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BURNPIT SAMPLING

Trench BP-1

03/31/87

10:15 - 10:45

The trench was 23.5 ft long and 6 ft deep. The soil was light brown silty clay, moderately cohesive, with pieces of concrete, pipe, and electrical wire. Five 4—oz samples were collected 11 ft in from the stake, 6 ft down, at 14:30 (BP-1, 2, 3, 4, and 5).

Trench BP-2

03/31/87

11:00 - 11:15

The trench was approximately 30 ft long and 6.5 ft deep. The top 4 ft of soil was composed of light brown clayey silty sand. From 4 ft to total depth, the soil is dark brown silty clayey sand, obviously disturbed, probably bulldozed in from road construction. Samples were collected but not analyzed because there were no debris and no unusual odors.

Trench BP-3

03/31/87

11:15 - 11:35

The trench was approximately 20 ft long and 6 ft deep. The soil was composed of medium brown cohesive sandy silty clay. At the bottom of the trench was Chatsworth Formation. The soil appeared undisturbed. No debris was found; samples were collected but not analyzed.

Trench BP-4

03/31/87

13:15 — 14:10

The trench was approximately 45 ft long and 4 ft deep. The top 2 ft of soil was composed of medium brown silty clay with some sand. From 2 ft to total depth, the soil was light brown clayey silty sand, bottomed in Chatsworth Formation sandstone. The soil appeared undisturbed; samples were collected but not analyzed.

Trench BPL-1 (Lower Cell) 04/01/87

8:40 - 9:10

The trench was approximately 8 ft long and 5 ft deep. The soil at the surface was stained dark and had radioactivity higher than background levels. The top 1.5 ft of soil was light brown clayey sandy silt. From 1.5 ft to total depth, the soil was a slightly moist, dark brown clay. At the contact of the light brown soil and the dark brown clay was a lens of dark stained material with radioactivity higher than background levels. A 16-oz glass jar sample was collected at the surface from the dark stained material (BPL-1 surface). A 16-oz glass jar sample was collected from a depth of approximately 3 ft (BPL-1-3). A VOA sample was collected from 0.5 ft below the surface and another from approximately 3 ft below the surface (BPL-1 6"-12" and BPL-1 3'-3.5').

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Trench BPL-2

04/01/87

9:15 - 10:45

The trench was approximately 8 ft long and 6.5 ft deep. The soil was darkly stained at the surface. Glass jar and VOA samples were collected at the surface (BPL-2 surface and BPL-2 6"-12"). The soil was mottled medium to dark brown, very moist and cohesive silty clay. Metal components were found at all depths. A very strong organic odor was observed in the dark brown portions of the clay. VOA samples were collected at 1.5 ft below land surface and at 5.5 ft below land surface (BPL-2 1.5' and BPL-2 5.5'-6'). Another glass jar sample was also collected at 5.5 ft below land surface (BPL-2 5.5'). At this depth, the radiation was approximately equal to background levels.

Trench BPL-3

04/01/87

11:05 - 11:30

The trench was approximately 8 ft long and 6 ft deep. VOA and glass samples were collected at the surface (BPL-3 6"-12", BPL-3 surface). The top 0.5 ft was light brown sandy clayey silt with radioactivity reading above background levels. From 0.5 to 2.5 ft, the soil was medium brown silty clay. From 2.5 to 5.5 ft, the soil was dark brown cohesive silty clay. At 3.5 ft, VOA and glass samples were collected (BPL-3 3.5', BPL-3-3.5). From 5.5 to 6 ft, the soil was light brown sandy silty clay, odorless, apparently undisturbed.

Trench BPL-4

04/01/87

11:40 — 12:00

The trench was approximately 8 ft long and 5 ft deep. VOA and glass samples were collected at the surface (BPL-4 6"-12", BPL-4 .5'-1'). From 0 to 1.5 ft, the soil was a dry, medium brown clayey silt. From 1.5 to 5 ft, the soil was a cohesive medium brown silty clay. VOA and glass samples were collected at 4.5 to 5 ft below land surface (BPL-4 4.5'-5', BPL-4 4.5'-5').

Trench BPL-5

04/01/87

12:30 - 13:30

The trench was approximately 8 ft long and 5 ft deep. VOA and glass samples were collected at the surface (BPL-5 6"-12", BPL-5 surface). The soil in the top 1 ft was a cohesive medium brown sandy silty clay. From 1 to 5 ft, the soil was a medium reddish brown sandy silty clay. VOA and glass samples were collected at 4 ft below land surface (BPL-5 4.0', BPL-5 4').

Trench BPL-6

04/01/87

13:35 - 13:50

The trench was approximately 6 ft long and 3 ft deep. VOA and glass samples were collected at the surface (BPL-6 6"-12", BPL-6 surface). The soil was a slightly moist medium brown silty clay. No components were unearthed, and no additional samples were taken.

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Trench BPL-7

04/01/87

13:55 - 14:25

The trench was approximately 8 ft long and 6 ft deep. VOA and glass samples were collected from the surface (BPL-7 6"-12", BPL-7 surface). The soil in the top foot was dry light brown silty sand. From 1 to 3.6 ft, the soil was dark brown silty clay with metal components. At 3 ft, a black lens with metal components was observed, and VOA and glass samples were collected (BPL-7 3'-3.5', BPL-7 3'-3.5'). A light grey lens was observed from 4 to 5 ft. From 5 to 5.5 ft, the soil was light brown silty sandy clay, probably weathered Chatsworth Formation. From 5.5 to 6 ft, light brown silty sandstone (Chatsworth Formation) was encountered.

Trench BPL-8

04/08/87

14:30 - 15:00

The trench was approximately 8 ft long and 5 ft deep. VOA and glass samples were collected at the surface (BPL-8 6"-12", BPL-8 surface). The top foot of soil was composed of very light brown silty sand. From 1 to 2.5 ft, the soil was a cohesive, moist, medium brown, silty clay. From 2.5 to 3.5 ft, the soil was a cohesive dark grey, sandy clay with slight hydrogen sulfide odor. VOA and glass samples were collected at 3 ft (BPL-8 3.0'-3.5', BPL-8 3.0-3.5'). From 3.5 to 4 ft, the soil was composed of a slightly moist, medium brown, silty sandy clay; from 4 to 5 ft was a light brown silty sand with Chatsworth Formation sandstone at the bottom.

Trench BPU-1 (Upper Cell)

04/01/87

15:10 - 15:20

The trench was approximately 4 ft long and 1 ft deep. The very shallow soil was composed of medium brown silty sand with Chatsworth Formation silty sandstone underneath. No samples were collected because of the shallowness of the soil.

Trench BPU-2

04/02/87

8:45 — 8:55

The trench was approximately 5 ft long and 1.5 ft deep. A glass sample was collected at the surface (BPU-2 surface). The shallow soil was composed of very light brown, dry, silty sand with Chatsworth Formation silty sandstone underneath.

Trench BPU-3

04/02/87

8:55 - 9:20

The trench was approximately 5 ft long and 3 ft deep. VOA and glass samples were collected from the surface (BPU-3 6"-12", BPU-3 .5'-1'). The soil in the top 0.5 ft was mottled, light to medium brown, silty sand with some dark stains on the surface. From 0.5 to 2 ft, the soil was a medium brown silty clay with metal components. From 2 to 2.5 ft, the soil was a light brown, silty clay. A glass sample was collected of a white, crystalline substance found at 2 ft (BPU-3 2'). At 2.5 ft, VOA and glass samples were collected (BPU-3 2.5', BPU-3 2.5'). From 2.5 to 3 ft, the soil was a medium brown clay.

Trench BPU-4

04/02/87

9:20 - 9:40

The trench was approximately 8 ft long and 3 ft deep. A glass sample was collected at the surface. The top 0.5 ft of soil was light brown, silty sand. From 0.5 to 3 ft, the soil was a medium brown, silty clay with some small areas of white crystalline powder. At 3 ft, Chatsworth Formation light brown silty sandstone was encountered. Glass and VOA samples were collected at 3 ft (BPU-4 3', BPU-4 3').

Trench BPU-5

04/02/87

9:45 - 10:00

The trench was approximately 5 ft long and 3 ft deep. A glass sample was collected from the surface (BPU-5 surface). The top 1.5 ft of soil was a light brown, silty sand. From 1.6 ft to total depth was dark brown silty clay, underlain by the light brown silty sandstone of the Chatsworth Formation.

Trench BPU-6

04/02/87

10:05 - 10:18

The trench was approximately 7 ft long and 4.5 ft deep. The trench was cut into the berm between the upper and lower cells, and no components were unearthed. A glass sample was collected at the surface (BPU-6 surface). The soil was composed of a dark brown silty clay.

Trench BPW-1 (Western Cell)

04/02/87

10:40 - 11:00

The trench was approximately 35 ft long and from 1 to 2.5 ft deep. The soil was a medium brown, sandy silty clay underlain by weathered and unweathered Chatsworth Formation. The soil appeared undisturbed, and no samples were collected.

Trench BPW-2

04/02/87

11:05 - 11:40

The trench was approximately 21 ft long and 5 ft deep. A glass sample was collected at the surface (BPW-2 surface). The soil from the surface to 4 ft below the surface was medium brown, dry, cohesive silty clay with darker mottling and some components. At 1.5 ft below the surface, a whitish substance was observed. At 4 ft, VOA and glass samples were collected (BPW-2 f', BPW-2 4'). From 4 to 5 ft, the soil was dry medium reddish brown, silty clay with no mottling.

Trench BPW-3

04/02/87

13:15 - 13:40

The trench was approximately 30 ft long and 5 ft deep. Metal components and barrels were exposed during excavation. The soil was very mottled and consisted of mixed grey clay, weathered Chatsworth Formation silty sand, and some medium brown silty clay. The soil was saturated with water in places. There was a natural organic odor. There was rust staining in the soil from numerous pipes and flattened barrels. VOA and glass samples were collected

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at 4.5 ft (BPW-3 4.5', BPW-3 4.5'). A glass surface sample was collected approximately 10 ft southeast of BPW-3 in some black, possibly oil stained soil (BPW-3 surface).

Trench BPW-4

04/02/87

13:50 - 14:05

The trench was approximately 35 ft long and from 1.5 to 3 ft deep. The soil appeared to be undisturbed, dry cohesive, medium brown silty clay underlain by light brown, silty sand Chatsworth Formation. No samples were collected.

Trench BPW-5

04/02/87

15:10 - 15:30

The trench was approximately 20 ft long and 4 to 5 ft deep. The soil was a rust stained medium brown, silty clay. Large tanks and other components were exposed during excavation. VOA and glass samples were collected 3 ft below the surface (BPW-5 3', BPW-5 3').

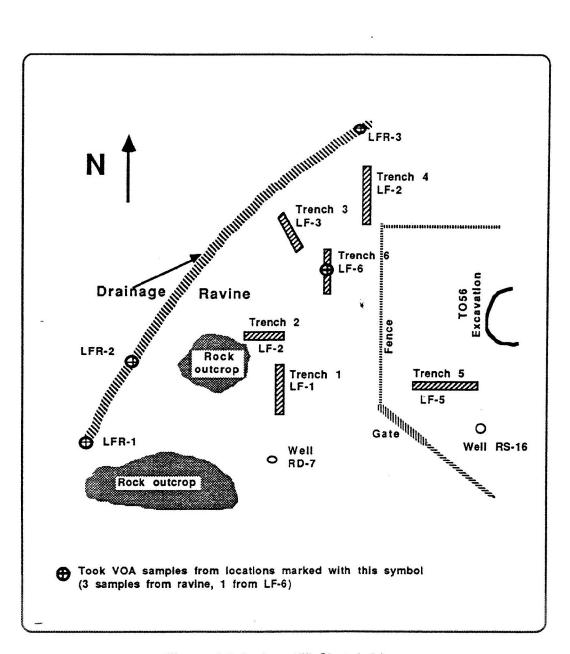


Figure A3.1. Landfill Sketch Map

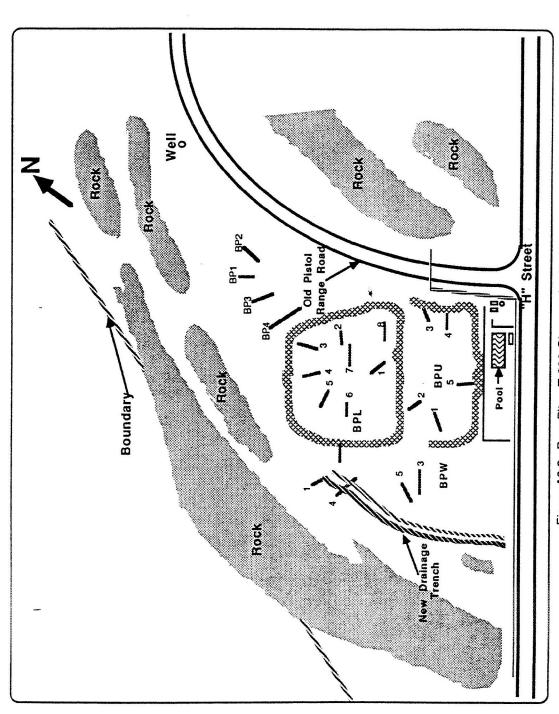


Figure A3.2. Burn Pit — T-886 Characterization Effort

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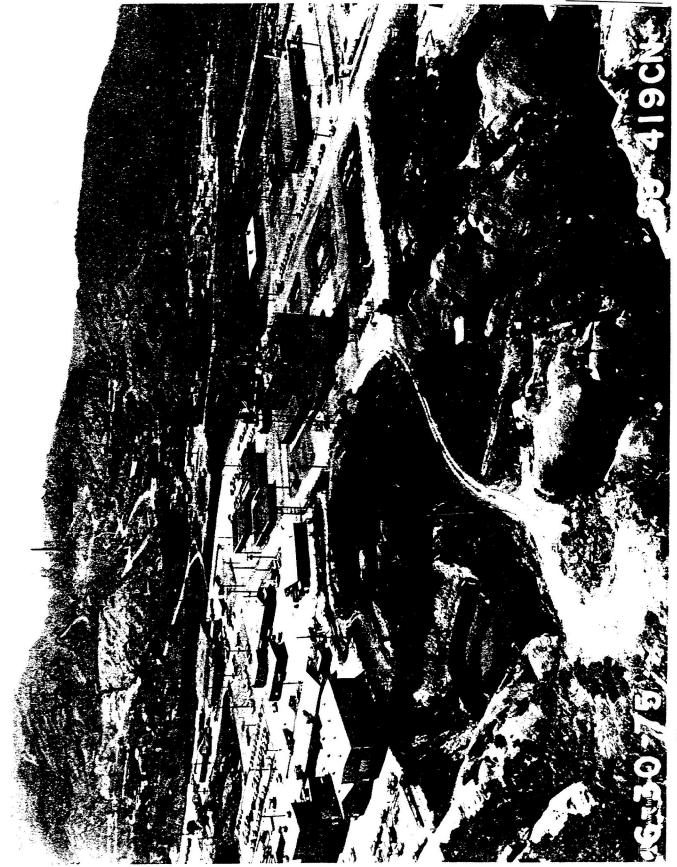
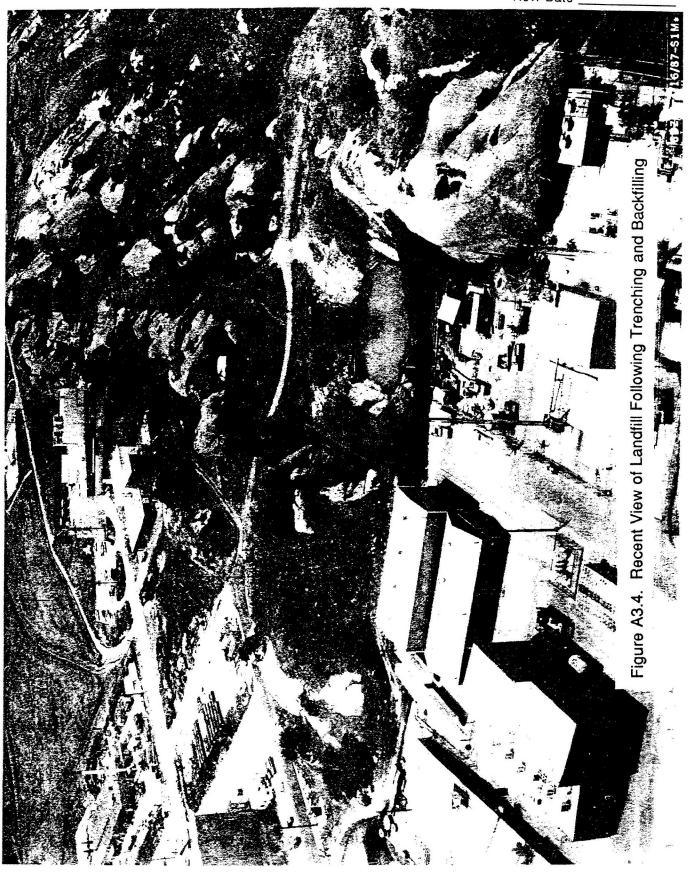
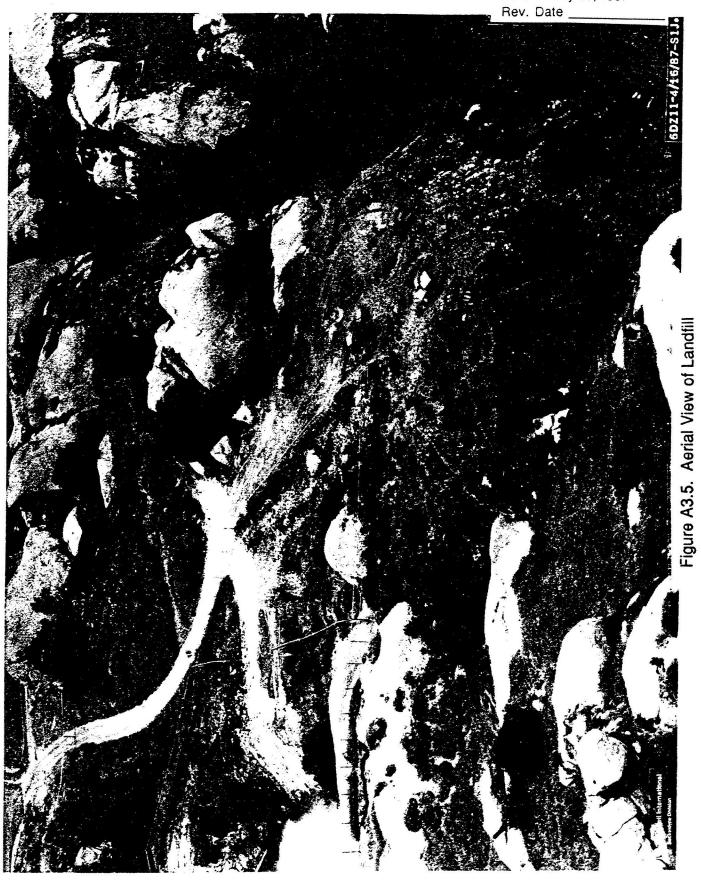


Figure A3.3. Historical View of Landfill at DOE-Optioned Area of SSFL (1975)

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Selected Ground Photos

Taken During Trenching Operations

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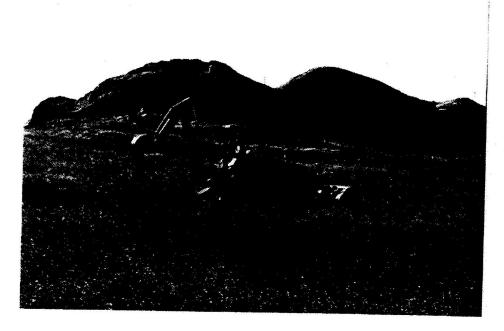


Figure A3.7. Backhoe in Position at SSFL for Trenching Operation

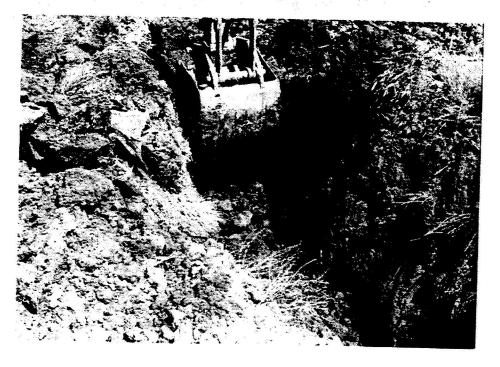


Figure A3.8. Trenching Operation

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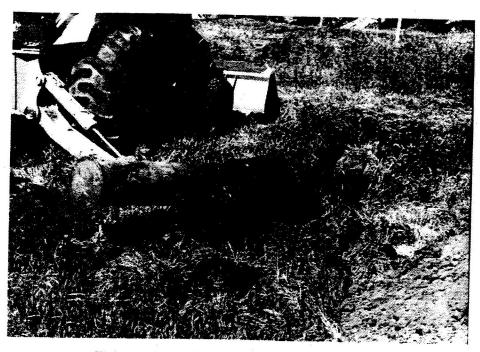


Figure A3.9. Buried Component Removed During Burn Pit Trenching Operation

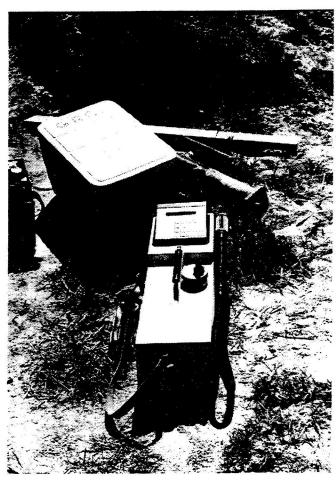


Figure A3.10. Miran 1B Sniffer for Field Survey of Soil Samples

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Figure A3.11. Monitoring While Workers Obtain Soil Samples



Figure A3.12. Workers' Shoes Being Checked for Radiation

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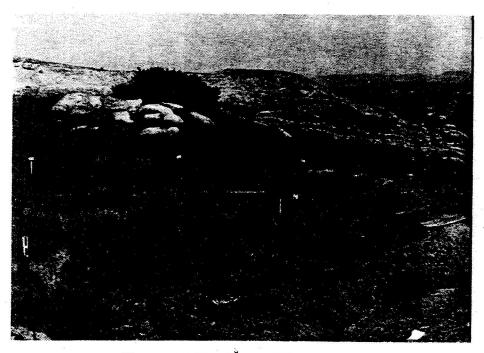


Figure A3.13. View of Burn Pit

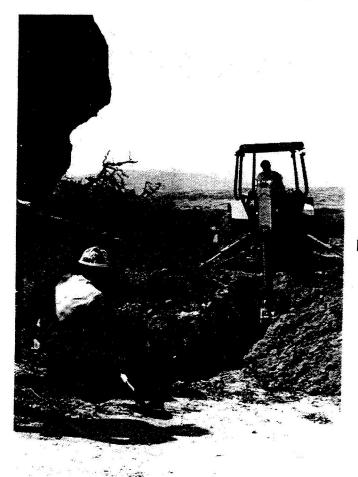


Figure A3.14. View of Landfill Trenching Operation

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Figure A3.15. Landfill Deep Trenching Operation

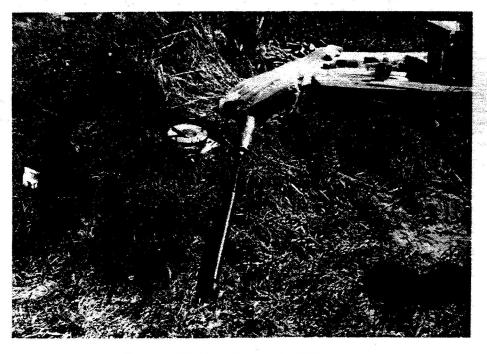


Figure A3.16. Brass Soil Sampler

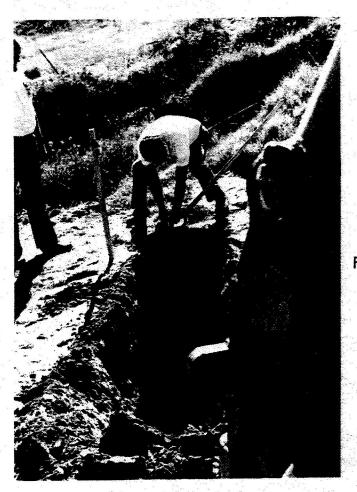


Figure A3.17. Soil Sampling Operation at the Burn Pit



Figure A3.18. Soil Sampling Containers and Freezer Chest

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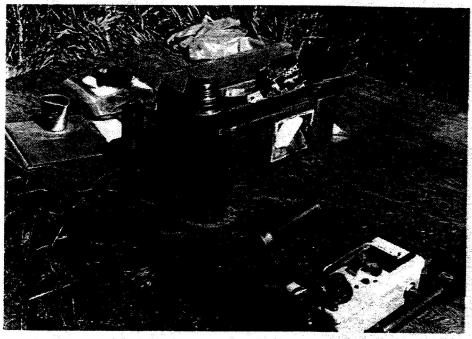


Figure A3.19. Brass Sampling Device and Miscellaneous Monitoring Equipment and Sampling Items



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Appendix A4 Burn Pit Radiation Survey of Soil Samples

-	,			JAIVE	Can -				1086	
	Sample	Det	Samp.e	Timo	Wright (grams)	RA			Note	5
	BP-1	3-5' Pile	3/3/87	10:45	29.8	OK *				
	BP-IA	3-5' Pile		10:45	27.6	OK				
	BP-2	7.7.	3/3/07	11:20	30.5	OK			2	
	8P-2 R	Cotton	3/2/87	11:20	37,4	OK				
	BP-3	12" Top	3/31/57		24.6	OK		40 N NO		
	8P-3 A		3/3:187		18.5	OK				
_	BP. 3 B	Pile	7		31.3	ok .				
	87.3 C	Pile	331/87		27.0	O.K				
-	89.4		3/21/07	PM	32.8	OK	1.00	The state of	Wet	
	BP.4 A	N.t. Pike			30.1	ØK .				
	EPL-1	Surface	4/1/67		33.2	4.4-				
	SPL-1A	1	4/1/67		79.0					1
-	BPL-13		4/1/07		19.1	4	17×10-940	6 C137	Hot le	ase "An
-	BPL-IC	VOR	41./87		115.	OK		O .		
-	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,							1 1		
	BPL-2	IS FT	4/1/87	.1	9,2					
-	 	3.5-464			36.2			e lear		
	BPL-28		4/1/87	09:45	22.0				· .	
-		54 - 2 VOA		•	32.6	οX			1	
								41.5		F
	BFt-3	4-12 VOR	4/1/87		17.0	0H				
4 75 8	BPL- 74		4/1/47		17.3					
Sec. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.		EFTE	41/10		47.7					
36	BPLE	طنطوا	4/2/07		33.7					
50	Contract of the Contract of th	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	4/1/87	11:35	33.5					
-		4.5-5" VOA			318	OX			gara (i	
					40				1, 1	
	BPL 5	C"IL" VOA	4/27	13:15	19.8	oK				i e
	OPL-SA				33.8	ok			-	
_										21 1
	391.6	VOA	4/1/27	13.735	126	ok	:	2.2		1.5
-	192 CA		4/1/87		28.2					50 c/m
				1	•				, i	
	BPF. 7	L'a' VOR	4/./87	13.55	30.0	σK			1	
		3 4 VOF		14.05	33.3	OK.				
		•			-					
	1. F 8	6 .12	41.107	14.30	37.7					
-	13PL 8A			14 40	30.5	oK		7		

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		1.		Can	Page 2 of 6				
Sample	Depth	Sample Date	So-ple Time	Weight (grams)	R/A			Note	\$
BPU - 2		.//		072				<u> </u>	
Bru.Z	SUF	4/2/97	8:45	27.2					
BPU-3	6".12" YOA	4/2/87	8:55	29.1	OK	· N.7×10-6	, 137 ac/go		
BPU-4	Ent Ba	4/2/87	10915	16.7					
BPU-47	311 VO4	4/2/87	09:25	192	ΟK				
BPJ-4B	1,5.4.	4/4/87	09:35	31.5					
BPU-5	6"	4/2/87	095-5	29.2					
				211.04	¥				
	4"	4/2/87		24,8				- / -	
2PU-6 A	4*1	4/2/87		32.6				Se. / - (3	ابمنامرج
3 PW									
RPW 2	Suf -6"	4/2/02	1/.00	17.7				·	
?PW-2		4/2/47	11:10	23.1					
1PW-3	6".	1/2/87		12 %	······································				
	4/2 YOR		/330	12.6 18.5	ok			green Ch	~4
•									
	2.5' YOA	u(25.0					
3 PW- 3	2.5 YOH	7/4/87	14.30	20,0	οK				
-									
				·					
									······

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Sample	Nomencla	fure	>4009	rams				3of G	R/A *
LF55	Plantin	/3.4	12% 86 00		in from	State QB	3/31/27	6:40	08
LF64	Plastic	Bag	(NOS)			RB	3/31/87	9.20	OK
LF65	Plastic	Beal	(NOS)			RP	3/5//87	920	OK
LF 5%	Plactic	BLO	25 deep	2'e is 1	rom Stat	te RB	3/31/27	8:40	OK
BP-14	Born Pi	- Plastic	ban (NO	s)	1	RE	3/31/87	10:50	OK
		Bag (NOS				1		10:50	OH
BP. 22	BPPlast	ic Red (vos)			16%	3/31/87	12:45	OK
		" Rag (RB	3/31/87	12:45	OU
BP-32	BP Plas	tic Been	(NOS)			RE	3/21/27		OK
		tic Bug					3/31/87		or
		stic Bay					3/21/27		or
BP-43	BP PI	stic Beq	(20M)			RB	3/21/27	2:20	OK
02 J				1		¥			
			640, G.	F. (No	(2	4710 G.31	4/2/87	8:45	οk
			640, G.		1		4/2/87		0+
			640 G.F		5)		4/2/87		1K
room			,						
BP-21	1'dra 8'F	m Stake	(Nos)				3/31/87	12:35 PU	OK
		om store					3/31/87	1:32	OK
		Fra Stak					3/31/87	2:05 PM	0K
	•								
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- A
Badag.

DATA SHEET Sample Remembrated of Description Description LF-11 8FT day 25Ft in from State. 193 3/50/87 2:50 per OK LF-12 8FT day 25Ft in from State. 193 3/50/87 2:50 per OK LF-13 FFT day 25Ft in from State. 177 3/50/87 2:50 per OK LF-13 10FT day 8FT in from State. 178 3/51/87 2:50 per OK LF-13 10FT day 8FT in from State. 176 3/51/87 2:50 per OK LF-13 10FT day 8FT in from State. 176 3/51/87 2:50 per OK LF-13 10FT day 8FT in from State. 176 3/51/87 2:50 per OK LF-13 10FT day 6FT in from State. 176 3/51/87 2:50 per OK LF-13 12FT day 6FT in from State. 176 3/51/87 2:50 per OK LF-13 12FT day 6FT in from State. 170 3/51/87 2:50 per OK LF-13 12FT day 6FT in from State. 170 3/51/87 2:50 per OK LF-14 7H day 5FT from State. 179 3/50/87 2:50 per OK LF-14 7H day 5FT from State. 179 3/50/87 2:50 per OK LF-15 1/25 FF day 6FT in from State. 179 3/50/87 2:50 per OK LF-15 1/25 FF day 6FT in from State. 179 3/50/87 2:50 per OK LF-15 1/25 FF day 6FT from State. 179 3/50/87 2:50 per OK LF-15 1/25 FF day 6FT from State. 179 3/50/87 2:50 per OK LF-15 1/25 FF day 6FT in from State. 179 3/50/87 2:50 per OK LF-16 1/25 FF day 6FT in from State. 179 3/50/87 2:50 per OK LF-17 1/25 FF day 6FT in from State. 187 3/51/87 2:55 per OK LF-18 1/25 FF day 6FT in from State. 187 3/51/87 2:55 per OK LF-18 1/25 FF day 6FT in from State. 187 3/51/87 2:55 per OK LF-18 1/25 FF day 6FT in from State. 187 3/51/87 2:55 per OK LF-18 1/25 FF day 6FT in from State. 187 3/51/87 2:55 per OK LF-18 1/25 FF day 6FT in from State. 187 3/51/87 2:55 per OK LF-18 1/25 FF day 1/25 per State. 10/6 3/51/87 2:55 per OK LF-18 1/25 FF day 1/25 per State. 10/6 3/51/87 2:55 per OK LF-18 1/25 FF day 1/25 per State. 10/6 3/51/87 2:55 per OK LF-18 1/25 FF day 1/25 per State. 10/6 3/51/87 2:55 per OK LF-18 1/25 Per Jacop 6FT in from State. 187 3/51/87 2:55 per OK LF-18 1/25 Per Jacop 6FT in from State. 187 3/51/87 2:55 per OK LF-18 1/25 Per Jacop 6FT in from State. 10/6 3/51/87 2:55 per OK LF-18 1/25 Per Jacop 6FT in from State. 10/6 3/51/87 2:	DATA	CUE						3	adaer	
0 m Description # 0 = Sumple Javs LF-11 & FT deep 25ft in From Stake. 193 3/3967 2:50 pm OK LF-12 & FT deep 25ft in From Stake. 172 3/30ft 7 2:50 pm OK LF-13 & FT deep 25ft in From Stake 177 3/30ft 7 2:50 pm OK LF-13 & 10 ft deep 8ft in From Stake 179 3/30ft 7 2:50 pm OK LF-23 & 10 ft deep 8ft in From Stake 176 3/31/87 2:50 pm OK LF-23 & 10 ft deep 8ft in From Stake 106 3/20ft 7 2:50 pm OK LF-31 & 12 ft deep 6ft in From Stake 106 3/20ft 7 2:50 pm OK LF-32 & 12 ft deep 6ft in From Stake 106 3/20ft 7 2:50 pm OK LF-33 & 14 ft deep 6ft in From Stake 170 3/30ft 7 2:50 pm OK LF-34 & 14 ft deep 5ft in From Stake 190 3/30ft 7 2:50 pm OK LF-34 & 14 ft deep 5ft from Stake 193 3/30ft 7 2:50 pm OK LF-34 & 14 ft deep 5ft from Stake 193 3/30ft 7 2:50 pm OK LF-34 & 14 ft deep 5ft from Stake 193 3/30ft 7 2:50 pm OK LF-51 & 12 5 ft deep 12 ft in From Stake 193 3/30ft 7 2:50 pm OK LF-52 & 12 5 ft deep 12 ft in From Stake 21H 3/30/67 2:50 pm OK LF-53 & 12 5 ft deep 12 ft in from Stake 225 3/30ft 7 2:50 pm OK LF-53 & 12 5 ft deep 12 ft in from Stake 225 3/30ft 7 2:50 pm OK LF-54 & 12 5 ft deep 12 ft in from Stake 225 3/30ft 7 2:50 pm OK LF-53 & 12 5 ft deep 12 ft in from Stake 226 3/30ft 7 2:50 pm OK LF-60 & 12 Ft deep 62 in from Stake 187 3/30ft 7 2:50 pm OK LF-61 & 12 Ft deep 62 in from Stake 187 3/30ft 7 9:55 pm OK LF-62 & 12 Ft deep 62 in from Stake 187 3/30ft 7 9:55 pm OK LF-63 & 12 Ft deep 13 from Stake 187 3/30ft 7 9:55 pm OK LF-63 & 12 Ft deep 13 from Stake 187 3/30ft 7 9:55 pm OK LF-63 & 12 Ft deep 13 from Stake 187 3/30ft 7 9:55 pm OK LF-63 & 12 Ft deep 13 from Stake 187 3/30ft 7 9:55 pm OK LF-63 & 12 Ft deep 13 from Stake 187 3/30ft 7 9:55 pm OK LF-63 & 12 Ft deep 13 from Stake 187 3/30ft 7 9:55 pm OK LF-63 & 12 Ft deep 13 from Stake 187 3/30ft 7 9:55 pm OK LF-63 & 12 Ft deep 13 from Stake 187 3/30ft 7 9:55 pm OK LF-63 & 12 Ft deep 13 from Stake 187 3/30ft 7 9:55 pm OK LF-63 & 12 Ft deep 13 from Stake 187 3/30ft 7 9:55 pm OK	DATA	4 SHE	-E I					Pa	ge 40/4	
LF-11 8FT deep 25Ft in From Stake. 193 2/30/87 2:50 Au OK LF-12 8FT deep 25Ft in From Stake. 172 2/30/87 2:50 Au OK LF-13 8FT deep 25Ft in From Stake 177 3/30/87 2:50 pm OK LF-13 10 FT deep 8FT in From Stake 177 3/30/87 2:50 pm OK LF-21 10 FT deep 8FT in From Stake 176 3/31/87 2:00 pm OK LF-23 10 Ct drep 8FT in From Stake 176 3/31/87 2:00 pm OK LF-23 10 Ct drep 8FT in From Stake 176 3/30/87 2:15 pm OK LF-31 12 FT deep 6FF in From Stake 176 3/30/87 2:15 pm OK LF-32 12 Ht drep 6FF in From Stake 170 3/30/87 2:15 pm OK LF-33 12 Ht drep 6FF in From Stake 190 3/30/87 2:15 pm OK LF-34 Sunfam sample 3ft in from Stake 190 3/30/87 2:15 pm OK LF-34 Sunfam sample 3ft in from Stake 193 3/30/87 2:15 pm OF LF-41 7 Ht deep 5 5 from stake 179 3/30/87 2:00 pm OF LF-42 7 Ht deep 5 5 from stake 179 3/30/87 2:00 pm OF LF-53 12.5 Ht deep 15 Ht in from Stake 179 3/30/87 3:25 pm OK LF-53 12.5 Ht deep 12 Ht in from Stake 21H 3/10/87 3:25 pm OK LF-53 12.5 Ht deep 12 Ht in from Stake 21H 3/10/87 3:25 pm OK LF-53 12.5 Ht deep 12 Ht in from Stake 21H 3/10/87 3:25 pm OK LF-53 12.5 Ht deep 12 Ht in from Stake 21H 3/10/87 3:25 pm OK LF-54 2 FT deep 12 Ht in from Stake 21 3/31/87 3:25 pm OK LF-53 12.5 Ht deep 12 Ht in from Stake 21 3/31/87 3:25 pm OK LF-63 12.5 Ht deep 12 Ht in from Stake 22 3/31/87 3:25 pm OK LF-63 12.5 Ht deep 13 From Stake 20 3/31/87 3:15 pm OK LF-63 12.5 Ht deep 13 From Stake 20 3/31/87 3:15 pm OK LF-63 12.5 Ht deep 13 From Stake 20 3/31/87 3:15 pm OK LF-63 12.5 Ht deep 13 From Stake 20 3/31/87 3:15 pm OK LF-63 12.5 Ht deep 13 From Stake 20 3/31/87 3:15 pm OK LF-63 12.5 Ht deep 13 From Stake 20 3/31/87 3:15 pm OK LF-63 12.5 Ht deep 13 From Stake 20 3/31/87 3:15 pm OK LF-63 12.5 Ht deep 13 From Stake 20 3/31/87 3:15 pm OK LF-63 12.5 Ht deep 13 From Stake 20 3/31/87 3:15 pm OK LF-63 12.5 Ht deep 13 From Stake 20 3/31/87 3:15 pm OK LF-63 12.5 Ht deep 13 From Stake 20 3/31/87 3:15 pm OK LF-63 12.5 Ht deep 13 From Stake 20 3/31/87 3:15 pm OK							Weight (a)	Date	Time	R/A
LF-11 8FT deep 25Ft in From Stake. 193 2/3/67 2:50 py OK LF-12 8FT deep 25Ft in From Stake 172 2/3/677 3:50 pm OK LF-13 8FT deep 25Ft in From Stake 1779 3/3/67 2:50 pm OK LF-13 10FT deep 8FT in From Stake 1779 3/3/677 2:00 pm OK LF-21 10FT deep 8FT in From Stake 176 3/3/677 2:00 pm OK LF-23 10CH deep 8FT in From Stake 202 3/3/671 2:00 pm OK LF-31 12FT deep 6FT in From Stake 1/65 3/3/672 2:15 pm OK LF-31 12FT deep 6FT in From Stake 1/65 3/3/672 2:15 pm OK LF-33 12FT deep 6FT in From Stake 1/70 3/3/672 2:15 pm OK LF-34 Surface 2 mmpl 3ft in from Stake 1/90 3/3/672 2:15 pm OK LF-34 Surface 2 mmpl 3ft in from Stake 1/93 3/3/672 2:00 pm OK LF-37 7ft deep 5TT from Stake 1/93 3/3/672 2:00 pm OK LF-42 7ft deep 5TT from Stake 1/93 3/3/672 2:00 pm OK LF-51 12:5ft deep 12ft in from Stake 21H 3/3/6/72 2:00 pm OK LF-52 12:5ft deep 12ft in from Stake 21H 3/3/6/72 2:05 pm OK LF-53 12:5ft deep 12ft in from Stake 22H 3/3/6/72 2:05 pm OK LF-53 12:5ft deep 12ft in from Stake 22H 3/3/6/72 2:05 pm OK LF-53 12:5ft deep 12ft in from Stake 22H 3/3/6/72 2:05 pm OK LF-53 12:5ft deep 12ft in from Stake 22H 3/3/6/72 2:05 pm OK LF-53 12:5ft deep 12ft in from Stake 20G 3/3/672 3:25 pm OK LF-63 7/2 Ft deep 62 in from Stake 10G 3/3/672 9:15 mm OK LF-63 1/2-Ft deep 62 in from Stake 10G 3/3/672 9:15 mm OK LF-63 1/2-Ft deep 1/2-Ft deep 62 in from Stake 10G 3/3/672 9:15 mm OK LF-63 1/2-Ft deep 1/2-Ft deep 62 in from Stake 10G 3/3/672 9:15 mm OK LF-63 1/2-Ft deep 1/2-Ft deep 62 in from Stake 10G 3/3/672 9:15 mm OK BP-11 6'-deep 1/2-Ft deep 65 in from Stake 10G 3/3/672 10:50 AM OK BP-12 6'-deep 1/2-Ft deep 1/2-				15						
LF-12 8FT drop 25Ft in from Stake 172 3/30/87 2:50 pm OK 1F-13 8FT drop 25Ft in from Stake 179 3/36/87 2:50 pm OK 1F-21 10 FT drop 8 FT in from Stake 2/36/87 2:00 pm OK 1F-22 10 FT drop 8 FT in from Stake 176 3/31/87 2:00 pm OK 1F-23 10 FT drop 8 FT in from Stake 176 3/31/87 2:00 pm OK 1F-31 12 FT drop 6 FT in from Stake 176 3/30/87 2:15 pm OK 1F-32 12 FT drop 6 FT in from Stake 170 3/30/87 2:15 pm OK 1F-33 12 FT drop 6 FT in from Stake 170 3/30/87 2:15 pm OK 1F-34 Sunfam sample 3 FT in from Stake 170 3/30/87 2:15 pm OK 1F-34 7 FT drop 5 FT in from Stake 177 3/30/87 2:15 pm OK 1F-42 7 FT drop 5 FT in from Stake 179 3/30/87 2:15 pm OK 1F-51 12:5 FT drop 6 FT in from Stake 179 3/30/87 2:15 pm OK 1F-52 12:5 FT drop 6 FT in from Stake 179 3/30/87 2:15 pm OK 1F-53 12:5 FT drop 6 In from Stake 179 3/30/87 2:25 pm OK 1F-53 12:5 FT drop 6 In from Stake 189 3/31/87 3:25 pm OK 1F-60 9'8 FT drop 6 In from Stake 180 3/31/87 9:15 AM OK 1F-63 10 FT drop 6 In from Stake 180 3/31/87 9:15 AM OK 1F-63 10 FT drop 6 In from Stake 180 3/31/87 9:15 AM OK 1F-63 10 FT drop 6 In from Stake 180 3/31/87 9:15 AM OK 180-11 6'-drop 13' From Stake 180 3/31/87 9:15 AM OK 180-13 6'-drop 13' From Stake 180 3/31/87 10:50 AM OK 180-13 6'-drop 13' From Stake 180 3/31/87 10:50 AM OK 180-13 6'-drop 13' From Stake 180 3/31/87 10:50 AM OK 180-13 6'-drop 13' From Stake 180 3/31/87 10:50 AM OK		0								
LF-12 8FT dry 25FT in from Stake 172 3/30/87 2:50 pm OK 1F-13 8FT drap 25 ft in from Stake 179 3/36/87 2:50 pm OK 1F-21 10 FT drap 8 ft in from Stake 2/30/87 2:00 pm OK 1F-22 10 ft drap 8 ft in from Stake 176 3/31/87 2:00 pm OK 1F-23 10 ft drap 8 ft in from Stake 176 3/31/87 2:00 pm OK 1F-31 12 ft drap 6 ft in from Stake 176 3/30/87 2:15 pm OK 1F-32 12 ft drap 6 ft in from Stake 170 3/30/87 2:15 pm OK 1F-33 12 ft drap 6 ft in from Stake 170 3/30/87 2:15 pm OK 1F-34 Sunfam 2 mmpl 3 ft in from Stake 170 3/30/87 2:15 pm OK 1F-34 Th drap 5 ft from Stake 177 3/30/87 2:15 pm OK 1F-42 Th drap 5 ft from Stake 178 3/30/87 2:15 pm OK 1F-52 12:5 ft drap 5 ft from Stake 179 3/30/87 2:15 pm OK 1F-53 12:5 ft drap 5 ft from Stake 179 3/30/87 2:15 pm OK 1F-52 12:5 ft drap 6 ft in from Stake 179 3/30/87 2:15 pm OK 1F-53 12:5 ft drap 6 ft in from Stake 179 3/30/87 2:25 pm OK 1F-53 12:5 ft drap 12 ft in from Stake 179 3/30/87 2:25 pm OK 1F-54 A ft drap 12 ft in from Stake 187 3/31/87 3:25 pm OK 1F-63 7/2 ft drap 6 in from Stake 187 3/31/87 9:15 ftm OK 1F-63 7/2 ft drap 6 in from Stake 187 3/31/87 9:15 ftm OK 189-11 6'-drap 13' from Stake 170 3/31/87 10:50 ftm OK 189-13 6'-drap 13' from Stake	LF-11	8 FT de	p 25Ft 1	n From S	Take.		193	3/39/87	2:50 AH	OK
15-13 FFT deep 25 ft in from stake 177 \$\frac{1}{3}\left\{ 1250 pm} OK \\ 15-21 10 ft deep 8 ft in from stake 2\frac{1}{20}\left\{ 720 pm} OK \\ 15-22 10 ft deep 8 ft in from stake 202 \$\frac{1}{3}\left\{ 176 } \frac{3}{3}\left\{ 177 } \frac{3}{3}\left\{ 176 } \frac{3}{3}\left\{ 176 } \frac{3}{3}\left\{ 177 } \frac{3}{3}\left\{ 176 } \frac{3}{3}\left\{ 177 } \frac{3}{3}\left\{ 176 } \frac{3}{3}\left\{ 176 } \frac{3}{3}\left\{ 177 } \frac{3}{3}\left\{ 176 } \frac{3}{3	LF-12	8FT do	, 25Ft,	a from 5	ta Ka		172			
15-21 10 ft deep 85t in From stake 170 3/31/87 2:00 pm OK 15-22 10 ft deep 8t in from stake 170 3/31/87 2:00 pm OK 15-23 10 ct deep 8ct in from stake 170 3/30/87 2:00 pm OK 15-31 12 ft deep 6t in from stake 170 3/30/87 2:15 pm OK 15-32 12 ft deep 6t in from stake 170 3/30/87 2:15 pm OK 15-33 12 ft deep 6t in from stake 170 3/30/87 2:15 pm OK 15-34 Surface sample 3ft in from stake 170 3/30/87 2:15 pm OK 15-41 7 ft deep 5t from stake 179 3/30/87 2:15 pm OK 15-42 7 ft deep 5t from stake 179 3/30/87 2:10 pm OK 15-43 7 ft deep 5t from stake 179 3/30/87 2:10 pm OK 15-51 12.5 ft deep 12 ft in from stake 174 3/30/87 3:25 pm OK 15-52 12.5 ft deep 12 ft in from stake 15-53 12.5 ft deep 12 ft in from stake 15-53 12.5 ft deep 12 ft in from stake 15-54 2 ft deep 12 ft in from stake 15-57 2:25 pm OK 15-58 2:5 ft deep 12 ft in from stake 15-62 9'2 ft deep 6'2 in from stake 16-63 9'2 ft deep 13 from stake 170 3/31/87 9:15 fm OK 15-63 1'2 ft deep 13 from stake 170 3/31/87 10:50 fm OK 15-63 1'2 ft deep 13 from stake 170 3/31/87 10:50 fm OK 15-63 1'2 ft deep 13 from stake 170 3/31/87 10:50 fm OK 170 3/31/87 10:50 fm OK 170 3/31/87 10:50 fm OK	LF-13	1	10	1	1		177			
LF-22 106t drep & to a from state LF-23 10ct brep & to in from state LF-23 10ct brep & to in from state LF-31 12 ft drep & to in from state LF-31 12 ft drep & to in from state LF-32 12 ft drep & to in from state LF-33 12 ft drep & to in from state LF-34 Surface sample 3 ft in from state LF-34 Surface sample 3 ft in from state LF-34 7 ft drep & from state LF-37 7 ft drep & from state LF-38 7 ft drep & from state LF-39 7 ft drep & from state LF-30 7 ft drep & from state LF-30 7 ft drep & from state LF-30 7 ft drep & from state LF-31 12.5 ft drep /2 ft in from state LF-52 12.5 ft drep /2 ft in from state LF-53 12.5 ft drep /2 ft in from state LF-53 12.5 ft drep /2 ft in from state LF-63 9'2 ft drep & a in from state LF-63 9'2 ft drep & a in from state LF-63 12.5	LF-ZJ	10 FT d	eep 85+	in from	stake			3/30/87	2:00pm	01.
LF-23 10ct brop ect in from stake LF-31 12ft cop 6st in from stake LF-32 12H drop 6st in from stake LF-32 12H drop 6st in from stake LF-33 12ft drop 6st in from stake LF-34 Surface sample 3ft in from stake LF-34 Surface sample 3ft in from stake LF-34 7ft drop 5st from stake LF-42 7ft drop 5st from stake LF-43 7ft drop 5st from stake LF-43 7ft drop 5st from stake LF-51 12.5 ft drop 12ft in from stake LF-52 12.5 ft drop 12ft in from stake LF-53 12.5 ft drop 12ft in from stake LF-54 2ft drop 12ft in from stake LF-55 12.5 ft drop 12ft in from stake LF-60 9st ft drop 62 in from stake LF-60 9st ft drop 62 in from stake LF-63 1st ft drop 63 in from stake LF-	LF-22						176			01.
15-31 12 FT deep 6 Ft in from stake 166 3/20/27 2:15 pm 0 K 15-32 12 H deep 6 Ft in from stake 176 3/20/27 2:15 pm 0 K 15-33 12 H deep 6 Ft in from stake 190 3/20/27 2:15 pm 0 K 15-34 Surface sample 3 ft in him stake 190 3/20/27 2:15 pm 0 K 15-34 Surface sample 3 ft in him stake 193 2/20/27 2:20 pm 0 K 15-42 7 ft deep 5 ft in from stake 179 3/20/27 2:40 pm 0 K 15-42 7 ft deep 5 ft in from stake 174 3/20/27 2:40 pm 0 K 15-51 12:5 ft deep 12 ft in from stake 214 3/20/27 2:25 pm 0 K 15-52 12:5 ft deep 12 ft in from stake 214 3/20/27 3:25 pm 0 K 15-53 12:5 ft deep 12 ft in from stake 245 3/20/27 2:25 pm 0 K 15-54 2 Ft deep 12 ft in from stake 231 3/20/27 2:25 pm 0 K 15-54 2 Ft deep 6 2 in from stake 206 3/21/27 2:25 pm 0 K 15-60 9'2 Ft deep 6 2 in from stake 201 3/21/27 9:15 mm 0 K 15-62 9'2 Ft deep 6 2 in from stake 203 3/21/27 9:15 mm 0 K 15-63 3'2 Ft deep 13 from stake 126 3/21/27 10:50 AM 0 K 15-63 13'- from stake 176 3/21/27 10:50 AM 0 K 15-13 6'-deep 13'- from stake 176 3/21/27 10:50 AM 0 K 15-13 6'-deep 13'- from stake 184 2/21/27 10:50 AM 0 K 15-13 6'-deep 13'- from stake 184 2/21/27 10:50 AM 0 K 15-13 6'-deep 13'- from stake 184 2/21/27 10:50 AM 0 K 15-13 6'-deep 13'- from stake 184 2/21/27 10:50 AM 0 K 15-13 6'-deep 13'- from stake 184 2/21/27 10:50 AM 0 K 15-13 6'-deep 13'- from stake 184 2/21/27 10:50 AM 0 K 15-13 15	LF-23	10C+ D	eep per	in Prom	state					OK
LF-32 12 ft deep 600 in from stake 170 3/30/67 2:15 pm OK LF-3 3 12 ft deep 610 in from stake 190 3/30/67 2:15 pm OK LF-3 4 Surface sound 3 ft in home stake 193 2/20/67 2:00 pm OT. LF-41 7 ft deep 5 to from stake 193 3/30/67 2:00 pm OT. LF-42 7 ft deep 5 to from stake 179 3/30/67 2:00 pm OK. LF-43 7 ft deep 5 to from stake 174 3/30/67 2:00 pm OK. LF-51 12:5 ft deep 12 ft in from stake 214 3/30/67 3:25 pm OK. LF-52 12:5 ft deep 12 ft in from stake 245 3/30/67 3:25 pm OK. LF-53 12:5 ft deep 12 ft in from stake 25C 3/30/67 3:25 pm OK. LF-53 12:5 ft deep 12 ft in from stake 25C 3/30/67 3:25 pm OK. LF-60 9'2 ft deep 12 ft in from stake 206 3/31/67 9:15 ftm OK. LF-62 9'2 ft deep 62 in from stake 206 3/31/67 9:15 ftm OK. LF-63 1'2 ft deep 13 from stake 203 3/31/67 9:15 mm OK. LF-63 1'2 ft deep 13 from stake 107 3/31/67 9:15 mm OK. BP-12 6'-deep 13 from stake 107 3/31/67 10:50 AM OK. BP-13 6'-deep 13 from stake 107 3/31/67 10:50 AM OK. BP-13 6'-deep 13 from stake 108 3/31/67 10:50 AM OK.	LF-31						165	, ,		
LF-33 12ff deep 6/4 in from stake 190 3/20/27 2:15 pm OK LF-34 Surface sample 3ff in from stake 193 2/20/27 2:00 pm OK. LF-41 7 ff doep 5 the stake 193 2/20/27 2:40 pm OK. LF-42 7 ff doep 5 the stake 179 3/30/27 2:40 pm OK. LF-43 4 ff doep 5 the stake 174 3/30/27 2:40 pm OK. LF-51 12.5 ff deep 12 ff in from 5 take 214 3/20/27 3:25 pm OK. LF-52 12.5 ff deep 12 ff in from 5 take 245 3/20/27 3:25 pm OK. LF-53 12.5 ff deep 12 ff in from 5 take 245 3/20/27 3:25 pm OK. LF-54 2 ft deep 12 ff in from 5 take 25C 3/20/27 3:25 pm OK. LF-60 9/2 ft doep 6/2 in from 5 take 206 3/31/27 9:15 fm OV. LF-63 1/2 ft doep 6/2 in from 6 take 187 3/31/27 9:15 fm OV. LF-63 1/2 ft doep 1/2 from 5 take 107 3/31/27 9:15 fm OV. BP-11 6'-doep 13 from 5 take 107 3/31/27 10:50 AM OK. BP-12 6'-doep 13' from 5 take 107 3/31/27 10:50 AM OK. BP-13 6'-doep 13' from 5 take 107 3/31/27 10:50 AM OK.	LF-32	12 H 1	rep LEt.	n from	stake		176	3/20/87		OK
LF-34 Surface sample 3ft in from state 13 2/30/67 2:00pm Or. LF-41 7ft deep 5 to from state 179 3/30/67 2:00pm Or. LF-42 7ft deep 5 to from state 179 3/30/67 2:00pm Or. LF-43 7ft deep 5 to from state 174 3/30/67 2:00pm Or. LF-51 12:5ft deep 12ft in from state 214 3/30/67 3:25pm Or. LF-52 12:5ft deep 12ft in from state 245 3/30/67 3:25pm Or. LF-53 12:5ft deep 12ft in from state 245 3/30/67 3:25pm Or. LF-53 12:5ft deep 12ft in from state 250 3/34/67 3:25pm Or. LF-60 9'9 Ft deep 12ft in from state 206 3/31/67 9:157mm Or. LF-61 9'9 Ft deep 6 a in from state 206 3/31/67 9:157mm Or. LF-63 1'2 Ft deep 6 a in from state 203 3/31/67 9:157mm Or. LF-63 1'2 Ft deep 6 a in from state 203 3/31/67 9:157mm Or. BP-11 6'-deep 13 from state 106 3/31/67 10:50 Am Or. BP-12 6'-deep 13'-from state 106 3/31/67 10:50 Am Or. BP-13 6'-deep 13'-from state 167 3/31/67 10:50 Am Or. BP-13 6'-deep 13'-from state 167 3/31/67 10:50 Am Or.	LF-3 3	12 ff d	es bet	in from	stake		190			
LF. 41 7 ft deep 5 th from stake 193 2/30/07 2:40 pm OF. LF. 42 7 ft deep 5 th from stake 179 3/30/07 2:40 pm OF. LF. 43 7 ft deep 5 th from stake 174 3/30/07 2:40 pm OK. LF. 51 12.5 ft deep 12 ft in from stake 214 3/20/07 3:25 pm OK. LF. 52 12.5 ft deep 12 ft in from stake 2:45 3/30/07 3:25 pm OK. LF. 53 12.5 ft deep 12 ft in from stake 2:45 3/30/07 3:25 pm OK. LF. 53 12.5 ft deep 12 ft in from stake 2:56 3/20/07 3:25 pm OK. LF. 54 is ft deep 12 ft in from stake 2:56 3/20/07 3:25 pm OK. LF. 60 9 9 Ft deep 62 in from stake 2:06 3/31/07 9:15 ft OK. LF. 62 9 2 Ft deep 62 in from stake 2:03 3/31/07 9:15 ft OK. LF. 63 7 2 Ft deep 62 in from stake 2:03 3/31/07 9:15 ft OK. BP-11 6 deep 13 from stake 107 3/31/07 10:50 ft OK. BP-12 6 deep 13 from stake 167 3/21/07 10:50 ft OK. BP-13 6 deep 13 from stake 167 3/21/07 10:50 ft OK.	LF-34	Surface	sampl	3ft in	hom stal		13			or.
LF.42 7 H deep 55 from stake 179 3/30/87 2.40 pm OK. LF.93 7 H deep 55 from stake 174 3/30/87 2.40 pm OK. LF.51 12.5 H deep 12 H in from stake 21H 3/30/87 3:25 pm OK. LF.52 12.5 H deep 12 H in from stake 245 3/30/87 3:25 pm OK. LF.53 12.5 H deep 12 H in from stake 25C 3/24/87 3:25 pm OK. LF.54 à FT deep 12 H in from stake 25C 3/24/87 3:25 pm OK. LF.60 9'8 FT deep 62 in from stake 206 3/31/87 9:15 mm OK. LF.62 9'2 Ft deep 62 in from stake 187 3/31/87 9:15 mm OK. LF.63 1'0 FT deep 62 in from stake 203 3/31/87 9:15 mm OK. LF.63 1'0 FT deep 62 in from stake 107 3/31/87 9:15 mm OK. BP-11 6'-deep 13 From stake 1067 3/31/87 10:50 RM OK. BP-12 6'-deep 13'-from stake 167 3/31/87 10:50 RM OK. BP-13 6'-deep 13'-from stake 1697 3/31/87 10:50 RM OK.	LF - 41	7 H d.	ep 5	in from !	fale		193			or.
LF. 93 7ft deep 12ft in from 5 take 21H 3/30/07 3:25 pm OK LF. 51 12.5 ft deep 12ft in from 5 take 21H 3/50/07 3:25 pm OK LF. 52 12.5 ft deep 12ft in from 5 take 24S 3/30/07 3:25 pm OK LF. 53 12.5 ft deep 12ft in from 5 take 25C 3/2487 3:25 pm OK LF. 54 2 ft deep 12ft in from 5 take 231 2/20/07 3:25 pm OK LF. 601 9'2 Ft deep 6'2 in from 5 take 206 2/31/07 9:15 AM OK LF. 62 9'2 Ft deep 6'2 in from 5 take 203 3/31/07 9:15 AM OK LF. 63 9'2 Ft deep 6'2 in from 5 take 203 3/31/07 9:15 am OK LF. 63 9'2 Ft deep 6'2 in from 5 take 203 3/31/07 9:15 am OK BP-11 6'-deep 13' from 5 take 107 3/31/07 10:50 AM OK BP-12 6'-deep 13' from 5 take 167 3/21/07 10:50 AM OK BP-13 6'-deep 13' from 5 take 184 3/31/07 10:50 AM OK	LF-42				take		179			
LF.51 12.5 ft deep 12 ft in from stake 214 3/30/07 3:25 pm OK LF.52 12.5 ft deep 12 ft in from stake 245 3/30/07 3:25 pm OK LF.53 12.5 ft deep 12 ft in from stake 25C 3/2487 3:25 pm OK LF.54 2 FT deep 10 ft in from stake 231 2/20/07 325 pm OK LF.61 9'9 FT deep 62 in from STake 206 3/31/07 9:15 fm OK LF.62 9'9 FT deep 62 in from stake 187 3/31/07 9:15 fm OK LF.63 1'0 FT deep 62 in from stake 203 3/31/07 9:15 fm OK LF.63 1'0 FT deep 62 in from stake 107 3/31/07 9:15 fm OK BP-11 6'-deep 13'-From stake 107 3/31/07 10:50 fm OK BP-12 6'-deep 13'-From stake 167 3/31/07 10:50 fm OK BP-13 6'-deep 13'-From stake 184 2/31/07 10:50 fm OK	LF . 43						174	3/30/27		
LF.52 12.5 ft deep 12 ft in from stake 245 3/30/67 3:25 pm OK. LF.53 12.5 ft deep 12 ft in from stake 25C 3/24/67 3:25 pm OK. LF.54 2 ft deep 10 ft in from stake 231 2/20/67 325 pm OK. LF-61 9'9 Ft deep 6'9 in from stake 206 3/31/67 9:15/1111 OV. LF-62 9'9 Ft deep 6'9 in from stake 187 3/31/67 9:15/1111 OV. LF-63 9'9 Ft deep 6'9 in from stake 203 3/31/67 9:15 am OV. BP-11 6'-deep 13 from stake 17C 3/31/67 10:50 Am OK. BP-12 6'-deep 13'-From stake 167 3/31/67 10:50 Am OK. BP-13 6'-deep 13'-From stake 184 2/31/67 10:50 Am OK.	LF. 51	12.54	-deep	24 in	from s	take	214			
15.53 12.5 ft deep 12 ft am for what 256 3/2487 3.25 pm 0x. 15.54 à FT deep 10 ft 10 from state 231 2/20/07 325 pm 0K 15.61 9'9 FT deep 62 10 from state 206 3/31/07 9:15 fm 0x 15.62 9'9 FT deep 62 10 from state 187 3/31/07 9:15 fm 0x 15.63 7'0 FT deep 62 10 from state 203 3/31/07 9:15 am 0x 15.63 7'0 FT deep 62 10 from state 203 3/31/07 9:15 am 0x 15.63 7'0 FT deep 62 10 from state 106 3/31/07 10:50 fm 0x 15.54	LF . 52	12.54	Leep 1.	Elt in f	m 800	h	245	3/30/07	3:25pm	OK
1F.54 à ft deep 10 ft 11 from state 231 2/20/67 325 pm 0 K 1F-61 9'9 Ft deep 6 a in from state 206 3/31/87 9:15/11 0 V 1F-62 9'2 Ft deep 6 a in from state 187 3/31/87 9:15 AM 0 V. 1F-63 7'2 Ft deep 6 a in from state 203 3/31/87 9:15 AM 0 V. 1BP-11 6'-deep 13'-From state 176 3/31/87 10:50 AM 0 K BP-12 6'-deep 13'-From state 167 3/31/87 16:50 AM 0 K BP-13 6'-deep 13'-From state 184 3/31/87 10:50 AM 0 K	LF-53	12.54	deer 1.	H m d	for stay	h.	256			or.
LF-61 9°9 Ft deep 6°0 in from STake 206 3/31/87 9:15/11 00° LF-62 9°9 Ft deep 6°0 in from STake 187 3/31/87 9:15/11 00° LF-63 9°9 Ft deep 6°0 in from stake 203 3/31/87 9:15 am 00° CF-63 9°0 Ft deep 13° From stake 176 3/31/87 10:50/11 0° CF-60 13° From stake 176 3/31/87 10:50/11 0° CF-60 13° From stake 167 3/31/87 10:50/11 0° CF-60 0° CF-60 13° From stake 184 3/31/87 10:50/11 0° CF-60 0°	LF-54	a PT d	cep 10	A in Ca	m sta	l'e	23/	. /		OK
45.62 9'2 Ft Soop 6'2 in From 6 Take 187 3/31/87 9:15-AM UV. LF-63 9'2 Ft Scop 6'2 in From stake 203 3/31/87 9:15-AM UV. BP-11 6'-deep 13'-From stake 176 3/31/87 10:50 AM OK. BP-12 6'-deep 13'-From stake 167 3/21/87 16:50 AM OK. BP-13 6'-deep 13'-From stake 184 2/31/87 10:50 AM OK.	LF-61	9/9 Ft	decy 6	e in Fa	m STa	ke	206			01
15-63 9'0 Fr Scep 6's in From stake 203 3/31/67 9:15 am UV. BP-11 6'-deep 13'-From stake 176 3/31/67 10:50 AM OK BP-12 6'-deep 13'-From stake 167 3/21/87 16:50 AM OK BP-13 6'-deep 13'-From stake 184 3/31/67 10:50 AM OK	LF-62						187	3/31/87	9:15 AM	ÚK
BP-12 6'-deep 13'-from stake 176 3/31/87 10:50 AM OK BP-12 6'-deep 13'-from stake 167 3/21/87 16:50 AM OK BP-13 6'-deep 13'-from stake 184 2/31/87 10:50 AM OK	LF-63						203	3/31/87	9:15 -	OV.
BP-12 6'-deep 13'-from stake 167 3/21/87 16:50AM OK BP-13 6'-deep 13'-from stake 184 3/31/87 10:50AM OK	BP- 11	6'-dee	p 13 3	from s	take		176	3/31/87	10:50 AM	OK
BP-13 6'-drd, 13'- From stake 184 2/31/87 10:50AM OK	BP-12						167	3/21/87	16:50 AM	ok
	BP-13								1	OK
	-							•		
	7									

FCRM / ... REV. 12-64

								Budger	_
DATA	SHE	ET					P.	ige 5d	
Sampl	Nome	ncloture				-	104		0/2
	200		-,	<u> </u>	- 1		Date	Timp	R/A
602	Jav				Exceeds	7000.	11/6-		- 127
BPL-1	Surfac		NO B				4/1/87	ag:50	Cs137.9
OPL-1	3 feet		BIB		+			+	OK
BPL-2	Surfac		DE					09:15	Kerring -
BPL-3	Surfac		DRI		 		4/1/57	11.05	Cs 137 29
BPL -3	3.5		DBH				4/1/87		Cs137 /3.
BPL-4	6.5-	10	DBH				4/1/87		C 9,
B P L - 4	H.5-'- 6		 		+		4/1/87		c 17 0.0
BPL- 5	Surfac	<u> </u>	8640		G.F		4/1/87	1	CS1374,
BP1-5	4.01		SSFL		G.F	 	1/1/87		
BPL-6	Surface		SSIL	7	G.F.		4/1/27		Ls127 1.5
BPL-7	3.0.3.	-/	SSFL		G F		4/1/87		C5'11 0.9
BPL-7		7	SSFL		C.F.		4/1/87	14.05	C+17 0.6
Bbr-8	Surfac	1		3640	G,F		4/1/87	14:30	Cs 131 4.2
BDT- &	3.0'- 3	5	SSFL	8640	GF.	9	4/1/87	14:40	04
			_				+		<u> </u>
	0.5'-1	0'	SSEL		GF		1/2/87		C5137 4,
BPU-3	- 2'		SSFL E		G.F		4/2/87		OK
BPU-3	2,5		SSFL "	7	G.F		4/2/57		OK
BPU-4	3.0			8640	G.F		4/2/87		of
	SurFac			8640	G.F		4/2/27		oK
BPU-6	Surface	<u> </u>	SSFL	8640	G.F		4/2/87	10:18	or
BPW-2	4'		SSFL	8640	G.F		4/2/87		OK
	SES	urface	SSEL	9640	O.F		1/2/87		OK
BPW-3			SSFL	8640	G.F		4/.187	13:30	9K
BPW-5			SSFL	8640	C.F		4/2/87	1435	OK

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DATA SHEET VOA Samples							Bodo Page b				
	Vomen	clature							Godatos		
and die	cription				-		Date	Time	Check		
		Wos	1				3/21/2		×10-4		
LFR-I							3/30/87				
LFR. 2		(NOS)				3/30/87	1			
LFR-3	1	(NOS)					3/30/87	19.3 5			
LF -C		(NOS)	-				3/31/87	10:05			
BPL-I	6"-12"						4/1/87	7			
BPL - 1	3'-3.5'						4/1/87		OK		
BPL-2	6'-12"				1		· ,	9:15-	7.7 Cs		
	1.5'						4/1/87		<u> </u>		
BPL - 2	3.5-4.0				 	,	4/1/87	10:31			
BBT-5	5.5-6.0				 	·	4/1/87				
BPL -3							4/1/87		G137 1		
BPL-3	3,5'						4/1/87		OK		
BPL-4	6"- 12"						4/1/87		Cs127 7		
BPL-4	4.51.50						4/1/87	11:45	OK		
13PK -5	4.0'						4/1/87	-13:30	OK		
BPL-7	64-12"						4/1/87	13:55	C3137 01		
BPL-7	3-35							14.05	OK		
BPL-8	6"-12"						4/1/27		Cs 127 2.0		
BPL-8	3".3.5"						4/1/87	14:40			
				1.							
13 PU-3							4/2/87		24		
BPV-3	2.5'						4/2/27		OK		
BPU-4	3′						7/2/87	9:40	OK		
13 PW - 2	4'						4/487	11:15	OK		
13PW-I	4.5						4/2/87	13.30			
BPW-5							4/2/87	14:35			
									pire.		
									- 5.77		

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Appendix A5

Miran 1B Air Sampling

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In support of the trenching work performed at the SSFL Area IV Landfill and Sodium Burn Pit sites, Health, Safety & Environment sampled air in and around the trench site as worked progressed. The instrument used for this air sampling was the Miran 1B Portable Ambient Air Analyzer. The Miran 1B is a single-beam infrared spectrophotometer with preprogrammed library of 116 com -pounds (see following literature). The Miran instrument was used in the "Analyze" mode which selectively reads a given preprogrammed wavelength characteristic of the selected compound of interest. For this study, nine com -pounds were chosen for analysis based on their relatively high (or reasonable) probability of being present at the two dig sites. The relative likelihood of finding these compounds at either site was based on personal accounts of personnel familiar with the operations of these areas while actively used.

Significant air levels of the nine target chemicals were found in only one of the trenches, BPL-2, located at the Sodium Burn Pit site. The results of the analysis were as follows:

Compound Analyzed		Level Detected, ppm
1.	Ammonia	40
2.	Toluene	68
3.	Tetrahydrofuran	40
4.	1,1,1-trichloroethane	N.D.
5.	Trichloroethylene	N.D.
6.	Methylene chloride	N.D.
7.	Ethanolamine	22
8.	Carbon tetrachloride	10
9.	Hydrazine	0.5*

^{*}The hydrazine level was detected using a Draeger colorimetric tube and is likely the result of positive interference from ammonia.

All of the above levels were detectable only within the trench; personnel outside the trenches were not exposed to levels of these compounds considered harmful.

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Miran 1B information (Sheet 1 of 5)

Instruction

MI 611-093 April 1985

MIRAN 1B PORTABLE AMBIENT AIR ANALYZER

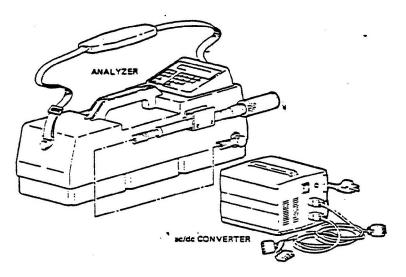


Figure 1. HIRAN 18 Portable Ambient Air Analyzer

INTRODUCTION														
forest foresteller		•	•	•	•	•	•	•	•	•		•		
General Description Standard Specifications .		•	•	•	•	•	•	٠		•	•			
Standard Specifications .		•	•	•	•	٠.	•	•	₹,	•	•	٠		
INSTRUMENT CHECKOUT														
Unpacking														
Instrument Identification						-	-	•	•	•	•	•		
Shoulder-Strap Adjustment			-		ī	•	•	٠	•	•	•	•		
Use of Filters	•	•	•	•	٠	•	•	•	٠	•	•	•		
Initial Setup and Checkout		100	280	SUT		•	•	•	•	•	٠	•		
DISPLAY AND KEYBOARD SUPPLARY														
Display														
Description														
Keyed-In Data							_							
Curser			120			_	_	-	-	-	Ī			
Left-Character Symbol							:			:	•	•		
Right-Character Symbol														
Bar Graph														
Keyboard														
Function Keys			•	•	•	•	•			•		•	•	. 1
Command Keys		٠	•	•	•	•	•	٠	•	•				
Alphanumeric Keys														. 1

FOXBORO*

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Miran 1B information (Sheet 2 of 5)

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INTRODUCTION

General Description

The MIRAN 18 Portable Ambient Air Analyzer is a single-beam infrared spectrometer. It consists single-beam infrared spectrometer. It consists of a portable gas analyzer and a separate ac/dc converter as shown in Figure 1. Analyzer portability is provided by an internal nickel-cadmium battery pack. The ac/dc converter allows the analyzer to be powered from an ac supply. It is also used to recharge the hattery pack. battery pack.

He gas analyzer monitors the air in workplace environments to warm personnel if toxic gases are present. It is pre-programmed to measure many of these gases. The analyzer is also user-programmable to measure other gases. Pre-programmed gases are in the analyzer's "fixed library"; user-programmed gases are in the analyzer's "user library". The gas analyzer monitors the air in workplace

A microprocessor automatically controls the spectrometer, averages the measurement signal, and calculates absorbance values. Analysis results can be displayed either in parts per million (ppm) or absorbance units (AU).

Standard Specifications

Measurement Range
Concentration: 0 to 99 999 ppm
Absorbance: 0.000 to 2.000 AU.

Measurable Gases

Fixed Library: See Appendix.

User Library: User-programmable to measure up to 10 additional gases.

Output: Digital readout of concentration (ppm). absorbance (AU), or analysis parameters. A connector is provided for 0 to 10 V analog readout of wavelength scan.

Power Requirements (ac/dc converter):
120 V, +10%, -15% at 60 ±3 Hz; or
220 V, +10%, -15% at 50 ±3 Hz.

Power consumption: 70 W maximum.

Battery Pack

Type: Nickel-cadmium. Operating Time: Up to 4 hours.
Recharge Time: Between 14 and 16 hours after complete discharge.

Alarms

Operator Error: Single been Concentration Alarm*: Upper-limit mode or Geiger-counter mode, as selected.

INSTRUMENT CHECKOUT

Uncacking

Remove the instrument from its shipping container and check it for visible damage. If instrument has been damaged, notify the carrier immediately and request an inspection report. Obtain a signed copy of the report from the carrier. Check the contents of the shipping package against Table 1; there should be one of each item. Immediately report any shortages to Faxbara.

> -----------" CAUTION "

To avoid damaging the HIRAN 18 Analyzer during transportation, use original packing. Package all components in same manner as they were when shipped from factory.

Instrument Identification

The data plate is located on the inside of the access door as shown in Figure 2. To open access door, turn latch 1/4 turn counterclockwise (latch will spring forward); swing door up to open position.

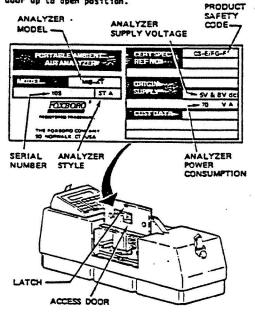


Figure 2. Typical Data Plate

[&]quot;In upper-limit mode, a series of beeps of constant frequency will be sounded when alarm set point is exceeded. In Geiger-counter mode, beeps of increasing frequency are sounded as alarm set point is approached; beens of constant maximum frequency are sounded when set point has been exceeded.

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APPENDIX

FIXED LIBRARY

The following table lists all compounds that are in the fixed library.

Table A-1. Compounds in Fixed Library

		RANGE OF	
	ALPHANUMERIC	CALIBRATION WAVELE	NGTH
COMPOUND	NAME	(ppm) (pm)	
Acetaldehyde	ACTALD	0 to 400	_
Acetic Acid	ACETA	1 1 11	_
Acetone	ACETON	1 11 111	
Acetonitrile	ACETCH		_
Acetophenane	ACTOPN	1 17 111	
accordictions.	METUEN	0 to 100 10.70	Đ
Acetylene	C2H2	0 to 200 3.0	•
Acetylene Tetrabromide	ACNBR4	0 to 200 8.9	
Acrylonitrile	ACREN	0 to 20 and 0 to 100 10.6	
Ammon 1a	NH3	0 to 100 and 0 to 500 10.9	
Aniline	ANILIN	0 to 20 9.5	
*			-
Benzaldehyde	BZALDH	0 to 500 8.50	8
Benzene	BNZENE	0 to 50 and 0 to 200 9.9	3
Benzyl Chloride	BZCL	0 to 100 9.54	4
Bromoform	CHBR3	0 to 10 8.96	5
Butadiene	BUTDEN	0 to 2000 11.10	0
Butane	BUTANE	0 to 200 and 0 to 2000 10.53	
2-Butanone (MEK)	MEX	0 to 250 and 0 to 1000 8.79	
Butyl Acetate	BUTAC	0 to 300 and 0 to 600 8.1	
n-Butyl Alcohol	BUOH	0 to 200 and 0 to 1000 9.70	
Carbon Dioxide	COZ	0 to 2000 4.7	-
Cambria 84-112414-			
Carbon Disulfide	C\$2	0 to 50 4.70	
Carbon Honoxide	CO	0 to 100 and 0 to 250 4.76	5
Carbon Tetrachloride	CCL4	0 to 20 and 0 to 200 12.76	5
Chlorobenzene	CLBZ.	0 to 150 9.40	3
Chlorobromomethane	CLERME	0 to 500 8.39	9
Chlorodifluoromethane	F22	0 to 1000 9.20	
Chloroform	CHCL3	0 to 100 and 0 to 500 13.12	
m-Cresol	CRESOL	0 to 20 8.88	
Cumene	CUMENE	0 to 100 9.90	-
Cyclohexane	CYHXN	0 to 500 1.41	
**************************************			3.
Cyclopentane	CYPHTN	0 to 500 . 11.40)
Diborane	82H6	0 to 10 3.83	1
m-01chlorobenzene	MCL 28Z	0 to 150 9.47	
o-01chlorobenzene	OCL 282	0 to 100 13.55	ś
p-01chlorobenzene	PCL2BZ	0 to 150 9.30	2
Dichlorodifluoromethane (R-12)	F12	0 to 5 and 0 to 800 9.30	•
1.1-0ichloroethane	TIDGE	0 to 200 9.64	
1,2-Dichloroethylene	CL2ETE	0 to 500 12.30	
Dichloroethyl Ether	CLZETH	0 to 50 9.05	
Dichloromonofluoromethane (R-21)	F21	0 to 1000 9.50	
	• • •	3.30	•

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Table A-1. Compounds in Fixed Library (Cont.)

		RANGE OF	
	ALPHANUMERIC	CALIBRATION	WAVELENGTH
COMPOLING	NAME	(ppm)	(max)
Currouns	A	\PP/	/ bear t
Dichlorotetrafluoroethane (R-114)	F114	0 to 1000	8.67
Diethylamine	ET2NH2	0 to 50	8.99
Dimethylacetamide	DHAC	0 to . 50	10.10
Dimethylamine	ME 2NH2	o to So	8.79
	DMF	0 to 50	9.36
Dimethylformamide	O. U	• • • • • • • • • • • • • • • • • • • •	, ,,,,,
Dioxane	DIOXAN	0 to 100 and 0 to 500	9.06
Enflurane	ENFLRN	0 to 10 and 0 to 100	8.96
Ethane	ETHANE	0 to 1000	12.20
Ethanolamine	ETOHNH	0 to 100 .	12.93
	CELAC	0 to 200	8.89
2-Ethoxyethyl Acatate			,
Ethyl Acetate	ETAC	0 to 400 and 0 to 1000	8.32
Ethyl Alcohel	ETON	0 to 1000 and 0 to 2000	9.67
Ethylbenzene	ETBZN	0 to 200	9.90
Ethyl Chloride -	ETCL	0 to 1500 ¥	10.50
Ethylene	ETHYLM	0 to 100	10.70 .
Estylene			
Ethylene Dibromide	ETBR2	0 to 10 and 0 to 50	8.68
Ethylene Dichloride	ETCL2	0 to 100	8.37
Ethylene Oxide	ETO	0 to 10 and 0 to 100	3.30
Ethyl Ether	ETHER	8 to 1000 and 0 to 2008	9.03
Fluorotrichloromethane (R-11)	F11	0 to 2000	10.96
Formal dehyde	HCH0	0 to 20	3.56
Formic Acid	FORMIC	0 to 20	9.36
Halothane	HALTHN	0 to 10 and 0 to 100	12.46
Heptane	HEPTAN	8 to 1000	3.40
Hexane	HEXANE	0 to 1000	3.39
•		to the second	
Hydrazine	HYDZ	0 to 100	10.67
Hydrogen Cyanide	HCM	0 to 20 .	3.03
Hydrogen Fluoride	HF	0 to 50	2.62
Isoflurane	ISOFLN	0 to 10 and 0 to 100	8.84
Isopropyl Alcohol.	IPA	0 to 1000 and 0 to 2000	8.94
	10000	0 to 1000	9.12
Isopropyl Ether	IPETH		
Hethane	HETHAN	0 to 100 and 0 to 1000	7.70
Methoxyflurane	MXYFLN	0 to 10 and 0 to 100	12.10
Methyl Acetate	MEAC	0 to 500	9.7
Hethyl Acetylene	HEACEN	0 to 1000 and 0 to 5000	3.0
Makhal Asmalaka	MEACRY	0 to 50	8.57
Methyl Acrylate	HEOH	0 to 500 and 0 to 1000	9.70
Hethyl Alcohol	MENH2	0 to 50	1.36
Hethylamine	MEBR	0 to 50	7.60
- Methyl Bromide	MECEL	0 to 50	9.62
Hethyl Callosolve	MELEL	0 to 30	7.04

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Table A-1. Compounds in Fixed Library (Cont.)

•				RANGE	OF		
	LPHANUMERIC		c.	LIBR	ATIO	×	WAVELENGTH
COMPOUND	NAME		-	(000	m)		(ma)
				- • •		•	
Hethyl Chloride	HECL	0 t	200	and I	e to	1000 .	13.59
Hethyl Chloroform	HITCE	o to	500				9.19
Hethylene Chloride	MECL2	G t	1000				13.47
Hethyl Iodide	MEI	0 t	40				3.36
Hethyl Hercaptan	MESH	0 ti			•		3.38
Hethyl Hethacrylate	HEHAC	0 to	250				8.80
Morphol ine	MORPH	Q t	50				9.20
Nitric Oxide	NTRCOX	G t	100				5.18
Witrobenzene	NOZBZ	0 t	0 20				11.94
Hitrogen Dioxide	NOZ	G t	0 10				6.24
Nitromethane	NOZHE	0 t					3.37
Nitrous Oxide	N30	O t				2000	4.68
Octane	CCTANE	0 t	0 100	and	e to	1000	3.40
Pentane	PENTAN	0 t	1500				3.39
Perchloroethylene	PERC	0 t	0 200	and	e to	500	11.10
Phosgene	PHOSGN	0 t	o 5	¥			11.98
Propane	PROPAN		2000				3.17
n-Propyl Alcohol	PROPOH		588				9.60
Propylene Oxide	PRENOX	0 1					12.16
Pyridine	PYR	0 t					9.90
ryriaine	FIR	u .	0 100				9.90
Styrene	STYRN	0 t	0 200	and	0 to	500	11.10
Sulfur Dioxide	SOZ	G L	0 100	and	0 to	250	9.00
Sulfur Hexafluoride	SF6	0 t	0 5	and	0 to	500	10.80
1.1.2.2-Tetrachloro-1.2-Difluoroethan							
(R-112)	F112	0 t	0 2000			9	9.90
1,1,2,2-Tetrachloroethane	CL4ETA	0 t					8.60
Tetrahydrofuran	THE		0 500				9.40
Toluene	TLUENE		0 1000				13.89
Total Hydrocarbons	TOTHYD	270.00	0 1000				3.39
1,1,2-Trichloroethane	CLIETA	0 t	0 50				10.90
Trichloroethylene	TRI	0 £	o 200	and	0 to	2000	10.84
1.1.2-Trichloro-1.2.2-Trifluoroethane				_			
(R-113)	F113	a t	a 2000				8.70
Trifluoromonobromomethane (R-1381)	F12B1		0 1000				8.54
Vinyl Acetate	VAC	Q Ł					8.42
- mg - massas							
Vinyl Chloride	VCL	0 t	0 20				11.30
Vinylidene Chloride	VOC	0 t				16	9.40
Xylene (Xylol)	XYLOL	0 t	0 200	and	8 to	2000	13.20

-	-	-	1
<u></u>		_	<i>i</i> :
		_	$oldsymbol{ol}}}}}}}}}}}}}}}}}$

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Appendix B
Sample Analysis Data

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Appendix B1

Analytical Laboratory Reports — Volatile Organic Compounds Recovered from Landfill Well RD-7 Water

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#0048

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

EPA METHOD 624 PURGEABLE ORGANICS

Sample I.D.:	RD-7	Lab No87	0343-02
Date Sampled:	03/09/87		
Samples Received:	03/11/87		
Samples Analyzed:	03/17/87		
Sample Matrix:	Water	Detection Limit	Factor = 1
Compound	Concentration µg/L (ppb)	Additional Compound	Concentration µg/L (ppb)
Chloromethane	<1	Freon 113	<1
Bromomethane	<1	m-xylene	<2
Vinyl chloride	<1	o-, p-xylene	<2

Compound	Concentration
	μg/L (ppb)
	•
Chloromethane	<1
Bromomethane	<1
Vinyl chloride	<1
Chloroethane	<1
Methylene chloride	<8
Trichlorofluoromethane	13
1,1-dichloroethene	<1
1,1-dichloroethane	<1
Trans-1,2-dichloroethene	1
Chloroform	<1
1,2-dichloroethane	<1
1,1,1-trichloroethane	<1
Carbon tetrachloride	<1
Bromodichloromethane	<1
1,2-dichloropropane	<3
Cis-1,3-dichloropropene	<1
Trichloroethene	25
Benzene	<1
Dibromochloromethane	<1
1,1,2-trichloroethane	<1
Trans-1,3-dichloropropene	<1
2-chloroethylvinylether	<1
Bromoform	<1
1,1,2,2-tetrachloroethane	<1
Tetrachloroethene	<1
Toluene	<1
Chlorobenzene	<1
Ethylbenzene	<2
1,3-dichlorobenzene	₹3
1,2-dichlorobenzene and/or	<3
1,4-dichlorobenzene	<3

ND = Not Detected

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GAS CHROMATOGRAPH-MASS SPECTROMETER CHEMICAL ANALYSIS REPORT

LOG NUMBER 8703.216

DEPT/GROUP: 541 "O: G. Matsushita, ext. 5726, MS LB07 cc: S. Lafflam, R. Jensen, N. Fujikawa, A. Nelson

FROM: SSFL ANALYTICAL CHEMISTRY

PHONE: 4785

MASS SPEC. FILE: >C1812::D3

SAMPLED ON: 09 Mar 1987

DATE DUE: 23 Mar 1987

SAMPLED BY: S. Dickens, Groundwater Resources Consultants, Inc. SAMPLE DESCRIPTION: WELL RD-7

AT: 13:00 hrs

Quarterly Samples

RESULTS, ug/liter VOLATILE ORGANIC COMPOUND

Analysis date and time: 3/18/87 22:29

Acetone Benzene Bromodichlormethane Bromoform Bromomethane Earbon Tetrachloride Chlorobenzene Chloroethylvinyl ether Chloroform Chloromethane 2-Chloromethane 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,1-Dichlorobenzene 1,1-Dichloroethane 1,2-Dichloroethane 1,2-Dichloroethane 1,1-Dichloroethane 1,2-Dichloroethane 1,1-Dichloropropene trans 1,2-Dichloropropene trans 1,3-Dichloropropene Ethyl benzene Freon-TF Isopropanol Methylene chloride 1,1,2,2-Tetrachloroethane Toluene 1,1,1-Trichloroethane	56555555555555555555555555555555555555
1,1,1-Trichloroethane 1,1,2-Trichloroethane Trichloroethene Trichlorofluoromethane Vinyl chloride	ND (1 ND (1

This sample was analyzed by the Purge and Trap-GC/MS techniques found in the second edition of SW-846, Methods 5030 and 8240.

- NOTES:

 1) ND means the pollutant was not detected above the background level and hence not quantified using EPA approved methodology.

 2) TR means the pollutant was detected but was below the quantification level for Method 8240.

 3) ^ Quantification based on upon comparision of total ion count of the compound with that of the nearest internal standard.

 4) ** Exceeds notification level in parenthesis.

APPROVED:

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CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

7230-ZS GRC Rocketdyne

EPA METHOD 501 PURGEABLE HALOCARBONS

Sample I.D.:	· RD-7	CEC Lab No.:	861265-03	
Samples Received:	12/12/86			
Samples Analyzed:	12/13/86			
Sample Matrix:	Water	Detection Limit	Factor = 1	
Compound	Concentration ug/L (ppb)	Additional Compound	Concentration ug/L (ppb)	
Chloromethane	ND	*Freon 113	ND	
Bromomethane	ND			
Vinyl chloride	ND		×	
Chloroethane	ND			
Methylene chloride	ND			
1,1-dichloroethene	ND			
1.1-dichloroethane	ND			

ND Trans-1,2-dichloroethene Chloroform ND ND 1,2-dichloroethane 1,1,1-trichloroethane ND ND Carbon tetrachloride Bromodichloromethane ND ND 1,2-dichloropropane Cis-1,3-dichloropropane ND Trichloroethene Dibromochloromethane 26 ND ND 1,1,2-trichloroethane trans 1,3-dichloropropane 2-chloroethylvinylether ND ND ND Bromoform Tetrachloroethene ND ND 1,1,2,2-tetrachloroethane Chlorobenzene ND ND 1,3-dichlorobenzene 1,2-dichlorobenzene ND 1,4-dichlorobenzene ND Dichlorodifluoromethane ND Trichlorofluoromethane ND

ND = Not Detected

L601.FRM (12/12/86)

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GAS CHROMATOGRAPH-MASS SPECTROMETER CHEMICAL ANALYSIS REPORT

LOG NUMBER 8607.083

TO: Environmental Control Unit, ext. 178-5726, MS LBO DEPT/GROUP: 541

FROM: SSFL ANALYTICAL CHEMISTRY

PHONE: 4785

MASS SPEC. FILE: >G1008::D2

DATE DUE: 16 July 1986

SAMPLED BY: Jim Duffield of GRC SAMPLE DESCRIPTION: WELL RD-7

SAMPLED ON: 03 July 1986

AT: 1410 hrs

SSFL Wells

VOLATILE ORGANIC COMPOUND RESULTS, ug/liter

Analysis date and time: 7/10/86 15:52

	Acetone		ND <10
	Benzene	•	ND <1
	Bromodichlormethane		ND <1
	Bromoform		NO CE
	Bromomethans		ND (1
	Carbon Tetrachloride		ND 21
	Chlorobenzene		ND (1
	Chlorosthan		110
-	Chloroethane	_	ND <1
	2-Chloroethylvinyl ethe	-	ND <1
	Chloroform		ND <1
	Chloromethane		ND <1
	Dibromochlormethane		ND <1
	1,2-Dichlorobenzene		ND <4
	1,3-Dichlorobenzene 1,4-Dichlorobenzene		ND <4
	1,4-Dichlorobenzene		ND <4
	1.1-Dichloroethane		ND <1
	1,2-Dichloroethane		ND <1
	1.1-Ulchidroethene		ND <1
	trans 1,2-Dichloroethen 1,2-Dichloropropane cis-1,3-Dichloropropene trans-1,3-Dichloroprope	•	1.2
	1.2-Dichloropropage		ND <1
	cis-1.3-Dichlorooronene		ND ₹1
	trans-1 3-Dichloroprone		ND ₹1
	Ethyl benzene	116	ND ₹1
	Freon-TF		
			3.6
	Isopropanol		ND <20
	Methylene chloride 1,1,2,2-Tetrachloroetha	and the same of th	ND <1
	1,1,2,2-letrachioroetha	ne	ND <1
	Tétrachloroethene		ND <1
	Toluene		ND <1
	1,1,1-Trichlorosthans		ND <1
	1,1,2-Trichloroethane		ND (1
	1,1,1-Trichloroethane 1,1,2-Trichloroethane Trichloroethane	2	20.7
	irichlorofluoromethane		ND <1
	Vinyl chloride		ND <1
	The second secon		

This sample was analyzed by the Purge and Trap-GC/MS techniques found in the second edition of SW-846, Methods 5030 and 8240. Due to instrumental problems, the results DO NOT MEET the required QUALITY CONTROL criteria.

- 1) ND means the pollutant was not detected and hence not quantified using EPA approved methodology.
 2) TR means the pollutant was detected but was below the quantification level for Method 8240.
 3) ^^ Quantification based on upon comparision of total ion count of the compound with that of the nearest internal standard.
 4) ** Exceeds notification level in parenthesis.

APPROVED:

SSFL Analytical Chemistry

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GAS CHROMATOGRAPH-MASS SPECTROMETER CHEMICAL ANALYSIS REPORT

LOG NUMBER 8608.083

TO: Gene Matsushita, ext. 5726, mail stop LB07

DEPT/GROUP: 541

FROM: SSFL ANALYTICAL CHEMISTRY

PHONE: 4785

MASS SPEC. FILE: >H2107::D3

DATE DUE: 14 Aug 1986

SAMPLED BY: J. Duffield, Groundwater Resources Consultants, Inc. SAMPLE DESCRIPTION: WELL RD-7

SAMPLED ON: 86 Aug 1986

AT: 20:10 hrs RD Series Wells

RESULTS, ug/liter VOLATILE ORGANIC COMPOUND

Analysis date and time: 8/21/86 21:21

Acetone	ND <20
Benzene	ND (1
Bromodichlormethane	ND ₹Î
Bromoform	ND ₹1
Bromomethane	ND <1
Carbon Tetrachloride	ND + < 1
Chlorobenzene	ND* <i< th=""></i<>
Chloroethane	ND (i
2-Chloroethylvinyl ether	ND (I
Chloroform	ND ₹1
Chloromethane	ND (i
Dibromochlormethane	ND (1
1,2-Dichlorobenzene	ND 24
1,3-Dichlorobenzene	ND 24
1,4-Dichlorobenzene	ND 24
1,1-Dichloroethane	ND (1
1,2-Dichloroethane	ND (1
1 1-Dichloroethene	ND (1
1,1-Dichloroethene trans 1,2-Dichloroethene 1,2-Dichloropropane	ND ₹1
1 2-Dichlosoppone	ND (1
014-1 3-0165 000000000	ND (1
cis-1,3-Dichloropropene trans-1,3-Dichloropropene	ND (1
Ethil harrane	ND ₹1
Ethyl benzene Freon-TF	13
Isopropanol	ND <20
Methylene chloride	ND (1
1 1 2 2-Tetrachlosoethane	ND (1
1,1,2,2-Tetrachlorosthane Tétrachlorosthens	ND (1
Toluene	ND (1
1,1,1-Trichloroethane	ND (1
1 1 2-Trichlorosthana	ND (1
1,1,2-Trichloroethane Trichloroethene Trichlorofluoromethane	** 27 (5.0 UG/L)
Trichlorofluoromethane	ND (1
Vinyl chloride	ND (1
TAILYA GILAGI AGG	THE VE

This sample was analyzed by the Purge and Trap-GC/MS techniques found in the second edition of SW-846, Methods 5030 and 8240. The sample did not meet all of the quality control criteria required by SW-846 and the results may not be used for regulatory compliance purposes.

- NOTES:
 1) ND means the pollutant was not detected and hence not quantified using EPA approved methodology.
 2) TR means the pollutant was detected but was below the quantification level for Method 8240.
 3) \(^{\text{Q}}\) Quantification based on upon comparision of total ion count of the compound with that of the nearest internal standard.
 4) **Exceeds notification level in parenthesis.

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TABLE D-50

resilts of analyses for comin ion constituents in water safeles collected from chatshotaih formation hell rd-7

Calcium. 119 Magnesium. 27 Potassium. 37 Potassium. 3.8 Carbonate. 0 Bicarbonate. 328 Chloride. 46.0 Sulfate. 100 Nitrate. 12.0 Fluoride. 0.32 Boron0.10 Silica. 23 TDS @ 120°C (lab) 550 EC @ 25°C (lab) 760 PH (field) 760 PH (•
Calcium	CONSTITUENT	********	DATE SAMPLED
Magnesium.		07-03-86	
Sodium			
Potassium	Codim		3
Bicarbonate	Potassium		•
Chloride		0	
Sulfate	Bicarbonate	328	
Nitrate	Chloride		*
Fluoride	Sul fate	100	
Boron	Nitrate	12.0	
Silica		0.32	
TDS @ 180°C (Tab)		•	,
EC @ 25°C (lab)	S111ca	23	
EC @ 25°C (lab)	TDS @ 1809C (Tab)	550	
Temperature, % (field)	EC @ 25°C (1ab)	780	
	pH (field)		
Laboratory BC	Temperature, °C (field)		
Laboratory BC			
	Laboratory	EC .	
BC = BC Laboratories	PC = PC I shorestonion		
(-) = Less than: numerical value is the limit of Detection for that compand		ie that ie	It of Detection for that assumed

(---) = Analysis not performed

GROUNDWATER RESOURCES CONSULTANTS, INC

^{(-) =} Less than; numerical value is the Limit of Detection for that compound

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TAGLE E-50

FESILTS OF ANYLYSES FOR TRACE HETAL CONSTITUENTS AND CYANIDE IN WATER SAMPLES COLLECTED FROM CHATSWORTH FORMATION WELL RD-7

CONSTITUENT	DATE SAMPLED
(willigrams per liter)	07-03-86
	*
Antimony	- 1.0
Arsenic	- 0.01
Barium	- 0.5
Beryllium	
-	•
Cadnium	
Chromium (total)	
Copper	
Iron	- 0.5
Lead	- 0.01
, Manganese	0.1
	- 0,0002
	- 0.1
	- 0.05
	,
	- 0.005
	- 0.01
« Strontium	0.2
Thallium	- 0.5 - 0.98
Cyanide	0.30
Laboratory	EC
(-) = Less than; numerical val () = Analysis not performed	ue is the Limit of Detection for that compound

GROUNDWATER RESOURCES CONSTITUANTS INC

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TABLE F-53 RESULTS OF ANALYSES FOR EPA PRIORITY VOLATILE ORGANIC COMPOUNDS IN WATER SAFFLES COLLECTED FROM CHATSMORTH FORMATION MONITOR WELL FO-7

ORGINIC COLFOLIO	DATE SAMPLED					
	01-23-86	07-03-86	07-02-86	08-06-86	08-06-86	
Acrolein						
Acrylonitrile		-			-	
Berzene	-1	-1	-1	-1	-1	
Bromodichloromethane	-1	-1	-1	-1	-1	
Bramoform	-1	-1	-1	-1	-1	
Bromoethane	-1	-1	-1	-1	-1	
Carbon tetrachloride	-1	-1	-1	-1	-1	
Chlorobenzene	-1	-1	-1	-1	-1	
Chloroethane	-1	-1	-2	-2	-1	
2-Chloroethylvinyl ether	-1	-1	-1	-1	-1	
Chloroform	-1	-1	-1	-1	-1	
Chloromethane	-1	-1	-1	¥ -1	-1	
Dibronochioromethane	-1	-1	-1	-1	-1	
1,1-Dichloroethane	-1	-l	-1	-1	-1	
1,2-Dichloroethane	-1	-1	-1	-1	-1	
1.1-Dichloroethylene	-1	-1	-1	-1	-1	
Trans-1,2-Dichloroethylene	-1	1	3.	-1 .	-1	
1,2-Dichloropropane	-1	-1	- 3	-3	-1	
1,3-Dichloropropylene	-1	-1	-1	-1	-1	
Ethylbenzene	-2	-1	-2	-2	-1	
Methylene chloride	-2	-1	-1	-1	-1	
1,1,2,2-Tetrachloroethane	-1	-1	-1	-1	-1	
Tetrachloroethylene	-1	-1	-1	-1	-1	
1,1,1-Trichloroethane	-1	-1	-1	-1	-1	
1,1,2-Trichloroethane	-1	-1	-1	-1	-1	
Trichloroethylene	16	21	130	24	27	
Toluene	13 -	-1	8	-1	-1	
Yinyl chloride	1	-1	-l	-1	-1	
Laboratory	McKesson	SSFL*	McKesson	McKesson	SSFL*	

McKesson = McKesson Environmental Services

SSFL = Santa Susana Field Laboratory Analytical Unit

(-) = Less than; numerical value represents the Limit of Detection for that compound

= Analysis not reported = Uses EPA Methods 5030 & 8240

GROUNDWATER RESOURCES CONSULTANTS, INC.

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Appendix B2

SSFL Analytical Chemistry Reports of Analytical Results — Landfill Soil Samples

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GAS CHROMATOGRAPH-MASS SPECTROMETER CHEMICAL ANALYSIS

REPORT

LOG NUMBER 8703.452 page 1 of 2

TO: S. Lafflam, ext. 6163, MS LB07

DEPT/GROUP: 541

FROM: SSFL ANALYTICAL CHEMISTRY

PHONE: 4785

MASS SPEC. FILE: >00806::01

DATE DUE: 17 April 1987

SAMPLED BY: G. Foushee, Groundwater Resources Consultants, Inc. SAMPLE DESCRIPTION: LFR-1

SAMPLED ON: 30 March 1987

AT: 14:27 hrs

VOLATILE ORGANIC COMPOUND RESULTS, mg/kg

Analysis date and time: 4/08/87 14:54 Quant. dil. factor =

The second secon		_	
Acetone Benzene		ND	
Bromodichlormethane		ND	
Bromoform		ND	
Bromomethane		ND	40.03
Carbon Tetrachloride		NO	<0.03
Chlorobenzene		NO	
Chloroethane		ND	<0.03
2-Chloroethylvinyl ether Chloroform		ND	<0.03
Chloromethane		ND	<0.03
Dibromochlormethane		ND ND	<0.03 <0.03
1,2-Dichlorobenzene		ND	
1,3-Dichlorobenzene			(0.10
1,4-Dichlorobenzene		ND	<0.10
1,1-Dichloroethane		ND	
1,2-Dichloroethane		ND	
1,1-Dichloroethene		ND	<0.03
trans 1,2-Dichloroethene 1,2-Dichloropropane		ND	
1,2-uichioropropane		ND	
cis-1,3-Dichloropropene		MU	<0.03
trans-1,3-Dichloropropene Ethyl benzene		MO	<0.03
Freon-TF		MO	<0.03 <0.03
Isopropanol		MO	₹0.60
Methylene chloride		ND	<0.03
1,1,2,2-Tetrachloroethane			<0.03
Tetrach loroethene		ND	<0.03
Toluene		ND	<0.03
1,1,1-Trichloroethane		ND	<0.03
1,1,2-Trichloroethane		NO	<0.03
Trichloroethene		NU	<0.03
Trichlorofluoromethane Vinyl chloride	0.9	MO	40 A3
ing i chioride		#D	<0.03

This sample was analyzed by the Purge and Trap-GC/MS techniques found in the second edition of SW-846, Methods 5030 and 8240.

NOTES: 1) ND means the pollutant was not detected above the background level and hence not quantified using EPA approved methodology.

2) TR means the pollutant was detected but was below the quantification level for Method 8240.

3) ** Quantification based on upon comparision of total ion count of the compound with that of the nearest internal standard.

4) ** Exceeds notification level in parenthesis.

Manager

/SSFL Analytical Chemistry

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continued

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LFR-I

ANALYTICAL RESULTS FOR 8703.452

WASTE EXTRACTION TEST (WET) TITLE 22-66700 FOR METALS

COPPER (SW846-7210), mg/1	0.4
NICKEL (SW846-7420), mg/1	0.1
CHROMIUM (SW846-7190), mg/1	ND<0.05
CADMIUM (SW846-7130), mg/1	ND<0.005
LEAD (SW846-7420), mg/1	¥0.2
MERCURY (SW846-7470), mg/l	ND<0.0002

ACID DIGESTION FOR METALS-SW846-3050

COPPER (SW846-7210), mg/kg	73
NICKEL (SW846-7420), mg/kg	ND<5
CHROMIUM (SW846-7190), mg/kg	ND<5
CADMIUM (SW846-7130), mg/kg	ND<0.5
LEAD (SW846-7420), mg/kg	TR<10
MERCURY (SW846-7471), mg/kg	ND<0.1

pH (SW846-9040 1:1 EXTRACT) 7.4

OIL AND GREASE, mg/kg 76 (EPA 503 B, MODIFIED)

DIESEL FUEL, mg/kg ND<10 (SW846-3550, MODIFIED)

POLYCHLORINATED BIPHENYLS, mg/kg ND<0.1 PCBs (SW846-8080 + 3550)

TERPHENYLS (ORTHO, META, & PARA),mg/kg ND<10 (SW846-3550, MODIFIED)

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GAS CHROMATOGRAPH-MASS SPECTROMETER CHEMICAL ANALYSIS

REPORT

LOG NUMBER 8703.453 page 1 of 2

TO: S. Lafflam, ext. 6163, MS LB07

DEPT/GROUP: 541

FROM: SSFL ANALYTICAL CHEMISTRY

PHONE: 4785

MASS SPEC. FILE: >DO807::D1

DATE DUE: 17 April 1987

SAMPLED BY: G. Foushee, Groundwater Resources Consultants, Inc.

SAMPLE DESCRIPTION: LFR-2

SAMPLED ON: 30 March 1987

AT: 14:41 hrs

Soil Sample

VOLATILE ORGANIC COMPOUND RESULTS, mg/kg

Analysis date and time: 4/08/87 15:52 Quant. dil. factor =

nalysis date and time: 4700707 13:32	quant. uii. lactor -	. 0
Acetone	ND <0.60	
Benzene	ND <0.03	
Bromodichlormethane	ND(<0.03	
Bromoform	ND <0.03	
Bromomethane	ND <0.03	
Carbon Tetrachloride	ND <0.03	
Chlorobenzene	ND <0.03	
Chloroethane	ND <0.03	
2-Chloroethylvinyl ether	ND <0.03	
Chloroform	ND <0.03	
Chloromethane	ND <0.03	
Dibromochlormethane	ND <0.03	
1,2-Dichlorobenzene	ND <0.10	
1,3-Dichlorobenzene	ND <0.10	
1,4-Dichlorobenzene	ND <0.10 NO <0.10	
1,1-Dichloroethane	MU <0.03	
1,2-Dichloroethane	ND <0.03	
1.1-Dichloroethene	ND <0.03	
1,1-Dichloroethene trans 1,2-Dichloroethene	ND <0.03	
1,2-Dichloropropane cis-1,3-Dichloropropene	ND <0.03	
cis-1.3-Dichloropropene	ND <0.03	
trans-1.3-01cn foropropene	ND <0.03	
Ethyl benzene	ND <0.03	
Freon-TF	ND <0.03	
Isopropanol	ND <0.60	
Methylene chloride	ND <0.03	
1.1.2.2-Tetrachloroethane	ND <0.03	
1,1,2,2-Tetrachloroethane Tetrachloroethene	ND <0.03	
Toluene	ND <0.03	
1,1,1-Trichloroethane	ND <0.03	
1.1.2-Trichloroethane	ND <0.03	
1,1,2-Trichloroethane Trichloroethene	ND <0.03	
Trichlorofluoromethane	ND <0.03	
Vinyl chloride	ND <0.03	

This sample was analyzed by the Purge and Trap-GC/MS techniques found in the second edition of SW-846, Methods 5030 and 8240.

NOTES: 1) ND means the pollutant was not detected above the background level and hence not quantified using EPA approved methodology.

2) TR means the pollutant was detected but was below the quantification level for Method 8240.

3) "Quantification based on upon comparision of total ion count of the compound with that of the nearest internal standard.

4) ** Exceeds notification level in parenthesis.

Manager

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8703.453

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LFR-2

continued

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ANALYTICAL RESULTS FOR 8703.453

WASTE EXTRACTION TEST (WET) TITLE 22-66700 FOR METALS

COPPER (SW846-7210), mg/1	0.1
NICKEL (SW846-7420), mg/1	0.05
CHROMIUM (SW846-7190), mg/1	ND<0.05
CADMIUM (SW846-7130), mg/l	ND €0.005
LEAD (SW846-7420), mg/1	0.1
MERCURY (SW846-7470), mg/1	ND<0.0002

ACID DIGESTION FOR METALS-SW846-3050

COPPER (SW846-7210), mg/kg	20
NICKEL (SW846-7420), mg/kg	27
CHROMIUM (SW846-7190), mg/kg	12
CADMIUM (SW846-7130), mg/kg	2
LEAD (SW846-7420), mg/kg	10
MERCURY (SW846-7471), mg/kg	ND<0.1

pH (SW846-9040 1:1 extract) 8.1

OIL AND GREASE, mg/kg 42 (EPA 503 B, MODIFIED)

DIESEL FUEL, mg/kg ND<10 (SW846-3550, MODIFIED)

POLYCHLORINATED BIPHENYLS, mg/kg ND<0.1

PCBs (SW846-8080 + 3050)

TERPHENYLS (ORTHO, META, & PARA), mg/kg ND<10

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GAS CHROMATOGRAPH-MASS SPECTROMETER CHEMICAL ANALYSIS REPORT

LOG NUMBER 8703.454 page 1 of 2

TO: S. Lafflam, ext. 6163, MS LB07

DEPT/GROUP: 541

FROM: SSFL ANALYTICAL CHEMISTRY

PHONE: 4785

MASS SPEC. FILE: > D0808::01

DATE DUE: 17 April 1987

SAMPLED BY: G. Foushee, Groundwater Resources Consultants, Inc.

SAMPLE DESCRIPTION: LFR-3

SAMPLED ON: 30 March 1987

AT: 14:53 hrs

Soil Sample

RESULTS, mg/kg VOLATILE ORGANIC COMPOUND

Analysis date and time: 4/08/87 17:44 Quant. dil. factor =

Acetone	ND <0.60
Acetone	ND 40.03
Benzene	ND <0.03
Bromodichlormethane	ND <0.03
Bromoform	ND <0.03
Bromomethane	
Carbon Tetrachloride	ND <0.03
Chlorobenzene	ND <0.03
Chloroethane	ND <0.03
2-Chloroethylvinyl ether	ND <0.03
Chloroform	ND <0.03
Chloromethane	ND <0.03
Dibromochlormethane	ND <0.03
1,2-Dichlorobenzene	ND <0.10
1,3-Dichlorobenzene	ND <0.10
1,4-Dichlorobenzene	ND <0.10 ND <0.10
1,1-Dichloroethane	ND <0.03
1 2 Dicklargethane	ND <0.03
1,2-Dichloroethane	ND <0.03
1,1-Dichloroethene	ND <0.03
trans 1,2-Dichloroethene 1,2-Dichloropropane	ND <0.03
1,2-uich loropropane	NO (0.03
cis-1,3-Dichloropropene	ND <0.03
trans-1,3-Dichloropropene	MD (0.03
Ethyl benzene	ND <0.03
Freon-TF	ND <0.03
Isopropanol	ND <0.60
Methylene chloride	ND <0.03
1,1,2,2-Tetrachloroethane	ND <0.03
Tetrach loroethene	ND <0.03
Toluene	ND <0.03
1,1,1-Trichloroethane	ND <0.03
1 1 2-Trichloroethane	ND <0.03
1,1,2-Trichloroethane Trichloroethene	ND <0.03
Trichloroflyoromethane	ND <0.03
Vinyl chloride	ND <0.03
THE CHIOLINE	

This sample was analyzed by the Purge and Trap-GC/MS techniques found in the second edition of SW-846, Methods 5030 and 8240.

NOTES: 1) ND means the pollutant was not detected above the background level and hence not quantified using EPA approved methodology.

2) TR means the pollutant was detected but was below the quantification level for Method 8240.

3) "Quantification based on upon comparision of total ion count of the compound with that of the nearest internal standard.

4) ** Exceeds notification level in parenthesis.

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8703.454 continued

page 2

ANALYTICAL RESULTS FOR 8703.454

WASTE EXTRACTION TEST (WET) TITLE 22-66700 FOR METALS

COPPER (SW846-7210), mg/l	0.2
NICKEL (SW846-7420), mg/1	ND<0.05
CHROMIUM (SW846-7190), mg/l	ND<0.05
CADMIUM (SW846-7130), mg/1	ND<01005
LEAD (SW846-7420), mg/l	0.3
MERCURY (SW846-7470), mg/1	ND<0.0002

ACID DIGESTION FOR METALS-SW846-3050

COPPER (SW846-7210), mg/kg	93
NICKEL (SW846-7420), mg/kg	12
CHROMIUM (SW846-7190), mg/kg	7
CADMIUM (SW846-7130), mg/kg	1
LEAD (SW846-7420), mg/kg	13
MERCURY (SW846-7471), mg/kg	ND<0.1

nH	(SW846-9040	1 - 1	FYTPACT)	7 8
Dn	(SW040-9040	1:1	LAIRACI)	1.0

OTT	AND .	GREASE,	mg/kg	1100
(EP	A 503	B. MODI	FIED)	

DIESEL	FUEL,	mg/kg	ND<10
(SW846-	-3550,	MODIFIED)	

POLYCHLORINATED	BIPHENYLS,	mg/kg	ND<0.1
PCRs (SW846-8080	+ 3550)		

TERPHENYLS (ORTHO, META, & PARA), mg/kg ND<10

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GAS CHROMATOGRAPH-MASS SPECTROMETER CHEMICAL ANALYSIS

REPORT

LOG NUMBER 8703.475 page 1 of 2

TO: S. Lafflam, ext. 6163, MS LB07

DEPT/GROUP: 541

FROM: SSFL ANALYTICAL CHEMISTRY

PHONE: 4785

MASS SPEC. FILE: >00810::01

DATE DUE: 17 April 1987

SAMPLED BY: G. Foushee, Groundwater Resources Consultants, Inc.

SAMPLE DESCRIPTION: LRF-6

SAMPLED ON: 31 March 1987

AT: 10:05 hrs

Soil Sample

VOLATILE ORGANIC COMPOUND RESULTS, mg/kg Analysis date and time: 4/08/87 20:38 Quant. dil. factor = Acetone Benzene Bromodichlormethane ND <0.03 ND <0.03 ND <0.03 ND <0.03 ND <0.03 ND <0.03 Bromomethane
Carbon Tetrachloride
Chloroethane
Chloroethane Chloroethane
2-Chloroethylvinyl ether
Chloroform
Chloromethane
Dibromochlormethane
1,2-Dichlorobenzene
1,4-Dichlorobenzene
1,4-Dichloroethane
1,2-Dichloroethane
1,2-Dichloroethane
1,1-Dichloroethene
trans 1,2-Dichloroethene
trans 1,2-Dichloropropane
cis-1,3-Dichloropropane
trans-1,3-Dichloropropene
Ethyl benzene
Freon-TF
Isopropanol Freon-ir Isopropanol Methylene chloride 1,1,2,2-Tetrachloroethane Tetrachloroethene Toluene
1,1,1-Trichloroethane
1,1,2-Trichloroethane
1,1,chloroethane
Trichloroethane
Vinyl chloride

This sample was analyzed by the Purge and Trap-GC/MS techniques found in the second edition of SW-846, Methods 5030 and 8240.

NOTES: 1) ND means the pollutant was not detected above the background level and hence not quantified using EPA approved methodology.

2) TR means the pollutant was detected but was below the quantification level for Method 8240.

3) Quantification based on upon comparison of total ion count of the compound with that of the nearest internal standard.

4) ** Exceeds notification level in parenthesis.

APPROVED: M.D Plater Manager

Secretly F. Kurt

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8703.475

continued

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ANALYTICAL RESULTS FOR 8703.475

WASTE EXTRACTION TEST (WET) TITLE 22-66700 FOR METALS

COPPER (SW846-7210), mg/l	0.1
NICKEL (SW846-7420), mg/l	0.05
CHROMIUM (SW846-7190), mg/l	ND<0.05
CADMIUM (SW846-7130), mg/1	ND<0.4005
LEAD (SW846-7420), mg/1	ND<0.1
MERCURY (SW846-7470), mg/l	ND<0.0002

ACID DIGESTION FOR METALS-SW846-3050

COPPER (SW846-7210), mg/kg	34
NICKEL (SW846-7420), mg/kg	16
CHROMIUM (SW846-7190), mg/kg	8
CADMIUM (SW846-7130), mg/kg	1
LEAD (SW846-7420), mg/kg	8
MERCURY (SW846-7471), mg/kg	ND<0.1

pH (SW846-9040 1:1 EXTRACT) 7.3

OIL AND GREASE, mg/kg 500 (EPA 503 B, MODIFIED)

DIESEL FUEL, mg/kg ND<10 (SW846-3550, MODIFIED)

POLYCHLORINATED BIPHENYLS, mg/kg ND<0.1 PCBs (SW846-8080 + 3550)

TERPHENYLS (ORTHO, META, & PARA), mg/kg ND<10

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SSFL Analytical Chemistry Laboratory Reports — Analyses of Burn Pit Area Soil Samples