Open for Regulatory Topics or Action Items

GROUNDWATER OPERABLE UNITS

200-BP-5 & 200-PO-1 OUs (5 minutes)

- Status of Activities
- Waste Storage Sites

200-UP-1 OU (10 minutes)

- Remediation Treatment Status
- Data Quality Objectives Process Status

200-ZP-1 OU (10 minutes)

- Remediation Treatment Status
- Data Quality Objectives Process Status
- Schedule for Replacing Extraction Well #1 (299-W15-33)

SOURCE OPERABLE UNITS

200-PW-1, 200-PW-3, & 200-PW-6 OUs (20 minutes)

- Remediation Treatment Status
- Monthly Monitoring
- Status Fieldwork Planning & Preparation
  - Representative Site SAP Status
  - Consolidated OU Work Plan Approval

200-TW-1, 200-TW-2, & PW-5 OUs (10 minutes)

- RI Report Regulatory Review Status

200-PW-2 & 200-PW-4 OUs (5 minutes)

- Work Plan Consolidation Status

- Status Field Work Planning & Preparation
  - Waste Control Plan Approval Status
  - Consolidated OU Work Plan Approval

200-CS-1 OU (5 minutes)

- Status Field Work Planning & Preparation
  - 216-S-10 Ditch Borehole Siting Modification Status

200-CW-1 & 200-CW-3 OUs (5 minutes)

- FS Status

200-CW-5, 200-CW-2, 200-CW-4, & 200-SC-1 Ous (2 minutes)

- Consolidated OU Work Plan Status

200 Area Ecological Evaluation (2 minutes)

- Status on Revised Draft
- Discuss Fish and Wildlife Role

U Plant Area Regional Closure (2 minutes)

- Status on TPA Change Request to Modify M-15-47

MEETING MINUTES
200 AREA GROUNDWATER AND SOURCE OPERABLE UNITS
UNIT MANAGERS' MEETING -- 200 AREA
January 14, 2003

Topics of Discussion:

1. ***General***

- Outstanding Action Items – Interim Action RCRA TSD status issues will be discussed outside of the UMM (attached).

- Open for Regulatory Topics or Action Items – No discussion.

GROUNDWATER OPERABLE UNITS

2. ***200-BP-5 & 200-PO-1 OUs***

- Status of Activities – There has been no change of status. EPA has the 200-BP-5 Sampling and Analysis Plan and the 200-PO-1 Sampling and Analysis Plan is still in preparation. The 200 East and 200 West Data Quality Objective documents will be integrated into one document, as requested by EPA.

- Waste Storage Sites – It was proposed that a storage operation will be co-located for BP-5 and PO-1. A letter to Ecology and EPA will be written for review and response.

3. ***200-UP-1 OU***

- Remediation Treatment Status – The average pumping rate for FY 2003 through December 22, 2002, was 49 gpm. For the month of December, the system operated between 47 and 48 gpm. The design work for tying in a third extraction well (299-W19-43) is scheduled to begin March 3, 2003. The tie in will begin July 1, 2003. The system was shut down December 11, 2002, for a leachate transfer. It was back up on December 12, 2002. The system run time was 94.7% through December 22, 2002, 98.7% fiscal year to date, and 92.1% from system inception to date. A handout was distributed (attached).

- Data Quality Objectives Process Status – A DQO draft workbook will be ready for review in approximately two weeks. Ecology and DOE-RL will be invited to a meeting for an introduction to the DQO.

4. ***200-ZP-1 OU***

- Remediation Treatment Status – The average pumping rate for FY 2003 through December 29, 2002, was 139 gpm. For the month of December, the system operated between 132 and 142 gpm. The system was shut down on December 14, 2002, for two days due to a leak detection alarm. Extraction well #4 was offline

much of the time due to leak detection. Manpower shortages and waiting for nitrogen gas to purge system caused delays in getting extraction well #4 back on line. Since the flow meter for extraction well #1 is in for repair, it is shut off whenever an operator is not present. The system run time was 91.7% through December 29, 2002, 89.6% fiscal year to date, and 91.6% from system inception to date. A handout was distributed (attached).

- Data Quality Objectives Process Status – When the UP-1 DQO is out for review, work on the ZP-1 DQO will begin. The DNAPL DQO is ongoing.

- Schedule For Replacing Extraction Well #1 (299-W15-33) – No discussion

SOURCE OPERABLE UNITS

5. *200-PW-1, 200-PW-3, & 200-PW-6 OUs*

- Remediation Treatment Status – The active system was shutdown for the winter. The passive system remains operational (attached).

- Monthly Monitoring – Results are consistent with past samples (attached).

- Status Fieldwork Planning & Preparation – Notification will be sent out when the field work is close to starting. The key impact is equipment availability. A walk-down of the sites took place in the first week of January 2003.

  - Representative Site SAP Status – Same status as the Consolidated OU Work Plan.

  - Consolidated OU Work Plan Approval – It is planned that the Work Plan will be ready for review in late February 2003.

6. *200-TW-1 & 200-TW-2 OUs*

- RI Report Review Status– Comments from Ecology are expected January 22, 2003.

7. *200-PW-2 & 200-PW-4 OUs*

- Work Plan Consolidation Status – The Work Plan is in review with DOE-RL and Ecology. Comments are expected on January 31, 2003.

- Status Field Work Planning & Preparation – Several tasks have been completed in preparation for field work startup. The Hazard Classification is complete, the IDW Summary Report is being finalized, and the Statement of Work for drilling is with procurement. The target date for startup is March 3, 2003. A startup dry run is scheduled for February 24, 2003. The equipment needed for field operations is being procured.

- Waste Control Plan Approval Status – Approval of the Work Plan is needed before work begins on the Waste Control Plan.

- Consolidated OU Work Plan Approval – A letter requesting approval to initiate fieldwork without a final approved Work Plan will be submitted by DOE-RL to Ecology.

8. ***200-CS-1 OU***

- Status Field Work Planning & Preparation

  - 216-S-10 Ditch Borehole Siting Modification Status – The key issue to be resolved is the use of the S-10 borehole to support the RCRA groundwater monitoring program. The well is on the M-24 TPA milestone listing.

9. ***200-CW-1 & 200-CW-3 OUs***

- FS Status – The current draft will be delivered to DOE-RL this week for review. One issue is closing with tribal nations on what they want to see in terms of the Native American scenarios. One key issue is that no exposure pathway exists from Central Plateau to fish ingestion and drinking water. DOE-RL is following up on this with Stuart Harris of CTUIR. DOE-RL requested that Ecology provide a point of contact for the public review process on the FS and the Proposed Plan. Ecology provided two names, Mary Ann Wuennecke and Ginger Wireman. EPA suggested that a public discussion occur sooner rather than later.

10. ***200-CW-5, 200-CW-2, 200-CW-4, & 200-SC-1 OUs***

- Consolidated OU Work Plan Status – The plan is being finalized and will be ready in February 2003.

11. ***200 Area Ecological Evaluation***

- Status on Revised Draft – A draft is close to being completed.

- Discuss Fish and Wildlife Role – DOE-RL is considering giving the U.S. Department of Fish and Wildlife funding to do work focused on ecological risk. The role would be a non-decision maker type of role. There were no objections from the regulators to the involvement of the Department of Fish and Wildlife.

12. ***U Plant Area Regional Closure***

- Status on TPA Change Request to Modify M-15-47 – Ecology and EPA indicated that a change request to modify the M-015-47 milestone is not necessary. They expressed that as long as we developed the proposed plan and do a barrier-engineering evaluation (equivalent to a Feasibility Study) of one or more of the high risk waste sites in the U plant area per the original milestone, then RL has met the TPA milestone. They have no problem if RL chooses to expand the scope to include an area approach, the milestone does not need to be modified. EPA reiterated that it would not agree to extend the milestone to September 30, 2003, as informally proposed.

  EPA indicated that we should plan on the waste site ROD being issued about one year after the PP is approved.

Some discussion was provided on whether an EE/CA would be appropriate for unplanned releases (UPRs). Ecology had informally suggested using the EE/CA evaluation process for UPRs. DOE-RL suggested that since some of the releases are either related to the waste sites, pipelines, and/or the facilities, it would be best to include those UPRs in either the waste site FFS, the pipeline EE/CA, and/or the facility D&D EE/CA. Ecology agreed that the idea warrants further consideration because it broadens the options or ways in which UPRs might best be addressed within the area remediation approach. The approach to include UPRs into each of the appropriate decision documents will require further discussion with the team preparing the EE/CA for ancillary facilities as well as coordination with the contractors preparing the EE/CA for pipelines and the FFS for waste sites.

The U Plant area waste site FFS annotated outline was provided as a handout (attached). EPA suggested that the cap/removal remedial action should be evaluated. There was some question as to why the ARARS and Risk Assessment appear in the appendix. It was pointed out that both are addressed in the FFS text in summary form, while the details and more extensive backup text supporting these sections are placed within the appendices.

Attachment 1

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
27	DOE to meet with Ellen Mattlin to discuss TSD Units	DOE		12/19/02				Open

200 Area UMM – January 2003

200-UP-1:

- Average Pumping Rate for FY03 through December 22: 49 gpm
- For the month of December the system operated at between 47 and 48 gpm.
- The design work for tying in well 299-W19-43 is scheduled to begin March 3, 2003. The tie in will begin July 1, 2003
- System was shutdown December 11 for a leachate transfer. It was turned back on December 12.

- System Run Time
  - Through December 22 94.7%
  - FY2003 (Year to date) 98.7%
  - System Inception to date 92.1%

200-ZP-1:

- Average Pumping Rate for FY03 through December 29: 139 gpm
- For the month of December the system operated at between 132 and 142 gpm.
- Extraction Well #4 was offline much of the time due to leak detection. Manpower shortages and waiting for nitrogen gas to purge system caused delays in getting Extraction Well #4 back on line. Since the flow meter for Extraction Well #1 is in for repair, this extraction well needed to be shut off whenever an operator was not present.
- Preparation to replace Extraction Well #1 (299-W19-33) and 4 (299-W19-32) is underway.
- System was shutdown
  - December 14 shut down for 2 days due to leak detection alarm

- System Run Time
  - Through December 29 91.7%
  - FY2003 (Year to date) 89.6%
  - System Inception to date 91.6%
- Dennis Faulk requested an update by Craig Swanson on the T Plant RCRA well detections

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

- Active system is shutdown for the winter
- The passive system remains operational.

Comparison of Maximum Carbon Tetrachloride Rebound Concentrations
Monitored at 200-PW-1 Soil Vapor Extraction Sites
FY 1997 - FY 2003

200-PW-1 (200-ZP-2) Location (Well or Probe) /feet bgs	Site	November 1996 - July 1997 Maximum Rebound Carbon Tetrachloride (ppmv)	months* of rebound	October 1997 - September 1998 Maximum Rebound Carbon Tetrachloride (ppmv)	months* of rebound	July 1998 - September 1999 Maximum Rebound Carbon Tetrachloride (ppmv)	months* of rebound	July 1999 - June 2001 Maximum Rebound Carbon Tetrachloride (ppmv)	months* of rebound	July 2001 - June 2002 Maximum Rebound Carbon Tetrachloride (ppmv)	months* of rebound	July 2002 - December 2002 Maximum Rebound Carbon Tetrachloride (ppmv)	months* of rebound
79-03/ 5 ft	Z-18	0	8	0	3	0	12						
79-06/ 5 ft	Z-1A	not measured		not measured		1.4	12						
79-11/ 5 ft	Z-1A	0	8	0	6	2.9	12						
86-05/ 5 ft	Z-9	not measured		not measured		0	3						
86-05-01/ 5 ft	Z-9	not measured		not measured		0	3						
86-06/ 5 ft	Z-9	1.3	8	0	9	1.9	6						
87-05/ 5 ft	Z-1A	not measured		0	3	1.0	12						
87-09/ 5 ft	Z-1A	not measured		1.5	3	2.6	12						
94-02/ 5 ft	Z-9	0	8	not measured		1.4	3						
95-11/ 5 ft	Z-9	0	8	2.1	9	2.5	6						
95-12/ 5 ft	Z-9	1.1	8	1.5	9	1.3	6						
95-14/ 5 ft	Z-9	not measured		not measured		0	3						
CPT-13A/ 9 ft	Z-1A	not measured		0	6	1.0	12						
CPT-16/ 10 ft	Z-9	not measured		0	9	1.5	6						
CPT-17/ 10 ft	Z-9	not measured		4.2	9	5.1	6	6.6	24	3.2	6	2.0	6
CPT-18/ 15 ft	Z-9	not measured		6.5	9	5.0	6	5.2	24	1.4	6	1.2	6
CPT-4A/ 25 ft	Z-1A	not measured		not measured		not measured		3.5	0	3.4	10		
CPT-4E/ 25 ft	Z-1A	not measured		not measured		not measured		not measured		2.6	12	1.3	0
CPT-16/ 25 ft	Z-9	not measured		not measured		not measured		1.8	24	1.1	6	0	6
CPT-31/25 ft	Z-1A	not measured		0	6	0	12						
CPT-32/ 25 ft	Z-1A	not measured		9.1	6	10	12	16.5	18	13.0	12	2.2	3
CPT-30/ 28 ft	Z-18	not measured		not measured		3.2	12	1.4	18	0	12	0	3
CPT-13A/ 30 ft	Z-1A	2.2	8	not measured		not measured		3.6	18	2.6	12	1.4	3
CPT-7A/ 32 ft	Z-1A	not measured		2.3	6	5.4	12	6.2	18	5.6	12	2.7	3
CPT-27/ 33 ft	Z-9	1.2	8	not measured		not measured		2.6	24	1.5	6	0	6
CPT-1A/ 35 ft	Z-12	2.0	8	1.4	3	3.0	12	7.7	18	11.3	12	6.8	3
CPT-28/ 40 ft	Z-9	40.1	8							56.5	6		
CPT-33/ 40 ft	Z-1A	not measured		2.0	3	2.6	12			2.3	12		
CPT-34/ 40 ft	Z-18	2.3	8	not measured		1.7	12	1.9	0	2.2	12	1.6	0
CPT-21A/ 45 ft	Z-9	65.6	8	52.7	9	57	3	127	24	133	6	68.0	6
W15-220ST/ 52 ft	Z-9	2	8	not measured		1.6	3	2.5	24			1.5	1
CPT-28/ 60 ft	Z-9	not measured		1.5	0	3.7	3						
CPT-9A/ 60 ft	Z-9	45.5	8	41.1	0	44	3	68	24	45.3	6	35.1	6
CPT-16/ 65 ft	Z-9	4.6	8	not measured		not measured		not measured		not measured		3.1	3
CPT-1A/ 68 ft	Z-12	not measured		not measured		not measured		not measured		5.5	12		
CPT-30/ 68 ft	Z-18	1.7	8	not measured		3.0	12						
CPT-32/ 70 ft	Z-1A	7.4	8							7.7	12		
CPT-13A/ 70 ft	Z-1A	5.2	8	not measured		5.6	12						
CPT-24/70 ft	Z-9	not measured		3.2	9	3.6	3					3.3	3
W15-219SST/ 70 ft	Z-9	14.6	8	not measured		7.6	3	7.8	24			1.9	1
CPT-18/ 75 ft	Z-9	not measured		not measured		not measured		18	24			1.5	3
CPT-4A/ 75 ft	Z-1A	not measured		not measured		not measured		not measured		7.1	3		
CPT-31/ 76 ft	Z-1A	4.0	8	not measured		4.2	12						
CPT-33/ 80 ft	Z-1A	5.8	8	not measured		9.2	12						
W15-82/ 83 ft	Z-9	28.9	8	5.5	9	46	6	55	24	66.7	6	85.8	6
CPT-21A/ 86 ft	Z-9	221	8	206	9	148	6	195	24	186	6	159	6
CPT-34/ 86 ft	Z-18	36.3	8	5.9	3	0	12						
W15-95U/ 86 ft	Z-9	not measured		15.3	9	39	6	43	21				
W15-218SST/ 86 ft	Z-9	not measured		not measured		0	3					1.6	2
CPT-28/ 87 ft	Z-9	280	8	230	9	203	6	224	24	229	6	208	6
CPT-4B/ 90 ft	Z-1A									3.2	10		
CPT-1A/ 91 ft	Z-18	3.9	8	not measured		4.2	12			10.7	10		
CPT-4A/ 91 ft	Z-1A	not measured		7.7	3	14	12			7.5	2		
CPT-9A/ 91 ft	Z-9	103	8	34.5	9	72	3			74.3	6		
W15-85/ 91 ft	Z-9	not measured		not measured		not measured		51	24				
W18-252SST/ 100	Z-1A	38.2	8	17.8	3	24	12						
W18-152/ 101 ft	Z-12	46.8	8	11.1	3	33	12	25	18	25.7	12	10.1	3
CPT-4E/ 103 ft	Z-1A	23.2	8	not measured		not measured		not measured		16.1	12		
W18-167/ 106 ft	Z-1A	323	8	79.7	3	228	12	248	18	297	12	243	3
W18-165/ 109 ft	Z-1A	not measured		not measured		not measured		not measured		278	12	328	3
W15-217/ 114 ft	Z-9	797	8	630	9	561	6	442	24	93.6	6	264	6
CPT-24/ 118 ft	Z-9	44.6	8	37.7	9	37	6	35	24			27.7	3
W15-220SST/ 118	Z-9	21.9	8	not measured		36	3	34	24			27.5	3
W18-158U/ 120 ft	Z-1A	not measured		143	3	492	12	284	18	163	3		
W15-219SST/ 130	Z-9	298	8	not measured		47	3	54	24			23.1	1
W18-249/ 130 ft	Z-18	206	8	20.4	3	215	12	176	18	196	12	34.5	3
W18-248/ 131 ft	Z-1A	288	8	86.3	3	177	12	214	18	306	12	81.5	3
W15-95U/ 144 ft	Z-9	not measured		not measured		not measured		not measured		31.8	6	18.5	6
W15-219SST/ 155	Z-9	59.6	8	not measured		24	3	44	24			6.8	1
W15-220U/ 163 ft	Z-9												
W15-219U/ 175 ft	Z-9												
W15-9U/ 176 ft	Z-9	18.3	8	15.0	9	15	6	20	21	16.9	6	5.2	6
W15-84U/ 180 ft	Z-9	not measured		not measured		not measured		not measured		not measured		13.1	6
W15-6U/ 182 ft	Z-9	22.6	8	17.8	9	1.3	6						
W15-220SST/ 185	Z-9	14.5	8	not measured		13	3	15	24			-----	1
W18-7/ 197 ft	Z-1A	28.5	8	17.3	3	29	12						
W18-12/ 198 ft	Z-18	not measured		3.81	3	19	12						
W18-6U/ 208 ft	Z-1A	36	8	31.3	6	15	12						

* - based on location (Z-1A/18/12 or Z-9) of monitoring point, specific points may be beyond SVE zone of influence during particular operating configurations
- Z-18 and Z-12 wells off-line Oct 96 - Apr 98
- CPT-1A, CPT-9A, and possibly CPT-7A appeared to be beyond SVE zone of influence in Oct 96 based on differential pressure (BHI-01105, p. 6-1)
- CPT-9A, CPT-21A, CPT-28 beyond SVE zone of influence in May 96 based on CCl4 concentrations and airflow modeling based on measured vacuums (BHI-01105, p. 6-1)

Carbon Tetrachloride Rebound Concentrations Monitored at 200-PW-1 Soil Vapor Extraction Sites July 2002 - December 2002

200-PW-1 (200-ZP-2) Location (Well or Probe) /feet bgs	Site	07/30/2002 CCl4 (ppmv)	08/26/2002 CCl4 (ppmv)	10/04/2002 CCl4 (ppmv)	10/30/2002 CCl4 (ppmv)	11/27/2002 CCl4 (ppmv)	12/31/2002 CCl4 (ppmv)
CPT-17/ 10 ft	Z-9	1.6	1.4	2.0	1.6	1.1	1.0
CPT-18/ 15 ft	Z-9	0	0	1.2	0	0	0
CPT-4E/ 25 ft (c)	Z-1A	1.3	0	0			
CPT-16/ 25 ft	Z-9	0	0	0	0	0	0
CPT-32/ 25 ft	Z-1A				0	0	2.2
CPT-30/ 28 ft	Z-1A				0	0	0
CPT-13A/ 30 ft	Z-1A	1.4	1.3	0	0	0	0
CPT-7A/ 32 ft	Z-1A	2.7	1.2	1.4	1.1	1.7	2.0
CPT-27/ 33 ft	Z-9	0	0	0	0	0	0
CPT-1A/ 35 ft	Z-12	4.1	4.2	3.4	3.5	6.8	1.9
CPT-34/ 40 ft	Z-18	1.6	1.2	1.2			
CPT-21A/ 45 ft	Z-9	60.2	31.6	68.0	61.9	35.7	40.8
W15-220SST/ 52 ft	Z-9	1.5					
CPT-9A/ 60 ft	Z-9	35.1	8.4	27.8	22.2	12.5	7.4
CPT-16/ 65 ft (d)	Z-9		0	3.1			
CPT-24/ 70 ft (e)	Z-9		1.5	3.3			
W15-219SST/ 70 ft (b)	Z-9	1.9					
CPT-18/ 75 ft	Z-9	0	0	1.5			
W15-82/ 83 ft	Z-9	85.8	5.6	58.8	35.6	14.7	12.1
CPT-21A/ 86 ft	Z-9	159	55	155	95.0	55.3	46.4
W15-218SST/ 86 ft (f)	Z-9		1.6	----- (h)			
CPT-28/ 87 ft	Z-9	208	54.2	169	130	51.6	48.8
W18-152/ 101 ft	Z-12				7.5	8.8	10.1
W18-167/ 106 ft	Z-1A				243	96	72.7
W18-165/ 109 ft	Z-1A				328	265	65.1
W15-217/ 114 ft	Z-9	82.1	34.0	214	38.7	80.0	264
CPT-24/ 118 ft	Z-9	27.7	4.2	16.3			
W15-220SST/ 118 ft	Z-9	27.5	1.3	21.3			
W15-219SST/ 130 ft (b)	Z-9	23.1					
W18-249/ 130 ft	Z-18				11.8	27.6	34.5
W18-248/ 131 ft (l)	Z-1A				27.0	81.5	68.2
W15-95L/ 144 ft	Z-9	13.3	0	16.1	18.5	9.7	9.8
W15-219SST/ 155 ft (b)	Z-9	6.8					
W15-220L/ 163 ft	Z-9						
W15-219L/ 175 ft	Z-9						
W15-9L/ 176 ft	Z-9				5.1	2.9	5.2
W15-84L/ 180 ft (g)			5.8	13.1	2.8	7.2	10.6
W15-220SST/ 185 ft	Z-9	----- (a)					

(a) Unable to sample. Sample port appears to be plugged.
(b) Sampling extremely slow.
(c) Substitute for CPT-4A/ 25 ft
(d) Substitute for W15-220SST/ 52 ft
(e) Substitute for W15-219SST/ 70 ft
(f) Substitute for W15-219SST/ 130 ft
(g) Substitute for W15-219SST/ 155 ft
(h) Unable to sample.
(l) 10/30/02: sample tubing cracked; sample may have been diluted. Tubing repaired 10/31/02.

ANNOTATED OUTLINE FOR THE U PLANT AREA WASTE SITES FOCUSED FEASIBILITY STUDY

1.0 INTRODUCTION

Introduces the Hanford Site, the U Plant Area, and U Plant Area waste sites to be addressed. Discusses drivers for the Focused Feasibility Study (FFS) including the TPA and White Paper. Introduces the U Plant Area Closure project and discusses how the FFS "fits in" to the project. Introduces the integration of the 216-U-12 RCRA TSD Unit into the CERCLA process.

1.1 PURPOSE

Statement of purpose of feasibility study addressing both past-practice waste sites and the 216-U-12 Crib. Includes a summary cross-walk table of required closure plan information for the 216-U-12 Crib and the location of the information in CERCLA documents or other supporting documents

1.2 SCOPE

Statement of scope of document including list of sites to be evaluated.

1.3 REPORT ORGANIZATION

Overview of the report organization including a summary of appendices; provided as bullet lists.

2.0 OVERVIEW AND BACKGROUND

2.1 WASTE SITE(S) SUMMARY

Brief summary of information collected from field investigations (e.g., 200-UP-2 LFI, U-12 monitoring); reference detail back to the borehole reports and the applicable RI Reports. Discuss contaminants, nature, and extent (conceptual site model), fate and transport. Discuss representative and analogous sites, including appropriate logic for the analogous site approach. Provide conceptual site models for representative waste sites. Include table of waste sites.

2.2 ADJACENT FACILITIES AND ACTIVITIES

Provide a summary of related cleanup activities under the U Plant Area Closure project (U Plant CDI, pipelines, excess facilities and ancillary equipment, eliminating artificial recharge sources). Provides an overall tie to U Plant Area Closure as presented in White Paper.

3.0 DEVELOPMENT OF REMEDIAL ACTION OBJECTIVES AND PRELIMINARY REMEDIATION GOALS.

This section presents information on physical setting and on the remedial action objectives (RAOs) and preliminary remediation goals (PRGs) that must be achieved by proposed alternatives for disposition of U Plant Area Waste Sites under an industrial land use scenario. The RAO and PRG development approach for U Plant Area Closure will closely coordinated with the approach used for other 200 area waste sites (e.g., 200-CW-1 FS).

3.1 PHYSICAL SETTING & AFFECTED ENVIRONMENT

Brief description of physical setting incorporating by reference the details from other documents such as the aggregate area management study (AAMS) reports, the Implementation Plan, the Work Plan, the Borehole Summary Report, the RI Reports. Discussions may include meteorology, topography, hydrology, etc.

Brief description of the natural resources incorporating by reference the details from other documents, similar to above. Topical areas include vegetation, wildlife, species of concern, cultural resources, aesthetics, visual resources, noise, socioeconomics.

3.2 LAND USE
Discussion of current and anticipated future land use assumptions and bases (Industrial). Assume that there is no sensitivity analysis required associated with land use. Discuss current and future groundwater use.

3.3 SUMMARY OF RISK
Discussion of the baseline risk evaluation. Includes a screening of ecological risks.

3.4 CONTAMINANTS OF POTENTIAL CONCERN
Identification of COPCs based on previous section and Section 2.0.

3.5 APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS
Refinement of the ARARs from the Implementation Plan based on OU-specifics and any new relevant regulatory issues. Will address RCRA closure performance requirements.

3.6 REMEDIAL ACTION OBJECTIVES
Development of remedial action objectives including any relevant assumptions

3.7 PRELIMINARY REMEDIATION GOALS
Development of preliminary remediation goals including any relevant assumptions (work done to date on the 200-CW-1 FS may be used as a guide)

3.7.1 Radiological Constituents
Description of the approach for developing rad PRGs; a tabular summary of rad PRGs

3.7.2 Nonradiological Constituents
Same as 3.7.1

4.0 DEVELOPMENT OF ALTERNATIVES

4.1 DEVELOPMENT OF ALTERNATIVES
Develops basis for technologies and/or process options to build remedial alternatives.

4.2 DESCRIPTION OF ALTERNATIVES
Describes the remedial alternatives (removal of contamination and disposal at the ERDF, surface barriers, institutional control/monitored natural attenuation) be addressed in the FFS.

5.0 DETAILED ANALYSIS OF ALTERNATIVES

Describe the detailed analysis of alternatives against the CERCLA 9 criteria; detailed analysis includes modeling as required to evaluate protectiveness of alternatives and risk assessment as required to evaluate residual risk and relative risk reduction

5.1 DESCRIPTION OF EVALUATION CRITERIA
Brief summary of each of the CERCLA 9 criteria and the NEPA values that are considered in the detailed analysis, including

5.1.1 Overall Protection of Human Health and the Environment
5.1.2 Compliance with ARARs
5.1.3 Long-Term Effectiveness and Permanence
5.1.4 Reduction of Toxicity, Mobility, or Volume Through Treatment
5.1.5 Short-Term Effectiveness
5.1.6 Implementability
5.1.7 Cost
5.1.8 State Acceptance
5.1.9 Community Acceptance
5.1.10 NEPA Values

5.2 DETAILED ANALYSIS

Conduct detailed analysis of alternatives based on evaluation criteria defined above.

5.2.1 Alternative 1 – No Action

5.2.2 Alternative 2 – Institutional Controls/Natural Attenuation

5.2.3 Alternative 3 – Capping

Options under the capping alternative will likely include the modified RCRA C barrier, and integration with the proposed U Plant CDI engineered barrier (for waste sites within the barrier). Barrier performance monitoring will be addressed.

5.2.4 Alternative 4 – Removal, Treatment (as needed), and Disposal

6.0 COMPARATIVE ANALYSIS OF ALTERNATIVES

Describe comparative analysis of alternatives using the CERCLA 9 criteria identified in Section 5.

7.0 CONCLUSIONS

7.1 FEASIBILITY SUMMARY

Summarizes the results of the FFS

7.2 PATHFORWARD

Discusses the pathforward for the U Pant Area waste sites including the proposed plan, closure of the 216-U-12 Crib and confirmatory sampling JBP 2-17-05 CDI 2-17-05

7.2.1 Proposed Plan

Discusses that the proposed plan will document the preferred alternatives for the U Plant Area waste sites.

7.2.2 216-U-12 Crib RCRA TSD Closure

Discusses that the proposed plan will define the closure option/strategy for the crib. Will also discuss post-closure monitoring.

7.2.3 Confirmatory/Remedial Design Sampling

Discusses the need for confirmatory/remedial design sampling.

8.0 REFERENCES

List of documents and information sources used to prepare the FFS

APPENDICES - Tentative

A – APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS
B – PRELIMINARY REMEDIATION GOALS
C – MODELING APPROACH, INPUTS, AND RESULTS
D – RISK ASSESSMENT
E – VOLUME ESTIMATES
F – COST ESTIMATES

UNIT MANAGERS' MEETING AGENDA

1200 Jadwin Avenue
February 20, 2003

9 a.m. – 11 a.m. 200 Area Room 1C1

General (10 minutes)

- Outstanding Action Items (attached)
- Open for Regulatory Topics or Action Items

GROUNDWATER OPERABLE UNITS

200-BP-5 & 200-PO-1 OUs (2 minutes)

- Status of Activities
- Waste Storage Sites

200-UP-1 OU (5 minutes)

- Remediation Treatment Status
- Data Quality Objectives Process Status

200-ZP-1 OU (5 minutes)

- Remediation Treatment Status
- Data Quality Objectives Process Status
- Update on Carbon Tetrachloride concentrations in well 299-W15-40
- Alternatives for Carbon Tetrachloride Source Term Location

SOURCE OPERABLE UNITS

200-PW-1, 200-PW-3, & 200-PW-6 OUs (10 minutes)

- Remediation Treatment Status
- Monthly Monitoring
- Status Fieldwork Planning & Preparation

200-TW-1, 200-TW-2, & PW-5 OUs (2 minutes)

- RI Report Regulatory Review Status

200-PW-2 & 200-PW-4 OUs (5 minutes)

- Work Plan Consolidation Status

- Status Field Work Planning & Preparation

200-CS-1 OU (2 minutes)

- Status Field Work Planning & Preparation

200-CW-1 & 200-CW-3 OUs (10 minutes)

- FS Status

200 Area Ecological Evaluation (10 minutes)

- Status on Revised Draft

U Plant Area Regional Closure (2 minutes)

- FFS and PP Status
- DQO for Confirmatory Sampling and Remedial Design Sampling Status
- U Plant Tour

MEETING MINUTES
200 AREA GROUNDWATER AND SOURCE OPERABLE UNITS
UNIT MANAGERS' MEETING -- 200 AREA
February 20, 2003

Topics of Discussion:

1. *General*

- Outstanding Action Items – None.

- Open For Regulatory Topics or Action Items – RL proposed moving the U Plant agenda item to the beginning of the meetings. RL requested an allowance of ten minutes for the U Plant discussion. Future agendas will include this change.

GROUNDWATER OPERABLE UNITS

2. *200-BP-5 & 200-PO-1 OUs*

- Status of Activities – The 200-BP-5 Sampling and Analysis Plan is with EPA. Approval of the SAP is on hold due to comments from Ecology. Those comments will be addressed and responded to as the Integrated Data Quality Objective Report is re-written. A meeting will be scheduled with PNNL, Ecology and EPA to discuss proposed well networks.

- Waste Storage Sites – A letter was drafted to send to Ecology. RL is reviewing the letter. The proposal for the combined storage area will be sent to Craig Cameron at EPA.

3. *200-UP-1 OU*

- Remediation Treatment Status – The average pumping rate for FY 2003 through February 9, 2003, was 49 gpm. For the month of January through February 9, 2003, the system operated between 47 and 49 gpm. The design work for tying in a third extraction well (299-W19-43) is scheduled to begin March 3, 2003. The tie in will begin July 1, 2003. Extraction well 299-W19-39 was shutdown on February 3, 2003, due to low water levels and was restarted February 4, 2003. The system run time was 93.5% through February 9, 2003, 98.9% fiscal year to date, and 92.3% from system inception to date. A handout was distributed (attached).

- Data Quality Objectives Process Status – DOE-RL, PNNL and FH will be meeting Monday, February 24. A second, later meeting will include Ecology.

- Technetium 99 at Well W15-43 – Ecology provided direction on this well and field work is being implemented in accordance with that direction. Plans originally included doing an extensive purge in July, 2003. Good progress is being made and current plans are to sample with an extensive purge by March 12, 2003.

4. *200-ZP-1 OU*

- Remediation Treatment Status – The average pumping rate for FY 2003 through February 9, 2003, was 136 gpm. For the month of January through February 9, 2003, the system operated between 111 and 139 gpm. Extraction well #4 (299-W15-32) was offline during this reporting period due to moisture setting off the leak detection system. Repairs have been completed and extraction well #4 was put back on line February 19, 2003. Preparation to replace extraction well #1 (299-W15-33) and well #4 is underway. The drilling for replacement extraction well #1 is scheduled to begin in two weeks. The system run time was 100% through February 9, 2003, 91.8% fiscal year to date, and 91.7% from system inception to date. A handout was distributed (attached).

- Data Quality Objectives Process Status – 30% to 40% of the strawman is complete.

- Update on Carbon Tetrachloride Concentrations in Well 299-W15-40 – A handout was distributed showing the plume map and several graphs depicting plume trends north of the Plutonium Finishing Plant. Concentrations to the 2000 ug/L range extend to Well 299-W10-5. Concentration levels are going up rapidly. The well is now on a quarterly sampling schedule. Well W15-765 is the replacement well. Quarterly sampling is suggested. At Well W15-43 there are consistent concentrations. That well was sampled quarterly for the first year.

- Alternatives For Carbon Tetrachloride Source Term Location – A workshop was held on February 11, 2003, with EM-50. Twenty-six different companies were represented. Proposals from that workshop are due March 26, 2003. The award will be made a few months later. EPA requested being included in the review of those proposals.

SOURCE OPERABLE UNITS

5. *200-PW-1, 200-PW-3, & 200-PW-6 OUs*

- Remediation Treatment Status – The active system was shutdown for the winter. The passive system remains operational (attached).

- Monthly Monitoring – Results are consistent with past samples (attached).

- Status Fieldwork Planning and Preparation – Remedial Investigation for Source OU – The work will probably begin in late-March. Work is in progress on the DQOs for Step II of the Dispersed Plume Investigation. Work is also being done on the DQO for the DNAPL investigation. The sampling of vent risers is part of the Step II investigation. The work is currently scheduled for 2004. EPA encouraged that the work start as soon as possible.

6. *200-TW-1 & 200-TW-2 OUs*

- RI Report Regulatory Review Status – Comments on the RI Report have been received from Ecology. DOE-RL is in the process of preparing an extension letter to send to the regulators.

7. ***200-PW-2 & 200-PW-4 OUs***

- Work Plan Consolidation Status – Comments from Ecology on the redline/strikeout version have been received. DOE-RL and FH will meet with Ecology to discuss the comments. EPA requested to be invited to that discussion.

- Status Field Work Planning & Preparation – No discussion

8. ***200-CS-1 OU***

- Status Field Work Planning & Preparation – The revised Waste Control Plan has been given to Ecology for review. Ecology expressed a concern that the borehole siting being 40 feet away from the 216-S-10 ditch is too far to satisfy CERCLA RI/FS data needs. The approach is consistent with the approach used for a similar borehole installed at the 216-S-10 Pond. FH explained that safety is an issue because that portion of the ditch is not stabilized and a concern exists in placing drilling rigs close to the unstable portion. To satisfy CERCLA RI/FS data needs, a test pit was done in the pond and there was not much contamination. Ecology requested the data from that test pit. Similarly, to meet the data need for the S-10 Ditch, a test pit in the ditch was added last fall. A meeting with Ecology, EPA and FH will be scheduled to discuss this issue further and to review the DQO.

9. ***200-CW-1 & 200-CW-3 OUs***

- FS Status – The FS has been through the DOE-RL and DOE-HQ review process. Comments received are being incorporated, as is the tribal scenario. RESRAD runs are being conducted.

  Regarding the tribal scenario, the Harris/Harper paper is referenced. FH is trying to get updates on those parameters in the paper having to do with dermal contact. This will be discussed with the regulators. Stuart Harris of the CTUIR is interested in tribal exposure scenarios. He asked that exposure scenarios be run for each waste site. A meeting to discuss options on the closure plan is being organized. DOE asked for clarification from Ecology on their letter regarding a separate review. DOE stated that the closure plan will be an appendix to the FS. Ecology stated that a separate review is not necessary if it is an appendix. Ecology stated further that it is preferred that a separate document is not prepared.

10. ***200 Area Ecological Evaluation*** –

- Status on Revised Draft – A draft will be out for reviewers by next Monday. The goal is to have the final document out before the end of March.

11. ***U Plant Area Regional Closure*** –

- FFS and PP Status – Comments on the FFS outline were received from the regulators. EPA stated that until the RODs are in place, a groundwater decision would not be made. FH distributed an outline of the Proposed Plan and requested that the regulators review the outline.

- DQO For Confirmatory Sampling and Remedial Design Sampling Status – FH has met with EPA and a meeting with Ecology was scheduled. The purpose of the meetings is to discuss waste sites and pipelines. There will be a separate SAP for the waste sites and the pipelines. EPA stated that data were needed to support the EE/CA. EPA stated that some sites may be able to be rejected and wants those sites rejected prior to the ROD.

- U Plant Tour – The site visit will leave from 1200 Jadwin at 1:00 p.m. on February 26, 2003.

Attachment 2

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

200 Area UMM – February 2003

200-UP-1:

- Average Pumping Rate for FY03 through February 9: 49 gpm
- For the month of January through February 9, the system operated at between 47 and 49 gpm.
- The design work for tying in well 299-W19-43 is scheduled to begin March 3, 2003. The tie in will begin July 1, 2003
- Extraction well 299-W19-39 was shutdown on February 3 due to low water levels and was restarted February 4.

- System Run Time
  - Through February 9, 2003 93.5%
  - FY2003 (Year to date) 98.9%
  - System Inception to date 92.3%

- Dave Meyers will be giving an update on Tc-99 concentrations detected in well 299-W23-19 (S-SX Tank Farm).

200-ZP-1:

- Average Pumping Rate for FY03 through February 9: 136 gpm
- For the month of January through February 9, the system operated at between 111 and 139 gpm.
- Extraction Well #4 (299-W15-32) was offline during this reporting period due to moisture setting off leak detection system. Repairs have been completed and extraction well #4 was put back on line yesterday (February 19, 2003).
- Preparation to replace Extraction Well #1 (299-W15-33) and 4 (299-W15-32) is underway. The drilling for replacement Extraction Well # 1 (299-W15-33) is scheduled to begin in 2 weeks.

- System Run Time
  - Through February 9, 2003 100%
  - FY2003 (Year to date) 91.8%
  - System Inception to date 91.7%

- Stuart Luttrell will be giving an update on any new information we may know about the increasing carbon tetrachloride concentrations detected near TX-TY Tank Farm (well 299-W15-40).

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

- Active system is shutdown for the winter
- The passive system remains operational.

Comparison of Maximum Carbon Tetrachloride Rebound Concentrations
Monitored at 200-PW-1 Soil Vapor Extraction Sites
FY 1997 - FY 2003

200-PW-1		November 1996 -		October 1997 -		July 1998 -		July 1999 -		July 2001 -		July 2002 -	
(200-ZP-2)		July 1997		September 1998		September 1999		June 2001		June 2002		January 2003	
Location	Site	Maximum Rebound	months*	Maximum Rebound	months*	Maximum Rebound	months*	Maximum Rebound	months*	Maximum Rebound	months*	Maximum Rebound	months*
(Well or Probe)		Carbon Tetrachloride	of	Carbon Tetrachloride	of	Carbon Tetrachloride	of	Carbon Tetrachloride	of	Carbon Tetrachloride	of	Carbon Tetrachloride	of
/feet bgs		(ppmv)	rebound	(ppmv)	rebound	(ppmv)	rebound	(ppmv)	rebound	(ppmv)	rebound	(ppmv)	rebound
79-03/ 5 ft	Z-18	0	8	0	3	0	12						
79-06/ 5 ft	Z-1A	not measured		not measured		1.4	12						
79-11/ 5 ft	Z-1A	0	8	0	6	2.9	12						
86-05/ 5 ft	Z-9	not measured		not measured		0	3						
86-05-01/ 5 ft	Z-9	not measured		not measured		0	3						
86-06/ 5 ft	Z-9	1.3	8	0	9	1.9	6						
87-05/ 5 ft	Z-1A	not measured		0	3	1.0	12						
87-09/ 5 ft	Z-1A	not measured		1.5	3	2.6	12						
94-02/ 5 ft	Z-9	0	8	not measured		1.4	3						
95-11/ 5 ft	Z-9	0	8	2.1	9	2.5	6						
95-12/ 5 ft	Z-9	1.1	8	1.5	9	1.3	6						
95-14/ 5 ft	Z-9	not measured		not measured		0	3						
CPT-13A/ 9 ft	Z-1A	not measured		0	6	1.0	12						
CPT-16/ 10 ft	Z-9	not measured		0	9	1.5	6						
CPT-17/ 10 ft	Z-9	not measured		4.2	9	5.1	6	6.6	24	3.2	6	2.0	7
CPT-18/ 15 ft	Z-9	not measured		6.5	9	5.0	6	5.2	24	1.4	6	1.2	7
CPT-4A/ 25 ft	Z-1A	not measured		not measured		not measured		3.5	0	3.4	10		
CPT-4E/ 25 ft	Z-1A	not measured		not measured		not measured		not measured		2.6	12	1.3	0
CPT-16/ 25 ft	Z-9	not measured		not measured		not measured		1.8	24	1.1	6	0	7
CPT-31/25 ft	Z-1A	not measured		0	6	0	12						
CPT-32/ 25 ft	Z-1A	not measured		9.1	6	10	12	16.5	18	13.0	12	4.1	4
CPT-30/ 28 ft	Z-18	not measured		not measured		3.2	12	1.4	18	0	12	0	4
CPT-13A/ 30 ft	Z-1A	2.2	8	not measured		not measured		3.6	18	2.6	12	1.4	4
CPT-7A/ 32 ft	Z-1A	not measured		2.3	6	5.4	12	6.2	18	5.6	12	2.7	4
CPT-27/ 33 ft	Z-9	1.2	8	not measured		not measured		2.6	24	1.5	6	0	7
CPT-1A/ 35 ft	Z-12	2.0	8	1.4	3	3.0	12	7.7	18	11.3	12	6.8	4
CPT-28/ 40 ft	Z-9	40.1	8							56.5	6		
CPT-33/ 40 ft	Z-1A	not measured		2.0	3	2.6	12			2.3	12		
CPT-34/ 40 ft	Z-18	2.3	8	not measured		1.7	12	1.9	0	2.2	12	1.6	0
CPT-21A/ 45 ft	Z-9	65.6	8	52.7	9	57	3	127	24	133	6	68.0	7
W15-220ST/ 52 ft	Z-9	2	8	not measured		1.6	3	2.5	24			1.5	1
CPT-28/ 60 ft	Z-9	not measured		1.5	0	3.7	3						
CPT-9A/ 60 ft	Z-9	45.5	8	41.1	0	44	3	68	24	45.3	6	35.1	7
CPT-16/ 65 ft	Z-9	4.6	8	not measured		not measured		not measured		not measured		3.1	3
CPT-1A/ 68 ft	Z-12	not measured		not measured		not measured		not measured		5.5	12		
CPT-30/ 68 ft	Z-18	1.7	8	not measured		3.0	12						
CPT-32/ 70 ft	Z-1A	7.4	8							7.7	12		
CPT-13A/ 70 ft	Z-1A	5.2	8	not measured		5.6	12						
CPT-24/70 ft	Z-9	not measured		3.2	9	3.6	3					3.3	3
W15-219SST/ 70 ft	Z-9	14.6	8	not measured		7.6	3	7.8	24			1.9	1
CPT-18/ 75 ft	Z-9	not measured		not measured		not measured		18	24			1.5	3
CPT-4A/ 75 ft	Z-1A	not measured		not measured		not measured		not measured		7.1	3		
CPT-31/ 76 ft	Z-1A	4.0	8	not measured		4.2	12						
CPT-33/ 80 ft	Z-1A	5.8	8	not measured		9.2	12						
W15-82/ 83 ft	Z-9	28.9	8	5.5	9	46	6	55	24	66.7	6	85.8	7
CPT-21A/ 86 ft	Z-9	221	8	206	9	148	6	195	24	186	6	159	7
CPT-34/ 86 ft	Z-18	36.3	8	5.9	3	0	12						
W15-95U/ 86 ft	Z-9	not measured		15.3	9	39	6	43	21				
W15-218SST/ 86 ft	Z-9	not measured		not measured		0	3					1.6	2
CPT-28/ 87 ft	Z-9	280	8	230	9	203	6	224	24	229	6	208	7
CPT-4B/ 90 ft	Z-1A									3.2	10		
CPT-1A/ 91 ft	Z-18	3.9	8	not measured		4.2	12			10.7	10		
CPT-4A/ 91 ft	Z-1A	not measured		7.7	3	14	12			7.5	2		
CPT-9A/ 91 ft	Z-9	103	8	34.5	9	72	3			74.3	6		
W15-85/ 91 ft	Z-9	not measured		not measured		not measured		51	24				
W18-252SST/ 100	Z-1A	38.2	8	17.8	3	24	12						
W18-152/ 101 ft	Z-12	46.8	8	11.1	3	33	12	25	18	25.7	12	12.6	4
CPT-4E/ 103 ft	Z-1A	23.2	8	not measured		not measured		not measured		16.1	12		
W18-167/ 106 ft	Z-1A	323	8	79.7	3	228	12	248	18	297	12	243	4
W18-165/ 109 ft	Z-1A	not measured		not measured		not measured		not measured		278	12	328	4
W15-217/ 114 ft	Z-9	797	8	630	9	561	6	442	24	93.6	6	324	7
CPT-24/ 118 ft	Z-9	44.6	8	37.7	9	37	6	35	24			27.7	3
W15-220SST/ 118	Z-9	21.9	8	not measured		36	3	34	24			27.5	3
W18-158L/ 120 ft	Z-1A	not measured		143	3	492	12	284	18	163	3		
W15-219SST/ 130	Z-9	298	8	not measured		47	3	54	24			23.1	1
W18-249/ 130 ft	Z-18	206	8	20.4	3	215	12	176	18	196	12	34.5	4
W18-248/ 131 ft	Z-1A	288	8	86.3	3	177	12	214	18	306	12	81.5	4
W15-95L/ 144 ft	Z-9	not measured		not measured		not measured		not measured		31.8	6	18.5	7
W15-219SST/ 155	Z-9	59.6	8	not measured		24	3	44	24			6.8	1
W15-220L/ 163 ft	Z-9												
W15-219L/ 175 ft	Z-9												
W15-9L/ 176 ft	Z-9	18.3	8	15.0	9	15	6	20	21	16.9	6	5.8	7
W15-84L/ 180 ft	Z-9	not measured		not measured		not measured		not measured		not measured		13.1	7
W15-6L/ 182 ft	Z-9	22.6	8	17.8	9	1.3	6						
W15-220SST/ 185	Z-9	14.5	8	not measured		13	3	15	24			-----	1
W18-7/ 197 ft	Z-1A	28.5	8	17.3	3	29	12						
W18-12/ 198 ft	Z-18	not measured		3.81	3	19	12						
W18-6L/ 208 ft	Z-1A	36	8	31.3	6	15	12						

* - based on location (Z-1A/18/12 or Z-9) of monitoring point; specific points may be beyond SVE zone of influence during particular operating configurations
- Z-18 and Z-12 wells off-line Oct 96 - Apr 98
- CPT-1A, CPT-9A, and possibly CPT-7A appeared to be beyond SVE zone of influence in Oct 96 based on differential pressure (BHI-01105, p 6-1)
- CPT-9A, CPT-21A, CPT-28 beyond SVE zone of influence in May 96 based on CCl4 concentrations and airflow modeling based on measured vacuums (BHI-01105, p 6-1)

Carbon Tetrachloride Rebound Concentrations
Monitored at 200-PW-1 Soil Vapor Extraction Sites
July 2002 - January 2003

200-PW-1 (200-ZP-2) Location (Well or Probe) /feet bgs	Site	07/30/2002 CCl4 (ppmv)	08/26/2002 CCl4 (ppmv)	10/04/2002 CCl4 (ppmv)	10/30/2002 CCl4 (ppmv)	11/27/2002 CCl4 (ppmv)	12/31/2002 CCl4 (ppmv)	01/30/2003 CCl4 (ppmv)
CPT-17/ 10 ft	Z-9	1.6	1.4	2.0	1.6	1.1	1.0	1.3
CPT-18/ 15 ft	Z-9	0	0	1.2	0	0	0	0
CPT-4E/ 25 ft (c)	Z-1A	1.3	0	0				
CPT-16/ 25 ft	Z-9	0	0	0	0	0	0	0
CPT-32/ 25 ft	Z-1A				0	0	2.2	4.1
CPT-30/ 28 ft	Z-1A				0	0	0	0
CPT-13A/ 30 ft	Z-1A	1.4	1.3	0	0	0	0	0
CPT-7A/ 32 ft	Z-1A	2.7	1.2	1.4	1.1	1.7	2.0	2.0
CPT-27/ 33 ft	Z-9	0	0	0	0	0	0	0
CPT-1A/ 35 ft	Z-12	4.1	4.2	3.4	3.5	6.8	1.9	5.3
CPT-34/ 40 ft	Z-18	1.6	1.2	1.2				
CPT-21A/ 45 ft	Z-9	60.2	31.6	68.0	61.9	35.7	40.8	45.2
W15-220SST/ 52 ft	Z-9	1.5						
CPT-9A/ 60 ft	Z-9	35.1	8.4	27.8	22.2	12.5	7.4	14.8
CPT-16/ 65 ft (d)	Z-9		0	3.1				
CPT-24/ 70 ft (e)	Z-9		1.5	3.3				
W15-219SST/ 70 ft (b)	Z-9	1.9						
CPT-18/ 75 ft	Z-9	0	0	1.5				
W15-82/ 83 ft	Z-9	85.8	5.6	58.8	35.6	14.7	12.1	6.5
CPT-21A/ 86 ft	Z-9	159	55	155	95.0	55.3	46.4	66.9
W15-218SST/ 86 ft (f)	Z-9		1.6	----- (h)				
CPT-28/ 87 ft	Z-9	208	54.2	169	130	51.6	48.8	20.3
W18-152/ 101 ft	Z-12				7.5	8.8	10.1	12.6
W18-167/ 106 ft	Z-1A				243	96	72.7	84.1
W18-165/ 109 ft	Z-1A				328	265	65.1	82.6
W15-217/ 114 ft	Z-9	82.1	34.0	214	38.7	80.0	264	324
CPT-24/ 118 ft	Z-9	27.7	4.2	16.3				
W15-220SST/ 118 ft	Z-9	27.5	1.3	21.3				
W15-219SST/ 130 ft (b)	Z-9	23.1						
W18-249/ 130 ft	Z-18				11.8	27.6	34.5	29.4
W18-248/ 131 ft (l)	Z-1A				27.0	81.5	68.2	73.9
W15-95L/ 144 ft	Z-9	13.3	0	16.1	18.5	9.7	9.8	12.6
W15-219SST/ 155 ft (b)	Z-9	6.8						
W15-220L/ 163 ft	Z-9							
W15-219L/ 175 ft	Z-9							
W15-9L/ 176 ft	Z-9				5.1	2.9	5.2	5.8
W15-84L/ 180 ft (g)			5.8	13.1	2.8	7.2	10.6	13.0
W15-220SST/ 185 ft	Z-9	----- (a)						

(a) Unable to sample. Sample port appears to be plugged.
(b) Sampling extremely slow.
(c) Substitute for CPT-4A/ 25 ft
(d) Substitute for W15-220SST/ 52 ft
(e) Substitute for W15-219SST/ 70 ft
(f) Substitute for W15-219SST/ 130 ft
(g) Substitute for W15-219SST/ 155 ft
(h) Unable to sample.
(l) 10/30/02: sample tubing cracked; sample may have been diluted. Tubing repaired 10/31/02.

UNIT MANAGERS' MEETING AGENDA

1200 Jadwin Avenue
March 20, 2003

9 a.m. – 11 a.m. 200 Area Room 1C1

General (10 minutes)

- Outstanding Action Items (attached)
- Open for Regulatory Topics or Action Items

U Plant Area Regional Closure (10 minutes)

- Waste Site FFS/PP
- DQO for confirmatory sampling and remedial Design
- Pipeline mapping
- White paper

GROUNDWATER OPERABLE UNITS

200-BP-5 & 200-PO-1 OUs (2 minutes)

- Status of Activities

200-UP-1 OU (5 minutes)

- Remediation Treatment Status
- 299-W23-19 Sampling/Pumping Status
- Data Quality Objectives Process Status

200-ZP-1 OU (5 minutes)

- Remediation Treatment Status
- Data Quality Objectives Process Status
- Update on Carbon Tetrachloride concentrations in well 299-W15-40

SOURCE OPERABLE UNITS

200-PW-1, 200-PW-3, & 200-PW-6 OUs (10 minutes)

- Starting up Active Soil Vapor Extraction System – April 1, 2003
- Remediation Treatment Status
- FY 2003 SVE Operating Plan
- Monthly Monitoring
- Status Fieldwork Planning & Preparation

- Work Plan Consolidation Status

200-TW-1, 200-TW-2, & PW-5 OUs (2 minutes)

- RI Report Status
- Work Plan Consolidation Status

200-PW-2 & 200-PW-4 OUs (5 minutes)

- Work Plan Consolidation Status
- Status Field Work Planning & Preparation

200-CS-1 OU (2 minutes)

- Status Field Work Completion (M-015-39A)

200-CW-5, CW-2, CW-4, & SC-1 OUs (2 minutes)

- Work Plan Consolidation Status
- RI Report Status

200-IS-1 & ST-1 OUs (2 minutes)

- Work Plan Status

200 Area Ecological Evaluation (2 minutes)

- Status on Revised Draft

200-CW-1 & 200-CW-3 OUs (20 minutes)

- FS Status

MEETING MINUTES
200 AREA GROUNDWATER AND SOURCE OPERABLE UNITS
UNIT MANAGERS' MEETING -- 200 AREA
March 20, 2003

Topics of Discussion:

1. *General*

- Outstanding Action Items – None.
- Open For Regulatory Topics or Action Items – No discussion.

2. *U Plant Area Regional Closure*

- Waste Site FFS/PP – Data compilation is complete. Comments received from the tour in April, 2002, were incorporated. A risk assessment is being prepared. The outline for the Proposed Plan is solid.
- DQO for Confirmatory Sampling and Remedial Design – DOE-RL met with EPA and Ecology. A DQO summary report is being prepared. The draft of that summary report should be ready for review by the week of March 24, 2003. The intent is to perform sampling on the pipelines and waste sites this year.
- Pipeline Mapping – A new drawing is being produced that depicts the engineering details of pipelines. The effort supports the pipeline EE/CA.
- White Paper – The regulatory strategy white paper was issued to DOE-RL on March 13, 2003.

GROUNDWATER OPERABLE UNITS

3. *200-BP-5 & 200-PO-1 OUs*

- Status of Activities – The 200-BP-5 Sampling and Analysis Plan has been approved. EPA and Ecology drafted a letter explaining the waste from groundwater sampling. Ecology is reviewing the 200-PO-1 SAP.

4. *200-UP-1 OU*

- Remediation Treatment Status – The average pumping rate for FY 2003 through March 2, 2003, was 48 gpm. For the month of February, the system operated at between 46 and 49 gpm. The design work for tying in the new extraction well 299-W19-43 has begun. The tie in will begin in April 2003. An unscheduled outage occurred on February 3, 2003, where extraction well 299-W19-39 was shutdown for 11 hours due to low water levels. It was restarted on February 4, 2003. The system was shutdown again on February 27, 2003, for a leachate transfer and was back on line on February 28, 2003. The system run time was 95.5% through March 2, 2003, 98.6% fiscal year to date, and 92.3% from system inception to date. A handout was distributed (attached).

- 299-W23-19 Sampling/Pumping Status – Pumping began on the day promised. This is a FH, PNNL and CHG interactive effort. There are four conductance probes in the well. In early profiles, it seemed that the contamination was at the bottom of the well. But recent results indicate it is actually higher in the well. That may be because the well is being pumped from a zone that doesn't have as high of concentrations as other zones. The highest reading came during static profile measurements with the bottom probe. When pumped it was the lowest. The deepest probe is slowly returning to its static condition. Data are being collected at ten-minute intervals except during active pumping when readings are taken once per minute. The contamination appears to be between the upper and lower most probes. A handout was distributed and is attached.

- Data Quality Objectives Process Status – A draft for DOE, EPA and Ecology is being prepared and will be issued within the next few days.

5. ***200-ZP-1 OU***

- Remediation Treatment Status – The average pumping rate for FY 2003 through March 2, 2003, was 137 gpm. For the month of February, the system operated at between 137 and 147 gpm. Extraction well #4 (299-W15-32) was back on line February 19, 2003, after repair of the leak detection system. The drilling of replacement extraction well #1 (299-W15-33) started during this reporting period. The system run time was 100% through March 2, 2003, 93.4% fiscal year to date, and 91.8% from system inception to date. A handout was distributed (attached).

- Update on Carbon Tetrachloride Concentrations in Well 299-W15-40 – A handout was provided.

SOURCE OPERABLE UNITS

6. ***200-PW-1, 200-PW-3, & 200-PW-6 OUs***

- Starting Up Active Soil Vapor Extraction System – April 1, 2003 – The active system is scheduled to be brought back on line on April 1, 2003. The passive system remains operational (attached).

- Remediation Treatment Status – A handout was distributed.

- FY 2003 SVE Operating Plan – DOE-RL and EPA signed the Operating Plan. Soil vapor extraction operations at 216-Z-1A will start on April 1, 2003. Plan to switch operations to the 216-Z-9 site in July 2003. Do not plan to initiate vapor extraction at Z-9 until drilling to characterize the vadose zone has been completed because vapor extraction may interfere with the characterization results.

- Monthly Monitoring – Results are consistent with past monitoring. A handout was distributed (attached).

- Status Fieldwork Planning & Preparation – Completion of the vapor sampling within the PFP protected area may occur in early April 2003.

- Work Plan Consolidation Status – We plan to have the consolidated work plan provided to EPA in June for approval.

7. *200-TW-1, 200-TW-2 & 200-PW-5 OUs*

- RI Report Status – Regulator comments are being addressed; however, a request for extension to complete preparation of Rev. 0 was submitted to the regulators because of staffing issues, the significant number of comments received, and to allow time for resolution of the Central Plateau ecological assessment issues.

- Work Plan Consolidation Status – FH is looking at all the documents impacted by the Ecological Assessment. A master schedule will be worked out to meet Ecology's requirements. Input will be provided to Ecology during the first week of April.

8. *200-PW-2 & 200-PW-4 OUs*

- Work Plan Consolidation Status – Draft comment responses have been prepared. DOE-RL would like to meet with Ecology about the comments in the next week or so.

- Status Field Work Planning & Preparation – All preparations necessary to begin fieldwork are being finalized. A pre-job meeting is scheduled for March 31, 2003.

9. *200-CS-1 OU*

- Status Field Work Completion (M-015-39A) – Total depth of the borehole at the S-10 Ditch has been reached. Nine samples were taken in the vadose zone. An additional 40 feet will be drilled. Geophysical logging occurs March 20 and 21, 2003. Well completion activities will begin the week of March 27, 2003. Drilling will then move over to 216-B-63 Trench the week of March 31, 2003. All drilling should be complete by the end of April.

10. *200-CW-5, CW-2, CW-4, & SC-1 OUs*

- Work Plan Consolidation Status – The same issues affect this work plan and the 200-PW-2 work plan.

- RI Report Status – The FH review of the RI Report is complete.

11. *200-IS-1 & ST-1 OUs*

- Work Plan Status – DOE-RL requested an extension on responding to comments. Ecology is considering the request.

12. *200 Area Ecological Evaluation*

- Status on Revised Draft – Draft B of the Ecological Evaluation will be delivered to DOE-RL next week. DOE-RL will speak at the HAB River and Plateau committee meeting in April regarding the Ecological Evaluation. The DQO will cover the data needs of the Central Plateau as a whole. For preliminary planning, key input to kick

off the process is getting comments back. Ecological samples will not be collected this spring field season.

13. ***200-CW-1 & 200-CW-3 OUs***

- FS Status – The FS is on schedule. It is currently going through DOE-RL concurrence.

200 Area UMM – March 2003

200-UP-1:

- Average Pumping Rate for FY03 through March 2: 48 gpm
- For the month of February, the system operated at between 46 and 49 gpm.
- The design work for tying in new extraction well 299-W19-43 has begun. The tie in will begin in April, 2003.
- An unscheduled outage occurred on February 3, where Extraction well 299-W19-39 was shutdown for 11 hours due to low water levels. It was restarted February 4.
- The system was shutdown again on February 27 for a leachate transfer and was back on line on February 28.

- System Run Time
  - Through March 2, 2003 95.5%
  - FY2003 (Year to date) 98.6%
  - System Inception to date 92.3%

- Dave Meyers will be giving an update on the first full day purge of well 299-W23-19 (S-SX Tank Farm).

200-ZP-1:

- Average Pumping Rate for FY03 through March 2: 137 gpm
- For the month of February, the system operated at between 137 and 147 gpm.
- Extraction Well #4 (299-W15-32) was back on line February 19, 2003 after repair of leak detection system.
- The drilling of replacement Extraction Well # 1 (299-W15-33) started during this reporting period.

- System Run Time
  - Through March 2, 2003 100%
  - FY2003 (Year to date) 93.4%
  - System Inception to date 91.8%

- Stuart, do you have any new information regarding increasing carbon tetrachloride concentrations detected near TX-TY Tank Farm (well 299-W15-40)?

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

- Active system is scheduled to be brought back on line April 1
- The passive system remains operational.

Comparison of Maximum Carbon Tetrachloride Rebound Concentrations
Monitored at 200-PW-1 Soil Vapor Extraction Sites
FY 1997 - FY 2003

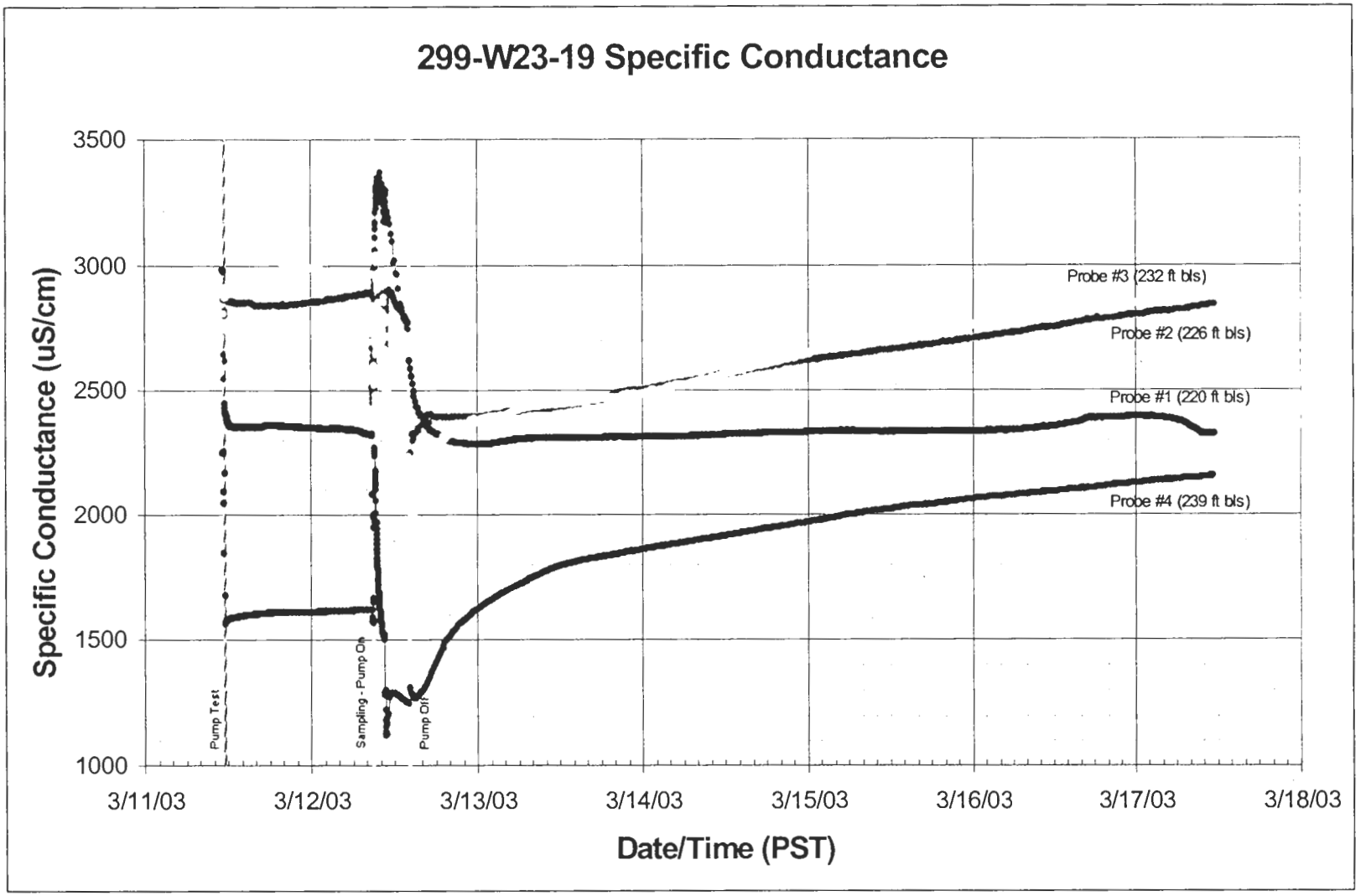
200-PW-1		November 1996 -		October 1997 -		July 1998 -		July 1999 -		July 2001 -		July 2002 -	
(200-ZP-2)		July 1997		September 1998		September 1999		June 2001		June 2002		February 2003	
Location	Site	Maximum Rebound	months*	Maximum Rebound	months*	Maximum Rebound	months*	Maximum Rebound	months*	Maximum Rebound	months*	Maximum Rebound	months*
(Well or Probe)		Carbon Tetrachloride	of	Carbon Tetrachloride	of	Carbon Tetrachloride	of	Carbon Tetrachloride	of	Carbon Tetrachloride	of	Carbon Tetrachloride	of
/feet bgs		(ppmv)	rebound	(ppmv)	rebound	(ppmv)	rebound	(ppmv)	rebound	(ppmv)	rebound	(ppmv)	rebound
79-03/ 5 ft	Z-18	0	8	0	3	0	12						
79-06/ 5 ft	Z-1A	not measured		not measured		1.4	12						
79-11/ 5 ft	Z-1A	0	8	0	6	2.9	12						
86-05/ 5 ft	Z-9	not measured		not measured		0	3						
86-05-01/ 5 ft	Z-9	not measured		not measured		0	3						
86-06/ 5 ft	Z-9	1.3	8	0	9	1.9	6						
87-05/ 5 ft	Z-1A	not measured		0	3	1.0	12						
87-09/ 5 ft	Z-1A	not measured		1.5	3	2.6	12						
94-02/ 5 ft	Z-9	0	8	not measured		1.4	3						
95-11/ 5 ft	Z-9	0	8	2.1	9	2.5	6						
95-12/ 5 ft	Z-9	1.1	8	1.5	9	1.3	6						
95-14/ 5 ft	Z-9	not measured		not measured		0	3						
CPT-13A/ 9 ft	Z-1A	not measured		0	6	1.0	12						
CPT-16/ 10 ft	Z-9	not measured		0	9	1.5	6						
CPT-17/ 10 ft	Z-9	not measured		4.2	9	5.1	6	6.6	24	3.2	6	2.0	8
CPT-18/ 15 ft	Z-9	not measured		6.5	9	5.0	6	5.2	24	1.4	6	1.2	8
CPT-4A/ 25 ft	Z-1A	not measured		not measured		not measured		3.5	0	3.4	10		
CPT-4E/ 25 ft	Z-1A	not measured		not measured		not measured		not measured		2.6	12	1.3	0
CPT-16/ 25 ft	Z-9	not measured		not measured		not measured		1.8	24	1.1	6	0	8
CPT-31/25 ft	Z-1A	not measured		0	6	0	12						
CPT-32/ 25 ft	Z-1A	not measured		9.1	6	10	12	16.5	18	13.0	12	6.3	5
CPT-30/ 28 ft	Z-18	not measured		not measured		3.2	12	1.4	18	0	12	0	5
CPT-13A/ 30 ft	Z-1A	2.2	8	not measured		not measured		3.6	18	2.6	12	1.4	5
CPT-7A/ 32 ft	Z-1A	not measured		2.3	6	5.4	12	6.2	18	5.6	12	2.7	5
CPT-27/ 33 ft	Z-9	1.2	8	not measured		not measured		2.6	24	1.5	6	0	8
CPT-1A/ 35 ft	Z-12	2.0	8	1.4	3	3.0	12	7.7	18	11.3	12	6.8	5
CPT-28/ 40 ft	Z-9	40.1	8							56.5	6		
CPT-33/ 40 ft	Z-1A	not measured		2.0	3	2.6	12			2.3	12		
CPT-34/ 40 ft	Z-18	2.3	8	not measured		1.7	12	1.9	0	2.2	12	1.6	0
CPT-21A/ 45 ft	Z-9	65.6	8	52.7	9	57	3	127	24	133	6	68.0	8
W15-220ST/ 52 ft	Z-9	2	8	not measured		1.6	3	2.5	24			1.5	1
CPT-28/ 60 ft	Z-9	not measured		1.5	0	3.7	3						
CPT-9A/ 60 ft	Z-9	45.5	8	41.1	0	44	3	68	24	45.3	6	35.1	8
CPT-16/ 65 ft	Z-9	4.6	8	not measured		not measured		not measured		not measured		3.1	3
CPT-1A/ 68 ft	Z-12	not measured		not measured		not measured		not measured		5.5	12		
CPT-30/ 68 ft	Z-18	1.7	8	not measured		3.0	12						
CPT-32/ 70 ft	Z-1A	7.4	8							7.7	12		
CPT-13A/ 70 ft	Z-1A	5.2	8	not measured		5.6	12						
CPT-24/70 ft	Z-9	not measured		3.2	9	3.6	3					3.3	3
W15-219SST/ 70 ft	Z-9	14.6	8	not measured		7.6	3	7.8	24			1.9	1
CPT-18/ 75 ft	Z-9	not measured		not measured		not measured		18	24			1.5	3
CPT-4A/ 75 ft	Z-1A	not measured		not measured		not measured		not measured		7.1	3		
CPT-31/ 76 ft	Z-1A	4.0	8	not measured		4.2	12						
CPT-33/ 80 ft	Z-1A	5.8	8	not measured		9.2	12						
W15-82/ 83 ft	Z-9	28.9	8	5.5	9	46	6	55	24	66.7	6	85.8	8
CPT-21A/ 86 ft	Z-9	221	8	206	9	148	6	195	24	186	6	159	8
CPT-34/ 86 ft	Z-18	36.3	8	5.9	3	0	12						
W15-95U/ 86 ft	Z-9	not measured		15.3	9	39	6	43	21				
W15-218SST/ 86 ft	Z-9	not measured		not measured		0	3					1.6	2
CPT-28/ 87 ft	Z-9	280	8	230	9	203	6	224	24	229	6	208	8
CPT-4B/ 90 ft	Z-1A									3.2	10		
CPT-1A/ 91 ft	Z-18	3.9	8	not measured		4.2	12			10.7	10		
CPT-4A/ 91 ft	Z-1A	not measured		7.7	3	14	12			7.5	2		
CPT-9A/ 91 ft	Z-9	103	8	34.5	9	72	3			74.3	6		
W15-85/ 91 ft	Z-9	not measured		not measured		not measured		51	24				
W18-252SST/ 100	Z-1A	38.2	8	17.8	3	24	12						
W18-152/ 101 ft	Z-12	46.8	8	11.1	3	33	12	25	18	25.7	12	12.6	5
CPT-4E/ 103 ft	Z-1A	23.2	8	not measured		not measured		not measured		16.1	12		
W18-167/ 106 ft	Z-1A	323	8	79.7	3	228	12	248	18	297	12	243	5
W18-165/ 109 ft	Z-1A	not measured		not measured		not measured		not measured		278	12	328	5
W15-217/ 114 ft	Z-9	797	8	630	9	561	6	442	24	93.6	6	324	8
CPT-24/ 118 ft	Z-9	44.6	8	37.7	9	37	6	35	24			27.7	3
W15-220SST/ 118	Z-9	21.9	8	not measured		36	3	34	24			27.5	3
W18-158L/ 120 ft	Z-1A	not measured		143	3	492	12	284	18	163	3		
W15-219SST/ 130	Z-9	298	8	not measured		47	3	54	24			23.1	1
W18-249/ 130 ft	Z-18	206	8	20.4	3	215	12	176	18	196	12	39.3	5
W18-248/ 131 ft	Z-1A	288	8	86.3	3	177	12	214	18	306	12	182	5
W15-95U/ 144 ft	Z-9	not measured		not measured		not measured		not measured		31.8	6	18.5	8
W15-219SST/ 155	Z-9	59.6	8	not measured		24	3	44	24			6.8	1
W15-220L/ 163 ft	Z-9												
W15-219L/ 175 ft	Z-9												
W15-9L/ 176 ft	Z-9	18.3	8	15.0	9	15	6	20	21	16.9	6	5.8	8
W15-84L/ 180 ft	Z-9	not measured		not measured		not measured		not measured		not measured		13.1	8
W15-6L/ 182 ft	Z-9	22.6	8	17.8	9	1.3	6						
W15-220SST/ 185	Z-9	14.5	8	not measured		13	3	15	24			-----	1
W18-7/ 197 ft	Z-1A	28.5	8	17.3	3	29	12						
W18-12/ 198 ft	Z-18	not measured		3.81	3	19	12						
W18-6L/ 208 ft	Z-1A	36	8	31.3	6	15	12						

* - based on location (Z-1A/18/12 or Z-9) of monitoring point; specific points may be beyond SVE zone of influence during particular operating configurations
- Z-18 and Z-12 wells off-line Oct 96 - Apr 98
- CPT-1A, CPT-9A, and possibly CPT-7A appeared to be beyond SVE zone of influence in Oct 96 based on differential pressure (BHI-01105, p. 6-1)
- CPT-9A, CPT-21A, CPT-28 beyond SVE zone of influence in May 96 based on CCl4 concentrations and airflow modeling based on measured vacuums (BHI-01105, p. 6-1)

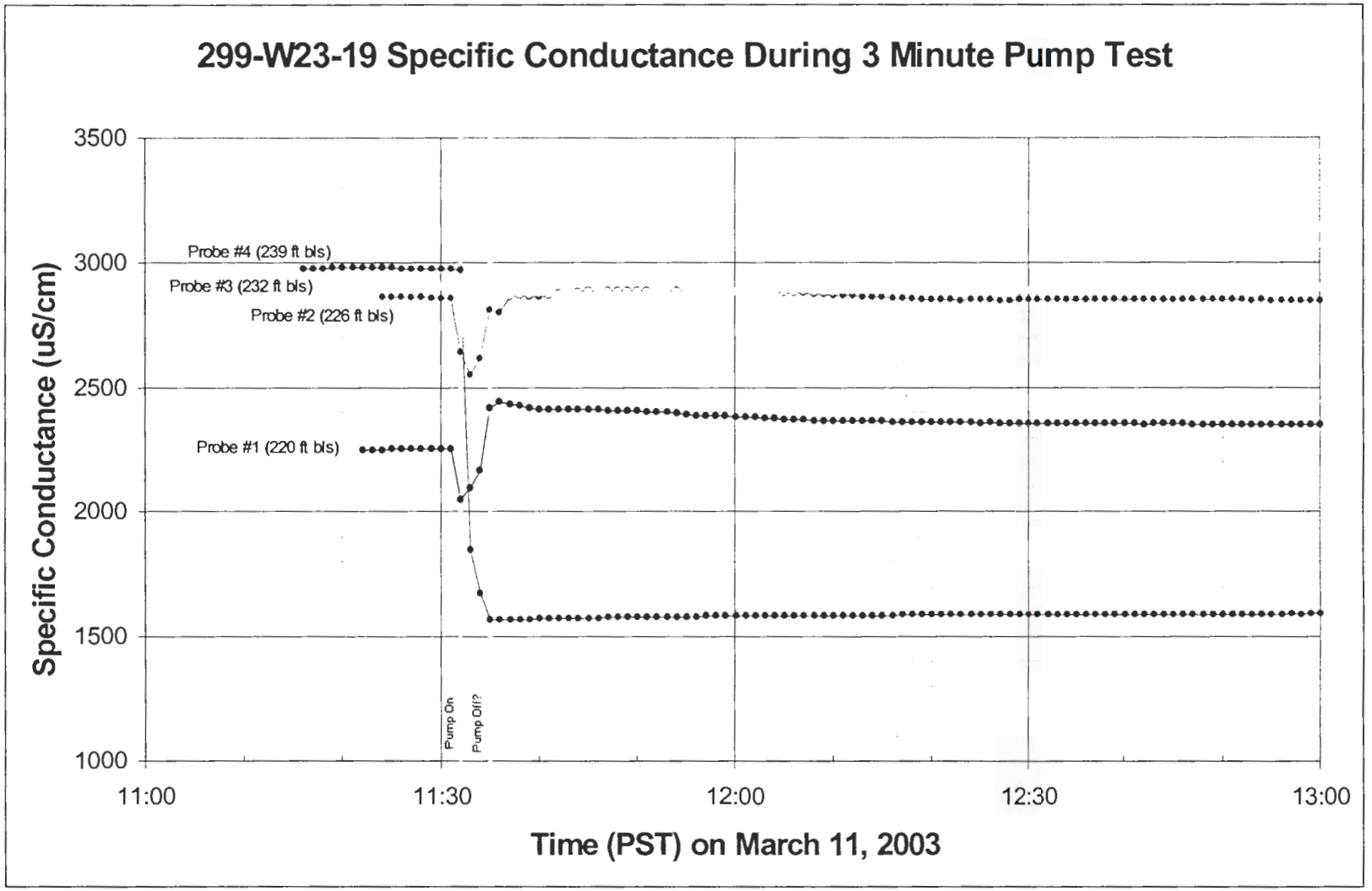
Carbon Tetrachloride Rebound Concentrations
Monitored at 200-PW-1 Soil Vapor Extraction Sites
July 2002 - February 2003

200-PW-1 (200-ZP-2) Location (Well or Probe) /feet bgs	Site	07/30/2002 CCl4 (ppmv)	08/26/2002 CCl4 (ppmv)	10/04/2002 CCl4 (ppmv)	10/30/2002 CCl4 (ppmv)	11/27/2002 CCl4 (ppmv)	12/31/2002 CCl4 (ppmv)	01/30/2003 CCl4 (ppmv)	02/21/2003 CCl4 (ppmv)
CPT-17/ 10 ft	Z-9	1.6	1.4	2.0	1.6	1.1	1.0	1.3	1.5
CPT-18/ 15 ft	Z-9	0	0	1.2	0	0	0	0	0
CPT-4E/ 25 ft (c)	Z-1A	1.3	0	0					
CPT-16/ 25 ft	Z-9	0	0	0	0	0	0	0	0
CPT-32/ 25 ft	Z-1A				0	0	2.2	4.1	6.3
CPT-30/ 28 ft	Z-1A				0	0	0	0	0
CPT-13A/ 30 ft	Z-1A	1.4	1.3	0	0	0	0	0	0
CPT-7A/ 32 ft	Z-1A	2.7	1.2	1.4	1.1	1.7	2.0	2.0	2.1
CPT-27/ 33 ft	Z-9	0	0	0	0	0	0	0	0
CPT-1A/ 35 ft	Z-12	4.1	4.2	3.4	3.5	6.8	1.9	5.3	5.2
CPT-34/ 40 ft	Z-18	1.6	1.2	1.2					
CPT-21A/ 45 ft	Z-9	60.2	31.6	68.0	61.9	35.7	40.8	45.2	30.4
W15-220SST/ 52 ft	Z-9	1.5							
CPT-9A/ 60 ft	Z-9	35.1	8.4	27.8	22.2	12.5	7.4	14.8	13.8
CPT-16/ 65 ft (d)	Z-9		0	3.1					
CPT-24/ 70 ft (e)	Z-9		1.5	3.3					
W15-219SST/ 70 ft (b)	Z-9	1.9							
CPT-18/ 75 ft	Z-9	0	0	1.5					
W15-82/ 83 ft	Z-9	85.8	5.6	58.8	35.6	14.7	12.1	6.5	15.4
CPT-21A/ 86 ft	Z-9	159	55	155	95.0	55.3	46.4	66.9	44.6
W15-218SST/ 86 ft (f)	Z-9		1.6	----- (h)					
CPT-28/ 87 ft	Z-9	208	54.2	169	130	51.6	48.8	20.3	87.6
W18-152/ 101 ft	Z-12				7.5	8.8	10.1	12.6	12.0
W18-167/ 106 ft	Z-1A				243	96	72.7	84.1	76.8
W18-165/ 109 ft	Z-1A				328	265	65.1	82.6	71.0
W15-217/ 114 ft	Z-9	82.1	34.0	214	38.7	80.0	264	324	246
CPT-24/ 118 ft	Z-9	27.7	4.2	16.3					
W15-220SST/ 118 ft	Z-9	27.5	1.3	21.3					
W15-219SST/ 130 ft (b)	Z-9	23.1							
W18-249/ 130 ft	Z-18				11.8	27.6	34.5	29.4	39.3
W18-248/ 131 ft (l)	Z-1A				27.0	81.5	68.2	73.9	182
W15-95L/ 144 ft	Z-9	13.3	0	16.1	18.5	9.7	9.8	12.6	11.9
W15-219SST/ 155 ft (b)	Z-9	6.8							
W15-220L/ 163 ft	Z-9								
W15-219L/ 175 ft	Z-9								
W15-9L/ 176 ft	Z-9				5.1	2.9	5.2	5.8	5.1
W15-84L/ 180 ft (g)			5.8	13.1	2.8	7.2	10.6	13.0	10.9
W15-220SST/ 185 ft	Z-9	----- (a)							

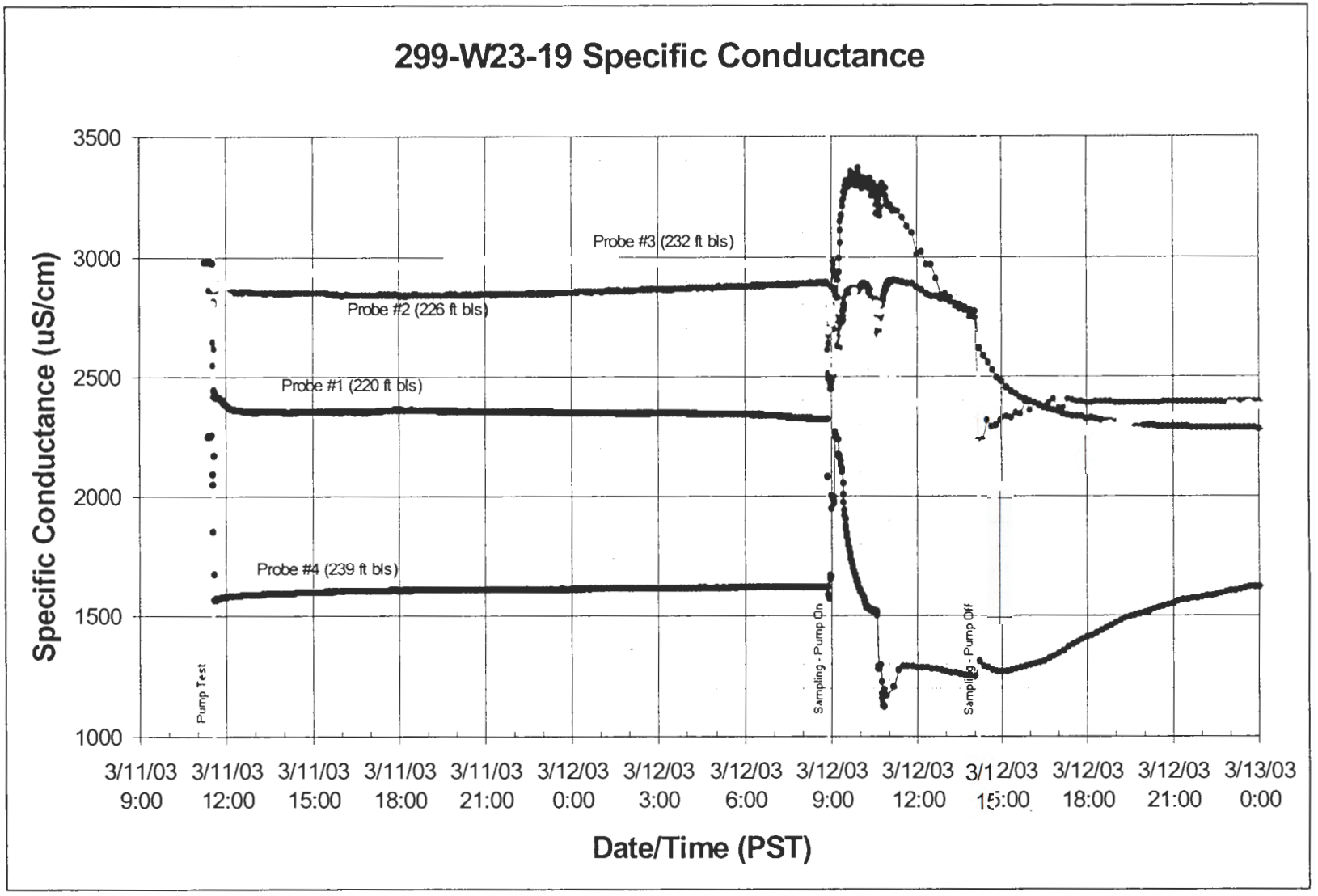
(a) Unable to sample. Sample port appears to be plugged.
(b) Sampling extremely slow.
(c) Substitute for CPT-4A/ 25 ft
(d) Substitute for W15-220SST/ 52 ft
(e) Substitute for W15-219SST/ 70 ft
(f) Substitute for W15-219SST/ 130 ft
(g) Substitute for W15-219SST/ 155 ft
(h) Unable to sample.
(l) 10/30/02: sample tubing cracked; sample may have been diluted. Tubing repaired 10/31/02.



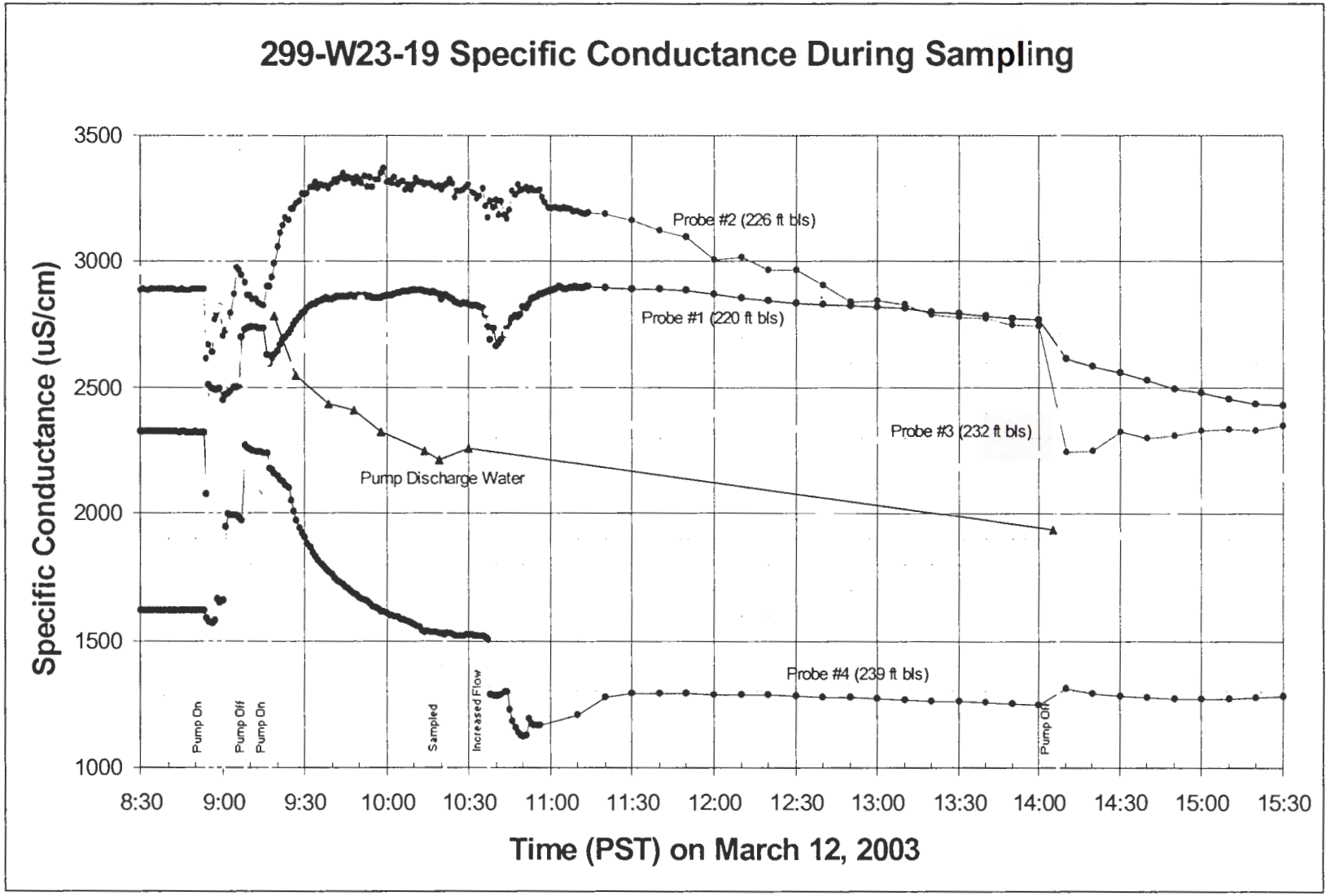
Attachment 3



Attachment 3



Attachment 3



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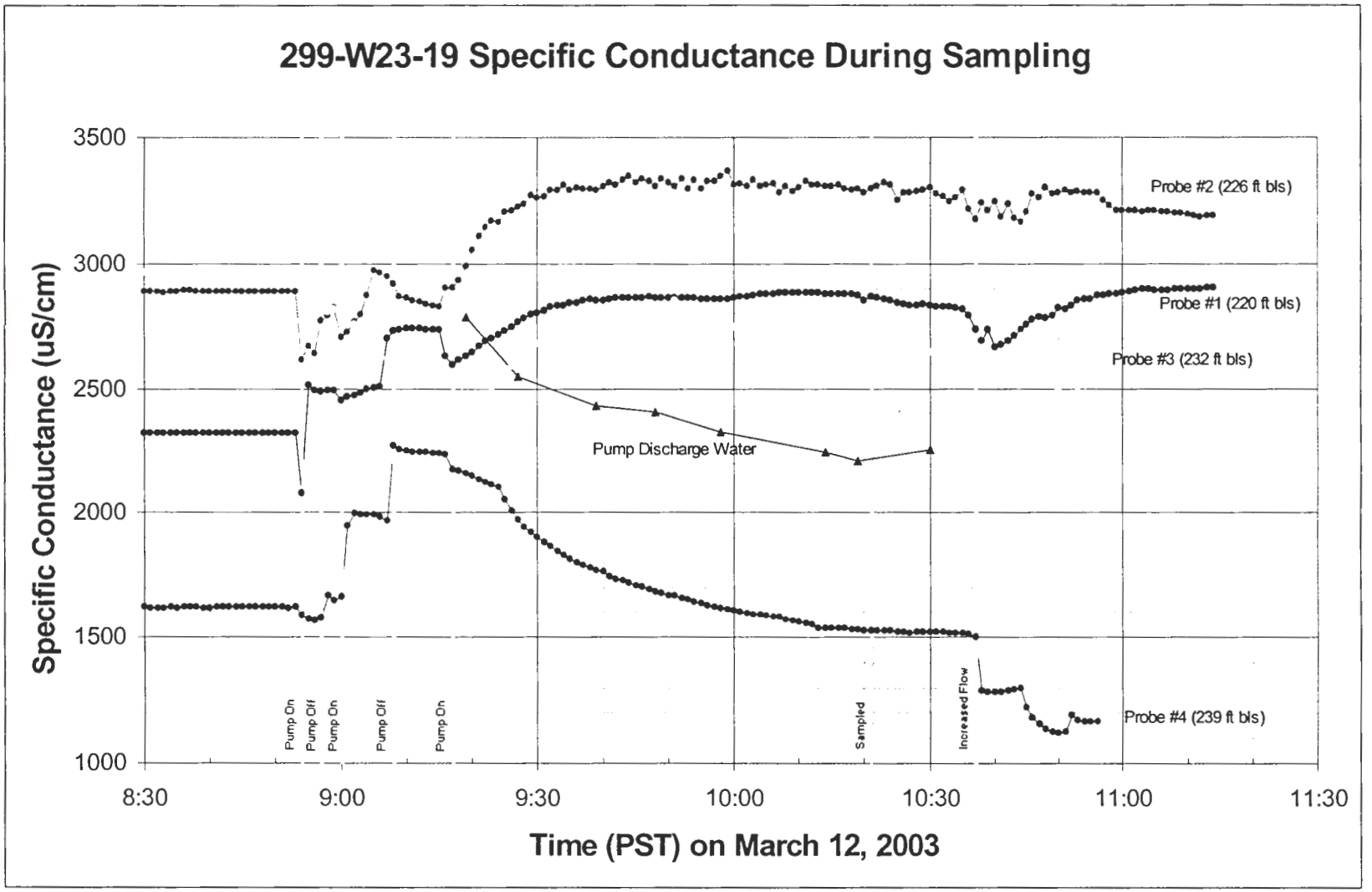
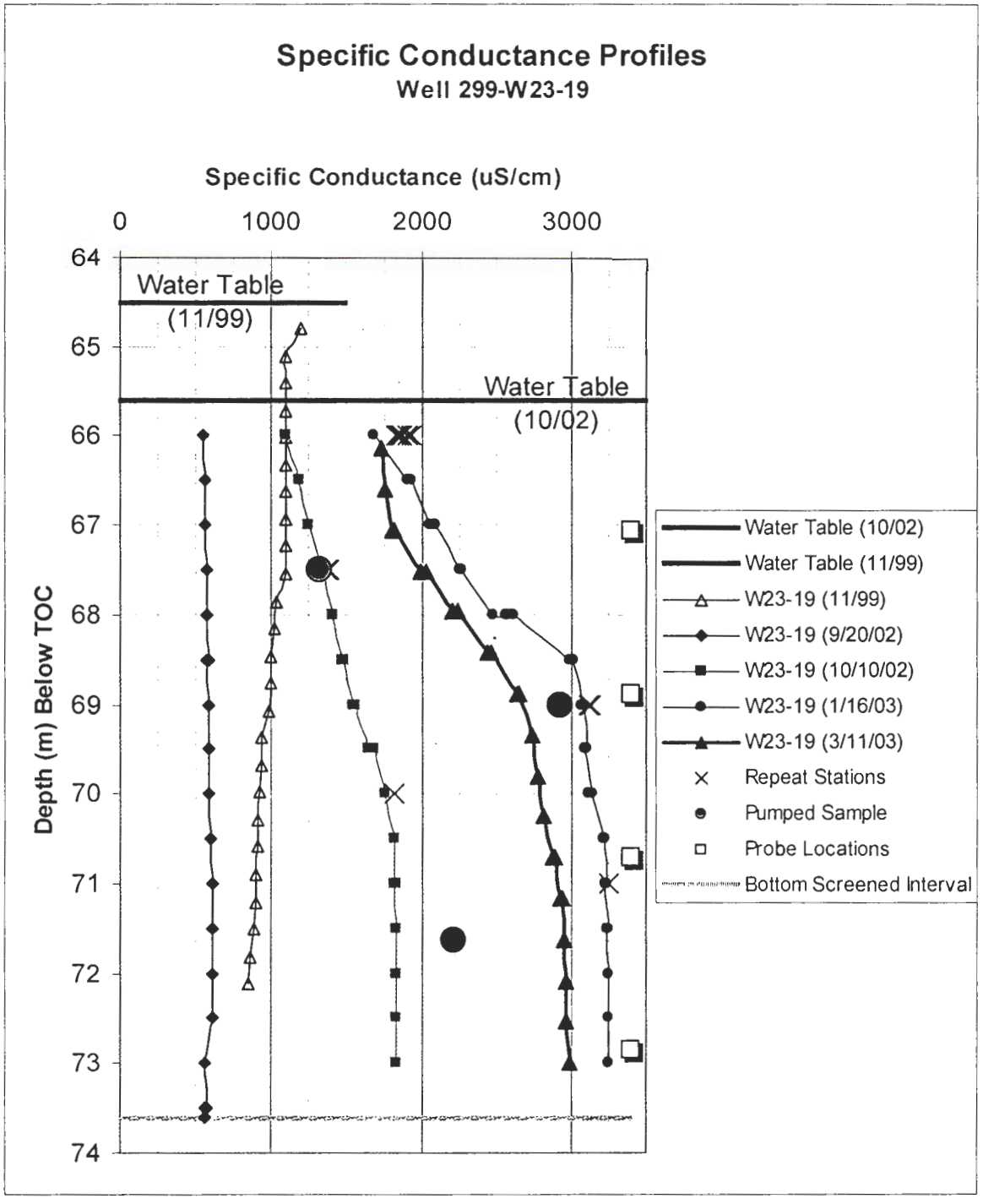


Attachment 3


Specific Conductance Profiles
Well 299-W23-19
Specific Conductance (uS/cm)
0
1000
2000
3000
64
65
66
67
68
69
70
71
72
73
74
Depth (m) Below TOC
Water Table
(11/99)
Water Table
(10/02)
Water Table (10/02)
Water Table (11/99)
W23-19 (11/99)
W23-19 (9/20/02)
W23-19 (10/10/02)
W23-19 (1/16/03)
W23-19 (3/11/03)
Repeat Stations
Pumped Sample
Probe Locations
Bottom Screened Interval

UNIT MANAGERS' MEETING AGENDA

1200 Jadwin Avenue
April 17, 2003

9 a.m. – 11 a.m. 200 Area Room 1C1

General (10 minutes)

- Outstanding Action Items (attached)
- Open for Regulatory Topics or Action Items

U Plant Area Regional Closure (10 minutes)

- Waste Site FFS/PP
- DQO for Confirmatory Sampling and Remedial Design
- Pipeline mapping
- White paper

GROUNDWATER OPERABLE UNITS

200-BP-5 & 200-PO-1 OUs (2 minutes)

- Status of Activities

200-UP-1 OU (5 minutes)

- Remediation Treatment Status
- Data Quality Objectives Process Status

200-ZP-1 OU (5 minutes)

- Remediation Treatment Status
- Data Quality Objectives Process Status

SOURCE OPERABLE UNITS

200-PW-1, 200-PW-3, & 200-PW-6 OUs (10 minutes)

- Remediation Treatment Status
- Monthly Monitoring
- Status Fieldwork Planning & Preparation
- Data Quality Objectives Process Status
- Work Plan Consolidation Status

200-TW-1, 200-TW-2, & PW-5 OUs (2 minutes)

- RI Report Status
- Work Plan Consolidation Status
- FS Status

200-PW-2 & 200-PW-4 OUs (10 minutes)

- Work Plan Consolidation Status
- Field Work Status

200-CS-1 OU (10 minutes)

- Status Field Work Completion (M-015-39A)
- Overview of Sampling Work (Including Available Initial Screening Results)

200-CW-5, CW-2, CW-4, & SC-1 OUs (2 minutes)

- Work Plan Consolidation Status
- RI Report Status
- CW-5 Borehole Summary Report

200-IS-1 & ST-1 OUs (2 minutes)

- Work Plan Status

200 Area Ecological Evaluation (2 minutes)

- Status on Revised Draft

200-CW-1 & 200-CW-3 OUs (2 minutes)

- FS/PP Status

MEETING MINUTES
200 AREA GROUNDWATER AND SOURCE OPERABLE UNITS
UNIT MANAGERS' MEETING -- 200 AREA
April 17, 2003

Topics of Discussion:

1. *General*

- Outstanding Action Items – None.
- Open For Regulatory Topics or Action Items – No discussion.

2. *U Plant Area Regional Closure*

- Waste Site FFS/PP – A review draft is due to DOE-RL April 28, 2003. The comment period is one week, at which time comments from DOE are due to FH. The draft version of Chapter 1.0, "Introduction", was provided to the regulators.
- DQO For Confirmatory Sampling and Remedial Design – Draft B will be sent to DOE-RL the week of April 21, 2003.
- Pipeline Mapping – Work is proceeding in the field to support the EE/CA.
- White Paper – Ecology stated that it is not necessary to formally transcribe the White Paper.

GROUNDWATER OPERABLE UNITS

3. *200-BP-5 & 200-PO-1 OUs*

- Status of Activities – The regulators have authored a letter regarding approval for combining the BP-5 and PO-1 Waste Storage.

  The PO-1 SAP is with Ecology for review. Ecology stated that a letter is on the way.

4. *200-UP-1 OU*

- Remediation Treatment Status – The average pumping rate for FY 2003 through March 30, 2003, was 48 gpm. For the month of March, the system operated at between 44 and 47 gpm. The design work for tying in the new extraction well 299-W19-43 is near completion. The tie in will begin within the next few weeks. There were no outages during the reporting period. The system run time was 100% through March 30, 2003, 98.7% fiscal year to date, and 92.4% from system inception to date. A handout was distributed (attached).

- Data Quality Objectives Process Status – The draft DQO Summary Report supporting the RI/FS process is currently out for Ecology review. Comments are due May 2, 2003.

- 1,4 Dioxane Detection – 160 ug/L 1,4-Dioxane was recently detected in well 299-W22-20. Ecology requested that the regulatory limits on this be reported.

5. *200-ZP-1 OU*

- Remediation Treatment Status – The average pumping rate for FY03 through March 30, 2003, was 138 gpm. For the month of March, the system operated at between 143 and 145 gpm. The system was shut down on March 12 for approximately two hours for GAC changeout. The system was shut down for 22 hours starting on March 25, 2003, for maintenance. Drilling of replacement extraction well #1 was recently completed. Design work for connecting this new well to the extraction system will commence soon. The system run time was 95.8% through March 30, 2003, 93.6% fiscal year to date, and 91.8% from system inception to date. A handout was distributed (attached).

- Data Quality Objectives Process Status – The DQO supporting the commencement of the CERCLA RI/FS process is well underway. The strawman DQO Summary Report will be completed in the next few weeks.

SOURCE OPERABLE UNITS

6. *200-PW-1, 200-PW-3, & 200-PW-6 OUs*

- Remediation Treatment Status – The active system was brought back on line April 1, 2003. There is no data to report at this time. The system was shut down during the weekend of April 12, 2003. It was started up again on the morning of April 14, 2003, but was shut down again that afternoon. There may be a pressure transducer problem. FH will monitor the system closely. The passive system remains operational (attached).

- Monthly Monitoring – Results are consistent with past monitoring. A handout was distributed (attached).

- Status Fieldwork Planning & Preparation – Work in the PFP Protected Area is scheduled to begin May 1, 2003.

- Data Quality Objectives Process Status – Work continues on the DQO process.

- Work Plan Consolidation Status – The Work Plan is scheduled for issuance for RL review in June, 2003.

- Institutional Controls – The first annual Institutional Control Assessment is underway. At this point, contractors conduct self-assessments. The next step is for DOE-RL to review their self-assessments. FH has submitted to DOE-RL that controls are adequate for groundwater.

7. ***200-TW-1 & 200-TW-2 OUs***

- RI Report Status – The RI Report is being revised.
- Work Plan Status – Revisions to the Work Plan have not been started.
- FS Status – FH is actively working on the FS. BC Crib data will be incorporated into the FS.

8. ***200-PW-2 & 200-PW-4 OUs***

- Work Plan Consolidation Status – FH would like to schedule a meeting with DOE-RL and Ecology before the end of April to review comment dispositions on the document.
- Field Work Status – Work at the A-19 crib is proceeding. Drilling is going to a depth of 240 feet and a sample will be taken. Work will move to the 216-A-37-1 crib after completion of the A-19 crib. Five drive casings have been installed at the 216-A-10 crib. Three casings have been geophysically logged. Cesium-137 was detected at the 46' – 47' depth level.

9. ***200-CS-1 OU***

- Status Field Work Completion (M-015-39A) – A table showing 200-CS-1 OU test pit analytical results (maximum concentrations) was distributed.
- Overview of Sampling Work (Including Available Initial Screening Results) – The 216-S-10 Ditch well is complete. Nine samples have been taken and no significant contamination has been detected. The 216-A-29 Ditch borehole is in the last phase of drilling. A saturated zone was hit at 260' below ground surface. The casing size will be reduced to go the remaining 12' to reach the water table and collect a water sample. A soil sample will be collected from that interval.

10. ***200-CW-5, CW-2, CW-4, & SC-1 OUs***

- Work Plan Consolidation Status – Revisions to the Work Plan are on hold pending resolution of ecological issues.
- RI Report Status – DOE-RL is reviewing the draft RI Report at this time.
- CW-5 Borehole Summary Report – The Borehole Summary Report was given to EPA.

11. ***200-IS-1 & ST-1 OUs (2 minutes)***

- Work Plan Status – Work Plan revision is on schedule. The document is planned to be sent to Ecology on May 6, 2003.

12. ***200 Area Ecological Evaluation***

- Status on Revised Draft – Draft B is complete and DOE will provide the document to the reviewers by the middle of the week of April 21, 2003.

  Regarding the DQO process, interested parties are being identified by the regulators and DOE-RL and guidance defined. Ecology and EPA stated that the public should be invited to participate in the DQO process. Input on important ecological issues will be requested from interested parties.

13. *200-CW-1 & 200-CW-3 OUs*

- FS/PP Status – EPA stated that there seems to be a major disconnect between the regulator's expectations and what is presented in the FS and PP. Ecology stated that there is no confidence that institutional controls will last. In addition, Ecology is in favor of DOE-RL establishing a trust fund to provide assurance that institutional controls will last (Note: Ecology acknowledges that Federal Agencies are exempt from financial assurance requirements). High level discussions were requested.

Attachment 4

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
28	Limits on dioxane detection	FH and PNNL	Ecology	04/17/03				

200 Area UMM – April 2003

200-UP-1:

- Average Pumping Rate for FY03 through March 2: 48 gpm
- For the month of March, the system operated at between 44 and 47 gpm.
- The design work for tying in new extraction well 299-W19-43 is near complete. The tie in will begin in the next few weeks.
- No outages occurred during this reporting period.

- System Run Time
  - Through March 30, 2003 100%
  - FY2003 (Year to date) 98.7%
  - System Inception to date 92.4%

- The Draft DQO Summary Report supporting the RI/FS process is currently out for Ecology review. Comments are due May 2.

- 160 ug/L 1,4-Dioxane recently detected in well 299-W22-20. Will be tracking this.

200-ZP-1:

- Average Pumping Rate for FY03 through March 2: 138 gpm
- For the month of March, the system operated at between 143 and 145 gpm.
- The system was shutdown on for approximately 2 hours March 12 for GAC changeout. System was shut down for 22 hours starting March 25 for maintenance.
- The drilling of replacement Extraction Well # 1 (new name 299-W15-45) was recently completed. Design work for connecting this new well to the extraction system will commence shortly.

- System Run Time
  - Through March 30, 2003 95.8%
  - FY2003 (Year to date) 93.6%
  - System Inception to date 91.8%

- The DQO supporting the commencement of the CERCLA RI/FS process is well underway. The "Strawman" DQO Summary Report will be completed in the next few weeks.

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

- Active system was brought back on line April 1. I have no data to report at this time.
- The passive system remains operational.

Comparison of Maximum Carbon Tetrachloride Rebound Concentrations
Monitored at 200-PW-1 Soil Vapor Extraction Sites
FY 1997 - FY 2003

200-PW-1 (200-ZP-2) Location (Well or Probe) /feet bgs	Site	November 1996 - July 1997 Maximum Rebound Carbon Tetrachloride (ppmv)	months* of rebound	October 1997 - September 1998 Maximum Rebound Carbon Tetrachloride (ppmv)	months* of rebound	July 1998 - September 1999 Maximum Rebound Carbon Tetrachloride (ppmv)	months* of rebound	July 1999 - June 2001 Maximum Rebound Carbon Tetrachloride (ppmv)	months* of rebound	July 2001 - June 2002 Maximum Rebound Carbon Tetrachloride (ppmv)	months* of rebound	July 2002 - March 2003 Maximum Rebound Carbon Tetrachloride (ppmv)	months* of rebound
79-03/ 5 ft	Z-18	0	8	0	3	0	12						
79-06/ 5 ft	Z-1A	not measured		not measured		1.4	12						
79-11/ 5 ft	Z-1A	0	8	0	6	2.9	12						
86-05/ 5 ft	Z-9	not measured		not measured		0	3						
86-05-01/ 5 ft	Z-9	not measured		not measured		0	3						
86-06/ 5 ft	Z-9	1.3	8	0	9	1.9	6						
87-05/ 5 ft	Z-1A	not measured		0	3	1.0	12						
87-09/ 5 ft	Z-1A	not measured		1.5	3	2.6	12						
94-02/ 5 ft	Z-9	0	8	not measured		1.4	3						
95-11/ 5 ft	Z-9	0	8	2.1	9	2.5	6						
95-12/ 5 ft	Z-9	1.1	8	1.5	9	1.3	6						
95-14/ 5 ft	Z-9	not measured		not measured		0	3						
CPT-13A/ 9 ft	Z-1A	not measured		0	6	1.0	12						
CPT-16/ 10 ft	Z-9	not measured		0	9	1.5	6						
CPT-17/ 10 ft	Z-9	not measured		4.2	9	5.1	6	6.6	24	3.2	6	3.1	9
CPT-18/ 15 ft	Z-9	not measured		6.5	9	5.0	6	5.2	24	1.4	6	1.7	9
CPT-4A/ 25 ft	Z-1A	not measured		not measured		not measured		3.5	0	3.4	10		
CPT-4E/ 25 ft	Z-1A	not measured		not measured		not measured		not measured		2.6	12	1.3	0
CPT-16/ 25 ft	Z-9	not measured		not measured		not measured		1.8	24	1.1	6	0	9
CPT-31/25 ft	Z-1A	not measured		0	6	0	12						
CPT-32/ 25 ft	Z-1A	not measured		9.1	6	10	12	16.5	18	13.0	12	8.3	6
CPT-30/ 28 ft	Z-18	not measured		not measured		3.2	12	1.4	18	0	12	0	6
CPT-13A/ 30 ft	Z-1A	2.2	8	not measured		not measured		3.6	18	2.6	12	1.6	6
CPT-7A/ 32 ft	Z-1A	not measured		2.3	6	5.4	12	6.2	18	5.6	12	3.9	6
CPT-27/ 33 ft	Z-9	1.2	8	not measured		not measured		2.6	24	1.5	6	1.1	9
CPT-1A/ 35 ft	Z-12	2.0	8	1.4	3	3.0	12	7.7	18	11.3	12	7.2	6
CPT-28/ 40 ft	Z-9	40.1	8							56.5	6		
CPT-33/ 40 ft	Z-1A	not measured		2.0	3	2.6	12			2.3	12		
CPT-34/ 40 ft	Z-18	2.3	8	not measured		1.7	12	1.9	0	2.2	12	1.6	0
CPT-21A/ 45 ft	Z-9	65.6	8	52.7	9	57	3	127	24	133	6	73.7	9
W15-220SST/ 52 ft	Z-9	2	8	not measured		1.6	3	2.5	24			1.5	1
CPT-28/ 60 ft	Z-9	not measured		1.5	0	3.7	3						
CPT-9A/ 60 ft	Z-9	45.5	8	41.1	0	44	3	68	24	45.3	6	35.9	9
CPT-16/ 65 ft	Z-9	4.6	8	not measured		not measured		not measured		not measured		3.1	3
CPT-1A/ 68 ft	Z-12	not measured		not measured		not measured		not measured		5.5	12		
CPT-30/ 68 ft	Z-18	1.7	8	not measured		3.0	12						
CPT-32/ 70 ft	Z-1A	7.4	8							7.7	12		
CPT-13A/ 70 ft	Z-1A	5.2	8	not measured		5.6	12						
CPT-24/70 ft	Z-9	not measured		3.2	9	3.6	3					3.3	3
W15-219SST/ 70 ft	Z-9	14.6	8	not measured		7.6	3	7.8	24			1.9	1
CPT-18/ 75 ft	Z-9	not measured		not measured		not measured		18	24			1.5	3
CPT-4A/ 75 ft	Z-1A	not measured		not measured		not measured		not measured		7.1	3		
CPT-31/ 76 ft	Z-1A	4.0	8	not measured		4.2	12						
CPT-33/ 80 ft	Z-1A	5.8	8	not measured		9.2	12						
W15-82/ 83 ft	Z-9	28.9	8	5.5	9	46	6	55	24	66.7	6	85.8	9
CPT-21A/ 86 ft	Z-9	221	8	206	9	148	6	195	24	186	6	159	9
CPT-34/ 86 ft	Z-18	36.3	8	5.9	3	0	12						
W15-95U/ 86 ft	Z-9	not measured		15.3	9	39	6	43	21				
W15-218SST/ 86 ft	Z-9	not measured		not measured		0	3					1.6	2
CPT-28/ 87 ft	Z-9	280	8	230	9	203	6	224	24	229	6	208	9
CPT-4B/ 90 ft	Z-1A									3.2	10		
CPT-1A/ 91 ft	Z-18	3.9	8	not measured		4.2	12			10.7	10		
CPT-4A/ 91 ft	Z-1A	not measured		7.7	3	14	12			7.5	2		
CPT-9A/ 91 ft	Z-9	103	8	34.5	9	72	3			74.3	6		
W15-85/ 91 ft	Z-9	not measured		not measured		not measured		51	24				
W18-252SST/ 100	Z-1A	38.2	8	17.8	3	24	12						
W18-152/ 101 ft	Z-12	46.8	8	11.1	3	33	12	25	18	25.7	12	20.7	6
CPT-4E/ 103 ft	Z-1A	23.2	8	not measured		not measured		not measured		16.1	12		
W18-167/ 106 ft	Z-1A	323	8	79.7	3	228	12	248	18	297	12	243	6
W18-165/ 109 ft	Z-1A	not measured		not measured		not measured		not measured		278	12	328	6
W15-217/ 114 ft	Z-9	797	8	630	9	561	6	442	24	93.6	6	324	9
CPT-24/ 118 ft	Z-9	44.6	8	37.7	9	37	6	35	24			27.7	3
W15-220SST/ 118	Z-9	21.9	8	not measured		36	3	34	24			27.5	3
W18-158L/ 120 ft	Z-1A	not measured		143	3	492	12	284	18	163	3		
W15-219SST/ 130	Z-9	298	8	not measured		47	3	54	24			23.1	1
W18-249/ 130 ft	Z-18	206	8	20.4	3	215	12	176	18	196	12	46.3	6
W18-248/ 131 ft	Z-1A	288	8	86.3	3	177	12	214	18	306	12	182	6
W15-95L/ 144 ft	Z-9	not measured		not measured		not measured		not measured		31.8	6	21.7	9
W15-219SST/ 155	Z-9	59.6	8	not measured		24	3	44	24			6.8	1
W15-220L/ 163 ft	Z-9												
W15-219L/ 175 ft	Z-9												
W15-9L/ 176 ft	Z-9	18.3	8	15.0	9	15	6	20	21	16.9	6	10.5	9
W15-84L/ 180 ft	Z-9	not measured		not measured		not measured		not measured		not measured		18.8	9
W15-6L/ 182 ft	Z-9	22.6	8	17.8	9	1.3	6						
W15-220SST/ 185	Z-9	14.5	8	not measured		13	3	15	24			-----	1
W18-7/ 197 ft	Z-1A	28.5	8	17.3	3	29	12						
W18-12/ 198 ft	Z-18	not measured		3.81	3	19	12						
W18-6L/ 208 ft	Z-1A	36	8	31.3	6	15	12						

* - based on location (Z-1A/18/12 or Z-9) of monitoring point; specific points may be beyond SVE zone of influence during particular operating configurations
- Z-18 and Z-12 wells off-line Oct 96 - Apr 98
- CPT-1A, CPT-9A, and possibly CPT-7A appeared to be beyond SVE zone of influence in Oct 96 based on differential pressure (BHI-01105, p. 6-1)
- CPT-9A, CPT-21A, CPT-28 beyond SVE zone of influence in May 96 based on CCl4 concentrations and airflow modeling based on measured vacuums (BHI-01105, p. 6-1)

Carbon Tetrachloride Rebound Concentrations
Monitored at 200-PW-1 Soil Vapor Extraction Sites
July 2002 - March 2003

200-PW-1 (200-ZP-2) Location (Well or Probe) /feet bgs	Site	07/30/2002 CCl4 (ppmv)	08/26/2002 CCl4 (ppmv)	10/04/2002 CCl4 (ppmv)	10/30/2002 CCl4 (ppmv)	11/27/2002 CCl4 (ppmv)	12/31/2002 CCl4 (ppmv)	01/30/2003 CCl4 (ppmv)	02/21/2003 CCl4 (ppmv)	03/20/2003 CCl4 (ppmv)
CPT-17/ 10 ft	Z-9	1.6	1.4	2.0	1.6	1.1	1.0	1.3	1.5	3.1
CPT-18/ 15 ft	Z-9	0	0	1.2	0	0	0	0	0	1.7
CPT-4E/ 25 ft (c)	Z-1A	1.3	0	0						
CPT-16/ 25 ft	Z-9	0	0	0	0	0	0	0	0	0
CPT-32/ 25 ft	Z-1A				0	0	2.2	4.1	6.3	8.3
CPT-30/ 28 ft	Z-1A				0	0	0	0	0	0
CPT-13A/ 30 ft	Z-1A	1.4	1.3	0	0	0	0	0	0	1.6
CPT-7A/ 32 ft	Z-1A	2.7	1.2	1.4	1.1	1.7	2.0	2.0	2.1	3.9
CPT-27/ 33 ft	Z-9	0	0	0	0	0	0	0	0	1.1
CPT-1A/ 35 ft	Z-12	4.1	4.2	3.4	3.5	6.8	1.9	5.3	5.2	7.2
CPT-34/ 40 ft	Z-18	1.6	1.2	1.2						
CPT-21A/ 45 ft	Z-9	60.2	31.6	68.0	61.9	35.7	40.8	45.2	30.4	73.7
W15-220SST/ 52 ft	Z-9	1.5								
CPT-9A/ 60 ft	Z-9	35.1	8.4	27.8	22.2	12.5	7.4	14.8	13.8	35.9
CPT-16/ 65 ft (d)	Z-9		0	3.1						
CPT-24/ 70 ft (e)	Z-9		1.5	3.3						
W15-219SST/ 70 ft (b)	Z-9	1.9								
CPT-18/ 75 ft	Z-9	0	0	1.5						
W15-82/ 83 ft	Z-9	85.8	5.6	58.8	35.6	14.7	12.1	6.5	15.4	36.0
CPT-21A/ 86 ft	Z-9	159	55	155	95.0	55.3	46.4	66.9	44.6	140
W15-218SST/ 86 ft (f)	Z-9		1.6	----- (h)						
CPT-28/ 87 ft	Z-9	208	54.2	169	130	51.6	48.8	20.3	87.6	139
W18-152/ 101 ft	Z-12				7.5	8.8	10.1	12.6	12.0	20.7
W18-167/ 106 ft	Z-1A				243	96	72.7	84.1	76.8	218
W18-165/ 109 ft	Z-1A				328	265	65.1	82.6	71.0	216
W15-217/ 114 ft	Z-9	82.1	34.0	214	38.7	80.0	264	324	246	287
CPT-24/ 118 ft	Z-9	27.7	4.2	16.3						
W15-220SST/ 118 ft	Z-9	27.5	1.3	21.3						
W15-219SST/ 130 ft (b)	Z-9	23.1								
W18-249/ 130 ft	Z-18				11.8	27.6	34.5	29.4	39.3	46.3
W18-248/ 131 ft (l)	Z-1A				27.0	81.5	68.2	73.9	182	165
W15-95L/ 144 ft	Z-9	13.3	0	16.1	18.5	9.7	9.8	12.6	11.9	21.7
W15-219SST/ 155 ft (b)	Z-9	6.8								
W15-220L/ 163 ft	Z-9									
W15-219L/ 175 ft	Z-9									
W15-9L/ 176 ft	Z-9				5.1	2.9	5.2	5.8	5.1	10.5
W15-84L/ 180 ft (g)			5.8	13.1	2.8	7.2	10.6	13.0	10.9	18.8
W15-220SST/ 185 ft	Z-9	----- (a)								

(a) Unable to sample. Sample port appears to be plugged.
(b) Sampling extremely slow.
(c) Substitute for CPT-4A/ 25 ft
(d) Substitute for W15-220SST/ 52 ft
(e) Substitute for W15-219SST/ 70 ft
(f) Substitute for W15-219SST/ 130 ft
(g) Substitute for W15-219SST/ 155 ft
(h) Unable to sample.
(l) 10/30/02: sample tubing cracked; sample may have been diluted. Tubing repaired 10/31/02.

UNIT MANAGERS' MEETING AGENDA

1200 Jadwin Avenue
May 15, 2003

9 a.m. – 11 a.m. 200 Area Room 1C1

General (10 minutes)

- Outstanding Action Items (attached)
- Open for Regulatory Topics or Action Items

U Plant Area Regional Closure (10 minutes)

- Waste Site FFS/PP
- DQO for Confirmatory Sampling and Remedial Design
- Pipeline mapping
- Lead Regulatory Agency

GROUNDWATER OPERABLE UNITS

200-BP-5 & 200-PO-1 OUs (2 minutes)

- Status of Activities
- 200-BP-5 Sample Collection Plans
- 200-PO-1 SAP status

200-UP-1 OU (5 minutes)

- Remediation Treatment Status
- Data Quality Objectives Process Status
- 1,4 – Dioxane Detection in Well 299-W22-20
- Waste Management Plan Revision for Well Decommissioning
- Wells that Have Gone Dry Over the Past Few Months

200-ZP-1 OU (5 minutes)

- Remediation Treatment Status
- Data Quality Objectives Process Status

SOURCE OPERABLE UNITS

200-PW-1, 200-PW-3, & 200-PW-6 OUs (10 minutes)

- Remediation Treatment Status
- Monthly Monitoring
- Status Fieldwork Planning & Preparation
- Data Quality Objectives Process Status
- Work Plan Status

200-TW-1, 200-TW-2, & PW-5 OUs (2 minutes)

- RI Report Status
- Work Plan Status
- FS Status

200-PW-2 & 200-PW-4 OUs (10 minutes)

- Work Plan Status
- Field Work Status

200-CS-1 OU (10 minutes)

- Status Field Work Completion (M-015-39A)

200-CW-5, CW-2, CW-4, & SC-1 OUs (2 minutes)

- Work Plan Status
- RI Report Status

200 Area Ecological Evaluation (2 minutes)

- Status on Revised Draft

200-CW-1 & 200-CW-3 OUs (2 minutes)

- FS/PP Status

MEETING MINUTES
200 AREA GROUNDWATER AND SOURCE OPERABLE UNITS
UNIT MANAGERS' MEETING -- 200 AREA
May 15, 2003

Topics of Discussion:

1. ***General***

- Outstanding Action Items –(attached).

- Open For Regulatory Topics or Action Items – No discussion.

2. ***U Plant Area Regional Closure***

- Waste Site FFS/PP – DOE completed its review of the draft. FH is awaiting a few more comments.

- DQO For Confirmatory Sampling and Remedial Design – A meeting with regulators is planned for early June, 2003.

- Pipeline Mapping – Pipeline mapping is complete.

- Lead Regulatory Agency – DOE requested a change from EPA to Ecology as the lead regulatory agency on the pipeline EE/CA.

GROUNDWATER OPERABLE UNITS

3. ***200-BP-5 & 200-PO-1 OUs***

- Status of Activities – The Waste Control Plan has been signed off and is in the issuance process.

- 200-BP-5 Sample Collection Plans – A schedule of wells to be sampled in June 2003 was distributed and is attached.

- 200-PO-1 SAP Status –The SAP is with Ecology. Ecology is following-up on issuing a letter.

- West Lake – DOE suggested that West Lake be included in the 200-BP-5 Groundwater Operable Unit. After a short discussion, the recommendation was made for further discussion on this suggestion.

4. ***200-UP-1 OU***

- Remediation Treatment Status – The average pumping rate for FY 2003 through May 4, 2003, was 47 gpm. For the month of April, the system operated at between 42 and 45 gpm. The design work for tying in the new extraction well 299-W19-43 is

complete. The tie in will begin within the next two weeks. The system was shutdown on April 17, 2003, for a leachate transfer and was back on line on April 18, 2003. The system run time was 96.9% through May 4, 2003, 98.5% fiscal year to date, and 92.3% from system inception to date. A handout was distributed (attached).

- Data Quality Objectives Process Status – The draft DQO Summary Report supporting the RI/FS process is currently waiting for comments from Ecology. The Work Plan is in progress. The regulators stated that they want to discuss the scope of the investigations with DOE and FH prior to distribution. A meeting will be scheduled.

- 1,4 – Dioxane Detection in Well 299-W22-20 – Well 299-W22-20 is sampled annually for strontium-90, iodine-129, technetium-99, uranium, tritium, nitrate, and VOAs. The detection of 1,4-dioxane reported by the laboratory was not specifically requested. It was detected at a concentration of 160 micrograms/liter. A handout of information about 1,4-dioxane and the 216-S-20 crib was distributed. A follow-on meeting will be held in early or mid-June to discuss uranium probability. A handout was distributed and is attached.

- Waste Management Plan Revision for Well Decommissioning – The Interim Action Waste Management Plan for the 200-UP-1 Operable Unit has been updated to include a number of wells that are scheduled to be decommissioned in FY 2003.

- Wells that Have Gone Dry Over the Past Few Months – Three 200-UP-1 groundwater wells have gone dry. Beginning October 1, 2003, the groundwater monitoring network will be re-evaluated and updated. The SAP will be modified accordingly.

5. ***200-ZP-1 OU***

- Remediation Treatment Status – The average pumping rate for FY 2003 through May 4, 2003, was 138 gpm. For the month of April, the system operated at between 133 and 141 gpm. The system was shut down on April 14, 2003, due to leak detection in extraction well #4 caused by rainwater. The system was turned back on later that day except for extraction well #4. Extraction well #4 was turned back on April 22, 2003. The drilling and installation of replacement extraction well #1 (new name – 299-W15-45) is complete. Design work for connecting this new well to the extraction system will commence next week. The system run time was 99.3% through May 4, 2003, 94.5% fiscal year to date, and 91.9% from system inception to date. A handout was distributed (attached).

- Data Quality Objectives Process Status – The DQO supporting the commencement of the CERCLA RI/FS process is well underway. A pre-draft version of the document is being reviewed by FH.

SOURCE OPERABLE UNIT

6. *200-PW-1, 200-PW-3, & 200-PW-6 OUs*

- Remediation Treatment Status – The active system was brought back on line April 1, 2003. Problems with pressure transducers and the control transformer have been identified. These problems required the system to be run in manual operation mode (shutdown manually at the end of the day). The system was completely taken offline for several days to make repairs. The system is now running well. The average pumping rate for FY 2003 through May 4 was 402 CFM. For the month of April, the system operated at between 394 and 408 CFM. The system run time through April 27, 2003, was 46.1%, 46.1% fiscal year to date, and 94.9% from system inception to date. The passive system remains operational (attached).

- Monthly Monitoring – Results are consistent with past monitoring. A handout was distributed (attached).

- Status Fieldwork Planning & Preparation – Sampling at PFP will start tentatively on May 19, 2003, and is planned to be completed in ten working days.

- Data Quality Objectives Process Status – Comments on the draft will be incorporated. A briefing later this month will be scheduled.

- Work Plan Status – The Work Plan is scheduled to be ready for review by the end of July, 2003.

7. *200-TW-1 & 200-TW-2 OUs*

- RI Report Status – The draft RI Report was delivered to DOE-RL on April 29, 2003, DOE-RL has sent the draft on to the regulators.

- Work Plan Status – The revised Work Plan is being prepared and will be sent for approval in July 2003.

- FS Status – Work has been started on the FS with a March 31, 2004, date for completion.

  Ecology stated that comments on the Ecological Assessment would affect all these documents. It will be a topic on the next IAMIT agenda.

  FH proposed that in regards to the BC Crib closure acceleration, the TW-1 sites be re-evaluated to include new information based on inventory work that has been done to support the System Assessment Capability modeling to determine if additional characterization should be performed.

8. *200-PW-2 & 200-PW-4 OUs*

- Work Plan Status – The comment disposition meeting will be re-scheduled.

- Field Work Status – The work at the 216-A-19 crib is complete. No data results have been received yet. The 216-A-37-1 crib borehole has just been finished. Drilling will begin at 216-A-10 crib today.

9. ***200-CS-1 OU***

- Status Field Work Completion (M-015-39A) – Fieldwork is complete and FH is waiting for the data. FH inquired as to how Ecology would like the information to be provided to support completion of the M-15-39A TPA Milestone. Ecology will address that question.

10. ***200-CW-5, CW-2, CW-4, & SC-1 OUs***

- Work Plan Status – Waiting for ecological issues to be resolved.
- RI Report Status – Preparing to transmit the RI Report to DOE-RL.

11. ***200 Area Ecological Evaluation***

- Status on Revised Draft – The revised draft (Draft B) is issued and DOE-RL is awaiting comments. A 30-day review period is planned.

12. ***200-CW-1 & 200-CW-3 OUs***

- FS/PP Status – The FS/PP is in regulator review. EPA stated that the FS/PP did not meet expectations. A meeting with management from EPA, Ecology and DOE will be scheduled to discuss the issues.

13. ***Hydrologic Test Plan***

- A hydrologic test plan has been written by PNNL for DOE-RL. Regulator approval will be necessary for transmittal of the plan. Comments on the technical aspects have been received. The plan will be ready within the next couple of weeks.

Attachment 5

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
28	Limits on dioxane detection	FH and PNNL	Ecology	04/17/03				
29								

200 Area UMM – May 2003

200-UP-1:

- Average Pumping Rate for FY03 through May 4: 47 gpm
- For the month of April, the system operated at between 42 and 45 gpm.
- The design work for tying in new extraction well 299-W19-43 is complete. The tie in will begin within the next two weeks.
- The system was shutdown on April 17 to allow a leachate transfer to ETF, and was back running again April 18.

- System Run Time
  - Through May 4, 2003 96.9%
  - FY2003 (Year to date) 98.5%
  - System Inception to date 92.5%

- The Draft DQO Summary Report supporting the RI/FS process is currently waiting for comments from Ecology. Comments were due May 2. The Work Plan is in progress.

- PNNL to discuss 160 ug/L 1,4-Dioxane recently detected in well 299-W22-20.

- Interim Action Waste Management Plan for the 200-UP-1 OU (DOE/RL-2000-51, has been updated to include a number of wells that are scheduled to be decommissioned in FY2003 – Need Ecology Signature.

- Over the past few months, three 200-UP-1 groundwater monitoring wells have gone dry. Beginning October 1, 2003, the groundwater monitoring network for 200-UP-1 will be re-evaluated and updated. The Sampling and Analysis Plan (DOE/RL-2002-10) will modified accordingly.

- Waste Management Plan – need EPA signature

- Four monitoring wells have gone dry over the past few months. Will select new wells for network October 1.

200-ZP-1:

- Average Pumping Rate for FY03 through May 4: 138 gpm
- For the month of April, the system operated at between 133 and 141 gpm.
- The system was shutdown on April 14 due to leak detection in extraction well #4 caused by rainwater. The system was turned back on later that day except for extraction well #4. Extraction well #4 was turned back on April 22.

- The drilling and installation of replacement Extraction Well # 1 (new name 299-W15-45) is complete. Design work for connecting this new well to the extraction system will commence next week.

- System Run Time
  - Through May 4, 2003 99.3%
  - FY2003 (Year to date) 94.5%
  - System Inception to date 91.9%

- The DQO supporting the commencement of the CERCLA RI/FS process is well underway. I am currently reviewing the pre-draft version of this document.

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

- Active system was brought back on line April 1. However, a number of problems were identified - problem with pressure transducer and control transformer. These problems required the system to be run in manual operation mode (shutdown manually at end of day), and it was completely taken offline for several days to make repairs.
- The system is now running well.
- Average Pumping Rate for FY03 through May 4: 402 CFM
- For the month of April, the system operated at between 394 and 408 CFM.

- System Run Time
  - Through April 27, 2003 46.1%
  - FY2003 (Year to date) 46.1%
  - System Inception to date 94.9%

- The passive system remains operational.

Comparison of Maximum Carbon Tetrachloride Rebound Concentrations
Monitored at 200-PW-1 Soil Vapor Extraction Sites
FY 1997 - FY 2003

200-PW-1 (200-ZP-2) Location (Well or Probe) /feet bgs	Site	November 1996 - July 1997 Maximum Rebound Carbon Tetrachloride (ppmv)	months* of rebound	October 1997 - September 1998 Maximum Rebound Carbon Tetrachloride (ppmv)	months* of rebound	July 1998 - September 1999 Maximum Rebound Carbon Tetrachloride (ppmv)	months* of rebound	July 1999 - June 2001 Maximum Rebound Carbon Tetrachloride (ppmv)	months* of rebound	July 2001 - June 2002 Maximum Rebound Carbon Tetrachloride (ppmv)	months* of rebound	July 2002 - April 2003 Maximum Rebound Carbon Tetrachloride (ppmv)	months* of rebound
79-03/ 5 ft	Z-18	0	8	0	3	0	12						
79-06/ 5 ft	Z-1A	not measured		not measured		1.4	12						
79-11/ 5 ft	Z-1A	0	8	0	6	2.9	12						
86-05/ 5 ft	Z-9	not measured		not measured		0	3						
86-05-01/ 5 ft	Z-9	not measured		not measured		0	3						
86-06/ 5 ft	Z-9	1.3	8	0	9	1.9	6						
87-05/ 5 ft	Z-1A	not measured		0	3	1.0	12						
87-09/ 5 ft	Z-1A	not measured		1.5	3	2.6	12						
94-02/ 5 ft	Z-9	0	8	not measured		1.4	3						
95-11/ 5 ft	Z-9	0	8	2.1	9	2.5	6						
95-12/ 5 ft	Z-9	1.1	8	1.5	9	1.3	6						
95-14/ 5 ft	Z-9	not measured		not measured		0	3						
CPT-13A/ 9 ft	Z-1A	not measured		0	6	1.0	12						
CPT-16/ 10 ft	Z-9	not measured		0	9	1.5	6						
CPT-17/ 10 ft	Z-9	not measured		4.2	9	5.1	6	6.6	24	3.2	6	5.3	10
CPT-18/ 15 ft	Z-9	not measured		6.5	9	5.0	6	5.2	24	1.4	6	1.7	10
CPT-4A/ 25 ft	Z-1A	not measured		not measured		not measured		3.5	0	3.4	10		
CPT-4E/ 25 ft	Z-1A	not measured		not measured		not measured		not measured		2.6	12	1.3	0
CPT-16/ 25 ft	Z-9	not measured		not measured		not measured		1.8	24	1.1	6	1.0	10
CPT-31/25 ft	Z-1A	not measured		0	6	0	12						
CPT-32/ 25 ft	Z-1A	not measured		9.1	6	10	12	16.5	18	13.0	12	8.3	6
CPT-30/ 28 ft	Z-18	not measured		not measured		3.2	12	1.4	18	0	12	0	6
CPT-13A/ 30 ft	Z-1A	2.2	8	not measured		not measured		3.6	18	2.6	12	1.3	0
CPT-7A/ 32 ft	Z-1A	not measured		2.3	6	5.4	12	6.2	18	5.6	12	1.7	0
CPT-27/ 33 ft	Z-9	1.2	8	not measured		not measured		2.6	24	1.5	6	1.1	10
CPT-1A/ 35 ft	Z-12	2.0	8	1.4	3	3.0	12	7.7	18	11.3	12	5.1	0
CPT-28/ 40 ft	Z-9	40.1	8							56.5	6		
CPT-33/ 40 ft	Z-1A	not measured		2.0	3	2.6	12			2.3	12		
CPT-34/ 40 ft	Z-18	2.3	8	not measured		1.7	12	1.9	0	2.2	12	1.3	0
CPT-21A/ 45 ft	Z-9	65.6	8	52.7	9	57	3	127	24	133	6	73.7	10
W15-220ST/ 52 ft	Z-9	2	8	not measured		1.6	3	2.5	24			1.5	1
CPT-28/ 60 ft	Z-9	not measured		1.5	0	3.7	3						
CPT-9A/ 60 ft	Z-9	45.5	8	41.1	0	44	3	68	24	45.3	6	35.9	10
CPT-16/ 65 ft	Z-9	4.6	8	not measured		not measured		not measured		not measured		4.2	10
CPT-1A/ 68 ft	Z-12	not measured		not measured		not measured		not measured		5.5	12		
CPT-30/ 68 ft	Z-18	1.7	8	not measured		3.0	12						
CPT-32/ 70 ft	Z-1A	7.4	8							7.7	12		
CPT-13A/ 70 ft	Z-1A	5.2	8	not measured		5.6	12						
CPT-24/70 ft	Z-9	not measured		3.2	9	3.6	3					3.3	10
W15-219SST/ 70 ft	Z-9	14.6	8	not measured		7.6	3	7.8	24			1.9	1
CPT-18/ 75 ft	Z-9	not measured		not measured		not measured		18	24			2.6	10
CPT-4A/ 75 ft	Z-1A	not measured		not measured		not measured		not measured		7.1	3		
CPT-31/ 76 ft	Z-1A	4.0	8	not measured		4.2	12						
CPT-33/ 80 ft	Z-1A	5.8	8	not measured		9.2	12						
W15-82/ 83 ft	Z-9	28.9	8	5.5	9	46	6	55	24	66.7	6	85.8	10
CPT-21A/ 86 ft	Z-9	221	8	206	9	148	6	195	24	186	6	199	10
CPT-34/ 86 ft	Z-18	36.3	8	5.9	3	0	12						
W15-95U/ 86 ft	Z-9	not measured		15.3	9	39	6	43	21				
W15-218SST/ 86 ft	Z-9	not measured		not measured		0	3					1.6	2
CPT-28/ 87 ft	Z-9	280	8	230	9	203	6	224	24	229	6	208	10
CPT-4B/ 90 ft	Z-1A									3.2	10		
CPT-1A/ 91 ft	Z-18	3.9	8	not measured		4.2	12			10.7	10		
CPT-4A/ 91 ft	Z-1A	not measured		7.7	3	14	12			7.5	2		
CPT-9A/ 91 ft	Z-9	103	8	34.5	9	72	3			74.3	6		
W15-85/ 91 ft	Z-9	not measured		not measured		not measured		51	24				
W18-252SST/ 100	Z-1A	38.2	8	17.8	3	24	12						
W18-152/ 101 ft	Z-12	46.8	8	11.1	3	33	12	25	18	25.7	12	20.7	6
CPT-4E/ 103 ft	Z-1A	23.2	8	not measured		not measured		not measured		16.1	12		
W18-167/ 106 ft	Z-1A	323	8	79.7	3	228	12	248	18	297	12	243	6
W18-165/ 109 ft	Z-1A	not measured		not measured		not measured		not measured		278	12	328	6
W15-217/ 114 ft	Z-9	797	8	630	9	561	6	442	24	93.6	6	324	10
CPT-24/ 118 ft	Z-9	44.6	8	37.7	9	37	6	35	24			27.7	10
W15-220SST/ 118	Z-9	21.9	8	not measured		36	3	34	24			27.5	10
W18-158L/ 120 ft	Z-1A	not measured		143	3	492	12	284	18	163	3		
W15-219SST/ 130	Z-9	298	8	not measured		47	3	54	24			23.1	1
W18-249/ 130 ft	Z-18	206	8	20.4	3	215	12	176	18	196	12	46.3	6
W18-248/ 131 ft	Z-1A	288	8	86.3	3	177	12	214	18	306	12	182	6
W15-95L/ 144 ft	Z-9	not measured		not measured		not measured		not measured		31.8	6	21.7	10
W15-219SST/ 155	Z-9	59.6	8	not measured		24	3	44	24			6.8	1
W15-220L/ 163 ft	Z-9											-----	10
W15-219L/ 175 ft	Z-9											-----	10
W15-9L/ 176 ft	Z-9	18.3	8	15.0	9	15	6	20	21	16.9	6	10.5	10
W15-84L/ 180 ft	Z-9	not measured		not measured		not measured		not measured		not measured		18.8	10
W15-6L/ 182 ft	Z-9	22.6	8	17.8	9	1.3	6						
W15-220SST/ 185	Z-9	14.5	8	not measured		13	3	15	24			-----	1
W18-7/ 197 ft	Z-1A	28.5	8	17.3	3	29	12						
W18-12/ 198 ft	Z-18	not measured		3.81	3	19	12						
W18-6L/ 208 ft	Z-1A	36	8	31.3	6	15	12						

* - based on location (Z-1A/18/12 or Z-9) of monitoring point; specific points may be beyond SVE zone of influence during particular operating configurations
- Z-18 and Z-12 wells off-line Oct 96 - Apr 98
- CPT-1A, CPT-9A, and possibly CPT-7A appeared to be beyond SVE zone of influence in Oct 96 based on differential pressure (BHI-01105, p. 6-1)
- CPT-9A, CPT-21A, CPT-28 beyond SVE zone of influence in May 96 based on CCl4 concentrations and airflow modeling based on measured vacuums (BHI-01105, p. 6-1)

Carbon Tetrachloride Rebound Concentrations
Monitored at 200-PW-1 Soil Vapor Extraction Sites
July 2002 - April 2003

200-PW-1 (200-ZP-2) Location (Well or Probe) /feet bgs	Site	07/30/2002 CCl4 (ppmv)	08/26/2002 CCl4 (ppmv)	10/04/2002 CCl4 (ppmv)	10/30/2002 CCl4 (ppmv)	11/27/2002 CCl4 (ppmv)	12/31/2002 CCl4 (ppmv)	01/30/2003 CCl4 (ppmv)	02/21/2003 CCl4 (ppmv)	03/20/2003 CCl4 (ppmv)	05/01/2003 CCl4 (ppmv)
CPT-17/ 10 ft	Z-9	1.6	1.4	2.0	1.6	1.1	1.0	1.3	1.5	3.1	5.3
CPT-18/ 15 ft	Z-9	0	0	1.2	0	0	0	0	0	1.7	0
CPT-4E/ 25 ft (c)	Z-1A	1.3	0	0							1.3
CPT-16/ 25 ft	Z-9	0	0	0	0	0	0	0	0	0	1.0
CPT-32/ 25 ft	Z-1A				0	0	2.2	4.1	6.3	8.3	
CPT-30/ 28 ft	Z-1A				0	0	0	0	0	0	
CPT-13A/ 30 ft	Z-1A	1.4	1.3	0	0	0	0	0	0	1.6	1.3
CPT-7A/ 32 ft	Z-1A	2.7	1.2	1.4	1.1	1.7	2.0	2.0	2.1	3.9	1.7
CPT-27/ 33 ft	Z-9	0	0	0	0	0	0	0	0	1.1	1.0
CPT-1A/ 35 ft	Z-12	4.1	4.2	3.4	3.5	6.8	1.9	5.3	5.2	7.2	5.1
CPT-34/ 40 ft	Z-18	1.6	1.2	1.2							1.3
CPT-21A/ 45 ft	Z-9	60.2	31.6	68.0	61.9	35.7	40.8	45.2	30.4	73.7	72.8
W15-220SST/ 52 ft	Z-9	1.5									
CPT-9A/ 60 ft	Z-9	35.1	8.4	27.8	22.2	12.5	7.4	14.8	13.8	35.9	30.1
CPT-16/ 65 ft (d)	Z-9		0	3.1							4.2
CPT-24/ 70 ft (e)	Z-9		1.5	3.3							3.3
W15-219SST/ 70 ft (b)	Z-9	1.9									
CPT-18/ 75 ft	Z-9	0	0	1.5							2.6
W15-82/ 83 ft	Z-9	85.8	5.6	58.8	35.6	14.7	12.1	6.5	15.4	36.0	50.0
CPT-21A/ 86 ft	Z-9	159	55	155	95.0	55.3	46.4	66.9	44.6	140	199
W15-218SST/ 86 ft (f)	Z-9		1.6	---- (h)							
CPT-28/ 87 ft	Z-9	208	54.2	169	130	51.6	48.8	20.3	87.6	139	178
W18-152/ 101 ft	Z-12				7.5	8.8	10.1	12.6	12.0	20.7	
W18-167/ 106 ft	Z-1A				243	96	72.7	84.1	76.8	218	
W18-165/ 109 ft	Z-1A				328	265	65.1	82.6	71.0	216	
W15-217/ 114 ft	Z-9	82.1	34.0	214	38.7	80.0	264	324	246	287	74.3
CPT-24/ 118 ft	Z-9	27.7	4.2	16.3							3.0
W15-220SST/ 118 ft	Z-9	27.5	1.3	21.3							17.7
W15-219SST/ 130 ft (b)	Z-9	23.1									
W18-249/ 130 ft	Z-18				11.8	27.6	34.5	29.4	39.3	46.3	
W18-248/ 131 ft (l)	Z-1A				27.0	81.5	68.2	73.9	182	165	
W15-95L/ 144 ft	Z-9	13.3	0	16.1	18.5	9.7	9.8	12.6	11.9	21.7	17.2
W15-219SST/ 155 ft (b)	Z-9	6.8									
W15-220L/ 163 ft	Z-9										---- (h)
W15-219L/ 175 ft	Z-9										---- (h)
W15-9L/ 176 ft	Z-9				5.1	2.9	5.2	5.8	5.1	10.5	8.2
W15-84L/ 180 ft (g)			5.8	13.1	2.8	7.2	10.6	13.0	10.9	18.8	8.3
W15-220SST/ 185 ft	Z-9	---- (a)									

(a) Unable to sample. Sample port appears to be plugged.
(b) Sampling extremely slow.
(c) Substitute for CPT-4A/ 25 ft
(d) Substitute for W15-220SST/ 52 ft
(e) Substitute for W15-219SST/ 70 ft
(f) Substitute for W15-219SST/ 130 ft
(g) Substitute for W15-219SST/ 155 ft
(h) Unable to sample.
(l) 10/30/02: sample tubing cracked; sample may have been diluted. Tubing repaired 10/31/02.

1,4-Dioxane in Well 299-W22-20

- Well 299-W22-20 is sampled annually for Sr-90, I-129, Tc-99, uranium, tritium, nitrate, and VOA's. Well is located (more or less) downgradient of the 216-S-20 crib (well location map attached).

- 299-W22-20 was sampled on 1/20/2003, and a field duplicate sample was collected.

- 1,4-Dioxane was detected at a concentration of 160 µg/L in both duplicate samples (1,4-Dioxane was not specifically requested, but was reported by accident). Detection limit is 11.1 µg/L.

- A reanalysis of both samples was ordered. The results confirmed the detection of 1,4-Dioxane.

Attachment 5

About 1,4-Dioxane

- Classified by the EPA as a probable human carcinogen (causes cancer in experimental animals). EPA estimates that lifetime exposure to 3 µg/L (drinking water ingestion) results in a 1E-6 cancer risk.

- Primarily used as a chlorinated solvent stabilizer (e.g., commonly added to TCA to increase it's useful life).

- Highly soluble in water, so migrates readily through the subsurface. Typically precedes a chlorinated solvent plume.

- The State of Washington has established a groundwater quality standard of 7 µg/L (WAC 173-200).

Attachment 5

About the 216-S-20 Crib

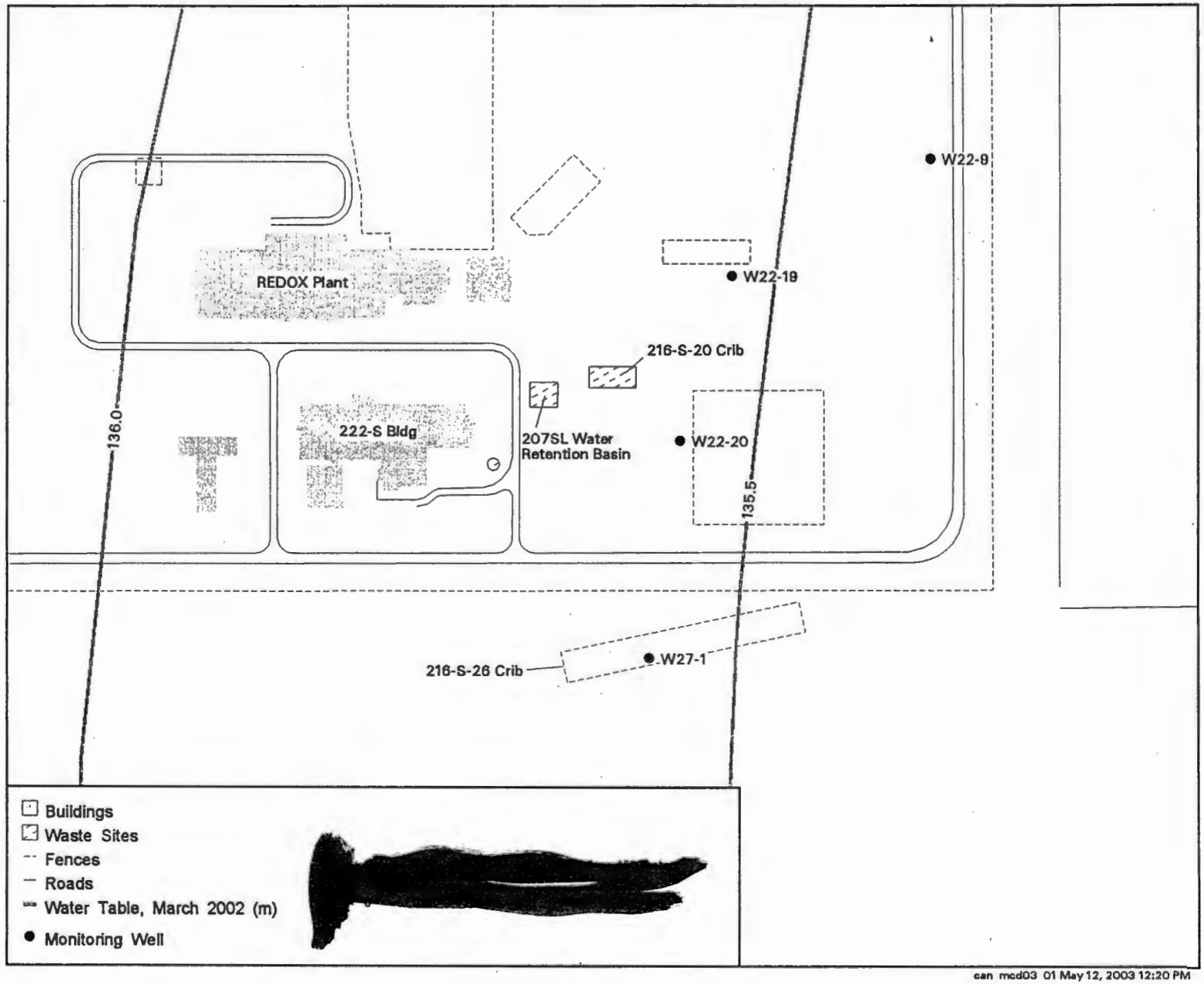
Information from WIDS:

- Active from 1952 through 1972.
- Received waste from lab hoods and decontamination sinks in the 222-S Building, along with lab waste from the 300 Area.

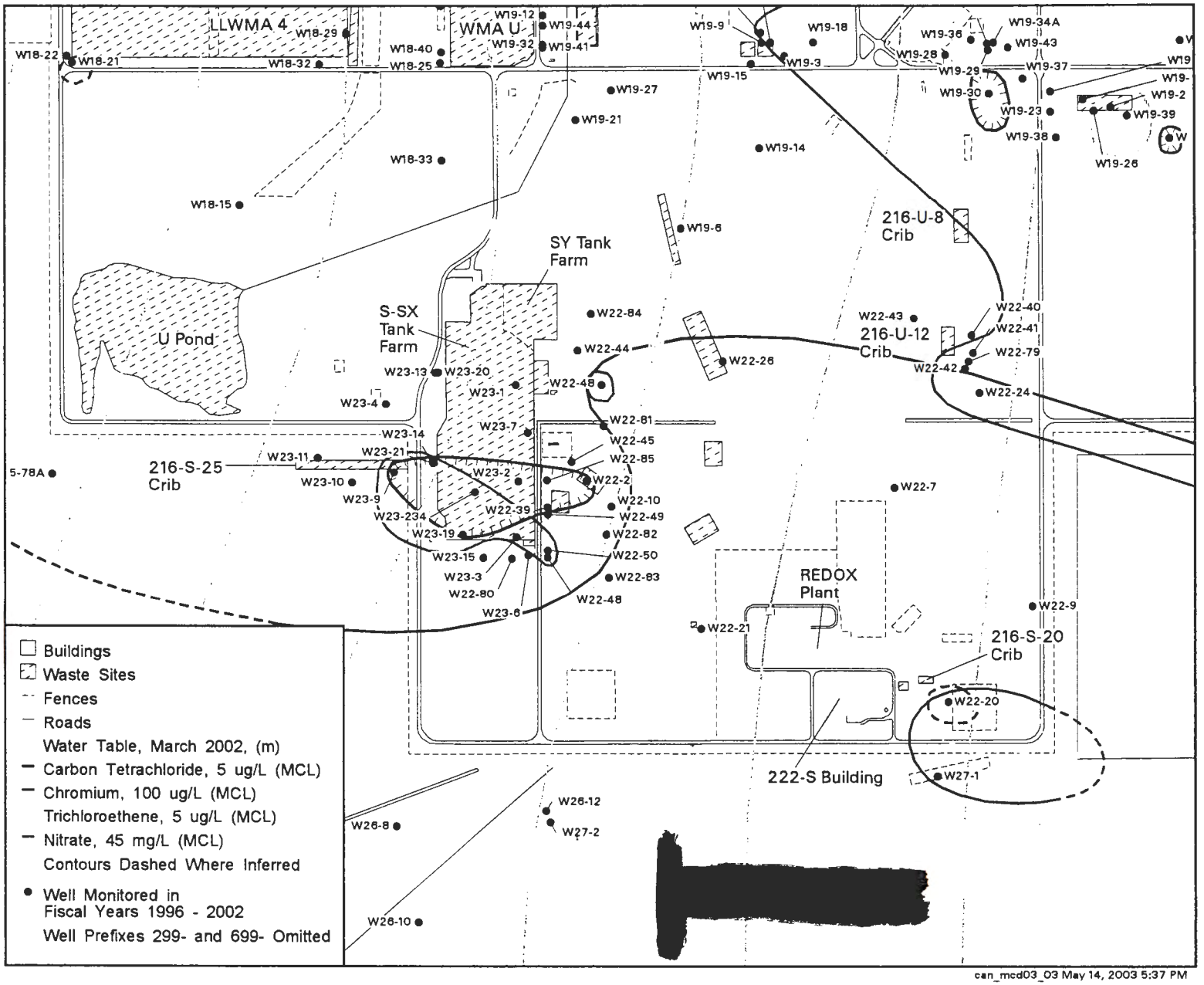
What Next?

- Records of the VOA analyses for the previous 3 sample events have been requested from storage (sample dates of 1/28/2002, 1/29/2001, and 2/2/2000). Should contain data on 1,4-Dioxane not entered into HEIS. Hope to confirm the presence of 1,4-Dioxane in 299-W22-20 and establish a trend.

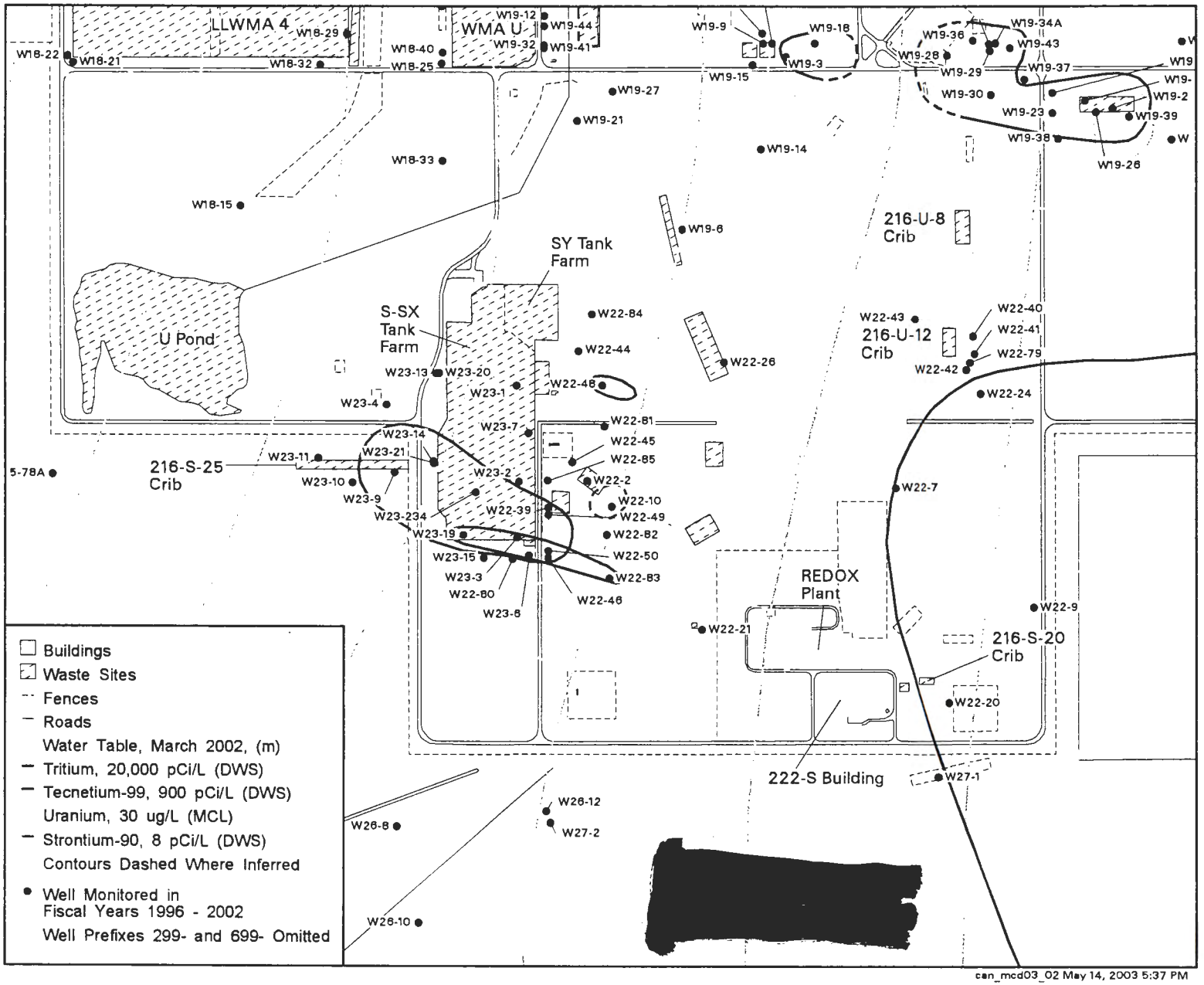
- May resample this year, depending on the results of the historical data analysis.



Attachment 5



Attachment 5



Attachment 5

200 Areas Unit Managers Meeting

May 15, 2003

200-BP-5 Groundwater Operable Unit wells scheduled to be sampled in June. These specific wells are in support of monitoring the B-5 reverse well and B Plant:

299-E28-17
299-E28-2
299-E28-23
299-E28-24
299-E28-25
299-E28-27
299-E28-5
299-E28-6
299-E28-8

UNIT MANAGERS' MEETING AGENDA

1200 Jadwin Avenue
June 18, 2003

9 a.m. – 11 a.m. 200 Area Room 1C1

General (10 minutes)

- Outstanding Action Items (attached)
- Open for Regulatory Topics or Action Items

U Plant Area Regional Closure (10 minutes)

- Waste Site FFS/PP
- DQO for Confirmatory Sampling and Remedial Design
- Pipeline mapping
- Lead Regulatory Agency

GROUNDWATER OPERABLE UNITS

200-BP-5 & 200-PO-1 OUs (2 minutes)

- Status of Activities
- 200-BP-5 Sample Collection Plans
- 200-PO-1 SAP status

200-UP-1 OU (5 minutes)

- Remediation Treatment Status
- Data Quality Objectives Process Status
- RI/FS Work Plan Status
- Waste Management Plan Revision for Well Decommissioning
- Sampling/Remediation-SX Tank Farm Well 297-W23-19

200-ZP-1 OU (5 minutes)

- Remediation Treatment Status
- Data Quality Objectives Process Status
- Waste Management Plan Revision including Well Decommissioning

200-BP-1 OU (5 minutes)

- Surface Barrier Performance Monitoring Presentation

SOURCE OPERABLE UNITS

200-PW-1, 200-PW-3, & 200-PW-6 OUs (10 minutes)

- Remediation Treatment Status
- Monthly Monitoring
- Status Fieldwork Planning & Preparation
- Data Quality Objectives Process Status
- Work Plan Status

200-TW-1, 200-TW-2, & PW-5 OUs (2 minutes)

- RI Report Status
- Work Plan Status
- FS Status

200-PW-2 & 200-PW-4 OUs (10 minutes)

- Work Plan Status
- Field Work Status

200-CS-1 OU (10 minutes)

- Status Field Work Completion (M-015-39A)

200-CW-5, CW-2, CW-4, & SC-1 OUs (2 minutes)

- Work Plan Status
- RI Report Status

200 Area Ecological Evaluation (2 minutes)

- Status on Revised Draft

200-CW-1 & 200-CW-3 OUs (2 minutes)

- FS/PP Status

BC Crib Area Closure

- Sampling Strategy

MEETING MINUTES
200 AREA GROUNDWATER AND SOURCE OPERABLE UNITS
UNIT MANAGERS' MEETING -- 200 AREA
June 18, 2003

Topics of Discussion:

1. ***General***

- Outstanding Action Items (attached)

- Open For Regulatory Topics or Action Items – Beth Rochette is Ecology's Point of Contact for U Plant and Unplanned Releases.

2. ***U Plant Area Regional Closure***

- Waste Site FFS/PP – The FFS/PP was delivered on schedule to DOE-RL on June 17, 2003. The FS addresses 33 waste sites and considers four alternatives.

- DQO for Confirmatory Sampling and Remedial Design – FH plans to get to the field before the end of the fiscal year.

- Pipeline Mapping – 7000 feet of pipeline were considered. This supports the EE/CA. There are 11 operable units and four waste sites within the geographic area.

- Lead Regulatory Agency – DOE stated that it would be more efficient to have a single regulator.

- EE/CA Status – FH is reviewing an annotated draft. The draft pursues the same path as the white paper. A Draft Action Memo will be done after the EE/CA.

GROUNDWATER OPERABLE UNITS

3. ***200-BP-5 & 200-PO-1 OUs***

- 200-BP-5 Sample Collection Plans – Samples were collected around B Plant this week. Samples will be collected at Gable Mountain Pond in September, 2003.

- 200-PO-1 SAP Status – The SAP was transmitted to Ecology and comments have been received. Comment responses will be dispositioned.

4. ***200-UP-1 OU***

- Remediation Treatment Status – The average pumping rate for FY 2003 through June 1, 2003, was 47 gpm. For the month of May, the system operated at between 39 and 53 gpm. Extraction well 299-W19-36 was taken off line on May 16, 2003 and the extraction well components were transferred to new extraction well 299-W19-43. The tie in of new extraction well 299-W19-43 was completed. The new extraction well was started up on May 22, 2003. An unscheduled outage occurred over

Memorial Day weekend. A check valve in the 299-W19-43 extraction line has corroded over the past years and was frozen in a partially open position. This is believed to be responsible for the less than expected performance of the new extraction well. The two check valves along the discharge line are both being replaced over the next few days. A new pump is being installed in extraction well 299-W19-43 later today. The system run time was 94.9% through June 1, 2003, 97.7% fiscal year to date, and 92.5% from system inception to date. A handout was distributed (attached).

Ecology stated that the next five year ROD review requires six months of operating above 50 gpm in calendar year 2004.

Regarding the ROD Amendment, Ecology stated that it is with a RCRA/CERCLA specialist now and a briefing will be arranged to discuss the schedule.

- Data Quality Objectives Process Status – Comments from Ecology and DOE were received on the Draft DQO Summary Report supporting the RI/FS process. The document will be issued as final next week.

- RI/FS Work Plan Status – The internal draft Work Plan will be released soon.

- Waste Management Plan Revision including Well Decommissioning – Revised Waste Management Plan was issued and includes wells scheduled for decommissioning.

- Sampling/Remediation – S-SX Tank Farm Well 299-W23-19 – On June 18, 2003, S-SX Tank Farm well 299-W23-19 was sampled and over 1,000 gallons were successfully purged from the well. A handout was distributed.

5. ***200-ZP-1 OU***

- Remediation Treatment Status – The average pumping rate for FY 2003 through June 1, 2003, was 138 gpm. For the month of May, the system operated at between 133 and 140 gpm. Maintenance was performed on injection wells on May 21. Extraction well #5 shutdown on May 23, 2003, due to an adjustable frequency drive failure. An orifice plate was changed out for extraction well #1 on May 29, 2003. The design work for connecting replacement extraction well #1 has begun. The system run time was 100% through June 1, 2003, 95.1% fiscal year to date, and 92.0% from system inception to date. A handout was distributed (attached).

- Data Quality Objectives Process Status – The DQO supporting the commencement of the CERCLA RI/FS will be out for internal review next week.

- RI/FS Work Plan Status – The RI/FS Work Plan is just now getting started.

- Waste Management Plan Revision including Well Decommissioning – A revised waste management plan to include wells scheduled for decommissioning was issued. Ecology requested that all decommissioning information be sent to Wayne

Soper. DOE-RL stated that there will be a kick-off meeting for vendors for the alternative DNAPL investigation in June.

6. ***200-BP-1 OU***

- Surface Barrier Performance Monitoring Presentation – A presentation on 200-BP-1 Prototype Hanford Barrier Performance Monitoring was made. Background, current monitoring scope and water balance monitoring were among the topics covered. A handout of the presentation was distributed (attached).

SOURCE OPERABLE UNITS

7. ***200-PW-1, 200-PW-3, & 200-PW-6 OUs***

- Remediation Treatment Status – The average air flow rate for FY 2003 through June 1, 2003 was 406 CFM. The system operated between 400 and 414 CFM for the month of May. The system run time through June 1, 2003, was 95.6%, 76.7% FY 2003 year to date, and 95.0% from system inception to date. The passive system remains operational (attached).

- Monthly Monitoring – Results are consistent with past monitoring. A handout was distributed (attached).

- Status Fieldwork Planning & Preparation – It is planned that drilling at Z-9 will begin in late July or early August, 2003. Samples will be taken in the PFP protected area.

- Data Quality Objectives Process Status – There will be a briefing to DOE-RL today on the DNAPL investigation. A meeting to review the results on the dispersed plume will be arranged.

- Work Plan Status – There are no plans to work at Z-9.

8. ***200-TW-1, 200-TW-2, & PW-5 OUs***

- RI Report Status – It was proposed to extend the report schedule.

- Work Plan Status – Tables were integrated into the RI Report. FH asked if the Work Plan needs to be revised to include 200-PW-5. EPA is considering that question.

- FS Status – Work on the FS is in progress. FH is coordinating this FS with the BC Cribs Area work. Risk assessments and technology screening are being performed at analogous sites. A letter was sent by EPA requesting that modelers coordinate with Bill McMahon.

9. ***200-PW-2 & 200-PW-4 OUs***

- Work Plan Status – Dispositions to Ecology comments on the work plan are being finalized. A meeting to discuss dispositions to Ecology comments on the work plan was held on June 3, 2003, and a path forward was formulated, pending the results of ongoing discussions with the regulators on ecological sampling.

- Field Work Status – Work at 216-A-19 is complete. Most of the boreholes were around Purex. All the data is back from A-19 at this point. The maximums were 14.5 feet below ground surface. 50% of the data is back on 216-A-37-1. A total depth of 308 feet as of June17, 2003, was reached at 216-B-12. Geophysical logging will be performed June 18, 2003, and decommissioning will begin early the following week.

10. *200-CS-1 OU*

- Status Field Work Completion (M-015-39A) – FH requested feedback from Ecology as to how milestone completion should be supported. Ecology stated there was no preference.

11. *200-CW-5, CW-2, CW-4, & SC-1 OUs*

- Work Plan Status – The Work Plan is on hold.

- RI Report Status – The RI Report is in review with EPA.

12. *200 Area Ecological Evaluation*

- Status on Revised Draft – DOE requested electronic copies of all comments on the Ecological Evaluation. The DQO process is being defined. Ecology stated that the schedule was sent via fax.

13. *200-CW-1 & 200-CW-3 OUs*

- FS/PP Status – Comments are being reviewed. An extension letter is in concurrence routing.

14. *BC Cribs Area Closure*

- Sampling Strategy – FH is in the process of refining the strategy. FH proposes to clean up extensive soil contamination in the area south of the cribs and trenches. Ecology stated that there is commonality between the BC Cribs and the U Plant. Ecology would like to discuss the decision documents regarding LW-1, LW-2, UR-1, MW-1 and smaller sites. FH proposed using the TW-1 and TW-2 Feasibility Study as the regulatory mechanism. An action was taken by DOE to arrange a meeting with Ecology and EPA to discuss this subject.

Attachment 6

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
29	Schedule a meeting with Ecology and EPA to discuss TW-1/2 FS	DOE-RL	EPA/Ecology	06/18/03			7/14/2003	

200 Area UMM – June 2003

200-UP-1:

- Average Pumping Rate for FY03 through June 1: 47 gpm
- For the month of May, the system operated at between 39 and 53 gpm.
- Extraction well 299-W19-36 was taken offline on May 16 and the extraction well components were transferred to new extraction well 299-W19-43.
- The tie in of new extraction well 299-W19-43 was completed during this reporting period. The new extraction well was started up on May 22.
- An unscheduled outage occurred over Memorial Day weekend.
- More recently it was determined that a check valve in the 299-W19-43 extraction line has corroded over the past years and was frozen in a partially open position. This is believed to be responsible for the less than expected performance of the new extraction well. The two check valves along the discharge line are both being replaced over the next few days.
- A new pump is being installed in extraction well 299-W19-43 later today.

- System Run Time
  - Through June 1, 2003 94.9%
  - FY2003 (Year to date) 97.7%
  - System Inception to date 92.5%

- Ecology and DOE comments were received on the Draft DQO Summary Report supporting the RI/FS process. This document will be issued as Final next week. The internal draft 200-UP-1 Work Plan is on my desk for my approval prior to release.

- Issued revised waste management plan to include wells scheduled for decommissioning.

- June 18, S-SX Tank Farm well 299-W23-19 was sampled and >1,000 gallons were successfully purged from the well.

200-ZP-1:

- Average Pumping Rate for FY03 through June 1: 138 gpm
- For the month of May, the system operated at between 133 and 140 gpm.
- Maintenance was performed on injection wells on May 21.
- Extraction well #5 (299-W15-36) shutdown on May 23 due to an adjustable frequency drive failure.
- On orifice plate was changed out for extraction well #1 (299-W15- 33) on May 29.
- The design work for connecting replacement Extraction Well # 1 (new name 299-W15-45) has begun.

- System Run Time
  - Through June 1, 2003 100%
  - FY2003 (Year to date) 95.1%
  - System Inception to date 92.0%

- The DQO supporting the commencement of the CERCLA RI/FS will be out for internal review next week.

- The RI/FS Work Plan is just now getting started.

- Issued revised waste management plan to include wells scheduled for decommissioning.

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

- Average Air Flow Rate for FY03 through June 1: 406 CFM
- For the month of May, the system operated at between 400 and 414 CFM.

- System Run Time
  - Through June 1, 2003 95.6%
  - FY2003 (Year to date) 76.7%
  - System Inception to date 95.0%

- The passive system remains operational.

Comparison of Maximum Carbon Tetrachloride Rebound Concentrations
Monitored at 200-PW-1 Soil Vapor Extraction Sites
FY 1997 - FY 2003

200-PW-1		November 1996 -		October 1997 -		July 1998 -		July 1999 -		July 2001 -		July 2002 -	
(200-ZP-2)		July 1997		September 1998		September 1999		June 2001		June 2002		May 2003	
Location	Site	Maximum Rebound	months*	Maximum Rebound	months*	Maximum Rebound	months*	Maximum Rebound	months*	Maximum Rebound	months*	Maximum Rebound	months*
(Well or Probe)		Carbon Tetrachloride	of	Carbon Tetrachloride	of	Carbon Tetrachloride	of	Carbon Tetrachloride	of	Carbon Tetrachloride	of	Carbon Tetrachloride	of
/feet bgs		(ppmv)	rebound	(ppmv)	rebound	(ppmv)	rebound	(ppmv)	rebound	(ppmv)	rebound	(ppmv)	rebound
79-03/ 5 ft	Z-18	0	8	0	3	0	12						
79-06/ 5 ft	Z-1A	not measured		not measured		1.4	12						
79-11/ 5 ft	Z-1A	0	8	0	6	2.9	12						
86-05/ 5 ft	Z-9	not measured		not measured		0	3						
86-05-01/ 5 ft	Z-9	not measured		not measured		0	3						
86-06/ 5 ft	Z-9	1.3	8	0	9	1.9	6						
87-05/ 5 ft	Z-1A	not measured		0	3	1.0	12						
87-09/ 5 ft	Z-1A	not measured		1.5	3	2.6	12						
94-02/ 5 ft	Z-9	0	8	not measured		1.4	3						
95-11/ 5 ft	Z-9	0	8	2.1	9	2.5	6						
95-12/ 5 ft	Z-9	1.1	8	1.5	9	1.3	6						
95-14/ 5 ft	Z-9	not measured		not measured		0	3						
CPT-13A/ 9 ft	Z-1A	not measured		0	6	1.0	12						
CPT-16/ 10 ft	Z-9	not measured		0	9	1.5	6						
CPT-17/ 10 ft	Z-9	not measured		4.2	9	5.1	6	6.6	24	3.2	6	6.6	11
CPT-18/ 15 ft	Z-9	not measured		6.5	9	5.0	6	5.2	24	1.4	6	2.0	11
CPT-4A/ 25 ft	Z-1A	not measured		not measured		not measured		3.5	0	3.4	10		
CPT-4E/ 25 ft	Z-1A	not measured		not measured		not measured		not measured		2.6	12	1.3	0
CPT-16/ 25 ft	Z-9	not measured		not measured		not measured		1.8	24	1.1	6	1.0	11
CPT-31/25 ft	Z-1A	not measured		0	6	0	12						
CPT-32/ 25 ft	Z-1A	not measured		9.1	6	10	12	16.5	18	13.0	12	8.3	6
CPT-30/ 28 ft	Z-18	not measured		not measured		3.2	12	1.4	18	0	12	0	6
CPT-13A/ 30 ft	Z-1A	2.2	8	not measured		not measured		3.6	18	2.6	12	1.3	0
CPT-7A/ 32 ft	Z-1A	not measured		2.3	6	5.4	12	6.2	18	5.6	12	1.7	0
CPT-27/ 33 ft	Z-9	1.2	8	not measured		not measured		2.6	24	1.5	6	1.7	11
CPT-1A/ 35 ft	Z-12	2.0	8	1.4	3	3.0	12	7.7	18	11.3	12	7.1	0
CPT-28/ 40 ft	Z-9	40.1	8							56.5	6		
CPT-33/ 40 ft	Z-1A	not measured		2.0	3	2.6	12			2.3	12		
CPT-34/ 40 ft	Z-18	2.3	8	not measured		1.7	12	1.9	0	2.2	12	1.3	0
CPT-21A/ 45 ft	Z-9	65.6	8	52.7	9	57	3	127	24	133	6	90.0	11
W15-220ST/ 52 ft	Z-9	2	8	not measured		1.6	3	2.5	24			1.5	1
CPT-28/ 60 ft	Z-9	not measured		1.5	0	3.7	3						
CPT-9A/ 60 ft	Z-9	45.5	8	41.1	0	44	3	68	24	45.3	6	35.9	11
CPT-16/ 65 ft	Z-9	4.6	8	not measured		not measured		not measured		not measured		4.2	11
CPT-1A/ 68 ft	Z-12	not measured		not measured		not measured		not measured		5.5	12		
CPT-30/ 68 ft	Z-18	1.7	8	not measured		3.0	12						
CPT-32/ 70 ft	Z-1A	7.4	8							7.7	12		
CPT-13A/ 70 ft	Z-1A	5.2	8	not measured		5.6	12						
CPT-24/70 ft	Z-9	not measured		3.2	9	3.6	3					4.1	11
W15-219SST/ 70 ft	Z-9	14.6	8	not measured		7.6	3	7.8	24			1.9	1
CPT-18/ 75 ft	Z-9	not measured		not measured		not measured		18	24			3.1	11
CPT-4A/ 75 ft	Z-1A	not measured		not measured		not measured		not measured		7.1	3		
CPT-31/ 76 ft	Z-1A	4.0	8	not measured		4.2	12						
CPT-33/ 80 ft	Z-1A	5.8	8	not measured		9.2	12						
W15-82/ 83 ft	Z-9	28.9	8	5.5	9	46	6	55	24	66.7	6	85.8	11
CPT-21A/ 86 ft	Z-9	221	8	206	9	148	6	195	24	186	6	206	11
CPT-34/ 86 ft	Z-18	36.3	8	5.9	3	0	12						
W15-95U/ 86 ft	Z-9	not measured		15.3	9	39	6	43	21				
W15-218SST/ 86 ft	Z-9	not measured		not measured		0	3					1.6	2
CPT-28/ 87 ft	Z-9	280	8	230	9	203	6	224	24	229	6	235	11
CPT-4B/ 90 ft	Z-1A									3.2	10		
CPT-1A/ 91 ft	Z-18	3.9	8	not measured		4.2	12			10.7	10		
CPT-4A/ 91 ft	Z-1A	not measured		7.7	3	14	12			7.5	2		
CPT-9A/ 91 ft	Z-9	103	8	34.5	9	72	3			74.3	6		
W15-85/ 91 ft	Z-9	not measured		not measured		not measured		51	24				
W18-252SST/ 100	Z-1A	38.2	8	17.8	3	24	12						
W18-152/ 101 ft	Z-12	46.8	8	11.1	3	33	12	25	18	25.7	12	20.7	6
CPT-4E/ 103 ft	Z-1A	23.2	8	not measured		not measured		not measured		16.1	12		
W18-167/ 106 ft	Z-1A	323	8	79.7	3	228	12	248	18	297	12	243	6
W18-165/ 109 ft	Z-1A	not measured		not measured		not measured		not measured		278	12	328	6
W15-217/ 114 ft	Z-9	797	8	630	9	561	6	442	24	93.6	6	409	11
CPT-24/ 118 ft	Z-9	44.6	8	37.7	9	37	6	35	24			27.8	11
W15-220SST/ 118	Z-9	21.9	8	not measured		36	3	34	24			27.5	11
W18-158U/ 120 ft	Z-1A	not measured		143	3	492	12	284	18	163	3		
W15-219SST/ 130	Z-9	298	8	not measured		47	3	54	24			23.1	1
W18-249/ 130 ft	Z-18	206	8	20.4	3	215	12	176	18	196	12	46.3	6
W18-248/ 131 ft	Z-1A	288	8	86.3	3	177	12	214	18	306	12	182	6
W15-95U/ 144 ft	Z-9	not measured		not measured		not measured		not measured		31.8	6	21.7	11
W15-219SST/ 155	Z-9	59.6	8	not measured		24	3	44	24			6.8	1
W15-220U/ 163 ft	Z-9											-----	11
W15-219U/ 175 ft	Z-9											-----	11
W15-9U/ 176 ft	Z-9	18.3	8	15.0	9	15	6	20	21	16.9	6	11.6	11
W15-84U/ 180 ft	Z-9	not measured		not measured		not measured		not measured		not measured		25.9	11
W15-6U/ 182 ft	Z-9	22.6	8	17.8	9	1.3	6						
W15-220SST/ 185	Z-9	14.5	8	not measured		13	3	15	24			-----	1
W18-7/ 197 ft	Z-1A	28.5	8	17.3	3	29	12						
W18-12/ 198 ft	Z-18	not measured		3.81	3	19	12						
W18-6U/ 208 ft	Z-1A	36	8	31.3	6	15	12						

* - based on location (Z-1A/18/12 or Z-9) of monitoring point; specific points may be beyond SVE zone of influence during particular operating configurations
- Z-18 and Z-12 wells off-line Oct 96 - Apr 98
- CPT-1A, CPT-9A, and possibly CPT-7A appeared to be beyond SVE zone of influence in Oct 96 based on differential pressure (BHI-01105, p. 6-1)
- CPT-9A, CPT-21A, CPT-28 beyond SVE zone of influence in May 96 based on CCl4 concentrations and airflow modeling based on measured vacuums (BHI-01105, p. 6-1)

Carbon Tetrachloride Rebound Concentrations
Monitored at 200-PW-1 Soil Vapor Extraction Sites
July 2002 - May 2003

200-PW-1 (200-ZP-2) Location (Well or Probe) /feet bgs	Site	07/30/2002 CCl4 (ppmv)	08/26/2002 CCl4 (ppmv)	10/04/2002 CCl4 (ppmv)	10/30/2002 CCl4 (ppmv)	11/27/2002 CCl4 (ppmv)	12/31/2002 CCl4 (ppmv)	01/30/2003 CCl4 (ppmv)	02/21/2003 CCl4 (ppmv)	03/20/2003 CCl4 (ppmv)	05/01/2003 CCl4 (ppmv)	05/22/2003 CCl4 (ppmv)
CPT-17/ 10 ft	Z-9	1.6	1.4	2.0	1.6	1.1	1.0	1.3	1.5	3.1	5.3	6.6
CPT-18/ 15 ft	Z-9	0	0	1.2	0	0	0	0	0	1.7	0	2.0
CPT-4E/ 25 ft (c)	Z-1A	1.3	0	0							1.3	0
CPT-16/ 25 ft	Z-9	0	0	0	0	0	0	0	0	0	1.0	0
CPT-32/ 25 ft	Z-1A				0	0	2.2	4.1	6.3	8.3		
CPT-30/ 28 ft	Z-1A				0	0	0	0	0	0		
CPT-13A/ 30 ft	Z-1A	1.4	1.3	0	0	0	0	0	0	1.6	1.3	1.3
CPT-7A/ 32 ft	Z-1A	2.7	1.2	1.4	1.1	1.7	2.0	2.0	2.1	3.9	1.7	1.7
CPT-27/ 33 ft	Z-9	0	0	0	0	0	0	0	0	1.1	1.0	1.7
CPT-1A/ 35 ft	Z-12	4.1	4.2	3.4	3.5	6.8	1.9	5.3	5.2	7.2	5.1	7.1
CPT-34/ 40 ft	Z-18	1.6	1.2	1.2							1.3	1.3
CPT-21A/ 45 ft	Z-9	60.2	31.6	68.0	61.9	35.7	40.8	45.2	30.4	73.7	72.8	90.0
W15-220SST/ 52 ft	Z-9	1.5										
CPT-9A/ 60 ft	Z-9	35.1	6.4	27.8	22.2	12.5	7.4	14.8	13.8	35.9	30.1	33.2
CPT-16/ 65 ft (d)	Z-9		0	3.1							4.2	3.9
CPT-24/ 70 ft (e)	Z-9		1.5	3.3							3.3	4.1
W15-219SST/ 70 ft (b)	Z-9	1.9										
CPT-18/ 75 ft	Z-9	0	0	1.5							2.6	3.1
W15-82/ 83 ft	Z-9	85.8	5.6	58.8	35.6	14.7	12.1	6.5	15.4	36.0	50.0	56.2
CPT-21A/ 86 ft	Z-9	159	55	155	95.0	55.3	46.4	66.9	44.6	140	199	206
W15-218SST/ 86 ft (f)	Z-9		1.6	----- (h)								
CPT-28/ 87 ft	Z-9	208	54.2	169	130	51.6	48.8	20.3	87.6	139	178	235
W18-152/ 101 ft	Z-12				7.5	8.6	10.1	12.6	12.0	20.7		
W18-167/ 106 ft	Z-1A				243	98	72.7	84.1	76.8	218		
W18-165/ 109 ft	Z-1A				328	265	65.1	82.6	71.0	216		
W15-217/ 114 ft	Z-9	82.1	34.0	214	38.7	80.0	264	324	246	287	74.3	409
CPT-24/ 118 ft	Z-9	27.7	4.2	16.3							3.0	27.8
W15-220SST/ 118 ft	Z-9	27.5	1.3	21.3							17.7	26.7
W15-219SST/ 130 ft (b)	Z-9	23.1										
W18-249/ 130 ft	Z-18				11.8	27.6	34.5	29.4	39.3	46.3		
W18-248/ 131 ft (l)	Z-1A				27.0	81.5	68.2	73.9	182	165		
W15-95L/ 144 ft	Z-9	13.3	0	16.1	18.5	9.7	9.8	12.6	11.9	21.7	17.2	18.8
W15-219SST/ 155 ft (b)	Z-9	6.8										
W15-220L/ 183 ft	Z-9										----- (h)	----- (h)
W15-219L/ 175 ft	Z-9										----- (h)	----- (h)
W15-9L/ 176 ft	Z-9				5.1	2.9	5.2	5.8	5.1	10.5	8.2	11.6
W15-84L/ 180 ft (g)			5.8	13.1	2.8	7.2	10.6	13.0	10.9	18.8	8.3	25.9
W15-220SST/ 185 ft	Z-9	----- (a)										

(a) Unable to sample. Sample port appears to be plugged.
(b) Sampling extremely slow.
(c) Substitute for CPT-4A/ 25 ft
(d) Substitute for W15-220SST/ 52 ft
(e) Substitute for W15-219SST/ 70 ft
(f) Substitute for W15-219SST/ 130 ft
(g) Substitute for W15-219SST/ 155 ft
(h) Unable to sample.
(l) 10/30/02: sample tubing cracked; sample may have been diluted. Tubing repaired 10/31/02.

200-BP-1 Prototype Hanford Barrier Performance Monitoring

Curtis Wittreich

Unit Managers Meeting

June 19, 2003

Background

- Constructed in FY 94 over the 216-B-57 Crib.
- FY 95 - FY 97: performance monitoring under ambient and extreme precipitation (three-times normal precipitation and 1,000-year storms).
- FY 99 – present: performance monitoring under ambient precipitation
- Performance monitoring results documented in
  - FY 1995 – 1998: *200-BP-1 Prototype Barrier Treatability Test Report*, DOE/RL-99-11, August 1999
  - FY 1999 – 2001: Annual letter reports
  - FY2002: *200-BP-1 Prototype Hanford Barrier Annual Monitoring Report for Fiscal Year 2002*, CP-14873, March 2003

Current Monitoring Scope

- Long Term Performance Monitoring
  - Water balance monitoring
    - Precipitation
    - Soil water storage
    - Drainage
  - Vegetation and animal use surveys
  - Stability surveys
    - settlement
    - surface topography
    - riprap side slope stability

Water Balance Monitoring

Water balance solution for the prototype barrier:

$$P - D - DP - R - \Delta W - ET = 0$$

where

P = precipitation

D = lateral drainage out of the soil cover (diverted by asphalt)

DP = deep percolation (vertical drainage past the asphalt layer)

R = surface runoff

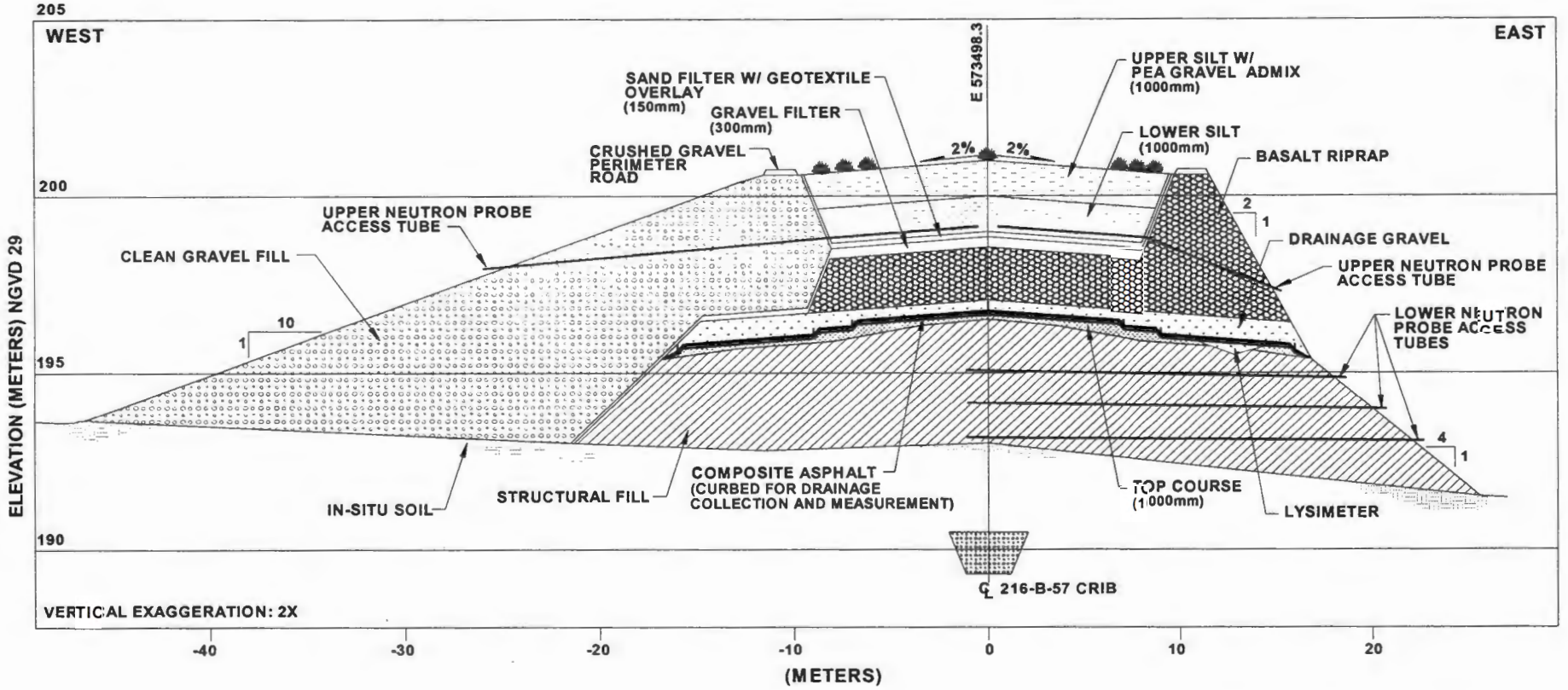
DW = change in soil water storage

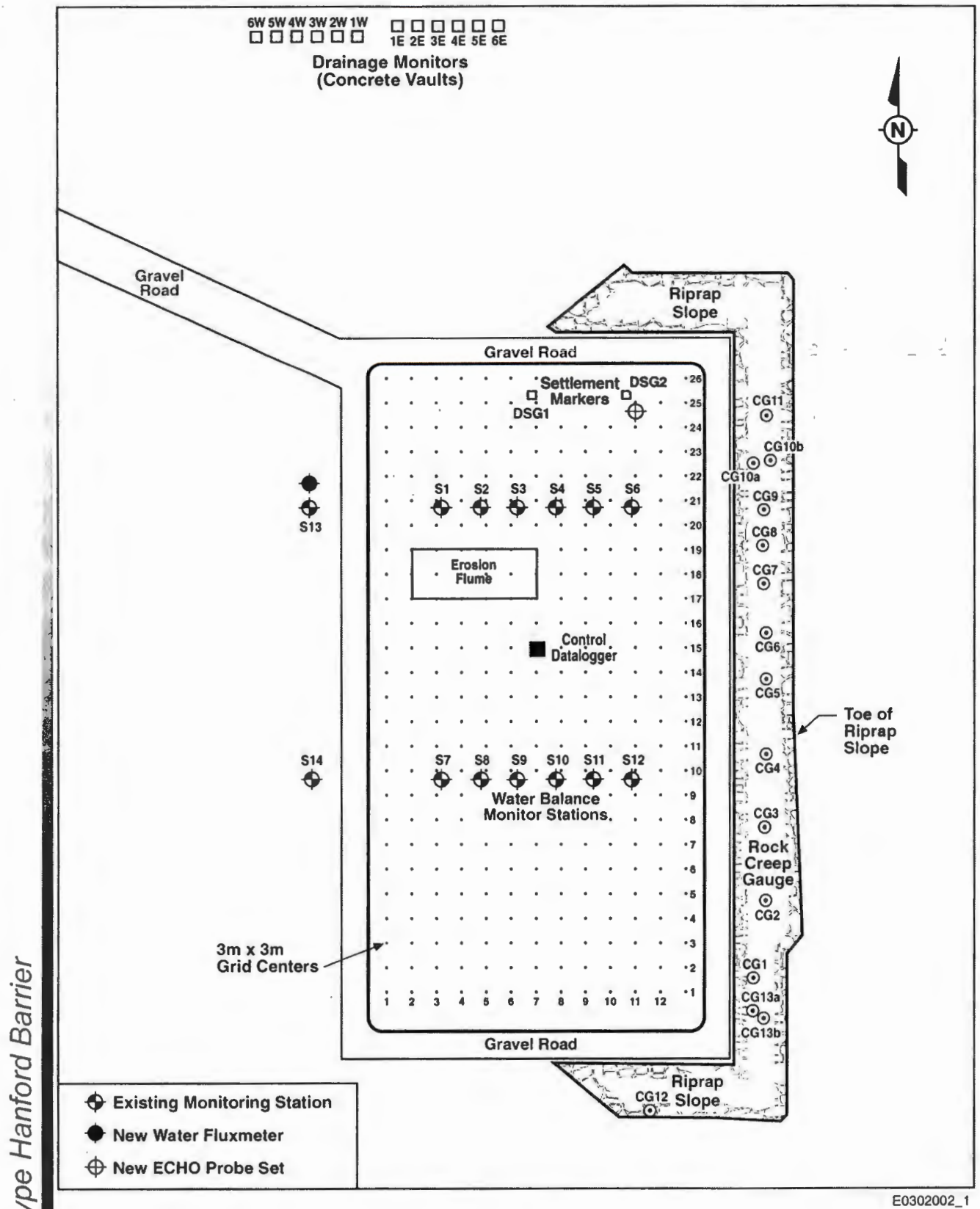
ET = evapotranspiration.

Water Balance Measurements and Instrumentation

P, Precipitation	Water input to the surface	• Automated Surface precipitation meters with load cells
R, Runoff	Lateral drainage at the surface	• Surface erosion flume connected to flowmeter
W, Water Storage	Water stored in the 2-m-thick silt loam	• Neutron moisture probe through vertical access tubes • Automated time domain reflectometry (TDR) probe • Automated ECHO Probes (new in 2002)
D, Drainage	Lateral drainage at the curbed asphalt	• Drainage piped to drainage vaults • Automated Dosing siphons, pressure transducers, tipping bucket • Automated Fluxmeter (new in 2002)
DP, Deep Percolation	Vertical drainage past the asphalt layer	• Neutron moisture probe through horizontal access tubes • Automated pan lysimeter (beneath asphalt) connected to tipping bucket

HANFORD PROTOTYPE BARRIER CROSS SECTION





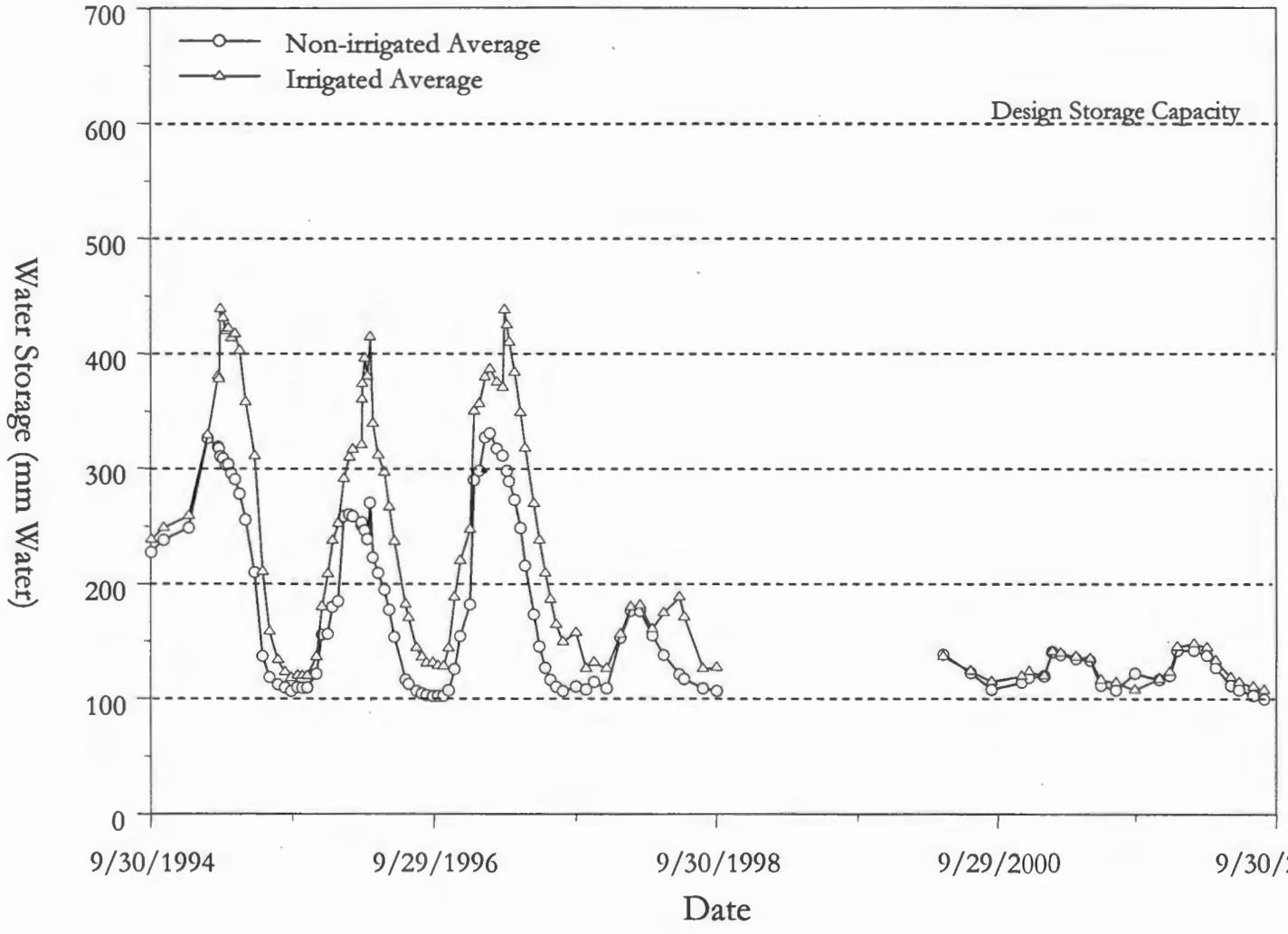
Prototype Hanford Barrier

Prototype Hanford Barrier

Precipitation Measurements (Water Input)

Year	Precipitation (mm)				
	Total	Winter (Dec - Feb)	Spring (Mar - May)	Summer (Jun - Aug)	Autumn (Sep - Nov)
1995	312.674	106.426	83.312	29.972	68.580
1996	309.626	125.984	47.752	5.334	95.758
1997	162.306	138.430	34.544	18.034	57.150
1998	163.830	68.580	27.686	21.844	42.418
1999	95.250	51.562	10.160	24.130	18.796
2000	205.232	57.912	57.912	18.034	56.134
2001	171.701	35.052	42.672	35.560	55.118
2002	NA	48.006	16.256	20.828	NA
Long-Term Average (mm)	172.466	66.040	37.592	24.892	44.704
Long-Term Average (in)	6.8	2.6	1.5	1.0	1.8

Temporal Variation Water Storage - Silt Loam



Lateral Drainage (Diverted By Asphalt Layer)

Treatment		WY 95 – WY 98		WY 2000		WY 2001		WY 2002	
Location	**Plot**	**D (mm)**	**% P**	**D(mm)**	**% P**	**D (mm)**	**% P**	**D (mm)**	**% P**
North	Gravel	$4.24 \cdot 10^{2}$	29.40	$2.75 \cdot 10^{1}$	17.98	16.17	10.41	21.659	28.71
	Soil	$1.89 \cdot 10^{-2}$	0.001	$4.05 \cdot 10^{-4}$	0.00	0.00	0.00	0.00	0.00
	Soil	$2.04 \cdot 10^{-1}$	0.014	$3.58 \cdot 10^{-5}$	0.00	0.00	0.00	0.00	0.00
	Basalt	$4.71 \cdot 10^{2}$	32.70	$7.98 \cdot 10^{0}$	5.23	8.89	5.73	9.906	13.13
South	Gravel	$2.77 \cdot 10^{2}$	29.60	$1.51 \cdot 10^{1}$	9.82	13.78	8.88	10.936	14.50
	Soil	$1.29 \cdot 10^{-3}$	0.00	$3.26 \cdot 10^{-4}$	0.00	0.00	0.00	0.00	0.00
	Soil	$8.94 \cdot 10^{-2}$	0.010	$1.80 \cdot 10^{-4}$	0.00	0.00	0.00	0.00	0.00
	Basalt	$2.00 \cdot 10^{2}$	21.40	$1.02 \cdot 10^{1}$	6.68	9.20	5.93	7.448	9.87

WY = water year.

D = drainage

% P = percent of precipitation

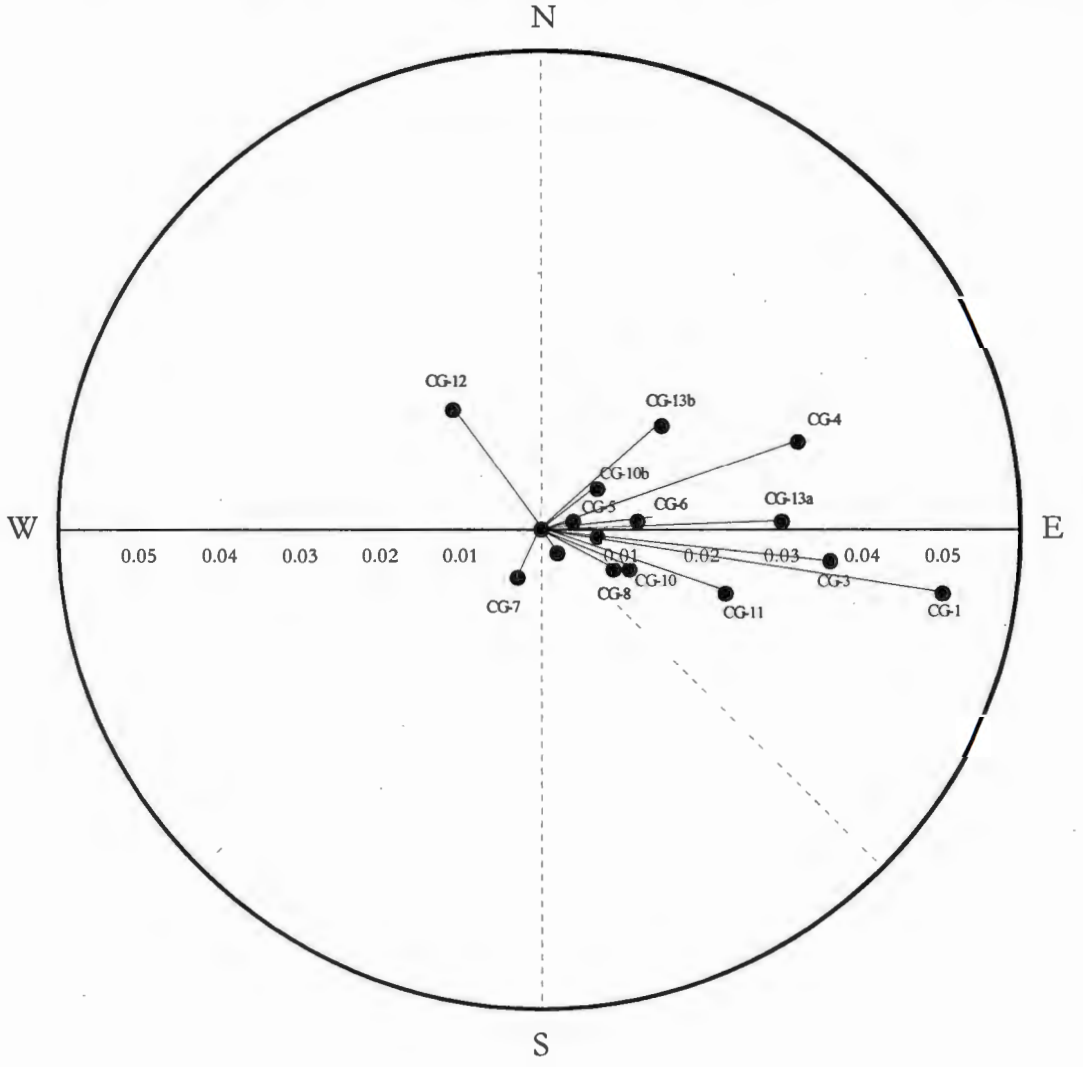
Remaining Water Balance Components

- Surface Runoff
  - Zero runoff in recent years
- Deep Percolation
  - Zero vertical drainage through the barrier

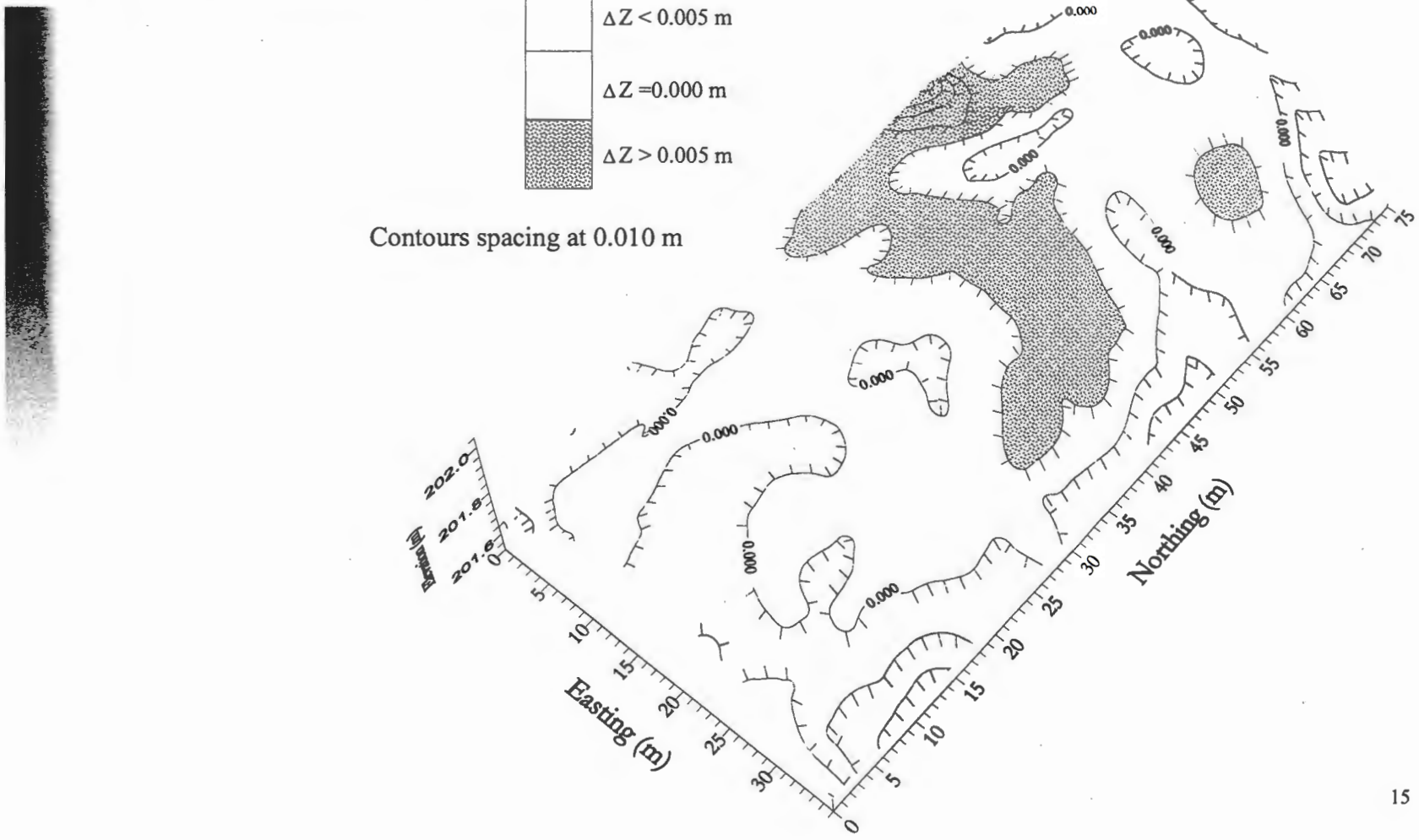
Stability Measurements

- Settlement
  - Survey of 2 vertical settlement rods resting on asphalt layer
- Surface topography
  - Survey of 3 x 3 m grid stakes (338)
- Side slope stability
  - Survey of 15 creep gauges in riprap sideslope

Net Horizontal Creep Gauge Movement (meters) 12/1994 to 8/2002



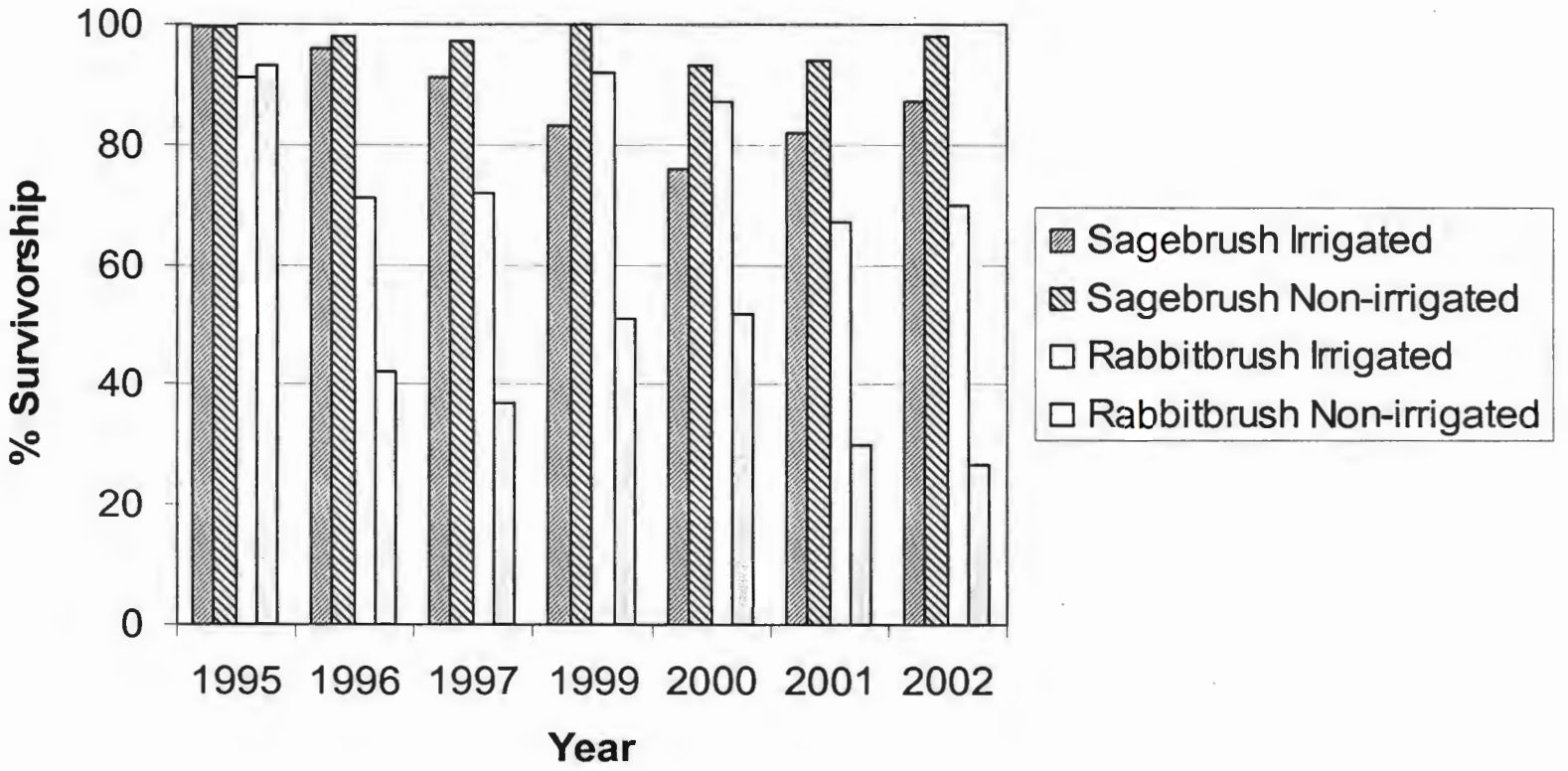
Net Changes in Surface Elevation (ΔZ); 12/1994 to 08/2002



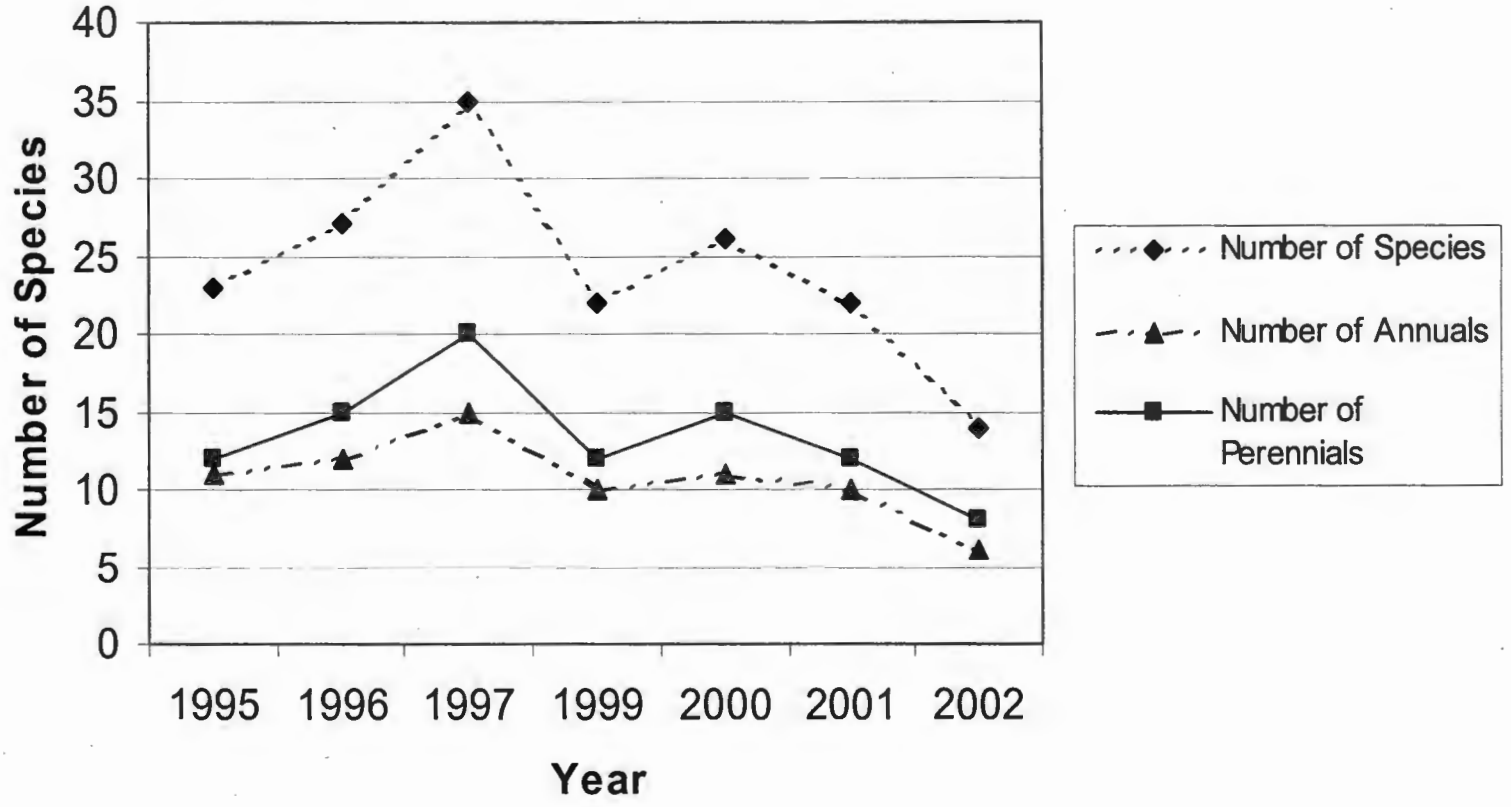
Vegetation and Animal Use Measurements

- Percent cover for grass, shrubs, litter, forbs, bare ground
- Plant species changes
- Shrub height and survivorship
- Evidence of animal activity; primarily burrows

Mean Shrub Survivorship 1995 to 2002



Temporal Variation in Plant Species



Summary of Results

- Hydrologic performance (water balance)
  - Essentially no drainage through upper barrier silt layers
  - No measurable amounts of drainage through the asphalt layer/functional barrier system
  - Drainage does occur at the side slopes
- Barrier stability
  - Barrier sideslopes and surface has remained stable

Summary of Results (continued)

- Plant growth
  - Healthy coverage of native plants
  - Vegetation effectively removes water
- Biointrusion
  - Minimal small mammal burrowing activity with no impact on barrier performance

UNIT MANAGERS' MEETING AGENDA

1200 Jadwin Avenue
July 17, 2003

9 a.m. – 11 a.m. 200 Area Room 1C1

General (10 minutes)
- Outstanding Action Items
- Open for Regulatory Topics or Action Items

U Plant Area Regional Closure (10 minutes)
- Waste Site FFS/PP
- DQO for Confirmatory Sampling and Remedial Design
- Change Request Lead Regulatory Agency
- EE/CA Status

BC Cribs Area Closure (2 minutes)
- Sampling Strategy

GROUNDWATER OPERABLE UNITS

200-BP-5 & 200-PO-1 OUs (2 minutes)
- 200-BP-5 Sample Collection Status
- 200-PO-1 SAP status

200-UP-1 OU (5 minutes)
- Remediation Treatment Status
- RI/FS Data Quality Objectives Process Status
- RI/FS Work Plan Status

200-ZP-1 OU (5 minutes)
- Remediation Treatment Status
- RI/FS Data Quality Objectives Process Status
- RI/FS Work Plan Status

SOURCE OPERABLE UNITS

200-PW-1, 200-PW-3, & 200-PW-6 OUs (10 minutes)
- Remediation Treatment Status

- Monthly Monitoring
- Status Fieldwork Planning & Preparation
- Data Quality Objectives Process Status
- Work Plan Status

200-PW-2 & 200-PW-4 OUs (10 minutes)

- Work Plan Status
- Field Work Status

200-CS-1 OU (2 minutes)

- Required submittals to document Milestone completion

200-CW-5, CW-2, CW-4, & SC-1 OUs (2 minutes)

- Work Plan Status
- RI Report Status

200 Area Ecological Evaluation (2 minutes)

- Status on Revised Draft and Comments
- DQO Status

200-CW-1 & 200-CW-3 OUs (2 minutes)

- FS/PP Status
- Field Visit Review

200-IS-1 & 200-ST-1 (2 minutes)

- RI/FS Work Plan Status

MEETING MINUTES
200 AREA GROUNDWATER AND SOURCE OPERABLE UNITS
UNIT MANAGERS' MEETING -- 200 AREA
July 17, 2003

Topics of Discussion:

1. ***General***

- Outstanding Action Items – Action item number 29 "Schedule a meeting with Ecology and EPA to discuss TW-1&2 FS" was completed July 14, 2003.

- Open For Regulatory Topics or Action Items – Ecology made a number of comments on the TPA Quarterly. A listing of Ecology's Points of Contact was distributed.

2. ***U Plant Area Regional Closure***

- Waste Site FFS/PP – The FFS and PP were delivered to the regulators on June 30, 2003. Comments from the regulators are due to DOE-RL by August 14, 2003.

- DQO For Confirmatory Sampling and Remedial Design – A meeting is scheduled on July 22, 2003, to discuss the DQO. Field sampling will be begin in September with surface sampling. More intrusive sampling will begin in October.

- Change Request Lead Regulatory Agency – Work is proceeding on the change request.

- EE/CA Status – An outline will be ready to go to the regulators in late July 2003. The EE/CA itself won't be ready until early FY 2004.

3. ***BC Cribs Area Closure***

- Sampling Strategy – FH requested a meeting with EPA to discuss the way the work will be done in the BC Cribs Area. FH wants to characterize a trench. It would be a supplement to the TW-1 data. A separate SAP will be submitted. Also, FH stated that work is being coordinated with the tank farms group and the System Assessment Capabilities group due to the interest in technetium-99.

GROUNDWATER OPERABLE UNITS

4. ***200-BP-5 & 200-PO-1 OUs***

- 200-BP-5 Sample Collection Plans – Collection of samples continues north of the 200 East Area.

- 200-PO-1 SAP Status – Comments from Ecology have been received and are being addressed.

5. ***200-UP-1 OU***

- Remediation Treatment Status – The system is operating at 50+ gpm. The system flow rate is between 38 and 53 gpm. There was an unscheduled outage May 26, 2003, and the system was back online on June 2, 2003.

- RI/FS Data Quality Objectives Process Status – The RI/FS DQO is finalized and being distributed.

- RI/FS Work Plan Status – The Work Plan is still a draft and it is expected to be completed soon.

6. ***200-ZP-1 OU***

- Remediation Treatment Status – The average pumping rate was 138 gpm. For the month of April, 2003 the system operated at between 128 and 139 gpm. Extraction well #1 was recently replaced. Extraction well #5 was shut down for 1.5 hours on June 19, 2003. Extraction well #1 was shut down for seven hours on June 20, 2003.

- RI/FS Data Quality Objectives Process Status – There is a meeting scheduled for next week to discuss the RI/FS DQO.

- RI/FS Work Plan Status – Work on the Work Plan started last week.

- DNAPL Investigation – A kick-off meeting was held and three vendors attended. Workshops will be planned. Workshop attendees will be required to sign confidentiality statements.

SOURCE OPERABLE UNITS

7. ***200-PW-1, 200-PW-3, & 200-PW-6 OUs***

- Remediation Treatment Status – No discussion.

- Monthly Monitoring – Results are consistent with past monitoring. A handout was distributed (attached).

- Status Fieldwork Planning & Preparation – Sampling at PFP is scheduled to begin next week.

- Data Quality Objectives Process Status – No discussion.

- Work Plan Status – No discussion.

8. ***200-PW-2 & 200-PW-4 OUs***

- Work Plan Status – Ecology stated that conditional approval will probably be given with a caveat that additional sampling may be necessary depending on characterization. Comment responses have been revised. FH would like to meet to go through a mark-up of the Work Plan.

- Field Work Status – A handout detailing recent field work activities was distributed.

9. ***200-CS-1 OU***

- Required Submittals to Document Milestone Completion – Completion criteria was received from Ecology.

10. ***200-CW-5, CW-2, CW-4, & SC-1 OUs***

- Work Plan Status – The Work Plan is on hold due to the Ecological Evaluation.
- RI Report Status – Comments from the Oregon Office of Energy were received.

11. ***200 Area Ecological Evaluation***

- Status on Revised Draft and Comments – FH is working through comments received and obtaining clarification on some of the comments.
- DQO Status – A meeting to discuss the DQO was held during the second week of July 2003.

12. ***200-CW-1 & 200-CW-3 OUs***

- FS/PP Status – FH has received and is working through comments from the regulators. Ecology stated that technical comments will be provided to FH next week.
- Field Visit Review – Ecology stated that the field visit was very good. Ecology requested that a visit to the BC Area in August be arranged.

13. ***200-IS-1 & 200-ST-1 OUs***

- RI/FS Work Plan Status – FH stated that upon resolution of the Ecological information work on the Work Plan will begin.

Attachment 7

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
29	Schedule a meeting with Ecology and EPA to discuss TW-1/2 FS	DOE-RL	EPA/Ecology	06/18/03			7/14/2003	

Comparison of Maximum Carbon Tetrachloride Rebound Concentrations
Monitored at 200-PW-1 Soil Vapor Extraction Sites
FY 1997 - FY 2003

200-PW-1 (200-ZP-2) Location (Well or Probe) /feet bgs	Site	November 1996 - July 1997 Maximum Rebound Carbon Tetrachloride (ppmv)	months* of rebound	October 1997 - September 1998 Maximum Rebound Carbon Tetrachloride (ppmv)	months* of rebound	July 1998 - September 1999 Maximum Rebound Carbon Tetrachloride (ppmv)	months* of rebound	July 1999 - June 2001 Maximum Rebound Carbon Tetrachloride (ppmv)	months* of rebound	July 2001 - June 2002 Maximum Rebound Carbon Tetrachloride (ppmv)	months* of rebound	July 2002 - June 2003 Maximum Rebound Carbon Tetrachloride (ppmv)	months* of rebound
79-03/ 5 ft	Z-18	0	8	0	3	0	12						
79-06/ 5 ft	Z-1A	not measured		not measured		1.4	12						
79-11/ 5 ft	Z-1A	0	8	0	6	2.9	12						
86-05/ 5 ft	Z-9	not measured		not measured		0	3						
86-05-01/ 5 ft	Z-9	not measured		not measured		0	3						
86-06/ 5 ft	Z-9	1.3	8	0	9	1.9	6						
87-05/ 5 ft	Z-1A	not measured		0	3	1.0	12						
87-09/ 5 ft	Z-1A	not measured		1.5	3	2.6	12						
94-02/ 5 ft	Z-9	0	8	not measured		1.4	3						
95-11/ 5 ft	Z-9	0	8	2.1	9	2.5	6						
95-12/ 5 ft	Z-9	1.1	8	1.5	9	1.3	6						
95-14/ 5 ft	Z-9	not measured		not measured		0	3						
CPT-13A/ 9 ft	Z-1A	not measured		0	6	1.0	12						
CPT-16/ 10 ft	Z-9	not measured		0	9	1.5	6						
CPT-17/ 10 ft	Z-9	not measured		4.2	9	5.1	6	6.6	24	3.2	6	6.6	12
CPT-18/ 15 ft	Z-9	not measured		6.5	9	5.0	6	5.2	24	1.4	6	2.0	12
CPT-4A/ 25 ft	Z-1A	not measured		not measured		not measured		3.5	0	3.4	10		
CPT-4E/ 25 ft	Z-1A	not measured		not measured		not measured		not measured		2.6	12	1.3	0
CPT-16/ 25 ft	Z-9	not measured		not measured		not measured		1.8	24	1.1	6	1.2	12
CPT-31/25 ft	Z-1A	not measured		0	6	0	12						
CPT-32/ 25 ft	Z-1A	not measured		9.1	6	10	12	16.5	18	13.0	12	8.3	6
CPT-30/ 28 ft	Z-18	not measured		not measured		3.2	12	1.4	18	0	12	0	6
CPT-13A/ 30 ft	Z-1A	2.2	8	not measured		not measured		3.6	18	2.6	12	1.3	0
CPT-7A/ 32 ft	Z-1A	not measured		2.3	6	5.4	12	6.2	18	5.6	12	1.7	0
CPT-27/ 33 ft	Z-9	1.2	8	not measured		not measured		2.6	24	1.5	6	1.7	12
CPT-1A/ 35 ft	Z-12	2.0	8	1.4	3	3.0	12	7.7	18	11.3	12	15.1	0
CPT-28/ 40 ft	Z-9	40.1	8							56.5	6		
CPT-33/ 40 ft	Z-1A	not measured		2.0	3	2.6	12			2.3	12		
CPT-34/ 40 ft	Z-18	2.3	8	not measured		1.7	12	1.9	0	2.2	12	1.3	0
CPT-21A/ 45 ft	Z-9	65.6	8	52.7	9	57	3	127	24	133	6	90.0	12
W15-220ST/ 52 ft	Z-9	2	8	not measured		1.6	3	2.5	24			1.5	1
CPT-28/ 60 ft	Z-9	not measured		1.5	0	3.7	3						
CPT-9A/ 60 ft	Z-9	45.5	8	41.1	0	44	3	68	24	45.3	6	35.9	12
CPT-16/ 65 ft	Z-9	4.6	8	not measured		not measured		not measured		not measured		4.2	12
CPT-1A/ 68 ft	Z-12	not measured		not measured		not measured		not measured		5.5	12		
CPT-30/ 68 ft	Z-18	1.7	8	not measured		3.0	12						
CPT-32/ 70 ft	Z-1A	7.4	8							7.7	12		
CPT-13A/ 70 ft	Z-1A	5.2	8	not measured		5.6	12						
CPT-24/70 ft	Z-9	not measured		3.2	9	3.6	3					4.1	12
W15-219SST/ 70 ft	Z-9	14.6	8	not measured		7.6	3	7.8	24			1.9	1
CPT-18/ 75 ft	Z-9	not measured		not measured		not measured		18	24			3.2	12
CPT-4A/ 75 ft	Z-1A	not measured		not measured		not measured		not measured		7.1	3		
CPT-31/ 76 ft	Z-1A	4.0	8	not measured		4.2	12						
CPT-33/ 80 ft	Z-1A	5.8	8	not measured		9.2	12						
W15-82/ 83 ft	Z-9	28.9	8	5.5	9	46	6	55	24	66.7	6	85.8	12
CPT-21A/ 86 ft	Z-9	221	8	206	9	148	6	195	24	186	6	206	12
CPT-34/ 86 ft	Z-18	36.3	8	5.9	3	0	12						
W15-95U/ 86 ft	Z-9	not measured		15.3	9	39	6	43	21				
W15-218SST/ 86 ft	Z-9	not measured		not measured		0	3					1.6	2
CPT-28/ 87 ft	Z-9	280	8	230	9	203	6	224	24	229	6	235	12
CPT-4B/ 90 ft	Z-1A									3.2	10		
CPT-1A/ 91 ft	Z-18	3.9	8	not measured		4.2	12			10.7	10		
CPT-4A/ 91 ft	Z-1A	not measured		7.7	3	14	12			7.5	2		
CPT-9A/ 91 ft	Z-9	103	8	34.5	9	72	3			74.3	6		
W15-85/ 91 ft	Z-9	not measured		not measured		not measured		51	24				
W18-252SST/ 100	Z-1A	38.2	8	17.8	3	24	12						
W18-152/ 101 ft	Z-12	46.8	8	11.1	3	33	12	25	18	25.7	12	20.7	6
CPT-4E/ 103 ft	Z-1A	23.2	8	not measured		not measured		not measured		16.1	12		
W18-167/ 106 ft	Z-1A	323	8	79.7	3	228	12	248	18	297	12	243	6
W18-165/ 109 ft	Z-1A	not measured		not measured		not measured		not measured		278	12	328	6
W15-217/ 114 ft	Z-9	797	8	630	9	561	6	442	24	93.6	6	409	12
CPT-24/ 118 ft	Z-9	44.6	8	37.7	9	37	6	35	24			27.8	12
W15-220SST/ 118	Z-9	21.9	8	not measured		36	3	34	24			27.5	12
W18-158L/ 120 ft	Z-1A	not measured		143	3	492	12	284	18	163	3		
W15-219SST/ 130	Z-9	298	8	not measured		47	3	54	24			23.1	1
W18-249/ 130 ft	Z-18	206	8	20.4	3	215	12	176	18	196	12	46.3	6
W18-248/ 131 ft	Z-1A	288	8	86.3	3	177	12	214	18	306	12	182	6
W15-95L/ 144 ft	Z-9	not measured		not measured		not measured		not measured		31.8	6	25.1	12
W15-219SST/ 155	Z-9	59.6	8	not measured		24	3	44	24			6.8	1
W15-220L/ 163 ft	Z-9											-----	12
W15-219L/ 175 ft	Z-9											-----	12
W15-9L/ 176 ft	Z-9	18.3	8	15.0	9	15	6	20	21	16.9	6	11.6	12
W15-84L/ 180 ft	Z-9	not measured		not measured		not measured		not measured		not measured		25.9	12
W15-6L/ 182 ft	Z-9	22.6	8	17.8	9	1.3	6						
W15-220SST/ 185	Z-9	14.5	8	not measured		13	3	15	24			-----	1
W18-7/ 197 ft	Z-1A	28.5	8	17.3	3	29	12						
W18-12/ 198 ft	Z-18	not measured		3.81	3	19	12						
W18-6L/ 208 ft	Z-1A	36	8	31.3	6	15	12						

* - based on location (Z-1A/18/12 or Z-9) of monitoring point; specific points may be beyond SVE zone of influence during particular operating configurations
- Z-18 and Z-12 wells off-line Oct 96 - Apr 98
- CPT-1A, CPT-9A, and possibly CPT-7A appeared to be beyond SVE zone of influence in Oct 96 based on differential pressure (BHI-01105, p. 6-1)
- CPT-9A, CPT-21A, CPT-28 beyond SVE zone of influence in May 96 based on CCl4 concentrations and airflow modeling based on measured vacuums (BHI-01105, p. 6-1)

Carbon Tetrachloride Rebound Concentrations
Monitored at 200-PW-1 Soil Vapor Extraction Sites
July 2002 - June 2003

200-PW-1 (200-ZP-2) Location (Well or Probe) /feet bgs	Site	07/30/2002 CCl4 (ppmv)	08/26/2002 CCl4 (ppmv)	10/04/2002 CCl4 (ppmv)	10/30/2002 CCl4 (ppmv)	11/27/2002 CCl4 (ppmv)	12/31/2002 CCl4 (ppmv)	01/30/2003 CCl4 (ppmv)	02/21/2003 CCl4 (ppmv)	03/20/2003 CCl4 (ppmv)	05/01/2003 CCl4 (ppmv)	05/22/2003 CCl4 (ppmv)	07/01/2003 CCl4 (ppmv)
CPT-17/ 10 ft	Z-9	1.6	1.4	2.0	1.6	1.1	1.0	1.3	1.5	3.1	5.3	6.6	4.5
CPT-18/ 15 ft	Z-9	0	0	1.2	0	0	0	0	0	1.7	0	2.0	0
CPT-4E/ 25 ft (c)	Z-1A	1.3	0	0							1.3	0	0
CPT-16/ 25 ft	Z-9	0	0	0	0	0	0	0	0	0	1.0	0	1.2
CPT-32/ 25 ft	Z-1A				0	0	2.2	4.1	6.3	8.3			
CPT-30/ 28 ft	Z-1A				0	0	0	0	0	0			
CPT-13A/ 30 ft	Z-1A	1.4	1.3	0	0	0	0	0	0	1.6	1.3	1.3	0
CPT-7A/ 32 ft	Z-1A	2.7	1.2	1.4	1.1	1.7	2.0	2.0	2.1	3.9	1.7	1.7	1.3
CPT-27/ 33 ft	Z-9	0	0	0	0	0	0	0	0	1.1	1.0	1.7	1.1
CPT-1A/ 35 ft	Z-12	4.1	4.2	3.4	3.5	6.8	1.9	5.3	5.2	7.2	5.1	7.1	15.1
CPT-34/ 40 ft	Z-18	1.6	1.2	1.2							1.3	1.3	1.0
CPT-21A/ 45 ft	Z-9	60.2	31.6	68.0	61.9	35.7	40.8	45.2	30.4	73.7	72.8	90.0	75.1
W15-220SST/ 52 ft	Z-9	1.5											
CPT-9A/ 60 ft	Z-9	35.1	8.4	27.8	22.2	12.5	7.4	14.8	13.8	35.9	30.1	33.2	30.1
CPT-16/ 65 ft (d)	Z-9		0	3.1							4.2	3.9	4.0
CPT-24/ 70 ft (e)	Z-9		1.5	3.3							3.3	4.1	3.5
W15-219SST/ 70 ft (b)	Z-9	1.9											
CPT-18/ 75 ft	Z-9	0	0	1.5							2.6	3.1	3.2
W15-82/ 83 ft	Z-9	85.8	5.6	58.8	35.6	14.7	12.1	6.5	15.4	36.0	50.0	56.2	49.2
CPT-21A/ 86 ft	Z-9	159	55	155	95.0	55.3	46.4	66.9	44.6	140	199	206	153
W15-218SST/ 86 ft (f)	Z-9		1.6	---- (h)									
CPT-28/ 87 ft	Z-9	208	54.2	169	130	51.6	48.8	20.3	87.6	139	178	235	150
W18-152/ 101 ft	Z-12				7.5	8.8	10.1	12.6	12.0	20.7			
W18-167/ 106 ft	Z-1A				243	96	72.7	84.1	76.8	218			
W18-165/ 109 ft	Z-1A				328	265	65.1	82.6	71.0	216			
W15-217/ 114 ft	Z-9	82.1	34.0	214	38.7	80.0	264	324	246	267	74.3	409	89.7
CPT-24/ 118 ft	Z-9	27.7	4.2	16.3							3.0	27.8	12.1
W15-220SST/ 118 ft	Z-9	27.5	1.3	21.3							17.7	26.7	25.2
W15-219SST/ 130 ft (b)	Z-9	23.1											
W18-249/ 130 ft	Z-18				11.8	27.6	34.5	29.4	39.3	46.3			
W18-248/ 131 ft (l)	Z-1A				27.0	81.5	68.2	73.9	182	165			
W15-95L/ 144 ft	Z-9	13.3	0	16.1	18.5	9.7	9.8	12.6	11.9	21.7	17.2	18.8	25.1
W15-219SST/ 155 ft (b)	Z-9	6.8											
W15-220L/ 163 ft	Z-9										---- (h)	---- (h)	---- (h)
W15-219L/ 175 ft	Z-9										---- (h)	---- (h)	---- (h)
W15-9L/ 176 ft	Z-9				5.1	2.9	5.2	5.8	5.1	10.5	8.2	11.6	10.3
W15-84L/ 180 ft (g)			5.8	13.1	2.8	7.2	10.6	13.0	10.9	18.8	8.3	25.9	17.9
W15-220SST/ 185 ft	Z-9	---- (a)											

(a) Unable to sample. Sample port appears to be plugged.
(b) Sampling extremely slow.
(c) Substitute for CPT-4A/ 25 ft
(d) Substitute for W15-220SST/ 52 ft
(e) Substitute for W15-219SST/ 70 ft
(f) Substitute for W15-219SST/ 130 ft
(g) Substitute for W15-219SST/ 155 ft
(h) Unable to sample.
(l) 10/30/02: sample tubing cracked; sample may have been diluted. Tubing repaired 10/31/02.

UNIT MANAGERS' MEETING AGENDA

1200 Jadwin Avenue
August 21, 2003

9 a.m. – 11 a.m. 200 Area Room 1C1

General (5 minutes)

- Outstanding Action Items
- Open for Regulatory Topics or Action Items

U Plant Area Regional Closure (10 minutes)

- Waste Site FFS/PP
- DQO/SAP for Confirmatory Sampling and Remedial Design
- Field Planning Efforts
- Change Request Lead Regulatory Agency
- EE/CA Status

BC Cribs Area Closure (5 minutes)

- Status of SAP
- Status of Control Area Activities

GROUNDWATER OPERABLE UNITS

General (5 minutes)

- Update on Well Decommissioning

200-BP-5 & 200-PO-1 OUs (2 minutes)

- 200-BP-5 Sample Collection Status
- 200-PO-1 SAP status

200-UP-1 OU (5 minutes)

- Remediation Treatment Status
- RI/FS Data Quality Objectives Process Status
- RI/FS Work Plan Status

200-ZP-1 OU (5 minutes)

- Remediation Treatment Status
- RI/FS Data Quality Objectives Process Status
- RI/FS Work Plan Status

SOURCE OPERABLE UNITS

200-PW-1, 200-PW-3, & 200-PW-6 OUs (10 minutes)

- Remediation Treatment Status
- Monthly Monitoring
- Status Fieldwork Planning & Preparation
- Data Quality Objectives Process Status
- Work Plan Status

200-PW-2 & 200-PW-4 OUs (10 minutes)

- Work Plan Status
- Field Work Status
- Status of EPA and Ecology input to Work Plans on Eco

200-CS-1 OU (2 minutes)

- Status of submittals to document Milestone completion

200-CW-5, CW-2, CW-4, & SC-1 OUs (2 minutes)

- Work Plan Status
- RI Report Status

200 Area Ecological Evaluation (5 minutes)

- Status on Revision 0 and Draft B Comment Responses
- DQO Status

200-CW-1 & 200-CW-3 OUs (2 minutes)

- FS/PP Comment Status
- FS/PP Schedule

200-IS-1 & 200-ST-1 (2 minutes)

- RI/FS Work Plan Approval Status

200-TW-1, 200-TW-2, & 200-PW-5 (2 minutes)

- RI Report Approval Status

200-UR-1 (2 minutes)

- RI/FS Work Plan Status

Groundwater and Source Operable Units Unit Managers' Meeting
Official Attendance Record – 200 Area
August 21, 2003

Please print clearly and use black ink

PRINTED NAME	ORGANIZATION	O.U. ROLE	TELEPHONE
L. Craig Swanson	GPP/Geosciences	Technical Support	373-3807
Ron Jackson	FH	U Plant	376-3595
Jane V Borghese	FH	GPP	373-3804
Arlene Tortoso	DOE	GW OU PM	373-9631
Virginia Rohay	FH	200-PW-1	373-3803
Mark Byrnes	FH	Task Lead	373-3996
Evan Oresel	PNNL	Groundwater	376-8341
Jerry Pauri	FH	Task Lead	376-4154
Dennis Faulk	EPA		
John Price	Ecology	Proj. Mgr	736-3029
Brenda K. Jentzen	Ecology	200 PW-2,4 UPlant 200 TW1, TW2 Pipelines	736-5707
Mary Todd-Robertson	FH	200 Area Waste Site Rem. Action	373-3920
Bryan L. Foley	DOE-RL	200 Area Waste Site Rem Action	376-7087
Larry Hulstrom	FH	200-PW-2/4	373-3928
Roy Bauer	FH	200-CW-5 200-UR-1	373-3931

Groundwater and Source Operable Units Unit Managers' Meeting
Official Attendance Record – 200 Area
August 21, 2003

Please print clearly and use black ink

PRINTED NAME	ORGANIZATION	O.U. ROLE	TELEPHONE
John Winterhalder	FH/GPP	ECO	372-8144
Dave Erb	FH/GPP	200-W GW.	373-4457
Mark Bowker	FH/GPP	BC info...	6-0002
Chris Clearlock	CHG	CS-1	372-9638
Craig Cameron	EPA	Manager	376-8665

MEETING MINUTES
200 AREA GROUNDWATER AND SOURCE OPERABLE UNITS
UNIT MANAGERS' MEETING -- 200 AREA
August 21, 2003

Topics of Discussion:

1. ***General***

- Outstanding Action Items (attached)

- Open For Regulatory Topics or Action Items – Ecology requested that the 200-SW-2 operable unit be added to future Unit Managers' Meeting agendas.

  DOE stated that Arlene Tortoso will be the DOE representative for the 200-BP-5 and 200-PO-1 operable units.

2. ***U Plant Area Regional Closure***

- Waste Site FFS/PP – Comments from Ecology were received. FH asked if EPA intended to send specific comments and EPA stated that comments will not be sent. When the Proposed Plan is final it will go to the regional level.

- DQO/SAP For Confirmatory Sampling and Remedial Design – The DQO will be issued within the next two weeks. The SAP will be sent in early September and the Waste Control Plan will follow.

- Field Planning Efforts – A big effort is being made to award the borehole contract before September 30, 2003.

- Change Request Lead Regulatory Agency – The regulators requested that one package be prepared for the lead change request.

- EE/CA Status – Based on the original DQO, it is necessary to split apart the waste sites DQO/SAP from the pipeline DQO/SAP based on discussions between DOE and Regulator Agencies.

3. ***BC Cribs Area Closure***

- Status of SAP – The SAP is in the internal approval process and will be delivered to DOE next week. Ecology stated that more focus is needed in this SAP.

- Status Control Area Activities – In an effort to collect cursory information to use as a guide for future sampling, some scoping samples will be taken.

GROUNDWATER OPERABLE UNITS

4. *General*

- Update on Well Decommissioning – The target is to decommission approximately 360 wells over the next three years. Fifty-seven of the wells are in the U Plant and PFP areas. Decommissioning has been completed on 22 of the 57 wells. There are two crews working on this. Fire hazard has been an issue of concern. The wells are coded (Red, Yellow and Green) according to vegetation. The wells that have been coded Red will not be worked on until the fire hazard diminishes and the schedule has been adjusted accordingly. The vegetation on the wells coded Yellow has been cleared out. The goal is to decommission 180 wells by the end of the year. The issue of determining which of the 2000 wells on site need long-term stewardship needs to be addressed by DOE and the regulators.

5. *200-BP-5 & 200-PO-1 OUs*

- 200-BP-5 Sample Collection Plans – Samples have been collected from wells at the Gable Mountain Pond area.

- 200-PO-1 SAP Status – There is nothing new to report on the SAP. PNNL is checking the status.

6. *200-UP-1 OU*

- Remediation Treatment Status – The average pumping rate for FY 2003 through August 10, 2003, was 47 gpm. For the month of July, the system operated at between 48 and 54 gpm. Extraction well 299-W19-36 will be hooked up in September and used as a backup extraction well. The system was shutdown by ETF for 13 hours on July 6, 2003. The system shutdown and was restarted on July 8 after a power outage. The system was also shutdown on July 9 and August 6, 2003 to allow an ERDF leachate transfer. The system run time was 88.2% through August 10, 2003, 96.5% year to date, and 92.5% from system inception to date. A handout was distributed. (Attached)

- RI/FS Data Quality Objectives Process Status – The DQO was transmitted last week.

- RI/FS Work Plan Status – The draft will be released early next week.

7. *200-ZP-1 OU*

- Remediation Treatment Status – The average pumping rate for FY 2003 through August 10, 2003, was 135 gpm. For the month of July, the system operated at between 107 and 133 gpm. A scheduled power outage occurred on July 3, 2003. The system was restarted on July 7. Extraction well #1 was shutdown several times to replace a failed pump, and due to thermal overload. Extraction well #5 was shutdown twice due to an instrumentation problem and low water levels. A GAC change-out occurred on July 31, 2003. Replacement extraction well #1 will be

hooked up in early FY 2004. Replacement extraction well #4 will be drilled in early FY 2004. The system run time was 90.3% through August 10, 2003, 94.5% year to date, and 92.0% from system inception to date. A handout was distributed. (Attached)

- RI/FS Data Quality Objectives Process Status – The DQO supporting the commencement of the CERCLA RI/FS will be released for DOE-RL review next week.

- RI/FS Work Plan Status – The internal draft will be completed in the next few weeks.

- Z-9 DNAPL Well – The SAP will be ready for informal copy distribution next week. Approval is expected soon thereafter. The SAP is for the one vertical well.

SOURCE OPERABLE UNITS

8. *200-PW-1, 200-PW-3, & 200-PW-6 OUs*

- Remediation Treatment Status – The average air flow rate for FY 2003 through August 10, 2003, was 409 CFM. For the month of July through August 10, 2003, the system operated at between 403 and 416 CFM. The system shutdown on July 3, 2003 due to an electrical outage, and was turned back on July 7. The system was also shutdown for four hours on July 24, 2003 for maintenance. The system run time was 91.2% through August 10, 2003, 85.0% FY 2003 year-to-date, and 95.0% from system inception to date. The passive system remains operational.

- Monthly Monitoring – Results are consistent with past monitoring. A handout was distributed (attached).

- Status Fieldwork Planning & Preparation – Soil vapor samples are being collected from 17 locations at PFP. Use of the guzzler to ensure that each sampling location has no undetected subsurface utilities is complete. No contamination was detected during the guzzler work. As of August 20, 2003, the GeoProbe has been used at five of the 17 locations to collect samples.

  The Step II dispersed carbon tetrachloride plume and representative sites field work will be done in FY 2004.

- Data Quality Objectives Process Status – The Step II dispersed carbon tetrachloride DQO report is being prepared. A briefing for EPA will be scheduled within the next few weeks.

- Work Plan Status – The Revision 0 working draft should be complete by the end of September. A workshop will be scheduled in October, 2003 to review the changes made to the Work Plan.

9. *200-PW-2 & 200-PW-4 OUs*

- Work Plan Status – DOE-RL stated that responses to Ecology's email will be sent by the end of the day.

- Field Work Status – Drilling is ongoing at A-36-B. Plans are to drill to a depth of 231'. Maximum dose readings are 90 mr at 33' below the surface; ammonia is measuring 44 ppm. After drilling is complete at A-36-B, drilling will begin at A-10, starting at a depth of 65'. At the 207-A South Retention Basins, a guzzler was used to remove sediments. The concrete core will be removed and samples will be taken out of three holes.

- Status of EPA and Ecology Input to Work Plans on Eco – DOE-RL proposed that Ecology provide the language for the Ecological Assessment that is to be included in the Work Plans. Ecology accepted the action to provide language to FH.

10. ***200-CS-1 OU***

- Status of Submittals to Document Milestone Completion – The field work is complete. The Summary Report is being finalized and will be submitted to DOE-RL in early September, 2003.

11. ***200-CW-5, CW-2, CW-4, & SC-1 OUs***

- Work Plan Status – The Work Plan is on hold pending receipt of the updated information on the Ecological issues.

- RI Report Status – Comments received from Oregon and EPA have been incorporated and the report is in editing.

12. ***200 Area Ecological Evaluation***

- Status on Revision 0 and Draft B Comment Responses – Comment responses are being prepared. Additional field work is being done and tours are being conducted. The schedule is not definite yet.

- DQO Status – The DQO is in the beginning stages. Decision-maker interviews are being conducted.

13. ***200-CW-1 & 200-CW-3 OUs***

- FS/PP Comment Status – DOE-RL stated that the concern on this document is the receipt of comments. There is critical information needed to proceed with the document. There are gaps that need to be closed regarding natural attenuation versus remediation and the 160 year industrial usage question. DOE-RL stated that the outstanding comments need to be resolved.

- FS/PP Schedule – No discussion.

14. ***200-IS-1 & 200-ST-1 OUs***

- RI/FS Work Plan Approval Status – Rev. 0 was submitted and Ecology requested an extension. Ecology stated that there is not enough detail in Appendix D. A meeting will be scheduled to resolve the issues.

15. *200-TW-1, 200-TW-2, & 200-PW-5*

- RI Report Approval Status – Comments have not been received. Issues associated with approval need to be resolved. A working session is scheduled for next week. EPA and Ecology agreed that comments will be provided or the report will be approved.

16. *200-UR-1*

- RI/FS Work Plan Status – DOE-RL management is meeting to discuss 200-UR-1. The recommendation is to continue with the work plan to meet the milestone. An attempt to explain how some of the waste sites could move into remediation will be made. There is a potential that the milestone will be moved because of the complexities.

Attachment 8

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
30	Add 200-SW-2 to UMM agenda	FH		08/21/03				
31	200-PW-2 Work Plans - Ecology to provide text to FH on Ecological Evaluations	Ecology	FH	08/21/03				
32	200-TW-1 RI Report - EPA and Ecology to provide comments or approve the 200-TW-1 RI Report	EPA & Ecology	FH	8/21/03				

200 Area UMM – August 2003

200-UP-1:

- Average Pumping Rate for FY03 through August 10: 47 gpm
- For the month of July through August 10, the system operated at between 48 and 54 gpm.
- A third extraction well 299-W19-36 will be hooked up in September and will be used as a backup extraction well
- The system was shutdown by ETF for 13 hours on July 6
- The system shutdown and was restarted on July 8 after a power outage
- The system was shutdown on July 9 and August 6 to allow an ERDF leachate transfer

- System Run Time
  - Through August 10, 2003 88.2%
  - FY2003 (Year to date) 96.5%
  - System Inception to date 92.5%

- The DOE/Ecology Draft RI/FS Work Plan will be released early next week.

- Well decommissioning status

200-ZP-1:

- Average Pumping Rate for FY03 through August 10: 135 gpm
- For the month of July through August 10, the system operated at between 107 and 133 gpm.
- A scheduled power outage occurred on July 3
- The system was restarted July 7
- Extraction well #1 was shutdown several times during this reporting period to replace a failed pump, and due to thermal overload
- Extraction well #5 was shutdown twice during this reporting period due to an instrumentation problem and due to low water level
- A GAC changeout occurred on July 31
- Replacement Extraction Well #1 will be hooked up in early FY04
- Replacement Extraction Well #4 will be drilled in early FY04

- System Run Time
  - Through August 10, 2003 90.3%
  - FY2003 (Year to date) 94.5%
  - System Inception to date 92.0%

- The DQO supporting the commencement of the CERCLA RI/FS will be released for DOE-RL review next week.

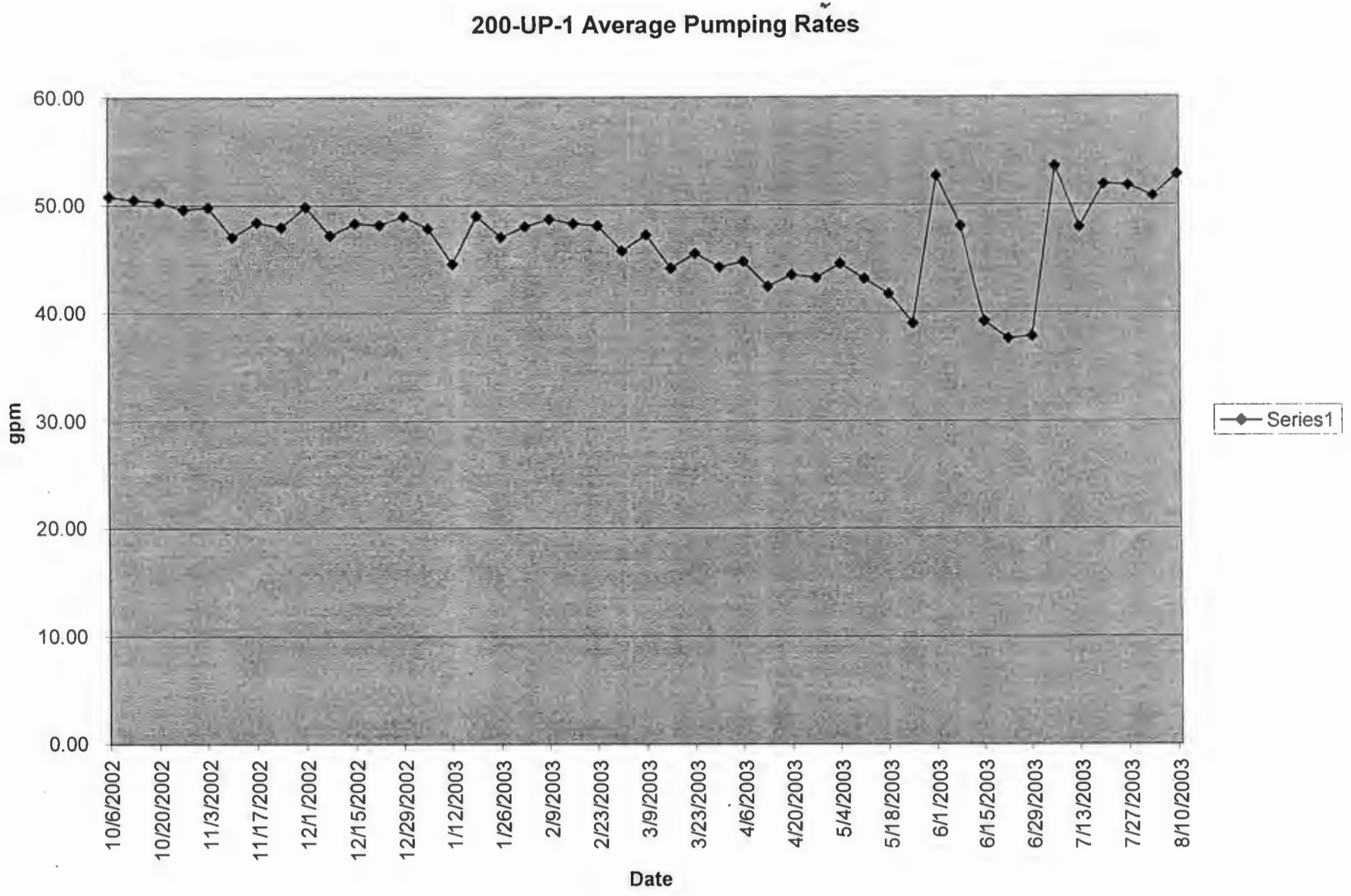
- The internal draft RI/FS Work Plan will be completed in the next few weeks.

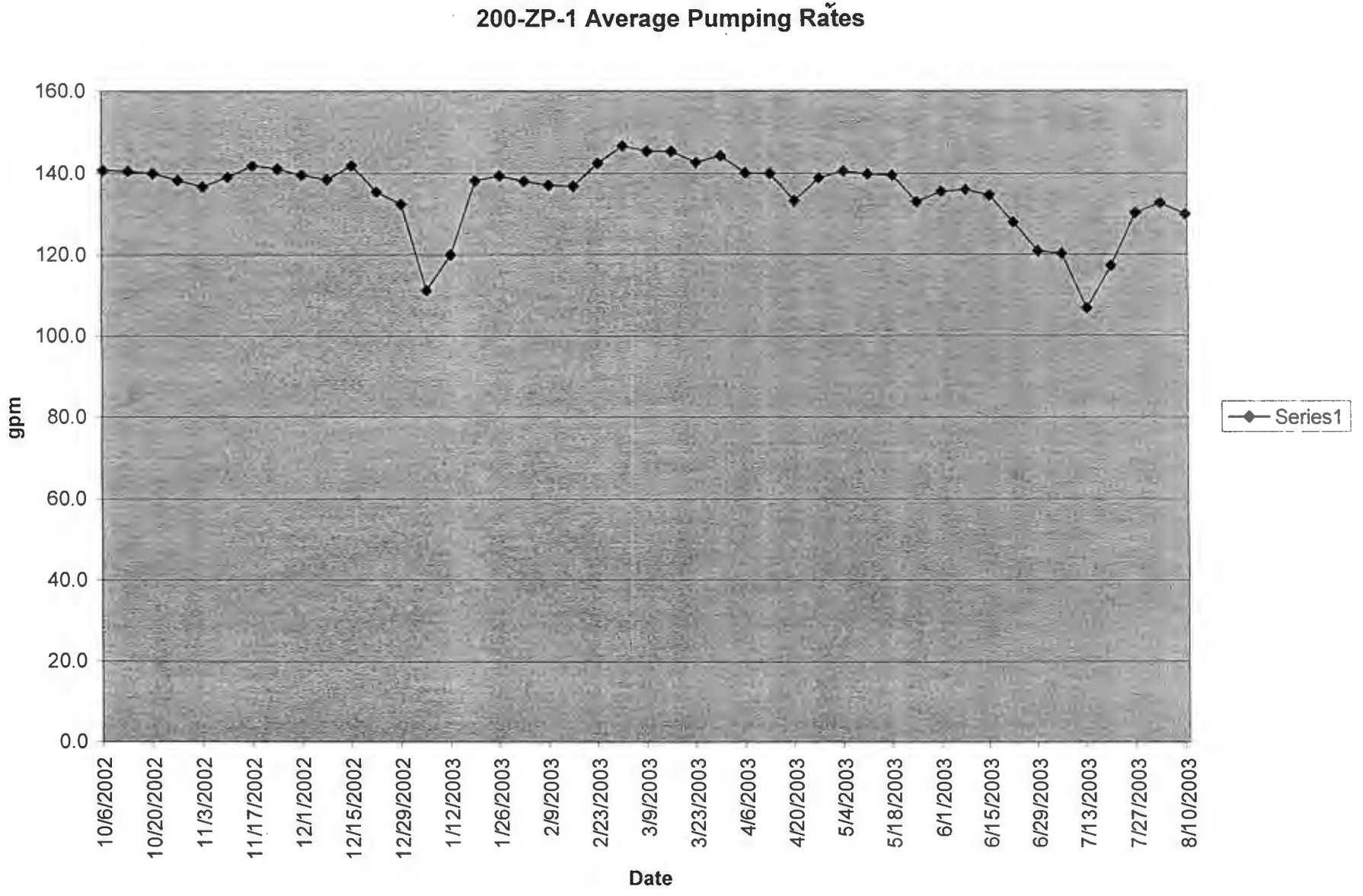
200-PW-1 (200-ZP-2):

- Average Air Flow Rate for FY03 through August 10: 409 CFM
- For the month of July through August 10, the system operated at between 403 and 416 CFM.
- The system shutdown on July 3 due to an electrical outage, and was turned back on July 7
- System was shutdown for 4 hours on July 24 for maintenance.

- System Run Time
  - Through August 10, 2003 91.2%
  - FY2003 (Year to date) 85.0%
  - System Inception to date 95.0%

- The passive system remains operational.


200-UP-1 Average Pumping Rates
60.00
50.00
40.00
30.00
20.00
10.00
0.00
gpm
10/6/2002
10/20/2002
11/3/2002
11/17/2002
12/1/2002
12/15/2002
12/29/2002
1/12/2003
1/26/2003
2/9/2003
2/23/2003
3/9/2003
3/23/2003
4/6/2003
4/20/2003
5/4/2003
5/18/2003
6/1/2003
6/15/2003
6/29/2003
7/13/2003
7/27/2003
8/10/2003
Date
Series1


200-ZP-1 Average Pumping Rates
160.0
140.0
120.0
100.0
80.0
60.0
40.0
20.0
0.0
gpm
10/6/2002
10/20/2002
11/3/2002
11/17/2002
12/1/2002
12/15/2002
12/29/2002
1/12/2003
1/26/2003
2/9/2003
2/23/2003
3/9/2003
3/23/2003
4/6/2003
4/20/2003
5/4/2003
5/18/2003
6/1/2003
6/15/2003
6/29/2003
7/13/2003
7/27/2003
8/10/2003
Date
Series1

Comparison of Maximum Carbon Tetrachloride Rebound Concentrations Monitored at 200-PW-1 Soil Vapor Extraction Sites FY 1997 - FY 2003

200-PW-1		November 1996 -		October 1997 -		July 1998 -		July 1999 -		July 2001 -		July 2002 -	
(200-ZP-2)		July 1997		September 1998		September 1999		June 2001		June 2002		July 2003	
Location	Site	Maximum Rebound	months*	Maximum Rebound	months*	Maximum Rebound	months*	Maximum Rebound	months*	Maximum Rebound	months*	Maximum Rebound	months
(Well or Probe)		Carbon Tetrachloride	of	Carbon Tetrachloride	of	Carbon Tetrachloride	of	Carbon Tetrachloride	of	Carbon Tetrachloride	of	Carbon Tetrachloride	of
/feet bgs		(ppmv)	rebound	(ppmv)	rebound	(ppmv)	rebound	(ppmv)	rebound	(ppmv)	rebound	(ppmv)	rebound
79-03/ 5 ft	Z-18	0	8	0	3	0	12						
79-06/ 5 ft	Z-1A	not measured		not measured		1.4	12						
79-11/ 5 ft	Z-1A	0	8	0	6	2.9	12						
86-05/ 5 ft	Z-9	not measured		not measured		0	3						
86-05-01/ 5 ft	Z-9	not measured		not measured		0	3						
86-06/ 5 ft	Z-9	1.3	8	0	9	1.9	6						
87-05/ 5 ft	Z-1A	not measured		0	3	1.0	12						
87-09/ 5 ft	Z-1A	not measured		1.5	3	2.6	12						
94-02/ 5 ft	Z-9	0	8	not measured		1.4	3						
95-11/ 5 ft	Z-9	0	8	2.1	9	2.5	6						
95-12/ 5 ft	Z-9	1.1	8	1.5	9	1.3	6						
95-14/ 5 ft	Z-9	not measured		not measured		0	3						
CPT-13A/ 9 ft	Z-1A	not measured		0	6	1.0	12						
CPT-16/ 10 ft	Z-9	not measured		0	9	1.5	6						
CPT-17/ 10 ft	Z-9	not measured		4.2	9	5.1	6	6.6	24	3.2	6	6.6	13
CPT-18/ 15 ft	Z-9	not measured		6.5	9	5.0	6	5.2	24	1.4	6	2.0	13
CPT-4A/ 25 ft	Z-1A	not measured		not measured		not measured		3.5	0	3.4	10		
CPT-4E/ 25 ft	Z-1A	not measured		not measured		not measured		not measured		2.6	12	1.3	0
CPT-16/ 25 ft	Z-9	not measured		not measured		not measured		1.8	24	1.1	6	2	13
CPT-31/25 ft	Z-1A	not measured		0	6	0	12						
CPT-32/ 25 ft	Z-1A	not measured		9.1	6	10	12	16.5	18	13.0	12	8.3	6
CPT-30/ 28 ft	Z-18	not measured		not measured		3.2	12	1.4	18	0	12	0	6
CPT-13A/ 30 ft	Z-1A	2.2	8	not measured		not measured		3.6	18	2.6	12	1.6	6
CPT-7A/ 32 ft	Z-1A	not measured		2.3	6	5.4	12	6.2	18	5.6	12	3.9	6
CPT-27/ 33 ft	Z-9	1.2	8	not measured		not measured		2.6	24	1.5	6	1.7	13
CPT-1A/ 35 ft	Z-12	2.0	8	1.4	3	3.0	12	7.7	18	11.3	12	21.5	13
CPT-28/ 40 ft	Z-9	40.1	8							56.5	6		
CPT-33/ 40 ft	Z-1A	not measured		2.0	3	2.6	12			2.3	12		
CPT-34/ 40 ft	Z-18	2.3	8	not measured		1.7	12	1.9	0	2.2	12	1.6	0
CPT-21A/ 45 ft	Z-9	65.6	8	52.7	9	57	3	127	24	133	6	90.0	13
W15-220ST/ 52 ft	Z-9	2	8	not measured		1.6	3	2.5	24			1.5	1
CPT-28/ 60 ft	Z-9	not measured		1.5	0	3.7	3						
CPT-9A/ 60 ft	Z-9	45.5	8	41.1	0	44	3	68	24	45.3	6	35.9	13
CPT-16/ 65 ft	Z-9	4.6	8	not measured		not measured		not measured		not measured		4.2	13
CPT-1A/ 68 ft	Z-12	not measured		not measured		not measured		not measured		5.5	12		
CPT-30/ 68 ft	Z-18	1.7	8	not measured		3.0	12						
CPT-32/ 70 ft	Z-1A	7.4	8							7.7	12		
CPT-13A/ 70 ft	Z-1A	5.2	8	not measured		5.6	12						
CPT-24/70 ft	Z-9	not measured		3.2	9	3.6	3					4.4	13
W15-219SST/ 70 ft	Z-9	14.6	8	not measured		7.6	3	7.8	24			1.9	1
CPT-18/ 75 ft	Z-9	not measured		not measured		not measured		18	24			4.5	13
CPT-4A/ 75 ft	Z-1A	not measured		not measured		not measured		not measured		7.1	3		
CPT-31/ 76 ft	Z-1A	4.0	8	not measured		4.2	12						
CPT-33/ 80 ft	Z-1A	5.8	8	not measured		9.2	12						
W15-82/ 83 ft	Z-9	28.9	8	5.5	9	46	6	55	24	66.7	6	85.8	13
CPT-21A/ 86 ft	Z-9	221	8	206	9	148	6	195	24	186	6	206	13
CPT-34/ 86 ft	Z-18	36.3	8	5.9	3	0	12						
W15-95U/ 86 ft	Z-9	not measured		15.3	9	39	6	43	21				
W15-218SST/ 86 ft	Z-9	not measured		not measured		0	3					1.6	2
CPT-28/ 87 ft	Z-9	280	8	230	9	203	6	224	24	229	6	235	13
CPT-4B/ 90 ft	Z-1A									3.2	10		
CPT-1A/ 91 ft	Z-18	3.9	8	not measured		4.2	12			10.7	10		
CPT-4A/ 91 ft	Z-1A	not measured		7.7	3	14	12			7.5	2		
CPT-9A/ 91 ft	Z-9	103	8	34.5	9	72	3			74.3	6		
W15-85/ 91 ft	Z-9	not measured		not measured		not measured		51	24				
W18-252SST/ 100	Z-1A	38.2	8	17.8	3	24	12						
W18-152/ 101 ft	Z-12	46.8	8	11.1	3	33	12	25	18	25.7	12	20.7	6
CPT-4E/ 103 ft	Z-1A	23.2	8	not measured		not measured		not measured		16.1	12		
W18-167/ 106 ft	Z-1A	323	8	79.7	3	228	12	248	18	297	12	243	6
W18-165/ 109 ft	Z-1A	not measured		not measured		not measured		not measured		278	12	328	6
W15-217/ 114 ft	Z-9	797	8	630	9	561	6	442	24	93.6	6	409	13
CPT-24/ 118 ft	Z-9	44.6	8	37.7	9	37	6	35	24			27.8	13
W15-220SST/ 118	Z-9	21.9	8	not measured		36	3	34	24			27.5	3
W18-158L/ 120 ft	Z-1A	not measured		143	3	492	12	284	18	163	3		
W15-219SST/ 130	Z-9	298	8	not measured		47	3	54	24			23.1	1
W18-249/ 130 ft	Z-18	206	8	20.4	3	215	12	176	18	196	12	46.3	6
W18-248/ 131 ft	Z-1A	288	8	86.3	3	177	12	214	18	306	12	182	6
W15-95L/ 144 ft	Z-9	not measured		not measured		not measured		not measured		31.8	6	25.1	13
W15-219SST/ 155	Z-9	59.6	8	not measured		24	3	44	24			6.8	1
W15-220L/ 163 ft	Z-9											-----	13
W15-219L/ 175 ft	Z-9											-----	13
W15-9L/ 176 ft	Z-9	18.3	8	15.0	9	15	6	20	21	16.9	6	13.1	13
W15-84L/ 180 ft	Z-9	not measured		not measured		not measured		not measured		not measured		25.9	13
W15-6L/ 182 ft	Z-9	22.6	8	17.8	9	1.3	6						
W15-220SST/ 185	Z-9	14.5	8	not measured		13	3	15	24			----	1
W18-7/ 197 ft	Z-1A	28.5	8	17.3	3	29	12						
W18-12/ 198 ft	Z-18	not measured		3.81	3	19	12						
W18-6L/ 208 ft	Z-1A	36	8	31.3	6	15	12						

* - based on location (Z-1A/18/12 or Z-9) of monitoring point; specific points may be beyond SVE zone of influence during particular operating configurations
- Z-18 and Z-12 wells off-line Oct 96 - Apr 98
- CPT-1A, CPT-9A, and possibly CPT-7A appeared to be beyond SVE zone of influence in Oct 96 based on differential pressure (BHI-01105, p. 6-1)
- CPT-9A, CPT-21A, CPT-28 beyond SVE zone of influence in May 96 based on CCl4 concentrations and airflow modeling based on measured vacuums (BHI-01105, p. 6-1)

Carbon Tetrachloride Rebound Concentrations
Monitored at 200-PW-1 Soil Vapor Extraction Sites
July 2002 - June 2003

Attachment 8

200-PW-1 (200-ZP-2) Location (Well or Probe) /feet bgs	Site	07/30/2002 CCl4 (ppmv)	08/26/2002 CCl4 (ppmv)	10/04/2002 CCl4 (ppmv)	10/30/2002 CCl4 (ppmv)	11/27/2002 CCl4 (ppmv)	12/31/2002 CCl4 (ppmv)	01/30/2003 CCl4 (ppmv)	02/21/2003 CCl4 (ppmv)	03/20/2003 CCl4 (ppmv)	05/01/2003 CCl4 (ppmv)	05/22/2003 CCl4 (ppmv)	07/01/2003 CCl4 (ppmv)	08/05/2003 CCl4 (ppmv)
CPT-17/ 10 ft	Z-9	1.6	1.4	2.0	1.6	1.1	1.0	1.3	1.5	3.1	5.3	6.6	4.5	6.1
CPT-18/ 15 ft	Z-9	0	0	1.2	0	0	0	0	0	1.7	0	2.0	0	1.8
CPT-4E/ 25 ft (c)	Z-1A	1.3	0	0							1.3	0	0	0
CPT-16/ 25 ft	Z-9	0	0	0	0	0	0	0	0	0	1.0	0	1.2	1.5
CPT-32/ 25 ft	Z-1A				0	0	2.2	4.1	6.3	8.3				
CPT-30/ 28 ft	Z-1A				0	0	0	0	0	0				
CPT-13A/ 30 ft	Z-1A	1.4	1.3	0	0	0	0	0	0	1.6	1.3	1.3	0	0
CPT-7A/ 32 ft	Z-1A	2.7	1.2	1.4	1.1	1.7	2.0	2.0	2.1	3.9	1.7	1.7	1.3	1.2
CPT-27/ 33 ft	Z-9	0	0	0	0	0	0	0	0	1.1	1.0	1.7	1.1	1.0
CPT-1A/ 35 ft	Z-12	4.1	4.2	3.4	3.5	6.8	1.9	5.3	5.2	7.2	5.1	7.1	15.1	21.5
CPT-34/ 40 ft	Z-18	1.6	1.2	1.2							1.3	1.3	1.0	1.0
CPT-21A/ 45 ft	Z-9	60.2	31.6	68.0	61.9	35.7	40.8	45.2	30.4	73.7	72.8	90.0	75.1	85.5
W15-220SST/ 52 ft	Z-9	1.5												
CPT-9A/ 60 ft	Z-9	35.1	8.4	27.8	22.2	12.5	7.4	14.8	13.8	35.9	30.1	33.2	30.1	30.0
CPT-16/ 65 ft (d)	Z-9		0	3.1							4.2	3.9	4.0	4.2
CPT-24/ 70 ft (e)	Z-9		1.5	3.3							3.3	4.1	3.5	4.4
W15-219SST/ 70 ft (b)	Z-9	1.9												
CPT-18/ 75 ft	Z-9	0	0	1.5							2.6	3.1	3.2	4.5
W15-82/ 83 ft	Z-9	85.8	5.6	58.8	35.6	14.7	12.1	6.5	15.4	36.0	50.0	56.2	49.2	44.3
CPT-21A/ 86 ft	Z-9	159	55	155	95.0	55.3	46.4	66.9	44.6	140	199	206	153	187
W15-218SST/ 86 ft (f)	Z-9		1.6	---- (h)										
CPT-28/ 87 ft	Z-9	208	54.2	169	130	51.6	48.8	20.3	87.6	139	178	235	150	197
W18-152/ 101 ft	Z-12				7.5	8.8	10.1	12.6	12.0	20.7				
W18-167/ 106 ft	Z-1A				243	96	72.7	84.1	76.8	218				
W18-165/ 109 ft	Z-1A				328	265	65.1	82.6	71.0	216				
W15-217/ 114 ft	Z-9	82.1	34.0	214	38.7	80.0	264	324	246	287	74.3	409	89.7	335
CPT-24/ 118 ft	Z-9	27.7	4.2	16.3							3.0	27.8	12.1	26.7
W15-220SST/ 118 ft	Z-9	27.5	1.3	21.3							17.7	26.7	25.2	26.8
W15-219SST/ 130 ft (b)	Z-9	23.1												
W18-249/ 130 ft	Z-18				11.8	27.6	34.5	29.4	39.3	46.3				
W18-248/ 131 ft (i)	Z-1A				27.0	81.5	68.2	73.9	182	165				
W15-95L/ 144 ft	Z-9	13.3	0	16.1	18.5	9.7	9.8	12.6	11.9	21.7	17.2	18.8	25.1	13.7
W15-219SST/ 155 ft (b)	Z-9	6.8												
W15-220L/ 163 ft	Z-9										---- (h)	---- (h)	---- (h)	---- (h)
W15-219L/ 175 ft	Z-9										---- (h)	---- (h)	---- (h)	---- (h)
W15-9L/ 176 ft	Z-9				5.1	2.9	5.2	5.8	5.1	10.5	8.2	11.6	10.3	13.1
W15-84L/ 180 ft (g)			5.8	13.1	2.8	7.2	10.6	13.0	10.9	18.8	8.3	25.9	17.9	21.0
W15-220SST/ 185 ft	Z-9	---- (a)												

(a) Unable to sample. Sample port appears to be plugged.
(b) Sampling extremely slow.
(c) Substitute for CPT-4A/ 25 ft
(d) Substitute for W15-220SST/ 52 ft
(e) Substitute for W15-219SST/ 70 ft
(f) Substitute for W15-219SST/ 130 ft
(g) Substitute for W15-219SST/ 155 ft
(h) Unable to sample.
(i) 10/30/02: sample tubing cracked; sample may have been diluted. Tubing repaired 10/31/02.

UNIT MANAGERS' MEETING AGENDA

1200 Jadwin Avenue
October 16, 2003

9 a.m. – 11 a.m. 200 Area Room 1C1

General (5 minutes)
- Outstanding Action Items
- Open for Regulatory Topics or Action Items
  - Lead time on TPA quarterly draft presentation
- Summary of Global Issues Meeting

U Plant Area Regional Closure (10 minutes)
- Status of FFS/PP
- Status of Field Work Preparations
- Status of Confirmatory/Design SAP

BC Cribs Area Closure (5 minutes)
- Status of SAP
- Status of Request to Shorten 216-B-58 Borehole
- Status of Field Work Preparations
- Schedule Meeting to Discuss Decision Pathway
  - TW-1/2 FS With Two Proposed Plans (One for TW-1 and One for TW-2/PW-5)
  - Separate FS and PP for TW-1
- Status of TPA Change Package
  - Ecology suggestion to split BC Control Zone into multiple WIDS sites

GROUNDWATER OPERABLE UNITS

General (5 minutes)
- Update on Well Decommissioning

200-BP-5 & 200-PO-1 OUs (2 minutes)
- 200-BP-5 Sample Collection Status
- 200-PO-1 SAP status

200-UP-1 OU (5 minutes)
- Remediation Treatment Status
- RI/FS Work Plan Status – Status of DOE-RL Transmittal

- Transition to FY04 Groundwater Monitoring Network in Advance of RI/FS Work Plan Transmittal, Review & Approval
- Ecology Approval, Revision 5, 200-UP-1 WMP, DOE/RL-2000-51 (added wells for decommissioning)

200-ZP-1 OU (5 minutes)

- Remediation Treatment Status
- RI/FS Data Quality Objectives Process Status – Currently making final changes based on EPA comments.
- RI/FS Work Plan Status – Just completed internal review; scheduled for issuance to DOE and EPA
- RL Currently Sending Letter to EPA Documenting Changes to FY04 Groundwater Monitoring Network
- EPA Approval, Revision 5, 200-ZP-1/200-PW-1 WMP, DOE/RL-2000-40 (added wells for decommissioning)

218-W-4C (5 minutes)

- Remediation Treatment Status

SOURCE OPERABLE UNITS

200-PW-1, 200-PW-3, & 200-PW-6 OUs (10 minutes)

- Remediation Treatment Status
- Monthly Monitoring
- Approval of FY2004 Monitoring Plan
- Status of Field Work Preparation and Planning
- Status of RI/FS Work Plan
- Status of Field Work at 216-Z-9

200-PW-2 & 200-PW-4 OUs (10 minutes)

- Status of Field Work
- Status of Work Plan
- Status of RI Report
- Status of Ecology Request to Sample a Hexone Site (S-1, S-2, S-7, or S-8)

200-CS-1 OU

- Completion of Milestone M-015-39A
- Status of RI Report

200-CW-5, CW-2, CW-4, & SC-1 OUs (2 minutes)

- Status of RI Report
- Status of FS

200 Area Ecological Evaluation (5 minutes)

- Status of Eco DQO; Revised Schedule
- Status of Eco Evaluation Report
- Status of Gable Mountain Pond and B Pond Pit Fall Sampling

200-CW-1 & 200-CW-3 OUs (2 minutes)

- Status of Ecology Comments on FS and PP
- Ecological Risk Assessment Expectations for FS

200-IS-1 & 200-ST-1 (2 minutes)

- Ecology Letter Requesting Revision

200-TW-1, 200-TW-2, & 200-PW-5 (2 minutes)

- Status of FS and PP

200-UR-1 (2 minutes)

- Status of Work Plan
- Status of TPA Change Package

200-SW-2 (2 minutes)

- Status of Work Plan
- Status of Ecology Request to Initiate Weekly [Collaborative] Negotiation Sessions

Issues (30 minutes)

- Can We Do Working Draft Review of Rev. 0 PW-1 Work Plan?
- Status of Ecology and EPA Request for Additional Review Time

Groundwater and Source Operable Units Unit Managers' Meeting
Official Attendance Record – 200 Area
October 16, 2003

Please print clearly and use black ink

PRINTED NAME	ORGANIZATION	O.U. ROLE	TELEPHONE
Clifford E. Clark	DOE	Reg Support	376-9333
Larry Romine	DOE-RL	RL Lead	376-4747
L. Craig Swanson	FH	GW Techn.	373-3807
Ron Jackson	FH	U-Plant	373 3599
Beth Rochette	Ecology	200 area common, UR1, Cu1	736-3020
JEAN VANNI	Ecology		736-3046
BRYAN L. FOLEY	DOE-RL	200 Area Remedial Act	376-7087
Mary Todd-Robertson	FH	200 Area RA Manager	373-3920
Craig Cameron	EPA	Unit Man.	376-8665
Evan Dresel	PNNL	200 ZP1 Groundwater	376-8341
Stewart Luttrell	PNNL	Groundwater Mon.	376-6023
John Winterhalder	FH	GPP	372-8144
Dennis Faulk	EPA	—	376-8631
Jane V. Borghese	FH	GPP GW	373-3804
Virginia Rohay	FH	200-PW-1	373-3803
Chris Garlock	CHG	200-OS-1	372-9638
Mike Priddy	WDOH		946-0564
John P. McDonald	PNNL	200-UP-1	373-0362
Mark Benecke	FH	BC Cribs/Trenches	376-0002
Larry Hulstrom	FH	200-PW-2/4	373-3928

MEETING MINUTES
200 AREA GROUNDWATER AND SOURCE OPERABLE UNITS
UNIT MANAGERS' MEETING -- 200 AREA
October 16, 2003

Topics of Discussion:

1. *General*

- Outstanding Action Items – DOE-RL is to send EPA the ecological text to be added to the RI/FS documents (e.g. the 200-PW-2 Work Plan).

- Open for Regulatory Topics or Action Items – Lead time on TPA quarterly draft presentation – Ecology suggested that issues to be brought up at the TPA Quarterly meeting be identified and reviewed at the UMM the month prior to the TPA Quarterly meeting. DOE-RL concurred that was a good idea.

- Summary of Global Issues Meeting – The Global Issues meeting focused on outstanding issues. It was facilitated by an outside party. A better understanding of ecological issues and 200-CW-1 issues was gained. The UMM may be utilized as an issues resolution forum. Brown Bag meetings are being scheduled as well. It was requested that FH provide a clear definition of "Central Plateau" to the regulators.

2. *U Plant Area Regional Closure*

- Status of FFS/PP – A meeting was held on October 9, 2003, with FH, DOE-RL, EPA and Ecology to discuss the resolution of comments. The FFS/PP will be issued to the regulators on November 11, 2003. FH will discuss public involvement on the FFS/PP Fact Sheet with Ecology.

- Status of Field Work Preparations – The confirmatory sampling is scheduled to begin in December 2003.

- Status of Confirmatory/Design SAP – The SAP will be revised based on the workshop. EPA requested that FH clearly define "confirmatory sampling" and "remedial sampling".

3. *BC Cribs Area Closure*

- Status of SAP – DOE-RL reviewed the B-26 Crib SAP. There are some minor questions regarding the SAP, otherwise it is ready to go. A redline/strikeout copy will be sent via email to EPA. Verbal approval was given to proceed with the drive casings prior to final SAP approval.

- Status of Request to Shorten 216-B-58 Borehole – FH and DOE-RL requested that Ecology respond to the request to shorten the borehole. FH would like to start drilling in November 2003.

- Status of Field Work Preparations – The boreholes at B-58 and B-26 are expected to be completed by the end of the calendar year. Confirmatory and design sampling will begin later in the fiscal year.

- Schedule Meeting to Discuss Decision Pathway

  - TW-1/2 FS with Two Proposed Plans (One for TW-1 and One for TW-2/PW-5) – EPA advised against utilizing the 200-TW-1/-2 feasibility study (FS) and associated proposed plan (PP) because all issues with the FS must be resolved before the PP can go forward. It is believed that the BC Cribs and Trenches Area will be better served by a focused feasibility study and separate proposed plan. EPA also stated their expectation that a new interim milestone will need to be prepared to document completion of the FFS/PP. FH discussed an option of doing a combined TW-1/TW-2/PW-5 Feasibility Study and preparing two Proposed Plans, one for TW-1, which would encompass all the BC Cribs and Trenches and one for TW-2/PW-5, which would encompass the other waste sites. EPA disagreed stating that would still require coordination with both regulatory agencies, which would slow turn around. EPA suggested that a change be done to split the operable units, write two Feasibility Studies and two Proposed Plans.

  - Separate FS and PP for TW-1 – A separate Feasibility Study and Proposed Plan would be prepared for the BC Cribs and Trenches. This would require a realignment of waste sites between the TW-1, TW-2, and LW-1 OUs.

- Status of TPA Change Package – A change package has been drafted in anticipation of preparing a focused feasibility study. Comments provided by Ecology, including dividing the Controlled Area into two distinct waste sites, will be considered.

  - Ecology suggestion to split BC Control Zone into multiple WIDS sites – Ecology suggested splitting the BC Control Zone into two waste sites: one associated with the area immediately adjacent to the cribs and trenches and one that would include the rest of the Control Area. This would facilitate addressing a portion of the Control Area with the BC Cribs and Trenches and leaving the other portion of the Control Area to be addressed through the 200-UR-1 OU.

GROUNDWATER OPERABLE UNITS

4. *General*

- Update on Well Decommissioning – The first contract started in August. Fifty-seven wells were completed last week. Requests for bids on the next contract, which includes over 90 wells, have begun. That work will begin in November, 2003. The wells are identified in the revised Waste Management Plan. Wells in the 200 West

Area at 200-UP-1 and 200-ZP-1/PW-1 are being decommissioned. It was proposed that a revised list of wells be recorded in the UMM minutes and through the minutes be submitted to the Administrative Record.

Three wells in 200 East Area are currently included in the RFP, two wells in BP-5 and one in PO-1. The Waste Control Plan for BP-5 was approved. PNNL proposed approval to include well decommissioning waste in the Waste Control Plan. The well list will also be included in the UMM minutes. Work at PO-1 is pending submittal to Ecology for approval. DOE-RL suggested that an appendix to the Waste Control Plan be created and modified at the UMM.

5. ***200-BP-5 & 200-PO-1 OUs***

- 200-BP-5 Sample Collection Plans – A summary of recent sampling at BP-5 was distributed (attached).

- 200-PO-1 SAP Status – The SAP was provided to DOE-RL for transmittal.

6. ***200-UP-1 OU***

- Remediation Treatment Status – The average pumping rate for FY 2003 was approximately 47 gpm. The current pumping rate is about 51 gpm. System availability for FY 2003 was 99.5%. System run time is 100%. Approximately 21 kg of uranium and 11.8 grams of technetium-99 were removed from the groundwater in FY 2003. Two extraction wells are currently running, 299-W19-39 and 299-W19-43. Well 299-W19-36 should begin operation as another extraction well in the next couple of weeks. The 200 Area Annual Performance report for the 200-UP-1 and 200-ZP-1 pump and treat systems is being prepared for internal review. A handout was distributed (attached).

- RI/FS Work Plan Status – Status of DOE-RL Transmittal – The draft RI/FS Work Plan has been provided to DOE-RL and Ecology for concurrent review. Comments are expected soon. Ecology stated that the TPA clock will start on the date the Work Plan is received.

- Transition to FY 2004 Groundwater Monitoring Network in Advance of RI/FS Work Plan Transmittal, Review & Approval – EPA suggested that the changes be written as an addendum. Ecology requested that DOE-RL send a letter stating that they will proceed "at risk".

- Ecology Approval, Revision 5, 200-UP-1 WMP, DOE/RL-2000-51 (added wells for decommissioning) – Revision 5 to the 200-UP-1 WMP contains a list of the wells currently scheduled for decommissioning in FY 2004.

7. ***200-ZP-1 OU***

- Remediation Treatment Status – The average pumping rate for FY 2003 was 133 gpm. The current pumping rate is 136 gpm. The system run time is 100%. The

system availability for FY 2003 was 98%. About 819 kg of carbon tetrachloride were removed from the groundwater in FY 2003. Replacement extraction well 299-W15-45 (#1) should be operational by the end of the calendar year. Preliminary indications are that this well will produce 35 – 40 gpm. Replacement extraction well 299-W15-46 (#4) is scheduled to be drilled this quarter and will be brought on-line thereafter. A handout was distributed (attached).

- RI/FS Data Quality Objectives Process Status – Currently making final changes based on EPA comments. The DQO supporting the CERCLA RI/FS work plan was reviewed by DOE and EPA, and should be finalized and issued in the next couple of weeks.

- RI/FS Work Plan Status – Just completed internal review; scheduled for issuance to DOE and EPA. Comments are being incorporated from the internal FH review. This document will go to DOE and EPA for concurrent review after comment incorporation.

- RL Currently Sending Letter to EPA Documenting Changes to FY 2004 Groundwater Monitoring Network – Since the current groundwater monitoring network is documented in the ZP-1 RI/FS Work Plan/SAP, the existing SAP (DOE/RL-2002-17, Rev. 0) will not be updated. The RL letter will take the place of DOE/RL-2002-17 until the ZP-1 RI/FS Work Plan/SAP is finalized.

- EPA Approval, Revision 5, 200-ZP-1/200-PW-1 WMP, DOE/RL-2000-40 (added wells for decommissioning) – Revision 5 to the 200-ZP-1/200-PW-1 WMP contains a list of the wells currently scheduled for decommissioning in FY 2004.

8. ***218-W-4C***

- Remediation Treatment Status – Extraction at the trench is scheduled to begin by November 13, 2003. The Work Plan was signed by DOE-RL and Ecology on October 2, 2003. The "FY 2004 Vapor Extraction System Work Plan for Trench T-04 in the 218-W-4C Burial Ground" is attached and will be submitted to the Administrative Record. An approval letter has been signed by EPA and sent to Ecology. In the Waste Management Plan, the vent risors were added as extraction locations. EPA suggested letting the public know that this action is being taken.

SOURCE OPERABLE UNITS

9. ***200-PW-1, 200-PW-3, & 200-PW-6 OUs***

- Remediation Treatment Status – The average vapor extraction rate for FY 2003 was approximately 400 cfm. The system was shutdown as planned on September 30, 2003. The system availability averaged 91%. About 292 kg of carbon tetrachloride were removed during the calendar year 2003 operations. The soil vapor extraction equipment is being winterized. The passive system remains operational.

- Monthly Monitoring – Results are consistent with past monitoring. A handout was distributed (attached).

- Approval of FY 2004 Monitoring Plan – The plan was approved by DOE-RL and EPA (attached).

- Status of Field Work Preparation and Planning – Pre-job planning to characterize 216-Z-9 and 216-A8 have been initiated. A briefing on the Step II dispersed carbon tetrachloride plume DQO results was held for DOE-RL and EPA on 9/8. Comments received at the meeting are being incorporated. Soil vapor monitoring within the PFP protected area has been completed and a letter report is being prepared to document findings.

- Status of RI/FS Work Plan – The work plan is being revised. A work shop will be scheduled for November, 2003 to review the major changes in the revised work plan. EPA stated that EPA is expecting proposed milestones for the RI, FS, and PP to be transmitted with the work plan. EPA requested that DOE-RL schedule a meeting with EPA and Ecology to discuss endpoint criteria at PFP for the 216-Z-9 and 241-Z-361 waste sites.

- Status of Field Work at 216-Z-9 – Drilling began on October 7, 2003, and has advanced to 49.5' below the drill pad. At 46.5', carbon tetrachloride DNAPL was detected. At 47.5', elevated radiological contamination was detected.

10. *200-PW-2 & 200-PW-4 OUs*

- Status of Field Work – A handout was distributed summarizing the drilling characterization. (Attached)

- Status of Work Plan – The hexone issue needs to be resolved before a determination can be made as to whether the work plan needs to be revised or not.

- Status of RI Report – Work is underway on the RI Report.

- Status of Ecology Request to Sample a Hexone Site (S-1, S-2, S-7, or S-8) – Technical discussions are needed. It was requested that Ecology provide a technical rationale for the request to sample a hexone site. Ecology stated that it is necessary to be able to describe how hexone in a waste stream could have influenced the mobility of contaminants.

11. *200-CS-1 OU*

- Completion of Milestone M-015-39A – Information was submitted to complete the milestone.

- Status of RI Report – Work is proceeding on the RI Report.

12. *200-CW-5, CW-2, CW-4, & SC-1 OUs*

- Status of RI Report – The work has been completed and the report is being prepared.

- Status of FS – Work has been initiated on the FS report.

13. ***200 Area Ecological Evaluation***

- Status of Eco DQO; Revised Schedule – The schedule has been revised and it was suggested that calendars be updated.

- Status of Eco Evaluation Report – Efforts continue on the responses to comments and the revision of the document.

- Status of Gable Mountain Pond and B Pond Pit Fall Sampling – Sampling is on-going.

14. ***200-CW-1 & 200-CW-3 OUs***

- Status of Ecology Comments on FS and PP – DOE-RL inquired as to whether or not Ecology will be providing comments. Ecology stated the comments would not be beneficial to revising the Proposed Plan. They would prefer to just rewrite the Proposed Plan and subsequently revise the Feasibility Study based on the revised Proposed Plan.

- Ecological Risk Assessment Expectations for FS – Ecology stated that there may be issues, but that we should get it before the public.

15. ***200-IS-1 & 200-ST-1 OUs***

- Ecology Letter Requesting Revision – The issue raised in the letter is still outstanding with Ecology.

16. ***200-TW-1, 200-TW-2, & 200-PW-5***

- Status of FS and PP – Efforts continue on the FS and PP to support the March 31, 2004 Milestone.

17. ***200-UR-1***

- Status of Work Plan – Efforts continue on the Work Plan.

- Status of TPA Change Package – The TPA Change Package is in the regulator's office. It was agreed not to go with a public review.

18. ***200-SW-2***

- Status of Work Plan – Work is just getting underway on the work plan.

- Status of Ecology Request to Initiate Weekly [Collaborative] Negotiation Sessions – DOE-RL met internally with staff associated with low-level burial grounds. DOE-RL requested that a meeting with Ecology be scheduled to discuss the possible issues.

19. ***Issues***

- Can We Do Working Draft Review of Rev. 0 PW-1 Work Plan? – EPA agreed that we can do a working draft review. They will still expect to have their 30-day review

period. A work shop will be scheduled in November to review the changes to the work plan. The draft work plan will be provided at the work shop. It is anticipated that Rev. 0 of the work plan will be transmitted to EPA in December for approval.

- Status of Ecology and EPA Request for Additional Review Time – Ecology indicated that approval of the 200-TW-1/-2 RI Report would be provided.

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
32	200-TW-1 RI Report - EPA and Ecology to provide comments or approve the 200-TW-1 RI Report	EPA & Ecology	FH	8/21/03				
33	Send tweak on language re: PW-2 Work Plans	DOE/RL	EPA	10/16/03				
34	Provide a clear definition of "Central Plateau"	FH	EPA&Ecology	10/16/03				
35	Validate EPA and Ecology's ideas from the Global Issues Meeting	DOE/RL	EPA&Ecology	10/16/03				
36	Barbara Wise to talk to Mary Anne Wanakee re: public involvement on U Plant FFS/PP	FH	Ecology	10/16/03				
37	Clearly define terms "confirmatory sampling' and 'remedial sampling'	FH	EPA	10/16/03				
38	Meeting to discuss contentious issues re: SW-2	Ecology	DOE/RL	10/16/03				

200 Area Unit Managers Meeting
October 16, 2003

200-UP-1

- Current pumping rate is about 51 gpm
- Average pumping rate for FY03 was ~47 gpm
- System availability for FY03 was 99.5%
- System run time is 100% for FY04
- About 21 kg of uranium and 11.8 grams of technetium-99 were removed from the groundwater in FY03.
- Two extraction wells are currently running: 299-W19-39 and 299-W19-43. Well 299-W19-36 should begin operation as another extraction well in the next couple of weeks.
- The 200-Area Annual Performance report for the 200-UP-1 and 200-ZP-1 P&T systems is being prepared for internal review.
- The 200-UP-1 draft RI/FS Work Plan is at DOE and Ecology for concurrent review. Comments should be submitted soon.

200-ZP-1

- Current pumping rate is 136 gpm
- System run time is 100% for FY04
- Average pumping rate for FY03 was ~133 gpm
- System availability for FY03 was ~98%
- About 819 kg of CCl_4 were removed from the groundwater in FY03
- Replacement extraction well 299-W15-45 (#1) should be operational by the end of the CY. Preliminary indications are that this well will produce 35-40 gpm.
- Replacement extraction well 299-W15-46 (#4) is scheduled to be drilled this quarter and will be brought on-line thereafter.

- The DQO supporting the CERCLA RI/FS work plan was reviewed by DOE and EPA, and should be finalized and issued in the next couple of weeks.

- Comments are being incorporated into the draft RI/FS Work Plan from the internal FH review. This document will go to DOE and EPA for concurrent review after comment incorporation.

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

- Average vapor extraction rate this year was ~400 cfm. The system was shutdown as planned on September 30th.

- System availability averaged ~91%

- About 292 kg of CCl_4 were removed during CY03 operations as compared to 644 kg in CY04.

- SVE equipment is being winterized

- The passive system will continue to operate through the year.

Attachment 9

Comparison of Maximum Carbon Tetrachloride Rebound Concentrations Monitored at 200-PW-1 Soil Vapor Extraction Sites FY 1997 - FY 2003

200-PW-1		November 1996 -		October 1997 -		July 1998 -		July 1999 -		July 2001 -		July 2002 -	
(200-ZP-2)		July 1997		September 1998		September 1999		June 2001		June 2002		September 2003	
Location	Site	Maximum Rebound	months*	Maximum Rebound	months*	Maximum Rebound	months*	Maximum Rebound	months*	Maximum Rebound	months*	Maximum Rebound	months
(Well or Probe)		Carbon Tetrachloride	of	Carbon Tetrachloride	of	Carbon Tetrachloride	of	Carbon Tetrachloride	of	Carbon Tetrachloride	of	Carbon Tetrachloride	of
/feet bgs		(ppmv)	rebound	(ppmv)	rebound	(ppmv)	rebound	(ppmv)	rebound	(ppmv)	rebound	(ppmv)	rebound
79-03/ 5 ft	Z-18	0	8	0	3	0	12						
79-06/ 5 ft	Z-1A	not measured		not measured		1.4	12						
79-11/ 5 ft	Z-1A	0	8	0	6	2.9	12						
86-05/ 5 ft	Z-9	not measured		not measured		0	3						
86-05-01/ 5 ft	Z-9	not measured		not measured		0	3						
86-06/ 5 ft	Z-9	1.3	8	0	9	1.9	6						
87-05/ 5 ft	Z-1A	not measured		0	3	1.0	12						
87-09/ 5 ft	Z-1A	not measured		1.5	3	2.6	12						
94-02/ 5 ft	Z-9	0	8	not measured		1.4	3						
95-11/ 5 ft	Z-9	0	8	2.1	9	2.5	6						
95-12/ 5 ft	Z-9	1.1	8	1.5	9	1.3	6						
95-14/ 5 ft	Z-9	not measured		not measured		0	3						
CPT-13A/ 9 ft	Z-1A	not measured		0	6	1.0	12						
CPT-16/ 10 ft	Z-9	not measured		0	9	1.5	6						
CPT-17/ 10 ft	Z-9	not measured		4.2	9	5.1	6	6.6	24	3.2	6	6.6	15
CPT-18/ 15 ft	Z-9	not measured		6.5	9	5.0	6	5.2	24	1.4	6	2.4	15
CPT-4A/ 25 ft	Z-1A	not measured		not measured		not measured		3.5	0	3.4	10		
CPT-4E/ 25 ft	Z-1A	not measured		not measured		not measured		not measured		2.6	12	1.3	0
CPT-16/ 25 ft	Z-9	not measured		not measured		not measured		1.8	24	1.1	6	2	15
CPT-31/25 ft	Z-1A	not measured		0	6	0	12						
CPT-32/ 25 ft	Z-1A	not measured		9.1	6	10	12	16.5	18	13.0	12	8.3	6
CPT-30/ 28 ft	Z-18	not measured		not measured		3.2	12	1.4	18	0	12	0	6
CPT-13A/ 30 ft	Z-1A	2.2	8	not measured		not measured		3.6	18	2.6	12	1.6	6
CPT-7A/ 32 ft	Z-1A	not measured		2.3	6	5.4	12	6.2	18	5.6	12	3.9	6
CPT-27/ 33 ft	Z-9	1.2	8	not measured		not measured		2.6	24	1.5	6	1.7	15
CPT-1A/ 35 ft	Z-12	2.0	8	1.4	3	3.0	12	7.7	18	11.3	12	22.0	15
CPT-28/ 40 ft	Z-9	40.1	8							56.5	6		
CPT-33/ 40 ft	Z-1A	not measured		2.0	3	2.6	12			2.3	12		
CPT-34/ 40 ft	Z-18	2.3	8	not measured		1.7	12	1.9	0	2.2	12	1.6	0
CPT-21A/ 45 ft	Z-9	65.6	8	52.7	9	57	3	127	24	133	6	90.0	15
W15-220ST/ 52 ft	Z-9	2	8	not measured		1.6	3	2.5	24			1.5	1
CPT-28/ 60 ft	Z-9	not measured		1.5	0	3.7	3						
CPT-9A/ 60 ft	Z-9	45.5	8	41.1	0	44	3	68	24	45.3	6	35.9	15
CPT-16/ 65 ft	Z-9	4.6	8	not measured		not measured		not measured		- not measured		4.2	15
CPT-1A/ 68 ft	Z-12	not measured		not measured		not measured		not measured		5.5	12		
CPT-30/ 68 ft	Z-18	1.7	8	not measured		3.0	12						
CPT-32/ 70 ft	Z-1A	7.4	8							7.7	12		
CPT-13A/ 70 ft	Z-1A	5.2	8	not measured		5.6	12						
CPT-24/70 ft	Z-9	not measured		3.2	9	3.6	3					4.7	15
W15-219SST/ 70 ft	Z-9	14.6	8	not measured		7.6	3	7.8	24			1.9	1
CPT-18/ 75 ft	Z-9	not measured		not measured		not measured		18	24			4.5	15
CPT-4A/ 75 ft	Z-1A	not measured		not measured		not measured		not measured		7.1	3		
CPT-31/ 76 ft	Z-1A	4.0	8	not measured		4.2	12						
CPT-33/ 80 ft	Z-1A	5.8	8	not measured		9.2	12						
W15-82/ 83 ft	Z-9	28.9	8	5.5	9	46	6	55	24	66.7	6	85.8	15
CPT-21A/ 86 ft	Z-9	221	8	206	9	148	6	195	24	186	6	206	15
CPT-34/ 86 ft	Z-18	36.3	8	5.9	3	0	12						
W15-95U/ 86 ft	Z-9	not measured		15.3	9	39	6	43	21				
W15-218SST/ 86 ft	Z-9	not measured		not measured		0	3					1.6	2
CPT-28/ 87 ft	Z-9	280	8	230	9	203	6	224	24	229	6	235	15
CPT-4B/ 90 ft	Z-1A									3.2	10		
CPT-1A/ 91 ft	Z-18	3.9	8	not measured		4.2	12			10.7	10		
CPT-4A/ 91 ft	Z-1A	not measured		7.7	3	14	12			7.5	2		
CPT-9A/ 91 ft	Z-9	103	8	34.5	9	72	3			74.3	6		
W15-85/ 91 ft	Z-9	not measured		not measured		not measured		51	24				
W18-252SST/ 100	Z-1A	38.2	8	17.8	3	24	12						
W18-152/ 101 ft	Z-12	46.8	8	11.1	3	33	12	25	18	25.7	12	20.7	6
CPT-4E/ 103 ft	Z-1A	23.2	8	not measured		not measured		not measured		16.1	12		
W18-167/ 106 ft	Z-1A	323	8	79.7	3	228	12	248	18	297	12	243	6
W18-165/ 109 ft	Z-1A	not measured		not measured		not measured		not measured		278	12	328	6
W15-217/ 114 ft	Z-9	797	8	630	9	561	6	442	24	93.6	6	444	15
CPT-24/ 118 ft	Z-9	44.6	8	37.7	9	37	6	35	24			27.8	15
W15-220SST/ 118	Z-9	21.9	8	not measured		36	3	34	24			27.5	3
W18-158L/ 120 ft	Z-1A	not measured		143	3	492	12	284	18	163	3		
W15-219SST/ 130	Z-9	298	8	not measured		47	3	54	24			23.1	1
W18-249/ 130 ft	Z-18	206	8	20.4	3	215	12	176	18	196	12	46.3	6
W18-248/ 131 ft	Z-1A	288	8	86.3	3	177	12	214	18	306	12	182	6
W15-95L/ 144 ft	Z-9	not measured		not measured		not measured		not measured		31.8	6	25.1	15
W15-219SST/ 155	Z-9	59.6	8	not measured		24	3	44	24			6.8	1
W15-220L/ 163 ft	Z-9											----	15
W15-219L/ 175 ft	Z-9											----	15
W15-9L/ 176 ft	Z-9	18.3	8	15.0	9	15	6	20	21	16.9	6	13.1	15
W15-84L/ 180 ft	Z-9	not measured		not measured		not measured		not measured		not measured		25.9	15
W15-6L/ 182 ft	Z-9	22.6	8	17.8	9	1.3	6						
W15-220SST/ 185	Z-9	14.5	8	not measured		13	3	15	24			----	1
W18-7/ 197 ft	Z-1A	28.5	8	17.3	3	29	12						
W18-12/ 198 ft	Z-18	not measured		3.81	3	19	12						
W18-6L/ 208 ft	Z-1A	36	8	31.3	6	15	12						

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

- Z-18 and Z-12 wells off-line Oct 96 - Apr 98

- CPT-1A, CPT-9A, and possibly CPT-7A appeared to be beyond SVE zone of influence in Oct 96 based on differential pressure (BHI-01105, p. 6-1)

- CPT-9A, CPT-21A, CPT-28 beyond SVE zone of influence in May 96 based on CCl4 concentrations and airflow modeling based on measured vacuums (BHI-01105, p. 6-1)

Carbon Tetrachloride Rebound Concentrations
Monitored at 200-PW-1 Soil Vapor Extraction Sites
July 2002 - September 2003

Attachment 9

200-PW-1 (200-ZP-2) Location (Well or Probe) /feet bgs	Site	07/30/2002 CCl4 (ppmv)	08/26/2002 CCl4 (ppmv)	10/04/2002 CCl4 (ppmv)	10/30/2002 CCl4 (ppmv)	11/27/2002 CCl4 (ppmv)	12/31/2002 CCl4 (ppmv)	01/30/2003 CCl4 (ppmv)	02/21/2003 CCl4 (ppmv)	03/20/2003 CCl4 (ppmv)	05/01/2003 CCl4 (ppmv)	05/22/2003 CCl4 (ppmv)	07/01/2003 CCl4 (ppmv)	08/05/2003 CCl4 (ppmv)	08/26/2003 CCl4 (ppmv)
CPT-17/ 10 ft	Z-9	1.6	1.4	2.0	1.6	1.1	1.0	1.3	1.5	3.1	5.3	6.6	4.5	6.1	5.3
CPT-18/ 15 ft	Z-9	0	0	1.2	0	0	0	0	0	1.7	0	2.0	0	1.8	2.4
CPT-4E/ 25 ft (c)	Z-1A	1.3	0	0							1.3	0	0	0	0
CPT-16/ 25 ft	Z-9	0	0	0	0	0	0	0	0	0	1.0	0	1.2	1.5	1.5
CPT-32/ 25 ft	Z-1A				0	0	2.2	4.1	6.3	8.3					
CPT-30/ 28 ft	Z-1A				0	0	0	0	0	0					
CPT-13A/ 30 ft	Z-1A	1.4	1.3	0	0	0	0	0	0	1.6	1.3	1.3	0	0	0
CPT-7A/ 32 ft	Z-1A	2.7	1.2	1.4	1.1	1.7	2.0	2.0	2.1	3.9	1.7	1.7	1.3	1.2	1.1
CPT-27/ 33 ft	Z-9	0	0	0	0	0	0	0	0	1.1	1.0	1.7	1.1	1.0	1.6
CPT-1A/ 35 ft	Z-12	4.1	4.2	3.4	3.5	6.8	1.9	5.3	5.2	7.2	5.1	7.1	15.1	21.5	22.0
CPT-34/ 40 ft	Z-18	1.6	1.2	1.2							1.3	1.3	1.0	1.0	0
CPT-21A/ 45 ft	Z-9	60.2	31.6	68.0	61.9	35.7	40.8	45.2	30.4	73.7	72.8	90.0	75.1	85.5	83.0
W15-220SST/ 52 ft	Z-9	1.5													
CPT-9A/ 60 ft	Z-9	35.1	8.4	27.8	22.2	12.5	7.4	14.8	13.8	35.9	30.1	33.2	30.1	30.0	28.5
CPT-16/ 65 ft (d)	Z-9		0	3.1							4.2	3.9	4.0	4.2	3.7
CPT-24/ 70 ft (e)	Z-9		1.5	3.3							3.3	4.1	3.5	4.4	4.7
W15-219SST/ 70 ft (b)	Z-9	1.9													
CPT-18/ 75 ft	Z-9	0	0	1.5							2.6	3.1	3.2	4.5	4.4
W15-82/ 83 ft	Z-9	65.8	5.6	58.8	35.6	14.7	12.1	6.5	15.4	36.0	50.0	56.2	49.2	44.3	54.4
CPT-21A/ 86 ft	Z-9	159	55	155	95.0	55.3	46.4	66.9	44.6	140	199	206	153	187	197
W15-218SST/ 86 ft (f)	Z-9		1.6	— (h)											
CPT-28/ 87 ft	Z-9	208	54.2	169	130	51.6	48.8	20.3	87.6	139	178	235	150	197	190
W18-152/ 101 ft	Z-12				7.5	8.8	10.1	12.6	12.0	20.7					
W18-167/ 106 ft	Z-1A				243	96	72.7	84.1	76.8	218					
W18-165/ 109 ft	Z-1A				328	265	65.1	82.6	71.0	216					
W15-217/ 114 ft	Z-9	82.1	34.0	214	38.7	80.0	264	324	246	287	74.3	409	89.7	335	444
CPT-24/ 118 ft	Z-9	27.7	4.2	16.3							3.0	27.8	12.1	26.7	20.0
W15-220SST/ 118 ft	Z-9	27.5	1.3	21.3							17.7	26.7	25.2	26.8	22.5
W15-219SST/ 130 ft (b)	Z-9	23.1													
W18-249/ 130 ft	Z-18				11.8	27.6	34.5	29.4	39.3	46.3					
W18-248/ 131 ft (i)	Z-1A				27.0	81.5	68.2	73.9	182	165					
W15-95L/ 144 ft	Z-9	13.3	0	16.1	18.5	9.7	9.8	12.6	11.9	21.7	17.2	18.8	25.1	13.7	10.9
W15-219SST/ 155 ft (b)	Z-9	6.8													
W15-220L/ 163 ft	Z-9										— (h)	— (h)	— (h)	— (h)	
W15-219L/ 175 ft	Z-9										— (h)	— (h)	— (h)	— (h)	
W15-9L/ 176 ft	Z-9				5.1	2.9	5.2	5.8	5.1	10.5	8.2	11.6	10.3	13.1	12.5
W15-84L/ 180 ft (g)			5.8	13.1	2.8	7.2	10.6	13.0	10.9	18.8	8.3	25.9	17.9	21.0	23.8
W15-220SST/ 185 ft	Z-9	— (a)													

(a) Unable to sample. Sample port appears to be plugged.
(b) Sampling extremely slow.
(c) Substitute for CPT-4A/ 25 ft
(d) Substitute for W15-220SST/ 52 ft
(e) Substitute for W15-219SST/ 70 ft
(f) Substitute for W15-219SST/ 130 ft
(g) Substitute for W15-219SST/ 155 ft
(h) Unable to sample.
(i) 10/30/02: sample tubing cracked; sample may have been diluted. Tubing repaired 10/31/02.

Carbon Tetrachloride Concentrations
Monitored at 200-PW-1 Passive Soil Vapor Extraction Wells

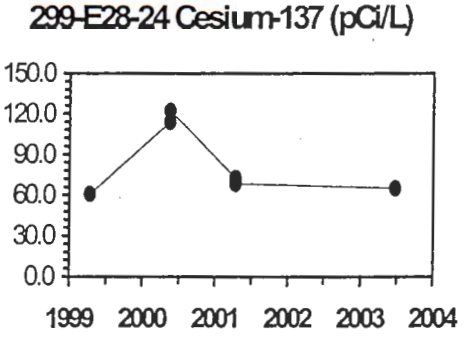
200-PW-1 (200-ZP-2) Location (Well or Probe) /feet bgs	Site	Zone	6/1/2001 CCl4 (ppmv)	12/10/2002 CCl4 (ppmv)	01/20/2003 CCl4 (ppmv)	03/04/2003 CCl4 (ppmv)	05/07/2003 CCl4 (ppmv)	09/09/2003 CCl4 (ppmv)
W18-6L/ 208 ft	Z-1A	6	47.4	29.2	19.6	34.8	20.2	----- (a)
W18-7/ 197 ft	Z-1A	6	38.5	36.8	28.9	26.4	23.0	----- (a)
W18-10L/ 183 ft	Z-18	6	12.8	14.7	11.1	15.1	2.5	2.5
W18-11L/ 199 ft	Z-18	6	11.4	7.7	----- (a)	9.9	----- (a)	----- (a)
W18-12/ 198 ft	Z-18	6	30.5	----- (a)	----- (a)	----- (a)	7.9	5.4
W18-246L/ 170 ft	Z-18	6	40.9	----- (a)	31.1	33.1	10.3	----- (a)
W18-247L/ 167 ft	Z-18	6	7.2	5.7	8.5	8.1	2.4	2.4
W18-252L/ 175 ft	Z-18	6	38.1	22.7	----- (a)	24.4	23.1	----- (a)
(a) Unable to sample.								

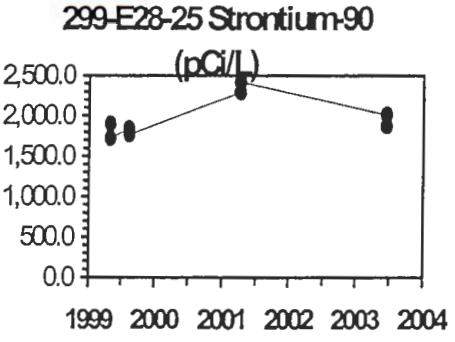
200-BP-5 Groundwater Sample Collection Status

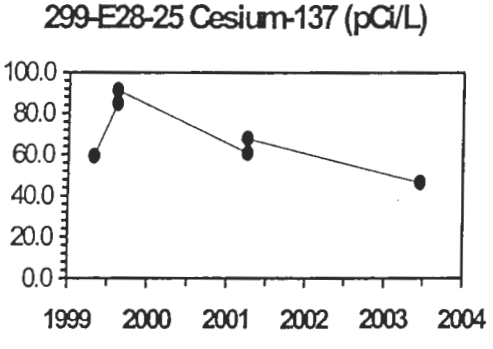
200 Area Unit Manager's Meeting – 10/16/03

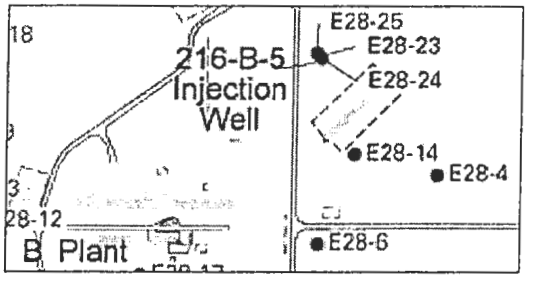
S.P. Luttrell PNNL

Nine wells scheduled in the vicinity of the B-5 Reverse Well were successfully sampled in June. Results indicate generally stable to slightly declining trends for Cs-137 and Sr-90 were observed in wells 299-E28-24 and 299-E28-25 (see graphs presented below). Filtered and unfiltered values for these constituents were similar. Reported Pu-239/240 values were near or below the detection limit for 299-E28-24 (0.00 pCi/L, filtered; 2.51 pCi/L, unfiltered) and 299-E28-25 (0.72 pCi/L, filtered; 0.00 pCi/L, unfiltered).









Sampling was attempted at nine wells at Gable Mountain Pond in July and August. Eight wells were sampled successfully. Well 699-53-48B was determined to be dry.

Sampling was attempted for eight wells in the Gable Gap area north of 200 East in late September. Six wells were sampled successfully, and analytical results are pending. Samplers were unable to start the pump for well 699-53-55B and they couldn't get water to the surface for well 699-49-55A. FH well maintenance is planning to replace the pump in 699-53-55B. No further information is available on 699-49-55A.

200-PW-2/4 OU FY03 Drilling Characterization Activities

Status Report
October 2003

GROUNDWATER
PROTECTION PROGRAM

Drilling Characterization Summary

- 216-A-19 Trench Borehole (C3245)
  - Borehole initiated on 4/4/03, completed on 4/23/03
  - Eleven (11) samples collected in vadose zone to a depth of 259 ft bgs.
  - No significant radiological or chemical contamination detected in the field

- 216-A-37-1 Crib Borehole (C4106)
  - Borehole initiated on 4/28/03, completed on 5/13/03
  - Eleven (11) samples collected in vadose zone to a depth of 278 ft bgs.
  - No significant radiological or chemical contamination detected in the field

- 216-A-10 Crib Borehole (C3247)
  - 5 drive casings installed 4/8/03 through 4/16/03; 2 decommissioned and 3 remain in ground
  - Borehole initiated on 5/15/03, drilled to 65 ft on 5/27/03.
  - Four (4) samples taken through 5/27/03
  - Borehole drilling resumed on 9/18/03, completed on 10/9/03
  - Seven (7) additional samples taken from 65 ft to a depth of 324 ft bgs.
  - Decommissioning of 3 remaining drive casings completed on 10/14/03

GROUNDWATER PROTECTION PROGRAM

Drilling Characterization Summary (continued)

- 216-B-12 Crib Borehole (C3246)
  - Borehole initiated on 5/29/03, completed on 6/24/03.
  - Nine (9) samples collected in vadose zone to a depth of 308 ft bgs.
  - Radiological contamination was detected immediately underneath the crib at about 32 ft bgs.

- 216-A-36B Borehole (C3248 and C4160)
  - Borehole C3248 was initiated on 7/1/03; reached refusal at 26 ft bgs on 7/1/03, decommissioned on 7/2/03, rig moved 3 ft east to C4160.
  - Borehole C4160 started on 7/7/03, completed on 9/10/03
  - Radiological contamination was detected immediately underneath the crib at about 25 ft bgs.
  - Maximum dose rate reading of 90 mR/hr on contact was found at 33 ft
  - Ammonia levels have varied up to 44 ppm in a drum; with exhausters operational no levels of concern have been measured in the breathing zone
  - Ten (10) samples collected to a depth of 321 ft bgs.

Drilling Characterization Summary (continued)

- 207-A South Retention Basin (C4113-C4116)
  - Water and sediment sampled on 5/13/03
  - Radiological surveys performed on 5/13/03 and 6/27/03
  - Analytical results available on 6/2 showed no chemical or radiological contamination above background
  - Sediment removal occurred using the guzzler on 8/12 and 8/13
  - Visual examination, radiological survey, and surface sampling of the concrete occurred on 8/14
  - Coring through the concrete occurred on 8/20
  - Sampling of the soils underlying the basin occurred on 9/10.
  - Boreholes decommissioned 9/16 and basins resealed on 9/30

GROUNDWATER PROTECTION PROGRAM

Later Stage of Drilling at the 216-A-10 Crib

GROUNDWATER PROTECTION PROGRAM

200-PW-2/4 Characterization Borehole Summary Data

Analyte	Hanford Site Background Concentrations	Unrestricted MTCA Method B Soil Clean up Action Levels			Release of Waste Not Controlled as Radioactive (pCi/g)	Method C - Soil Direct	216-A-19 Borehole		216-A-37-1 Borehole		216-B-12 Borehole	
		Direct Contact Pathway (mg/Kg)	Leaching Pathway (mg/Kg)	Terrestrial Ecological Soil (mg/Kg)			maximum analytical concentration	Depth (feet)	maximum analytical concentration	Depth (feet)	maximum analytical concentration	Depth (feet)
Radionuclides (pCi/g)												
Americium-241	-				2	NC	0.081	14.5	0.0200	147.5	2.00	40
Antimony-125*							ND		ND		ND	
Carbon-14					50		0.522	207.5			3.30	62.5
Cesium-134*							ND		0.0335	147.5	ND	
Cesium-137	1.05				10	NC	0.0432	248	0.128	12.5	65400.00	35.5
Cobalt-60	0.00842				10	NC	ND		ND		ND	
Europium-152	-				10	NC	ND		ND		ND	
Europium-154	0.0334				10	NC	ND		ND		ND	
Europium-155	0.0539				10	NC	ND		0.0473	17.5	ND	
Gross Alpha	-				5	NC	16	14.5			ND	
Gross Beta	22.96				10	NC	70	14.5			ND	
Iodine-129					25		0.404	22.5	ND		ND	
Neptunium-237	-				NA	NC	0.017	207.5	ND		0.05	40
Nickel-59**					30		0.15***	14.5			ND	
Nickel-63	-				30	NC	17.6	14.5	14.4	37.5	ND	
Plutonium-238	0.00378				2	NC	ND		0.407	237.5	ND	
Plutonium-239/240	0.0248				2	NC	0.18	14.5	0.012	47.5	3.90	35.5
Potasium-40	16.6				NA	NC	NA				15.80	197.5
Radium-226							0.447	14.5	0.485	147.5	0.71	14.5
Radium-228	1.32[c]					NC	0.506	32.5	0.541	147.5	0.90	247.5
Selenium-79**							ND***					
Total radioactive strontium	0.178				10	NC	20/.184	17.5/47.5 to TD	1.7	12.5	12700.00	35.5
Technetium-99	-				30	NC	0.46	32.5	ND		ND	
Tin-126*							ND		ND		0.74	14.5
Tritium	-				400	NC	0.424	248	267	47.5	8.28	14.5
Thorium-232	1.32				2	NC	0.742	32.5	0.672	237.5	0.90	247.5
Total uranium (µg/g)	3.21				2	NC	130/ND	22.5/97.5 - TD	0.666	72.5	28/.342	35.5/247.5
Uranium-233/234	1.1				2	NC	6/0.18	14.5/97.5 - TD	0.372	272.5	4.90	40
Uranium-235/236	0.109				2	NC	0.94/<0.02	14.5/97.5 - TD	0.028	197.5	0.32	40
Uranium-238	1.06				2	NC	51/0.21	14.5/97.5 - TD	0.486	237.5	5.10	40
Inorganic Metals (mg/kg)												
Antimony		3.20E+01	5.42E+00	5			ND		1.5	237.5	0.65	302
Arsenic	20[a]	6.67E-01	3.40E-02	7		219	7	14.5	3.72	17.5	7.30	14.5
Barium	132	5.60E+03	9.23E+02	102		245,000	98.9	14.5	193	97.5	93.80	302
Beryllium	1.51	1.60E+02	6.32E+01	10		30.5	0.256	22.5	0.39	97.5	0.33	14.5
Bismuth*		NA	NA	NA			36,400	97.5	ND		ND	
Cadmium	0.81[a]	8.00E+01	6.90E-01	4		3,500	0.211	14.5	0.18	272.5	0.08	14.5
Chromium (III)	18.5	1.20E+05	2.00E+03	42		Unlimited	14.2	207.5	23.5	197.5	30.40	302
Hexavalent chromium	-	2.40E+02	1.84E+01	NA		10,500	ND		ND		ND	
Copper	22	2.96E+03	2.63E+02	50		130,000	15.3	32.5	19.7	72.5	16.60	302
Lead	10.2	250: Method A	3.00E+03	118		1,000	3.18	14.5	13.1	237.5	6.10	14.5
Mercury	0.33	2.40E+01	2.09E+00	0.1		1,050	ND		0.02	72.5	1.31	35.5
Nickel	19.1	1.60E+03	1.30E+02	30		70,000	13.4	242.5	17.1	197.5	14.50	62.5
Selenium	0.78	4.00E+02	5.20E+00	1		17,500	ND		ND		ND	
Silver	0.73	4.00E+02	1.36E+01	2		17,500	0.118	22.5	4.14	97.5	2.41	50

200-PW-2/4 Characterization Borehole Summary Data

Analyte	Hanford Site Background Concentrations	Unrestricted MTCA Method B Soil Clean up Action Levels			Release of Waste Not Controlled as Radioactive (pCi/g)	Method C - Soil Direct	216-A-19 Borehole		216-A-37-1 Borehole		216-B-12 Borehole	
		Direct Contact Pathway (mg/Kg)	Leaching Pathway (mg/Kg)	Terrestrial Ecological Soil (mg/Kg)			maximum analytical concentration	Depth (feet)	maximum analytical concentration	Depth (feet)	maximum analytical concentration	Depth (feet)
Anions (mg/kg)												
Ammonia	9.23	NA	NA	NA		Unlimited	6.79	22.5	266	12.5	404.00	94.5
Boron*							38.93/ND	14.5/47.5 to TD	0.94	147.5	1.30	14.5
Chloride	100	NA	1.00E+03	NA		25,000[b]	33.1	27.5	14.3	12.5	23.40	40
Cyanide	-	1.60E+03	8.00E-01	NA		70,000	ND		ND		ND	
Fluoride	2.81	NA	1.60E+01	NA		210,000	5.62	14.5	1.69	72.5	ND	
Nitrate and nitrate/nitrite as N	52	8.00E+03	4.00E+01	NA		Unlimited	9860/26.2	27.5/97.5 - TD	1710	12.5	165.00	36
Nitrite and nitrate/nitrite as N	-	8.00E+03	4.00E+00	NA		350,000	0.451	22.5	1.66	12.5	ND	
Phosphate	0.79	NA	NA	NA		NC	5.04	22.5	ND		2.80	62.5
Sulfate	237	NA	1.00E+03	NA		25,000[b]	294	32.5	32	12.5	647.00	35.5
Semi-Volatile Organics (µg/kg)												
2-Butoxyethanol+							ND		ND		ND	
Tributyl phosphate	-	NA	NA	NA		NC	29,000	33	45	12.5	ND	
Grease		2.00E+03		200			ND		ND		ND	
Kerosene	-	2.00E+03		200		2,000	ND		ND		ND	
p-Dichloröbenzene+		4.17E+01	3.00E-02	20			ND		ND		ND	
Phenol		4.80E+04	4.39E+01	30			ND		ND		ND	
PCBs	-	1.60E+00	3.09E+00	0.65		70,000[d]	NA		ND		(1254) 140 J	35.5
Volatile Organics (µg/kg)												
1,1-dichloroethane (DCA)		8.00E+03	4.37E+00	NA			ND		ND		ND	
1,2-dichloroethane (DCA)		1.10E+01	2.32E-03	NA			ND		ND		ND	
1,1,1-trichloroethane(TCA)	-	7.20E+04	1.58E+00	NA		3.15E+09	ND		ND		ND	
Acetone	-	8.00E+03	3.21E+00	NA		3.50E+08	ND		1.58	97.5	ND	
2-butanone (MEK)	-	4.80E+04	2.18E+01	NA		2.10E+09	ND		ND		ND	
Benzene		1.82E+02	4.48E-03	NA			ND		ND		ND	
Benzyl Alcohol*		2.40E+04		NA			ND		ND		ND	
Bromodichloromethane+		1.61E+01		NA			ND		ND		ND	
Carbon Tetrachloride	-	7.69E+00	3.10E-03	NA		1.01E+06	ND		ND		ND	
Cis-1,2-dichloroethylene		8.00E+02	3.60E-01	NA			ND		ND		ND	
trans-1,2-dichloroethylene		1.60E+03		NA			ND		ND		ND	
Chlorobenzene		1.60E+03	8.74E-01	NA			ND		ND		ND	
Chloroform	-	1.64E+02	3.81E-02	NA		2.15E+07	ND		ND		ND	
Ethyl ether+		2.40E+04		NA			ND		ND		ND	
Ethylbenzene	-	8.00E+03	6.05E+00	NA		NC	ND		ND		ND	
Ethylene glycol		1.60E+05	NA	NA			ND		ND		ND	
Hexone (MIBK)*		6.40E+03	1.28E+01	NA			ND		ND		ND	
Methanol+		4.00E+04	NA	NA			ND		ND		ND	
Methyl isobutyl ketone	-	6.40E+03	1.28E+01	NA		2.80E+08	ND		ND		ND	
Methylene chloride	-	1.33E+02	2.54E-02	NA		1.75E+07	ND		68	12.5	1600.00	35.5
n-butyl benzene	-			NA		NC	ND		ND		ND	

200-PW-2/4 Characterization Borehole Summary Data

Analyte	Hanford Site Background Concentrations	Unrestricted MTCA Method B Soil Clean up Action Levels			Release of Waste Not Controlled as Radioactive (pCi/g)	Method C - Soil Direct	216-A-19 Borehole		216-A-37-1 Borehole		216-B-12 Borehole	
		Direct Contact Pathway (mg/Kg)	Leaching Pathway (mg/Kg)	Terrestrial Ecological Soil (mg/Kg)			maximum analytical concentration	Depth (feet)	maximum analytical concentration	Depth (feet)	maximum analytical concentration	Depth (feet)
Tetrachloroethylene (PCE)	-	1.96E+01	9.10E-03	NA		Variable	ND				ND	
Trichloroethylene (TCE)	-	9.09E+01	2.63E-02	NA		2.80E+08	ND		ND		ND	
Toluene	-	1.60E+04	7.27E+00	200		7.00E+07	ND		ND		250 J	62.5
Xylene	-	1.60E+05	9.14E+01	NA		7.00E+09	ND		ND		ND	
Vinyl Chloride+		6.67E-01	1.84E-04	NA			ND		ND		ND	

* Constituent added for IDW DQO
(+) Constituent added for PW-4 IDW DQO
** Constituent added for required lower limits of detection for radionuclides
*** Ni-59 and Selenium-79 values based on Origin2 calculated value associated with Ni-63 and Cesium-137, respectively.

		Pathway (mg/Kg)	(mg/Kg)	Soil (mg/Kg)	(pCi/g)		concentration	(feet)	concentration	(feet)	concentrati
Radionuclides (pCi/g)											
Americium-241	-				2	NC	0.081	14.5	0.0200	147.5	2.00
Antimony-125*							ND		ND		ND
Carbon-14					50		0.522	207.5			3.30
Cesium-134*							ND		0.0335	147.5	ND
Cesium-137	1.05				10	NC	0.0432	248	0.128	12.5	65400.00
Cobalt-60	0.00842				10	NC	ND		ND		ND
Europium-152	-				10	NC	ND		ND		ND
Europium-154	0.0334				10	NC	ND		ND		ND
Europium-155	0.0539				10	NC	ND		0.0473	17.5	ND
Gross Alpha	-				5	NC	16	14.5			ND
Gross Beta	22.96				10	NC	70	14.5			ND
Iodine-129					25		0.404	22.5	ND		ND
Neptunium-237	-				NA	NC	0.017	207.5	ND		0.05
Nickel-59**					30		0.15***	14.5			ND
Nickel-63	-				30	NC	17.6	14.5	14.4	37.5	ND
Plutonium-238	0.00378				2	NC	ND		0.407	237.5	ND
Plutonium-239/240	0.0248				2	NC	0.18	14.5	0.012	47.5	3.90
Potasium-40	16.6				NA	NC	NA				15.80
Radium-226							0.447	14.5	0.485	147.5	0.71
Radium-228	1.32[c]					NC	0.506	32.5	0.541	147.5	0.90
Selenium-79**							ND***				
Total radioactive strontium	0.178				10	NC	20/.184	17.5/47.5 to TD	1.7	12.5	12700.00
Technetium-99	-				30	NC	0.46	32.5	ND		ND
Tin-126*							ND		ND		0.74
Tritium	-				400	NC	0.424	248	267	47.5	8.28
Thorium-232	1.32				2	NC	0.742	32.5	0.672	237.5	0.90
Total uranium (µg/g)	3.21				2	NC	130/ND	22.5/97.5 - TD	0.666	72.5	28/.342
Uranium-233/234	1.1				2	NC	6/0.18	14.5/97.5 - TD	0.372	272.5	4.90
Uranium-235/236	0.109				2	NC	0.94/<0.02	14.5/97.5 - TD	0.028	197.5	0.32
Uranium-238	1.06				2	NC	51/0.21	14.5/97.5 - TD	0.486	237.5	5.10
Inorganic Metals (mg/kg)											
Antimony		3.20E+01	5.42E+00	5			ND		1.5	237.5	0.65
Arsenic	20[a]	6.67E-01	3.40E-02	7		219	7	14.5	3.72	17.5	7.30
Barium	132	5.60E+03	9.23E+02	102		245,000	98.9	14.5	193	97.5	93.80
Beryllium	1.51	1.60E+02	6.32E+01	10		30.5	0.256	22.5	0.39	97.5	0.33
Bismuth*		NA	NA	NA			36,400	97.5	ND		ND
Cadmium	0.81[a]	8.00E+01	6.90E-01	4		3,500	0.211	14.5	0.18	272.5	0.08
Chromium (III)	18.5	1.20E+05	2.00E+03	42		Unlimited	14.2	207.5	23.5	197.5	30.40
Hexavalent chromium	-	2.40E+02	1.84E+01	NA		10,500	ND		ND		ND
Copper	22	2.96E+03	2.63E+02	50		130,000	15.3	32.5	19.7	72.5	16.60
Lead	10.2	250: Method A	3.00E+03	118		1,000	3.18	14.5	13.1	237.5	6.10
Mercury	0.33	2.40E+01	2.09E+00	0.1		1,050	ND		0.02	72.5	1.31
Nickel											

		Pathway (mg/Kg)	(mg/Kg)	Soil (mg/Kg)	(pCi/g)		concentration	(feet)	concentration	(feet)	concentr
Anions (mg/kg)											
Ammonia	9.23	NA	NA	NA		Unlimited	6.79	22.5	266	12.5	404.0
Boron*							38.93/ND	14.5/47.5 to TD	0.94	147.5	1.30
Chloride	100	NA	1.00E+03	NA		25,000[b]	33.1	27.5	14.3	12.5	23.4(
Cyanide	-	1.60E+03	8.00E-01	NA		70,000	ND		ND		ND
Fluoride	2.81	NA	1.60E+01	NA		210,000	5.62	14.5	1.69	72.5	ND
Nitrate and nitrate/nitrite as N	52	8.00E+03	4.00E+01	NA		Unlimited	9860/26.2	27.5/97.5 - TD	1710	12.5	165.0(
Nitrite and nitrate/nitrite as N	-	8.00E+03	4.00E+00	NA		350,000	0.451	22.5	1.66	12.5	ND
Phosphate	0.79	NA	NA	NA		NC	5.04	22.5	ND		2.80
Sulfate	237	NA	1.00E+03	NA		25,000[b]	294	32.5	32	12.5	647.0(
Semi-Volatile Organics (µg/kg)											
2-Butoxyethanol+							ND		ND		ND
Tributyl phosphate	-	NA	NA	NA		NC	29,000	33	45	12.5	ND
Grease		2.00E+03		200			ND		ND		ND
Kerosene	-	2.00E+03		200		2,000	ND		ND		ND
p-Dichlorobenzene+		4.17E+01	3.00E-02	20			ND		ND		ND
Phenol		4.80E+04	4.39E+01	30			ND		ND		ND
PCBs	-	1.60E+00	3.09E+00	0.65		70,000[d]	NA		ND		(1254) 14(
Volatile Organics (µg/kg)											
1,1-dichloroethane (DCA)		8.00E+03	4.37E+00	NA			ND		ND		ND
1,2-dichloroethane (DCA)		1.10E+01	2.32E-03	NA			ND		ND		ND
1,1,1-trichloroethane(TCA)	-	7.20E+04	1.58E+00	NA		3.15E+09	ND		ND		ND
Acetone	-	8.00E+03	3.21E+00	NA		3.50E+08	ND		1.58	97.5	ND
2-butanone (MEK)	-	4.80E+04	2.18E+01	NA		2.10E+09	ND		ND		ND
Benzene		1.82E+02	4.48E-03	NA			ND		ND		ND
Benzyl Alcohol*		2.40E+04		NA			ND		ND		ND
Bromodichloromethane+		1.61E+01		NA			ND		ND		ND
Carbon Tetrachloride	-	7.69E+00	3.10E-03	NA		1.01E+06	ND		ND		ND
Cis-1,2-dichloroethylene		8.00E+02	3.60E-01	NA			ND		ND		ND
trans-1,2-dichloroethylene		1.60E+03		NA			ND		ND		ND
Chlorobenzene		1.60E+03	8.74E-01	NA			ND		ND		ND
Chloroform	-	1.64E+02	3.81E-02	NA		2.15E+07	ND		ND		ND
Ethyl ether+		2.40E+04		NA			ND		ND		ND
Ethylbenzene	-	8.00E+03	6.05E+00	NA		NC	ND		ND		ND
Ethylene glycol		1.60E+05	NA	NA			ND		ND		ND
Hexone (MIBK)*		6.40E+03	1.28E+01	NA			ND		ND		ND
Methanol+		4.00E+04	NA	NA			ND		ND		ND
Methyl isobutyl ketone	-	6.40E+03	1.28E+01	NA		2.80E+08	ND		ND		

		Pathway (mg/Kg)	(mg/Kg)	Soil (mg/Kg)	(pCi/g)		concentration	(feet)	concentration	(feet)	concentra
Tetrachloroethylene (PCE)	-	1.96E+01	9.10E-03	NA		Variable	ND				ND
Trichloroethylene (TCE)	-	9.09E+01	2.63E-02	NA		2.80E+08	ND		ND		ND
Toluene	-	1.60E+04	7.27E+00	200		7.00E+07	ND		ND		250 J
Xylene	-	1.60E+05	9.14E+01	NA		7.00E+09	ND		ND		ND
Vinyl Chloride+		6.67E-01	1.84E-04	NA			ND		ND		ND

* Constituent added for IDW DQO
(+) Constituent added for PW-4 IDW DQO
** Constituent added for required lower limits of detection for radionuclides
*** Ni-59 and Selenium-79 values based on Origin2 calculated value associated with Ni-63 and Cesium-137, respectively.

	Concentrations	Pathway (mg/Kg)	Pathway (mg/Kg)	Ecological Soil (mg/Kg)	Radioactive (pCi/g)		analytical concentration	Depth (feet)	analytical concentration	Depth (feet)
Radionuclides (pCi/g)										
Americium-241	-				2	NC	0.081	14.5	0.0200	147.5
Antimony-125*							ND		ND	
Carbon-14					50		0.522	207.5		
Cesium-134*							ND		0.0335	147.5
Cesium-137	1.05				10	NC	0.0432	248	0.128	12.5
Cobalt-60	0.00842				10	NC	ND		ND	
Europium-152	-				10	NC	ND		ND	
Europium-154	0.0334				10	NC	ND		ND	
Europium-155	0.0539				10	NC	ND		0.0473	17.5
Gross Alpha	-				5	NC	16	14.5		
Gross Beta	22.96				10	NC	70	14.5		
Iodine-129					25		0.404	22.5	ND	
Neptunium-237	-				NA	NC	0.017	207.5	ND	
Nickel-59**					30		0.15***	14.5		
Nickel-63	-				30	NC	17.6	14.5	14.4	37.5
Plutonium-238	0.00378				2	NC	ND		0.407	237.5
Plutonium-239/240	0.0248				2	NC	0.18	14.5	0.012	47.5
Potasium-40	16.6				NA	NC	NA			
Radium-226							0.447	14.5	0.485	147.5
Radium-228	1.32[c]					NC	0.506	32.5	0.541	147.5
Selenium-79**							ND***			
Total radioactive strontium	0.178				10	NC	20/.184	17.5/47.5 to TD	1.7	12.5
Technetium-99	-				30	NC	0.46	32.5	ND	
Tin-126*							ND		ND	
Tritium	-				400	NC	0.424	248	267	47.5
Thorium-232	1.32				2	NC	0.742	32.5	0.672	237.5
Total uranium (µg/g)	3.21				2	NC	130/ND	22.5/97.5 - TD	0.666	72.5
Uranium-233/234	1.1				2	NC	6/0.18	14.5/97.5 - TD	0.372	272.5
Uranium-235/236	0.109				2	NC	0.94/<0.02	14.5/97.5 - TD	0.028	197.5
Uranium-238	1.06				2	NC	51/0.21	14.5/97.5 - TD	0.486	237.5
Inorganic Metals (mg/kg)										
Antimony		3.20E+01	5.42E+00	5			ND		1.5	237.5
Arsenic	20[a]	6.67E-01	3.40E-02	7		219	7	14.5	3.72	17.5
Barium	132	5.60E+03	9.23E+02	102		245,000	98.9	14.5	193	97.5
Beryllium	1.51	1.60E+02	6.32E+01	10		30.5	0.256	22.5	0.39	97.5
Bismuth*		NA	NA	NA			36,400	97.5	ND	
Cadmium	0.81[a]	8.00E+01	6.90E-01	4		3,500	0.211	14.5	0.18	272.5
Chromium (III)	18.5	1.20E+05	2.00E+03	42		Unlimited	14.2	207.5	23.5	197.5
Hexavalent chromium	-	2.40E+02	1.84E+01	NA		10,500	ND		ND	
Copper	22	2.96E+03	2.63E+02	50		130,000	15.3	32.5	19.7	72.5
Lead	10.2	250: Method A	3.00E+03	118		1,000	3.18	14.5	13.1	237.5
Mercury	0.33	2.40E+01	2.09E+00	0.1		1,050	ND		0.02	72.5
Nickel	19.1	1.60E+03	1.30E+02	30		70,000	13.4	242.5	17.1	197.5

	Concentrations	Pathway (mg/Kg)	Pathway (mg/Kg)	Ecological Soil (mg/Kg)	Radioactive (pCi/g)		analytical concentration	(feet)	analytical concentration	(feet)
Anions (mg/kg)										
Ammonia	9.23	NA	NA	NA		Unlimited	6.79	22.5	266	12.5
Boron*							38.93/ND	14.5/47.5 to TD	0.94	147.5
Chloride	100	NA	1.00E+03	NA		25,000[b]	33.1	27.5	14.3	12.5
Cyanide	-	1.60E+03	8.00E-01	NA		70,000	ND		ND	
Fluoride	2.81	NA	1.60E+01	NA		210,000	5.62	14.5	1.69	72.5
Nitrate and nitrate/nitrite as N	52	8.00E+03	4.00E+01	NA		Unlimited	9860/26.2	27.5/97.5 - TD	1710	12.5
Nitrite and nitrate/nitrite as N	-	8.00E+03	4.00E+00	NA		350,000	0.451	22.5	1.66	12.5
Phosphate	0.79	NA	NA	NA		NC	5.04	22.5	ND	
Sulfate	237	NA	1.00E+03	NA		25,000[b]	294	32.5	32	12.5
Semi-Volatile Organics (µg/kg)										
2-Butoxyethanol+							ND		ND	
Tributyl phosphate	-	NA	NA	NA		NC	29,000	33	45	12.5
Grease		2.00E+03		200			ND		ND	
Kerosene	-	2.00E+03		200		2,000	ND		ND	
p-Dichlorobenzene+		4.17E+01	3.00E-02	20			ND		ND	
Phenol		4.80E+04	4.39E+01	30			ND		ND	
PCBs	-	1.60E+00	3.09E+00	0.65		70,000[d]	NA		ND	
Volatile Organics (µg/kg)										
1,1-dichloroethane (DCA)		8.00E+03	4.37E+00	NA			ND		ND	
1,2-dichloroethane (DCA)		1.10E+01	2.32E-03	NA			ND		ND	
1,1,1-trichloroethane(TCA)	-	7.20E+04	1.58E+00	NA		3.15E+09	ND		ND	
Acetone	-	8.00E+03	3.21E+00	NA		3.50E+08	ND		1.58	97.5
2-butanone (MEK)	-	4.80E+04	2.18E+01	NA		2.10E+09	ND		ND	
Benzene		1.82E+02	4.48E-03	NA			ND		ND	
Benzyl Alcohol*		2.40E+04		NA			ND		ND	
Bromodichloromethane+		1.61E+01		NA			ND		ND	
Carbon Tetrachloride	-	7.69E+00	3.10E-03	NA		1.01E+06	ND		ND	
Cis-1,2-dichloroethylene		8.00E+02	3.60E-01	NA			ND		ND	
trans-1,2-dichloroethylene		1.60E+03		NA			ND		ND	
Chlorobenzene		1.60E+03	8.74E-01	NA			ND		ND	
Chloroform	-	1.64E+02	3.81E-02	NA		2.15E+07	ND		ND	
Ethyl ether+		2.40E+04		NA			ND		ND	
Ethylbenzene	-	8.00E+03	6.05E+00	NA		NC	ND		ND	
Ethylene glycol		1.60E+05	NA	NA			ND		ND	
Hexone (MIBK)*		6.40E+03	1.28E+01	NA			ND		ND	
Methanol+		4.00E+04	NA	NA			ND		ND	
Methyl isobutyl ketone	-	6.40E+03	1.28E+01	NA		2.80E+08	ND		ND	
Methylene chloride	-	1.33E+02	2.54E-02	NA		1.75E+07	ND		68	12.5

	Concentrations	Pathway (mg/Kg)	Pathway (mg/Kg)	Ecological Soil (mg/Kg)	Radioactive (pCi/g)		analytical concentration	(feet)	analytical concentration	(feet)
Tetrachloroethylene (PCE)	-	1.96E+01	9.10E-03	NA		Variable	ND			
Trichloroethylene (TCE)	-	9.09E+01	2.63E-02	NA		2.80E+08	ND		ND	
Toluene	-	1.60E+04	7.27E+00	200		7.00E+07	ND		ND	
Xylene	-	1.60E+05	9.14E+01	NA		7.00E+09	ND		ND	
Vinyl Chloride+		6.67E-01	1.84E-04	NA			ND		ND	

* Constituent added for IDW DQO
(+) Constituent added for PW-4 IDW DQO
** Constituent added for required lower limits of detection for radionuclides
*** Ni-59 and Selenium-79 values based on Origin2 calculated value associated with Ni-63 and Cesium-137, respectively.

FY 2004 VAPOR EXTRACTION SYSTEM WORK PLAN FOR TRENCH T-04 IN THE 218-W-4C BURIAL GROUND as approved at the 10/2/03 LLBG Project Managers Meeting.

Distriubution:

Jane V. Borghese	E6-35
Mark E. Byrnes	E6-35
Bruce H. Ford	E6-35
Jared D. Isaacs	E6-35
John G. Morse	A6-38
Virginia J. Rohay	E6-35
Gregory L. Sinton	A6-38
Mary E. Todd-Robertson	E6-35
Arlene C. Tortoso	A6-38

APPROVAL OF THE FY 2004 VAPOR EXTRACTION SYSTEM WORK PLAN FOR TRENCH T-04 IN THE 218-W-4C BURIAL GROUND

The Project Managers for the Carbon Tetrachloride Vapor Extraction Remediation at Trench T-04 in the 218-W-4C Burial Ground approve the attached FY 2004 Vapor Extraction System Work Plan.

John G. Morse, for 10/1/03

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

Matt Mills 10/2/03

M. E. Mills Date
Washington State Department of Ecology
Kennewick Office

FY 2004 VAPOR EXTRACTION SYSTEM WORK PLAN FOR TRENCH T-04 IN THE 218-W-4C BURIAL GROUND

Vapor extraction will be performed at Trench T-04 within the 218-W-4C burial ground during FY 2004 to remove carbon tetrachloride from the trench free air volume. The primary objective for this remediation is to minimize release of carbon tetrachloride from the trench to the environment. Vapor extraction will be conducted prior to waste retrieval activities at Trench T-04. A commercially-manufactured vapor extraction system (VES), incorporating a high efficiency particulate air (HEPA) filter and a granular activated carbon (GAC) adsorber, will be deployed and operated for this activity.

The action will be performed and the VES designed and operated manually in accordance with:

- *Action Memorandum: Expedited Response Action Proposal for 200 West Area Carbon Tetrachloride Plume* (U.S. Environmental Protection Agency and Washington State Department of Ecology letter to U.S. Department of Energy, Richland Operations Office, CCN 9200423, dated January 21, 1992).
- *Safety Analysis for the 200 West Area Expedited Response Action for Remediation of Carbon Tetrachloride* (BHI-00089, Rev. 02).
- *Design, Operation, and Maintenance of the Soil Vapor Extraction Systems for the 200 West Area Carbon Tetrachloride Expedited Response Action* (BHI-00395, Rev. 0), section 2.2.1.2 "Committed Administrative Action for Limiting Carbon Tetrachloride Exposure", paragraph "Requirements: Manual Operation Mode (manual sampling for contaminants)".

Vent riser T4-04 in the subject trench (Figure 1) has been selected as the primary VES withdrawal point based on previous carbon tetrachloride vapor monitoring (CP-13514, *200-PW-1 Operable Unit Report on Step I Sampling and Analysis of the Dispersed Carbon Tetrachloride Vadose Zone Plume*). Treated process air will be discharged from the GAC adsorber to atmosphere through an elevated release point. The alternate discharge path is to the trench free air volume through one or more of the existing vent risers. Based on vapor sample and process data collected during operation, the withdrawal and discharge points may be reconfigured to provide additional data for rebound analysis and to optimize carbon tetrachloride removal. Multiple vent risers may be used for withdrawal and discharge.

At a nominal flowrate of 1.4 to 2.8 m^3/min (50 to 100 ft^3/min), the VES will be capable of approximately one complete exchange of 218-W-4C Burial Ground Trench T-04 free air volume during an 8-hour operating period. This is based upon an assumed total trench volume of 3,262 m^3 (115,200 ft^3) with 20% free air space, and intercommunication within the air volume throughout the entire length of the trench.

Carbon tetrachloride concentration monitoring will be accomplished through collection of grab-samples and off-line analysis using a photo-acoustic gas analyzer. Vapor samples will be collected using CP-GPP-EE-05-3.2, "Field Screening Tedlar Bag Sampling". The samples will be analyzed for carbon tetrachloride at field screening level QC-1 (CP-A-QA-03-5.2, "Onsite Measurements Quality Assurance Program Plan"). The data collected during operation and

monitoring of the VES system will be organized and maintained on a desktop computer and in the project files. The results will be included in the annual performance evaluation report for carbon tetrachloride vapor extraction operations. The results will be reported at the Waste Management Project Manager Meetings.

Radiological and industrial health surveys will be performed at initial startup and at 1-hour minimum intervals during the first 8 hours of operation. As a minimum, radiological and industrial health surveys of the HEPA filter and the general VES operations area will be conducted during the first hour of operation at the beginning of each 8-hour operation cycle. Radiological surveys will be performed for fittings upstream of the HEPA filter after operations begin.

Operation of the VES is scheduled to begin by November 15, 2003. Design of the VES precludes operation in ambient temperatures below 32 degrees F. As a result, the initial start date and operations schedule may need to be adjusted based on weather conditions.

Following initial operations, vapor extraction will continue on the weekly schedule shown in Table 1 until carbon tetrachloride concentrations are equal to or less than 10 ppmv. Monitoring will continue on a weekly basis. If detected carbon tetrachloride concentrations exceed 10 ppmv, the VES will be returned to the weekly operations cycle. Cyclic operation of the VES will support optimization of carbon tetrachloride removal and evaluation of remediation effectiveness.

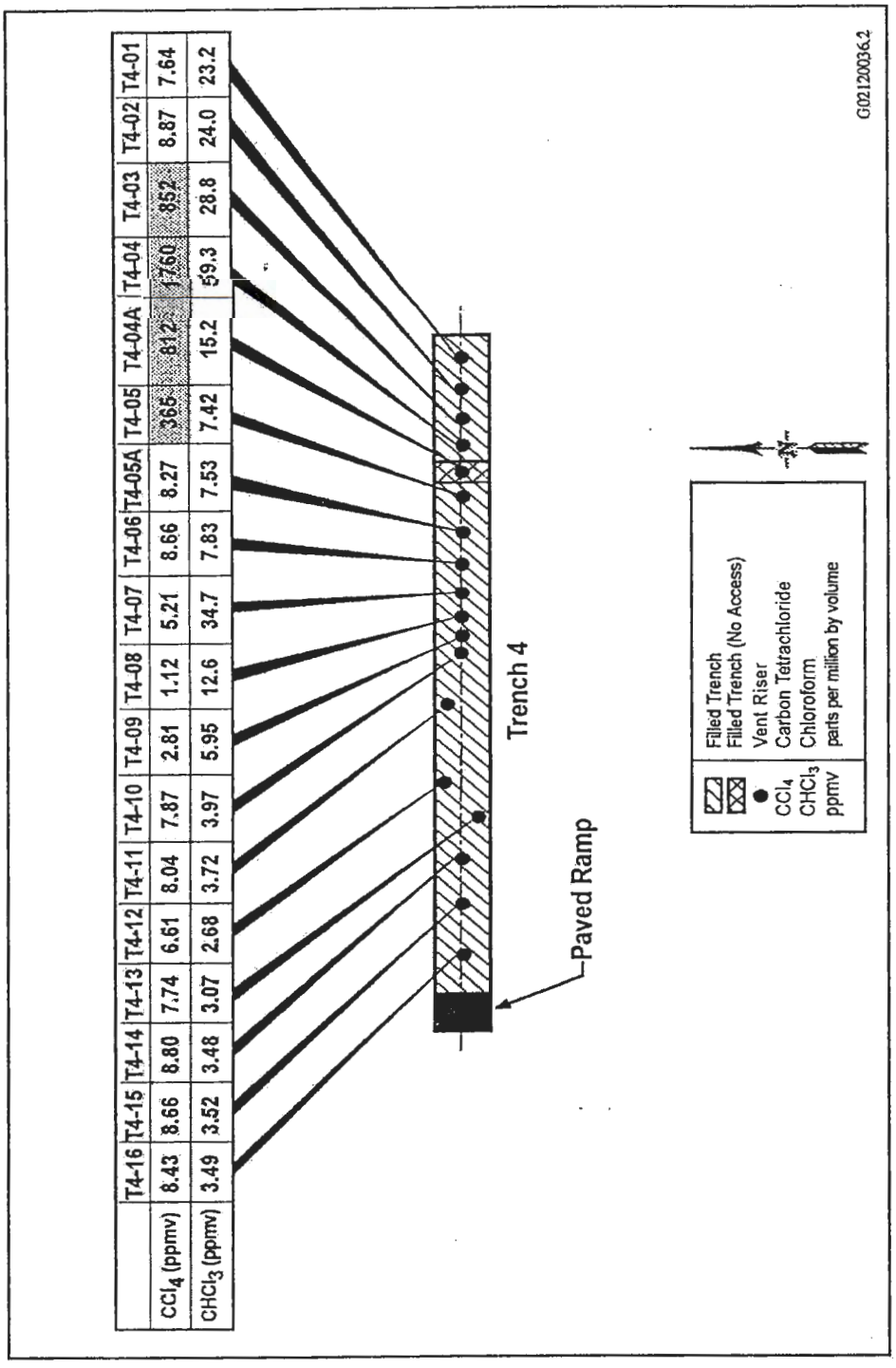
VES weekly operation will potentially continue until January 2004, when waste retrieval operations at Trench T-04 within the 218-W-4C Burial Ground are anticipated to begin. If, by January 2004, carbon tetrachloride concentrations do not remain consistently low in response to VES operations, the Project Managers will determine an appropriate mitigation response.

Table 1. Weekly Operations Cycle.

Monday	Monitor and record carbon tetrachloride concentrations
Tuesday	VES operation and monitoring for 8-hours
Wednesday	VES offline
Thursday	Monitor and record carbon tetrachloride concentrations
Friday	VES operation and monitoring for 8-hours
Saturday	VES offline
Sunday	VES offline

Daily activities are subject to revision based upon VES performance

Figure 1: Results of Vent Riser Sampling at Trench T-04 in the 218-W-4C Burial Ground, May 2002



APPROVAL OF THE CARBON TETRACHLORIDE EXPEDITED RESPONSE ACTION (200-PW-1 OPERABLE UNIT) SOIL VAPOR MONITORING PLAN FOR OCTOBER 2003 THROUGH MARCH 2004

The Unit Managers for the Carbon Tetrachloride Expedited Response Action (200-PW-1 Operable Unit) approve the attached Soil Vapor Monitoring Plan for October 2003 through March 2004.

John C. Morse, for 10/14/03

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

10-16-03

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

October 9, 2003

CARBON TETRACHLORIDE EXPEDITED RESPONSE ACTION
SOIL VAPOR MONITORING PLAN FOR OCTOBER 2003 THROUGH MARCH 2004

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 2003 through March 2004 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 (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 the soil vapor extraction system. 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).

Two wells will be drilled at the Z-9 site from October through December 2003. One well will be drilled on the south side of the 216-Z-9 Trench to investigate the vadose zone and aquifer for the presence of dense, nonaqueous-phase liquid carbon tetrachloride. The second well will be drilled on the north side of the 216-Z-9 Trench to replace extraction well 299-W15-32 in support of the 200-ZP-1 groundwater pump-and-treat operations. Monitoring locations at the Z-9 site will be adjusted as needed to accommodate these drilling activities.

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 using the rebound study sampling method and sampling pump (BHI-01105)
- Analyze soil vapor samples for carbon tetrachloride using the B&K multi-gas analyzer in accordance with GPP-EE-05-4.0 at field screening level QC-1 (CP-A-QA-03-5.2)
- Evaluate concentration trends for Fluor Hanford Groundwater Protection Program
- Report 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 2003 through March 2004 during FY 2004.

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 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 and are included in the annual performance evaluation report.

References:

CP-A-QA-03-5.2, *Quality Assurance Program Plans*, Procedure 5.2, "Onsite Measurements Quality Assurance Program Plan," Fluor Hanford, Inc., Richland, Washington.

GPP-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.

BHI-01105, 1997, *Rebound Study Report for the Carbon Tetrachloride Soil Vapor Extraction Site, Fiscal Year 1997*, Bechtel Hanford, Inc., Richland, Washington.

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)	5	6	11
Cold Creek unit (25-45 m below ground surface)	5	5	10
Groundwater (50-65 m below ground surface)	8[a]	2	10
Total	18	13	31

[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).

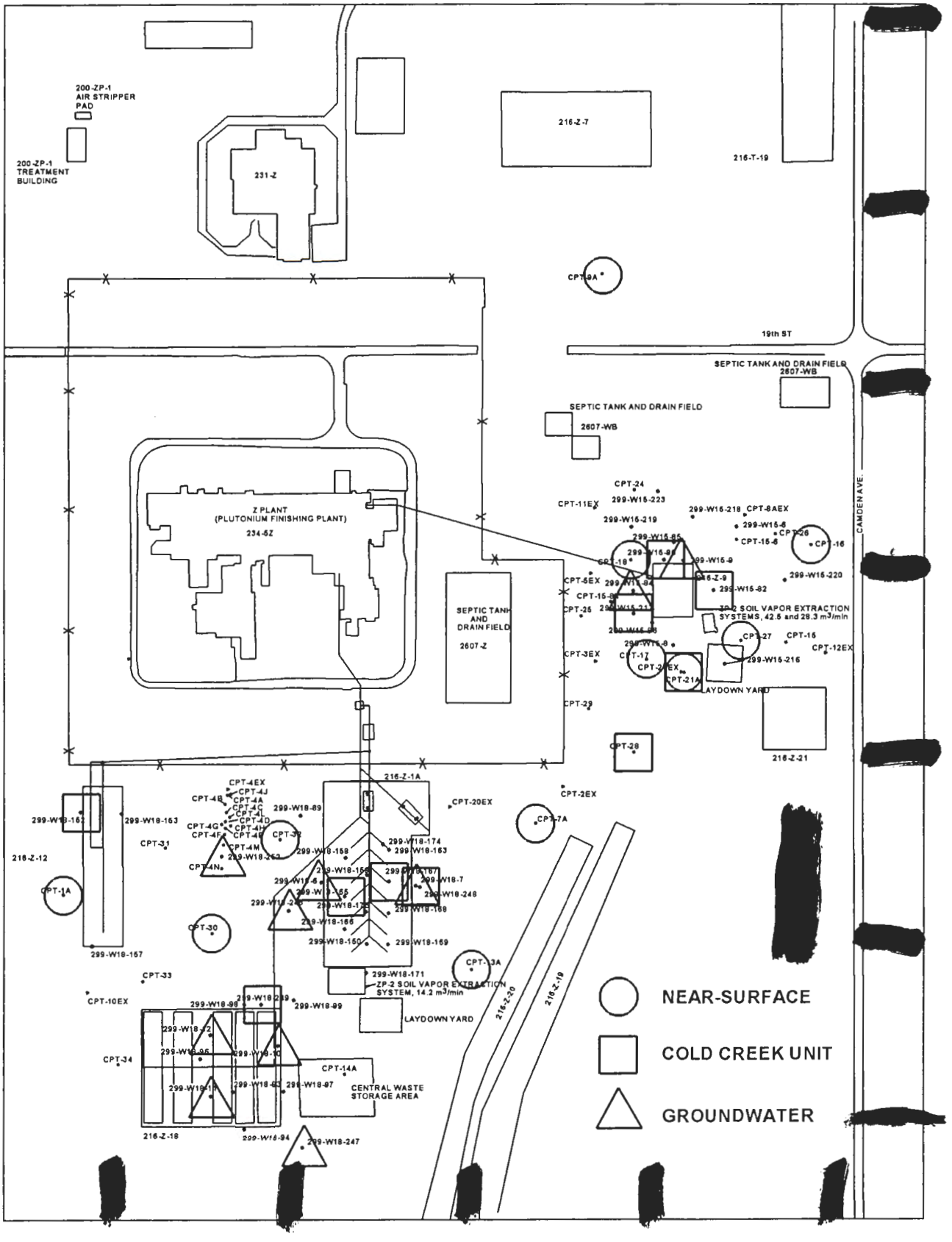
Table 2. Wells and Probes Selected for Non-Operational Monitoring and Passive Soil Vapor Extraction Monitoring.

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-18 15 ft (white)	5	northwest 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-16 25 ft (blue)	8	east of Z-9	CPT-13A 30 ft (blue)	10	southeast of Z-1A
near-surface	CPT-27 33 ft (red)	10	southeast of Z-9	CPT-7A 32 ft (yellow)	10	farfield northeast of Z-1A
near-surface	CPT-21A 45 ft (green)	14	south 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			
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	W15-217	35	southwest corner of Z-9	W18-249	41	northeast corner of Z-18
Cold Creek	W15-95L	44	north side of Z-9	W18-248	41	east side of Z-1A
ground water	W15-84L	55	west 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



October 9, 2003

UNIT MANAGERS' MEETING AGENDA

1200 Jadwin Avenue
November 20, 2003

9 a.m. – 11 a.m. 200 Area Room 1C1

General (5 minutes)

- Outstanding Action Items
- Open for Regulatory Topics or Action Items

U Plant Area Regional Closure (10 minutes)

- Status of FFS/PP
- Status of Field Work Preparations
- Status of Confirmatory/Design SAP

BC Cribs Area Closure (5 minutes)

- Status of SAP
- Status of Field Work
- Controlled Area Waste Control Plan

GROUNDWATER OPERABLE UNITS

General (5 minutes)

- Update on Well Decommissioning

200-BP-5 & 200-PO-1 OUs (2 minutes)

- 200-BP-5 Sample Collection Status
- 200-PO-1 SAP status

200-UP-1 OU (5 minutes)

- Remediation Treatment Status
- RI/FS Work Plan Status – Awaiting Ecology Comments
- Complete Tying Third Extraction well (299-W19-36) Into System
- Drilling of New Monitoring Wells "O", "N", and "S" Begins This Month
- Drilling of New Monitoring Wells "K", "P", and "R" Begins Spring 2004
- RL Currently Sending Letter to Ecology Documenting Changes to FY 2004 Groundwater Monitoring Network
- RI/FS Schedule – TPA Action Plan, Section 4.1

200-ZP-1 OU (5 minutes)

- Remediation Treatment Status
- RI/FS Data Quality Objectives Process Status – Final Being Issued
- RI/FS Work Plan Status – Being Issued for RL and EPA Review
- RL Currently Sending Letter to EPA Documenting Changes to FY 2004 Groundwater Monitoring Network
- Started Tying Replacement Extraction Well #1 Into the Treatment System
- Will Commence Drilling Replacement Extraction Well #4 Next Week

SOURCE OPERABLE UNITS

200-PW-1, 200-PW-3, & 200-PW-6 OUs (10 minutes)

- Remediation Treatment Status
- Monthly Monitoring
- Status of Field Work Preparation and Planning
- Status of RI/FS Work Plan
- Status of Field Work at 216-Z-9

218-W-4C (5 minutes)

- Remediation Treatment Status

200-PW-2 & 200-PW-4 OUs (10 minutes)

- Status of Field Work
- Status of Work Plan
- Status of RI Report
- Status of Ecology Request to Sample a Hexone Site (S-1, S-2, S-7, or S-8)

200-CS-1 OU

- Status of Waste Management Activities
- Status of RI Report

200-CW-5, CW-2, CW-4, & SC-1 OUs (2 minutes)

- Status of RI Report
- Status of FS
- Work Plan Revisions

200 Area Ecological Evaluation (5 minutes)

- Status of Eco DQO; Revised Schedule
- Status of Eco Evaluation Report
- Status of Gable Mountain Pond and B Pond Pit Fall Sampling

200-CW-1 & 200-CW-3 OUs (2 minutes)

- Status of FS and PP
    - Set up meeting date to start PP revisions

200-IS-1 & 200-ST-1 (10 minutes)

- Status of Work Plan
    - Gain better understanding of Ecology's issues based on their 8/7 email recommending revision of the document to be consistent with the UR-1 approach and their 8/29 letter requesting revision of the document to address additional remedial technologies

200-TW-1, 200-TW-2, & 200-PW-5 (2 minutes)

- Status of FS and PP

200-UR-1 (2 minutes)

- Status of Work Plan

200-SW-1/2 (5 minutes)

- Status of Work Plan
    - Per Ecology's request, include "current work schedule information including project task element schedule status and associated 'float'" – per TPA Action Plan Section 4.1.
- Status of Ecology Request to Initiate Weekly [Collaborative] Negotiation Sessions

Groundwater and Source Operable Units Unit Managers' Meeting
Official Attendance Record – 200 Area
November 20, 2003

Please print clearly and use black ink

PRINTED NAME	ORGANIZATION	O.U. ROLE	TELEPHONE
Mark Benecke	FH GPP	BC-cribs	376-0202
Julie Robertson	FH CPP	V Region	376-8162
Dave Erb	FH - 200 W GW		373-4457
Mike Priddy	WDOH		946-0564
Craig Swanson	FH	Tech Support	373-5807
Mary Todd-Robertson			
Bryan Foley	DOE-RL	DOE Area Waste Site Remedial	376-7097

Groundwater and Source Operable Units Unit Managers' Meeting
Official Attendance Record – 200 Area
November 20, 2003

Please print clearly and use black ink

PRINTED NAME	ORGANIZATION	O.U. ROLE	TELEPHONE
Chris Cearlock	CHG	200-CS-1	372-9638
Larry Romine	RL-AMCP	Central Plateau	376-4747
Kevin Leary	RL-AMCP	U-Plant	373-7285
Ron Jackson	FH	U-Plant	373-3599
Mark Byrnes	FH	UP-1/ZP-1 Task Lead	373-3996
JOHN MORSE	DOE-RL	GW FACTOR	376-0057
John Price	Ecology	Proj. Mgr.	736-3029
Stuart Luttrell	PNNL	GW Mon.	376-6023
John Winterhalder	FH/GPP	ECO	372-8144
John P. McDonald	PNNL	UP-1	373-0362
DENNIS FAULK	EPA		
Craig Cameron	EPA	Proj. Mgr.	376-8665
Brenda Jenten	Ecology	PW 2, 4 TW 1, 2, PW 5	736-5707
JERRY DAVIS	FH	well decomm	376-4154

MEETING MINUTES
200 AREA GROUNDWATER AND SOURCE OPERABLE UNITS
UNIT MANAGERS' MEETING -- 200 AREA
November 20, 2003

Topics of Discussion:

1. *General*

- Outstanding Action Items – Action items were reviewed.

- Open for Regulatory Topics or Action Items – A meeting with DOE-RL regarding the STOMP code report was requested by EPA. FH agreed to schedule a meeting for the first week in December.

  EPA also requested that the issue of assigning D&D to operable units be resolved.

  Ecology requested that project schedules be transmitted to Ecology and EPA and discussed at Unit Managers' Meetings per a schedule submitted by Ecology in the meeting (attached).

  PNNL provided a status on the B Pond Monitoring. The two year trial sampling period for evaluating alternative statistical methods (control chart) has been completed. The evaluation of the results is being performed. In the meantime, routine interim status monitoring will be resumed.

2. *U Plant Area Regional Closure*

- Status of FFS/PP – Revisions to the FFS/PP, which included regulatory comments to Draft A, were submitted to the regulators on November 10, 2003. Comments from the regulators on Draft B are due to DOE-RL by December 11, 2003.

- Status of Field Work Preparations – Field work involves surface sampling, test pits, boreholes and drive casing pushes. GPR work is in progress to support field activities. Plans are to begin drive casing pushes in December 2003.

- Status of Confirmatory/Design SAP – The DOE-RL and FH review is complete. The SAP is planned to be transmitted to the regulators the week of November 17, 2003.

- TPA CR C-03-01 – This transfers EPA CERCLA waste sites to Ecology for regulatory consolidation. EPA requested a copy of the draft change package.

3. *BC Cribs Area Closure*

- Status of SAP – The SAP for the 216-B-26 Crib borehole has been approved.

- Status of Field Work – A handout was distributed regarding the borehole work at the 216-B-58 waste site and the 216-B-26 Trench (attached). It was proposed that a borehole be drilled at C4168. Following that borehole, a second borehole would be

drilled at the west end of the ditch (C4173) to investigate the anomalous indication of Co-60. Ecology agreed that an additional borehole is needed. At the 216-B-26 trench, six pushes to 40 feet were performed. Stoller conducted preliminary geophysical logging, but is going to log the areas of the borehole where the tool was saturated using the high rate tool for better understanding of the concentrations. After reviewing the data, it will be determined whether the borehole should be put in at a different location due to the high levels of contamination at the current locations.

- Controlled Area Waste Control Plan – The Waste Control Plan for the borehole drilling was approved by EPA in October. A Waste Control Plan on the BC Controlled Area activities is being developed. Ecology asked if the BC Control Area would be split into two separate areas, a big outlying area and the area near the cribs and trenches.

GROUNDWATER OPERABLE UNITS

4. *General*

- Update on Well Decommissioning – Fifty-seven wells were completed as of last month. The contract for the next wells was awarded in early November. By the end of March, a total of 190 wells will be decommissioned. A final check is being performed on the well decommissioning checklist and there are some waste handling issues being resolved.

5. *200-BP-5 & 200-PO-1 OUs*

- 200-BP-5 Sample Collection Status – Sampling has been completed and the analytical results are being prepared. The Waste Control Plan was signed and 21 wells were added to the well decommissioning list in the Plan.

- 200-PO-1 SAP Status – Ecology has the SAP. Ecology requested a detailed schedule from DOE-RL for the RI/FS for 200-PO-1.

6. *200-UP-1 OU*

- Remediation Treatment Status – The average pumping rate for FY 2004 through November 2, 2003 was approximately 39 gpm. For the month of October through November 2, the system operated at between 0 and 52 gpm. The system was shut down on October 22 when a filter went down at ETF. The system remained down through the remainder of the reporting period. ETF has agreed to allow an increase in pumping rates to 60 gpm starting December 15, 2003 for over three months to make up for down time. The system run time through November 2, 2003, was 60.5%, for
FY 2004 year-to-date 60.5%, and from system inception to date 92.6% (attached).

- RI/FS Work Plan Status – Awaiting Ecology Comments – A portion of Ecology's comments was recently received. The comments focused on technology and response scenarios. The remaining comments will be received by the end of the week. Draft B will be in redline/strikeout form.

- Complete Tying Third Extraction Well (299-W19-36) Into System – The third extraction well 299-W19-36 was hooked up and has been tested. The system was temporarily shut down for the week of October 20, 2003 to tie well 299-W19-36 into the system.

- Drilling of New Monitoring Wells "O", "N", and "S" Begins This Month – These new wells will be in by the end of December, 2003.

- Drilling of New Monitoring Wells "K", "P", and "R" Begins Spring 2004 – Missing data are being collected.

- RL Currently Sending Letter to Ecology Documenting Changes to FY 2004 Groundwater Monitoring Network – Since the current groundwater monitoring network is documented in the UP-1 RI/FS Work Plan/SAP, the existing SAP (DOE/RL-2002-10, Rev. 0) will not be updated. The RL letter will take the place of DOE/RL-2002-10 until the UP-1 RI/FS Work Plan/SAP is finalized.

- RI/FS Schedule – TPA Action Plan, Section 4.1 – Ecology requested that the schedule be provided prior to the December Unit Managers' Meeting. This topic will be on the December Unit Managers' Meeting agenda.

7. ***200-ZP-1 OU***

- Remediation Treatment Status – The average pumping rate for FY 2003 was 132 gpm. The system run time is 100%. For the month of October through November 2, 2003, the system operated at between 125 and 134 gpm. The system was temporarily shut down on October 16, 2003, for testing instrumentation. The system run time through November 2, 2003, was 99.7%, FY 2004 year-to-date was 99.7% and system inception to date was 92.2%. A handout was distributed. (Attached)

- RI/FS Data Quality Objectives Process Status – Final Being Issued – The DQO is in signature process for final issue.

- RI/FS Work Plan Status – Being Issued for RL and EPA Review – The Work Plan is being transmitted for review.

- RL Currently Sending Letter to EPA Documenting Changes to FY 2004 Groundwater Monitoring Network – In process.

- Started Tying Replacement Extraction Well #1 Into the Treatment System – Extraction well #1 is scheduled to be hooked up in December 2003.

- Will Commence Drilling Replacement Extraction Well #4 Next Week – Drilling is scheduled to begin in December 2003.

SOURCE OPERABLE UNITS

8. *200-PW-1, 200-PW-3, & 200-PW-6 OUs*

- Remediation Treatment Status – The active system has been shut down for the winter. It is scheduled to be re-started in April of 2004. The passive system remains operational.

- Monthly Monitoring – Results are consistent with past monitoring. A handout was distributed. (Attached)

- Status of Field Work Preparation and Planning – Pre-job planning is on-going to drill the angle well under Z-9.

- Status of RI/FS Work Plan – A meeting with EPA is scheduled for November 25, 2003, to review changes to the Work Plan. The field work and the DNAPL investigation will be complete in March of 2006. The DNAPL investigation will be incorporated into the RI Report by March of 2007. The FFS/PP will be complete in June of 2008.

- Status of Field Work at 216-Z-9 – At 41 feet, the first high levels of radiological contamination was met. A compact silt layer was encountered at between 65 and 67 feet. Field screening tested positive for a separate organic phase, possibly a Dense Nonaqueous Phase Liquid (DNAPL).

9. *218-W-4C*

- Remediation Treatment Status – A handout was distributed on the vapor extraction at Trench T-04 in 218-W-4C. (Attached) Vent riser sampling began October 15, 2003. Sampling in all but two risers is complete. The highest concentrations have been at the east end of Trench 4.

10. *200-PW-2 & 200-PW-4 OUs*

- Status of Field Work – Drilling and sampling are completed for the six planned sites. Wastes are being managed and results from the lab are expected.

- Status of Work Plan – The ecological issues have been resolved and the text will be incorporated into an appropriate place in the Work Plan. The Work Plan is still on hold as Ecology is preparing a revision to the SAP, requesting a hexone site be characterized.

- Status of RI Report – Work is progressing on the Data Quality Assessment and information is being gathered to support preparation of the RI Report. The Field Summary Report will probably be out in December.

- Status of Ecology Request to Sample a Hexone Site (S-1, S-2, S-7, or S-8) – Due to a tight drilling schedule, work could not be done in the field until early summer. The information would not be available for the RI Report and the milestone would not be met. FH requested that the data be folded into the Feasibility Study. Ecology agreed.

11. *200-CS-1 OU*

- Status of Waste Management Activities – Waste from the 216-S-10 and 216-B-63 waste sites has been disposed of and A-29 is scheduled for disposal in December 2003. All the waste is going to ERDF.

- Status of RI Report – Work continues on the report. The milestone is at the end of May 2004.

12. *200-CW-5, CW-2, CW-4, & SC-1 OUs*

- Status of RI Report – EPA comments are being incorporated into the report.

- Status of FS – FH stated that 23 of the analogous waste sites in the 200-CW-5, CW-2, CW-4, and SC-1 operable units have been tied to representative sites in other operable units. FH would like to attempt to re-assign those sites. Revisions to the tables in the FS will have to be made.

- Work Plan Revisions – Re-assignments will be shown via Unit Managers' Meeting minutes.

13. *200 Area Ecological Evaluation*

- Status of Eco DQO; Revised Schedule – A DQO schedule was distributed and reviewed. (Attached) The matrix has been sent to DQO participants. Off-site people will be contacted regarding their attendance.

- Status of Eco Evaluation Report – Draft responses to all comments have been completed. The responses will be out in December.

- Status of Gable Mountain Pond and B Pond Pit Fall Sampling – Due to cold weather, this work was shut down. A Summary Report will be written.

14. *200-CW-1 & 200-CW-3 OUs*

- Status of FS and PP – A meeting with DOE-RL and FH is scheduled for the week of November 24, 2003.

  - Set Up Meeting Date to Start PP Revisions – A meeting with DOE-RL, Ecology and FH will be scheduled for early December 2003. Ecology will redline/strikeout the Proposed Plan and send it with comments on the FS.

15. *200-IS-1 & 200-ST-1 OUs*

- Status of Work Plan – Ecology stated that there are outstanding issues. The issues involve how structures are addressed and the technologies available. Ecology wants the decision logic spelled out in the Work Plan. In addition, there is an issue with the hexone sites. Ecology stated that the processing of tanks needs to be addressed in the Work Plan.

16. *200-TW-1, 200-TW-2, & 200-PW-5*

- Status of FS and PP – The FS/PP will undergo DOE-RL review starting January 15, 2004. FH requested that meetings be scheduled in January to review the major concepts of the document with Ecology and EPA.

17. *200-UR-1*

- Status of Work Plan – A subcontractor is on-board and DQO interviews are being conducted.

18. *200-SW-1 & 200-SW-2*

- Status of Work Plan – Ecology stated that per the TPA, RL must identify float in the schedule. Schedules will be discussed at the next UMM.

- Status of Ecology Request to Initiate Weekly [Collaborative] Discussions – Weekly collaborative meetings will be scheduled by DOE-RL.

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
32	200-TW-1 RI Report - EPA and Ecology to provide comments or approve the 200-TW-1 RI Report	EPA & Ecology	FH	8/21/2003				
33	Send tweak on language re: PW-2 Work Plans	DOE/RL	EPA	10/16/03				
34	Provide a clear definition of "Central Plateau"	FH	EPA&Ecology	10/16/03				
35	Validate EPA and Ecology's ideas from the Global Issues Meeting	DOE/RL	EPA&Ecology	10/16/03				
36	Barbara Wise to talk to Mary Anne Wanakee re: public involvement on U Plant FFS/PP	FH	Ecology	10/16/03				
37	Clearly define terms "confirmatory sampling' and 'remedial sampling'	FH	EPA	10/16/03				
38	Meeting to discuss contentious issues re: SW-2	Ecology	DOE/RL	10/16/03				

Attachment 10

200 Area UMM – November 2003

200-UP-1:

- Average Pumping Rate for FY04 through November 2: 39 gpm
- For the month of October through November 2, the system operated at between 0 and 52 gpm.
- The third extraction well 299-W19-36 was hooked up last week and has been tested.
- The system was temporarily shut down the week of October 20 to tie well 299-W19-36 into the system
- The system was shutdown October 22 when a filter went down at ETF. The system remained down through the remainder of the reporting period
- Starting December 15, ETF has agreed to allow us to increase our pumping rates to 60 gpm for a little over 3 months to allow us to make up for down time.

- System Run Time
  - Through November 2, 2003 60.5%
  - FY2004 (Year to date) 60.5%
  - System Inception to date 92.6%

- RI/FS Work Plan Status – Recently received a portion of Ecology Comments
- Drilling of New Monitoring Wells "O", "N", and "S" Begins This Month
- Drilling of New Monitoring Wells "K", "P", and "R" Begins Spring 2004
- RL is currently sending letter to Ecology documenting changes to FY04 groundwater monitoring network
- RI/FS Schedule – TPA Action Plan, Section 4.1
- Well decommissioning status

200-ZP-1:

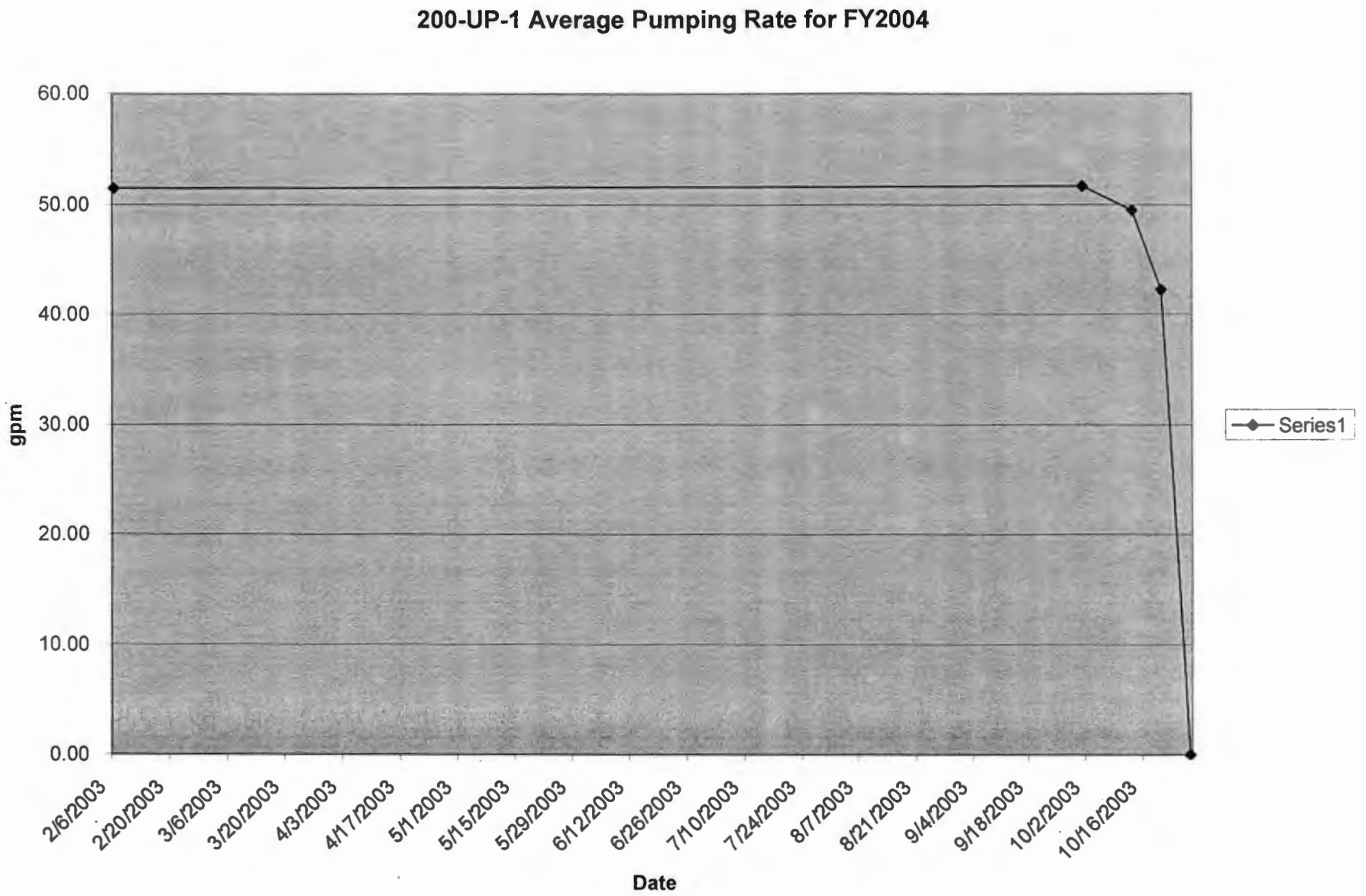
- Average Pumping Rate for FY04 through November 2: 132 gpm
- For the month of October through November 2, the system operated at between 125 and 134 gpm.
- System was temporarily shutdown on October 16 for testing instrumentation
- Replacement Extraction Well #1 is scheduled to begin being hooked up in December 2003
- Replacement Extraction Well #4 is scheduled to be drilled in December 2003

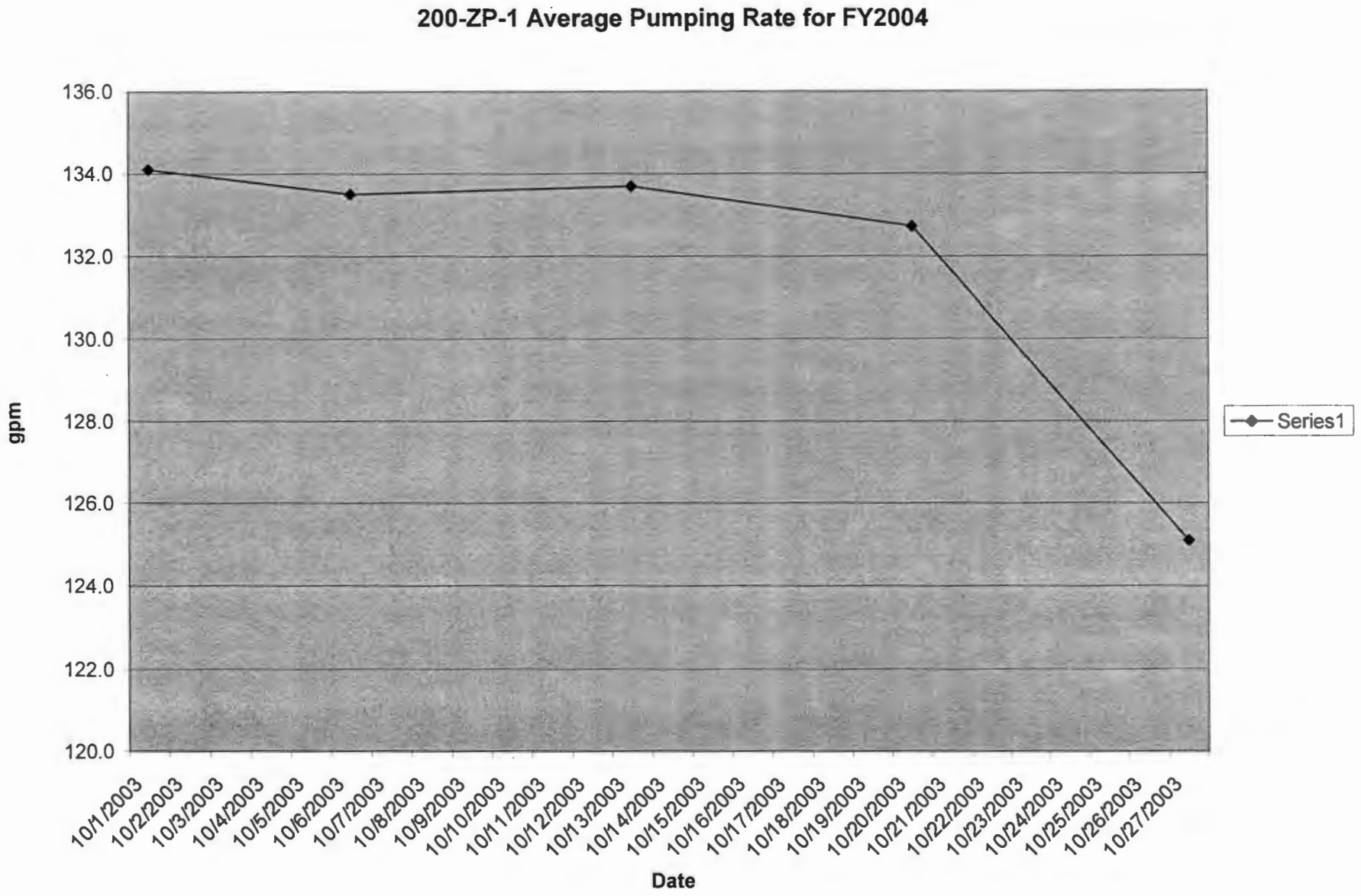
- System Run Time
    - Through November 2, 2003 99.7%
    - FY2004 (Year to date) 99.7%
    - System Inception to date 92.2%

- RI/FS Data Quality Objectives Summary Report – Final Being Issued
- RI/FS Work Plan Status – Being Issued for RL and EPA Review in next few weeks
- RL Currently Sending Letter to EPA Documenting Changes to FY04 Groundwater Monitoring Network

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

- Active system is shutdown for the winter and is scheduled to be restarted April 1, 2004
- The passive system remains operational.


200-UP-1 Average Pumping Rate for FY2004
60.00
50.00
40.00
30.00
20.00
10.00
0.00
gpm
2/6/2003
2/20/2003
3/6/2003
3/20/2003
4/3/2003
4/17/2003
5/1/2003
5/15/2003
5/29/2003
6/12/2003
6/26/2003
7/10/2003
7/24/2003
8/7/2003
8/21/2003
9/4/2003
9/18/2003
10/2/2003
10/16/2003
Date
Series1


200-ZP-1 Average Pumping Rate for FY2004
136.0
134.0
132.0
130.0
128.0
126.0
124.0
122.0
120.0
gpm
Series1
10/1/2003
10/2/2003
10/3/2003
10/4/2003
10/5/2003
10/6/2003
10/7/2003
10/8/2003
10/9/2003
10/10/2003
10/11/2003
10/12/2003
10/13/2003
10/14/2003
10/15/2003
10/16/2003
10/17/2003
10/18/2003
10/19/2003
10/20/2003
10/21/2003
10/22/2003
10/23/2003
10/24/2003
10/25/2003
10/26/2003
10/27/2003
Date

Comparison of Maximum Carbon Tetrachloride Rebound Concentrations Monitored at 200-PW-1 Soil Vapor Extraction Sites FY 1997 - FY 2003

200-PW-1 (200-ZP-2) Location (Well or Probe) /feet bgs	Site	November 1996 - July 1997 Maximum Rebound Carbon Tetrachloride (ppmv)	months* of rebound	October 1997 - September 1998 Maximum Rebound Carbon Tetrachloride (ppmv)	months* of rebound	July 1998 - September 1999 Maximum Rebound Carbon Tetrachloride (ppmv)	months* of rebound	July 1999 - June 2001 Maximum Rebound Carbon Tetrachloride (ppmv)	months* of rebound	July 2001 - June 2002 Maximum Rebound Carbon Tetrachloride (ppmv)	months* of rebound	July 2002 - September 2003 Maximum Rebound Carbon Tetrachloride (ppmv)	months of reboun
79-03/ 5 ft	Z-18	0	8	0	3	0	12						
79-06/ 5 ft	Z-1A	not measured		not measured		1.4	12						
79-11/ 5 ft	Z-1A	0	8	0	6	2.9	12						
86-05/ 5 ft	Z-9	not measured		not measured		0	3						
86-05-01/ 5 ft	Z-9	not measured		not measured		0	3						
86-06/ 5 ft	Z-9	1.3	8	0	9	1.9	6						
87-05/ 5 ft	Z-1A	not measured		0	3	1.0	12						
87-09/ 5 ft	Z-1A	not measured		1.5	3	2.6	12						
94-02/ 5 ft	Z-9	0	8	not measured		1.4	3						
95-11/ 5 ft	Z-9	0	8	2.1	9	2.5	6						
95-12/ 5 ft	Z-9	1.1	8	1.5	9	1.3	6						
95-14/ 5 ft	Z-9	not measured		not measured		0	3						
CPT-13A/ 9 ft	Z-1A	not measured		0	6	1.0	12						
CPT-16/ 10 ft	Z-9	not measured		0	9	1.5	6						
CPT-17/ 10 ft	Z-9	not measured		4.2	9	5.1	6	6.6	24	3.2	6	6.6	15
CPT-18/ 15 ft	Z-9	not measured		6.5	9	5.0	6	5.2	24	1.4	6	2.4	15
CPT-4A/ 25 ft	Z-1A	not measured		not measured		not measured		3.5	0	3.4	10		
CPT-4E/ 25 ft	Z-1A	not measured		not measured		not measured		not measured		2.6	12	1.3	0
CPT-16/ 25 ft	Z-9	not measured		not measured		not measured		1.8	24	1.1	6	2	15
CPT-31/25 ft	Z-1A	not measured		0	6	0	12						
CPT-32/ 25 ft	Z-1A	not measured		9.1	6	10	12	16.5	18	13.0	12	8.3	6
CPT-30/ 28 ft	Z-18	not measured		not measured		3.2	12	1.4	18	0	12	0	6
CPT-13A/ 30 ft	Z-1A	2.2	8	not measured		not measured		3.6	18	2.6	12	1.6	6
CPT-7A/ 32 ft	Z-1A	not measured		2.3	6	5.4	12	6.2	18	5.6	12	3.9	6
CPT-27/ 33 ft	Z-9	1.2	8	not measured		not measured		2.6	24	1.5	6	1.7	15
CPT-1A/ 35 ft	Z-12	2.0	8	1.4	3	3.0	12	7.7	18	11.3	12	22.0	15
CPT-28/ 40 ft	Z-9	40.1	8							56.5	6		
CPT-33/ 40 ft	Z-1A	not measured		2.0	3	2.6	12			2.3	12		
CPT-34/ 40 ft	Z-18	2.3	8	not measured		1.7	12	1.9	0	2.2	12	1.6	0
CPT-21A/ 45 ft	Z-9	65.6	8	52.7	9	57	3	127	24	133	6	90.0	15
W15-220ST/ 52 ft	Z-9	2	8	not measured		1.6	3	2.5	24			1.5	1
CPT-28/ 60 ft	Z-9	not measured		1.5	0	3.7	3						
CPT-9A/ 60 ft	Z-9	45.5	8	41.1	0	44	3	68	24	45.3	6	35.9	15
CPT-16/ 65 ft	Z-9	4.6	8	not measured		not measured		not measured		not measured		4.2	15
CPT-1A/ 68 ft	Z-12	not measured		not measured		not measured		not measured		5.5	12		
CPT-30/ 68 ft	Z-18	1.7	8	not measured		3.0	12						
CPT-32/ 70 ft	Z-1A	7.4	8							7.7	12		
CPT-13A/ 70 ft	Z-1A	5.2	8	not measured		5.6	12						
CPT-24/70 ft	Z-9	not measured		3.2	9	3.6	3					4.7	15
W15-219SST/ 70 ft	Z-9	14.6	8	not measured		7.6	3	7.8	24			1.9	1
CPT-18/ 75 ft	Z-9	not measured		not measured		not measured		18	24			4.5	15
CPT-4A/ 75 ft	Z-1A	not measured		not measured		not measured		not measured		7.1	3		
CPT-31/ 76 ft	Z-1A	4.0	8	not measured		4.2	12						
CPT-33/ 80 ft	Z-1A	5.8	8	not measured		9.2	12						
W15-82/ 83 ft	Z-9	28.9	8	5.5	9	46	6	55	24	66.7	6	85.8	15
CPT-21A/ 86 ft	Z-9	221	8	206	9	148	6	195	24	186	6	206	15
CPT-34/ 86 ft	Z-18	36.3	8	5.9	3	0	12						
W15-95U/ 86 ft	Z-9	not measured		15.3	9	39	6	43	21				
W15-218SST/ 86 ft	Z-9	not measured		not measured		0	3					1.6	2
CPT-28/ 87 ft	Z-9	280	8	230	9	203	6	224	24	229	6	235	15
CPT-4B/ 90 ft	Z-1A									3.2	10		
CPT-1A/ 91 ft	Z-18	3.9	8	not measured		4.2	12			10.7	10		
CPT-4A/ 91 ft	Z-1A	not measured		7.7	3	14	12			7.5	2		
CPT-9A/ 91 ft	Z-9	103	8	34.5	9	72	3			74.3	6		
W15-85/ 91 ft	Z-9	not measured		not measured		not measured		51	24				
W18-252SST/ 100	Z-1A	38.2	8	17.8	3	24	12						
W18-152/ 101 ft	Z-12	46.8	8	11.1	3	33	12	25	18	25.7	12	20.7	6
CPT-4E/ 103 ft	Z-1A	23.2	8	not measured		not measured		not measured		16.1	12		
W18-167/ 106 ft	Z-1A	323	8	79.7	3	228	12	248	18	297	12	243	6
W18-165/ 109 ft	Z-1A	not measured		not measured		not measured		not measured		278	12	328	6
W15-217/ 114 ft	Z-9	797	8	630	9	561	6	442	24	93.6	6	444	15
CPT-24/ 118 ft	Z-9	44.6	8	37.7	9	37	6	35	24			27.8	15
W15-220SST/ 118	Z-9	21.9	8	not measured		36	3	34	24			27.5	3
W18-158L/ 120 ft	Z-1A	not measured		143	3	492	12	284	18	163	3		
W15-219SST/ 130	Z-9	298	8	not measured		47	3	54	24			23.1	1
W18-249/ 130 ft	Z-18	206	8	20.4	3	215	12	176	18	196	12	46.3	6
W18-248/ 131 ft	Z-1A	288	8	86.3	3	177	12	214	18	306	12	182	6
W15-95L/ 144 ft	Z-9	not measured		not measured		not measured		not measured		31.8	6	25.1	15
W15-219SST/ 155	Z-9	59.6	8	not measured		24	3	44	24			6.8	1
W15-220L/ 163 ft	Z-9											-----	15
W15-219L/ 175 ft	Z-9											-----	15
W15-9L/ 176 ft	Z-9	18.3	8	15.0	9	15	6	20	21	16.9	6	13.1	15
W15-84L/ 180 ft	Z-9	not measured		not measured		not measured		not measured		not measured		25.9	15
W15-6L/ 182 ft	Z-9	22.6	8	17.8	9	1.3	6						
W15-220SST/ 185	Z-9	14.5	8	not measured		13	3	15	24			-----	1
W18-7/ 197 ft	Z-1A	28.5	8	17.3	3	29	12						
W18-12/ 198 ft	Z-18	not measured		3.81	3	19	12						
W18-6L/ 208 ft	Z-1A	36	8	31.3	6	15	12						

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

- Z-18 and Z-12 wells off-line Oct 96 - Apr 98
- CPT-1A, CPT-9A, and possibly CPT-7A appeared to be beyond SVE zone of influence in Oct 96 based on differential pressure (BHI-01105, p. 6-1)
- CPT-9A, CPT-21A, CPT-28 beyond SVE zone of influence in May 96 based on CCl_4 concentrations and airflow modeling based on measured vacuums (BHI-01105, p. 6-1)

Carbon Tetrachloride Rebound Concentrations
Monitored at 200-PW-1 Soil Vapor Extraction Sites
July 2002 - October 2003

200-PW-1 (200-ZP-2) Location (Well or Probe) /feet bgs	Site	07/30/2002 CCl4 (ppmv)	08/26/2002 CCl4 (ppmv)	10/04/2002 CCl4 (ppmv)	10/30/2002 CCl4 (ppmv)	11/27/2002 CCl4 (ppmv)	12/31/2002 CCl4 (ppmv)	01/30/2003 CCl4 (ppmv)	02/21/2003 CCl4 (ppmv)	03/20/2003 CCl4 (ppmv)	05/01/2003 CCl4 (ppmv)	05/22/2003 CCl4 (ppmv)	07/01/2003 CCl4 (ppmv)	08/05/2003 CCl4 (ppmv)	08/26/2003 CCl4 (ppmv)	10/31/2003 CCl4 (ppmv)
CPT-17/ 10 ft	Z-9	1.6	1.4	2.0	1.6	1.1	1.0	1.3	1.5	3.1	5.3	6.6	4.5	6.1	5.3	3.2
CPT-18/ 15 ft	Z-9	0	0	1.2	0	0	0	0	0	1.7	0	2.0	0	1.8	2.4	0
CPT-4E/ 25 ft (c)	Z-1A	1.3	0	0							1.3	0	0	0	0	
CPT-16/ 25 ft	Z-9	0	0	0	0	0	0	0	0	0	1.0	0	1.2	1.5	1.5	2.6
CPT-32/ 25 ft	Z-1A				0	0	2.2	4.1	6.3	8.3						0
CPT-30/ 28 ft	Z-1A				0	0	0	0	0	0						0
CPT-13A/ 30 ft	Z-1A	1.4	1.3	0	0	0	0	0	0	1.6	1.3	1.3	0	0	0	0
CPT-7A/ 32 ft	Z-1A	2.7	1.2	1.4	1.1	1.7	2.0	2.0	2.1	3.9	1.7	1.7	1.3	1.2	1.1	2.4
CPT-27/ 33 ft	Z-9	0	0	0	0	0	0	0	0	1.1	1.0	1.7	1.1	1.0	1.6	1.1
CPT-1A/ 35 ft	Z-12	4.1	4.2	3.4	3.5	6.8	1.9	5.3	5.2	7.2	5.1	7.1	15.1	21.5	22.0	18.3
CPT-34/ 40 ft	Z-18	1.6	1.2	1.2							1.3	1.3	1.0	1.0	0	
CPT-21A/ 45 ft	Z-9	60.2	31.6	68.0	61.9	35.7	40.8	45.2	30.4	73.7	72.8	90.0	75.1	85.5	83.0	52.3
W15-220SST/ 52 ft	Z-9	1.5														
CPT-9A/ 60 ft	Z-9	35.1	8.4	27.8	22.2	12.5	7.4	14.8	13.8	35.9	30.1	33.2	30.1	30.0	28.5	25.9
CPT-16/ 65 ft (d)	Z-9		0	3.1							4.2	3.9	4.0	4.2	3.7	
CPT-24/ 70 ft (e)	Z-9		1.5	3.3							3.3	4.1	3.5	4.4	4.7	
W15-219SST/ 70 ft (b)	Z-9	1.9														
CPT-18/ 75 ft	Z-9	0	0	1.5							2.6	3.1	3.2	4.5	4.4	
W15-82/ 83 ft	Z-9	85.8	5.6	58.8	35.6	14.7	12.1	6.5	15.4	36.0	50.0	56.2	49.2	44.3	54.4	24.0
CPT-21A/ 86 ft	Z-9	159	55	155	95.0	55.3	46.4	66.9	44.6	140	199	206	153	187	197	91.8
W15-218SST/ 86 ft (f)	Z-9		1.6	— (h)												
CPT-28/ 87 ft	Z-9	208	54.2	169	130	51.6	48.8	20.3	87.6	139	178	235	150	197	190	155
W18-152/ 101 ft	Z-12				7.5	8.8	10.1	12.6	12.0	20.7						5.7
W18-167/ 106 ft	Z-1A				243	96	72.7	84.1	76.8	218						201
W18-165/ 109 ft	Z-1A				328	265	65.1	82.6	71.0	216						94.2
W15-217/ 114 ft	Z-9	82.1	34.0	214	38.7	80.0	264	324	246	287	74.3	409	89.7	335	444	53.8
CPT-24/ 118 ft	Z-9	27.7	4.2	16.3							3.0	27.8	12.1	26.7	20.0	
W15-220SST/ 118 ft	Z-9	27.5	1.3	21.3							17.7	26.7	25.2	26.8	22.5	
W15-219SST/ 130 ft (b)	Z-9	23.1														
W18-249/ 130 ft	Z-18				11.8	27.6	34.5	29.4	39.3	46.3						8.0
W18-248/ 131 ft (i)	Z-1A				27.0	81.5	68.2	73.9	182	165						78.6
W15-95L/ 144 ft	Z-9	13.3	0	16.1	18.5	9.7	9.8	12.6	11.9	21.7	17.2	18.8	25.1	13.7	10.9	19.2
W15-219SST/ 155 ft (b)	Z-9	6.8														
W15-220L/ 163 ft	Z-9										— (h)	— (h)	— (h)	— (h)	— (h)	
W15-219L/ 175 ft	Z-9										— (h)	— (h)	— (h)	— (h)	— (h)	
W15-9L/ 176 ft	Z-9				5.1	2.9	5.2	5.8	5.1	10.5	8.2	11.6	10.3	13.1	12.5	6.1
W15-84L/ 180 ft (g)			5.8	13.1	2.8	7.2	10.6	13.0	10.9	18.8	8.3	25.9	17.9	21.0	23.8	4.7
W15-220SST/ 185 ft	Z-9	— (a)														

(a) Unable to sample. Sample port appears to be plugged.
(b) Sampling extremely slow.
(c) Substitute for CPT-4A/ 25 ft
(d) Substitute for W15-220SST/ 52 ft
(e) Substitute for W15-219SST/ 70 ft
(f) Substitute for W15-219SST/ 130 ft
(g) Substitute for W15-219SST/ 155 ft
(h) Unable to sample.
(i) 10/30/02: sample tubing cracked; sample may have been diluted. Tubing repaired 10/31/02.

Attachment 10

Carbon Tetrachloride Concentrations
Monitored at 200-PW-1 Passive Soil Vapor Extraction Wells

200-PW-1									
(200-ZP-2)			6/1/2001	12/10/2002	01/20/2003	03/04/2003	05/07/2003	09/09/2003	10/29/2003
Location	Site	Zone							
(Well or Probe)			CCl4	CCl4	CCl4	CCl4	CCl4	CCl4	CCl4
/feet bgs			(ppmv)	(ppmv)	(ppmv)	(ppmv)	(ppmv)	(ppmv)	(ppmv)
W18-6L/ 208 ft	Z-1A	6	47.4	29.2	19.6	34.8	20.2	----- (a)	22.1
W18-7/ 197 ft	Z-1A	6	38.5	36.8	28.9	26.4	23.0	----- (a)	23.7
W18-10L/ 183 ft	Z-18	6	12.8	14.7	11.1	15.1	2.5	2.5	9.1
W18-11L/ 199 ft	Z-18	6	11.4	7.7	----- (a)	9.9	----- (a)	----- (a)	----- (a)
W18-12/ 198 ft	Z-18	6	30.5	----- (a)	----- (a)	----- (a)	7.9	5.4	13.4
W18-246L/ 170 ft	Z-18	6	40.9	----- (a)	31.1	33.1	10.3	----- (a)	20.3
W18-247L/ 167 ft	Z-18	6	7.2	5.7	8.5	8.1	2.4	2.4	2.4
W18-252L/ 175 ft	Z-18	6	38.1	22.7	----- (a)	24.4	23.1	----- (a)	16.2
(a) Unable to sample.									

Attachment 10

Unit Manager Meeting

Friday before UMM

- Transmit project schedules to Ecology and EPA
- Transmit draft UMM agenda to Ecology and EPA

Monday before UMM

- Tri-Party project managers discuss agenda (as necessary)
    - Agenda sequence
    - Agenda item durations
    - Clarify issue descriptions

Unit Manager Meeting

- Technical status
- Schedule discussion
- Issue identification and resolution or re-direction for specific meeting

UMM in month of TPA Quarterly Review

Monday before UMM

- Distribute draft TPA quarterly:report
    - Example: Jan. 12 for January 27 TPA quarterly

UMM

- Mark-up TPA quarterly (using LCD projector)

UNIT MANGERS' MEETING AGENDA
November 20, 2003

Talking Points
U Plant Closure Area Waste Sites Remediation Project

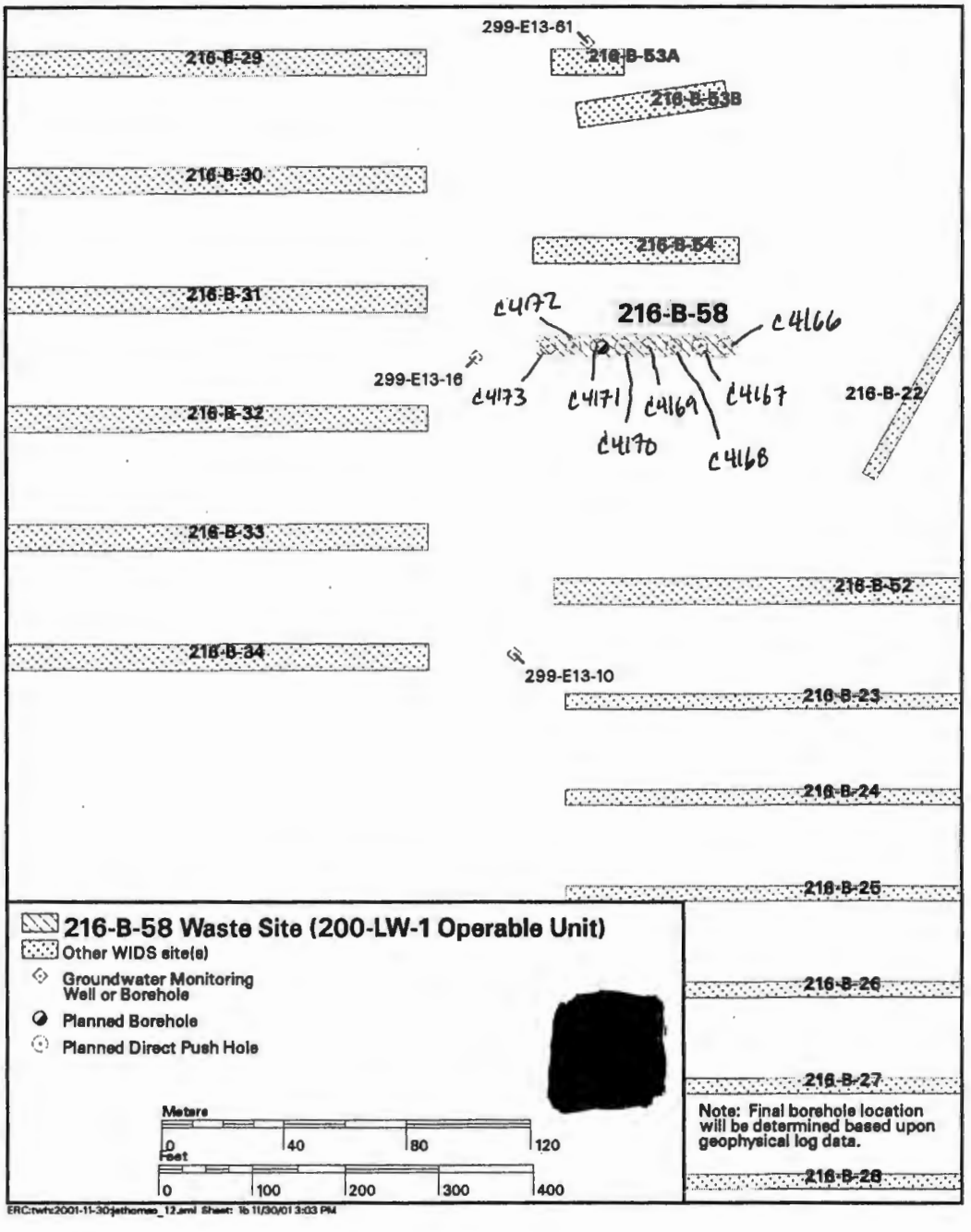
- **Status of FFS/PP**
  - **Draft B of the FFS/PP was submitted to Regulators on November 10, 2004. This draft incorporates Regulatory comments on Draft A which were submitted to RL in August 2003.**
  - **Comments on Draft B are due to RL on December 11, 2003**

- **Public Review Process**
  - **Met with Ecology and EPA on public review process for the Proposed Plan. The proposed schedule is to submit the comment public review notice on 19 December, 2003. The 45-day public review would commence on January 19, 2004**

- **Field Work Preparation for Confirmatory/Remedial Design Sampling**
  - **Field work involves surface sampling, test pits, boreholes and drive casing pushes**
  - **GPR work in progress to support field activities**
  - **Waste Control Plan has been approved by RL and Ecology**
  - **Planning to start drive casing pushes in December –assuming Ecology approval.**

- **Confirmatory/Remedial Design SAP**
  - **Completed RL/FH review**
  - **SAP transmitted to Regulators this week**

- **Barrier Workshop on November 13, 2003**
- **TPA CR C-03-01**
  - **Transfer EPA CERCLA waste sites to Ecology for regulatory consolidation**

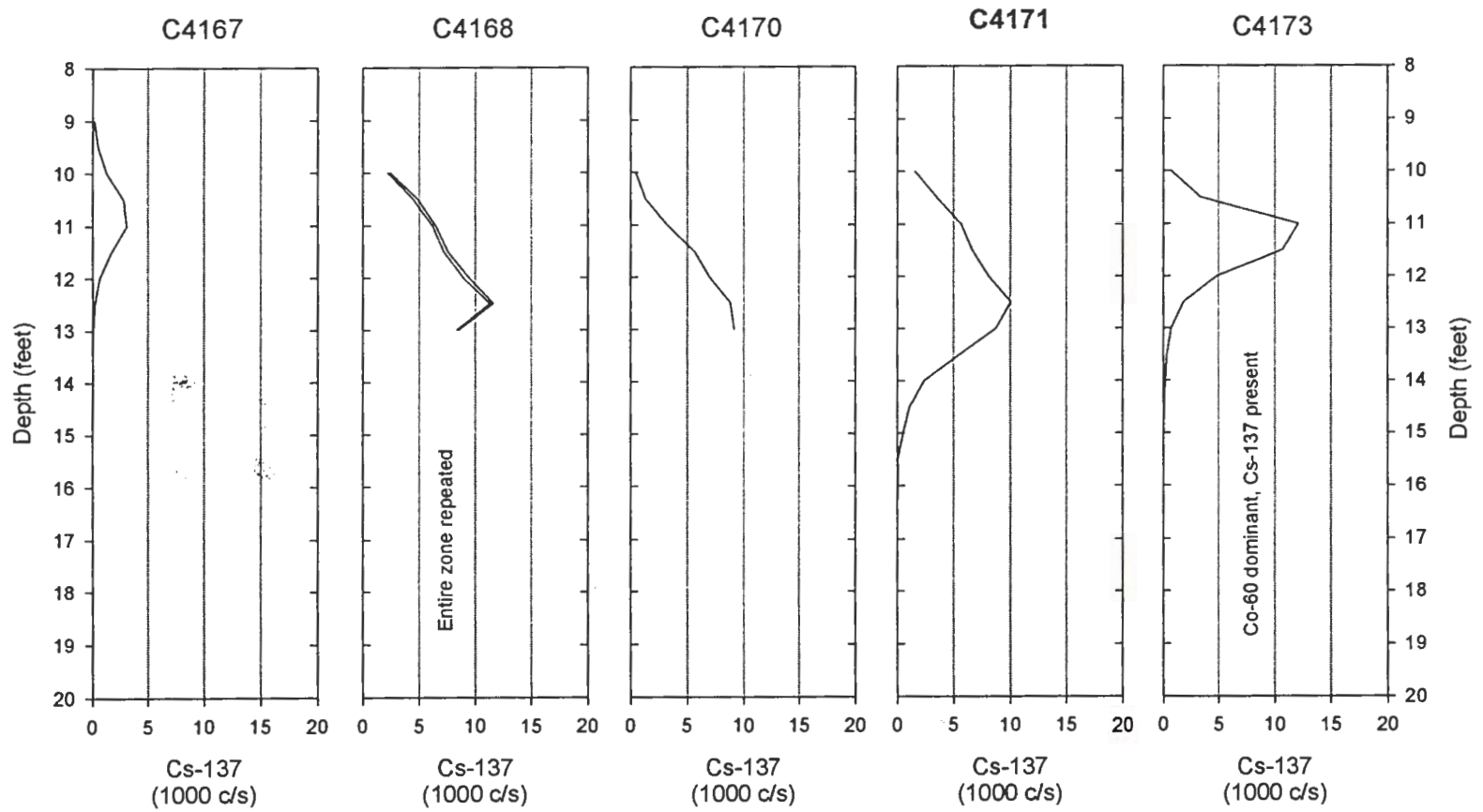

299-E13-61
216-B-29
216-B-53A
216-B-53B
216-B-30
216-B-54
216-B-31
C4172
216-B-58
C4166
299-E13-16
C4173
C4171
C4169
C4167
216-B-22
216-B-32
C4170
C4168
216-B-33
216-B-52
216-B-34
299-E13-10
216-B-23
216-B-24
216-B-25
216-B-58 Waste Site (200-LW-1 Operable Unit)
Other WIDS site(s)
Groundwater Monitoring Well or Borehole
Planned Borehole
Planned Direct Push Hole
Meters
0
40
80
120
Feet
0
100
200
300
400
Note: Final borehole location will be determined based upon geophysical log data.
216-B-26
216-B-27
216-B-28

DRAFT

200-LW-1/2 Operable Unit

Gross Count Rate from High Count Rate Instrument

SD-GR.01B
Log date: Nov 2003
Probe tubbing wall 0.36 inch



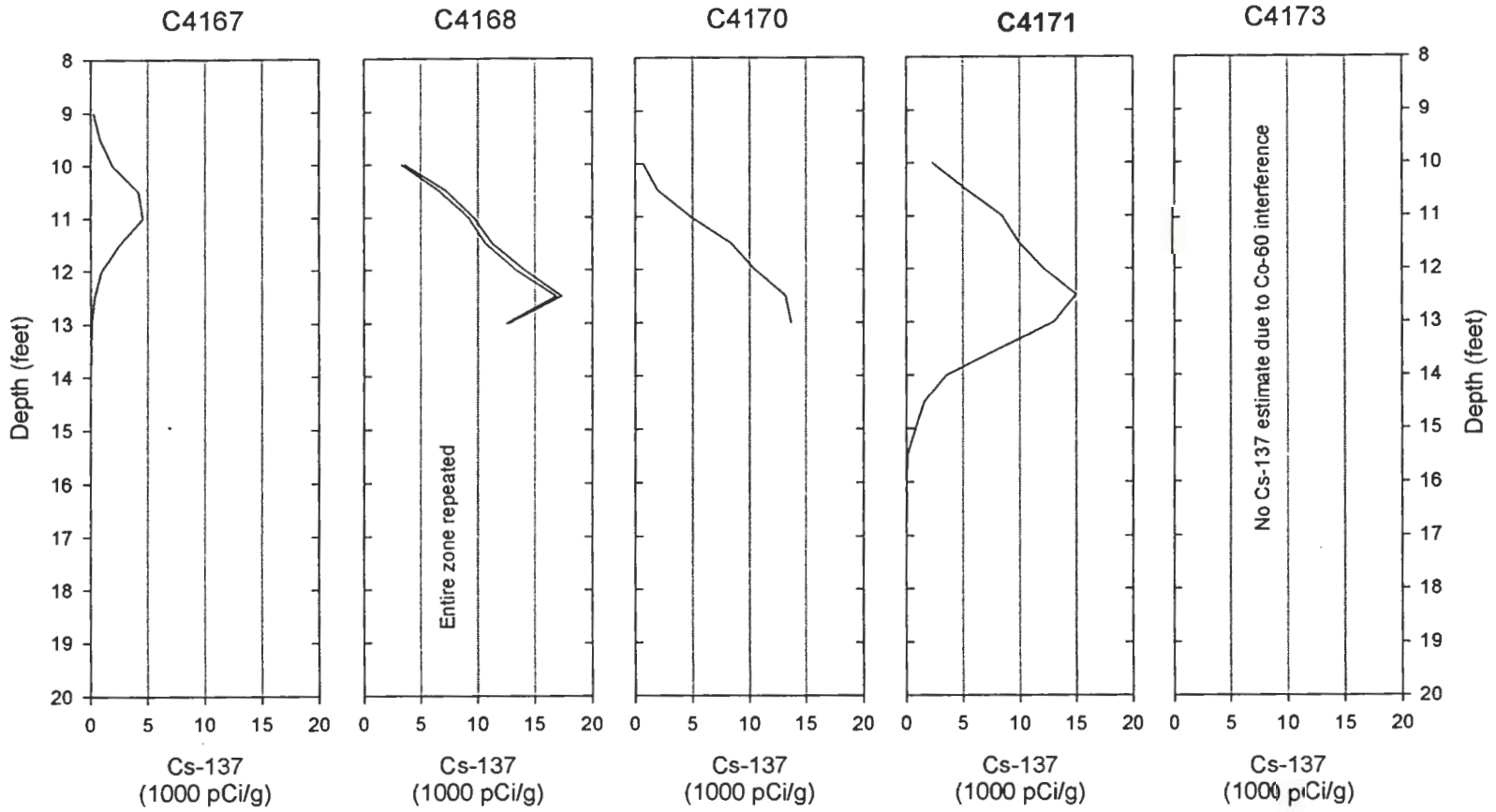
Attachment 10

DRAFT

200-LW-1/2 Operable Unit

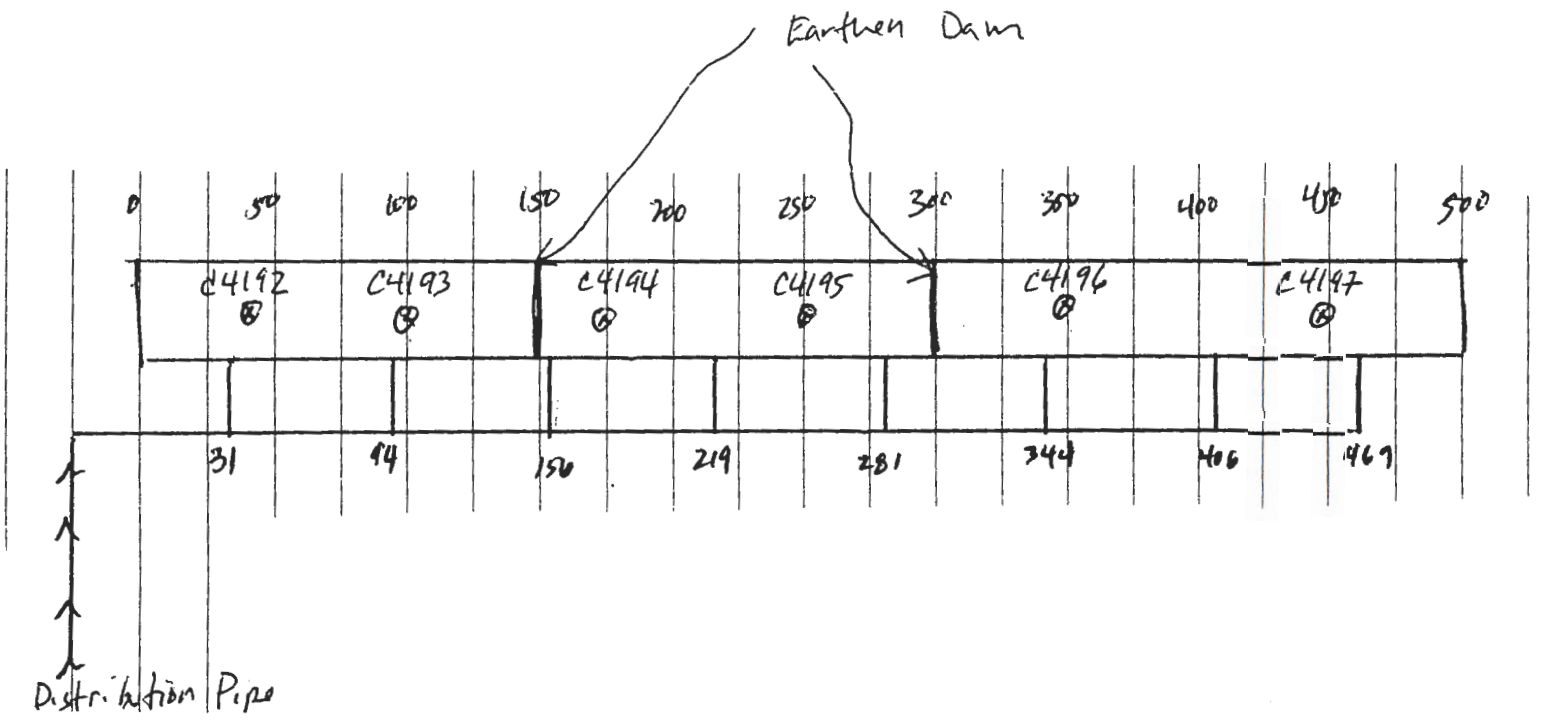
Cs-137 Estimate from High Count Rate Instrument

SD-GR.01B
Log date: Nov 2003
Probe tubbing wall 0.36 inch



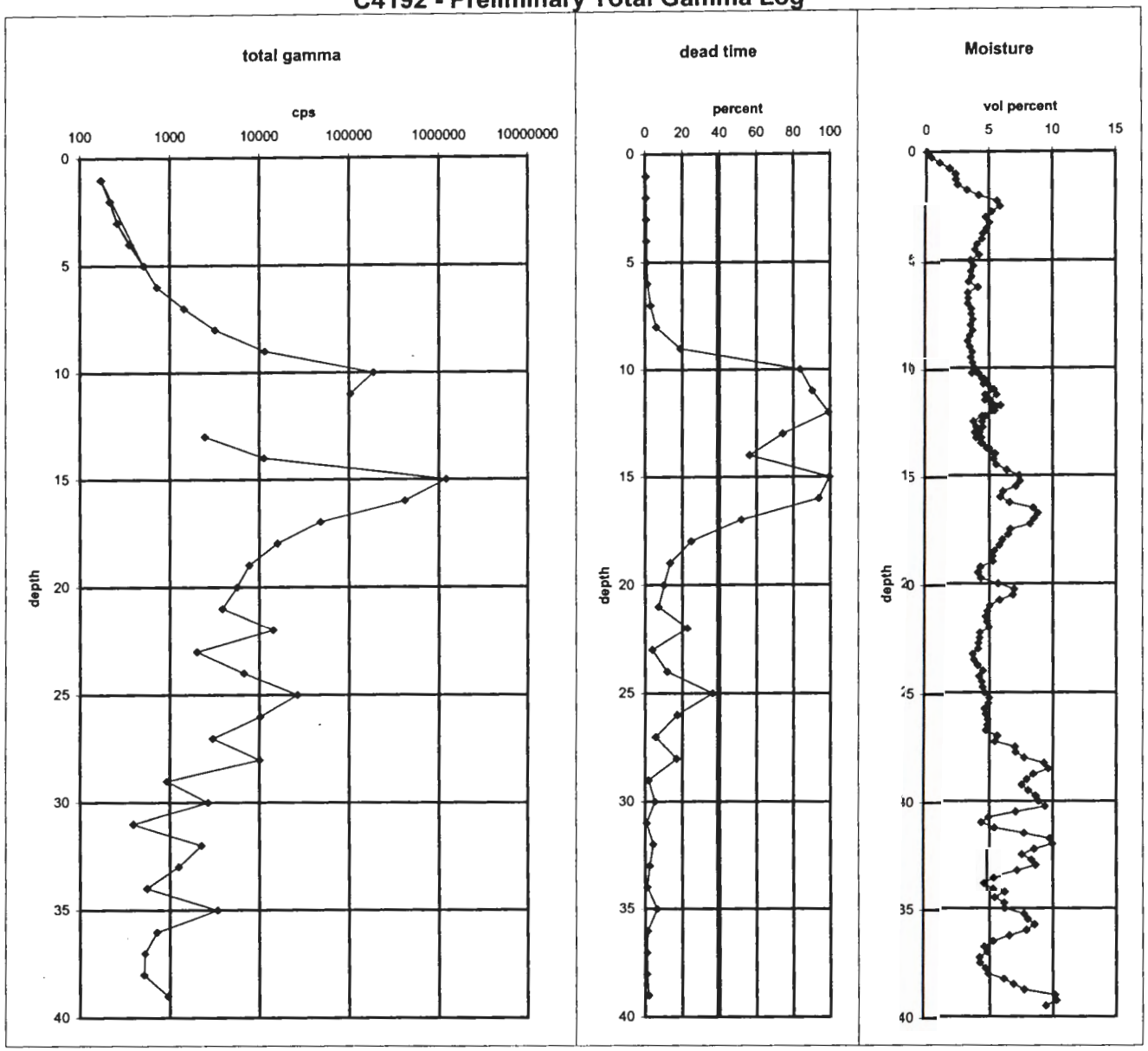
Attachment 10

216-B-26 Trench



DRAFT

C4192 - Preliminary Total Gamma Log



Attachment 10

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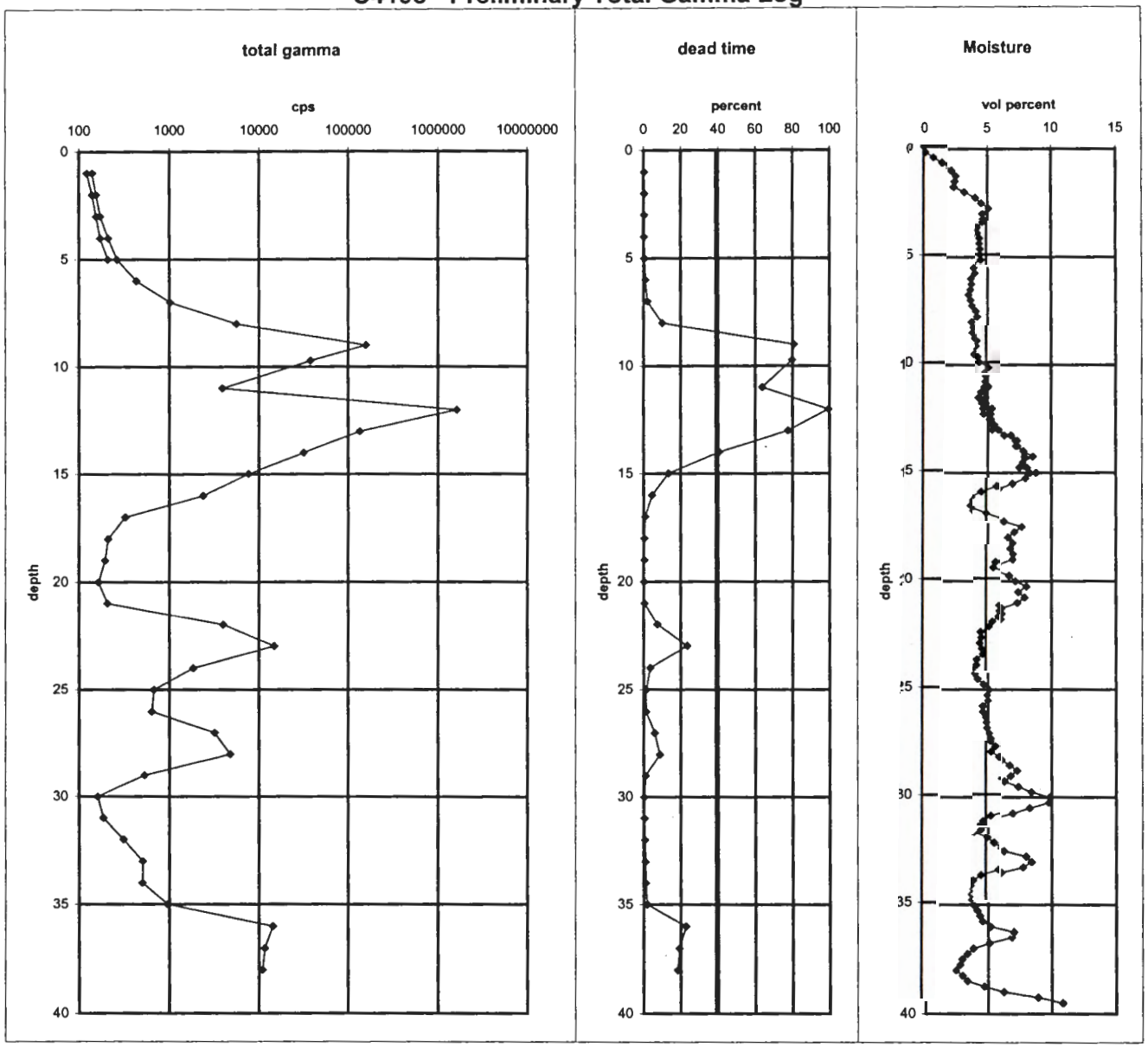
C4193 - Preliminary Total Gamma Log



Attachment 10

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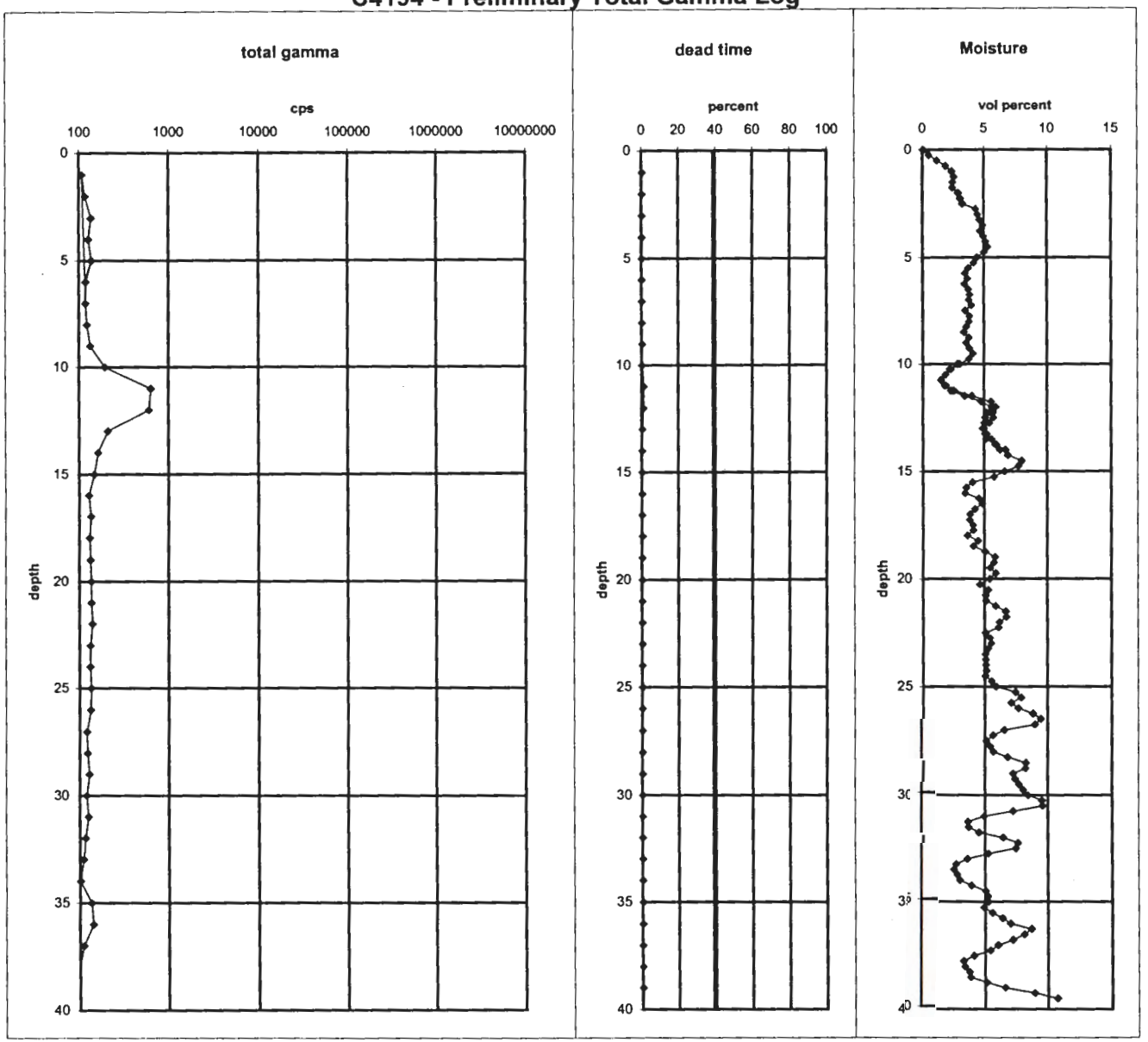
C4194 - Preliminary Total Gamma Log



Attachment 10

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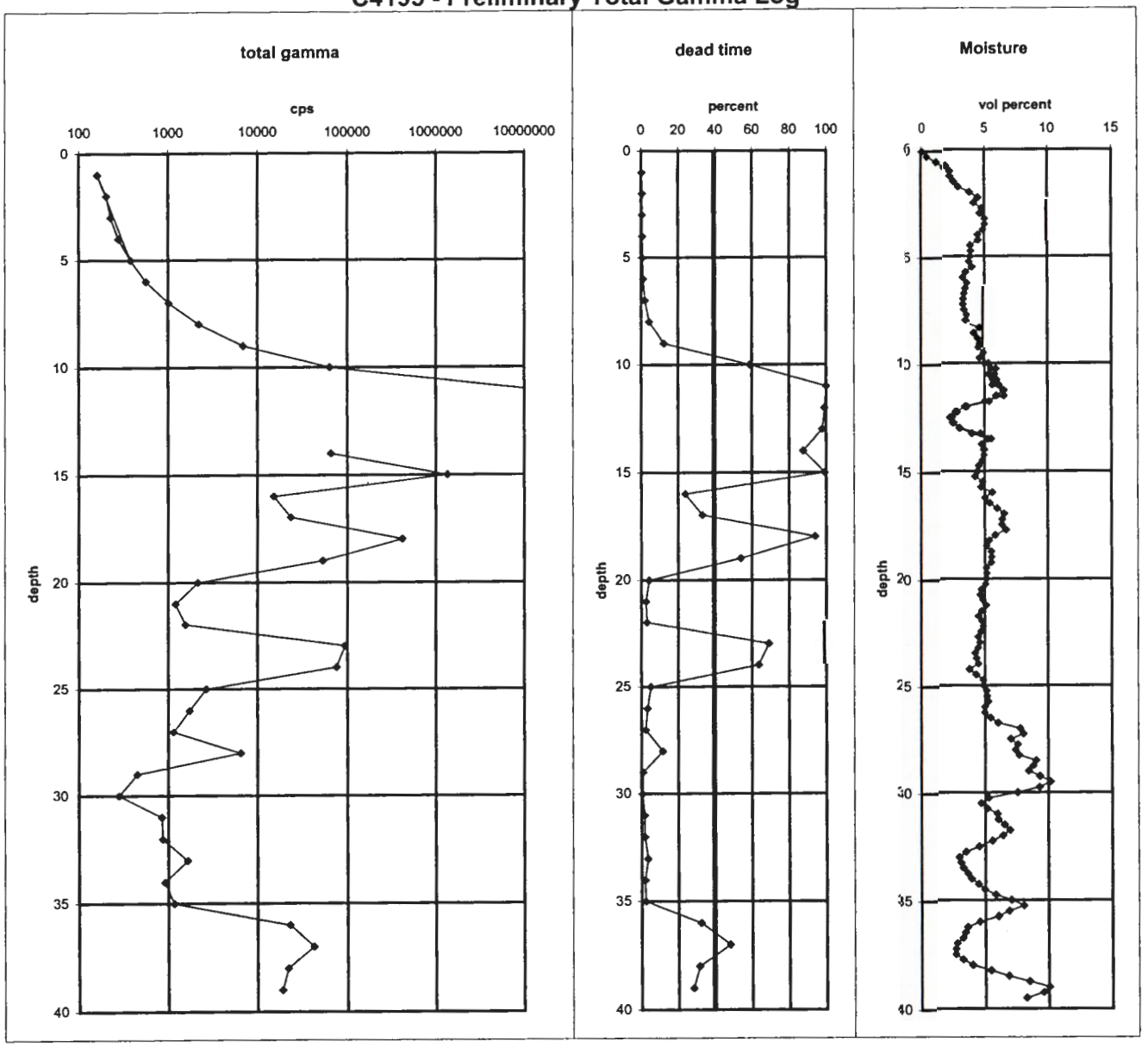
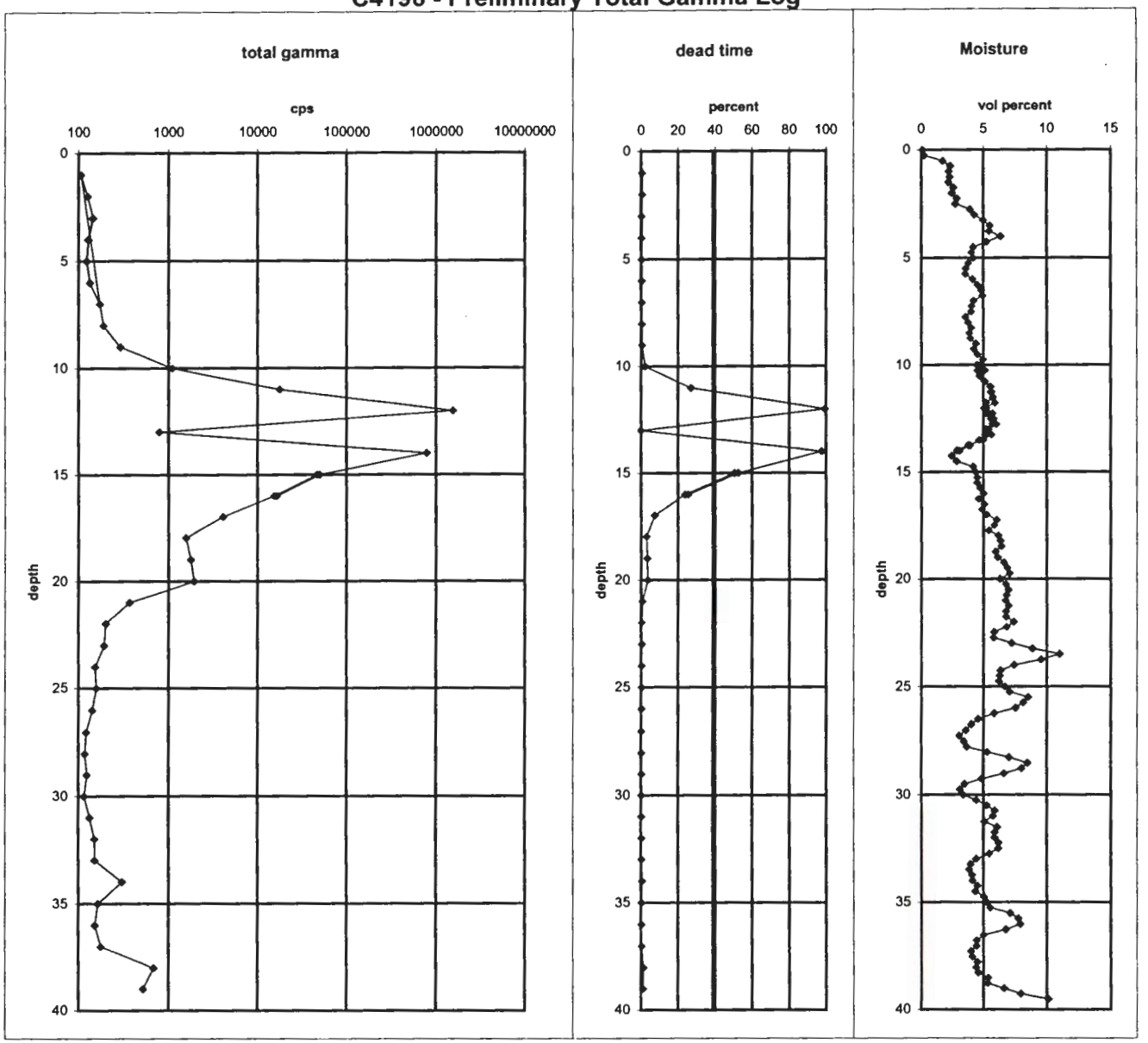


Attachment 10

DRAFT

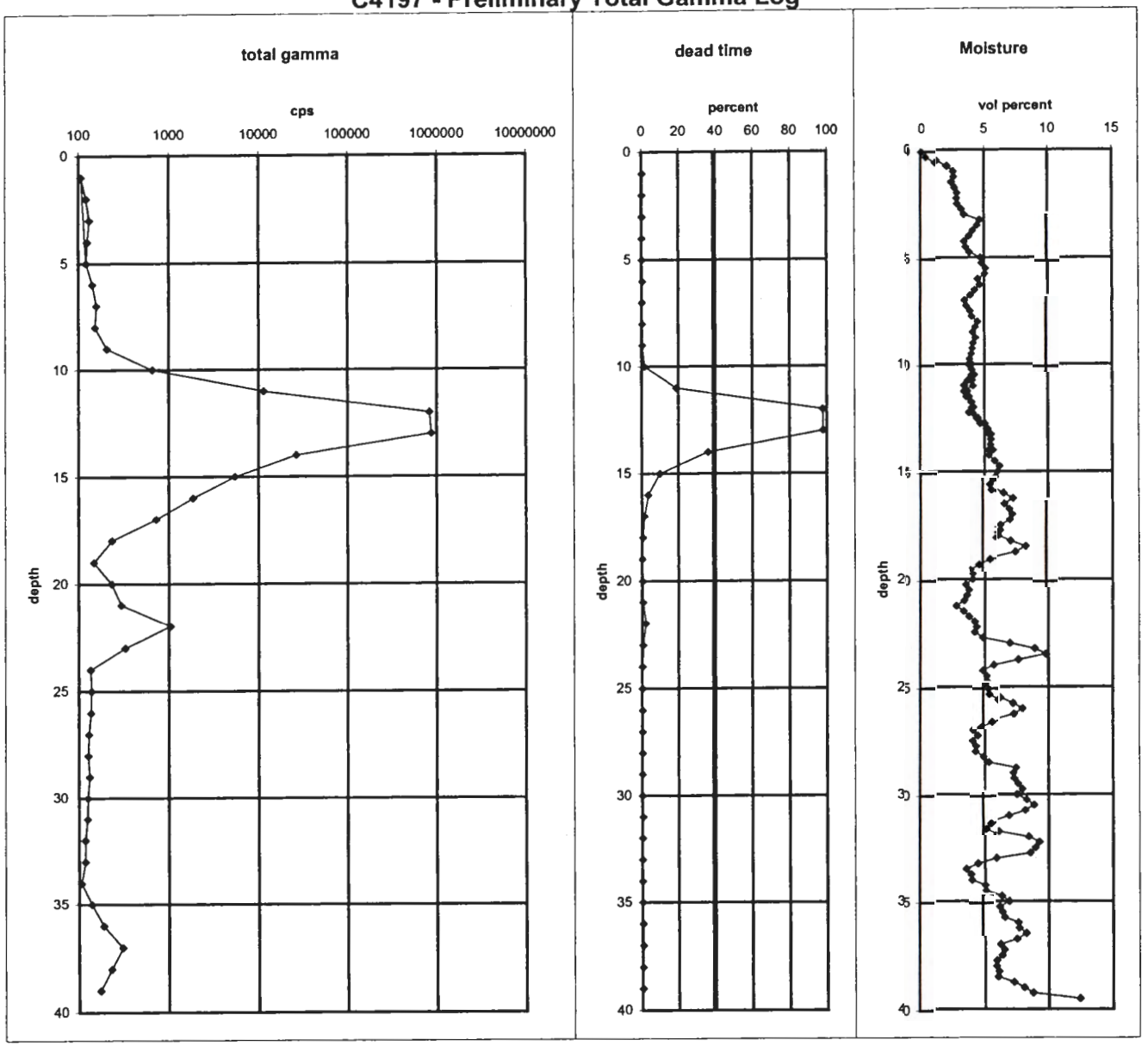
C4196 - Preliminary Total Gamma Log



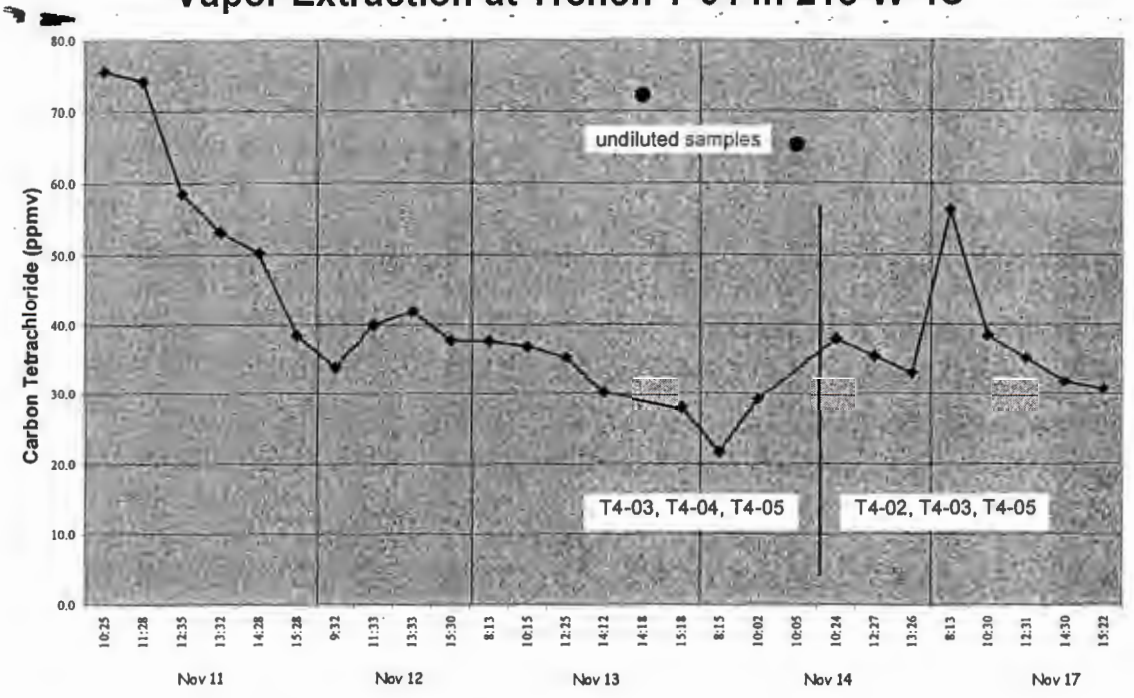
Attachment 10

DRAFT

C4197 - Preliminary Total Gamma Log



Attachment 10


Vapor Extraction at Trench T-04 in 218-W-4C
Carbon Tetrachloride (ppmv)
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
undiluted samples
T4-03, T4-04, T4-05
T4-02, T4-03, T4-05
10:25
11:28
12:35
13:32
14:28
15:28
9:32
11:33
13:33
15:30
8:13
10:15
12:25
14:12
14:18
15:18
8:15
10:02
10:05
10:24
12:27
13:26
8:13
10:30
12:31
14:30
15:22
Nov 11
Nov 12
Nov 13
Nov 14
Nov 17

Central Plateau Terrestrial Ecological DQO/SAP Schedule and Activity Descriptions – Revision 4 Draft

Schedule Activity	Start	Finish	Activity Description
Scoping			
SCOPING	09JUL03	29JUL03	Define and describe the scope of the Central Plateau Terrestrial Ecological DQO in a manner that is agreeable to RL, Ecology and EPA. This is accomplished through a series of meetings between the three parties.
DECISION- MAKER MTG. 1	14JUL03	14JUL03	
IDENTIFY PARTICIPANTS	14JUL03	14JUL03	Tri-Parties discuss and agree upon the DQO process and the public participation
DRAFT NOTIFICATION LETTER	15JUL03	16JUL03	RL drafts letters of invitation to the HAB and NRTC organizations inviting participation in the Central Plateau Terrestrial Ecological DQO
RL CONCURRENCE	17JUL03	15AUG03	Concurrence from RL management regarding the DQO process and invitation letters to the HAB and trustees
DECISION- MAKER MTG. 2	22JUL03	22JUL03	Final scoping discussion among the Tri-Parties to ensure agreement on the project scope.
TRANSMIT LETTER	08AUG03	12AUG03	RL issues invitation letters to the HAB and trustees
CONFIRMATORY PHONE CALLS	5SEP03	8SEP03	Confirmatory phone calls conducted with HAB and NRTC regarding appointed DQO participants and expectations
Step 1: State the Problem			
STEP 1: STATE THE PROBLEM	21AUG03	03OCT03	Initial scoping activities in the DQO process, collecting necessary information that supports development of the sampling design.
DECISION- MAKERS INTERVIEWS	21AUG03	04SEP03	Conduct DQO interviews with Ecology and EPA
TRUSTEE/ HAB PRESENTATION & INTERVIEWS	10SEP03	12SEP03	Meet with HAB, present scope and DQO process information, and schedule. Conduct DQO interviews with HAB and Trustee participants, collecting information on areas of concern.
PREPARE MATRIX SUMMARY & TRANSMIT TO DECISION MAKERS	10SEP03	2 OCT03	Assemble inputs from HAB and Trustee participants into a summary matrix for review by RL, Ecology and EPA
INITIAL DECISION-MAKER ISSUES MATRIX REVIEW	14 OCT03	14 OCT03	RL, Ecology, and EPA review concerns summarized in matrix, and identify concerns that will be incorporated into the DQO
SECOND DECISION-MAKER ISSUES MATRIX REVIEW	22 OCT03	22 OCT03	
THIRD DECISION-MAKER ISSUES MATRIX REVIEW	23 OCT03	23 OCT03	
REVISE SUMMARY	27 OCT03	28 OCT03	Revise the concerns matrix summary based on decision maker comments

Attachment 10

Central Plateau Terrestrial Ecological DQO/SAP Schedule and Activity Descriptions – Revision 4 Draft

Schedule Activity	Start	Finish	Activity Description
RL MANAGEMENT REVIEW AND COMMENT ON MATRIX	28 OCT03	13 NOV03	RL Management reviews and comments on the matrix prior to transmission to the HAB and Trustee participants
TRANSMIT REVISED ISSUES MATRIX TO PARTICIPANTS	14 NOV03	14 NOV03	The revised summary matrix is transmitted to the participants for their review and comment.
PARTICIPANT COMMENT MEETING ON MATRIX	2 DEC03	2 DEC03	RL, Ecology, EPA, FH, and participants discuss comments on the matrix summary
REVISE ISSUES MATRIX	3 DEC03	4 DEC03	Revise the matrix summary based on comments received from participants
DECISION MAKER'S APPROVE ISSUES MATRIX	5 DEC03	10 DEC03	RL, Ecology, and EPA approve the final matrix summary for use in the DQO
Problem Formulation Step 3 (2nd Meeting)			
REFINE COPECs	10 NOV03	12 JAN04	Project team develops Problem Formulation Step 3, leading to DQO Step 4.
LITERATURE SEARCH ON KNOWN ECOLOGICAL EFFECTS	10 NOV03	12 JAN04	
REFINE CONTAMINANT FATE AND TRANSPORT INFORMATION	10 NOV03	12 JAN04	
SELECT ASSESSMENT ENDPOINTS	10 NOV03	12 JAN04	
CONCEPTUAL MODEL AND RISK QUESTIONS	10 NOV03	12 JAN04	
SCIENTIFIC/MANAGEMENT DECISION POINT	10 NOV03	12 JAN04	
INTERNAL WORKSHOP	13 JAN04	13 JAN04	Internal project workshop conducted with project team subject matter experts
DOE- RL BRIEFING	15 JAN04	15 JAN04	Briefing with RL to review Step 3 and obtain RL comments.
ISSUE INITIAL DRAFT DQO WORKBOOK	16 JAN04	21 JAN04	Revise Step 3, incorporating RL comments
DECISION MAKER AND PARTICIPANT REVIEW	22 JAN04	28 JAN04	Decision makers and participants review DQO Workbook prior to workshop
WORKSHOP DRY RUN MEETINGS	26 JAN04	27 JAN04	Two days of dry run meetings in preparation for D-M/Participant Workshop
DECISION- MAKER & PARTICIPANT WORKSHOP	29 JAN04	29 JAN04	DQO workshop with Ecology, EPA and HAB and Trustee participants, reviewing Step 3 and obtaining comments

Attachment 10

Central Plateau Terrestrial Ecological DQO/SAP Schedule and Activity Descriptions – Revision 4 Draft

Schedule Activity	Start	Finish	Activity Description
REVISE DQO	30 JAN04	10 FEB04	Revise Problem Formulation Step 3, incorporating comments from workshop
DQO Step 4 (3rd Meeting)			
ESTABLISH MEASUREMENT ENDPOINTS	15 DEC03	16 FEB04	Project team continues development of the DQO, resulting in preliminary development of the sampling design.
STUDY DESIGN	15 DEC03	16 FEB04	
DATA QUALITY OBJECTIVES AND STATISTICAL CONSIDERATIONS	15 DEC03	16 FEB04	
WORK PLAN AND SAP	5 JAN04	16 FEB04	
SCIENTIFIC/MANAGEMENT DECISION POINT	5 JAN04	16 FEB04	
INTERNAL WORKSHOP	17 FEB04	17 FEB04	Internal project workshop conducted with project team subject matter experts
DOE- RL BRIEFING	19 FEB04	19 FEB04	Briefing with RL to review DQO Step 4 and obtain RL comments.
ISSUE SECOND DRAFT DQO WORKBOOK	20 FEB04	25 FEB04	Revise Step 4, incorporating RL comments
DECISION MAKER AND PARTICIPANT REVIEW	26 FEB04	3 MAR04	Decision makers and participants review DQO Workbook prior to workshop
WORKSHOP DRY RUN MEETINGS	1 MAR04	2 MAR04	Two days of dry run meetings in preparation for D-M/Participant Workshop
DECISION- MAKER & PARTICIPANT WORKSHOP	4 MAR04	4 MAR04	DQO workshop with Ecology, EPA and HAB and Trustee participants, reviewing DQO Step 4 and obtaining comments
REVISE DQO	5 MAR04	11 MAR04	Revise DQO Step 4, incorporating comments from workshop
ISSUE DQO SUMMARY REPORT	12 MAR04	19 MAR04	Final technical editing/document preparation for Rev 0 issuance
INTERESTED PARTIES BRIEFING (PER INTEREST)	1 APR04	1 APR04	Based on interest, present DQO summary report in final form to interested parties (optional activity)
SAP Preparation			
DRAFT SAP	30 JAN04	17 MAR04	Using the sampling design developed in the DQO, draft a sampling plan for Central Plateau terrestrial ecological sampling
FH INTERNAL REVIEW	18 MAR04	24 MAR04	FH internal review and comment process for the SAP
INCORPORATE FH COMMENTS	25 MAR04	31 MAR04	Update the SAP with comments developed during FH internal review.
TECH EDIT	1 APR04	6 APR04	Technical editing

Attachment 10

Central Plateau Terrestrial Ecological DQO/SAP Schedule and Activity Descriptions – Revision 4 Draft

Schedule Activity	Start	Finish	Activity Description
CONCURRENT RL, DECISION-MAKER, & PARTICIPANT REVIEW	7 APR04	13 APR04	Ecology, EPA and HAB and Trustee participant review and comment on draft SAP
INCORPORATE COMMENTS	14 APR04	20 APR04	Incorporate comments
PARTICIPANT SAMPLING DESIGN PRESENTATION	22 APR04	22 APR04	Presentation of final sampling design and SAP to Trustee participants and others within Trustee organizations. Obtain final comments.
INCORPORATE FINAL COMMENTS	23 APR04	29 APR04	Incorporate final comments
TECH EDITING	30 APR04	6 MAY04	Final technical editing
DOCUMENT CONCURRENCE	7 MAY04	21 MAY04	FH document issuance process
ISSUE REV. 0 SAP	24 MAY04	28 MAY04	Issue Rev 0 document

Attachment 10

GROUNDWATER PROTECTION PROGRAM

Meeting Minutes

SUBJECT MEETING WITH ECOLOGY TO DISCUSS A HEXONE WASTE SITE - MINUTES

TO Distribution

FROM L. C. Hulstrom E6-35

DATE November 6, 2003

ATTENDEES	DISTRIBUTION
Clark, C. E. A5-15 (RL)	Attendees
Foley, B. L. A5-13 (RL)	Bryan, A. E6-35
Hulstrom, L. C. E6-35 (FH)	Ford, B. H. E6-35
Mandis, M. (Portage)	Jentzen, B. B5-18
McCain, R. (Stoller)	
Price, J. B5-18 (Ecology)	
Rohay, V. J. E6-35 (FH)	
Todd, M. E. E6-35 (FH)	
Watkins, C. (Portage)	

A meeting was held on October 29, 2003 with the Washington State Department of Ecology (Ecology), DOE-RL staff, and Fluor Hanford (FH) and sub-contractor representatives to discuss a comment generated during the Ecology review of the Draft Rev. 1 redline/strikeout version of the 200-PW-2/4 Operable Unit Work Plan (DOE/RL-2000-60).

The meeting began with FH giving a brief introduction of the unresolved issue associated with the Ecology comment on the need for an investigation of a waste site containing hexone. DOE/RLcontinued by inquiring of Ecology as to the importance of characterizing a waste site containing hexone (hexone site). DOE/RL asked if the insistence on characterization was due to Ecology's technical interest in hexone potentially affecting the mobility of radionuclides in the vadose zone or perhaps another issue.

Ecology indicated that there is a need to have a hexone site sampled and did not see the negative impacts of adding a site for characterization. DOE/RL stated that research had been conducted to understand the chemical properties, behaviors, reactions, and bonding of hexone and asked FH to provide an overview of this information so that Ecology might re-evaluate the position after the presentation.

FH referenced the Portage PowerPoint presentation entitled "Hanford Hexone Chemistry-Presented to Ecology, October 29, 2003" (Attachment 1). Approximately 30 waste sites received minor amounts of hexone in the aqueous phase and only two waste sites received significant amounts of hexone in the organic phase (the 216-S-13 Crib and the 216-S-14 Trench). FH then asked a representative from Portage Environmental (Portage) to provide the chemical briefing.

Portage stated that the form of hexone was important based on the chemical properties/nature of hexone (Slide 3). REDOX process operations used hexone strictly in an organic phase. The organic phase of

hexone forms weak covalent bonds with the f-electrons of Uranium/Plutonium and other actinides. (Thus, it was chosen to be the solvent.) However, in the third column of REDOX, only water and very dilute nitric acid were strong enough to pull the Uranium (Uranyl nitrate hexahydrate [UNH]) from the organic phase into the aqueous phase. That is because U/Pu are "happier" to bond in the aqueous phase where ionic bonding interactions are allowed and are much stronger than the weak organic covalent bonding of the hexone (Background information on slides 6-32).

Approximately 30 sites received hexone that contacted aqueous waste streams, cooling water, etc. in the processing plant before discharge to disposal sites. Based on the chemical nature of hexone in an aqueous medium, the hexone would dissolve, degrade, and decompose. However, two waste sites at Hanford received hexone in the organic phase or as spent solvent. These two sites were the 216-S-13 Crib and the 216-S-14 Trench. The S-14 Trench (slide 34), however, only received non-irradiated Uranium, thus no Pu or fission products. Therefore, only one site received spent hexone solvent and U, Pu, and fission products. However, the inventory of the radionuclides is very small in comparison to the other process waste sites, including the PW-2 OU sites like 216-S-7 (Slide 35). DOE/RL re-iterated the fact that no waste streams combining large amounts of organic and radionuclides going into waste sites exist at the Hanford site.

Several enhancements were used in the REDOX plant to assist the hexone's weak covalent bonding. These included the addition of salting agents, changing the temperature, pH, valence/oxidation states of Pu, solvation power of the solvent, etc. Portage explained that U was normally found in the 6+ valence state. However, Pu is normally found in the 3+, 4+, and 5+ valence states. Pu then had to be oxidized during REDOX operations to the 6+ valence state so that Pu would interact with the solvent in the organic phase (Slides 3, 9, 21-26).

Portage then spoke about hexone impurities and formation of degradation products due to hexone. (Slides 11 and 12) Several sources of information have been researched to compile the information in the presentation. These sources of information included: literature regarding the properties and chemical nature of hexone, technical manuals and process records that depicted Hanford solvent requirements, solvent properties of hexone, hexone reactions in REDOX, disposal of hexone to various waste sites, and the degradation products of hexone. Portage also mentioned that many present and past chemists and engineers were sought out to gain their knowledge and thoughts about hexone. These individuals included:

Mr. J. Steve Buckingham, REDOX Process Chemist, retired
Mr. L. L. (Lee) Burger, Solvent Extraction Process Chemist, retired
Mr. Jeff Serne, Geochemist, Battelle
Mr. Richard Weiss, Chemist, CHI
Mr. Tom Jones, Chemist, CHG

Portage concluded that their thoughts and knowledge about hexone and its ability to survive in an aqueous solution, formation of degradation products, and affect on mobility were the same as the information gathered from the various sources (Slide 14). The TPB/NPH or TPB/CCl_4 solvent extraction systems formed much stronger bonds and had the potential to impact mobility more than the hexone solvent system. (Slides 3, 11, 36, 37)

Following the presentation of the technical information, DOE/RL inquired whether or not Ecology still needed to sample a hexone site. Ecology stated that while the technical information was compiled very well, Ecology still wants to sample a hexone site. DOE/RL then inquired on what technical basis Ecology

had to support the need to sample a hexone site. Ecology stated that it was more of a philosophical need, and that the number of waste sites slated for characterization keeps diminishing; first through the analogous sites concept in the Implementation Plan and then through the OU Consolidation efforts. Ecology does not want to be surprised during remediation that hexone did impact mobility and have to manage these questions through the later stages of the RI/FS process.

DOE/RL stated that the field work has never presented surprising results that significantly alter our conceptual models. FH confirmed this statement.

FH then inquired what specific type of characterization would be sufficient for a hexone site, assuming that one is added. FH suggested logging, geo-probe, etc. or a full borehole characterization with soil samples. Ecology said that that question could not be answered at this time. Ecology took the action to write up an addendum to the 200-PW-2/4 Sampling and Analysis Plan to include the type of data necessary for a hexone site and the resulting sampling techniques.

FH stated that data quality objectives (DQOs) are developed and govern the Groundwater Protection Program's (GPP) data collection/characterization process. It was asked if those would also be generated by Ecology.

DOE/RL inquired when the addendum would be generated by Ecology and mentioned that the 200-PW-2 OU RI report milestone is on a day for day setback with these delays. Ecology stated that the delays were not a good excuse to miss the RI report milestone. DOE/RL then asked Ecology how long the write-up would take and when the Ecology staff would start on the write-up. Ecology agreed that work on the write-up could start immediately but did not give a definite date when a draft write-up would be available. FH also mentioned that should 216-S-13 be investigated, that site is part of the 200-PW-1 OU and the work could be deferred to the PW-1 schedule and not further impact the 200-PW-2 schedule.

DOE/RL agreed that Ecology should write the addendum, which includes reasoning for sampling a hexone site. DOE would review the costs of the sampling effort and determine if Ecology's technical rationale is justified. A decision to proceed will have to made through the formal TPA dispute process.

DOE/RL, FH, and Portage mentioned that they would be happy to assist Ecology with any technical details to support the addendum. FH mentioned that the process and chemistry information, as well as the groundwater data and vadose zone data including RLS logging, has been compiled. FH also mentioned that Stoller will be conducting additional RLS logging at the 299-W22-21 well that is adjacent to the 216-S-13 waste site in the near future.

Attachments:

1. Powerpoint Presentation – "Hanford Hexone Chemistry-Presented to Ecology, October 29, 2003"

UNIT MANAGERS' MEETING AGENDA

1200 Jadwin Avenue
December 18, 2003

9 a.m. – 11 a.m. 200 Area Room 3C5

General (15 minutes)

- Outstanding Action Items
- Open for Regulatory Topics or Action Items
- Review and Finalize TPA Quarterly Presentation

U Plant Area Regional Closure (10 minutes)

- Schedule Review
  - Status of FFS/PP
  - Status of Field Work Preparations
  - Status of Confirmatory/Design SAP
  - Change Request C-03-01

BC Cribs Area Closure (10 minutes)

- Schedule Review
  - Status of SAP – Distribute BC Cribs and Trenches 200-TW-1 Operable Unit Borehole Sampling and Analysis Plan
  - Status of Field Work
  - Controlled Area Waste Control Plan
  - Confirmatory DQO and SAP
  - TPA change request to move four LW-1 sites to TW-1

SOURCE OPERABLE UNITS

200-PW-1, 200-PW-3, & 200-PW-6 OUs (15 minutes)

- Schedule Review
  - Remediation Treatment Status
  - Monthly Monitoring
  - Status of Field Work Preparation and Planning
  - Status of RI/FS Work Plan
  - Status of Field Work at 216-Z-9

218-W-4C Burial Ground (5 minutes)

- Remediation Treatment Status

200-PW-2 & 200-PW-4 OUs (10 minutes)

- Schedule Review
  - Status of Field Work
  - Status of Work Plan
  - Status of RI Report
- Issues
  - Status of Ecology's Preparation of Revised SAP; Schedule

200-CS-1 OU (2 minutes)

- Schedule Review
  - Status of Waste Management Activities
  - Status of RI Report

200-CW-5, CW-2, CW-4, & SC-1 OUs (10 minutes)

- Schedule Review
  - Status of RI Report
    - EPA Conditional Approval of the RI Report
    - EPA Request to Rerun RESRAD
  - Status of FS
  - Work Plan Revisions

200 Area Ecological Evaluation (5 minutes)

- Schedule Review
  - Status of Eco DQO
  - Status of Eco Evaluation Report

200-CW-1 & 200-CW-3 OUs (15 minutes)

- Schedule Review
  - Status of FS and PP
  - Status of Ecology Revision of PP

200-IS-1 & 200-ST-1 (2 minutes)

- Schedule Review
  - Status of Work Plan
    - Revisions Requested by Ecology are:
      - Evaluate other streamlining options (e.g., observational approach) in Work Plan similar to 200-UR-1
      - Re-evaluate potential remedial actions and the impact on sampling techniques and strategy (e.g., grouting tanks, then

sampling)

200-TW-1, 200-TW-2, & 200-PW-5 (10 minutes)

- Schedule Review
  - Status of FS and PP

200-UR-1 (2 minutes)

- Schedule Review
  - Status of DQO and Work Plan

200-SW-1/2 (5 minutes)

- Schedule Review
  - Status of Work Plan

GROUNDWATER OPERABLE UNITS

General (5 minutes)

- Update on Well Decommissioning

200-BP-5 & 200-PO-1 OUs (15 minutes)

- 200-BP-5 Sample Collection Status
- 200-PO-1 SAP status

200-UP-1 OU (5 minutes)

- Remediation Treatment Status
- RI/FS Work Plan Status – Received Ecology Comments
- Currently Drilling of New Monitoring Wells "O", "N", and "S"
- Drilling of New Monitoring Wells "K", "P", and "R" Begins Spring 2004

200-ZP-1 OU (5 minutes)

- Remediation Treatment Status
- RI/FS Data Quality Objectives Process was Issued as Final
- RI/FS Work Plan Status – Being Issued for RL and EPA Review
- Completed Drilling Replacement Extraction Well #4

SPECIAL TOPICS

- 200-UP-1 and 200-ZP-1 OU RI Report and Risk Assessment (60 minutes)

Groundwater and Source Operable Units Unit Managers' Meeting
Official Attendance Record – 200 Area
December 18, 2003

Please print clearly and use black ink

PRINTED NAME	ORGANIZATION	O.U. ROLE	TELEPHONE
Roberta E. Day	CH2 M Hill	U Plant	375.3444
Julie Robertson	FH Central Plateau	U Plant	376 8162
Jane V Borghese	FH GPP	GW	373-3804
John Winterhalder	FH GPP	ECO	372-8144
Craig Cameron	EPA	Several	376-8665
Dennis Faulk	EPA		
Bryan Foley	DOE-RL	200 area waste Sites	376-7087
Mary Todd-Robertson	FH GPP	200 area waste sites	373-3920
John Morse	BCC-RC	OVERSIGHT	376-0057
Dib Goswami	Ecology	Site wide	736-3015
Mark Benecke	FH- GPP	BC Cribs...	376-0002
Virginia Rohay	FH-GPP	PW-1, SW-2	373-3803
JEAN VANNI	ECOLOGY		736-3046
John Price	Ecology	Proj. Mgr.	736-3029
Mark Byrnes	FH	Task Lead	373-3996
Richard Gurske	FH		3720761
Larry Romine	DOE-RL	AMCP Lead	376-4747
John P. McDonald	PNNL	UP-1 Sampling	373-0362
Briant Charboneau	DOE-RL	GW	373-6137
Stuart Luttrell	PNNL	GW	376-6023

Groundwater and Source Operable Units Unit Managers' Meeting
Official Attendance Record – 200 Area
December 18, 2003

Please print clearly and use black ink

PRINTED NAME	ORGANIZATION	O.U. ROLE	TELEPHONE
Larry Hulstrom	FH GPP	PW-2/4	373-3728
Ed Thornton	PNNL	200 BP5	373.0358
Al Robinson	EQM	PW3,4, CS-1 UP-1, ZP-1	628-2877
Mit. Miller	EQM	UP-1 ZP-1	946-4985
MARCEL BERGERON	PNNL	UP-1	372-6104

MEETING MINUTES
200 AREA GROUNDWATER AND SOURCE OPERABLE UNITS
UNIT MANAGERS' MEETING -- 200 AREA
December 18, 2003

Topics of Discussion:

1. *General*

- Outstanding Action Items – Action items were reviewed.

- Open for Regulatory Topics or Action Items – It was requested that recent DOE changes to the Ecological Risk Assessment DQO issues matrix be added to the agenda items. Changes were reviewed and will be incorporated into the matrix.

- Review and Finalize TPA Quarterly Presentation – A copy of the "UMM TPA Quarterly Review (10/03 – 12/03)" was distributed. (Attached) Changes to the text were made during the meeting and a redline/strikeout version of the "UMM TPA Quarterly Review (10/03 – 12/03)" reflecting those changes is attached.

2. *U Plant Area Regional Closure*

- Schedule Review – Copies of the FY 2004 Waste Sites Remedial Action Project Schedule were distributed. (Attached) Ecology stated that the schedule format does not demonstrate the over-all float for getting to a milestone. EPA suggested that the "Prepare ROD" bar be moved out to start right after the public comment period, in March.

  - Status of FFS/PP – Preliminary comments were received the week of December 8, 2003. Formal comments are expected. There are indications of an additional review, which will push out the public review. Ecology stated that readability is the issue with the Proposed Plan.

  - Status of Field Work Preparations – Approval from DOE-RL and Ecology was received to go forward with the drive casings.

  - Status of Confirmatory/Design SAP – Ecology stated that comments to the SAP will be provided by December 24, 2003.

  - Change Request C-03-01 – Comments from EPA and Ecology are being incorporated into the change request. Ecology stated that the U Plant Work Plan does not address all the waste sites in that operable unit. EPA and Ecology requested that the sites in the U Plant Regional Closure be put into a single OU. Options for doing this will be reviewed. EPA requested that a signed change package not be sent until the regulators have given the package a preliminary review and are in agreement. The June ROD date is not expected to be affected.

3. *BC Cribs Area Closure*

- Schedule Review –

  - Status of SAP – Distribute BC Cribs and Trenches 200-TW-1 Operable Unit Borehole Sampling and Analysis Plan – Copies of "BC cribs and Trenches 200-TW-1 Operable Unit Borehole Sampling and Analysis Plan", DOE/RL-2003-44, Revision 0, that addresses sampling a borehole at the 216-B-26 Trench, were distributed.

  - Status of Field Work – The 216-B-26 borehole has advanced to approximately 135 ft. In addition to the SAP-prescribed sampling, samples are being taken every 2.5 feet to support PNNL/CHG studies. This borehole should be at groundwater near the end of December. The first of two boreholes at the 216-B-58 Trench is complete. The second, located at the west end of the trench where cobalt was observed during geophysical logging of direct push technology holes, is expected to be completed before Christmas.

  - Controlled Area Waste Control Plan – The Waste Control Plan is in the contractor review process.

  - Confirmatory DQO and SAP – DQO activity has kicked-off. Field work will begin close to the end of April.

  - TPA change request to move four LW-1 sites to TW-1 – Work is progressing on drafting the change request for RL and regulator reviews.

SOURCE OPERABLE UNITS

4. *200-PW-1, 200-PW-3, & 200-PW-6 OUs*

- Schedule Review –

  - Remediation Treatment Status – The active system has been shut down for the winter. It is scheduled to be re-started in April of 2004. The passive system remains operational.

  - Monthly Monitoring – Results are consistent with past monitoring. A handout was distributed (attached).

  - Status of Field Work Preparation and Planning – Drilling of the slant well under the 216-Z-9 Trench is scheduled to begin in early April 2004. The investigation at the 216-A-8 Crib will start in mid-April; drilling is scheduled to begin in early May 2004. Initiation of the Step II investigation for the dispersed carbon tetrachloride plume has been deferred to begin in March 2004.

- Status of RI/FS Work Plan – The RI/FS work plan is being finalized based on comments received at the 11/25/03 work shop. The work plan is scheduled to be provided to EPA in February 2004 for approval.

- Status of Field Work at 216-Z-9 – Drilling at the DNAPL well at the 216-Z-9 Trench was temporarily discontinued to complete work at the BC Cribs. Drilling at 216-Z-9 is to resume on January 15, 2004.

5. ***218-W-4C Burial Ground***

- Remediation Treatment Status – Carbon tetrachloride vapor is being extracted from the east end of Trench 4 in the 218-W-4C Burial Ground. A handout of graphs showing carbon tetrachloride concentrations in the extracted vapor was distributed (attached). The extracted vapor is treated and the treated vapor is introduced into the west end of the trench. Vent riser sampling at Trenches 1, 4, 7, 20, and 29, in accordance with the Sampling and Analysis Plan, was completed on December 10, 2003.

6. ***200-PW-2 & 200-PW-4 OUs***

- Schedule Review –

  - Status of Field Work – Waste disposal activities are on-going. As of December 10, 2003, thirteen drums from A-19 have been removed and disposed. Drums from the A-37-1 waste site are scheduled to be removed in mid-January. The Borehole Summary Report is being finalized. Data validation activities are underway.

  - Status of Work Plan – Consistency checks against other Work Plan revisions have been completed. FH is reviewing the document to be sure the latest comments have been incorporated. Ecology inquired as to the amount of float available in completing the Work Plan as well as the RI Report.

  - Status of RI Report – The contractor is retrieving data from HEIS and compiling the information into the Data Quality Assessment report. Once the data is confirmed, risk assessment work will begin.

- Issues - Status of Ecology's Preparation of Revised SAP; Schedule – Ecology will determine the status of the revisions and provide the information.

7. ***200-CS-1 OU***

- Schedule Review – The DOE-RL review of the RI Report is scheduled for March 1, 2004; the regulator review is scheduled for May 31, 2004; and the milestone is May 31, 2004.

  - Status of Waste Management Activities – All the waste has been removed.

  - Status of RI Report – The report is being prepared.

8. ***200-CW-5, CW-2, CW-4, & SC-1 OUs***

- Schedule Review –
  - Status of RI Report – The ecological issues have been resolved and the report will be out in January 2004.
    - EPA Conditional Approval of the RI Report – EPA provided a letter giving conditional approval of the Draft A RI Report. The report is being revised to incorporate EPA comments and will be issued after the work plan is issued.
    - EPA Request to Rerun RESRAD – Reruns to turn on the groundwater pathway will be done outside of RI Report and considered in the FS. Unrestricted and Native American scenarios will be run outside the RI Report and provided to EPA in a separate report. An intruder scenario will be included in the FS.
  - Status of FS – The FS process has begun.
  - Work Plan Revisions – The issues with EPA have been closed and FH is working on finalization.

9. ***200 Area Ecological Evaluation***

- Schedule Review –
  - Status of Eco DQO – The DQO is progressing on schedule. The matrix will be sent out in early January 2004.
  - Status of Eco Evaluation Report – Two comment sets are ready to send out. Work continues on the other sets.

10. ***200-CW-1 & 200-CW-3 OUs***

- Schedule Review –
  - Status of FS and PP – A handout (attached) was provided showing suggested changes to the alternatives and to the FS. EPA and Ecology requested that the Institutional Controls alternative be retained.
  - Status of Ecology Revision of PP – Ecology requested a meeting be scheduled to work through the redline/strikeouts. Descriptions of alternatives need improvement.

11. ***200-IS-1 & 200-ST-1***

- Schedule Review – Ecology requested a report on the float available on the Work Plan, completion of the field work and on the RI/FS.

  - Status of Work Plan – A regulator review of Rev. 0 has been completed. If the revisions are in response to comments received in the letter, the revision won't be long. FH is preparing a BCR to bring scope of revision into baseline. The issue of ORP waste sites listed in Table C-4 of the Work Plan will require further discussion with Ecology to resolve.

    - Revisions Requested by Ecology are:

      - Evaluate other streamlining options (e.g., observational approach) in Work Plan similar to 200-UR-1
      - Re-evaluate potential remedial actions and the impact on sampling techniques and strategy (e.g., grouting tanks, then sampling)

12. *200-TW-1, 200-TW-2, & 200-PW-5*

- Schedule Review –

  - Status of FS and PP – The FS is in the internal review phase. It will be delivered to DOE-RL by January 15, 2004. FH would like to meet with the regulators to provide a pre-view of the preferred alternatives presented.

13. *200-UR-1*

- Schedule Review – No discussion.

  - Status of DQO and Work Plan – No discussion.

14. *200-SW-1/2*

- Schedule Review – No discussion.

  - Status of Work Plan – No discussion.

15. *General*

- Update on Well Decommissioning – No new activity.

GROUNDWATER OPERABLE UNITS

16. *200-BP-5 & 200-PO-1 OUs*

- 200-BP-5 Sample Collection Status – A presentation was given by PNNL on the recent CERCLA sampling activities at 200-BP-5. A handout of information, including graphs, was distributed. (Attached)

- 200-PO-1 SAP Status – The schedule for the RI/FS process is being updated and will be available after the first of the year. The SAP is signed and with Ecology.

17. *200-UP-1 OU*

- Remediation Treatment Status – The average pumping rate for FY 2004 through November 30 was 38 gpm. The system operated at between 0 and 53 gpm for the month of November. The system was shutdown on October 22, 2003, when a filter went down at ETF. The system was restarted on November 13, 2003. The system was shutdown on November 24, 2003, to allow an ERDF leachate transfer. Extraction well 299-W19-43 was shutdown on November 29, 2003, due to a bad pump. Extraction wells 299-W19-36 and 299-W19-39 continued pumping. Starting January 2, 2004, ETF has agreed to allow FH to increase the pumping rates to 60 gpm for a little over three months to make up for down time. The system run time for the month of November 21 59.05%, for FY 2004 year-to-date 62.6%, and from system inception to date 92.6%.

- RI/FS Work Plan Status – Received Ecology Comments – Ecology's comments have been received and are being incorporated.

- Currently Drilling of New Monitoring Wells "O", "N", and "S" – Drilling at well "S" began on December 16, 2003. Drilling at "O" and "N" will begin later in December.

- Drilling of New Monitoring Wells "K", "P", and "R" Begins Spring 2004 – Drilling at these wells will begin in the spring of 2004.

18. *200-ZP-1 OU*

- Remediation Treatment Status – The average pumping rate for FY 2004 through November 30, 2003, was 131 gpm. For the month of November 2003, the system operated at between 129 and 134 gpm. The system was temporarily shut down on November 5, 2003, and from November 7 through November 10, 2003, due to a leak detection system that was triggered by condensation. Replacement extraction well #4 is currently being drilled. Replacement extraction wells #1 and #4 will begin being hooked up in February 2004. The system run time for the month of November was 89.5%, FY 2004 year-to-date was 95.5% and system inception to date was 92.2%. A handout was distributed. (Attached)

- RI/FS Data Quality Objectives Process was Issued as Final – The final has been issued.

- RI/FS Work Plan Status – Being Issued for RL and EPA Review – The Work Plan will be issued to DOE-RL and EPA next week for review.

- Completed Drilling Replacement Extraction Well #4 – No discussion.

Attachment 11

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
34	Provide a clear definition of "Central Plateau"	FH	EPA&Ecology	10/16/03				
37	Clearly define terms 'confirmatory sampling' and 'remedial sampling'	FH	EPA	10/16/03				Confirmatory will be defined in the U Plant PP
39	Add regulators to Brown Bag scheudule	FH	EPA&Ecology	12/18/03				
40	Re-schedule carbon tetrachloride presentation	FH	EPA&Ecology	12/18/03				

200 Area UMM – December 2003

200-UP-1:

- Average Pumping Rate for FY04 through November 30: 38 gpm
- For the month of November, the system operated at between 0 and 53 gpm.
- The system was shutdown October 22 when a filter went down at ETF. The system was restarted November 13.
- The system was shutdown on November 24 to allow an ERDF leachate transfer.
- Extraction well 299-W19-43 shutdown on November 29 due to a bad pump. Extraction wells 299-W19-36 and 299-W19-39 continued pumping.
- Starting January 2, ETF has agreed to allow us to increase our pumping rates to 60 gpm for a little over 3 months to allow us to make up for down time.

- System Run Time
  - For Month of November 59.05%
  - FY2004 (Year to date) 62.6%
  - System Inception to date 92.6%

- RI/FS Work Plan Status – Ecology Comments have been received and are being incorporated
- Drilling of New Monitoring Well "S" began Tuesday this week
- Drilling of New Monitoring Wells "O", and "N" will follow later this month
- Drilling of New Monitoring Wells "K", "P", and "R" will Begin Spring 2004

200-ZP-1:

- Average Pumping Rate for FY04 through November 30: 131 gpm
- For the month of November, the system operated at between 129 and 134 gpm.
- System was temporarily shutdown on November 5 and from November 7 through November 10 due to leak detection system that was triggered by condensation
- Replacement Extraction Well #4 is currently being drilled.
- Replacement Extraction Wells #1 and #4 will begin being hooked up in January 2004

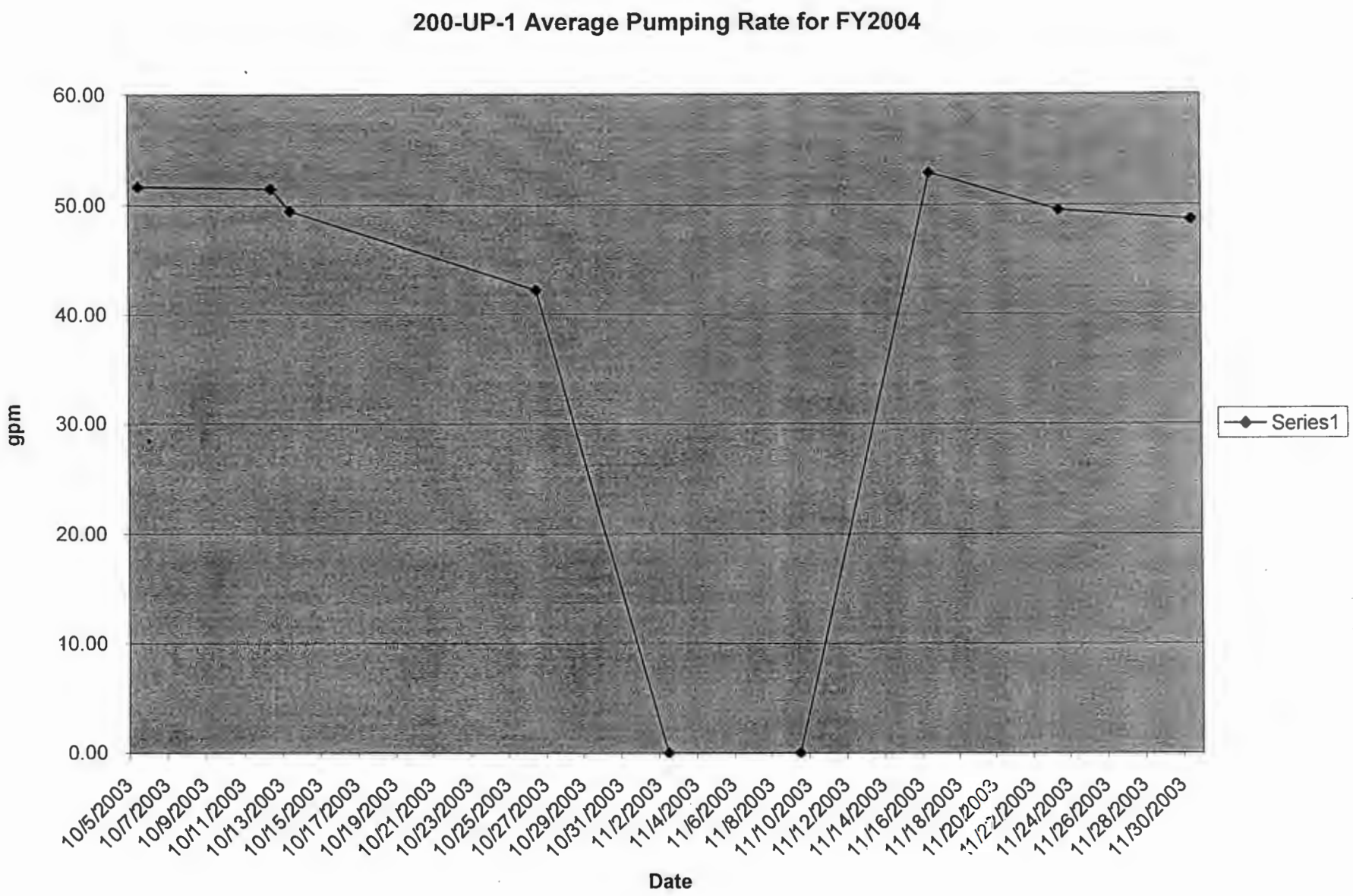
- System Run Time
  - For Month of November 89.5%
  - FY2004 (Year to date) 95.5%
  - System Inception to date 92.2%

- RI/FS Data Quality Objectives Summary Report – Final Has Been Issued
- RI/FS Work Plan Status – Being Issued for RL and EPA Review next week
- The following results were detected while drilling new monitoring well "G" (299-W13-1), located just east of laundry facility. Well was drilled to lower mud and will continue to basalt

  309'= CCL4 31.6 ug/L, No Chloroform or TCE
  349'= CCL4 163 ug/L, Chloro 2.07 ug/L
  367'= CCL4 227 ug/L, Chloro 7.42 ug/L
  403'= CCL4 1160 ug/L, Chloro 9.67 ug/L, TCE 7.04 ug/L
  429'= CCL4 1238 ug/L (1307 ug/L Dup), Chloroform 82.3 ug/L (83.2 ug/L Dup), TCE 10.2 ug/L (10.3 ug/L Dup), PCE <2 ug/L (<2 ug/L Dup)

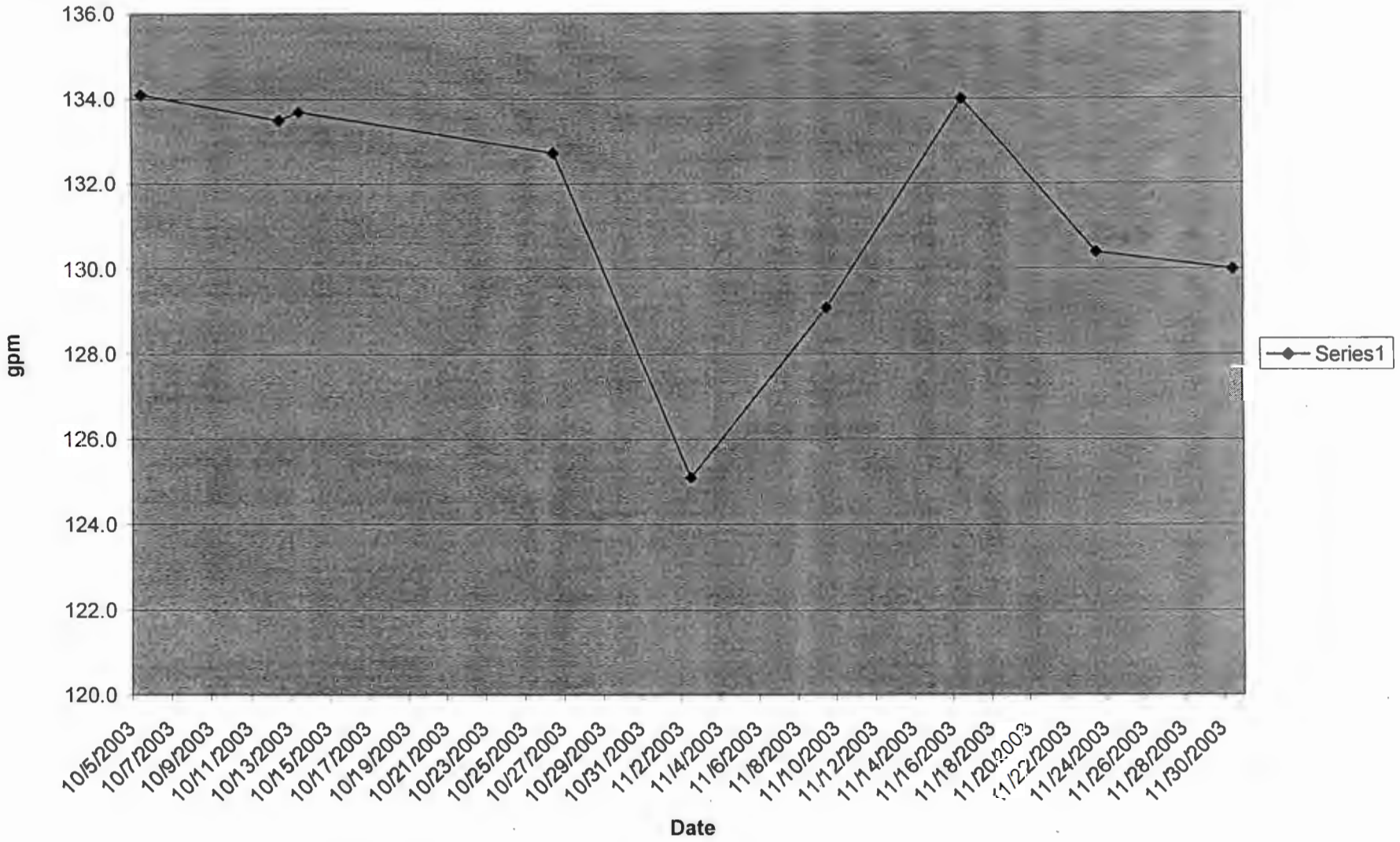
200-PW-1 (200-ZP-2):

- Active system is shutdown for the winter and is scheduled to be restarted April 1, 2004
- The passive system remains operational.

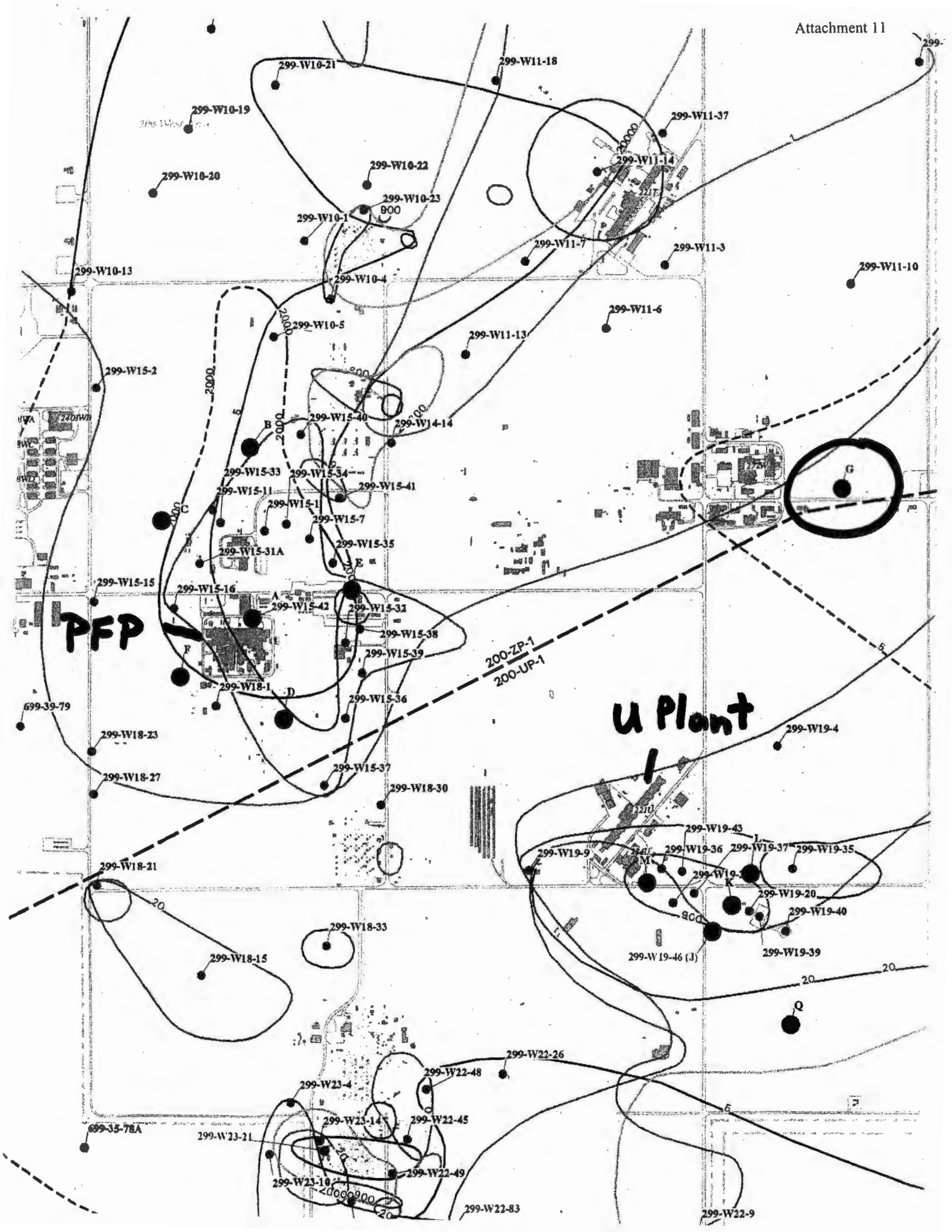


Attachment 11

200-ZP-1 Average Pumping Rate for FY2004



Attachment 11


299-W10-21
299-W11-18
299-W10-19
299-W11-37
299-W11-14
299-W10-20
299-W10-22
299-W10-23
299-W10-1
299-W11-7
299-W11-3
299-W10-13
299-W10-4
299-W11-10
299-W10-5
299-W11-6
299-W11-13
299-W15-2
299-W15-40
299-W14-14
299-W15-33
299-W15-34
299-W15-41
299-W15-11
299-W15-1
299-W15-7
299-W15-35
299-W15-31A
299-W15-15
299-W15-16
299-W15-42
299-W15-32
299-W15-38
299-W15-39
PFP
200-ZP-1
200-UP-1
299-W18-1
699-39-79
299-W15-36
U Plant
299-W18-23
299-W19-4
299-W18-27
299-W15-37
299-W18-30
299-W19-43
299-W19-9
299-W19-36
299-W19-37
299-W19-35
299-W18-21
299-W19-20
299-W19-40
299-W18-33
299-W18-15
299-W19-46 (J)
299-W19-39
299-W22-26
299-W22-48
299-W23-4
299-W23-14
299-W22-45
699-35-78A
299-W23-21
299-W22-49
299-W23-10
299-W22-83
299-W22-9

Comparison of Maximum Carbon Tetrachloride Rebound Concentrations
Monitored at 200-PW-1 Soil Vapor Extraction Sites
FY 1998 - FY 2004

200-PW-1 (200-ZP-2) Location (Well or Probe) /feet bgs	Site	October 1997 - September 1998 Maximum Rebound Carbon Tetrachloride (ppmv)	months* of rebound	July 1998 - September 1999 Maximum Rebound Carbon Tetrachloride (ppmv)	months* of rebound	July 1999 - June 2001 Maximum Rebound Carbon Tetrachloride (ppmv)	months* of rebound	July 2001 - June 2002 Maximum Rebound Carbon Tetrachloride (ppmv)	months* of rebound	July 2002 - September 2003 Maximum Rebound Carbon Tetrachloride (ppmv)	months* of rebound	July 2002 (Z-9) or October 2003 (Z-1A) - November 2003 Maximum Rebound Carbon Tetrachloride (ppmv)	months of rebound
79-03/ 5 ft	Z-18	0	3	0	12								
79-06/ 5 ft	Z-1A	not measured		1.4	12								
79-11/ 5 ft	Z-1A	0	6	2.9	12								
86-05/ 5 ft	Z-9	not measured		0	3								
86-05-01/ 5 ft	Z-9	not measured		0	3								
86-06/ 5 ft	Z-9	0	9	1.9	6								
87-05/ 5 ft	Z-1A	0	3	1.0	12								
87-09/ 5 ft	Z-1A	1.5	3	2.6	12								
94-02/ 5 ft	Z-9	not measured		1.4	3								
95-11/ 5 ft	Z-9	2.1	9	2.5	6								
95-12/ 5 ft	Z-9	1.5	9	1.3	6								
95-14/ 5 ft	Z-9	not measured		0	3								
CPT-13A/ 9 ft	Z-1A	0	6	1.0	12								
CPT-16/ 10 ft	Z-9	0	9	1.5	6								
CPT-17/ 10 ft	Z-9	4.2	9	5.1	6	6.6	24	3.2	6	6.6	15	6.6	17
CPT-18/ 15 ft	Z-9	6.5	9	5.0	6	5.2	24	1.4	6	2.4	15	2.4	17
CPT-4A/ 25 ft	Z-1A	not measured		not measured		3.5	0	3.4	10				
CPT-4E/ 25 ft	Z-1A	not measured		not measured		not measured		2.6	12	1.3	0		
CPT-16/ 25 ft	Z-9	not measured		not measured		1.8	24	1.1	6	2	15	2.6	17
CPT-31/25 ft	Z-1A	0	6	0	12								
CPT-32/ 25 ft	Z-1A	9.1	6	10	12	16.5	18	13.0	12	8.3	6	0	2
CPT-30/ 28 ft	Z-18	not measured		3.2	12	1.4	18	0	12	0	6	0	2
CPT-13A/ 30 ft	Z-1A	not measured		not measured		3.6	18	2.6	12	1.6	6	0	2
CPT-7A/ 32 ft	Z-1A	2.3	6	5.4	12	6.2	18	5.6	12	3.9	6	3.0	2
CPT-27/ 33 ft	Z-9	not measured		not measured		2.6	24	1.5	6	1.7	15	1.7	17
CPT-1A/ 35 ft	Z-12	1.4	3	3.0	12	7.7	18	11.3	12	22.0	15	18.3	2
CPT-28/ 40 ft	Z-9							56.5	6				
CPT-33/ 40 ft	Z-1A	2.0	3	2.6	12			2.3	12				
CPT-34/ 40 ft	Z-18	not measured		1.7	12	1.9	0	2.2	12	1.6	0		
CPT-21A/ 45 ft	Z-9	52.7	9	57	3	127	24	133	6	90.0	15	90.0	17
W15-220ST/ 52 ft	Z-9	not measured		1.6	3	2.5	24			1.5	1		
CPT-28/ 60 ft	Z-9	1.5	0	3.7	3								
CPT-9A/ 60 ft	Z-9	41.1	0	44	3	68	24	45.3	6	35.9	15	35.9	17
CPT-16/ 65 ft	Z-9	not measured		not measured		not measured		not measured		4.2	15		
CPT-1A/ 68 ft	Z-12	not measured		not measured		not measured		5.5	12				
CPT-30/ 68 ft	Z-18	not measured		3.0	12								
CPT-32/ 70 ft	Z-1A							7.7	12				
CPT-13A/ 70 ft	Z-1A	not measured		5.6	12								
CPT-24/70 ft	Z-9	3.2	9	3.6	3					4.7	15		
W15-219SST/ 70 ft	Z-9	not measured		7.6	3	7.8	24			1.9	1		
CPT-18/ 75 ft	Z-9	not measured		not measured		18	24			4.5	15		
CPT-4A/ 75 ft	Z-1A	not measured		not measured		not measured		7.1	3				
CPT-31/ 76 ft	Z-1A	not measured		4.2	12								
CPT-33/ 80 ft	Z-1A	not measured		9.2	12								
W15-82/ 83 ft	Z-9	5.5	9	46	6	55	24	66.7	6	85.8	15	85.8	17
CPT-21A/ 86 ft	Z-9	206	9	148	6	195	24	186	6	206	15	206	17
CPT-34/ 86 ft	Z-18	5.9	3	0	12								
W15-95U/ 86 ft	Z-9	15.3	9	39	6	43	21						
W15-218SST/ 86 ft	Z-9	not measured		0	3					1.6	2		
CPT-28/ 87 ft	Z-9	230	9	203	6	224	24	229	6	235	15	235	17
CPT-4B/ 90 ft	Z-1A							3.2	10				
CPT-1A/ 91 ft	Z-18	not measured		4.2	12			10.7	10				
CPT-4A/ 91 ft	Z-1A	7.7	3	14	12			7.5	2				
CPT-9A/ 91 ft	Z-9	34.5	9	72	3			74.3	6				
W15-85/ 91 ft	Z-9	not measured		not measured		51	24						
W18-252SST/ 100	Z-1A	17.8	3	24	12								
W18-152/ 101 ft	Z-12	11.1	3	33	12	25	18	25.7	12	20.7	6	10.5	2
CPT-4E/ 103 ft	Z-1A	not measured		not measured		not measured		16.1	12				
W18-167/ 106 ft	Z-1A	79.7	3	228	12	248	18	297	12	243	6	223	2
W18-165/ 109 ft	Z-1A	not measured		not measured		not measured		278	12	328	6	205	2
W15-217/ 114 ft	Z-9	630	9	561	6	442	24	93.6	6	444	15	444	17
CPT-24/ 118 ft	Z-9	37.7	9	37	6	35	24			27.8	15		
W15-220SST/ 118	Z-9	not measured		36	3	34	24			27.5	3		
W18-158L/ 120 ft	Z-1A	143	3	492	12	284	18	163	3				
W15-219SST/ 130	Z-9	not measured		47	3	54	24			23.1	1		
W18-249/ 130 ft	Z-18	20.4	3	215	12	176	18	196	12	46.3	6	31.1	2
W18-248/ 131 ft	Z-1A	86.3	3	177	12	214	18	306	12	182	6	80.4	2
W15-95L/ 144 ft	Z-9	not measured		not measured		not measured		31.8	6	25.1	15	25.1	17
W15-219SST/ 155	Z-9	not measured		24	3	44	24			6.8	1		
W15-220U/ 163 ft	Z-9									-----	15		
W15-219L/ 175 ft	Z-9									-----	15		
W15-9L/ 176 ft	Z-9	15.0	9	15	6	20	21	16.9	6	13.1	15	13.1	17
W15-84L/ 180 ft	Z-9	not measured		not measured		not measured		not measured		25.9	15	25.9	17
W15-6L/ 182 ft	Z-9	17.8	9	1.3	6								
W15-220SST/ 185	Z-9	not measured		13	3	15	24			-----	1		
W18-7/ 197 ft	Z-1A	17.3	3	29	12								
W18-12/ 198 ft	Z-18	3.81	3	19	12								
W18-6L/ 208 ft	Z-1A	31.3	6	15	12								

* - based on location (Z-1A/18/ points may be beyond SVE zone of influence during particular operating configurations
- Z-18 and Z-12 wells off-line
- CPT-1A, CPT-9A, and possiVE zone of influence in Oct 96 based on differential pressure (BHI-01105, p. 6-1)
- CPT-9A, CPT-21A, CPT-28/ 96 based on CCl4 concentrations and airflow modeling based on measured vacuums (BHI-01105, p. 6-1)

Carbon Tetrachloride Rebound Concentrations
Monitored at 200-PW-1 Soil Vapor Extraction Sites
July 2002 (Z-9) or October 2003 (Z-1A) - November 2003

200-PW-1 (200-ZP-2) Location (Well or Probe) /feet bgs	Site	07/30/2002 CCl4 (ppmv)	08/26/2002 CCl4 (ppmv)	10/04/2002 CCl4 (ppmv)	10/30/2002 CCl4 (ppmv)	11/27/2002 CCl4 (ppmv)	12/31/2002 CCl4 (ppmv)	01/30/2003 CCl4 (ppmv)	02/21/2003 CCl4 (ppmv)	03/20/2003 CCl4 (ppmv)	05/01/2003 CCl4 (ppmv)	05/22/2003 CCl4 (ppmv)	07/01/2003 CCl4 (ppmv)	08/05/2003 CCl4 (ppmv)	08/26/2003 CCl4 (ppmv)	10/31/2003 CCl4 (ppmv)	12/04/2003 CCl4 (ppmv)
CPT-17/ 10 ft	Z-9	1.6	1.4	2.0	1.6	1.1	1.0	1.3	1.5	3.1	5.3	6.6	4.5	6.1	5.3	3.2	4.1
CPT-18/ 15 ft	Z-9	0	0	1.2	0	0	0	0	0	1.7	0	2.0	0	1.8	2.4	0	1.1
CPT-16/ 25 ft	Z-9	0	0	0	0	0	0	0	0	0	1.0	0	1.2	1.5	1.5	2.6	1.2
CPT-32/ 25 ft	Z-1A															0	0
CPT-30/ 28 ft	Z-1A															0	0
CPT-13A/ 30 ft	Z-1A															0	0
CPT-7A/ 32 ft	Z-1A															2.4	3.0
CPT-27/ 33 ft	Z-9	0	0	0	0	0	0	0	0	1.1	1.0	1.7	1.1	1.0	1.6	1.1	0
CPT-1A/ 35 ft	Z-12															18.3	9.5
CPT-21A/ 45 ft	Z-9	60.2	31.6	68.0	61.9	35.7	40.8	45.2	30.4	73.7	72.8	90.0	75.1	85.5	83.0	52.3	89.1
CPT-9A/ 60 ft	Z-9	35.1	8.4	27.8	22.2	12.5	7.4	14.8	13.8	35.9	30.1	33.2	30.1	30.0	28.5	25.9	33.1
W15-82/ 83 ft	Z-9	85.8	5.6	58.8	35.6	14.7	12.1	6.5	15.4	36.0	50.0	56.2	49.2	44.3	54.4	24.0	34.4
CPT-21A/ 86 ft	Z-9	159	55	155	95.0	55.3	46.4	66.9	44.6	140	199	206	153	187	197	91.8	183
CPT-28/ 87 ft	Z-9	208	54.2	169	130	51.6	48.8	20.3	87.6	139	178	235	150	197	190	155	206
W18-152/ 101 ft	Z-12															5.7	10.5
W18-167/ 106 ft	Z-1A															201	223
W18-165/ 109 ft	Z-1A															94.2	205
W15-217/ 114 ft	Z-9	82.1	34.0	214	38.7	80.0	264	324	246	287	74.3	409	89.7	335	444	53.8	80.4
W18-249/ 130 ft	Z-18															8.0	31.1
W18-248/ 131 ft	Z-1A															78.6	80.4
W15-95L/ 144 ft	Z-9	13.3	0	16.1	18.5	9.7	9.8	12.6	11.9	21.7	17.2	18.8	25.1	13.7	10.9	19.2	20.3
W15-9L/ 176 ft	Z-9				5.1	2.9	5.2	5.8	5.1	10.5	8.2	11.6	10.3	13.1	12.5	6.1	5.8
W15-84L/ 180 ft	Z-9		5.8	13.1	2.8	7.2	10.6	13.0	10.9	18.8	8.3	25.9	17.9	21.0	23.8	4.7	4.9

Attachment 11

GROUNDWATER PROTECTION PROJECT

GROUNDWATER PROTECTION PROJECT
FY 2004 TPA MILESTONE SUMMARY
(Major & Interim Milestones)

Status as of: December 15, 2003

PBS	Milestone	Title	Compliance Date	Forecast/ Actual Date	Completed		Forecast		
					Ahead Schedule	On Schedule	Ahead Schedule	On Schedule	Behind Schedule
	M-024-00O	Complete required well installations in accordance with RCRA and CERCLA groundwater requirements. Install a minimum of 15 wells by 12/31/03.	12/31/03	12/31/03				X	
	M-020-00A	Submit Part B Permit Applications or Closure/Post Closure Plans for all RCRA TSD Units except 216-A-10, 216-A-36B, 216-A-37-1, 207-A South Retention Basin, 216-S-10 Pond, 216-S-10 Ditch, 241-CX-7-, 241-CX-71, and 241-CX-72.	2/28/04	2/28/04				X	
	M-015-41C	Submit 200-TW-1 & TW-2 OU FS and PP including Past Practice Waste Sites in 200-PW-5 Fission Product-Rich Process Waste Group	3/31/04	3/31/04				X	
	M-015-39B	Submit 200-CS-1 Chemical Sewer Group RI Report	5/31/04	5/31/04				X	
	M-013-00N	Submit 1 200 NPL RI/FS (RFI/CMS) Work Plan for the 200-UR-1 Unplanned Releases	6/30/04	6/30/04				X	
	M-015-43B	Submit 200-PW-2 OU RI Report including Past Practice Waste Sites in the 200-PW-4 General Process Waste Group	6/30/04	6/30/04				X	
	M-016-66	Initiate Intermediate Design and Authorization Safety Analysis for Remedial Actions (618-10/11)	9/30/04	9/30/04				X	

ACCOMPLISHMENTS

200 Area Waste Site Remediation

The U Plant waste sites FFS and Proposed Plan were submitted to EPA Region X for review. Comments were received in December and are being addressed to support revision of the documents and the public review process.

The 200-PW-1, 200-PW-3, and 200-PW-6 Operable Unit (OU) Grouping field investigation is in progress. Drilling was initiated at 216-Z-9 although resources have been temporarily deferred to support completion of drilling at BC Cribs and Trenches.

The draft Rev.0 Work Plan for 200-PW-1, 200-PW-3, and 200-PW-6 OU's (plutonium and organic-rich0) was presented to RL and EPA. Comments have been resolved and both agencies have agreed the document is ready to be published as a final Rev. 0 version.

Comments were received on the 200-CW-5, 200-CW-2, 200-CW-4, and 200-SC-1 Operable Units Remedial Investigation Report from the regulators in July and comment resolutions were finalized in December. The document is being finalized for transmittal to USDOE and the regulators.

Progress continues on development of the data quality objectives (DQO) to support completion of the 200 Area operable unit ecological risk assessment needs. A workshop was held on December 2, 2003 with Tri-Party agency staff participants and participants from the HNRTC and the HAB River & Plateau Committee to discuss draft Tri-Party responses to issues raised during the initial DQO scoping interviews.

A meeting was held on December 5, 2003 with Ecology to discuss their proposal to conduct collaborative negotiations on issues associated with the development of the 200-SW-1 and 200-SW-2 RI/FS Work Plan. RL agreed to participate in a series of collaborative issue resolution-type discussions beginning January 13, 2004. Issues must be resolved by April 2004 in order to keep the work plan development on schedule. This work plan is due December 31, 2004 under Tri-Party Agreement milestone M-013-00O.

Groundwater Remediation

The draft RI/FS work plan for the 200-UP-1 operable unit is being revised to address Washington Department of Ecology comments. The title of this report is *Remedial Investigation /Feasibility Study Work Plan for the 200-UP-1 Groundwater Operable Unit,* DOE-RL-92-76.

The draft *Remedial Investigation/Feasibility Study Work Plan for the 200-ZP-1 Groundwater Operable Unit,* DOE-RL-2003-55 is being reviewed by DOE/RL and EPA. .

The three 100 Area pump-and-treat systems (100-KR-4, 100-NR-2 and 100-HR-3) and the 200-ZP-1 pump-and-treat system continued to operate above 90% availability throughout the first quarter. Due to technical problems with the Effluent Treatment Facility, the 200-UP-1 pump-and-treat system operated at just over 60% availability throughout the first quarter.

Installed replacement well for extraction wells 1 and 4 at 200-ZP-1. The system tie-in is scheduled for second quarter. Installation of a third extraction well was completed for 200-UP-1.

Vapor extraction at Trench T-04 in the 218-W-4C Burial Ground was initiated on November 11, 2003.

As of December 11, 2003 twelve wells have been completed and accepted, drilling and completion of another nine wells is underway. Planning for the January drilling campaign has been initiated.

Fifty-seven wells were decommissioned by mid-October 2003. A second contract has been let to decommission unused piezometers and wells in the Central Plateau.

The DQO Process was initiated in October for the evaluation of impacts at 100 N to aquatic and riparian ecoreceptors. The contractors (Fluor Hanford and Bechtel) are coordinating their assessments. Draft test plans for laboratory studies supporting the 100-NR-2 strontium-90 treatment options (phytoremediation and apatite-sequestration) were prepared during the quarter and are being reviewed internally.

Remedial actions to address an additional area of chromium contaminated groundwater in the 100 D Area are being evaluated. A team of contractor personnel from FH, BHI, and PNNL was assembled to identify liquid drivers, sources, and groundwater remediation options.

200 Area Waste Site Remediation Issue Status

U Plant Soil Waste Sites Issue Status

Issue- The characterization of pipelines and associated soil waste sites in the U Plant area is inactive. The characterization supports the U Plant area closure, so the active part of the area closure is limited to the soil waste sites covered by the Feasibility Study and Proposed Plan that is currently in regulatory review. The inactivity on the pipelines is due to two factors: the disagreement between Ecology and DOE on the technical approach, and ongoing discussions between DOE RL and ORP about their respective responsibility of scope. The technical disagreement is that USDOE is proposing to rely on the analogous sites approach for unplanned releases and pipelines. Ecology made prior comments that the analogous sites approach is not relevant for unplanned releases and pipelines. Ecology also proposes that for unplanned releases that are limited in areal extent, it should be cheaper to plan one mobilization and characterize using the observational approach during excavation/cleanup. USDOE proposes to use process knowledge for pipelines characterization; Ecology previously identified 4 specific alternatives (not including process knowledge) for pipelines characterization and remediation.

Status- ORP is working on characterization and remediation criteria for pipelines. They last provided status information to Ecology in August. The scope division between RL and ORP is the subject of ongoing discussions between the two organizations, and is also the focus of the IAMIT Central Plateau closure strategy working group.

200-PW-2 and 200-PW-4 Work Plan Approval

Issue- DOE and Ecology did not resolve one Ecology comment on the 200-PW-2 and 200-PW-4 Operable Units RI/FS Work Plan. Ecology agreed that DOE should proceed with field sampling prior to approval of the work plan, because the unresolved comment placed the RI/FS schedule at risk. The Ecology comment was a request to sample one additional waste site. DOE disagreed with the technical basis. Continuing discussions have not resolved the disagreement and the work plan is still not approved.

Status- Ecology is preparing a revision to the work plan's sampling and analysis plan that will identify additional sampling requirements. Once Ecology submits the proposed changes to RL, RL will need to decide whether to accept the changes or formally dispute them.

At the November Unit Manager Meeting Ecology stated that the additional characterization data could be included in the Feasibility Study which follows the RI report so the associated FY04 and FY05 TPA milestones should not be negatively impacted.

Draft B Revision of the 200-CW-1, 200-CW-3, and other 200 North Waste Sites Feasibility Study and Proposed Plan

Issue- The remedial actions have been re-packaged to be proposed in the revised draft of the Feasibility Study and Proposed Plan for the 200-CW-1, 200-CW-3 and other north waste site operable unit grouping which includes Gable Mountain Pond and B Pond. EPA and Ecology have indicated a desire to add additional thickness to the existing cap and have asked RL to provide some validation of their proposal.

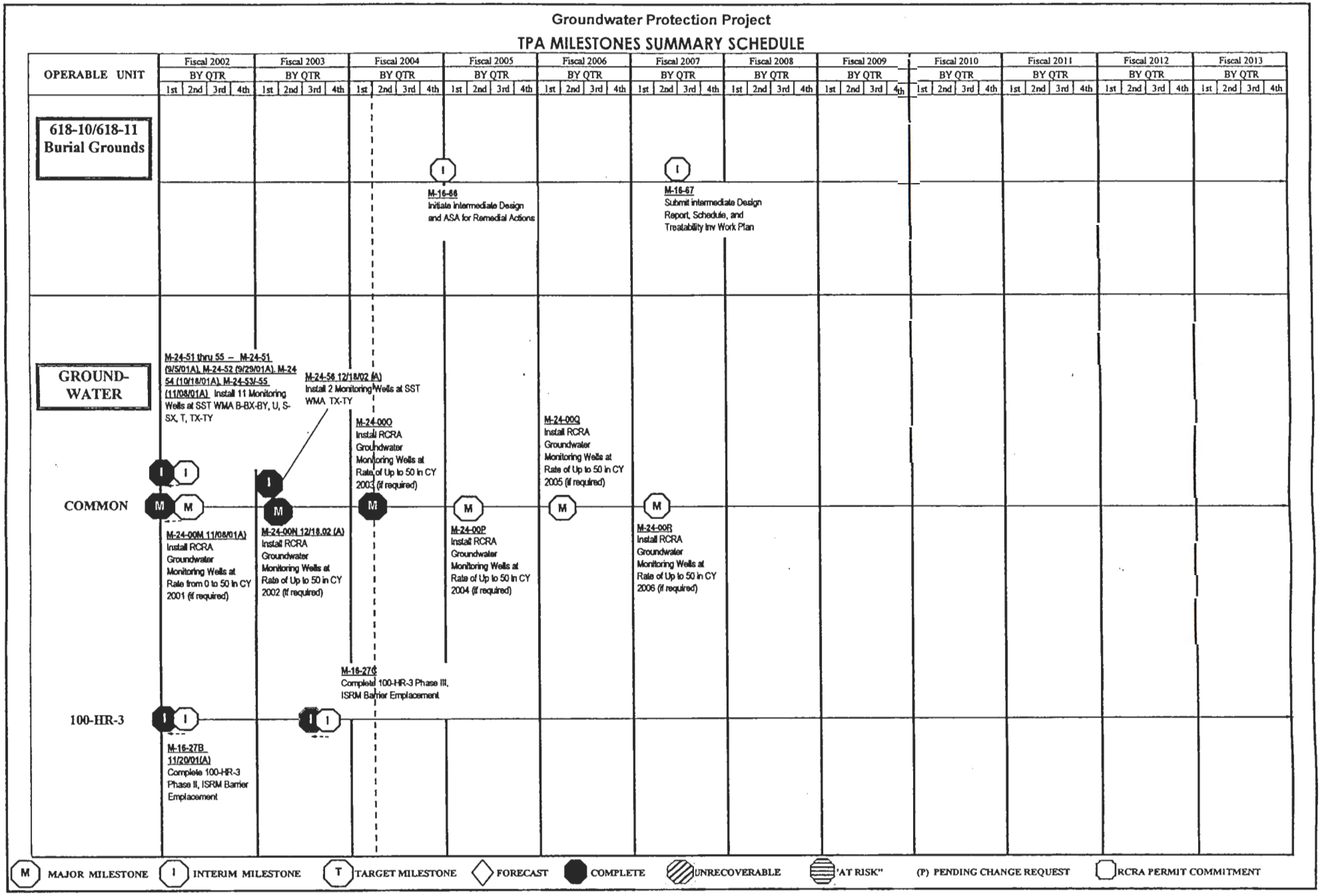
Status-RL expects to meet with EPA and Ecology in January 2004 to review changes and to discuss the technical issues and impacts associated with the re-packaged remedies as they will be proposed in the Draft B version of the FS and PP.

200-IS-1 and 200-ST-1 Work Plan Approval

Issue-Ecology has requested that the pits, lines, tanks, and boxes (200-IS-1) and septic tanks (200-ST-1) work plan be revised to include additional information on "likely response scenarios and potentially applicable technologies and operable units that may address site problems." This would require a revision to the Rev. 0 document.

Status- Ecology's comment letter did not clearly request a Revision 1 document. Ecology is preparing a letter for DOE to proceed with preparation of the Revision 1 RI/FS work plan.

Status as of: December 30, 2003



Status as of: December 30, 2003

Groundwater Protection Project

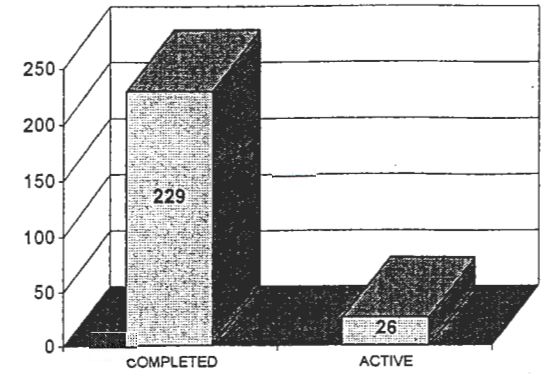
TPA MILESTONE SUMMARY SCHEDULE

OPERABLE UNIT	Fiscal 2002	Fiscal 2003	Fiscal 2004	Fiscal 2005	Fiscal 2006	Fiscal 2007	Fiscal 2008	Fiscal 2009	Fiscal 2010	Fiscal 2011	Fiscal 2012	Fiscal 2013
	BY QTR: 1st 2nd 3rd 4th	BY QTR: 1st 2nd 3rd 4th	BY QTR: 1st 2nd 3rd 4th	BY QTR: 1st 2nd 3rd 4th	BY QTR: 1st 2nd 3rd 4th	BY QTR: 1st 2nd 3rd 4th	BY QTR: 1st 2nd 3rd 4th	BY QTR: 1st 2nd 3rd 4th	BY QTR: 1st 2nd 3rd 4th	BY QTR: 1st 2nd 3rd 4th	BY QTR: 1st 2nd 3rd 4th	BY QTR: 1st 2nd 3rd 4th
200 AREA REMEDIAL ACTION	M-13-00L 12/26/01(A) Submit 3 200 NPL RI/FS (RFI/CMS) Work Plans	M-13-00M 12/30/02(A) Submit 1 200 NPL RI/FS (RFI/CMS) Work Plan for 200-IS-1 OU, Includes waste sites in 200-ST-1	M-13-00N Submit 1 200 NPL RI/FS (RFI/CMS) Work Plan for 200-UR-1 OU	M-13-00O Submit 1 200 NPL RI/FS (RFI/CMS) Work Plan for 200-SW-2 OU, Includes waste sites in 200-SW-1				Note 1 - "Ecology believes this is at risk" Note 2 - "Ecology believes these are at risk due to unresolved comment on sampling plan"				
200 AREA WORK PLANS	M; I M-13-26 12/26/01 (A) Submit Plutonium/ Organic-Rich Process Waste Group (200-PW-1) Work Plan	M	M	M Note 1 Date revised from 12/31/03 per TPA CC M-13-03-01 approved by RL 10/23/03								
200 AREA ASSESSMENTS	M-15-38A 10/23/02 (A) Submit 200-CW-1 FS/PP/ Proposed RCRA Permit Mod for Gable Mtn Pond/B Pond and Ditch Cooling Water Group		M-15-40C Submit 200-CW-5 FS/PP for U Pond/Z Ditches Cooling Water Group, Including Past Practice Waste Sites in 200-CW-2, 200-CW-4, & 200-SC-1		M-15-46A Submit 200 Area Chemical Lab Waste Ous RI Report	M-15-46B Submit 200 Area Chemical Lab Waste Ous FS						
200-CW-1 200-CW-5 200-LW-1 200-MW-1	I I		I M-15-40B Submit 200-CW-5 U Pond/ Z Ditches Cooling Water Group RI Report, Including Past Practice Waste Sites in 200-CW-2, 200-CW-4, & 200-SC-1		I I M-15-44A Submit 200-MW OU RI Report	I I M-15-44B Submit 200-MW-1 FS & Proposed Plan						
200-CS-1	I M-15-39A Complete Chemical Sewer Group Field Work Through Sample Collection and Analysis		I M-15-39B Submit 200-CS-1 Chemical Sewer Group RI Report		I M-15-39C Submit 200-CS-1 FS/PP/Proposed RCRA Permit Mod for Chemical Sewer Group							
200-TW-1 / 200-TW-2	I M-15-41B 10/23/02 (A) Submit 200-TW-1 & 200-TW-2 OU RI Report to Regulators, Includes Past Practice Waste Sites in 200-PW-5		I M-15-41C Submit 200-TW-1 & 200-TW-2 OU FS/Proposed Plan to Regulators, Including 200-PW-5									
200-PW-2			I M-15-43B Submit 200-PW-2 OU RI Report Including Past Practice Waste Sites in 200-PW-4 Note 2		I M-15-43C Submit 200-PW-2 OU FS/PP/Proposed RCRA Permit Mod Including Past Practice Waste Sites in 200-PW-4 Note 2							
200 AREA COMMON	I M-15-47 Submit PP to Regulators to Conduct RA for Source Control at High-Risk Waste Sites Which Includes an Engrg Eval of an Engrd Surface Barrier							M M-15-00 Complete RI/FS (or RFI/CMS) Process for All Operable Units M M-15-00C Complete All 200 Area Non-Tank Farm OU Pre-ROD Site Investigations Under Approved Work Plan Schedules				
200 AREA CLOSURE PLANS												
200-CS-1					I M-20-39 Submit 216-S-10 Pond/Ditch Closure/ Postclosure Plan to Ecology in Coord w/ FS for 200-CS-1 (Vb coord under M-15-39C)							
200-PW-2					I M-20-33 Submit 216-A-10, 216-A-36B, 216-A-37-1 Cribs, & 207-A South Retention Basin Closure/Postclosure Plan to Ecology in Coord w/ FS for 200-PW-2 (Vb coord under M-15-43C)			M-20-54 Submit 241-CX-70, -71, -72 Tanks Closure/Postclosure Plan to Ecology in Coord w/ 200-IS-1 FS Scheduled under M-13-00M				
200-IS-1								I M M-20-00B Submit Closure/Postclosure Plans for 216-A-10, 216-A-36B, 216-A-37-1, 207-A South Retention Basin, 216-S-10 Pond, 216 S-10 Ditch, 241-CX-70, 241-CX-71, and 241-CX-72				

M MAJOR MILESTONE | I INTERIM MILESTONE | T TARGET MILESTONE | FORECAST | COMPLETE | UNRECOVERABLE | "AT RISK" | (P) PENDING CHANGE REQUEST | RCRA PERMIT COMMITMENT

M-16-00 - 9/30/2024 - Complete Remedial Actions for All Non-Tank Farm Operable Units

Groundwater Protection Program
TPA Milestone Statistics
(Major & Interim Milestones)



Major Milestone	Compliance Due Date	Total Active*	Milestone Number	Compliance Due Date	Milestone Description
M-13-00 Submit Work Plans for RFI/CMS or RI/FS Studies	**12/31/2004** (M-13-00O)	**2**	M-13-00N	06/30/04	Submit 1 200 NPL RI/FS (RFI/CMS) Work Plan For The 200-UR-1
			M-13-00O	12/31/04	Submit 1 200 NPL RI/FS (RFI/CMS) Work Plan For The 200-SW-1
M-15-00 Site Investigations / Feasibility Studies	**12/31/2008** (M-15-00)	**12**	M-15-41C	03/31/04	Submit Draft 200-TW-1 OU & 200-TW-2 OU FS & Proposed Plan
			M-15-39B	05/31/04	Submit Draft A 200-CS-1 Chemical Sewer Group RI Report
			M-15-43B	06/30/04	Submit 200-PW-2 OU RI Report Including Past Practice Waste Sites
			M-15-40C	10/31/04	Submit Draft A 200-CW-5 Pond/Z Ditches Cooling Water Group FS
			M-15-46A	10/31/05	Submit 200 Area Chemical Laboratory Waste OUs RI Report
			M-15-39C	11/30/05	Submit Draft A 200-CS-1 Chemical Sewer Group FS and Proposed Plan
			M-15-43C	12/31/05	Submit 200-PW-2 OU FS and Proposed Plan/Permit Modification
			M-15-44A	12/31/05	Submit 200-MW-1 OU RI Report
			M-15-46B	09/30/06	Submit 200 Area Chemical Laboratory Waste OUs FS
			M-15-44B	12/31/06	Submit 200-MW-1 OU FS and Proposed Plan
			M-15-00C	12/31/08	Complete 200 AreaNon-Tank Farm OU Pre-ROD Site Investigations
			M-15-00	12/31/08	Complete RI/FS (or RFI/CMS) Process for All Operable Units
M-16-00 Remedial Design / Remedial Action	**9/30/2024** (M-16-00)	**3**	M-16-66	09/30/04	Initiate Intermediate Design & Authorization Safety Analysis
			M-16-67	03/31/07	Submit Design Report, Schedule, Work Plan for 618-10/11
			M-16-00	09/30/24	Complete Remedial Actions for All Non-Tank Farm Operable Units
M-20-00 Submit Closure Plans for All RCRA TSD Units	**12/31/2008** (M-20-00) (Shared with FH)	**6**	M-20-00A	02/28/04	Submit Part B Permit Applications or Closure/Post Closure Plans
			M-20-39	11/30/05	Submit 216-S-10 Pond & Ditch Closure Plan to Ecology
			M-20-33	12/31/05	216-A-10/216-A-36B/216-A-37-1 Crib Closure/Post Closure Plans
			M-20-54	12/31/08	Submit 241-CX Tank System Closure/Postclosure Plan
			M-20-00B	12/31/08	Submit 216 & 241 Areas Closure/Post Closure Plans
			M-20-00	12/31/08	Submit Part B Permit Applications or Closure/RCRA TSD Units
M-24-00 RCRA Groundwater Monitoring	**Annually**	**3**	*M-24-00O(C)*	12/31/03	Install RCRA Groundwater Wells at the Rate of up to 50 per Calendar Year
			M-24-00P	12/31/04	Install RCRA Groundwater Wells at the Rate of up to 50 per Calendar Year
			M-24-00Q	12/31/05	Install RCRA Groundwater Wells at the Rate of up to 50 per Calendar Year
			M-24-00R	12/31/06	Install RCRA Groundwater Wells at the Rate of up to 50 per Calendar Year
			1 --- MILESTONE COMPLETED IN FY04 *(C)*		

TOTAL ACTIVE MILESTONES **26**

* Includes TPA changes requests approved thru December 1, 2003.

GROUNDWATER PROTECTION PROJECT

ACCOMPLISHMENTS

200 Area Waste Site Remediation

The U Plant waste sites FFS and Proposed Plan were submitted to EPA Region 10 for review. Comments were received in December and are being addressed to support revision of the documents and the public review process.

The 200-PW-1, 200-PW-3, and 200-PW-6 Operable Unit (OU) Grouping field investigation is in progress. Drilling was initiated at 216-Z-9 although resources have been temporarily deferred to support completion of drilling at BC Cribs and Trenches.

The draft Rev.0 Work Plan for 200-PW-1, 200-PW-3, and 200-PW-6 OU's (plutonium and organic-rich0) was presented to RL and EPA. Comments have been verbally resolved and both agencies have agreed the document should be published as a Rev. 0 version. The document will be sent over to EPA for their regulatory review per the TPA. EPA stated that additional comments will be minimal, if any, and can be addressed through the approval letter.

Comments were received on the 200-CW-5, 200-CW-2, 200-CW-4, and 200-SC-1 Operable Units Remedial Investigation Report from the regulators in July and comment resolutions were finalized in December. The document is being finalized for transmittal to USDOE and the regulators.

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Issue- The characterization of pipelines and associated soil waste sites in the U Plant area is inactive. The characterization supports the U Plant area closure, so the active part of the area closure is limited to the soil waste sites covered by the Feasibility Study and Proposed Plan that is currently in regulatory review. The inactivity on the pipelines is due to two factors: the disagreement between Ecology and DOE on the technical approach, and ongoing discussions between DOE RL and ORP about their respective responsibility of scope. The technical disagreement is that USDOE is proposing to rely on the analogous sites approach for unplanned releases and pipelines. Ecology made prior comments that the analogous sites approach is not relevant for unplanned releases and pipelines. Ecology also proposes that for unplanned releases that are limited in areal extent, it should be cheaper to plan one mobilization and characterize using the observational approach during excavation/cleanup. USDOE proposes to use process knowledge for pipelines characterization; Ecology previously identified 4 specific alternatives (not including process knowledge) for pipelines characterization and remediation.

Status- ORP is working on characterization and remediation criteria for pipelines. They last provided status information to Ecology in August. The scope division between RL and ORP is the subject of ongoing discussions between the two organizations, and is also the focus of the IAMIT Central Plateau closure strategy working group.

200-PW-2 and 200-PW-4 Work Plan Approval

Issue- DOE and Ecology did not resolve one Ecology comment on the 200-PW-2 and 200-PW-4 Operable Units RI/FS Work Plan. Ecology agreed that DOE should proceed with field sampling prior to approval of the work plan, because the unresolved comment placed the RI/FS schedule at risk. The Ecology comment was a request to sample one additional waste site. DOE disagreed with the technical basis. Continuing discussions have not resolved the disagreement and the work plan is still not approved.

Status- Ecology is preparing a revision to the work plan's sampling and analysis plan that will identify additional sampling requirements and technical basis. Once Ecology submits the proposed changes to RL, RL will need to decide whether to accept the changes or formally dispute them.

At the November Unit Manager Meeting Ecology stated that the additional characterization data could be included in the Feasibility Study which follows the RI report so the associated FY04 and FY05 TPA milestones should not be negatively impacted.

Draft B Revision of the 200-CW-1, 200-CW-3, and other 200 North Waste Sites Feasibility Study and Proposed Plan

Issue- The remedial actions have been re-packaged to be proposed in the revised draft of the Feasibility Study and Proposed Plan for the 200-CW-1, 200-CW-3 and other north waste site operable unit grouping which includes Gable Mountain Pond and B Pond. EPA and Ecology have indicated a desire to add additional thickness to the existing cap and have asked RL to provide some validation of their proposal.

Status-RL expects to meet with EPA and Ecology in January 2004 to review changes and to discuss the technical issues and impacts associated with the re-packaged remedies as they will be proposed in the Draft B version of the FS and PP.

200-IS-1 and 200-ST-1 Work Plan Approval

Issue-Ecology has requested that the pits, lines, tanks, and boxes (200-IS-1) and septic tanks (200-ST-1) work plan be revised to include additional information on "likely response scenarios and potentially applicable technologies and operable units that may address site problems." This would require a revision to the Rev. 0 document.

Status- Ecology's comment letter did not clearly request a Revision 1 document. Ecology is preparing a letter for DOE to proceed with preparation of the Revision 1 RI/FS work plan.

GROUNDWATER PROTECTION PROJECT
FY 2004 TPA MILESTONE SUMMARY
(Major & Interim Milestones)

Status as of: E

PBS	Milestone	Title	Compliance Date	Forecast/ Actual Date	Completed				
					Ahead Schedule	On Schedule			
	M-024-00O	Complete required well installations in accordance with RCRA and CERCLA groundwater requirements Install a minimum of 15 wells by 12/31/03.	12/31/03	12/31/03					
	M-020-00A	Submit Part B Permit Applications or Closure/Post Closure Plans for all RCRA TSD Units except 216-A-10, 216-A-36B, 216-A-37-1, 207-A South Retention Basin, 216-S-10 Pond, 216-S-10 Ditch, 241-CX-7-, 241-CX-71, and 241-CX-72	2/28/04	2/28/04					
	M-015-41C	Submit 200-TW-1 & TW-2 OU FS and PP including Past Practice Waste Sites in 200-PW-5 Fission Product-Rich Process Waste Group	3/31/04	3/31/04					
	M-015-39B	Submit 200-CS-1 Chemical Sewer Group RI Report	5/31/04	5/31/04					
	M-013-00N	Submit 1 200 NPL RI/FS (RFI/CMS) Work Plan for the 200-UR-1 Unplanned Releases	6/30/04	6/30/04					
	M-015-43B	Submit 200-PW-2 OU RI Report including Past Practice Waste Sites in the 200-PW-4 General Process Waste Group	6/30/04	6/30/04					
	M-016-66	Initiate Intermediate Design and Authorization Safety Analysis for Remedial Actions (618-10/11)	9/30/04	9/30/04					

FY 2004 Waste Sites Remedial Action Project Schedule

Updated: 12/17/2003 02:25 PM
File: C:\My Documents\GPP Master Sch\Support Files\FY04 Waste Sites Sch.dsf

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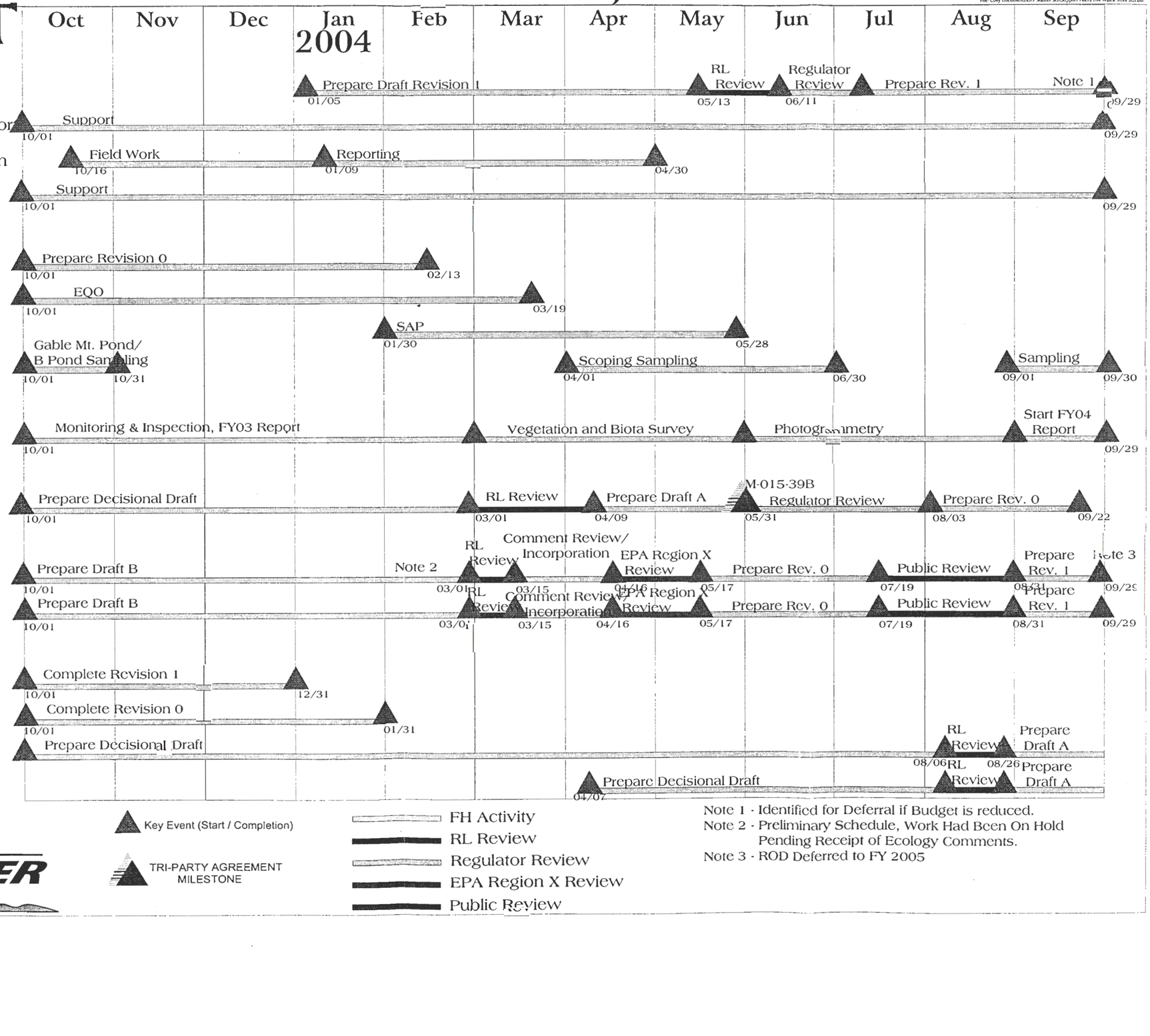

GROUNDWATER PROTECTION PROJECT

Key Event (Start / Completion)

TRI-PARTY AGREEMENT MILESTONE

FH Activity
RL Review
Regulator Review
EPA Region X Review
Public Review

Note 1 - Identified for Deferral if Budget is reduced.
Note 2 - Preliminary Schedule, Work Had Been On Hold Pending Receipt of Ecology Comments.
Note 3 - ROD Deferred to FY 2005

Attachment 1

FY 2004 Waste Sites Remedial Action Project Schedule

Updated: 12/17/2003 2:30 PM

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DRAFT

Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep

2004

200 PW-1

Work Plan — Complete Revision 0: 10/01 – 02/03

Remedial Investigation

Z-9 — Borehole Drilling: 10/01 – 02/13; Note 4

Z-9 Slant — Planning: 10/24 – 04/01; Borehole Drilling: 04/01 – 05/28; Waste Management: 05/28 – 09/10

A-8 — Planning: 11/10 – 04/13; Borehole Drilling: 04/13 – 05/28; Waste Management: 05/28 – Note 5: 09/10

200 PW-2

Work Plan — Complete Revision 1: 10/01 – Note 6: 03/31; Rev. 1

Remedial Investigation Report — Prepare Decisional Draft: 10/07 – 05/04; RL Review: 05/04 – 05/17; Prepare Draft A: 05/17 – 06/30; M-015-43B: 06/30; Regulator Review/ Comment Incorporation: 06/30 – Rev. 0: 09/29

200 TW-1

Feasibility Study — Prepare Decisional Draft: 10/01 – 01/15; RL Review: 01/15 – 02/04; Prepare Draft A: 02/04 – 03/31; Regulator Review: 03/31 – 05/11; Prepare Rev. 0: 05/11 – Prepare Rev. 1: 08/27

Proposed Plan — Prepare Decisional Draft: 10/01 – 01/15; RL Review: 01/15 – 02/04; Prepare Draft A: 02/04 – 03/31; M-015-41C: 03/31; Regulator Review: 03/31 – 05/11; Prepare Rev. 0: 05/11 – 07/19; Public Review: 07/19 – Prepare Rev. 1: 08/27

200 LW-1

Field Work — Planning: 10/01 – 12/05; Borehole Drilling B-58: 12/05 – 12/19; Planning: 12/19 – 05/01; Borehole Drilling: 05/01 – 08/23; Waste Mgmt

200 MW-1

Field Work — Planning: 02/02 – 03/30; Test Pitting: 03/30 – 04/12; Planning: 04/12 – 06/01; Borehole Drilling: 06/01 – 08/24; Waste Mgmt

200 SW-1

Work Plan — Collaboration/Data Quality Objectives Process: 10/01 – 04/01; DQO: 04/01 – 04/27; Prepare Decisional Draft: 04/27 – 09/29

GROUNDWATER PROTECTION PROJECT

Key Event (Start / Completion)

TRI-PARTY AGREEMENT MILESTONE

FH Activity

RL Review

Regulator Review

EPA Region X Review

Public Review

Note 4 - Waste Site Remedial Action Project Responsible for Borehole to Water Table; Groundwater Project Will Continue Borehole to Basalt and Complete as a Monitoring Well.

Note 5 - Step 2 CCL4 Investigation Deferred to FY 2005.

Note 6 - Tenative schedule pending resolution of Hexone site issue & receipt of revised SAP from Ecology.

FY 2004 Waste Sites Remedial Action Project Schedule

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File: C:\My Documents\GPP Master Sch\Support Files\FY04 Waste Sites Sch.dsf

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Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep
2004

U-Plant Regional Closure

Focused Feasibility Study: Prepare Study 10/01 – EPA Region X Review 11/11 – Finalize Study 12/12 – Rev. 1 Note 7 03/12

Proposed Plan: Prepare Study 10/01 – EPA Region X Review 11/11 – Comment Review/ Incorporation 12/12 – Public Review 01/20 – 02/19 – Rev. 1 Note 7 03/12

Record of Decision (ROD): Prepare ROD 12/12 – Obtain ROD 06/30

Confirmatory / Design Sampling: Planning 10/01 – Regulator Review 12/15 – 01/07

Drive Casing 12/15 – Bore Hole Drilling and Test Pits 01/07 – Analysis and Waste Management 03/30 – 06/25

Surface Barrier RDR/RAWP: Review Annotated Outline 01/15 – 02/15 – Prepare RDR/RAWP – RL Review 08/15 – 10/01

DQO PM: DQO Workshop 04/12 – 04/16 – Regulator Review 08/15 – 10/01

Excavation RDR/RAWP: Review Annotated Outline 01/15 – 02/15 – Prepare RDR/RAWP – RL Review 08/15 – 10/01

Verification DQO/SAP: Verification DQO Workshop 02/02 – 02/06 – Prepare DQO/SAP – RL Review 05/06 – 06/06 – Regulator Review 08/15 – 10/01

200 UR-1

DQO: Conduct DQO Process/ Prepare DQO Report 10/01 – 02/27

Work Plan: Prepare Decisional Draft Work Plan 10/01 – RL Review 05/03 – Comment Review/ Incorporation 05/21 – M-013-00N – Regulator Review 06/30 – Prepare Rev 0 08/31

618-10/11

Preliminary Remedial Design: Preliminary Design 03/19 – 08/30

BC Cribs & Trenches

216-B-26 Borehole: Planning 10/01 – Borehole Drilling 11/10 – 12/31

Confirmatory Sampling: DQO 11/17 – SAP – Field Work 03/01 – Analysis 06/15 – 08/27

Design: Preliminary Design 05/01 – Note 8

GROUNDWATER PROTECTION PROJECT

FH Activity
RL Review
Regulator Review
EPA Region X Review
Public Review

Note 7 - Schedule Will Be Modified Based on EPA Region X / Ecology Comments.

Note 8 - Decisions for BC Cribs and Trenches, Including the 4 200-LW-1 Sites Will Be Through the 200-TW-1/200-TW-2 Feasibility Study, Proposed Plan, and Record of Decision.

200-CW-1 FS
Revised Alternatives

Draft A	Draft B
Alternative 1 - No Action	Alternative 1 - No Action – No change to alternative
Alternative 2 - Maintenance of existing covers > 6 ft thick; institutional controls including herbicides and hand removal of deeply rooted plants, animal intrusion control, monitoring of cap integrity	Alternative 2 - No institutional controls alternative in Draft B
Alternative 3 - Removal to 15 ft; removal of structures or stabilization of deep structures; by default includes monitored natural attenuation	Alternative 3 - No change in alternative in Draft B
Alternative 4a - Simplified Soil Cover – addition of soil to achieve 6 ft of cover; maintenance activities the same as second alternative; by default includes monitored natural attenuation Alternative 4b - Modified RCRA C Barrier – emplacement of a barrier to limit infiltration and intrusion	Alternative 4a - Basic Cap – maintenance of existing caps that are 9 to 11 ft thick or addition of soil to achieve 9 to 11 ft of cover; reduced maintenance activities; by default includes monitored natural attenuation Alternative 4b - Evapotranspiration Cap – emplacement of an engineered barrier to limit infiltration and intrusion

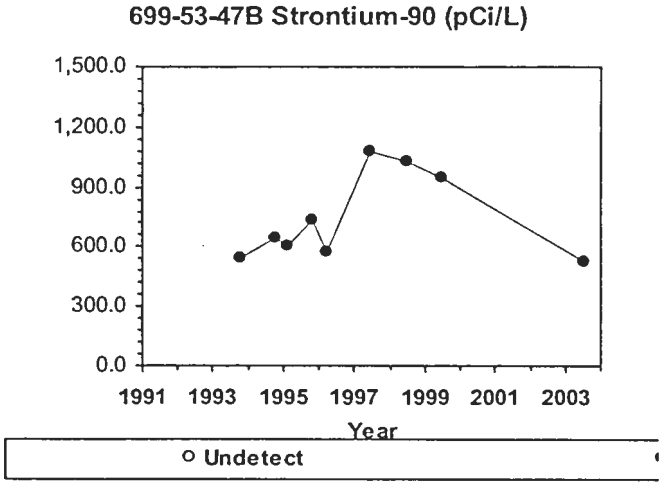
Attachment 11

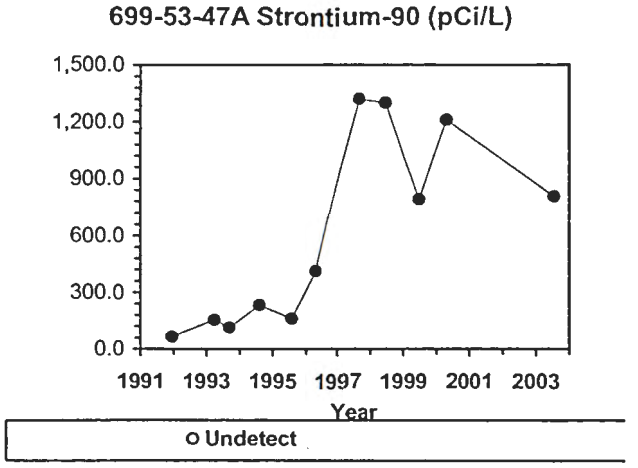
Results of Recent CERCLA Sampling Activities at 200-BP-5 OU

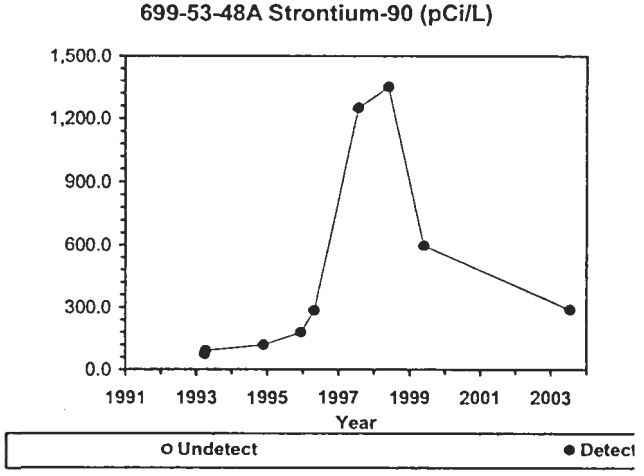
- Eight wells successfully sampled at Gable Mountain Pond in July and August of 2003
  - Well 699-53-48B determined to be dry and could not be sampled
  - Sr-90 levels generally decreasing
  - Nitrate levels appear to be stable

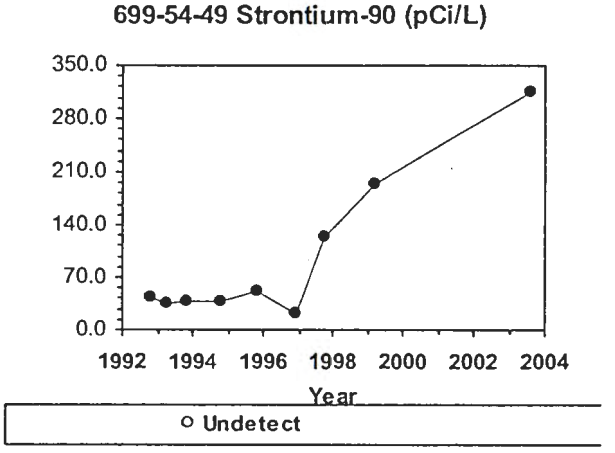
- Six wells were successfully sampled in the Gable Gap area on 9/30/03
  - Two wells could not be sampled because of mechanical problems
  - Maximum Tc-99 result of 4850 pCi/L reported for well 699-49-57A (vs 3200 for FY 2000)
  - Tc-99 observed to have increased moderately in five of the six wells and declined slightly in one
  - Tc-99 appears to be continuing to enter the Gable Gap area from the BY Cribs and B Tank Farms
  - AEA sampling indicates that Tc-99 is well below the MCL north of Gable Gap

Gable Mountain Pond Strontium-90



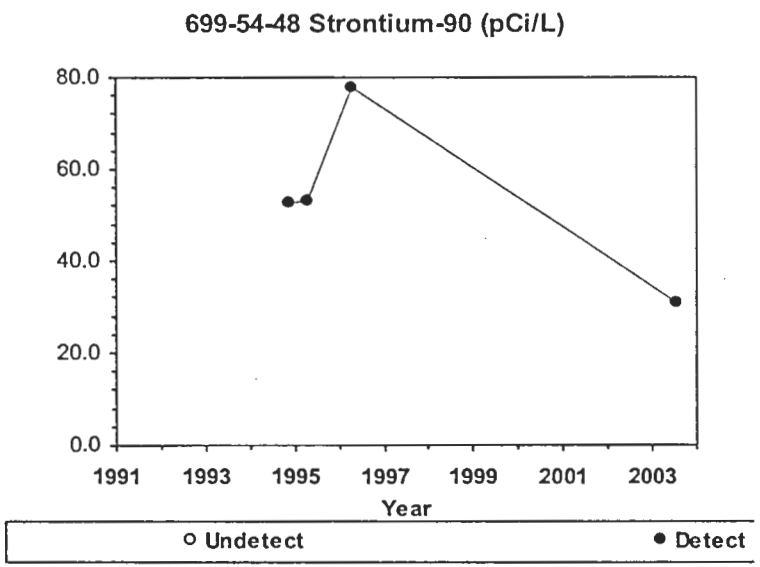


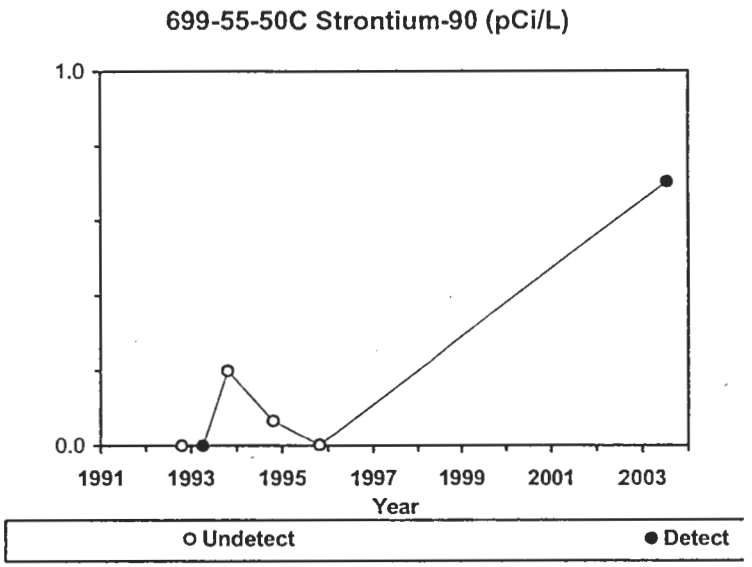




Attachment 11

Gable Mountain Pond Strontium-90 (cont'd)

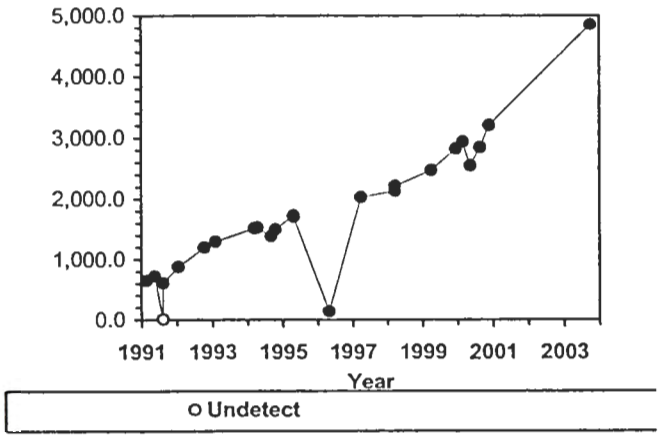




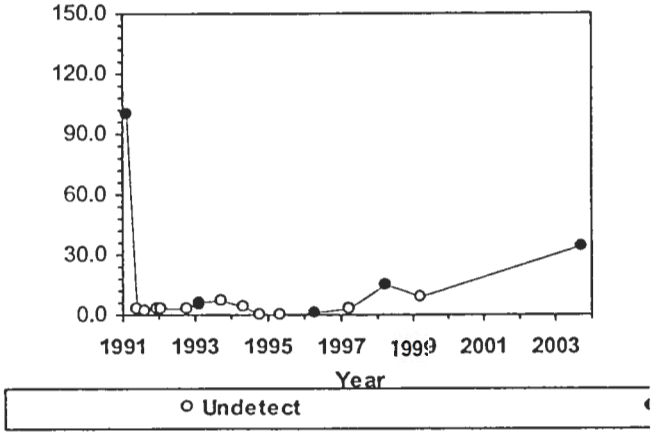
Attachment 11

Gable Gap Tc-99

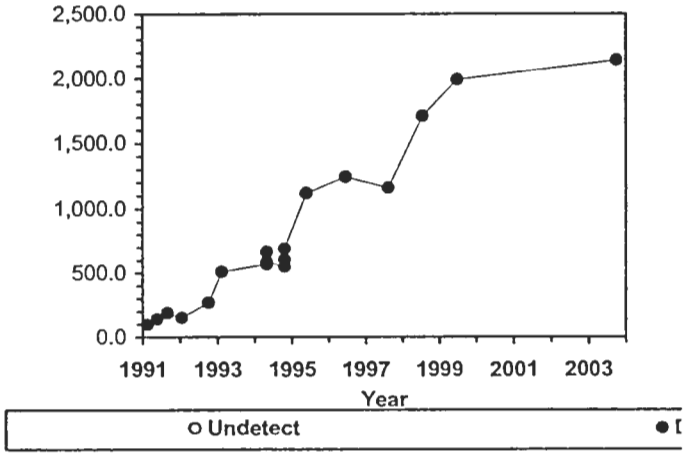
699-49-57A Technetium-99 (pCi/L)



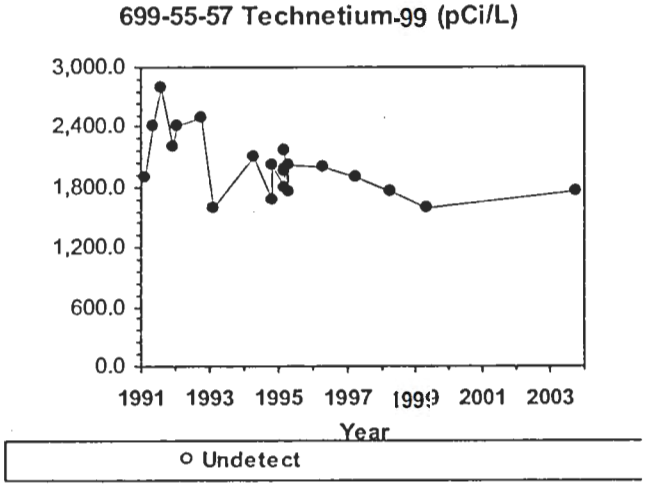
699-53-55A Technetium-99 (pCi/L)



699-53-55C Technetium-99 (pCi/L)

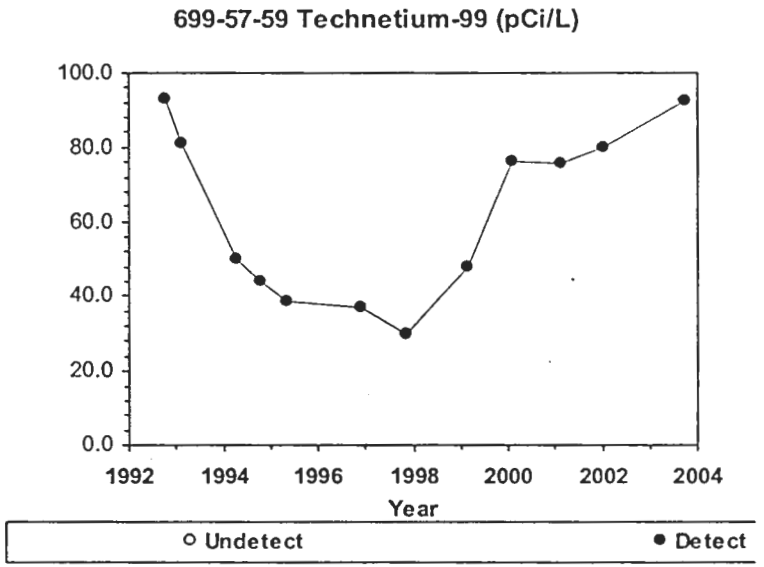


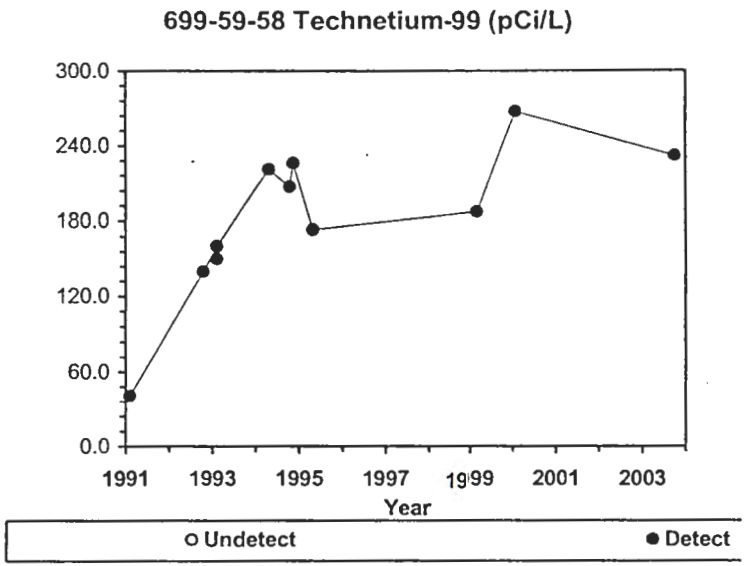
699-55-57 Technetium-99 (pCi/L)



Attachment 11

Gable Gap Tc-99 (cont'd)





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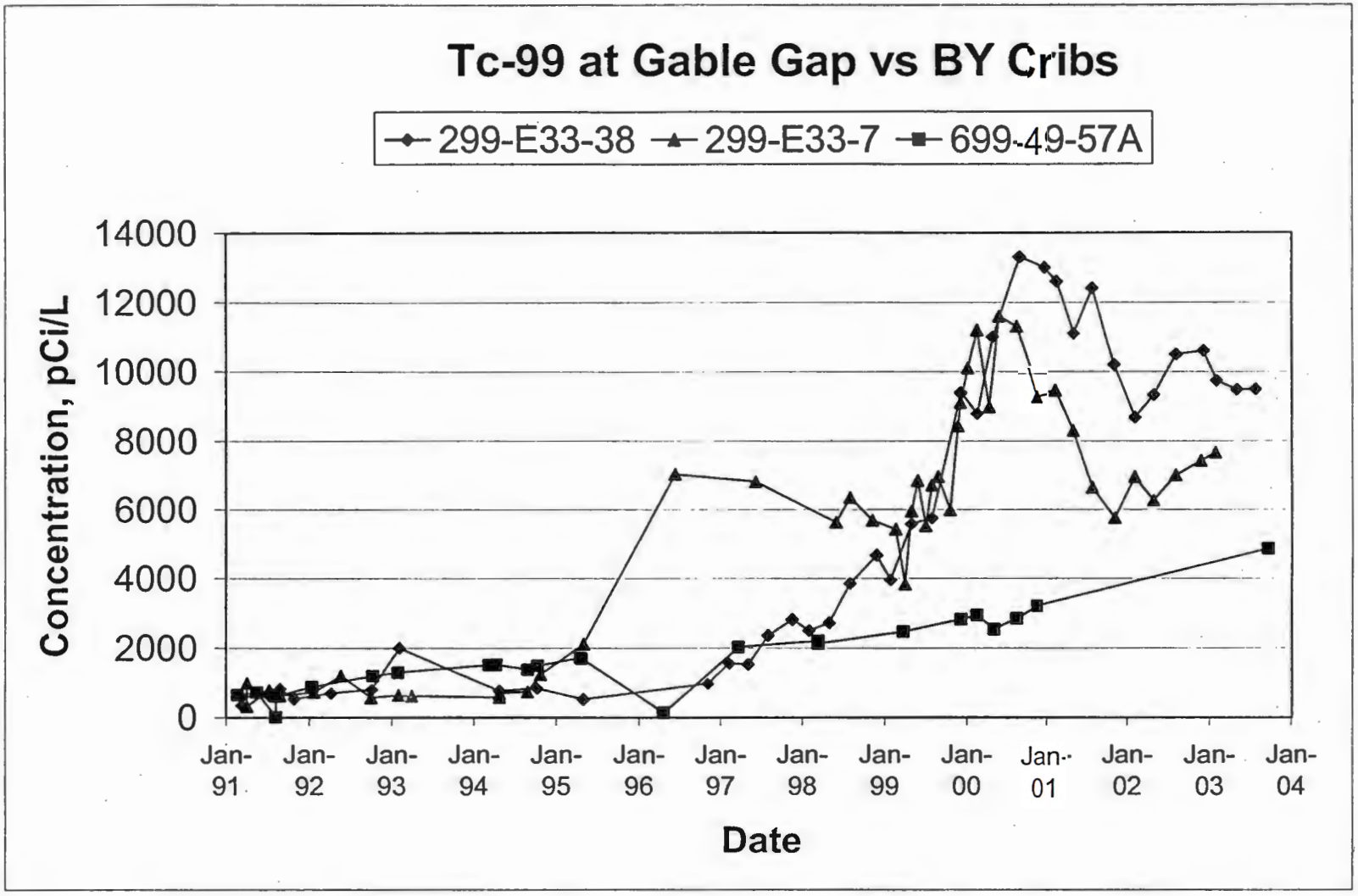
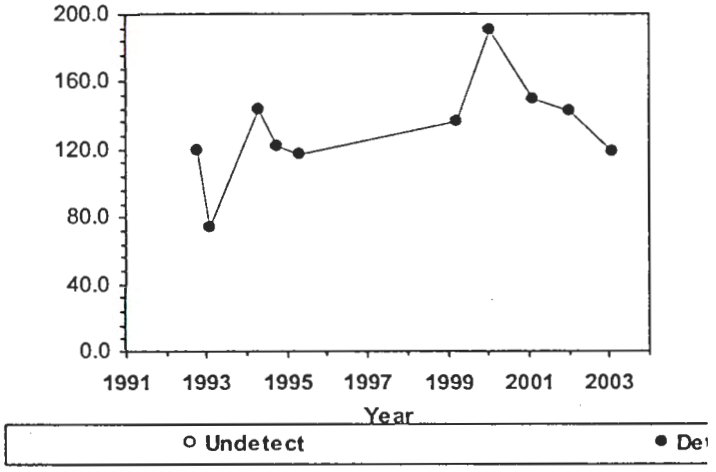


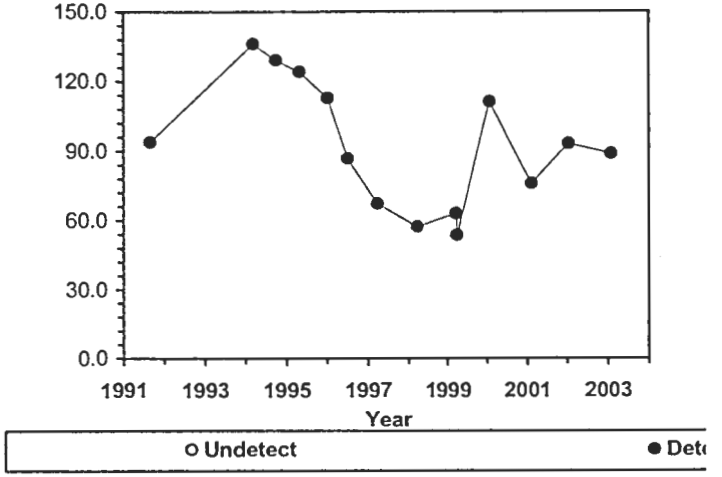
Attachment 11

Gable Gap "Guard Wells" Tc-99

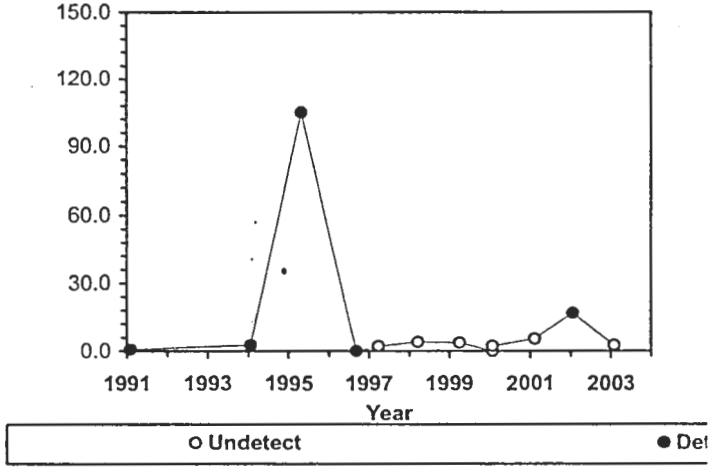
699-60-60 Technetium-99 (pCi/L)



699-61-62 Technetium-99 (pCi/L)



699-61-66 Technetium-99 (pCi/L)



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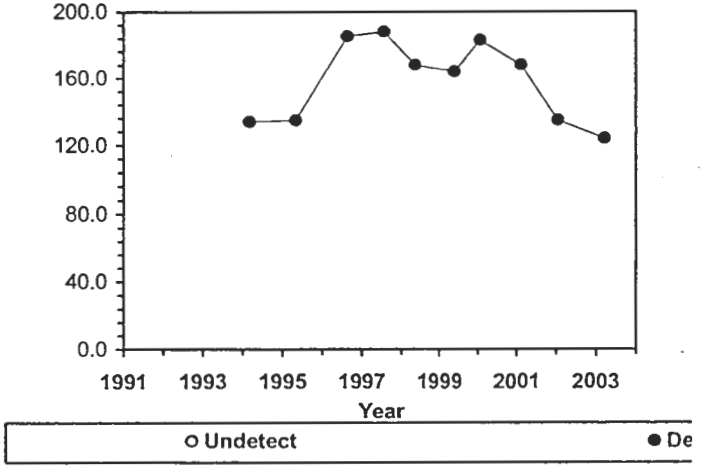

Attachment 11

MEETING WITH ECOLOGY AND EPA

1. Table of Contents for RI Report
2. Risk Assessment Component
    a. Ecology has requested that for the UP-1 OU that the SAC and Site-wide Model be used to support the risk assessment
    b. One drawback to using SAC and Site-wide Model is that inventory is only available for 7 of the COCs (Tc-99, U, I-129, H3, Cr, Nitrate, carbon tet). Other COCs (TCE, chloroform, Cd, Pb, etc.) would only have qualitative risk assessment performed.
    c. Options:
        i. Combine risk assessment element for UP-1 and ZP-1 together – Note ZP-1 contamination plumes will be impacting UP-1 in out years
        ii. Perform risk assessment elements separately
            1. Drawbacks
                a. UP-1 risks will be underestimated since it will not take ZP-1 contamination into consideration
                b. Carbon tetrachloride plume would only be considered as part of ZP-1 risk
                c. More expensive to perform separately
    d. Would evaluate the risk associated with ceasing the current pumping
    e. Since current plume configurations around pump-and-treats are influenced by pumping and will rebound when pumps are turned off, 2002 contaminant contours (which are just now available) will be modified around pump-and-treat system to reflect pre-pumping plume distributions
        i. Run SAC (1944 – 2005)
        ii. Reset aquifer concentrations with current digitized plumes (Key COCs)
        iii. Run forward with current SAC inventory and release models (2005 – 3005)
        iv. Process results
        v. Evaluate risk for time varying contaminant concentration 2005 - 3005
    f. Time period of interest: 1,000 years from present
    g. Exposure Scenarios
        i. Inside Core Zone
            1. Industrial scenario
            2. Recreational scenario
        ii. Outside Core Zone
            1. Agricultural
            2. Residential scenario
    h. Ecological risk assessment performed for 100 Area took 200 Area into consideration regarding impact to Columbia River. Will be citing this document.
3. Schedule
    a. Complications:
        i. Last UP-1 RI/FS data needed to complete RI Report coming in June 2004.
        ii. DOE-RL would like to have signed ROD by September 2006, date Vitrification Project to be sending waste water to ETF

Remedial Investigation Report Outline

1. Introduction
2. Remedial Investigation Approach
3. Remedial Investigation Results
4. Groundwater Contaminant Fate and Transport Modeling
   - 4.1. Purpose
   - 4.2. Modeling Methodology
   - 4.3. Soil Hydraulic Properties
   - 4.4. Contaminants That Were Modeled
   - 4.5. Results from Fate and Transport Modeling
   - 4.6. Conclusions
5. Risk Evaluation
   - 5.1. Purpose
   - 5.2. Conceptual Site Model
     - 5.2.1. Physical Setting
     - 5.2.2. Ecological Setting
     - 5.2.3. Characterization of Land Use
     - 5.2.4. Conceptual Exposure Model for Human Exposure
     - 5.2.5. Potential Human Exposure Pathways
   - 5.3. Human Health Evaluation for Non-Radiological Constituents
   - 5.4. Human Health Evaluation for Radiological Constituents
   - 5.5. Ecological Risk Screening
6. Conclusions

Remedial Investigation Report

200-UP-1 Operable Unit

Draft Outline 1

December 2, 2003

Contents

Abbreviations and Acronyms

1.0 Introduction

- o Initial Work Plan (DOE-RL 1996b) supported a Limited Field Investigation (LFI).
- o COCs from RCRA TSD facilities included due to groundwater impact.
- o Waste Site Remediation Project (WSRP) analyzing impact of vadose zone contaminants on groundwater thus the vadose zone is not part of the scope of this RI.
- o WSRP and Tank Farms Project RCRA data to be evaluated when available.
- o DNAPLs from 200-ZP-1 not included as it is part of another project.
- o Conforms to and supports Tri-Party Agreement Milestone M-15-00C.

1.1 Purpose

- o Determine whether data are sufficient for risk assessment, selection of remedial measures, and identification of parameters for a feasibility study.
- o Scope is focused on groundwater and vadose zone contaminants that could impact groundwater at the 200-UP-1 Groundwater OU.

1.2 Supporting Documents

- o Chronological Reference Table from Work Plan (DOE RL-92-76).

1.3 Data Evaluation Methodology

- o Summarize SAP.
- • Data collection and analysis based on *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods* (SW-846), (EPA 1997), and *Hanford Analytical Services Quality Assurance Requirements Document* (HASQARD), (DOE-RL 1998).
- • Screen against Hanford groundwater background
- • Human health risk evaluation for radiological and non-radiological constituents based on SAC model for eight primary risk drivers
- • Compare result maximums and minimums and upper 95% to action limits in Work plan

1.3.1 Initial Data Screening

≫

1.3.2 Human Health Risk Evaluation

o

1.3.3 Modeling Approach

≫

1.3.4 Ecological Risk Evaluation

≫

1.4 Background

o

1.4.1 U Plant

- o Uranium recovery from bismuth phosphate wastes at 221-A Canyon Building, 222-U Laboratory, and 224-U Concentration Building.
- o Uranium trioxide operations at 224-U Concentration Building.
- o Waste disposal practices for above operations.
- o Uranium and technetium-99 subsurface distribution, and role of pipeline leaks, pump and treat operations.

1.4.2 S Plant

- o REDOX Plant (202-S REDOX Canyon Building, 222-S Laboratory, and 233-S Concentration Facility) operations for extracting plutonium and uranium.
- o Liquid waste disposal in 26 ponds, cribs, ditches, etc

1.4.3 Z Plant

- o Carbon tetrachloride from Z Plant operations. Explain that this is not the focus of this WP but included as it is an impact on groundwater

1.4.4 Waste Management Area S-SX

- o *Field Investigation Report for Waste Management Area S-SX* (DOE-ORP 2002).
- o Past modeling projections for migration of technetium-99, chromium, and nitrate to four compliance points.
- o Cesium-137 not projected to reach S-SX boundary.

1.4.5 200 West Groundwater Management Area

- o IRM recommendation in *200 West Groundwater Aggregate Area Management Study Report (AAMSR)*, (DOE-RL 1993).
- o Treatment of technetium-99, uranium, and nitrate.

2.0 Investigation Approach and Activities

o

2.1 Remedial Investigation Drilling for Enhanced Monitoring Well Network

- o *Sampling and Analysis Plan for the 200-UP-1 Groundwater Monitoring Well Network* (SAP), (DOE-RL 2002) addressed impact of declining watertable.
- o Current SAP in Work Plan (DOE-RL-92-76) based on previous SAP.
- o 10 new wells installed.

2.1.1 Sampling and Analysis

- o Sampling frequency as described in Work Plan (DOE-RL-92-76).
- o Analyze for additional COCs as identified in DQO summary report(FH 2003b).

2.1.2 Geophysical Logging

- o Summarize logs from the new wells, explain that actual data from the groundwater sampling is not available at time of report.

2.2 Other Operable Unit Activities

- o

3.0 Remedial Investigation Results

3.1 Hydrogeologic Framework

- o

3.1.1 Topography

- o See Work Plan (DOE-RL-92-76).

3.1.2 Geology

- o See Work Plan (DOE-RL-92-76).

3.1.3 Hydrostratigraphy

- o General description as provided in Work Plan (DOE-RL-92-76).
- o Generally declining water table described in *Hanford Site Groundwater Monitoring Report for Fiscal Year 2003* (PNNL 2003).

3.2 Operable Unit Contamination

3.2.1 U Plant Operable Unit Representative Sites

- o

3.2.2 S Plant Operable Unit Representative Sites

- o

3.2.3 Z Plant Operable Unit Representative Sites

- o

4.0 Groundwater Contaminant Fate and Transport Modeling

4.1 Introduction

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7.0 References