Tuscaloosa Resources, Inc. East Brookwood Mine P-3852

Re-evaluation of JWR Mine No. 5 Slurry Impoundment No. 3 (shared facility) with additional disturbed drainage from TRI P-3852 R-7 with Slurry Impoundment No. 4 reclaimed.

31 Inches, PMP 6 Hour

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General Information

Storm Information:

Storm Type:	SCS 6 Hour
Design Storm:	100 yr - 6 hr
Rainfall Depth:	31.000 inches

Structure Networking:

Type	Stru #	(flows into)	Stru #	Musk. K (hrs)	Musk. X	Description
Pond	#1	==>	End	0.000	0.000	Slurry Impoundment No. 3

#1
Pond

Structure Summary:

		Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)
#1	In	371.160	371.160	6,804.25	724.04
	Out			1,480.87	717.39

Structure Detail:

Structure #1 (Pond)

Slurry Impoundment No. 3

Pond Inputs:

Initial Pool Elev:	570.50 ft
Initial Pool:	107.49 ac-ft

Emergency Spillway

Spillway Elev	Crest Length (ft)	Left Sideslope	Right Sideslope	Bottom Width (ft)
570.50	50.00	2.00:1	2.00:1	35.00

Pond Results:

Peak Elevation:	575.97 ft
Dewater Time:	1.52 days

Dewatering time is calculated from peak stage to lowest spillway

Elevation-Capacity-Discharge Table

Elevation	Area (ac)	Capacity (ac-ft)	Discharge (cfs)	Dewater Time (hrs)	
569.00	70.919	0.000	0.000		
569.50	71.413	35.583	0.000		
570.00	71.908	71.413	0.000		
570.50	72.400	107.490	0.000		Spillway #1
571.00	72.894	143.813	32.505	13.52*	
571.50	73.390	180.384	65.010	9.40	
572.00	73.888	217.204	150.572	4.40	
572.50	74.387	254.272	243.672	2.30	
573.00	74.887	291.591	360.982	1.50	
573.50	75.390	329.160	498.776	1.10	
574.00	75.894	366.981	660.937	0.80	
574.50	76.400	405.054	841.664	0.60	
575.00	76.907	443.381	1,040.700	0.55	
575.50	77.721	482.037	1,257.911	0.80	
575.97	78.496	519.047	1,480.866	1.40	Peak Stage
576.00	78.539	521.102	1,493.246		
576.50	79.361	560.577	1,746.718		

Elevation	Area (ac)	Capacity (ac-ft)	Discharge (cfs)	Dewater Time (hrs)
577.00	80.187	600.464	2,018.380	
577.50	81.018	640.765	2,308.323	
578.00	81.853	681.482	2,616.658	
578.50	82.692	722.618	2,943.520	
579.00	83.536	764.175	3,253.658	
579.50	84.384	806.155	3,579.038	
580.00	85.236	848.560	3,958.600	

**Designates time(s) to dewater have been extrapolated beyond the 50 hour hydrograph limit.*

Detailed Discharge Table

Elevation (ft)	Emergency Spillway (cfs)	Combined Total Discharge (cfs)
569.00	0.000	0.000
569.50	0.000	0.000
570.00	0.000	0.000
570.50	0.000	0.000
571.00	32.505	32.505
571.50	65.010	65.010
572.00	150.572	150.572
572.50	243.672	243.672
573.00	360.982	360.982
573.50	498.776	498.776
574.00	660.937	660.937
574.50	841.664	841.664
575.00	1,040.700	1,040.700
575.50	1,257.911	1,257.911
576.00	1,493.246	1,493.246
576.50	1,746.718	1,746.718
577.00	2,018.380	2,018.380
577.50	2,308.323	2,308.323
578.00	2,616.658	2,616.658
578.50	2,943.520	2,943.520
579.00	3,253.658	3,253.658
579.50	3,579.038	3,579.038
580.00	3,958.600	3,958.600

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#1	1	131.400	0.183	0.000	0.000	55.000	S	1,512.70	169.275
	2	23.800	0.123	0.000	0.000	81.000	F	564.76	55.997
	3	36.300	0.125	0.000	0.000	75.000	M	646.33	67.182
	4	76.400	0.000	0.000	0.000	100.000	F	1,837.04	196.608
	5	51.000	0.150	0.000	0.000	81.000	F	1,158.58	116.096
	6	42.720	0.150	0.000	0.000	81.000	F	970.48	97.248
	7	9.540	0.100	0.000	0.000	75.000	M	223.78	21.634
	$\sum$	**371.160**						**6,804.25**	**724.040**

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	8. Large gullies, diversions, and low flowing streams	3.14	110.00	3,500.00	5.310	0.183
#1	**1**	**Time of Concentration:**					**0.183**