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FH-0500296

Meeting Minutes Transmittal/Approval
Unit Managers' Meeting
200 Area Groundwater and Source Operable Units
1200 Jadwin Avenue, Richland, Washington
January 20, 2005

APPROVAL: _____ Date: 2-16-05
Larry Romine, 200 Area Unit Manager, DOE/RL

APPROVAL: _____ Date: 2/16/05
Arlene Tortoso, 200 Area Assistant Manager, DOE/RL

APPROVAL: _____ Date: 3/9/05
Craig Cameron, 200 Area Unit Manager, EPA

APPROVAL: _____ Date: 3/9/05
John Price, 200 Area Unit Manager, Ecology

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UNIT MANAGERS' STATUS MEETING MINUTES
1200 Jadwin/Rm 1-C1
January 20, 2005

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

Attachment 1	Issues Resolution Meeting/Issues List
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	Table A-2 Decommissioning Well List
Attachment 7	200 Area UMM Historical Meeting Minutes Presentation
Attachment 8	RL & Ecology Agreement from 12/29/04 Meeting
Attachment 9	200-UP-1/200-ZP-1 Avg. Pumping Rates for FY2005
Attachment 10	200-UP-1 Operable Unit Signed Operating Plan
Attachment 11	200-MW-1 Signature Authorization
Attachment 12	Results of Monthly Monitoring of Carbon Tetrachloride
Attachment 13	C-106 Data Summary Report

MEETING MINUTES
200 AREA GROUNDWATER AND SOURCE OPERABLE UNITS
UNIT MANAGERS' MEETING – 200 AREAS
January 20, 2005

Attendees: See Attachment #2

Agenda: See Attachment #3; the agenda contains status for the source OUs; only items discussed in the UMM are included in the minutes for the source OUs

Topics of Discussion:

ISSUE RESOLUTION MEETING – See Attachment #1

GENERAL

- Outstanding Action Items – See Attachment #4
- Open for Regulatory Topics or Action Items – A new schedule for the UMM was proposed. The Groundwater Status meeting will run from 8:30 to 9:15. The Source Status meeting will be held from 9:30 to 10:00. The agenda will provide the status for the source OUs; only exceptions will be discussed in the Source Status meeting. If issues are identified in either the Groundwater or Source Status meetings, they will be held over for the issue resolution meeting to be held from 10:00 to 11:30. A plan to issue outstanding UMM minutes was presented (Attachment #7). This issue is discussed in greater detail in Attachment #1. Ecology raised two issues for the TPA quarterly: 1) they have not received a formal letter on the 200-UR-1 comment responses; and 2) they want the M-13-00O milestone status listed as not met. RL is in disagreement on this stance on the milestone.

GROUNDWATER OPERABLE UNITS

200-BP-5 & 200-PO-1 OUs – RL received EPA approval letter for 200-BP-5 Sampling and Analysis Plan. PNNL is addressing RL comments on the 200-PO-1 Sampling and Analysis Plan. RL has not heard from Ecology on the approval of the revised well lists for the waste control plans for the 200-PO-1 OU. Ecology will check on the status of these approvals. PNNL and RL will discuss the specifics regarding the wells in 200-BP-5 with EPA. Planning is underway to drill two wells at BC Cribs. The Sampling and Analysis Plan for this work is under review.

200-UP-1 OU – See Attachment #9. FH will set up meeting to discuss the schedule for 12 new wells; this represents new scope and will require an updated DQO and associated requirements.

Remediation treatment status:

- Average Pumping Rate (counting all outage time as 0 gpm) for January 26, 2004 through January 9, 2005 is approximately 50.3 gpm.
- ERDF has found a way to hold off on leachate transfer until the morning of January 26 which is the date we will be turning the pump-and-treat system off for the rebound study.

- Rebound study operating plan has been approved by DOE-RL and Ecology (Attachment #10).
- From December 13 through January 9, the system operated between 45.4 and 49.2 gpm (Attachment #9a).
- System Run Time
  - For December 13 through January 9 100%
  - FY2005 (Year to date) 98.7%
  - System Inception to date 92.7%
- 200-UP-1 pump-and-treat system will be shutdown the morning of January 26, 2005.
- Drilling of new well "K" was completed. Location and depth discrete groundwater analytical results are attached (Attachments #9b and #9c). Highest concentration of Tc-99 and Uranium was in the uppermost portion of the aquifer.

Actions:

- Enter signed 200-UP-1 Rebound Study Operating Plan into the meeting minutes (Attachment #10).
- EPA/Ecology to review/approve updated decommissioning lists for 200-UP-1 (Attachment #6). Ecology approves the changes to 200-UP-1. The updates will be included in the waste control plan and documented through an email and through UMM minutes.

200-ZP-1 OU - See Attachment #9

Remediation treatment status:

- Average Pumping Rate for December 13 through January 2: 185 gpm (Attachment #9b).
- The pump in extraction well #2 went down and is being replaced later this week.
- From December 13 through January 2, the system operated between 178 and 198 gpm
- System Run Time
  - For December 13 through January 2 96.5%
  - FY2004 (Year to date) 91.8%
  - System Inception to date 92.6%
- Design work for the ZP-1 pump-and-treat expansion is scheduled to be complete February 25, construction will start March 14. Could be finished as early as the end of June, but we are keeping the July 31 as the certain completion date.
- Next week, FH will begin looking into the issue of preparing a "Contained-In" determination to remove the need for leak detection.
- Vista Engineering's DNAPL investigation update: Majority of soil gas is done. Will be performing refined soil gas grid at TX-TY Tank Farm, 216-Z-1A and 216-Z-18 in the next couple of weeks. Done with the Seismic/CPT investigations. Vista is waiting for the Z-9 well (299-W15-46) to be completed so they can perform cross well seismic survey. Depth-discrete groundwater sampling is about 60% done.
- New wells "C" (299-W15-49) and "D" (299-W18-16) have been installed. Location map and depth discrete groundwater analytical results are attached (Attachments #9b, #9c, #9d and #9e). Highest concentration of CCL4 was found in the uppermost groundwater sample.

- Meeting was held with EPA and Ecology on January 5 to discuss options for completing the Z-9 well. From this meeting, FH took the action to determine if plutonium found in shallow well 299-W15-8 will prevent it from being used as a vapor extraction well. FH engineering and radiation safety concluded that the plutonium detected in vapor well 299-W15-8 will not prevent it from being hooked up as a vapor extraction system. As a result, since the 299-W15-8 is screened within the higher concentration portion of the plume, FH plans to proceed in completing the Z-9 well with one long (80 foot) screened interval:
  - Top of the screen: ~15 feet above water table
  - Bottom of screen: ~65 feet below water table.

RI/FS Schedule:
- RI Report preparation is scheduled to begin October 1, 2005
- Feasibility Study/Proposed Plan is scheduled to begin October 1, 2006

Actions:
- Mark Byrnes to set up meeting between RL and FH to discuss Z-9 well completion.
- EPA/Ecology to review/approve updated decommissioning lists for 200-ZP-1 (Attachment #6). The updates will be included in the waste control plan and documented through an email and through UMM minutes.
- Mark Byrnes to reconstruct how we have documented agreements for P&T expansion to the north.

200-PW-1, 200-ZP-2 OU
- The active system is shutdown for the winter
- The passive system remains operational
- The results of the monthly monitoring of carbon tetrachloride vapor concentrations were distributed (Attachment #12). The results for December, 2004 monitoring were consistent with results from recent months.

SOURCE OPERABLE UNITS

U Plant Area – Revising the Sampling and Analysis Plan; FH asked Ecology to review a redline/strikeout version to allow field activities before the final approval process for the SAP. Attachment #8 is an agreement to be signed by Ecology stating that the sampling table and figures in the attachment represent the agreed upon strategy discussed in the December 29, 2004 meeting. RL has already signed the agreement. Ecology requested a review of the current design status. FH is to set up a meeting to present the design. RL stated that Matt McCormick has approval authority for Waste Control Plans.

200-CS-1 and 200-CW-1 OUs – Discussed through the issues resolution meeting; see Attachment #1

200-CW-5, CW-2, CW-4, & SC-1 OUs – EPA indicated they would submit comments on the FS and proposed plan within 30 days; they have previously provided comments from the USGS and Ecology..

200-IS-1 & 200-ST-1 OUs – Ecology indicated they are reviewing the RI/FS work plan. They liked the bins approach. They anticipate getting comments within the review period.

200-MW-1 OU – FH identified an issue with the Waste Control Plan concerning the 216-T-33 Crib. The area identified in the plan for waste management is not acceptable to the T Plant project and conflicts with their safety basis documentation. They have proposed an existing waste management area that is approximately 100 ft away from the originally proposed location. EPA indicated agreement with the new location as long as the area can be identified as a CERCLA-only waste area and all conditions of the waste control plan are applied to the new waste area. The decision would be documented in these UMM minutes and a revised Waste Control Plan would be prepared for signatures. A signed agreement is included in Attachment #11.

200-UR-1 OU – Ecology indicated they are 50% complete on preparing an Action Memorandum for a subset of the waste sites in 200-UR-1. RL has a concern about being tied to a schedule for these sites that may not be cost effective. RL indicated they could do these actions as voluntary under CERCLA, but the agencies cautioned that might cause waste disposal issues at ERDF

200-SW-1/2 – A meeting is scheduled for January 27 at Ecology to start discussions; Bill Lincoln has been identified by Ecology as the facilitator. RL indicated they will respond to Ecology's letter and will participate, however, they want to weigh in on the facilitator. RL indicated the 27th was too soon. Ecology is planning on bringing the agreement in principle to the first meeting.

Issue Resolution Meeting
Issues List
January 20, 2005
200 Area Unit Managers' Meeting

Issue: ROD strategy – (RL/EPA/Ecology)

Issue statement: A proposed ROD strategy has been presented by EPA and Ecology; a path forward for the ROD strategy needs to be defined and the strategy further developed

Issue status: RL is working to resolve the charter to send the issue to the IAMIT; RL and FH are having internal meetings to refine proposed ROD strategy.

Issue agreements:

- Issue will be tracked monthly at UMM until resolved

Issue actions:

- RL to develop charter for discussion at next UMM

Issue resolution: TBD

Issue: RCRA/CERCLA Integration – (EPA)

Issue statement: The need for a consistent process was identified by EPA.

Issue status: EPA is not ready to discuss until they get the 200-UW-1 FS and Proposed Plan. EPA/Ecology/RL are to discuss further.

Issue agreements:

- The 200-UW-1 process should be used as an example
- The process should be captured in lessons learned

Issue actions:

- RL to transmit 200-UW-1 documents to Ecology and EPA

Issue resolution: TBD

Issue: COPCs – (Ecology)

Issue statement: Ecology proposed determining COPCs by analysis method and reporting all analytical data generated, not just requested. The goal is to get RI quality data. Ecology is asking for a full list of constituents that are analyzed for, not just the ones reported, for both detected and non-detected constituents.

Issue Resolution Meeting
Issues List
January 20, 2005
200 Area Unit Managers' Meeting

Issue status: Ecology provided C-106 data for information on how data are reported for that project (Attachment #13). FH and PNNL are continuing to compile information on contract required data. RL/FH/PNNL to meet to discuss before doing further UMM discussions. RL noted that this is a cross-cutting issue that has impacts to more than just the 200 Areas.

Issue agreements:

Issue actions:

- Need further clarification of what is and what can be reported from the laboratories (RL/FH)
- Need further clarification on how analyses are requested and what data are provided from the laboratories (RL/FH)
- Need clarification of terminology, for example "tentatively identified compounds (tic)" and how different groups are dealing with them (all)
- Ecology to give tank farms presentation in February.
- RL/FH to get C-106 DQO from RMIS and review the flowchart in that DQO to better understand Ecology's request

Issue resolution: TBD

Issue: Unit Managers' Meeting Minutes – (EPA/Ecology)

Issue statement: Meeting minutes must be completed and up-to-date to be in compliance with the TPA. The minutes are currently 2+ years in arrears.

Issues status: FH is working to assign a point-of-contact person to take over responsibility for the UMM for future minutes. FH has assigned Linda DeLannoy the responsibility for compiling, updating, and getting approval for past minutes. A schedule was handed out in the January UMM for this process.

Issue agreements: Meeting minutes from any month are to be ready to sign at the following month. Past minutes will be approved through FH proposed process as discussed in January UMM.

Issue actions:

- FH to prepare draft UMM minutes for FH, RL, and agency reviews to support completion of all past minutes in February.
- Need to find all attachments for past minutes (FH with help from all)

Issue resolution: TBD

Issue Resolution Meeting
Issues List
January 20, 2005
200 Area Unit Managers' Meeting

Issue: Planning/Decision Integration – (EPA)

Issue statement: 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)

Issue status: EPA is working with project personnel to resolve; EPA (Dennis Faulk) will provide further status at a later date

Issue agreements:

Issue actions:

- EPA to provide updated status of issue

Issue resolution: TBD

Issue: Exposure Scenarios – (Ecology)

Issue statement: Ecology and EPA have requested additional exposure scenarios for inclusion in RI/FS documents.

Issue status: RL is having internal meetings to discuss options and associated impacts.

Issue agreements: Tri-Parties' response to HAB #132 outlined risk assessment steps. Differences in interpretation and status of this document have become apparent.

Issue actions:

Issue resolution:

Issue: Characterization Data – (Ecology)

Issue statement: 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.

Issue status: FH/RL to schedule a "what if" meeting with Ecology staff to determine the benefits of different types of data.

Issue Resolution Meeting
Issues List
January 20, 2005
200 Area Unit Managers' Meeting

Issue agreements:

Issue actions:

- FH schedule meeting with Ecology.

Issue resolution: TBD

Issue: Combining 200-CS-1 OU FS with 200-CW-1 OU FS – (RL/Ecology)

Issue statement: RL suggested combining the 2 OU groups because of their similarities. Ecology has raised concerns over this suggestion.

Issue status: The only issue raised to FH/RL has been the reluctance to combine the documents without the agreement on FH/RL's part to fully fund the ecological sampling. At the January UMM, Ecology stated they have other issues and will send them to RL/FH.

Issue agreements:

Issue actions:

- Ecology to send RL/FH a list of additional issues

Issue resolution: TBD

200 Area Unit Managers Status Meeting
January 20, 2005

Please print clearly and use black ink

PRINTED NAME	ORGANIZATION	O.U. ROLE	TELEPHONE
Kevin Leary	DOE-RL	UW-1	373-7285
Ellen Dagay	DOE-RL OES	CERCLA	376-3811
Larry Hulstrom	FH	PW-2/4	373-3928
JERRY YOKEL	ECOLOGY		372-7937
John Winterhalder	FH	ECO	372-8194
FRED A RUCK III	FH	CERCLA SME	376-9876
Arlene Tortoso	DOE-RL	200 Area GW	373-8631
Brian Charboneau	DOE-RL	GW	373-6137
Stuart Luttrell	PNNL-GW	GW	376-6023
Ron Jackson	FH	200-UW-1	373-3599
Lanny Dusek	FH	D&D Projects	438-1756
Larry Romine	DOE-RL	200 Area	376-4747
~~Ellen~~			
Craig Cameron	EPA		376-8665
Jennie Stults	Ecology		372-7956
Mary Todd-Robertson	FH	Waste Rem. Act.	373-3920
L. Craig Swanson	FH	CERCLA	373-3807
Jean Vanni	ECY		372-7930
Linda DeLaMoy	FH	Project Support	376-4901
Jon Perry	FH-EP	reg support	376-4791

200 Area Unit Managers Status Meeting
January 20, 2005

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PRINTED NAME	ORGANIZATION	O.U. ROLE	TELEPHONE
RJ Murphy Fitch	FH SDAI		6-8868
Richard Gurske	FH EP		2-0761
Virginia Rohay	FH	200-PW-1 200-SW-2	373 3803
Mark Byrnes	FH	UP-1/ZP-1 Task Lead	373-3996

UNIT MANAGERS' STATUS MEETING AGENDA

1200 Jadwin/Room 1-C-1
January 20, 2005

10:00 a.m. – 11:30 a.m.

General

- 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

- Sampling and Analysis Plans status
- Revised Tables in Waste Control Plans
- Approval of updated 200-BP-5 Waste Control Plan Well
- Decommissioning Table
- Approval of updated 200-PO-1 SAP and Waste Control Plan Tables
- Plans for drilling new wells in 200-PO-1 at BC Cribs

200-UP-1 OU

- 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

- 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

- Remediation Treatment Status
- Monthly Monitoring

SOURCE OPERABLE UNITS

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

- Field work preparation and planning underway for representative site investigation and dispersed carbon tet investigation
- 216-Z-9 well at 501 ft bgs as of 1/18; anticipated TD is 530 ft
- Project technical workshop for the DNAPL investigation scheduled for 1/25 through 1/27. The work plan is being transmitted to DOE for concurrence and submittal to EPA.

U Plant Area

- Float Table
- SAP Revisions

BC Cribs Area Closure

- Revisions continue on the FS and proposed plan
- Preparation of the DQO and SAP to support additional data collection for design continue

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

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

- Integration of the 200-CW-1 and 3 Feasibility Study with the 200-CS-1 Feasibility Study

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

- 216-S-7 Borehole reached total depth of 226.5 feet BGS on December 29. Decommissioning activities are underway as of 1/10/05
- Comment Disposition Meeting held 1/7/05 on RI report. Comment incorporation underway. Discussions continuing with RL.
- Feasibility Study preparation is underway.

200-CS-1 OU (1 minutes)

- Submitted RI Report 11/29/04
- Integration of the 200-CW-1 and 3 Feasibility Study with the 200-SC-1 Feasibility Study

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

- EPA Requested 30 day extension to Review CW-5 FS
- Availability of EPA staff has resulted in a delay in receiving comments

- Received Ecology comments January 4, 2005
- Agreement was reached on CW-5 RESRAD parameters. RESRAD runs are underway.

200 Area Ecological Evaluation (no change)

200-IS-1 & 200-ST-1

- Draft A Rev 1 document was submitted on 12/20/04

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

- Completed T-28 bore 12/02/04
- 216-Z-7 borehole planned to start by end of January

200-MW-1 (1 minutes)

- Completed drilling U-3 borehole 12/20/04; borehole drilled to 129.5 ft; drilling stopped at this depth based of field screening data in accordance with approved work plan; borehole has been decommissioned
- 216-T-33 borehole planned to start by 1/24/05

200-UR-1

- Planning for ecological sampling ongoing

200-SW-1/2 (4 minutes)

- Work Plan submitted 12/20/04

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
36	Review Modeling lessons learned from TW-1 for applicability to other Ous. Make best of data we have. Larry: Follow-on meeting.	Benecke						A formal fix is in progress. RL/EPA & Ecology met to collect input to address regulatory agency concerns. J. Morse to provide summary @ Nov. UMM
37	Foley suggests Larry/Mike to talk to Bill McMahan. Dual porosity not done. Ecology agreed it is not acceptable. Opporutnity to use dual porosity to help guide that.	FH	RL	09/16/04				
38	All agencies to provide written notification and who is designee when unable to attend.							
39	Review/Approve Decommissioning List for UP-1	Ecology DOE/FH		01/20/05				
40	Review/Approve Decommissioning List for ZP-1	EPA		01/20/05				
41	Reconstruct Agreements for ZP-1 Expansion	Mark Byrnes	DOE-RL	01/20/05				

Attachment 4

200 Area Unit Managers' Meeting
200 Area Remedial Action Float Table
January 2005

Task	Scheduled Date	Float	Comments
200-CS-1			
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
200-CW-1			
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
	(new target date under revision due to funding short fall)	--	Delivery of the Draft B FS is unknown due to Funding short falls. Discussions underway with Regulatory Agencies to integrate the 200-CW-1 FS into the 200-CS-1 FS
200-LW-1			
Deliver Draft A RI Report for Regulatory Agency Review	10/31/05	--	On schedule
200-PW-2			
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 held 12/10/04. Additional RI work requested.
Deliver Draft A FS/PP for Regulatory Agency Review	12/31/05	--	On schedule
200-SW-1/200-SW-2			
Brief Ecology on	7/8/04	--	Initial briefing conducted on 7/8/04. A subsequent briefing was conducted on 9/3/04.

200 Area Unit Managers' Meeting
200 Area Remedial Action Float Table
January 2005

Task	Scheduled Date	Float	Comments
DQO Approach			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 Ecology 12/20/04.
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
200-TW-1 (includes 200-TW-2)			
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	-151-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	-122	Collaborative discussions underway with EPA and RL to resolve issues prior to formal submittal
200-UR-1			
Deliver draft A RI/FS work plan for regulatory Agency review	6/30/04	--	Delivered 6/30/04

200 Area Unit Managers' Meeting
200 Area Remedial Action Float Table
January 2005

Task	Scheduled Date	Float	Comments
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
200-UW-1			
Obtain Regulatory Agency/RL concurrence on SAP	7/29/04	-112-d	Received on 1/3/05 consensus with Ecology on the number of additional sampling locations to support surface barrier design. Ecology indicated that they can authorize RL to proceed "at "risk" for shallow borings to support remedial design once Ecology has a draft SAP and an approved amendment to the Waste Control Plan
RL Transmit Draft C to Regulatory Agency	9/15/04	--	Complete. Delivered Draft C of the FS and PP to Ecology 11/29/04. Received Ecology comments on Draft C PP on 1/3. Ecology advised RL that they are taking 60 day (total) review based on Figure 9-2 in the TPA (01/31/04)
200-IS-1/200-ST-1			
Deliver Rev. 1 RI/FS work plan	12/31/04	--	Work Plan delivered to Ecology 12/22/04
Deliver Waste Control Plan for regulatory agency review	1/24/05	--	A new schedule must be developed. Ecology received the Work Plan 12/22/04 and has 60 days to review and comment. This comment period is past the due date for submitting the waste control plan
200-PW-1/200-PW-3/200-PW-6			
Deliver Draft A RI Report for Regulatory agency Review	6/30/06	--	On schedule
200-MW-1			
Deliver Draft A RI Report for Regulatory	12/31/05	--	On schedule

200 Area Unit Managers' Meeting
200 Area Remedial Action Float Table
January 2005

Task	Scheduled Date	Float	Comments
agency Review			
200-CW-5/200-CW-2/200-CW-4/200-SC-1			
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 10/29/04
200 Area Common - Ecological			
Central Plateau Ecological Evaluation	7/16/04	-218-d	New schedule date 2/15/05
Central Plateau Ecological DQO	4/22/04	-344-d	New schedule date 3/22/05
Central Plateau Ecological SAP	6/28/04	-277-d	New schedule date2/22/05

Attachment 6

TABLE A-2. DECOMMISSIONING WELL 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-W18-25
299-W19-8
299-W19-70
299-W22-3
299-W22-39
299-W22-41
299-W22-42
299-W22-51
299-W22-56
299-W22-58
299-W23-13
299-W23-71
299-W26-9
299-W26-10

FY2005

299-W14-8A
299-W14-8B
299-W18-19
299-W19-3
299-W19-9
299-W19-10
299-W19-11
299-W19-13
299-W19-14
299-W19-15
299-W19-16
299-W19-17
299-W19-21
299-W22-12
299-W22-2
299-W22-5
299-W22-6
299-W22-11

FY 2005

299-W22-12
299-W22-13
299-W22-14
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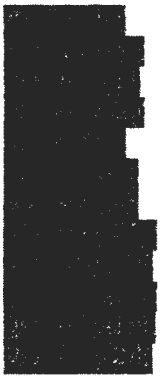
299-W22-16
299-W22-17
299-W22-18
299-W22-29
299-W22-30
299-W22-31
299-W22-32
299-W22-33
299-W22-34
299-W22-35
299-W22-36
299-W22-75
299-W23-6

FY 2005b



Attachment 6

Table A-3. Decommissioning Well 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-W6-5
299-W6-8
299-W10-6
299-W10-7
299-W10-9
299-W10-18
299-W11-1
299-W11-2
299-W11-2P
299-W11-2Q
299-W11-2R
299-W11-2S
299-W11-2T
299-W11-4
299-W11-5
299-W11-8
299-W11-9
299-W11-11
299-W11-15
299-W11-16
299-W11-17
299-W11-19
299-W11-20
299-W11-21
299-W11-24
299-W11-27
299-W11-29
299-W11-35
299-W11-35P
299-W11-35Q
299-W14-10
299-W14-12
299-W14-59
299-W14-60
299-W14-61
299-W15-10
299-W15-12
299-W15-18
299-W15-19
299-W15-20

FY 2004

299-W15-23
299-W15-24
299-W15-25
299-W18-2
299-W18-4
299-W18-5
299-W18-8
299-W18-26
299-W18-82
299-W18-88
299-W18-177
299-W18-179
699-37-82B
699-37-82BP
699-37-82BQ
699-37-82BR
699-37-82BS
699-51-63

FY 2005

299-W10-2
299-W14-1
299-W14-2
299-W14-3
299-W14-4
299-W14-7
299-W14-10
299-W15-4
299-W15-14
299-W15-62
299-W15-63
299-W15-64
299-W15-78
299-W15-202
299-W15-213
299-W18-3
299-W18-164
699-37-82A

FY 2005b

Fluor Hanford

200 Area UMM Historical Meeting Minutes
Disposition Proposal

Approval Signatures

C4 02,03 => Arlene should sign

- Reduced to Only Four Signatures – Briant Charboneau, Larry Romine, Craig Cameron, John Price.

Distribution

- Limited to Administrative Record Distribution Only. Record Copies can be Accessed Through RMIS.

(2) (1)
Ecology + EPA want copies

Packaging

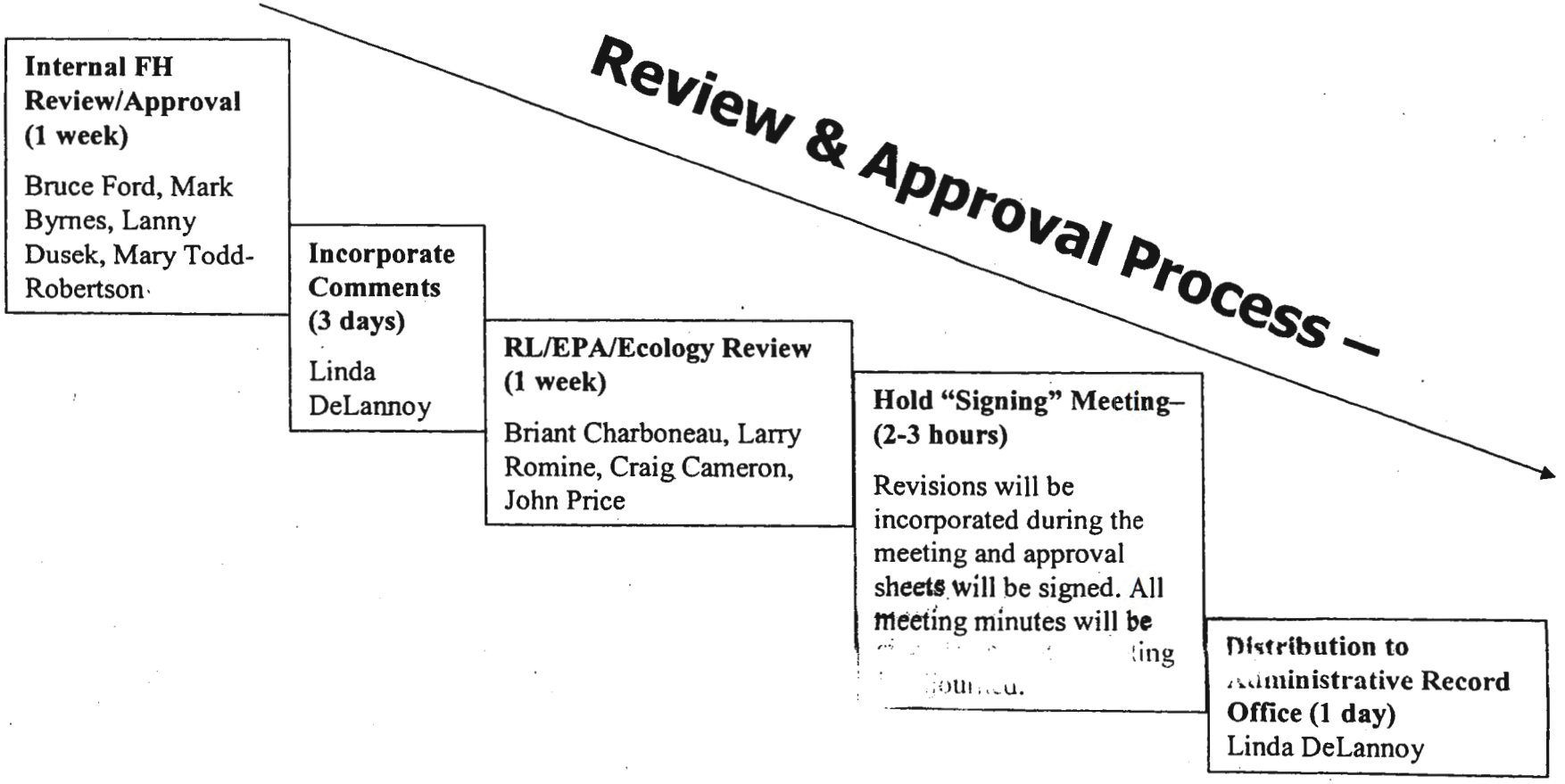
- Group by year for 2002 and 2003 - One administrative record for each year that includes all outstanding meeting minutes for that year.

- Publish by month for 2004 – One administrative record for each month.

Attachment 7

Fluor Hanford

200 Area UMM Historical Meeting Minutes
Disposition Proposal



Attachment 7

200 Area UMM Meeting Minutes Status as of January 20, 2005

Disposition Recommendation: Single Record (meeting minutes only) Bundled & Approved by Year/Limited Approval/No Distribution	
Date	Status/Issues
Oct-02	Ready for Internal Review - Includes attachments.
Nov 02 - Dec 02	Ready for Internal Review - Missing attachments.
Jan 03 - July 03	In Final Typing - Missing attachments
Aug 03, October 03 - Dec 03	Final Draft - Include handouts. Need accuracy check and assembly, reviews, etc.
Disposition Recommendation: Standard Process Approved by Month/Limited Approvals/No Distribution	
Date	Status/Issues
Feb 04 - July 04	Ready for Internal Review - Include handouts.
Aug-04	Rough Draft - meeting minutes need to be rewritten to remove dialog format, handouts verified, reviewed and approved.
Sep-04	Rough Draft - meeting minutes need to be rewritten to remove dialog format, handouts verified, reviewed and approved.
Oct-04	Rough Draft - meeting minutes need to be rewritten to remove dialog format, handouts verified, reviewed and approved.
No Recovery Path Identified	
Date	Status/Issues
Sep-01	**No electronic file; no hard copy**
Dec-01	**No electronic file; no hard copy**
Sep-03	**No electronic file; no hard copy**
Complete	
Date	Status/Issues
Jan 01 → Aug 01	Complete - Signed/published
Oct/Nov 01	Complete - Signed/published
Jan 02 – Sept 02	Complete -Signed/published
Jan-04	Complete - Published December 14

RL and Ecology Agreement from the December 29th Meeting between DOE-RL and Washington State Department of Ecology

The U. S. Department of Energy, Richland Operations Office (RL) and the Washington State Department of Ecology (Ecology) agree that the attached table and figures (from the Draft UW-1 Sampling and Analysis Plan) represent the sampling approach discussed in the December 29th, 2004 workshop for developing 200-UW-1 Operable Unit contaminant data to support engineered barrier designs for waste sites 216-U-1, 216-U-2, 216-U-8, and 216-U-12.

F M Roddy

Frank Roddy (DOE-RL)

Date: 1/20/2005

John Price (Ecology)

Date:

Table 1-1. Summary of Data Needs. (9 Pages)

Site Names	Risk Contaminants of Concern (COC)[a]	Contaminants of Potential Concern (COPC)[b]	Waste Management Contaminant of Interest (COI)[c]	Anticipated Remedial Action	Data Needs	Recommended Approach
216-U-1 and U-2 Cribs Representative Site	Cs-137 and Tc-99	Nitrogen as nitrate/nitrite, antimony, arsenic, mercury, cadmium, , uranium (metal), U-235, and U-238	Acetone, bromomethane, chloromethane, Di-n-butylphthalate, methylene chloride, pentachlorophenol (DO37), tetrachloroethene (DO39), and toluene	Engineered barrier	Lateral extent of contamination to determine the engineered barrier size needed.	1) Use geophysical techniques to determine an initial area of lateral contamination for input to the barrier design. Install casing to approximately 50-ft bgs and log with spectral gamma logging system to 50-ft (existing data show maximum rad activity <40-ft bgs). Drive casing locations at 20-ft intervals away from edge of crib to initially define the waste site boundary for sizing the engineered barrier. 2) Use laboratory analytical methods to confirm constituents at the depth of contamination not detected using spectral gamma logging at the edge of the lateral area of contamination at depth. Using a push, auger or other drilling technique, collect samples at nine (9) locations as identified in Appendix A. At location C4712, sample at 11, 31, 36, and 43-feet bgs and analyze the samples for COCs, COPCs and waste management COIs to verify the maximum contaminant concentrations are at ~45-feet bgs. Sample the remaining eight (8) locations at the approximately 45 ft bgs or the maximum contaminant depth based on SGLS results from nearby casings/wells and analyze these eight (8) samples for COCs, COPCs and waste management COIs. In addition, Ecology requested reporting of other metals from the ICP/MS method such as barium, chromium (total), cobalt, copper, lead ,manganese, , nickel, selenium, silver, strontium, thallium, titanium, vanadium, and zinc. If insufficient sample volume is a problem, the priority analytes are Tc-99, antimony, arsenic, mercury, and cadmium. A quick analytical turn-around (7-day) is planned for these samples. Due to the 7-day turn-around, the

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Table 1-1. Summary of Data Needs. (9 Pages)

Site Names	Risk Contaminants of Concern (COC)[a]	Contaminants of Potential Concern (COPC)[b]	Waste Management Contaminant of Interest (COI)[c]	Anticipated Remedial Action	Data Needs	Recommended Approach
						samples results will be reported "as received", not on a typical "dry weight basis". Eliminating sample drying saves 1-2 days and will result in slightly lower contaminant concentration results compared to dry weight results, contingent on sample moisture levels. The initial lab data used to support engineered barrier size design decisions will not be validated. Since the Tc-99 action level (1 pCi/g) is lower than the standard lab detection limit (15 pCi/g), an effort (increased sample size for extraction and/or longer scintillation counting time) will be made by the lab to reduce the detection limit to better-support design decisions.
216-U-8 Crib Representative Site	Nitrogen as nitrate/nitrite, Cs-137, anduranium (metal),	antimony, arsenic, cadmium, mercury, Tc-99, U-235, and U-238	Acetone, bromomethane, chloromethane, Di-n-butylphthalate, methylene chloride, pentachlorophenol (DO37), tetrachloroethene (DO39), and toluene	Engineered barrier	Lateral extent of contamination to determine the engineered barrier size needed.	1) Use geophysical techniques to determine an initial area of lateral contamination for input to the barrier design. Install casing to approximately 50-ft bgs and log with spectral gamma logging system to 50-ft (existing data show maximum rad activity <40-ft bgs). Drive casing locations at 20-ft intervals away from edge of crib to initially define the waste site boundary for sizing the engineered barrier. 2) Use laboratory analytical methods to confirm constituents at the depth of contamination not detected using spectral gamma logging at the edge of the lateral area of contamination at depth. Using a push, auger or other drilling technique, collect samples at nine (9) locations as identified in Appendix A. At location C4717 sample at 2, 38, and 45-feet bgs and analyze the samples for COCs, COPCs and waste management COIs to verify the maximum contaminant concentrations are at ~45-feet bgs. Sample the remaining eight (8) locations at the approximately 45 ft bgs or the maximum contaminant depth based on

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Use laboratory analytical methods to confirm edge of the effective area of the barrier. Determine the sample locations based on an evaluation of the above drive casing /spectral gamma logging. Anticipate using drive push technology to obtain a maximum of eight samples (one sample per borehole). Target depth of samples based on spectral gamma results. Analyzed for COCs and COPCs. A quick analytical turn around for Tc-99 is anticipated to support field decisions for other waste sites utilizing same approach.
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Use laboratory analytical methods to confirm edge of the effective area of the barrier. Determine the sample locations based on an evaluation of the abov ... [1]
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Deleted: and Tc-99.¶
In addition, uranium (metal), U-23 ... [2]

Table 1-1. Summary of Data Needs. (9 Pages)

Site Names	Risk Contaminants of Concern (COC)[a]	Contaminants of Potential Concern (COPC)[b]	Waste Management Contaminant of Interest (COI)[c]	Anticipated Remedial Action	Data Needs	Recommended Approach
						SGLS results from nearby casings/wells and analyze these eight (8) samples for COCs, COPCs and waste management COIs. In addition, Ecology requested reporting other metals from the ICP/MS method such as barium, chromium (total), cobalt, copper, lead, manganese, nickel, selenium, silver, strontium, thallium, titanium, vanadium, and zinc. If insufficient sample volume is a problem, the priority contaminants are nitrogen as nitrate/nitrate, uranium (metal), U-235, U-238, antimony, arsenic, mercury, and cadmium. A quick analytical turn-around (7-day) is planned for these samples. Due to the 7-day turn-around, the samples results will be reported "as received", not on a typical "dry weight basis.". Eliminating sample drying saves 1-2 days and will result in slightly lower contaminant concentration results compared to dry weight results, contingent on sample moisture levels. The initial lab data used to support engineered barrier size design decisions will not be validated. Since the Tc-99 action level (1 pCi/g) is lower than the standard lab detection limit (15 pCi/g), an effort (increased sample size for extraction and/or longer scintillation counting time) will be made by the lab to reduce the detection limit to better-support design decisions.
216-U-12 Crib Representative Site	Nitrogen as nitrate/nitrite,	antimony, arsenic, cadmium, mercury, uranium (metal), U-235, and	Acetone, bromomethane, chloromethane, Di-n-butylphthalate, methylene chloride,	Engineered barrier	Lateral extent of contamination to determine the engineered barrier size needed.	1) Use geophysical techniques to determine an initial area of lateral contamination for input to the barrier design. Install casing to approximately 50-ft bgs and log with ~~spectral gamma logging system to 50-ft (existing data show maximum rad activity <40-ft bgs).~~ Drive casing locations at 20-ft intervals away from edge of crib to

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In addition, uranium (metal), U-235, and U-238 should be considered based on process knowledge

Table 1-1. Summary of Data Needs. (9 Pages)

Site Names	Risk Contaminants of Concern (COC)[a]	Contaminants of Potential Concern (COPC)[b]	Waste Management Contaminant of Interest (COI)[c]	Anticipated Remedial Action	Data Needs	Recommended Approach
		U-238	pentachlorophenol (DO37), tetrachloroethene (DO39), and toluene			initially define the waste site boundary for sizing the engineered barrier. 2) Use laboratory analytical methods to confirm constituents at the depth of contamination not detected using spectral gamma logging at the edge of the lateral area of contamination at depth. Using a push, auger or other drilling technique, collect samples at eight (8) locations as identified in Appendix A. At location C4730 sample at 19, 39, and 45-feet bgs and analyze the samples for COCs, COPCs and waste management COIs to verify the maximum contaminant concentrations are at ~45-feet bgs. Sample the remaining seven (7) locations at the approximately 45 ft bgs or the maximum contaminant depth based on SGLS results from nearby casings/wells and analyze these seven (7) samples for COCs, COPCs and waste management COIs. In addition, Ecology requested reporting other metals from the ICP/MS method such as barium, chromium (total), cobalt, copper, lead, manganese, nickel, selenium, silver, strontium, thallium, titanium, vanadium, and zinc. If insufficient sample volume is a problem, the priority contaminants are nitrogen as nitrate/nitrate, antimony, arsenic, mercury, and cadmium. A quick analytical turn-around (7-day) is planned for these samples. Due to the 7-day turn-around, the samples results will be reported "as received", not on a typical "dry weight basis.". Eliminating sample drying saves 1-2 days and will result in slightly lower contaminant concentration results compared to dry weight results, contingent on sample moisture levels. The initial lab data used to support engineered barrier size design decisions will not be validated. Since the Tc-99 action level (1 pCi/g) is lower than the standard

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Table 1-1. Summary of Data Needs. (9 Pages)

Site Names	Risk Contaminants of Concern (COC)[a]	Contaminants of Potential Concern (COPC)[b]	Waste Management Contaminant of Interest (COI)[c]	Anticipated Remedial Action	Data Needs	Recommended Approach
						lab detection limit (15 pCi/g), an effort (increased sample size for extraction and/or longer scintillation counting time) will be made by the lab to reduce the detection limit to better-support design decisions.
216-U-5 Trench (analogous to the 216-U-12 Crib)	Nitrogen as nitrate/nitrite	Uranium (metal), Cs-137, U-235, U-238,and Tc-99	normal paraffin hydrocarbon, chromium (total), thallium, antimony and tributyl phosphate	Remove, treat, and dispose	Nature and vertical/lateral extent	Use geophysical techniques to verify site boundaries. No analytical sampling is proposed at this time. However, future SAPs will be prepared to address cleanup verification and waste management.
216-U-6 Trench (analogous to the 216-U-12 Crib)	Nitrogen as nitrate/nitrite	Uranium (metal), Cs-137, U-235, U-238,and Tc-99	normal paraffin hydrocarbon, chromium (total), thallium, antimony and tributyl phosphate	Remove, treat, and dispose	Nature and vertical/lateral extent	Same approach as for the 216-U-5 Trench.
216-U-15 Trench (analogous to the 216-U-12 Crib)	Nitrogen as nitrate/nitrite	Uranium (metal), Cs-137, U-235, U-238, and Tc-99	normal paraffin hydrocarbon, chromium (total), thallium, antimony and tributyl phosphate	Remove, treat, and dispose	Nature and vertical/lateral extent.	Same approach as for the 216-U-5 Trench.
200-W-42/ UPR-200-W-163	Cs-137, nitrogen as nitrate/nitrite	pesticides and	Antimony, chromium	Remove, treat, and	Groundwater protection	Use geophysical techniques to verify site boundaries and underground utilities.

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Deleted: Same approach as for the 216-U-1 / 216-U-2 Cribs, with the modification of four samples (one sample per borehole).
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Inserted: s, with the modification of four samples (one sample per borehole)
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Deleted: normal paraffin hydrocarbon should be considered based on discharge process knowledge
Deleted: Uranium (metal), nitrate, Cs-137, U-235, U-238, and Tc-99.¶ In addition, normal paraffin hydrocarbon
Deleted: should be considered based on discharge process knowledge
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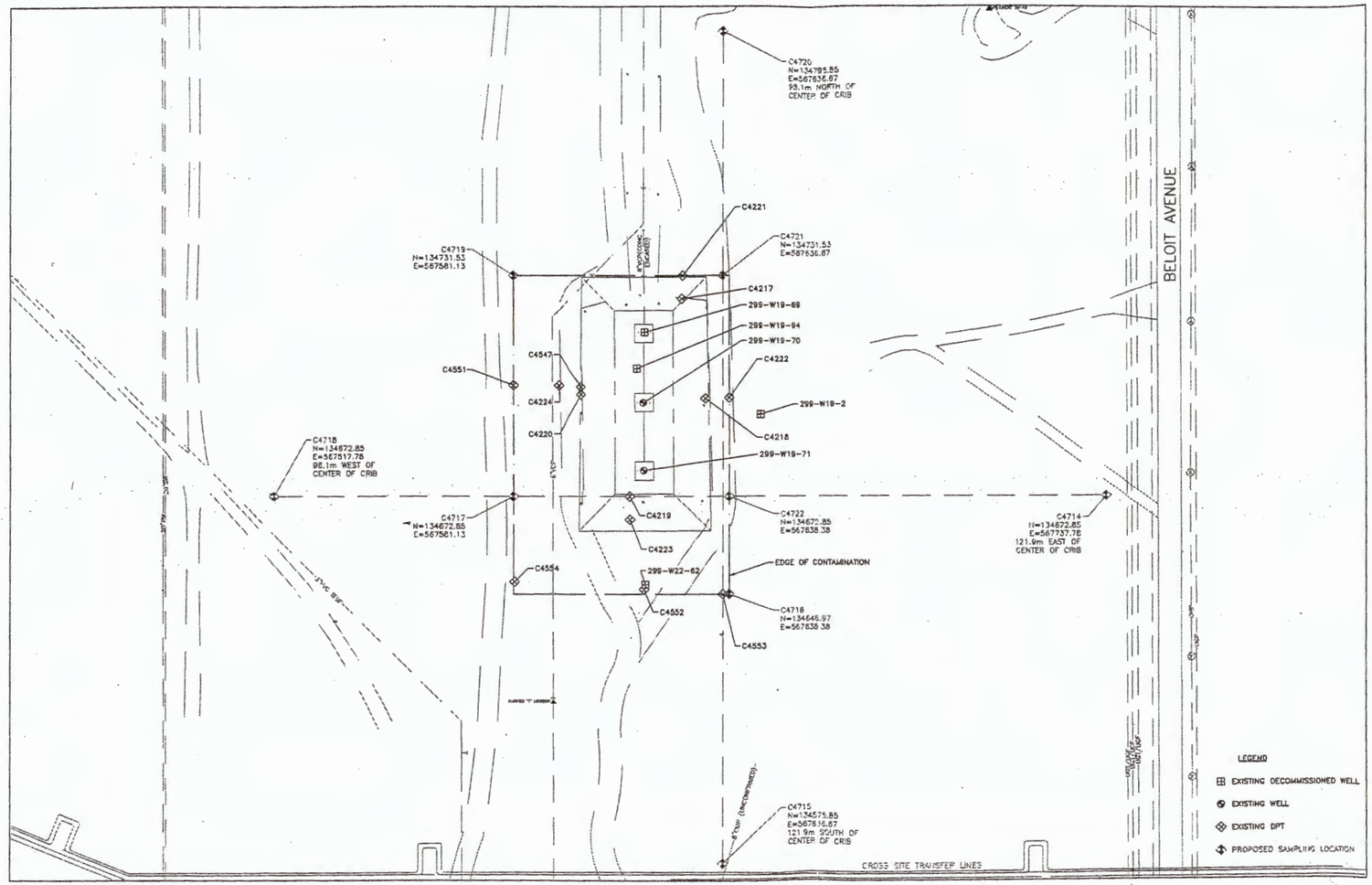
Deleted: Uranium (metal), nitrate, Cs-137, U-235, U-238, and Tc-99.¶ In addition, normal paraffin hydrocarbon should be considered based on discharge process knowledge

Attachment 8

Figure A-6. Waste Site and Sample Locations for 200-W-42, UPR-200-W-163, and 216-U-8.



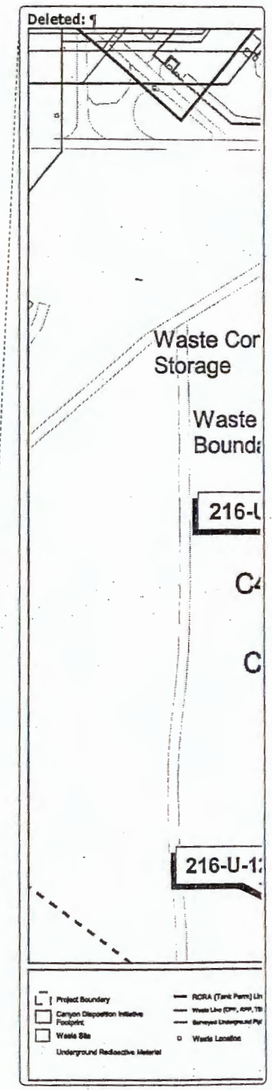
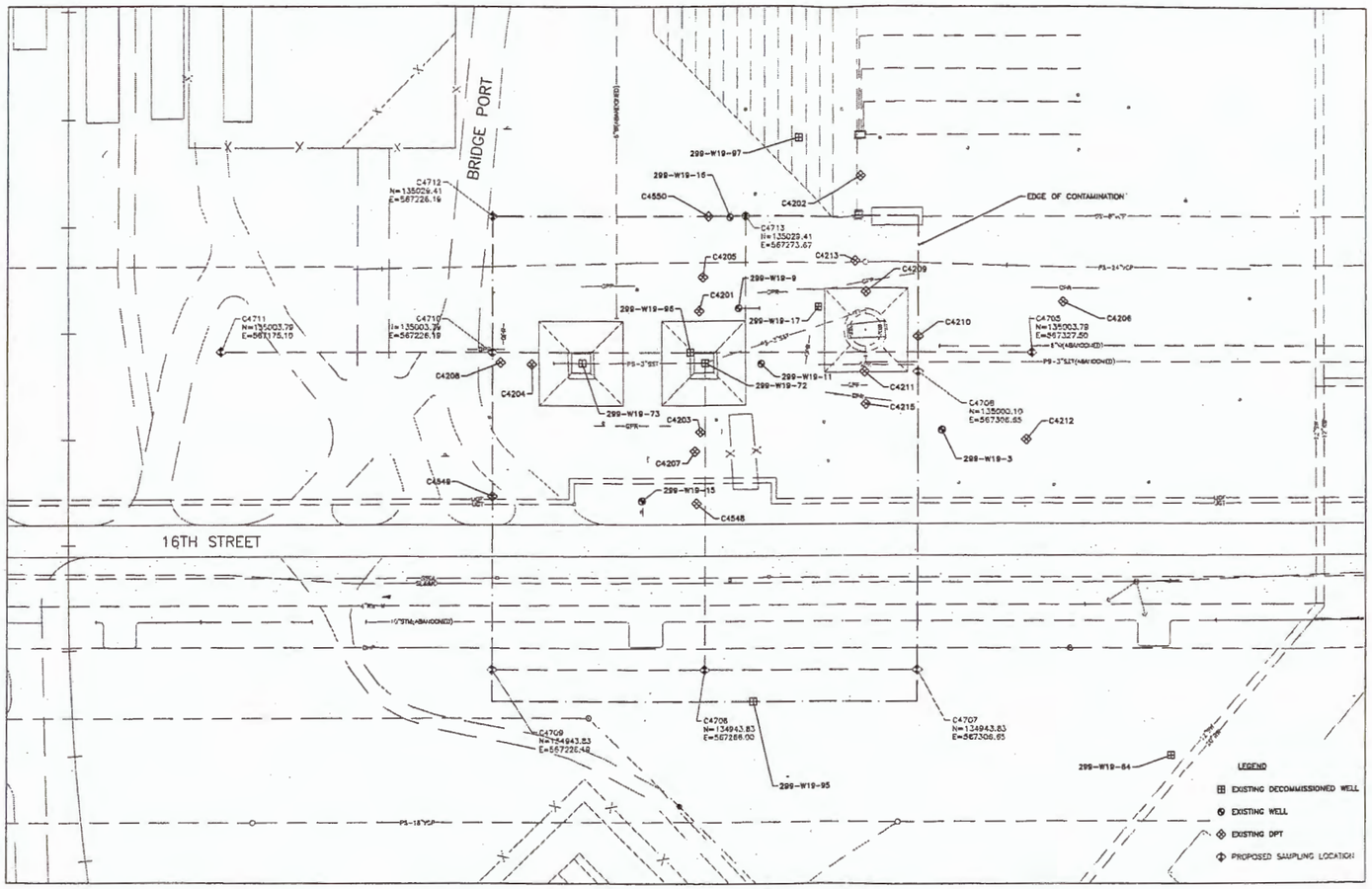


Figure A-8. Waste Site and Sample Locations for 216-U-1, 216-U-2, 2607-W5, UPR-200-W-19, and 241-U-361.[a]



[a]Required drive casings will be 20 ft from the edge of the waste site. Optional drive casings will be 40 ft from the waste site edge. These drive casings will be used to verify the lateral extent of the site contamination to size the proposed engineered barrier. It is anticipated that contamination from these sites does not extend laterally for more than 20 ft, but if the 20-ft locations identify contamination, then the 40-ft locations would be used to verify the lateral contamination extent.

[b]UPR-200-W-19 drive casings will be outside the proposed 216-U-1 and 2 Cribs/241-U-361 Settling Tank engineered barrier footprint. One soil sample will be collected with its location/depth determined from the geologging results.

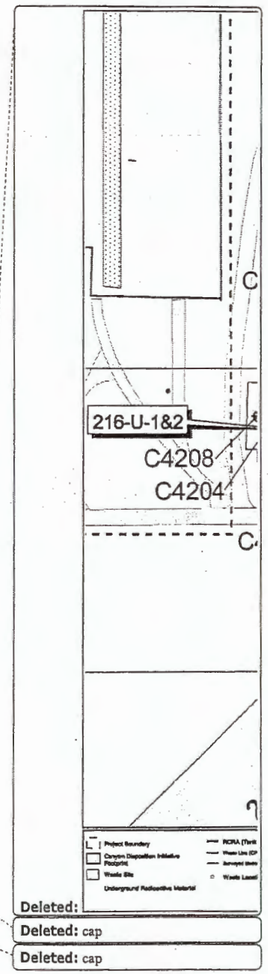


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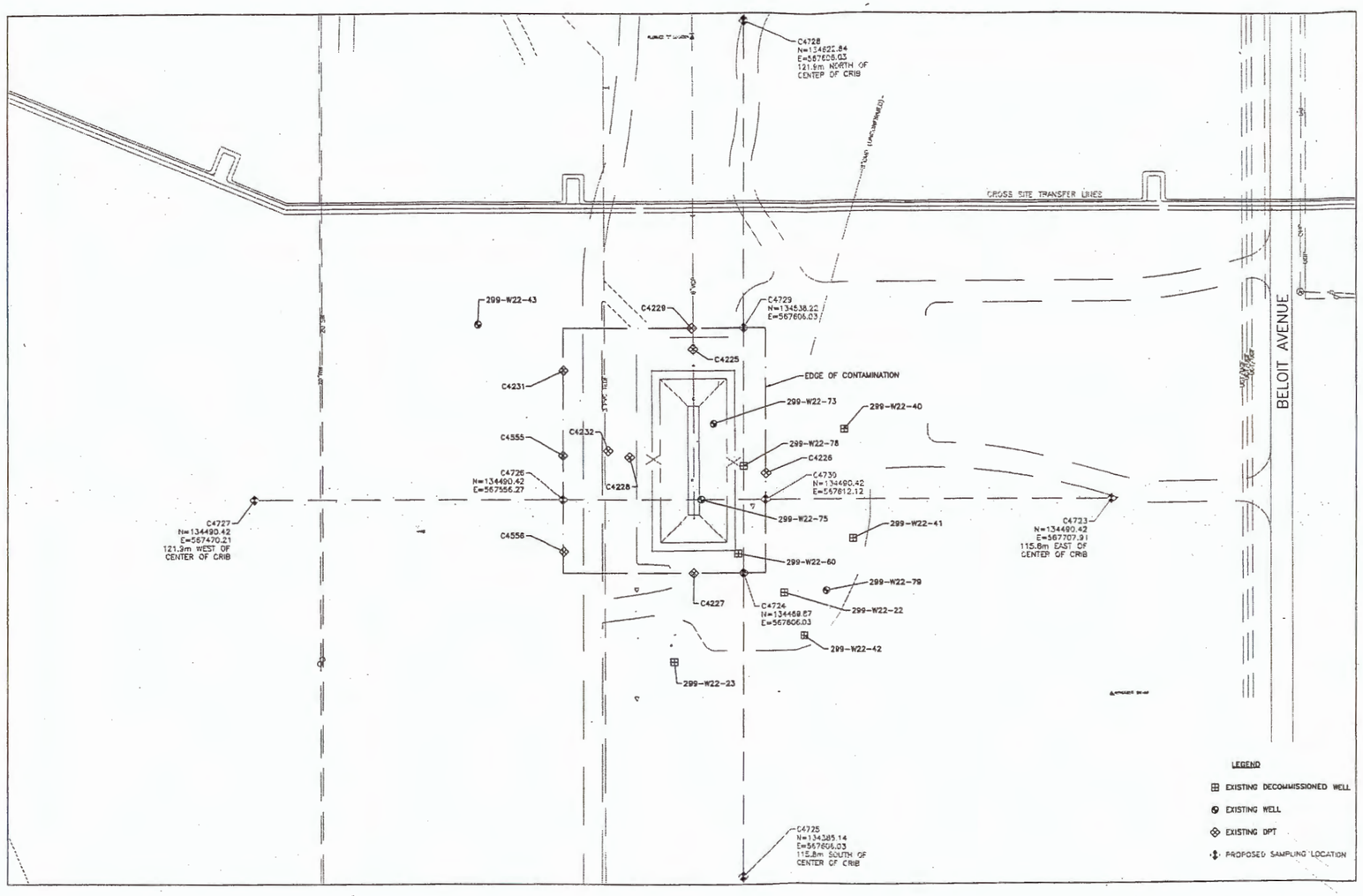
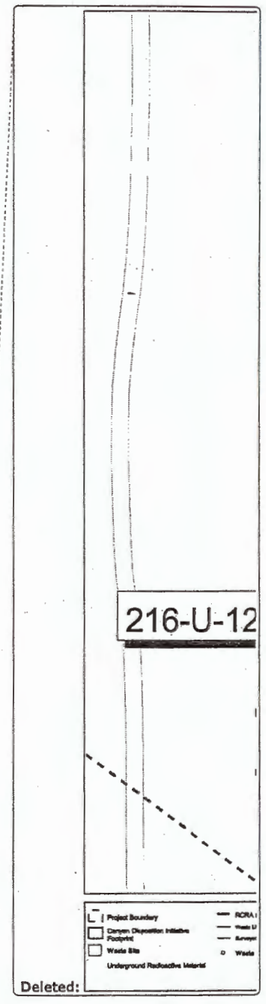
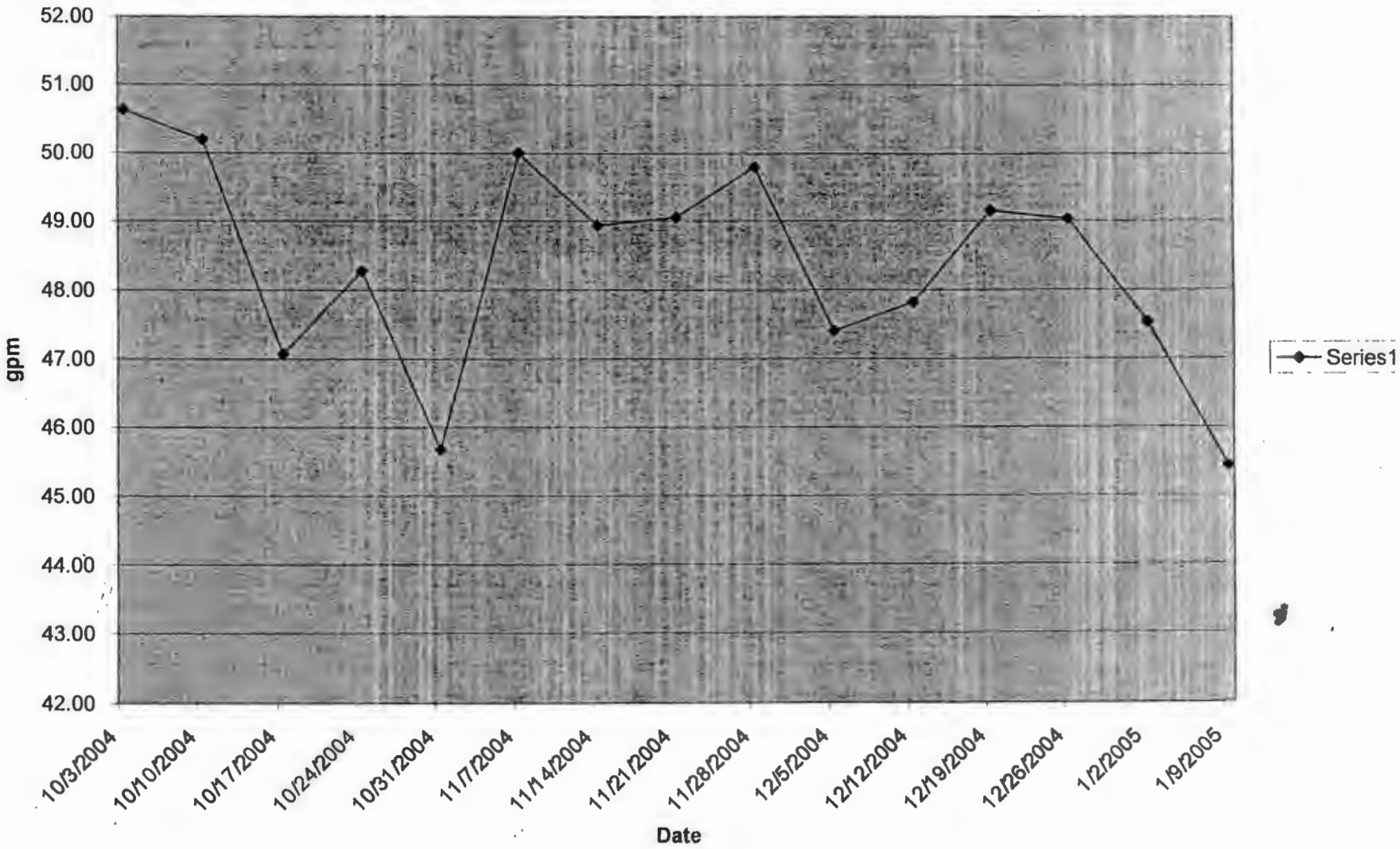
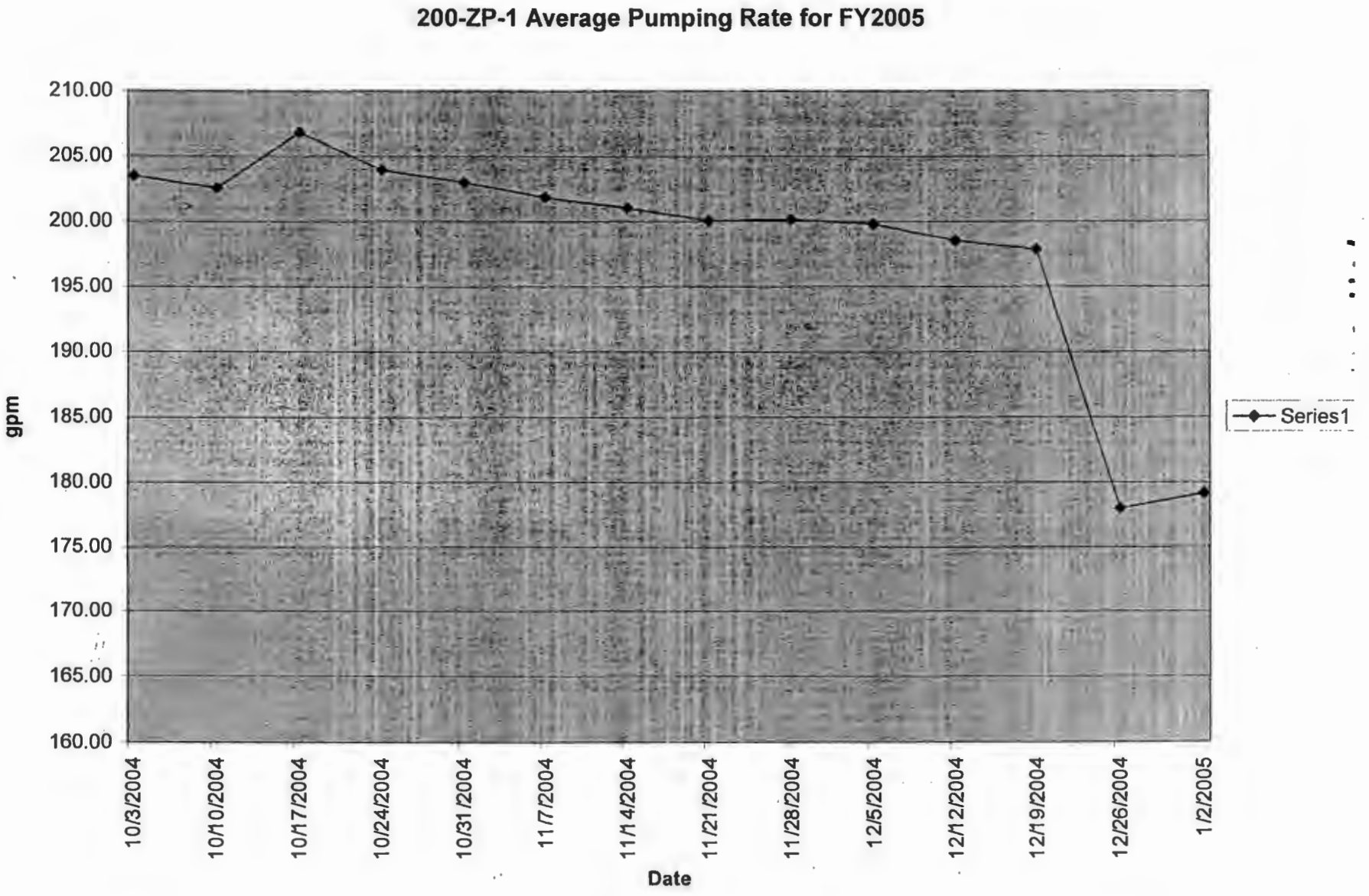
Figure A-9. Waste Site and Sample Locations for 216-U-12.





Attachment 9A




200-ZP-1 Average Pumping Rate for FY2005
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205.00
200.00
195.00
190.00
185.00
180.00
175.00
170.00
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160.00
gpm
10/3/2004
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10/17/2004
10/24/2004
10/31/2004
11/7/2004
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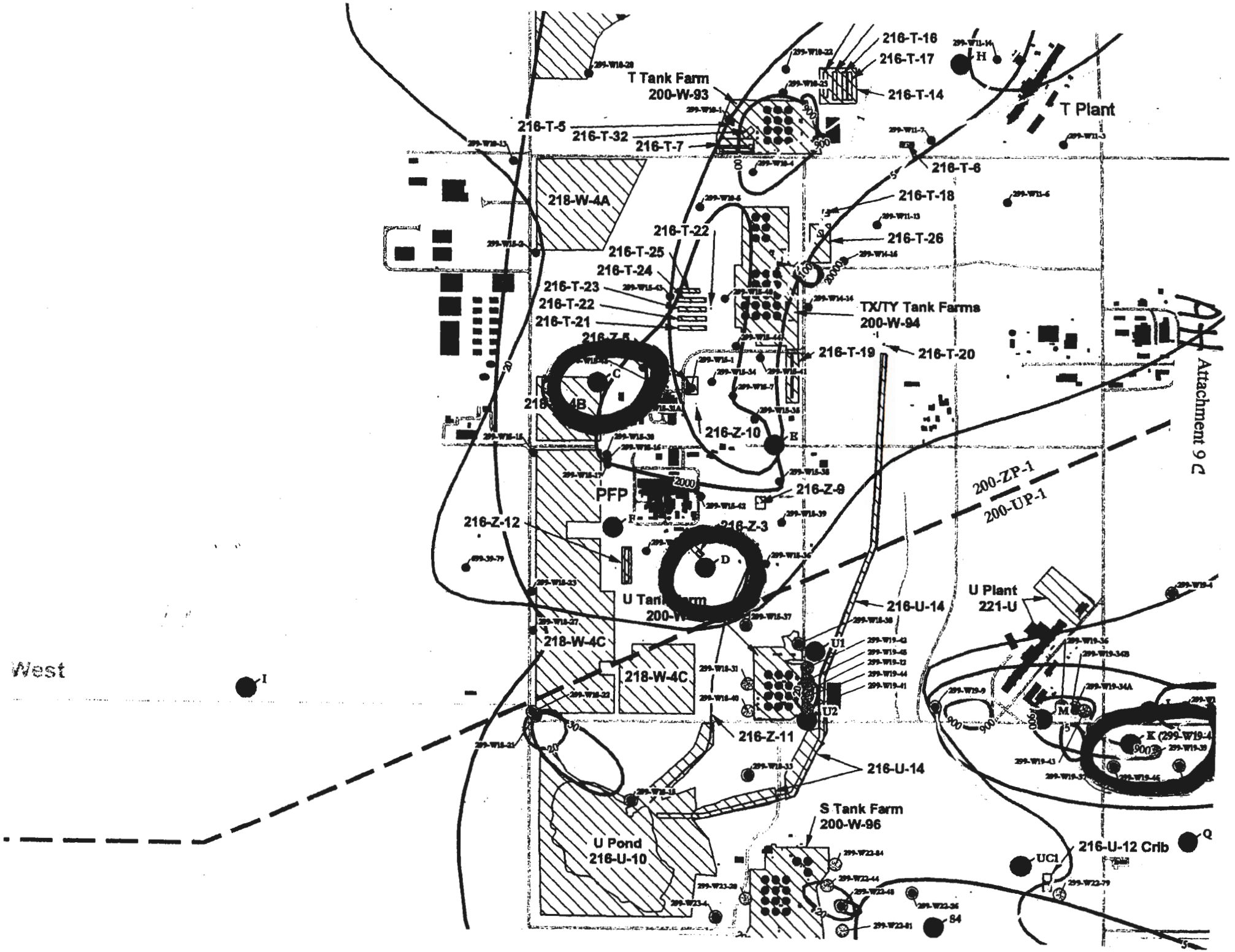
216-T-16
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200-W-93
T Plant
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216-T-32
216-T-7
216-T-6
218-W-4A
216-T-18
216-T-22
216-T-26
216-T-25
216-T-24
216-T-23
216-T-22
216-T-21
TX/TY Tank Farms
200-W-94
216-T-19
216-T-20
216-Z-10
PFP
216-Z-9
200-ZP-1
200-UP-1
216-Z-12
216-Z-3
U Plant
221-U
216-U-14
218-W-4C
218-W-4C
216-Z-11
216-U-14
S Tank Farm
200-W-96
U Pond
216-U-10
216-U-12 Crib
West
Attachment 9 C

200-UP-1 RI/FS 3-D Aquifer Characterization
Field Screening Results
SAF: F04-014

Sample Location	HEIS Number	Sample Date	Sample Time	Sample Depth	Analysis Date	TCM (ug/L)	CCl_4 (ug/L)	TCE (ug/L)	PCE (ug/L)	Tc-99 (PNNL Analysis)[a] (ug/L) [pCi/L]	U-238 (PNNL Analysis)[a] (ug/L)
C4300 (299-W19-48) Well "K"	B193J4	11/30/04	11:40	294	12/06/04	4.1	27	<2.0	<2.0	0.089 / 1515[a]	144
C4300 (299-W19-48) Well "K"	B193J5	12/09/04	19:30	345	12/15/04	9.7	72	2.8	<2.0	0.009 / 149	1.14
C4300 (299-W19-48) Well "K"	B1B3J6	12/09/04	19:30	345' Duplicate	12/15/04	9.6	71	2.7	<2.0		
C4300 (299-W19-48) Well "K"	B193J7	12/14/04	02:15	400	12/15/04	9.7	80	3.5	<2.0	0.002 / 37.2	0.876
C4300 (299-W19-48) Well "K"	B193J9			435		7.4	22	<2		0.002 / 37.0	0.885

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

TCM = Chloroform; CCl_4 = Carbon tetrachloride; TCE = Trichloroethylene; PCE = Perchloroethylene (Tetrachloroethylene)
Michelle Valenta (PNNL) along with C4639 data on 12/9/04 3:26.

Preliminary Data

Attachment 9 D

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_4 (ug/L)	TCE (ug/L)	PCE (ug/L)
C4301 (299-W15-49) Well "C"	B1BJF5	12/10/2004	9:05	Equipment Blank					
C4301 (299-W15-49) Well "C"	B1BJD9	12/07/04	09:30	270'	12/13/04	13	478	<2.0	<2.0
C4301 (299-W15-49) Well "C"	B1BJF0	12/09/04	20:15	305'	12/13/04	18	194	<2.0	<2.0
C4301 (299-W15-49) Well "C"	B1BJF1	12/10/04	19:45	330'	????	48	388	<2	????
C4301 (299-W15-49) Well "C"	B1BJF2	12/14/04	14:20	401'	12/15/04	<2.0	<2.0	<2.0	<2.0
C4301 (299-W15-49) "C"	B1BJF3 B1BJF4	12/15/04	~20:00	440'	12/16/04	<2	2.2	<2	<2

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_4 = Carbon tetrachloride; TCE = Trichloroethylene; PCE = Perchloroethylene (Tetrachloroethylene)

Preliminary Data

Attachment 9E

TCM = Chloroform, CCl_4 = Carbontetrachloride, TCE = Trichloroethylene, PCE = Tetrachloroethylene

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_4 (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[a]	670[a]		
C4303 (299-W18-16) Well "D"	B1BJC3	12/01/04	10:05	290'	12/13/04	31 / 42[a]	222 / 390[a]	<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*	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_4 = Carbon tetrachloride; TCE = Trichloroethylene; PCE = Perchloroethylene (Tetrachloroethylene)

a Analytical result is from WSCF Laboratory as opposed to field screening gas chromatograph.

Preliminary Data

Attachment 9

TCM = Chloroform, CCl_4 = Carbontetrachloride, TCE = Trichloroethylene, PCE = Tetrachloroethylene

FY 2005 200-UP-1 Operable Unit Pump-and-Treat System Operating Plan for a Technetium-99 and Uranium Concentration Rebound Study

Introduction

Recent groundwater sampling data indicate a decline in concentrations of primary contaminants of concern - uranium and technetium-99 - at the 200-UP-1 Pump-and-Treat system baseline target area. These concentrations are below remedial action objective (RAO) levels established in the 1997 *Record of Decision for the 200-UP-1 Interim Remedial Measure* (EPA et al, 1997). A Rebound Study is recommended to verify the effectiveness of the pump-and-treat actions at removing uranium and technetium-99 contamination, plus secondary contaminants of concern carbon tetrachloride and nitrate, in the groundwater. While stopping groundwater extraction for one year, the Rebound Study will sample and analyze groundwater monthly to determine how uranium and technetium-99 concentrations change when the aquifer is not stressed by continuous pumping. The following paragraphs discuss the background, approach and planned activities to be conducted in the rebound study.

Background

The 216-U-1 and 216-U-2 cribs received process condensate and process waste from the 221-U and 224-U facilities between 1951 and 1957 as part of the Uranium Recovery process. The two cribs remained active until 1967, receiving waste from the 224-U facility's Uranium Trioxide process. Between 1966 and 1967, decontamination waste from the 221-U building was also sent to the cribs.

Estimates of the amount of uranium sent to the cribs range between 2,090 and 4,040 kg of uranium. An estimated 6.8×10^{-4} Ci (0.012 gm) of technetium-99, 1.7 Ci (0.017 gm) of strontium-90 and 3.53 Ci (0.036 gm) of cesium-137 were reportedly discharged to the cribs. Vadose zone characterization activities around the cribs indicate that most of the cesium-137 and strontium-90 are retained in the first 30 ft of soil beneath the cribs. An evaluation of cesium-137 (MCL = 200 ρCi/L) and strontium-90 (MCL = 8 ρCi/L) concentrations in groundwater, both beneath the cribs and at the pump and treat system, show that when detected in post-1982 sampling, neither constituent exceeded 20 ρCi/L and only occasionally shows up at above detection concentrations.

Following startup of discharges to the 216-U-16 crib in 1983, high concentrations of uranium were detected in 1985 and 1986 in groundwater at the 216-U-1/U-2 cribs at wells 299-W19-3, 299-W19-9 and 299-W19-11. A pump-and-treat system, installed at the 242-S evaporator, treated approximately 8,000,000 gallons of groundwater between June and November, 1985 and removed 687 kg of uranium. Additional wells were drilled downgradient in the ensuing 2-3 years and revealed the presence of uranium and technetium-99 plumes. Groundwater monitoring wells drilled around the 216-U-17 crib, activated in 1988, detected high concentrations of both constituents. The 200-West Groundwater Aggregate Area Management Study (DOE/RL-92-16) also reported the presence of the uranium, technetium-99 and nitrate plumes and recommended their remediation under an interim remedial measures approach. This recommendation was adopted as Milestone M-13-93-03 of the *Hanford Federal Facility Agreement and Consent*

Order (Tri-Party Agreement, Ecology, et al, 1993), and specified an ion exchange pump-and-treat system to remediate the primary contaminants of concern - uranium and technetium-99.

A 57 L/min pilot scale treatability test was designed, fabricated and operated around the 216-U-17 crib between March 1994 and September 1995 to recover uranium, technetium-99 and carbon tetrachloride. The system consisted of extraction and injection wells, the treatment system and associated piping. It was upgraded in September 1995 to a 189.3 L/min capacity and operated in that mode until February 1997.

On February 25 1997, the *Record of Decision for the 200-UP-1 Interim Remedial Measure* (EPA et al, 1997) was issued. This document specified the following remedial action objectives (RAOs):

- Reducing contamination in the area of highest concentrations of uranium and technetium-99 to below 10 times the cleanup level under the Model Toxics Control Act (MTCA)(Washington Administrative Code{WAC} 173-340) for uranium, and 10 times the maximum contaminant level (MCL) for technetium-99.
- Reducing potential adverse human health risks through reduction of contaminant mass.
- Preventing further movement of these contaminants from the highest concentration area.
- Providing information that will lead to development and implementation of a final remedy that will be protective of human health and the environment.

The specific remedy section identified the area of highest concentration of uranium and technetium as corresponding to the area where concentrations were within the 480 μg/L and the 9,000 ρCi/L plume contours, respectively.

With the issuance of the Interim Action ROD, treatment was also switched from the site facility to the Effluent Treatment Facility/Liquid Effluent Retention Facility (ETF/LERF) which received water from the extraction well, 299-W19-39, via a 12.2 km pipeline. Since late February 1997, groundwater has been pumped from between one and three extraction wells, transferred to the LERF/ETF facility for treatment and then discharged to the ground at the State Approved Land Disposal Site (SALDS) crib north of 200-West area.

During the course of pump-and-treat operations, over 801 million liters have been extracted through September 2004. Due to an overall decline in groundwater levels, extraction rates gradually declined from greater than 189.3 L/m (50 gpm) to 172 L/m (45.4 gpm)at extraction well 299-W19-39. A second extraction well, 299-W19-36, was added in December 2001, and production rates again exceeded 189.3 L/m, before declining to an annual average of 177.6 L/m (49.6 gpm). The extraction pump in this well was then moved to 299-W19-43 in May 2003 and the extraction rate increased to 195.7 L/m (51.7 gpm). Well 299-W19-36 was reconfigured with an extraction pump in November, 2003 All three wells operated periodically during the first four months of FY04. However, since January 22, 2004, extraction rates have remained above 189.3 L/m (50 gpm) and the system is averaging ~192.3 L/m (50.8 gpm) in that time period.

Groundwater conditions and operations at the pump-and-treat have been documented in a series of annual reports. DOE/RL-2003-58, *Fiscal Year 2003 Annual Summary Report for 200-UP-1 and 200-ZP-1 Pump-and-Treat Operation*, presents the results of operations and site conditions

during FY2003 and references previous annual reports. From start of operations through September 2004, over 114.1 g of technetium-99, 203.0 kg of uranium, 31.2 kg of carbon tetrachloride and 32,550 kg of nitrate have been removed from the treated groundwater.

Current Status

Groundwater concentrations of technetium-99 and uranium at the 200-UP-1 Operable Unit Pump-and-Treat system have been at or below the RAO concentrations of 9,000 ρCi/L and 480 μg/L, respectively, since July 2003 at all wells in the baseline plume pump-and-treat system. This is particularly notable for wells 299-W19-36 and 299-W19-43, which prior to 2004, defined the high concentration part of the plume.

Extraction well 299-W19-39 has constantly captured groundwater with concentrations above the MCL but below the RAO (10x the MCL) for each primary contaminant of concern. For technetium-99, extraction wells 299-W19-36 and 299-W19-39 were below the RAOs in January 2003. The third extraction well, 299-W19-43, declined from 18,200 ρCi/L in January 2003, to 3,390 ρCi/L in July 2003 and to 836 ρCi/L in September, 2004.

Similarly, for uranium, wells 299-W19-36 and 299-W19-39 were below the RAO in January 2003, and continued to decline in February and April, 2004 sampling. At well 299-W19-43, the July 2003 sample was at the RAO concentration and declined to below RAO levels in February 2004 sampling. Trend plots for technetium-99 and uranium are presented in Figures 2 and 3.

Monitoring wells surrounding the three extraction wells are also below the RAO concentrations and in many cases are below either the 1997 MTCA or MCL standards. For currently active monitoring wells, the RAOs were achieved for Tc-99 by June 1996 and for uranium by January 1999. Monitoring well 299-W19-20, which was sampled for the last time in January 2003, achieved the uranium RAO on that final sample, while the technetium-99 RAO was met in February 1996.

Regulatory Status When Meeting RAOs

The Interim Action Record of Decision (EPA et al, 1997) states that "...The IRA will continue to operate until such time U.S. DOE demonstrates to EPA and Ecology that no further interim action is required to protect human health and the environment. The goal of the IRA is to reduce the uranium and technetium-99 at or below ten times the cleanup level and to reduce contaminant mass such that potential downgradient risks are reduced."

The data above indicate that concentrations for both primary and secondary contaminants of concern are currently less than the RAOs at all extraction wells. The Rebound Study, although not specified as such, is here viewed as a test to show that sufficient mass has been removed from the aquifer that groundwater concentrations will not rebound to levels above the RAOs. The saturated sediments are expected to desorb at a naturally occurring rate with contaminant concentrations eventually achieving a steady-state balance in the groundwater. The expectation is that the increase will not exceed the RAOs of 480 μg/L for uranium or 9,000 ρCi/L for

technetium-99. Should sample results indicate that the primary contaminants exceed the RAOs, the system can be restarted.

Test Performance

The Rebound Study will consist of turning off the three extraction wells at 200-UP-1 on January 26, 2005. The extraction wells will be off for up to a year with a reassessment in six months. If primary contaminants of concern (uranium and Tc-99) and secondary contaminants of potential concern (carbon tetrachloride and nitrate) remain below remedial action objective (RAO) level, the Rebound Study will continue for an additional six months. If concentrations increase above the RAO for three consecutive months, U.S. DOE will consult with Ecology. U.S. DOE will maintain capability to restart the extraction wells within 7 days. Sampling will be coordinated to capture increased analyte concentrations during the third month sampling event (shut-down) and within 24 hours after system startup. If data shows that the system will not rebound to concentrations above the RAO, documentation will be prepared to declare that the RAOs for 200-UP-1 have been met and the pump-and-treat system does not need to continue operating.

Sampling and analysis will be conducted monthly for uranium and Tc-99 and quarterly for carbon tetrachloride, cesium-137, strontium-90, and nitrate. Initial samples will be taken seven and fourteen days after the system has been totally shut down to provide an early assessment of how Rebound trends are emerging. All samples will be collected, analyzed, and reported on a fourteen day turnaround cycle to Ecology.

The wells that will be sampled include 299-W19-34A, 299-W19-35, 299-W19-36, 299-W19-37, 299-W19-39, 299-W19-40, 299-W19-43, 299-W19-46 and 699-38-70B. Water levels in well 299-W19-40 are declining and sampling by bailer will be performed for as long as possible. Well 299-W19-34A is screened at a depth of 324 -339.6 ft BGS and monitors a less contaminated interval of the aquifer. Other wells added during FY05 (K, L and M) will also be sampled monthly after acceptance. Groundwater levels in the wells will be monitored as well. Sampling will include a routine suite of QA samples (5% duplicate per month, taken on a rotating basis at extraction wells) and will be specified in a Letter of Instruction to PNNL. In the event that sample results are deemed as outliers or rejected, as indicated in the HEIS database, the well will be resampled as soon as possible (several days).

Results will be reported monthly to Ecology and at the Unit Managers Meeting. Following completion of the twelve month test period, the system will remain off while data is compiled, evaluated and discussed with Ecology. A joint decision will then be made whether to restart the system.

The transfer pipeline will remain in use for periodic transfers by the Environmental Restoration Disposal Facility during the rebound study. Inspection and maintenance will be performed every two months on the pump-and-treat system and transfer pipeline during the test. The system will be available for rapid restart if needed.

Reporting

Monthly groundwater sampling and analysis and resulting contaminant trend plots will be provided to Ecology and discussed at the Unit Managers Meetings. Progress meetings will be held with Ecology shortly after 6, 9 and 12 month benchmarks to assess the effectiveness of the Rebound test. Appropriate data reporting protocols will be adhered to by including rebound study data in annual and semi-annual reports.

APPROVAL OF THE 200-UP-1 REBOUND STUDY FOR CY 2005-2006

The Unit Managers for the 200-UP-1 Groundwater Operable Unit approve the attached FY2005 Rebound Study Operating Plan.

A.C. Tortoso 1/6/05

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

J.B. Price 1/6/05

J.B. Price Date
Washington State Department of Ecology

Figure 1. Active Groundwater Wells Around the 200-UP-1 Pump-and-Treat System

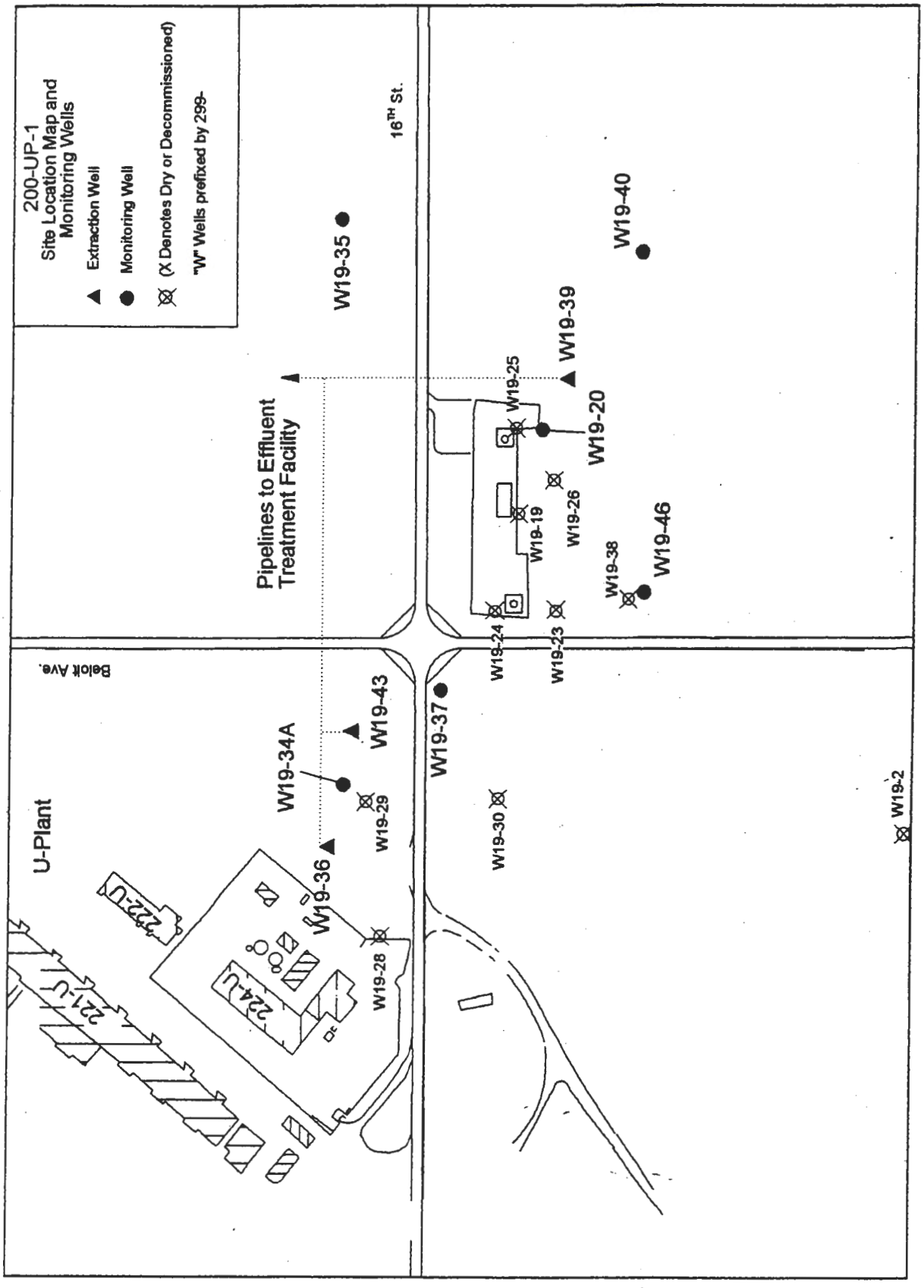
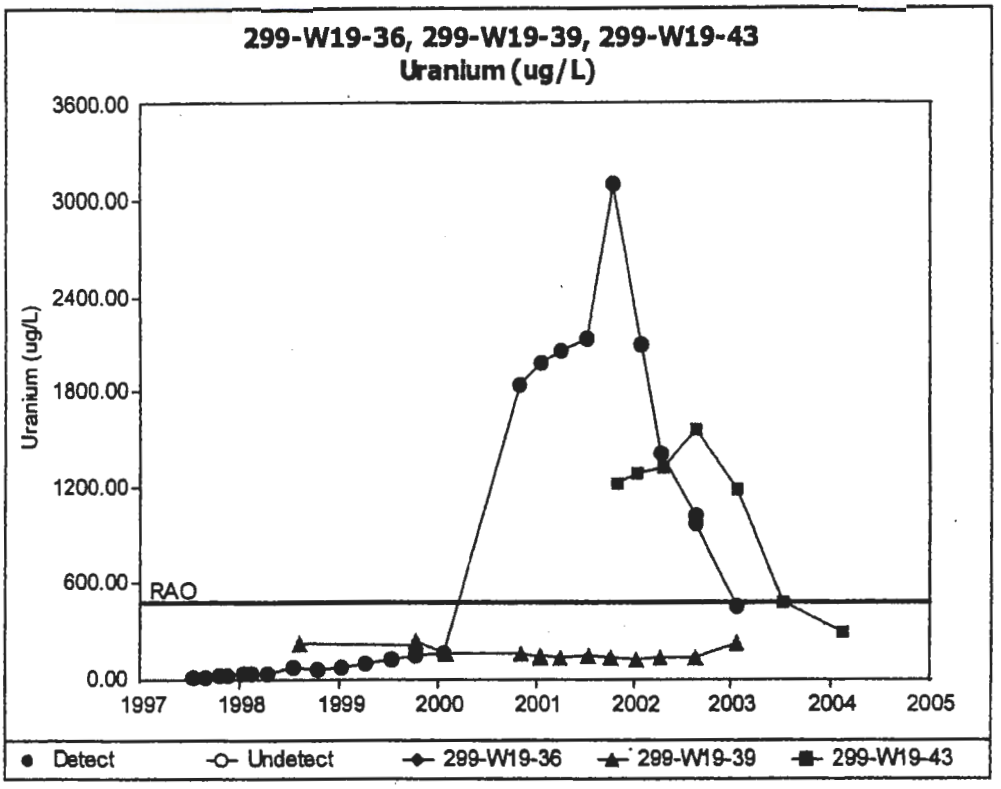
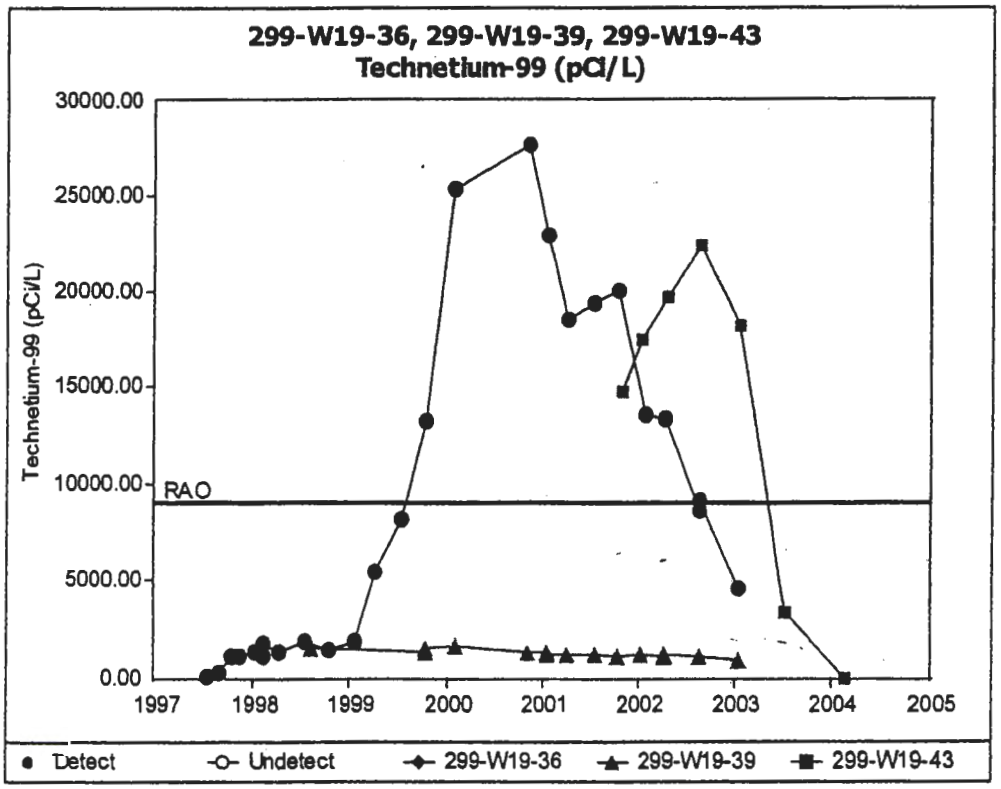


Figure 2. Trends for Uranium and Technetium-99 at 200-UP-1 Extraction Wells.





For attachment to the 200 Areas Unit Manager's Meeting held January 20, 2005

As discussed at the above Unit Manager's Meeting, the attached 216-T-33 Crib waste container storage area location map, which appears as Figure 2 in the *Waste Control Plan for the 200-MW-1 Miscellaneous Waste Group Unit (OU) Characterization*, WMP-20205, Rev. 0, has been revised to conform to T Plants Master Safety Document, which doesn't allow any new or additional outdoor inventory storage areas to be established within the T Plant fence line.

Containerized waste generated by installation of the 216-T-33 borehole will be stored at the 2706T Temporary Storage Pad and managed in accordance with all applicable provisions of the 200-MW-1 waste control plan.

The signatures below authorize this change in the 216-T-33 waste container storage area location pending a formal revision of the waste control plan.

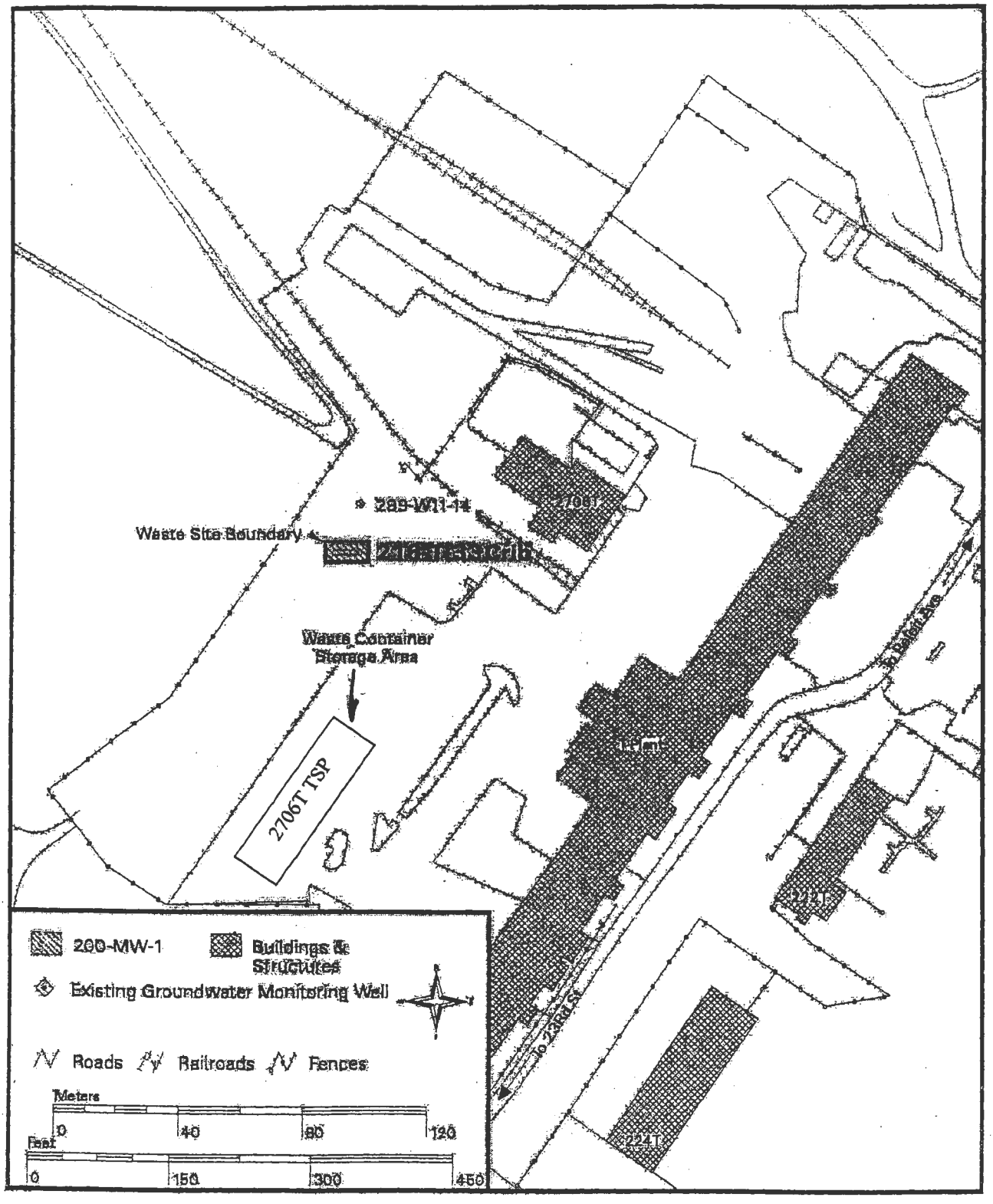
SRB 01/20/05

Steve Bertness
DOE/RL 200-MW-1 Project Manager

Craig Cameron 1/20/05

Craig Cameron
Lead Regulatory Agency Representative

Figure 2. 216-T-33 Crib Location Map and Waste Container Storage Area.



Comparison of Maximum Carbon Tetrachloride Rebound Concentrations
Monitored at 200-PW-1 Soil Vapor Extraction Sites
FY 1999 - FY 2005

200-PW-1 (200-ZP-2)		July 1999 - June 2001		July 2001 - June 2002		July 2002 - September 2003		July 2002 (Z-9) or October 2003 (Z-1A) - March 2004		July 2002 (Z-9) or April 2004 (Z-1A) - September 2004		October 2004 - December 2004	
Location (Well or Probe) /feet bgs	Site	Maximum Rebound Carbon Tetrachloride (ppmv)	months* of rebound	Maximum Rebound Carbon Tetrachloride (ppmv)	months* of rebound	Maximum Rebound Carbon Tetrachloride (ppmv)	months* of rebound	Maximum Rebound Carbon Tetrachloride (ppmv)	months* of rebound	Maximum Rebound Carbon Tetrachloride (ppmv)	months* of rebound	Maximum Rebound Carbon Tetrachloride (ppmv)	months* of rebound
79-03/ 5 ft	Z-18												
79-06/ 5 ft	Z-1A												
79-11/ 5 ft	Z-1A												
86-05/ 5 ft	Z-9												
86-05-01/ 5 ft	Z-9												
86-06/ 5 ft	Z-9												
87-05/ 5 ft	Z-1A												
87-09/ 5 ft	Z-1A												
94-02/ 5 ft	Z-9												
95-11/ 5 ft	Z-9												
95-12/ 5 ft	Z-9												
95-14/ 5 ft	Z-9												
CPT-13A/ 9 ft	Z-1A												
CPT-16/ 10 ft	Z-9												
CPT-17/ 10 ft	Z-9	6.6	24	3.2	6	6.6	15	9.0	21	9.9	27	6.6	2
CPT-18/ 15 ft	Z-9	5.2	24	1.4	6	2.4	15	2.4	21	2.5	27	1.5	2
CPT-4A/ 25 ft	Z-1A	3.5	0	3.4	10								
CPT-4E/ 25 ft	Z-1A	not measured		2.6	12	1.3	0			2.4	0		
CPT-16/ 25 ft	Z-9	1.8	24	1.1	6	2	15	2.6	21	3.6	27	4.4	2
CPT-31/25 ft	Z-1A												
CPT-32/ 25 ft	Z-1A	16.5	18	13.0	12	8.3	6	6	6			1.7	3
CPT-30/ 28 ft	Z-18	1.4	18	0	12	0	6	0	6			1.3	3
CPT-13A/ 30 ft	Z-1A	3.6	18	2.6	12	1.6	6	2	6	1.9	0	3.0	3
CPT-7A/ 32 ft	Z-1A	6.2	18	5.6	12	3.9	6	9.5	6	1.9	0	2.2	3
CPT-27/ 33 ft	Z-9	2.6	24	1.5	6	1.7	15	2.7	21	2.7	27	8.4	2
CPT-1A/ 35 ft	Z-12	7.7	18	11.3	12	22.0	15	18.3	6	18.0	0	14.0	3
CPT-28/ 40 ft	Z-9			56.5	6								
CPT-33/ 40 ft	Z-1A			2.3	12								
CPT-34/ 40 ft	Z-18	1.9	0	2.2	12	1.6	0			1.8	0		
CPT-21A/ 45 ft	Z-9	127	24	133	6	90.0	15	150	21	150	27	146	2
W15-220ST/ 52 ft	Z-9	2.5	24			1.5	1						
CPT-28/ 60 ft	Z-9												
CPT-9A/ 60 ft	Z-9	68	24	45.3	6	35.9	15	35.9	21	35.9	27	32.4	2
CPT-C3872 / 61 ft	Z-1A											4.4	3
CPT-16/ 65 ft	Z-9	not measured		not measured		4.2	15			4.2	27	6.7	2
CPT-1A/ 68 ft	Z-12	not measured		5.5	12								
CPT-30/ 68 ft	Z-18												
CPT-32/ 70 ft	Z-1A			7.7	12								
CPT-13A/ 70 ft	Z-1A												
CPT-24/70 ft	Z-9					4.7	15			9.1	27		
W15-219SST/ 70 ft	Z-9	7.8	24			1.9	1			9.5	22		
CPT-18/ 75 ft	Z-9	18	24			4.5	15			8.3	27		
CPT-4A/ 75 ft	Z-1A	not measured		7.1	3								
CPT-31/ 76 ft	Z-1A												
CPT-33/ 80 ft	Z-1A												
W15-82/ 83 ft	Z-9	55	24	66.7	6	85.8	15	85.8	21	85.8	27	7.9	2
CPT-21A/ 86 ft	Z-9	195	24	186	6	206	15	244	21	244	27	184	2
CPT-34/ 86 ft	Z-18												
W15-95U/ 86 ft	Z-9	43	21										
W15-218SST/ 86 ft	Z-9					1.6	2						
CPT-28/ 87 ft	Z-9	224	24	229	6	235	15	258	21	258	27	231	2
CPT-4B/ 90 ft	Z-1A			3.2	10								
CPT-1A/ 91 ft	Z-18			10.7	10								
CPT-4A/ 91 ft	Z-1A			7.5	2								
CPT-9A/ 91 ft	Z-9			74.3	6								
W15-85/ 91 ft	Z-9	51	24										
W18-252SST/ 100	Z-1A												
W18-152/ 101 ft	Z-12	25	18	25.7	12	20.7	6	12.4	6			12	3
CPT-4E/ 103 ft	Z-1A	not measured		16.1	12								
W18-167/ 106 ft	Z-1A	248	18	297	12	243	6	266	6			0	3
W18-165/ 109 ft	Z-1A	not measured		278	12	328	6	205	6			0	3
W15-217/ 114 ft	Z-9	442	24	93.6	6	444	15	458	21	467	27		
CPT-24/ 118 ft	Z-9	35	24			27.8	15			15.3	27		
W15-220SST/ 118	Z-9	34	24			27.5	3			26.0	27		
W18-158U/ 120 ft	Z-1A	284	18	163	3								
W15-219SST/ 130	Z-9	54	24			23.1	1			5.7	22		
W18-249/ 130 ft	Z-18	176	18	196	12	46.3	6	41.0	6			52	3
W18-248/ 131 ft	Z-1A	214	18	306	12	182	6	180	6			0	3
W15-95U/ 144 ft	Z-9	not measured		31.8	6	25.1	15	40.3	21	40.3	27	18.5	2
W15-219SST/ 155	Z-9	44	24			6.8	1			0	22		
W15-220U/ 163 ft	Z-9					—	15			8	27		
W15-219U/ 175 ft	Z-9					—	15			23	27		
W15-9U/ 176 ft	Z-9	20	21	16.9	6	13.1	15	13.1	21	13.1	27	6.6	2
W15-84U/ 180 ft	Z-9	not measured		not measured		25.9	15	25.9	21	25.9	27	22.0	2
W15-6U/ 182 ft	Z-9												
W15-220SST/ 185	Z-9	15	24			—	1						
W18-7/ 197 ft	Z-1A												
W18-12/ 198 ft	Z-18												
W18-6L/ 208 ft	Z-1A												

* - 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
October 2003 - December 2004

200-PW-1 (200-ZP-2) Location (Well or Probe) /feet bgs	Site	10/31/2003 CCl4 (ppmv)	12/04/2003 CCl4 (ppmv)	12/22/2003 CCl4 (ppmv)	01/20/2004 CCl4 (ppmv)	02/19/2004 CCl4 (ppmv)	03/16/2004 CCl4 (ppmv)	03/24/2004 CCl4 (ppmv)	04/29/2004 CCl4 (ppmv)	05/05/2004 CCl4 (ppmv)	06/03/2004 CCl4 (ppmv)	06/24/2004 CCl4 (ppmv)	07/15/2004 CCl4 (ppmv)	07/23/2004 CCl4 (ppmv)	08/26/2004 CCl4 (ppmv)	10/07/2004 CCl4 (ppmv)	11/17/2004 CCl4 (ppmv)	12/28/2004 CCl4 (ppmv)
CPT-17/ 10 ft	Z-9	3.2	4.1	2.7	5.8	5.0	--- (c)	9.0	7.0		9.9	9.0	7.4		6.7	6.6	5.5	5.3
CPT-18/ 15 ft	Z-9	0	1.1	1.0	1.5	1.4	--- (c)	1.6	1.2		2.5	2.5	--- (e)	0	0	0	0	1.5
CPT-4E/ 25 ft	Z-1A								1.7		1.4	2.0	2.4		0	0		
CPT-16/ 25 ft	Z-9	2.6	1.2	1.4	0	1.7	2.2		1.8		1.4	3.6	--- (e)	1.3	1.2	1.1	1.1	4.4
CPT-32/ 25 ft	Z-1A	0	0	0	2.4	5.1	5.9										0	1.7
CPT-30/ 28 ft	Z-1A	0	0	0	0	0	0										0	1.3
CPT-13A/ 30 ft	Z-1A	0	0	0	0	0	1.8		1.4		1.5	1.8	1.9		0	0	3.0	0
CPT-7A/ 32 ft	Z-1A	2.4	3.0	2.7	4.3	3.0	9.5		1.7		1.9	1.7	1.6		1.21 (f)	1.5	1.5	2.2
CPT-27/ 33 ft	Z-9	1.1	0	1.1	1.5	2.0	2.7		2.5		1.4	2.2	1.2		0	0	1.3	8.4
CPT-1A/ 35 ft	Z-12	18.3	9.5	13.1	10.8	6.0	9.0		4.2		10.7	9.0	5.2		18.0	3.2	4.7	14.0
CPT-34/ 40 ft	Z-18								1.4		1.1	1.0	0		1.6	1.8		
CPT-21A/ 45 ft	Z-9	52.3	69.1	68.5	59.2	71.8	--- (c)	150	59.2		136	81.9	34.0		92.5	86.7	79.9	146
CPT-9A/ 60 ft	Z-9	25.9	33.1	30.8	24.3	33.8	27.1		25.7		28.3	26.0	24.8		--- (g)	26.7 (h)	32.4	27.5
CPT-9A/ 50 ft	Z-9															45.8 (h)	39.4	48.4
CPT-C3872 / 61 ft	Z-1A																1.1	4.4
CPT-9A/ 64 ft	Z-9															0 (h)	20.1	2.8
CPT-16/ 65 ft	Z-9								3.1		4.0	1.5	--- (e)	4.2	2.9	2.7	3.5	6.7
CPT-24/ 70 ft	Z-9								4.4		4.4	9.1	5.0		4.2	4.6		
W15-219SST/ 70 ft	Z-9								9.5									
CPT-18/ 75 ft	Z-9								8.0		6.2	4.7	--- (e)	6.3	8.3	0		
W15-82/ 83 ft	Z-9	24.0	34.4	43.1	47.5	45.9	50.5		83.1		0	85.4	81.3		71.2	7.9	--- (i)	--- (i)
CPT-21A/ 86 ft	Z-9	91.8	183	171	244	98.1	--- (c)	212	73.3		177	157	95.7		40.5	80.5	179	184
CPT-28/ 87 ft	Z-9	155	206	140	56.7	96.1	--- (c)	258	26.8		222	164	227		222	218	231	223
W18-152/ 101 ft	Z-12	5.7	10.5	11.3	10.5	12.4	12.1										10.4	12.3
W18-167/ 106 ft	Z-1A	201	223	201	266	201	--- (b)										--- (i)	--- (i)
W18-165/ 109 ft	Z-1A	94.2	205	193	188	186	94.8										--- (i)	--- (i)
W15-217/ 114 ft	Z-9	53.8	80.4	66.4	82.5	62.0	--- (c)	458	256		377	257	467		63.1	264		
CPT-24/ 118 ft	Z-9								5.3		15.3	8.5	6.9		2.8	8.5		
W15-220SST/ 118 ft	Z-9									26.0	18.7	18.5	15.7		9.0	0		
W18-249/ 130 ft	Z-18	8.0	31.1	21.4	19.6	22.1	41.0										--- (i)	51.5
W15-219SST/ 130 ft	Z-9								5.7									
W18-248/ 131 ft	Z-1A	78.6	80.4	85.6	90.9	166	180										--- (i)	--- (i)
W15-95L/ 144 ft	Z-9	19.2	20.3	---- (a)	---- (a)	40.3	23.0		35.0		22.0	28.1	--- (e)	18.6	22.7	18.5	--- (i)	--- (i)
W15-219SST/ 155 ft	Z-9								0									
W15-220L/ 163 ft	Z-9								7.5		6.4	0	0		5.7	0		
W15-219L/ 175 ft	Z-9								--- (d)	23.0	2.9	0	--- (e)	0	0	0		
W15-9L/ 176 ft	Z-9	6.1	5.8	---- (a)	---- (a)	9.1	9.6		8.8		10.1	11.9	--- (e)	10.9	9.0	6.6	--- (i)	--- (i)
W15-84L/ 180 ft	Z-9	4.7	4.9	4.9	10.7	18.5	--- (c)	19.5	15.6		16.4	20.9	18.1		17.7	10.7	22.0	18.0

(a) Unable to access because of drilling operations
(b) Unable to sample; tubing will be repaired.
(c) anomalously low due to pump problems; resampled on 3/24/04
(d) unable to install sample tubing; sampled W15-219SST/70 ft, W15-219SST/130 ft, and W15-219SST/155 ft instead
(e) Unable to access
(f) condensate in tubing
(g) Unable to access; aboveground tubing damaged by construction vehicle.
(h) Depths to probes measured through existing tubing. 80 ft deep probe confirmed and sampled. The other two depths measured (50 ft and 64 ft) could not be correlated to original depths (70 and 91 ft); these two probes were sampled also.
(i) Unable to sample; tubing will be installed

Attachment 12

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A-0002-1(23)

Primary Analytes
C106 CL03
Data Summary Report

RISER: 14
SEGMENT #: 6C-03-12A

SEGMENT PORTION: Grab Sample (Settled Solids)

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%	Qual Flags
S04T000092			Solids Recovered - Weight	g	n/a	n/a	57.6	n/a	n/a	n/a	n/a	0.010	n/a	
S04T000106			Vinyl Chloride	ug/Kg	n/a	<4.4	<3.1	<4.6	n/a	n/a	n/a	3	n/a	U
S04T000106			Methylene Chloride	ug/Kg	n/a	<7.7	<5.3	<7.8	n/a	n/a	n/a	5	n/a	U
S04T000106			Acetone	ug/Kg	n/a	<44	73	78	76	7.0	n/a	3.e+01	n/a	J
S04T000106			Carbon Disulfide	ug/Kg	n/a	<9.2	<6.4	<9.5	n/a	n/a	n/a	6	n/a	U
S04T000106			Chloroform	ug/Kg	n/a	<9.5	<6.6	<9.7	n/a	n/a	n/a	7	n/a	U
S04T000106			1,2-Dichloroethane	ug/Kg	n/a	<6.4	<4.5	<6.6	n/a	n/a	n/a	4	n/a	U
S04T000106			2-Butanone	ug/Kg	n/a	<24	29	33	31	12	n/a	2.e+01	n/a	J
S04T000106			1,1,1-Trichloroethane	ug/Kg	n/a	<8.9	<6.2	<9.1	n/a	n/a	n/a	6	n/a	U
S04T000106			Carbon Tetrachloride	ug/Kg	n/a	<12	<8.2	<12	n/a	n/a	n/a	8	n/a	U
S04T000106			Trichloroethene	ug/Kg	86	<12	<8.7	<13	n/a	n/a	82	9	n/a	U
S04T000106			1,1,2-Trichloroethane	ug/Kg	n/a	<6.5	<4.5	<6.7	n/a	n/a	n/a	4	n/a	U
S04T000106			Benzene	ug/Kg	89	<6.3	<4.3	<6.4	n/a	n/a	88	4	n/a	U
S04T000106			trans-1,3-Dichloropropene	ug/Kg	n/a	<6.4	<4.4	<6.5	n/a	n/a	n/a	4	n/a	U
S04T000106			4-Methyl-2-pentanone	ug/Kg	n/a	<13	<9.2	<14	n/a	n/a	n/a	9	n/a	U
S04T000106			Tetrachloroethene	ug/Kg	n/a	<8.2	<5.7	<8.4	n/a	n/a	n/a	6	n/a	U
S04T000106			Toluene	ug/Kg	88	<7.3	<5.1	<7.5	n/a	n/a	87	5	n/a	U
S04T000106			1,1,2,2-Tetrachloroethane	ug/Kg	n/a	<6.5	<4.5	<6.7	n/a	n/a	n/a	4	n/a	U
S04T000106			Chlorobenzene	ug/Kg	87	<7.7	<5.4	<7.9	n/a	n/a	87	5	n/a	U
S04T000106			Ethylbenzene	ug/Kg	n/a	<15	<11	<16	n/a	n/a	n/a	1.e+01	n/a	U
S04T000106			Xylenes (total)	ug/Kg	n/a	<23	<16	<24	n/a	n/a	n/a	2.e+01	n/a	U
S04T000106			1,1-Dichloroethene	ug/Kg	92	<10	<7.2	<11	n/a	n/a	87	7	n/a	U
S04T000106			Ethyl acetate	ug/Kg	n/a	<9.7	<6.8	<9.9	n/a	n/a	n/a	7	n/a	U
S04T000106			1,1,2-TriCl-1,2,2-trifethane	ug/Kg	n/a	<10	<7.0	<10	n/a	n/a	n/a	7	n/a	U
S04T000106			Diethyl ether	ug/Kg	n/a	<8.8	<6.1	<9.0	n/a	n/a	n/a	6	n/a	U
S04T000106			Trichlorofluoromethane	ug/Kg	n/a	<9.3	<6.5	<9.5	n/a	n/a	n/a	6	n/a	U
S04T000106			2-Nitropropane	ug/Kg	n/a	<16	<11	<16	n/a	n/a	n/a	1.e+01	n/a	U
S04T000106			m,p-Xylene	ug/Kg	n/a	<18	<12	<18	n/a	n/a	n/a	1.e+01	n/a	U
S04T000106			o-Xylene	ug/Kg	n/a	<5.5	<3.8	<5.7	n/a	n/a	n/a	4	n/a	U
S04T000106			Hexachloroethane	ug/Kg	n/a	<5.9	<4.1	<6.0	n/a	n/a	n/a	4	n/a	U
S04T000106			1,2,4-Trichlorobenzene VOA	ug/Kg	n/a	<10	<7.1	<10	n/a	n/a	n/a	7	n/a	U

SEGMENT PORTION: Grab Sample (Total)

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%	Qual Flags
S04T000073			Color of Sample		n/a	n/a	DK BROWN	n/a	n/a	n/a	n/a	n/a	n/a	Q
S04T000073			Organic Vol Present / hotcell	mL	n/a	n/a	0.00	n/a	n/a	n/a	n/a	n/a	n/a	Q

Primary Analytes
C106 CL03
Data Summary Report

RISER: 14
SEGMENT #: 6C-03-12B

SEGMENT PORTION: Grab Sample (Settled Solids)

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%	Qual Flags
S04T000093			Solids Recovered - Weight	g	n/a	n/a	3.80	n/a	n/a	n/a	n/a	0.010	n/a	

SEGMENT PORTION: Grab Sample (Total)

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%	Qual Flags
S04T000074			Color of Sample		n/a	n/a	DK BROWN	n/a	n/a	n/a	n/a	n/a	n/a	a
S04T000074			Organic Vol Present / hotcell	mL	n/a	n/a	0.00	n/a	n/a	n/a	n/a	n/a	n/a	a

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Primary Analytes
C106 CL03
Data Summary Report

RISER: 14
SEGMENT #: 6C-03-12C

SEGMENT PORTION: Grab Sample (Settled Solids)

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%	Qual Flags
S04T000094			Solids Recovered - Weight	g	n/a	n/a	32.3	n/a	n/a	n/a	n/a	0.010	n/a	

SEGMENT PORTION: Grab Sample (Total)

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%	Qual Flags
S04T000075			Color of Sample		n/a	n/a	DK BROWN	n/a	n/a	n/a	n/a	n/a	n/a	Q
S04T000075			Organic Vol Present / hotcell	mL	n/a	n/a	0.00	n/a	n/a	n/a	n/a	n/a	n/a	Q

Primary Analytes
C106 CL03
Data Summary Report

RISER: 14
SEGMENT #: 6C-03-12D

SEGMENT PORTION: Grab Sample (Settled Solids)

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%	Qual Flags
S04T000095			Solids Recovered - Weight	g	n/a	n/a	50.7	n/a	n/a	n/a	n/a	0.010	n/a	

SEGMENT PORTION: Grab Sample (Total)

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%	Qual Flags
S04T000076			Color of Sample		n/a	n/a	DK BROWN	n/a	n/a	n/a	n/a	n/a	n/a	Q
S04T000076			Organic Vol Present / hotcell	mL	n/a	n/a	0.00	n/a	n/a	n/a	n/a	n/a	n/a	Q

Primary Analytes
C106 CL03
Data Summary Report

RISER: 14
SEGMENT #: 6C-03-12E

SEGMENT PORTION: Grab Sample (Settled Solids)

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%	Qual Flags
S04T000096			Solids Recovered - Weight	g	n/a	n/a	0.00	n/a	n/a	n/a	n/a	0.010	n/a	

SEGMENT PORTION: Grab Sample (Total)

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%	Qual Flags
S04T000077			Color of Sample		n/a	n/a	BROWN	n/a	n/a	n/a	n/a	n/a	n/a	Q
S04T000077			Organic Vol Present / hotcell	mL	n/a	n/a	0.00	n/a	n/a	n/a	n/a	n/a	n/a	Q

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A-0002-1(23)

Primary Analytes
C106 CL03
Data Summary Report

RISER: 14
SEGMENT #: 6C-03-12F

SEGMENT PORTION: Grab Sample (Settled Solids)

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%	Qual Flags
S04T000097			Solids Recovered - Weight	g	n/a	n/a	43.0	n/a	n/a	n/a	n/a	0.010	n/a	

SEGMENT PORTION: Grab Sample (Total)

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%	Qual Flags
S04T000078			Color of Sample		n/a	n/a	DK BROWN	n/a	n/a	n/a	n/a	n/a	n/a	Q
S04T000078			Organic Vol Present / hotcell	mL	n/a	n/a	0.00	n/a	n/a	n/a	n/a	n/a	n/a	Q

Primary Analytes
C106 CL03
Data Summary Report

RISER: 14
SEGMENT #: 6C-03-12DUPA

SEGMENT PORTION: Grab Sample (Settled Solids)

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%	Qual Flags
S04T000098			Solids Recovered - Weight	g	n/a	n/a	15.8	n/a	n/a	n/a	n/a	0.010	n/a	
S04T000119			Vinyl Chloride	ug/Kg	n/a	<4.4	<3.2	n/a	n/a	n/a	n/a	3	n/a	U
S04T000119			Methylene Chloride	ug/Kg	n/a	<7.7	<5.5	n/a	n/a	n/a	n/a	5	n/a	U
S04T000119			Acetone	ug/Kg	n/a	<44	86	n/a	n/a	n/a	n/a	3.e+01	n/a	J
S04T000119			Carbon Disulfide	ug/Kg	n/a	<9.2	<6.6	n/a	n/a	n/a	n/a	7	n/a	U
S04T000119			Chloroform	ug/Kg	n/a	<9.5	<6.8	n/a	n/a	n/a	n/a	7	n/a	U
S04T000119			1,2-Dichloroethane	ug/Kg	n/a	<6.4	<4.6	n/a	n/a	n/a	n/a	5	n/a	U
S04T000119			2-Butanone	ug/Kg	n/a	<24	24	n/a	n/a	n/a	n/a	2.e+01	n/a	J
S04T000119			1,1,1-Trichloroethane	ug/Kg	n/a	<8.9	<6.4	n/a	n/a	n/a	n/a	6	n/a	U
S04T000119			Carbon Tetrachloride	ug/Kg	n/a	<12	<8.5	n/a	n/a	n/a	n/a	8	n/a	U
S04T000119			Trichloroethene	ug/Kg	86	<12	<8.9	n/a	n/a	n/a	n/a	9	n/a	U
S04T000119			1,1,2-Trichloroethane	ug/Kg	n/a	<6.5	<4.7	n/a	n/a	n/a	n/a	5	n/a	U
S04T000119			Benzene	ug/Kg	89	<6.3	<4.5	n/a	n/a	n/a	n/a	4	n/a	U
S04T000119			trans-1,3-Dichloropropene	ug/Kg	n/a	<6.4	<4.6	n/a	n/a	n/a	n/a	5	n/a	U
S04T000119			4-Methyl-2-pentanone	ug/Kg	n/a	<13	<9.5	n/a	n/a	n/a	n/a	9	n/a	U
S04T000119			Tetrachloroethene	ug/Kg	n/a	<8.2	<5.9	n/a	n/a	n/a	n/a	6	n/a	U
S04T000119			Toluene	ug/Kg	88	<7.3	<5.3	n/a	n/a	n/a	n/a	5	n/a	U
S04T000119			1,1,2,2-Tetrachloroethane	ug/Kg	n/a	<6.5	<4.7	n/a	n/a	n/a	n/a	5	n/a	U
S04T000119			Chlorobenzene	ug/Kg	87	<7.7	<5.5	n/a	n/a	n/a	n/a	5	n/a	U
S04T000119			Ethylbenzene	ug/Kg	n/a	<15	<11	n/a	n/a	n/a	n/a	1.e+01	n/a	U
S04T000119			Xylenes (total)	ug/Kg	n/a	<23	<17	n/a	n/a	n/a	n/a	2.e+01	n/a	U
S04T000119			1,1-Dichloroethene	ug/Kg	92	<10	<7.4	n/a	n/a	n/a	n/a	7	n/a	U
S04T000119			Ethyl acetate	ug/Kg	n/a	<9.7	<7.0	n/a	n/a	n/a	n/a	7	n/a	U
S04T000119			1,1,2-TriCl-1,2,2-triFethane	ug/Kg	n/a	<10	<7.3	n/a	n/a	n/a	n/a	7	n/a	U
S04T000119			Diethyl ether	ug/Kg	n/a	<8.8	<6.3	n/a	n/a	n/a	n/a	6	n/a	U
S04T000119			Trichlorofluoromethane	ug/Kg	n/a	<9.3	<6.7	n/a	n/a	n/a	n/a	7	n/a	U
S04T000119			2-Nitropropane	ug/Kg	n/a	<16	<11	n/a	n/a	n/a	n/a	1.e+01	n/a	U
S04T000119			m,p-Xylene	ug/Kg	n/a	<18	<13	n/a	n/a	n/a	n/a	1.e+01	n/a	U
S04T000119			o-Xylene	ug/Kg	n/a	<5.5	<4.0	n/a	n/a	n/a	n/a	4	n/a	U
S04T000119			Hexachloroethane	ug/Kg	n/a	<5.9	<4.2	n/a	n/a	n/a	n/a	4	n/a	U
S04T000119			1,2,4-Trichlorobenzene VOA	ug/Kg	n/a	<10	<7.3	n/a	n/a	n/a	n/a	7	n/a	U

SEGMENT PORTION: Grab Sample (Total)

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%	Qual Flags
S04T000079			Color of Sample		n/a	n/a	DK BROWN	n/a	n/a	n/a	n/a	n/a	n/a	Q
S04T000079			Organic Vol Present / hotcell	mL	n/a	n/a	0.00	n/a	n/a	n/a	n/a	n/a	n/a	Q

Primary Analytes
C106 CL03
Data Summary Report

RISER: 14
SEGMENT #: 6C-03-12DUPB

SEGMENT PORTION: Grab Sample (Settled Solids)

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%	Qual Flags
S04T000099			Solids Recovered - Weight	g	n/a	n/a	5.00	n/a	n/a	n/a	n/a	0.010	n/a	

SEGMENT PORTION: Grab Sample (Total)

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%	Qual Flags
S04T000080			Color of Sample		n/a	n/a	DK BROWN	n/a	n/a	n/a	n/a	n/a	n/a	Q
S04T000080			Organic Vol Present / hotcell	mL	n/a	n/a	N/A	n/a	n/a	n/a	n/a	n/a	n/a	Q

Primary Analytes
C106 CL03
Data Summary Report

RISER: 14
SEGMENT #: 6C-03-12DUPC

SEGMENT PORTION: Grab Sample (Settled Solids)

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%	Qual Flags
S04T000100			Solids Recovered - Weight	g	n/a	n/a	15.8	n/a	n/a	n/a	n/a	0.010	n/a	

SEGMENT PORTION: Grab Sample (Total)

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%	Qual Flags
S04T000081			Color of Sample		n/a	n/a	DK BROWN	n/a	n/a	n/a	n/a	n/a	n/a	Q
S04T000081			Organic Vol Present / hotcell	mL	n/a	n/a	0.00	n/a	n/a	n/a	n/a	n/a	n/a	Q

Primary Analytes
C106 CL03
Data Summary Report

RISER: 14
SEGMENT #: Field Primary Sample

SEGMENT PORTION: Tank Composite-Solid (Total)

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%	Qual Flags
S04T000101			Cyanide EDTA Addition	ug/g	99.1	<0.190	4.99	4.30	4.64	14.9	104	1.8	n/a	J
S04T000101			Mercury by CVAA (PE) with FIAS	ug/g	101	<1.00e-04	132	154	143	16.1	108	1.8	n/a	
S04T000101			Sulfide by Microdist. & ISE	ug/g	95.2	<0.158	<8.33	<7.78	n/a	n/a	75.0	8.3	n/a	U
S04T000102		S	Ammonium Ion-IC-Dionex 100	ug/g	104	0.170	65.4	67.7	66.5	3.46	94.3	21	n/a	J
S04T000103			% Water by TGA using TA	%	97.5	n/a	44.2	40.6	42.4	8.61	n/a	n/a	n/a	
S04T000104			Aroclor-1016DRY by SW-846 8082	ug/Kg	n/a	<41	<72	<73	n/a	n/a	n/a	7.e+01	n/a	U
S04T000104			Aroclor-1221DRY by SW-846 8082	ug/Kg	n/a	<13	<23	<23	n/a	n/a	n/a	2.e+01	n/a	U
S04T000104			Aroclor-1232DRY by SW-846 8082	ug/Kg	n/a	<2.3e+02	<4.1e+02	<4.1e+02	n/a	n/a	n/a	4.e+02	n/a	U
S04T000104			Aroclor-1242DRY by SW-846 8082	ug/Kg	n/a	<42	<74	<75	n/a	n/a	n/a	7.e+01	n/a	U
S04T000104			Aroclor-1248DRY by SW-846 8082	ug/Kg	n/a	<13	<23	<24	n/a	n/a	n/a	2.e+01	n/a	U
S04T000104			Aroclor-1254DRY by SW-846 8082	ug/Kg	91	<7.8	<14	<14	n/a	n/a	91	1.e+01	n/a	U
S04T000104			Aroclor-1260DRY by SW-846 8082	ug/Kg	n/a	<56	<99	<1.0e+02	n/a	n/a	n/a	1.e+02	n/a	U
S04T000105			2,4,6-Trichlorophenol	ug/Kg	n/a	<1.5e+03	<7.2e+02	<7.2e+02	n/a	n/a	n/a	7.e+02	n/a	U
S04T000105			Di-n-butylphthalate	ug/Kg	n/a	1.8e+03	3.1e+03	6.1e+03	4.6e+03	66	n/a	3.e+02	n/a	Y
S04T000105			Fluoranthene	ug/Kg	n/a	<1.8e+03	<8.8e+02	<8.9e+02	n/a	n/a	n/a	9.e+02	n/a	U
S04T000105			Butylbenzylphthalate	ug/Kg	n/a	<5.4e+02	<2.6e+02	<2.6e+02	n/a	n/a	n/a	3.e+02	n/a	U
S04T000105			2-Nitrophenol	ug/Kg	n/a	<3.2e+03	<1.5e+03	<1.5e+03	n/a	n/a	n/a	1.e+03	n/a	U
S04T000105			2-Chlorophenol	ug/Kg	81	<2.7e+03	<1.3e+03	<1.3e+03	n/a	n/a	77	1.e+03	n/a	U
S04T000105			Phenol	ug/Kg	82	<6.2e+03	<2.9e+03	<3.0e+03	n/a	n/a	80	3.e+03	n/a	U
S04T000105			Pyrene	ug/Kg	99	<3.0e+03	<1.4e+03	<1.4e+03	n/a	n/a	1.0e+02	1.e+03	n/a	U
S04T000105			N-Nitroso-di-n-propylamine	ug/Kg	85	<1.7e+03	<8.3e+02	<8.4e+02	n/a	n/a	80	8.e+02	n/a	U
S04T000105			1,2,4-Trichlorobenzene SV	ug/Kg	87	<7.6e+02	<3.6e+02	<3.7e+02	n/a	n/a	85	4.e+02	n/a	U
S04T000105			4-Chloro-3-methylphenol	ug/Kg	90	<9.8e+02	<4.7e+02	<4.7e+02	n/a	n/a	85	5.e+02	n/a	U
S04T000105			Acenaphthene	ug/Kg	96	<3.1e+03	<1.5e+03	<1.5e+03	n/a	n/a	86	1.e+03	n/a	U
S04T000105			4-Nitrophenol	ug/Kg	1.0e+02	<1.5e+03	<7.0e+02	<7.0e+02	n/a	n/a	93	7.e+02	n/a	U
S04T000105			2,4-Dinitrotoluene	ug/Kg	99	<1.9e+03	<9.3e+02	<9.3e+02	n/a	n/a	94	9.e+02	n/a	U
S04T000105			2-Methylphenol	ug/Kg	n/a	<5.2e+03	<2.5e+03	<2.5e+03	n/a	n/a	n/a	2.e+03	n/a	U
S04T000105			3 & 4 Methylphenol Total	ug/Kg	n/a	<1.2e+04	<5.7e+03	<5.7e+03	n/a	n/a	n/a	6.e+03	n/a	U
S04T000105			1,4-Dichlorobenzene	ug/Kg	86	<2.7e+03	<1.3e+03	<1.3e+03	n/a	n/a	80	1.e+03	n/a	U
S04T000105			1,2-Dichlorobenzene	ug/Kg	n/a	<2.8e+03	<1.3e+03	<1.3e+03	n/a	n/a	n/a	1.e+03	n/a	U
S04T000105			N-Nitrosomorpholine	ug/Kg	n/a	<1.50e+03	<740	<740	n/a	n/a	n/a	7.4e+02	n/a	U
S04T000105			26bis(tert-butyl)4Methylphenol	ug/Kg	n/a	<1.9e+03	<9.0e+02	<9.0e+02	n/a	n/a	n/a	9.e+02	n/a	U
S04T000105			2-Ethoxyethanol	ug/Kg	n/a	<1.5e+03	<7.0e+02	<7.0e+02	n/a	n/a	n/a	7.e+02	n/a	U
S04T000105			Total Methylphenols	ug/Kg	n/a	<7.5e+03	<3.6e+03	<3.6e+03	n/a	n/a	n/a	4.e+03	n/a	U
S04T000105			Cyclohexanone	ug/Kg	n/a	<4.5e+03	<2.1e+03	<2.2e+03	n/a	n/a	n/a	2.e+03	n/a	U
S04T000105			Isobutanol	ug/Kg	n/a	<3.7e+03	<1.8e+03	<1.8e+03	n/a	n/a	n/a	2.e+03	n/a	U
S04T000105			1-Butanol	ug/Kg	n/a	<2.8e+03	<1.3e+03	<1.3e+03	n/a	n/a	n/a	1.e+03	n/a	U
S04T000105			Pentachlorophenol	ug/Kg	97	<1.3e+03	<6.4e+02	<6.4e+02	n/a	n/a	86	6.e+02	n/a	U
S04T000105			Di-n-octylphthalate	ug/Kg	n/a	<3.0e+03	<1.5e+03	<1.5e+03	n/a	n/a	n/a	1.e+03	n/a	U
S04T000105			Hexachloroethane	ug/Kg	n/a	<2.6e+03	<1.2e+03	<1.3e+03	n/a	n/a	n/a	1.e+03	n/a	U
S04T000105			Naphthalene	ug/Kg	n/a	<1.2e+03	<5.9e+02	<6.0e+02	n/a	n/a	n/a	6.e+02	n/a	U
S04T000105			Nitrobenzene	ug/Kg	n/a	<1.3e+03	<6.2e+02	<6.3e+02	n/a	n/a	n/a	6.e+02	n/a	U
S04T000105			Pyridine	ug/Kg	n/a	<1.9e+03	<8.9e+02	<8.9e+02	n/a	n/a	n/a	9.e+02	n/a	U
S04T000105			Hexachlorobutadiene	ug/Kg	n/a	<6.8e+02	<3.2e+02	<3.3e+02	n/a	n/a	n/a	3.e+02	n/a	U

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%	Qual Flags
S04T000105			2,4,5-Trichlorophenol	ug/Kg	n/a	<1.4e+03	<6.8e+02	<6.8e+02	n/a	n/a	n/a	7.e+02	n/a	U
S04T000107			Bulk Density of Sample	g/mL	n/a	n/a	1.58	n/a	n/a	n/a	n/a	0.50	n/a	
S04T000107	1		Bulk Density of Sample	g/mL	n/a	n/a	1.53	n/a	n/a	n/a	n/a	0.50	n/a	
S04T000108			pH on Solid Samples	pH	n/a	n/a	8.64	8.66	8.65	0.231	n/a	0.010	n/a	
S04T000108			% Water by TGA using TA	%	97.8	n/a	33.7	32.0	32.8	5.30	n/a	n/a	n/a	
S04T000110		A	Tc99 by ICP/MS (Acid Digest)	ug/g	96.4	0.300	0.548	0.554	0.551	1.02	95.6	0.029	n/a	
S04T000110		A	Selenium-79 by Liquid Scint.	uCi/g	n/a	<6.54e-04	<6.86e-04	<6.46e-04	n/a	n/a	n/a	7.0e-04	4.0	U
S04T000110		A	Nickel 63	uCi/g	100	<0.0111	3.87	4.46	4.16	14.2	n/a	0.022	1.3	
S04T000110		A	Thorium-230 by ICP/MS	ug/g	n/a	<3.50e-03	1.69e-03	2.98e-03	2.34e-03	55.4	n/a	6.7e-04	n/a	J
S04T000110		A	Thorium-232 by ICP/MS	ug/g	101	0.181	267	304	286	12.9	83.2	0.012	n/a	
S04T000110		A	Uranium-233 by ICP/MS Acid Dig	ug/g	n/a	<4.50e-03	0.0112	0.0114	0.0113	2.23	n/a	8.6e-04	n/a	
S04T000110		A	Uranium-234 by ICP/MS Acid Dig	ug/g	n/a	<1.50e-03	9.34e-03	9.85e-03	9.60e-03	5.38	n/a	2.9e-04	n/a	
S04T000110		A	Uranium-235 by ICP/MS Acid Dig	ug/g	108	<5.50e-03	0.992	1.07	1.03	8.04	119	1.1e-03	n/a	
S04T000110		A	Uranium-236 by ICP/MS Acid Dig	ug/g	n/a	<2.00e-03	0.0139	0.0158	0.0148	12.6	n/a	3.8e-04	n/a	
S04T000110		A	Uranium-238 by ICP/MS Acid Dig	ug/g	101	<0.275	149	162	156	8.25	83.3	2.6e-03	n/a	
S04T000110		A	Neptunium-237 by ICP/MS	ug/g	99.4	<0.0135	4.02	4.87	4.44	19.1	97.5	0.053	n/a	
S04T000111		W	Fluoride-IC-Dionex 500	ug/g	94.2	<0.0300	<34.4	<34.6	n/a	n/a	99.2	34	n/a	U
S04T000111		W	Tritium By Lachat	uCi/g	85.9	<6.53e-04	<6.54e-04	<6.50e-04	n/a	n/a	94.8	6.5e-04	6.0	U
S04T000111		W	C-14 Small Volume	uCi/g	96.9	<5.07e-04	<5.04e-04	<5.09e-04	n/a	n/a	95.7	5.0e-04	4.3	U
S04T000112		F	Iodine-129 Waste Tank Samples	uCi/g	104	<2.52e-05	<3.09e-05	<5.70e-05	n/a	n/a	n/a	3.1e-05	N/A	U
S04T000113		F	Strontium-89/90 High Level	uCi/g	102	<0.656	4.16e+03	4.23e+03	4.20e+03	1.67	n/a	0.94	0.50	
S04T000113		F	Pu-239/240 by TRU-SPEC Resin	uCi/g	92.0	<0.0772	1.46	1.33	1.40	9.32	n/a	0.15	2.7	
S04T000113		F	Pu-238 by TRU-SPEC Resin IonEx	uCi/g	n/a	<0.0889	<0.170	<0.192	n/a	n/a	n/a	0.16	5.9	U
S04T000113		F	Cobalt-60 by GEA	uCi/g	96.5	<0.960	<1.10	<0.963	n/a	n/a	n/a	1.1	n/a	U
S04T000113		F	Cesium-137 by GEA	uCi/g	104	<2.21	103	95.7	99.3	7.40	n/a	n/a	3.6	
S04T000113		F	Europium-152 by GEA	uCi/g	n/a	<1.83	<3.96	<3.84	n/a	n/a	n/a	4.0	n/a	U
S04T000113		F	Europium-154 by GEA	uCi/g	n/a	<2.54	<4.83	<4.68	n/a	n/a	n/a	4.8	n/a	U
S04T000113		F	Europium-155 by GEA	uCi/g	n/a	<2.36	<4.75	<4.76	n/a	n/a	n/a	4.8	n/a	U
S04T000113		F	Am-241 by TRU-SPEC Resin IonEx	uCi/g	113	<0.213	4.13	4.24	4.18	2.63	n/a	0.45	2.3	
S04T000113		F	Cm-243/244 by TRU-SPEC Resin	uCi/g	n/a	<0.213	<0.451	<0.481	n/a	n/a	n/a	0.45	1.0e+02	U
S04T000177		A	Silver -ICP-Acid Digest	ug/g	93.5	<5.50e-03	479	513	496	6.77	69.5	20	n/a	bf
S04T000177		A	Arsenic -ICP-Acid Digest	ug/g	114	<0.0510	<184	<180	n/a	n/a	133	1.8e+02	n/a	Ub
S04T000177		A	Barium -ICP-Acid Digest	ug/g	94.4	<0.0210	103	98.5	101	4.01	98.0	76	n/a	J
S04T000177		A	Beryllium -ICP-Acid Digest	ug/g	101	<1.00e-03	<3.60	<3.52	n/a	n/a	106	3.6	n/a	U
S04T000177		A	Cadmium -ICP-Acid Digest	ug/g	92.6	<2.00e-03	89.2	84.0	86.6	6.03	107	7.2	n/a	e
S04T000177		A	Chromium -ICP-Acid Digest	ug/g	96.2	<5.00e-03	231	232	231	0.281	108	18	n/a	
S04T000177		A	Nickel -ICP-Acid Digest	ug/g	94.3	<0.0110	1.79e+03	1.72e+03	1.75e+03	3.98	-12.9	40	n/a	bf
S04T000177		A	Lead -ICP-Acid Digest	ug/g	93.1	<0.0230	1.60e+03	1.52e+03	1.56e+03	4.94	-6.11	83	n/a	bf
S04T000177		A	Selenium -ICP-Acid Digest	ug/g	95.9	<0.0520	<187	<183	n/a	n/a	-17.9	1.9e+02	n/a	Ub
S04T000177		A	Thallium -ICP-Acid Digest	ug/g	93.5	<0.150	<450	<440	n/a	n/a	83.2	4.5e+02	n/a	U
S04T000177		A	Vanadium -ICP-Acid Digest	ug/g	95.6	<5.20e-03	<18.7	<18.3	n/a	n/a	103	19	n/a	U
S04T000177		A	Zinc -ICP-Acid Digest	ug/g	92.2	<2.00e-03	137	121	129	12.3	107	7.2	n/a	

16-mar-2004 17:51:46
A-0002-1(23)

Primary Analytes
C106 CL03
Data Summary Report

RISER: 14
SEGMENT #: Field Duplicate Sample

SEGMENT PORTION: Tank Composite-Solid (Total)

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%	Qual Flags
S04T000114			Cyanide EDTA Addition	ug/g	99.1	<0.190	5.36	n/a	n/a	n/a	n/a	2.3	n/a	J
S04T000114			Mercury by CVAA (PE) with FIAS	ug/g	101	<1.00e-04	97.2	n/a	n/a	n/a	n/a	1.0	n/a	
S04T000114			Sulfide by Microdist. & ISE	ug/g	95.2	<0.158	<8.97	n/a	n/a	n/a	n/a	8.3	n/a	UJ
S04T000115	S		Ammonium Ion-IC-Dionex 100	ug/g	104	0.170	55.0	n/a	n/a	n/a	n/a	14	n/a	
S04T000116			% Water by TGA using TA	%	97.8	n/a	47.1	n/a	n/a	n/a	n/a	n/a	n/a	
S04T000117			Aroclor-1016DRY by SW-846 8082	ug/Kg	n/a	<41	<77	n/a	n/a	n/a	n/a	8.e+01	n/a	U
S04T000117			Aroclor-1221DRY by SW-846 8082	ug/Kg	n/a	<13	<24	n/a	n/a	n/a	n/a	2.e+01	n/a	U
S04T000117			Aroclor-1232DRY by SW-846 8082	ug/Kg	n/a	<2.3e+02	<4.3e+02	n/a	n/a	n/a	n/a	4.e+02	n/a	U
S04T000117			Aroclor-1242DRY by SW-846 8082	ug/Kg	n/a	<42	<78	n/a	n/a	n/a	n/a	8.e+01	n/a	U
S04T000117			Aroclor-1248DRY by SW-846 8082	ug/Kg	n/a	<13	<25	n/a	n/a	n/a	n/a	2.e+01	n/a	U
S04T000117			Aroclor-1254DRY by SW-846 8082	ug/Kg	91	<7.8	2.8e+02	n/a	n/a	n/a	n/a	1.e+01	n/a	J
S04T000117			Aroclor-1260DRY by SW-846 8082	ug/Kg	n/a	<56	<1.1e+02	n/a	n/a	n/a	n/a	1.e+02	n/a	U
S04T000118			2,4,6-Trichlorophenol	ug/Kg	n/a	<1.5e+03	<7.4e+02	n/a	n/a	n/a	n/a	7.e+02	n/a	U
S04T000118			Di-n-butylphthalate	ug/Kg	n/a	1.8e+03	6.7e+03	n/a	n/a	n/a	n/a	3.e+02	n/a	J
S04T000118			Fluoranthene	ug/Kg	n/a	<1.8e+03	<9.1e+02	n/a	n/a	n/a	n/a	9.e+02	n/a	U
S04T000118			Butylbenzylphthalate	ug/Kg	n/a	<5.4e+02	<2.7e+02	n/a	n/a	n/a	n/a	3.e+02	n/a	U
S04T000118			2-Nitrophenol	ug/Kg	n/a	<3.2e+03	<1.6e+03	n/a	n/a	n/a	n/a	2.e+03	n/a	U
S04T000118			2-Chlorophenol	ug/Kg	81	<2.7e+03	<1.3e+03	n/a	n/a	n/a	n/a	1.e+03	n/a	U
S04T000118			Phenol	ug/Kg	82	<6.2e+03	<3.0e+03	n/a	n/a	n/a	n/a	3.e+03	n/a	U
S04T000118			Pyrene	ug/Kg	99	<3.0e+03	<1.5e+03	n/a	n/a	n/a	n/a	1.e+03	n/a	U
S04T000118			N-Nitroso-di-n-propylamine	ug/Kg	85	<1.7e+03	<8.6e+02	n/a	n/a	n/a	n/a	9.e+02	n/a	U
S04T000118			1,2,4-Trichlorobenzene SV	ug/Kg	87	<7.6e+02	<3.7e+02	n/a	n/a	n/a	n/a	4.e+02	n/a	U
S04T000118			4-Chloro-3-methylphenol	ug/Kg	90	<9.8e+02	<4.8e+02	n/a	n/a	n/a	n/a	5.e+02	n/a	U
S04T000118			Acenaphthene	ug/Kg	96	<3.1e+03	<1.5e+03	n/a	n/a	n/a	n/a	1.e+03	n/a	U
S04T000118			4-Nitrophenol	ug/Kg	1.0e+02	<1.5e+03	<7.2e+02	n/a	n/a	n/a	n/a	7.e+02	n/a	U
S04T000118			2,4-Dinitrotoluene	ug/Kg	99	<1.9e+03	<9.6e+02	n/a	n/a	n/a	n/a	1.e+03	n/a	U
S04T000118			2-Methylphenol	ug/Kg	n/a	<5.2e+03	<2.6e+03	n/a	n/a	n/a	n/a	3.e+03	n/a	U
S04T000118			3 & 4 Methylphenol Total	ug/Kg	n/a	<1.2e+04	<5.9e+03	n/a	n/a	n/a	n/a	6.e+03	n/a	U
S04T000118			1,4-Dichlorobenzene	ug/Kg	86	<2.7e+03	<1.3e+03	n/a	n/a	n/a	n/a	1.e+03	n/a	U
S04T000118			1,2-Dichlorobenzene	ug/Kg	n/a	<2.8e+03	<1.4e+03	n/a	n/a	n/a	n/a	1.e+03	n/a	U
S04T000118			N-Nitrosomorpholine	ug/Kg	n/a	<1.50e+03	<760	n/a	n/a	n/a	n/a	7.6e+02	n/a	U
S04T000118			26bis(tert-butyl)4Methylphenol	ug/Kg	n/a	<1.9e+03	<9.3e+02	n/a	n/a	n/a	n/a	9.e+02	n/a	U
S04T000118			2-Ethoxyethanol	ug/Kg	n/a	<1.5e+03	<7.2e+02	n/a	n/a	n/a	n/a	7.e+02	n/a	U
S04T000118			Total Methylphenols	ug/Kg	n/a	<7.5e+03	<3.7e+03	n/a	n/a	n/a	n/a	4.e+03	n/a	U
S04T000118			Cyclohexanone	ug/Kg	n/a	<4.5e+03	<2.2e+03	n/a	n/a	n/a	n/a	2.e+03	n/a	U
S04T000118			Isobutanol	ug/Kg	n/a	<3.7e+03	<1.8e+03	n/a	n/a	n/a	n/a	2.e+03	n/a	U
S04T000118			1-Butanol	ug/Kg	n/a	<2.8e+03	<1.4e+03	n/a	n/a	n/a	n/a	1.e+03	n/a	U
S04T000118			Pentachlorophenol	ug/Kg	97	<1.3e+03	<6.6e+02	n/a	n/a	n/a	n/a	7.e+02	n/a	U
S04T000118			Di-n-octylphthalate	ug/Kg	n/a	<3.0e+03	<1.5e+03	n/a	n/a	n/a	n/a	1.e+03	n/a	U
S04T000118			Hexachloroethane	ug/Kg	n/a	<2.6e+03	<1.3e+03	n/a	n/a	n/a	n/a	1.e+03	n/a	U
S04T000118			Naphthalene	ug/Kg	n/a	<1.2e+03	<6.1e+02	n/a	n/a	n/a	n/a	6.e+02	n/a	U
S04T000118			Nitrobenzene	ug/Kg	n/a	<1.3e+03	<6.4e+02	n/a	n/a	n/a	n/a	6.e+02	n/a	U
S04T000118			Pyridine	ug/Kg	n/a	<1.9e+03	<9.2e+02	n/a	n/a	n/a	n/a	9.e+02	n/a	U
S04T000118			Hexachlorobutadiene	ug/Kg	n/a	<6.8e+02	<3.4e+02	n/a	n/a	n/a	n/a	3.e+02	n/a	U

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Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%	Qual Flags
S04T000118			2,4,5-Trichlorophenol	ug/Kg	n/a	<1.4e+03	<7.0e+02	n/a	n/a	n/a	n/a	7.e+02	n/a	U
S04T000120			Bulk Density of Sample	g/mL	n/a	n/a	1.58	n/a	n/a	n/a	n/a	0.50	n/a	
S04T000121			pH on Solid Samples	pH	n/a	n/a	8.63	n/a	n/a	n/a	n/a	0.010	n/a	
S04T000121			% Water by TGA using TA	%	97.8	n/a	45.6	n/a	n/a	n/a	n/a	n/a	n/a	
S04T000123		A	Tc99 by ICP/MS (Acid Digest)	ug/g	96.4	0.300	0.671	n/a	n/a	n/a	n/a	0.029	n/a	
S04T000123		A	Selenium-79 by Liquid Scint.	uCi/g	n/a	<6.54e-04	<5.38e-04	n/a	n/a	n/a	n/a	5.4e-04	3.9	U
S04T000123		A	Nickel 63	uCi/g	100	<0.0111	5.11	n/a	n/a	n/a	n/a	0.023	1.2	
S04T000123		A	Thorium-230 by ICP/MS	ug/g	n/a	<3.50e-03	3.80e-03	n/a	n/a	n/a	n/a	6.8e-04	n/a	J
S04T000123		A	Thorium-232 by ICP/MS	ug/g	101	0.181	361	n/a	n/a	n/a	n/a	0.012	n/a	
S04T000123		A	Uranium-233 by ICP/MS Acid Dig	ug/g	n/a	<4.50e-03	0.0125	n/a	n/a	n/a	n/a	8.7e-04	n/a	
S04T000123		A	Uranium-234 by ICP/MS Acid Dig	ug/g	n/a	<1.50e-03	9.44e-03	n/a	n/a	n/a	n/a	2.9e-04	n/a	
S04T000123		A	Uranium-235 by ICP/MS Acid Dig	ug/g	108	<5.50e-03	1.23	n/a	n/a	n/a	n/a	1.1e-03	n/a	
S04T000123		A	Uranium-236 by ICP/MS Acid Dig	ug/g	n/a	<2.00e-03	0.0191	n/a	n/a	n/a	n/a	3.9e-04	n/a	
S04T000123		A	Uranium-238 by ICP/MS Acid Dig	ug/g	101	<0.275	184	n/a	n/a	n/a	n/a	0.053	n/a	
S04T000123		A	Neptunium-237 by ICP/MS	ug/g	99.4	<0.0135	5.42	n/a	n/a	n/a	n/a	2.6e-03	n/a	
S04T000124		W	Fluoride-IC-Dionex 500	ug/g	94.2	<0.0300	<33.8	n/a	n/a	n/a	n/a	34	n/a	U
S04T000124		W	Tritium By Lachat	uCi/g	85.9	<6.53e-04	<6.33e-04	n/a	n/a	n/a	n/a	6.3e-04	5.8	U
S04T000124		W	C-14 Small Volume	uCi/g	96.9	<5.07e-04	5.31e-04	n/a	n/a	n/a	n/a	5.0e-04	4.0	
S04T000125		F	Iodine-129 Waste Tank Samples	uCi/g	104	<2.52e-05	<3.13e-05	n/a	n/a	n/a	n/a	3.1e-05	N/A	U
S04T000126		F	Strontium-89/90 High Level	uCi/g	102	<0.656	4.11e+03	n/a	n/a	n/a	n/a	1.0	0.52	
S04T000126		F	Pu-239/240 by TRU-SPEC Resin	uCi/g	92.0	<0.0772	1.15	n/a	n/a	n/a	n/a	0.14	3.1	
S04T000126		F	Pu-238 by TRU-SPEC Resin IonEx	uCi/g	n/a	<0.0889	<0.155	n/a	n/a	n/a	n/a	0.16	1.0e+02	U
S04T000126		F	Cobalt-60 by GEA	uCi/g	96.5	<0.960	<1.26	n/a	n/a	n/a	n/a	1.3	n/a	U
S04T000126		F	Cesium-137 by GEA	uCi/g	104	<2.21	82.0	n/a	n/a	n/a	n/a	n/a	4.3	
S04T000126		F	Europium-152 by GEA	uCi/g	n/a	<1.83	<4.02	n/a	n/a	n/a	n/a	4.0	n/a	U
S04T000126		F	Europium-154 by GEA	uCi/g	n/a	<2.54	<5.48	n/a	n/a	n/a	n/a	5.5	n/a	U
S04T000126		F	Europium-155 by GEA	uCi/g	n/a	<2.36	<5.06	n/a	n/a	n/a	n/a	5.1	n/a	U
S04T000126		F	Am-241 by TRU-SPEC Resin IonEx	uCi/g	113	<0.213	4.02	n/a	n/a	n/a	n/a	0.49	2.5	
S04T000126		F	Cm-243/244 by TRU-SPEC Resin	uCi/g	n/a	<0.213	<0.493	n/a	n/a	n/a	n/a	0.49	1.0e+02	U
S04T000178		A	Silver -ICP-Acid Digest	ug/g	93.5	<5.50e-03	491	n/a	n/a	n/a	n/a	20	n/a	
S04T000178		A	Arsenic -ICP-Acid Digest	ug/g	114	<0.0510	<182	n/a	n/a	n/a	n/a	1.8e+02	n/a	U
S04T000178		A	Barium -ICP-Acid Digest	ug/g	94.4	<0.0210	106	n/a	n/a	n/a	n/a	75	n/a	J
S04T000178		A	Beryllium -ICP-Acid Digest	ug/g	101	<1.00e-03	<3.56	n/a	n/a	n/a	n/a	3.6	n/a	U
S04T000178		A	Cadmium -ICP-Acid Digest	ug/g	92.6	<2.00e-03	96.0	n/a	n/a	n/a	n/a	7.1	n/a	
S04T000178		A	Chromium -ICP-Acid Digest	ug/g	96.2	<5.00e-03	245	n/a	n/a	n/a	n/a	18	n/a	
S04T000178		A	Nickel -ICP-Acid Digest	ug/g	94.3	<0.0110	2.06e+03	n/a	n/a	n/a	n/a	39	n/a	
S04T000178		A	Lead -ICP-Acid Digest	ug/g	93.1	<0.0230	1.68e+03	n/a	n/a	n/a	n/a	82	n/a	
S04T000178		A	Selenium -ICP-Acid Digest	ug/g	95.9	<0.0520	<185	n/a	n/a	n/a	n/a	1.8e+02	n/a	U
S04T000178		A	Thallium -ICP-Acid Digest	ug/g	93.5	<0.150	<445	n/a	n/a	n/a	n/a	4.4e+02	n/a	U
S04T000178		A	Vanadium -ICP-Acid Digest	ug/g	95.6	<5.20e-03	<18.5	n/a	n/a	n/a	n/a	18	n/a	U
S04T000178		A	Zinc -ICP-Acid Digest	ug/g	92.2	<2.00e-03	143	n/a	n/a	n/a	n/a	7.1	n/a	

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Primary Analytes
C106 CL03
Data Summary Report

RISER: 14
SEGMENT #: 6C-03-12FB

SEGMENT PORTION: Field Blank

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%	Qual Flags
S04T000082			Color of Sample		n/a	n/a	WHITE	n/a	n/a	n/a	n/a	n/a	n/a	Q
S04T000082			Organic Vol Present / hotcell	mL	n/a	n/a	0.00	n/a	n/a	n/a	n/a	n/a	n/a	Q
S04T000127			Solids Recovered - Weight	g	n/a	n/a	44.7	n/a	n/a	n/a	n/a	0.010	n/a	
S04T000128			Vinyl Chloride	ug/Kg	n/a	<4.4	<4.5	n/a	n/a	n/a	n/a	4	n/a	U
S04T000128			Methylene Chloride	ug/Kg	n/a	<7.7	<7.7	n/a	n/a	n/a	n/a	8	n/a	U
S04T000128			Acetone	ug/Kg	n/a	<44	<44	n/a	n/a	n/a	n/a	4.e+01	n/a	U
S04T000128			Carbon Disulfide	ug/Kg	n/a	<9.2	<9.3	n/a	n/a	n/a	n/a	9	n/a	U
S04T000128			Chloroform	ug/Kg	n/a	<9.5	<9.5	n/a	n/a	n/a	n/a	9	n/a	U
S04T000128			1,2-Dichloroethane	ug/Kg	n/a	<6.4	<6.5	n/a	n/a	n/a	n/a	6	n/a	U
S04T000128			2-Butanone	ug/Kg	n/a	<24	<24	n/a	n/a	n/a	n/a	2.e+01	n/a	U
S04T000128			1,1,1-Trichloroethane	ug/Kg	n/a	<8.9	<9.0	n/a	n/a	n/a	n/a	9	n/a	U
S04T000128			Carbon Tetrachloride	ug/Kg	n/a	<12	<12	n/a	n/a	n/a	n/a	1.e+01	n/a	U
S04T000128			Trichloroethene	ug/Kg	86	<12	<13	n/a	n/a	n/a	n/a	1.e+01	n/a	U
S04T000128			1,1,2-Trichloroethane	ug/Kg	n/a	<6.5	<6.6	n/a	n/a	n/a	n/a	7	n/a	U
S04T000128			Benzene	ug/Kg	89	<6.3	<6.3	n/a	n/a	n/a	n/a	6	n/a	U
S04T000128			trans-1,3-Dichloropropene	ug/Kg	n/a	<6.4	<6.4	n/a	n/a	n/a	n/a	6	n/a	U
S04T000128			4-Methyl-2-pentanone	ug/Kg	n/a	<13	<13	n/a	n/a	n/a	n/a	1.e+01	n/a	U
S04T000128			Tetrachloroethene	ug/Kg	n/a	<8.2	<8.3	n/a	n/a	n/a	n/a	8	n/a	U
S04T000128			Toluene	ug/Kg	88	<7.3	<7.4	n/a	n/a	n/a	n/a	7	n/a	U
S04T000128			1,1,2,2-Tetrachloroethane	ug/Kg	n/a	<6.5	<6.6	n/a	n/a	n/a	n/a	7	n/a	U
S04T000128			Chlorobenzene	ug/Kg	87	<7.7	<7.8	n/a	n/a	n/a	n/a	8	n/a	U
S04T000128			Ethylbenzene	ug/Kg	n/a	<15	<16	n/a	n/a	n/a	n/a	2.e+01	n/a	U
S04T000128			Xylenes (total)	ug/Kg	n/a	<23	<23	n/a	n/a	n/a	n/a	2.e+01	n/a	U
S04T000128			1,1-Dichloroethene	ug/Kg	92	<10	<10	n/a	n/a	n/a	n/a	1.e+01	n/a	U
S04T000128			Ethyl acetate	ug/Kg	n/a	<9.7	<9.8	n/a	n/a	n/a	n/a	1.e+01	n/a	U
S04T000128			1,1,2-TriCl-1,2,2-triFethane	ug/Kg	n/a	<10	<10	n/a	n/a	n/a	n/a	1.e+01	n/a	U
S04T000128			Diethyl ether	ug/Kg	n/a	<8.8	<8.9	n/a	n/a	n/a	n/a	9	n/a	U
S04T000128			Trichlorofluoromethane	ug/Kg	n/a	<9.3	<9.4	n/a	n/a	n/a	n/a	9	n/a	U
S04T000128			2-Nitropropane	ug/Kg	n/a	<16	<16	n/a	n/a	n/a	n/a	2.e+01	n/a	U
S04T000128			m,p-Xylene	ug/Kg	n/a	<18	<18	n/a	n/a	n/a	n/a	2.e+01	n/a	U
S04T000128			o-Xylene	ug/Kg	n/a	<5.5	<5.6	n/a	n/a	n/a	n/a	6	n/a	U
S04T000128			Hexachloroethane	ug/Kg	n/a	<5.9	<5.9	n/a	n/a	n/a	n/a	6	n/a	U
S04T000128			1,2,4-Trichlorobenzene VOA	ug/Kg	n/a	<10	<10	n/a	n/a	n/a	n/a	1.e+01	n/a	U
S04T000131			2,4,6-Trichlorophenol	ug/Kg	n/a	<1.5e+03	<7.5e+02	n/a	n/a	n/a	n/a	7.e+02	n/a	U
S04T000131			Di-n-butylphthalate	ug/Kg	n/a	1.8e+03	3.3e+03	n/a	n/a	n/a	n/a	3.e+02	n/a	Y
S04T000131			Fluoranthene	ug/Kg	n/a	<1.8e+03	<9.2e+02	n/a	n/a	n/a	n/a	9.e+02	n/a	U
S04T000131			Butylbenzylphthalate	ug/Kg	n/a	<5.4e+02	<2.7e+02	n/a	n/a	n/a	n/a	3.e+02	n/a	U
S04T000131			2-Nitrophenol	ug/Kg	n/a	<3.2e+03	<1.6e+03	n/a	n/a	n/a	n/a	2.e+03	n/a	U
S04T000131			2-Chlorophenol	ug/Kg	81	<2.7e+03	<1.4e+03	n/a	n/a	n/a	n/a	1.e+03	n/a	U
S04T000131			Phenol	ug/Kg	82	<6.2e+03	<3.1e+03	n/a	n/a	n/a	n/a	3.e+03	n/a	U
S04T000131			Pyrene	ug/Kg	99	<3.0e+03	<1.5e+03	n/a	n/a	n/a	n/a	1.e+03	n/a	U
S04T000131			N-Nitroso-di-n-propylamine	ug/Kg	85	<1.7e+03	<8.7e+02	n/a	n/a	n/a	n/a	9.e+02	n/a	U
S04T000131			1,2,4-Trichlorobenzene SV	ug/Kg	87	<7.6e+02	<3.8e+02	n/a	n/a	n/a	n/a	4.e+02	n/a	U
S04T000131			4-Chloro-3-methylphenol	ug/Kg	90	<9.8e+02	<4.9e+02	n/a	n/a	n/a	n/a	5.e+02	n/a	U

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Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%	Qual Flags
S04T000131			Acenaphthene	ug/Kg	96	<3.1e+03	<1.5e+03	n/a	n/a	n/a	n/a	1.e+03	n/a	U
S04T000131			4-Nitrophenol	ug/Kg	1.0e+02	<1.5e+03	<7.3e+02	n/a	n/a	n/a	n/a	7.e+02	n/a	U
S04T000131			2,4-Dinitrotoluene	ug/Kg	99	<1.9e+03	<9.7e+02	n/a	n/a	n/a	n/a	1.e+03	n/a	U
S04T000131			2-Methylphenol	ug/Kg	n/a	<5.2e+03	<2.6e+03	n/a	n/a	n/a	n/a	3.e+03	n/a	U
S04T000131			3 & 4 Methylphenol Total	ug/Kg	n/a	<1.2e+04	<5.9e+03	n/a	n/a	n/a	n/a	6.e+03	n/a	U
S04T000131			1,4-Dichlorobenzene	ug/Kg	86	<2.7e+03	<1.4e+03	n/a	n/a	n/a	n/a	1.e+03	n/a	U
S04T000131			1,2-Dichlorobenzene	ug/Kg	n/a	<2.8e+03	<1.4e+03	n/a	n/a	n/a	n/a	1.e+03	n/a	U
S04T000131			N-Nitrosomorpholine	ug/Kg	n/a	<1.50e+03	<770	n/a	n/a	n/a	n/a	7.7e+02	n/a	U
S04T000131			26bis(tert-butyl)4Methylphenol	ug/Kg	n/a	<1.9e+03	<9.4e+02	n/a	n/a	n/a	n/a	9.e+02	n/a	U
S04T000131			2-Ethoxyethanol	ug/Kg	n/a	<1.5e+03	<7.3e+02	n/a	n/a	n/a	n/a	7.e+02	n/a	U
S04T000131			Total Methylphenols	ug/Kg	n/a	<7.5e+03	<3.7e+03	n/a	n/a	n/a	n/a	4.e+03	n/a	U
S04T000131			Cyclohexanone	ug/Kg	n/a	<4.5e+03	<2.2e+03	n/a	n/a	n/a	n/a	2.e+03	n/a	U
S04T000131			Isobutanol	ug/Kg	n/a	<3.7e+03	<1.8e+03	n/a	n/a	n/a	n/a	2.e+03	n/a	U
S04T000131			1-Butanol	ug/Kg	n/a	<2.8e+03	<1.4e+03	n/a	n/a	n/a	n/a	1.e+03	n/a	U
S04T000131			Pentachlorophenol	ug/Kg	97	<1.3e+03	<6.7e+02	n/a	n/a	n/a	n/a	7.e+02	n/a	U
S04T000131			Di-n-octylphthalate	ug/Kg	n/a	<3.0e+03	<1.5e+03	n/a	n/a	n/a	n/a	1.e+03	n/a	U
S04T000131			Hexachloroethane	ug/Kg	n/a	<2.6e+03	<1.3e+03	n/a	n/a	n/a	n/a	1.e+03	n/a	U
S04T000131			Naphthalene	ug/Kg	n/a	<1.2e+03	<6.2e+02	n/a	n/a	n/a	n/a	6.e+02	n/a	U
S04T000131			Nitrobenzene	ug/Kg	n/a	<1.3e+03	<6.5e+02	n/a	n/a	n/a	n/a	6.e+02	n/a	U
S04T000131			Pyridine	ug/Kg	n/a	<1.9e+03	<9.3e+02	n/a	n/a	n/a	n/a	9.e+02	n/a	U
S04T000131			Hexachlorobutadiene	ug/Kg	n/a	<6.8e+02	<3.4e+02	n/a	n/a	n/a	n/a	3.e+02	n/a	U
S04T000131			2,4,5-Trichlorophenol	ug/Kg	n/a	<1.4e+03	<7.1e+02	n/a	n/a	n/a	n/a	7.e+02	n/a	U
S04T000132		F	Cobalt-60 by GEA	uCi/g	96.5	<0.960	<9.27e-03	n/a	n/a	n/a	n/a	9.3e-03	n/a	U
S04T000132		F	Cesium-137 by GEA	uCi/g	104	<2.21	<0.0202	n/a	n/a	n/a	n/a	0.020	n/a	U
S04T000132		F	Europium-152 by GEA	uCi/g	n/a	<1.83	<0.0177	n/a	n/a	n/a	n/a	0.018	n/a	U
S04T000132		F	Europium-154 by GEA	uCi/g	n/a	<2.54	<0.0284	n/a	n/a	n/a	n/a	0.028	n/a	U
S04T000132		F	Europium-155 by GEA	uCi/g	n/a	<2.36	<0.0208	n/a	n/a	n/a	n/a	0.021	n/a	U

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SAMPLE DATA SUMMARY

SECONDARY ANALYTES

ATTACHMENT 2

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A-0002-1(23)

Secondary Analytes
C106 CL03
Opportunistic Analyte Results

RISER: 14
SEGMENT #: Field Primary Sample

SEGMENT PORTION: Tank Composite-Solid (Total)

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%	Qual Flags
S04T000111	W		Glycolate-IC-Dionex 500 ORGACD	ug/g	97.1	<9.69	<1.85e+03	<1.86e+03	n/a	n/a	95.0	1.9e+03	n/a	U
S04T000111	W		Acetate by IC-Dionex 500 col	ug/g	99.1	<11.7	<2.24e+03	<2.25e+03	n/a	n/a	96.3	2.2e+03	n/a	U
S04T000111	W		Formate by IC-DIONEX 500 col	ug/g	98.7	<11.7	<2.24e+03	<2.25e+03	n/a	n/a	95.7	2.2e+03	n/a	U
S04T000111	W		Chloride-IC-Dionex 500 col	ug/g	98.8	<2.04	<390	<392	n/a	n/a	92.3	3.9e+02	n/a	U
S04T000111	W		Nitrite-IC - Dionex 500 col	ug/g	107	<13.8	<2.63e+03	<2.64e+03	n/a	n/a	113	2.6e+03	n/a	U
S04T000111	W		Sulfate-IC-Dionex 500 col	ug/g	97.9	<16.3	<3.12e+03	<3.13e+03	n/a	n/a	96.1	3.1e+03	n/a	U
S04T000111	W		Oxalate-IC-Dionex 500 col	ug/g	99.5	<13.8	1.84e+04	2.15e+04	1.99e+04	15.7	95.9	2.6e+03	n/a	J
S04T000111	W		Bromide-IC-Dionex 500 col	ug/g	100	<14.8	<2.82e+03	<2.84e+03	n/a	n/a	99.4	2.8e+03	n/a	U
S04T000111	W		Nitrate-IC-Dionex 500 col	ug/g	100	<15.3	<2.92e+03	<2.94e+03	n/a	n/a	99.0	2.9e+03	n/a	U
S04T000111	W		Phosphate-IC-Dionex 500 col	ug/g	99.4	<13.8	<2.63e+03	<2.64e+03	n/a	n/a	98.8	2.6e+03	n/a	U
S04T000113	F		Niobium-94 by GEA	uCi/g	n/a	<0.945	<1.16	<1.03	n/a	n/a	n/a	1.2	n/a	U
S04T000113	F		Ru/Rh-106 by GEA	uCi/g	n/a	<17.6	<22.1	<19.8	n/a	n/a	n/a	22	n/a	U
S04T000113	F		Antimony-125 by GEA	uCi/g	n/a	<2.49	<4.13	<3.76	n/a	n/a	n/a	4.1	n/a	U
S04T000113	F		Cesium-134 by GEA	uCi/g	n/a	<0.842	<1.07	<1.11	n/a	n/a	n/a	1.1	n/a	U
S04T000113	F		Ce/Pr-144 by GEA	uCi/g	n/a	<9.90	<17.0	<16.3	n/a	n/a	n/a	17	n/a	U
S04T000113	F		Radium-226 by GEA	uCi/g	n/a	<16.1	<25.8	<25.4	n/a	n/a	n/a	26	n/a	U
S04T000113	F		Actinium-228 by GEA	uCi/g	n/a	<4.43	<4.56	<4.68	n/a	n/a	n/a	4.6	n/a	U
S04T000113	F		Americium-241 by GEA	uCi/g	n/a	<5.47	<10.8	<10.8	n/a	n/a	n/a	11	n/a	U
S04T000177	A		Aluminium -ICP-Acid Digest	ug/g	96.6	<0.0530	2.32e+04	2.44e+04	2.38e+04	5.06	52.1	1.9e+02	n/a	f
S04T000177	A		Boron -ICP-Acid Digest	ug/g	94.3	<0.0210	<75.7	<73.9	n/a	n/a	101	76	n/a	U
S04T000177	A		Bismuth -ICP-Acid Digest	ug/g	92.6	<0.0520	<187	<183	n/a	n/a	93.3	1.9e+02	n/a	U
S04T000177	A		Calcium -ICP-Acid Digest	ug/g	106	0.0164	7.10e+03	6.83e+03	6.97e+03	3.82	156	43	n/a	f
S04T000177	A		Cerium -ICP-Acid Digest	ug/g	93.3	<0.0210	371	378	375	1.91	100	76	n/a	J
S04T000177	A		Cobalt -ICP-Acid Digest	ug/g	95.4	<5.00e-03	25.5	26.9	26.2	5.42	110	18	n/a	J
S04T000177	A		Copper -ICP-Acid Digest	ug/g	94.8	<0.0120	138	132	135	4.81	102	43	n/a	J
S04T000177	A		Europium -ICP-Acid Digest	ug/g	92.6	<0.0110	<39.6	<38.7	n/a	n/a	96.7	40	n/a	U
S04T000177	A		Iron -ICP-Acid Digest	ug/g	95.9	<0.0200	1.31e+04	1.24e+04	1.27e+04	5.47	18.4	72	n/a	f
S04T000177	A		Potassium -ICP-Acid Digest	ug/g	93.4	<0.313	<1.13e+03	<1.10e+03	n/a	n/a	46.8	1.1e+03	n/a	Ub
S04T000177	A		Lantharum -ICP-Acid Digest	ug/g	95.9	<5.50e-03	152	154	153	0.766	101	20	n/a	J
S04T000177	A		Lithium -ICP-Acid Digest	ug/g	96.4	<2.00e-03	<7.21	<7.04	n/a	n/a	101	7.2	n/a	U
S04T000177	A		Magnesium -ICP-Acid Digest	ug/g	92.6	<0.0520	419	475	447	12.5	107	1.9e+02	n/a	J
S04T000177	A		Manganese -ICP-Acid Digest	ug/g	93.2	<1.00e-03	3.33e+04	3.26e+04	3.29e+04	1.86	-193	3.6	n/a	f
S04T000177	A		Molybdenum -ICP-Acid Digest	ug/g	98.2	<5.40e-03	<19.5	<19.0	n/a	n/a	105	20	n/a	U
S04T000177	A		Sodium -ICP-Acid Digest	ug/g	93.3	<0.0450	1.13e+04	1.12e+04	1.13e+04	1.12	-7.98	1.6e+02	n/a	f
S04T000177	A		Neodymium -ICP-Acid Digest	ug/g	93.4	<0.0100	559	553	556	1.09	53.9	36	n/a	bf
S04T000177	A		Niobium -ICP-Acid Digest	ug/g	96.1	<0.0500	254	266	260	4.62	167	1.5e+02	n/a	J
S04T000177	A		Phosphorus -ICP-Acid Digest	ug/g	97.2	0.0230	1.90e+03	1.75e+03	1.83e+03	8.14	106	72	n/a	
S04T000177	A		Palladium -ICP-Acid Digest	ug/g	93.6	<0.150	<450	<440	n/a	n/a	91.8	4.5e+02	n/a	U
S04T000177	A		Praseodymium-ICP Acid Digest	ug/g	100	<0.0520	335	334	334	0.309	5.15	1.6e+02	n/a	Jb
S04T000177	A		Rubidium-ICP-Acid Digest	ug/g	88.2	<0.510	<1.53e+03	<1.50e+03	n/a	n/a	127	1.5e+03	n/a	Ub
S04T000177	A		Rhodium -ICP-Acid Digest	ug/g	95.8	<0.0520	<156	<153	n/a	n/a	94.3	1.6e+02	n/a	U
S04T000177	A		Ruthenium ICP-Acid Digest	ug/g	94.7	<0.0510	<153	<150	n/a	n/a	103	1.5e+02	n/a	U
S04T000177	A		Sulfur -ICP-Acid Digest	ug/g	95.7	0.112	<82.9	<81.0	n/a	n/a	95.1	83	n/a	U
S04T000177	A		Antimony -ICP-Acid Digest	ug/g	94.3	<0.0210	<75.7	<73.9	n/a	n/a	98.4	76	n/a	U

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A-0002-1(23)

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%	Qual Flags
S04T000177		A	Silicon -ICP-Acid Digest	ug/g	n/a	0.0254	1.08e+03	948	1.01e+03	12.7	58.3	36	n/a	bf
S04T000177		A	Samarium -ICP-Acid Digest	ug/g	98.0	<0.0110	152	181	166	17.2	102	40	n/a	J
S04T000177		A	Tin -ICP-Acid Digest	ug/g	94.2	0.0666	<153	<150	n/a	n/a	96.7	1.5e+02	n/a	U
S04T000177		A	Strontium -ICP-Acid Digest	ug/g	95.7	<1.00e-03	119	109	114	9.32	100	3.6	n/a	
S04T000177		A	Tantalum -ICP-Acid Digest	ug/g	95.4	<0.0510	<153	<150	n/a	n/a	55.7	1.5e+02	n/a	Ub
S04T000177		A	Tellurium-ICP-Acid Digest	ug/g	92.6	<0.0510	<153	<150	n/a	n/a	94.8	1.5e+02	n/a	U
S04T000177		A	Thorium -ICP-Acid Digest	ug/g	95.8	<0.0100	183	209	196	13.1	104	36	n/a	J
S04T000177		A	Titanium-ICP-Acid Digest	ug/g	98.2	<1.30e-03	20.2	29.2	24.7	36.1	103	4.7	n/a	J
S04T000177		A	Uranium -ICP-Acid Digest	ug/g	91.1	<0.0520	<187	<183	n/a	n/a	117	1.9e+02	n/a	U
S04T000177		A	Tungsten -ICP-Acid Digest	ug/g	96.4	<0.100	<300	<293	n/a	n/a	65.0	3.0e+02	n/a	Ub
S04T000177		A	Yttrium -ICP-Acid Digest	ug/g	93.6	<1.00e-03	102	99.8	101	1.95	100	3.6	n/a	
S04T000177		A	Zirconium -ICP-Acid Digest	ug/g	91.1	<2.00e-03	186	160	173	14.8	109	7.2	n/a	e

Secondary Analytes
C106 CL03
Opportunistic Analyte Results

RISER: 14
SEGMENT #: Field Duplicate Sample

SEGMENT PORTION: Tank Composite-Solid (Total)

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%	Qual Flags
S04T000124		W	Glycolate-IC-Dionex 500 ORGACD	ug/g	97.1	<9.69	<1.82e+03	n/a	n/a	n/a	n/a	1.8e+03	n/a	U
S04T000124		W	Acetate by IC-Dionex 500 col	ug/g	99.1	<11.7	<2.20e+03	n/a	n/a	n/a	n/a	2.2e+03	n/a	U
S04T000124		W	Formate by IC-DIONEX 500 col	ug/g	98.7	<11.7	<2.20e+03	n/a	n/a	n/a	n/a	2.2e+03	n/a	U
S04T000124		W	Chloride-IC-Dionex 500 col	ug/g	98.8	<2.04	<383	n/a	n/a	n/a	n/a	3.8e+02	n/a	U
S04T000124		W	Nitrite-IC - Dionex 500 col	ug/g	107	<13.8	<2.58e+03	n/a	n/a	n/a	n/a	2.6e+03	n/a	U
S04T000124		W	Sulfate-IC-Dionex 500 col	ug/g	97.9	<16.3	<3.06e+03	n/a	n/a	n/a	n/a	3.1e+03	n/a	U
S04T000124		W	Oxalate-IC-Dionex 500 col	ug/g	99.5	<13.8	2.28e+04	n/a	n/a	n/a	n/a	2.6e+03	n/a	
S04T000124		W	Bromide-IC-Dionex 500 col	ug/g	100	<14.8	<2.77e+03	n/a	n/a	n/a	n/a	2.8e+03	n/a	U
S04T000124		W	Nitrate-IC-Dionex 500 col	ug/g	100	<15.3	<2.87e+03	n/a	n/a	n/a	n/a	2.9e+03	n/a	U
S04T000124		W	Phosphate-IC-Dionex 500 col	ug/g	99.4	<13.8	<2.58e+03	n/a	n/a	n/a	n/a	2.6e+03	n/a	U
S04T000126		F	Niobium-94 by GEA	uCi/g	n/a	<0.945	<1.29	n/a	n/a	n/a	n/a	1.3	n/a	U
S04T000126		F	Ru/Rh-106 by GEA	uCi/g	n/a	<17.6	<21.9	n/a	n/a	n/a	n/a	22	n/a	U
S04T000126		F	Antimony-125 by GEA	uCi/g	n/a	<2.49	<4.09	n/a	n/a	n/a	n/a	4.1	n/a	U
S04T000126		F	Cesium-134 by GEA	uCi/g	n/a	<0.842	<1.11	n/a	n/a	n/a	n/a	1.1	n/a	U
S04T000126		F	Ce/Pr-144 by GEA	uCi/g	n/a	<9.90	<18.1	n/a	n/a	n/a	n/a	18	n/a	U
S04T000126		F	Radium-226 by GEA	uCi/g	n/a	<16.1	<26.9	n/a	n/a	n/a	n/a	27	n/a	U
S04T000126		F	Actinium-228 by GEA	uCi/g	n/a	<4.43	<5.19	n/a	n/a	n/a	n/a	5.2	n/a	U
S04T000126		F	Americium-241 by GEA	uCi/g	n/a	<5.47	<11.4	n/a	n/a	n/a	n/a	11	n/a	U
S04T000178		A	Aluminium -ICP-Acid Digest	ug/g	96.6	<0.0530	2.48e+04	n/a	n/a	n/a	n/a	1.9e+02	n/a	
S04T000178		A	Boron -ICP-Acid Digest	ug/g	94.3	<0.0210	<74.8	n/a	n/a	n/a	n/a	75	n/a	U
S04T000178		A	Bismuth -ICP-Acid Digest	ug/g	92.6	<0.0520	<185	n/a	n/a	n/a	n/a	1.8e+02	n/a	U
S04T000178		A	Calcium -ICP-Acid Digest	ug/g	106	0.0164	7.87e+03	n/a	n/a	n/a	n/a	43	n/a	
S04T000178		A	Cerium -ICP-Acid Digest	ug/g	93.3	<0.0210	343	n/a	n/a	n/a	n/a	75	n/a	
S04T000178		A	Cobalt -ICP-Acid Digest	ug/g	95.4	<5.00e-03	21.1	n/a	n/a	n/a	n/a	18	n/a	
S04T000178		A	Copper -ICP-Acid Digest	ug/g	94.8	<0.0120	156	n/a	n/a	n/a	n/a	43	n/a	
S04T000178		A	Europium ICP-Acid Digest	ug/g	92.6	<0.0110	<39.2	n/a	n/a	n/a	n/a	39	n/a	U
S04T000178		A	Iron -ICP-Acid Digest	ug/g	95.9	<0.0200	1.35e+04	n/a	n/a	n/a	n/a	71	n/a	
S04T000178		A	Potassium -ICP-Acid Digest	ug/g	93.4	<0.313	<1.11e+03	n/a	n/a	n/a	n/a	1.1e+03	n/a	U
S04T000178		A	Lanthanum -ICP-Acid Digest	ug/g	95.9	<5.50e-03	155	n/a	n/a	n/a	n/a	20	n/a	
S04T000178		A	Lithium -ICP-Acid Digest	ug/g	96.4	<2.00e-03	<7.12	n/a	n/a	n/a	n/a	7.1	n/a	U
S04T000178		A	Magnesium -ICP-Acid Digest	ug/g	92.6	<0.0520	450	n/a	n/a	n/a	n/a	1.8e+02	n/a	
S04T000178		A	Manganese -ICP-Acid Digest	ug/g	93.2	<1.00e-03	3.64e+04	n/a	n/a	n/a	n/a	3.6	n/a	
S04T000178		A	Molybdenum -ICP-Acid Digest	ug/g	98.2	<5.40e-03	<19.2	n/a	n/a	n/a	n/a	19	n/a	U
S04T000178		A	Sodium -ICP-Acid Digest	ug/g	93.3	<0.0450	1.21e+04	n/a	n/a	n/a	n/a	1.6e+02	n/a	
S04T000178		A	Neodymium -ICP-Acid Digest	ug/g	93.4	<0.0100	579	n/a	n/a	n/a	n/a	36	n/a	
S04T000178		A	Niobium -ICP-Acid Digest	ug/g	96.1	<0.0500	276	n/a	n/a	n/a	n/a	1.5e+02	n/a	J
S04T000178		A	Phosphorus -ICP-Acid Digest	ug/g	97.2	0.0230	1.90e+03	n/a	n/a	n/a	n/a	71	n/a	
S04T000178		A	Palladium -ICP-Acid Digest	ug/g	93.6	<0.150	<445	n/a	n/a	n/a	n/a	4.4e+02	n/a	U
S04T000178		A	Praseodymium-ICP Acid Digest	ug/g	100	<0.0520	345	n/a	n/a	n/a	n/a	1.5e+02	n/a	
S04T000178		A	Rubidium-ICP-Acid Digest	ug/g	88.2	<0.510	<1.51e+03	n/a	n/a	n/a	n/a	1.5e+03	n/a	U
S04T000178		A	Rhodium -ICP-Acid Digest	ug/g	95.8	<0.0520	<154	n/a	n/a	n/a	n/a	1.5e+02	n/a	U
S04T000178		A	Ruthenium ICP-Acid Digest	ug/g	94.7	<0.0510	<151	n/a	n/a	n/a	n/a	1.5e+02	n/a	U
S04T000178		A	Sulfur -ICP-Acid Digest	ug/g	95.7	0.112	<81.9	n/a	n/a	n/a	n/a	82	n/a	U
S04T000178		A	Antimony -ICP-Acid Digest	ug/g	94.3	<0.0210	<74.8	n/a	n/a	n/a	n/a	75	n/a	U