WM-47

RETURN ORIGINAL TO PDR, HQ.

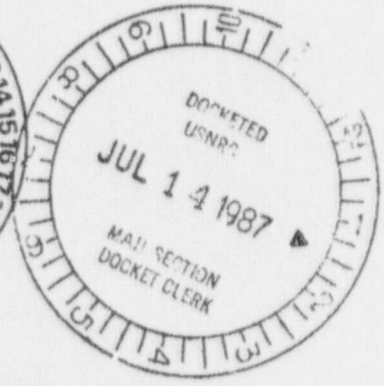
JULE M. SUGARMAN
Secretary

STATE OF WASHINGTON

DEPARTMENT OF SOCIAL AND HEALTH SERVICES

Olympia, Washington 98504-0095

July 2, 1987



Harry Pettingill
U.S. Nuclear Regulatory Commission
Region IV - URFO
P.O. Box 25325
Denver, Colorado 80225

Dear Mr. Pettingill:

I have forwarded a copy of the information we gave to the Department of Natural Resources (DNR) during a meeting we had with them today. As you can see DNR received our approval to start reclamation work of the bog area at Joy Mining Company. Our approval was based on sample results indicating radioactivity in the ore and residue averaged essentially the same as the undisturbed bog material.

The bog area is currently quite dry therefore, DNR hopes to start moving material at the Joy site within the next two weeks. The reclamation work will be contracted by Aetna Insurance Company bond money with DNR overseeing the proper placement of the material back in the bog. Steve Matthews or myself will also be at the site as much as necessary to assure proper radiological protection practices are followed.

The DSHS (department) plans for contracting part of the Joy Mining Company reclamation work was shot down. Terry Strong informed us yesterday that no funds are available for contract work at the Joy site and no money has been appropriated. As it appears now, none of the mill site decommissioning or reclamation work will be completed this year. As you recall our bonding company went bankrupt, cutting off any bond money DSHS might have obtained from that source.

FEE NOT REQUIRED

DESIGNATED ORIGINAL

Certified By Mary C. Hood

87-802

Harry, please contact me if you have need for additional information, or if you have questions concerning the bog reclamation work soon to start.

Sincerely,

E. Lee Gronemyer

E. Lee Gronemyer
Office of Radiation Protection
Waste Management Section
Uranium Mills Program
Mail Stop LE-13
(206) 753-3350

ELG:pm

STATE OF WASHINGTON

DEPARTMENT OF SOCIAL AND HEALTH SERVICES

Olympia, Washington 98504

July 2, 1987

TO: Ron Teissere
Land Leasing
Department of Natural Resources

FROM: Steve Matthews SM
Office of Radiation Protection
Department of Social and Health Services

SUBJECT: TRANSFER OF ORE AND RESIDUE TO BOG

Attached are results of ore and residue samples collected at various times at the Flodelle Creek uranium mill site. All sample results indicate safe levels of hazardous constituents. Therefore, you have our permission to return all residue and raw ore materials to the bog.

Attachment One shows the raw ore and residue locations high-lighted in yellow.

Attachment Two is a memo from our environmental monitoring section to our uranium mill section indicating the logistics of returning raw ore and residue to the bog. Attachment 2A are the results of the soil samples collected on December 15, 1987.

Attachment Three are the results of residue core samples collected on March 12, 1987.

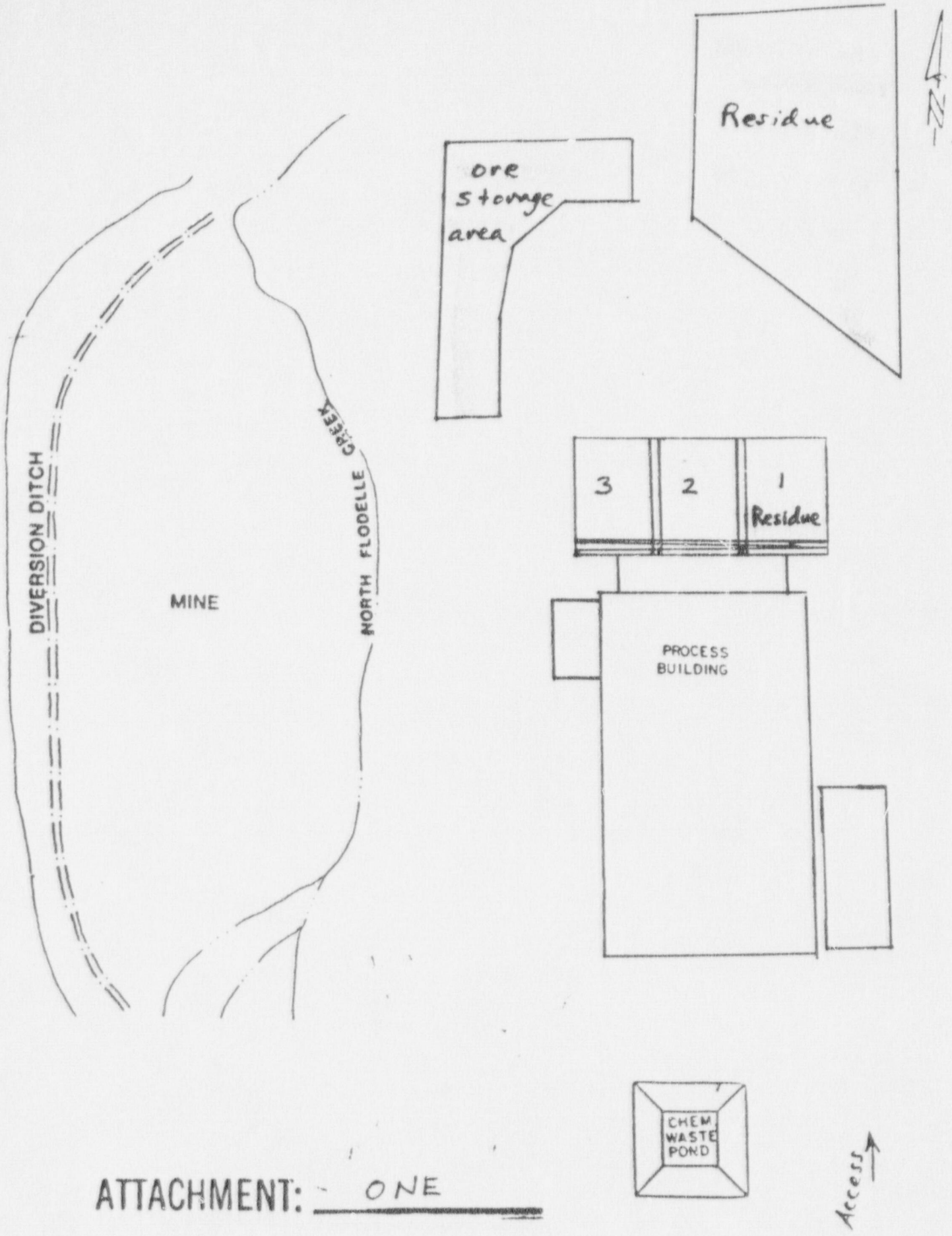
Attachment Four are results of split samples taken from January through December of 1984.

If you need further explanation of sample results, please contact me at (206) 586-2996.

SM:sm

Attachments

cc: Richard McCartan, AAG
Lee Gronemyer
JC3



ATTACHMENT: ONE

KAY M. SCHLEGEL
Secretary

STATE OF WASHINGTON

EPS-87-123

DEPARTMENT OF SOCIAL AND HEALTH SERVICES

Olympia, Washington 98504

May 4, 1987

TO: Lee Gronemyer

FROM: Don Peterson DP

SUBJECT: **ANALYSIS OF JMC'S ORE/RESIDUE SAMPLES**

Enclosed is the data for the ore and residue samples collected by Steve Matthews last December. A statistical test indicated the residue samples do not contain measurably higher levels of iron. This is however the soluble fraction. Insoluble iron is also present, bound to the organics. However, according to Doug Hildebrand, Joy spectroscopic analysis revealed total Fe in the residue, after being washed, was only increased by 1-2% over levels of Fe in the raw ore. The radionuclide analyses reveal levels typical of previous residue data. The data also confirms that the level of thorium is low, comparable to Ra-226. While there will be a more complete analysis for radionuclides, it would appear that the parameters of concern in the residue are not measurably higher than in the raw ore. Therefore, it appears reasonable to return the residue to the bog and not to treat it as radioactive or chemical waste.

DP:jr

cc: Bob Mooney
Earl Ingersoll
M 3-13 (new file)

ATTACHMENT: TWO

ATTACHMENT: 2A

RESULTS

Joy Mining Company
Special Ore Samples

Collected December 15, 1986

		Iron†	pH	U-234/235/238	Th-232/230	Ra-226
	Units	ppm		pCi/g	pCi/g	pCi/g
Ore	Station A	1,570	3.4	340 ± 10	10 ± 1	9.1 ± 0.6
Ore	Station B	590	4.4	* 270 ± 10	6 ± 2	6.4 ± 0.5
Ore	Station C	1,190	3.5	150 ± 10	8 ± 1	7.1 ± 0.5
Residue	Station D	1,170	3.4	**** NO ANALYSIS REQUIRED ****		
Residue	Station E	1,030	3.5	**** NO ANALYSIS REQUIRED ****		
Residue	Station F	1,400	3.3	**** NO ANALYSIS REQUIRED ****		
Background	Station G	********** NO ANALYSIS REQUIRED **********				

† Soluble fraction only.

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* The sample was done in replicate with the higher value reported - vs- 160 pCi/g. The ore contains "hot spots" resulting in nonhomogeneous sample aliquots in a 1 gram analysis. The sample size was limited due to the high level of activity, this affected the yields of the environmental method used in analysis.

To M. Sugerman
Secretary

orig → M.3-9
cc: M.3-13
DP
G Mills.

STATE OF WASHINGTON
DEPARTMENT OF SOCIAL AND HEALTH SERVICES
9030 NE 150th Street, Bldg. B • Seattle, Washington 98155-7224

RESULTS

Joy Mining Company
Special Samples
Residue Pile

Collected March 12, 1987
By E. Matthews

Lab No.	Site	pH	% Total Solids	Soluble Fe (ug/g)	Soluble $SO_4^=$ (ug/g)
6118	1 - 3/4	3.4	60	1,560	13,000
6119	1 - 5/6	3.5	65	1,240	18,000
6120	1 - 4/5	3.8	78	1,320	8,000
6121	2 - 6/7	3.5	76	1,540	10,000
6122	3 - 4/5	3.5	74	1,240	5,000
6123	3 - 6/7	3.6	75	1,120	3,700

90% of the pulverized sample passed through a #30 sieve.

ATTACHMENT: THREE

Don Peterson
Bob Mooney
LEE GRONEMYER
STEVE MATTHEWS

FYI

Some JOY DATA we NOW HAVE
What More DO we need?
DOES NRC Need to Be Involved
We also Have JOY BOG-Data (ORE)
CAN WE Prioritize The 7 soil sampl
By Number?
By Analysis?

TABLE 23

JOY MINING COMPANY
SOIL, SEDIMENT, AND ORE RESIDUE ANALYSES
(pCi/gram ± 2 sigma)

Results of Split Samples Analyzed by the
State of Washington Department of Social and Health Services
and the Joy Mining Company

January 1984 through December 1984

Date	Location	Isotope	DSHS	JMC
Soil				
08 May 84	Station T-10	Nat. Uranium	0.6 ± 0.2	1.4
		Ra-226	1.3 ± 0.2	1.4 ± 1.0
29 July 84	Mill-1	Nat. Uranium	2.7 ± 0.6	
		Ra-226	2.4 ± 0.3	
29 July 84	Mill-2	Nat. Uranium	3.3 ± 0.6	
		Ra-226	2.3 ± 0.3	
01 Aug. 84	Mill-3	Nat. Uranium	2.1 ± 0.5	
		Ra-226	2.3 ± 0.2	
01 Aug. 84	Mill-11	Nat. Uranium	2.1 ± 0.5	
		Ra-226	1.4 ± 0.2	
01 Aug. 84	Mill-14	Nat. Uranium	3.2 ± 0.6	
		Ra-226	1.7 ± 0.2	
Sediment				
08 May 84	Station 2	Nat. Uranium	102 ± 6	8.0
		Ra-226	8.4 ± 0.4	3.5 ± 1.1

NOTE: mill-1, 2, 3, 11, 14 are samples collected from around the mill building prior to operatic to estimate the natural background of the area

ATTACHMENT: FOUR

TABLE 23 (Continued)

JOY MINING COMPANY
SOIL, SEDIMENT, AND ORE RESIDUE ANALYSES
(pCi/gram ± 2 sigma)

Results of Split Samples Analyzed by the
State of Washington Department of Social and Health Services
and the Joy Mining Company

January 1984 through December 1984

Date	Location+	Isotope	DSHS	JMC
Residue - Surface				
12 Oct. 84	#1	Nat. Uranium	210 ± 5	
		Ra-226	8.6 ± 0.3	
		Th-230/232	- 24 ± 1	
12 Oct. 84	#2	Nat. Uranium	140 ± 3	
		Ra-226	8.8 ± 0.6	
		Th-230/232	- 26 ± 1	
Residue - Core				
12 Oct. 84	#3	Nat. Uranium	146 ± 3	
		Ra-226	6.7 ± 0.6	
		Th-230/232	3.5 ± 0.2	
12 Oct. 84	#4	Nat. Uranium	180 ± 3	
		Ra-226	8.3 ± 0.7	
		Th-230/232	5.1 ± 0.2	
12 Oct. 84	#5	Nat. Uranium	90 ± 2	
		Ra-226	5.4 ± 0.6	
		Th-230/232	3.7 ± 0.1	
12 Oct. 84	#6	Nat. Uranium	168 ± 3	
		Ra-226	6.4 ± 0.6	
		Th-230/232	4.6 ± 0.1	

+Surface and core sampling are from an ore residue pile adjacent to the mill.