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Tri-Party Agreement

Change Notice for Modifying Approved Tri-Party Agreement NPL Documents/ Workplans In Accordance with the Tri-Party Agreement Action Plan, Section 9.0, *Documentation and Records*

Change Number	Document Submitted Under Tri-Party Agreement Milestone	Date:
TPA-CN-230	_____	07/15/08

Document Number and Title: DOE/RL-2002-14 rev 1 Tanks/Lines/Pits/Boxes/ Septic Tank and Drain Fields Waste Group Operable Unit RI/FS Work Plan and RCRA TSD Unit Sampling Plan; Includes 200-IS-1 and 200-ST-1	**Date Document Last Issued: 06/05/08**
Originator: M. J. Hickey	**Phone:**373.3092

Description of Change: Added analytical performance requirements for liquids

B. L. Charboneau and J. B. Price agree that the proposed change modifies an approved
RL **Lead Regulatory Agency**

Work plan/document and will be processed in accordance with the Tri-Party Agreement Action Plan, Section 9.0, *Documentation and Records*, and not Chapter 12.0, *Changes to the Agreement.*

"TBD" analytical performance quantities in table A-7 have been identified and updated.

Analytical performance requirements for liquid samples is added to Appendix A, Sampling and Analysis Plan (SAP), of the 200-IS-1 OU RI/FS Work Plan. There is a potential that liquid may be found in some of the pipelines that will be characterized under this work plan. Liquid found in the pipelines will be collected and sampled. Analytical performance requirements for the liquid samples are needed in the SAP to specify the analytical method(s), target detection limits, and precision and accuracy requirements for samples collected for laboratory analysis.

The affected page number for table A-7 is A2-15. The affected page numbers for tables A-8 and A-9 are A2-19 through A2-23, plus table numbers on A2-25, A2-29, A2-53, A2-57, A2-59, A2-60, and a2-60.

Justification and Impacts of Change: The change provides for analytical performance requirements for liquid samples collected as part of the 200-IS-1 OU RI/FS Work Plan. This change will add text and a table to appendix A outlining the analytical performance requirements.

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Approvals:

for Brian Charboneau. RL Unit Manager*	7/23/08 Date	✓ Approved	__ Disapproved	
John B. Price Lead Regulatory Unit Manager*	7-28-08 Date	✓ Approved	__ Disapproved	

*Send approved form to the Administrative Record, H6-08

Table A-7. Facilities Process-Waste Pipeline Systems – Primary Inorganic and Organic Constituents Analytical Performance Requirements. (7 Pages)

Chemical Abstracts Service No. or Constituent Identifier No.	Analyte	Survey or Analytical Method[a]	Lowest Overall CUL[b] (mg/kg)	Target Detection Limits[c] (mg/kg)	Precision Required (%)[d]	Accuracy Required (%)[d]
106-46-7	p-Dichlorobenzene	EPA Method 8270	0.03	0.33	±30	70-130
107-66-4	Dibutylphosphate	EPA Method 300.0 (modified)	--	0.2	±30	70-130
100-41-4	Ethyl benzene	EPA Method 8260	6.05	0.005	±30	70-130
60-29-7	Ethyl ether	EPA Method 8015	6.68	5	±30	70-130
86-73-7	Fluorene	EPA Method 8270	30	0.33	±30	70-130
64-18-6	Formate (formic acid)	EPA Method 300.0(modified)	--	10.0	±30	70-130
79-14-1	Glycolate (glycolic acid)	EPA Method 300.0 (modified)	--	4	±30	70-130
110-54-3	Hexane	EPA Method 8260	96.2	0.005	±30	70-130
193-39-5	Indeno(123-cd)pyrene	EPA Method 8270	1.37	0.33	±30	70-130
108-10-1	Methyl isobutyl ketone (MIBK hexone)	EPA Method 8260	2.71	0.01	±30	70-130
78-93-3	Methyl ethyl ketone (MEK)	EPA Method 8260	19.6	0.01	±30	70-130
--	Monobutylphosphate	EPA Method 300.0 (modified)	--	0.2	±30	70-130
144-62-7	Oxalate (oxalic acid)	EPA Method 300.0 (modified)	--	2	±30	70-130
127-18-4	Perchloroethylene (tetrachloro-ethene, PCE)	EPA Method 8260	0.000859	0.005	±30	70-130
88-01-8	Phenanthrene (ethanedionic acid)	EPA Method 8270	1,140	0.33	±30	70-130
108-95-2	Phenol	EPA Method 8270	22	0.33	±30	70-130
95-63-6	Pseudocumene (1,2,4-trimethyl benzene)	EPA Method 8260	4,000	0.2	±30	70-130

Table A-7. Facilities Process-Waste Pipeline Systems – Primary Inorganic and Organic Constituents Analytical Performance Requirements. (7 Pages)

Chemical Abstracts Service No. or Constituent Identifier No.	Analyte	Survey or Analytical Method[a]	Lowest Overall CUL[b] (mg/kg)	Target Detection Limits[c] (mg/kg)	Precision Required (%)[d]	Accuracy Required (%)[d]
109-99-9	Tetrahydrofuran	EPA Method 8260	0.05	0.05	±30	70-130
108-88-3	Toluene	EPA Method 8260	4.65	0.005	±30	70-130
71-55-6	1,1,1-Trichloroethane (TCA)	EPA Method 8260	1.58	0.005	±30	70-130

[a]For 4-digit EPA methods, see SW-846, *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, Third Edition; Final Update III-B*, as amended. For EPA Methods 335, 353, and 413.1, see EPA/600/4-79/020, *Methods of Chemical Analysis of Water and Wastes*. For EPA Method 200.8, see EPA/600/R-94/111, *Methods for the Determination of Metals in Environmental Samples; Supplement I*. For EPA Method 300.0, see EPA/600/R-93/100, *Methods for the Determination of Inorganic Substances in Environmental Samples*. For NWTPH Methods, see Ecology 97-602, *Analytical Methods for Petroleum Hydrocarbons*.

[b] Lowest overall CUL as identified in D&D-30262.

[c]Detection limits are based on optimal conditions in a standard fixed laboratory. Interferences and matrix effects may degrade the values shown.

[d]Accuracy criteria is the minimum for associated batch laboratory control sample percent recoveries. Laboratories must meet statistically based control if more stringent. Additional analyte-specific evaluations also are performed for matrix spikes and surrogates, as appropriate to the method. Precision criteria are based on batch laboratory-replicate matrix-spike analyses.

[e]Target detection limit is less than the inhalation limit of 2 mg/kg.

[f]Special arrangements will be made with the laboratory to achieve the detection limit needed for the ecological action level for selenium.

"--" No information available.

Aroclor is an expired trademark.

(BZ#) = PCB congener number originally assigned by Ballschmiter & Zell ("BZ Number") (Ballschmiter, K., and M. Zell, 1980, "Analysis of Polychlorinated Biphenyls (PCB) by Glass Capillary Gas Chromatography").

CUL = cleanup level.
EPA = U.S. Environmental Protection Agency.
IC = ion chromatography.
N/A = not applicable.
NWTPH = Northwest total petroleum hydrocarbon.
PCB = polychlorinated biphenyl.
TBD = to be determined; method and/or detection limit currently are under evaluation.
TPH = total petroleum hydrocarbon.

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Table A-8. Radionuclide Analytical Performance Requirements for Liquids.

CAS #	Analyte	Survey or Analytical Method	Practical Quantitation Limit [a] (pCi/L)	Precision Required (%) [b]	Accuracy Required (%) [b]
14596-10-2	Americium-241	Am-241 AEA	1	±30	70-130
14762-75-5	Carbon-14	C-14 LSC	200	±30	70-130
10045-97-3	Cesium-137	Gamma GS	15	±30	70-130
10198-40-0	Cobalt-60	Gamma GS	25	±30	70-130
14683-23-9	Europium-152	Gamma GS	50	±30	70-130
15585-10-1	Europium-154	Gamma GS	50	±30	70-130
14391-16-3	Europium-155	Gamma GS	50	±30	70-130
13994-20-2	Neptunium-237	Np-237 AEA	1	±30	70-130
13981-37-8	Nickel-63	Ni-63 LSC	15	±30	70-130
14681-63-1	Niobium-94 [c]	Gamma GS	10	±30	70-130
13981-16-3	Plutonium-238	AEA	1	±30	70-130
Pu-239/240	Plutonium-239/240	AEA	1	±30	70-130
13982-63-3	Radium-226	AEA	1	±30	70-130
10098-97-2	Strontium-90	Gas proportional counting	2	±30	70-130
14133-76-7	Technetium-99	Technetium-99 LSC	15	±30	70-130
10028-17-8	Tritium	Tritium – H_3 LSC	400	±30	70-130
13966-29-5	Uranium-233/234	Isotopic uranium AEA	1	±30	70-130
15117-96-1	Uranium-235	Isotopic uranium AEA	1	±30	70-130
U-238	Uranium-238	Isotopic uranium AEA	1	±30	70-130

[a] Units are in pCi/L (radioisotopes) unless otherwise specified.
[b] Accuracy criteria for associated batch laboratory-control sample percent recoveries. With the exception of gamma energy analysis, additional analysis-specific evaluations also are performed for matrix spikes, tracers, and carriers, as appropriate to the method. Precision criteria are based on batch laboratory replicate sample analyses.
[c] Contaminant of potential concern analysis only applicable to Plutonium Finishing Plant Area.

AEA = alpha energy analysis.
CAS = Chemical Abstracts Service.
GS = gamma spectroscopy.
LSC = liquid scintillation counter.

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Table A-9. Inorganic and Organic Constituents Analytical Performance Requirements for Liquids. (4 Pages)

CAS #	Analyte	Survey or Analytical Method [a]	Practical Quantitation Limit [b] (µg/L)	Precision Required (%) [c]	Accuracy Required (%) [c]
7440-36-0	Antimony	EPA Methods 6010 (trace), 6020, or 200.8	6	±30	70-130
7440-38-2	Arsenic	EPA Methods 6010 (trace), 6020, or 200.8	10	±30	70-130
7440-39-3	Barium	EPA Methods 6010, 6020, or 200.8	20	±30	70-130
7440-41-7	Beryllium	EPA Methods 6010, 6020, or 200.8	5	±30	70-130
7440-43-9	Cadmium	EPA Methods 6010, 6020, or 200.8	5	±30	70-130
7440-47-3	Chromium (III)/Chromium (total)	EPA Methods 6010, 6020, or 200.8	10	±30	70-130
7440-50-8	Copper	EPA Methods 6010, 6020, or 200.8	10	±30	70-130
18540-29-9	Hexavalent chromium	EPA Method 7196 (trace)	10	±30	70-130
7439-92-1	Lead	EPA Methods 6010 (trace), 6020, or 200.8	5	±30	70-130
7439-97-6	Mercury	EPA Methods 7471, 6020, or 200.8	0.5	±30	70-130
7439-98-7	Molybdenum	EPA Methods 6010, 6020, or 200.8	20	±30	70-130
7440-02-0	Nickel	EPA Methods 6010, 6020, or 200.8	40	±30	70-130
7782-49-2	Selenium	EPA Methods 6010 (trace), 6020, or 200.8	100	±30	70-130
14808-79-8	Sulfate	IC Anions, EPA Method 300.0	500	±30	70-130
7440-22-4	Silver	EPA Methods 6010, 6020, or 200.8	10	±30	70-130
7440-28-0	Thallium	EPA Methods 6010, 6020, or 200.8	50	±30	70-130
7440-61-1	Uranium (total)	Kinetic phosphorescence analysis, or EPA Method 200.8	1	±30	70-130
7440-62-2	Vanadium	EPA Methods 6010, 6020, or 200.8	25	±30	70-130
7440-66-6	Zinc	EPA Methods 6010, 6020, or 200.8	10	±30	70-130
57-12-5	Cyanide	EPA Methods 9010 total cyanide or 335	5	±30	70-130
14797-55-8	Nitrate	IC, EPA Method 300.0	250	±30	70-130
14797-65-0	Nitrite	IC, EPA Method 300.0	250	±30	70-130
14808-79-8	Sulfate	IC, EPA Method 300.0	500	±30	70-130
208-96-8	Acenaphthylene	EPA Method 8270	10	±30	50-150
67-64-1	Acetone	EPA Method 8260	20	±30	50-150
75-05-8	Acetonitrile	EPA Method 8260	100	±30	50-150

Table A-9. Inorganic and Organic Constituents Analytical Performance Requirements for Liquids. (4 Pages)

CAS #	Analyte	Survey or Analytical Method [a]	Practical Quantitation Limit [b] (µg/L)	Precision Required (%) [c]	Accuracy Required (%) [c]
71-43-2	Benzene	EPA Method 8260	5	±30	50-150
120-12-7	Anthracene	EPA Method 8270	10	±30	50-150
56-55-3	Benzo(a)anthracene	EPA Method 8270	10	±30	50-150
50-32-8	Benzo(a)pyrene	EPA Method 8270	10	±30	50-150
205-99-2	Benzo(b)fluoranthene	EPA Method 8270	10	±30	50-150
191-24-2	Benzo(ghi)perylene	EPA Method 8270	10	±30	50-150
207-08-9	Benzo(k)fluoranthene	EPA Method 8270	10	±30	50-150
100-51-6	Benzyl alcohol	EPA Method 8260/8270	10	±30	50-150
75-27-4	Bromodichloromethane	EPA Method 8260	5	±30	50-150
71-36-3	n-butyl alcohol (1-butanol)	EPA Method 8015 or 8260	5000	±30	50-150
56-23-5	Carbon tetrachloride	EPA Method 8260	5	±30	50-150
108-90-7	Chlorobenzene	EPA Method 8260	5	±30	50-150
67-66-3	Chloroform (trichloro-methane)	EPA Method 8260	5	±30	50-150
218-01-9	Chrysene	EPA Method 8270	10	±30	50-150
156-59-2/ 156-60-5	Cis/Trans-1,2-Dichloro-ethylene	EPA Method 8260	5	±30	50-150
108-94-1	Cyclohexanone	EPA Method 8270	20	N/A	N/A
53-70-3	Dibenzo(ah)anthracene	EPA Method 8270	10	±30	50-150
75-34-3	1,1-Dichloroethane	EPA Method 8260	10	±30	50-150
107-06-2	1,2-Dichloroethane	EPA Method 8260	1.5	±30	50-150
75-35-4	1,1-Dichloroethylene	EPA Method 8260	10	±30	50-150
75-09-2	Dichloromethane (methylene chloride)	EPA Method 8260	5	±30	50-150
106-46-7	p-Dichlorobenzene	EPA Method 8270	10	±30	50-150
107-66-4	Dibutylphosphate	EPA Method 300.0 (modified)	1000	±30	50-150
112-40-3	Dodecane	EPA Method 8270	500	±30	50-150
100-41-4	Ethyl benzene	EPA Method 8260	5	±30	50-150
60-29-7	Ethyl ether	EPA Method 8015	5	±30	50-150
86-73-7	Fluorene	EPA Method 8270	10	±30	50-150
64-18-6	Formate (formic acid)	EPA Method 300.0 (modified)	1000	±30	50-150

Table A-9. Inorganic and Organic Constituents Analytical Performance Requirements for Liquids. (4 Pages)

CAS #	Analyte	Survey or Analytical Method [a]	Practical Quantitation Limit [b] (µg/L)	Precision Required (%) [c]	Accuracy Required (%) [c]
79-14-1	Glycolate (glycolic acid)	EPA Method 300.0 (modified)	1000	±30	50-150
110-54-3	Hexane	EPA Method 8260	5	±30	50-150
193-39-5	Indeno(123-cd)pyrene	EPA Method 8270	10	±30	50-150
108-10-1	Methyl isobutyl ketone (MIBK hexone)	EPA Method 8260	10	±30	50-150
78-93-3	Methyl ethyl ketone (MEK)	EPA Method 8260	10	±30	50-150
--	Monobutylphosphate	EPA Method 300.0 (modified)	1000	±30	50-150
91-20-3	Naphthalene	EPA Method 8270	10	±30	50-150
91-59-8	2-Naphthylamine	EPA Method 8270	25	±30	50-150
144-62-7	Oxalate (oxalic acid)	EPA Method 300.0 (modified)	1000	±30	50-150
127-18-4	Perchloroethylene (tetrachloro-ethene, PCE)	EPA Method 8260	5	±30	50-150
88-01-8	Phenanthrene (ethanedionic acid)	EPA Method 8270	5	±30	50-150
108-95-2	Phenol	EPA Method 8270	10	±30	50-150
95-63-6	Pseudocumene (1,2,4-trimethyl benzene)	EPA Method 8260	200	±30	50-150
109-99-9	Tetrahydrofuran	EPA Method 8260	50	±30	50-150
108-88-3	Toluene	EPA Method 8260	5	±30	50-150
71-55-6	1,1,1-Trichloroethane (TCA)	EPA Method 8260	5	±30	50-150
79-00-5	1,1,2-Trichloroethane	EPA Method 8260	5	±30	50-150
79-01-6	Trichloroethylene (TCE)	EPA Method 8260	5	±30	50-150
75-01-04	Vinyl chloride	EPA Method 8260	5	±30	50-150
1330-20-7	Xylenes	EPA Method 8260	10	±30	50-150
126-73-8	Tributyl phosphate	EPA Method 8270	100	±30	50-150
2674-11-2	Aroclor-1016	PCBs, EPA Method 8082	20	±30	50-150
11104-26-2	Aroclor-1221	PCBs, EPA Method 8082	20	±30	50-150
11141-16-5	Aroclor-1232	PCBs, EPA Method 8082	20	±30	50-150

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Table A-9. Inorganic and Organic Constituents Analytical Performance Requirements for Liquids. (4 Pages)

CAS #	Analyte	Survey or Analytical Method [a]	Practical Quantitation Limit [b] (µg/L)	Precision Required (%) [c]	Accuracy Required (%) [c]
53969-21-9	Aroclor-1242	PCBs, EPA Method 8082	20	±30	50-150
126572-29-6	Aroclor-1248	PCBs, EPA Method 8082	20	±30	50-150
11097-6999-1	Aroclor-1254	PCBs, EPA Method 8082	20	±30	50-150
11096-82-5	Aroclor-1260	PCBs, EPA Method 8082	20	±30	50-150
TPH gasoline	Total petroleum hydrocarbon-gasoline range w/benzene	NWTPH gasoline	500	±30	50-150
TPH diesel	Total petroleum hydrocarbon-diesel range	NWTPH diesel	500	±30	50-150
Oil/grease	Hydraulic fluids (greases)	EPA Method 413.1 oil/grease or 1664A	2000	±30	50-150
TPH-kerosene	Kerosene, normal paraffins, paint thinner	NWTPH-Dx modified for kerosene range	500	±30	50-150

[a] For 4-digit EPA methods, see SW-846, *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, Third Edition; Final Update III-B*, as amended. For EPA Methods 335 and 413.1, see EPA/600/4-79/020, *Methods of Chemical Analysis of Water and Wastes*. For EPA Method 200.8, see EPA/600/R-94/111, *Methods for the Determination of Metals in Environmental Samples, Supplement 1*. For EPA Method 300.0, see EPA/600/R-93/100, *Methods for the Determination of Inorganic Substances in Environmental Samples*. For NWTPH Methods, see Ecology 97-602, *Analytical Methods for Petroleum Hydrocarbons*.

[b] Detection limits are based on optimal conditions in a standard fixed laboratory. Interferences and matrix effects may degrade the values shown.

[c] Accuracy criteria is the minimum for associated batch laboratory control sample percent recoveries. Laboratories must meet statistically based control if more stringent. Additional analyte-specific evaluations also are performed for matrix spikes and surrogates, as appropriate to the method. Precision criteria are based on batch laboratory-replicate matrix-spike analyses.

"--" No information available.

Aroclor is an expired trademark.

CAS = Chemical Abstracts Service.
EPA = U.S. Environmental Protection Agency.
IC = ion chromatography.
N/A = not applicable.
NWTPH = Northwest total petroleum hydrocarbon.
PCB = polychlorinated biphenyl.
TBD = to be determined; method and/or detection limit currently are under evaluation.
TPH = total petroleum hydrocarbon.