ERRATA SHEET FOR

EDGEMONT, SOUTH DAKOTA, URANIUM MILL

SEMIANNUAL EFFLUENT RELEASE REPORT NO. 10

1. Section I, last line--"40.6" should be "40.65."

2. Table 4, section II, sampling location for sample No. M-7-1--"Pnd" should be "Pond."

3. Table 5, sample location ED-1--"300 mi" should be "300 m."

RH-80-4-ED2

EDGEMONT, SOUTH DAKOTA, URANIUM MILL

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Prepared for the:

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Source Material License SUA-816

TABLE 2

CONCENTRATIONS IN SURFACE AND GROUND WATERS - ROUTINE SAMPLING BY MILL PERSONNEL

Sample Collection Date	Sample No.	Sample Location	Uranium (10^{-9} µCi/ml)[a]	Dissolved Radium-226 (10^{-9} µCi/ml)
3/4	R[b]-1-1	Cottonwood Creek, 1/2 mi S	9.5	0.1±0.2[c]
3/4	R-2-1	Cottonwood Creek, 1/4 mi N	8.1	0.2±0.2
3/4	R-3-1	Cheyenne River, 1/2 mi W	12	0.4±0.3
3/4	R-4-1	Cheyenne River, 1 mi E	9.5	0.5±0.4
3/4	W[d]-1-1	Silver King Mines, Inc., feed water	3.4	2.0±0.7
3/4	W-3-1	City of Edgemont water works	2.7	1.9±0.8
6/24	R-1-2	Cottonwood Creek, 1/2 mi S	38	0.0±0.6
6/24	R-2-2	Cottonwood Creek, 1/4 mi N	16	1.2±0.7
6/24	R-3-2	Cheyenne River, 1/2 mi W	5.4	0.0±0.9
6/24	R-4-2	Cheyenne River, 1 mi E	8.8	0.1±0.5
6/24	W-1-2	Silver King Mines, Inc., feed water	3.4	3.1±1.2
6/24	W-3-2	City of Edgemont water works	2.7	3.9±1.1

a. Natural uranium is assumed to have a specific acitvity of 0.677 µCi/g.
b. "R" implies surface water sources.
c. Counting error at the 95-percent confidence level, 1.96σ.
d. "W" implies ground water source.

Note: 1 µCi = 3.4×10^4 Bq.

TABLE 1

CONCENTRATIONS IN ATMOSPHERIC PARTICULATES - ROUTINE SAMPLING BY MILL PERSONNEL

Sample Collection Date	Sample No.	Sampling Location Relative to Site Boundary	Approximate Wind mi/h	Approximate Wind out of	Uranium (10^{-14} µCi/ml)[a]
3/18	1	1/2 mi NW	13	W	0.7
3/18	2	SE boundary	13	WNW	1.0
3/18	3	3/4 mi SE	13	W	0.4
3/18	4	1-1/2 mi SE	13	W	0.5
6/3	5	1/2 mi NW	8	WNW	ND[b]
6/3	6	SE boundary	5	WNW	ND
6/3	7	3/4 mi SE	3	SE	ND
6/3	8	1-1/2 mi SE	7	E	ND

a. Natural uranium is assumed to have a specific activity of 0.677 µCi/g.

b. ND = None detected

Note: 1 µCi = 3.7×10^4 Bq.

TABLE 3

CONCENTRATIONS IN WELL WATER [a] - WELL M-9 AND WELL M-11 SAMPLING

Sample Collection Date	Sample No.	Sampling Location	Total Uranium [b] (10^{-8} µCi/ml)	Total Thorium-230 (10^{-9} µCi/ml)	Total Radium-226 (10^{-9} µCi/ml)
11/2/79	M-9-1	Approx. 200 ft W of Cotton-	2.1	0.37±0.15 [c]	0.76±0.01
12/3/79	M-9-2	wood Creek; 800 ft S of	0.88	0.10±0.09	0.59±0.01
1/3/80	M-9-3	Cheyenne River; Well M-9	0.87	0.03±0.06	0.59±0.01
2/1 - 3/1/80	M-9-4		d	d	d
3/14/80	M-9-5		1.8	0.14±0.09	0.39±0.01
4/22/80	M-9-6		2.0	-0.04±0.09 [e]	0.31±0.01
5/21/80	M-9-7		2.0	0.00±0.01	0.62±0.01
6/23/80	M-9-8		f	f	f
11/2 - 12/3/79	M-11-1	Adjacent to NW corner of	4.8	1.22±0.35	0.38±0.01
12/3 - 1/3/80	M-11-2	Pond No. 7; Well M-11 (flow	6.2	0.03±0.06	0.52±0.01
1/3/80	M-11-3	in this well is now too low	6.2	0.10±0.09	0.52±0.01
2/1 - 3/1/80	M-11-4	to support a continuous	d	d	d
3/14/80	M-11-5	sampler)	7.3	0.05±0.07	1.44±0.01
4/22/80	M-11-6		7.2	0.32±0.17	0.88±0.01
5/21/80	M-11-7		4.2	0.61±0.21	0.51±0.01
6/23/80	M-11-8		f	f	f

a. The wells numbered "M-9" and "M-11" are onsite and the water pumped from these wells is collected weekly and composited monthly for analysis. The water from these wells is not used for human consumption.
b. Natural uranium is assumed to have a specific activity of 0.677 µCi/g.
c. Counting error at the 68-percent confidence level, 1σ.
d. No sample received.
e. A true net activity of less than zero is not implied. The negative sign is a residue arising from the analytical procedure.
f. Sample results not yet available.

Note: 1 µCi = 3.7×10^4

TABLE 4

CONCENTRATIONS IN SURFACE AND GROUND WATERS - ROUTINE SAMPLING AT STATIONS ESTABLISHED BY TVA

Sample Collection Date	Sample No.	Sampling Location	Total Uranium (10^{-8} µCi/ml)[a]	Total Thorium-230 (10^{-9} µCi/ml)	Total Radium-226 (10^{-9} µCi/ml)	Total Polonium-210 (10^{-9} µCi/ml)
I. Surface Water						
12/27/79	1-1	Cheyenne River, upstream at railroad bridge	0.81	-0.01±0.06[b,c]	0.16±0.01	
	2-1	Cheyenne River, at Red Canyon	0.62	0.41±0.15	0.19±0.01	2.3±0.5
	3-1	Cheyenne River approx. 6 mi downstream	1.1	0.40±0.15	0.31±0.01	
	4-1	Cottonwood Creek, upstream at bridge	0.87	1.09±0.32[d]	29.50±0.01[d]	
	5-1	Cottonwood Creek, at mill road culvert	2.6	0.60±0.20	0.39±0.01	2.1±0.5
	6-1	Cottonwood Creek, at mouth	2.4	0.60±0.20	1.16±0.01	
4/9/80	1-2	Cheyenne River, upstream at railroad bridge	0.97	0.16±0.13	0.31±0.01	2.2±0.4
	2-2	Cheyenne River, at Red Canyon	1.2	0.04±0.11	0.18±0.01	1.8±0.4
	3-2	Cheyenne River approx. 6 mi downstream	1.3	0.00±0.01	0.02±0.01	2.5±0.5
	4-2	Cottonwood Creek, upstream at bridge	0.82	0.08±0.11	0.21±0.01	2.4±0.4
	5-2	Cottonwood Creek, at mill road culvert	0.72	0.12±0.12	0.36±0.01	3.4±0.5
	6-2	Cottonwood Creek, at mouth	1.0	0.55±0.23	0.60±0.01	2.0±0.4

a. Natural uranium is assumed to have a specific activity of 0.677 µCi/g.
b. Counting error at the 68-percent confidence level, 1σ.
c. A true net activity of less than zero is not implied. The negative sign is a residue arising from the analytical procedure.
d. This sample was reanalyzed and results are similar. The location is upstream of discharge and analytical results cannot be explained.

Note: 1 µCi = 3.7×10^4 Bq.

TABLE 4 (CONTINUED)

CONCENTRATIONS IN SURFACE AND GROUND WATERS - ROUTINE SAMPLING AT STATIONS ESTABLISHED BY TVA

Sample Collection Date	Sample No.	Sampling Location	Total Uranium (10^{-6} µCi/ml)[a]	Total Thorium-230 (10^{-9} µCi/ml)	Total Radium-226 (10^{-9} µCi/ml)
II. Ground Water					
12/28/79	M[b]-1-1	NW corner of Pond No. 1	1.7	0.22±0.11	1.53±0.01
12/28/79	M-7-1	SE corner of Pnd No. 1[d]	5.1	0.05±0.07	8.39±0.01
12/28/79	M-[illegible]-1	N of ore storage area	0.29	[illegible].26±0.12	2.69±0.01
12/28/79	M-10-1	Near mill road culvert	40	1.01±0.30	0.97±0.01
12/28/79	M-RT-1	Control, R. Toman farm	1.1	0.17±0.10	0.80±0.01
4/10/80	M-1-2	NW corner of Pond No. 1	3.2	0.09±0.08	1.05±0.01
4/9/80	M-7-2	SE corner of Pond No. 1	17	0.07±0.22	7.10±0.01
4/9/80	M-8-2	N of ore storage area	2.3	0.26±0.12	0.32±0.01
4/9/80	M-10-2	Near mill road culvert	17	1.50±0.42	0.29±0.01

a. Natural uranium is assumed to have a specific activity of 0.677 µCi/g.
b. "M" implies ground water source. No water from numbered wells is used for human consumption.
c. Counting error at the 68-percent confidence level, 1σ.
d. Additional analysis on this sample--polonium-210, 14.6±2.2 pCi/l; lead-210, 166±12.1 pCi/l.

Note: 1 µCi = 3.7×10^{4} Bq.