

Meeting Minutes Transmittal/Approval  
Unit Managers' Meeting  
200 Area Groundwater and Source Operable Units  
1200 Jadwin Avenue, Richland, Washington  
December 16, 2004

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APPROVAL: *Larry Romine* Date: 2-9-05  
Larry Romine, 200 Area Unit Manager, DOE/RL

APPROVAL: *Arlene Tortoso* Date: 2/7/05  
Arlene Tortoso, 200 Area Assistant Manager, 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

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**UNIT MANAGERS' STATUS MEETING MINUTES**  
**1200 Jadwin/Rm 1-C1**  
**December 16, 2005**

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

Attachment 1	Issues Meeting Agenda
Attachment 2	Attendance Record
Attachment 3	Unit Managers Status Meeting Agenda
Attachment 4	Open Action Items & Tracking
Attachment 5	200 Area Remedial Action Float Table
Attachment 6	Attachment 3B Decommissioning Well List
Attachment 7	Groundwater Performance Assessment Data
Attachment 8	200-UP-1 Average Pumping Rate for FY2005

**UNIT MANAGERS' STATUS MEETING MINUTES**  
**1200 Jadwin/Rm 1-C1**  
**December 16, 2004**

**9:00 – 10:30 a.m.**

**Issues Resolution Meeting**

- Review of Issues Table from November UMM
- General Discussion Topics

Table of Issues: 11/18/04

IAMI T	UM M	ISSUES	AGREEMENTS	FOLLOW-ON ACTION	LESSONS LEARNED
X		<b>ROD Strategy-(RL/EPA/Ecology)</b> A meeting was held on Nov. 17 between DOE and agencies. DOE requested to add in Groundwater RODs	This issue will be tracked in UMM but resolution is currently at IAMIT level.	Monthly status until agreement reached. EPA/Ecology sending letter on priority of responding to their email proposals. Plan on for all OUs.	
	X	<b>RCRA/CERCLA Integration-(EPA)</b>	200-UW-1 waste sites should be used as example <ul style="list-style-type: none"> <li>• Issue will carry until January</li> <li>• EPA/RL/Ecology to discuss further</li> </ul>	January – EPA/Ecology/RL. Status. Captured process in lessons learned.	
	X	<b>COPCs-</b> <ul style="list-style-type: none"> <li>○ Ecology would like to talk about COPCs analysis by method, and analytical report.</li> <li>○ Stuart Luttrell (PNL) Presentation (Attachment 7) “Groundwater Performance Assessment Project Data Reporting and Processing”</li> </ul>		Need further clarification of what is and can be reported from Labs.  How do we request analysis and what data is provided to FH?  Ecology – How data is being reported from Tank Farms.	

				<p>Will talk about Tank Farm C-106. Goal is to get RI quality data. Tank Farms Presentation tabled for January Meeting.</p> <p>Need clarification of terminology.</p> <p>Ecology asking for full list of constituents, not just what is required (both detect and non-detect).</p> <p>January - FH compiling information on contract required laboratory data.</p> <p>Ecology has information and proposed a global closeout. Ecology to report on Tank Farms Method.</p>	
	X	<p><b>UMM Meeting Minutes- (Ecology/EPA)</b> Meeting minutes must be completed and up-to-date to be in compliance with the TPA</p>	<p>November minutes a priority to have finalized before the December meeting, with a goal of</p>	<p>FH will assign a person to preparing meeting minutes.</p>	

			staying current from this point forward. Continue to work on back-log of meeting minutes.	Lanny Dusek to set up meeting to sign copies of UMM.	
	X	<b>Planning/decision integration-(EPA)</b> Planning and decision documents are being sent to the regulatory agencies that contain activities that do not appear to have been coordinated (Example: proposed stabilization of the Z-9 crib in a PFP EE/CA)	Send EPA Rep to this meeting.	EPA asking for RL to hold on action memo until issues regarding Z-9 are resolved.	
X		<b>Exposure Scenarios(Ecology)</b> Additional exposures scenarios are being requested for inclusion in RI/FS documents.	Need to see other scenarios.		
	X	<b>Characterization Data-(Ecology)</b> The representative/analogous site approach may be resulting in the collection of insufficient data for decision-making. Additional shallow data collection to examine lateral extent has been proposed.	Looking at data to collect.	Action: Appropriate OU Managers have meeting on preferred remedies (TW-2, PW-2, PW-4 & PW-5). Look at this site-by-site and decide who will go. EPA meet with RL in the next month.	
	X	200-CS-1 o Will DOE submit a TPA change request to add 200-CS-1 sites to 200-CW-1 and 200-CW-5 (and thus to those OU's FS/PPs)? o Can the cost savings that result (an FS/PP would not be required for 200-CS-1), go to eco risk assessment sampling?	CLOSED 11/18/04  Include CS-1  TPA Milestones will be maintained	o FH to set up a meeting with Ecology to discuss how to format the FS to include RCRA closure – also invite EPA	

	X	<p>U Plant Area –</p> <p>1) Ecology requested target milestones for U Plant pipelines. Would like to have EE/CA by March 31, 2005</p> <p>2) Ecology recommending enforceable milestones if target milestones not acceptable.</p> <p>3) Need to consider HAB advice of 10 September</p>	<p>This issue will be tracked through IS-1 Work Plan</p> <p>CLOSED 11/18/04</p>	<p>Ecology is looking for a treatability investigation in IS-1 for pipelines and target milestones.</p> <p>Should include ORP in discussions prior to going to enforceable milestones.</p> <p>Discuss due date for Tri-Party response to HAB advice.</p>	
	X	<p>200-CW-1</p> <ul style="list-style-type: none"> <li>• Originally identified as a “shrink the site” priority, does this priority still exist?</li> <li>• Is the FS going to be finished this year?</li> </ul>	<p>CLOSED 11/18/04</p>	<p>o</p>	
		<p>Ecological Risk Assessment</p> <ul style="list-style-type: none"> <li>o Ecology identified this activity to be on the critical path for completing the M-15-00C milestone, will it be fully funded in FY 05-06 (including the FY 04 deferred scope)?</li> </ul>	<p>CLOSED 11/18/04</p> <p>RL agrees that this is a priority and is preparing full funding.</p>	<p>Ecology will wait to see if work is completed. Ecology and EPA request early notification if not funded.</p>	<p>Communicate clearly, early, and frequently.</p>
		<p>Tc-99 Treatability Integrated Effort</p> <ul style="list-style-type: none"> <li>o A joint Ecology/EPA letter is being drafted to identify the need to integrate ORP and RL efforts on Tc-99 treatability studies</li> </ul>		<p>Agencies will look for an official response</p>	
	X	<p>Points of calculation</p>	<p>CLOSED 8/24/04</p> <p>EPA and Ecology committed to strive</p>	<p>None</p>	<p>N/A</p>

			for consistency.		
	X	IS-1 OU –RL/ORP Agreements on scope (pipeline) by Oct 2004, clear delineation of sites, TSD vs. RPP status	CLOSED 8/24/04 - RL/ORP in process of addressing issues raised by Ecology.	RL requested that the regulatory agencies help resolve issues on RCRA/CERCLA integration.	N/A
		Informal transmittal of docs	CLOSED 8/24/04	None	N/A
	X	Ecology is concerned with the delay of the FY04 Eco sampling and potential impacts to RI/FS Process.	CLOSED 8/24/04	None	Early notification & discussions w/regulatory agencies would alleviate many issues/concerns.

**10:00 a.m. – 11:30am**

**General**

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

**GROUNDWATER OPERABLE UNITS**

**General**

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

- Sampling and Analysis Plans status

**200-UP-1 (Attachment 8):**

- Average Pumping Rate (counting all outage time as 0 gpm) for January 26 through December 12 is approximately 50.5 gpm.
- From November 15 through December 12, the system operated between 47.4 and 49.8 gpm (see Attachment 1).
- System Run Time
  - For November 15 through December 12                      100%
  - FY2005 (Year to date)    98.2%
  - System Inception to date    92.7%

- RI/FS Work Plan Draft B – Still making revisions based on Ecology comments.
- Rebound Study Operating Plan has been revised based on comments from Ecology. Awaiting for Ecology's concurrence that we have adequately addressed their comments.
- Important Deliverables:
  - July 12, 2005 – DOE-RL submits Draft A RI Report to Regulators
  - April 5, 2007 – Issue Draft A FS Report to Regulators
- Drilling of new well "K" continues, we reaching total depth this week (Attachment 3).
- We are currently re-working the UP-1 CERCLA RI/FS schedule based on Ecology's request for the installation of a number of new wells prior to preparing RI Report.

#### 200-ZP-1:

- Average Pumping Rate for October 1 through December 12: 202 gpm
- From October 4 through December 12, the system operated between 199 and 207 gpm (see Attachment 2).
- System Run Time
 

➤ For October 4 through December 12	90.1%
➤ FY2004 (Year to date)	91.8%
➤ System Inception to date	92.6%
- Design work for ZP-1 pump-and-treat expansion is going smoothly, but is a little behind schedule. We expect to catch up.
- New wells "C" (C4301) and "D" (C4303) are currently being drilled and are both below the groundwater (see attachment 3).
- The depth-discrete VOC field screening results from the Z-9 well are attached (see Attachments 4 and 5).
- The depth-discrete VOC field screening results from new well C4303 (Well "D") is presented in Attachment 6. Since highest concentration of carbon tet and chloroform (TCM) is in uppermost sample, will be screening the top 35 feet of aquifer.
- January 5, 9:00 AM, 1200 Jadwin, 3C5, Z-9 Well Completion Meeting with Ecology.
- Vista Engineering has completed soil gas study, is running surface geophysics at this time, and is planning to collect depth-discrete data from wells.
- RI/FS Schedule:
  - RI Report preparation is scheduled to begin October 1, 2005
  - Feasibility Study/Proposed Plan is scheduled to begin October 1, 2006
- FH took action to determine if a "Contained-In" determination could be completed to eliminate the need for a leak detection system.

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

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

### **SOURCE OPERABLE UNITS**

#### **200-UW-1 OU and U-Plant Area**

- RL asked Ecology and EPA on the plans for reviewing the 200-UW-1 Focused Feasibility Study/Proposed Plan, Draft C. Ecology said they were reviewing it and on track for completion by the end of December, and that if they were satisfied they would forward it to the AG's office and to EPA for the Region 10 legal review.
- U Plant Ancillary Action Memorandum was issued at the end of November and field work is in progress to remove hazardous materials such as asbestos to support building demolition starting in January 2005.
- U Plant Canyon Disposition Initiative (CDI) public comment period began December 13 and continues until January 31.

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

- Schedule Review
  - Status of Field Work Preparation and Planning. As part of the Step I dispersed carbon tetrachloride vadose zone plume investigation in 2002, 8 temporary monitoring probes were installed to confirm the initial results. These probes were monitored over a 2 year period. DOE-RL and EPA concurred that the objective of monitoring these temporary probes has been met and that additional monitoring in support of the remedial investigation is not needed.
  - Status of Field Work at 216-Z-9. The borehole reached the Ringold Lower Mud unit at 396 ft below ground surface on 11/17. The maximum carbon tetrachloride groundwater concentration, based on field screening, was approximately 3700 ppb at 55 ft below the water table.
  - Status of Carbon Tetrachloride DNAPL Investigation. Vista Engineering conducted a passive soil gas survey in the vicinity of the 216-Z-1A tile field and the Plutonium Finishing Plant from 11/11-11/16.

#### **200-CW-1 & 200-CW-3 OUs**

- Schedule Review
  - Status of FS and PP

#### **200-PW-2 & 200-PW-4 OUs**

- Schedule Review
  - A comment disposition meeting with Ecology was held on 12/10/04. Many comments were resolved, however, several significant issues were identified that will require follow-up and additional meetings. Ecology has requested a revised set of comment responses reflecting the agreements made at the 12/10/04 meeting

be made available.

- As of 12/16/04, the borehole at the 216-S-7 Crib had been advanced to 127 ft. Daily drilling progress reports are being provided to Ecology at their request.

A question arose as to when the official transmittal of draft dispositions to Ecology's comments on the RI report are due. RL stated that official comments will be transmitted by the end of the month. An electronic informal transmittal occurred on November 15. A comment disposition meeting is scheduled for December 10.

Drilling at the 216-S-7 Crib was initiated on November 8. As of November 17 the borehole had been advanced to 44 ft. Ecology (John Price) asked that daily drilling reports for the work at the 216-S-7 crib be sent to Jennie Stults.

#### **200-CS-1 OU**

- Schedule Review
  - Status of RI Report

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

- Schedule Review
  - Status of Work Plan
  - Status of RI Report
  - Status of FS and PP

EPA commented that DOE is looking to remove specific procedure numbers from documents to avoid hassles with revising documents every time a procedure number is changed. EPA expressed concern that documents may become too vague since they review the procedures mentioned when reviewing documents. It was suggested that at the very least a description of the type of procedure used must be included.

#### **200 Area Ecological Evaluation**

- Schedule Review
  - Status of Eco DQO
  - Status of Eco Evaluation Report
- Overview of Eco Activities
  - Spring Sampling Progress
  - Status of the FY04 Sampling

FH reported that there is additional sampling being planned. FH will contact Ecology and EPA to go over a conceptual model in the near future.

#### **200-IS-1 & 200-ST-1**

- Schedule Review

- Status of Work Plan

The Work Plan is currently out for DOE-RL review. A few items need to be resolved such as the fact that the document contains some Official Use Only (OUO) information OUO map plates. Map plates may go as a separate document with a reference to them in the document. Ecology agreed that Part A permits in Appendix A could instead be included by reference or that coordinates could be "white-outed".

FH reported that the 241CX tank system letter came out.

#### **200-LW-1/200-LW-2**

- Status of Field Work

#### **200-MW-1**

- Status of Field Work

#### **200-UR-1**

- Schedule Review
  - Status of DQO and Work Plan
  - Action Memo (15 sites)

RL officially transmitted their responses to Ecology's comments, which according to John Price, were received on 10/12/04. FH has operated with the understanding that the TPA gives 45 days to issue a document after resolution of comments. In addition, a 60-day extension was requested. Therefore, it was expected that the new issue date for the work plan would be 105 days after the date on which Ecology officially answered the RL letter of response to Ecology's Draft A comments.

Ecology disagreed, because in their opinion, RL failed to meet their schedule commitment to respond to the Ecology comments. The RL letter was approximately two months late, putting the work plan beyond the TPA requirements. Therefore, Ecology proposed requiring the Rev 0 work plan to be issued within 30 days.

FH responded that it would be impossible to issue the work plan within 30 days, given the scope of the revisions and the impact of the holidays on the availability of FH and contractor staff.

Ecology requested that RL and FH propose a reasonable date for submittal of the work plan, and that that date needs to be documented as the new commitment date. Ecology also warned that they intend to issue letters of violation if the date is not met.

#### **200-SW-1/2**

- Schedule Review
  - Ecology update on facilitator subcontract. Ecology is finalizing the subcontract to hire a facilitator for the upcoming discussions between Ecology and DOE-RL. Ecology will schedule the meetings to reserve dates and times.
  - Status of DQO and Work Plan

- **Treatability Test Plan.** FH developed the draft outline and requested that the three subcontractor teams provide input for the Treatability Test Plan.
- **Other**

**200 Area Unit Managers Status Meeting  
December 16, 2004**

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PRINTED NAME	ORGANIZATION	O.U. ROLE	TELEPHONE
Lansing Dusek	FH	D&D	438-1756
Chris Thompson	PUNL	HEWPAP	376-6602
Dot Stewart	PUNL	ITGWPAIP	376-5056
Beth Rochette	Ecology	200 area Common	372-7922
STEVE TRENT	FH	SOM	337-5869
Kevin Leary	DOE/RL	U-plat	373-7285
John Winterholler	FH	ECO	372-8144
STEVE TSORNISS	DOE	PROG. LEAD	376-6221
Stewart Luttrell	PUNL	Groundwater	376-6023
Mark Byrnes	FH	Task Lead	373-3996
Jeanne Falk	ERD		
Larry Romie	RL		376-4747
Jan Downie	Eco		372-7930
Arlene Tortoso	DOE	200 Area GW	373-9631
MIKE Hickey	FH	WASTE SITES	373-3092
Druce Ford	FH	GRIP	373-3809
John Price	Ecology	Proj. Mgr	372-7921
Jeanne Stults	Ecology	Waste Sites	372-7956
Tou Perry	FH EPO		376-4795
Craig Cameron	EPA		376-8665



# UNIT MANAGERS' STATUS MEETING AGENDA

1200 Jadwin/Rm 1-C1

December 16, 2004

**10:00 a.m. – 11:30 a.m.**

## **General (7 minutes)**

- Outstanding Action Items
- Open for Regulatory Topics or Action Items
- Risk Assessment Configuration Management Board Update

## **GROUNDWATER OPERABLE UNITS**

### **200-BP-5 & 200-PO-1 OUs (10 minutes)**

- Sampling and Analysis Plans status

### **200-UP-1 OU (10 minutes)**

- Remediation Treatment Status
- RI/FS Work Plan Status – Incorporating Ecology comments
- Status of New Wells, “P,” “K,” and “R”
- Update on Rebound Study

### **200-ZP-1 OU (10 minutes)**

- Remediation Treatment Status
- Update on Expanding P&T System to North
- Approval to Use Single Wall Discharge Line (P&T Expansion)

### **200-PW-1, 200-ZP-2 OU (10 minutes)**

- Remediation Treatment Status
- Monthly Monitoring

## **SOURCE OPERABLE UNITS**

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

- Schedule Review
  - Status of Field Work Preparation and Planning
  - Status of Field Work at 216-Z-9
  - Status of Carbon Tetrachloride DNAPL Investigation

**U Plant Area (13 minutes)**

- 200-UW-1 Waste Sites
- Pipeline EE/CA and AM
- Ancillary Facilities
- Summary of DPTs Results (10 minutes)
- 221-U Canyon Disposition Initiative

**BC Cribs Area Closure (no change)**

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

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

**200-PW-2 & 200-PW-4 OUs (1 minute)**

- 216-S-7 Borehole is 113 feet BGS

**200-CS-1 OU (1 minutes)**

- Submitted RI Report 11/29/04

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

- EPA Requested 30 day extension to Review CW-5 FS
- Aggrement was reached on CW-5 RESRAD parameters. RESRAD runs are underway.

**200 Area Ecological Evaluation (no change)**

**200-IS-1 & 200-ST-1 (no change)**

**200-LW-1/200-LW-2 (1 minutes)**

- Completed T-28 bore 12/02/04

**200-MW-1 (1 minutes)**

- Set up on U-3 borehole 12/09/04

**200-UR-1 (no change)**

**200-SW-1/2 (4 minutes)**

- Work Plan Submitted to RL 12/08/04



**200 Area Unit Managers' Meeting  
200 Area Remedial Action Float Table  
December 2004**

<b>Task</b>	<b>Scheduled Date</b>	<b>Float</b>	<b>Comments</b>
<b>200-CS-1</b>			
Deliver Rev. 0 RI Report for Regulatory Agency Approval	10/31/04	-21 d	Submitted Draft 0 RI report 11/30/04.
Deliver Draft A FS/PP for Regulatory Agency Review	11/30/05	--	On schedule
<b>200-CW-1</b>			
Deliver Draft B FS for Regulatory Agency Review	7/3/03 (original date based on receipt of regulatory agency comments 45 calendar days after submittal (which would be 5/15/03) with 45 days to revise and reissue)	-495-d	Regulatory agency comments originally due on 5/15/03; policy level comments received on that date; Ecology indicated additional comments would be coming; additional informal comments were received on 6/25/04; further delays are associated with funding issues, priority of this FS compared to other FSs, and Ecology's suggestion to look at accelerating confirmatory sampling
	1/30/05 (new target date based on collecting spring samples and incorporating data into the revision)	--	Schedule revised due to delays at analytical laboratory. New schedule delivery due to funding shortfalls for FY05
<b>200-LW-1</b>			
Deliver Draft A RI Report for Regulatory Agency Review	10/31/05	--	On schedule
<b>200-PW-2</b>			
Ecology approve Rev 1 RI/FS work plan	2/14/03	--	Work Plan approved
Deliver Draft A RI Report for Regulatory Agency Review	6/30/04	--	Submitted comment resolutions to Ecology. Comment resolution meeting scheduled for 12/10/04
Deliver Draft A FS/PP for Regulatory Agency Review	12/31/05	--	On schedule

**200 Area Unit Managers' Meeting  
200 Area Remedial Action Float Table  
December 2004**

<b>Task</b>	<b>Scheduled Date</b>	<b>Float</b>	<b>Comments</b>
<b>200-SW-1/200-SW-2</b>			
Brief Ecology on DQO Approach	7/8/04	--	Initial briefing conducted on 7/8/04. A subsequent briefing was conducted on 9/3/04. On 10/7, Ecology and DOE-RL agreed to discussions to resolve issues relating to work scope. Schedule for discussions is TBD. Resulting impacts to the work plan schedule will be assessed.
Deliver draft A RI/FS work plan for Regulatory Agency review	12/31/04	--	Work Plan submitted to RL 12/08/04. with delivery to Regulatory Agencies 12/31/04
Deliver Waste Control Plan for regulatory Agency review	4/15/05	--	On schedule
Start field sampling	7/27/05	--	On schedule
Deliver Draft A RI Report for Regulatory Agency Review	9/19/07	--	On schedule
<b>200-TW-1 (includes 200-TW-2)</b>			
EPA/Ecology approve RI Report	7/10/03	-509-d	Modeling results delivered on 5/21/04 to regulatory agency. Meeting with USGS held for 9/08/04 to resolve differences. Issue resolution is ongoing
Deliver Draft A FS/PP for Regulatory Agency review	3/31/04	--	Comments received and document modification underway
Revise FF/PP for Region 10 review	5/18/04	-120-d	Request from regulatory agency to separate BC Cribs and Trenches to a standalone FFS/PP and withdrawal of the TW1/2 FS/PP. Issue is being worked between RL and regulatory agency. FS and PP on hold with a new delivery date of 1/06
BC Crib Focused Feasibility Study	9/30/04	-91	Collaborative discussions underway with EPA and RL to resolve issues prior to formal submittal
<b>200-UR-1</b>			
Deliver draft A RI/FS work plan for	6/30/04	--	Delivered 6/30/04

**200 Area Unit Managers' Meeting  
200 Area Remedial Action Float Table  
December 2004**

<b>Task</b>	<b>Scheduled Date</b>	<b>Float</b>	<b>Comments</b>
regulatory Agency review			
Deliver Waste Control Plan for regulatory Agency review	3/1/2006	--	On schedule
Start field sampling	4/26/06	--	On schedule
Deliver Draft A RI Report for Regulatory Agency Review	5/14/07	--	On schedule
<b>200-UW-1</b>			
Obtain Regulatory Agency/RL concurrence on SAP	7/29/04	-82-d	Workshop to address additional comments held on 9/23/04. Additional sample locations under discussions
RL Transmit Draft C to Regulatory Agency	9/15/04	-36-	Redline strikeout copy of the Draft C FS and PP delivery to Regulatory Agencies 12/01/04.
Initiate confirmatory sampling	11/1/2004	--	Held work shop with RL and Regulatory Agencies on 9/27-28/04. Confirmation sampling deferred until total number of sample locations agreed to with Regulatory Agencies.
<b>200-IS-1/200-ST-1</b>			
Deliver Rev. 1 RI/FS work plan	12/31/04	--	On schedule
Deliver Waste Control Plan for regulatory agency review	1/24/05	--	On schedule
<b>200-PW-1/200-PW-3/200-PW-6</b>			
Deliver Draft A RI Report for Regulatory agency Review	6/30/06	--	On schedule

**200 Area Unit Managers' Meeting  
200 Area Remedial Action Float Table  
December 2004**

<b>Task</b>	<b>Scheduled Date</b>	<b>Float</b>	<b>Comments</b>
<b>200-MW-1</b>			
Deliver Draft A RI Report for Regulatory agency Review	12/31/05	--	On schedule
<b>200-CW-5/200-CW-2/200-CW-4/200-SC-1</b>			
Deliver Rev. 1 RI/FS work plan	M-013-22 met on schedule; Rev. 0 work plan approved 9/28/02. Consolidation TPA change package approved 6/5/02. Rev. 1 originally scheduled to be delivered 5/6/03	0 d	Submitted to EPA on 9/20/04
Deliver Rev. 0 RI Report	9/1/03 (original date based on receipt of regulatory agency comments on 7/15/03 with 45 days for revision)	0 d	Submitted to EPA on 8/30/04
Deliver Draft A FS/PP for Regulatory agency Review	10/31/04	--	Submitted to EPA on schedule
<b>200 Area Common - Ecological</b>			
Central Plateau Ecological Evaluation	7/16/04	-187-d	New schedule date 10/26/04
Central Plateau Ecological DQO	4/22/04	-313-d	New schedule date 12/2/04
Central Plateau Ecological SAP	6/28/04	-246-d	New schedule date 11/11/04

**ATTACHMENT 3B**  
**200-BP-5 OPERABLE UNIT GROUNDWATER WELL**  
**DECOMMISSIONING LIST**

(This list will be updated as wells are identified for decommissioning, and will be provided at the  
 200 Areas Unit Manager's Meeting, and included in the UMM Minutes)

- Shading indicates wells added for this change.

**FY 2004**

299-E26-1  
 299-E26-9  
 299-E28-16  
 299-E28-3  
 299-E33-11  
 299-E33-19  
 299-E34-11  
 299-E34-3  
 299-E34-4  
 299-E34-6  
 299-E35-1  
 699-47-46A  
 699-51-63  
 699-52-46B  
 699-52-54  
 699-53-48B  
 699-55-50A  
 699-55-50AP  
 699-55-50AQ  
 699-55-50D  
 699-56-51

**FY 2005 b**

~~299-E27-3~~  
~~299-E27-3P~~  
~~299-E28-10~~  
~~299-E28-16~~  
~~299-E33-19~~  
~~299-E33-336~~  
~~299-E33-71~~  
~~299-E34-1~~  
~~699-50-53A~~

**FY 2005**

299-E28-12  
 299-E28-19  
 299-E28-20  
 299-E28-22  
 299-E28-29  
 299-E33-22  
 299-E33-23  
 299-E33-6  
 299-E34-1  
 699-50-48A  
 699-55-60B

**Attachment 3B**  
**200-PO-1 Operable Unit Groundwater Well**  
**Decommissioning List**

(This list will be updated as wells are identified for decommissioning, and will be provided at the 200 Areas Unit Managers' Meeting, and included in the UMM minutes)

- **Listed Wells have approved decommissioning profiles/plans and are scheduled for decommissioning.**
- **Shading indicates wells added in this revision.**

<b>FY 2004</b>	<b>FY 2005</b>
2-E17-3	299-E17-2
2-E25-30	299-E17-4
2-E25-30P	299-E17-5
2-E25-30Q	299-E17-6
6-11-29	299-E17-7
6-17-26B	299-E17-8
6-17-26BP	299-E17-10
6-17-26BQ	299-E17-11
6-17-26BR	299-E19-1
6-18-27D	299-E24-1
6-18-28	299-E24-2
6-19-26B	299-E24-9
6-19-26BP	299-E24-10
6-19-26BQ	299-E24-11
6-21-30B	299-E24-12
6-25-31	299-E26-3
6-25-33B	
6-25-33BP	
6-25-33BQ	
6-26-35D	
6-26-35DP	
6-26-35DQ	
6-35-28	
6-42-41	
6-43-43	

**FY 2005b**  
699-36-46P  
699-36-46Q  
699-36-46R  
699-36-46S

Table A.1. Sampling Matrix for 200-PO-1 Supplementary Wells

Well	Alkalinity	Alpha	Anions	Arsenic	Beta	Cr6+	Cyanide	Gamma	Hg & Pb	I-129	ICP	Phenols	Sr-90	Tc-99	TDS	TOC	TOX	Tritium	Uranium	VOA	Other Comments	Co-Sampled with 200-PO-1 Operable Unit
<b>RCRA Treatment, Storage and Disposal Units</b>																						
<b>PUREX Cribs</b>																						
299-E17-1	S	S	S	S	S					S	S	S	S					S			S:Am	
299-E17-14	Q	Q	Q	Q	Q					Q	Q	Q	Q					Q			Q:Am	T
299-E17-16	S	S	S	S	S					S	S	S	S					S			S:Am	T
299-E17-18	S	S	S	S	S					S	S	S	S					S			S:Am	T
299-E17-19	S	S	S	S	S					S	S	S	S					S			S:Am	T
299-E24-16	Q	Q	Q	Q	Q					Q	Q	Q	Q					Q			Q:Am	
299-E24-18	S	S	S	S	S					S	S	S	S					S			S:Am	T
299-E25-17	S	S	S	S	S					S	S	S	S					S			S:Am	T
299-E25-19	Q	Q	Q	Q	Q					Q	Q	Q	Q					Q			Q:Am	T
299-E25-31	S	S	S	S	S					S	S	S	S					S			S:Am	
699-37-47A	S	S	S	S	S					S	S	S	S					S			S:Am	T
<b>Waste Management Area A-AX</b>																						
299-E24-19	S		S		S			A		A	S	A	A	S		S	S	A	A			A
299-E24-20	S		S		S			A		A	S	A	A	S		S	S	A	A			T
299-E24-22	S		S		S			A		A	S	A	A	S		S	S	A	A			
299-E24-33	S		S		S			A		A	S	A	A	S		S	S	A	A			
299-E25-2	S		S		S			A		A	S	A	A	S		S	S	A	A			
299-E25-40	S		S		S			A		A	S	A	A	S		S	S	A	A			
299-E25-41	S		S		S			A		A	S	A	A	S		S	S	A	A			T
299-E25-46	S		S		S			A		A	S	A	A	S		S	S	A	A			T
299-E25-93	S		S		S			A		A	S	A	A	S		S	S	A	A			
299-E25-94	S		S		S			A		A	S	A	A	S		S	S	A	A			
299-E24-4																					Previous change	
299-E24-13																					Previous	
299-E24-14																					Previous	
299-E25-1																					Previous	
299-E25-4																					Previous	
299-E25-5																					Previous	
299-E25-7																					Previous	
299-E25-8																					Previous	
299-E25-9																					Previous	
299-E25-13																					Previous	
299-E26-5																					Previous	
<b>216-A-29 Ditch</b>																						
299-E25-26	S		S								A	A				S	S					
299-E25-28	S		S								A	A				A	A				Deep unconfined	T
299-E25-32P	S		S								A	A				S	S					T
299-E25-34	S		S								A	A				S	S					T
299-E25-35	S		S								A	A				S	S					T
299-E25-48	S		S								A	A				S	S					

Well	Alkalinity	Alpha	Anions	Arsenic	Beta	Cr6+	Cyanide	Gamma	Hg & Pb	I-129	ICP	Phenols	Sr-90	Tc-99	TDS	TOC	TOX	Tritium	Uranium	VDA	Other Comments	Co-Sampled with 200-PO-1 Operable Unit
299-E26-12	S		S								A	A				S	S					
299-E26-13	S		S								A	A				S	S					
699-43-45	S		S								A	A				S	S					T
<b>216-B-3 Pond</b>																						
699-42-42B	S	S	A		S				A		A	A						A			A: Cd; confined Ringold <sup>(a)</sup>	T
699-43-44	S	S	A		S				A		A	A						A			A:Cd	
699-43-45	S	S	A		S				A		A	A						A			A:Cd	T
699-44-39B	S	S	A		S				A		A	A						A			A:Cd	T
<b>Non-Radioactive Dangerous Waste Landfill</b>																						
699-25-33A			S								A	A				S	S		S		Bottom unconfined	
699-25-34A			S								A	A				S	S		S			
699-25-34B			S								A	A				S	S		S			
699-25-34D			S								A	A				S	S		S			
699-26-33			S								A	A				S	S		S			A
699-26-34A			S								A	A				S	S		S			
699-26-34B			S								A	A				S	S		S			
699-26-35A			Q	Q							Q	A				Q	S		Q		Q:Amn, COD, Col	T
699-26-35C			S								A	A				S	S		S		Bottom unconfined	
<b>IDF</b>																						
299-E17-21	A	A	A		A						A	A				S	S		A		A:Amn	A
299-E17-22	A	A	A		A						A	A				S	S		A		A:Amn	A
299-E17-23	A	A	A		A						A	A				S	S		A		A:Amn	A
299-E17-25	A	A	A		A						A	A				S	S		A		A:Amn	A
299-E18-1	A	A	A		A						A	A				S	S		A		A:Amn	A
299-E24-21	A	A	A		A						A	A				S	S		A		A:Amn	A
<b>WAC Sites</b>																						
<b>Solid Waste Landfill</b>																						
699-22-35			Q	Q							Q					Q			Q		Q:Amn, COD, Col	
699-23-34A			Q	Q							Q					Q			Q		Q:Amn, COD, Col	
699-23-34B			Q	Q							Q					Q			Q		Q:Amn, COD, Col	
699-24-33			Q	Q							Q					Q			Q		Q:Amn, COD, Col	
699-24-34A			Q	Q							Q					Q			Q		Q:Amn, COD, Col	
699-24-34B			Q	Q							Q					Q			Q		Q:Amn, COD, Col	
699-24-34C			Q	Q							Q					Q			Q		Q:Amn, COD, Col	T
699-24-35			Q	Q							Q					Q			Q		Q:Amn, COD, Col	
699-25-34C			Q	Q							Q					Q			Q		Q:Amn, COD, Col	

Well	Alkalinity	Alpha	Anions	Arsenic	Beta	Cr6+	Cyanide	Gamma	Hg & Pb	I-129	ICP	Phenols	Sr-90	Tc-99	TDS	TOC	TOX	Tritium	Uranium	VOA	Other Comments	Co-Sampled with 200-PO-1 Operable Unit
699-26-35A			Q	Q							Q	A				Q	S			Q	Q:Amm, COD, Col	T
<b>400 Area Process Ponds</b>																						
699-2-6A									Q		Q					Q	Q				Q:Cd, Cr, SO4	QA
699-2-7									Q		Q					Q	Q				Q:Cd, Cr, SO4	QA
699-8-17									Q		Q					Q	Q				Q:Cd, Cr, SO4	QA
<b>200 Area Treated Effluent Disposal Facility (TEDF)</b>																						
699-40-36	Q	Q	Q	Q	Q	Q			Q		Q					Q			A		Q: Cd	
699-41-35	Q	Q	Q	Q	Q	Q			Q		Q					Q			A		Q: Cd	
699-42-37	Q	Q	Q	Q	Q	Q			Q		Q					Q			A		Q: Cd	
<b>CERCLA (300-FF-5)</b>																						
<b>618-10 Burial Grounds and 316-4 Crib</b>																						
699-S6-E4A	S	S	S		S			S			S							S	S	S	S:SVOA	A
699-S6-E4B	S	A			A			A										S	A			T
699-S6-E4D	S	A			A			A										S	A			
699-S6-E4E	A																					
699-S6-E4K	S	S	S		S			S			S							S	S	S	S:SVOA	
699-S6-E4L	S	S	S		S			S			S							S	S	S	S:SVOA	
<b>618-11 Burial Grounds</b>																						
699-12-2C	S	Q	S		Q			Q		S	A							Q	Q	A		
699-13-0A	S	Q	S		Q			Q		S	A							Q	Q	A		
699-13-1E	S	Q	S		Q			Q		S	A							Q	Q	A		
699-13-2D	S	Q	S		Q			Q		S	A							Q	Q	A		
699-13-3A	S	Q	S		Q			Q		S	A							Q	Q	A		A
<b>CERCLA 200-PO-1</b>																						
<b>200-BC Crib (One-time sample prior to decommissioning)</b>																						
299-E13-1																					Previous change	
299-E13-3																					Previous	
299-E13-4																					Previous	
299-E13-6																					Previous	
299-E13-7																					Previous	
299-E13-8																					Previous	
299-E13-9																					Previous	
299-E13-11																					Previous	
299-E13-12																					Previous	
299-E13-16																					Previous	
299-E13-17																					Previous	
299-E13-18																					Previous	
299-E13-19																					Previous	

Notes: Shading indicates wells added for this change. Previous additions no longer shaded.  
 Strikeout indicates wells removed from the monitoring network.

**Attachment 3A**  
**200-PO-1 Operable Unit Supplemental Groundwater Well List**

<b>RCRA TSD Units</b>	<b>WAC Sites</b>
<b>PUREX Cribs</b>	<b>Solid Waste Landfill</b>
299-E17-1	699-22-35
299-E17-14	699-23-34A
299-E17-16	699-23-34B
299-E17-18	699-24-33
299-E17-19	699-24-34A
299-E24-16	699-24-34B
299-E24-18	699-24-34C
299-E25-17	699-24-35
299-E25-19	699-25-34C
299-E25-31	699-26-35A
699-37-47A	
<b>Waste Management Area A-AX</b>	<b>400 Area Process Ponds</b>
299-E24-19	699-2-6A
299-E24-20	699-2-7
299-E24-22	699-8-17
299-E24-33	
299-E25-2	<b>200 Area Treated Effluent Disposal Facility</b>
299-E25-40	699-40-36
299-E25-41	699-41-35
299-E25-46	699-42-37
299-E25-93	
299-E25-94	<b>CERCLA (300-FF-5)</b>
299-E24-4	<b>618-10 Burial Grounds and 316-4 Crib</b>
299-E24-13	699-S6-E4A
299-E24-14	699-S6-E4B
299-E25-1	699-S6-E4D
299-E25-4	699-S6-E4E
299-E25-5	699-S6-E4K
299-E25-7	699-S6-E4L
299-E25-8	
299-E25-9	<b>618-11 Burial Grounds</b>
299-E25-13	699-12-2C
299-E26-5	699-13-0A
<b>216-A-29 Ditch</b>	699-13-1E
299-E25-26	699-13-2D
299-E25-28	699-13-3A
299-E25-32P	<b>CERCLA (200-PO-1)</b>
299-E25-34	<b>200-BC-Cribs</b>
299-E25-35	299-E13-1
299-E25-48	299-E13-3
299-E26-12	299-E13-4
299-E26-13	299-E13-6
699-43-45	299-E13-7
	299-E13-8
	299-E13-9

**RCRA TSD Units (cont from page 1)****216-B-3 Pond**

699-42-42B

699-43-44

699-43-45

699-44-39B

**Non-Radioactive Dangerous Waste Landfill**

699-25-33A

699-25-34A

699-25-34B

699-25-34D

699-26-33

699-26-34A

699-26-34B

699-26-35A

699-26-35C

**Integrated Disposal Facility**~~299-E17-21~~~~299-E17-22~~~~299-E17-23~~~~299-E17-25~~~~299-E18-1~~~~299-E24-21~~**CERCLA PO-1 (cont from page 1)****200-BC Cribs (continued)**

299-E13-11

299-E13-12

299-E13-16

299-E13-17

299-E13-18

299-E13-19

Notes: Shading indicates wells added for this change. Previous additions are no longer shaded.

Strikeouts indicate wells removed from monitoring network.

## Groundwater Performance Assessment Project Data Reporting and Processing

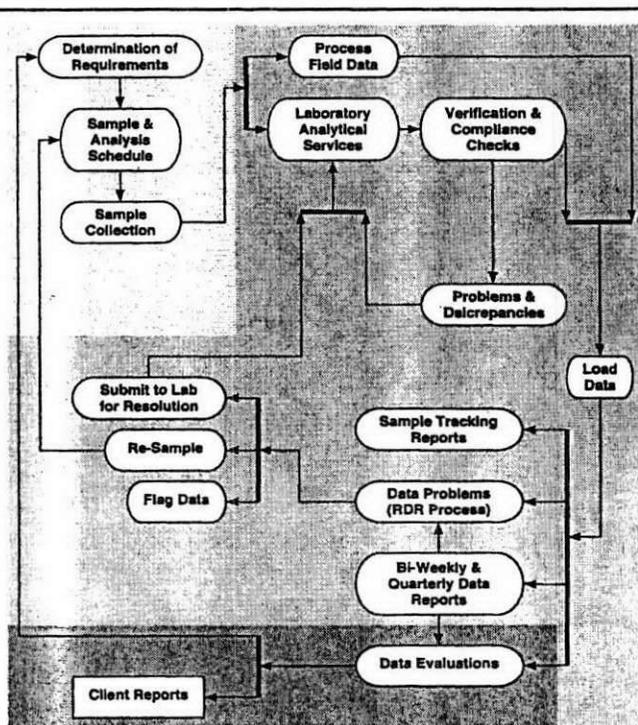
- ▶ Volume of Groundwater Sampling and Analysis in FY 2003
  - Performed over 1,700 well sampling events
  - Generated more than 12,500 analytical requests
  - Consists of over 50,000 data points
  - Loaded and stored field and analytical data in the Hanford Environmental Information System (HEIS)

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### Data Flow

- ▶ Scheduling
- ▶ Sample collection and documentation
- ▶ Laboratory analysis
- ▶ Lab verification and compliance checks
- ▶ Pre-Loader checks and data loading
- ▶ Data review and resolution



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## Data Loading

- ▶ Water quality data are loaded into HEIS
  - HEIS is maintained by Fluor
  - Configuration control by the Hanford Technical Advisory Group (HTAG)
  - HTAG includes database, analytical, and quality control experts
  - Standardization of data is accomplished
  - Data integrity is managed at the table level using appropriate data types, key fields, constraints, etc.
- ▶ Field data are manually loaded into HEIS
- ▶ Water-level data loaded into Hydrodat (PNNL database)

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## Data Review and Reporting

- ▶ Provide interim data reports for PNNL and FH Scientists
  - Biweekly reports
  - Monthly highest values reports
  - Quarterly data plotted on previous year plume maps
- ▶ Generate request for data reviews (RDRs) as appropriate
  - Recheck on laboratory analyses and calculations
  - Reanalysis of the sample
  - Flag the data as suspect

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# STL Detection Limit Summary

## Groundwater Performance Assessment Project Analyses

Target Analyte List: All Analytes

Method: Base/Neutrals and Acids (8270C)

Extraction: LIQ/LIQ, SEP FUNNEL (A/B/N) - Acid-&gt;Base

Matrix: WATER

QC Program: STANDARD TEST SET

Location: STL St. Louis

Analyte List Constituent	RL	Detection Limits		
		Units	MDL	Units
Acenaphthene	10	ug/L	1.12	ug/L
Acenaphthylene	10	ug/L	0.99	ug/L
Acetophenone	10	ug/L	0.36	ug/L
2-Acetylaminofluorene	100	ug/L	0.80	ug/L
4-Aminobiphenyl	50	ug/L	0.24	ug/L
Aniline	10	ug/L	1.13	ug/L
Anthracene	10	ug/L	1.23	ug/L
Aramite (total)	20	ug/L	2.43	ug/L
Aramite 1	20	ug/L	1.35	ug/L
Aramite 2	20	ug/L	1.27	ug/L
Atrazine	10	ug/L		
Azobenzene	10	ug/L	1.08	ug/L
Benzaldehyde	10	ug/L		
Benzenethiol	10	ug/L	10	ug/L
Benidine	100	ug/L	3.95	ug/L
Benzo(a)anthracene	10	ug/L	1.71	ug/L
Benzo(b)fluoranthene	10	ug/L	4.27	ug/L
Benzo(k)fluoranthene	10	ug/L	4.78	ug/L
Benzoic acid	50	ug/L	0.957	ug/L
Benzo(ghi)perylene	10	ug/L	3.12	ug/L
Benzo(a)pyrene	10	ug/L	4.01	ug/L
X Benzothiazole	10	ug/L	0.84	ug/L
Benzyl alcohol	10	ug/L	1.01	ug/L
1,1'-Biphenyl	10	ug/L	0.40	ug/L
Bis(p-chlorophenyl)-disulfide	10	ug/L	10	ug/L
bis(2-Chloroethoxy)methane	10	ug/L	1.2	ug/L
bis(2-Chloroethyl) ether	10	ug/L	1.08	ug/L
bis(2-Chloroisopropyl) ether	10	ug/L	1.11	ug/L
X bis(2-Ethylhexyl) phthalate	10	ug/L	3.62	ug/L
4-Bromophenyl phenyl ether	10	ug/L	1.05	ug/L
n-Butylbenzenesulfonamide	20	ug/L	2.74	ug/L
Butyl benzyl phthalate	10	ug/L	1.78	ug/L
Caprolactam	10	ug/L		
Carbazole	10	ug/L	1.51	ug/L
4-Chloroaniline	10	ug/L	1.30	ug/L
Chlorobenzilate	10	ug/L	0.29	ug/L
p-Chlorobenzilate	10	ug/L	0.29	ug/L
4-Chloro-3-methylphenol	10	ug/L	0.87	ug/L
2-Chloronaphthalene	10	ug/L	1.01	ug/L
2-Chlorophenol	10	ug/L	0.92	ug/L
4-Chlorophenyl phenyl ether	10	ug/L	1.07	ug/L
Chrysene	10	ug/L	1.96	ug/L
Cyclohexanol	10	ug/L	0.84	ug/L
Diallate	20	ug/L	1.01	ug/L
Dibenz(a,h)anthracene	10	ug/L	2.70	ug/L
Dibenzo(a,h)anthracene	10	ug/L	2.70	ug/L
Dibenzofuran	10	ug/L	1.23	ug/L
Dibenzo(a,e)pyrene	10	ug/L		
Di-n-butyl phthalate	10	ug/L	1.74	ug/L
1,2-Dichlorobenzene	10	ug/L	1.93	ug/L
1,3-Dichlorobenzene	10	ug/L	1.86	ug/L
X 1,4-Dichlorobenzene	10	ug/L	0.92	ug/L

Target Analyte List: All Analytes

Method: Base/Neutrals and Acids (8270C)  
Extraction: LIQ/LIQ, SEP FUNNEL (A/B/N) - Acid->BaseMatrix: WATER  
QC Program: STANDARD TEST SET  
Location: STL St. Louis

Analyte List Constituent	RL	Detection Limits		
		Units	MDL	Units
X Naphthalene	10	ug/L	1.11	ug/L
1,4-Naphthoquinone	50	ug/L	0.86	ug/L
1-Naphthylamine	10	ug/L	0.76	ug/L
2-Naphthylamine	10	ug/L	0.35	ug/L
2-Nitroaniline	50	ug/L	0.71	ug/L
3-Nitroaniline	50	ug/L	0.85	ug/L
4-Nitroaniline	50	ug/L	0.84	ug/L
Nitrobenzene	10	ug/L	0.86	ug/L
X 2-Nitrophenol	10	ug/L	1.90	ug/L
4-Nitrophenol	50	ug/L	3.21	ug/L
4-Nitroquinoline-1-oxide	100	ug/L	1.61	ug/L
N-Nitrosodi-n-butylamine	10	ug/L	0.21	ug/L
N-Nitrosodiethylamine	10	ug/L	0.47	ug/L
N-Nitrosodimethylamine	10	ug/L	0.73	ug/L
N-Nitrosodiphenylamine	10	ug/L	1.16	ug/L
N-Nitrosodi-n-propylamine	10	ug/L	2.37	ug/L
N-Nitrosomethylethylamine	10	ug/L	1.07	ug/L
N-Nitrosomorpholine	10	ug/L	0.37	ug/L
N-Nitrosopiperidine	10	ug/L	0.24	ug/L
N-Nitrosopyrrolidine	10	ug/L	0.42	ug/L
5-Nitro-o-toluidine	20	ug/L	0.91	ug/L
2,2'-oxybis(1-Chloropropane)	10	ug/L	1.11	ug/L
Parathion	50	ug/L	0.31	ug/L
Pentachlorobenzene	10	ug/L	0.30	ug/L
Pentachloroethane	50	ug/L	0.42	ug/L
Pentachloronitrobenzene	50	ug/L	0.26	ug/L
X Pentachlorophenol	50	ug/L	3.80	ug/L
Phenacetin	20	ug/L	0.93	ug/L
Phenanthrene	10	ug/L	1.37	ug/L
X Phenol	10	ug/L	0.52	ug/L
Phenyl sulfide	10	ug/L	10	ug/L
Phenyl sulfone	10	ug/L	10	ug/L
p-Phenylene diamine	100	ug/L	100	ug/L
Phorate	50	ug/L	0.66	ug/L
Phthalic acid	10	ug/L		
Phthalic anhydride	10	ug/L		
X 2-Picoline	20	ug/L	1.19	ug/L
Pronamide	20	ug/L	0.97	ug/L
Pyrene	10	ug/L	1.72	ug/L
Pyridine	20	ug/L	1.70	ug/L
Safrole	20	ug/L	0.32	ug/L
Sulfotepp	50	ug/L	0.24	ug/L
1,2,4,5-Tetrachlorobenzene	10	ug/L	0.40	ug/L
2,3,4,6-Tetrachlorophenol	50	ug/L	0.41	ug/L
Tetraethyldithiopyrophosphate	50	ug/L	0.24	ug/L
Thionazin	50	ug/L	0.34	ug/L
o-Toluidine	20	ug/L	0.28	ug/L
2,4,6-Tribromophenol	10	ug/L		
X Tributyl phosphate	10	ug/L	0.94	ug/L
1,2,4-Trichlorobenzene	10	ug/L	0.91	ug/L
2,4,5-Trichlorophenol	10	ug/L	2.43	ug/L
2,4,6-Trichlorophenol	10	ug/L	2.37	ug/L
O,O,O-Triethyl phosphorothioate	50	ug/L	0.39	ug/L
1,3,5-Trinitrobenzene	50	ug/L	2.41	ug/L

# STL Detection Limit Summary

## Groundwater Performance Assessment Project Analyses

Target Analyte List: All Analytes

 Method: Volatile Organics, GC/MS (8260B)  
 Extraction: PURGE AND TRAP - 5 mL purge

Matrix: WATER

 QC Program: STANDARD TEST SET  
 Location: STL St. Louis

Analyte List Constituent	RL	Detection Limits		
		Units	MDL	Units
X Acetone	20	ug/L	1.3	ug/L
Acetonitrile	50	ug/L	5.3	ug/L
Acrolein	50	ug/L	4.32	ug/L
Acrylonitrile	50	ug/L	2.88	ug/L
X Benzene	5	ug/L	0.11	ug/L
Benzyl chloride	10	ug/L		
Bromobenzene	5	ug/L	0.20	ug/L
Bromochloromethane	5	ug/L	0.09	ug/L
Dichlorobromomethane	5	ug/L	0.07	ug/L
Bromodichloromethane	5	ug/L	0.07	ug/L
Bromoform	5	ug/L	0.62	ug/L
Methyl bromide	10	ug/L	0.89	ug/L
Bromomethane	10	ug/L	0.89	ug/L
X 1-Butanol	100	ug/L	33.12	ug/L
n-Butanol	100	ug/L	33.12	ug/L
2-Butanone (MEK)	20	ug/L	1.11	ug/L
X 2-Butanone	20	ug/L	1.11	ug/L
Methyl ethyl ketone	20	ug/L	1.11	ug/L
MEK	20	ug/L	1.11	ug/L
Methyl ethyl ketone (MEK)	20	ug/L	1.11	ug/L
n-Butyl alcohol	100	ug/L	33.12	ug/L
tert-Butyl alcohol	5	ug/L	5	ug/L
n-Butylbenzene	5	ug/L	0.75	ug/L
sec-Butylbenzene	5	ug/L	0.85	ug/L
tert-Butylbenzene	5	ug/L	0.55	ug/L
X Carbon disulfide	5	ug/L	0.27	ug/L
X Carbon tetrachloride	5	ug/L	0.14	ug/L
Chlorobenzene	5	ug/L	0.12	ug/L
Chlorobromomethane	5	ug/L	0.09	ug/L
Chlorobutadiene	5	ug/L	0.31	ug/L
Chloroprene	5	ug/L	0.31	ug/L
2-Chloro-1,3-butadiene	5	ug/L	0.31	ug/L
Dibromochloromethane	5	ug/L	0.59	ug/L
Chlorodibromomethane	5	ug/L	0.59	ug/L
Chloroethane	10	ug/L	0.56	ug/L
Ethyl chloride	10	ug/L	0.56	ug/L
2-Chloroethyl vinyl ether	20	ug/L	0.52	ug/L
X Chloroform	5	ug/L	0.12	ug/L
Chloromethane (Methyl Chloride)	10	ug/L	0.23	ug/L
Chloromethane	10	ug/L	0.23	ug/L
Methyl chloride	10	ug/L	0.23	ug/L
Chloropropene	10	ug/L	0.29	ug/L
Allyl chloride	10	ug/L	0.29	ug/L
3-Chloro-1-propene	10	ug/L	0.29	ug/L
2-Chlorotoluene	5	ug/L	1.05	ug/L
4-Chlorotoluene	5	ug/L	0.65	ug/L
Cyclohexane	5	ug/L	0.87	ug/L
Cyclohexanone	100	ug/L	30.34	ug/L
1,2-Dibromo-3-chloropropane	10	ug/L	0.96	ug/L
1,2-Dibromo-3-chloropropane (DBCP)	10	ug/L	0.96	ug/L
1,2-Dibromoethane (EDB)	5	ug/L	0.55	ug/L
1,2-Dibromoethane	5	ug/L	0.55	ug/L

Target Analyte List: All Analytes

Method: Volatile Organics, GC/MS (8260B)

Extraction: PURGE AND TRAP - 5 mL purge

Matrix: WATER

QC Program: STANDARD TEST SET

Location: STL St. Louis

Analyte List Constituent	RL	Detection Limits		
		Units	MDL	Units
Dibromomethane	5	ug/L	0.58	ug/L
Methylene bromide	5	ug/L	0.58	ug/L
1,2-Dichlorobenzene	5	ug/L	0.87	ug/L
o-Dichlorobenzene	5	ug/L	0.87	ug/L
1,3-Dichlorobenzene	5	ug/L	0.52	ug/L
m-Dichlorobenzene	5	ug/L	0.52	ug/L
X 1,4-Dichlorobenzene	5	ug/L	0.39	ug/L
trans-1,4-Dichloro-2-butene	10	ug/L	0.80	ug/L
Dichlorodifluoromethane (Freon 12)	10	ug/L	0.52	ug/L
Dichlorodifluoromethane	10	ug/L	0.52	ug/L
X 1,1-Dichloroethane	5	ug/L	0.21	ug/L
X 1,2-Dichloroethane	5	ug/L	0.14	ug/L
Ethylene dichloride	5	ug/L	0.14	ug/L
X cis-1,2-Dichloroethene	5	ug/L	0.20	ug/L
X trans-1,2-Dichloroethene	5	ug/L	0.31	ug/L
X 1,1-Dichloroethene	5	ug/L	0.68	ug/L
1,2-Dichloroethene (total)	10	ug/L	0.61	ug/L
1,2-Dichloropropane	5	ug/L	0.10	ug/L
1,3-Dichloropropane	5	ug/L	0.64	ug/L
2,2-Dichloropropane	5	ug/L	0.18	ug/L
cis-1,3-Dichloropropene	5	ug/L	0.15	ug/L
trans-1,3-Dichloropropene	5	ug/L	0.53	ug/L
trans-1,3-Dichloropropylene	5	ug/L	0.53	ug/L
1,1-Dichloropropene	5	ug/L	0.18	ug/L
cis-1,3-Dichloropropylene	5	ug/L	0.15	ug/L
1,2-Dichloro-1,1,2,2-tetrafluoroethane	5	ug/L		
Dimethyl disulfide	5	ug/L	5	ug/L
X 1,4-Dioxane	400	ug/L	19.26	ug/L
Epichlorohydrin	25	ug/L		
Ethanol	2500	ug/L	80.87	ug/L
Ethyl acetate	20	ug/L	1.69	ug/L
X Ethylbenzene	5	ug/L	0.38	ug/L
Ethyl ether	10	ug/L	1.04	ug/L
Diethyl ether	10	ug/L	1.04	ug/L
Ethyl methacrylate	5	ug/L	0.66	ug/L
Freon 113	5	ug/L	0.57	ug/L
Hexachlorobutadiene	5	ug/L	1.01	ug/L
Hexane	10	ug/L	0.82	ug/L
n-Hexane	10	ug/L	0.82	ug/L
2-Hexanone	20	ug/L	1.26	ug/L
Methyl iodide	5	ug/L	1.34	ug/L
Iodomethane	5	ug/L	1.34	ug/L
Isobutanol	200	ug/L	31.67	ug/L
Isobutyl alcohol	200	ug/L	31.67	ug/L
Isopropanol	100	ug/L	43.99	ug/L
Isopropylbenzene	5	ug/L	0.12	ug/L
p-Isopropyltoluene	5	ug/L	0.72	ug/L
4-Isopropyltoluene	5	ug/L	0.72	ug/L
Methacrylonitrile	25	ug/L	5.22	ug/L
Methyl acetate	25	ug/L	4.81	ug/L
Methyl butyl ketone	20	ug/L	1.26	ug/L
Methylcyclohexane	5	ug/L	0.87	ug/L
X Methylene chloride	5	ug/L	2.64	ug/L
Dichloromethane	5	ug/L	2.64	ug/L

## Radionuclides - Severn Trent Laboratory, Richland

SERVICE LIST NAME	CAS#	LONG NAME	WATER	SOIL/OTHER
Gross Alpha / Beta - 900.0	12587-46-1	Gross alpha	3 pCi/l	NA
Gross Alpha / Beta - 900.0	12587-47-2	Gross beta	4 pCi/l	NA
Iodine - 902.0	10043-66-0	Iodine-131	1 pCi/l	NA
Radium - 903.0	ALPHA-RA	Radium Alpha	1 pCi/l	NA
Radium-226 - 903.1	13982-63-3	Radium-226	1 pCi/l	NA
Radium-228 - 904.0	15262-20-1	Radium-228	3 pCi/l	NA
Strontium - 905.0	14158-27-1	Strontium-89	10 pCi/l	NA
Strontium - 905.0	10098-97-2	Strontium-90	2 pCi/l	NA
Tritium - 906.0	10028-17-8	Tritium	400 pCi/l	NA
Gross Alpha/Beta - 9310	12587-46-1	Gross alpha	3 pCi/l	10
Gross Alpha/Beta - 9310	12587-47-2	Gross beta	4 pCi/l	15
Total Radium - 9315	ALPHA-RA	Radium Alpha	3 pCi/l	NA
Gross Alpha	12587-46-1	Gross alpha	3 pCi/l	10
Gross Alpha - Special		Gross alpha	NA pCi/l	5
Americium-241/Curium-244	13981-15-2	Curium-244	1 pCi/l	1
Americium-241/Curium-244	14596-10-2	Americium-241	1 pCi/l	1
Gross Beta	12587-47-2	Gross beta	4 pCi/l	15
Gross Beta - Special	12587-47-2	Gross beta	NA pCi/l	10
Carbon-14	14762-75-5	Carbon-14	200 pCi/l	50
Carbon-14 - Medium Level	14762-75-5	Carbon-14	pCi/l	5
Carbon-14 - Low Level	14762-75-5	Carbon-14	pCi/l	1
Gamma Spec	10045-97-3	Cesium-137	15 pCi/l	0.1
Gamma Spec	10198-40-0	Cobalt-60	25 pCi/l	0.05
Gamma Spec	13966-02-4	Beryllium-7	50 pCi/l	0.3
Gamma Spec	13967-70-9	Cesium-134	15 pCi/l	0.1
Gamma Spec	13982-63-3	Radium-226	pCi/l	0.1
Gamma Spec	14234-35-6	Antimony-125	50 pCi/l	0.3
Gamma Spec	14391-16-3	Europium-155	50 pCi/l	0.1
Gamma Spec	14596-10-2	Americium-241	50 pCi/l	0.3
Gamma Spec	14683-23-9	Europium-152	50 pCi/l	0.1
Gamma Spec	15117-96-1	Uranium-235	50 pCi/l	0.3
Gamma Spec	15262-20-1	Radium-228	pCi/l	0.2
Gamma Spec	15585-10-1	Europium-154	50 pCi/l	0.1
Gamma Spec	U-238	Uranium-238	500 pCi/l	10
Gamma Spec - Low Level	10045-97-3	Cesium-137	6 pCi/l	0.04
Iodine-129 - Low Level	15046-84-1	Iodine-129	1 pCi/l	NA
Iodine-129	15046-84-1	Iodine-129	5 pCi/l	2
Lead-210	14255-04-0	Lead-210	50 pCi/l	5
Nickel-59	14336-70-0	Nickel-59	30 pCi/l	60
Nickel-63	13981-37-8	Nickel-63	15 pCi/l	30
Neptunium-237	13994-20-2	Neptunium-237	1 pCi/l	1
Plutonium-241	14119-32-5	Plutonium-241	15 pCi/l	15
Isotopic Plutonium	13981-16-3	Plutonium-238	1 pCi/l	1
Isotopic Plutonium	PU-239/240	Plutonium-239/240	1 pCi/l	1
Isotopic Plutonium - Low Level	13981-16-3	Plutonium-238	0.01 pCi/l	NA
Isotopic Plutonium - Low Level	PU-239/240	Plutonium-239/240	0.01 pCi/l	NA
Total Radium	ALPHA-RA	Radium Alpha	1 pCi/l	5
Selenium-79	15758-45-9	Selenium-79	30 pCi/l	10
Strontium 89/90 - Sr-89	14158-27-1	Strontium-89	5 pCi/l	1
Strontium 89/90 - Sr-90	10098-97-2	Strontium-90	2 pCi/l	1
Strontium 89/90 - Total Rad. Sr	RAD-SR	Total Radioactive Sr	2 pCi/l	1
Technetium-99	14133-76-7	Technetium-99	15 pCi/l	15
Isotopic Thorium	14269-63-7	Thorium-230	1 pCi/l	1
Isotopic Thorium	14274-82-9	Thorium-228	1 pCi/l	1
Isotopic Thorium	TH-232	Thorium-232	1 pCi/l	1
Tritium (H-3)	10028-17-8	Tritium	400 pCi/l	400
Tritium - Mid Level	10028-17-8	Tritium	30 pCi/l	30
Tritium - Low Level Soil	10028-17-8	Tritium	pCi/l	10
Tritium - Low Level	10028-17-8	Tritium	10 pCi/l	NA
Isotopic Uranium	13966-29-5	Uranium-234	1 pCi/l	1
Isotopic Uranium	15117-96-1	Uranium-235	1 pCi/l	1
Isotopic Uranium	U-238	Uranium-238	1 pCi/l	1
Total Uranium (chemical)	7440-61-1	Uranium	1 ug/l	1

Shaded cells indicate  
changes/additions from Rev. 6

## Groundwater Performance Assessment Project Analyses

## Method: Metals, ICP (6010) - Severn Trent Laboratory

Constituent	RL	Units	IDL	Units
Aluminum	200	µg/L	45.5	µg/L
Antimony	60	µg/L	21.3	µg/L
Barium	200	µg/L	3.7	µg/L
Beryllium	5	µg/L	0.29	µg/L
Cadmium	5	µg/L	2	µg/L
Calcium	5000	µg/L	111	µg/L
Chromium	10	µg/L	3.3	µg/L
Cobalt	50	µg/L	3.3	µg/L
Copper	25	µg/L	2.4	µg/L
Iron	100	µg/L	6.9	µg/L
Magnesium	5000	µg/L	125	µg/L
Manganese	15	µg/L	0.99	µg/L
Nickel	40	µg/L	8.6	µg/L
Potassium	5000	µg/L	1950	µg/L
Silver	10	µg/L	4.1	µg/L
Sodium	5000	µg/L	94.3	µg/L
Strontium	50	µg/L	0.72	µg/L
Vanadium	20	µg/L	5	µg/L
Zinc	20	µg/L	1.5	µg/L

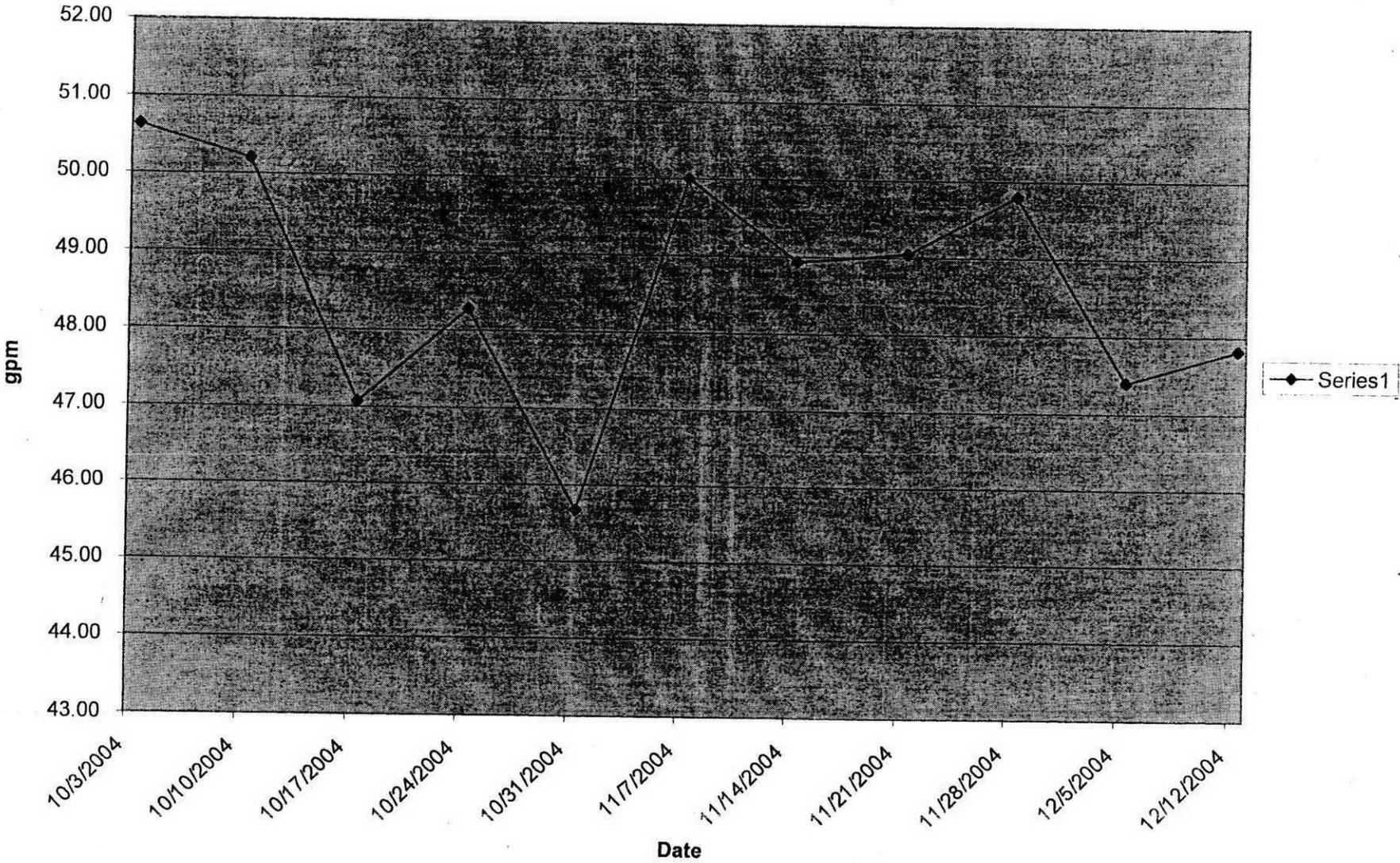
Note: All constituents reported routinely

## Method: Anions (300.0) - Severn Trent Laboratory

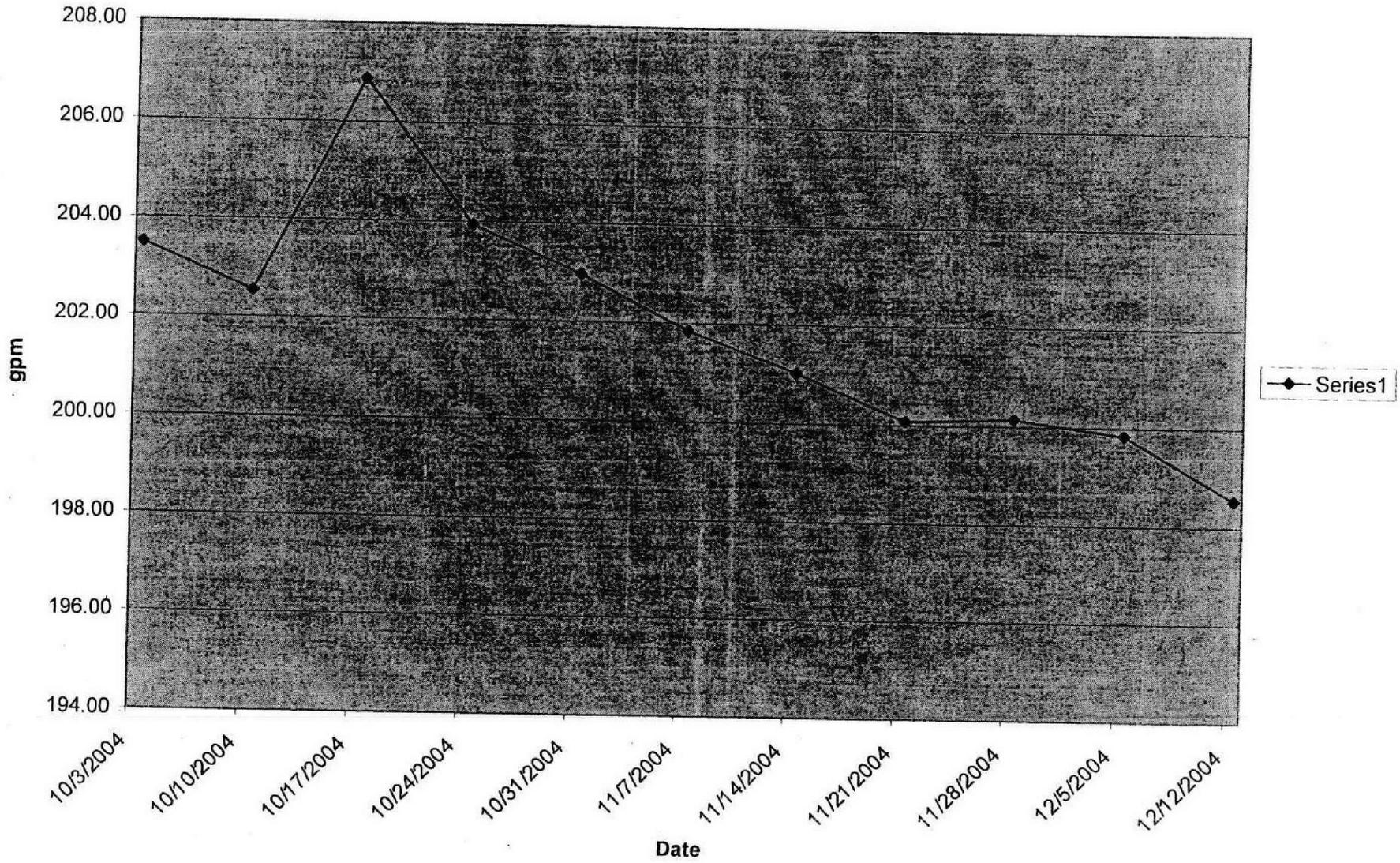
Constituent	RL	Units	MDL	Units
Bromide	0.25	mg/L	0.02	mg/L
X Chloride	0.2	mg/L	0.043	mg/L
X Fluoride	0.1	mg/L	0.01	mg/L
X Nitrogen in Nitrate	0.02	mg/L	0.004	mg/L
X Nitrogen in Nitrite	0.02	mg/L	0.004	mg/L
Phosphate	0.5	mg/L	0.05	mg/L
X Sulfate	0.5	mg/L	0.037	mg/L

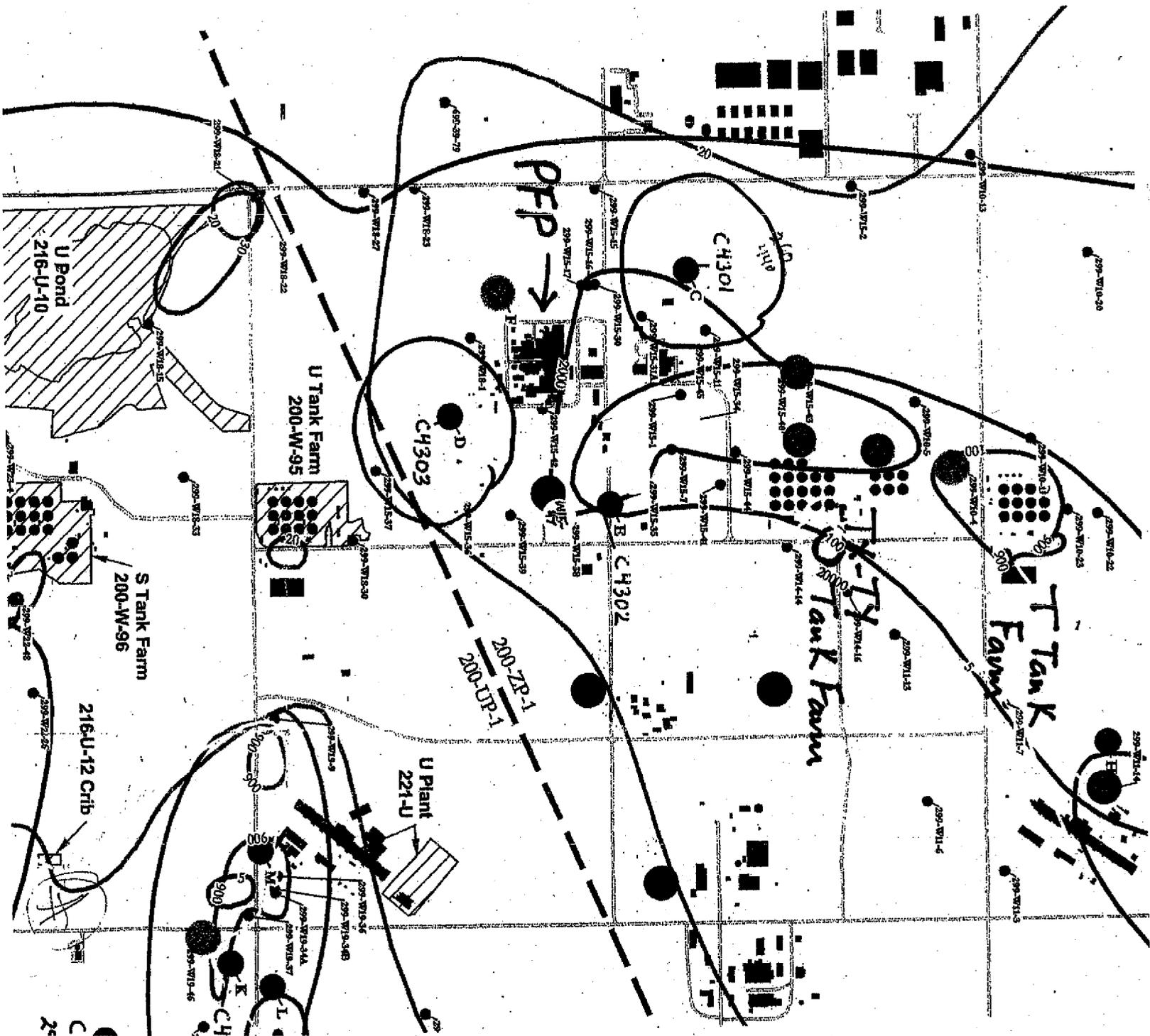
Note: An 'X' indicates routine report. Others reported on request.

### 200-UP-1 Average Pumping Rate for FY2005



200-ZP-1 Average Pumping Rates for FY2005



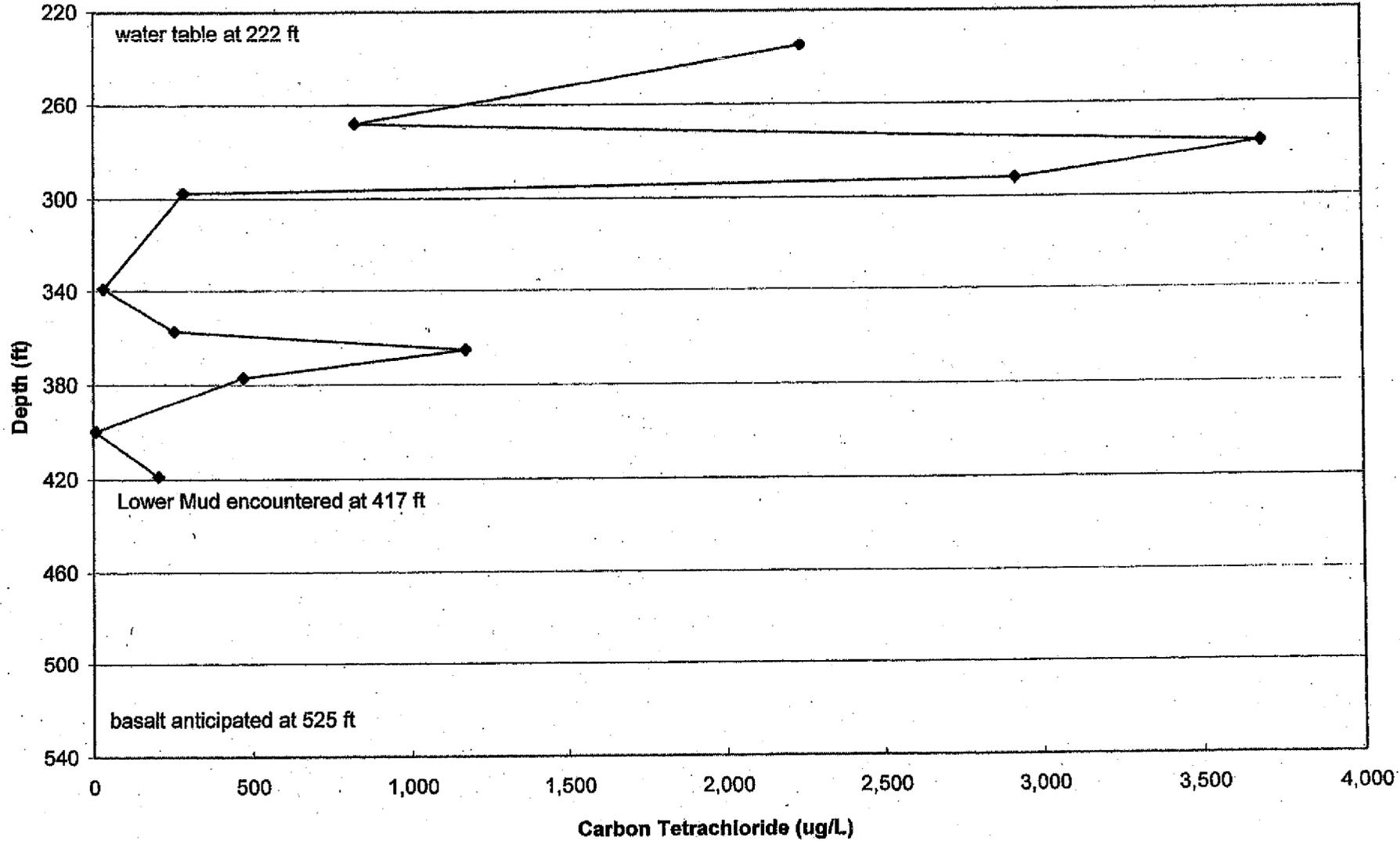


Attachment 8

Depth-Discrete Groundwater Data Z-9 Well (C3426)

Depth (ft bgs) (water table at 222 ft bgs)	Carbon tetrachloride	Chloroform	Trichloroethene
235	2,239	37	6.7
268	825	43	10
277	3,688	208	89
292	2,918	413	11.0
297.5	286	1,039	4.4
339	32	690	2.8
357	258	353	2.9
365	1,174	152	7.2
377	472	301	7.5
400	8.0	304	2.4
419	206	482	4.5

### 216-Z-9 Vertical Well 299-W15-46 (C3426) Groundwater Field Screening Results



**200-ZP-1 RI/FS 3-D Aquifer Characterization**  
**Field Screening Results**  
 SAF: F04-032

Sample Location	HEIS Number	Sample Date	Sample Time	Sample Depth	Analysis Date	TCM (ug/L)	CCl <sub>4</sub> (ug/L)	TCE (ug/L)	PCE (ug/L)
C4303 (299-W18-16) Well "D"	B1BJC8	12/08/04	08:20	Equipment Blank	12/13/04	<2.0	2.1	<2.0	<2.0
C4303 (299-W18-16) Well "D"	B1BJC2	11/22/04	10:00	270'		81 <sup>a</sup>	670 <sup>a</sup>		
C4303 (299-W18-16) Well "D"	B1BJC3	12/01/04	10:05	290'	12/13/04	31 / 42 <sup>a</sup>	222 / 390 <sup>a</sup>	<2.0	<2.0
C4303 (299-W18-16) Well "D"	B1BJC6 B1BJC7	12/09/04	15:10	325'	12/13/2004	27	137	<2.0	<2.0
C4303 (299-W18-16) Well "D"	B1C0R4 <sup>a</sup>	12/15/04	10:05	340'	12/15/2004	88	2.6	<2.0	<2.0

Planned depths are shown in red text; once sampling occurs, the actual sample depth is entered and the text is changed back to black.

\*Sampled with a Kabis sampler - unfiltered sample water.

TCM = Chloroform; CCl<sub>4</sub> = Carbon tetrachloride; TCE = Trichloroethylene; PCE = Perchloroethylene (Tetrachloroethylene)

<sup>a</sup> Analytical result is from WSCF Laboratory as opposed to field screening gas chromatograph.