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February 14, 2005

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Mr. Craig Gordon  
U.S. Nuclear Regulatory Commission  
Region I  
475 Allendale Road  
King of Prussia, PA 19406

**SUBJECT: ANALYTICAL RESULTS FOR SOIL SAMPLES FROM HERITAGE  
MINERALS, INC., LAKEHURST, NEW JERSEY (INSPECTION REPORT NO.  
04008980/2004-001) [RFTA NO. 05-001]**

Dear Mr. Gordon:

The Environmental Survey and Site Assessment Program (ESSAP) of the Oak Ridge Institute for Science and Education (ORISE) received 23 soil samples on January 25, 2005 that were collected at Heritage Minerals, Inc. in Lakehurst, New Jersey. The samples were analyzed by gamma spectroscopy (GS) (Procedure CP1, Revision 14). The GS data are presented in Table 1.

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

Please contact me at (865) 241-3242 or Wade Ivey at (865) 576-9184 should you have any questions.

Sincerely,



Dale Condra  
Laboratory Manager  
Environmental Survey and  
Site Assessment Program

RDC:WPI:dh

Enclosure

cc: T. McLaughlin, NRC/NMSS/TWFN 7F27  
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Distribution approval and concurrence:	Initials
Technical Management Team Member	TQW
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**ORISE TABLE 1**

**CONCENTRATIONS OF SELECTED  
GAMMA EMITTING RADIONUCLIDES  
IN SOIL SAMPLES  
BY GAMMA SPECTROSCOPY CP1, REVISION 14  
HERITAGE MINERALS  
LAKEHURST, NEW JERSEY**

ESSAP Sample ID	NRC Region I Sample ID	Radionuclide Concentrations (pCi/g dry weight) <sup>a</sup>					
		U-238 by Th-234	U-235	Total U <sup>b</sup>	Th-228 by Pb-212	Th-232 by Ac-228	Total Th <sup>c</sup>
1650S0001	NRC-04-01A	2.16 ± 0.57 <sup>d</sup>	0.20 ± 0.10	4.52 ± 0.81	1.45 ± 0.12	1.38 ± 0.17	2.83 ± 0.21
1650S0002	NRC-04-01B	1.58 ± 0.46	0.19 ± 0.11	3.35 ± 0.66	1.32 ± 0.10	1.31 ± 0.16	2.63 ± 0.19
1650S0003	NRC-04-02	1.46 ± 0.60	0.16 ± 0.13	3.08 ± 0.86	2.46 ± 0.17	2.38 ± 0.25	4.84 ± 0.30
1650S0004	NRC-04-03	2.54 ± 0.54	0.21 ± 0.15	5.29 ± 0.78	2.31 ± 0.16	2.27 ± 0.24	4.58 ± 0.29
1650S0005	NRC-04-04	5.16 ± 0.81	0.23 ± 0.18	10.6 ± 1.2	5.29 ± 0.36	5.19 ± 0.50	10.48 ± 0.62
1650S0006	NRC-04-05	4.26 ± 0.96	0.26 ± 0.22	8.8 ± 1.4	5.97 ± 0.43	5.85 ± 0.56	11.82 ± 0.71
1650S0007	NRC-04-06A	1.53 ± 0.69	0.07 ± 0.10	3.13 ± 0.98	1.67 ± 0.13	1.69 ± 0.21	3.36 ± 0.25
1650S0008	NRC-04-06B	1.81 ± 0.80	0.04 ± 0.13	3.7 ± 1.1	2.95 ± 0.22	2.92 ± 0.32	5.87 ± 0.39
1650S0009	NRC-04-07	2.05 ± 0.76	0.08 ± 0.13	4.2 ± 1.1	6.23 ± 0.42	6.16 ± 0.55	12.39 ± 0.69
1650S0010	NRC-04-08	1.20 ± 0.90	0.06 ± 0.17	2.5 ± 1.3	2.90 ± 0.21	2.84 ± 0.33	5.74 ± 0.39
1650S0011	NRC-04-09A	4.4 ± 1.2	0.19 ± 0.22	9.0 ± 1.7	4.14 ± 0.29	4.40 ± 0.44	8.54 ± 0.53
1650S0012	NRC-04-09B	3.8 ± 1.2	0.15 ± 0.18	7.8 ± 1.7	3.36 ± 0.24	3.22 ± 0.35	6.58 ± 0.42
1650S0013	NRC-04-09C	7.6 ± 1.3	0.49 ± 0.27	15.7 ± 1.9	8.08 ± 0.57	7.92 ± 0.74	16.00 ± 0.93
1650S0014	NRC-05-04	0.18 ± 0.29	0.04 ± 0.05	0.40 ± 0.41	0.23 ± 0.03	0.23 ± 0.09	0.46 ± 0.09
1650S0015	NRC-05-05	0.17 ± 0.28	0.02 ± 0.05	0.36 ± 0.40	0.15 ± 0.03	0.15 ± 0.06	0.30 ± 0.07
1650S0016	NRC-05-06A	0.21 ± 0.23	0.04 ± 0.04	0.46 ± 0.33	0.17 ± 0.03	0.17 ± 0.06	0.34 ± 0.07
1650S0017	NRC-05-09A	0.18 ± 0.33	-0.01 ± 0.05	0.35 ± 0.47	0.20 ± 0.03	0.20 ± 0.07	0.40 ± 0.08
1650S0018	NRC-05-09B	0.29 ± 0.26	0.03 ± 0.05	0.61 ± 0.37	0.21 ± 0.03	0.20 ± 0.07	0.41 ± 0.08
1650S0019	NRC-05-09C	0.35 ± 0.21	0.02 ± 0.04	0.72 ± 0.30	0.16 ± 0.02	0.17 ± 0.06	0.33 ± 0.06
1650S0020	NRC-05-10A	0.57 ± 0.29	-0.03 ± 0.05	1.11 ± 0.41	0.45 ± 0.05	0.53 ± 0.09	0.98 ± 0.10
1650S0021	NRC-05-10B	1.91 ± 0.63	0.21 ± 0.14	4.03 ± 0.90	1.93 ± 0.14	1.93 ± 0.22	3.86 ± 0.26
1650S0022	NRC-05-10C	2.12 ± 0.67	0.13 ± 0.15	4.37 ± 0.96	2.14 ± 0.17	2.05 ± 0.25	4.19 ± 0.30
1650S0023	NRC-05-10D	3.97 ± 0.81	0.21 ± 0.20	8.2 ± 1.2	3.61 ± 0.27	3.67 ± 0.37	7.28 ± 0.46

<sup>a</sup>The average MDCs for these radionuclides range from 0.06 pCi/g for Th-228 by Pb-212 to 0.65 pCi/g for U-238.

<sup>b</sup>Total uranium is calculated using (2·U-238) + U-235.

<sup>c</sup>Total thorium is the sum of Th-228 and Th-232.

<sup>d</sup>Uncertainties represent the 95% confidence level, based on total propagated uncertainties.