Department of Energy
Field Office, Albuquerque
Los Alamos Area Office
Los Alamos, New Mexico 87544

NOV 21 1994

ENTERED

LANL
OU 1140 RFI
TA-46 Workplan

Mr. William Honker, Chief
RCRA Permits Branch
Hazardous Waste Management Division
U.S. EPA, Region 6
1445 Ross Ave., Suite 1200
Dallas, Texas 75202-2733

Dear Mr. Honker:

Please find enclosed the response to the Environmental Protection Agency's (EPA) approval with modifications of the OU 1140 RFI Workplan. The enclosed modifications satisfy the thirty day response time. Should you have any questions, please contact me at (505) 665-7203.

Sincerely,

Theodore J. Taylor
Program Manager
Environmental Restoration
Program

Enclosure
cc w/enclosure:
Ms. Kathleen Sisneros
New Mexico Environment Department
1190 St. Francis Drive
P.O. Box 26110
Santa Fe, New Mexico 87502
B. Swanton, NMED-AIP, MS J993
T. Taylor, LAAMEP, MS A316
C. Fesmire, LAAMEP, MS A316
cc wo/enclosure:
K. Schenck, Scientech/LAAO, ES&H, MS A316
J. Levings , AL-ERPO, MS A906
E. Merrill, EM-452, HQ
W. Spurgeon, EM-452, HQ
T. Baca, UC-LANL, EMP, MS J591
J. Jansen, UC-LANL, EM/ER, MS M992
K. Hargis, UC-LANL, ESH-8, K490
RPF, MS M707
File 1.4.2.6.1.23.1.2

2554

TL

November 17, 1994
EM/ER:94-J449
M992
505-667-0808

Mr. Joseph Vozella, Chief
Environment, Safety, and Health Branch
US Department of Energy
Los Alamos Area Office, MS A316
Los Alamos, NM 87544

Dear Mr. Vozella:

SUBJECT: RESPONSE TO EPA APPROVAL WITH MODIFCATIONS CONCERNING OPERABLE UNIT (OU) 1140 RESOURCE CONSERVATION AND RECOVERY ACT FACILITY INVESTIGATION (RFI) WORK PLAN WORK BREAKDOWN STRUCTURE NUMBER 1.4.2.6.1.23.1.2

Enclosed is the Los Alamos National Laboratory's response to the Environmental Protection Agency's (EPA's) Approval with modifications of the OU 1140 RFI Work Plan and a certification form signed by the appropriate Laboratory official. The approval was received at the Los Alamos Area Office on October 26, 1994. A response within thirty days is required by the regulatory agency.

The enclosed response includes the two items requested by EPA Region 6. A documented quality review of the enclosed response has been performed in accordance with procedure LANL-ER-AP-01.3.

Please let me know if there are questions about this response to the NOD, or contact Brad Martin of my staff at 667-6080. I would appreciate having the response and the signed certification form sent to the EPA, Region 6, by November 25, 1994 to meet the required deadline.

Sincerely,

Jorg Jansen, Project Manager
Environmental Restoration

JJ/rfr

Enclosure: Responses to NOD
Certification Form

CERTIFICATION

I certify under penalty of law that these documents and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violation.

Document Title:

Response to Approval with Modifications for RFI Work Plan for OU 1140

Name: Larry Anderson for Date: 11/21/94
Dennis Erickson
Division Director
Los Alamos National Laboratory

Name: Joseph Vozella Date: 11/21/94
Joseph Vozella, Chief
Environment, Safety, and Health Branch
DOE-Los Alamos Area Office

6# Response to Modifications, Operable Unit 1140

November 17, 1994

An area-based randomization technique was used for choosing sample locations at SWMUs 46-008(b) and 46-010(d). A unique reconnaissance sample location could not be identified (i.e., a biased sample location could not be determined based on specific site characteristics). The reconnaissance sample locations were chosen using an area-based randomization technique that is in accordance with methods described in SW-846 section 12.4.5.1 "location of samples". A description of the randomization follows:

1. North-south and east-west dimensions are measured to establish a rectangle that forms the boundaries of the area.

2. The southwest corner of the rectangle is selected as the origin.

3. Two random numbers between 0 and 1 are generated using a random-number generator.

4. The north-south dimension (y) is multiplied by one random number, and the east-west dimension (x) is multiplied by the other random number.

5. The resulting values for x and y are used to measure the distances from the origin on the respective north-south and east-west axes to determine the sampling location.

6.. If the resulting location is not feasible (i.e., if it is outside the area that meets the sampling criteria), the location is discarded, and the randomization procedure is repeated.

Table 5-1-7

Summary of OU 1140 TA-46 Septic Systems and Dry Wells Waste Characterization, Sampling and Analysis

Structure Sample Total 59
Surface Sample Total 17
Subsurface Sample Total 48

					Field Surveys			Samples					Field Screening					Field Lab.						Laboratory Analyses															
	PRS	Outfall Field ID	PRS Type Outfall Type	Phase 1 Approach	Land Survey	Geophysics	Radiation	Sampled Media	Structure	Surface	Subsurface		Gross Alpha	Gross Gamma/Beta	Organic Vapor	Combustible gas/oxygen	X-Ray Fluorescence	Lithologic Logging	Gross Alpha, Beta, Gamma	Tritium	Soil Moisture	Gamma Spectroscopy	PCB	VOA	Gamma Spec. Cs 137	Isotopic Americium	Total Uranium	Isotopic Uranium	Isotopic Plutonium	Isotopic Thorium	Alkali Metals (Cs, Li)	VOA (SW 8240)	Semivolatiles (SW 8270)	TCLP	Metals (SW 6010)	PCB (SW 8080)	Asbestos	Mercury	Herbicides	Pesticides	Aggregate
(1)	46-003-a		Septic Sys./Tank	Reconn	1	1		Sludge/Tuff	3	0	0			1	1			1							1			1		1		1	1		1			1			5.1
(2)	46-003-a		Septic Sys./Manhole	Reconn	1	1		Sludge/	2	0	0			1	1										1			1		1		1	1		1			1			5.1
(3)	46-003-a		Septic Sys./Dist. Box	Reconn	1	1		Sludge/Tuff	3	0	0			1	1			1							1			1		1		1	1		1			1			5.1
(4)	46-003-a		Septic Sys./Dist. Box	Reconn	1	1		Sludge/Tuff	3	0	0			1	1			1							1			1		1		1	1		1			1			5.1
(5)	46-003-a		Septic Drain field	Reconn	1	1		Soil/Tuff	0	0	12			1	1			1			1				1			1		1		1	1		1			1			5.1
(6)	46-003-b		Septic Sys./Tank	Reconn	1	1		Sludge/Tuff	3	0	0			1	1			1														1	1		1						5.1
(7)	46-003-b		Septic Sys./Dist. Box	Reconn	1	1		Sludge/Tuff	3	0	0			1	1			1														1	1		1						5.1
(8)	46-003-b		Septic Drain field	Reconn	1	1		Soil/Tuff	0	0	6			1	1			1			1											1	1		1						5.1
(9)	46-003-c		Septic Sys./Dist. Box	Reconn	1	1		Sludge/Tuff	3	0	0			1	1										1			1				1	1		1	1		1			5.1
(10)	46-003-c		Septic Sys./Tank	Reconn	1	1		Sludge/Tuff	3	0	0			1	1										1			1				1	1		1	1		1			5.1
(11)	46-003-c		Septic Drain field	Reconn	1	1		Soil/Tuff	0	0	9			1	1						1				1			1				1	1		1	1		1			5.1
(12)	46-003-c		Dry Well	Reconn	1	1		Sludge	1	0	0			1	1										1			1				1	1		1	1		1			5.1
(13)	46-003-d		Septic Sys./Tank	VCA	1	1	1	Soil/Tuff	0	4	0			1	1			1	1						1			1	1	1		1	1		1	1					5.1
(14)	46-003-d		Septic Drain field	VCA	1	1	1	Soil/Tuff	0	5	0			1	1			1	1						1			1	1	1		1	1		1	1					5.1
(15)	46-003-e		Septic Siphon Tank	Reconn	1	1		Sludge/Tuff	3	0	0			1	1			1							1			1	1			1	1		1						5.1
(16)	46-003-e		Septic Sys./Dist. Box	Reconn	1	1		Sludge/Tuff	3	0	0			1	1			1							1			1	1			1	1		1						5.1
(17)	46-003-e		Septic Sys./Tank	Reconn	1	1		Sludge/Tuff	3	0	0			1	1			1							1			1	1			1	1		1						5.1
(18)	46-003-e		Septic Drain field	Reconn	1	1		Soil/Tuff	0	0	12			1	1			1			1				1			1	1			1	1		1						5.1
(19)	46-003-f		Septic Sys./Tank	Reconn	1	1		Sludge/Tuff	3	0	0			1	1			1							1			1				1	1		1	1		1			5.1
(20)	46-003-f		Septic Sys./Manhole	Reconn	1	1		Sludge/Tuff	3	0	0			1	1			1							1			1				1	1		1	1		1			5.1
(21)	46-003-f		Septic Sys./Dist. Box	Reconn	1	1		Sludge/Tuff	3	0	0			1	1			1							1			1				1	1		1	1		1			5.1
(22)	46-003-f		Sand filter	Reconn	1			Soil/Tuff	0	0	9			1	1			1			1				1			1				1	1		1	1		1			5.1
(23)	46-003-g		Septic Sys./Tank	Reconn	1	1		Sludge/Tuff	3	0	0			1	1			1							1							1	1		1	1					5.1
(24)	46-003-g		Septic Dry Well	Reconn	1	1		Sludge/Tuff	6	0	0			1	1			1							1							1	1		1	1					5.1
(25)	46-004-c		Dry Well	VCA	1	1		Soil/Tuff	0	2	0			1	1			1	1						1			1		1		1	1		1	1					5.1
(26)	46-004-c		Dry Well	Reconn	1	1		Sediment/	2	0	0			1	1										1			1		1					1		1				5.1
(27)	46-004-d		Dry Well	VCA	1	1		Soil/Tuff	0	2	0			1	1			1	1						1			1	1	1		1	1		1	1		1			5.1
(28)	46-004-d		Dry Well	Reconn	1	1		Sediment/	2	0	0			1	1			1							1			1	1	1		1	1		1	1		1			5.1
(29)	46-004-e		Dry Well	VCA	1	1		Soil/Tuff	0	2	0			1	1			1	1						1			1	1	1		1	1		1	1		1			5.1
(30)	46-004-e		Dry Well	Reconn	1	1		Sediment/	2	0	0			1	1			1							1			1	1	1		1	1		1	1		1			5.1
(31)	46-004-p		Dry Well	VCA	1	1		Soil/Tuff	0	2	0			1	1			1													1	1	1		1	1		1			5.1
(32)	46-004-p		Dry Well	Reconn	1	1		Sediment/	2	0	0			1	1																1	1	1		1			1			5.1

Table 5-1-7

Summary of OU 1140 TA-46
Septic Systems and Dry Wells
Waste Characterization,
Sampling and Analysis

Structure Sample Total 70
Surface Sample Total 0
Subsurface Sample Total 0

	PRS	Outfall Field ID	PRS Type Outfall Type	Phase 1 Approach	Field Surveys			Samples					Field Screening						Field Lab.						Laboratory Analyses																		
					Land Survey	Geophysics	Radiation	Sampled Media	Structure	Surface	Subsurface		Gross Alpha	Gross Gamma/Beta	Organic Vapor	Combustible gas/oxygen	X-Ray Fluorescence	Lithologic Logging	Gross Alpha, Beta, Gamma	Tritium	Soil Moisture	Gamma Spectroscopy	PCB	VOA	Gamma Spec. Cs 137	Isotopic Americium	Total Uranium	Isotopic Uranium	Isotopic Plutonium	Isotopic Thorium	Alkali Metals (Cs, Li)	VOA (SW 8240)	Semivolatiles (SW 8270)	TCLP	Metals (SW 6010)	PCB (SW 8080)	Asbestos	Mercury	Herbicides	Pesticides	Aggregate
(1)	46-003-d		Septic System-WC	VCA-WC				Soil/Tuff	30	0	0			1	1				1						1			1	1	1		1	1	1		1					5.1
(2)	46-004-c		Dry Well-WC	VCA-WC				Soil/Tuff	10	0	0			1	1				1						1			1		1		1	1	1		1					5.1
(3)	46-004-d		Dry Well-WC	VCA-WC				Soil/Tuff	10	0	0			1	1				1						1			1	1	1		1	1	1		1					5.1
(4)	46-004-e		Dry Well-WC	VCA-WC				Soil/Tuff	10	0	0			1	1				1						1			1	1	1		1	1	1		1					5.1
(5)	46-004-p		Dry Well-WC	VCA-WC				Soil/Tuff	10	0	0			1	1				1													1	1	1							5.1

Table 5-2-5

Summary of OU 1140 TA-46
Lagoon Systems
Waste Characterization,
Sampling and Analysis

Structure Sample Total 22
Surface Sample Total 6
Subsurface Sample Total 31

	PRS	Outfall Field ID	PRS Type Outfall Type	Phase 1 Approach	Field Surveys			Samples					Field Screening						Field Lab.						Laboratory Analyses																				
					Land Survey	Geophysics	Radiation	Sampled Media	Structure	Surface	Subsurface		Gross Alpha	Gross Gamma/Beta	Organic Vapor	Combustible gas/oxygen	X-Ray Fluorescence	Lithologic Logging	Gross Alpha, Beta, Gamma	Tritium	Soil Moisture	Gamma Spectroscopy	PCB	VOA	Gamma Spec. Cs 137	Isotopic Americium	Total Uranium	Isotopic Uranium	Isotopic Plutonium	Isotopic Thorium	Alkali Metals (Cs, Li)	VOA (SW 8240)	Semivolatiles (SW 8270)	TCLP	Metals (SW 6010)	PCB (SW 8080)	Asbestos	Mercury	Herbicides	Pesticides	Aggregate
(1)	46-002		Sewage lagoon	Reconn	1			Sludge/Sediment	2	0	0			1	1										1			1	1	1		1	1		1	1		1			5.2
(2)	46-002		Sand Filters	Reconn	1		1	Soil/Sediment	3	0	0			1	1										1			1	1	1		1	1		1	1		1			5.2
(3)	46-002		Sewage Lagoon	Reconn	1			Tuff /Corehole	0	0	31			1	1			1							1			1	1	1		1	1		1	1		1			5.2
(4)	46-002		Siphon Tank	Reconn	1			Sludge/Sediment	1	0	0			1	1										1			1	1	1		1	1		1	1		1			5.2
(5)	46-002		Lagoon Syst.	Reconn	1			Soil/Tuff	0	6	0			1	1										1			1	1	1			1		1	1		1			5.2
(6)	46-002		Lagoon Syst.	Reconn	1			Soil/Tuff	4	0	0			1	1										1			1	1	1			1		1	1		1			5.2
(7)	46-005		Fmr. Solar Ponds,	Reconn	1			Sludge/Sediment	4	0	0			1	1										1							1	1		1	1					5.2
(8)	46-005		Fmr. Solar Ponds,	Reconn	1			Soil/Tuff	8	0	0			1	1										1							1	1		1	1					5.2

Table 5-3-8

Summary of OU 1140 TA-46
Surface Releases
Waste Characterization,
Sampling and Analysis

Structure Sample Total 0
Surface Sample Total 32
Subsurface Sample Total 40

					Field Surveys			Samples					Field Screening						Field Lab.						Laboratory Analyses																
	PRS	Outfall Field ID	PRS Type Outfall Type	Phase 1 Approach	Land Survey	Geophysics	Radiation	Sampled Media	Structure	Surface	Subsurface		Gross Alpha	Gross Gamma/Beta	Organic Vapor	Combustible gas/oxygen	X-Ray Fluorescence	Lithologic Logging	Gross Alpha, Beta, Gamma	Tritium	Soil Moisture	Gamma Spectroscopy	PCB	VOA	Gamma Spec. Cs 137	Isotopic Americium	Total Uranium	Isotopic Uranium	Isotopic Plutonium	Isotopic Thorium	Alkali Metals (Cs, Li)	VOA (SW 8240)	Semivolatiles (SW 8270)	TCLP	Metals (SW 6010)	PCB (SW 8080)	Asbestos	Mercury	Herbicides	Pesticides	Aggregate
(1)	46-003-f		Sand filter	Reconn	1		1	Soil	0	3	0			1	1			1							1			1				1	1		1			1			5.3
(2)	46-003-h	GG	Sink Drain	Reconn	1			Soil	0	1	0			1	1										1			1				1	1		1						5.3
(3)	46-003-h	GG	Sink Drain	Reconn	1			Soil	0	0	6			1	1										1			1				1	1		1						5.3
(4)	46-003-h	GG	Sink Drain	Reconn	1			Soil	0	1	0			1	1										1			1				1	1		1						5.3
(5)	46-006-a		Drum Storage	Reconn	1			Soil	0	0	6			1	1				1						1	1		1		1		1	1		1	1		1		1	5.3
(6)	46-006-b		General Storage	Reconn	1			Soil/Paving	0	0	3			1	1				1						1			1		1			1		1	1					5.3
(7)	46-006-c		Drum Storage	Reconn	1			Soil	0	2	0			1	1																		1		1	1					5.3
(8)	46-006-d		Surface Disposal	Reconn	1			Soil	0	1	0			1	1				1						1			1	1	1	1	1	1		1	1		1			5.3
(9)	46-006-d		Surface Disposal	Reconn	1			Soil	0	0	15			1	1				1						1			1	1	1	1	1	1		1	1		1			5.3
(10)	46-006-d		Surface Disposal	Reconn	1			Soil	0	3	0			1	1				1						1			1	1	1	1	1	1		1	1		1			5.3
(11)	46-006-f		General Storage	Reconn	1			Soil	0	3	0			1	1				1						1			1					1		1	1	1	1			5.3
(12)	46-006-g		Surface Release	Reconn	1			Paving	0	0	2			1	1				1						1			1				1	1		1						5.3
(13)	46-007		Surface Disposal	Reconn	1			Soil	0	3	0			1	1				1						1			1			1	1	1		1	1		1			5.3
(14)	46-008-a		Drum Storage	Reconn	1			Soil	0	3	0			1	1				1													1	1		1						5.3
(15)	46-008-b		Drum Storage	Reconn	1			Soil	0	2	0			1	1				1						1			1		1	1		1		1	1		1			5.3
(16)	46-008-d		Drum Storage	Reconn	1			Soil	0	2	0			1	1				1						1			1				1	1		1	1		1			5.3
(17)	46-008-e		Drum Storage	Reconn	1			Soil	0	4	0			1	1				1						1			1		1		1	1		1	1					5.3
(18)	46-008-f		Drum Storage	Reconn	1			Soil	0	1	0			1	1				1						1			1				1	1		1						5.3
(19)	46-008-f		Drum Storage	Reconn	1			Soil	0	1	0			1	1				1						1			1				1	1		1						5.3
(20)	46-008-g		Drum Storage	Reconn	1			Soil	0	0	8			1	1				1													1	1		1	1		1			5.3
(21)	46-010-d		General Storage	Reconn	1			Soil	0	2	0			1	1																	1	1		1	1	1				5.3

Table 5-4-9

Summary of OU 1140 TA-46 Outfalls
Waste Characterization, Sampling and Analysis

Structure Sample Total 0
Surface Sample Total 2
Subsurface Sample Total 435

					Field Surveys			Samples					Field Screening						Field Lab.						Laboratory Analyses																
	PRS	Outfall Field ID	PRS Type Outfall Type	Phase 1 Approach	Land Survey	Geophysics	Radiation	Sampled Media	Structure	Surface	Subsurface		Gross Alpha	Gross Gamma/Beta	Organic Vapor	Combustible gas/oxygen	X-Ray Fluorescence	Lithologic Logging	Gross Alpha, Beta, Gamma	Tritium	Soil Moisture	Gamma Spectroscopy	PCB	VOA	Gamma Spec. Cs 137	Isotopic Americium	Total Uranium	Isotopic Uranium	Isotopic Plutonium	Isotopic Thorium	Alkali Metals (Cs, Li)	VOA (SW 8240)	Semivolatiles (SW 8270)	TCLP	Metals (SW 6010)	PCB (SW 8080)	Asbestos	Mercury	Herbicides	Pesticides	Aggregate
(1)		C	Outfall-pipe	Reconn	1			Sediments	0	0	6			1	1				1						1			1		1		1	1		1						5.4
(2)		I	Outfall-pipe	Reconn	1			Sediments	0	0	18			1	1				1						1			1		1		1	1		1						5.4
(3)		M	Outfall-pipe	Reconn	1			Sediments	0	0	9			1	1				1						1			1		1		1	1		1						5.4
(4)		P	Outfall-pipe	Reconn	1			Sediments	0	0	24			1	1				1						1			1		1		1	1		1						5.4
(5)		Q	Outfall-pipe	Reconn	1			Sediments	0	0	6			1	1				1						1			1		1		1	1		1						5.4
(6)		BB	Outfall-pipe	Reconn	1			Sediments	0	0	6			1	1										1			1		1		1	1		1			1			5.4
(7)		NN	Outfall-pipe	Reconn	1			Sediments	0	0	9			1	1										1			1		1		1	1		1			1			5.4
(8)		OO	Outfall-pipe	Reconn	1			Sediments	0	0	6			1	1										1			1				1	1		1						5.4
(9)		QQ	Outfall-pipe	Reconn	1			Sediments	0	0	6			1	1				1						1			1		1		1	1		1	1					5.4
(10)		RR	Outfall-pipe	Reconn	1			Sediments	0	0	6			1	1										1			1		1		1	1		1						5.4
(11)		TT	Outfall-pipe	Reconn	1			Sediments	0	0	6			1	1				1						1			1		1		1	1		1						5.4
(12)		ZZ	Outfall-pipe	Reconn	1			Sediments	0	0	6			1	1										1			1		1		1	1		1						5.4
(13)		AB	Outfall-pipe	Reconn	1			Sediments	0	0	6			1	1										1			1		1		1	1		1						5.4
(14)		AE	Outfall-surface	Reconn	1			Sediments	0	0	6			1	1				1						1			1		1		1	1		1						5.4
(15)		AF	Outfall-surface	Reconn	1			Sediments	0	0	6			1	1				1						1			1		1		1	1		1						5.4
(16)		AG	Outfall-surface	Reconn	1			Sediments	0	0	6			1	1				1						1			1	1	1		1	1		1			1			5.4
(17)		AH	Outfall-surface	Reconn	1			Sediments	0	0	6			1	1				1						1			1	1	1		1	1		1			1			5.4
(18)		AI	Outfall-surface	Reconn	1			Sediments	0	0	6			1	1				1						1			1	1	1		1	1		1			1			5.4
(19)		AL	Outfall-surface	Reconn	1			Sediments	0	0	6			1	1				1						1			1		1		1	1		1						5.4
(20)		AN	Outfall-surface	Reconn	1			Sediments	0	0	3			1	1				1						1			1		1		1	1		1						5.4
(21)		PP	Outfall-pipe	Reconn	1			Sediments	0	0	6			1	1										1			1		1		1	1		1	1					5.4
(22)	46-002	II JJ	Outfall-pipe	Reconn	1			Sediments	0	0	30			1	1										1			1				1∞	1		1	1		1			5.4
(23)	46-003-a	HH	Outfall-pipe	Reconn	1			Sediments	0	0	21			1	1										1			1		1		1∞	1		1	1		1			5.4
(24)	46-003-f	FF	Outfall-pipe	Reconn	1			Sediments	0	0	18			1	1										1			1				1∞	1		1	1		1			5.4
(25)	46-003-g	KK	Outfall-pipe	Reconn	1			Sediments	0	0	27			1	1										1							1∞	1		1	1					5.4
(26)	46-004-a2	MM	Outfall-pipe	Reconn	1			Sediments	0	0	9			1	1				1						1			1		1		1∞	1		1	1		1			5.4
(27)	46-004-b2	U	Outfall-pipe	Reconn	1			Sediments	0	0	12			1	1				1						1			1		1	1	1∞	1		1	1		1			5.4
(28)	46-004-c2	S	Outfall-pipe	Reconn	1			Sediments	0	0	9			1	1				1						1	1		1		1		1∞	1		1	1		1		1	5.4
(29)	46-004-f	Y	Outfall-pipe	Reconn	1			Sludge/Sediments	0	1	0			1	1				1						1			1				1	1		1	1		1			5.4
(30)	46-004-g	N	Outfall-Surface	Reconn	1			Sediments	0	0	24			1	1				1						1			1		1	1	1∞	1		1			1			5.4
(31)	46-004-h	A	Outfall-pipe	Reconn	1			Sediments	0	0	9			1	1				1						1			1		1		1∞	1		1			1			5.4
(32)	46-004-m	CC	Outfall-pipe	Reconn	1			Sediments	0	0	9			1	1				1						1			1		1	1	1	1		1	1	1	1			5.4
(33)	46-004-q	B	Outfall-pipe	Reconn	1			Sediments	0	0	3			1	1				1						1			1		1		1∞	1		1						5.4
(34)	46-004-r	Z	Outfall-pipe	Reconn	1			Sediments	0	0	0			1	1				1						1			1				1	1		1	1		1			5.4
(35)	46-004-s	X	Outfall-pipes	Reconn	1			Sediments	0	0	9			1	1				1									1			1	1∞	1		1	1		1			5.4
(36)	46-004-t	YY	Outfall-pipe	Reconn	1			Sediments	0	0	3			1	1																	1									5.4
(37)	46-004-u	F	Outfall-pipe	Reconn	1			Sediments	0	0	3			1	1				1						1			1		1		1∞	1		1						5.4
(38)	46-004-v	G	Outfall-pipe	Reconn	1			Sediments	0	0	3			1					1						1			1		1			1		1						5.4

Table 5-4-9

Summary of OU 1140 TA-46 Outfalls
Waste Characterization, Sampling and Analysis

Structure Sample Total 0
Surface Sample Total 2
Subsurface Sample Total 435

	PRS	Outfall Field ID	PRS Type Outfall Type	Phase 1 Approach	Field Surveys			Samples				Field Screening						Field Lab.						Laboratory Analyses																		Aggregate
					Land Survey	Geophysics	Radiation	Sampled Media	Structure	Surface	Subsurface	Gross Alpha	Gross Gamma/Beta	Organic Vapor	Combustible gas/oxygen	X-Ray Fluorescence	Lithologic Logging	Gross Alpha, Beta, Gamma	Tritium	Soil Moisture	Gamma Spectroscopy	PCB	VOA	Gamma Spec. Cs 137	Isotopic Americium	Total Uranium	Isotopic Uranium	Isotopic Plutonium	Isotopic Thorium	Alkali Metals (Cs, Li)	VOA (SW 8240)	Semivolatiles (SW 8270)	TCLP	Metals (SW 6010)	PCB (SW 8080)	Asbestos	Mercury	Herbicides	Pesticides	
(39)	46-004-w	AA	Outfall-pipe	Reconn	1			Sediments	0	1	0		1	1				1													1	1			1						5.4
(40)	46-004-x	J	Outfall-pipe	Reconn	1			Sediments	0	0	21		1	1				1						1			1	1	1		1∞	1		1	1		1			5.4
(41)	46-004-y	K	Outfall-pipe	Reconn	1			Sediments	0	0	15		1	1				1						1			1	1	1		1∞	1		1	1		1			5.4
(42)	46-004-z	L	Outfall-pipe	Reconn	1			Sediments	0	0	24		1	1				1						1			1	1	1		1∞	1		1	1		1			5.4
(43)	46-005	LL	Outfall-surface	Reconn	1			Sediments	0	0	15		1	1										1			1				1∞	1		1	1					5.4
(44)	46-006-a	42-OPN	Outfall-Pipe	Reconn	1			Soil	0	0	3		1	1				1						1	1		1				1	1		1	1				1	5.4
(45)	46-006d-2	Ao	Outfall-surface	Reconn	1			Sediments	0	0	9		1	1				1						1			1	1	1		1	1		1			1			5.4
(46)	46-aoc-001		Mercury Spill	Reconn									1	1																							1			5.4

Table 5-4-9

Summary of OU 1140 TA-46 Outfalls
Waste Characterization, Sampling and Analysis

Structure Sample Total 0
Surface Sample Total 2
Subsurface Sample Total 435

					Field Surveys			Samples					Field Screening						Field Lab.						Laboratory Analyses																
	PRS	Outfall Field ID	PRS Type Outfall Type	Phase 1 Approach	Land Survey	Geophysics	Radiation	Sampled Media	Structure	Surface	Subsurface		Gross Alpha	Gross Gamma/Beta	Organic Vapor	Combustible gas/oxygen	X-Ray Fluorescence	Lithologic Logging	Gross Alpha, Beta, Gamma	Tritium	Soil Moisture	Gamma Spectroscopy	PCB	VOA	Gamma Spec. Cs 137	Isotopic Americium	Total Uranium	Isotopic Uranium	Isotopic Plutonium	Isotopic Thorium	Alkali Metals (Cs, Li)	VOA (SW 8240)	Semivolatiles (SW 8270)	TCLP	Metals (SW 6010)	PCB (SW 8080)	Asbestos	Mercury	Herbicides	Pesticides	Aggregate
(39)	46-004-w	AA	Outfall-pipe	Reconn	1			Sediments	0	1	0			1	1				1													1	1			1					5.4
(40)	46-004-x	J	Outfall-pipe	Reconn	1			Sediments	0	0	21			1	1				1						1			1	1	1		1∞	1		1	1		1			5.4
(41)	46-004-y	K	Outfall-pipe	Reconn	1			Sediments	0	0	15			1	1				1						1			1	1	1		1∞	1		1	1		1			5.4
(42)	46-004-z	L	Outfall-pipe	Reconn	1			Sediments	0	0	24			1	1				1						1			1	1	1		1∞	1		1	1		1			5.4
(43)	46-005	LL	Outfall-surface	Reconn	1			Sediments	0	0	15			1	1										1			1				1∞	1		1	1					5.4
(44)	46-006-a	42-OPN	Outfall-Pipe	Reconn	1			Soil	0	0	3			1	1				1						1	1		1				1	1		1	1				1	5.4
(45)	46-006d-2	Ao	Outfall-surface	Reconn	1			Sediments	0	0	9			1	1				1						1			1	1	1		1	1		1			1			5.4
(46)	46-aoc-001		Mercury Spill	Reconn										1	1																							1			5.4

Table 5-5-6

Summary of OU 1140 TA-46
Landfills
Waste Characterization,
Sampling and Analysis

Structure Sample Total 0
Surface Sample Total 0
Subsurface Sample Total 69

	PRS	Outfall Field ID	PRS Type Outfall Type	Phase 1 Approach	Field Surveys			Samples					Field Screening						Field Lab.						Laboratory Analyses																
					Land Survey	Geophysics	Radiation	Sampled Media	Structure	Surface	Subsurface		Gross Alpha	Gross Gamma/Beta	Organic Vapor	Combustible gas/oxygen	X-Ray Fluorescence	Lithologic Logging	Gross Alpha, Beta, Gamma	Tritium	Soil Moisture	Gamma Spectroscopy	PCB	VOA	Gamma Spec. Cs 137	Isotopic Americium	Total Uranium	Isotopic Uranium	Isotopic Plutonium	Isotopic Thorium	Alkali Metals (Cs, Li)	VOA (SW 8240)	Semivolatiles (SW 8270)	TCLP	Metals (SW 6010)	PCB (SW 8080)	Asbestos	Mercury	Herbicides	Pesticides	Aggregate
(1)	46-009-a		Landfill	Reconn	1			Soil/Debris	0	0	30			1	1			1							1			1	1	1		1	1		1	1	1				5.5
(2)	46-009-a		Landfill	Reconn	1			Soil/Debris	0	0	9			1	1			1							1			1	1	1		1	1		1	1	1				5.5
(3)	46-009-a		Landfill	Reconn	1			Sediment/Soil	0	0	6			1	1			1							1			1	1	1		1	1		1	1	1				5.5
(4)	46-009-b		Landfill	Reconn	1			Soil/Debris	0	0	12			1	1			1							1			1	1	1		1	1		1	1	1				5.5
(5)	46-009-b		Landfill	Reconn	1			Soil/Debris	0	0	12			1	1			1							1			1	1	1		1	1		1	1	1				5.5

Summary of OU 1140 TA-46

Waste Characterization, Sampling and Analysis

Structure Sample Total 0
Surface Sample Total 7
Subsurface Sample Total 0

	PRS	Outfall Field ID	PRS Type Outfall Type	Phase 1 Approach	Field Surveys			Samples				Field Screening						Field Lab.						Laboratory Analyses															
					Land Survey	Geophysics	Radiation	Sampled Media	Structure	Surface	Subsurface	Gross Alpha	Gross Gamma/Beta	Organic Vapor	Combustible gas/oxygen	X-Ray Fluorescence	Lithologic Logging	Gross Alpha, Beta, Gamma	Tritium	Soil Moisture	Gamma Spectroscopy	PCB	VOA	Gamma Spec. Cs 137	Isotopic Americium	Total Uranium	Isotopic Uranium	Isotopic Plutonium	Isotopic Thorium	Alkali Metals (Cs, Li)	VOA (SW 8240)	Semivolatiles (SW 8270)	TCLP	Metals (SW 6010)	PCB (SW 8080)	Asbestos	Mercury	Herbicides	Pesticides	Aggregate
(1)	Agg 5.6		Stack Emission	Reconn	1			Soil	0	3	0		1	1				1						1			1		1					1						5.6
(2)	Agg 5.6		Stack Emission	Reconn	1			Soil/Sediment	0	2	0		1	1				1						1			1		1					1						5.6
(3)	Agg 5.6		Stack Emission	Reconn	1			Soil	0	2	0		1	1				1						1			1		1					1						5.6