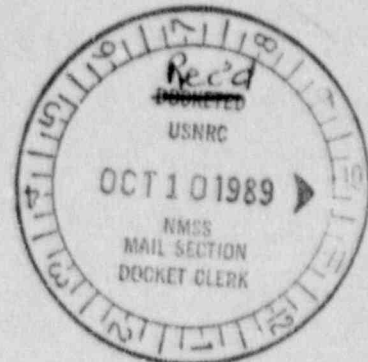
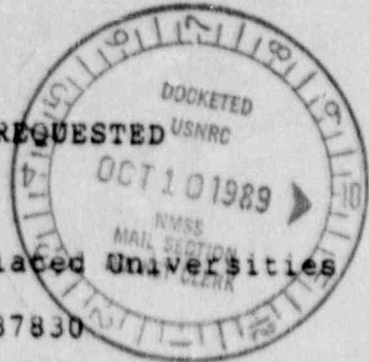




October 3, 1989

CERTIFIED MAIL
RETURN RECEIPT REQUESTED



Mr. Scott Wical
Oak Ridge Associated Universities
P.O. Box 117
Oak Ridge, TN 37830

RE: Cimarron Facility
License SNM 1174; Docket 70-1193
Survey and Sampling Results

Dear Mr. Wical:

Attached is the additional information you requested relating to measurements taken in the plutonium plant yard area of the Cimarron Facility. Also enclosed are drawings which show the borehole locations, original underground piping layout and the facilities to be left after decommissioning.

As mentioned to you on the phone, the final gamma survey of the plutonium plant yard area is being conducted at this time using a new instrument manufactured by Bicron Corporation. Areas where old pipelines and tanks have been removed were backfilled following release surveys and confirmatory sampling. The results, which show that plutonium release limits are met, are summarized in a report which is being finalized at this time and will be forwarded to you as soon as it is complete.

Sincerely,

Scott C. Munson

Scott C. Munson
Senior Staff Environmental
Specialist

SCM:gw

Attachments

cc: L. Rouse, NRC-NMSS (w/9-26-89 ltr. to Mr. Wical also attached)
A. Bert Davis (w/9-26-89 letter also)

DF03

Additional Information

0005s

25990

DOCKET NO. 70-1193

CONTROL NO. 25990

DATE OF DOC. October 3, 1989

DATE RCVD. October 10, 1989

FCUF

PDR

FCAF

LPDR w/o drawings

I & E REF. w/o drawings

SAFEGUARDS w/o drawings

FCTC
DATE 10/10/89

OTHER
INITIAL SM

EXHIBIT 2B

Pu-Plant Yard Area

Borehole Logging Results

PU-PLANT YARD AREA - BORE HOLE LOGGING
Gamma Probe Reading in Counts/Minute

<u>Bore Hole #</u> (CPN)	<u>c/m Surface</u>	<u>c/m 1'</u>	<u>c/m 2'</u>	<u>c/m 3'</u>	<u>c/m 4'</u>	<u>Sample Number</u>
PU-1	13,074	18,470	24,076	22,284	19,932	
PU-2	13,302	18,172	22,948	21,348	18,146	
3	12,668	18,412	19,170	14,102	Rock	
4	14,580	19,992	20,930	16,436	13,025	
5	12,092	16,350	19,379	17,234	15,830	
6	14,278	19,690	18,336	14,874	13,268	
7	13,556	18,096	20,124	14,006	10,470	
8	12,420	15,596	20,032	15,938	12,596	
9	12,024	15,626	22,242	23,790	21,898	CS 46
10	10,772	19,964	24,414	24,186	-	
11	10,378	13,412	20,582	17,336	-	
12	10,996	13,006	15,422	16,202	-	
13	10,816	14,650	18,228	14,728	-	
14	11,016	17,868	20,256	18,344	13,030	
15	12,002	15,798	20,264	19,102	16,108	
16	14,296	16,800	20,380	18,460	16,202	
17	12,230	12,446	20,395	17,122	-	
18	11,770	15,106	21,314	18,598	15,734	
19	14,320	17,234	22,736	20,272	18,298	
20	12,378	15,740	19,854	19,814	18,520	
21	10,122	12,178	21,748	25,254	25,090	CS 47
22	12,676	15,762	23,200	23,280	22,652	
23	11,868	12,554	20,432	21,716	21,574	
24	12,938	17,205	23,308	22,732	25,172	
25	12,474	14,642	21,854	22,482	23,494	
26	11,308	13,392	20,846	23,588	24,340	
27	13,546	17,846	26,848	25,283	22,366	CS 48
28	9,972	11,634	20,484	19,876	19,024	
29	12,832	13,458	20,216	21,240	-	
30	12,578	17,482	22,532	22,000	21,670	
31	14,930	22,818	22,830	21,618	-	
32	11,928	17,622	25,252	24,232	24,024	
33	12,960	14,916	22,414	23,252	23,220	
34	10,238	13,226	3,554	24,410	23,110	
35	11,144	13,556	20,996	19,820	18,332	
36	12,634	16,682	21,936	19,128	19,016	
37	13,390	18,338	23,422	23,386	22,992	
38	13,898	17,950	22,930	22,424	23,136	
39	13,494	16,680	22,050	21,068	19,408	
40	12,566	17,400	22,304	21,334	20,816	
41	12,802	17,294	22,946	22,852	20,530	
42	9,754	12,170	13,486	13,286	12,722	
43	10,196	12,780	16,374	15,808	14,674	
44	9,616	11,166	12,782	12,640	12,950	
44A	10,350	13,160	12,772	13,484	12,808	CS 49, 50, 51, 52
45	11,340	12,734	14,494	13,406	-	
45A	11,526	12,296	14,110	Rock	Rock	CS 53 & 54
46	12,596	14,350	18,160	17,430	17,314	
47	13,122	14,794	17,142	15,788	14,432	
48	8,206	8,318	11,156	Rock	Rock	CS 55
49	7,640	8,780	10,914	Rock	Rock	CS 56
50	11,712	13,308	20,532	22,484	22,382	
51	12,198	14,146	18,332	18,990	16,754	CS 57, 58, 59, 60 0797E

EXHIBIT 3A

Borehole Sample Results

&

Probe Response

Pu-Plant Yard Area

PU PLANT YARD AREA Soil Sample Results

Sample Number	Sample Location & Depth	Analyzed By	Pu 239 dCi/gram	Ra-226 dCi/gram	Ra-228 dCi/gram	U 238 dCi/gram	c/m Probe Readings
CS 46	Southwest corner of yard 2' to 3'	Tech Center	0.002	0.5	0.26	2.03	22,242-23,790
CS 47	North of cooling tower 3' to 4'	Tech Center	0.001	0.9	0.61	<1.4	25,254-25,090
CS 48	Southeast corner of yard 2' to 3'	Tech Center	0.001	0.85	0.53	<1.4	25,283-22,366
CS 49	North of Bldg. 0' to 1' (area cleaned up after U trailer leaked)	Tech Center	<0.001	0.33	0.04	<1.4	10,350-13,160
CS 50	North of Bldg. 1' to 2' (area cleaned up after U trailer leaked)	Tech Center	0.006	0.25	0.00	<1.4	13,160-12,772
CS 51	North of Bldg. 2' to 3' (area cleaned up after U trailer leaked)	Tech Center	0.001	0.38	0.08	<1.4	12,772-13,484
CS 52	North of Bldg. 3' to 4' (area cleaned up after U trailer leaked)	Tech Center	<0.001	0.16	0.00	<1.4	13,484-12,608
CS 53	Northwest corner of Bldg. 0' to 1' (rainfall runoff collection area)	Tech Center	0.016	0.52	0.06	<1.4	11,526-12,296
CS 54	Northwest corner of Bldg. 1' to 2' (rainfall runoff collection area)	Tech Center	0.003	0.41	0.16	<1.4	12,296-14,110
CS 55	North of dock 1' to 2' (old waste storage trailer area)	Tech Center	0.092	0.59	0.08	<1.4	8,318-11,156
CS 56	North of dock 1' to 2' (old waste storage trailer area)	Tech Center	0.004	0.56	0.24	<1.4	8,760-10,914
CS 57	Under roof drain - northeast corner of Bldg., 0' to 1'	Tech Center	0.001	0.56	0.06	<1.4	12,198-14,146
CS 58	Under roof drain - northeast corner of Bldg., 1' to 2'	Tech Center	0.001	0.51	0.38	<1.4	14,146-18,332
CS 59	Under roof drain - northeast corner of Bldg., 2' to 3'	Tech Center	0.001	0.49	0.20	<1.4	18,332-18,990
CS 60	Under roof drain - northeast corner of Bldg., 3' to 4'	Tech Center	0.003	0.34	0.31	<1.4	18,990-16,754

0798E

c/m counts per minute



KERR-MCGEE CORPORATION

KERR-MCGEE CENTER • OKLAHOMA CITY, OKLAHOMA 73128

September 26, 1989

**CERTIFIED MAIL
RETURN RECEIPT REQUESTED**

Mr. Scott Wical
Oak Ridge Associated Universities
P.O. Box 117
Oak Ridge, TN 37830

RE: Cimarron Facility
Survey and Sampling Results

Dear Mr. Wical:

The following information is attached in accordance with your recent request:

1. Plutonium Plant yard area soil sampling results and locations. This information was taken from Exhibits 2B & 3A of the March 21, 1988 submittal to NRC.
2. The Cimarron Facility Environmental Monitoring Procedure include diagrams showing sample locations for results submitted to NRC in the annual environmental monitoring reports.

Gamma survey results for the yard area of the Plutonium Plant will be forwarded to you in the near future. We plan to complete the final survey using a new instrument manufactured by Bicron Corporation. This instrument uses an organic scintillator which is tissue equivalent and energy independent. The low energy model will be used because of its lower energy threshold of about 17 keV.

Sincerely,

S.C. Munson
Senior Staff Environmental
Specialist

SCM:gw

Attachments

PU-PLANT YARD AREA - Soil Sample Results

<u>Borehole Number</u>	<u>Sample Number</u>	<u>Sample Location & Depth</u>	<u>Analyzed By</u>	<u>Pu-239 pCi/gram</u>	<u>Ra-226 pCi/gram</u>	<u>Ra-228 pCi/gram</u>	<u>U-238 pCi/gram</u>
PU-9	CS-46	Southwest corner of yard 2' to 3'	Tech Center	0.002	0.5	0.26	2.03
PU-21	CS-47	North of cooling tower 3' to 4'	Tech Center	0.001	0.9	0.61	<1.4
PU-27	CS-48	Southeast corner of yard 2' to 3'	Tech Center	0.001	0.85	0.53	<1.4
PU-44A	CS-49	North of Bldg. 0' to 1' (area cleaned up after U-trailer leaked)	Tech Center	<0.001	0.33	0.04	<1.4
PU-44A	CS-50	North of Bldg. 1' to 2' (area cleaned up after U-trailer leaked)	Tech Center	0.006	0.25	0.00	<1.4
PU-44A	CS-51	North of Bldg. 2' to 3' (area cleaned up after U-trailer leaked)	Tech Center	0.001	0.38	0.08	<1.4
PU-44A	CS-52	North of Bldg. 3' to 4' (area cleaned up after U-trailer leaked)	Tech Center	<0.001	0.16	0.00	<1.4
PU-45A	CS-53	Northwest corner of Bldg. 0' to 1' (rainfall runoff collection area)	Tech Center	0.016	0.52	0.06	<1.4
PU-45A	CS-54	Northwest corner of Bldg. 1' to 2' (rainfall runoff collection area)	Tech Center	0.003	0.41	0.15	<1.4
PU-48	CS-55	North of dock 1' to 2' (old waste storage trailer area)	Tech Center	0.097	0.50	0.08	<1.4
PU-49	CS-56	North of dock 1' to 2' (old waste storage trailer area)	Tech Center	0.004	0.56	0.24	<1.4
PU-51	CS-57	Under roof drain - northeast corner of Bldg., 0' to 1'	Tech Center	0.001	0.56	0.06	<1.4
PU-51	CS-58	Under roof drain - northeast corner of Bldg., 1' to 2'	Tech Center	0.001	0.51	0.38	<1.4
PU-51	CS-59	Under roof drain - northeast corner of Bldg., 2' to 3'	Tech Center	0.001	0.49	0.20	<1.4
PU-51	CS-60	Under roof drain - northeast corner of Bldg., 3' to 4'	Tech Center	0.003	0.34	0.31	<1.4

* Information from Exhibits 2B and 3A of the March 21, 1988 submittal to NRC.

