NRC FORM 304 (8-1997)

U. S. NUCLEAR REGULATORY COMMISSION

SAMPLE RECORD SHEET

LABORATORY – ☒ REGION I ☐ REGION III

LABORATORY CONTROL NUMBER: 302070

☒ ROUTINE ☐ URGENT — DATE REQUIRED:

SAMPLE LOCATION: Tennecco (Secor)

DATE ANALYSIS BEGAN: DATE COMPLETED:

ANALYZED BY: DATE:

COLLECTED BY: J. Wray DIVISION: DNMS TELEPHONE: 5268

CONTACT NOTIFIED: DATE:

APPROVED BY: DATE:

SAMPLE NO.	DATE	HOUR	DESCRIPTION	ANALYZE FOR	INSTRUMENT USED	QUANTITY USED grams	DATE COUNTED	COUNT TIME seconds	GROSS COUNT	BACK GROUND	NET COUNT	Radio-nuclide	RESULT* pCi/g (dry wt.)
1	12/9	1135	SOIL NORTH 1000 S00	γ scan	#4	306.7	3/4	60,000				Ac-228	0.52±0.02 (15%)
			(Total sample analyzed)									Pb-212	0.422±0.009 (15%)
												U-235	<0.07
												Pa-234m	0.5±0.5
2	12/9	1135	SOIL NORTH 1000 S01	γ scan	#3	352.0	2/24	60,000				Ac-228	0.78±0.03 (10%)
			(-14 Mesh fraction)									Pb-212	0.773±0.010 (10%)
												U-235	0.04±0.02
												Pa-234m	1.3±0.5
3	12/9	1200	SOIL NORTH 3000 S00	γ scan	#3	344.0	3/4	60,000				Ac-228	0.53±0.03
			(Total sample analyzed)									Pb-212	0.454±0.009
												U-235	<0.08
												Pa-234m	2.4±0.6

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*Random uncertainties as reported: ☐ ± 1 σ, ☐ ± 2 σ. Small negative and other results ≤ 2 σ are interpreted as including "zero" or as not detected. If appropriate, estimates of possible systematic errors are reported in parentheses.

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SAMPLE RECORD SHEET (Continued)

LABORATORY CONTROL NUMBER: 302070

SAMPLE NO	DATE	HOUR	DESCRIPTION	ANALYZE FOR	INSTRUMENT USED	QUANTITY USED grams	DATE COUNTED	COUNT TIME seconds	GROSS COUNT	BACK GROUND	NET COUNT	Radio-nuclide	RESULT* pCi/g (dry wt.)
4	12/9	1145	SOIL NORTH 3000 S01	γ scan	#4	350.4	2/23	60,000				Ac-228	0.66±0.02
			(-14 Mesh fraction)									Pb-212	0.577±0.010
												U-235	0.02±0.03
												Pa-234m	0.4±0.7
5	12/9	1100	SOIL SOUTH 1000 S00	γ scan	#4	287.2	3/5	60,000				Ac-228	0.35±0.02 (15%)
			(Total Sample Analyzed)									Pb-212	0.320±0.009 (15%)
												U-235	0.76±0.04 (15%)
												Pa-234m	22.3±0.9 (15%)
6	12/9	1100	SOIL SOUTH 1000 S01	γ scan	#4	317.9	3/1	60,000				Ac-228	0.64±0.02
			(-14 mesh fraction)									Pb-212	0.556±0.009
												U-235	0.13±0.03
												Pa-234m	3.8±0.5
7	12/9	1100	SOIL SOUTH 1000 S02	γ scan	#4	350.3	2/22	60,000				Ac-228	1.27±0.03 (10%)
			(-14 mesh fraction)									Pb-212	1.120±0.012 (10%)
												U-235	0.06±0.03
												Pa-234m	2.4±0.6

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SAMPLE RECORD SHEET (Continued)

LABORATORY CONTROL NUMBER: 302070

SAMPLE NO.	DATE	HOUR	DESCRIPTION	ANALYZE FOR	INSTRUMENT USED	QUANTITY USED grams	DATE COUNTED	COUNT TIME seconds	GROSS COUNT	BACK-GROUND	NET COUNT	Radio-nuclide	RESULT* pCi/g (dry wt.)
8	12/9	1200	SOIL SOUTH 3000 S00	γ scan	#4	209.1	3/8	60,000				Ac-228	1.06±0.04 (20%)
			(total sample analyzed)									Pb-212	0.908±0.014 (20%)
												U-235	0.04±0.04
												Pa-234m	2.3±0.9
9	12/9	1200	SOIL SOUTH 3000 S01	γ scan	#3	232.4	2/22	60,000				Ac-228	1.75±0.04 (10%)
			(-14 mesh fraction)									Pb-212	1.663±0.016 (10%)
												U-235	0.27±0.04 (10%)
												Pa-234m	7.5±1.0 (10%)
10	12/9	1200	SOIL SOUTH 3000 S02	γ scan	#3	202.0	2/19	60,000				Ac-228	4.13±0.06 (10%)
			(-14 mesh fraction)									Pb-212	3.62±0.02 (10%)
												U-235	0.10±0.04
												Pa-234m	4.9±1.2 (10%)
11	12/9	1142	SOIL EAST 3000 S00	γ scan	#3	281.7	3/5	60,000				Ac-228	0.58±0.03 (15%)
			(total sample analyzed)									Pb-212	0.546±0.010 (15%)
												U-235	0.21±0.03 (15%)
												Pa-234m	6.3±0.7 (15%)

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SAMPLE NO.	DATE	HOUR	DESCRIPTION	ANALYZE FOR	INSTRUMENT USED	QUANTITY USED grams	DATE COUNTED	COUNT TIME seconds	GROSS COUNT	BACKGROUND	NET COUNT	Radionuclide	RESULT* pCi/g (dry wt.)
12	12/9	1200	SOIL EAST 3000 S01	γ scan	#4	387.0	2/26	60,000				Ac-228	0.37±0.02
			(-14 mesh fraction)									Pb-212	0.290±0.008
												U-235	<0.06
												Pa-234m	1.4±0.3
13	12/9	1156	SOIL EAST 3000 ALT 500	γ scan	#3	353.9	3/3	60,000				Ac-228	0.43±0.02
			(total sample analyzed)									Pb-212	0.382±0.008
												U-235	0.25±0.03
												Pa-234m	6.6±0.7
14	12/9	1120	SOIL WEST 1000 S00	γ scan	#4	419.6	3/3	60,000				Ac-228	0.77±0.02
			(total sample analyzed)									Pb-212	0.666±0.009
												U-235	0.06±0.03
												Pa-234m	3.1±0.4
15	12/9	1120	SOIL WEST 1000 S01	γ scan	#3	308.7	2/25	60,000				Ac-228	1.51±0.03 (10%)
												Pb-212	1.398±0.012 (10%)
												U-235	0.10±0.03 (10%)
												Pa-234m	3.5±0.8 (10%)

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SAMPLE NO.	DATE	HOUR	DESCRIPTION	ANALYZE FOR	INSTRUMENT USED	QUANTITY USED grams	DATE COUNTED	COUNT TIME seconds	GROSS COUNT	BACKGROUND	NET COUNT	Radionuclide	RESULT* pCi/g (dry wt.)
16	12/9	1122	SOIL WEST 1000 S02	γ scan	#4	407.1	2/25	60,000				Ac-228	0.397±0.016
			(-14 mesh fraction)									Pb-212	0.337±0.008
												U-235	0.01±0.02
												Pa-234m	1.0±0.3
17	12/9	1030	SOIL AREA 1000 S01	γ scan	#3	281.1	3/1	60,000				Ac-228	0.62±0.03 (15%)
			(-14 mesh fraction)									Pb-212	0.577±0.011 (15%)
												U-235	7.59±0.07 (15%)
												Pa-234m	194±2 (15%)
18	12/9	1200	SOIL AREA 1000 S02	γ scan	#4	429.1	2/19	60,000				Ac-228	0.60±0.02
			(-14 mesh fraction)									Pb-212	0.510±0.009
												U-235	0.89±0.04
												Pa-234m	25.2±0.6
19	12/9	1030	SOIL AREA 1000 S03	γ scan	#3	430.8	2/26	60,000				Ac-228	0.212±0.016
			(-14 mesh fraction)									Pb-212	0.202±0.006
												U-235	0.22±0.02
												Pa-234m	5.3±0.4

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SAMPLE RECORD SHEET (Continued)

LABORATORY CONTROL NUMBER: 302070

SAMPLE NO	DATE	HOUR	DESCRIPTION	ANALYZE FOR	INSTRUMENT USED	QUANTITY USED grams	DATE COUNTED	COUNT TIME seconds	GROSS COUNT	BACKGROUND	NET COUNT	Radionuclide	RESULT* pCi/g (dry wt.)
20	12/9	1200	SOIL AREA 2000 S01	γ scan	#3	298.7	3/2	60,000				Ac-228	0.90±0.03
			(total sample analyzed)									Pb-212	0.800±0.010
												U-235	0.08±0.02
												Pa-234m	2.4±0.6
21	12/9	1200	SOIL AREA 2000 S02	γ scan	#4	350.5	3/2	60,000				Ac-228	0.53±0.02 (10%)
			(total sample analyzed)									Pb-212	0.462±0.009 (10%)
												U-235	0.03±0.03
												Pa-234m	1.6±0.4 (10%)
22	12/9	1200	SOIL AREA 3000 S01	γ scan	#3	267.9	2/23	60,000				Ac-228	0.81±0.03 (10%)
			(-14 mesh fraction)									Pb-212	0.760±0.011 (10%)
												U-235	(1.85±0.04) (10%)
												Pa-234m	45.5±1.2 (10%)
23	12/9	1200	SOIL AREA 3000 S02	γ scan	#4	255.5	2/24	60,000				Ac-228	0.53±0.03
			(total sample analyzed)									Pb-212	0.430±0.011
												U-235	<0.09
												Pa-234m	1.7±0.7

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INSPECTION

NRC FORM 303 (8-1997)

U. S. NUCLEAR REGULATORY COMMISSION

REQUEST FOR ANALYSIS

LABORATORY – [X] REGION I [ ] REGION III

LABORATORY USE ONLY

CONTROL NUMBER: 302070

SAMPLE LOCATION (LICENSEE): TENNECO (SECON)

LICENSE NO.:

DOCKET NO.:

SAMPLE SUBMITTED

# TOTAL	TYPE	VOLUME	WEIGHT
23	Exterior Soil		

DATE SAMPLES SUBMITTED: 12/11/98

PRIORITY: [X] ROUTINE [ ] URGENT

SAMPLE COLLECTION INTERVAL

	MONTH	DAY	YEAR	TIME
START	12	9	98	10
STOP	12	9	98	

INSPECTOR RESPONSIBLE: JOHN N WRAY

TELEPHONE NUMBER: 5268

	ANALYSIS TO BE PERFORMED	LIST DESIRED LLD (Optional)		OTHER TYPE OF ANALYSIS (Specify)	LIST DESIRED LLD (Optional)
	GROSS ALPHA (GA)				
	GROSS BETA (GB)				
X	GAMMA SPEC (GS)	To see Ra 234 U-235		10 pCi/g	
	TRITIUM (H3)				
	CARBON-14 (C14)				
	IODINE-125 (I125)				

RELINQUISHED BY	RECEIVED BY	DATE	TIME	REASON FOR CHANGE OF CUSTODY
	[illegible]	12-11-98	—	Hand carried to lab by J. [illegible]

REMARKS: SOIL SAMPLES TO release OUTSIDE AREA AT TENNECO

NOTE: SAMPLES WILL BE DISCARDED AFTER ANALYSIS UNLESS REASONS ARE NOTED IN REMARKS ABOVE.

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INSPECTOR