FH-0500199

0063942

Meeting Minutes Transmittal/Approval
Unit Managers' Meeting
200 Area Groundwater and Source Operable Units
1200 Jadwin Avenue, Richland, Washington
February 19, 2004

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

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

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

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

RECEIVED
MAR 07 2005
EDMC

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

Attachment 1	--	Agenda
Attachment 2	--	Attendance Record
Attachment 3	--	200 Area UMM Minutes – February 19, 2004
Attachment 4	--	200 Area Current Action Log
Attachment 5	--	Remedial Action Float Table
Attachment 6	--	200-UP-1, 200-ZP-1 and 200-PW-1 Status Report
Attachment 7	--	Comparison of Maximum Carbon Tetrachloride Rebound Concentrations Monitored at 200-PW-1 Soil Vapor Extraction Sites FY 1998- FY 2004
Attachment 8	--	200-PO-1 OU – Request Discharge of Purgewater to Ground From Well 699-20-E120
Attachment 9	--	U Plant Area Closure Field Work Status as of February 18, 2004
Attachment 10	--	Appendix B – List of Supplemental Wells Potentially Used to Support CERCLA Groundwater Monitoring for the 200-BP-5 Operable Unit and
Attachment 11	--	FY 2004 Waste Site Remedial Actions Project Schedule
Attachment 12	--	Summary of BC Cribs and Trenches Boreholes
Attachment 13	--	Figure 7-16, Proposed Modification to Existing Network at B-BX-BY Tank Farm

Prepared by: _____ Date 2-18-05
Linda DeLannoy, Project Systems & Support (H8-49)

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

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

EPA

Craig Cameron	B5-01

Ecology

John Price	H0-57

Administrative Record (2)	A3-01

UNIT MANAGERS' MEETING AGENDA

1200 Jadwin Avenue
February 19, 2004

9 a.m. – 12 a.m. **200 Area** **Room 1C1**

General (15 minutes)

- Outstanding Action Items
- Open for Regulatory Topics or Action Items
- Brown Bag Meetings

U Plant Area Regional Closure (10 minutes)

- Schedule Review
  - FFS/PP Status
  - Change Request Status
  - Drive casing/Spectra Gamma
  - Path forward

BC Cribs Area Closure (10 minutes)

- Schedule Review
  - Summary of Data from BC Cribs and Trenches Boreholes
  - Controlled Area Waste Control Plan
  - Confirmatory DQO and SAP
  - TPA change request to move four LW-1 sites to TW-1

GROUNDWATER OPERABLE UNITS

General (5 minutes)

- Update on Well Decommissioning

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

- 200-BP-5 Updated Well List
- 200-PO-1 SAP and Waste Control Plan status

200-UP-1 OU (5 minutes)

- Remediation Treatment Status
- RI/FS Work Plan Status – Draft B in Process of Being Issued
- Currently Drilling of New Monitoring Wells "O", "N", and "S"
- Drilling of New Monitoring Wells "K", "P", and "R" Begins Spring 2004
- RI/FS Schedule – Ecology Selecting Detailed Activities From RI/FS Schedule for Monthly Status

200-ZP-1 OU (5 minutes)

- Remediation Treatment Status
- RI/FS Work Plan Status – RL/EPA Reviewing Document
- Completed Drilling Replacement Extraction Well #4, Design Work Started

SOURCE OPERABLE UNITS

200-PW-1, 200-PW-3, & 200-PW-6 OUs (15 minutes)

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

218-W-4C Burial Ground (5 minutes)

- Remediation Treatment Status

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

- Schedule Review
  - Status of Waste Management Activities
  - Status of Work Plan
  - Status of RI Report
- Distribute Borehole Summary Report

200-CS-1 OU (2 minutes)

- Schedule Review
  - Status of RI Report

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

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

200 Area Ecological Evaluation (10 minutes)

- Schedule Review
  - Status of Eco DQO
  - Status of Eco Evaluation Report

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

- Schedule Review
  - Status of FS and PP
    - Delay of Documents to Allow Additional Eco Sampling in Spring
  - Set Up Meeting to Start Revision of PP

200-IS-1 & 200-ST-1 (10 minutes)

- Schedule Review
  - Status of Work Plan
  - Scope Definition

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

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

200-UR-1 (5 minutes)

- Schedule Review
  - Status of DQO and Work Plan

200-SW-1/2 (5 minutes)

- Schedule Review
  - Status of Work Plan

<u>SPECIAL TOPICS</u> (20 Minutes)

- Overview of 200-TW-1 FS/PP
  - Document Structure
  - RAOs
  - Technologies and Alternatives
  - Detailed Analysis
  - Preferred Alternatives
  - Costs

Groundwater and Source Operable Units Unit Managers' Meeting
Official Attendance Record – 200 Area
February 19, 2004

Please print clearly and use black ink

PRINTED NAME	ORGANIZATION	O.U. ROLE	TELEPHONE
Craig Cameron	EPA	Manager	376-8665
DENNIS Faulk	EPA		
Virginia Rohay	FH	PW-1, SW-2	373-3803
John Price	Ecology	Proj. Mgr	736-3029
Jean Vanni	Ecology	Eco Support	736-3046
Beth Rochette	Ecology	200 area common	736-3020
Ron Jackson	FH	U-Plant	~~753~~-373-3599
Bryan Foley	DOE-RL	200 Area Soil Waste Sites	376-7097
Arlene Tortoso	DOE-RL	200-Area GW UM	373-9631
Stuart Luttrell	PNNL	GWater Mon.	376-6023
Mark Byrnes	FH	Task Lead	373-3996
John P. McDonald	PNNL	UP-1 Sampling	373-0362
Mark Bowker	FH	BC Cribs	6-0772
MIKE HICKEY	FH	CW-1	373-3092
CRAIG SWANSON	FH	200 AREA	373-3807
Dave Erb	FH	UP/ZP P&T	373-4457
MICHAEL J GALGOUL	CH2M Hill	TECH SUPPORT	372-9590
John Winterhalder	FH	GRP/ECO	372-8144
Eileen Murphy-Fitch	~~FH-TDAT~~		376-8868
MARY TODD-ROBERTSON	FH	Mgr-200 area waste sites	373-3920

MEETING MINUTES
200 AREA UNIT MANAGERS' MEETING -- 200 AREA
February 19, 2004

Agenda: See Attachment #1

Attendees: See Attachment #2

Topics of Discussion:

1. **General**
   - Outstanding Action Items – Action items were reviewed. Item 34 will be resolved off-line and presented at the March UMM.
   - Open for Regulatory Topics or Action Items – No discussion.
   - Brown Bag Meetings – EPA would like to have Brown Bag meetings. The invitees should be at the same level as the 100 Area Brown Bag meetings. The meetings should be held once per month. DOE requested that they be informed of the topics of these Brown Bags meetings.

2. **U Plant Area Regional Closure**
   - Schedule Review
     - FFS/PP Status – FH has a commitment to deliver the new version based on Region 10 comments. FH is working with Ecology on the language of RCRA/CERCLA integration. Work is being performed toward a redline/strike out version of the SAP. A meeting was held regarding NODs on the 216-U-12 TSD crib and U-12 with Ecology. The report is tied to closure.
     - Change Request Status – A change request that captures and consolidates waste sites from nine OUs into a new U Plant Area Closure OU has been prepared and submitted to the regulators for review.
     - Drive Casing/Spectral Gamma – A handout was distributed which outlines the field work status as of February 18, 2004 (attached). Fourteen casings have been installed. More drive casings will be done.
     - Path Forward – The Proposed Plan will go to Region 10 in a couple of weeks. The public review process will be initiated around April 2004.

3. **BC Cribs Area Closure**
   - Schedule Review
     - Summary of Data from BC Cribs and Trenches Boreholes – All the data were discussed. FH met with PNNL and CHG to discuss the technetium-99 and nitrate analysis data. Very little data was collected, but data collected by PNNL and CHG corroborated the data obtained. There is a lens of significant thickness about 100' down, which will shape design sampling significantly. FH intends to investigate

lateral spreading. The data is being incorporated into the Feasibility Study and the Proposed Plan.

- Controlled Area Waste Control Plan – No progress has been made on the Waste Control Plan. Ecology stated that the objective of the project is not clear.
- Confirmatory DQO and SAP – The DQO is underway. It will include information from analyses done by CHG and PNNL.
- TPA Change Request to Move Four LW-1 Sites to TW-1 – Review by Ecology is ongoing.

4. General

- Update on Well Decommissioning – No discussion, but it was requested that an update be provided in bulleted form in next month's UMM agenda.

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

- 200-BP-5 Updated Well List – A handout, "Appendix B – List of Supplemental Wells Potentially Used to Support CERCLA Groundwater Monitoring for the 200-BP-5 Operable Unit", was distributed (attached). Three wells will be drilled this spring at B-BX-BY. An addendum will be sent to the regulators so that it gets into their files. EPA requested that it get into the Administrative Record for BP-5. The process is set up internally to have data collected as drilling occurs. EPA stated that there is a need to find out what Ecology is doing internally and that if someone is drilling in an EPA unit, someone should let EPA know. Sampling information at those wells should be provided to Ecology and EPA.
- 200-PO-1 SAP Status and Waste Control Plan Status – The Sampling and Analysis Plan was signed by Ecology.
- 200-PO-1 Request Discharge of Purgewater to Ground From Well 699-20-E12O – The purgewater truck gets stuck in loose sand. A request was made to discharge the purgewater to the ground. A handout was distributed (attached).

6. 200-UP-1 OU

- Remediation Treatment Status – The average pumping rate for CY 2004 through February was 42.3 gpm. The system operated at between 14.4 and 65.8 gpm for the month of January through February 15, 2004. Extraction well 299-W-39 was down for approximately two weeks due to frozen pipes, a failed pump, and delays related to Lock-and-Tag issues. On February 5 and 6, 2004, the system was shutdown for a total of 11.5 hours for an ERDF leachate transfer. The system run time for the month of January was 100%, for FY 2004 year-to-date was 81.2%, for system inception to date was 92.6%. A handout was distributed (attached).
- RI/FS Work Plan Status – Draft B distributed.
- Currently Drilling New Monitoring Wells "O", "N", and "S" – A listing of contaminant levels at monitoring well "O" was included on the handout distributed. The first groundwater sample was collected from well "N" on February 18, 2004.

- Drilling of New Monitoring Wells "K", "P", and "R" – Drilling of monitoring wells "K", "P" and "R" is scheduled to begin in a few weeks.
- RI/FS Schedule – DOE's submittal of Draft A is scheduled to go to the regulators in July of 2005. Draft A of the FS will be issued to the regulators in April of 2007.

7. 200-ZP-1 OU

- Remediation Treatment Status – The average pumping rate for FY 2004 through February 1 was 121 gpm. For the month of January 2004, the system operated at between 0.0 and 124 gpm. The system was temporarily shut down on January 4, 2004, due to a frozen level transmitter on the air stripper. The system was shutdown from January 5, 2004, to January 11, 2004, due to frozen pipes. An unscheduled outage occurred on January 13, 2004, and January 14, 2004, for a few hours due to a problem with a flow transmitter. Extraction Well #4 shutdown due to a bad level transducer. The system was shutdown for approximately one hour on January 26, 2004, and January 27, 2004, to remove the humidity probe on the heater/chiller unit. Replacement Extraction Wells #1 and #4 are in the process of being hooked up to the system. The system run time for the month of January was 76.3%, FY 2004 year-to-date was 90.8% and system inception to date was 92.2%. A handout was distributed (attached). EPA stated that they would like DOE and FH to expand the pump-and-treat system; or, if logical, to explain why expansion is not the way to go.
- RI/FS Work Plan Status – The RI/FS Work Plan is currently being reviewed by DOE and EPA.
- Completed Drilling Replacement Extraction Well #4, Design Work Started – No discussion.

SOURCE OPERABLE UNITS

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

- Schedule Review
  - Remediation Treatment Status – The active system is shutdown for the winter and is scheduled to be re-started on April 1, 2004. Initial operations are anticipated to be at the 216-Z-1A Tile Field to avoid interfering with vadose zone characterization activities at the 216-Z-9 Trench. The passive system remains operational.
  - Monthly Monitoring – Results are consistent with past monitoring. A handout was distributed (attached).
  - Status of Field Work Preparation and Planning – The target date for starting the slant well at 216-Z-9 is early April. The 216-A-8 investigation is still planned for mid- to late-April. A new Waste Control Plan for the 216-A-8 investigation is being prepared and should be available for EPA review in mid-March.
  - Status of RI/FS Work Plan – The Work Plan is going through the FH signature process for transmittal to DOE. The TPA Change Package is going through DOE review right now and will be provided to EPA for review on Friday.

- Status of Field Work at 216-Z-9 – FH will keep EPA informed of the schedule for resuming drilling of the DNAPL well at Z-9.

9. 218-W-4C Burial Ground

- Remediation Treatment Status – Vapor extraction is continuing at Trench 4. On January 28, 2004, 24 hr/day operations began. On February 12, 2004, the carbon tetrachloride concentration was approximately 6 ppmv.

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

- Schedule Review
  - Status of Waste Management Activities – Drums were disposed to ERDF from the 216-B-12 Crib on February 17, 2004.
  - Status of Work Plan – A meeting is scheduled for February 23, 2004, to discuss comments on the Work Plan, review a draft SAP for the 216-S-7 crib, and discuss a revision to the 200-PW-2 waste control plan.
  - Status of RI Report – Work is ongoing on the RI Report. A draft for internal review has been completed. The internal review is scheduled for February 25 through March 9, 2004.
- Distribute Borehole Summary Report – Ecology received a copy of the *200-PW-2 and 200-PW-4 Operable Units Borehole Summary Report* (CP-18666, Rev. 0).

11. 200-CS-1 OU

- Schedule Review
  - Status of RI Report – The RI Report has gone through an internal review and is being revised.

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

- Schedule Review
  - Status of Work Plan – The issues have been worked through and the document is in technical editing.
  - Status of RI Report – The RI Report will be out following the Work Plan, or possibly at the same time. One outstanding issue exists regarding pipeline sampling. All the field data have been collected and a RAD engineer is looking at that data. EPA inquired about the technical paper that was to be done on some of the analogous sites along the edge. FH will provide input to that inquiry.
  - Status of FS – The Feasibility Study is in development. FH is relying heavily on what is being learned with the U Plant and 200-TW-1/-2 Feasibility Studies.

13. 200 Area Ecological Evaluation

- Schedule Review
  - Status of Eco DQO – ORP has agreed to send the information on the shallow zone data. ORP is willing to work with FH.

- Status of Eco Evaluation Report – Comment responses have been received. A redline/strikeout version of the document has been completed.

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

- Schedule Review
  - Status of FS and PP – The schedule for the FS and PP was built on getting samples in March or April. The biologist recommends samples be taken in April or May 2004 so the schedule will be adjusted.
  - Set Up Meeting to Start Revision of PP – A meeting will be scheduled in the near future.

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

- Schedule Review
  - Status of Work Plan – The mapping of the pipeline is ongoing. The contractor is mobilizing to start the scoping process.
  - Scope Definition – No discussion.

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

- Schedule Review
  - Status of RI Report – The revised modeling section will be sent. Then, comments need to be resolved.
  - Status of FS and PP – See "Special Topics" below.

17. 200-UR-1

- Schedule Review
  - Status of DQO and Work Plan – The internal DQO is in progress. A good portion of the Work Plan has been done. D&D will be added to the UMM on a quarterly basis. Ecology stated that we might be able to have a miscellaneous sites ROD in the 200 Area.

18. 200-SW-1/2

- Schedule Review
  - Status of Work Plan – Weekly collaborative meetings are ongoing to discuss the approach to 200-SW-1/2 OU RI/FS process.

19. SPECIAL TOPICS

- Overview of 200-TW-1 FS/PP – A handout was distributed presenting the basic framework and activities associated with the FS (attached).
  - Document Structure
  - RAOs

- Technologies and Alternatives
- Detailed Analysis
- Preferred Alternatives
- Costs

200 Area Unit Managers' Meeting
OPEN ACTION ITEMS & TRACKING

Action #	Action/Subject	Assigned To	Owed To	Assigned Date	Original Due Date	Adjusted Due Date	Date Complete	Status
34	Provide a clear definition of "Central Plateau"	FH	EPA&Ecology	10/16/03				In progress

Remedial Action Float Table

Task	Scheduled Date	Float	Comments
200-CS-1			
Deliver Draft A RI Report for Regulator Review	5/31/2004	--	On schedule
Deliver Draft A FS/PP for Regulator Review	11/30/2005	--	On schedule
200-CW-1			
Deliver Draft B FS for Regulator Review	7/3/2003 (original date based on receipt of regulator comments 45 calendar days after submittal (which would be 5/15/2003) with 45 days to revise and reissue)	-280-d	Regulator comments originally due on 5/15/2003; policy level comments received on that date; Ecology indicated additional comments would be coming; to date these comments have not been received; the new schedule date assumes no additional comments will be received from the regulators on Draft A
	7/16/2004 (new target date based on collecting spring samples and incorporating data into the revision)	--	On schedule
200-LW-1			
Deliver Draft A RI Report for Regulator Review	10/31/2005	--	On schedule
200-PW-2			
Deliver Revised Waste Control Plan for regulator review	3/8/2004	--	On schedule. WCP for 200-PW-2 will be revised to include S-7 Crib.
Ecology approve Rev 1 RI/FS work plan	2/14/2003	-370-d	The schedule variance on this task should drive the schedule variance on the draft A FS; After BCR approval, field work is scheduled for 7/04 and completion of work is forecast to not generate a variance for the FS.
Deliver Draft A RI Report for Regulator Review	6/30/2004	--	Assumes RI can be delivered w/o add'l sampling, per Ecology agreement @ 12/03 UMM
Deliver Draft A FS/PP for Regulator Review	12/31/2005	--	Assumes additional sampling necessary for Ecology request
200-SW-1/200-SW-2			
Regulator DQO Interview	4/27/2004	--	On schedule
Deliver Draft DQO to regulators	7/5/2004	--	On schedule
Deliver draft A RI/FS work plan for regulator review	12/31/2004	--	On schedule
Deliver Waste Control Plan for regulator review	4/15/2005	--	On schedule
Start field sampling	7/27/2005	--	On schedule
Deliver Draft A RI Report for Regulator Review	9/19/2007	--	On schedule
200-TW-1 (includes 200-TW-2)			
EPA/Ecology approve RI Report	7/10/2003	-224-d	Need to finalize path forward on modeling revisions
Deliver Draft A FS/PP for Regulator Review	3/31/2004	--	On schedule

Remedial Action Float Table

Task	Scheduled Date	Float	Comments
200-UR-1			
Deliver draft A RI/FS work plan for regulator review	6/30/2004	--	On schedule
Deliver Waste Control Plan for regulator review	3/1/2006	--	On schedule
Start field sampling	4/26/2006	--	On schedule
Deliver Draft A RI Report for Regulator Review	5/14/2007	--	On schedule
U Plant Waste Sites			
Ecology approve confirmatory sampling SAP	12/1/2003	-80-d	Remedial decisions were not reached with Ecology and EPA as planned. General consensus has just been developed and the SAP is being finalized.
Start U Plant Confirmatory and Design Sampling	1/5/2004	--	On schedule
Deliver Draft A RD/RA work plan for regulator review (surface barrier RD/RA)	1/18/2005	--	On schedule
Deliver Draft A RD/RA work plan for regulator review (excavation RD/RA)	1/18/2005	--	On schedule

200 Area UMM – February 2004

200-UP-1:

- Average Pumping Rate (counting all outage time as 0 gpm) for CY04 through February 15: 42.3 gpm.
- For the month of January through February 15, the system operated between 14.4 and 65.8 gpm.
- Extraction well 299-W19-39 was down for approximately 2 weeks due to frozen pipes, a failed pump, and delays related to Lock-and-Tag issues.
- One February 5 and 6, the system was shutdown for a total of 11.5 hours for an ERDF leachate transfer.
- System Run Time
    - For Month of January 100% (with 2 of 3 extraction wells)
    - FY2004 (Year to date) 81.2%
    - System Inception to date 92.6%

- RI/FS Work Plan Status – Distribute Draft B document
- Drilling of New Monitoring Wells "O" (C4236):

314' bgs: 20 pCi/L Tc-99, nitrate 51 mg/L (as nitrate), **CCL4 63.9 ug/L**, TCE 3.4 ug/L, Chloroform 3.6 ug/L

349' bgs: 73 pCi/L Tc-99, nitrate 13 mg/L (as nitrate), **CCL4 309 ug/L**, TCE 5.1 ug/L, Chloroform 9.6 ug/L.

374' bgs: 230 pCi/L Tc-99, nitrate 18 mg/L (as nitrate), **CCL4 311 ug/L**, TCE 5.7ug/L, Chloroform 9.9 ug/L .

409' bgs: 197 pCi/L Tc-99, nitrate 21 mg/L (as nitrate), **CCL4 470 ug/L**, TCE 7.9 ug/L, Chloroform 9.3 ug/L

439' bgs: 114 pCi/L Tc-99, nitrate 14.2 mg/L (as nitrate), **CCL4 427 ug/L**, TCE 7.04 ug/L, Chloroform 22 ug/L

- The first groundwater sample was collected from well "N" (C4256) yesterday
- Drilling of New Monitoring Wells "K", "P", and "R" are currently scheduled to begin in a few weeks.

200-ZP-1:

- Average Pumping Rate for FY04 through February 1: 121 gpm
- For the month of January, the system operated at between 0.0 and 124 gpm.
- System shutdown January 4 due to a frozen level transmitter on the air stripper.
- System was shutdown from January 5 – 11 due to frozen pipes.
- Unscheduled outage occurred on January 13 and 14 for a few hours due to a problems with a flow transmitter.
- Extraction well #4 (299-W15-32) shutdown had problems with a bad level transducer.
- System was shutdown for approximately 1 hour January 26 and 27 to remove the humidity probe on the heater/chiller unit.

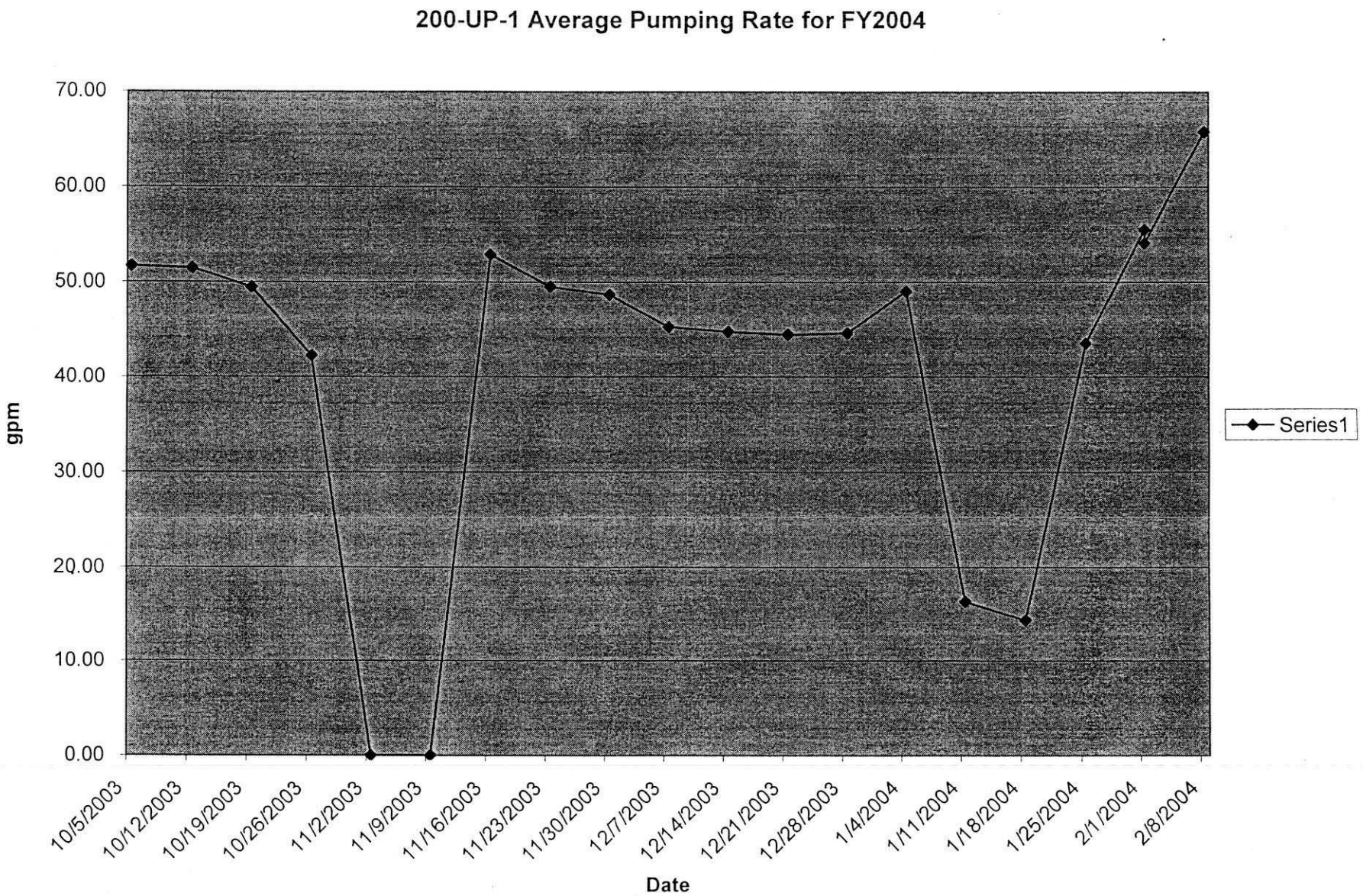
- Replacement Extraction Wells #1 (299-W15-45) and #4 (299-W15-47) are in the process of being hooked up to the system.

- System Run Time
    - For Month of January 76.3%
    - FY2004 (Year to date) 90.8%
    - System Inception to date 92.2%

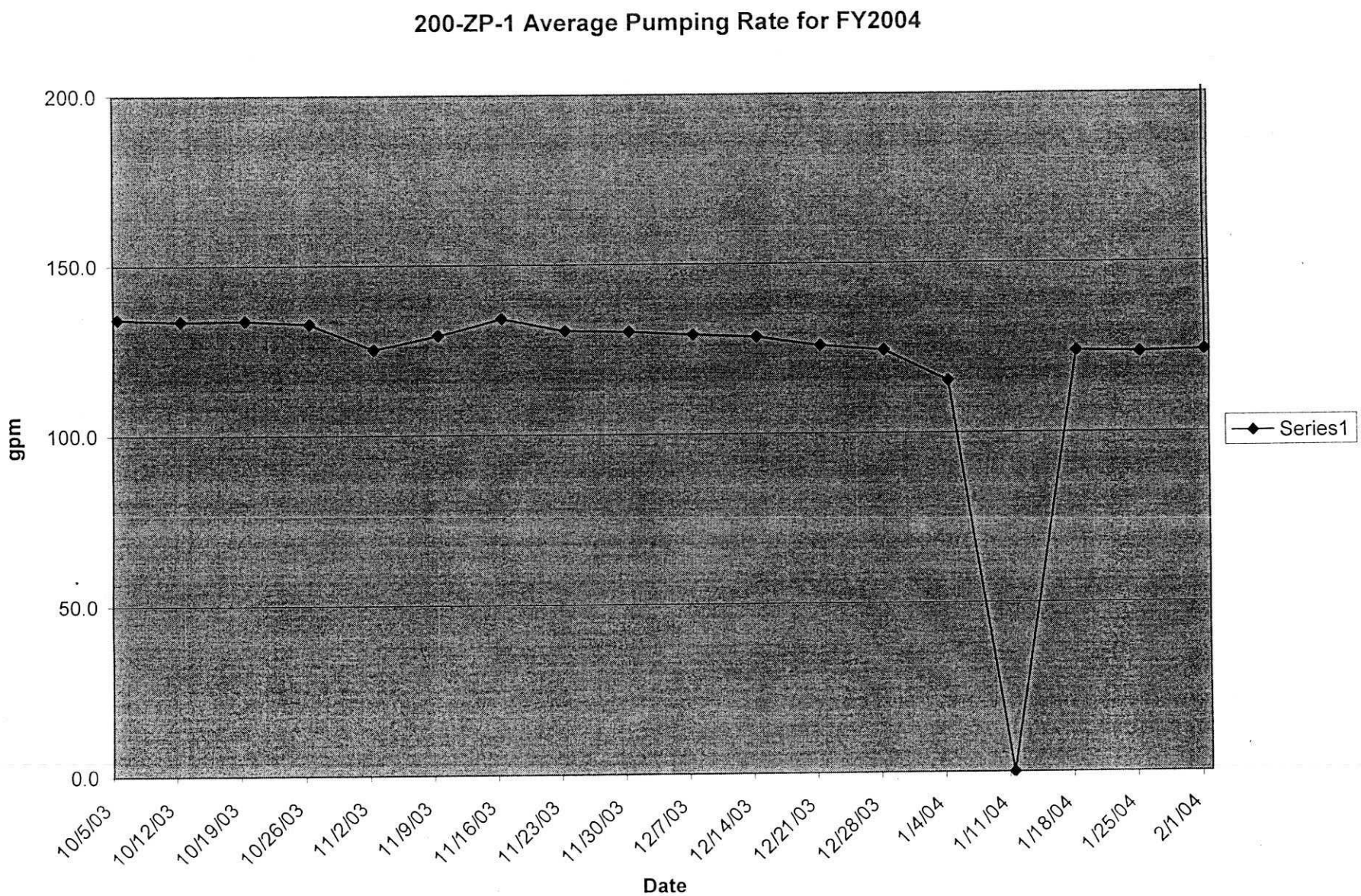
- RI/FS Work Plan Status – Currently being reviewed by RL/EPA

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

- Active system is shutdown for the winter and is scheduled to be restarted April 1, 2004
- The passive system remains operational.



Attachment 6



Attachment 6

Comparison of Maximum Carbon Tetrachloride Rebound Concentrations Monitored at 200-PW-1 Soil Vapor Extraction Sites FY 1998 - FY 2004

200-PW-1		October 1997 -		July 1998 -		July 1999 -		July 2001 -		July 2002 -		July 2002 (Z-9) or October 2003 (Z-1A) -	
(200-ZP-2)		September 1998		September 1999		June 2001		June 2002		September 2003		December 2003	
Location	Site	Maximum Rebound	months*	Maximum Rebound	months*	Maximum Rebound	months*	Maximum Rebound	months*	Maximum Rebound	months*	Maximum Rebound	months
(Well or Probe)		Carbon Tetrachloride	of	Carbon Tetrachloride	of	Carbon Tetrachloride	of	Carbon Tetrachloride	of	Carbon Tetrachloride	of	Carbon Tetrachloride	of
/feet bgs		(ppmv)	rebound	(ppmv)	rebound	(ppmv)	rebound	(ppmv)	rebound	(ppmv)	rebound	(ppmv)	rebound
79-03/ 5 ft	Z-18	0	3	0	12								
79-06/ 5 ft	Z-1A	not measured		1.4	12								
79-11/ 5 ft	Z-1A	0	6	2.9	12								
86-05/ 5 ft	Z-9	not measured		0	3								
86-05-01/ 5 ft	Z-9	not measured		0	3								
86-06/ 5 ft	Z-9	0	9	1.9	6								
87-05/ 5 ft	Z-1A	0	3	1.0	12								
87-09/ 5 ft	Z-1A	1.5	3	2.6	12								
94-02/ 5 ft	Z-9	not measured		1.4	3								
95-11/ 5 ft	Z-9	2.1	9	2.5	6								
95-12/ 5 ft	Z-9	1.5	9	1.3	6								
95-14/ 5 ft	Z-9	not measured		0	3								
CPT-13A/ 9 ft	Z-1A	0	6	1.0	12								
CPT-16/ 10 ft	Z-9	0	9	1.5	6								
CPT-17/ 10 ft	Z-9	4.2	9	5.1	6	6.6	24	3.2	6	6.6	15	6.6	19
CPT-18/ 15 ft	Z-9	6.5	9	5.0	6	5.2	24	1.4	6	2.4	15	2.4	19
CPT-4A/ 25 ft	Z-1A	not measured		not measured		3.5	0	3.4	10				
CPT-4E/ 25 ft	Z-1A	not measured		not measured		not measured		2.6	12	1.3	0		
CPT-16/ 25 ft	Z-9	not measured		not measured		1.8	24	1.1	6	2	15	2.6	19
CPT-31/25 ft	Z-1A	0	6	0	12								
CPT-32/ 25 ft	Z-1A	9.1	6	10	12	16.5	18	13.0	12	8.3	6	2	4
CPT-30/ 28 ft	Z-18	not measured		3.2	12	1.4	18	0	12	0	6	0	4
CPT-13A/ 30 ft	Z-1A	not measured		not measured		3.6	18	2.6	12	1.6	6	0	4
CPT-7A/ 32 ft	Z-1A	2.3	6	5.4	12	6.2	18	5.6	12	3.9	6	4.3	4
CPT-27/ 33 ft	Z-9	not measured		not measured		2.6	24	1.5	6	1.7	15	1.7	19
CPT-1A/ 35 ft	Z-12	1.4	3	3.0	12	7.7	18	11.3	12	22.0	15	18.3	4
CPT-28/ 40 ft	Z-9							56.5	6				
CPT-33/ 40 ft	Z-1A	2.0	3	2.6	12			2.3	12				
CPT-34/ 40 ft	Z-18	not measured		1.7	12	1.9	0	2.2	12	1.6	0		
CPT-21A/ 45 ft	Z-9	52.7	9	57	3	127	24	133	6	90.0	15	90.0	19
W15-220ST/ 52 ft	Z-9	not measured		1.6	3	2.5	24			1.5	1		
CPT-28/ 60 ft	Z-9	1.5	0	3.7	3								
CPT-9A/ 60 ft	Z-9	41.1	0	44	3	68	24	45.3	6	35.9	15	35.9	19
CPT-16/ 65 ft	Z-9	not measured		not measured		not measured		not measured		4.2	15		
CPT-1A/ 68 ft	Z-12	not measured		not measured		not measured		5.5	12				
CPT-30/ 68 ft.	Z-18	not measured		3.0	12								
CPT-32/ 70 ft	Z-1A							7.7	12				
CPT-13A/ 70 ft	Z-1A	not measured		5.6	12								
CPT-24/70 ft	Z-9	3.2	9	3.6	3					4.7	15		
W15-219SST/ 70 ft	Z-9	not measured		7.6	3	7.8	24			1.9	1		
CPT-18/ 75 ft	Z-9	not measured		not measured		18	24			4.5	15		
CPT-4A/ 75 ft	Z-1A	not measured		not measured		not measured		7.1	3				
CPT-31/ 76 ft	Z-1A	not measured		4.2	12								
CPT-33/ 80 ft	Z-1A	not measured		9.2	12								
W15-82/ 83 ft	Z-9	5.5	9	46	6	55	24	66.7	6	85.8	15	85.8	19
CPT-21A/ 86 ft	Z-9	206	9	148	6	195	24	186	6	206	15	244	19
CPT-34/ 86 ft	Z-18	5.9	3	0	12								
W15-95U/ 86 ft	Z-9	15.3	9	39	6	43	21						
W15-218SST/ 86 ft	Z-9	not measured		0	3					1.6	2		
CPT-28/ 87 ft	Z-9	230	9	203	6	224	24	229	6	235	15	235	19
CPT-4B/ 90 ft	Z-1A							3.2	10				
CPT-1A/ 91 ft	Z-18	not measured		4.2	12			10.7	10				
CPT-4A/ 91 ft	Z-1A	7.7	3	14	12			7.5	2				
CPT-9A/ 91 ft	Z-9	34.5	9	72	3			74.3	6				
W15-85/ 91 ft	Z-9	not measured		not measured		51	24						
W18-252SST/ 100	Z-1A	17.8	3	24	12								
W18-152/ 101 ft	Z-12	11.1	3	33	12	25	18	25.7	12	20.7	6	11.3	4
CPT-4E/ 103 ft	Z-1A	not measured		not measured		not measured		16.1	12				
W18-167/ 106 ft	Z-1A	79.7	3	228	12	248	18	297	12	243	6	266	4
W18-165/ 109 ft	Z-1A	not measured		not measured		not measured		278	12	328	6	205	4
W15-217/ 114 ft	Z-9	630	9	561	6	442	24	93.6	6	444	15	444	19
CPT-24/ 118 ft	Z-9	37.7	9	37	6	35	24			27.8	15		
W15-220SST/ 118	Z-9	not measured		36	3	34	24			27.5	3		
W18-158L/ 120 ft	Z-1A	143	3	492	12	284	18	163	3				
W15-219SST/ 130	Z-9	not measured		47	3	54	24			23.1	1		
W18-249/ 130 ft	Z-18	20.4	3	215	12	176	18	196	12	46.3	6	31.1	4
W18-248/ 131 ft	Z-1A	86.3	3	177	12	214	18	306	12	182	6	90.9	4
W15-95L/ 144 ft	Z-9	not measured		not measured		not measured		31.8	6	25.1	15	25.1	19
W15-219SST/ 155	Z-9	not measured		24	3	44	24			6.8	1		
W15-220L/ 163 ft	Z-9									----	15		
W15-219L/ 175 ft	Z-9									----	15		
W15-9L/ 176 ft	Z-9	15.0	9	15	6	20	21	16.9	6	13.1	15	13.1	19
W15-84L/ 180 ft	Z-9	not measured		not measured		not measured		not measured		25.9	15	25.9	19
W15-6L/ 182 ft	Z-9	17.8	9	1.3	6								
W15-220SST/ 185	Z-9	not measured		13	3	15	24			----	1		
W18-7/ 197 ft	Z-1A	17.3	3	29	12								
W18-12/ 198 ft	Z-18	3.81	3	19	12								
W18-6L/ 208 ft	Z-1A	31.3	6	15	12								

* - based on location (Z-1A/18/ points may be beyond SVE zone of influence during particular operating configurations

- Z-18 and Z-12 wells off-line
- CPT-1A, CPT-9A, and possVE zone of influence in Oct 96 based on differential pressure (BHI-01105, p. 6-1)
- CPT-9A, CPT-21A, CPT-28/ 96 based on CCl4 concentrations and airflow modeling based on measured vacuums (BHI-01105, p. 6-1)

Carbon Tetrachloride Rebound Concentrations
Monitored at 200-PW-1 Soil Vapor Extraction Sites
July 2002 (Z-9) or October 2003 (Z-1A) - January 2004

200-PW-1 (200-ZP-2) Location (Well or Probe) /feet bgs	Site	07/30/2002 CCl4 (ppmv)	08/26/2002 CCl4 (ppmv)	10/04/2002 CCl4 (ppmv)	10/30/2002 CCl4 (ppmv)	11/27/2002 CCl4 (ppmv)	12/31/2002 CCl4 (ppmv)	01/30/2003 CCl4 (ppmv)	02/21/2003 CCl4 (ppmv)	03/20/2003 CCl4 (ppmv)	05/01/2003 CCl4 (ppmv)	05/22/2003 CCl4 (ppmv)	07/01/2003 CCl4 (ppmv)	08/05/2003 CCl4 (ppmv)	08/26/2003 CCl4 (ppmv)	10/31/2003 CCl4 (ppmv)	12/04/2003 CCl4 (ppmv)	12/22/2003 CCl4 (ppmv)	01/20/2004 CCl4 (ppmv)
CPT-17/ 10 ft	Z-9	1.6	1.4	2.0	1.6	1.1	1.0	1.3	1.5	3.1	5.3	6.6	4.5	6.1	5.3	3.2	4.1	2.7	5.8
CPT-18/ 15 ft	Z-9	0	0	1.2	0	0	0	0	0	1.7	0	2.0	0	1.8	2.4	0	1.1	1.0	1.5
CPT-16/ 25 ft	Z-9	0	0	0	0	0	0	0	0	0	1.0	0	1.2	1.5	1.5	2.6	1.2	1.4	0
CPT-32/ 25 ft	Z-1A															0	0	0	2.4
CPT-30/ 28 ft	Z-1A															0	0	0	0
CPT-13A/ 30 ft	Z-1A															0	0	0	0
CPT-7A/ 32 ft	Z-1A															2.4	3.0	2.7	4.3
CPT-27/ 33 ft	Z-9	0	0	0	0	0	0	0	0	1.1	1.0	1.7	1.1	1.0	1.6	1.1	0	1.1	1.5
CPT-1A/ 35 ft	Z-12															18.3	9.5	13.1	10.8
CPT-21A/ 45 ft	Z-9	60.2	31.6	68.0	61.9	35.7	40.8	45.2	30.4	73.7	72.8	90.0	75.1	85.5	83.0	52.3	89.1	68.5	59.2
CPT-9A/ 60 ft	Z-9	35.1	8.4	27.8	22.2	12.5	7.4	14.8	13.8	35.9	30.1	33.2	30.1	30.0	28.5	25.9	33.1	30.8	24.3
W15-82/ 83 ft	Z-9	85.8	5.6	58.8	35.6	14.7	12.1	6.5	15.4	36.0	50.0	56.2	49.2	44.3	54.4	24.0	34.4	43.1	47.5
CPT-21A/ 86 ft	Z-9	159	55	155	95.0	55.3	46.4	66.9	44.6	140	199	206	153	187	197	91.8	183	171	244
CPT-28/ 87 ft	Z-9	208	54.2	169	130	51.6	48.8	20.3	87.6	139	178	235	150	197	190	155	206	140	56.7
W18-152/ 101 ft	Z-12															5.7	10.5	11.3	10.5
W18-167/ 106 ft	Z-1A															201	223	201	266
W18-165/ 109 ft	Z-1A															94.2	205	193	188
W15-217/ 114 ft	Z-9	82.1	34.0	214	38.7	80.0	264	324	246	287	74.3	409	89.7	335	444	53.8	80.4	66.4	82.5
W18-249/ 130 ft	Z-18															8.0	31.1	21.4	19.6
W18-248/ 131 ft	Z-1A															78.6	80.4	85.6	90.9
W15-95L/ 144 ft	Z-9	13.3	0	16.1	18.5	9.7	9.8	12.6	11.9	21.7	17.2	18.8	25.1	13.7	10.9	19.2	20.3	----- (a)	----- (a)
W15-9L/ 176 ft	Z-9				5.1	2.9	5.2	5.8	5.1	10.5	8.2	11.6	10.3	13.1	12.5	6.1	5.8	----- (a)	----- (a)
W15-84L/ 180 ft	Z-9		5.8	13.1	2.8	7.2	10.6	13.0	10.9	18.8	8.3	25.9	17.9	21.0	23.8	4.7	4.9	4.9	10.7

(a) Unable to access because of drilling operations

200-PO-1 OU – Request discharge of purgewater to ground from Well 699-20-E12O

200 Areas Unit Manager's Meeting

February 19, 2004

Background:

- Located northeast of Energy Northwest
- Surrounded by sand dunes
- Sampling and purgewater trucks become stuck in loose sand

Recommendation:

- Gain access using 4 wheel drive pickup, no purgewater truck access
- Allow for discharge of purgewater to the ground
- Estimated purge volume is 180 gallons
- Chemistry criteria for "purge to ground" are met
- Chemistry data from 1999 are attached

Well Name	Constituent	HEIS Num	Samp Date	Value	Qual	Units	Count Err	Tot Err	Filt	Rev Qual	Val Qual	Owner	Lab	Result Comment
699-20-E12O	Alkalinity	B0W864	9/30/1999	120000		ug/L			N			PNLGW	QTESSL	
699-20-E12O	Alkalinity	B0Y220	5/18/2000	128000		ug/L			N			PNLGW	QTESSL	
699-20-E12O	Alkalinity	B124B1	6/21/2001	116000		ug/L			N			PNLGW	STLSL	
699-20-E12O	Alkalinity	B13L80	12/12/2001	124000		ug/L			N			PNLGW	STLSL	
699-20-E12O	Alkalinity	B16410	1/13/2003	124000		ug/L			N			PNLGW	STLSL	
699-20-E12O	Aluminum	B0W863	9/30/1999	22.3	U	ug/L			Y			PNLGW	QTESSL	
699-20-E12O	Aluminum	B0Y219	5/18/2000	41.8	U	ug/L			Y			PNLGW	QTESSL	
699-20-E12O	Aluminum	B124B0	6/21/2001	7	U	ug/L			Y			PNLGW	STLSL	
699-20-E12O	Aluminum	B13L79	12/12/2001	34.3	U	ug/L			Y			PNLGW	STLSL	
699-20-E12O	Aluminum	B16409	1/13/2003	11.2	U	ug/L			Y			PNLGW	STLSL	
699-20-E12O	Antimony	B0W863	9/30/1999	57.9	U	ug/L			Y			PNLGW	QTESSL	
699-20-E12O	Antimony	B0Y219	5/18/2000	24.7	U	ug/L			Y			PNLGW	QTESSL	
699-20-E12O	Antimony	B124B0	6/21/2001	2.2	U	ug/L			Y			PNLGW	STLSL	
699-20-E12O	Antimony	B13L79	12/12/2001	3.3	U	ug/L			Y			PNLGW	STLSL	
699-20-E12O	Antimony	B16409	1/13/2003	22.8	U	ug/L			Y			PNLGW	STLSL	
699-20-E12O	Antimony-125	B0W865	9/30/1999	-1.84	U	pCi/L	5.3	5.3	N			PNLGW	QTESRL	
699-20-E12O	Antimony-125	B0Y221	5/18/2000	1.24	U	pCi/L	8	8	N			PNLGW	STLRL	
699-20-E12O	Antimony-125	B124B2	6/21/2001	1.93	U	pCi/L	5.1	5.1	N			PNLGW	STLRL	
699-20-E12O	Antimony-125	B13L81	12/12/2001	-2.02	U	pCi/L	4.9	4.9	N			PNLGW	STLRL	
699-20-E12O	Antimony-125	B16411	1/13/2003	2.34	U	pCi/L	6.8	6.8	N			PNLGW	STLRL	
699-20-E12O	Barium	B0W863	9/30/1999	27.8		ug/L			Y			PNLGW	QTESSL	
699-20-E12O	Barium	B0Y219	5/18/2000	26.8	B	ug/L			Y			PNLGW	QTESSL	
699-20-E12O	Barium	B124B0	6/21/2001	29.9	B	ug/L			Y			PNLGW	STLSL	
699-20-E12O	Barium	B13L79	12/12/2001	34.8	B	ug/L			Y			PNLGW	STLSL	
699-20-E12O	Barium	B16409	1/13/2003	34.5	B	ug/L			Y			PNLGW	STLSL	
699-20-E12O	Beryllium	B0W863	9/30/1999	0.4	U	ug/L			Y			PNLGW	QTESSL	
699-20-E12O	Beryllium	B0Y219	5/18/2000	0.5	U	ug/L			Y			PNLGW	QTESSL	
699-20-E12O	Beryllium	B124B0	6/21/2001	0.09	B	ug/L			Y			PNLGW	STLSL	
699-20-E12O	Beryllium	B13L79	12/12/2001	0.22	U	ug/L			Y			PNLGW	STLSL	
699-20-E12O	Beryllium	B16409	1/13/2003	0.26	U	ug/L			Y			PNLGW	STLSL	
699-20-E12O	Beryllium-7	B0W865	9/30/1999	38.7	U	pCi/L	30	30	N			PNLGW	QTESRL	
699-20-E12O	Beryllium-7	B0Y221	5/18/2000	20.9	U	pCi/L	31	31	N			PNLGW	STLRL	
699-20-E12O	Beryllium-7	B124B2	6/21/2001	9.66	U	pCi/L	34	34	N			PNLGW	STLRL	
699-20-E12O	Beryllium-7	B13L81	12/12/2001	-8	U	pCi/L	27	27	N			PNLGW	STLRL	
699-20-E12O	Beryllium-7	B16411	1/13/2003	-8.51	U	pCi/L	25	25	N			PNLGW	STLRL	
699-20-E12O	Cadmium	B0W863	9/30/1999	3	U	ug/L			Y			PNLGW	QTESSL	
699-20-E12O	Cadmium	B0Y219	5/18/2000	2.8	U	ug/L			Y			PNLGW	QTESSL	
699-20-E12O	Cadmium	B124B0	6/21/2001	0.15	U	ug/L			Y			PNLGW	STLSL	
699-20-E12O	Cadmium	B13L79	12/12/2001	0.31	U	ug/L			Y			PNLGW	STLSL	
699-20-E12O	Cadmium	B16409	1/13/2003	2.5	U	ug/L			Y			PNLGW	STLSL	
699-20-E12O	Calcium	B0W863	9/30/1999	38700		ug/L			Y			PNLGW	QTESSL	
699-20-E12O	Calcium	B0Y219	5/18/2000	39900		ug/L			Y			PNLGW	QTESSL	
699-20-E12O	Calcium	B124B0	6/21/2001	37800		ug/L			Y			PNLGW	STLSL	

Well Name	Constituent	HEIS Num	Samp Date	Value	Qual	Units	Count Err	Tot Err	Filt	Rev Qual	Val Qual	Owner	Lab	Result Comment
699-20-E12O	Calcium	B13L79	12/12/2001	39900		ug/L			Y			PNLGW	STLSL	
699-20-E12O	Calcium	B16409	1/13/2003	39600		ug/L			Y			PNLGW	STLSL	
699-20-E12O	Cesium-134	B0W865	9/30/1999	0.606	U	pCi/L	2	2	N			PNLGW	QTESRL	
699-20-E12O	Cesium-134	B0Y221	5/18/2000	-0.0414	U	pCi/L	3.2	3.2	N			PNLGW	STLRL	
699-20-E12O	Cesium-134	B124B2	6/21/2001	-2.03	U	pCi/L	2.4	2.4	N			PNLGW	STLRL	
699-20-E12O	Cesium-134	B13L81	12/12/2001	1.91	U	pCi/L	2.4	2.4	N			PNLGW	STLRL	
699-20-E12O	Cesium-134	B16411	1/13/2003	-1.44	U	pCi/L	2.7	2.7	N			PNLGW	STLRL	
699-20-E12O	Cesium-137	B0W865	9/30/1999	-2.23	U	pCi/L	2.2	2.2	N			PNLGW	QTESRL	
699-20-E12O	Cesium-137	B0Y221	5/18/2000	0.964	U	pCi/L	3.8	3.8	N			PNLGW	STLRL	
699-20-E12O	Cesium-137	B124B2	6/21/2001	-2.19	U	pCi/L	2.1	2.1	N			PNLGW	STLRL	
699-20-E12O	Cesium-137	B13L81	12/12/2001	-0.735	U	pCi/L	2	2	N			PNLGW	STLRL	
699-20-E12O	Cesium-137	B16411	1/13/2003	0.57	U	pCi/L	2.7	2.7	N			PNLGW	STLRL	
699-20-E12O	Chloride	B0W864	9/30/1999	2190	C	ug/L			N			PNLGW	QTESSL	
699-20-E12O	Chloride	B0Y220	5/18/2000	2100	C	ug/L			N			PNLGW	QTESSL	
699-20-E12O	Chloride	B124B1	6/21/2001	2900		ug/L			N			PNLGW	STLSL	
699-20-E12O	Chloride	B13L80	12/12/2001	2900		ug/L			N			PNLGW	STLSL	
699-20-E12O	Chloride	B16410	1/13/2003	3400	C	ug/L			N	Q		PNLGW	STLSL	/Associated with suspect field blan
699-20-E12O	Chromium	B0W863	9/30/1999	3.2	B	ug/L			Y			PNLGW	QTESSL	
699-20-E12O	Chromium	B0Y219	5/18/2000	4.6	U	ug/L			Y			PNLGW	QTESSL	
699-20-E12O	Chromium	B124B0	6/21/2001	3.7	B	ug/L			Y			PNLGW	STLSL	
699-20-E12O	Chromium	B13L79	12/12/2001	1.5	B	ug/L			Y			PNLGW	STLSL	
699-20-E12O	Chromium	B16409	1/13/2003	3.9	B	ug/L			Y			PNLGW	STLSL	
699-20-E12O	Cobalt	B0W863	9/30/1999	3.6	U	ug/L			Y			PNLGW	QTESSL	
699-20-E12O	Cobalt	B0Y219	5/18/2000	4.3	U	ug/L			Y			PNLGW	QTESSL	
699-20-E12O	Cobalt	B124B0	6/21/2001	0.87	U	ug/L			Y			PNLGW	STLSL	
699-20-E12O	Cobalt	B13L79	12/12/2001	1.6	U	ug/L			Y			PNLGW	STLSL	
699-20-E12O	Cobalt	B16409	1/13/2003	2.2	U	ug/L			Y			PNLGW	STLSL	
699-20-E12O	Cobalt-60	B0W865	9/30/1999	0.536	U	pCi/L	2.4	2.4	N			PNLGW	QTESRL	
699-20-E12O	Cobalt-60	B0Y221	5/18/2000	1.17	U	pCi/L	4.3	4.3	N			PNLGW	STLRL	
699-20-E12O	Cobalt-60	B124B2	6/21/2001	1.17	U	pCi/L	2.2	2.2	N			PNLGW	STLRL	
699-20-E12O	Cobalt-60	B13L81	12/12/2001	0.156	U	pCi/L	1.7	1.7	N			PNLGW	STLRL	
699-20-E12O	Cobalt-60	B16411	1/13/2003	-1.26	U	pCi/L	2.6	2.6	N			PNLGW	STLRL	
699-20-E12O	Copper	B0W863	9/30/1999	4.4	U	ug/L			Y			PNLGW	QTESSL	
699-20-E12O	Copper	B0Y219	5/18/2000	2.8	U	ug/L			Y			PNLGW	QTESSL	
699-20-E12O	Copper	B124B0	6/21/2001	2.2	B	ug/L			Y			PNLGW	STLSL	
699-20-E12O	Copper	B13L79	12/12/2001	1.4	U	ug/L			Y	Q		PNLGW	STLSL	/Associated with suspect field blan
699-20-E12O	Copper	B16409	1/13/2003	2.6	U	ug/L			Y			PNLGW	STLSL	
699-20-E12O	Dissolved oxygen	B124B1	6/21/2001	6210		ug/L			N			PNLGW	FIELD	
699-20-E12O	Dissolved oxygen	B13L80	12/12/2001	11430		ug/L			N			PNLGW	FIELD	
699-20-E12O	Dissolved oxygen	B16410	1/13/2003	7480		ug/L			N			PNLGW	FIELD	
699-20-E12O	Europium-152	B0W865	9/30/1999	0.531	U	pCi/L	5.1	5.1	N			PNLGW	QTESRL	
699-20-E12O	Europium-152	B0Y221	5/18/2000	-6.23	U	pCi/L	9.3	9.3	N			PNLGW	STLRL	
699-20-E12O	Europium-154	B0W865	9/30/1999	0.298	U	pCi/L	6.4	6.4	N			PNLGW	QTESRL	

Well Name	Constituent	HEIS Num	Samp Date	Value	Qual	Units	Count Err	Tot Err	Filt	Rev Qual	Val Qual	Owner	Lab	Result Comment
699-20-E12O	Europium-154	B0Y221	5/18/2000	-4.49	U	pCi/L	7.6	7.6	N			PNLGW	STLRL	
699-20-E12O	Europium-154	B124B2	6/21/2001	-6.29	U	pCi/L	7.2	7.2	N			PNLGW	STLRL	
699-20-E12O	Europium-154	B13L81	12/12/2001	-3.12	U	pCi/L	5.8	5.8	N			PNLGW	STLRL	
699-20-E12O	Europium-154	B16411	1/13/2003	0.941	U	pCi/L	6.8	6.8	N			PNLGW	STLRL	
699-20-E12O	Europium-155	B0W865	9/30/1999	2.53	U	pCi/L	4.3	4.3	N			PNLGW	QTESRL	
699-20-E12O	Europium-155	B0Y221	5/18/2000	3.07	U	pCi/L	6.4	6.4	N			PNLGW	STLRL	
699-20-E12O	Europium-155	B124B2	6/21/2001	-1.48	U	pCi/L	6	6	N			PNLGW	STLRL	
699-20-E12O	Europium-155	B13L81	12/12/2001	-0.13	U	pCi/L	4.3	4.3	N			PNLGW	STLRL	
699-20-E12O	Europium-155	B16411	1/13/2003	0.418	U	pCi/L	4.3	4.3	N			PNLGW	STLRL	
699-20-E12O	Fluoride	B0W864	9/30/1999	293		ug/L			N			PNLGW	QTESSL	
699-20-E12O	Fluoride	B0Y220	5/18/2000	220		ug/L			N			PNLGW	QTESSL	
699-20-E12O	Fluoride	B124B1	6/21/2001	250		ug/L			N			PNLGW	STLSL	
699-20-E12O	Fluoride	B13L80	12/12/2001	260		ug/L			N			PNLGW	STLSL	
699-20-E12O	Fluoride	B16410	1/13/2003	290		ug/L			N			PNLGW	STLSL	
699-20-E12O	Gross alpha	B0W865	9/30/1999	2.12	J	pCi/L	1.3	1.4	N			PNLGW	QTESRL	/CID:B0W865, LOT:J9I3002952 v
699-20-E12O	Gross alpha	B0Y221	5/18/2000	0.623	U	pCi/L	0.95	0.96	N			PNLGW	STLRL	
699-20-E12O	Gross alpha	B124B2	6/21/2001	2.53		pCi/L	1.5	1.6	N			PNLGW	STLRL	
699-20-E12O	Gross alpha	B13L81	12/12/2001	3.25		pCi/L	1.7	1.8	N			PNLGW	STLRL	
699-20-E12O	Gross alpha	B16411	1/13/2003	2.46		pCi/L	1.4	1.5	N			PNLGW	STLRL	
699-20-E12O	Gross beta	B0W865	9/30/1999	6.97		pCi/L	1.8	2	N			PNLGW	QTESRL	/CID:B0W865, LOT:J9I3002952 v
699-20-E12O	Gross beta	B0Y221	5/18/2000	8.36		pCi/L	1.8	2.2	N			PNLGW	STLRL	
699-20-E12O	Gross beta	B124B2	6/21/2001	11.4		pCi/L	2.1	2.6	N			PNLGW	STLRL	
699-20-E12O	Gross beta	B13L81	12/12/2001	12.3		pCi/L	2.1	2.6	N			PNLGW	STLRL	
699-20-E12O	Gross beta	B16411	1/13/2003	12		pCi/L	2	2.6	N			PNLGW	STLRL	
699-20-E12O	Iodine-129	B0W865	9/30/1999	0.033	U	pCi/L	0.16	0.16	N			PNLGW	QTESRL	/ v2.4
699-20-E12O	Iodine-129	B0Y221	5/18/2000	0.0142	U	pCi/L	0.14	0.14	N			PNLGW	STLRL	
699-20-E12O	Iodine-129	B124B2	6/21/2001	-0.116	U	pCi/L	0.18	0.18	N			PNLGW	STLRL	
699-20-E12O	Iodine-129	B13L81	12/12/2001	0.0455	U	pCi/L	0.16	0.16	N			PNLGW	STLRL	
699-20-E12O	Iodine-129	B16411	1/13/2003	0.11	U	pCi/L	0.14	0.14	N			PNLGW	STLRL	
699-20-E12O	Iron	B0W863	9/30/1999	30.8		ug/L			Y			PNLGW	QTESSL	
699-20-E12O	Iron	B0Y219	5/18/2000	19.8	B	ug/L			Y			PNLGW	QTESSL	
699-20-E12O	Iron	B124B0	6/21/2001	20.5	U	ug/L			Y			PNLGW	STLSL	
699-20-E12O	Iron	B13L79	12/12/2001	19.6	U	ug/L			Y			PNLGW	STLSL	
699-20-E12O	Iron	B16409	1/13/2003	2.8	U	ug/L			Y			PNLGW	STLSL	
699-20-E12O	Magnesium	B0W863	9/30/1999	10200		ug/L			Y			PNLGW	QTESSL	
699-20-E12O	Magnesium	B0Y219	5/18/2000	10600		ug/L			Y			PNLGW	QTESSL	
699-20-E12O	Magnesium	B124B0	6/21/2001	10100		ug/L			Y			PNLGW	STLSL	
699-20-E12O	Magnesium	B13L79	12/12/2001	11100		ug/L			Y			PNLGW	STLSL	
699-20-E12O	Magnesium	B16409	1/13/2003	10300		ug/L			Y			PNLGW	STLSL	
699-20-E12O	Manganese	B0W863	9/30/1999	6.6		ug/L			Y			PNLGW	QTESSL	
699-20-E12O	Manganese	B0Y219	5/18/2000	3	B	ug/L			Y			PNLGW	QTESSL	
699-20-E12O	Manganese	B124B0	6/21/2001	1.7	B	ug/L			Y			PNLGW	STLSL	
699-20-E12O	Manganese	B13L79	12/12/2001	0.4	U	ug/L			Y			PNLGW	STLSL	

Well Name	Constituent	HEIS Num	Samp Date	Value	Qual	Units	Count Err	Tot Err	Filt	Rev Qual	Val Qual	Owner	Lab	Result Comment
699-20-E12O	Manganese	B16409	1/13/2003	1.5	B	ug/L			Y			PNLGW	STLSL	
699-20-E12O	Nickel	B0W863	9/30/1999	10.3	U	ug/L			Y			PNLGW	QTESSL	
699-20-E12O	Nickel	B0Y219	5/18/2000	15.4	U	ug/L			Y			PNLGW	QTESSL	
699-20-E12O	Nickel	B124B0	6/21/2001	0.97	U	ug/L			Y			PNLGW	STLSL	
699-20-E12O	Nickel	B13L79	12/12/2001	1.3	U	ug/L			Y			PNLGW	STLSL	
699-20-E12O	Nickel	B16409	1/13/2003	13.1	U	ug/L			Y			PNLGW	STLSL	
699-20-E12O	Nitrate	B0W864	9/30/1999	36000	D	ug/L			N	H		PNLGW	QTESSL	/D qual added
699-20-E12O	Nitrate	B0Y220	5/18/2000	31900	D	ug/L			N			PNLGW	QTESSL	
699-20-E12O	Nitrate	B124B1	6/21/2001	27400	D	ug/L			N	H		PNLGW	STLSL	
699-20-E12O	Nitrate	B13L80	12/12/2001	26100	D	ug/L			N			PNLGW	STLSL	
699-20-E12O	Nitrate	B16410	1/13/2003	26100	D	ug/L			N			PNLGW	STLSL	
699-20-E12O	Nitrite	B0W864	9/30/1999	23	U	ug/L			N	H		PNLGW	QTESSL	
699-20-E12O	Nitrite	B0Y220	5/18/2000	24.3	U	ug/L			N			PNLGW	QTESSL	
699-20-E12O	Nitrite	B124B1	6/21/2001	6.57	U	ug/L			N	H		PNLGW	STLSL	
699-20-E12O	Nitrite	B13L80	12/12/2001	6.57	U	ug/L			N			PNLGW	STLSL	
699-20-E12O	Nitrite	B16410	1/13/2003	36.1	U	ug/L			N			PNLGW	STLSL	
699-20-E12O	Oxidation Reduction Potentia	B124B1	6/21/2001	102		mV			N			PNLGW	FIELD	
699-20-E12O	Oxidation Reduction Potentia	B13L80	12/12/2001	134.4		mV			N			PNLGW	FIELD	
699-20-E12O	Oxidation Reduction Potentia	B16410	1/13/2003	149		mV			N			PNLGW	FIELD	
699-20-E12O	Potassium	B0W863	9/30/1999	5200		ug/L			Y			PNLGW	QTESSL	
699-20-E12O	Potassium	B0Y219	5/18/2000	4610	B	ug/L			Y			PNLGW	QTESSL	
699-20-E12O	Potassium	B124B0	6/21/2001	7260		ug/L			Y			PNLGW	STLSL	
699-20-E12O	Potassium	B13L79	12/12/2001	5700		ug/L			Y			PNLGW	STLSL	
699-20-E12O	Potassium	B16409	1/13/2003	4920	B	ug/L			Y			PNLGW	STLSL	
699-20-E12O	Potassium-40	B0W865	9/30/1999	37.6	U	pCi/L	48	48	N			PNLGW	QTESRL	
699-20-E12O	Potassium-40	B0Y221	5/18/2000	24.8	U	pCi/L	59	59	N			PNLGW	STLRL	
699-20-E12O	Potassium-40	B124B2	6/21/2001	6.53	U	pCi/L	36	36	N			PNLGW	STLRL	
699-20-E12O	Potassium-40	B13L81	12/12/2001	61.7		pCi/L	44	44	N			PNLGW	STLRL	
699-20-E12O	Potassium-40	B16411	1/13/2003	21.1	U	pCi/L	63	63	N			PNLGW	STLRL	
699-20-E12O	Ruthenium-106	B0W865	9/30/1999	2.23	U	pCi/L	18	18	N			PNLGW	QTESRL	
699-20-E12O	Ruthenium-106	B0Y221	5/18/2000	2.48	U	pCi/L	32	32	N			PNLGW	STLRL	
699-20-E12O	Ruthenium-106	B124B2	6/21/2001	-4.46	U	pCi/L	23	23	N			PNLGW	STLRL	
699-20-E12O	Ruthenium-106	B13L81	12/12/2001	-1.29	U	pCi/L	20	20	N			PNLGW	STLRL	
699-20-E12O	Ruthenium-106	B16411	1/13/2003	-4	U	pCi/L	19	19	N			PNLGW	STLRL	
699-20-E12O	Silver	B0W863	9/30/1999	8.8	U	ug/L			Y			PNLGW	QTESSL	
699-20-E12O	Silver	B0Y219	5/18/2000	6.9	U	ug/L			Y			PNLGW	QTESSL	
699-20-E12O	Silver	B124B0	6/21/2001	9.5	B	ug/L			Y			PNLGW	STLSL	
699-20-E12O	Silver	B13L79	12/12/2001	1.7	U	ug/L			Y			PNLGW	STLSL	
699-20-E12O	Silver	B16409	1/13/2003	2.2	U	ug/L			Y			PNLGW	STLSL	
699-20-E12O	Sodium	B0W863	9/30/1999	9830		ug/L			Y			PNLGW	QTESSL	
699-20-E12O	Sodium	B0Y219	5/18/2000	8980		ug/L			Y			PNLGW	QTESSL	
699-20-E12O	Sodium	B124B0	6/21/2001	8580		ug/L			Y			PNLGW	STLSL	
699-20-E12O	Sodium	B13L79	12/12/2001	9040		ug/L			Y			PNLGW	STLSL	

Well Name	Constituent	HEIS Num	Samp Date	Value	Qual	Units	Count Err	Tot Err	Filt	Rev Qual	Val Qual	Owner	Lab	Result Comment
699-20-E12O	Sodium	B16409	1/13/2003	9380		ug/L			Y			PNLGW	STLSL	
699-20-E12O	Specific Conductance	B0Y220	5/18/2000	321		uS/cm			N			PNLGW	FIELD	
699-20-E12O	Specific Conductance	B124B1	6/21/2001	314		uS/cm			N			PNLGW	FIELD	
699-20-E12O	Specific Conductance	B13L80	12/12/2001	317		uS/cm			N			PNLGW	FIELD	
699-20-E12O	Specific Conductance	B16410	1/13/2003	322		uS/cm			N			PNLGW	FIELD	
699-20-E12O	Strontium	B0W863	9/30/1999	204		ug/L			Y			PNLGW	QTESSL	
699-20-E12O	Strontium	B0Y219	5/18/2000	202		ug/L			Y			PNLGW	QTESSL	
699-20-E12O	Strontium	B124B0	6/21/2001	195		ug/L			Y			PNLGW	STLSL	
699-20-E12O	Strontium	B13L79	12/12/2001	216		ug/L			Y			PNLGW	STLSL	
699-20-E12O	Strontium	B16409	1/13/2003	208		ug/L			Y			PNLGW	STLSL	
699-20-E12O	Strontium-90	B0W865	9/30/1999	-0.0355	U	pCi/L	0.15	0.23	N			PNLGW	QTESRL	/CID:B0W865, LOT:J9I3002952 v
699-20-E12O	Strontium-90	B0Y221	5/18/2000	0.155	U	pCi/L	0.21	0.21	N			PNLGW	STLRL	
699-20-E12O	Strontium-90	B124B2	6/21/2001	0.0327	U	pCi/L	0.17	0.21	N			PNLGW	STLRL	
699-20-E12O	Strontium-90	B13L81	12/12/2001	0.229	U	pCi/L	0.38	0.38	N			PNLGW	STLRL	
699-20-E12O	Strontium-90	B16411	1/13/2003	0.269	U	pCi/L	0.24	0.24	N			PNLGW	STLRL	
699-20-E12O	Sulfate	B0W864	9/30/1999	11500		ug/L			N			PNLGW	QTESSL	
699-20-E12O	Sulfate	B0Y220	5/18/2000	11500		ug/L			N			PNLGW	QTESSL	
699-20-E12O	Sulfate	B124B1	6/21/2001	13000		ug/L			N			PNLGW	STLSL	
699-20-E12O	Sulfate	B13L80	12/12/2001	14300		ug/L			N			PNLGW	STLSL	
699-20-E12O	Sulfate	B16410	1/13/2003	14900	C	ug/L			N			PNLGW	STLSL	
699-20-E12O	Technetium-99	B0W865	9/30/1999	9.93	U	pCi/L	0.48	12	N			PNLGW	QTESRL	/CID:B0W865, LOT:J9I3002952 v
699-20-E12O	Technetium-99	B0Y221	5/18/2000	3.76	U	pCi/L	0.19	11	N			PNLGW	STLRL	
699-20-E12O	Technetium-99	B124B2	6/21/2001	15.3		pCi/L	5.3	12	N			PNLGW	STLRL	
699-20-E12O	Technetium-99	B13L81	12/12/2001	24.9		pCi/L	5	8	N			PNLGW	STLRL	
699-20-E12O	Technetium-99	B16411	1/13/2003	20.6		pCi/L	5.4	9	N			PNLGW	STLRL	
699-20-E12O	Temperature	B0Y220	5/18/2000	18.2		Deg C			N			PNLGW	FIELD	
699-20-E12O	Temperature	B124B1	6/21/2001	19		Deg C			N			PNLGW	FIELD	
699-20-E12O	Temperature	B13L80	12/12/2001	16.3		Deg C			N			PNLGW	FIELD	
699-20-E12O	Temperature	B16410	1/13/2003	17		Deg C			N			PNLGW	FIELD	
699-20-E12O	Total organic carbon	B0W864	9/30/1999	709	B	ug/L			N			PNLGW	QTESSL	
699-20-E12O	Total organic carbon	B0Y220	5/18/2000	330	B	ug/L			N			PNLGW	QTESSL	
699-20-E12O	Total organic carbon	B124B1	6/21/2001	180	B	ug/L			N			PNLGW	STLSL	
699-20-E12O	Total organic carbon	B13L80	12/12/2001	370	B	ug/L			N	Q		PNLGW	STLSL	/Associated with suspect field blan
699-20-E12O	Total organic carbon	B16410	1/13/2003	140	U	ug/L			N			PNLGW	STLSL	
699-20-E12O	Total organic halides	B0W864	9/30/1999	4.27	U	ug/L			N			PNLGW	QTESSL	
699-20-E12O	Total organic halides	B0Y220	5/18/2000	4.3	U	ug/L			N			PNLGW	QTESSL	
699-20-E12O	Total organic halides	B124B1	6/21/2001	3.6	U	ug/L			N			PNLGW	STLSL	
699-20-E12O	Total organic halides	B13L80	12/12/2001	3.6	U	ug/L			N			PNLGW	STLSL	
699-20-E12O	Total organic halides	B16410	1/13/2003	4	U	ug/L			N			PNLGW	STLSL	
699-20-E12O	Tritium	B0W865	9/30/1999	3280		pCi/L	210	400	N			PNLGW	QTESRL	/CID:B0W865, LOT:J9I3002952 v
699-20-E12O	Tritium	B0Y221	5/18/2000	5590		pCi/L	280	530	N			PNLGW	STLRL	
699-20-E12O	Tritium	B124B2	6/21/2001	9520		pCi/L	410	710	N			PNLGW	STLRL	
699-20-E12O	Tritium	B13L81	12/12/2001	13100		pCi/L	530	940	N			PNLGW	STLRL	

Well Name	Constituent	HEIS Num	Samp Date	Value	Qual	Units	Count Err	Tot Err	Flit	Rev Qual	Val Qual	Owner	Lab	Result Comment
699-20-E12O	Tritium	B16411	1/13/2003	13900		pCi/L	460	610	N			PNLGW	STLRL	
699-20-E12O	Turbidity	B0Y220	5/18/2000	0.36		NTU			N			PNLGW	FIELD	
699-20-E12O	Turbidity	B124B1	6/21/2001	2.5		NTU			N			PNLGW	FIELD	
699-20-E12O	Turbidity	B13L80	12/12/2001	0.75		NTU			N			PNLGW	FIELD	
699-20-E12O	Turbidity	B16410	1/13/2003	0.78		NTU			N			PNLGW	FIELD	
699-20-E12O	Vanadium	B0W863	9/30/1999	20.1		ug/L			Y			PNLGW	QTESSL	
699-20-E12O	Vanadium	B0Y219	5/18/2000	38.4	B	ug/L			Y			PNLGW	QTESSL	
699-20-E12O	Vanadium	B124B0	6/21/2001	16.1	B	ug/L			Y			PNLGW	STLSL	
699-20-E12O	Vanadium	B13L79	12/12/2001	19.2	B	ug/L			Y			PNLGW	STLSL	
699-20-E12O	Vanadium	B16409	1/13/2003	25.6		ug/L			Y			PNLGW	STLSL	
699-20-E12O	Zinc	B0W863	9/30/1999	1.5	U	ug/L			Y			PNLGW	QTESSL	
699-20-E12O	Zinc	B0Y219	5/18/2000	3.1	U	ug/L			Y			PNLGW	QTESSL	
699-20-E12O	Zinc	B124B0	6/21/2001	4.6	B	ug/L			Y			PNLGW	STLSL	
699-20-E12O	Zinc	B13L79	12/12/2001	2.1	B	ug/L			Y	Q		PNLGW	STLSL	/Associated with suspect field blan
699-20-E12O	Zinc	B16409	1/13/2003	1.3	U	ug/L			Y	Q		PNLGW	STLSL	/Associated with suspect field blan
699-20-E12O	pH Measurement	B0Y220	5/18/2000	8.01		pH			N			PNLGW	FIELD	
699-20-E12O	pH Measurement	B124B1	6/21/2001	8.21		pH			N			PNLGW	FIELD	
699-20-E12O	pH Measurement	B13L80	12/12/2001	8.05		pH			N			PNLGW	FIELD	
699-20-E12O	pH Measurement	B16410	1/13/2003	8.06		pH			N			PNLGW	FIELD	

U Plant Area Closure Field Work Status as of February 18, 2004

- Two Activities in Progress
  - Barrier Design Data Collection at 216-U-1 and U-2 Cribs and 241-U-361 Tank; 216-U-8 Crib and 216-U-12 Crib- Placement of Drive Casing with Spectral Gamma Logging (SGL) To Define the Waste Site Boundary
  - Remedy Confirmation at UPR-200-W-19
- Barrier Design Data Collection
  - Completed Placement to 50 Feet and Spectral Gamma Logging of first set of 14 DPTs
- Remedy Confirmation at UPR-200-W-19
  - Placement of 3 Planned DPTs and Spectral Gamma Logging Scheduled for Next Week

Site Specific Results 216-U-1 and U-2 Cribs and 241-U-361 Tank

- Placed 6 DPTs and Completed SGL
  - Contamination at Depth at 5 of 6 Requires Movement 20 ft out to Next Set of DPT Locations
  - All 6 Had Cs-137 @ Above 5 Feet Due to UPR-200-19 Release

216-U-1 and U-2 Cribs and 241-U-361 Tank	DPT Number	SGL Results	Action Based on SGL
	C4201	Max Cs-137 60 pCi/g@ 31.5 ft;U-238 155 pCi/g @43.5;U-235 6.9 pCi/g @43.5	Place DPT @ C4205
	C4203	Preliminary-Manmade (U-238, Co-60, Cs-137) at 30-40 ft	Place DPT @ C4207
	C4204	Max Cs-137 22 pCi/g @ 3 ft;U-238 34 pCi/g @ 26 ft	Place DPT @ C4208
	C4209	Preliminary-Manmade Cs-137 at 10-15 ft	Place DPT @ C4213
	C4210	Preliminary-Manmade Cs-137 at 5 ft	No action part of UPR-200-W-19
	C4211	Preliminary-Manmade Cs-137 at 10 ft	Place DPT @ C4215

Site Specific Results 216-U-8 Crib

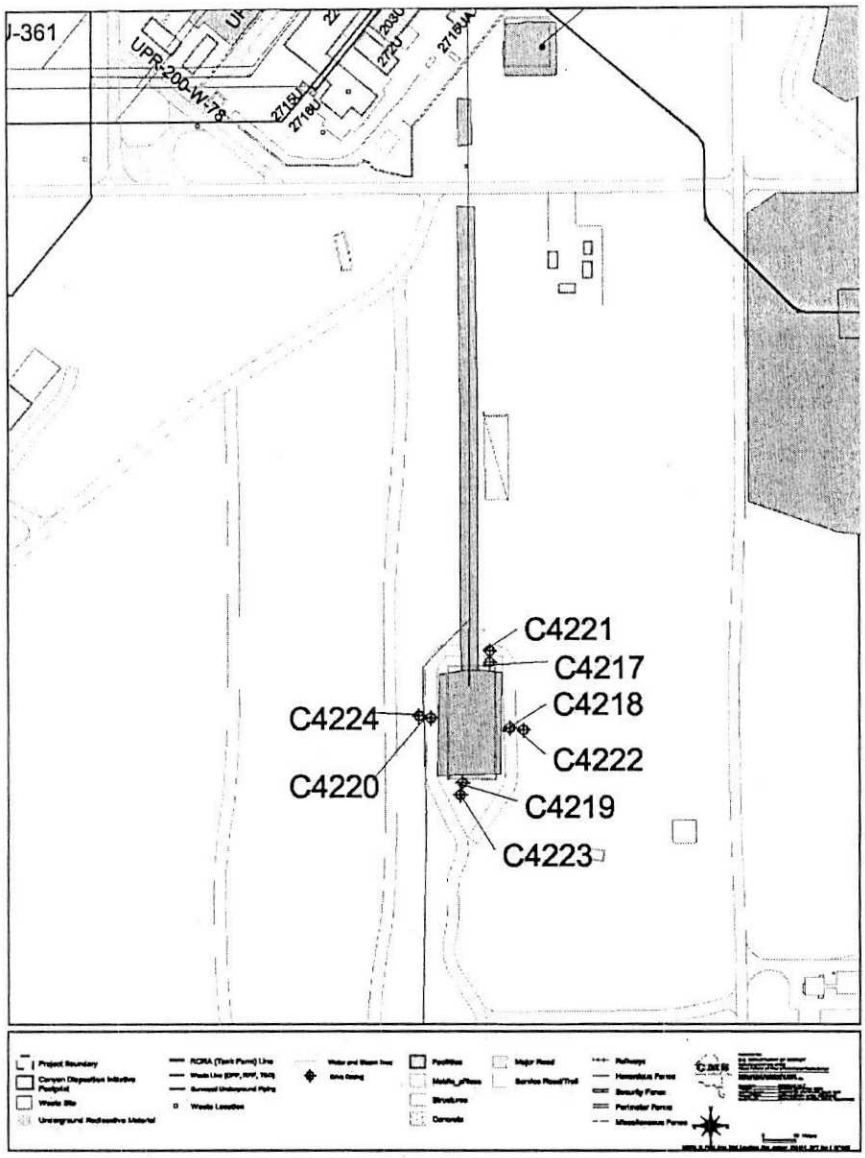
- Placed 4 DPTs and Completed SGL
  - Contamination at Depth at 4 of 4 Requires Movement 20 ft out to Next Set of DPT Locations

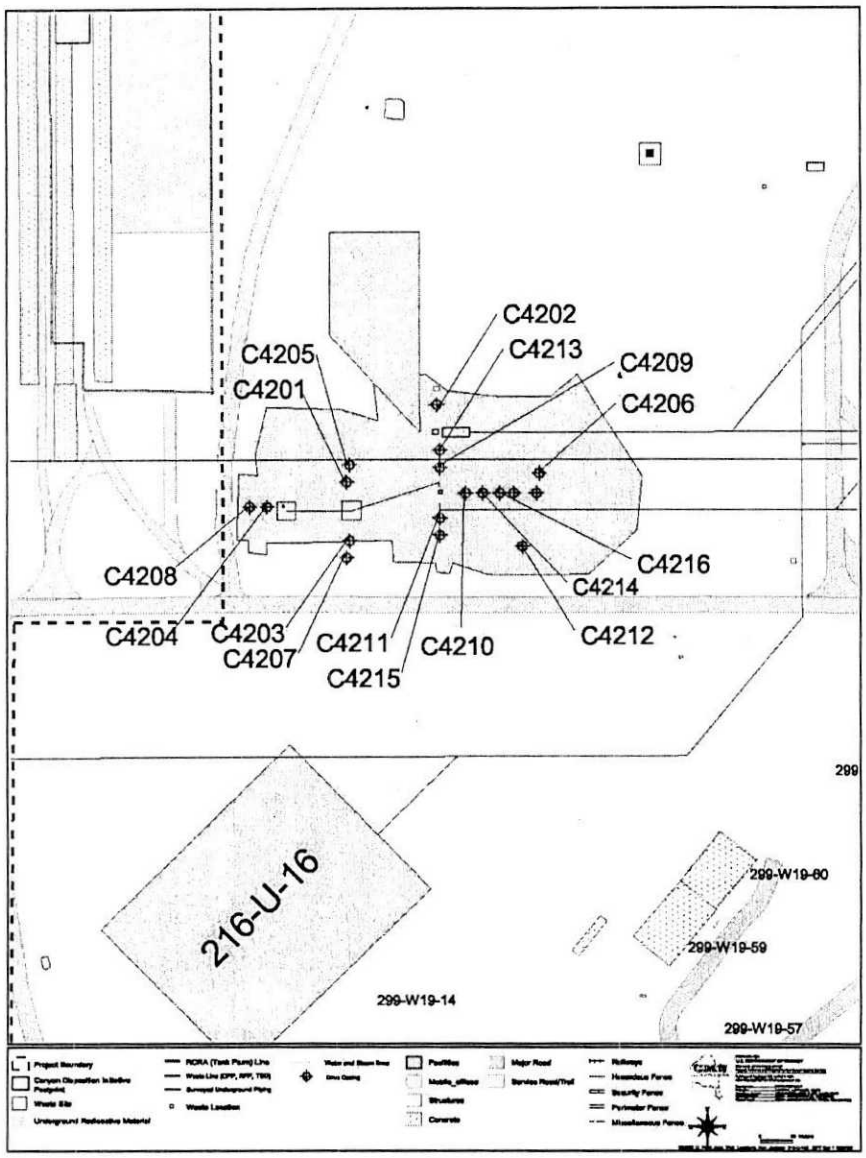
216-U-8 Crib	DPT Number	SGL Results	Action Based on SGL
	C4217	Preliminary-Manmade (U-238 & Cs-137) at 30-35 ft	Place DPT @ C4221
	C4218	Preliminary-Manmade (U-238 and U-235) at 35-40 ft	Place DPT @ C4222
	C4219	Max Cs-137 >3000 pCi/g@ 33.5 ft;U-238 3100 pCi/g @43.5;U-235 1419 pCi/g @43.5	Place DPT @ C4223
	C4547	Max Cs-137 534 pCi/g @ 34.5 ft;U-238 157 pCi/g @34.5	Place DPT @ C4224

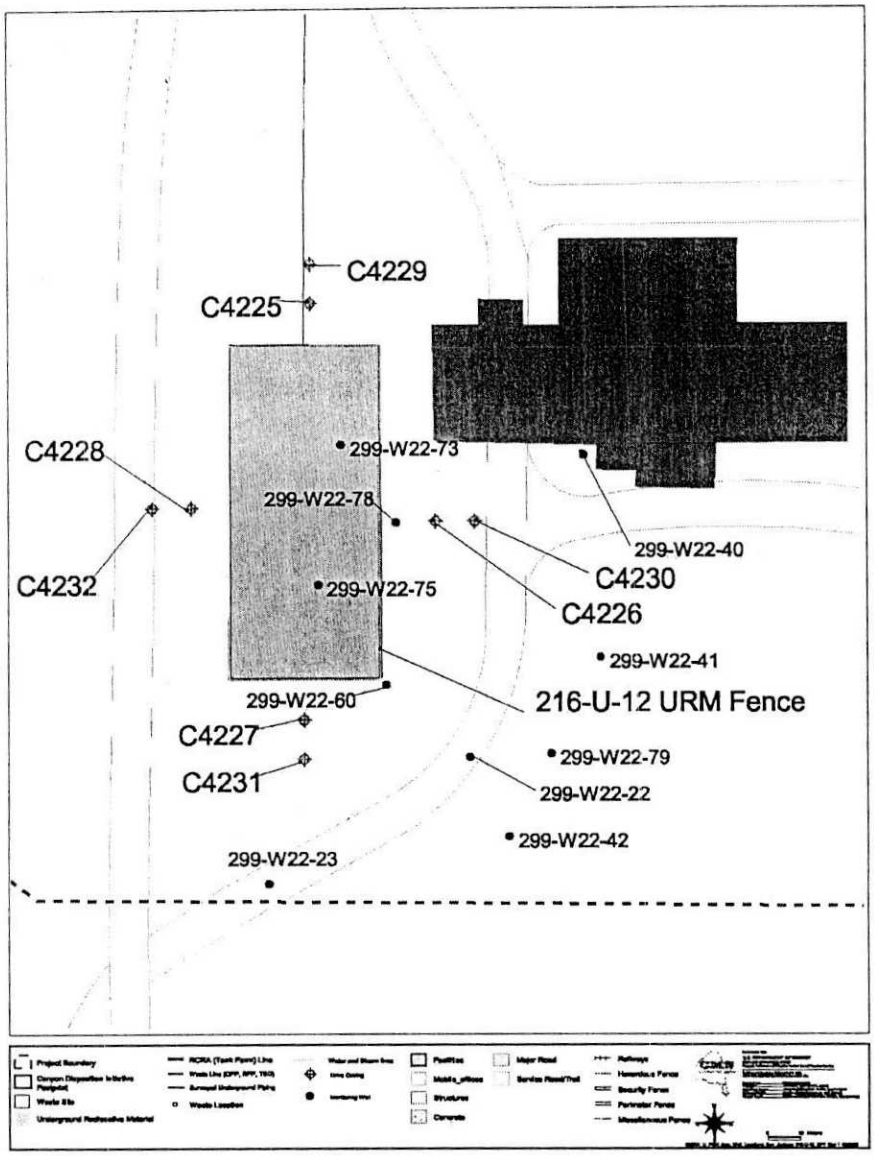
Site Specific Results 216-U-12 Crib

- Placed 4 DPTs and Completed SGL
  - Contamination at Depth at24 of 4 Requires Movement 20 ft out to Next Set of DPT Locations

216-U-12 Crib	DPT Number	SGL Results	Action Based on SGL
	C4225	Max Cs-137 76 pCi/g @ 10 ft	Place DPT @ C4229
	C4226	No manmade	None
	C4227	No manmade	None
	C4228	Max U-238 61 pCi/g @40 ft;U-235 3.8 pCi/g @ 33.5 ft	Place DPT @ C4232


J-361
UPR-200-W-78
C4221
C4217
C4218
C4224
C4222
C4220
C4219
C4223


C4202
C4213
C4205
C4209
C4201
C4206
C4208
C4216
C4214
C4204
C4203
C4211
C4210
C4212
C4207
C4215
299
216-U-16
299-W19-60
299-W19-59
299-W19-14
299-W19-57


C4229
C4225
C4228
299-W22-73
299-W22-78
C4232
299-W22-75
299-W22-40
C4230
C4226
299-W22-41
216-U-12 URM Fence
299-W22-60
C4227
C4231
299-W22-79
299-W22-22
299-W22-42
299-W22-23

Appendix B – List of Supplemental Wells Potentially Used to Support CERCLA Groundwater Monitoring for the 200-BP-5 Operable Unit

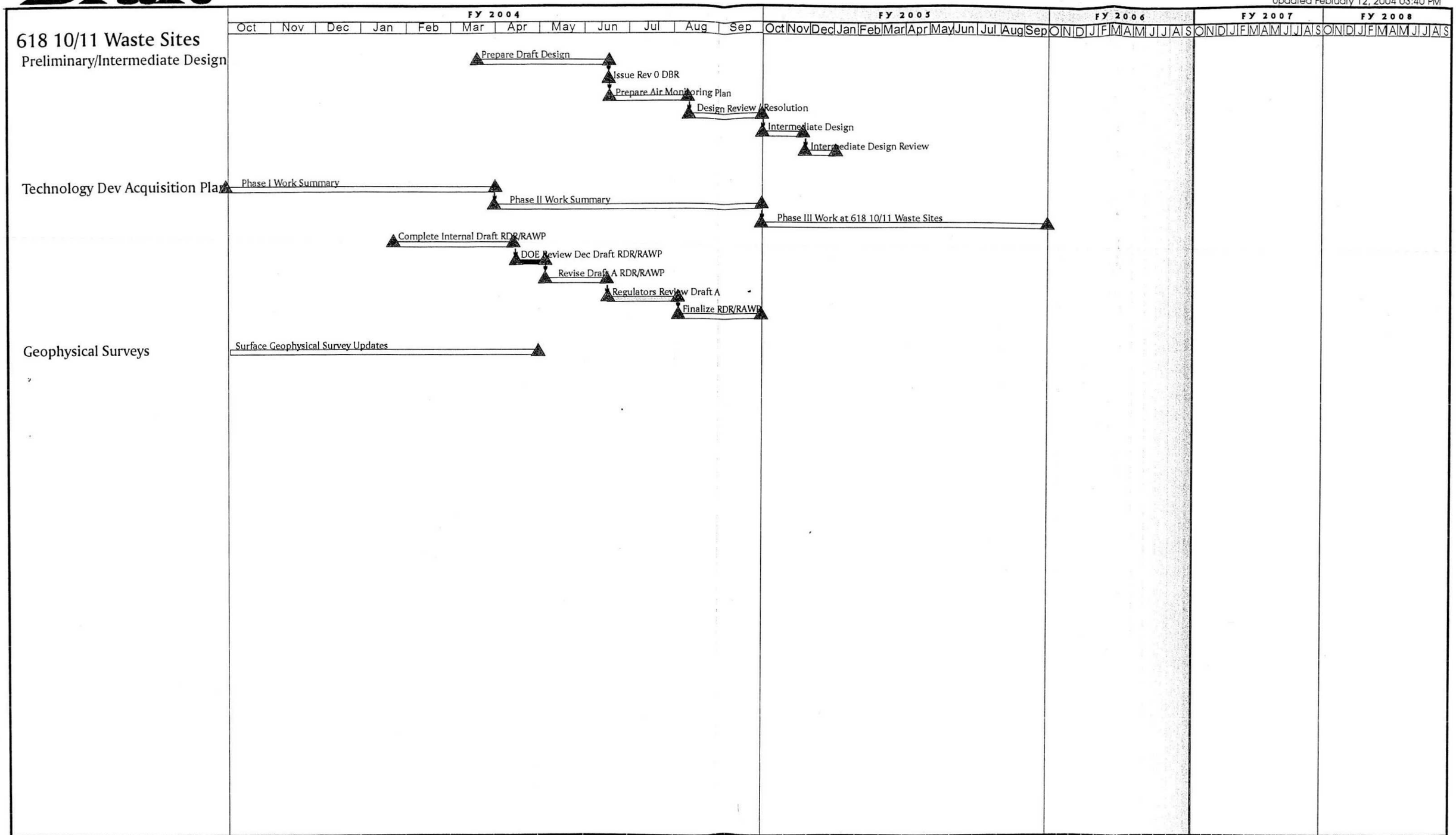
Well Numbers	Sampling Project
299-E18-1	Surveillance Central
299-E24-8	Surveillance Central
299-E26-10	LERF, Surveillance Central
299-E26-11	LERF, Surveillance Central
299-E26-8	Surveillance Basalt
299-E27-10	Surveillance Central, LLBG 2, LLBG 2-PA
299-E27-11	B-63, LLBG 2, LLBG 2-PA
299-E27-12	SST C
299-E27-13	SST C
299-E27-16	B-63
299-E27-17	B-63, LLBG 2, LLBG 2-PA, Surveillance Central
299-E27-18	B-63, Surveillance Central
299-E27-19	B-63
299-E27-8	B-63, LLBG 2, LLBG 2-PA
299-E27-9	B-63, LLBG 2, LLBG 2-PA
299-E28-10	Surveillance Central
299-E28-13	Surveillance Central
299-E28-28	LLBG 1, LLBG 1-PA, Surveillance Central
299-E28-7	Surveillance Central
299-E32-2	LLBG 1, LLBG 1-PA, Surveillance Central
299-E32-3	LLBG 1, LLBG 1-PA
299-E32-5	LLBG 1, LLBG 1-PA, Surveillance Central
299-E32-7	LLBG 1, LLBG 1-PA, Surveillance Central
299-E32-8	LLBG 1, LLBG 1-PA, Surveillance Central
299-E33-10	SST B
299-E33-17	SST B
299-E33-20	SST B
299-E33-21	SST B
299-E33-29	LLBG 1, LLBG 1-PA, SST B, Surveillance Central
299-E33-31	SST B
299-E33-32	SST B, Surveillance Central
299-E33-33	B-63, Surveillance Central
299-E33-334	SST B, Surveillance Central
299-E33-335	SST B, Surveillance Central
299-E33-337	SST B
299-E33-339	SST B
299-E33-36	B-63
299-E33-37	B-63, Surveillance Central
299-E33-9	SST B
299-E34-10	B-63, LLBG 2, LLBG 2-PA
299-E34-11	Surveillance Central
299-E34-12	LLBG 2, LLBG 2-PA
299-E34-2	LLBG 2, LLBG 2-PA, Surveillance Central
299-E34-3	LLBG 2, LLBG 2-PA
299-E34-5	LLBG 2, LLBG 2-PA, Surveillance Central
299-E34-7	LLBG 2, LLBG 2-PA, Surveillance Central
299-E34-8	B-63
299-E34-9	LLBG 2, LLBG 2-PA, Surveillance Central
699-43-41E	Surveillance Central

Well Numbers	Sampling Project
699-44-39B	Surveillance Central, B Pond
699-50-53B	Surveillance Basalt
699-52-19	Surveillance Central
699-52-46A	Surveillance Basalt
699-54-34	Surveillance Basalt
699-56-43	Surveillance Basalt
699-56-53	Surveillance Basalt
699-62-43F	Surveillance 100 FR3
699-63-58	Surveillance 100 BC5
C4124/299-E27-22	New calendar year 2003 well NE of SST C
C4125/299-E27-4	New calendar year 2003 well W/SW of SST C
C4127/299-E27-21	New calendar year 2003 well S of SST C
C4190/299-E27-23	New calendar year 2003 well SW of SST C
C4259/299-E33-47	Proposed new well E of SST B
C4260/299-E33-48	Proposed new well S of SST B
C4261/299-E33-49	Proposed new well S of SST BX

Draft

FY 2004 Waste Site Remedial Actions - 618 10/11

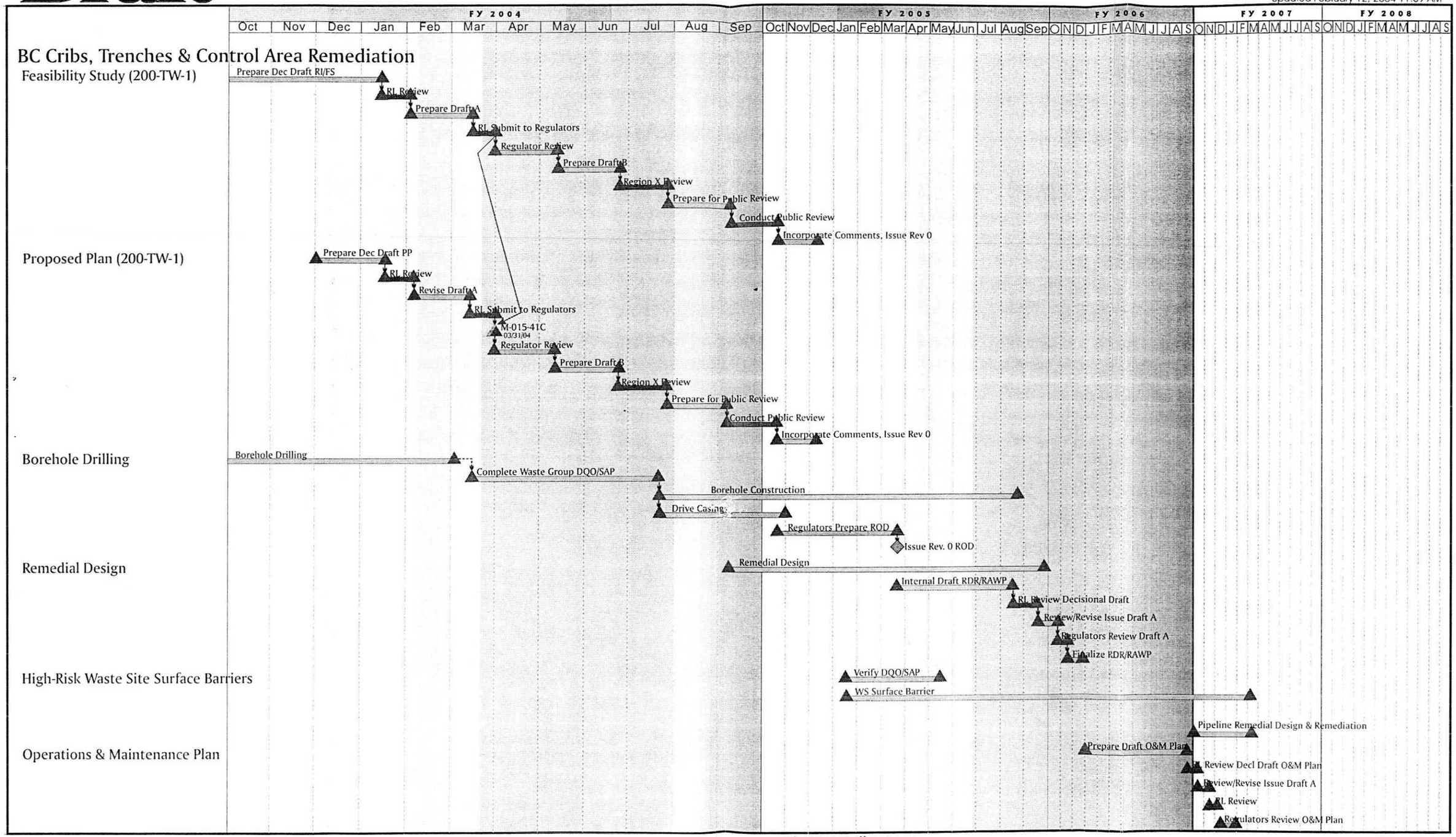
Updated February 12, 2004 03:40 PM



Draft

FY 2004 Waste Site Remedial Actions - BC Cribs

Updated February 12, 2004 11:59 AM

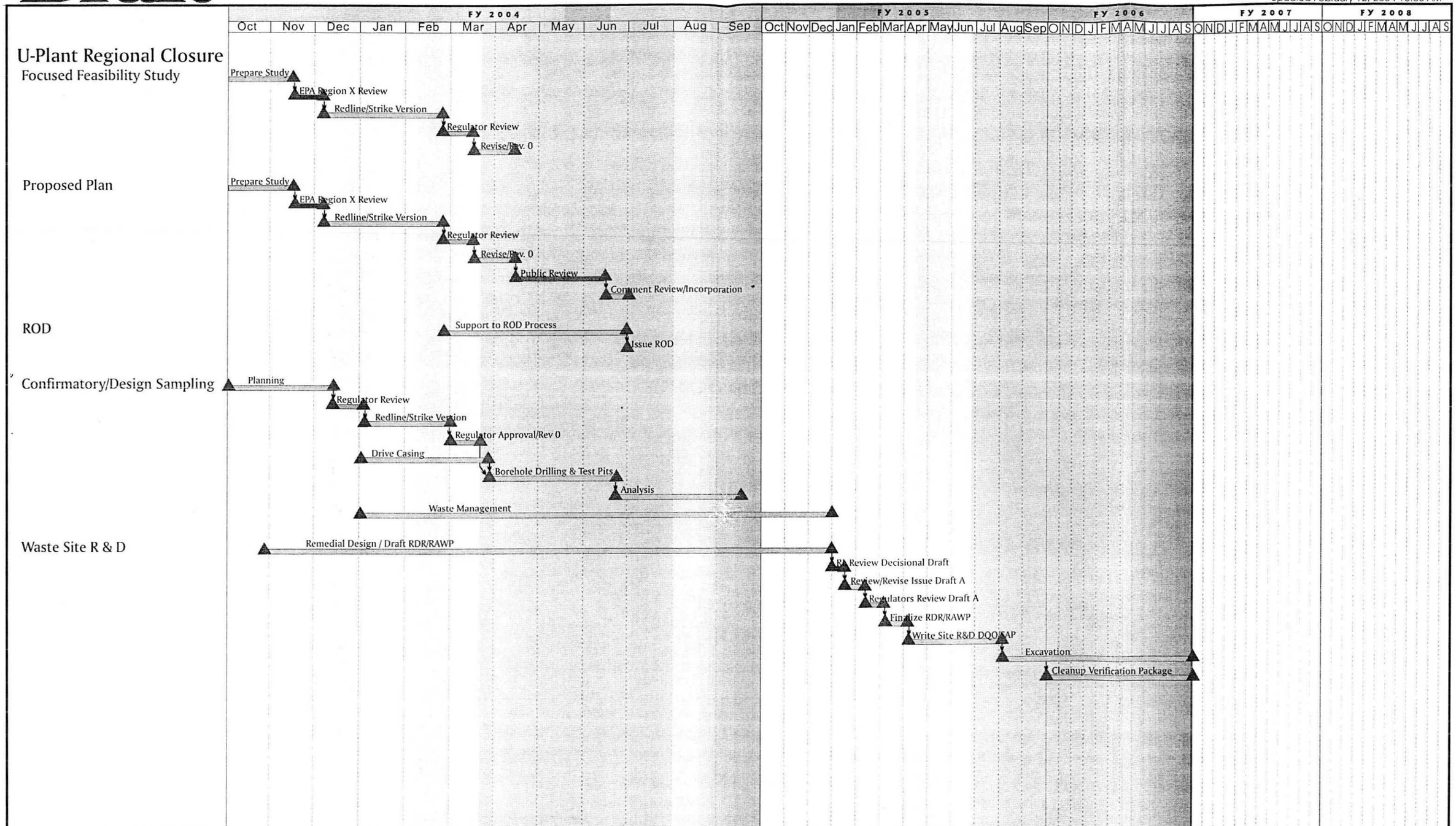


GROUNDWATER REMEDIATION PROJECT

Draft

FY 2004 Waste Site Remedial Actions - U-Plant

Updated February 12, 2004 10:05 AM



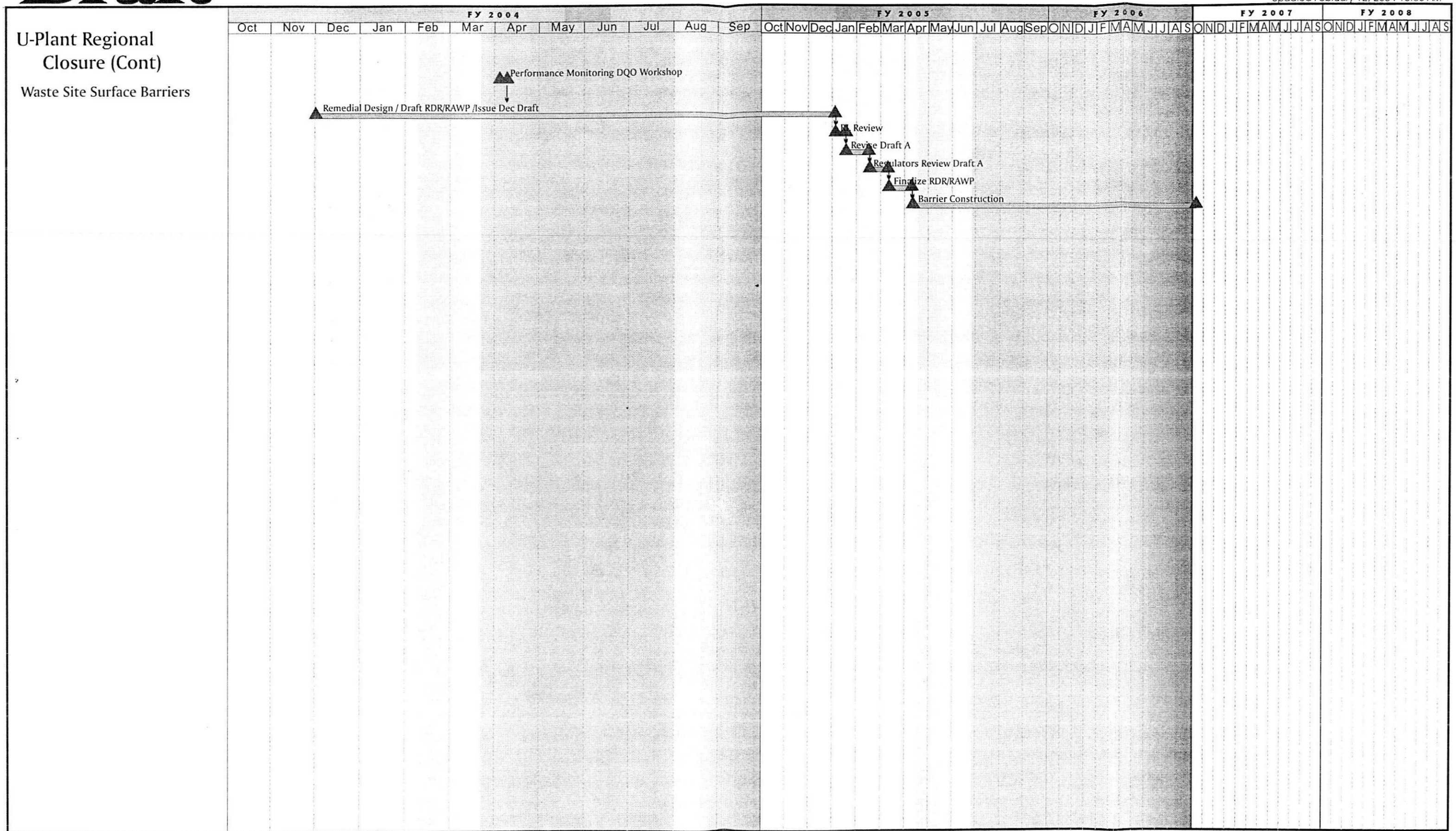
GROUNDWATER REMEDIATION PROJECT

FH Activity
RL Review
Regulator Review
EPA Region X Review
Public Review
TPA Milestone
FH Key Event / Milestone
ROD

Draft

FY 2004 Waste Site Remedial Actions - U-Plant

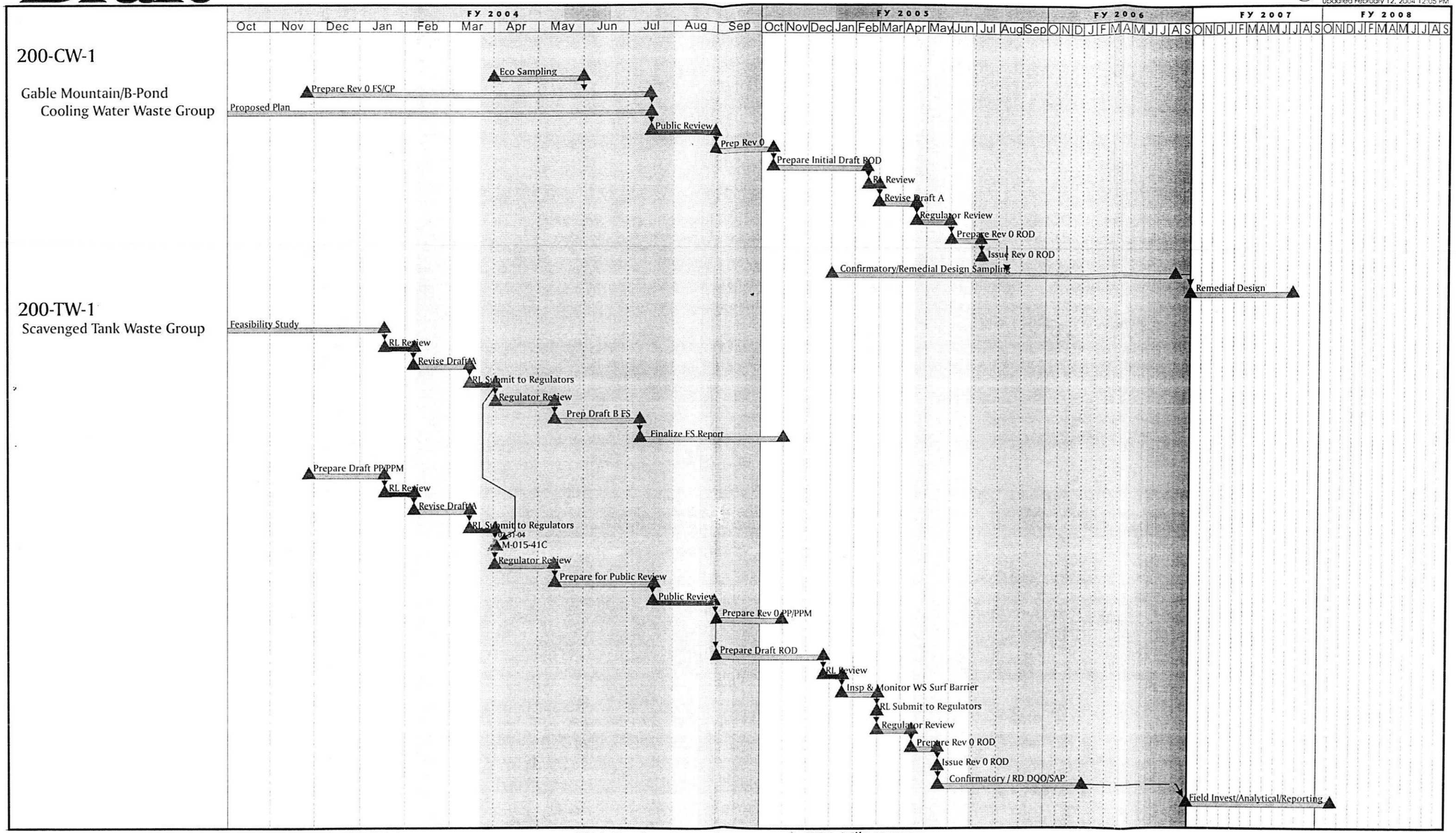
Updated February 12, 2004 10:05 AM



GROUNDWATER REMEDIATION PROJECT

FY 2004 Waste Site Remedial Actions

Updated February 12, 2004 12:05 PM

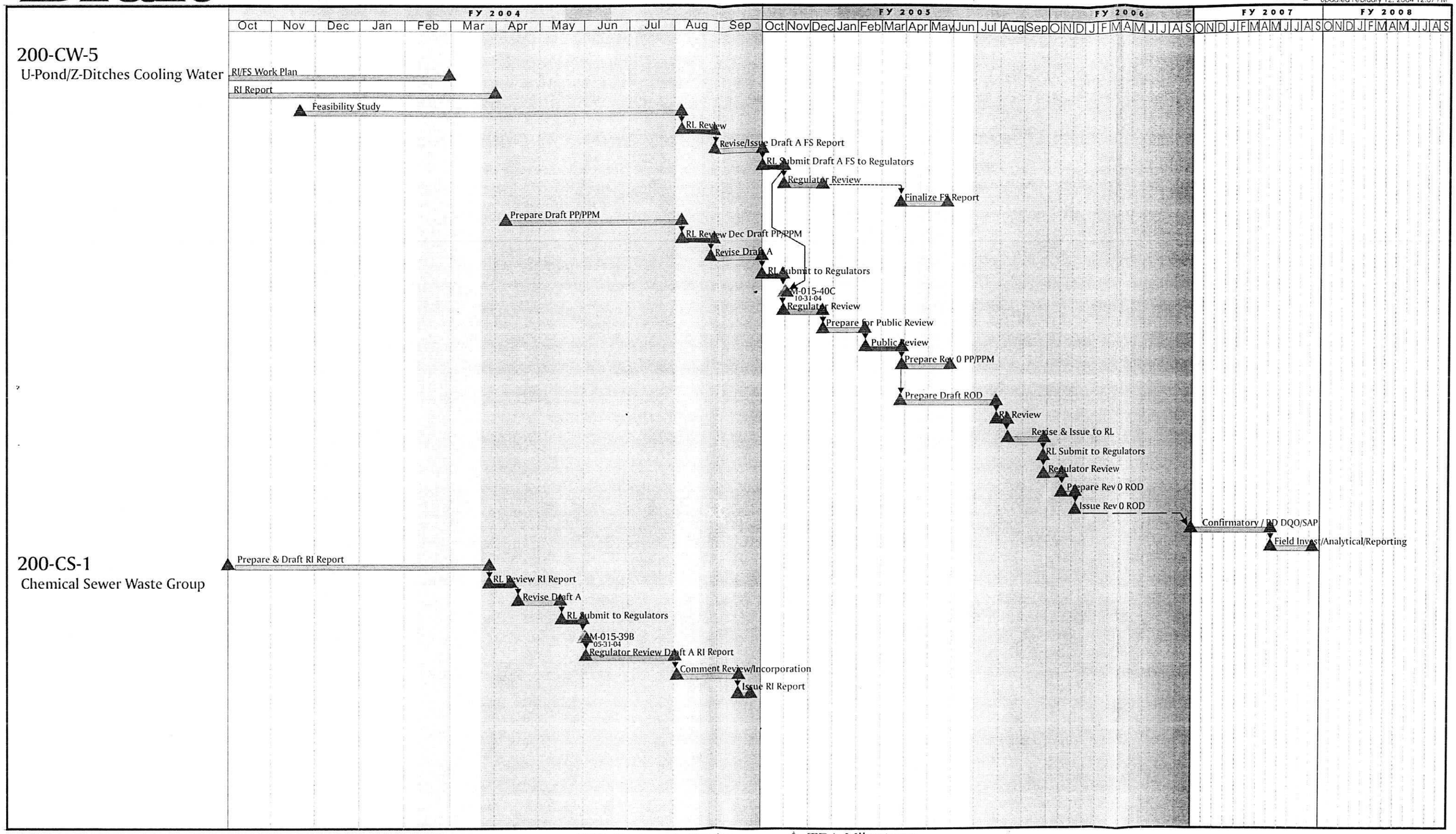


GROUNDWATER REMEDIATION PROJECT

FH Activity
RL Review
Regulator Review
EPA Region X Review
Public Review
TPA Milestone
FH Key Event / Milestone

FY 2004 Waste Site Remedial Actions

Updated February 12, 2004 12:07 PM

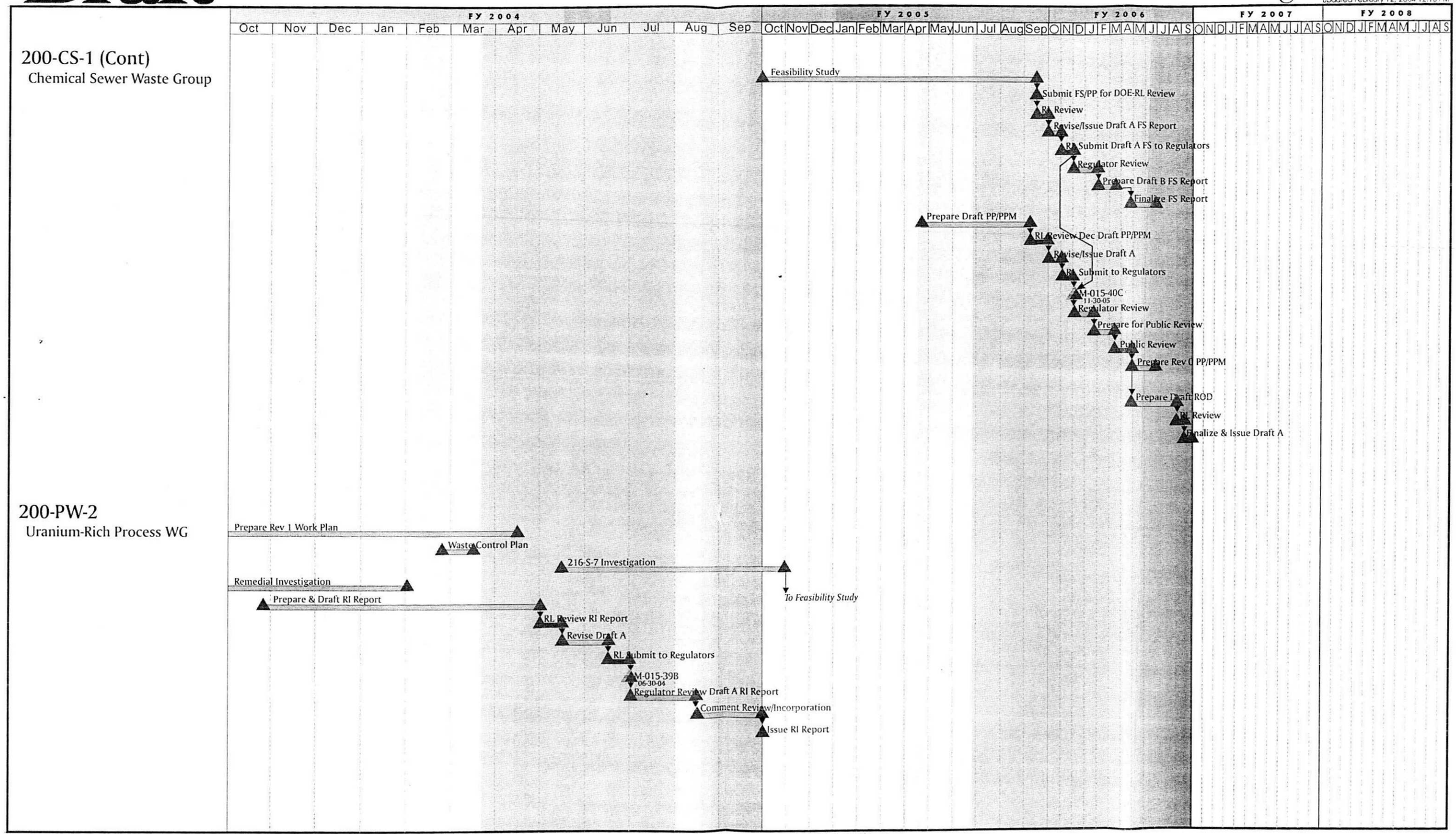


GROUNDWATER REMEDIATION PROJECT

FH Activity
RL Review
Regulator Review
EPA Region X Review
Public Review
TPA Milestone
FH Key Event / Milestone

FY 2004 Waste Site Remedial Actions

Updated February 12, 2004 12:15 PM

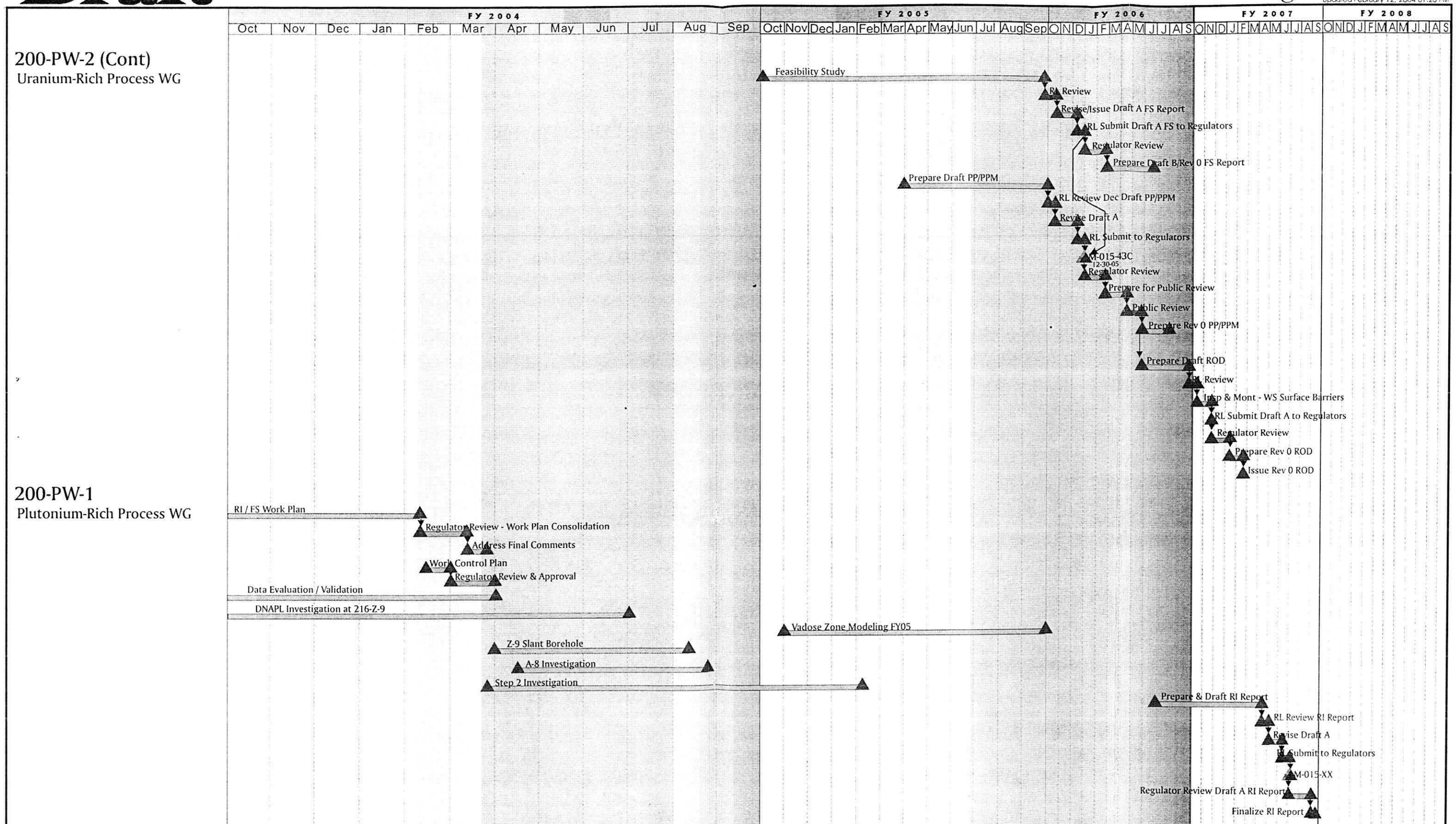


GROUNDWATER

FH Activity
RL Review
Regulator Review
EPA Region X Review
Public Review
TPA Milestone
FH Key Event / Milestone

FY 2004 Waste Site Remedial Actions

Updated February 12, 2004 01:20 PM

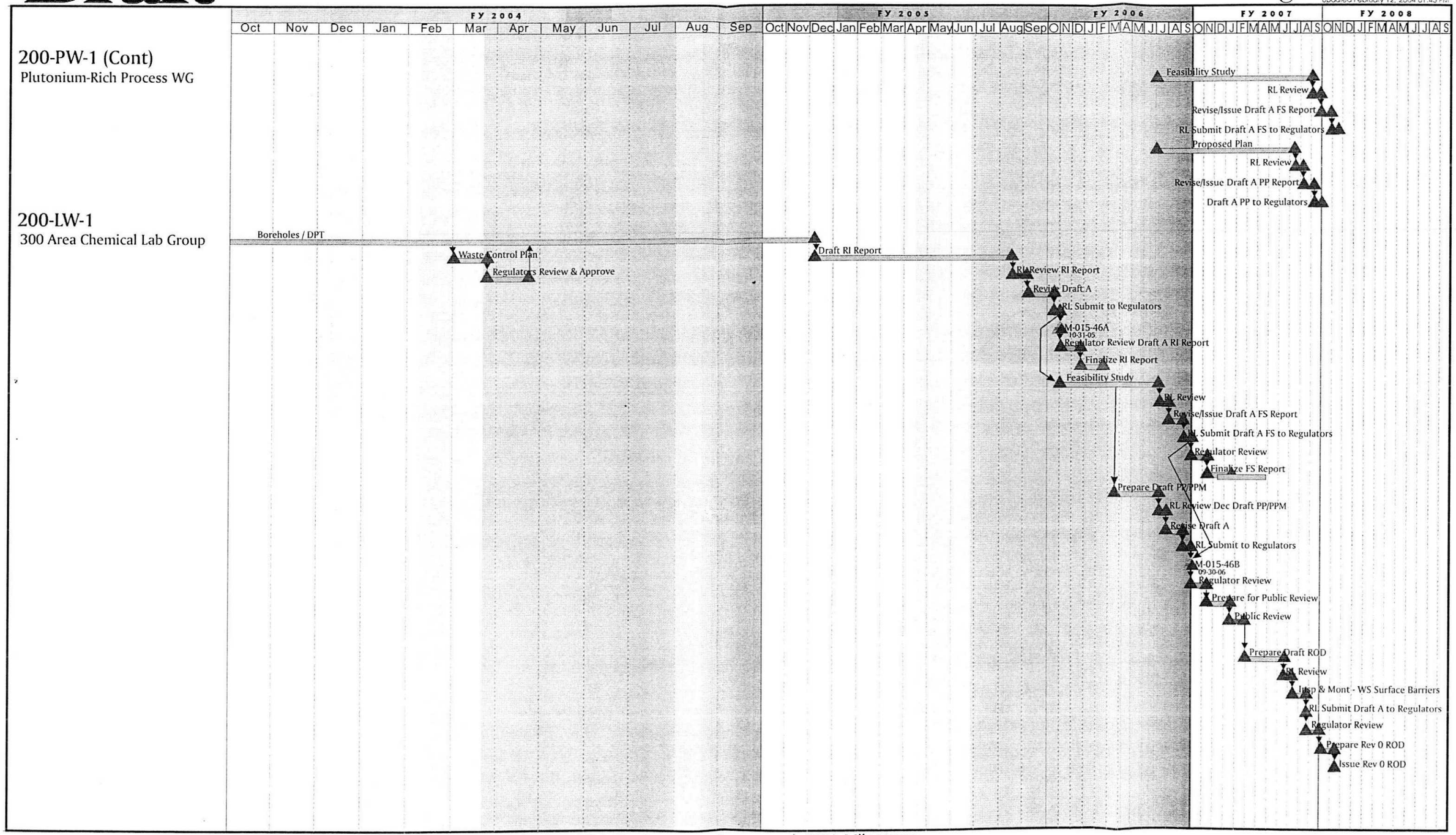


GROUNDWATER REMEDIATION PROJECT

FH Activity
RL Review
Regulator Review
EPA Region X Review
Public Review
TPA Milestone
FH Key Event / Milestone

FY 2004 Waste Site Remedial Actions

Updated February 12, 2004 01:45 PM

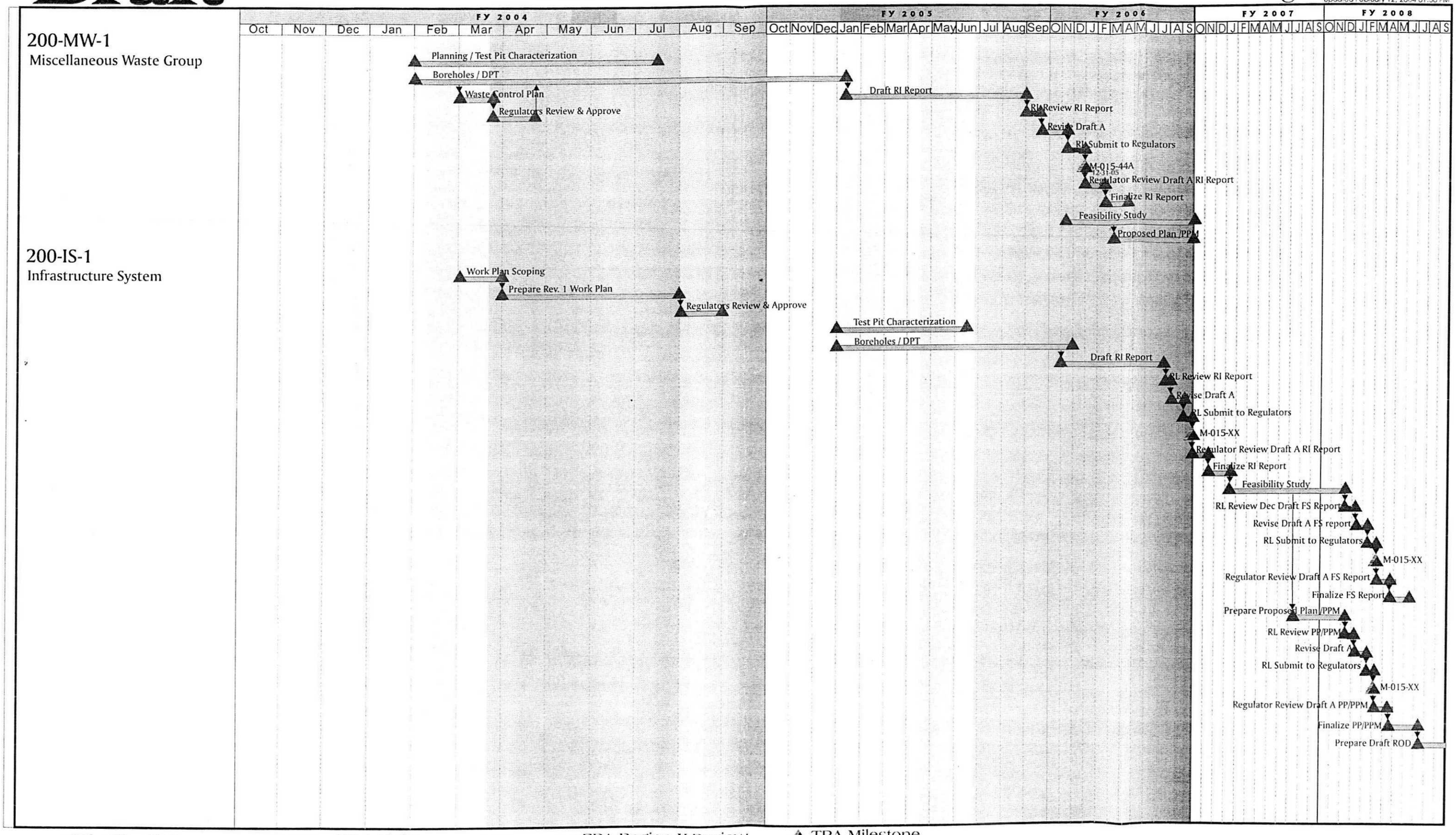


GROUNDWATER REMEDIATION PROJECT

FH Activity
RL Review
Regulator Review
EPA Region X Review
Public Review
TPA Milestone
FH Key Event / Milestone

FY 2004 Waste Site Remedial Actions

Updated February 12, 2004 01:50 PM



GROUNDWATER REMEDIATION PROJECT

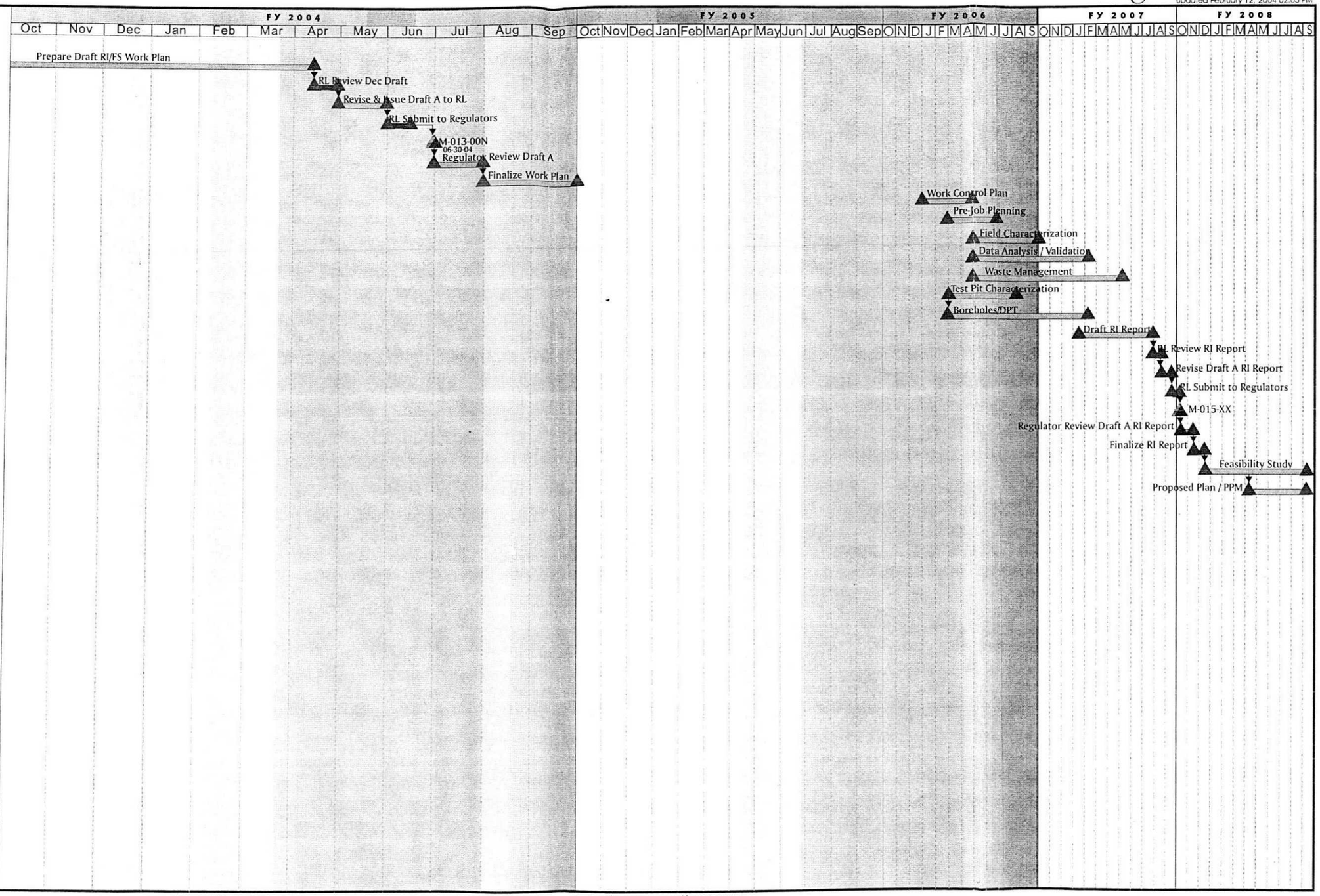
FH Activity
RL Review
Regulator Review
EPA Region X Review
Public Review
TPA Milestone
FH Key Event / Milestone

Draft

FY 2004 Waste Site Remedial Actions

Updated February 12, 2004 02:05 PM

200-UR-1
Unplanned Release Group



GROUNDWATER REMEDIATION PROJECT

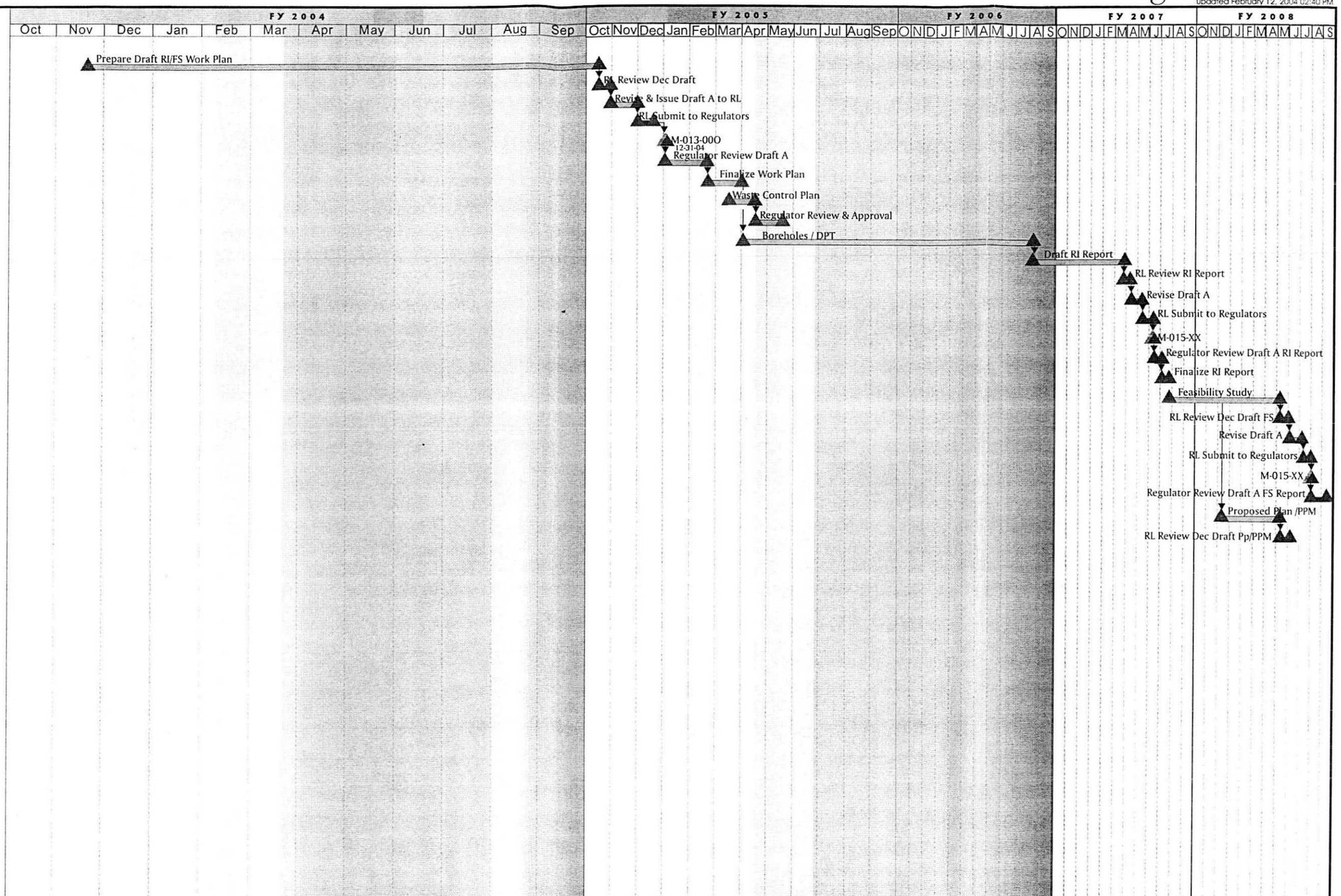
FH Activity
RL Review
Regulator Review
EPA Region X Review
Public Review
TPA Milestone
FH Key Event / Milestone

FY 2004 Waste Site Remedial Actions

Updated February 12, 2004 02:40 PM

200-SW-1

Non-Rad landfills & Dumps



GROUNDWATER REMEDIATION PROJECT

FH Activity
RL Review
Regulator Review
EPA Region X Review
Public Review
TPA Milestone
FH Key Event / Milestone

Analyte	Hanford Site Background Concentrations	Unrestricted MTCA Method B Soil Clean up Action Levels			Release of Waste Not Controlled as Radioactive (pCi/g)	Method C - Soil Direct	216-B-26 Borehole C4191		216-B-58 Borehole C4174		216-B-58 Borehole C4304	
		Direct Contact Pathway (mg/Kg)	Leaching Pathway (mg/Kg)	Terrestrial Ecological Soil (mg/Kg)			maximum analytical concentration	Depth (feet)	maximum analytical concentration	Depth (feet)	maximum analytical concentration	Depth (feet)
Radionuclides (pCi/g)												
Americium-241+*	-				2	NC	0.21	22.5	412/ND	13.5/22.5 down	297/<.09	12.5/17.5 down
Actinium-228									0.7000	17.5		
Antimony-125+*							2.28	17.5	ND		ND	
Barium-133									ND			
Bismuth-212									0.3900	17.500		
Bismuth-214									0.3300	17.500		
Carbon-14+*					50		3.09	27.5	ND		ND	
Cerium-144									ND			
Cerium/Praseodymium									ND			
Cesium-134+*							0.04	247.5	0.0300	17.5	ND	
Cesium-137+*	1.05				10	NC	529000/<2	13/27.5 down	14600/<.36	13.5/22.5	14.2/ND	12.5/17.5 down
Cobalt-60+*	0.00842				10	NC	0.05	27.5	9.96/<.08	13.5/17.5	1700/<.05	13.5/35 down
Europium-152+*	-				10	NC	ND		ND		ND	
Europium-154+*	0.0334				10	NC	ND		8.09/ND	13.5/17.5	ND	
Europium-155+*	0.0539				10	NC	0.07	338	0.0600	27.5	0.0700	35.0
Gross Alpha	-				5	NC						
Gross Beta	22.96				10	NC						
Lead-212									0.6100	17.500		
Lead-214									0.3200	17.500		
Neptunium-237+*	-				NA	NC	0.02	97.5	0.0300	13.500	0.0100	12.500
Nickel-63+*	-				30	NC	2110/<9	13/17.5 down	36.1/ND	13.5/17.5	165/ND	12.5/17.5 down
Niobium-94									ND			
Plutonium-238+*	0.00378				2	NC	ND		31/ND	13.5/22.5	20/<.08	12.5/17.5 down
Plutonium-239/240+*	0.0248				2	NC	195/<.36	13/17.5 down	310/<.22	13.5/22.5	240/<.24	12.5/17.5 down
Potasium-40	16.6				NA	NC	22.2	97.5	18.3000	13.5	16.7000	52.5
Radium-226+*							0.94	17.5	0.570	11.0	0.890	27.5
Radium-228+*	1.32[c]					NC	1.25	97.5	4.42/<.95	13.5/17.5	1.360	27.5
Ruthenium-103									ND			
Ruthenium-106									ND			
Total radioactive strontium+*	0.178				10	NC	974000/<4.46	13/17.5 down	18400/<.66	13.5/22.5	0.4	12.5
Technetium-99+*	-				30	NC	92/<3.3	97.5/147.5 down	ND		ND	
Thallium-208									0.2400	17.5		
Tin-126+*							0.18	27.5				
Tritium+*	-				400	NC	42.9/<0.32	97.5/147.5 down			798/<350	27.5/35 down
Thorium-228							<1.34/3.01	292 up high at 97.5/338	6.89/<1.07	13.5/17.5	2	12.5
Thorium-230							0.73	27.5	1	17.5	1	27.5
Thorium-232+*	1.32				2	NC	<1.32/3.04	292 up high at 247.5/338	4.42/<1.22	13.5/17.5	1.360	27.5
Total uranium (µg/g)	3.21				2	NC	56,900/ND	13/36 down	1150/ND	22.5/27.5	ND	
Zinc-65									ND			
Uranium-233/234+*	1.1				2	NC	7.8/<.43	17.5/36 down	0.580	22.5	0.740	12.5

DRAFT

Analyte	Hanford Site Background Concentrations	Unrestricted MTCA Method B Soil Clean up Action Levels			Release of Waste Not Controlled as Radioactive (pCi/g)	Method C - Soil Direct	216-B-26 Borehole C4191		216-B-58 Borehole C4174		216-B-58 Borehole C4304	
		Direct Contact Pathway (mg/Kg)	Leaching Pathway (mg/Kg)	Terrestrial Ecological Soil (mg/Kg)			maximum analytical concentration	Depth (feet)	maximum analytical concentration	Depth (feet)	maximum analytical concentration	Depth (feet)
Uranium-235/236+*	0.109				2	NC	0.48	17.5	0.020	11.0	0.130	12.5
Uranium-238+*	1.06				2	NC	8.2/<0.45	17.5/36	0.260	13.5	0.580	12.5
Inorganic Metals (mg/kg)												
Aluminum+							7680	27.5				
Antimony*		3.20E+01	5.42E+00	5					ND		ND	
Arsenic*	20[a]	6.67E-01	3.40E-02	7		219			16.00	17.5	12.60	27.5
Barium*	132	5.60E+03	9.23E+02	102		245,000			100	22.5	150	27.5
Beryllium*	1.51	1.60E+02	6.32E+01	10		30.5			0.50	22.5	ND	
Bismuth+*		NA	NA	NA			233	13	9.8700	13.500	ND	
Cadmium +*	0.81[a]	8.00E+01	6.90E-01	4		3,500	ND		0.17	22.5	ND	
Calcium+							10900	27.5				
Chromium (III)+*	18.5	1.20E+05	2.00E+03	42		Unlimited	8.89	338	9.4	22.5	7.7	52.5
Hexavalent chromium +*	-	2.40E+02	1.84E+01	NA		10,500	0.7	27.5	0.4700	22.5	ND	
Copper+*	22	2.96E+03	2.63E+02	50		20	13	32.5	14.4	22.5	11.9	52.5
Lead+*	10.2	250: Method A	3.00E+03	118		1,000	5.1	27.5	12.5	22.5	ND	
magnesium+												
Mercury +*	0.33	2.40E+01	2.09E+00	0.1		1,050	1.42/ND	27.5/36 down	ND		ND	
Molybdenum+							ND					
Nickel+*	19.1	1.60E+03	1.30E+02	30		70,000	17.8	292	10.1	97.5	10.8	12.5
Potassium+							784	13				
Selenium*	0.78	4.00E+02	5.20E+00	1		17,500 .			13.0000	17.5	6.5000	17.5
Silver+*	0.73	4.00E+02	1.36E+01	2		17,500	<.16	27.5	0.08	22.5	Nd	
Sodium+							898	13				
Vanadium+							101/79.1	13/27.5				
Zinc+							64.6	13				

DRAFT

Hanford Site Background Concentrations	Unrestricted MTCA Method B Soil Clean up Action Levels			Release of Waste Not Controlled as Radioactive (pCi/g)	Method C - Soil Direct	216-B-26 Borehole C4191		216-B-58 Borehole C4174		216-B-58 Borehole C4304	
	Direct Contact Pathway (mg/Kg)	Leaching Pathway (mg/Kg)	Terrestrial Ecological Soil (mg/Kg)			maximum analytical concentration	Depth (feet)	maximum analytical concentration	Depth (feet)	maximum analytical concentration	Depth (feet)
9.23	NA	NA	NA		Unlimited	7.61	27.5	4	17.5	7	27.5
								ND		ND	
100	NA	1.00E+03	NA		25,000[b]	24.4	97.5	14.1	52.5	36.3	35.0
-	1.60E+03	8.00E-01	NA		70,000	2.14/.26	97.5/147.5 down	ND		0.3600	52.5
2.81	NA	1.60E+01	NA		210,000	<1.15	22.5	ND		2.74	12.5
52	8.00E+03	4.00E+01	NA		Unlimited	4090/<4.6	97.5/197.5 down	14	52.5	255/<32.9	27.5/52.5 down
-	8.00E+03	4.00E+00	NA		350,000	<.427	27.5	ND		ND	
0.79	NA	NA	NA		NC	58.6	17.5	4.5400	13.5	ND	
								ND		33.0000	12.5
237	NA	1.00E+03	NA		25,000[b]	142	52.5	27	97.5	62	27.5
/kg)											
						ND		ND		ND	
								ND		ND	
						ND		ND		ND	
								ND		ND	
								ND		ND	
								ND			
						ND					
						ND					
								ND		ND	
						ND				ND	
						ND					
						<.6	52.5				
-	NA	NA	NA		NC	ND					
						ND		ND		ND	
	2.00E+03		200					46.7000	22.500	1350/ND	12.5/17.5 down
								ND		ND	
-	2.00E+03		200		2,000	ND		ND		ND	
						ND					
						ND					
	4.17E+01	3.00E-02	20								
						ND					
	4.80E+04	4.39E+01	30			ND					
						ND					
						2140	27.5				
-	1.60E+00	3.09E+00	0.65		70,000[d]			.93/ND	13.5/all others	ND	
	8.00E+03	4.37E+00	NA					ND		ND	
	1.10E+01	2.32E-03	NA					ND		ND	
								ND		ND	
-	7.20E+04	1.58E+00	NA		3.15E+09			ND		ND	

DRAFT

Analyte	Hanford Site Background Concentrations	Unrestricted MTCA Method B Soil Clean up Action Levels			Release of Waste Not Controlled as Radioactive (pCi/g)	Method C - Soil Direct	216-B-26 Borehole C4191		216-B-58 Borehole C4174		216-B-58 Borehole C4304	
		Direct Contact Pathway (mg/Kg)	Leaching Pathway (mg/Kg)	Terrestrial Ecological Soil (mg/Kg)			maximum analytical concentration	Depth (feet)	maximum analytical concentration	Depth (feet)	maximum analytical concentration	Depth (feet)
1-Butanol									ND		ND	
1,1,2-trichloroethane									ND		ND	
Acetone*	-	8.00E+03	3.21E+00	NA		3.50E+08			ND		ND	
2-butanone (MEK)*	-	4.80E+04	2.18E+01	NA		2.10E+09			ND		ND	
Benzene*		1.82E+02	4.48E-03	NA					ND		ND	
Bromodichloromethane		1.61E+01		NA					ND		ND	
Bromomethane									ND		ND	
Bromoform									ND		ND	
Carbon disulfide									ND		ND	
Carbon Tetrachloride*	-	7.69E+00	3.10E-03	NA		1.01E+06			ND		ND	
Cis-1,2-dichloroethylene*		8.00E+02	3.60E-01	NA							ND	
trans-1,2-dichloroethylene*		1.60E+03		NA							ND	
Chlorobenzene*		1.60E+03	8.74E-01	NA					ND		ND	
Chloroethane									ND		ND	
Chloroform*	-	1.64E+02	3.81E-02	NA		2.15E+07			ND		ND	
Chloromethane									ND		ND	
Ethylbenzene*	-	8.00E+03	6.05E+00	NA		NC			ND		ND	
Ethylene glycol*		1.60E+05	NA	NA					ND		ND	
Gasoline									ND		ND	
Hexachloroethane									ND		ND	
Hexone (MIBK)*		6.40E+03	1.28E+01	NA					ND			
Methylene chloride*	-	1.33E+02	2.54E-02	NA		1.75E+07			0	22.5	ND	
n-butyl benzene*	-			NA		NC						
Tetrachloroethylene (PCE)*	-	1.96E+01	9.10E-03	NA		Variable			ND		ND	
Trichloroethylene (TCE)*	-	9.09E+01	2.63E-02	NA		2.80E+08					ND	
Toluene*	-	1.60E+04	7.27E+00	200		7.00E+07			ND		ND	
Xylene*	-	1.60E+05	9.14E+01	NA		7.00E+09			ND		ND	
Vinyl Chloride		6.67E-01	1.84E-04	NA					ND		ND	

(+) Constituent added for B-26 IDW DQO BHI-1492
* Constituent added for B-58 IDW DQO WMP-18098
Other constituents listed were reported with the analysis. Some constituents also analyzed are shown in the above table.

The following constituents are to be calculated based on BHI-1492: Am-243, Cd-113m, Ce-135, Cm-242/243/244/245, I-129, Ni-59, Nb-93m, Pd-107, Pu-241/242, Pm-147, Sm-151, Se-79, U-232/233/236, Zr-93.

The following constituents are to be calculated based on WMP-18098: Am-242/243, Cd-113m, Ce-135, Cm-243/244/245, I-129, Ni-59, Nb-93m, Pd-107, Pu-241, Pm-147, Ra-224, Sm-151, Se-79, U-233/236, Y-90, Zr-93.

DRAFT

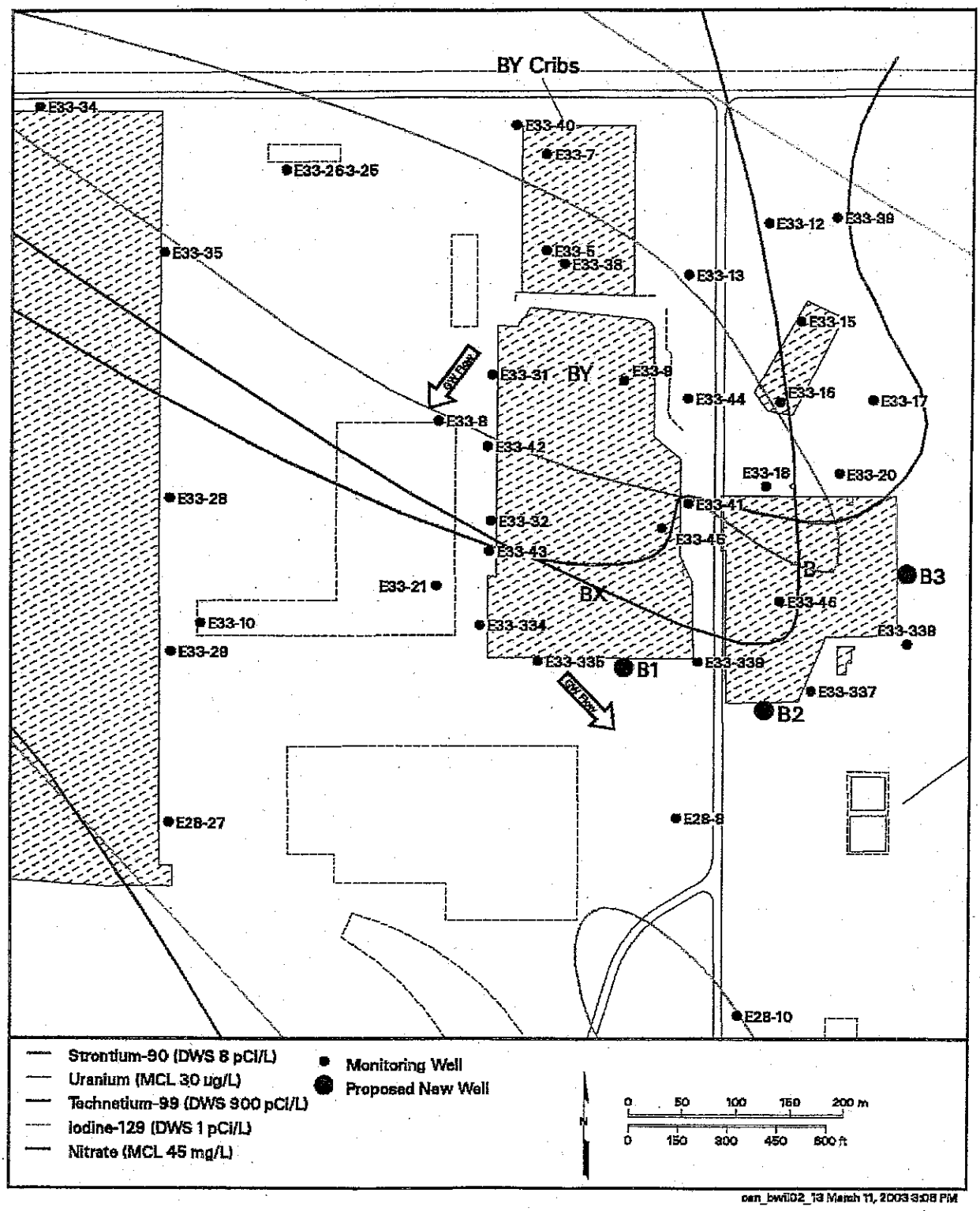



Figure 7-16. Proposed Modification to Existing Network at B-BX-BY Tank Farm.