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July 6, 2000

40-8907

Ken Hooks, Branch Chief
US Nuclear Regulatory Commission
Fuel Cycle Safety & Safeguards
Fuel Cycle Licensing Branch
Uranium Recovery Branch
Division of Waste Management
Office of Nuclear Material Safety
and Safeguards
Mail Stop T7J9
Washington, DC 20555-0001

Dear Mr. Hooks:

Please find enclosed a small simple report on the flash flooding of the Church Rock tailings impoundment during 1999.

I hope these photos depict the minor nature the flooding had on the tailings area and demonstrate that the design has performed extremely well.

If you have any questions about these photos please feel free to call me.

Sincerely,

Larry Bush, Manager

Cc: Roy Blickwedel
File

NMSS01Public

Church Rock Flooding Damage Summer 1999
with Photos, Map, and Gamma Survey

Compiled in July 2000

CHURCH ROCK FLOODING DAMAGE SUMMER 1999

The Church Rock area experienced four (4) major flash floods during the summer of 1999, between the end of July and the first of September. The first major event was the largest and most destructive. This event occurred in early August and was produced from heavy rain directly from the north. Other smaller events occurred from the northwest and east, but were not of the magnitude experienced in the northern event . Heavy rains also occurred in, on, and around the site between the major flash floodings. The site handled all of these events and rain with amazingly little effect.

This small report has been compiled to illustrate the minor effects of the extensive flash flooding around the Church Rock tailing facility during the summer of 1999.

The photos indicate that the only damage to the tailings containment was a small erosional channel at the very southern end of the tailings dam. The buried jetty absorbed the main force of the flooding and performed as designed.

The erosional channel is very minor and does not represent a danger to the tailings. The channel would need to cut over a hundred feet into the bank to theaten the tailings material. The present plan is to monitor this feature, should other flood events occur, and add the repair to the next and final construction phase. The channel will be filled and the entire slope, not presently armored, covered with rock. This will prevent future erosion to this area.

The buried jetty may be repaired with minor stacking of some of the rock, below the jetty, back into several small depressions in the jetty top. This would only be added to the final construction phase, if it is believed the jetty could be experiencing cutting or channeling. Considering the volumes of water passing over the jetty during these events, the repair would probably be more cosmetic, than structural.

A radiation survey is attached to this report to demonstrate the fact, that no tailings materials were exposed or are in danger of being eroded.

1A

1B

South Drainage Channel – Looking to SE from NW

2A

2B

Erosional damage at end of rock cover on face of tailings impoundment. Soil was washed into south run-off control ditch on west side of the tailings facility.

3A 3B

View to the SE to soil washed into south run-off control ditch and erosional channel formed by the storm events.

Note: In the photos this area appears fairly extensive, but is actually quite limited.

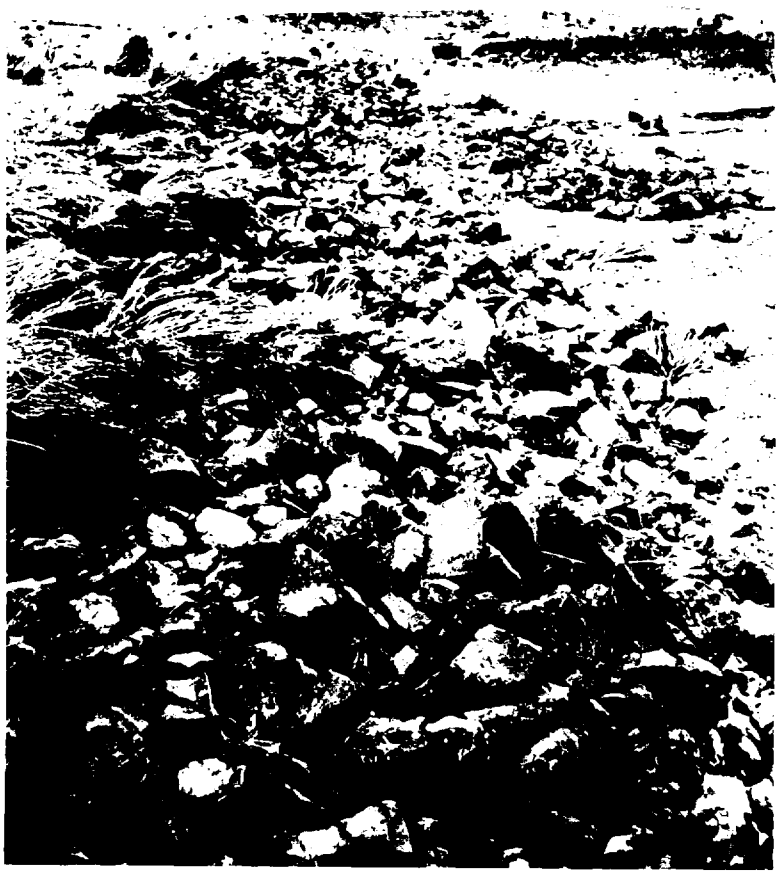

Photo 4 - Buried jetty looking E from W end at Nick Point. Rock moved and vegetation laid down.

Photo 5 Buried jetty looking E mid-point. Large amount of rock moved to where ATV is parked, some rock was carried 50 yards from the pile in front of ATV. Soil is level with Jetty on N or left side photo.

6A

6B

Photo 6 - North end of tailings area at Sec. 2 boundry looking NW.

7A

7B

Photo 7 – North end of tailings area at Sec. 2 boundry looking WNW to main highway.-Swale is draining area and in good condition.

GAMMA Survey-

Instr. LUDLUM 125/9073

SUBJECT To determine if any residual tailings is uncovered in erosional areas caused by runoffs. Target area is located at the SW end of reclaimed South Cell.

Sheet No. 1 of 2

Made By M. CHISCHILLY Date 11-22-99

Chkd. By _____ Date _____

POINT ID/ LOCATION	AREA / DIMENSION (DEPTH X WIDTH)	DEPTH	CONTACT & READING µR/HR (UNSHIELD)		POINT ID/ LOCATION	AREA / DIMENSION (DEPTH X WIDTH)	DEPTH	CONTACT & READING µR/HR (UNSHIELD)	POINT ID/ LOCATION	BACKGROUND & READING @ 1 METER ABOVE GRND. µR/HR (UNSHIELD)
A-1	1'4" x 8"	TOP SURFACE	14-17		H-1	4'3" x 3'7"	TOP SURFACE	16-19	OF BACKGROUND READING	
		BOTTOM	20-23				@ 1'	16-19	BKGD. # 1	18-22
							@ 2'	18-21	(TOP OF CELL)	
B-1	2' x 1'4"	TOP SURFACE	15-17				@ 3'	17-21	BKGD. #2	
		@ 1'	16-18				BOTTOM	18-21	(MIDDLE OF BANK)	14-17
		BOTTOM	18-20						BKGD. # 3	16-20
					I-1	3'5" x 4'	TOP SURFACE	18-22	(BOTTOM DITCH AREA)	
C-1	2'5" x 2'8"	TOP SURFACE	14-17				@ 1'	17-19		
		@ 1'	15-17				@ 2'	17-20		
		@ 2'	16-18				BOTTOM	17-21		
		BOTTOM	16-20							
					J-1	2" x 2'	TOP SURFACE	17-21		
D-1	3' x 2'3"	TOP SURFACE	15-17				BOTTOM	17-21		
		@ 1'	16-18							
		@ 2'	17-19		K-1	10" x 1'	TOP SURFACE	14-16		
		BOTTOM	18-21				BOTTOM	15-17		
E-1	4'4" x 2'4"	TOP SURFACE	15-18		L-1	1'9" x 2'	TOP SURFACE	15-17		
		@ 1'	18-20				@ 1'	15-17		
		@ 2'	16-20				BOTTOM	15-18		
		@ 3'	18-20							
		BOTTOM	18-21		M-1	2'3" x 2'3"	TOP SURFACE	14-17		
							@ 1'	17-20		
F-1	4' x 3'2"	TOP SURFACE	17-20				BOTTOM	18-21		
		@ 1'	16-18							
		@ 2'	17-20		N-1	4'10" x 2'8"	TOP SURFACE	15-17		
		@ 3'	18-20				@ 1'	16-19		
		BOTTOM	18-22				@ 2'	16-20		
							@ 3'	18-21		
G-1	4'7" x 3'8"	TOP SURFACE	16-20				BOTTOM	17-22		
		@ 1'	16-19							
		@ 2'	18-22		O-1	BOTTOM RUNOFF DITCH	TOP SURFACE	14-17		
		@ 3'	19-21							
		BOTTOM	18-22		P-1	BOTTOM RUNOFF DITCH	TOP SURFACE	14-17		

REMARKS: Gamma survey grid points ≈ 10' intervals on the side of South end tailings pile area. Survey findings indicate no anomalies. Sketch of survey is attached.

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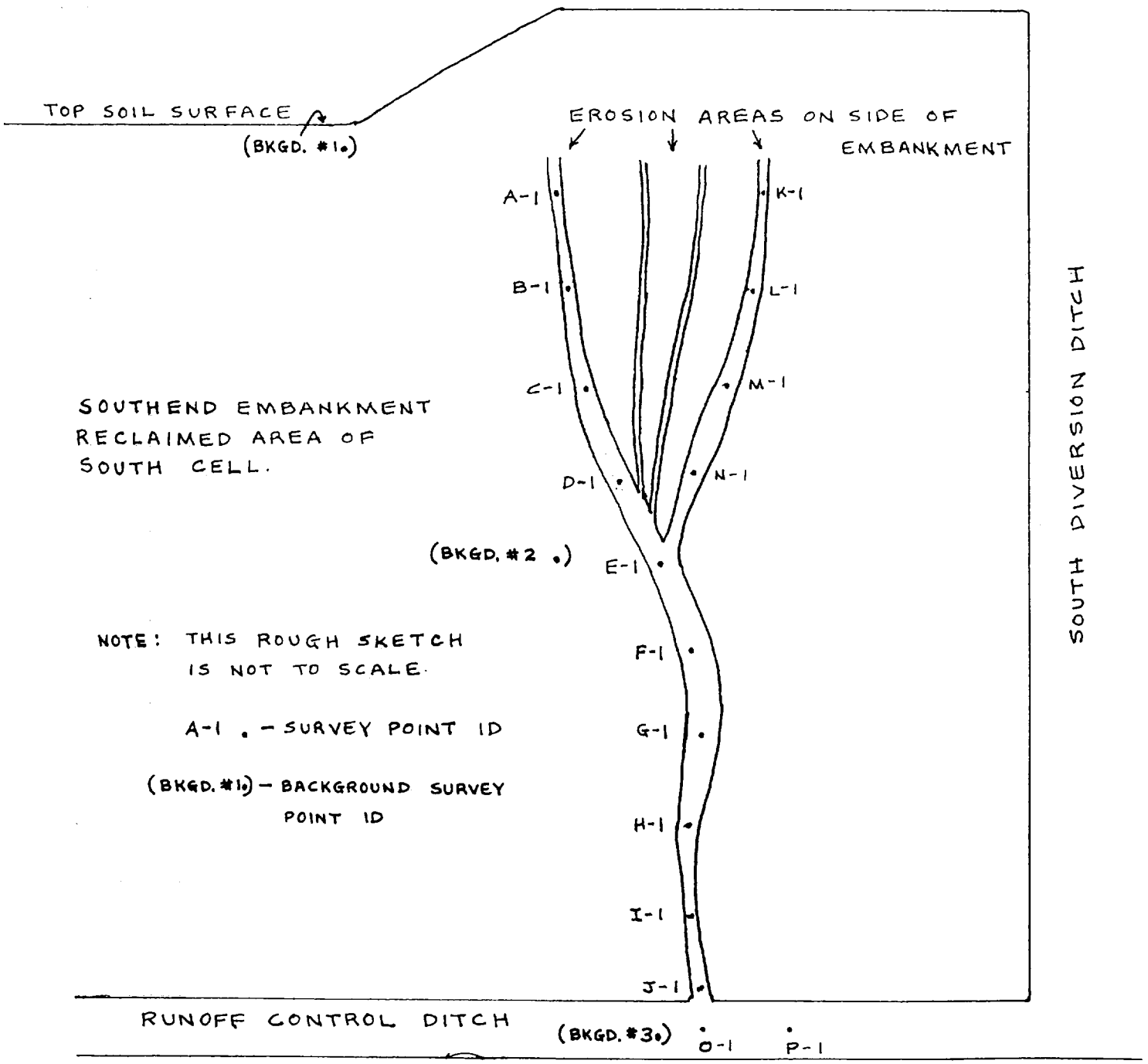
COMPUTATIONS

SUBJECT EROSION AREA SURVEY SKETCH TO DESIGNATE GAMMA SURVEY POINT ID/LOCATION ON THE RECLAIMED SOUTHEND TAILINGS PILE (SOUTH CELL). Sheet No. 2 of 2 Made By M. CHISCHILLY Date 11-22-99 Chkd. By _____ Date _____



THIS PAGE IS AN OVERSIZED DRAWING OR FIGURE,

THAT CAN BE VIEWED AT THE RECORD TITLED:

TOPOGRAPHIC MAP SEC. 2, T.16 N., R. 16 W., N.M.P.M. & VICINITY

WITHIN THIS PACKAGE...OR, BY SEARCHING USING THE DOCUMENT/REPORT NUMBER: NONE

NOTE: Because of this page's large file size, it may be more convenient to copy the file to a local drive and use the Imaging (Wang) viewer, which can be accessed from the Programs/Accessories menu.

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