Appendix A

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Appendix A

Supporting Information for CERCLA Operable Units

Under the *Comprehensive Environmental Response, Compensation, and Liability Act of 1980* (CERCLA), the contaminated groundwater beneath portions of the Hanford Site is divided into 11 groundwater operable units.

The tables provided in this chapter list the constituents, monitoring wells, and sampling frequency for each operable unit, as required by their respective sampling and analysis plans or other documentation. The tables also indicate whether the wells were sampled as scheduled during 2013. Aquifer tubes are also sampled at the Hanford Site as part of the CERCLA groundwater monitoring program. Details regarding aquifer tube sampling are provided in Appendix D.

In many cases, wells are sampled for additional constituents not strictly required by the plans. Those constituents are not listed in the tables of this appendix, but data files accompanying this report include all of the required and supplemental data.

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Table A.1 Monitoring Wells and Constituents for the 100-BC-5 Operable Unit – FY 2013

Well	Hydrologic Unit Monitored	Alkalinity	Gross Alpha/Beta	Anions	Hexavalent Chromium	Metals	Strontium-90	Tritium	Technetium-99	Volatile Organic Analytes	Sampled as Planned FY 2013?*
199-B2-12	RUM	BO	--	BO	BO	BO	BO	BO	--		Yes
199-B2-13	TU	BE	--	BE	BE	BE	BE	BE	--		Not scheduled
199-B2-14	TU	--	--	--	A	--	A	A	--		Yes
199-B2-15	RUM	--	--	--	BE	--	BE	BE	--		Not scheduled
199-B2-16	BU	A	--	A	S	A	S	S	--	A	Yes
199-B3-1	TU	BE	--	BE	A	BE	A	A	--		Yes
199-B3-46	TU	BO	--	BO	A	BO	A	A	--		Yes
199-B3-47	TU	BE	--	BE	A	BE	A	A	--		Yes
199-B3-50	TU	--	--	--	A	--	A	A	--		Yes
199-B3-51	BU	BO	--	BO	BO	BO	BO	BO	--		Yes
199-B4-1	TU	BE	--	BE	A	BE	A	A	--		Yes
199-B4-4	TU	--	--	--	BE	--	BE	BE	--		Not scheduled
199-B4-7	TU	A	--	A	S	A	A	S	--		Yes
199-B4-8	TU	BE	--	BE	BE	BE	BE	BE	--		Not scheduled
199-B4-14	TU	A	--	A	M	A	M	M	--	--	Missed August
199-B5-1	TU	A	--	A	S	A	A	S	--		Yes
199-B5-2	TU	--	--	--	A	--	A	A	--		Yes
199-B5-5	BU	--	--	--	A	--	--	A	--	A	Yes
199-B5-6	BU	A	A	A	M	A	--	M	--	A	Yes
199-B5-8	TU	BE	BE	BE	BE	BE	--	BE	BE	BE	Not scheduled
199-B8-6	TU	BO	BO	BO	A	BO	--	A	--		Yes
199-B8-9	TU	--	A	--	Q	--	--	Q	--	--	Yes
199-B9-2	TU	--	BE	--	BE	--	--	BE	--		Not scheduled
199-B9-3	TU	BO	BO	BO	BO	BO	--	BO	--		Yes
699-63-90	U	BE	BE	BE	--	BE	--	BE	--		Not scheduled
699-65-83	U	--	--	--	--	--	--	BE	--		Not

Table A.1 Monitoring Wells and Constituents for the 100-BC-5 Operable Unit – FY 2013

Well	Hydrologic Unit Monitored	Alkalinity	Gross Alpha/Beta	Anions	Hexavalent Chromium	Metals	Strontium-90	Tritium	Technetium-99	Volatile Organic Analytes	Sampled as Planned FY 2013?*
											scheduled
699-67-86	U	--	--	--	--	--	--	BO	--		Yes
699-68-105	U	BO	--	BO	--	BO	--	BO	--		Yes
699-71-77	U	BO	--	BO	--	BO	--	BO	BO		Yes
699-72-73	U	BE	--	BE	--	BE	--	BE	BE		Not scheduled
699-72-92	U	BO	--	BO	--	BO	--	BO	--		Yes
Spring037-1	TU	--	A	--	A	--	--	A	--	--	Yes
Spring039-2	TU	--	A	--	A	--	--	A	--	--	Yes

Note: The sampling requirements are from DOE/RL-2003-38, *100-BC-5 Operable Unit Sampling and Analysis Plan*, as modified by TPA-CN-522, *Tri-Party Agreement Change Notice Form: 100-BC-5 Operable Unit Sampling and Analysis Plan, DOE/RL-2003-38, Rev. 1 (as modified by* TPA-CN-240*, 12/8/2008 and* TPA-CN-293 *(10/6/2009).*

*Sampling schedule modified from January to October. This table reflects sampling January through September 2013. Sampling for October through December 2013 is summarized in a separate table.

Additional constituents sampled for include field parameters specific conductance, temperature, and turbidity.

A = to be sampled annually

BE = to be sampled biennially, even fiscal years

BO = to be sampled biennially, odd fiscal years

BU = bottom of unconfined aquifer

M = to be sampled monthly

Q = to be sampled quarterly

RUM = Ringold upper mud unit

TU = top of unconfined aquifer

U = unconfined aquifer (undifferentiated)

Table A.2 Monitoring Wells and Constituents for the 100-BC-5 Operable Unit – FY 2014

Well	Hydrologic Unit Monitored	Alkalinity	Gross Alpha/Beta	Anions	Hexavalent Chromium	Metals	Strontium-90	Tritium	Technetium-99	Volatile Organic Analytes	Sampled as Planned Fall 2013?[a]
199-B2-12	RUM	BO	--	BO	BO	BO	BO	BO	--		Not scheduled
199-B2-13	TU	BE	--	BE	BE	BE	BE	BE	--		Yes
199-B2-14	TU	--	--	--	A	--	A	A	--		Yes
199-B2-15	RUM	--	--	--	BE	--	BE	BE	--		Yes
199-B2-16	BU	A	--	A	S	A	S	S	--	A	Yes
199-B3-1	TU	BE	--	BE	A	BE	A	A	--		Yes
199-B3-46	TU	BO	--	BO	A	BO	A	A	--		Yes
199-B3-47	TU	BE	--	BE	A	BE	A	A	--		Yes
199-B3-50	TU	--	--	--	A	--	A	A	--		Yes
199-B3-51	BU	BO	--	BO	BO	BO	BO	BO	--		Not scheduled
199-B4-1	TU	BE	--	BE	A	BE	A	A	--		Yes
199-B4-4	TU	--	--	--	BE	--	BE	BE	--		Yes
199-B4-7	TU	A	--	A	S	A	A	S	--		Yes
199-B4-8	TU	BE	--	BE	BE	BE	BE	BE	--		Yes
199-B4-14	TU	A	--	A	M	A	M	M	--	--	Missed October[b]
199-B5-1	TU	A	--	A	S	A	A	S	--		Yes
199-B5-2	TU	--	--	--	A	--	A	A	--		Yes
199-B5-5	BU	--	--	--	A	--	--	A	--	A	Yes
199-B5-6	BU	A	A	A	M	A	--	M	--	A	Yes
199-B5-8	TU	BE	BE	BE	BE	BE	--	BE	BE	BE	Yes
199-B8-6	TU	BO	BO	BO	A	BO	--	A	--		Yes
199-B8-9	TU	--	A	--	Q	--	--	Q	--	--	Yes
199-B9-2	TU	--	BE	--	BE	--	--	BE	--		Yes
199-B9-3	TU	BO	BO	BO	BO	BO	--	BO	--		Not scheduled
699-63-90	U	BE	BE	BE	--	BE	--	BE	--		Yes
699-65-83	U	--	--	--	--	--	--	BE	--		Yes
699-67-86	U	--	--	--	--	--	--	BO	--		Not scheduled
699-68-105	U	BO	--	BO	--	BO	--	BO	--		Not scheduled
699-71-77	U	BO	--	BO	--	BO	--	BO	BO		Not scheduled
699-72-73	U	BE	--	BE	--	BE	--	BE	BE		Yes
699-72-92	U	BO	--	BO	--	BO	--	BO	--		Not scheduled

Table A.2 Monitoring Wells and Constituents for the 100-BC-5 Operable Unit – FY 2014

Well	Hydrologic Unit Monitored	Alkalinity	Gross Alpha/Beta	Anions	Hexavalent Chromium	Metals	Strontium-90	Tritium	Technetium-99	Volatile Organic Analytes	Sampled as Planned Fall 2013?[a]
Spring037-1	TU	--	A	--	A	--	--	A	--	--	Yes
Spring039-2	TU	--	A	--	A	--	--	A	--	--	Yes

Note: The sampling requirements are from DOE/RL-2003-38, *100-BC-5 Operable Unit Sampling and Analysis Plan*, as modified by TPA-CN-522, *Tri-Party Agreement Change Notice Form: 100-BC-5 Operable Unit Sampling and Analysis Plan, DOE/RL-2003-38, Rev. 1 (as modified by TPA-CN-240, 12/8/2008 and TPA-CN-293 (10/6/2009).*

a. Sampling schedule modified from January to October. This table reflects sampling for October through December 2013. January through September 2013 is summarized in a separate table.

b. Did not sample in October; moved longer analyte list to December.

Additional constituents sampled for include field parameters specific conductance, temperature, and turbidity.

A = to be sampled annually
BE = to be sampled biennially, even fiscal years
BO = to be sampled biennially, odd fiscal years
BU = bottom of unconfined aquifer
M = to be sampled monthly
Q = to be sampled quarterly
RUM = Ringold upper mud unit
TU = top of unconfined aquifer
U = unconfined aquifer (undifferentiated)

Table A.3 Monitoring Wells and Constituents for the 100-BC-5 Operable Unit Remedial Investigation Studies

Well Name	Hydrologic Unit Monitored	Anions	Alkalinity	Cr(VI)	Metals	Sr-90	Tritium	DOC	Fe(II)	Isotopic Cr	Sulfide	Sampled as Planned in 2013?[a]
199-B2-13	TU	A	A	A	A	--	--	A	--	--	--	Yes
199-B2-14	TU	A	A	S	S	A	A	S	S	S	S	Yes
199-B2-16	BU	A	A	S	S	A	A	S	--	--	--	Yes
199-B3-1	TU	A	A	S	S	A	A	S	--	--	--	Yes
199-B3-46	TU	A	A	S	S	A	A	S	--	--	--	Yes
199-B3-47	TU	S	S	S	S	A	A	S	S	S	S	Yes
199-B3-50	TU	A	A	S	S	A	A	S	--	--	--	Yes
199-B3-51	BU	A	A	A	A	A	A	A	--	--	--	Yes
199-B4-1	TU	A	A	S	S	A	A	S	S	S	S	Yes
199-B4-4	TU	A	A	A	A	--	--	A	--	--	--	Yes
199-B4-7	TU	S	S	Q	Q	A	S	S	--	--	--	Yes
199-B4-8	TU	A	A	S	S	--	--	S	--	--	--	Yes
199-B4-14	TU	S	S	Q	Q	--	Q	S	S	S	S	Yes
199-B5-1	TU	S	S	S	S	A	A	S	--	--	--	Yes
199-B5-2	TU	A	A	S	S	A	A	S	--	--	--	Yes
199-B5-5	BU	A	A	S	S	--	A	S	--	--	--	Yes
199-B5-6	BU	S	S	Q	Q	--	Q	S	--	--	--	Yes
199-B5-8	TU	A	A	A	A	--	A	A	--	--	--	Yes
199-B8-6	TU	A	A	S	S	--	A	S	--	--	--	Yes
199-B8-9	TU	S	S	Q	Q	--	S	S	S	S	S	Yes
199-B9-2	TU	A	A	A	A	--	--	A	--	--	--	Yes
199-B9-3	TU	A	A	S	S	--	--	S	--	--	--	Yes
699-65-83	U	A	A	A	A	--	--	A	--	--	--	Yes
New Wells Installed 2013-2014[b]												
199-B5-9	BU	Q	Q	Q	Q	--	Q	Q	--	--	--	Not scheduled
199-B5-10	TU	Q	Q	Q	Q	--	Q	Q	--	--	--	Not scheduled
199-B5-11	BU	Q	Q	Q	Q	--	Q	Q	--	--	--	Not scheduled
199-B5-12	TU	Q	Q	Q	Q	--	Q	Q	--	--	--	Not scheduled
199-B5-13	BU	Q	Q	Q	Q	Q	Q	Q	--	--	--	Not scheduled
199-B4-16	TU	Q	Q	Q	Q	--	Q	Q	--	--	--	Not scheduled
199-B5-14	TU	Q	Q	Q	Q	--	Q	--	--	--	--	Not scheduled

Table A.3 Monitoring Wells and Constituents for the 100-BC-5 Operable Unit Remedial Investigation Studies

Well Name	Hydrologic Unit Monitored	Anions	Alkalinity	Cr(VI)	Metals	Sr-90	Tritium	DOC	Fe(II)	Isotopic Cr	Sulfide	Sampled as Planned in 2013?[a]
199-B4-18	BU	Q	Q	Q	Q	Q	Q	Q	--	--	--	Not scheduled

Note: The sampling requirements are from DOE/RL-2009-44, *Sampling and Analysis Plan for the 100-BC-1, 100-BC-2, and 100-BC-5 Operable Units Remedial Investigation/Feasibility Study*, as modified by TPA-CN-602, *Tri-Party Agreement Change Notice Form…* 11/5/2013.

a. Sampling for this project began in October 2013 in most existing wells.

b. Wells were installed late 2013 through early 2014. Characterization samples were analyzed for Cr(VI), tritium, and Sr-90. Routine sampling for the constituents listed here began in 2014. Quarterly sampling for first year; frequency may be reduced subsequently, with EPA and DOE concurrence.

Additional constituents sampled for include field parameters dissolved oxygen, pH, specific conductance, temperature, and turbidity.

A = to be sampled annually
BU = bottom of unconfined aquifer
S = to be sampled semiannually
Q = to be sampled quarterly
TU = top of unconfined aquifer
U = unconfined (undifferentiated)

Table A.4 100-KR Monitoring Wells, Extraction Wells, Injection Wells, and Seeps Sampled in 2013

Well Name	Sample Date	Comment
199-K-106A	2/11/2013	
	4/23/2013	
	7/30/2013	
	12/16/2013	
199-K-107A	2/11/2013	
	4/23/2013	
	7/30/2013	
	11/22/2013	
199-K-108A	2/11/2013	
	4/23/2013	
	7/29/2013	
	11/22/2013	
199-K-11	4/25/2013	
	11/22/2013	
199-K-110A	4/25/2013	
	11/22/2013	
199-K-111A	2/25/2013	
	4/25/2013	
	7/29/2013	
	12/16/2013	
199-K-112A	12/3/2013	
199-K-113A	4/29/2013	Extraction well
	11/20/2013	
199-K-114A	4/29/2013	Extraction well
	11/20/2013	
199-K-115A	4/29/2013	Extraction well
	11/20/2013	
199-K-116A	4/29/2013	Extraction well
	11/20/2013	
199-K-117A	1/17/2013	
	4/8/2013	
	7/29/2013	
	10/17/2013	
199-K-118A	12/2/2013	
199-K-119A	5/15/2013	
	12/4/2013	
199-K-120A	5/1/2013	Extraction well
	11/21/2013	
199-K-121A		Injection well
199-K-122A		Injection well

Table A.4 100-KR Monitoring Wells, Extraction Wells, Injection Wells, and Seeps Sampled in 2013

Well Name	Sample Date	Comment
199-K-123A		Injection well
199-K-124A	4/30/2013	
	11/22/2013	
199-K-125A	4/30/2013	
	12/2/2013	
199-K-126	5/21/2013	
199-K-127	5/1/2013	Extraction well
	11/20/2013	
199-K-128		Injection well
199-K-129	6/12/2013	
	11/20/2013	
199-K-129		Extraction well (not operating)
199-K-13	4/23/2013	
	11/22/2013	
199-K-130	4/4/2013	Extraction well
	11/13/2013	
199-K-131	4/29/2013	Extraction well
	11/20/2013	
199-K-132	4/29/2013	Extraction well
	11/21/2013	
199-K-133	5/16/2013	
	12/5/2013	
199-K-134	5/16/2013	
	12/5/2013	
199-K-135	5/16/2013	
	12/16/2013	
199-K-136	5/21/2013	
	12/5/2013	
199-K-137	5/29/2013	Extraction well
	11/21/2013	
199-K-138	4/29/2013	Extraction well
	11/21/2013	
199-K-139	4/29/2013	Extraction well
	11/21/2013	
199-K-140	2/6/2013	
	4/23/2013	
	9/30/2013	
	11/21/2013	
199-K-141	1/28/2013	Extraction well
	4/29/2013	

Table A.4 100-KR Monitoring Wells, Extraction Wells, Injection Wells, and Seeps Sampled in 2013

Well Name	Sample Date	Comment
	7/25/2013	
	11/20/2013	
199-K-142	4/25/2013	
	11/22/2013	
199-K-143		Injection well
199-K-144	5/1/2013	Extraction well
199-K-145	5/1/2013	Extraction well
	11/20/2013	
199-K-146	6/12/2013	Extraction well
	11/20/2013	
199-K-147	4/29/2013	Extraction well
	11/20/2013	
199-K-148	4/29/2013	Extraction well
	11/20/2013	
199-K-149	4/24/2013	
199-K-150	1/17/2013	
	2/6/2013	
	3/7/2013	
	4/9/2013	
	5/6/2013	
	6/13/2013	
	7/8/2013	
	8/14/2013	
	9/4/2013	
	10/17/2013	
	11/26/2013	
	12/16/2013	
199-K-151	4/8/2013	
	11/12/2013	
199-K-152	4/4/2013	Extraction well
	11/12/2013	
199-K-153	4/29/2013	Extraction well
	11/20/2013	
199-K-154	4/29/2013	Extraction well
	11/20/2013	
199-K-156		Injection well
199-K-157	2/25/2013	
	4/25/2013	
	8/15/2013	
	12/4/2013	

Table A.4 100-KR Monitoring Wells, Extraction Wells, Injection Wells, and Seeps Sampled in 2013

Well Name	Sample Date	Comment
199-K-158		Injection well
199-K-159		Injection well
199-K-160		Injection well
199-K-161	4/29/2013	Extraction well
	11/20/2013	
199-K-162	4/29/2013	Extraction well
	11/20/2013	
199-K-163	4/29/2013	Extraction well
199-K-164		Injection well
199-K-165	11/13/2013	Extraction well
199-K-166	1/17/2013	Extraction well
	4/4/2013	
	9/5/2013	
	11/12/2013	
199-K-168	1/28/2013	Extraction well
	4/29/2013	
	9/5/2013	
	11/21/2013	
199-K-169		Injection well
199-K-170		Injection well
199-K-171	4/29/2013	Extraction well
199-K-171	11/20/2013	
199-K-172		Injection well
199-K-173	1/17/2013	Extraction well
	4/4/2013	
	9/30/2013	
	11/12/2013	
199-K-174		Injection well
199-K-175		Injection well
199-K-178	4/29/2013	Extraction well
	11/20/2013	
199-K-179		Injection well
199-K-18	1/17/2013	
	4/8/2013	
	7/18/2013	
	10/1/2013	
199-K-180		Injection well
199-K-181	4/24/2013	
199-K-182	1/28/2013	Extraction well
	4/29/2013	

Table A.4 100-KR Monitoring Wells, Extraction Wells, Injection Wells, and Seeps Sampled in 2013

Well Name	Sample Date	Comment
	7/25/2013	
	11/20/2013	
199-K-183	2/11/2013	
	4/24/2013	
	7/30/2013	
	11/22/2013	
199-K-184	2/11/2013	
	4/23/2013	
	7/30/2013	
	11/22/2013	
199-K-185	1/8/2013	
	2/11/2013	
	4/24/2013	
	7/30/2013	
	12/6/2013	
199-K-186	2/11/2013	
	4/23/2013	
	7/29/2013	
	11/22/2013	
199-K-187	2/11/2013	
	4/22/2013	
	7/30/2013	
	11/22/2013	
199-K-188	2/11/2013	
	4/25/2013	
	7/30/2013	
	12/6/2013	
199-K-189	2/11/2013	
	4/23/2013	
	7/30/2013	
	12/12/2013	
199-K-19	5/15/2013	
	11/22/2013	
199-K-190	2/11/2013	
	4/24/2013	
	7/30/2013	
	12/6/2013	
199-K-191	2/12/2013	
	4/22/2013	
	7/30/2013	

Table A.4 100-KR Monitoring Wells, Extraction Wells, Injection Wells, and Seeps Sampled in 2013

Well Name	Sample Date	Comment
	11/22/2013	
199-K-192	2/25/2013	
	4/24/2013	
	9/13/2013	
	12/4/2013	
199-K-193	2/12/2013	
	4/22/2013	
	7/30/2013	
	11/22/2013	
199-K-194	1/31/2013	
	4/22/2013	
	7/30/2013	
	12/19/2013	
199-K-196	2/12/2013	
	4/23/2013	
	9/30/2013	
	11/21/2013	
199-K-197	2/25/2013	
	4/24/2013	
	8/15/2013	
	12/3/2013	
199-K-198	2/25/2013	
	4/24/2013	
	8/19/2013	
199-K-199	2/25/2013	
	4/24/2013	
	9/20/2013	
199-K-20	1/17/2013	
	4/10/2013	
	7/18/2013	
	10/17/2013	
199-K-200	2/25/2013	
	4/25/2013	
	8/15/2013	
	12/16/2013	
199-K-201	2/25/2013	
	4/30/2013	
	8/14/2013	
	12/3/2013	
199-K-202	9/3/2013	

Table A.4 100-KR Monitoring Wells, Extraction Wells, Injection Wells, and Seeps Sampled in 2013

Well Name	Sample Date	Comment
	9/10/2013	
	9/17/2013	
	11/4/2013	
199-K-205	9/24/2013	
	9/25/2013	
	9/26/2013	
199-K-206	10/3/2013	
	10/7/2013	
	10/9/2013	
199-K-21	4/8/2013	
	10/17/2013	
199-K-22	4/24/2013	
199-K-23	4/23/2013	
199-K-31	4/25/2013	
	11/22/2013	
199-K-32A	2/12/2013	
	4/25/2013	
	7/30/2013	
	12/6/2013	
199-K-32B	12/6/2013	
199-K-34	1/17/2013	
	4/10/2013	
	7/29/2013	
	11/4/2013	
199-K-36	4/25/2013	
	12/6/2013	
199-K-37	4/24/2013	
	12/5/2013	
199-N-165	3/7/2013	
	5/6/2013	
	9/30/2013	
	12/18/2013	
199-N-71	3/7/2013	
	5/6/2013	
	8/26/2013	
	12/18/2013	
699-70-68	10/21/2013	
699-72-73	4/8/2013	
	10/31/2013	
699-78-62	1/23/2013	

Table A.4 100-KR Monitoring Wells, Extraction Wells, Injection Wells, and Seeps Sampled in 2013

Well Name	Sample Date	Comment
	1/31/2013	
	4/15/2013	
	8/14/2013	
	11/12/2013	
SK-063-1	9/23/2013	Seep
SK-068-1	10/8/2013	Seep
SK-057-3	9/12/2013	Seep
SK-082-2	10/8/2013	Seep

Table A.5 Monitoring Wells and Constituents for 100-NR-2

Well Name	Field Parameters[c]	Alkalinity	Gross Alpha	Anions	Gross Beta	Gamma	Metals	Oil and Grease	PAH	Strontium-90	Total Petroleum Hydrocarbons	Tritium	VOC	SVOC	Sampled as Planned in 2013?	Comments
199-N-2[a]	A	--	--	A	A	--	A	--	--	A	--	A	--	--	No	Not sampled for gross beta. Also sampled for alkalinity.
199-N-3[a]	S	--	--	S	S	--	S	--	--	S	--	S	--	--	No	Sampled three times for field parameters, anions, and metals. Sampled once for gross beta, strontium-90, and tritium. Also sampled for alkalinity and TPH-D.
199-N-14[a]	S	--	--	S	S	--	S	--	--	S	--	S	--	--	No	Sampled once for all constituents. Also sampled for alkalinity, gross alpha, and gamma.
199-N-16[a]	A	--	--	A	A	--	A	A	--	A	A	--	--	--	No	Decommissioned Dec 2012
199-N-18[a]	A	--	--	--	--	--	--	A	--	--	A	--	--	--	No	Not sampled in 2013; used for removal of TPH free product.
199-N-19	A	--	--	A	--	--	A	--	A	A	A	--	--	--	Yes	Sampled for TPH-D.
199-N-21[a]	A	--	--	A	--	--	A	--	--	--	--	--	--	--	Yes	Also sampled for PAH, strontium-90, and TPH-D.
199-N-27[a]	A	--	A	A	--	A	A	--	--	--	--	A	--	--	Yes	Also sampled for alkalinity, gross beta, and strontium-90.
199-N-28	A	A	A	A	A		A	--	--	A	--	A	--	--	Yes	
199-N-32[a]	S	--	--	S	S	S	S	--	--	S	--	S	--	--	No	Sampled twice for field parameters, anions, and metals. Sampled once for gross beta, gamma, strontium-90, and tritium. Also sampled for alkalinity.
199-N-34	A	A	--	A	--	--	A	--	--	A	--	A	--	--	Yes	
199-N-41	A	A	--	A	--	--	A	--	--	A	--	A	--	--	No	Not sampled.
199-N-46	S	S	S	S	S	S	S	--	--	S	--	S	--	--	Yes	
199-N-50[a]	A	--	--	--	A	--	--	--	--	--	--	A	--	--	Yes	Also sampled for anions and strontium-90.

Table A.5 Monitoring Wells and Constituents for 100-NR-2

Well Name	Field Parameters[c]	Alkalinity	Gross Alpha	Anions	Gross Beta	Gamma	Metals	Oil and Grease	PAH	Strontium-90	Total Petroleum Hydrocarbons	Tritium	VOC	SVOC	Sampled as Planned in 2013?	Comments
199-N-51[a]	A	--	--	--	A	--	--	--	--	--	--	A	--	--	Yes	Also sampled for strontium-90.
199-N-56	A	A	A	A	--	A	A	--	A	A	A	A	--	--	Yes	Sampled for TPH-D.
199-N-57	A	A	A	A	--	A	A	--	A	A	A	A	--	--	Yes	Sampled for TPH-D.
199-N-64[a]	A	--	--	A	A	--	A	--	--	A	--	A	--	--	Yes	Also sampled for alkalinity, gross alpha, gamma, PAH, and TPH-D.
199-N-67[a]	S	--	S	S	S	--	S	--	--	S	--	--	--	--	No	Sampled once for all constituents. Also sampled for alkalinity, gamma, and tritium.
199-N-69	A	A-	A	A	A	A	A	--	--	A	--	A	--	--	Yes	
199-N-70[a]	A	--	A	A	A	A	A	--	--	A	--	A	--	--	Yes	Also sampled for alkalinity.
199-N-71	A	A	--	A	--	--	A	--	--	--	--	--	--	--	Yes	Also sampled for hexavalent chromium.
199-N-73	A	A	--	A	--	--	A	--	--	--	--	--	--	--	Yes	
199-N-74[a]	A	--	A	--	A	A	A	--	--	--	--	--	--	--	Yes	Also sampled for alkalinity, anions, hexavalent chromium, and tritium.
199-N-75[a]	S	--	--	S	S	--	S	--	--	S	--	S	--	--	No	Sampled once for all constituents. Also sampled for alkalinity.
199-N-76[a]	S	--	--	S	S	S	S	--	--	S	--	S	--	--	Yes	Also sampled for alkalinity.
199-N-80[a]	A	--	A	A	A	A	A	--	--	A	--	A	--	--	Yes	Also sampled for alkalinity and hexavalent chromium.
199-N-81[a]	A	--	--	A	A	--	A	--	--	A	--	A	--	--	Yes	Also sampled for alkalinity and gamma.
199-N-92A[a]	A	--	--	A	A	--	A	--	--	A	--	A	--	--	Yes	Also sampled for alkalinity.
199-N-96A[a]	A	--	--	A	A	--	A	--	--	A	--	A	--	--	Yes	Also sampled for alkalinity, oil and grease, PAH, TPH-D, TPH-G, and VOC.
199-N-99A[a]	A	--	--	A	A	--	A	--	--	A	--	A	--	--	Yes	Also sampled for alkalinity.
199-N-103A	A	A	A	A	A	A	A	--	--	A	--	A	--	--	Yes	

Table A.5 Monitoring Wells and Constituents for 100-NR-2

Well Name	Field Parameters[c]	Alkalinity	Gross Alpha	Anions	Gross Beta	Gamma	Metals	Oil and Grease	PAH	Strontium-90	Total Petroleum Hydrocarbons	Tritium	VOC	SVOC	Sampled as Planned in 2013?	Comments
199-N-104A	A	--	A	A	A	--	A	--	--	A	--	A	--	--	Yes	
199-N-105A	A	A	A	A	A	A	A	--	--	A	--	A	--	--	Yes	
199-N-106A	A	A	A	A	A	A	A	--	--	A	--	A	--	--	Yes	
199-N-119	A	A	A	A	A	A	A	--	--	A	--	A	--	--	Yes	
199-N-120	A	A	A	A	A	A	A	--	--	A	--	A	--	--	Yes	
199-N-121	A	A	A	A	A	A	A	--	--	A	--	A	--	--	Yes	
199-N-122	A	A	A	A	A	A	A	--	--	A	--	A	--	--	Yes	
199-N-123	A	A	--	A	--	--	A	--	--	A	--	A	--	--	Yes	
199-N-146	A	A	--	A	--	--	A	--	--	A	--	A	--	--	Yes	
199-N-147	A	A	--	A	--	--	A	--	--	A	--	A	--	--	Yes	
199-N-173	A	A	--	A	A	--	A	--	A	A	A	A	A	--	Yes	Sampled for TPH-D and TPH-G.
199-N-182	A	A	--	A	A	--	A	--	--	A	--	A	--	--	Yes	
199-N-183	A	A	--	A	--	--	A	A	A	A	A		A	--	Yes	Sampled for hexavalent chromium, TPH-D, and TPH-G.
199-N-184	A	A	--	A	A	--	A	--	--	A	--	A	--	--	Yes	
199-N-185	A	A	--	A	A	--	A	--	--	A	--	A	--	--	Yes	
199-N-186[b]	Q	--	Q	Q	Q	Q	Q	--	Q	Q	Q	Q	Q	Q	Yes	Sampled for TPH-D and TPH-G. Also sampled for an extended analyte list[d].
199-N-187[b]	Q	--	Q	Q	Q	Q	Q	--	Q	Q	Q	Q	Q	Q	Yes	Sampled for TPH-D and TPH-G. Also sampled for an extended analyte list[d].
199-N-188[b]	Q	--	Q	Q	Q	Q	Q	--	Q	Q	Q	Q	Q	Q	Yes	Sampled for TPH-D and TPH-G. Also sampled for an extended analyte list[d].
199-N-189	A	A	--	A	A	--	A	--	--	A	--	A	--	--	Yes	Sampled for hexavalent chromium.

Table A.5 Monitoring Wells and Constituents for 100-NR-2

Well Name	Field Parameters[c]	Alkalinity	Gross Alpha	Anions	Gross Beta	Gamma	Metals	Oil and Grease	PAH	Strontium-90	Total Petroleum Hydrocarbons	Tritium	VOC	SVOC	Sampled as Planned in 2013?	Comments
699-84-59	A	--	--	A	--	--	A	--	--	--	--	--	--	--	Yes	Sampled for hexavalent chromium.

Notes:

a. Monitoring requirements are from *Remedial Design/Remedial Action Work Plan for the 100-NR-2 Operable Unit* (DOE/RL-2001-27). TPA-CN-256, *Change Notice for Modifying Approved Documents/Workplans In Accordance with the Tri-Party Agreement Action Plan, Section 9.0, Documentation and Records: DOE/RL-2001-27, Rev 0, Remedial Design Report/Remedial Action Work Plan for the 100-NR-2 Operable Unit and the Interim Action Waste Management Plan for the 100-NR-2 Operable Unit, DOE/RL-2000-41, Rev. 1*, modified the monitoring requirements, including updating analyses and removing decommissioned wells.

b. Monitoring requirements are *Sampling and Analysis Plan for the 100-NR-1 and 100-NR-2 Operable Units Remedial Investigation/Feasibility Study* (DOE/RL-2009-42). TPA-CN-478, *Tri-Party Agreement Change Notice Form: Sampling and Analysis Plan for the 100-NR-1 and 100-NR-2 Operable Units Remedial Investigation/Feasibility Study, DOE/RL-2009-42, Rev. 0*, modified the monitoring requirements, adding quarterly sampling for wells 199-N-186, 199-N-187, and 199-N-188. Wells 199-N-182, 199-N-183, 199-N-184, 199-N-185, and 199-N-189 were sampled once for the list of constituents in Table 2-7 of DOE/RL-2009-42. Wells 199-N-186, 199-N-187, and 199-N-188 are sampled quarterly for this extended analyte list.

c. Field parameters include pH, temperature, conductivity, and turbidity; with dissolved oxygen and oxidation-reduction potential on some wells.

d. Wells 199-N-186, 199-N-187, and 199-N-188 also sampled for plutonium-238, plutonium-239/240, technetium-99, uranium-233/234, uranium-235, uranium-238, pesticides, cyanide, nonhalogenated hydrocarbons, polychlorinated biphenyls, hexavalent chromium, and mercury.

A = to be sampled annually
Q = to be sampled quarterly
S = to be sampled semiannually
SVOC = semivolatile organic compound
VOC = volatile organic compound

Table A.6 Monitoring Wells and Constituents for the 100-NR-2 Apatite Permeable Reactive Barrier

Well Name	Well Type	Field Para-meters[a]	Anions	Gross Alpha/Beta	Metals	Strontium-90	TPH-Diesel	Sampled as Planned in 2013?
199-N-96A	Performance Monitoring	S	S	S	S	S	S	Yes
199-N-122	Performance Monitoring	S	S	S	S	S	S	Yes
199-N-123	Performance Monitoring	S	S	S	S	S	S	Yes
199-N-146	Performance Monitoring	S	S	S	S	S	S	Yes
199-N-147	Performance Monitoring	S	S	S	S	S	S	Yes
199-N-347	Performance Monitoring	S	S	S	S	S	S	Yes
199-N-348	Performance Monitoring	S	S	S	S	S	S	Yes
199-N-349	Performance Monitoring	S	S	S	S	S	S	Yes
199-N-350	Performance Monitoring	S	S	S	S	S	S	Yes
199-N-351	Performance Monitoring	S	S	S	S	S	S	Yes
199-N-352	Performance Monitoring	S	S	S	S	S	S	Yes
199-N-353	Performance Monitoring	S	S	S	S	S	S	Yes
APT1	Aquifer Tube	S	S	S	S	S	S	Yes
APT5	Aquifer Tube	S	S	S	S	S	S	Yes
C7881	Aquifer Tube	S	S	S	S	S	S	Yes
N116mArray-1A	Aquifer Tube	S	S	S	S	S	S	Yes
N116mArray-2A	Aquifer Tube	S	S	S	S	S	v	Yes
N116mArray-3A	Aquifer Tube	S	S	S	S	S	S	Yes
N116mArray-4A	Aquifer Tube	S	S	S	S	S	S	Yes
N116mArray-6A	Aquifer Tube	S	S	S	S	S	S	Yes
N116mArray-8A	Aquifer Tube	S	S	S	S	S	S	Yes
NVP2-116.0	Aquifer Tube	S	S	S	S	S	S	Yes

Sampling requirements are from *Remedial Design Report/Remedial Action Work Plan for the 100-NR-2 Operable Unit* (DOE/RL-2001-27). TPA-CN-569, *Change Notice for Modifying Approved Documents/Workplans In Accordance with the Tri-Party Agreement Action Plan, Section 9.0, Documentation and Records: DOE/RL-2001-27, Rev 0, Remedial Design Report/Remedial Action Work Plan for the 100-NR-2 Operable Unit*, added semi-annual sampling at groundwater wells and aquifer tubes to monitor the performance of the 100-NR-2 apatite permeable reactive barrier.

a. Field parameters: conductivity, pH, temperature, and turbidity

S = sampled twice each year (at high and low river stages)

TPH = total petroleum hydrocarbon

Table A.7 Monitoring Wells and Constituents for the 100-N (UPR-100-N-17) Bioremediation

Well Name	Well Type	Field Parameters[a]	Alkalinity	Anions	Metals	Oil and Grease	PAHs	TPH[b]	VOCs	Sampled as Planned in 2013?
199-N-169	Bioventing Monitoring	S	S	S	S	S	S	S	S	Yes
199-N-171	Bioventing Monitoring	S	S	S	S	S	S	S	S	Yes
199-N-173	Bioventing Monitoring	S	S	S	S	S	S	S	S	Yes
199-N-183	Bioventing Monitoring	S	S	S	S	S	S	S	S	Yes
199-N-19	Bioventing Monitoring	S	S	S	S	S	S	S	S	Yes
199-N-3	Bioventing Monitoring	S	S	S	S	S	S	S	S	Yes
199-N-56	Bioventing Monitoring	S	S	S	S	S	S	S	S	Yes
199-N-96A	Bioventing Monitoring	S	S	S	S	S	S	S	S	Yes
N116mArray-0A	Aquifer Tube	S	S	S	S	S	S	S	S	Yes
C6132	Aquifer Tube	S	S	S	S	S	S	S	S	Yes
C6135	Aquifer Tube	S	S	S	S	S	S	S	S	No; broken.

Sampling requirements are from *Remedial Design Report/Remedial Action Work Plan for the 100-N Area* (DOE/RL-2005-93), Appendix H, Table H-3.

a. Field parameters: conductivity, pH, temperature, turbidity, dissolved oxygen, oxidation-reduction potential, and sheen/odor

b. TPH analyses: TPH-diesel, TPH-gasoline, and TPH-motor oil

S = sampled twice each year (at high and low river stages)

PAH = polycyclic aromatic hydrocarbon

TPH = total petroleum hydrocarbon

VOC = volatile organic compound

Table A.8 Monitoring Wells, Extraction Wells, and Injection Wells for 100-HR-3 in 2013

Well Name	Sample Date	Comment
199-D2-10		Injection well
199-D2-11	2/1/2013	
	4/17/2013	
	7/31/2013	
	11/15/2013	
199-D2-12		Injection well
199-D2-6	4/15/2013	
	11/18/2013	
199-D3-2	2/12/2013	
	5/14/2013	
	9/13/2013	
199-D3-5	2/1/2013	
	4/16/2013	
	7/31/2013	
	11/18/2013	
199-D4-101		Extraction well
199-D4-13	10/1/2013	
199-D4-14	2/12/2013	
	5/14/2013	
	9/30/2013	
	12/11/2013	
199-D4-15	10/2/2013	
199-D4-19	4/1/2013	
	7/16/2013	
	10/1/2013	
199-D4-20	10/1/2013	
199-D4-22	1/8/2013	
	2/12/2013	
	5/14/2013	
	9/13/2013	
	12/20/2013	
199-D4-23	2/12/2013	
	5/14/2013	
	8/13/2013	
	12/20/2013	
199-D4-25	6/12/2013	
	12/20/2013	
199-D4-26	5/30/2013	

Table A.8 Monitoring Wells, Extraction Wells, and Injection Wells for 100-HR-3 in 2013

Well Name	Sample Date	Comment
	11/13/2013	
199-D4-27	6/11/2013	
	12/20/2013	
199-D4-31	12/20/2013	
199-D4-32	12/20/2013	
199-D4-36	12/20/2013	
199-D4-38	2/19/2013	Extraction well
	5/13/2013	
	8/8/2013	
	12/11/2013	
199-D4-39	1/28/2013	Extraction well
	4/11/2013	
	7/23/2013	
	11/6/2013	
199-D4-4	12/20/2013	
199-D4-48	12/20/2013	
199-D4-5	10/2/2013	
199-D4-6	10/2/2013	
199-D4-62	2/1/2013	
	2/13/2013	
	5/14/2013	
	9/20/2013	
	12/20/2013	
199-D4-7	12/20/2013	
199-D4-78	10/1/2013	
199-D4-83	5/13/2013	Extraction well
	8/8/2013	
	11/6/2013	
199-D4-84	5/13/2013	Extraction well
	8/8/2013	
199-D4-85	5/13/2013	Extraction well
	8/8/2013	
199-D4-86	1/15/2013	
	4/1/2013	
	7/16/2013	
	10/1/2013	
199-D4-92	6/11/2013	
	7/16/2013	

Table A.8 Monitoring Wells, Extraction Wells, and Injection Wells for 100-HR-3 in 2013

Well Name	Sample Date	Comment
	11/13/2013	
199-D4-93	6/11/2013	
	11/13/2013	
199-D4-95	1/23/2013	Extraction well
	4/11/2013	
	7/23/2013	
	11/6/2013	
199-D4-96	1/23/2013	Extraction well
	4/11/2013	
	7/23/2013	
	11/6/2013	
199-D4-97	1/23/2013	Extraction well
	4/11/2013	
	8/8/2013	
	11/6/2013	
199-D4-98	1/23/2013	Extraction well
	4/11/2013	
	7/23/2013	
	11/6/2013	
199-D4-99	1/23/2013	Extraction well
	4/11/2013	
	7/23/2013	
	11/6/2013	
199-D5-101	1/23/2013	Extraction well
	4/11/2013	
	8/1/2013	
	11/6/2013	
199-D5-103	4/1/2013	
	7/17/2013	
	9/20/2013	
	10/16/2013	
	11/25/2013	
	12/13/2013	
199-D5-104	1/28/2013	Extraction well
	3/7/2013	
	5/1/2013	
	5/13/2013	
	6/12/2013	

Table A.8 Monitoring Wells, Extraction Wells, and Injection Wells for 100-HR-3 in 2013

Well Name	Sample Date	Comment
	7/23/2013	
	8/1/2013	
	8/8/2013	
	11/6/2013	
	11/21/2013	
	12/11/2013	
199-D5-106	10/21/2013	
	11/26/2013	
	12/13/2013	
199-D5-107	5/30/2013	
	11/12/2013	
199-D5-108	6/3/2013	
	11/12/2013	
199-D5-109	5/30/2013	
	11/12/2013	
199-D5-110	5/30/2013	
	11/12/2013	
199-D5-114	6/3/2013	
	11/12/2013	
199-D5-115	6/11/2013	
	11/12/2013	
199-D5-123	2/13/2013	
	3/26/2013	
	5/21/2013	
	9/13/2013	
	12/20/2013	
199-D5-125	2/13/2013	
	5/21/2013	
	8/1/2013	
	12/20/2013	
199-D5-126	2/13/2013	
	5/15/2013	
	10/2/2013	
	12/20/2013	
199-D5-127	1/23/2013	Extraction well
	4/11/2013	
	7/23/2013	
	11/6/2013	

Table A.8 Monitoring Wells, Extraction Wells, and Injection Wells for 100-HR-3 in 2013

Well Name	Sample Date	Comment
199-D5-128		Injection well
199-D5-129		Injection well
199-D5-13	1/7/2013	
	5/14/2013	
	7/17/2013	
	10/2/2013	
199-D5-130	1/23/2013	Extraction well
	4/11/2013	
	7/23/2013	
	11/6/2013	
199-D5-131	1/23/2013	Extraction well
	4/11/2013	
	7/23/2013	
	11/6/2013	
199-D5-132	2/1/2013	
	4/17/2013	
	7/31/2013	
	11/5/2013	
199-D5-133	2/1/2013	
	4/17/2013	
	7/30/2013	
	11/15/2013	
199-D5-134	5/16/2013	
	10/1/2013	
199-D5-14	1/7/2013	
	4/1/2013	
	7/17/2013	
	9/19/2013	
	10/2/2013	
199-D5-141	10/21/2013	
199-D5-142	2/1/2013	
	4/17/2013	
	7/31/2013	
	11/15/2013	
199-D5-143	2/1/2013	
	3/26/2013	
	4/17/2013	
	7/31/2013	

Table A.8 Monitoring Wells, Extraction Wells, and Injection Wells for 100-HR-3 in 2013

Well Name	Sample Date	Comment
	11/15/2013	
199-D5-145	2/27/2013	
	5/16/2013	
	11/18/2013	
199-D5-146	3/11/2013	
	5/16/2013	
	10/16/2013	
199-D5-147	2/27/2013	
	5/21/2013	
	11/15/2013	
199-D5-148	2/27/2013	
	5/16/2013	
	11/25/2013	
199-D5-15	2/13/2013	
	3/26/2013	
	5/14/2013	
	8/13/2013	
	12/20/2013	
199-D5-153	9/16/2013	
	9/17/2013	
	9/24/2013	
199-D5-154	9/5/2013	
	9/9/2013	
	9/18/2013	
199-D5-16	2/14/2013	
	3/26/2013	
	5/14/2013	
	8/13/2013	
	12/20/2013	
199-D5-17	10/2/2013	
199-D5-18	4/15/2013	
	11/5/2013	
199-D5-19	10/1/2013	
199-D5-20	2/6/2013	Extraction well
	4/11/2013	
	7/23/2013	
	11/7/2013	
199-D5-32	1/23/2013	Extraction well

Table A.8 Monitoring Wells, Extraction Wells, and Injection Wells for 100-HR-3 in 2013

Well Name	Sample Date	Comment
	4/11/2013	
	7/23/2013	
	11/7/2013	
199-D5-33	1/7/2013	
	4/1/2013	
	7/17/2013	
	10/2/2013	
199-D5-34	2/1/2013	
	4/1/2013	
	4/16/2013	
	8/1/2013	
	10/16/2013	
	11/15/2013	
	12/13/2013	
199-D5-36	1/8/2013	
	4/1/2013	
	7/17/2013	
	10/2/2013	
199-D5-37	1/15/2013	
	4/1/2013	
	7/17/2013	
	10/1/2013	
199-D5-38	2/13/2013	
	5/14/2013	
	9/13/2013	
	12/13/2013	
199-D5-39	1/28/2013	Extraction well
	2/19/2013	
	4/11/2013	
	5/13/2013	
	6/12/2013	
	7/23/2013	
	8/1/2013	
	8/8/2013	
	11/7/2013	
	11/21/2013	
	12/11/2013	
199-D5-40	2/1/2013	

Table A.8 Monitoring Wells, Extraction Wells, and Injection Wells for 100-HR-3 in 2013

Well Name	Sample Date	Comment
	4/16/2013	
	7/31/2013	
	11/15/2013	
199-D5-41	11/25/2013	
199-D5-42		Injection well
199-D5-43	2/13/2013	
	5/14/2013	
	9/13/2013	
199-D5-44		Injection well
199-D5-92	1/28/2013	Extraction well
	4/11/2013	
	7/23/2013	
	11/7/2013	
199-D5-93	1/7/2013	
	4/16/2013	
199-D5-97	1/7/2013	
	2/12/2013	
	3/7/2013	
	4/1/2013	
	4/17/2013	
	6/10/2013	
	7/17/2013	
	8/14/2013	
	8/27/2013	
	10/21/2013	
	11/25/2013	
199-D6-1		Injection well
199-D6-2		Injection well
199-D6-3	2/1/2013	
	4/17/2013	
	9/13/2013	
	11/5/2013	
199-D7-3	1/23/2013	Extraction well
	4/11/2013	
	7/23/2013	
	11/6/2013	
199-D7-4		Injection well
199-D7-5		Injection well

Table A.8 Monitoring Wells, Extraction Wells, and Injection Wells for 100-HR-3 in 2013

Well Name	Sample Date	Comment
199-D7-6	1/23/2013	Extraction well
	4/11/2013	
	7/23/2013	
	11/6/2013	
199-D8-101	1/15/2013	
	4/10/2013	
	7/31/2013	
	10/1/2013	
199-D8-4	1/8/2013	
	4/1/2013	
	7/17/2013	
	10/1/2013	
199-D8-5	2/13/2013	
	5/14/2013	
	8/13/2013	
	12/20/2013	
199-D8-53	12/11/2013	
199-D8-54B	12/20/2013	
199-D8-55		Injection well
199-D8-6	1/23/2013	Extraction well
	6/12/2013	
	7/23/2013	
199-D8-68	5/29/2013	
	8/8/2013	
	12/11/2013	
199-D8-69	2/19/2013	Extraction well
	5/13/2013	
	8/8/2013	
	12/11/2013	
199-D8-70	2/13/2013	
	5/14/2013	
	8/13/2013	
199-D8-71	2/1/2013	
	4/15/2013	
	7/31/2013	
	11/5/2013	
199-D8-73	3/20/2013	Extraction well inactive
	5/13/2013	

Table A.8 Monitoring Wells, Extraction Wells, and Injection Wells for 100-HR-3 in 2013

Well Name	Sample Date	Comment
	8/8/2013	
199-D8-88	2/19/2013	Extraction well
	5/13/2013	
	8/8/2013	
	12/11/2013	
199-D8-89	1/23/2013	Extraction well
	4/11/2013	
	7/23/2013	
	11/7/2013	
199-D8-90	1/23/2013	Extraction well
	4/11/2013	
	7/23/2013	
	11/6/2013	
199-D8-91	1/23/2013	Extraction well
	4/11/2013	
	7/23/2013	
	11/6/2013	
199-D8-93		Injection well inactive
199-D8-94		Injection well
199-D8-95	1/23/2013	Extraction well
	4/11/2013	
	7/23/2013	
	11/6/2013	
199-D8-96	1/23/2013	Extraction well
	4/11/2013	
	7/23/2013	
	11/6/2013	
199-D8-97	1/23/2013	Extraction well
	4/11/2013	
	7/23/2013	
	11/6/2013	
199-D8-98	1/23/2013	Extraction well
	4/11/2013	
	7/23/2013	
	11/6/2013	
199-D8-99		Injection well
199-H1-1	2/20/2013	Extraction well
	5/29/2013	

Table A.8 Monitoring Wells, Extraction Wells, and Injection Wells for 100-HR-3 in 2013

Well Name	Sample Date	Comment
	8/13/2013	
	11/19/2013	
199-H1-2	2/20/2013	Extraction well
	5/29/2013	
	8/13/2013	
	11/19/2013	
199-H1-20		Injection well
199-H1-21		Injection well
199-H1-25	2/20/2013	Extraction well
	5/29/2013	
	8/13/2013	
	11/19/2013	
199-H1-27	2/20/2013	Extraction well
	5/29/2013	
	8/13/2013	
	11/21/2013	
199-H1-3	2/20/2013	
	5/29/2013	
	8/13/2013	
199-H1-32	1/28/2013	Extraction well
	4/10/2013	
	7/25/2013	
199-H1-33	1/28/2013	Extraction well
	4/10/2013	
	7/25/2013	
199-H1-34	2/20/2013	Extraction well
	5/29/2013	
	8/13/2013	
	11/19/2013	
199-H1-35	1/28/2013	Extraction well
	4/10/2013	
	7/25/2013	
	11/19/2013	
199-H1-36	2/20/2013	Extraction well
	5/29/2013	
	8/13/2013	
	11/19/2013	
199-H1-37	1/28/2013	Extraction well

Table A.8 Monitoring Wells, Extraction Wells, and Injection Wells for 100-HR-3 in 2013

Well Name	Sample Date	Comment
	4/10/2013	
	7/25/2013	
	11/19/2013	
199-H1-38	1/28/2013	Extraction well
	4/10/2013	
	7/25/2013	
	11/19/2013	
199-H1-39	2/20/2013	Extraction well
	5/29/2013	
	8/13/2013	
199-H1-4	2/20/2013	Extraction well
	6/12/2013	
	8/13/2013	
199-H1-40	1/28/2013	Extraction well
	4/10/2013	
	7/25/2013	
	11/19/2013	
199-H1-42	2/20/2013	Extraction well
	8/1/2013	
	8/13/2013	
	11/19/2013	
199-H1-43	2/20/2013	Extraction well
	5/29/2013	
	8/13/2013	
	11/19/2013	
199-H1-45	2/20/2013	Extraction well
	6/17/2013	
	8/13/2013	
	11/19/2013	
199-H1-5	2/20/2013	Extraction well
	5/13/2013	
	11/6/2013	
	12/11/2013	
199-H1-6	2/20/2013	Extraction well
	5/29/2013	
	8/13/2013	
	11/19/2013	
199-H1-7	2/4/2013	

Table A.8 Monitoring Wells, Extraction Wells, and Injection Wells for 100-HR-3 in 2013

Well Name	Sample Date	Comment
	4/22/2013	
	9/13/2013	
	10/25/2013	
199-H2-1	2/12/2013	
	4/17/2013	
	9/13/2013	
	10/25/2013	
199-H3-10	2/4/2013	
	4/22/2013	
	9/13/2013	
	10/25/2013	
199-H3-25		Injection well
199-H3-26		Injection well
199-H3-27		Injection well
199-H3-2A	2/12/2013	
	5/9/2013	
	8/15/2013	
	12/13/2013	
199-H3-2C	2/20/2013	Extraction well
	5/29/2013	
	8/13/2013	
	11/19/2013	
199-H3-3	2/4/2013	
	4/22/2013	
	8/12/2013	
	10/25/2013	
199-H3-4	1/28/2013	Extraction well
	4/10/2013	
	7/25/2013	
	11/19/2013	
199-H3-5	2/4/2013	
	4/22/2013	
	8/12/2013	
	10/25/2013	
199-H3-6	2/4/2013	
	4/22/2013	
	9/13/2013	
	10/25/2013	

Table A.8 Monitoring Wells, Extraction Wells, and Injection Wells for 100-HR-3 in 2013

Well Name	Sample Date	Comment
199-H3-7	2/4/2013	
	4/22/2013	
	9/13/2013	
	10/25/2013	
199-H3-9	2/4/2013	
	4/17/2013	
	9/13/2013	
	10/25/2013	
199-H4-10	2/12/2013	
	5/9/2013	
	8/22/2013	
	12/13/2013	
199-H4-11	2/4/2013	
	4/22/2013	
	8/14/2013	
	12/13/2013	
199-H4-12A	2/4/2013	
	4/17/2013	
	6/10/2013	
	7/8/2013	
	8/14/2013	
	10/25/2013	
199-H4-12C	1/28/2013	Extraction well
	4/10/2013	
	7/31/2013	
	11/19/2013	
199-H4-13	2/12/2013	
	5/9/2013	
	8/14/2013	
	12/13/2013	
199-H4-14	4/17/2013	Injection well
	5/9/2013	
199-H4-15A	1/28/2013	Extraction well
	4/10/2013	
	7/31/2013	
	11/19/2013	
199-H4-15CP	10/17/2013	
199-H4-15CQ	10/17/2013	

Table A.8 Monitoring Wells, Extraction Wells, and Injection Wells for 100-HR-3 in 2013

Well Name	Sample Date	Comment
199-H4-15CR	10/17/2013	
199-H4-15CS	10/17/2013	
199-H4-16	2/12/2013	
	4/22/2013	
	8/12/2013	
	10/25/2013	
199-H4-17		Injection well
199-H4-18		Injection well
199-H4-3	1/7/2013	
199-H4-4	1/28/2013	Extraction well
	5/1/2013	
	6/12/2013	
	7/31/2013	
	8/1/2013	
	8/13/2013	
	11/19/2013	
199-H4-45	2/12/2013	
	5/8/2013	
	8/14/2013	
	12/13/2013	
199-H4-46	2/4/2013	
	4/22/2013	
	8/12/2013	
	10/25/2013	
199-H4-48	3/7/2013	
	4/1/2013	
	5/9/2013	
199-H4-49	2/4/2013	
	5/22/2013	
	8/12/2013	
	10/25/2013	
199-H4-5	2/12/2013	
	5/9/2013	
	8/14/2013	
	12/13/2013	
199-H4-6	1/7/2013	
	4/1/2013	
	8/1/2013	

Table A.8 Monitoring Wells, Extraction Wells, and Injection Wells for 100-HR-3 in 2013

Well Name	Sample Date	Comment
	10/17/2013	
199-H4-63	2/20/2013	Extraction well
	5/29/2013	
	8/13/2013	
	11/19/2013	
199-H4-64	2/20/2013	Extraction well
	5/29/2013	
	8/13/2013	
	11/19/2013	
199-H4-65	2/12/2013	
	4/17/2013	
	8/14/2013	
	11/15/2013	
199-H4-69	2/20/2013	Extraction well
	5/29/2013	
	8/13/2013	
	11/19/2013	
199-H4-7	3/12/2013	
	3/26/2013	
	5/9/2013	
199-H4-70	2/20/2013	Extraction well
	5/29/2013	
	8/13/2013	
	11/19/2013	
199-H4-71		Injection well
199-H4-72		Injection well
199-H4-73		Injection well
199-H4-74		Injection well
199-H4-75	2/20/2013	Extraction well
	6/17/2013	
	8/13/2013	
	11/19/2013	
199-H4-76	2/20/2013	Extraction well
	8/8/2013	
	8/13/2013	
	11/19/2013	
199-H4-77	2/20/2013	Extraction well
	5/29/2013	

Table A.8 Monitoring Wells, Extraction Wells, and Injection Wells for 100-HR-3 in 2013

Well Name	Sample Date	Comment
	8/13/2013	
	11/19/2013	
199-H4-78		Injection well
199-H4-79		Injection well
199-H4-80	2/20/2013	Extraction well
	5/13/2013	
	8/8/2013	
	12/11/2013	
199-H4-81	2/20/2013	Extraction well
	5/13/2013	
	8/8/2013	
	12/11/2013	
199-H4-82	2/20/2013	Extraction well
	5/13/2013	
	8/8/2013	
	12/11/2013	
199-H4-84	2/4/2013	
	3/7/2013	
	4/1/2013	
	5/9/2013	
	6/12/2013	
	12/2/2013	
199-H4-85	3/14/2013	
	5/22/2013	
	10/25/2013	
199-H4-86	4/3/2013	
	5/22/2013	
	11/15/2013	
199-H4-9	3/7/2013	
	3/20/2013	
	4/10/2013	
	5/9/2013	
199-H4-90	8/23/2013	
	8/26/2013	
	8/29/2013	
	8/29/2013	
	8/30/2013	
	8/30/2013	

Table A.8 Monitoring Wells, Extraction Wells, and Injection Wells for 100-HR-3 in 2013

Well Name	Sample Date	Comment
	9/12/2013	
199-H4-91	8/22/2013	
	8/22/2013	
	8/27/2013	
	8/28/2013	
	8/28/2013	
	8/28/2013	
	9/9/2013	
199-H5-1A	2/4/2013	
	4/22/2013	
	8/12/2013	
	10/25/2013	
199-H6-1	4/22/2013	
	10/25/2013	
199-H6-2		Injection well
199-H6-3	4/22/2013	
	10/25/2013	
199-H6-4	4/22/2013	
	10/25/2013	
699-100-43B	1/7/2013	
	4/1/2013	
	7/17/2013	
	11/1/2013	
699-101-45	1/7/2013	
	4/1/2013	
	7/17/2013	
	11/1/2013	
699-86-42	10/2/2013	
699-87-42A	11/1/2013	
699-87-55	11/1/2013	
699-88-41	11/1/2013	
699-90-45	10/25/2013	
699-91-46A	10/2/2013	
699-93-48A	1/30/2013	
	4/18/2013	
	7/24/2013	
	11/13/2013	
699-94-41	1/30/2013	

Table A.8 Monitoring Wells, Extraction Wells, and Injection Wells for 100-HR-3 in 2013

Well Name	Sample Date	Comment
	4/18/2013	
	7/24/2013	
	11/18/2013	
699-94-43	1/30/2013	
	4/18/2013	
	7/24/2013	
	11/25/2013	
699-95-45	1/30/2013	
	4/18/2013	
	7/24/2013	
	11/18/2013	
699-95-48	1/30/2013	
	4/18/2013	
	7/24/2013	
	11/18/2013	
699-95-51	1/30/2013	
	7/24/2013	
	11/15/2013	
699-96-43	11/13/2013	
699-96-52B	1/30/2013	
	7/24/2013	
	11/15/2013	
699-97-41	1/29/2013	
	4/22/2013	
	7/24/2013	
	11/25/2013	
699-97-43B	11/1/2013	
699-97-45	9/19/2013	
	11/1/2013	
699-97-45B	11/26/2013	
	11/1/2013	
699-97-51A	1/29/2013	
	7/24/2013	
	11/13/2013	
699-98-43	11/1/2013	
699-98-46	1/29/2013	
	4/18/2013	
	7/24/2013	

Table A.8 Monitoring Wells, Extraction Wells, and Injection Wells for 100-HR-3 in 2013

Well Name	Sample Date	Comment
	11/26/2013	
699-98-49A	1/29/2013	
	4/22/2013	
	7/24/2013	
	10/25/2013	
699-98-51	2/1/2013	
	4/22/2013	
	7/24/2013	
	11/12/2013	
699-99-41	1/29/2013	
	4/18/2013	
	7/24/2013	
	11/25/2013	
699-99-44	1/29/2013	
	4/18/2013	
	7/24/2013	
	11/26/2013	

Table A.9 Monitoring Wells and Constituents for the 100-FR-3 Operable Unit

Well	Field Parameters	Alkalinity	Alpha/Beta	Anions	Hexavalent Chromium[a]	Metals	Strontium-90	Tritium	Trichloroethene (VOA)	Uranium	Sampled as Planned in 2013?	Comment
199-F1-2	BO	BO	--	BO	--	BO	--	--	--	--	Not scheduled	--
199-F5-1	A	A	BE	A	--	A	BE	BE	--	--	Yes	--
199-F5-4	BO	BO	BO	BO	--	BO	--	BO	BO	--	Not scheduled	--
199-F5-6	A	A	BE	A	--	A	BE	BE	--	--	Yes	--
199-F5-42	BO	BO	BO	BO	--	BO	BO	BO	--	--	Not scheduled	--
199-F5-43A	BE	BE	BE	BE	--	BE	BE	BE	--	--	Yes	--
199-F5-43B	BE	BE	BE	BE	--	BE	BE	--	--	--	Yes	--
199-F5-44	BE	BE	BE	BE	--	BE	BE	BE	--	--	Yes	--
199-F5-45	BO	BO	BO	BO	--	BO	BO	BO	BO	BO	Not scheduled	--
199-F5-46	BE	BE	A	BE	--	BE	BE	A	BE	A	Yes	--
199-F5-47	BE	BE	BE	BE	--	BE	--	BE	--	BE	Yes	--
199-F5-48	BO	BO	BO	BO	--	BO	--	BO	--	BO	Yes	Not scheduled, but sampled twice[b]
199-F5-52[c]	--	A	--	A	A	A	A	--	--	--	Yes	--
199-F5-53[c]	--	A	--	A	A	A	A	--	--	--	Yes	--
199-F5-54[c]	--	A	A	A	A	A	A	A	--	A	Yes	--
199-F5-55[d]	--	--	--	SA	SA	--	SA	--	A	A	Yes	--
199-F5-56[d]	--	--	--	SA	SA	--	SA	--	A	A	Yes	--
199-F6-1	BO	BO	BO	BO	--	BO	BO	BO	--	--	Not scheduled	--
199-F7-1	BE	BE	--	BE	--	BE	--	--	BE	--	Yes	--
199-F7-2	BE	BE	BE	BE	--	BE	--	BE	BE	--	Yes	--
199-F7-3	BE	BE	BE	BE	--	BE	--	BE	BE	--	Yes	--
199-F8-2	BO	BO	BO	BO	--	BO	--	BO	--	BO	Not scheduled	--
199-F8-3	BE	BE	BE	BE	--	BE	BE	BE	BE	BE	Delayed to January 2014	Needed repair
199-F8-4	BE	BE	BE	BE	--	BE	--	BE	--	BE	Yes	--

Table A.9 Monitoring Wells and Constituents for the 100-FR-3 Operable Unit

Well	Field Parameters	Alkalinity	Alpha/Beta	Anions	Hexavalent Chromium[a]	Metals	Strontium-90	Tritium	Trichloroethene (VOA)	Uranium	Sampled as Planned in 2013?	Comment
199-F8-7	A	A	--	A	A	A	A	A	A	A	Yes	--
699-58-24	BE	BE	--	BE	--	BE	--	--	--	--	Yes	--
699-60-32	BO	BO	--	BO	--	BO	--	--	--	--	Not scheduled	--
699-62-31	BO	BO	--	BO	--	BO	--	--	--	--	Not scheduled	--
699-62-43F	BE	BE	--	BE	--	BE	--	BE	--	--	Yes	--
699-63-25A	BO	BO	--	BO	--	BO	--	BO	--	--	Not scheduled	--
699-63-55	BO	BO	--	BO	--	BO	--	BO	--	--	Not scheduled	--
699-64-27	BE	BE	--	BE	--	BE	--	--	--	--		--
699-66-23	BE	BE	--	BE	--	BE	--	BE	--	--		--
699-67-51	BO	BO	--	BO	--	BO	--	BO	--	--	Not scheduled	--
699-71-30	BO	BO	BO	BO	--	BO	--	BO	--	--	Yes	Sampled in 2013 to track TCE[e]
699-74-44	BO	BO	--	BO	--	BO	--	--	BO	--	Not scheduled	--
699-77-36	BE	BE	--	BE	--	BE	--	--	BE	--	Yes	
699-77-54	BO	BO	--	BO	--	BO	--	--	--	--	Not scheduled	--
699-81-38	BE	BE	--	BE	--	BE	--	--	--	--	Yes	--
699-83-47	BE	BE	--	BE	--	BE	--	--	BE	--	Yes	--
Spring SF-187-1	A	--	A	A	A	--	--	A	--	--	Yes	--
Spring SF-190-4	A	--	A	A	A	--	--	A	--	--	No	Resource limitations
Spring SF-207-1	A	--	A	A	A	--	--	A	--	--	No	Resource limitations

Table A.9 Monitoring Wells and Constituents for the 100-FR-3 Operable Unit

Well	Field Parameters	Alkalinity	Alpha/Beta	Anions	Hexavalent Chromium[a]	Metals	Strontium-90	Tritium	Trichloroethene (VOA)	Uranium	Sampled as Planned in 2013?	Comment

Notes: Sampling requirements are from *100-FR-3 Operable Unit Sampling and Analysis Plan* (DOE/RL-2003-49), as modified by TPA-CN-241, *Change Notice for Modifying Approved Documents/Workplans In Accordance with the Tri-Party Agreement Action Plan, Section 9.0, Documentation and Records: 100-FR-3 Operable Unit Sampling and Analysis Plan, DOE/RL-2003-49, Rev. 1 and TPA-CN-228 (July 14, 2008).*

All wells are screened in the unconfined aquifer, except wells 199-F5-43B and 199-F5-53, which are screened in the Ringold Formation aquitard.

a. TPA-CN-241 does not require hexavalent chromium (total chromium in filtered samples is equivalent). However, hexavalent chromium was analyzed in most 100-F wells in 2013.

b. The frequency was increased to semiannual because of recent excavation activities at nearby waste site 100-F-57.

c. New wells installed for the 100-F remedial investigation/feasibility study; not included in DOE/RL-2003-49 or TPA-CN-241.

d. Temporary wells constructed from vadose boreholes for the remedial investigation/feasibility study; not included in DOE/RL-2003-49 or TPA-CN-241.

e. Biennial sampling is required, but the well was sampled in to follow previous increases in TCE.

A	=	to be sampled annually
BE	=	to be sampled biennially, even fiscal years
BO	=	to be sampled biennially, odd fiscal years
SA	=	to be sampled semiannually
TCE	=	trichloroethene
VOA	=	volatile organic analyte

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Table A.10 Monitoring Wells and Constituents for the 300-FF-5 Operable Unit, 300 Area

Well Name	Hydrologic Unit Monitored	*cis*-1,2-Dichloroethene	Trichloroethene	Uranium, Total (Unfiltered)	Tetrachloroethene	Strontium-90	Tritium	Nitrate	Anions	Alkalinity	Metals	Volatile Organic Compounds	Gross Alpha/Beta	Uranium, Isotopic	Sampled as Scheduled in 2013?
399-1-1	TU	S	S	S	S	--	--	S	S	S	S	S	S	--	Dec sample delayed to Jan 2014
399-1-10A	TU	S	S	Q[a]	S	--	A	Q[a]	Q[a]	Q[a]	S	S	S	A	Dec sample delayed to Jan 2014
399-1-10B	LU	S	S	S	S	--	--	S	S	S	S	S	--	--	Dec sample delayed to Jan 2014
399-1-11	TU	S	S	S	S	--	--	S	S	S	S	S	S	--	Dec sample delayed to Jan 2014
399-1-12	TU	S	S	S	S	--	--	S	S	S	S	S	S	--	Dec sample delayed to Jan 2014
399-1-15	TU	S	S	S	S	--	--	S	S	S	S	S	S	--	Dec sample delayed to Jan 2014
399-1-16A	TU	S	S	Q[a]	S	--	A	Q[a]	Q[a]	Q[a]	S[a]	S	S	A	Dec sample delayed to Jan 2014
399-1-16B	LU	S	S	S	S	--	--	S	S	S	S	S	--	--	Dec sample delayed to Jan 2014
399-1-16C	C	A	A	A	A	--	--	A	A	A	A	A	--	--	Dec sample delayed to Jan 2014
399-1-17A	TU	S	S	Q[a]	S	--	A	Q[a]	Q[a]	Q[a]	S[a]	S	S	A	Dec sample delayed to Jan 2014
399-1-17B	LU	S	S	S	S	--	--	S	S	S	S	S	S	--	Dec sample delayed to Jan 2014
399-1-17C	C	A	A	A	A	--	--	A	A	A	A	A	--	--	Dec sample delayed to Jan 2014
399-1-18A	TU	--	--	S	--	--	S	S	S	S	S	--	--	--	Dec sample delayed to Jan 2014
399-1-18B	LU	--	--	S	--	--	S	S	S	S	S	--	--	--	Dec sample delayed to Jan 2014
399-1-18C	C	--	--	A	--	--	--	A	A	A	A	--	--	--	Dec sample delayed to Jan 2014
399-1-2	TU	S	S	S	S	--	--	S	S	S	S	S	S	--	Dec sample missed
399-1-21A	TU	S	S	Q	S	--	A	Q	Q	Q	S	S	S	A	Dec sample delayed to Jan 2014
399-1-21B	LU	S	S	S	S	--	--	S	S	S	S	S	S	--	Dec sample delayed to Jan 2014
399-1-23	TU	S	S	Q	S	--	A	Q	Q	Q	S	S	S	A	Dec sample delayed to Jan 2014

Table A.10 Monitoring Wells and Constituents for the 300-FF-5 Operable Unit, 300 Area

Well Name	Hydrologic Unit Monitored	*cis*-1,2-Dichloroethene	Trichloroethene	Uranium, Total (Unfiltered)	Tetrachloroethene	Strontium-90	Tritium	Nitrate	Anions	Alkalinity	Metals	Volatile Organic Compounds	Gross Alpha/Beta	Uranium, Isotopic	Sampled as Scheduled in 2013?
399-1-54[b]	TU	S	S	Q	S	--	A	Q	Q	Q	Q	S	S	A	Dec sample delayed to Jan 2014
399-1-55[b]	TU	S	S	Q	S	--	A	Q	Q	Q	Q	S	S	A	Dec sample delayed to Jan 2014
399-1-56[b]	TU	S	S	Q	S	--	A	Q	Q	Q	Q	S	S	A	Dec sample delayed to Jan 2014
399-1-57[b]	MU	S	S	Q	S	--	A	Q	Q	Q	Q	S	S	A	Dec sample delayed to Feb 2014
399-1-58[b]	TU	S	S	Q	S	--	A	Q	Q	Q	Q	S	S	A	Dec sample delayed to Feb 2014
399-1-59[b]	TU	S	S	Q	S	--	A	Q	Q	Q	Q	S	S	A	Dec sample delayed to Feb 2014
399-1-6	TU	S	S	S	S	--	--	S	S	S	S	S	S	--	Dec sample delayed to Jan 2014
399-1-61[b]	TU[c]	S	S	Q	S	--	A	Q	Q	Q	Q	S	S	A	Dec sample delayed to Jan 2014
399-1-62[b]	TU[c]	S	S	Q	S	--	A	Q	Q	Q	Q	S	S	A	Dec sample delayed to Jan 2014
399-1-63[b]	TU[c]	S	S	Q	S	--	A	Q	Q	Q	Q	S	S	A	Sampled twice
399-1-64[b]	TU[c]	S	S	Q	S	--	A	Q	Q	Q	Q	S	S	A	Dec sample delayed to Jan 2014
399-1-7	TU	S	S	S	S	--	--	S	S	S	S	S	S	--	Dec sample delayed to Jan 2014
399-1-8	LU	S	S	S	S	--	--	S	S	S	S	S	S	--	Dec sample delayed to Jan 2014
399-1-9	C	A	A	A	A	--	--	A	A	A	A	A	--	--	Dec sample delayed to Jan 2014
399-2-1	TU	S	S	Q	S	--	A	Q	Q	Q	S	S	S	A	Dec sample delayed to Jan 2014
399-2-2	TU	S	S	S	S	--	--	S	S	S	S	S	S	--	Dec sample delayed to Jan 2014
399-2-32[b]	TU	S	S	Q	S	--	A	Q	Q	Q	Q	S	S	A	Dec sample delayed to Jan 2014
399-2-5	TU	Q	Q	Q	Q	--	A	Q	Q	Q	Q	Q	Q	A	Dec sample delayed to Jan 2014
399-3-1	TU	S	S	S	S	--	--	S	S	S	S	S	S	--	Dec sample delayed to Jan 2014

Table A.10 Monitoring Wells and Constituents for the 300-FF-5 Operable Unit, 300 Area

Well Name	Hydrologic Unit Monitored	*cis*-1,2-Dichloroethene	Trichloroethene	Uranium, Total (Unfiltered)	Tetrachloroethene	Strontium-90	Tritium	Nitrate	Anions	Alkalinity	Metals	Volatile Organic Compounds	Gross Alpha/Beta	Uranium, Isotopic	Sampled as Scheduled in 2013?
399-3-10	TU	S	S	Q	S	--	A	Q	Q	Q	S[d]	S[d]	S[d]	A	Dec sample delayed to Jan 2014
399-3-11	TU	S	S	Q	S	A	A	Q	Q	Q	S	S	S	A	Decommissioned Jun 2010
399-3-12[e]	TU	S	S	S	S	--	--	S	S	S	S	S	--	--	Dec sample delayed to Mar 2014
399-3-18	TU	S	S	Q	S	--	A	Q	Q	Q	S	S	S	A	Dec sample delayed to Jan 2014
399-3-19	TU	S	S	Q	S	--	A	Q	Q	Q	S	S	S	A	Sampled twice; Dec sample delayed to Jan 2014
399-3-2	TU	S	S	S	S	--	--	S	S	S	S	S	--	--	Dec sample delayed to Feb 2014
399-3-20	TU	S	S	Q	S	A	A	Q	Q	Q	S	S	S	A	Dec sample delayed to Jan 2014
399-3-21	LU	Q	Q	Q	Q	--	A	Q	Q	Q	Q	Q	Q	--	Dec sample delayed to Jan 2014
399-3-22[e]	LU	Q	Q	Q	Q	--	A	Q	Q	Q	Q	Q	Q	--	Dec sample delayed to Mar 2014
399-3-33[b]	TU	S	S	Q	S	--	A	Q	Q	Q	Q	S	S	A	Dec sample delayed to Jan 2014
399-3-38[b]	TU[c]	S	S	Q	S	--	A	Q	Q	Q	Q	S	S	A	Dec sample delayed to Jan 2014
399-3-6	TU	S	S	S	S	--	--	S	S	S	S	S	--	--	Dec sample delayed to Feb 2014
399-3-9	TU	S	S	S[d]	S	--	--	S[d]	S[d]	S[d]	S[d]	S[d]	S[d]	--	Dec sample delayed to Jan 2014
399-4-1	TU	S	S	S	S	--	--	S	S	S	S	S	--	--	Dec sample delayed to Jan 2014
399-4-10	TU	S	S	S	S	--	--	S	S	S	S	S	S	--	Dec missed
399-4-11	TU	S	S	S	S	--	--	S	S	S	S	S	--	--	Sampled quarterly; Dec sample delayed to Jan 2014
399-4-12	TU	S	S	S	S	--	--	S	S	S	S	S	--	--	Dec sample delayed to Jan 2014
399-4-14	TU	Q	Q	Q	Q	--	A	Q	Q	Q	Q	Q	Q	--	Dec sample delayed to Jan 2014

Table A.10 Monitoring Wells and Constituents for the 300-FF-5 Operable Unit, 300 Area

Well Name	Hydrologic Unit Monitored	*cis*-1,2-Dichloroethene	Trichloroethene	Uranium, Total (Unfiltered)	Tetrachloroethene	Strontium-90	Tritium	Nitrate	Anions	Alkalinity	Metals	Volatile Organic Compounds	Gross Alpha/Beta	Uranium, Isotopic	Sampled as Scheduled in 2013?
399-4-15[b]	TU	S	S	Q	S	A	A	Q	Q	Q	Q	S	S	A	Dec sample delayed to Jan 2014
399-4-7	TU	S	S	S	S	--	--	S	S	S	S	S	S	--	Dec sample delayed to Jan 2014
399-4-9	TU	Q	Q	Q	Q	--	--	Q	Q	Q	Q	Q	Q	--	Sampled 3 times; Dec sample delayed to Jan 2014
399-5-4B	TU	S	S	S	S	--	--	S	S	S	S	S	--	--	Dec sample delayed to Jan 2014
399-6-3[b]	TU	S	S	Q	S	--	A	Q	Q	Q	Q	S	S	A	Dec sample delayed to Jan 2014
399-6-5[b]	TU	S	S	Q[d]	S	--	A	Q[d]	Q[d]	Q[d]	Q[d]	S	S	A	Dec sample delayed to Feb 2014; tritium and U isotopes missed
399-8-1[f]	TU	Q	Q	Q	Q	--	--	Q	Q	Q	Q	Q	Q	--	Dec sample delayed to Jan 2014
399-8-3[f]	TU	S	S	S	S	--	--	S	S	S	S	S	S	--	Sampled once.
399-8-5A[f]	TU	S	S	S	S	--	--	S	S	S	S	S	S	--	Sampled quarterly; Dec sample delayed to Jan 2014
699-S20-E10	TU	--	--	S	--	--	S	S	S	S	S	--	--	--	Dec sample delayed to Jan 2014
699-S27-E14	TU	A	A	A	A	--	--	A	A	A	A	A	--	--	Dec sample delayed to Jan 2014

Table A.10 Monitoring Wells and Constituents for the 300-FF-5 Operable Unit, 300 Area

Well Name	Hydrologic Unit Monitored	*cis*-1,2-Dichloroethene	Trichloroethene	Uranium, Total (Unfiltered)	Tetrachloroethene	Strontium-90	Tritium	Nitrate	Anions	Alkalinity	Metals	Volatile Organic Compounds	Gross Alpha/Beta	Uranium, Isotopic	Sampled as Scheduled in 2013?

Note: Sampling requirements are from *300-FF-5 Operable Unit Sampling and Analysis Plan* (DOE/RL-2002-11) unless otherwise noted.

a. Sampled monthly for 8 months.

b. Sampling requirements are from *300 Area Remedial Investigation/Feasibility Study Work Plan for the 300-FF-1, 300-FF-2, and 300-FF-5 Operable Units* (DOE/RL-2009-30) and *300 Area Remedial Investigation/Feasibility Study Sampling and Analysis Plan for the 300-FF-1, 300-FF-2, and 300-FF-5 Operable Units* (DOE/RL-2009-45)

c. Well installed with 2-ft-long screen at water table.

d. Sampled three times.

e. Sampled for uranium, strontium-90, gross alpha/beta, and anions in August to monitor potential groundwater impacts from excavation of 340 Vault.

f. Additional well coverage and sampling frequency to monitor plume that developed downgradient of former 618-7 Burial Ground.

A = to be sampled annually

C = uppermost confined aquifer

LU = lower portion of unconfined aquifer

MU= middle portion of unconfined aquifer

Q = to be sampled quarterly

S = to be sampled semiannually during seasonal high water table and seasonal low water table

TU = upper portion of unconfined aquifer, including water table

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Table A.11 Monitoring Wells and Constituents for the 300-FF-5 Operable Unit, 618-10/316-4 Subregion

Well	Uranium, Total (Unfiltered)	Tributyl Phosphate	Gross Alpha/Beta	Nitrate	Alkalinity	Metals	Volatile Organic Compounds	Tritium	Technetium-99	Uranium, Isotopic	Sampled as Scheduled in 2013?
699-S6-E4A	Q	S	Q	Q	S	S	S	S	S	A	Dec sample delayed to Jan 2014
699-S6-E4B	S	--	S	S	S	S	--	S	--	--	Not sampled
699-S6-E4D	A		A	A	A	A	--	A	A	--	Dec sample delayed to Jan 2014
699-S6-E4E	S	--	S	S	S	S	--	S	--	--	Dec sample delayed to Jan 2014
699-S6-E4K	S	S	S	S	S	S	S	S	S	A	Dec sample delayed to Jan 2014
699-S6-E4L	Q	S	Q	Q	S	S	S	S	S	A	Dec sample delayed to Mar 2014

Notes: Sampling requirements are from *300-FF-5 Operable Unit Sampling and Analysis Plan* (DOE/RL-2002-11).

Wells are completed at the top of the unconfined aquifer.

A = to be sampled annually

Q = to be sampled quarterly

S = to be sampled semiannually

Table A.12 Monitoring Wells and Constituents for the 300-FF-5 Operable Unit, 618-11 Subregion

Well	Tritium	Gross Alpha/Beta	Uranium, Total (Unfiltered)	Technetium-99	Nitrate	Alkalinity	Anions	Metals	Sampled as Scheduled in 2013?
699-12-2C	Q	Q	S	S	S	S	S	S	Yes
699-12-4D	A	A	A	A	A	A	A	A	Yes
699-13-0A	S	S	--	--	S	S	S	S	Yes
699-13-1E	S	S	--	--	S	S	S	S	Yes
699-13-2D	Q	Q	S	S	S	S	S	S	Yes
699-13-3A	Q	Q	S	S	S	S	S	S	Oct sample delayed to Jan 2014

Note: Sampling requirements are from *300-FF-5 Operable Unit Sampling and Analysis Plan* (DOE/RL-2002-11).

Wells are completed at the top of the unconfined aquifer.

A = to be sampled annually

Q = to be sampled quarterly

S = to be sampled semiannually

Table A.13 Monitoring Wells and Constituents for the Former 1100-EM-1 Operable Unit

Well	1,1-Dichloroethene	Trichloroethene	Vinyl Chloride	Anions*	Sampled as Scheduled in 2013?
699-S28-E12	A	A	A	A	Delayed to 1/2014
699-S31-E10A	A	A	A	A	Delayed to 1/2014
699-S31-E10C	A	A	A	A	Delayed to 1/2014

Note: Sampling requirements are from TPA-CN-163, *Change Notice for Modifying Approved Documents/Workplans In Accordance with the Tri-Party Agreement Action Plan, Section 9.0, Documentation and Records:* PNNL-12220, *"Sampling and Analysis Plan Update for Groundwater Monitoring – 1100-EM-1 Operable Unit"*.

* supplemental analyses

A = to be sampled annually

Table A.14 Monitoring Wells, Constituents, and Sampling Frequency for the 200-ZP-1 Operable Unit in 2013

Well Name	Carbon Tetrachloride	Chromium	Hexavalent Chromium	Iodine-129	Nitrate	Techneitum-99	Trichloroethene	Tritium	Uranium	Sampled as Scheduled in 2013?
299-W10-1	A	A	A	A	A	A	A	A	A	No, pump needs repair
299-W10-14	A	A	A	A	A	A	A	A	A	Yes
299-W10-27	A	A	A	A	A	A	A	A	A	Yes
299-W10-30	A	A	A	A	A	A	A	A	A	Yes
299-W10-31	A	A	A	A	A	A	A	A	A	Yes
299-W10-33	A	A	A	A	A	A	A	A	A	Yes
299-W10-4	A	A	A	A	A	A	A	A	A	No, well is dry
299-W11-13	A	A	A	A	A	A	A	A	A	Yes
299-W11-18	A	A	A	A	A	A	A	A	A	Yes
299-W11-33Q	A	A	A	A	A	A	A	A	A	Yes
299-W11-37	A	A	A	A	A	A	A	A	A	No, well is dry
299-W11-43	A	A	A	A	A	A	A	A	A	Yes
299-W11-45	A	A	A	A	A	A	A	A	A	No[a]
299-W11-47	A	A	A	A	A	A	A	A	A	Yes
299-W11-48	A	A	A	A	A	A	A	A	A	Yes
299-W11-87	A	A	A	A	A	A	A	A	A	Yes
299-W11-88	A	A	A	A	A	A	A	A	A	Yes
299-W12-1	A	A	A	A	A	A	A	A	A	No, well is dry
299-W13-1	A	A	A	A	A	A	A	A	A	Yes
299-W14-11	A	A	A	A	A	A	A	A	A	Yes
299-W14-13	A	A	A	A	A	A	A	A	A	Yes
299-W14-14	A	A	A	A	A	A	A	A	A	Yes
299-W14-71	A	A	A	A	A	A	A	A	A	Yes
299-W14-72	A	A	A	A	A	A	A	A	A	Yes
299-W15-11	A	A	A	A	A	A	A	A	A	Yes
299-W15-152	A	A	A	A	A	A	A	A	A	Sampled 1/2014

Table A.14 Monitoring Wells, Constituents, and Sampling Frequency for the 200-ZP-1 Operable Unit in 2013

Well Name	Carbon Tetrachloride	Chromium	Hexavalent Chromium	Iodine-129	Nitrate	Technetium-99	Trichloroethene	Tritium	Uranium	Sampled as Scheduled in 2013?
299-W15-17	A	A	A	A	A	A	A	A	A	Sampled 1/2014
299-W15-33	A	A	A	A	A	A	A	A	A	Yes
299-W15-37	A	A	A	A	A	A	A	A	A	Sampled 1/2014
299-W15-42	A	A	A	A	A	A	A	A	A	Sampled 1/2014
299-W15-46	A	A	A	A	A	A	A	A	A	Yes
299-W15-49	A	A	A	A	A	A	A	A	A	Yes
299-W15-50	A	A	A	A	A	A	A	A	A	Yes
299-W15-7	A	A	A	A	A	A	A	A	A	Yes
299-W15-763	A	A	A	A	A	A	A	A	A	Yes
299-W15-765	A	A	A	A	A	A	A	A	A	Yes
299-W15-83	A	A	A	A	A	A	A	A	A	Sampled 1/2014
299-W15-94	A	A	A	A	A	A	A	A	A	Sampled 1/2014
299-W18-1	A	A	A	A	A	A	A	A	A	Yes
299-W18-15	A	A	A	A	A	A	A	A	A	Yes
299-W18-16	A	A	A	A	A	A	A	A	A	Yes
299-W18-21	A	A	A	A	A	A	A	A	A	Sampled 1/2014
299-W18-22	A	A	A	A	A	A	A	A	A	Sampled 1/2014
299-W18-40	A	A	A	A	A	A	A	A	A	Yes
299-W19-105	A	A	A	A	A	A	A	A	A	Yes
299-W19-107	A	A	A	A	A	A	A	A	A	Yes
299-W19-18	A	A	A	A	A	A	A	A	A	Yes
299-W19-34A	A	A	A	A	A	A	A	A	A	Yes
299-W19-34B	A	A	A	A	A	A	A	A	A	Yes
299-W19-36	A	A	A	A	A	A	A	A	A	Yes
299-W19-4	A	A	A	A	A	A	A	A	A	Sampled 1/2014
299-W19-41	A	A	A	A	A	A	A	A	A	Yes

Table A.14 Monitoring Wells, Constituents, and Sampling Frequency for the 200-ZP-1 Operable Unit in 2013

Well Name	Carbon Tetrachloride	Chromium	Hexavalent Chromium	Iodine-129	Nitrate	Techneitum-99	Trichloroethene	Tritium	Uranium	Sampled as Scheduled in 2013?
299-W19-47	A	A	A	A	A	A	A	A	A	Sampled 1/2014
299-W19-48	A	A	A	A	A	A	A	A	A	Yes
299-W19-49	A	A	A	A	A	A	A	A	A	Yes
299-W19-6	A	A	A	A	A	A	A	A	A	Sampled 1/2014
299-W21-2	A	A	A	A	A	A	A	A	A	Yes
299-W22-24P*	A	A	A	A	A	A	A	A	A	Yes, but Tc-99 missing
299-W22-24Q*	A	A	A	A	A	A	A	A	A	No
299-W22-24R*	A	A	A	A	A	A	A	A	A	No
299-W22-24S*	A	A	A	A	A	A	A	A	A	No
299-W22-24T*	A	A	A	A	A	A	A	A	A	No
299-W22-47	A	A	A	A	A	A	A	A	A	Yes
299-W22-72	A	A	A	A	A	A	A	A	A	Yes
299-W22-86	A	A	A	A	A	A	A	A	A	Yes
299-W22-87	A	A	A	A	A	A	A	A	A	Sampled 1/2014
299-W22-88	A	A	A	A	A	A	A	A	A	Yes
299-W23-19	A	A	A	A	A	A	A	A	A	Yes
299-W23-4	A	A	A	A	A	A	A	A	A	Yes
299-W26-13	A	A	A	A	A	A	A	A	A	Yes; 10/16/13 Tc-99 missing
299-W27-2	A	A	A	A	A	A	A	A	A	Yes
299-W6-3	A	A	A	A	A	A	A	A	A	Yes
299-W6-6	A	A	A	A	A	A	A	A	A	Sampled 1/2014
299-W7-3	A	A	A	A	A	A	A	A	A	Sampled 1/2014
699-30-66	A	A	A	A	A	A	A	A	A	Yes
699-32-62	A	A	A	A	A	A	A	A	A	Yes
699-32-72A	A	A	A	A	A	A	A	A	A	Yes

Table A.14 Monitoring Wells, Constituents, and Sampling Frequency for the 200-ZP-1 Operable Unit in 2013

Well Name	Carbon Tetrachloride	Chromium	Hexavalent Chromium	Iodine-129	Nitrate	Techneitum-99	Trichloroethene	Tritium	Uranium	Sampled as Scheduled in 2013?
699-33-75	A	A	A	A	A	A	A	A	A	Yes
699-34-61	A	A	A	A	A	A	A	A	A	Yes
699-35-66A	A	A	A	A	A	A	A	A	A	Yes
699-35-78A	A	A	A	A	A	A	A	A	A	Sampled 1/2014
699-36-61A	A	A	A	A	A	A	A	A	A	Yes
699-36-66B	A	A	A	A	A	A	A	A	A	Yes
699-36-70A	A	A	A	A	A	A	A	A	A	Yes
699-36-70B	A	A	A	A	A	A	A	A	A	Yes
699-37-66	A	A	A	A	A	A	A	A	A	Yes
699-38-61	A	A	A	A	A	A	A	A	A	Yes
699-38-65	A	A	A	A	A	A	A	A	A	Yes
699-38-68A	A	A	A	A	A	A	A	A	A	Yes
699-38-70B	A	A	A	A	A	A	A	A	A	Yes
699-38-70C	A	A	A	A	A	A	A	A	A	Yes
699-40-62	A	A	A	A	A	A	A	A	A	Sampled 1/2014; missing nitrate
699-40-65	A	A	A	A	A	A	A	A	A	Yes
699-43-69	A	A	A	A	A	A	A	A	A	Yes
699-44-64	A	A	A	A	A	A	A	A	A	Sampled 1/2014; pump needed repair
699-45-69A	A	A	A	A	A	A	A	A	A	Yes
699-45-69C	A	A	A	A	A	A	A	A	A	Yes
699-47-60	A	A	A	A	A	A	A	A	A	Yes
699-48-71	A	A	A	A	A	A	A	A	A	Yes
699-50-74	A	A	A	A	A	A	A	A	A	Yes
699-51-63	A	A	A	A	A	A	A	A	A	No, road needs repair

Table A.14 Monitoring Wells, Constituents, and Sampling Frequency for the 200-ZP-1 Operable Unit in 2013

Well Name	Carbon Tetrachloride	Chromium	Hexavalent Chromium	Iodine-129	Nitrate	Techneitum-99	Trichloroethene	Tritium	Uranium	Sampled as Scheduled in 2013?

a. Former extraction well 299-W11-45 has been offline since February 2012 and has not yet been converted to a monitoring well.

b. Wells 299-W22-24Q through T cannot be sampled as currently configured and were removed from the sampling schedule in 2014.

Note: Requirements are from DOE/RL-2009-124, *200 West Area Pump-and-Treat Facility Operations and Maintenance Plan*, and DOE/RL-2009-115, *Performance Monitoring Plan for the 200-ZP-1 Groundwater Operable Unit Remedial Action*.

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Table A.15 Monitoring Wells and Constituents for the 200-UP-1 Operable Unit

Well Name	Volatile Organic Analytes				Anions	Metals[a]	Radionuclides						Sampled as Scheduled in 2013?
	Carbon Tetrachloride	Chloroform	1,4-Dioxane	Trichloroethene	Nitrate	Chromium (total)	Iodine-129	Selenium-79	Strontium-90	Technetium-99	Tritium	Uranium	
299-W15-37	A	A	—	A	A	—	—	—	—	—	—	A	Yes
299-W18-15	A	A	—	A	A	—	—	—	—	—	—	A	Yes
299-W18-21	A	—	—	A	A	—	—	—	—	A	—	A	Yes
299-W18-22	A	—	—	A	A	—	—	—	—	A	—	A	Yes
299-W19-101	A	—	—	A	A	—	A	—	—	A	A	A	Yes
299-W19-105	SA	—	—	—	SA	—	SA	—	—	SA	SA	SA	Yes
299-W19-107	A	—	—	A	A	—	A	—	—	A	—	A	Yes
299-W19-18	A	—	—	—	A	—	A	—	—	A	—	A	Yes
299-W19-34A	A	A	—	A	A	—	A	—	—	A	—	A	Yes
299-W19-34B	BE	BE	—	BE	BE	—	BE	—	—	BE	—	BE	Not scheduled
299-W19-35	SA	—	—	SA	SA	—	SA	—	—	SA	—	SA	Yes
299-W19-36	A	A	—	A	A	—	A	—	—	A	—	A	Yes
299-W19-39	SA	SA	—	SA	SA	—	SA	—	—	SA	—	SA	Yes
299-W19-4	BO	—	—	BO	BO	—	BO	—	—	BO	—	BO	Yes
299-W19-43	SA	SA	—	SA	SA	—	SA	—	—	SA	—	SA	Yes
299-W19-46	SA	SA	—	SA	SA	—	SA	—	—	SA	SA	SA	Yes
299-W19-48	SA	—	—	SA	SA	—	SA	—	—	SA	SA	SA	Yes
299-W19-49	SA	—	—	—	SA	—	SA	—	—	SA	SA	SA	Yes

Table A.15 Monitoring Wells and Constituents for the 200-UP-1 Operable Unit

Well Name	Volatile Organic Analytes				Anions	Metals[a]	Radionuclides						Sampled as Scheduled in 2013?
	Carbon Tetrachloride	Chloroform	1,4-Dioxane	Trichloroethene	Nitrate	Chromium (total)	Iodine-129	Selenium-79	Strontium-90	Technetium-99	Tritium	Uranium	
299-W21-2	A	—	—	—	A	—	A	—	A	A	A	A	Yes
299-W22-45	A	—	—	A	A	—	A	—	A	—	A	A	No; cancelled due to pump problem
299-W22-49	SA	—	—	SA	SA	—	SA	—	SA	SA	SA	SA	No; first event missed due to low water level
299-W22-69	A	—	—	—	A	—	A	—	—	A	A	—	Yes
299-W22-72	A	—	—	—	A	—	A	—	A	A	A	A	Yes
299-W22-83	SA	—	—	SA	SA	—	SA	SA	SA	SA	SA	SA	Yes
299-W22-86	SA	—	—	SA	SA	SA	SA	SA	—	SA	SA	—	Yes
299-W22-87	A	—	—	—	A	—	A	—	—	A	A	A	Yes
299-W22-88	—	—	—	—	A	—	A	—	—	A	A	A	Yes
299-W22-95[b]	Q/A[b]	—	—	—	Q/A[b]	Q/A[b]	Q/A[b]	—	—	Q/A[b]	Q/A[b]	—	Yes
299-W22-96	A	—	—	—	A	A	A	—	—	A	A	—	Yes
299-W23-15	A	A	—	—	A	—	—	—	—	A	A	A	Yes
299-W23-21	A	—	—	—	A	—	—	—	—	A	A	A	Yes
299-W23-4	A	A	—	A	A	—	—	—	—	—	A	A	Yes
299-W26-13	BO	—	—	BO	BO	—	BO	—	—	—	BO	BO	Not scheduled
299-W26-14	BE	—	—	BE	BE	—	BE	—	—	BE	BE	BE	Not scheduled
699-30-66	SA	—	—	—	SA	SA	SA	—	—	—	SA	SA	Yes

Table A.15 Monitoring Wells and Constituents for the 200-UP-1 Operable Unit

Well Name	Volatile Organic Analytes				Anions	Metals[a]	Radionuclides						Sampled as Scheduled in 2013?
	Carbon Tetrachloride	Chloroform	1,4-Dioxane	Trichloroethene	Nitrate	Chromium (total)	Iodine-129	Selenium-79	Strontium-90	Technetium-99	Tritium	Uranium	
699-32-62	—	—	—	—	BO	BO	BO	—	—	—	BO	—	Not scheduled
699-32-72A	—	—	—	BO	BO	—	BO	—	—	—	BO	—	Yes
699-32-76	BO	—	—	—	BO	BO	BO	—	—	—	—	—	Not scheduled
699-33-74	A	—	—	A	A	A	A	—	—	A	A	A	Yes
699-33-75	SA	—	—	SA	SA	SA	SA	—	—	—	SA	SA	Yes
699-33-76	A	—	—	—	A	A	A	—	—	—	—	—	Yes
699-34-61	—	—	—	—	A	A	A	—	—	—	A	—	Yes
699-34-72	A	—	A	—	A	A	A	—	A	A	A	A	Yes
699-35-66A	BO	—	—	—	BO	BO	BO	—	—	—	BO	—	Yes
699-35-78A	A	—	—	—	A	—	—	—	—	—	—	A	No; delayed until January 2014
699-36-61A	—	—	—	—	BE	BE	BE	—	—	—	BE	—	Not scheduled
699-36-66B	—	—	—	—	A	—	A	—	—	—	A	—	Yes
699-36-70A	A	—	—	—	A	—	A	—	—	A	A	A	Yes
699-36-70B	A	—	—	A	A	—	A	—	—	A	A	A	Yes
699-37-66	—	—	—	—	A	—	A	—	—	—	A	—	Yes
699-38-61	—	—	—	—	A	—	A	—	—	—	A	—	Yes
699-38-65	—	—	—	—	A	—	A	—	—	—	A	—	Yes

Table A.15 Monitoring Wells and Constituents for the 200-UP-1 Operable Unit

Well Name	Volatile Organic Analytes				Anions	Metals[a]	Radionuclides						Sampled as Scheduled in 2013?
	Carbon Tetrachloride	Chloroform	1,4-Dioxane	Trichloroethene	Nitrate	Chromium (total)	Iodine-129	Selenium-79	Strontium-90	Technetium-99	Tritium	Uranium	
699-38-68A	BO	—	—	BO	BO	—	BO	—	—	BO	BO	BO	Yes
699-38-70B	A	—	—	A	A	—	A	—	—	A	A	A	Yes
699-38-70C	A	—	—	—	A	—	A	—	—	A	A	A	Yes
699-40-62	—	—	—	—	BO	—	BO	—	—	BO	BO	BO	Yes
699-40-65	A	—	—	—	A	—	A	—	—	A	A	—	Yes

Notes: Requirements are from Appendix B of *200-UP-1 Groundwater Operable Unit Remedial Design/Remedial Action Work Plan* (DOE/RL-2013-07).

a. Filtered and unfiltered analyses.

b. Sample quarterly for one year after drilling, then annually thereafter. Quarterly sampling began during December 2013.

A = to be sampled annually

BE = to be sampled every other year (biennially) in even fiscal years

BO = to be sampled every other year (biennially) in odd fiscal years

Q = to be sampled quarterly

SA = to be sampled semiannually

Table A.16 Monitoring Wells and Constituents for the 200 BP 5 Operable Unit

Well	Contaminants of Concern										Supporting Constituents							Sampled as Scheduled in 2013?
	Cesium-137	Cobalt-60	Cyanide	Iodine-129	Nitrate	Plutonium-239/240	Strontium-90	Technetium-99	Tritium	Uranium	Alkalinity	Alpha/Beta	Americium-241	Arsenic	Metals (Filtered)	Neptunium-237	TOC/TOX	
299-E24-8	3-13	3-13		3-13	3-13	--	--	--	3-13	--	--	3-13		3-13	--	--	--	Not scheduled
299-E26-10	--	--	--	A	A	--	--	--	A	--	--	--	--	--	--	--	--	Yes
299-E26-11	--	--	--	3-13	3-13	--	--	--	3-13	--	--	--	--	3-13	--	--	--	Yes
299-E27-7	--	--	--	A	A	--	--	A	A	--	--	--	--	A	--	--	--	Yes
299-E27-10	--	--	--	3-13	3-13	--	--	--	3-13	--	--	--	--	3-13	--	--	--	Yes
299-E27-14	--	--	--	A	A	--	--	A	A	--	--	--	--	--	--	--	--	Yes
299-E27-15	--	--	--	--	A	--	--	A	--	--	A	--	--	--	A	--	--	Yes
299-E27-17	--	--	--	3-13	3-13	--	--	--	3-13	--	--	--	--	3-13	--	--	--	Yes
299-E27-18	--	--	--	3-13	3-13	--	--	--	3-13	--	--	--	--	3-13	--	--	--	No H_3, As
299-E27-155[a]	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	--	No GA
299-E28-2	A	--	--	A	A	A	A	A	A	--	A	A	--	--	A		--	No Cs, I, Pu, H_3, Al, M.
299-E28-5	A	--	--	3-13	3-13	A	A	--	3-13	A	--	3-13	--	3-13	--	--	--	No Cs, I, Pu, Sr, GA/GB, As
299-E28-6	A	A	--	3-13	3-13	A	A	--	3-13	A	--	3-13	--	3-13	--	--	--	No Cs, Co, I, Pu, Sr, GA/GB, As
299-E28-8	A	--	--	--	--	A	A	A		A	--	--	--	--	--	--	--	No Cs, Pu, Sr
299-E28-13	--	--	--	3-13	3-13	--	3-13	--	3-13	3-13		3-13	--	--	--	--	--	No I, Sr
299-E28-17	A	--	--	--	A	A	A	--	--	A	--	--	--	--	--	--	--	No Cs, Pu, Sr.

Table A.16 Monitoring Wells and Constituents for the 200 BP 5 Operable Unit

Well	Contaminants of Concern										Supporting Constituents							Sampled as Scheduled in 2013?
	Cesium-137	Cobalt-60	Cyanide	Iodine-129	Nitrate	Plutonium-239/240	Strontium-90	Technetium-99	Tritium	Uranium	Alkalinity	Alpha/Beta	Americium-241	Arsenic	Metals (Filtered)	Neptunium-237	TOC/TOX	
299-E28-18	--	--	--	A	A	--	--	--	A	A	--	A	--	A	--	--	--	No I, GA/GB, As
299-E28-21	--	--	--	--	--	--	--	--	--	A	--	--	--	--	--	--	--	No
299-E28-23	A	--	--	--	--	A	A	--	--	A	--	A	A	--	--	A	--	No
299-E28-24	A	--	--	--	--	A	A	--	A	A	--	A	A	--	--	A	--	No Am, Np
299-E28-25	A	--	--	A	A	A	A	--	A	A	--	A	A	A	--	A	--	No Am, As, Np
299-E28-26	--	--	--	3-13	A	--	--	A	3-13	A	--	--	--	3-13	--	--	--	No As
299-E28-27	A	--	--	A	A	A	A	A	3-13	A	--	--	--	--	--	--	--	No Cs, Pu, Sr
299-E28-28	--	--	--	3-13	3-13	--	--	--	3-13	--	--	--	--	--	--	--	--	Yes
299-E32-2	--	--	--	3-13	3-13	--	--	--	3-13	--	--	--	--	--	--	--	--	Yes
299-E32-4	--	--	--	A	A	--	--	A	A	--	--	--	--	--	--	--	--	Yes
299-E32-5	--	--	--	3-13	3-13	--	--	--	3-13	3-13	--	--	--	--	--	--	--	Yes
299-E32-6	--	--	--	3-13	A	--	--	A	3-13	3-13	--	--	--	--	--	--	--	Yes
299-E32-7	--	--	--	3-13	3-13	--	--	--	3-13	--	--	--	--	--	--	--	--	Yes
299-E32-8	--	--	--	3-13	3-13	--	--	--	3-13	--	--	--	--	--	--	--	--	Yes
299-E32-9	--	--	3-13	A	A	--	--	--	3-13	--	--	--	--	--	--	--	--	Yes
299-E32-10	--	A	A	3-13	3-13	--	--	A	3-13	A	--	--	--	3-13	--	--	--	No Co, As
299-E33-7	A	A	A	A	A	--	--	A	A	A	--	A	--	--	--	--	--	No Cs, Co, I

Table A.16 Monitoring Wells and Constituents for the 200 BP 5 Operable Unit

Well	Contaminants of Concern										Supporting Constituents							Sampled as Scheduled in 2013?
	Cesium-137	Cobalt-60	Cyanide	Iodine-129	Nitrate	Plutonium-239/240	Strontium-90	Technetium-99	Tritium	Uranium	Alkalinity	Alpha/Beta	Americium-241	Arsenic	Metals (Filtered)	Neptunium-237	TOC/TOX	
299-E33-12	--	--	--	--	--	--	--	3-13	--	--	--	--	--	--	--	--	--	Yes
299-E33-13	--	--	A	--	--	--	--	--	--	A	--	--	--	--	--	--	--	No CN, U
299-E33-15	--	--	--	--	A	--	--	A	--		--	--	--	--	--	--	--	Yes
299-E33-16	--	--	--	A	A	--	--	A	--	A	--	--	--	--	--	--	--	No I
299-E33-18	--	--	--	A	A	--	--	A	--	A	--	--	--	--	--	--	--	No I
299-E33-26	--	A	A	3-13	3-13	--	--	A	3-13	A	--	3-13	--	--	--	--	--	No, dry well
299-E33-28	--	--	--	--	A	--	--	A	--	--	--	--	--	--	--	--	--	Yes
299-E33-29	--	--	--	3-13	3-13	--	--	3-13	3-13		--	--	--	--	--	--	--	Yes
299-E33-30	--	--	--	--	A	--	--	A	--	--	--	--	--	--	--	--	--	Yes
299-E33-32	--	--	--	3-13	3-13	--	--	3-13	3-13	--	--	--	--	--	--	--	--	No I, H_3
299-E33-33	--	--	--	3-13	3-13	--	--	--	3-13	3-13	--	--	--	3-13	--	--	--	No I
299-E33-34	--	A	A	A	A	--	--	A	A	A	--	--	--	--	--	--	--	No Co
299-E33-35	3-13	3-13	A	3-13	A	--	--	A	3-13	A	--	--	--	--	--	--	--	No Cs, Co
299-E33-37	--	--	--	3-13	3-13	--	--	--	3-13	--	--	--	--	--	--	--	--	No I
299-E33-38	--	A	A	A	A	A	A	A	A	A	--	A	--	A	--	--	--	No I, Pu, Sr
299-E33-39	--	--	A	A	A	--	--	A	A	A	--	--	--	--	--	--	--	Yes
299-E33-41	3-13	3-13	3-13	3-13	3-13	--	--	A	3-13	A	--	--	--	--	--	--	--	No Cs, Co, I
299-E33-42	--	--	--	A	--	--	--	A	--	A	--	--	--	--	--	--	--	No I

Table A.16 Monitoring Wells and Constituents for the 200 BP 5 Operable Unit

Well	Contaminants of Concern										Supporting Constituents							Sampled as Scheduled in 2013?
	Cesium-137	Cobalt-60	Cyanide	Iodine-129	Nitrate	Plutonium-239/240	Strontium-90	Technetium-99	Tritium	Uranium	Alkalinity	Alpha/Beta	Americium-241	Arsenic	Metals (Filtered)	Neptunium-237	TOC/TOX	
299-E33-43	--	--	--	A	--	--	--	A	--	A	--	--	--	--	--	--	--	No I
299-E33-44	--	A	--	--	--	--	--	A	--	A	--	--	--	--	--	--	--	Yes
299-E33-50*	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A		Yes
299-E33-205*	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	--	No, access issue
299-E33-334	--	--	--	--	A	--	--	A	--	A	--	--	--	--	--	--	--	Yes
299-E33-335	--	--	--	--	--	A	--	A	--	--	--	--	--	--	--	--	--	No Pu
299-E33-338	--	--	--	--	--	--	--	A	--	A	--	--	--	--	--	--	--	Yes
299-E33-340*	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	--	Yes
299-E33-341*	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	--	No, schedule Jan 2014
299-E33-342*	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	--	No, schedule Jan 2014
299-E33-343*	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	--	Not Accessible
299-E33-345*	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	--	No, schedule Jan 2014
299-E34-2	--	--	--	A	A	--	--	--	A	--	--	--	--	--	--	--	--	Yes
299-E34-9	--	--	--	3-13	3-13	--	--	--	3-13	--	--	--	--	--	--	--	--	Yes
699-44-39B	--	--	--	3-13	3-13	--	--	--	3-13	--	--	--	--	--	--	--	--	Yes
699-45-42	--	--	--	3-13	3-13	--	--	--	3-13	--	--	--	--	--	--	--	--	No N, H_3
699-47-60	--	--	--	A	A	--	--	A	A	--	--	--	--	--	--	--	--	Yes
699-48-50B*	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	--	No, not scheduled
699-49-55A	A	A	A	A	A	A	A	A	A	A	--	A	--	--	--	--	--	No Cs, Co, I, Pu, Sr, GA/GB

Table A.16 Monitoring Wells and Constituents for the 200 BP 5 Operable Unit

Well	Contaminants of Concern										Supporting Constituents							Sampled as Scheduled in 2013?
	Cesium-137	Cobalt-60	Cyanide	Iodine-129	Nitrate	Plutonium-239/240	Strontium-90	Technetium-99	Tritium	Uranium	Alkalinity	Alpha/Beta	Americium-241	Arsenic	Metals (Filtered)	Neptunium-237	TOC/TOX	
699-49-57A	A	A	A	A	A	--	--	A	A	A	--	--	--	A	--	--	--	No As
699-49-57B	A	A	A	A	A	--	--	A	A	--	--	--	--	--	--	--	--	No, not scheduled
699-50-56*	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	--	No I, Pu, Sr, A, Am, As, Np
699-50-59*	--	--	A	A	A	--	--	A	A	A	A		--	--		--	--	Yes
699-52-55*	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	--	Only CN, NO_3, Tc
699-52-55B*	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	--	No, not scheduled
699-53-47A	--	--	--	--	A	--	A	--	A	--	--	A	--	--	--	--	--	Yes
699-53-47B	--	--	--	--	3-12	--	3-12	--	--	--	--	--	--	--	--	--	--	Yes
699-53-48A	--	--	--	A	A	--	A	--	A	--	--	A	--	--	A	--	--	No I, H_3, GA/GB, M
699-53-55A	--	A	A	--	A	--	--	A	A	--	--	--	--	--	--	--	--	No, not scheduled
699-53-55B	--	A	A	--	A	--	--	A	A	--	--	--	--	--	--	--	--	No Co, NO_3, H_3
699-53-55C	--	A	A	A	A	--	--	A	A	--	--	--	--	--	--	--	--	No Co, I
699-54-45A	--	--	--	--	3-12	--	--	--	--	--	--	--	--	--	--	--	--	Not required
699-54-45B	--	--	--	--	3-12	--	--	--	--	--	--	--	--	--	--	--	--	Not required
699-54-48	--	--	--	--	--	--	3-12	--	--	--	--	--	--	--	--	--	--	Yes
699-54-49	--	--	--	--	A	--	A	--	A	--	--	A	--	--	--	--	--	No H_3, GA/GB
699-55-50C	--	--	--	A	A	--	A	A	A	--	--	--	--	--	--	--	--	No Tc
699-55-57	--	A	A	A	A	--	--	A	A	--	--	--	--	--	--	--	--	No Co
699-55-60A	--	A	A	A	A	--	--	A	A	--	--	--	--	--	--	--	--	No, not scheduled

Table A.16 Monitoring Wells and Constituents for the 200 BP 5 Operable Unit

Well	Contaminants of Concern										Supporting Constituents							Sampled as Scheduled in 2013?
	Cesium-137	Cobalt-60	Cyanide	Iodine-129	Nitrate	Plutonium-239/240	Strontium-90	Technetium-99	Tritium	Uranium	Alkalinity	Alpha/Beta	Americium-241	Arsenic	Metals (Filtered)	Neptunium-237	TOC/TOX	
699-57-59	A	A	A	A	A	A	A	A	A	A	A	A	--	--	A	--	A	Only CN, I, NO_3, Tc, H_3
699-59-58	A	A	A	A	A	A	A	A	A	A	A	A	--	--	A	--	A	Only CN, I, NO_3, Tc, GB
699-60-60	A	A	A	A	A	A	A	A	A	A	A	A	--	--	A	--	A	Only CN, I, NO_3, Tc, H_3, GA/GB
699-61-62	A	A	A	A	A	A	A	A	A	A	A	A	--	--	A	--	A	Only I, NO_3, H_3, GB
699-61-66	A	A	A	A	A	A	A	A	A	A	A	A	--	--	A	--	A	No, not scheduled
699-64-62	A	A	A	A	A	A	A	A	A	A	A	A	--	--	A	--	A	Only I, CN, NO_3, Tc, H_3, GB
699-65-50	--	--	--	--	--	--	--	3-13	--	--	--	--	--	--	--	--	--	No, not scheduled
699-65-72	--	--	--	--	--	--	--	--	3-13	--	--	--	--	--	--	--	--	No, not scheduled
699-66-58	--	--	--	--	--	--	--	3-13	3-13	--	--	--	--	--	--	--	--	No Tc
699-66-64	--	--	--	--	--	--	--	3-13	3-13	--	--	--	--	--	--	--	--	No Tc
699-70-68	--	--	--	--	--	--	--	3-13	3-13	--	--	--	--	--	--	--	--	Yes
699-72-73	--	--	--	--	3-13	--	--	3-13	3-13	--	--	--	--	--	--	--	--	Yes
699-73-61	--	--	--	--	--	--	--	--	3-13	--	--	--	--	--	--	--	--	Yes

Table A.16 Monitoring Wells and Constituents for the 200 BP 5 Operable Unit

Well	Contaminants of Concern										Supporting Constituents							Sampled as Scheduled in 2013?
	Cesium-137	Cobalt-60	Cyanide	Iodine-129	Nitrate	Plutonium-239/240	Strontium-90	Technetium-99	Tritium	Uranium	Alkalinity	Alpha/Beta	Americium-241	Arsenic	Metals (Filtered)	Neptunium-237	TOC/TOX	

Note: Sampling requirements are from *Groundwater Sampling and Analysis Plan for the 200-BP-5 Operable Unit* (DOE/RL-2001-49).

a. Well was not listed in DOE/RL-2001-49 but was added to the sampling schedule per *Remedial Investigation/Feasibility Study Work Plan for the 200-BP-5 Groundwater Operable Unit* (DOE/RL-2007-18). Wells were also sampled and analyzed for volatile organic analytes and semivolatile organic analytes.

b. Required under DOE/RL-2007-18; however, Am-241, As, Cs-137, Co-60, cyanide, Gross alpha, Gross Beta, Np-237, Pu-239/240, and Sr-90 are not scheduled. In addition, VOAs and semi VOAs are not scheduled.

3-xx = to be sampled triennially (every 3 years); xx indicates the fiscal year of sampling for a specified analyte

A = to be sampled annually

CERCLA = *Comprehensive Environmental Response, Compensation, and Liability Act of 1980*

LLWMA = low-level waste management area

TOC = total organic carbon

TOX = total organic halides

Table A.17 Monitoring Wells and Constituents for 200-PO-1 Operable Unit Near-Field Wells

Well Number	Contaminants of Concern					Supporting Constituents					Sampled as Planned in 2013?	Comments
	Field Parameters	Iodine-129	Strontium-90	Technetium-99	Tritium	Gross Alpha	Anions[a]	Gross Beta	Metals[b]	Uranium		
299-E16-2	A	A	A	--	A	A	A	A	A	--	Yes	--
299-E17-1	A	A	A	A	A	A	A	A	A	A	Yes	--
299-E17-12	A	A	A	--	A	A	A	A	A	--	Yes	--
299-E17-13	A	A	A	--	A	A	A	A	A	--	Yes	--
299-E17-14	A	A	A	A	A	A	A	A	A	A	Yes	--
299-E17-16	A	A	A	A	A	A	A	A	A	A	Yes	--
299-E17-18	A	A	A	A	A	A	A	A	A	A	Yes	--
299-E17-19	A	A	A	A	A	A	A	A	A	A	Yes	--
299-E17-23	A	A	--	--	A	A	A	A	A	--	Yes	--
299-E17-25	A	A	--	--	A	A	A	A	A	--	Yes	--
299-E18-1	A	A	--	--	A	A	A	A	A	--	Yes	--
299-E23-1	A	A	--	--	A	A	A	A	A	--	Yes	--
299-E24-16	A	A	A	A	A	A	A	A	A	A	Yes	--
299-E24-18	A	A	A	A	A	A	A	A	A	A	Yes	--
299-E24-20	A	A	A	A	A	A	A	A	A	--	Yes	--
299-E24-22	A	A	A	A	A	A	A	A	A	--	Yes	--
299-E24-23	A	A	A	A	A	A	A	A	A	A	Yes	--

Table A.17 Monitoring Wells and Constituents for 200-PO-1 Operable Unit Near-Field Wells

Well Number	Contaminants of Concern					Supporting Constituents					Sampled as Planned in 2013?	Comments
	Field Parameters	Iodine-129	Strontium-90	Technetium-99	Tritium	Gross Alpha	Anions[a]	Gross Beta	Metals[b]	Uranium		
299-E24-33	A	A	A	A	A	A	A	A	A	--	Yes	--
299-E24-5	A	A	--	--	A	A	A	A	A	--	Yes	--
299-E25-17	A	A	A	A	A	A	A	A	A	--	Yes	--
299-E25-18	A	A	A	--	A	A	A	A	A	--	Yes	--
299-E25-19	A	A	A	A	A	A	A	A	A	--	Yes	--
299-E25-2	A	A	A	A	A	A	A	A	A	--	Yes	--
299-E25-20	A	A	A	--	A	A	A	A	A	--	Yes	--
299-E25-22	A	A	A	--	A	A	A	A	A	--	Yes	--
299-E25-28	A	A	--	--	A	A	A	A	A	--	Yes	--
299-E25-29P	A	A	--	--	A	A	A	A	A	--	Yes	--
299-E25-29Q	A	A	--	--	A	--	--	A	A	--	Yes	--
299-E25-236	A	A	A	A	A	A	A	A	A	--	No	Well decommissioned June 2013
299-E25-3	A	A	A	--	A	A	A	A	A	--	Yes	--
299-E25-32P	A	A	--	--	A	A	A	A	A	--	Yes	--
299-E25-32Q	A	A	--	--	A	A	A	A	A	--	Yes	--
299-E25-34	A	A	--	--	A	A	A	A	A	--	Yes	--

Table A.17 Monitoring Wells and Constituents for 200-PO-1 Operable Unit Near-Field Wells

Well Number	Contaminants of Concern					Supporting Constituents					Sampled as Planned in 2013?	Comments
	Field Parameters	Iodine-129	Strontium-90	Technetium-99	Tritium	Gross Alpha	Anions[a]	Gross Beta	Metals[b]	Uranium		
299-E25-35	A	A	--	--	A	A	A	A	A	--	Yes	--
299-E25-36	A	A	A	--	A	A	A	A	A	A	Yes	--
299-E25-37	A	A	--	--	A	A	A	A	A	--	Yes	--
299-E25-39	A	A	A	A	A	A	A	--	A	A	No	Access limitations
299-E25-40	A	A	A	A	A	A	A	A	A	--	Yes	--
299-E25-41	A	A	A	A	A	A	A	A	A	--	Yes	--
299-E25-42	A	A	A	A	A	A	A	A	A	--	Yes	Delayed to 12/2013
299-E25-43	A	A	--	--	A	A	A	A	A	--	Yes	--
299-E25-44	A	A	--	--	A	A	A	A	A	--	Yes	--
299-E25-47	A	A	--	--	A	A	A	A	A	--	Yes	--
299-E25-6	A	A	A	--	A	A	A	A	A	--	Yes	--
299-E25-93	A	A	A	A	A	A	A	A	A	--	Yes	--
299-E25-94	A	A	A	A	A	A	A	A	A	--	Yes	--
299-E26-4	A	A	A	--	A	A	A	A	A	--	Yes	--
699-37-47A	A	A	A	A	A	A	A	A	A	A	Yes	--
699-39-39	A	A	--	--	A	A	A	A	A	--	Yes	--
699-41-42	A	A	--	--	A	A	A	A	A	--	Yes	--

Table A.17 Monitoring Wells and Constituents for 200-PO-1 Operable Unit Near-Field Wells

Well Number	Contaminants of Concern					Supporting Constituents					Sampled as Planned in 2013?	Comments
	Field Parameters	Iodine-129	Strontium-90	Technetium-99	Tritium	Gross Alpha	Anions[a]	Gross Beta	Metals[b]	Uranium		
699-42-40A	A	A	--	--	A	A	A	A	A	--	Yes	--
699-42-42B	A	A	--	--	A	A	A	A	A	--	Yes	--
699-43-45	A	A	--	--	A	A	A	A	A	--	Yes	--
699-44-39B	A	A	--	--	A	A	A	A	A	--	Yes	--

Note: Sampling requirements are from *Sampling and Analysis Plan for the 200-PO-1 Groundwater Operable Unit* (DOE/RL-2003-04), as amended by TPA-CN-205, *Change Notice for Modifying Approved Documents/Workplans In Accordance with the Tri-Party Agreement Action Plan, Section 9.0, Documentation and Records: DOE/RL-2003-04, Revision 1, Sampling and Analysis Plan for the 200-PO-1 Operable Unit*, and *Remedial Investigation/Feasibility Study Work Plan for the 200-PO-1 Operable Unit* (DOE/RL-2007-31), as amended by TPA-CN-2-253, *Change Notice for Modifying Approved Documents/Workplans In Accordance with the Tri-Party Agreement Action Plan, Section 9.0, Documentation and Records: DOE/RL-2007-31 Rev 0, Remedial Investigation/Feasibility Study Work Plan for the 200-PO-1 Operable Unit*.

a. Anions; analytes include, but are not limited to, chloride, nitrate, and sulfate.

b. Metals; analytes include, but are not limited to, chromium, manganese, and vanadium.

A = to be sampled annually

Table A.18 Monitoring Wells and Constituents for the 200-PO-1 Operable Unit Far-Field Wells

Well or Aquifer Tube Name	Contaminants of Concern			Field Parameters	Supporting Constituents												Sampled as Planned in 2013?	Comments
	Iodine-129	Nitrate	Tritium		Gross Alpha	Anions[a]	Gross Beta	Hexavalent Chromium	Cyanide	Gamma	Metals[b]	Strontium-90	Technetium-99	Uranium	Ammonia	Volatile Organic Analytes		
BC Cribs																		
299-E13-14	--	A	A	A	A	A	A	--	A	A	A	A	A	A	--	--	Yes	--
299-E13-5	--	A	A	A	A	A	A	--	A	A	A	A	A	A	--	--	Yes	--
299-E13-11	--	A	A	A	A	A	A	--	A	A	A	A	A	A	--	--	Yes	--
299-E13-19	--	A	A	A	A	A	A	--	A	A	A	A	A	A	--	--	Yes	--
Southeast Transect																		
699-10-54A	--	A	A	A	A	A	A	--	--	A	A	A	--	--	--	A	Yes	--
699-24-46	A	A	A	A	A	A	A	--	--	A	A	A	--	--	--	A	Yes	--
699-26-33	A	A	A	A	A	A	A	--	--	A	A	A	--	--	--	A	Yes	--
699-31-31	A	A	A	A	A	A	A	--	--	A	A	A	--	--	--	A	No	Well inaccessible to vehicle access due to road issues.
699-32-22A	A	A	A	A	A	A	A	--	--	A	A	A	--	--	--	A	Yes	--
699-32-43	A	A	A	A	A	A	A	--	--	A	A	A	--	--	--	A	Yes	--
699-41-23	A	A	A	A	A	A	A	--	--	A	A	A	--	--	--	A	Yes	--
699-46-21B	A	A	A	A	A	A	A	--	--	A	A	A	--	--	--	A	Yes	--
River Transect																		
699-10-E12	--	A	A	A	A	A	A	--	--	A	A	A	--	--	--	A	Yes	--

Table A.18 Monitoring Wells and Constituents for the 200-PO-1 Operable Unit Far-Field Wells

Well or Aquifer Tube Name	Contaminants of Concern			Field Parameters	Supporting Constituents												Sampled as Planned in 2013?	Comments
	Iodine-129	Nitrate	Tritium		Gross Alpha	Anions[a]	Gross Beta	Hexavalent Chromium	Cyanide	Gamma	Metals[b]	Strontium-90	Technetium-99	Uranium	Ammonia	Volatile Organic Analytes		
699-20-E12O	A	A	A	A	A	A	A	--	--	A	A	A	--	--	--	A	Yes	--
699-41-1A	A	A	A	A	A	A	A	--	--	A	A	A	--	--	--	A	Yes	--
699-46-4	A	A	A	A	A	A	A	--	--	A	A	A	--	--	--	A	Yes	--
699-S3-E12	--	A	A	A	A	A	A	--	--	A	A	A	--	--	--	A	Yes	--
699-S19-E13	--	A	A	A	A	A	A	--	--	A	A	A	--	--	--	A	Yes	--
Basalt-Confined Aquifer																		
299-E16-1	T	T	T	T	T	T	T	--	--	--	T	--	--	--	--	--	NS	Next schedule sampling 2014
699-13-1C	--	T	T	T	T	T	T	--	--	--	T	--	--	--	--	--	NS	Next scheduled sampling 2015
699-24-1P	--	T	T	T	T	T	T	--	--	--	T	--	--	--	--	--	NS	Next scheduled sampling 2015
699-32-22B	T	T	T	T	T	T	T	--	--	--	T	--	--	--	--	--	NS	Next scheduled sampling 2015
699-42-40C	T	T	T	T	T	T	T	--	--	--	T	--	--	--	--	--	NS	Next schedule sampling 2014
699-S2-34B	--	T	T	T	T	T	T	--	--	--	T	--	--	--	--	--	NS	Next schedule sampling 2014
699-S11-E12AP	--	T	T	T	T	T	T	--	--	--	T	--	--	--	--	--	NS	Next scheduled sampling 2015
Far-Field General																		
499-S0-7	A	A	A	A	A	A	A	--	--	A	A	A	A	A	A	A	No	Delayed to 02/2014 due to access limitation
499-S0-8	A	A	A	A	A	A	A	--	--	A	A	A	A	A	A	A	No	Delayed to 02/2014 due to access limitation

Table A.18 Monitoring Wells and Constituents for the 200-PO-1 Operable Unit Far-Field Wells

Well or Aquifer Tube Name	Contaminants of Concern			Field Parameters	Supporting Constituents												Sampled as Planned in 2013?	Comments
	Iodine-129	Nitrate	Tritium		Gross Alpha	Anions[a]	Gross Beta	Hexavalent Chromium	Cyanide	Gamma	Metals[b]	Strontium-90	Technetium-99	Uranium	Ammonia	Volatile Organic Analytes		
499-S1-8J	A	A	A	A	A	A	A	--	--	A	A	A	A	A	A	A	No	Delayed to 02/2014 due to access limitation
699-12-4D	T	T	T	T	--	T	--	--	--	--	--	--	--	--	--	--	Yes	--
699-13-1A	T	T	T	T	--	T	--	--	--	--	--	--	--	--	--	--	Yes	--
699-13-3A	--	T	T	T	--	T	--	--	--	--	--	--	--	--	--	--	Yes	--
699-14-38	--	T	T	T	--	T	--	--	--	--	--	--	--	--	--	--	Yes	--
699-17-5	T	T	T	T	--	T	--	--	--	--	--	--	--	--	--	--	Yes	--
699-19-43	T	T	T	T	--	T	--	--	--	--	--	--	--	--	--	--	Yes	--
699-20-20	T	T	T	T	--	T	--	--	--	--	--	--	--	--	--	--	Yes	--
699-20-E12S	--	T	T	T	--	T	--	--	--	--	--	--	--	--	--	--	Yes	--
699-20-E5A	--	T	T	T	--	T	--	--	--	--	--	--	--	--	--	--	Yes	--
699-21-6	T	T	T	T	--	T	--	--	--	--	--	--	--	--	--	--	No	Delayed to 01/2014
699-2-3	T	T	T	T	--	T	--	--	--	--	--	--	--	--	--	--	NS	Next scheduled sampling 2015
699-22-35	T	T	T	T	--	T	--	--	--	--	--	--	--	--	--	--	NS	Next scheduled sampling 2015
699-24-34C	T	T	T	T	--	T	--	--	--	--	--	--	--	--	--	--	No	Well is sample dry
699-25-33A	A	A	A	A	A	A	--	--	--	A	A	A	A	A	A	A	NS	Next scheduled sampling 2014
699-26-15A	T	T	T	T	--	T	--	--	--	--	--	--	--	--	--	--	Yes	--

Table A.18 Monitoring Wells and Constituents for the 200-PO-1 Operable Unit Far-Field Wells

Well or Aquifer Tube Name	Contaminants of Concern			Field Parameters	Supporting Constituents												Sampled as Planned in 2013?	Comments
	Iodine-129	Nitrate	Tritium		Gross Alpha	Anions[a]	Gross Beta	Hexavalent Chromium	Cyanide	Gamma	Metals[b]	Strontium-90	Technetium-99	Uranium	Ammonia	Volatile Organic Analytes		
699-26-35A	T	T	T	T	--	T	--	--	--	--	--	--	--	--	--	--	NS	Next scheduled sampling 2015
699-2-6A	--	A	A	A	--	A	--	--	--	--	--	--	--	--	--	--	Yes	--
699-2-7	--	A	A	A	--	A	--	--	--	--	--	--	--	--	--	--	Yes	--
699-28-40	T	T	T	T	--	T	--	--	--	--	--	--	--	--	--	--	NS	Next scheduled sampling 2015
699-29-4	T	T	T	T	--	T	--	--	--	--	--	--	--	--	--	--	Yes	--
699-31-11	T	T	T	T	--	T	--	--	--	--	--	--	--	--	--	--	Yes	--
699-33-56	--	T	T	T	--	T	--	--	--	--	--	--	--	--	--	--	Yes	--
699-34-41B	T	T	T	T	--	T	--	--	--	--	--	--	--	--	--	--	Yes	--
699-34-42	T	T	T	T	--	T	--	--	--	--	--	--	--	--	--	--	Yes	--
699-35-9	T	T	T	T	--	T	--	--	--	--	--	--	--	--	--	--	Yes	--
699-37-43	T	T	T	T	--	T	--	--	--	--	--	--	--	--	--	--	Yes	--
699-37-E4	T	T	T	T	--	T	--	--	--	--	--	--	--	--	--	--	Yes	--
699-38-15	T	T	T	T	--	T	--	--	--	--	--	--	--	--	--	--	Yes	--
699-40-1	T	T	T	T	--	T	--	--	--	--	--	--	--	--	--	--	Yes	--
699-40-33A	T	T	T	T	--	T	--	--	--	--	--	--	--	--	--	--	Yes	--
699-40-36	T	T	T	T	--	T	--	--	--	--	--	--	--	--	--	--	NS	Next scheduled sampling 2015

Table A.18 Monitoring Wells and Constituents for the 200-PO-1 Operable Unit Far-Field Wells

Well or Aquifer Tube Name	Contaminants of Concern			Field Parameters	Supporting Constituents												Sampled as Planned in 2013?	Comments
	Iodine-129	Nitrate	Tritium		Gross Alpha	Anions[a]	Gross Beta	Hexavalent Chromium	Cyanide	Gamma	Metals[b]	Strontium-90	Technetium-99	Uranium	Ammonia	Volatile Organic Analytes		
699-41-40	T	T	T	T	--	T	--		--	--	--	--	--	--		--	Yes	--
699-41-42	T	T	T	T	--	T	--		--	--	--	--	--	--		--	Yes	--
699-42-12A	T	T	T	T	--	T	--		--	--	--	--	--	--		--	Yes	--
699-42-39A	T	T	T	T	--	T	--		--	--	--	--	--	--		--	Yes	--
699-42-39B	T	T	T	T	--	T	--		--	--	--	--	--	--		--	Yes	--
699-42-40A	T	T	T	T	--	T	--		--	--	--	--	--	--		--	Yes	--
699-43-3	T	T	T	T	--	T	--		--	--	--	--	--	--		--	Yes	--
699-45-42	T	T	T	T	--	T	--		--	--	--	--	--	--		--	NS	Next scheduled sampling 2015
699-47-5	T	T	T	T	--	T	--		--	--	--	--	--	--		--	Yes	--
699-48-7A	--	T	T	T	--	T	--		--	--	--	--	--	--		--	Yes	--
699-49-13E	T	T	T	T	--	T	--		--	--	--	--	--	--		--	Yes	--
699-50-28B	T	T	T	T	--	T	--		--	--	--	--	--	--		--	Yes	--
699-52-19	--	T	T	T	--	T	--		--	--	--	--	--	--		--	Yes	--
699-8-17	T	T	T	T	--	T	--		--	--	--	--	--	--		--	NS	Next scheduled sampling 2015
699-8-25	T	T	T	T	--	T	--		--	--	--	--	--	--		--	Yes	--
699-9-E2	T	T	T	T	--	T	--		--	--	--	--	--	--		--	Yes	--
699-S12-3	--	T	T	T	--	T	--		--	--	--	--	--	--		--	Yes	--

Table A.18 Monitoring Wells and Constituents for the 200-PO-1 Operable Unit Far-Field Wells

Well or Aquifer Tube Name	Contaminants of Concern			Field Parameters	Supporting Constituents												Sampled as Planned in 2013?	Comments
	Iodine-129	Nitrate	Tritium		Gross Alpha	Anions[a]	Gross Beta	Hexavalent Chromium	Cyanide	Gamma	Metals[b]	Strontium-90	Technetium-99	Uranium	Ammonia	Volatile Organic Analytes		
699-S19-E14	--	T	T	T	--	T	--		--	--	--	--	--	--		--	Yes	--
699-S3-25	--	T	T	T	--	T	--		--	--	--	--	--	--		--	Yes	--
699-S6-E14A	--	T	T	T	--	T	--		--	--	--	--	--	--		--	Yes	--
699-S6-E4A	--	T	T	T	--	T	--		--	--	--	--	--	--		--	Yes	--
699-S6-E4B	--	T	T		--	T	--		--	--	--	--	--	--		--	NS	Next scheduled sampling 2015
699-S8-19	--	T	T		--	T	--		--	--	--	--	--	--		--	Yes	--
Aquifer Tubes																		
82-M	A	A	A	A	A	--	A	A	--	--	--	--	A	--	--	--	No	Delayed until 01/2014
82-S	A	A	A	A	A	--	A	A	--	--	--	--	A	--	--	--	No	Delayed until 01/2014
83-D	A	A	A	A	A	--	A	A	--	--	--	--	A	--	--	--	No	Aquifer tube cannot be located
84-D	A	A	A	A	A	--	A	A	--	--	--	--	A	--	--	--	Yes	--
84-M	A	A	A	A	A	--	A	A	--	--	--	--	A	--	--	--	Yes	--
84-S	A	A	A	A	A	--	A	A	--	--	--	--	A	--	--	--	Yes	--
85-M	A	A	A	A	A	A	A	--	--	--	--	--	A	--	--	--	No	Delayed until 01/2014
85-S	A	A	A	A	A	A	A	--	--	--	--	--	A	--	--	--	No	Delayed until 01/2014
85-D	A	--	A	A	A	A	A	--	--	--	--	--	A	--	--	--	No	Delayed until 01/2014
86-D	A	--	A	A	A	A	A	--	--	--	--	--	A	--	--	--	No	Delayed until 01/2014

Table A.18 Monitoring Wells and Constituents for the 200-PO-1 Operable Unit Far-Field Wells

Well or Aquifer Tube Name	Contaminants of Concern			Field Parameters	Supporting Constituents												Sampled as Planned in 2013?	Comments
	Iodine-129	Nitrate	Tritium		Gross Alpha	Anions[a]	Gross Beta	Hexavalent Chromium	Cyanide	Gamma	Metals[b]	Strontium-90	Technetium-99	Uranium	Ammonia	Volatile Organic Analytes		
86-M	A	A	A	A	A	A	A	--	--	--	--	--	A	--	--	--	Yes	--
86-S	A	A	A	A	A	A	A	--	--	--	--	--	A	--	--	--	No	Delayed until 01/2014
C6353	A	--	A	A	A	A	A	A	--	--	--	--	A	--	--	--	No	Aquifer tube out of service
C6356	A	--	A	A	A	A	A	A	--	--	--	--	A	--	--	--	Yes	--
C6359	A	--	A	A	A	A	A	A	--	--	--	--	A	--	--	--	Yes	--
C6360	A	A	A	A	A	A	A	A	--	--	--	--	A	--	--	--	No	Aquifer tube decommissioned
C6361	A	A	A	A	A	A	A	A	--	--	--	--	A	--	--	--	No	Aquifer tube decommissioned
C6362	A	--	A	A	A	A	A	A	--	--	--	--	A	--	--	--	No	Delayed until 01/2014
C6365	A	--	A	A	A	A	A	A	--	--	--	--	A	--	--	--	No	Aquifer tube cannot be located
C6366	A	A	A	A	A	A	A	A	--	--	--	--	A	--	--	--	No	Aquifer tube decommissioned
C6367	A	A	A	A	A	A	A	A	--	--	--	--	A	--	--	--	No	Aquifer tube decommissioned
C6368	A	--	A	A	A	A	A	A	--	--	--	--	A	--	--	--	No	Sampling cancelled
C6371	A	--	A	A	A	A	A	A	--	--	--	--	A	--	--	--	No	No yield; cancelled
C6374	--	--	--	A	--	--	--	--	--	--	--	--	--	--	--	--	No	Delayed to 01/2014. Due to low yield, only field parameters collected
C6375	A	--	A	A	A	A	A	A	--	--	--	--	A	--	--	--	No	Delayed to 01/2014
C6377	A	A	A	A	A	A	A	A	--	--	--	--	A	--	--	--	No	Aquifer tube decommissioned

Table A.18 Monitoring Wells and Constituents for the 200-PO-1 Operable Unit Far-Field Wells

Well or Aquifer Tube Name	Contaminants of Concern			Field Parameters	Supporting Constituents												Sampled as Planned in 2013?	Comments
	Iodine-129	Nitrate	Tritium		Gross Alpha	Anions[a]	Gross Beta	Hexavalent Chromium	Cyanide	Gamma	Metals[b]	Strontium-90	Technetium-99	Uranium	Ammonia	Volatile Organic Analytes		
C6378	A	A	A	A	A	A	A	A	--	--	--	--	A	--	--	--	Yes	--
C6379	A	A	A	A	A	A	A	A	--	--	--	--	A	--	--	--	No	Aquifer tube decommissioned
C6380	A	--	A	A	A	A	A	A	--	--	--	--	A	--	--	--	Yes	--
C6381	A	A	A	A	A	A	A	A	--	--	--	--	A	--	--	--	No	Aquifer tube decommissioned
C6382	A	A	A	A	A	A	A	A	--	--	--	--	A	--	--	--	No	Aquifer tube decommissioned
C6383	--	--	--	A	--	--	--	--	--	--	--	--	--	--	--	--	No	Delayed to 01/2014. Due to low yield, only field parameters collected
C6384	A	--	A	A	A	A	A	A	--	--	--	--	A	--	--	--	Yes	--

Note: Sampling requirements for wells are from *Sampling and Analysis Plan for the 200-PO-1 Groundwater Operable Unit* (DOE/RL-2003-04), and *Remedial Investigation/Feasibility Study Work Plan for the 200-PO-1 Operable Unit* (DOE/RL-2007-31), as amended by TPA-CN-2-253, *Change Notice for Modifying Approved Documents/Workplans In Accordance with the Tri-Party Agreement Action Plan, Section 9.0, Documentation and Records: DOE/RL-2007-31 Rev 0, Remedial Investigation/Feasibility Study Work Plan for the 200-PO-1 Operable Unit.*

a. Anions; analytes include, but are not limited to, chloride, nitrate, and sulfate.

b. Metals; analytes include, but are not limited to, chromium, manganese, and vanadium.

A = to be sampled annually

NS = not scheduled

T = to be sampled triennially

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