



DEFENSE LOGISTICS AGENCY
DIRECTORATE OF STOCKPILE MANAGEMENT
WASHINGTON, DC 20405



DLA-N

06 OCT 1988

U.S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406
ATTN: Ms. Betsy Ullrich

Dear Ms. Ullrich:

Enclosed for your review is the re-submission of our NRC license renewal application (1st submission dated 24 February 1986). Since our first submission in 1986, numerous organizational changes have been enacted and several of our radioactive commodities have been further analyzed, which has altered our inventory of source material (see enclosure 1). In order to assist you in your review of this application please carefully note the following changes:

The entire organization of the Office of National Defense Stockpile which was part of the General Services Administration has been transferred to the Defense Logistics Agency, Directorate of Stockpile Management.

Mr. Jerome T. Consiglio, Director Contracts Division has been removed from this license renewal. Mr. F. Kevin Reilly, Industrial Hygienist is now the DNS official responsible for our program. All questions regarding this submission and any further inquires should be directed to him.

Analysis for uranium and thorium has been performed on our vanadium pentoxide at four locations. Results indicate the combined concentration of both these isotopes are below the level of .05% by weight, thus this material is not regulated under NRC standards and has been removed from our source material inventory (see enclosure 1).

Additional analysis has also been performed on the Baddelyite ore. Prior to this additional analysis only the uranium content was known. This second analysis showed both uranium and thorium thus our inventory totals (see enclosure 1) have increased and the changes are reflected in the totals as U & Th.

FEE EXEMPT

OFFICIAL RECORD COPY ML 10

126554
13 OCT 1988

Enclosure 5 contains three closeout surveys for the following locations:

- a. Griffis Air Force Base
Rome, NY

NOTE: this survey was included in our 1986 license renewal application

- b. Defense Construction Supply Center
Columbus, OH

- c. GSA Jeffersonville Depot
Jeffersonville, IN

NOTE: Items b & c are the result of the relocation of radioactive LSA Baddelyite ore from both locations. All the material and the underlying surface of each of the piles has been relocated to our DLA/DNSC New Haven Depot, New Haven, IN. Our source material inventory (enclosure 1) reflects this action.

As you discussed with Kevin Reilly of my staff we are very interested in expediting the release of the open area at the Defense Construction Supply Center (DCSC) that previously stored the Baddelyite ore. The Department of the Army plans on constructing a reserve center on this site and cannot formalize its plans for construction until the NRC releases the area for unrestricted use. Any assistance you could lend in obtaining this release prior to granting our license renewal would be appreciated. A complete copy of our closeout survey for this location will be forwarded to the NRC Office in Glen Ellen, IL to hopefully speed up the release process.

Should you have any questions or require additional information please contact Kevin Reilly of my staff at FTS 535-7145.

6 Encl.

Sincerely,


J. WAYNE KULIG
Executive Director

13 OCT 1988

APPLICATION FOR MATERIAL LICENSE

RESUBMISSION

INSTRUCTIONS: SEE THE APPROPRIATE LICENSE APPLICATION GUIDE FOR DETAILED INSTRUCTIONS FOR COMPLETING APPLICATION. SEND TWO COPIES OF THE ENTIRE COMPLETED APPLICATION TO THE NRC OFFICE SPECIFIED BELOW.

FEDERAL AGENCIES FILE APPLICATIONS WITH:

U.S. NUCLEAR REGULATORY COMMISSION DIVISION OF FUEL CYCLE AND MATERIAL SAFETY, NMSS WASHINGTON, DC 20555

ALL OTHER PERSONS FILE APPLICATIONS AS FOLLOWS, IF YOU ARE LOCATED IN:

CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, MAINE, MARYLAND, MASSACHUSETTS, NEW JERSEY, NEW YORK, PENNSYLVANIA, RHODE ISLAND, OR VERMONT, SEND APPLICATIONS TO:

U.S. NUCLEAR REGULATORY COMMISSION, REGION I NUCLEAR MATERIAL SECTION B 631 PARK AVENUE KING OF PRUSSIA, PA 19406

ALABAMA, FLORIDA, GEORGIA, KENTUCKY, MISSISSIPPI, NORTH CAROLINA, PUERTO RICO, SOUTH CAROLINA, TENNESSEE, VIRGINIA, VIRGIN ISLANDS, OR WEST VIRGINIA, SEND APPLICATIONS TO:

U.S. NUCLEAR REGULATORY COMMISSION, REGION II MATERIAL RADIATION PROTECTION SECTION 101 MARIETTA STREET, SUITE 2900 ATLANTA, GA 30323

IF YOU ARE LOCATED IN:

ILLINOIS, INDIANA, IOWA, MICHIGAN, MINNESOTA, MISSOURI, OHIO, OR WISCONSIN, SEND APPLICATIONS TO:

U.S. NUCLEAR REGULATORY COMMISSION, REGION III MATERIALS LICENSING SECTION 799 ROOSEVELT ROAD GLEN ELLYN, IL 60137

ARKANSAS, COLORADO, IDAHO, KANSAS, LOUISIANA, MONTANA, NEBRASKA, NEW MEXICO, NORTH DAKOTA, OKLAHOMA, SOUTH DAKOTA, TEXAS, UTAH, OR WYOMING, SEND APPLICATIONS TO:

U.S. NUCLEAR REGULATORY COMMISSION, REGION IV MATERIAL RADIATION PROTECTION SECTION 611 RYAN PLAZA DRIVE, SUITE 1000 ARLINGTON, TX 76011

ALASKA, ARIZONA, CALIFORNIA, HAWAII, NEVADA, OREGON, WASHINGTON, AND U.S. TERRITORIES AND POSSESSIONS IN THE PACIFIC, SEND APPLICATIONS TO:

U.S. NUCLEAR REGULATORY COMMISSION, REGION V MATERIAL RADIATION PROTECTION SECTION 1450 MARIA LANE, SUITE 210 WALNUT CREEK, CA 94596

PERSONS LOCATED IN AGREEMENT STATES SEND APPLICATIONS TO THE U.S. NUCLEAR REGULATORY COMMISSION ONLY IF THEY WISH TO POSSESS AND USE LICENSED MATERIAL IN STATES SUBJECT TO U.S. NUCLEAR REGULATORY COMMISSION JURISDICTION.

1. THIS IS AN APPLICATION FOR (Check appropriate item)

- A. NEW LICENSE
B. AMENDMENT TO LICENSE NUMBER
C. RENEWAL OF LICENSE NUMBER STC 133 - RESUBMISSION -

2. NAME AND MAILING ADDRESS OF APPLICANT (Include Zip Code)

DEFENSE LOGISTICS AGENCY DEFENSE NATIONAL STOCKPILE 18th & F Street, NW WASHINGTON, DC 20405

3. ADDRESS(ES) WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED.

SEE ENCLOSURE 1

8907310579 8B1007 REG1 LIC40 STC-003 PDR

4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION

F. KEVIN REILLY, INDUSTRIAL HYGIENIST

TELEPHONE NUMBER

202/535-7145

SUBMIT ITEMS 5 THROUGH 11 ON 8 1/2 x 11" PAPER. THE TYPE AND SCOPE OF INFORMATION TO BE PROVIDED IS DESCRIBED IN THE LICENSE APPLICATION GUIDE.

5. RADIOACTIVE MATERIAL a. Element and mass number, b. chemical and/or physical form and c. maximum amount which will be possessed at any one time. SEE ENCLOSURE 2

6. PURPOSE(S) FOR WHICH LICENSED MATERIAL WILL BE USED. SAME AS PREVIOUS SUBMITTAL

7. INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING AND EXPERIENCE. SEE ENCLOSURE 3

8. TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS. SEE ENCLOSURE 4

9. FACILITIES AND EQUIPMENT. EXCLUDING THE THREE CLOSE OUT SURVEYS SAME AS PREVIOUS SUBMITTAL

10. RADIATION SAFETY PROGRAM. SAME AS PREVIOUS SUBMITTAL

11. WASTE MANAGEMENT. SAME AS PREVIOUS SUBMITTAL

12. LICENSEE FEES (See 10 CFR 170 and Section 170.31) FEE CATEGORY n/a AMOUNT ENCLOSED \$ n/a

13. CERTIFICATION. (Must be completed by applicant) THE APPLICANT UNDERSTANDS THAT ALL STATEMENTS AND REPRESENTATIONS MADE IN THIS APPLICATION ARE BINDING UPON THE APPLICANT.

I, THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATION ON BEHALF OF THE APPLICANT, NAMED IN ITEM 2, CERTIFY THAT THIS APPLICATION IS PREPARED IN CONFORMITY WITH TITLE 10, CODE OF FEDERAL REGULATIONS, PARTS 30, 32, 33, 34, 35, AND 40 AND THAT ALL INFORMATION CONTAINED HEREIN, IS TRUE AND CORRECT TO THE BEST OF THEIR KNOWLEDGE AND BELIEF

WARNING: 18 U.S.C. SECTION 1001 ACT OF JUNE 25, 1948, 62 STAT. 749 MAKES IT A CRIMINAL OFFENSE TO MAKE A WILLFULLY FALSE STATEMENT OR REPRESENTATION TO ANY DEPARTMENT OR AGENCY OF THE UNITED STATES AS TO ANY MATTER WITHIN ITS JURISDICTION.

SIGNATURE CERTIFYING OFFICER

TYPED/PRINTED NAME

TITLE

DATE

[Handwritten Signature]

F. KEVIN REILLY

INDUSTRIAL HYGIENIST

7 OCT 88

14. VOLUNTARY ECONOMIC DATA

Table with columns for Annual Receipts and Number of Employees. Rows include <\$250K, \$250K-500K, \$500K-750K, \$750K-1M and \$1M-3.5M, \$3.5M-7M, \$7M-10M, >\$10M.

b. NUMBER OF EMPLOYEES (Total for entire facility excluding outside contractors)
c. NUMBER OF BEDS

d. WOULD YOU BE WILLING TO FURNISH COST INFORMATION (Dollar and/or staff hours) ON THE ECONOMIC IMPACT OF CURRENT NRC REGULATIONS OR ANY FUTURE PROPOSED NRC REGULATIONS THAT MAY AFFECT YOU? (NRC regulations permit it to protect confidential commercial or financial--proprietary--information furnished to the agency in confidence) YES NO

FOR NRC USE ONLY

Table with columns: TYPE OF FEE, FEE LOG, FEE CATEGORY, COMMENTS, AMOUNT RECEIVED, CHECK NUMBER.

FEE EXEMPT

Table with columns: APPROVED BY, DATE.

B. Defense Construction Supply Center
Columbus, OH

On 18 July 1988, the outloading of Baddelyite ore at this location began. All transport vehicles moving this material were provided proper shipping papers, LSA radioactive placards, tarps and Material Safety Data Sheets (MSDS) for shipment. A specific route was to be followed and the operation proceeded exceptionally well and was concluded on 15 August 1988.

Shipments of actual ore totaled 327 trucks netting 7,113.4 SDT. Upon conclusion of the actual ore relocation we began to outload the "pile bases" to remove any and all residual radioactive ore and contaminated soil. Sixty-one (61) trucks of residue and contaminated was remove from beneath the piles and transported to the DLA/DNSC New Haven Depot.

Feeling we had removed all the residual radioactive contamination, we contacted the NRC, Regional Office in Glen Ellen, IL for assistance (see enclosure 6). Mr. James Patterson was present on 18 August 1988 when we sampled the underlying surface of each pile. We first outlined a grid (see attached sampling Data, Sampling 1) and took soil samples from five (5) holes in each grid for a composite sample of the grid. In some areas the ground was so compacted that even a two man auger could not penetrate the surface. Where we experienced this problem surface samples were taken. (note: this would later prove to be a

problem and further remedial action would be necessary). All the samples obtained were packaged in zip lock bags and shipped to Oakridge Associate Universities (OARU) for analysis. As you will note the sample results indicated most of the radioactive residual contamination had been removed, However, after further discussion and advice from NRC Region 3 additional remedial action was necessary to comply with NRC requirements.

On 13 September 1988, we returned to the site to complete the "clean up" and removed an additional eight (8) trucks of contaminated soil from within the grids, where high results were noted from the first sampling (see sampling data 1 and 2 for comparison). Again the samples were submitted to OARU for analysis.

On 28 September 1988 sample results were received and compared to the first sampling results. As you will note, all results are well within safe limits and should meet the approval of NRC.

Upon your review and concurrence we are requesting this facility be removed from our license and the area be opened for unrestricted use.

MPLING - COLUMBUS, OHIO

- 2ND SAMPLING -
9/13 & 14/1988

SAMPLES ARE LABELLED WITH ALC
NUMBER AND LETTER TO (I.E. 6A)
CORRESPOND WITH THE GRID

LE 6 - 30' x 360' GRID SIZE \approx 15' x 33'

A 6.5	C 17.8	E 6.8	G 8.7	29.4 I	KK 0.8	MM 1.6	OO 1.6	QQ 2.4	SS 2.7	UU 3.1
B 4.8	D 5.0	F 7.6	H 5.4	J 6.7	LL 1.8	NN 1.3	PP 1.8	RR 1.8	TT 1.7	VV 2.2

LE 7 - 30' x 296' GRID SIZE \approx 15' x 23'

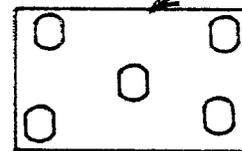
READINGS IN pci/g - TH-232 & U2.

48	C 14.9	E 5.0	G 9.4	II 1.9	KK 2.4	MM 2.2	OO 2.4	QQ 1.4	SS 1.5	UU 1.6	WW 1.9	YY 2.6
0.2	DD 1.0	FF 1.9	HH 1.7	JJ 1.8	LL 1.4	NN 1.0	PP 0.9	RR 1.9	TT 2.2	VV 0.7	XX 2.1	ZZ 1.4

NOTE: DUE TO HARD SURFACE
ONLY SURFACE SAMPLE
WERE OBTAINED FROM
PILE 7 (A-E) AND PILE
6 (K-V)

LE 8 - 45' x 93' GRID SIZE \approx 22' x 16'

A 5.2	C 10.3	E 7.8	G 6.7	I 11.9	K 6.6
B 4.3	D 5.3	F 4.7	H 6.8	J 8.0	L 10.4



METHOD OF SAMPLING
FILES 8, 3 AND
PILE 6 A THRU.
ONLY

LE 3 - 50' x 80' GRID SIZE \approx 25' x 26'

A 6.1	3.6 CC	E 6.1
B 17.1	D 8.5	F 7.5

NOTE: ALL OTHER SAMPLES WERE OBTAINED
BY DRILLING 5 HOLES/GRID AND
TAKING A MIXED CUMMULATIVE
SAMPLE OF ALL 5 HOLES FOR
A REPRESENTATIVE SAMPLE OF
THE INDIVIDUAL GRID



Oak Ridge
Associated Universities
Post Office Box 117
Oak Ridge, Tennessee 37831-0117

Manpower Education,
Research, and Training
Division

September 2, 1988

Mr. Kevin Riley
GSA/FPRS/Office of National Defense
Stockpile
3200 Sheffield Avenue
Hammond, Indiana 46327

Subject: RESULTS OF SAMPLE ANALYSIS

Dear Mr. Riley:

Enclosed are the results of analyses on the soil samples, provide to ORAU during the week of August 22, 1988. If your have any questions about the data or if we can help in suggesting possible approaches to confirming that guidelines have been satisfied, please don't hesitate to call me at FTS 626-3305.

Sincerely,

James D. Berger, Manager
Radiological Site Assessment Program

JDB:jle

Enclosure

*Columbus, Ohio.
1st SAMPLING*

TABLE 1 (Continued)

RADIONUCLIDE CONCENTRATIONS
IN SOIL SAMPLES RECEIVED
FROM THE GENERAL SERVICES ADMINISTRATION

Sample ID	Radionuclide Concentrations (pCi/g)		
	Th-232	U-238	Ra-226
DCSC - 7H	0.4 ± 0.1	1.9 ± 0.3	2.0 ± 0.1
DCSC - 7I	3.0 ± 0.2	27.6 ± 4.2	24.0 ± 0.2
DCSC - 7J	4.2 ± 0.4	43.8 ± 1.2	42.2 ± 0.5
DCSC - 7K	2.8 ± 0.2	32.1 ± 5.0	29.5 ± 0.2
DCSC - 7L	1.5 ± 0.1	11.5 ± 2.8	9.8 ± 0.1
DCSC - 7M	3.1 ± 0.4	19.6 ± 10.6	22.0 ± 0.4
DCSC - 7N	2.1 ± 0.2	19.4 ± 7.1	18.1 ± 0.3
DCSC - 7O	2.9 ± 0.2	31.9 ± 4.6	24.3 ± 0.2
DCSC - 7P	2.6 ± 0.3	25.2 ± 9.1	19.5 ± 0.4
DCSC - 7Q	2.1 ± 0.1	32.9 ± 4.4	24.8 ± 0.2
DCSC - 7R	2.1 ± 0.1	21.5 ± 4.3	19.7 ± 0.2
DCSC - 7S	1.1 ± 0.1	11.8 ± 2.6	7.7 ± 0.1
DCSC - 7T	1.6 ± 0.2	20.5 ± 6.9	14.6 ± 0.3
DCSC - 7U	0.7 ± 0.2	<5.4	7.1 ± 0.2
DCSC - 7V	2.4 ± 0.3	14.4 ± 7.7	17.8 ± 0.4
DCSC - 7W	0.8 ± 0.2	7.9 ± 4.2	5.1 ± 0.2
DCSC - 7X	1.5 ± 0.3	23 ± 10	16.2 ± 0.3
DCSC - 7Y	0.8 ± 0.2	<6.0	5.2 ± 0.2
DCSC - 7Z	0.6 ± 0.1	7.7 ± 3.9	4.9 ± 0.2
DCSC - 8A	0.4 ± 0.2	1.0 ± 0.2	1.6 ± 0.1
DCSC - 8B	0.4 ± 0.1	0.7 ± 0.3	1.3 ± 0.1
DCSC - 8C	1.1 ± 0.2	3.9 ± 0.4	4.4 ± 0.2
DCSC - 8D	0.8 ± 0.2	1.0 ± 0.3	1.6 ± 0.1
DCSC - 8E	0.8 ± 0.2	3.0 ± 0.3	1.7 ± 0.1
DCSC - 8F	0.8 ± 0.2	1.9 ± 0.4	2.7 ± 0.1
DCSC - 8G	1.2 ± 0.2	1.7 ± 0.4	1.8 ± 0.1
DCSC - 8H	1.4 ± 0.2	1.8 ± 0.3	2.0 ± 0.1
DCSC - 8I	0.9 ± 0.1	2.7 ± 0.2	2.6 ± 0.1
DCSC - 8J	1.4 ± 0.2	1.4 ± 0.4	2.6 ± 0.2
DCSC - 8K	1.1 ± 0.2	2.2 ± 0.3	1.9 ± 0.1
DCSC - 8L	0.8 ± 0.5	3.2 ± 0.6	4.5 ± 0.2

^aUncertainties are 2σ based only on counting statistics; additional analytical uncertainties of ± 6 to 10% have not been propagated into these data.

September 2, 1988

TABLE 1
 RADIONUCLIDE CONCENTRATIONS
 IN SOIL SAMPLES RECEIVED
 FROM THE GENERAL SERVICES ADMINISTRATION

Sample ID	Radionuclide Concentrations (pCi/g)		
	Th-232	U-238	Ra-226
BACKGROUND			
DCSC - 3A	1.1 ± 0.2 ^a	1.7 ± 0.3	1.9 ± 0.2
DCSC - 3B	0.8 ± 0.3	1.4 ± 0.3	2.1 ± 0.1
DCSC - 3C	1.7 ± 0.1	19.7 ± 4.3	18.2 ± 0.2
DCSC - 3D	0.7 ± 0.2	2.4 ± 0.4	3.8 ± 0.2
DCSC - 3E	2.4 ± 0.4	5.6 ± 0.8	13.1 ± 0.4
DCSC - 3F	0.4 ± 0.2	2.0 ± 0.3	1.8 ± 0.1
DCSC - 3G	0.8 ± 0.2	0.9 ± 0.2	1.7 ± 0.1
DCSC - 3H	0.7 ± 0.2	2.0 ± 0.3	3.0 ± 0.2
DCSC - 3I	0.5 ± 0.2	1.3 ± 0.5	1.6 ± 0.1
DCSC - 6A	1.0 ± 0.2	1.5 ± 0.4	2.1 ± 0.1
DCSC - 6B	0.4 ± 0.1	1.3 ± 0.3	1.7 ± 0.1
DCSC - 6C	0.5 ± 0.2	1.5 ± 0.4	2.8 ± 0.1
DCSC - 6D	0.3 ± 0.2	0.8 ± 0.2	1.5 ± 0.1
DCSC - 6E	0.6 ± 0.1	2.3 ± 0.4	2.2 ± 0.1
DCSC - 6F	0.5 ± 0.1	2.3 ± 0.4	3.1 ± 0.1
DCSC - 6G	0.8 ± 0.1	3.0 ± 0.3	4.2 ± 0.2
DCSC - 6H	0.6 ± 0.1	1.0 ± 0.4	2.1 ± 0.1
DCSC - 6I	1.1 ± 0.1	6.7 ± 0.2	7.1 ± 0.1
DCSC - 6J	0.7 ± 0.1	<4.2	3.8 ± 0.2
DCSC - 6K	15.3 ± 0.7	150 ± 1	153 ± 22
DCSC - 6L	1.8 ± 0.1	16.5 ± 3.8	14.7 ± 0.2
DCSC - 6M	5.3 ± 0.5	58 ± 15	51.0 ± 0.6
DCSC - 6N	2.7 ± 0.3	33.2 ± 8.5	26.7 ± 0.4
DCSC - 6O	3.2 ± 0.2	36.5 ± 4.7	28.4 ± 0.2
DCSC - 6P	3.5 ± 0.1	50.4 ± 5.3	40.7 ± 0.3
DCSC - 6Q	3.3 ± 0.3	19.4 ± 9.0	23.7 ± 0.4
DCSC - 6R	5.2 ± 0.2	106 ± 9	93.4 ± 0.4
DCSC - 6S	2.8 ± 0.2	38.2 ± 4.4	29.0 ± 0.2
DCSC - 6T	1.5 ± 0.3	14.6 ± 7.5	13.8 ± 0.3
DCSC - 6U	3.0 ± 0.2	31.1 ± 4.2	26.5 ± 0.2
DCSC - 6V	1.8 ± 0.1	13.4 ± 3.0	12.5 ± 0.1
DCSC - 7A	0.4 ± 0.2	1.5 ± 0.3	1.8 ± 0.1
DCSC - 7B	2.5 ± 0.1	21.0 ± 4.0	17.4 ± 0.2
DCSC - 7C	0.8 ± 0.1	2.3 ± 1.9	4.6 ± 0.1
DCSC - 7D	3.9 ± 0.2	52.4 ± 7.1	38.9 ± 0.3
DCSC - 7E	0.5 ± 0.1	1.2 ± 0.3	1.0 ± 0.1
DCSC - 7F	1.8 ± 0.2	5.0 ± 5.9	6.1 ± 0.2
DCSC - 7G	0.9 ± 0.2	5.6 ± 0.4	5.7 ± 0.2

September 2, 1988

SAMPLING - COLUMBUS, OHIO

1ST SAMPLING
8/18 & 19/1988

SAMPLES ARE LABELLED WITH NUMBER AND LETTER TO CORRESPOND WITH THE

PILE 6 - 30' x 360' GRID SIZE \times 15' x 33'

A 6.5	C 17.8	E 6.8	G 8.7	I 29.4	K 229.6	M 91.3	O 57.6	Q 31.0	S 78.0
B 4.8	D 5.0	F 7.6	H 5.4	J 6.7	L 39.8	N 52.3	P 82.0	R 165.9	T 27.4

PILE 7 - 30' x 296' GRID SIZE \times 15' x 23'

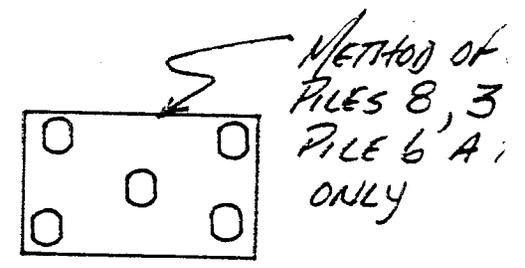
- READINGS IN pci/g - Th 232 & U235

A 4.8	C 14.9	E 5.9	G 9.4	I 67.3	K 79.4	M 41.5	O 57.4	Q 56.4	S 37.8	U 12.0	W 12.1	Y 10.4
B 20.2	D 77.2	F 10.5	H 5.5	J 78.8	L 26.7	N 35.1	P 45.3	R 45.8	T 32.9	V 26.3	X 33.9	Z 11.4

NOTE: DUE TO HARD ONLY SURFACE WERE OBTAINED PILE 7 (A-Z) & 6 (K-V)

PILE 8 - 45' x 93' GRID SIZE \times 22' x 16'

A 5.2	C 10.3	E 7.8	G 6.7	I 11.9	K 6.6
B 4.3	D 5.3	F 4.7	H 6.8	J 8.0	L 10.4



PILE 3 - 50' x 80' GRID SIZE \times 25' x 26'

A 6.1	C 35.4	E 6.1
B 17.1	D 8.5	F 7.5

* OUTLINED AREAS REQUIRE ADDITIONAL EXCAVATION/REMOVAL. A REPRESENTATIVE SAMPLE THE INDIVIDUAL GRID TO BE TAKEN. SEE SECOND SAMPLING.

NOTE: ALL OTHER SAMPLES WERE OBTAINED BY DRILLING 5 HOLES/GRID TAKING A MIXED CUMMULATIVE SAMPLE OF ALL 5 HOLES



Oak Ridge
Associated Universities Post Office Box 117
Oak Ridge, Tennessee 37831-0117

Manpower Education
Research and Training
Division

September 28, 1988

Mr. Kevin Riley
DLA/Defense National Stockpile
18th and F Streets NW, Room 5027
Washington, DC 20405

Subject: SOIL SAMPLE ANALYSES

Dear Mr. Riley:

The results of gamma spectrometry analyses on soil samples, received during the week of September 16, 1988, are attached. It appears to me that radionuclide levels in all of these samples are within the guidelines, typically followed by the Nuclear Regulatory Commission. If I can help further please call me at FTS 626-3305.

Sincerely,

Minnie E. Champion

for
James D. Berger, Manager
Radiological Site Assessment Program

JDB:ddd

Columbus, Ohio
SECOND SAMPLING

TABLE 1 (Continued)

RADIONUCLIDE CONCENTRATIONS
IN SOIL SAMPLES RECEIVED
FROM THE DEFENSE NATIONAL STOCKPILE

Sample ID	Radionuclide Concentrations (pCi/g)		
	Th-232	U-238	Ra-226
<u>File 3</u>			
CC	1.4 ± 0.2	2.2 ± 0.3	1.7 ± 0.1
<u>File 6</u>			
KK	0.4 ± 0.1	<0.4	1.2 ± 0.1
LL	0.3 ± 0.1	1.5 ± 0.2	1.6 ± 0.1
MM	0.6 ± 0.2	1.0 ± 0.2	1.6 ± 0.1
NN	0.3 ± 0.1	1.0 ± 0.2	1.4 ± 0.1
OO	0.6 ± 0.1	1.0 ± 0.3	1.1 ± 0.1
PP	0.3 ± 0.1	1.5 ± 0.3	1.3 ± 0.1
QQ	0.5 ± 0.1	1.9 ± 0.4	1.2 ± 0.1
RR	0.4 ± 0.2	1.4 ± 0.4	1.4 ± 0.1
SS	0.6 ± 0.1	2.1 ± 0.3	2.2 ± 0.1
TT	0.5 ± 0.1	1.2 ± 0.3	1.4 ± 0.1

TABLE 1 (Continued)

RADIONUCLIDE CONCENTRATIONS
IN SOIL SAMPLES RECEIVED
FROM THE DEFENSE NATIONAL STOCKPILE

Sample ID	Radionuclide Concentrations (pCi/g)		
	Th-232	U-238	Ra-226
UU	0.5 ± 0.1	2.6 ± 0.4	2.4 ± 0.1
VV	0.5 ± 0.1	1.7 ± 0.2	2.0 ± 0.1
<u>Pile 7</u>			
DD	<0.2	0.8 ± 0.3	1.1 ± 0.1
FF	0.7 ± 0.1	1.2 ± 0.5	1.3 ± 0.1
GG	<0.2	1.4 ± 0.3	1.7 ± 0.1
HH	0.5 ± 0.1	1.2 ± 0.3	2.5 ± 0.1
II	0.5 ± 0.1	1.4 ± 0.4	1.2 ± 0.1
JJ	0.4 ± 0.1	1.4 ± 0.2	1.3 ± 0.1
KK	0.4 ± 0.1	2.0 ± 0.2	1.2 ± 0.1
LL	0.5 ± 0.1	0.9 ± 0.2	1.2 ± 0.1
MM	0.7 ± 0.2	1.5 ± 0.2	1.1 ± 0.1
NN	<0.2	0.8 ± 0.2	1.4 ± 0.1
OO	0.5 ± 0.1	1.9 ± 0.2	1.3 ± 0.1
PP	0.5 ± 0.1	<0.4	1.2 ± 0.1
QQ	0.4 ± 0.1	1.0 ± 0.3	1.1 ± 0.1
RR	0.5 ± 0.1	1.4 ± 0.2	1.5 ± 0.1
SS	0.7 ± 0.1	0.8 ± 0.3	1.2 ± 0.1
TT	0.4 ± 0.1	1.8 ± 0.2	1.3 ± 0.1
UU	0.5 ± 0.1	1.1 ± 0.3	1.3 ± 0.1
VV	0.4 ± 0.1	0.3 ± 0.2	1.2 ± 0.1
WW	0.5 ± 0.1	1.4 ± 0.3	1.2 ± 0.1
XX	0.6 ± 0.2	1.5 ± 0.2	1.2 ± 0.1
YY	0.6 ± 0.2	2.0 ± 0.2	1.5 ± 0.1
ZZ	0.4 ± 0.1	1.0 ± 0.2	1.3 ± 0.1

^aUncertainties are 2σ based only on counting statistics; additional analytical uncertainties of ± 6 to 10% have not been propagated into these data.