

August 3, 2005

Ms. Beth Schlapper
 U.S. Nuclear Regulatory Commission
 Region IV: DNMS: NMLB
 Suite 400
 611 Ryan Plaza Drive
 Arlington, TX 76011

SUBJECT: ANALYTICAL RESULTS FOR EIGHT SOIL SAMPLES COLLECTED JULY 13 AND 15, 2005 FROM KAISER ALUMINUM, TULSA, OKLAHOMA (INSPECTION REPORT #040-02377/05-004) [RFTA NO. 05-001]

Dear Ms. Schlapper:

The Environmental Survey and Site Assessment Program (ESSAP) of the Oak Ridge Institute for Science and Education (ORISE) received eight soil samples and nine swipe samples for analysis from Kaiser Aluminum, Tulsa, Oklahoma on July 18, 2005. ESSAP issued a letter report for the swipe samples on July 25, 2005. At your request, the soil samples were analyzed as received (wet) for the thorium and uranium series by gamma spectroscopy (GS) (Procedure CPI, Revision 15). The percent moisture (Procedure SP3, Revision 4) was calculated for each of these samples. The GS and percent moisture data are presented in Table 1.

ESSAP's Quality Control (QC) requirements were met for these analyses. The QC files are available for your review upon request.

Please contact me at (865) 241-3242 or Wade Ivey at (865) 576-9184 with any questions or comments.

Sincerely,



Dale Condra
 Laboratory Manager
 Environmental Survey and
 Site Assessment Program

RDC/WPI:ar

Enclosure

cc: T. McLaughlin, NRC/NMSS/T-7E18
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 File 1668

Distribution approval and concurrence:	Initials
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ORISE TABLE 1

**CONCENTRATIONS OF SELECTED GAMMA EMITTING RADIONUCLIDES
AND PERCENT MOISTURE
IN SOIL SAMPLES
BY SAMPLE PREPARATION SP3, REVISION 4
AND GAMMA SPECTROSCOPY CP1, REVISION 15
KAISER ALUMINUM
TULSA, OKLAHOMA**

ESSAP Sample ID	NRC Region IV Sample ID	Percent Moisture	Radionuclide Concentrations (pCi/g wet weight) ^a							Total Th ^c
			U-238 by Th-234	U235	Total U ^b	Th-230	Th-228 by Pb-212	Th-232 by Ac-228	Total Th ^c	
1668S0001	NRC-05-04-01	10	1.20 ± 0.69 ^d	0.06 ± 0.14	2.46 ± 0.99	2.4 ± 5.0	1.54 ± 0.13	1.43 ± 0.25	2.97 ± 0.28	
1668S0002	NRC-05-04-02	12	0.81 ± 0.57	0.02 ± 0.13	1.64 ± 0.82	0.3 ± 4.8	1.02 ± 0.11	1.17 ± 0.25	2.19 ± 0.27	
1668S0003	NRC-05-04-03	11	1.03 ± 0.63	-0.02 ± 0.12	2.04 ± 0.90	2.0 ± 4.4	1.20 ± 0.11	1.40 ± 0.19	2.60 ± 0.22	
1668S0004	NRC-05-04-04	12	1.00 ± 0.50	0.06 ± 0.12	2.06 ± 0.72	-3.9 ± 4.1	1.22 ± 0.13	1.35 ± 0.21	2.57 ± 0.25	
1668S0005	NRC-05-04-05	7	1.32 ± 0.87	0.11 ± 0.16	2.8 ± 1.2	-2.4 ± 5.5	1.18 ± 0.11	1.40 ± 0.23	2.58 ± 0.25	
1668S0006	NRC-05-04-06	22	1.43 ± 0.70	-0.05 ± 0.13	2.8 ± 1.0	-0.6 ± 5.2	0.99 ± 0.11	1.11 ± 0.21	2.10 ± 0.24	
1668S0007	NRC-05-04-07	8	1.33 ± 0.64	0.17 ± 0.11	2.83 ± 0.91	2.5 ± 4.7	1.14 ± 0.11	1.16 ± 0.21	2.30 ± 0.24	
1668S0008	NRC-05-04-08	14	0.89 ± 0.58	0.18 ± 0.12	1.96 ± 0.83	0.8 ± 3.9	1.29 ± 0.13	1.20 ± 0.20	2.49 ± 0.24	

^aThe average MDCs for these radionuclides range from 0.06 pCi/g for Th-228 by Pb-212 to 7.3 pCi/g for Th-230.

^bTotal uranium is calculated using the equation (2·U-238) + U-235.

^cTotal thorium is the sum of Th-228 and Th-232.

^dUncertainties represent the 95% confidence level, based on total propagated uncertainties.