

RADIONUCLIDE CONCENTRATIONS
IN WELL WATER SAMPLES: MAY 7-8, 1986
WEST LAKE LANDFILL
ST. LOUIS, MO.

Radionuclide	Concentrations (pCi/l)						
	Well 50 ^a	Well 51	Well 52	Well 53	Well 54	Well 55	Well 56
gross alpha ^d	2.2 ± 1.1 ^b	2.2 ± 1.1	1.9 ± 0.8	11 ± 2	4.4 ± 2.1	4.8 ± 1.4	5.7 ± 1.4
gross beta ^d	7.5 ± 1.4	4.4 ± 1.3	7.5 ± 1.2	16 ± 2	14 ± 3	14 ± 2	12 ± 2
Ra-226	— ^c	—	—	0.4 ± 0.2	—	—	0.2 ± 0.1
Ra-228	—	—	—	1.7 ± 0.6	—	—	<0.3
U-Total	—	—	—	22 ± 3	—	—	8.9 ± 2.3
Th-228	—	—	—	0.5 ± 0.2	—	—	0.3 ± 0.2
Th-230	—	—	—	0.9 ± 0.2	—	—	0.9 ± 0.2
Th-232	—	—	—	0.3 ± 0.1	—	—	0.8 ± 0.2
Depth to water (m)	5.0	3.8	3.2	3.3	15.5	11.5	11.5

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8608050013 860703
PDR ADOCK 04008801
C PDR

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	Well 50 ^a	Well 51	Well 52	Well 53	Well 54	Well 55	Well 56
gross alpha ^d	2.2 ± 1.1 ^b	2.2 ± 1.1	1.9 ± 0.8	11 ± 2	4.4 ± 2.1	4.8 ± 1.4	5.7 ± 1.4
gross beta ^d	7.5 ± 1.4	4.4 ± 1.3	7.5 ± 1.2	16 ± 2	14 ± 3	14 ± 2	12 ± 2
Ra-226	— ^c	—	—	0.4 ± 0.2	—	—	0.2 ± 0.1
Ra-228	—	—	—	1.7 ± 0.6	—	—	<0.3
U-Total	—	—	—	22 ± 3	—	—	8.9 ± 2.3
Th-228	—	—	—	0.5 ± 0.2	—	—	0.3 ± 0.2
Th-230	—	—	—	0.9 ± 0.2	—	—	0.9 ± 0.2
Th-232	—	—	—	0.3 ± 0.1	—	—	0.8 ± 0.2
Depth to water (m)	5.0	3.8	3.2	3.3	15.5	11.5	11.5

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Radionuclide	Concentrations (pCi/l)						
	Well 58	Well 59	Well 60	Well 61	Well 62	Well 65	Well 66
gross alpha	5.8 ± 1.3	11 ± 3	14 ± 2	3.3 ± 0.9	5.6 ± 1.3	3.5 ± 1.2	1.8 ± 1.0
gross beta	15 ± 2	46 ± 4	19 ± 2	14 ± 1	10 ± 1	7.4 ± 1.4	9.9 ± 1.4
Ra-226	0.3 ± .01	0.3 ± 0.1	2.5 ± 0.3	—	0.8 ± 0.2	—	—
Ra-228	2.9 ± 0.6	0.5 ± 0.5	1.6 ± 0.5	—	0.6 ± 0.4	—	—
U-Total	13 ± 2	25 ± 4	19 ± 4	—	2.3 ± 0.9	—	—
Th-228	0.6 ± 0.2	0.5 ± 0.2	0.5 ± 0.2	—	0.8 ± 0.2	—	—
Th-230	1.5 ± 0.3	0.2 ± 0.1	4.4 ± 0.5	—	1.2 ± 0.3	—	—
Th-232	0.7 ± 0.2	0.1 ± 0.1	0.1 ± 0.1	—	0.6 ± 0.2	—	—
Depth to water (m)	14.0	not determined	3.5	4.5	4.2	1.9	1.9

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Radionuclide	Concentrations (pCi/l)						
	Well 67	Well 68	Well 72	Well 73	Well 75	Well 76	Well 80
gross alpha	8.4 ± 1.7	0.9 ± 1.7	1.4 ± 1.2	6.5 ± 1.5	11 ± 3	3.6 ± 1.3	8.3 ± 2.2^e
gross beta	7.1 ± 1.6	1.9 ± 2.8	4.6 ± 1.7	7.7 ± 1.6	22 ± 4	6.9 ± 1.8	13 ± 3
Ra-226	0.7 ± 0.1			0.3 ± 0.1	--	--	--
Ra-228	<0.3			0.9 ± 0.7	--	--	--
U-Total	7.4 ± 1.1			3.1 ± 0.9	16 ± 2	--	34 ± 3^e
Th-228	0.9 ± 0.2			1.7 ± 0.4	0.6 ± 0.2	--	9.6 ± 0.7^e
Th-230	9.9 ± 0.7			6.7 ± 0.7	12 ± 1	--	1.8 ± 0.3^e
Th-232	0.2 ± 0.1			0.2 ± 0.1	0.2 ± 0.1	--	9.5 ± 0.7^e
Depth to water (m)	1.5	4.4	10.0	8.4	7.6	13.8	5.3

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Radionuclide	Concentrations (pCi/l)						
	Well 81	Well 82	Well 83	Well 84	Well 87	Well 88	Well 89
gross alpha	7.9 ± 1.8	17 ± 6	9.0 ± 1.8	13 ± 4	1.5 ± 1.4	11 ± 3	3.7 ± 1.3
gross beta	16 ± 2	47 ± 7	18 ± 2	27 ± 5	7.2 ± 2.4	18 ± 3	9.1 ± 1.6
Ra-226	0.8 ± 0.2	0.3 ± 0.1	3.4 ± 0.3	1.7 ± 0.2	—	2.3 ± 0.3	—
Ra-228	<0.4	0.4 ± 0.5	4.6 ± 0.6	5.8 ± 0.7	—	0.2 ± 0.4	—
U-Total	4.9 ± 1.3	13 ± 2	1.6 ± 0.7	9.0 ± 1.2	—	3.0 ± 0.8	—
Th-228	0.9 ± 0.2	0.4 ± 0.2	0.2 ± 0.1	0.6 ± 0.2	—	1.1 ± 0.3	—
Th-230	0.9 ± 0.2	1.8 ± 0.3	0.4 ± 0.2	1.3 ± 0.3	—	1.5 ± 0.4	—
Th-232	0.3 ± 0.1	0.3 ± 0.1	1.0 ± 0.2	1.1 ± 0.3	—	4.0 ± 0.6	—
Depth to water (m)	4.8	5.1	3.9	7.0	9.4	8.6	7.5

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Radionuclide	Concentrations (pCi/l)			
	Well 90	Well 92	Well 93	Well 94
gross alpha	2.2 ± 0.9	7.3 ± 1.9	7.4 ± 2.0	1.6 ± 0.9
gross beta	6.8 ± 1.5	11 ± 3	22 ± 3	9.9 ± 1.4
Ra-226	—	1.0 ± 0.2	1.6 ± 0.2	—
Ra-228	—	0.8 ± 0.5	1.4 ± 0.5	—
U-Total	—	17 ± 2	6.0 ± 1.1	—
Th-228	—	0.5 ± 0.2	0.8 ± 0.3	—
Th-230	—	0.1 ± 0.1	0.7 ± 0.2	—
Th-232	—	0.4 ± 0.2	1.6 ± 0.4	—
Depth to water (m)	4.1	13.1	4.7	2.1

^aRefer to Figure for well location.

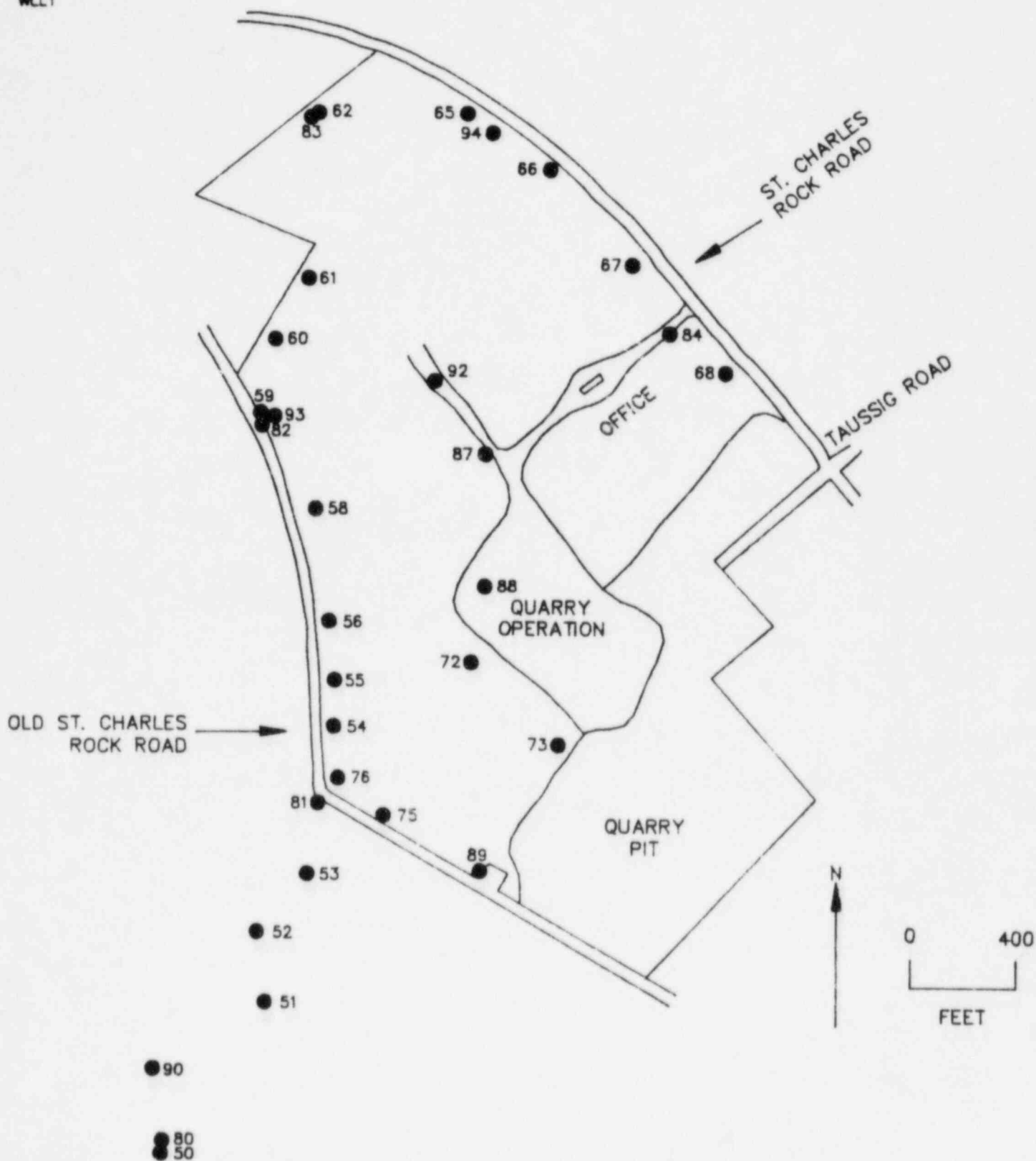
^bErrors are 2σ based only on counting statistics.

^cDash indicates analysis not performed.

^dGross alpha calculated on Am-241 efficiency; Gross beta calculated based on Cs-137 efficiency.

^eAnalyses being rerun due to inconsistencies between total alpha and isotopic levels.

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Well Sampling Locations at West Lake Landfill
May 7 and 8, 1986