

September 15, 2004

Attn: Dennis Chambers, CHP  
USACE  
8945 Latty Ave  
Berkeley, MO 63134

**RE: Background Data Set for North County Surface and Subsurface Soils**

Dennis,

I have attached the background data set that is being used for north county surface and subsurface soils.

If you should have any questions or comment, please contact me at (314) 770-3027.

Sincerely,

SCIENCE APPLICATIONS INTERNATIONAL CORPORATION



Randy Hansen, CSP  
Site Safety and Health Officer  
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Table 2a. MARSSIM Background Data Summary for North County Surface Soils

Statistic	Th-230 (pCi/g)	Ra-226 (pCi/g)	Th-232 (pCi/g)	Ra-228 (pCi/g)	U-238 (pCi/g)	Ac-227 (pCi/g)	Pa-231 (pCi/g)	SOR <sub>G</sub> (5/5/50)
Mean	1.49	0.95	1.07	0.91	1.08	0.20	0.24	0.55
Median	1.41	1.03	1.07	0.91	1.06	0.09	0.20	0.51
UCL-95								
St. Dev	0.32	0.19	0.34	0.07	0.28	0.23	0.48	0.10
Range	1.23	0.68	1.42	0.30	1.04	0.78	2.66	0.38
No. Samples	37	37	37	37	37	37	37	37

SLA04300	1.33	1.27	0.81	1.08	0.76	0.05	0.25	0.50
SLA04302	1.41	1.11	0.64	0.96	1.38	0.21	0.09	0.50
SLA04304	1.80	1.15	1.18	1.01	1.51	0.06	-0.49	0.63
SLA04306	1.18	1.01	0.57	0.93	1.33	0.08	-0.14	0.45
SLA04308	1.21	1.16	1.12	1.01	1.21	0.09	-0.25	0.49
SLA04310	1.40	1.12	1.58	0.91	1.11	-0.02	2.17	0.62
SLA04312	1.20	1.07	0.83	0.87	1.47	-0.02	-0.06	0.44
SLA04314	2.01	1.17	1.37	0.87	1.16	0.56	0.20	0.70
SLA04316	1.28	1.09	1.00	0.84	0.79	0.05	0.38	0.47
SLA04318	1.74	1.08	1.34	0.91	0.94	0.01	0.68	0.63
SLA04320	1.74	1.10	1.00	0.99	0.88	0.12	-0.37	0.57
SLA04322	1.68	1.08	1.08	0.94	1.06	-0.05	0.60	0.57
SLA04324	1.47	1.12	1.34	0.96	1.05	0.10	-0.10	0.58
SLA04326	1.93	1.07	0.57	0.89	0.92	0.01	0.47	0.58
SLA04328	1.14	1.11	1.16	0.92	1.16	0.06	0.05	0.48
SLA04330	1.30	0.98	0.55	0.85	0.85	0.03	0.09	0.45
SLA04332	1.19	1.04	1.24	0.97	1.02	-0.02	0.10	0.51
SLA04334	1.01	1.16	1.02	0.91	1.15	0.20	0.30	0.46
SLA04336	1.16	1.03	0.76	0.89	1.06	0.06	0.54	0.43
SLA04338	1.48	0.92	1.07	0.85	0.90	0.07	-0.32	0.53
SLA04340	1.95	0.92	1.95	0.99	1.38	0.32	0.49	0.81
SLA04342	1.62	0.94	0.86	0.86	0.94	0.08	-0.39	0.51
SLA04344	1.75	1.10	1.50	0.97	0.65	0.44	0.15	0.66
SLA04346	1.81	0.97	1.59	0.88	1.45	0.06	0.46	0.71
SLA04348	1.34	1.04	1.53	0.79	0.74	0.08	-0.18	0.59
SLA04167	2.11	0.59	0.98	0.78	1.65	0.57	0.48	0.65
SLA04168	1.44	0.61	1.17	0.86	0.95	0.47	0.51	0.54
SLA04169	1.61	0.69	0.99	1.04	0.91	0.73	0.11	0.55
SLA04170	2.17	0.75	1.36	0.91	1.33	0.50	1.06	0.73
SLA04179	1.27	0.71	0.55	0.79	0.79	0.13	0.43	0.43
SLA04180	1.84	0.64	1.43	0.80	1.20	0.15	0.13	0.68
SLA04181	0.94	0.60	1.24	0.84	0.66	0.08	0.23	0.45
SLA04187	1.23	0.85	1.10	0.97	1.69	0.21	-0.20	0.50
SLA04182	1.40	0.74	0.80	0.88	1.40	0.67	0.31	0.48
SLA04183	1.06	0.85	0.90	0.97	0.84	0.68	0.59	0.42
SLA04184	1.51	0.77	0.53	0.87	0.73	0.56	-0.02	0.49
SLA04185	1.37	0.71	0.91	0.91	1.11	0.15	0.52	0.48

Table 2b. MARSSIM Background Data Summary for North County Subsurface Soils

Statistic	Th-230 (pCi/g)	Ra-226 (pCi/g)	Th-232 (pCi/g)	Ra-228 (pCi/g)	U-238 (pCi/g)	Ac-227 (pCi/g)	Pa-231 (pCi/g)	SOR <sub>G</sub> (15/15/50)
Mean	1.83	1.15	1.15	1.04	1.27	0.21	0.15	0.23
Median	1.73	1.29	1.15	1.09	1.28	0.16	0.18	0.23
UCL-95								
St. Dev	0.57	0.31	0.35	0.14	0.34	0.24	0.35	0.05
Range	1.91	0.99	1.43	0.52	1.36	0.98	1.58	0.19
No. Samples	37	37	37	37	37	37	37	37
SLA04171	1.77	0.77	1.52	0.89	0.71	0.66	0.29	0.23
SLA04175	1.55	0.60	0.80	0.90	0.75	0.09	0.18	0.18
SLA04190	2.34	0.85	0.53	0.84	0.81	0.57	0.21	0.23
SLA04301	1.29	1.25	0.99	1.09	2.04	-0.11	0.71	0.20
SLA04303	1.81	1.39	1.28	1.18	1.40	0.32	-0.05	0.23
SLA04305	2.07	1.51	1.32	1.15	1.10	-0.01	0.34	0.25
SLA04307	1.75	1.45	1.47	1.04	1.66	0.05	0.75	0.25
SLA04309	1.59	1.29	1.02	1.10	1.86	0.05	0.27	0.22
SLA04311	1.23	1.55	0.81	1.24	1.37	-0.03	0.38	0.21
SLA04313	1.60	1.40	1.25	1.10	1.12	0.24	-0.43	0.21
SLA04315	2.00	1.50	1.50	1.09	0.97	0.62	0.31	0.25
SLA04317	2.70	1.40	1.51	1.14	1.08	0.00	0.39	0.30
SLA04319	2.32	1.42	1.86	1.21	1.47	0.14	0.19	0.31
SLA04321	1.45	1.32	1.67	1.11	1.58	0.00	-0.45	0.24
SLA04323	2.73	1.31	0.64	1.17	1.04	0.14	-0.16	0.28
SLA04325	1.27	1.38	1.18	1.19	1.72	0.17	0.46	0.21
SLA04327	1.42	1.33	1.22	1.13	1.32	0.23	-0.11	0.20
SLA04329	2.18	1.22	1.42	1.03	1.26	0.35	-0.24	0.27
SLA04331	1.33	1.29	1.45	1.20	1.25	0.03	0.25	0.21
SLA04333	1.49	1.44	1.15	1.12	1.29	0.01	0.51	0.20
SLA04335	1.50	1.44	0.74	1.16	1.28	-0.16	-0.40	0.20
SLA04337	1.89	1.12	0.90	1.12	1.75	0.20	-0.19	0.24
SLA04339	1.73	1.21	1.64	1.09	1.05	0.25	0.23	0.25
SLA04341	2.24	1.30	1.02	1.06	1.66	-0.09	-0.21	0.25
SLA04343	1.48	1.29	0.84	1.09	1.50	0.10	0.06	0.20
SLA04345	2.65	1.30	1.96	1.08	1.72	0.27	0.16	0.34
SLA04347	2.77	1.30	1.37	1.21	1.28	0.19	0.12	0.30
SLA04349	1.86	1.17	1.19	0.98	1.01	0.07	0.49	0.22
SLA04172	1.43	0.89	1.28	1.02	1.32	0.74	1.13	0.21
SLA04176	0.98	0.60	1.06	0.80	0.89	0.16	0.10	0.15
SLA04191	2.69	0.90	0.77	0.92	0.94	0.82	-0.21	0.26
SLA04173	1.28	0.80	0.76	0.87	0.89	0.46	0.53	0.16
SLA04177	1.21	0.64	0.96	0.84	1.35	0.18	0.28	0.17
SLA04192	2.89	0.91	0.66	1.08	0.68	0.36	0.12	0.28
SLA04174	1.24	0.56	0.93	0.72	1.01	0.15	-0.02	0.16
SLA04178	1.09	0.61	0.86	0.74	1.26	0.01	-0.39	0.16
SLA04193	2.87	0.74	1.15	0.92	1.72	0.51	-0.03	0.30

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