Distribution

Unit Managers' Meeting: 100 Areas Remedial Action Unit/Source Operable Units

Kevin Bazzell ..... DOE-RL, RP (A3-04)
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Mary Jarvis ..... DOE-RL, RP (A5-15)
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Arlene Tortoso ..... DOE-RL, RP (A6-38)
Kent Westover ..... DOE-RL, RP (A3-04)

Lisa Treichel ..... DOE-HQ (EM-442)

John Price ..... WDOE (Kennewick) (B5-18)
Noel Smith-Jackson ..... WDOE (Kennewick) (B5-18)
Jean Vanni ..... WDOE (Kennewick) (B5-18)
Wayne Soper ..... WDOE (Kennewick) (B5-18)

Dennis Faulk ..... EPA (B5-01)
Richard Jaquish ..... EPA (B5-01)

Randy Acselrod ..... Washington Dept. of Health
Debora McBaugh ..... Washington Dept. of Health

Eileen Murphy-Fitch ..... FD (A4-25)

Tammy Allen ..... BHI (X0-17)
John April ..... BHI (T8-02)
Jane Borghese ..... FH (E6-35)
Rich Carlson ..... BHI (X0-17)
Frank Corpuz ..... BHI (X0-17)
Rick Donahoe ..... BHI (X5-57)
Jon Fancher ..... CHI (X0-17)
Ella Feist ..... CHI (X0-17)
Kim Koegler ..... BHI (X9-08)
Rex Miller ..... BHI (X3-40)
Annie Smet ..... BHI (X0-17)
Dean Strom ..... CHI (X3-40)
Jill Thomson ..... CHI (H9-01)
Joan Woolard ..... BHI (H0-02)
Administrative Record ..... BHI (H0-09) 2 copies

Please inform Tammy Allen (376-9850) – BHI (X0-17)
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Meeting Minutes Transmittal/Approval
Unit Managers' Meeting
100 Area Remedial Action and Waste Disposal Unit/Source Operable Unit
3350 George Washington Way, Richland, Washington
January 22, 2004

APPROVAL: _____ Date 2/26/04
Chris Smith/Jamie Zeisloft, 100 Area Unit Managers, RL (A3-04)

APPROVAL: Arlene Tortoso Date 2/26/04
Michael Thompson/ Arlene Tortoso, Waste Management Division, RL (A6-38)

APPROVAL: John B. Price Date 2/26/04
John Price, 100 Aggregated Area Unit Manager, Ecology (B5-18)

APPROVAL: Larry Gadbois Date 2-26-2004
Dennis Faulk, 100 Aggregate Area Unit Manager, EPA (B5-01)

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

Attachment 1	--	Attendance Sheet
Attachment 2	--	Agenda
Attachment 3	--	100 Area Meeting Minutes
Attachment 4	--	WIDS Site CVP Closeout Summary Table
Attachment 5	--	1300-N Emergency Dump Basin/1304 Emergency Dump Tank Report
Attachment 6	--	Groundwater status handout
Attachment 7	--	100-HR-3 Aquifer Sampling Tubes Map
Attachment 8	--	100-BC-5 Sampling Status
Attachment 9	--	Tritium in 100-K Area Groundwater

Prepared by: Tammy Allen Date 2-26-04
Tammy Allen (X0-17)

Concurrence by: Vernon R. Dronen Date 2/26/04
Vern Dronen, Project Manager
BHI Remedial Action Project (X0-17)

100 Area UMM Attachment 1

January 22, 2004
Attendance

Name	Organization	OU Role	Telephone
Pam Doctor	BHI	Risk Assess	372-9107
Steve Weiss	BHI	" "	372-9495
Bob Peterson	PNNL	Groundwater	373-9020
Bob Raidl	FH-Geosc.	Groundwater (Aquifer Tubes)	373-3904
J Thomson	CHI	CVPs	372-9058
Ella Feist	CHI	RA Support	373-2130
Steve Clark	CHI	CVPs	372-9531
Jon Franker	CHI	100D	373-9551
M. Buckmaster	BHI	Grp4	521-2089
Alex Nazgaoul	BHI	CVP	373-1915

100 Area UMM
January 22, 2004
Attendance

Attachment 1

Name	Organization	OU Role	Telephone
Larry Gadbois	EPA	UM	376-9884
John Price	Ecology	Proj Mgr	736-3029
Van Johnson	T-A	~~100~~ Tech Lead	373-3987
Chris Smith	DOE/RL	100 Area PM	372-1544
Jack Donnelly	BHI	Env. lead	373-9299
KENT WESTOVER	DOE-RL	100 Area PM	376-3967
Beth Rochette	Ecology	100 area common	736-3020
John FAUCHER	PNNL	GW Monitoring Project	376-3937
Mary Hartman	PNNL	"	373-0028
Arlene Tortoso	DOE-RL	GW OU Mgr.	373-9631
Jamie Zeisloft	DOE-RL	100-K	372-0188

100 AREA
UNIT MANAGERS MEETING AGENDA

3350 George Washington Way
January 22, 2004

1:00 – 3:00 p.m. 3350 GWW (Room 1B45)

Administrative

- Meeting minutes status
- Review and approve last UMM minutes
- Next 100 UMM is February 26, 2004, at 1:00 – 4:00, 3350 GWW (1B45)

Remedial Action

100 Area Common

- Remaining Sites ESD Status
- Remaining Sites Sampling Efforts Status
  - B/C Area Remaining Sites
  - 600 Area Remaining Sites
- Burial Ground SAP revision – language acceptable for compositing
- 100 Area RDR & SAP revisions status
- CVP status
- River Corridor Risk Assessment
- B/C Pilot
- N Eco Study

100 F, K, and Group 4

- 100 F General Status
- 100 F Design/Procurement Status
- 100 K General Status

100 N

- Procurement update
- Overburden Sampling Results

100 B/C

- Burial Ground status
- Pipeline backfill status
- 118-B-10 paint/soil treatability status
- Remaining Sites RFP (100-C-9 and 100-B-14)

D&D

- Project Status

General Crossover Items

-

Review Open Action Items Log

100-NR-2 Groundwater OU

- Remediation treatment status

100-KR-4 Groundwater OU

- Remediation treatment status
- 100 K Burial Ground Soil Gas Investigation

100-HR-3 Groundwater OU

- Remediation treatment status

100-FR-3 Groundwater OU

-

100-BC-5 Groundwater OU

- Status of quarterly sampling at wells 199-B3-46 and -47

Groundwater

- 100 Area Open Action Items
- 100-Area Open forum and discussion
- Recent change in tritium concentration near KE Fuel Storage Basin
- Status of aquifer tube installation project planning

Other

Outstanding 100 Area Unit Manager's Meeting Action Items

August 2003 Actions

- John Price (Ecology) will get back to Rich Carlson (BHI) by Tuesday, September 2, 2003 on the status of the MP-14 for 128-D-1 review.

November 2003 Actions

- **Action:** Rich Carlson, BHI, meet with John Price, Ecology, to resolve one comment in the Burial Ground SAP.

- **Action:** John Price, Ecology, to discuss proposed approach to sampling under staging piles internally at Ecology and report back at next UMM.

- **Action:** John Sands, RL, will call back the document and set up a meeting to discuss the purpose of the document.

UNIT MANAGERS MEETING MINUTES

3350 George Washington Way, 1B45
January 22, 2004

1:00 – 3:00 p.m. **100 Area** **3350 GWW, 1B45**

Administrative

- Meeting Minute Status – December meeting minutes were approved and signed by those in attendance.

- The next 100 Area Unit Managers Meeting will be held on February 26, 2004, at 3350 GWW room 1B45 beginning at 1:00 p.m.

- Action Item Update:

  All outstanding action items are complete.

Remedial Action

100 Area Common

Remaining Sites ESD – Changes have been made to the Remaining Sites ESD to incorporate outstanding EPA and Ecology comments. Jack Donnelly, BHI, stated the ESD should be ready for approval following a final review by Mr. Andy Boyd, EPA Region 10 Legal Counsel. Larry Gadbois, EPA, provided Jack a copy of Mr. Boyd's last few edits, which related to the addition of the new ARAR text. John Price, Ecology, stated the revised ESD was acceptable but their legal needed to review the specific language associated with the 1706-KE waste site; but did not foresee any problems. Jack asked for approval of the ESD by end of January but no later than February 6, 2004.

Remaining Sites Sampling Efforts Status

- B/C Area Remaining Sites – Sampling for the B/C Remaining Sites is complete. The data is being evaluated and most pipelines are passing. Two pipelines, the twin box sewer and a large process pipeline are not passing. Summary reports are being prepared and will be given to Dennis Faulk, EPA, for review. John Price, Ecology, requested a briefing on modeling assumptions and inputs for pipelines as it would relate to future Ecology pipelines. Ella Feist, CHI, stated that a briefing will be given when the summary reports are completed.

- 600 Area Remaining Sites – Preliminary historical research has been completed. GPR will be performed as soon as the weather allows. The snow has impacted the GPR schedule.

- Burial Ground SAP Revisions – Jack Donnelly, BHI, stated that an email had been sent to Ecology summarizing the final agreed to revisions, based on Ecology comments, to the 100 Area Burial Ground SAP, and requested Ecology's approval of the revisions. Jack further stated the change would be implemented now and eventually incorporated into the next revision of the SAP. A brief meeting was requested by John Price, Ecology, following the UMM to review the changes and approve. Larry Gadbois, EPA, asked for clarification of what cleanup standards would be used for the soil under waste staging piles. Jack stated the cleanup levels would be based on the same standards in the ROD, which is residential.

- 100 Area RDR and SAP Comments – Incorporation of the remaining sites SAP into the 100 Area RDR and SAP is close to completion. The RDR and SAP should be ready to go to the regulators for review within the next few weeks.

- CVP Status – Alex Nazarali, BHI ,distributed the CVP Summary Table (Attachment 4). Alex reported that the shaded CVPs will be complete by March 1, 2004. The streamlined CVP will be transmitted this week. The in-progress dates on the table are estimates of dates to complete the draft CVPs.

- River Corridor Risk Assessment – Steve Weiss, BHI, reported that an internet Web page, which will allow others to access River Corridor Risk Assessment documents will be ready soon. A message will be sent to the trustees, RL, and the tribes when the Web page is ready. Larry Gadbois, EPA, commented that he has received good feedback from the tribes concerning interaction of the River Corridor Risk Assessment team with tribal members.

- B/C Pilot – Copies of the conceptual model, Draft B were given to EPA and Ecology. Comments are requested by February 6. Ecology requested a briefing on the sample results. A briefing will be prepared.

- N Eco Study – No report.

- Lead-Sheathed Cable Sampling – Larry Gadbois, EPA, asked about the plan to sample the lead-sheathed cable exposed wrapping. Steve Weiss, BHI, stated that a sampling and analysis plan is being prepared. A meeting is planned for next week with the Department of Fish and Wildlife. The plan is to sample the wrappers and soil to determine if further analysis is necessary. EPA agrees to this approach.

100-F, -K, and Group 4

- 100-K General Status – The weather has slowed work, but they expect to be back to a full remediation schedule soon. Work on the116-KW-1 Condensate Crib started last month. Carbon-14 in the overburden has slowed progress because of ERDF carbon-14 limits. Soil with low levels of carbon-14 can go to ERDF, but the rest needs to be

treated before disposal. Carbon-14 was not found in test pits at the 116-KE-1 Condensate Crib, which will be remediated next.

Work is scheduled to start next month on 116-K-2, the Mile-Long Trench. Work will begin at the end of the trench nearest to the K-Area reactors. This work may impact utilities to the 100-KR-4 pump-and-treat system. There are several telephone poles that will need to be removed and power to the pump-and-treat systems will only be impacted for a short period of time.

Remediation of the 128-K-1 Burning Pit, 100-K-29 Sandblast Area, and 100-K-30, -31, -32, -33 Sulfuric Acid Tank Sites is complete. The original remaining sites sample designs for these waste sites will be used for cleanup verification sampling because the footprints of the waste sites did not change during remediation.

The procurement package for remediation of the 118-K-1 Burial Ground is nearly complete and will go out for bid next month.

- 100-F General Status – Revegetation is complete.

  Work on the 100-F Burial Grounds remedial design has been kicked off. A schedule for this project will be provided.

100-N

- Procurement update - Jon Fancher, CHI, reported there is an RFP out for a new remediation subcontractor. The contract should be awarded by April 1, 2004, to begin digging by June 1, 2004.

- Overburden Sampling - Jon Fancher, CHI, reported preliminary sample results have been received, and they look favorable, draft 95% UCL values are below lookup values. Jon has contacted Noe'l Smith-Jackson, Ecology, and she indicated Ecology sample results should be in by the end of this month. When the data is final, we will prepare a formal calculation brief and RESRAD run. Then seek formal Ecology approval to use the 116-N-1 overburden for backfill, hopefully at next month's UMM.

  The 1300-N Emergency Dump Basin/1304-N Emergency Dump Tank report is included as Attachment 5.

100-B/C

- Excavation at four small 100-B/C Area burial grounds (118-B-4, 118-B-5, 118-B-10, and 118-C-2) is complete, waste has been sent to ERDF, and closeout sampling is complete.

- A contract has been awarded for remediation of the burial grounds and remaining sites, including the large 118-B-1 Burial Ground. Work is expected to start next month.

- Treatability Test – Lead-contaminated paint chips mixed with soil are being stored in 10 drums awaiting treatment prior to disposal. This waste was generated from 118-B-10. Jack Donnelly, BHI, stated that treatment was necessary based on the TCLP data, and options for conducting a bench scale test have been discussed with Dave Einan, EPA. Jack further stated the approach is to use the 300 Area treatment plan (lead contaminated material) for the lead contaminated paint chips in the 100-B/C area if agreement can be reached with Dave. Larry Gadbois, EPA, stated this was acceptable provide Dave Einan was involved and he agreed.

- Remaining Sites – The remaining sites in the 100-BC Area that did not pass screening criteria are being included in another procurement package that will address all remaining 100-BC Area waste sites.

Cross Over Item

- Jack Donnelly, BHI, reported that the Department of Health may be inspecting air monitors across the Hanford Site. EPA said they had not been contacted by the Department of Health, but would follow up if necessary.

- John Price, Ecology, requested a duplicate MP-14 form and report for the 128-D-1 site. Ella Feist will provide this information.

D&D

- No report

Groundwater

Vern Johnson, FH, distributed Attachment 6 that gives the status of the 100-NR-2, 100-KR-4, and 100-HR-3 groundwater activities.

- 100-NR-2 Groundwater OU – The pump-and-treat system operated normally during December. The DQO for riparian impacts is back on track. The ecological report is intended to meet the October 2004 date. The regulators need to know if more time will be needed.

- 100-KR-4 Groundwater OU – The pump-and-treat system was shut down for much of the reporting period due to weather conditions. The system is back up and running at 100 percent. A plan for characterization of the northeastern extent of the 100-KR-4

plume was completed and submitted to RL. EPA requested a copy of the plan before it is formally transmitted by RL.

- 100-HR-3 Groundwater OU – The pump-and-treat system was shut down for much of the reporting period due to weather conditions. The system is back up and running at 100 percent. Agreement was reached to extend the existing barrier approximately 600 m to address the emerging hexavalent chromium contamination in the central 100-D Area.

- 100-FR-3 Groundwater OU – Nothing to report.

Groundwater

- Status of aquifer tube installation project – Bob Raidl distributed Attachment 7 which shows the location of aquifer sampling tubes for 100-HR-3. This attachment also shows the hexavalent chromium concentrations and conductivity readings at the sites sampled to date.

- 100-BC-5 Groundwater OU – Mary Hartman, PNNL, distributed Attachment 8 which details the planned sampling status for 100-BC-5 and 100-FR-3 for FY 2004.

- Tritium at 100-K – Bob Peterson, PNNL, distributed Attachment 9 which gives the status of tritium in the 100-K Area groundwater.

Outstanding 100 Area Unit Manager's Meeting Action Items

January 2004 Actions

- Patty Krueger to add Kevin Bazzel, RL to the meeting notice and the meeting minutes distribution list. Done

- Ella Feist to provide a duplicate MP-14 form and report for the 128-D-1 site to Ecology.

- John Price to approve the revisions to the 100 Area Burial Ground Sampling and Analysis Plan based on the email sent (as discussed in this UMM).

WIDS Site CVP Closeout Summary Table

WIDS Site Closeout	CVP Doc. No. documenting WIDS site closeout	EPA/ Ecology WIDS Signoff	Issue Rev. 0 CVP
100 B/C Area			
116-B-13	CVP-1999-00002	7/22/99	7/1999
116-B-14	CVP-1999-00003	7/22/99	7/1999
116-C-1	CVP-1998-00006	1/21/99	1/1999
116-B-1	CVP-1999-00012	12/8/1999	12/1999
116-B-11	CVP-1999-00001	12/8/1999	12/1999
116-C-5	CVP-1999-00004	12/8/1999	12/1999
116-B-4	CVP-1999-00014	2/24/2000	3/3/2000
116-B-5	BHI-00752	10/1/1999	10/1/1999
116-B-6B	CVP-1999-00017	2/24/2000	3/3/2000
116-B-9	CVP-1999-00009	2/24/2000	3/3/2000
116-B-2	CVP-1999-00015	2/24/2000	3/3/2000
116-B-3	CVP-1999-00013	2/24/2000	3/3/2000
116-B-10	CVP-1999-00010	2/24/2000	3/3/2000
116-B-12	CVP-1999-00008	2/24/2000	3/3/2000
116-C-2A 116-C-2B 116-C-2C	CVP-1999-00019	3/15/2000	3/28/1999
116-B-6A 116-B-16	CVP-1999-00011	5/17/2000	5/26/2000
116-B-7 132-B-6 132-C-2	CVP-2002-00003	7/25/2002	8/6/2002
BC Pipeline (North)	CVP-2002-00019	12/4/2003	
BC Pipeline (South)	CVP-2003-00022	(In Progress 2/20/04)	
100-B-5	CVP-2003-00014	6/18/2003	9/11/2003
1607-B7	CVP-2003-00004	5/27/2003	7/29/2003
1607-B8	CVP-2003-00005	5/27/2003	7/29/2003
1607-B9	CVP-2003-00006	6/19/2003	8/28/2003
1607-B10	CVP-2003-00007	5/27/2003	7/29/2003
1607-B11	CVP-2003-00008	5/27/2003	7/29/2003
100-C-3	CVP-2003-00009	5/27/2003	7/28/2003
118-C-4	CVP-2003-00015	6/25/2003	9/11/2003
118-B-9	0100-B-CA-V0171	(In Progress 1/22/04)	
100-B-11	0100-B-CA-V0167	(In Progress 1/22/04)	
100-B-16	0100-B-CA-V0169		
118-B-4			
118-B-5			
118-B-10			
118-C-2			
100 D Area			
100-D-4 (107D5)	CVP-1998-00004	3/25/1999	3/1999
100-D-20 (107D3)	CVP-1998-00003	3/25/1999	3/1999
100-D-21(107D2)	CVP-1998-00002	3/25/1999	3/1999
100-D-22 (107D1)	CVP-1998-00001	3/25/1999	3/1999
1607-D2		closed	
1607-D2:1 Tile Field	CVP-1998-00005	3/25/1999	3/1999
Septic Pipelines	CVP-2000-0004	9/26/2000	9/2000
Septic Tank	CVP-1999-00005	11/23/1999	12/1999
116-DR-9 100-D-25	CVP-1999-00006	1/6/2000	1/2000
116-D-7	CVP-1999-00007	8/15/2000	8/2000
100-D-18 (107D4)	CVP-2000-00001	9/26/2000	10/2/2000
116-DR-1 116-DR-2	CVP-2000-00002	9/26/2000	9/27/2000
100-D-48		closed	
100-D-48:1 (Grp 2 North Pipelines)	CVP-2000-00003	3/14/2001	3/2001
100-D-48:2 (Grp 2 West Pipelines)	CVP-2000-00005	9/26/2000	10/2/2000
100-D-48:3 (Grp 3 Large Pipelines)	CVP-2000-00034	4/20/2001	4/20/2001
100-D-48:4 (Grp 3 Small Pipelines)	CVP-2000-00033	4/17/2001	4/20/2001
100-D-19 UPR-100-D-4	CVP-2000-00003	3/14/2001	3/2001
100-D-49		closed	
100-D-49:1 (Grp 2 North Pipelines)	CVP-2000-00003	3/14/2001	3/2001
100-D-49:2 (Grp 2 East Pipelines)	CVP-2000-00005	9/26/2000	10/2/2000

WIDS Site CVP Closeout Summary Table

WIDS Site Closeout	CVP Doc. No. documenting WIDS site closeout	EPA/ Ecology WIDS Signoff	Issue Rev. 0 CVP
100 D Area (cont.)			
UPR-100-D-2	CVP-2000-00005	9/26/2000	10/2/2000
UPR-100-D-3			
100-D-5	CVP-2000-00034	4/20/2001	4/20/2001
100-D-6			
116-D-3	no CVP site rejected	5/17/2000	N/A
116-D-4	CVP-2000-00008	10/23/2000	10/31/2000
116-D-6	CVP-2000-00009	11/7/2000	11/9/2000
116-D-1A	CVP-2000-00010	3/12/2001	3/2001
116-D-1B			
100-D-46			
116-D-2	CVP-2000-00013	10/23/2000	10/25/2000
116-DR-6	CVP-2000-00014	10/23/2000	10/24/2000
116-DR-4	CVP-2000-00015	10/23/2000	10/25/2000
100-D-12	CVP-2000-00016	10/23/2000	10/26/2000
100-D-52	CVP-2000-00018	11/7/2000	11/9/2000
116-DR-7	CVP-2000-00019	9/26/2000	10/2/2000
116-D-9	CVP-2000-00012	3/23/2001	3/23/2001
105-DR Reactor	CVP02003-00016		1/15/2004
118-DR-2:2			
100-D-49:4			
117-DR	CVP-2003-00018	(In Progress 1/28/04)	
100 H Area			
1607-H2	CVP-2000-00024	2/5/2001	2/2001
1607-H4	CVP-2000-00025	2/26/2001	2/26/2001
116-H-1	CVP-2000-00026	4/4/2001	4/11/2001
116-H-7	CVP-2000-00027	7/24/2001	8/1/2001
100-H-5	CVP-2000-00028	12/21/2000	12/21/2000
100-H-17	CVP-2000-00031	3/6/2001	3/8/2001
116-H-2			
100-H-2			
100-H-30			
100-H-21	CVP-2000-00029	3/29/2001	3/29/2001
100-H-22			
100-H-1			
100-H-24	CVP-2000-00030	5/9/2001	5/2001
116-H-3	CVP-2000-00032	4/3/2001	4/11/2001
100 N Area			
120-N-1 120-N-2 100-N-58	CVP-2001-00021	3/28/2002	4/18/2002
116-N-3	CVP-2002-00002	9/26/2002	12/23/2002
100 Area Misc. & 300 Area			
JA Jones	CVP-2001-00019	11/8/2001	12/10/2001
600-23	CVP-2001-00020	11/30/2001	12/17/2001
300-49 (Landfill 1A)	CVP-2000-00020	1/12/2003	6/9/2003
300-50 (Landfill 1B)	CVP-2000-00021	1/27/2003	6/9/2003
628-4 (Landfill 1D)	CVP-2003-00001	4/10/2003	7/23/2003
316-1(South Process Pond) & 300-262	CVP-2003-00002	4/10/2003	7/23/2003
UPR-300-FF-1, 300 RFBP			
UPR-300-32, 33, 34, 35, 36, & 37			
300 Ashpit	BHI-01132	12/1/1997	12/1/1997
300-44 UPR	BHI-01135	12/1/1997	12/1/1997
316-2 (North Process Pond), 618-12, and UPR-300-7	BHI-01298	8/19/1999	8/19/1999
316-5 (Process Trench)	BHI-01164	3/30/1998	3/30/1998
UPR-300-15, and UPR-300-19			
UPR-300-20 Through UPR-300-30, UPR-300-47, UPR-300-8, and UPR-300-9			

WIDS Site CVP Closeout Summary Table

WIDS Site Closeout	CVP Doc. No. documenting WIDS site closeout	EPA/ Ecology WIDS Signoff	Issue Rev. 0 CVP
300-45	BHI-01136	12/1/1997	12/1/1997
618-4	CVP-2003-00020	1/16/2004	
618-5	CVP-2003-00021	(In Progress 2/4/2004)	
100 F Area			
116-F-4	CVP-2001-00006	11/8/2001	11/15/2001
116-F-5	CVP-2001-00007	8/16/2001	8/23/2001
1607-F6	CVP-2001-00010	11/8/2001	11/15/2001
UPR-100-F2	CVP-2001-00011	4/22/2002	5/7/2002
100-F-19:1	CVP-2001-00002	5/21/2002	6/10/2002
100-F-19:3			
100-F-34			
116-F-12			
100-F-40	site closed (No CVP)	2/15/2002	2/15/2002
116-F-14	CVP-2001-00009	7/11/2002	7/18/2002
100-F-2	CVP-2001-00001	7/25/2002	8/5/2002
100-F-15	CVP-2002-00001	7/25/2002	8/6/2002
100-F-4			
100-F-11			
100-F-16			
116-F-9	CVP- 2001-00008	10/16/2002	10/22/2002
116-F-2	CVP- 2001-00005	1/13/2003	3/11/2003
126-F-1	CVP- 2002-00002	1/13/2003	TBD
100-F-35	CVP-2002-00007	4/15/2003	6/16/2003
116-F-1	CVP-2002-00009	5/22/2003	11/3/2003
116-F-3	CVP-2002-00008	4/15/2003	6/16/2003
116-F-6	CVP-2002-00010	5/19/2003	11/3/2003
116-F-10	CVP-2002-00006	4/15/2003	6/16/2003
1607-F2	CVP-2002-00005	1/13/2003	3/11/2003
100-F-19:2	CVP-2001-00003	5/27/2003	9/15/2003
116-F-11			
UPR-100-F-1			
100-F-29			
UPR-100-F-3	CVP-2003-00010	6/9/2003	8/14/2003
100-F-25			
100-F-23	CVP-2003-00011	6/9/2003	8/14/2003
100-F-24	CVP-2003-00012	6/9/2003	8/14/2003
105-F Reactor	CVP-2003-00017	(In Progress 2/20/04)	
100 K Area			
116-K-1 Crib	CVP-2003-00024	(In Progress 2/19/04)	
116-KW-3 Retention Basin	CVP-2003-00023	(In Progress 2/24/04)	

1300-N EMERGENCY DUMP BASIN/ 1304-N EMERGENCY DUMP TANK

DEFERRAL OF FOUNDATIONS AND UNDERLYING SOILS
November 6, 2003

BACKGROUND

Remediation efforts at the 100-N Area are separated into two distinct categories. "Decontamination and decommissioning" (D&D) of buildings, vaults, and structures, with subsequent cleanup verification of underlying soils, is conducted as a CERCLA non-time-critical removal action in accordance with an approved Action Memorandum (Ecology 1999). "Final remediation" and cleanup verification of soil sites is conducted as a CERCLA remedial action in accordance with an approved Record of Decision for the 100-NR-1 and 100-NR-2 operable units (EPA et al. 1999).

Planning is proceeding for D&D of the 1300-N Emergency Dump Basin (EDB) and the 1304-N Emergency Dump Tank (EDT). The 1300-N EDB is a large, open, steel-lined basin designed to contain radioactive primary coolant from N Reactor in case of a reactor emergency. Although the EDB was never used for this purpose, it was used as a holding basin for radioactively contaminated water periodically generated during reactor steam generator "blow down." Only non-appreciable radioactive contamination remains in and around the basin structure. The EDB is identified as waste site 116-N-4 in the Waste Information Data System (WIDS) database.

The 1304-N EDT is a 500,000-gal insulated tank, designed to contain the entire volume of primary reactor coolant. The EDT was maintained half-full of water so it could act as a quenching system for steam released during a reactor emergency. The tank was decontaminated in 1995, which significantly decreased the radiological dose of the tank; however, appreciable radiological contamination still remains within the tank. The EDT is identified in the WIDS database as site 100-N-57.

DISCUSSION

As described in the 100-N Area ancillary facilities Removal Action Work Plan (RAWP) (DOE-RL 2003), the scope of the removal action is constrained to the remediation "of waste sites *within the footprint* of the ancillary facilities, or provide for deferral for inclusion in later remedial action (with approval from the lead regulatory agency)." Deferral to the Remedial Action (RA) portion of the remediation may be allowed when the following occurs:

- large volumes of contaminated soil are encountered
- other soil contamination sites are adversely affected by D&D activities
- removal of contaminated soil inhibits D&D activities.

When other contaminated underground structures (including pipelines, pipe tunnels and pipe trenches) may be exposed or affected, the RAWP requires an evaluation on a case-by-case basis to determine whether these should be deferred to a later remediation activity (DOE-RL 2003).

Deferral of work scope must be approved by the lead regulatory agency. An evaluation must be performed to determine how much, if any, of the site will be backfilled. The site may be stabilized in a manner that will not hinder future remediation (DOE-RL 2003).

There is sufficient information in the WIDS to conclude that large volumes of soil contamination exist adjacent to and underlying these two facilities. Excavation into the footprint underlying the 1304-N and 1300-N Facilities would extend into multiple WIDS sites surrounding these structures. These WIDS sites would require re-excavation as part of future remediation and closure activities within the 100-NR-1 operable unit. Excavation would also affect various runs of piping that exist between the 1304-N/1300-N structures and the 105-N/109-N facilities.

A stormwater trench resides in close proximity to the 1304-N EDT. The stormwater trench was installed to accept stormwater from multiple locations and convey the water to a nearby french drain. Measures to control the safety of the excavation (e.g., sloping and shoring) would impact the trench. Overcoming this impact would require additional significant planning and engineering controls, which would inhibit D&D activities.

The 1300-N EDB resides within 20 ft of the 105-N and 109-N buildings, with buried piping between the walls of the basin and the 105-N/109-N buildings. Removal of the north and east walls of 1300-N would impact these structures, potentially causing unstable conditions.

RECOMMENDATIONS

It is recommended that near-term decommissioning of the 1304-N EDT only include removal of the steel tank and concrete foundation, leaving the underlying soils within the footprint for remediation during future remedial action activities. This will facilitate the sampling and closure of all the adjacent soil sites together. This will also reduce the potential impact on the stormwater trench and on adjacent structures and waste sites.

It is further recommended that near-term decommissioning of the 1300-N EDB include excavation only to a depth necessary to remove the west and south walls and the basin steel structure. The north and east walls (closest to the 105/109-N facilities) will be left in place to prevent an unstable condition of other structures, including 105-N/109-N and adjacent piping. These remaining walls will be removed during future D&D of these structures. Sites deferred to a future remediation effort will be placed in a safe and stable condition prior to turnover.

Upon completion of these activities, the WIDS database will be updated to include the waste characterization data used for disposal of the structures and the global positioning system data documenting the depth of the excavation prior to any backfilling (as needed for safety purposes). Final remediation and cleanup verification for these sites will be performed with neighboring sites under the RA program.

These recommendations will not inhibit future remedial activities and provide the most effective overall approach for complete remediation of the 1304-N and 1300-N facilities.

REFERENCES

DOE-RL, 2003, *Removal Action Work Plan for 100-N Area Ancillary Facilities*, DOE/RL-2002-70, Rev. 0, U.S. Department of Energy, Richland Operations Office, Richland, Washington.

Ecology, 1999, *100-N Area Ancillary Facilities Action Memorandum*, CCN 064866, letter to L. Piper, RL, dated January 6, 1999, Washington State Department of Ecology, Kennewick, Washington.

EPA, Ecology, and DOE, 1999, *Interim Remedial Action Record of Decision for the 100-NR-1 and 100-NR-2 Operable Units of the Hanford 100-N Area, Hanford Site, Benton County, Washington*, U.S. Environmental Protection Agency, Washington State Department of Ecology, and U.S. Department of Energy, Richland Operations Office, Richland, Washington.

APPROVALS

Approval by the lead regulatory agency (Washington State Department of Ecology) also reflects approval by the U.S. Environmental Protection Agency.

D. C. Smith, Project Manager, Environmental Restoration Division
U.S. Department of Energy, Richland Operations Office

1/6/04
Date

F. W. Bond, Project Manager, Restoration Projects
Washington State Department of Ecology

1/15/04
Date

100 AREA UMM – January 2004
Groundwater Remedial Actions

Groundwater operations and related highlights for the period of 15 December through 11 January are summarized as follows:

100-HR-3

- The pump and treat system was shutdown for much of the report period due to a combination of scheduled maintenance, power outages and frozen water lines. The system was fully recovered on January 20.

- ISRM: Agreement was reached to extend the existing barrier by approximately 600 m to address the emerging hexavalent chromium contamination in the central 100 D Area. Drilling for the first one-third of the barrier will begin in March. A draft of the ISRM annual report was completed and is undergoing internal review.

- Final installation work for the three new monitoring wells near the 182 D reservoir was completed and continuous water level monitoring (data loggers) were installed. Initial water level monitoring results helped confirm suspected leakage in the north end of the reservoir. The groundwater mound from the leak is changing groundwater flow directions in that area.

100-KR-4

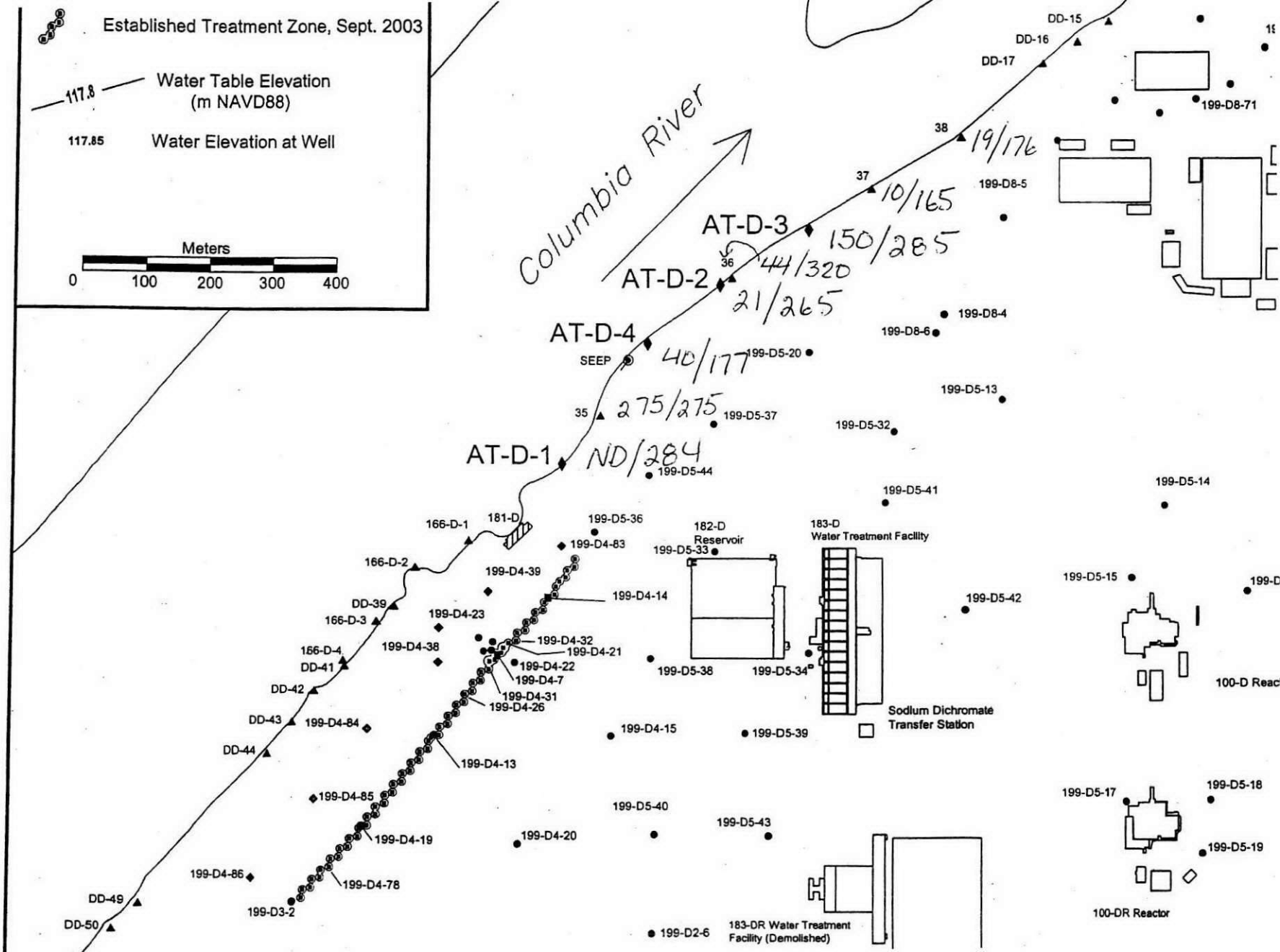
- The system was shutdown for much of the report period for the same reasons noted above for 100 HR-3. The system was fully recovered on January 20.

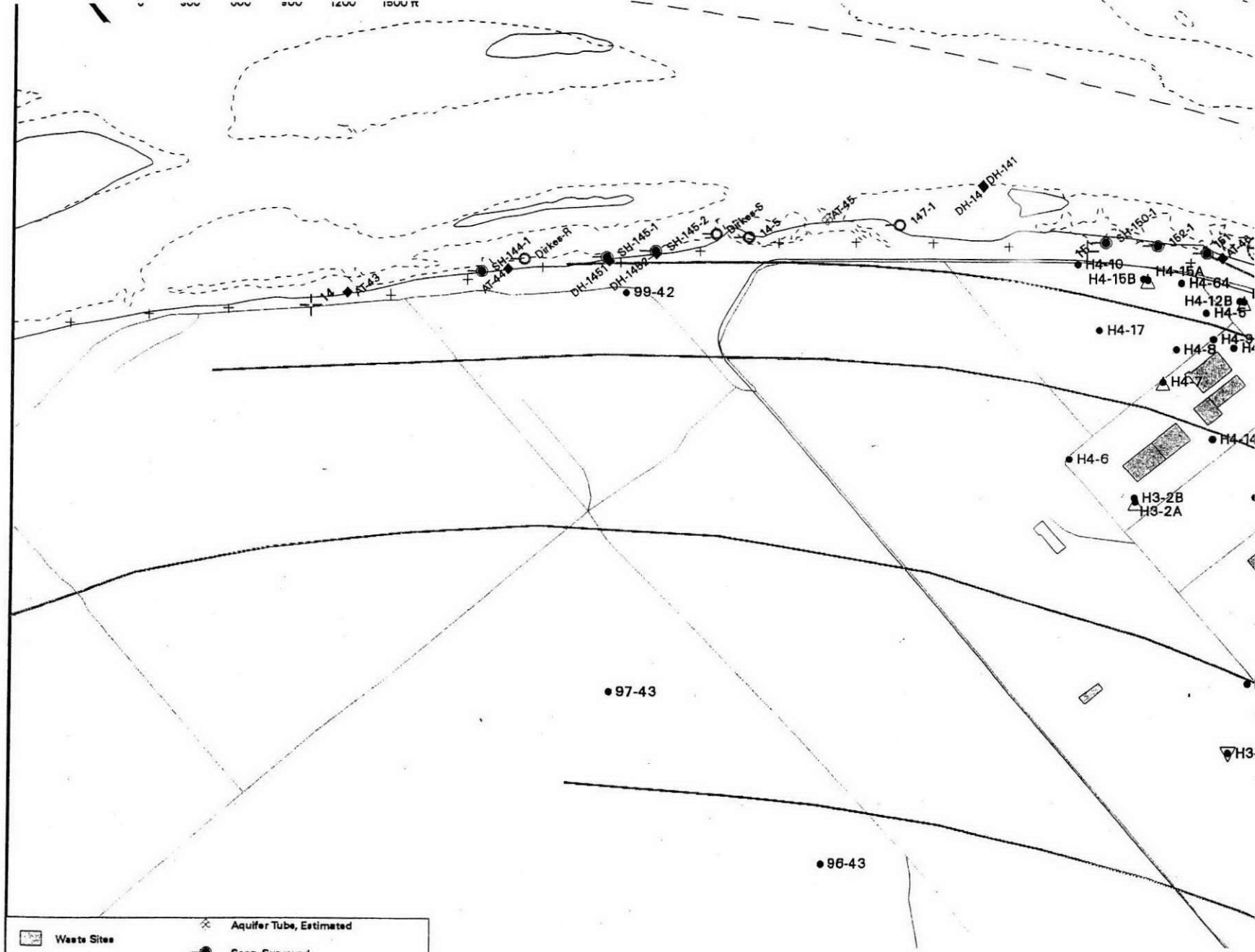
- A plan for characterization of the northeastern extent of the KR-4 plume was completed and submitted to DOE-RL.

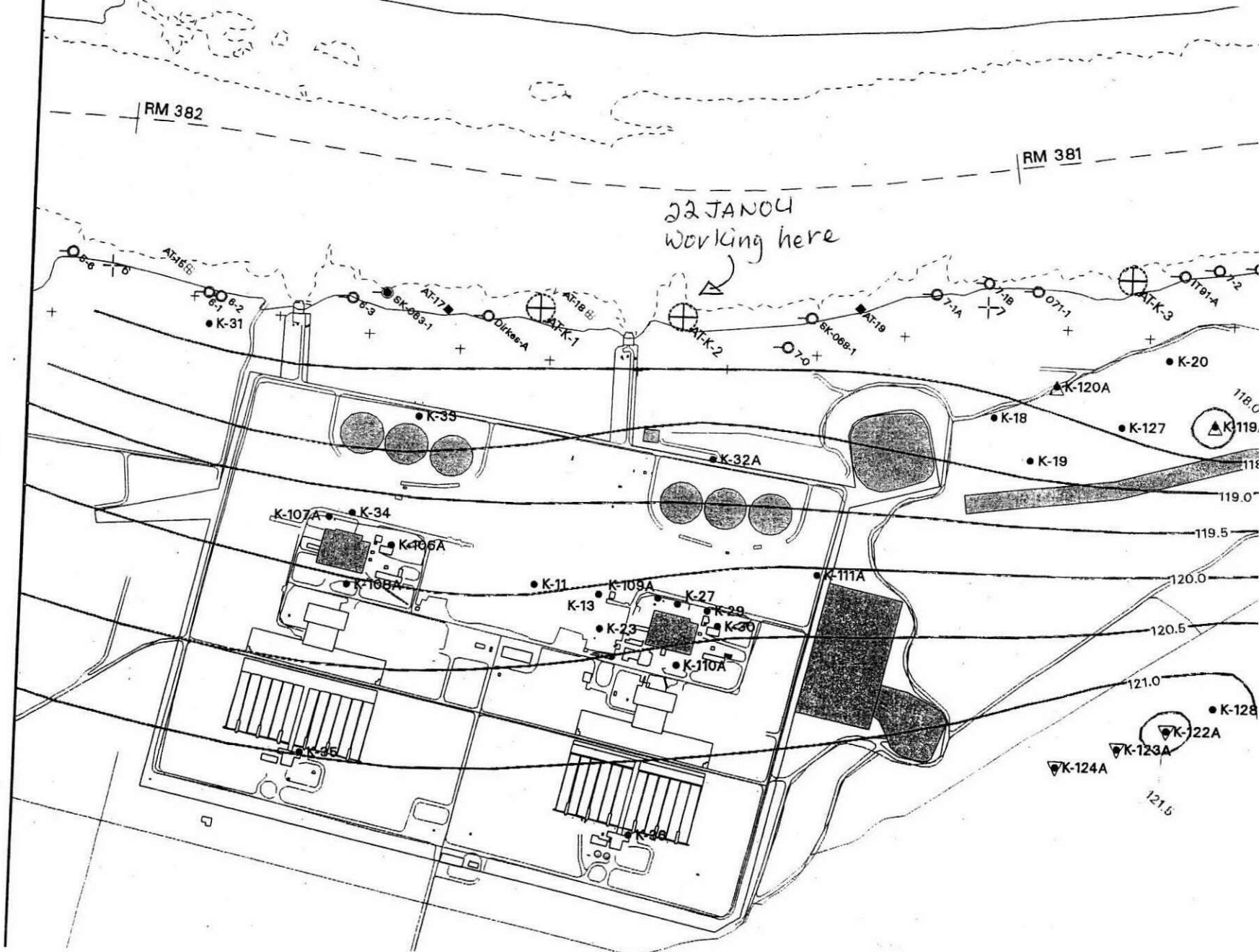
100-NR-2

- The pump and treat system operated normally during the report period. Average flow rate was 63 gpm. Run times were: 100% for the report period, 98.4% for the year to date and 93.1% since inception.

- Interviews for the DQO to determine additional data needs for determining aquatic and riparian impacts continued.


Established Treatment Zone, Sept. 2003
117.8
Water Table Elevation (m NAVD88)
117.85
Water Elevation at Well
Meters
0
100
200
300
400
Columbia River
AT-D-1
ND/284
AT-D-2
21/265
AT-D-3
150/285
AT-D-4
40/177
SEEP
275/275
35
36
37
38
10/165
19/176
44/320
DD-15
DD-16
DD-17
DD-39
DD-41
DD-42
DD-43
DD-44
DD-49
DD-50
166-D-1
166-D-2
166-D-3
166-D-4
181-D
182-D Reservoir
183-D Water Treatment Facility
Sodium Dichromate Transfer Station
183-DR Water Treatment Facility (Demolished)
100-D Reactor
100-DR Reactor
199-D8-71
199-D8-5
199-D8-4
199-D8-6
199-D5-20
199-D5-13
199-D5-37
199-D5-32
199-D5-44
199-D5-41
199-D5-14
199-D5-36
199-D4-83
199-D5-33
199-D4-39
199-D4-14
199-D5-15
199-D5-42
199-D4-23
199-D4-38
199-D4-32
199-D4-21
199-D4-22
199-D4-7
199-D4-31
199-D4-26
199-D5-38
199-D5-34
199-D4-84
199-D4-15
199-D5-39
199-D4-13
199-D4-85
199-D5-40
199-D5-43
199-D4-19
199-D4-20
199-D5-17
199-D5-18
199-D5-19
199-D4-86
199-D4-78
199-D3-2
199-D2-6


0 300 600 900 1200 1500 ft
AT-43
14
SH-144-1
AT-44
Dirkee-R
SH-145-1
SH-145-2
DH-145-1
DH-145-2
99-42
Dirkee-S
14-5
AT-45
147-1
DH-141
SH-150-1
162-1
H4-10
H4-15B
H4-15A
H4-64
H4-12B
H4-5
H4-17
H4-8
H4-7
H4-6
H3-2B
H3-2A
97-43
96-43
Waste Sites
Aquifer Tube, Estimated


RM 382
RM 381
22 JAN04
working here
K-31
K-33
K-32A
K-107A
K-34
K-106A
K-108A
K-11
K-109A
K-13
K-27
K-29
K-23
K-30
K-110A
K-111A
K-35
K-36
K-20
K-120A
K-18
K-127
K-19
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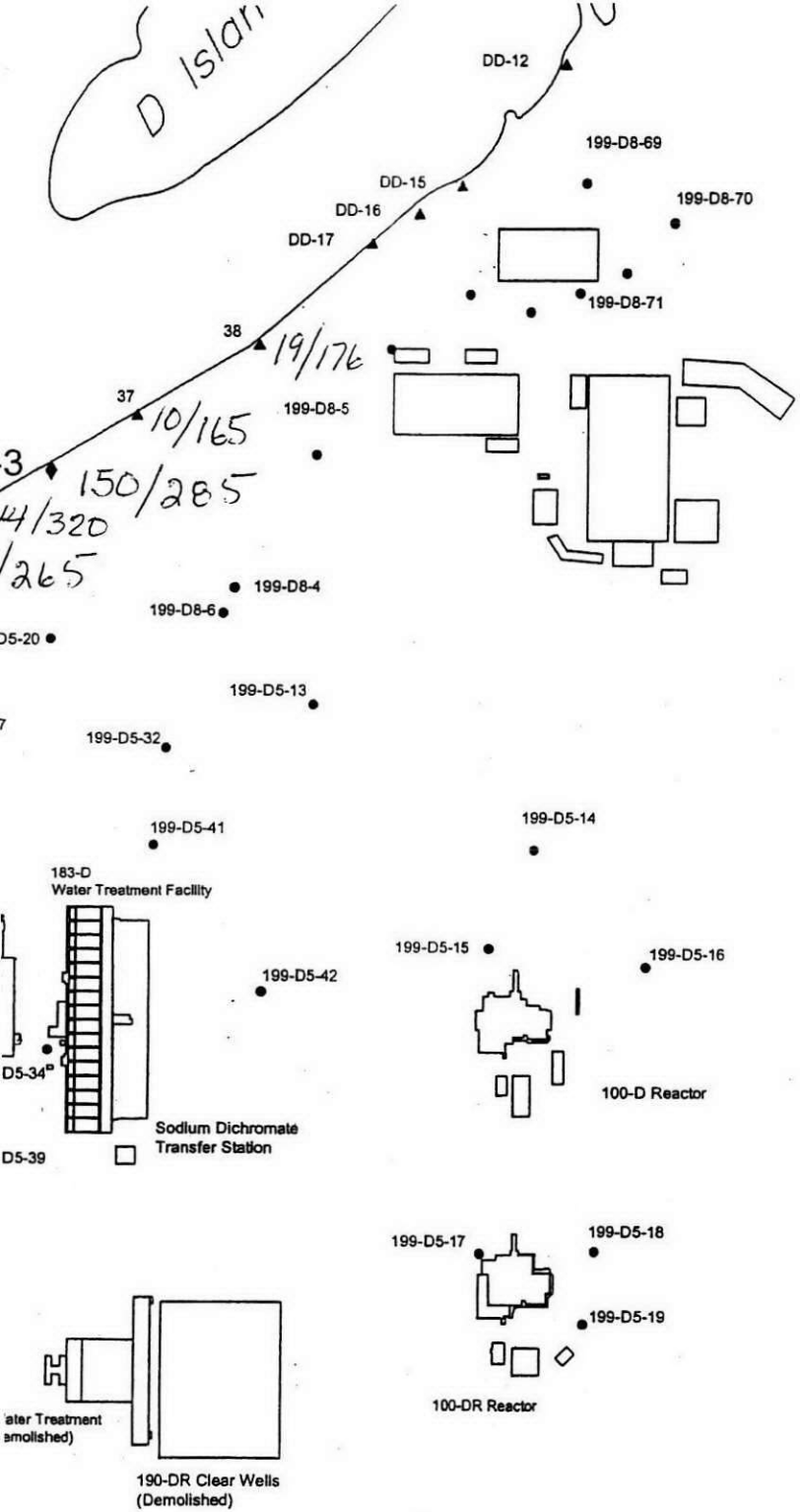
120.5
121.0
121.5



New Aquifer Sampling Tubes (Dec 2003 / Jan 2004)

Explanation

(Tube #) (Cr^{+6} µg/L)/(conductivity µS/cm)

AT-D-3 ♦ 150/285

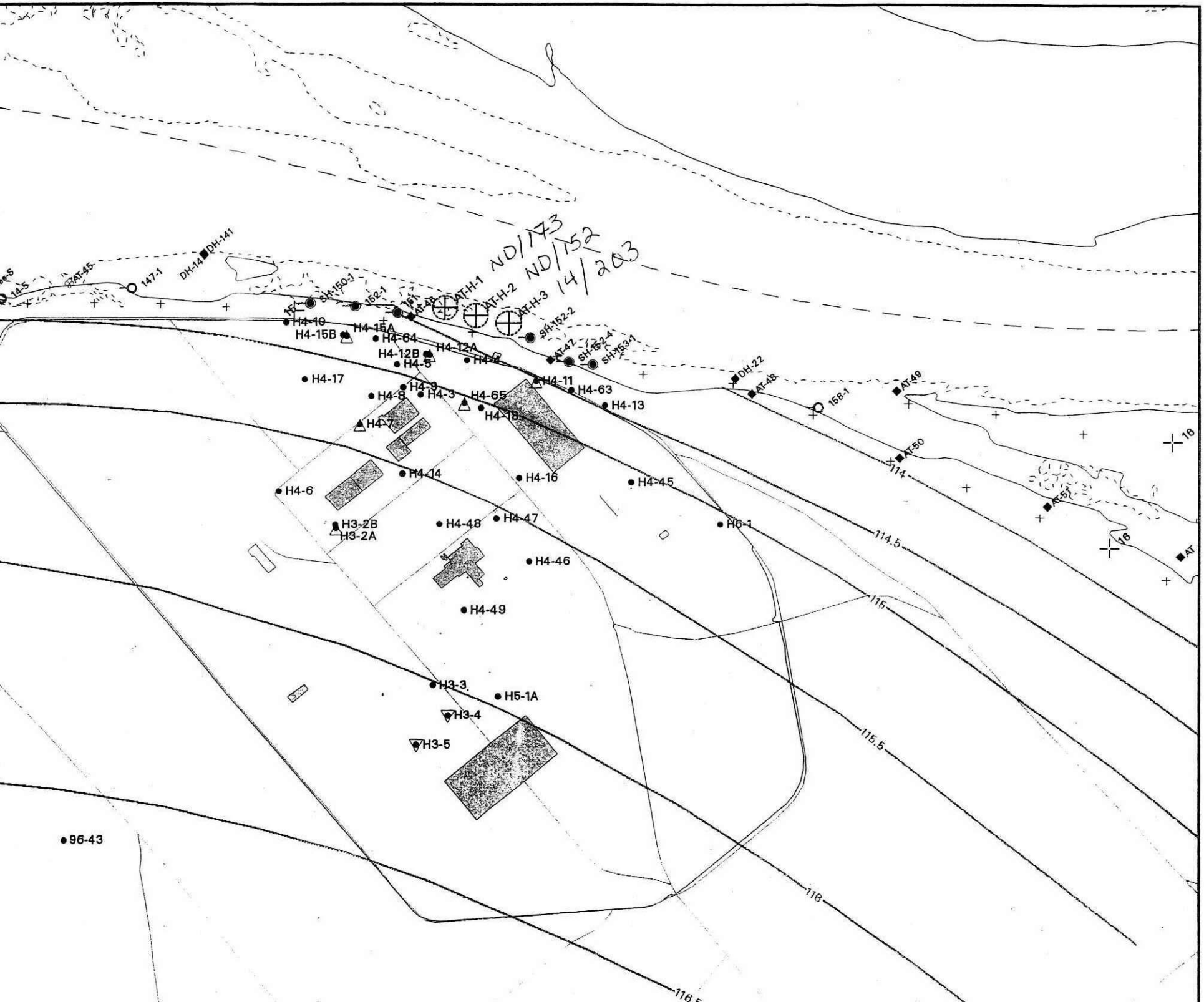
- Results selected were the highest Cr^{+6} for that particular cluster
- ND - Cr^{+6} not detected in samples from any aquifer tube in cluster.
- River conductivity 130-140 µS/cm

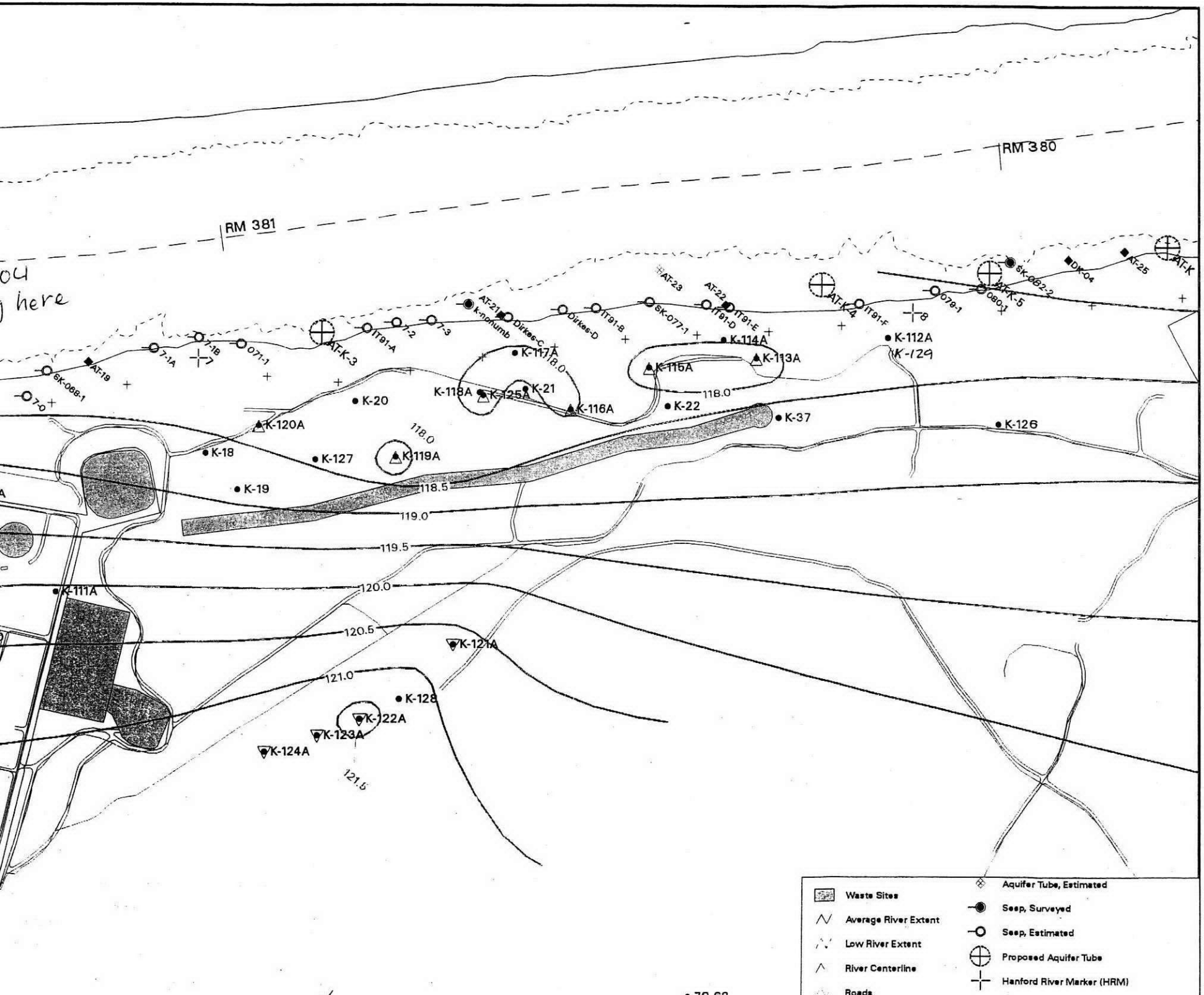
Old Aquifer Tube Sampling Results (Oct 2003)

(Tube#) (Cr^{+6} µg/L)/(conductivity µS/cm)

35 ▲ 275/275

- Results selected were the highest Cr^{+6} for that particular cluster.


ND/173
ND/152
14/203
14-5
AT-45
147-1
DH-141
DH-14
SH-150-1
152-1
AT-H-1
AT-H-2
AT-H-3
SH-152-2
H4-10
H4-15B
H4-15A
H4-64
H4-12B
H4-12A
H4-5
H4-17
H4-9
H4-8
H4-3
H4-65
H4-11
H4-63
H4-13
AT-47
SH-152-4
SH-153-1
DH-22
AT-48
158-1
AT-49
AT-50
AT-51
H4-7
H4-14
H4-16
H4-45
H4-6
H3-2B
H3-2A
H4-48
H4-47
H5-1
H4-46
H4-49
H3-3
H5-1A
H3-4
H3-5
96-43
114
114.5
115
115.5
116
116.5
16


RM 380
RM 381
04
here
AT-19
SK-068-1
7-0
7-1A
7-1B
071-1
AT-K-3
IT91-A
7-2
7-3
AT-21
k-nonlumb
Dirkes-C
Dirkes-D
IT91-B
SK-077-1
AT-23
AT-22
IT91-D
IT91-E
AT-K-4
IT91-F
079-1
080-1
AT-K-5
SK-082-2
DK-04
AT-25
AT-K
K-117A
K-114A
K-113A
K-112A
K-129
K-115A
K-118A
K-125A
K-21
K-116A
K-22
K-37
K-126
K-20
K-120A
K-18
K-127
K-119A
K-19
K-111A
K-121A
K-128
K-122A
K-123A
K-124A
118.0
118.5
119.0
119.5
120.0
120.5
121.0
121.5
Waste Sites
Average River Extent
Low River Extent
River Centerline
Roads
Aquifer Tube, Estimated
Seep, Surveyed
Seep, Estimated
Proposed Aquifer Tube
Hanford River Marker (HRM)

Sampling status FY 2004 22 January 2004

100-BC-5 Operable Unit

SUMMARY:

- annual sampling of wells and aquifer tubes is scheduled for January-February and is on track.
- quarterly sampling of two wells and one existing aquifer tube will begin this quarter; thus, the fourth quarterly sample will be collected in early FY 2005.
- Well 699-72-88 is listed in the SAP for biennial sampling, but it has been decommissioned.

DETAILS:

Most wells are scheduled to be sampled this month (annual sampling).

Wells 199-B3-46 and -47 is planned to be sampled quarterly for the first year using the Spyder sampling device (i.e. will be sampled at multiple depths). This quarterly sampling is scheduled to begin this quarter, after we do some preliminary work. Thus we'll only get 3 quarters done in FY 2004 and the fourth quarter's sample will be in early FY 2005.

Before sampling with the Spyder, we will
- inspect the wells and run a camera survey
- measure conductivity at various depths in the screened intervals to determine the best depths for sampling

All but one of the existing aquifer sampling tubes are scheduled for annual sampling, which is done in conjunction with sitewide tube sampling. Four tubes were sampled in December; the others will be sampled in the coming months, as river conditions allow.

Tube 06-M is planned to be sampled quarterly for the first year. It has not yet been sampled in FY 2004, but is scheduled for this quarter. It will be sampled for four quarters (if conditions allow), with the final quarter in FY 2005.

New aquifer tubes have not yet been installed. The SAP specified quarterly sampling for the first year. That can begin after installation and will continue until four quarterly samples are collected, as river conditions allow.

- Well 699-72-88 was located west of 100-B/C Area and has been decommissioned. It was inadvertently included in the SAP for biennial sampling. Because it was located beyond 100-B/C contaminant plumes and there are other wells located west of the 100-B/C Area already included in the SAP, there is no need to replace it. A change will be made to the SAP when it is revised later this FY.

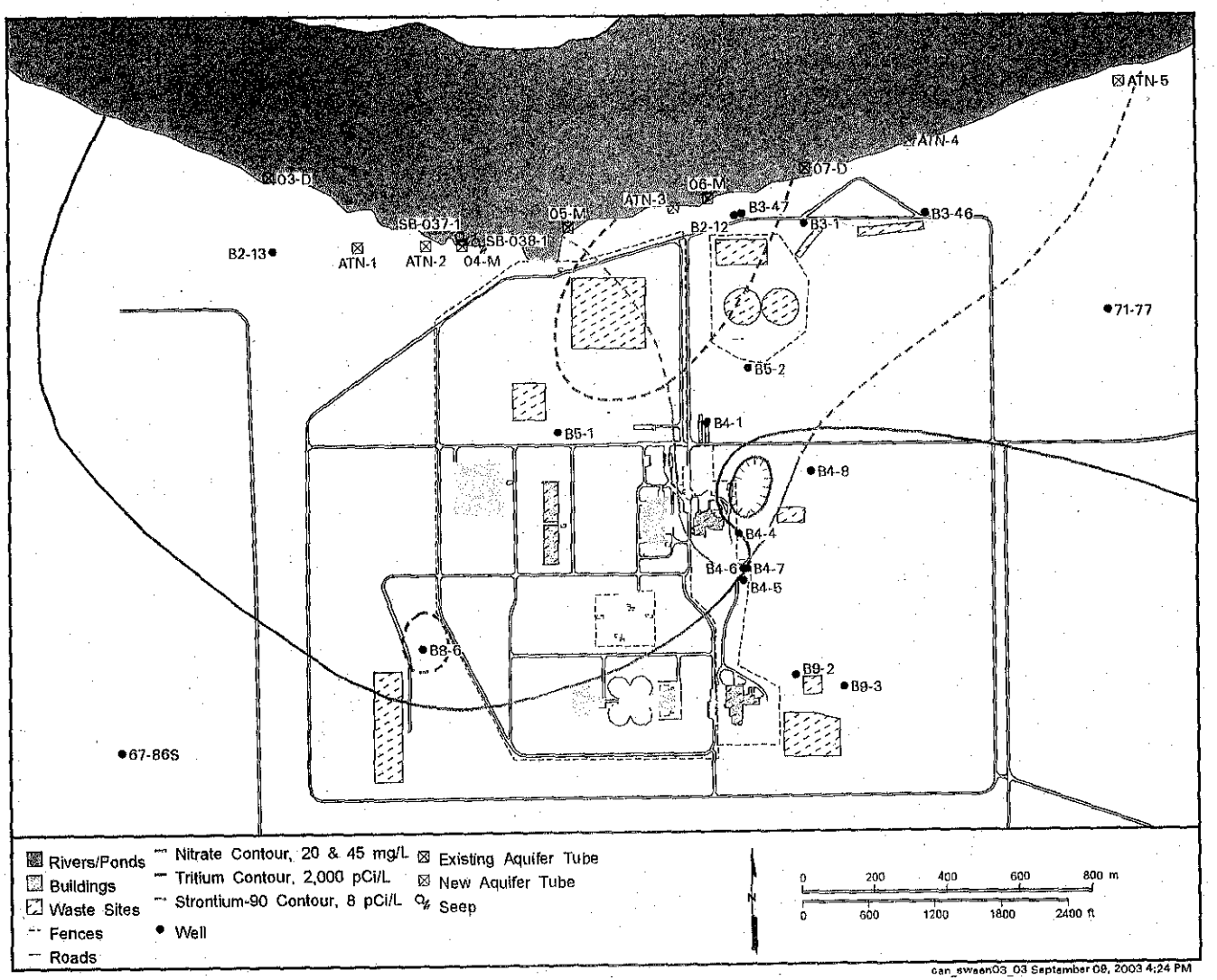


Figure 3. Monitoring Network Location Map Showing 100-B/C Area Wells

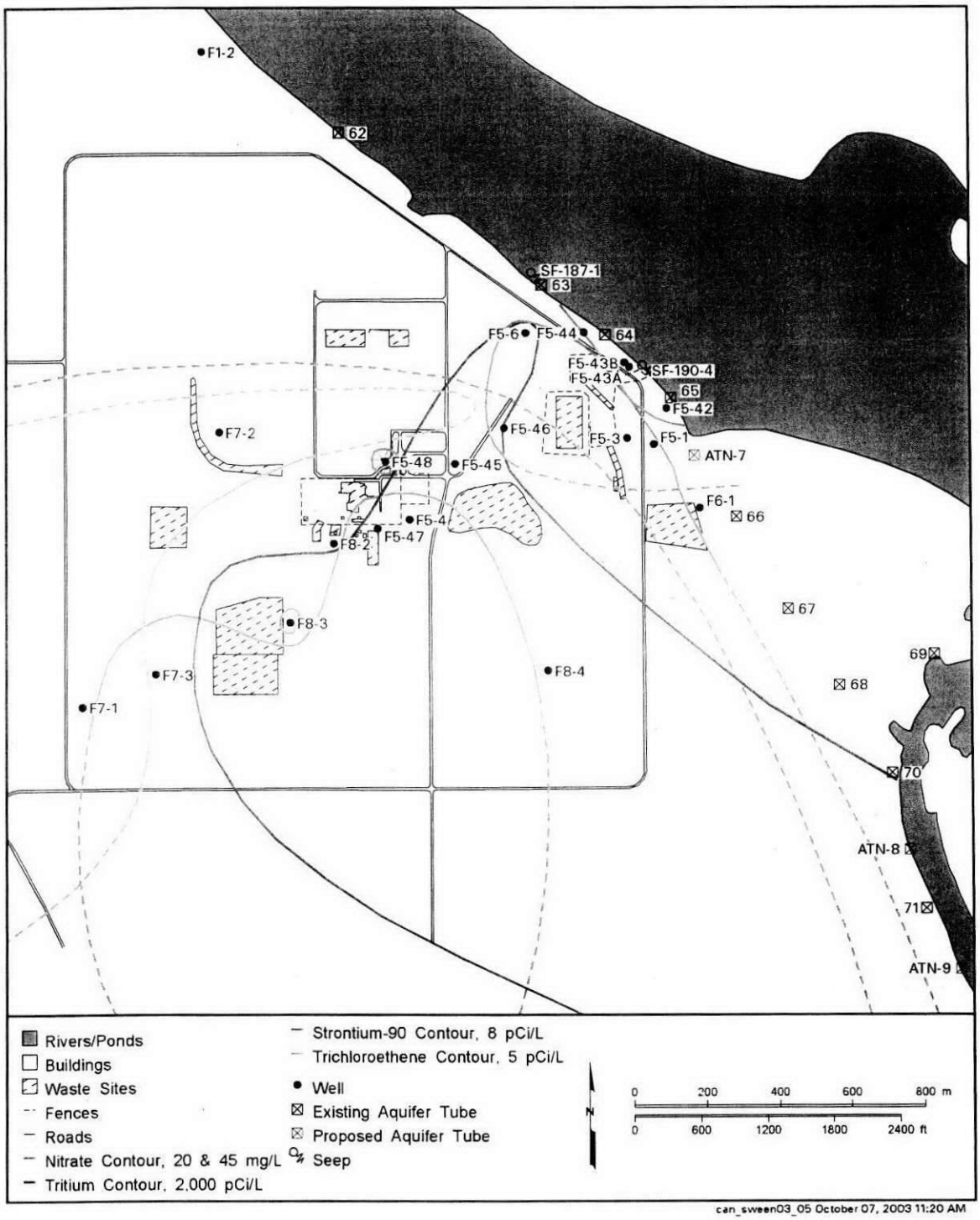


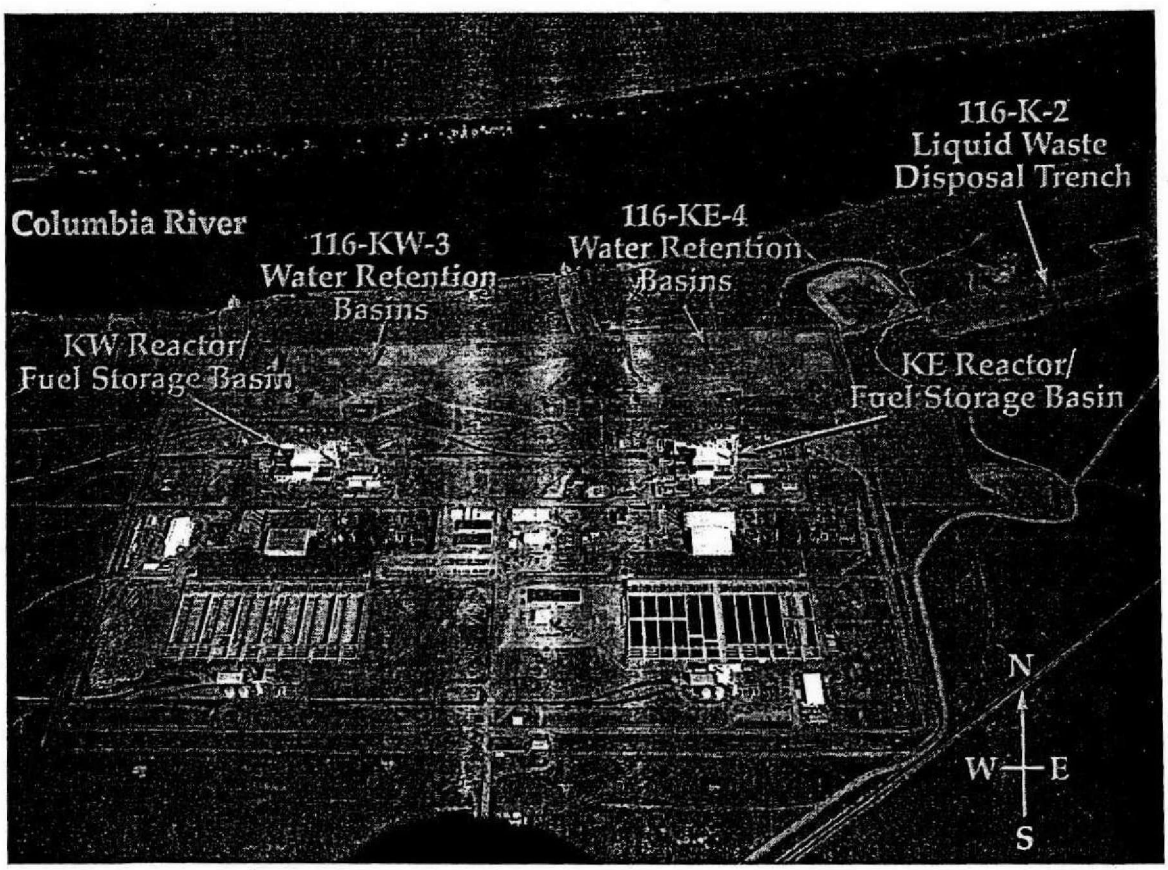
Figure 3. Monitoring Network Location Map Showing 100-F Area Wells

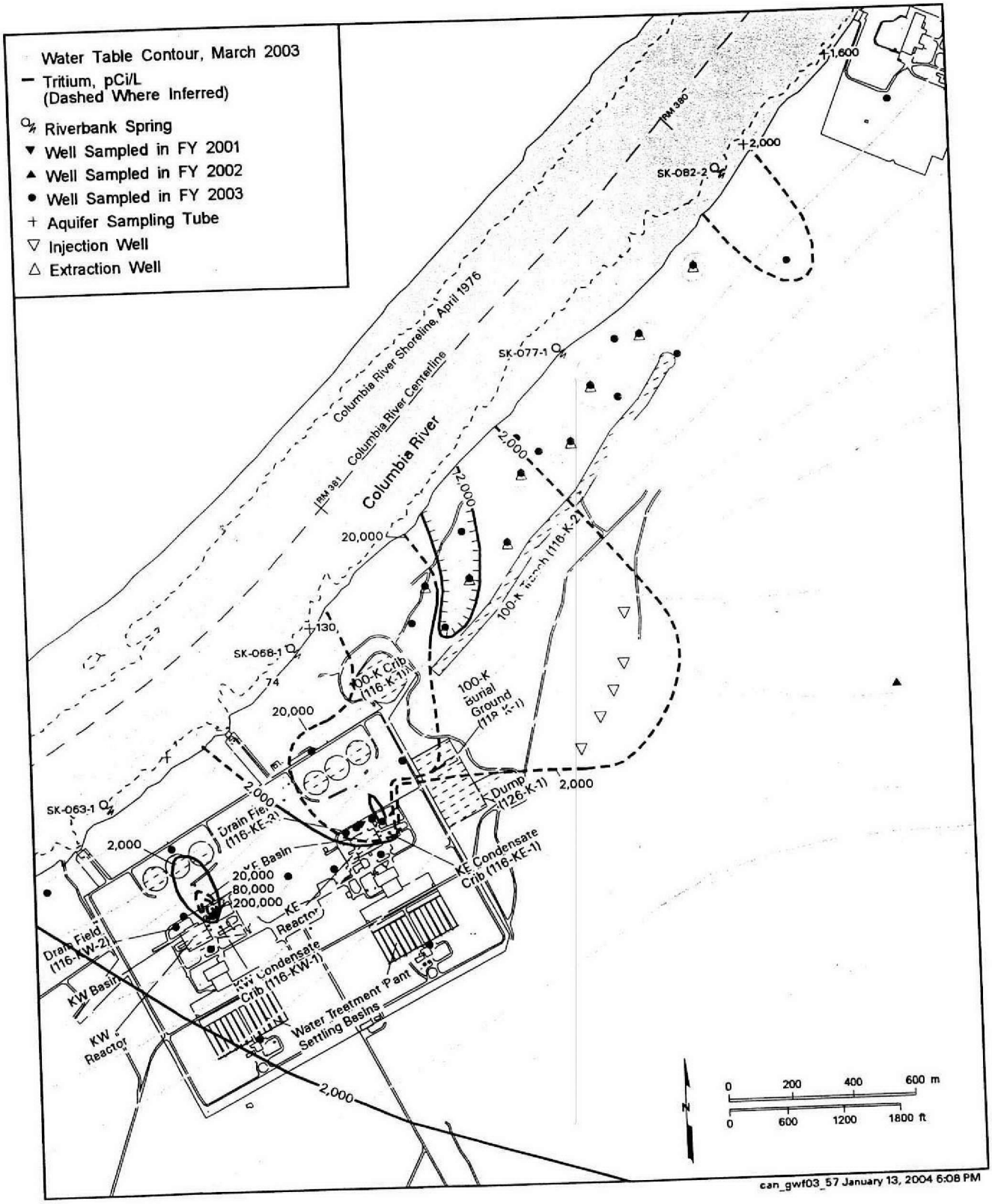
TRITIUM IN 100-K AREA GROUNDWATER

Bob Peterson, Groundwater Performance Assessment Project, PNNL
509-373-9020, robert.peterson@pnl.gov

Evolving Tritium Issues

- Groundwater at two wells near the northwest corner of KE Reactor
- Groundwater at one well along the east side of the KW Reactor
- Groundwater near the northwest corner of the 100-K Burial Ground
- Elevated helium isotope ratios near 100-K Burial Ground





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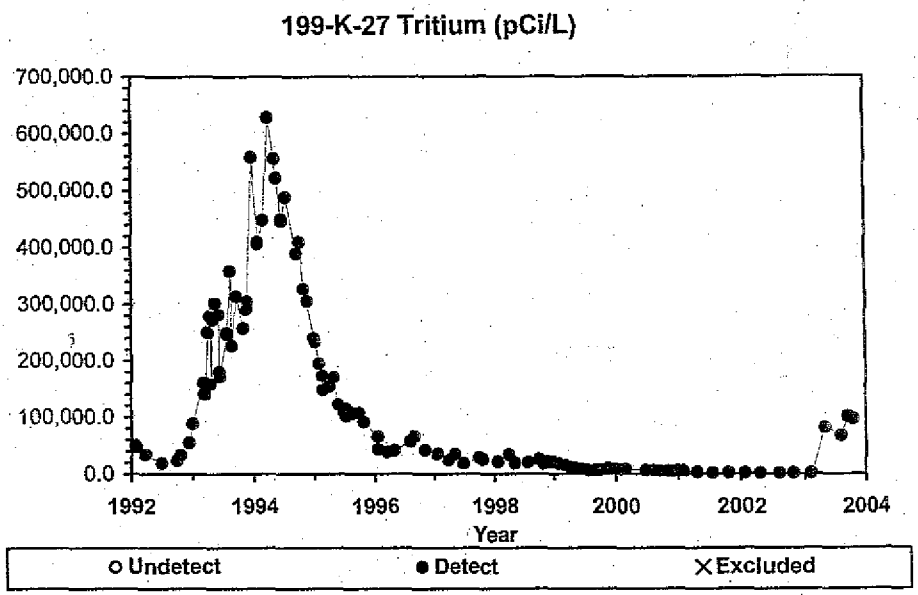
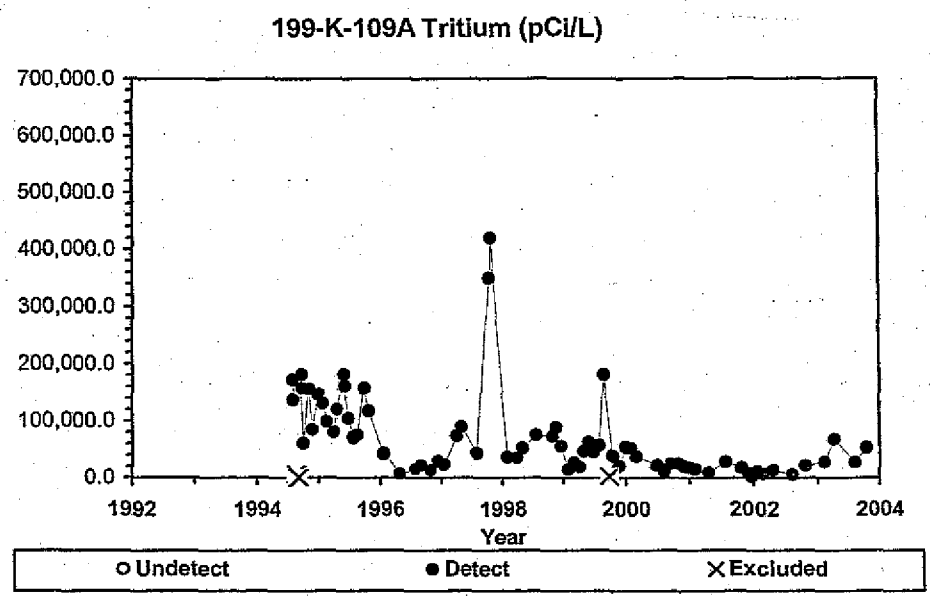
Tritium Near Northwest Corner of KE Reactor

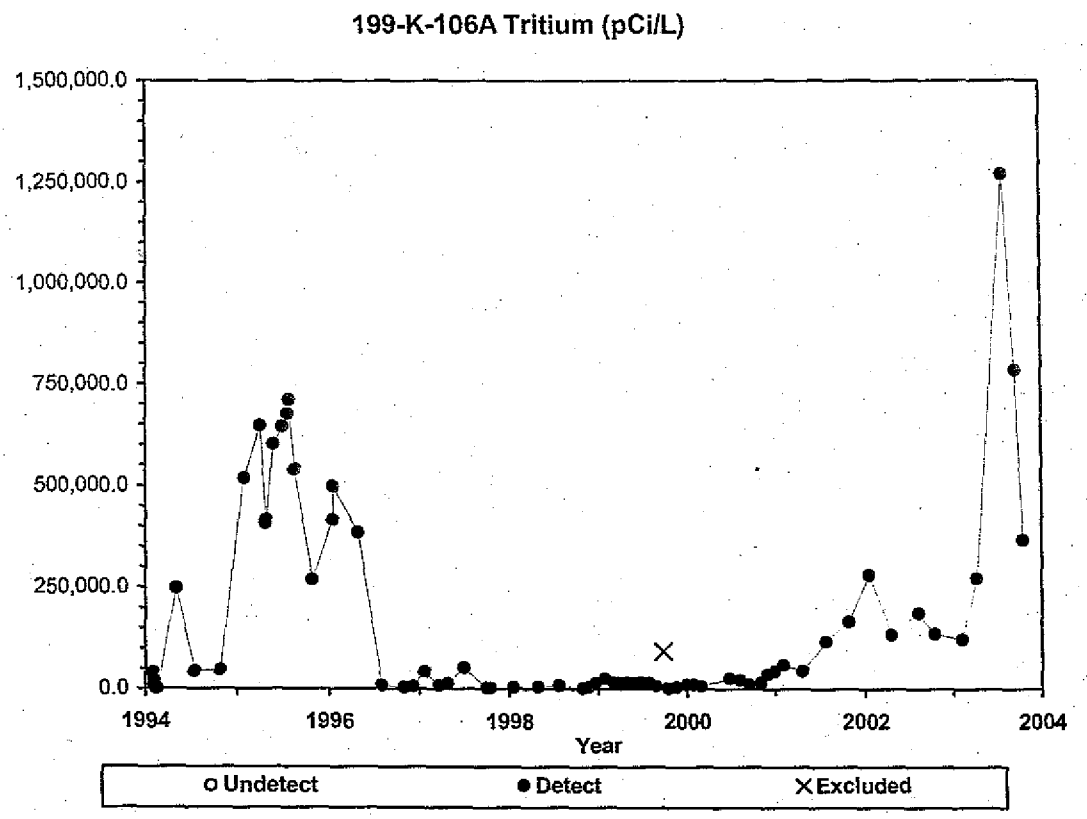
- Increasing concentrations started in early 2003 at wells 199-K-27 and 199-K-109A.
- No co-contaminants detected that would implicate shielding water.
- No facility evidence for possible loss of shielding water to the ground.
- Suspected cause: Remobilization of vadose zone tritium associated with past-practices waste disposal, and possibly past KE Basin leakage.





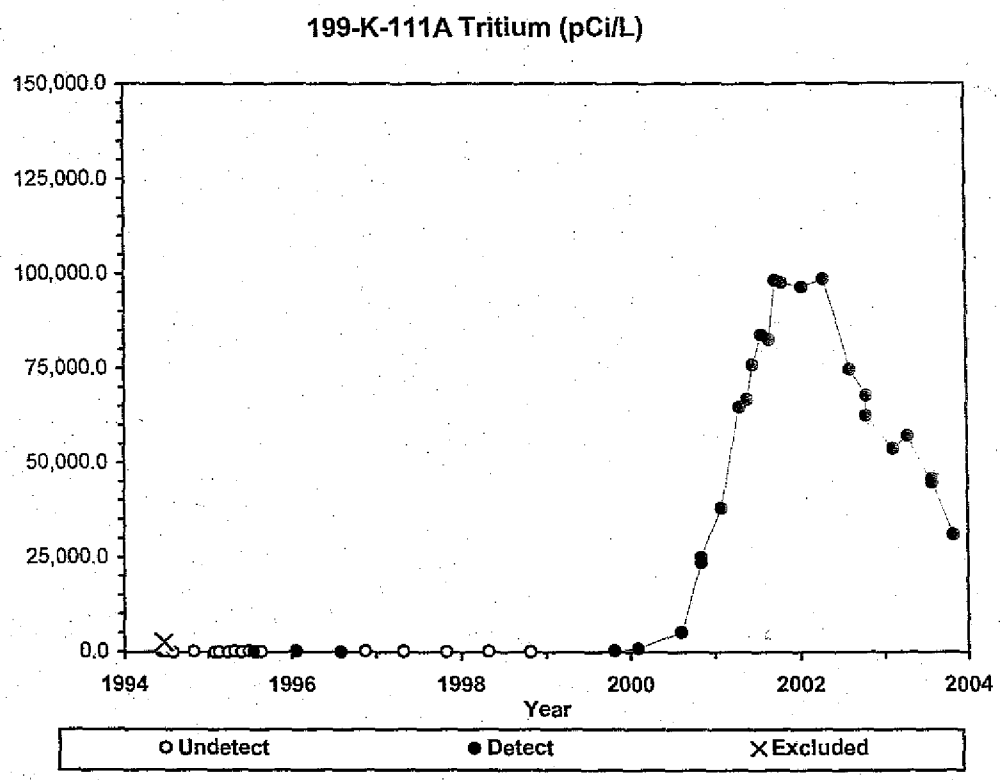
Tritium at East Side of KW Reactor

- Increasing concentrations started in 2001 at well 199-K-106A, and abruptly increased again starting in early 2003.
- Nitrate concentrations and groundwater temperature show a similar trend.
- No co-contaminants suggestive of shielding water. No facility evidence of shielding water loss to the ground.
- Suspected origin for the tritium is a nearby past-practices condensate crib. Excavation of the crib began in early December 2003.



Tritium Near the 100-K Burial Ground

- Rapid groundwater increase started in late 2000 at well 199-K-111A.
- Area is not in the downgradient flow path from known sources near the KE Reactor (e.g., past basin leaks, condensate crib, and basin drain field).
- Suspected cause is lateral shift of groundwater plume located to the east of the well. Shift is driven by the buildup of a water table mound beneath the pump-and-treatment system injection wells.



Source for Tritium Near 100-K Burial Ground

- Soil gas surveys conducted near the burial ground indicate an excess of helium-3 in soil gas, which suggests the nearby presence of tritium (helium-3 is a tritium decay product).
- Source may be located in the vadose zone (e.g., materials in the burial ground) and/or an underlying groundwater plume.
- Anecdotal evidence suggests the possibility of lithium target material in the burial ground.