

12/09/94

ORISE  
OAK RIDGE INSTITUTE FOR SCIENCE AND EDUCATION

December 8, 1994

Mr. Randolph Ragland  
United States Nuclear Regulatory Commission  
Region I  
475 Allendale Road  
King of Prussia, PA 19400


**SUBJECT: ALPHA SPECTROMETRY RESULTS FOR THE TWO ASH SAMPLES  
FROM THE KISKI VALLEY WATER POLLUTION CONTROL  
AUTHORITY'S LEECHBURG, PENNSYLVANIA SITE (RFTA #94-040)**

Dear Mr. Ragland:

The Environmental Survey and Site Assessment Program (ESSAP) of the Oak Ridge Institute for Science and Education (ORISE) has performed the requested alpha spectrometry analyses on the two ash samples from the Kiski Valley Water Pollution Control Authority in Leechburg, Pennsylvania. The results for are presented in Table 1.

Please do not hesitate to contact me at (615) 576-0065 or Jack Beck at (615) 576-5031 should you have any questions.

Sincerely,



Wade C. Adams  
Health Physicist/Project Leader  
Environmental Survey and  
Site Assessment Program

WCA:dac

Enclosures

cc. R. Uleck, NRC/NMSS/TWFN/7F27  
D. Tiktinsky, NRC/NMSS/TWFN/8A23  
K. Hardin, NRC/NMSS/TWFN/8D14  
H. Astwood, NRC/NMSS/TWFN/8D14

J. Beck, ORISE/ESSAP  
E. Abelquist, ORISE/ESSAP  
PMDA, NRC/NMSS/TWFN/8A73  
File/271

*Wilson*

**RADIONUCLIDE CONCENTRATIONS  
FOR THE ALPHA SPECTROMETRY ANALYSES  
FOR THE TWO KISKI VALLEY ASH SAMPLES  
FROM THE KISKI VALLEY WATER POLLUTION CONTROL AUTHORITY  
LEECHBURG, PENNSYLVANIA**

Radionuclide	Sample Location <sup>a</sup>	
	KV-002DDD	KV-002DDDD
Th-228	1.67 ± 0.28 <sup>b</sup>	1.61 ± 0.28
Th-230	1.68 ± 0.28	1.53 ± 0.27
Th-232	1.15 ± 0.23	1.07 ± 0.23
U-234	315.99 ± 3.76	311.83 ± 3.70
U-235	14.58 ± 0.91	13.65 ± 0.88
U-238	59.71 ± 1.64	59.03 ± 1.61
Total U <sup>c</sup>	390.28 ± 4.20	384.50 ± 4.12

<sup>a</sup>Samples collected by NRC.

<sup>b</sup>Uncertainties represent the 95% confidence level, based only on counting statistics.

<sup>c</sup>Background total uranium concentrations, which average 3.7 ± 1.4 pCi/g, have not been subtracted.

*Background subtracted*

$$\frac{U-234}{U-235} = \frac{315}{60} = 5.25$$

$$\frac{U-234}{U-235} = \frac{311}{75} = 4.15$$

*Ratio 5.25*

*Ratio 4.15*

$$\frac{1.67}{1.68} = \frac{15}{20} = 0.75$$

$$\frac{1.61}{1.53} = \frac{15}{20} = 0.75$$

*Ratio results are consistent*

*Wilson*

12/8/94

**Kiski Valley Water Pollution Control Authority**  
**NRC Sludge Ash Samples**  
**September 29, 1994**

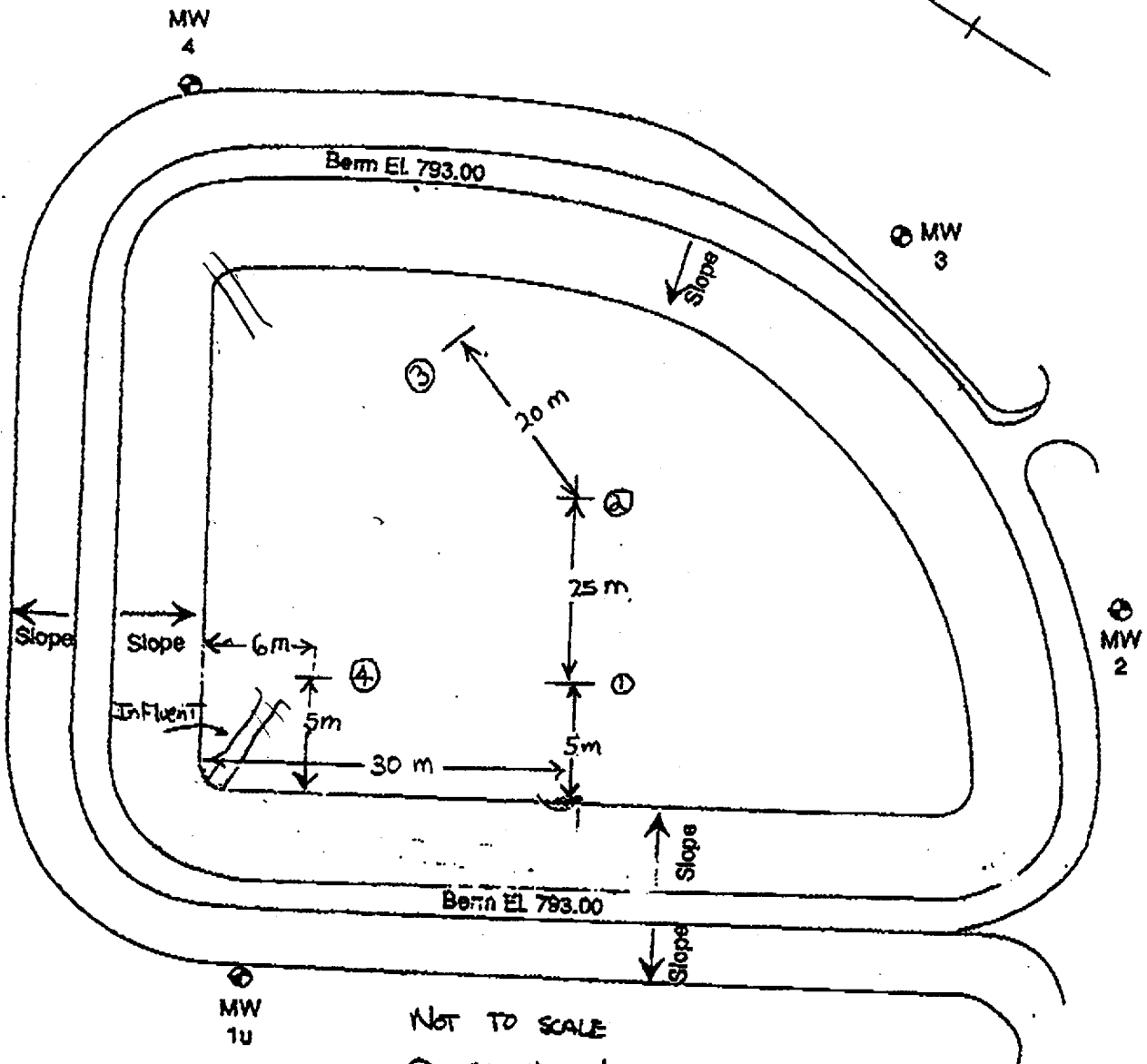
<u>Location</u>	<u>Depth</u>	<u>Uranium Act. Gamma Spec. pCiU/g</u>	<u>Uranium Act. Alpha Spec. pCiU/g</u>
1	Surface	22	
1	1 meter	24	
2	Surface	26	
2	6"-12"	23	
2	1 meter	97	
2	> 2 meters	452	390
2	Bottom	418	384
2	Clay at Bottom	118	
3	Surface	24	
3	6"-12"	22	
3	1 meter	22	
3	2 meters	21	
4	Surface	10	
4	1 meter	44	
4	1.5 meters	184	
5	Current Ash	29	10

*3 copies of report to be made for each location*  
*some for unpublished*

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Kiski Valley Water Pollution Control Authority  
NRC Sludge Ash Samples  
September 29, 1994

<u>Location</u>	<u>Depth</u>	Uranium Act. <u>Gamma Spec.</u> <u>pCiU/g</u>	Uranium Act. <u>Alpha Spec.</u> <u>pCiU/g</u>
1	Surface	22	
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4	Surface	10	
4	1 meter	44	
4	1.5 meters	184	
5	Current Ash	29	10



NOT TO SCALE  
 ○ SAMPLING LOCATIONS

SAMPLING DATE : 09/29/94

SAMPLERS : Weber, Astwood, BAGUARD (NRC)

**The Chester Engineers**

PROJECT NO:  
2735-2B

Kiski Valley  
 Water Pollution Control Authority  
 Ash Sampling Locations - Radionuclide

OWN BY: JS	APPR BY:	SCALE None
DRGD BY: MW	DATE 09/29/94	FILE NAME 2/kiskivp (1,4,5)

DWG. NO.:  
Figure 4-2



UNITED STATES  
 NUCLEAR REGULATORY COMMISSION  
 REGION I

MEETING ATTENDANCE FORM

A. Inspection report Number: 1  
 Entrance  
 Exit  
 Other

B. Management Meeting Number: \_\_\_\_\_

Subject: KUKKI VALLEY WATER POLLUTION CONTROL AUTHORITY

Date: 9/29/94

Location: LEECHBURG, PA

PLEASE PRINT ALL INFORMATION LEGIBLY

NAME	COMPANY/TITLE
MICHAEL WEBER	NRC, SECTION LEADER, NMS/DWM
HEATHER ASHWOOD	NRC, Division of waste management
STEWART MCGUIRE	Chester ENV. PROJ MGR - EARTH SCI
RANDOLPH C. RAGLAND	USNRC / Radiation Specialist
B.L. HAERTJENS	B&W NESI Safety Engrg
J.S. CEPICKA	B&W NESI OPERATIONS
Charles Thomas	Board Member K.V.
Robert Strong	Board Member K.V.
Peter Marotta	KUWPCA
Bob Kossak	KUWPCA
[Signature]	KUWPCA
Louis Paschioni	KUWPCA

301  
415-581