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Energy/
Environment
Systems Division

January 11, 1991

Mr. Jack Parrott
Division of Low Level Waste Management
and Decommissioning, MS 6H3
Nuclear Materials Safety and Safeguards
U. S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: ANALYTICAL RESULTS -- UNC WELL SAMPLES

Dear Mr. Parrott:

Attached are the results of our radiological analyses of well water samples, collected in late November 1990, from the vicinity of the United Nuclear Corporation facility in Wood River Junction, RI. Gross alpha/gross beta analyses of all 24 samples are provided on Table 1. The highest gross alpha value was 13.8 ± 5.0 pCi/l from well 519; 19 of the samples contained less than detectable levels of gross alpha activity. Five samples contained gross beta activity above 50 pCi/l -- the highest was 165.5 ± 8.5 pCi/l from Well 519. These five samples and three other samples containing gross alpha levels between 25 and 50 pCi/l were analyzed for Strontium 90. Results are represented in Table 2. Samples from wells 519 and 655 contained Sr-90 concentrations of 31.9 pCi/l and 33.6 pCi/l, respectively. Four other samples also contained Sr-90 concentrations above 8 pCi/l, while wells 523, 557, and 663 had Sr-90 levels below 8 pCi/l.

If you have questions about this data, I may be contacted at FTS 626-3305 or (615) 576-3305.

Sincerely,

James D. Berger
James D. Berger, Director
Environmental Survey and
Site Assessment Program

Attachment

JDB:mp

cc: C. Haughney, NRC/6H3
T. Mo, NRC/6H3
D. Tiktinsky, NRC/6A4
J. Roth, NRC/Reg. I
Site file, UNC/161

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TABLE 1
GROSS ALPHA/BETA CONCENTRATIONS
IN UNC WELL SAMPLES

WELL ID	SAMPLE DATE	GROSS ALPHA (pCi/l)			GROSS BETA (pCi/l)		
		ACTIVITY	2 σ	MDA	ACTIVITY	2 σ	MDA
325	11/29/90	6.0	3.5	4.7	50.2	5.3	5.2
518	11/27/90	0.7	2.0	3.2	4.6	3.3	5.0
519	11/27/90	13.8	5.0	5.6	168.5	8.5	4.7
521	11/29/90	-0.8	3.8	6.6	0.3	3.4	5.7
522	11/29/90	2.4	2.8	4.1	2.6	3.1	5.0
523	11/29/90	7.0	3.8	5.0	67.5	5.7	5.3
525	11/27/90	0.7	2.4	3.9	6.5	3.0	4.3
557	11/29/90	2.5	3.0	4.6	28.4	4.4	5.2
561	11/29/90	-0.5	2.4	4.1	6.5	3.3	5.0
640	11/28/90	-0.3	2.2	3.8	7.8	3.0	4.3
641	11/28/90	0.7	2.5	4.1	-0.3	3.0	5.0
642	11/28/90	2.6	2.9	4.3	49.5	5.0	4.4
643	11/28/90	1.3	2.5	4.0	8.2	3.1	4.3
644	11/28/90	-0.7	2.4	4.2	-1.4	2.9	5.1
656	11/28/90	2.0	2.8	4.3	11.0	3.6	5.1
657	11/28/90	4.0	3.5	4.9	94.2	6.5	4.6
658	11/28/90	6.4	3.9	5.2	117.2	7.2	4.6
659	11/28/90	9.4	3.4	3.8	4.6	2.8	4.3
660	11/28/90	-0.2	2.2	3.8	2.6	2.7	4.2
661	11/28/90	0.5	2.4	3.9	1.1	2.6	4.3
662	11/28/90	-1.4	2.1	3.8	2.0	2.7	4.3
663	11/28/90	2.3	2.8	4.2	31.7	4.3	4.4
664	11/28/90	-0.4	2.2	3.8	0.5	2.6	4.3
665	11/28/90	-0.2	2.2	3.8	3.1	2.7	4.2

TABLE 2
Sr-90 CONCENTRATIONS
IN UNC WELL SAMPLES

WELL ID	Sr-90 CONCENTRATION (pCi/l)
325	$10.8 \pm 5.2^*$
519	31.9 ± 8.2
523	-0.6 ± 2.5
557	5.4 ± 2.7
642	24.9 ± 7.9
657	17.1 ± 6.8
658	33.6 ± 6.8
663	-0.5 ± 3.6

*Uncertainties represent the 95% confidence level, based only on counting statistics.