

Church Rock Low Concentration Mass Balance

1

Original Mass Collected			
Bucket	Tare [lb]	Gross [lb]	Net [lb]
CR-L-Unscreened-01	2.2	51.8	49.6
CR-L-Unscreened-02	2.2	48.8	46.6
Totals	4.4	100.6	96.2



Material Screening over 1/4 inch

1/4" Screened Material				
Bucket	Tare [lb]	Gross [lb]	Net [lb]	Percent of Total
CR-L-0-SL +1/4 inch-01	2.2	2.6	0.4	0.4%
CR-L-0-SL -1/4 inch-01	2.2	45.8	43.6	99.6%
CR-L-0-SL -1/4 inch-02	2.2	54.2	52	
	6.6	102.6	96	



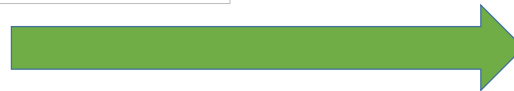
Mixing and Subsampling

Subsample Taken	
Net Mass [g]	1462.31
Estimated Remaining Mass 8/26 [lb]	92.78



Moisture Content as Determined as Disa Lab

% Moisture	4.23%
Estimated True Dry Mass [lb]	88.9



Material Pre-Cutting over 270-mesh screen at site 8/27/2022



Continued on Church Rock Low Concentration Mass Balance 2



-270 Feed Fines Brought Back to Shop and Dried

Dried Pan ID	Tare Mass [lb]	Gross Mass [lb]	Net Mass [lb]
CR-L-0-F-01	2.8	3	0.2
CR-L-0-F-02	2.8	8.2	5.4
CR-L-0-F-03	2.8	9.4	6.6
CR-L-0-F-04	2.8	5	2.2
			14.4

Unsettled Water Collection	
Depth Drum Total [in]	34
Volume Drum Total [gal]	55
Full Volume Used	
Collected Unsettled Water Bucket Net Mass [lb]	14.8
Collected Unsettled Water Volume [gal]	1.77
Sampled as % of Total	3.2%
Net Mass Unsettled Water Sample [g]	6.66
Approximate Unsettled Mass [lb]	0.46

Notes:

Refer to sample nomenclature in Section 4.1

lb pound
g gram

Church Rock Low Concentration Mass Balance
2

Continued from
Church Rock Low
Concentration Mass
Balance 2



Coarse Material Processed 8/28/2022



Samples Collected and Wet Sieved at Disa HQ

Dry Calculated Mass [lb]	74.0
Still Wet Mass Not Recorded	
Processed Mass % of Total	83.3%
Fines Mass % of Total	16.7%

Sample ID	Field CoC 8/25/22			Shop Receipt CoC 9/2/22 (True Value)			Solids Dry Mass [g]	Solids Dry Mass [lb]	Solids % by Mass
	Tare [lb]	Gross [lb]	Net [lb]	Tare [lb]	Gross [lb]	Net [lb]			
CR-L-4-SY	1.2	17.6	16.4	1.2	17.6	16.4	941.91	2.08	12.7%
CR-L-8-SY	1.2	17.8	16.6	1.2	18.2	17	994.84	2.19	12.9%
CR-L-30-SY	1.2	18	16.8	1.2	18.2	17	991.67	2.19	12.9%

Notes:
Refer to sample nomenclature in Section 4.1
CoC chain of custody
g gram
lb pound
mg/kg milligrams per kilogram
U Uranium

Mass Balance and Combination Goals							
Sample ID	RO-TAP Mass (-270-mesh) [g]	Mass % of RO-TAP Sample	Mass % TTL by Mass Balance	Proposed Mass Added of CR-L-O-F [g]	RO-TAP -270 XRF U mg/kg	Fines XRF U mg/kg	Proposed Combined Concentrate U mg/kg
CR-L-4-SY	111.20	11.8%	9.83%	189.09	168	192	183
CR-L-8-SY	112.07	11.3%	9.38%	199.72	111	192	163
CR-L-30-SY	137.04	13.8%	11.51%	199.08	93	192	152

Sample Mass Check				
Sample ID	Total RO-TAP Mass [g]	Total RO-TAP Mass Including Combined CR-L-O-F [g]	Concentrate Mass % of Total (Mass Calculated)	Concentrate Mass % of Total (Balance sum of Percents in this Sheet)
CR-L-4-SY	941.91	1131.00	26.55%	26.55%
CR-L-8-SY	994.84	1194.56	26.10%	26.10%
CR-L-30-SY	991.67	1190.75	28.23%	28.23%

Church Rock Medium Concentration Mass Balance

1

Unscreened Mass			
Bucket	Tare [lb]	Gross [lb]	Net [lb]
CR-M-0-SL Unscreened-01	2.2	61.2	59
CR-M-0-SL Unscreened-02	2.4	55.8	53.4
Totals	4.6	117	112.4



Material Screening over 1/4 inch

Post-Screening				
Bucket	Tare [lb]	Gross [lb]	Net [lb]	Percent of Total
CR-M-0-SL +1/4 inch-01	2.2	4.2	2	1.8%
CR-M-0-SL -1/4 inch-01	2.2	54.2	52	98.2%
CR-M-0-SL -1/4 inch-02	2.2	60	57.8	
Totals	6.6	118.4	111.8	



Mixing and Subsampling

Subsample Taken	
Net Mass [g]	1392.81
Estimated Remaining Mass [lb]	108.7



Moisture Content as Determined as Disa Lab

% Moisture	6.50%
Estimated True Dry Mass [lb]	101.7



Material Pre-Cutting over 270-mesh screen at site 8/27/2022



Continued on Church Rock Medium Concentration Mass Balance 2



-270 Feed Fines Brought Back to Shop and Dried

Dried Pan ID	Tare Mass [lb]	Gross Mass [lb]	Net Mass [lb]
CR-M-0-F-01	2.8	10.6	7.8
CR-M-0-F-02	2.8	4	1.2
CR-M-0-F-03	3	6.8	3.8
			12.8

Unsettled Water Collection	
Depth Drum Total [in]	34
Volume Drum Total [gal]	55
Total Drum Volume Used	
Collected Unsettled Water Bucket Net Mass [lb]	15.8
Collected Unsettled Water Volume [gal]	1.89
Sampled as % of Total	3.4%
Net Mass Unsettled Water Sample [g]	2.85
Approximate Unsettled Mass [lb]	0.18

Notes:

Refer to sample nomenclature in Section 4.1

lb pound
g gram

Church Rock Medium Concentration Mass Balance
2

Continued from Church
Rock Medium
Concentration Mass
Balance 2



Coarse Material Processed 8/28/2022



Samples Collected and RO-TAPped at Disa HQ

Dry Calculated Mass [lb]		88.7	
Still Wet Mass Recorded in Field			
ID	Tare [lb]	Gross [lb]	Net [lb]
Bucket 1	-	-	53.2
Bucket 2	-	-	52
		Total	105.2
		% Moisture	15.7%

Only net mass recorded

Processed Mass % of Total	87.2%
Fines Mass % of Total	12.8%

Notes:

Refer to sample nomenclature in Section 4.1

CoC	chain of custody
g	gram
lb	pound
mg/kg	milligrams per kilogram
U	Uranium

Sample ID	Field CoC 8/28/22			Shop Receipt CoC 9/2/22 (True Value)			Solids Dry Mass [g]	Solids Dry Mass [lb]	Solids % by Mass
	Tare [lb]	Gross [lb]	Net [lb]	Tare [lb]	Gross [lb]	Net [lb]			
CR-M-4-SY	1.2	18.4	17.2	1.2	18.6	17.4	1130.23	2.5	14.3%
CR-M-8-SY	1.2	20.2	19.0	1.2	20.0	18.8	1408.47	3.1	16.5%
CR-M-30-SY	1.2	19.2	18.0	1.2	19.4	18.2	1251.94	2.8	15.2%

Mass Balance and Combination Goals							
Sample ID	RO-TAP Mass (-270-mesh) [g]	Mass % of RO-TAP Sample	Mass % TTL by Mass Balance	Proposed Mass Added of CR-M-O-F [g]	RO-TAP -270 XRF U mg/kg	Fines XRF U mg/kg	Proposed Combined Concentrate U mg/kg
CR-M-4-SY	109.17	9.7%	8.4%	165.47	735	1326	1091
CR-M-8-SY	131.25	9.3%	8.1%	206.20	671	1326	1071
CR-M-30-SY	171.24	13.7%	11.9%	183.29	391	1326	874

Sample Mass Check				
Sample ID	Total RO-TAP Mass [g]	Total RO-TAP Mass Including Combined CR-M-O-F [g]	Concentrate Mass % of Total (Mass Calculated)	Concentrate Mass % of Total (Balance sum of Percents in this Sheet)
CR-M-4-SY	1130.23	1295.70	21.20%	21.20%
CR-M-8-SY	1408.47	1614.67	20.90%	20.90%
CR-M-30-SY	1251.94	1435.23	24.70%	24.70%

Church Rock High Concentration Mass Balance

1

Unscreened Mass			
Bucket	Tare [lb]	Gross [lb]	Net [lb]
CR-H-0-SL Unscreened-01	2.2	64.4	62.2
CR-H-0-SL Unscreened-02	2.4	60.2	57.8
Totals	4.6	124.6	120



Material Screening over 1/4 inch

Post-Screening				
Bucket	Tare [lb]	Gross [lb]	Net [lb]	Percent of Total
CR-H-0-SL +1/4 inch-01	2.2	3.8	1.6	1.3%
CR-H-0-SL -1/4 inch-01	2.2	59.2	57	98.7%
CR-H-0-SL -1/4 inch-02	2.2	63.6	61.4	
Totals	6.6	126.6	120	



Mixing and Subsampling

Subsample Taken	
Net Mass [g]	1765.20
Estimated Remaining Mass [lb]	116.1



Moisture Content as Determined as Disa Lab

% Moisture	4.69%
Estimated True Dry Mass [g]	110.7



Material Pre-Cutting over 270-mesh screen at site 8/27/2022



Continued on Church Rock High Concentration Mass Balance 2



-270 Feed Fines Brought Back to Shop and Dried

Notes:

Refer to sample nomenclature in Section 4.1

lb pound
g gram

Dried Pan ID	Tare Mass [lb]	Gross Mass [lb]	Net Mass [lb]
CR-H-0-F-01	2.8	3.8	1.0
CR-H-0-F-02	2.8	7.2	4.4
CR-H-0-F-03	2.8	11.4	8.6
			14.0
All Water Settled			

Church Rock High Concentration Mass Balance
2

Continued from Church
Rock High
Concentration Mass
Balance 2

Coarse Material Processed 8/28/2022

Samples Collected and RO-TAPPED at Disa HQ

Dry Calculated Mass [lb]	96.7		
Still Wet Mass Recorded in Field			
ID	Tare [lb]	Gross [lb]	Net [lb]
Bucket 1	2.2	65.6	63.4
Bucket 2	2.2	58.2	56
		Total	119.4
		% Moisture	19.0%

Processed Mass % of Total	87.3%
Fines Mass % of Total	12.7%

Notes:
Refer to sample nomenclature in Section 4.1
CoC chain of custody
g gram

lb pound
mg/kg milligrams per kilogram
U Uranium

Sample ID	Field CoC 8/28/22			Shop Receipt CoC 9/2/22 (True Value)			Solids Dry Mass [g]	Solids Dry Mass [lb]	Solids % by Mass
	Tare [lb]	Gross [lb]	Net [lb]	Tare [lb]	Gross [lb]	Net [lb]			
CR-H-4-SY	1.2	20.8	19.6	1.2	21.0	19.8	1663.96	3.67	18.5%
CR-H-8-SY	1.2	20.0	18.8	1.2	20.0	18.8	1655.26	3.65	19.4%
CR-H-30-SY	1.2	21.0	19.8	1.2	20.0	18.8	1350.28	2.98	15.8%

Mass Balance and Combination Goals							
Sample ID	RO-TAP Mass (-270-mesh) [g]	Mass % of RO-TAP Sample	Mass % TTL by Mass Balance	Proposed Mass Added of CR-H-0-F [g]	RO-TAP -270 XRF U mg/kg	Fines XRF U mg/kg	Proposed Combined Concentrate U mg/kg
CR-H-4-SY	97.92	5.9%	5.1%	240.99	2745	5414	4643
CR-H-8-SY	105.42	6.4%	5.6%	239.73	2683	5414	4580
CR-H-30-SY	167.47	12.4%	10.8%	195.56	1509	5414	3613

Sample Mass Check				
Sample ID	Total RO-TAP Mass [g]	Total RO-TAP Mass Including Combined CR-H-0-F [g]	Concentrate Mass % of Total (Mass Calculated)	Concentrate Mass % of Total (Balance sum of Percents in this Sheet)
CR-H-4-SY	1663.96	1904.95	17.79%	17.79%
CR-H-8-SY	1655.26	1894.99	18.21%	18.21%
CR-H-30-SY	1350.28	1545.84	23.48%	23.48%