Church Rock Low Concentration Sample Tracking
1

Collected Bulk Material			
ID	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
Referenced Documents: Attachment B-7			

Sample Screening Over 1/4-inch sieve

Material Retained on 1/4-inch			
ID	Tare [lb]	Gross [lb]	Net [lb]
CR-L->1/4-inch-01	2.2	2.6	0.4
Totals	2.2	2.6	0.4
Refrenced Documents: Attachment B-7			

Material Passing 1/4 inch			
ID	Tare [lb]	Gross [lb]	Net [lb]
CR-L-<1/4-inch-01	2.2	45.8	43.6
CR-L-<1/4-inch-02	2.2	54.2	52
Totals	4.4	100	95.6
Referenced Documents: Attachment B-7			

+1/4-inch Material Crushed

Material Recombined

Continued on Church Rock Low Concentration Sample Tracking 2

Material Pre-Cutting Over 270-mesh 12-inch Screen

Material Passing 270-mesh 12-inch Screen Collected in Drum. Allowed to Settle for ~24 hours

Referenced Documents:
Attachment B-7

Material Retained on 270-mesh Screen Placed in tin foil and stainless pans for quick drying and processing

Referenced Documents:
Attachment B-7

Samples Collected from Drums			
ID	Tare [lb]	Gross [lb]	Net [lb]
CR-L-0-F-01	2.2	41.8	39.6
CR-L-0-F-02	2.2	39.8	37.6
CR-L-0-F-03	2.2	18.8	16.6
CR-L-0-F-WT	1.2	16.0	14.8
Totals	7.8	116.4	108.6
Referenced Documents: Attachment B-2A			

HPSA Treatment

Referenced Documents:
Attachment B-7

Continued on Church Rock Low Concentration Sample Tracking 2

Water Discharge into Troughs, Then Discharge On-Site

Fines Samples Dewatered and Dried for Total Mass.

Referenced Documents:
Attachment B-7
Attachment C-4

2 HPSA System Rinses with ~30 Gallons of Makeup Water Each

Samples Collected After Drying			
ID	Tare [lb]	Gross [lb]	Net [lb]
CR-L-0-F Dried Pans	-	-	14.4
CR-L-0-F Unsettled Water Mass	-	-	6.66 grams

Mass Balance Calculated for Proper Mixing of Concentrate Fractions. Fine samples Analyzed with XRF prior to and after mixing with SY PSD -270 fractions.

Referenced Documents
Attachment B-7
Attachment B-8
Attachment C-4

Notes:

CoC	Chain of Custody
CR	Church Rock
CR-L	Church Rock Low
HPSA	High-Pressure Slurry Ablation
lb.	Pound
PSD	particle size distribution
SY	slurry
XRF	X-ray fluorescence

Church Rock Low Concentration Sample Tracking
2

Continued from Church Rock Low Concentration Sample Tracking 1

Feed Sample	
ID	Net Mass [g]:
CR-L-0-SL-01	1462.31
Referenced Documents:	
Attachment B-2A	

Sample Dried for % Moisture	
Determined % Moisture	4.2%
Dried Mass [g]	1400.46
Referenced Documents:	
Attachment B-4	

Sample Splitting

Reference Documents:
Attachment B-4

Quarter of Sample for Sieve Separation	
ID	Net Mass [g]:
CR-L-0-SL-01 Sieve Charge	313.76
Referenced Documents:	
Attachment B-3	

Continued on Church Rock Low Concentration Sample Tracking 3

Quarter of Sample Sent for MLA	
ID	Net Mass [g]:
CR-L-0-SL Bulk MLA Charge	380.16
Referenced Documents:	
Attachment B-2C	

Half of Sample Sent for Bulk SPLP, Metals, Radionuclides	
ID	Net Mass [g]:
CR-L-0-SL Bulk Analysis Assay Charge	703.33
Referenced Documents:	
Attachment B-2B	

Continued from Church Rock Low Concentration Sample Tracking 1

HPSA Time Samples (Recorded in Field)			
ID	Tare [lb]	Gross [lb]	Net [lb]
CR-L-4-SY	1.2	17.6	16.4
CR-L-8-SY	1.2	17.8	16.6
CR-L-30-SY	1.2	18	16.8
Totals	3.6	53.4	49.8
Referenced Documents:			
Attachment B-2A			

HPSA Time Samples (Logged at Shop)			
ID	Tare [lb]	Gross [lb]	Net [lb]
CR-L-4-SY	1.2	17.6	16.4
CR-L-8-SY	1.2	18.2	17
CR-L-30-SY	1.2	18.2	17
Totals	3.6	54	50.4
Referenced Documents:			
Attachment B-2A			

Water Separated from Solids by 5-micron pressure Filter. Some Samples Analyzed for both Total and Dissolved Metals/Ra 226.

Referenced Documents
Attachment B-7

CR-L-WT Samples Analyzed by Pace Analytical			
ID	Tare [lb]	Gross [lb]	Net [lb]
CR-L-4-WT	1.2	15.0	13.8
CR-L-8-WT	1.2	14.2	13
CR-L-30-WT	1.2	15.2	14
Totals	3.6	44.4	40.8
Referenced Documents:			
Attachment B-2B			

CR-L-4-SY Solids Sieved for 7 size Fractions

Referenced Documents:
Attachment B-3

CR-L-8-SY Solids Sieved for 7 size Fractions

Referenced Documents:

Attachment B-3

CR-L-30-SY Solids Sieved for 7 size Fractions

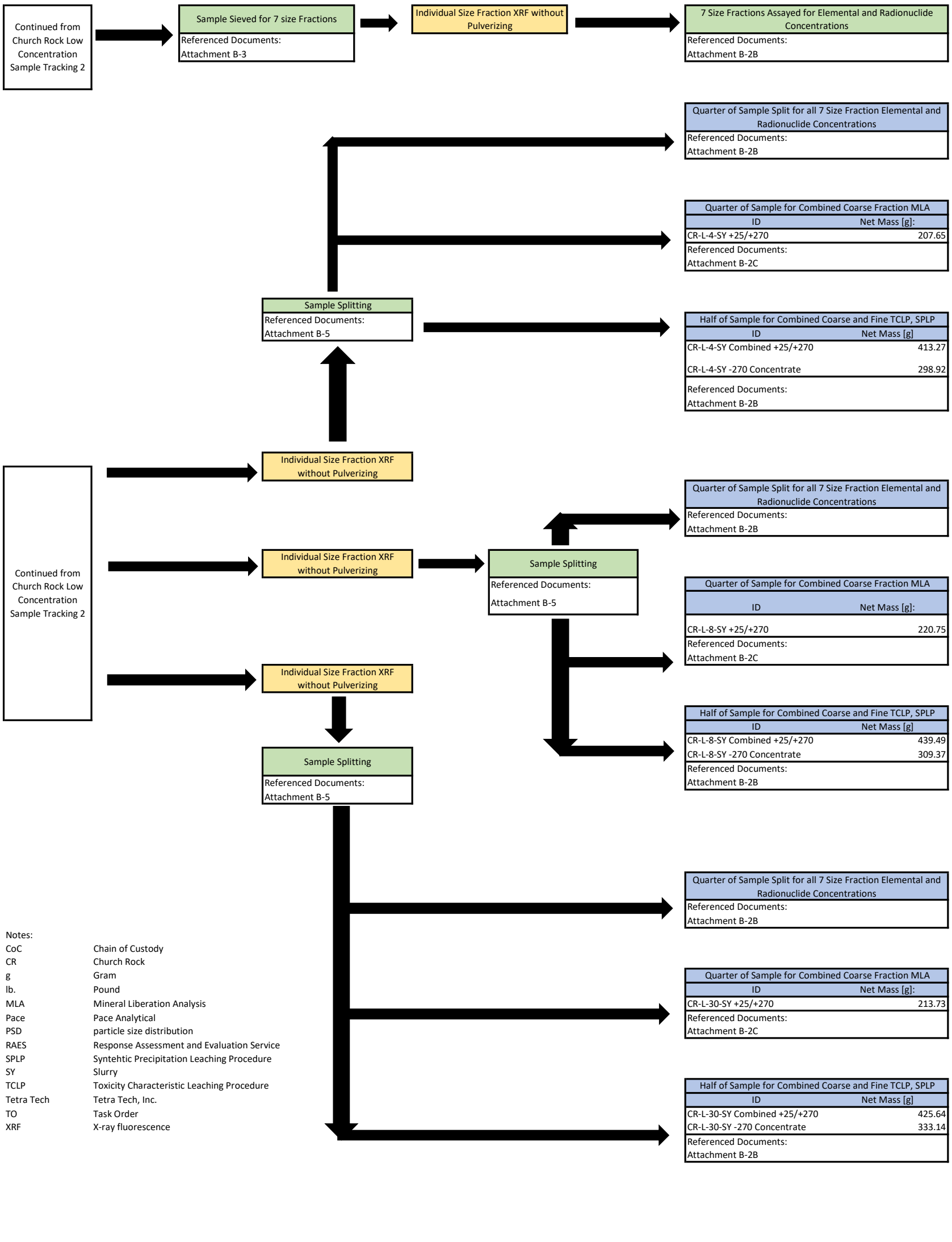
Referenced Documents:
Attachment B-3

Continued on Church Rock Low Concentration Sample Tracking 3

Notes:

CoC	Chain of Cusody
CR	Church Rock
CR-L-WT	Church Rock Low Concentration Water Sample
g	Gram
HPSA	High-Pressure Slurry Ablation
lb.	Pound
MLA	Mineral Liberation Analysis
Pace	Pace Analytical
PSD	particle size distribution
QAQC	Quality assurance quality control
Ra-226	Radium-226
RAES	Response Assessment and Evaluation Services
SL	Soil
SY	Slurry
Tetra Tech	Tetra Tech, Inc.
TO	Task Order
WT	Water

Church Rock Low Concentration Sample Tracking
3



Notes:

CoC	Chain of Custody
CR	Church Rock
g	Gram
lb.	Pound
MLA	Mineral Liberation Analysis
Pace	Pace Analytical
PSD	particle size distribution
RAES	Response Assessment and Evaluation Service
SPLP	Syntehtic Precipitation Leaching Procedure
SY	Slurry
TCLP	Toxicity Characteristic Leaching Procedure
Tetra Tech	Tetra Tech, Inc.
TO	Task Order
XRF	X-ray fluorescence

Church Rock Medium Concentration Sample Tracking
1

Collected Bulk Material			
ID	Tare [lb]	Gross [lb]	Net [lb]
CR-M-Unscreened-01	2.2	61.2	59
CR-M-Unscreened-02	2.4	55.8	53.4
Totals	4.6	117	112.4
Referenced Documents: Attachment B-7			

Sample Screening Over 1/4-inch sieve

Material Retained on 1/4-inch			
ID	Tare [lb]	Gross [lb]	Net [lb]
CR-M->1/4-inch-01	2.2	4.2	2
Totals	2.2	4.2	2
Refrenced Documents: Attachment B-7			

Material Passing 1/4 inch			
ID	Tare [lb]	Gross [lb]	Net [lb]
CR-M-<1/4-inch-01	2.2	54.2	52
CR-M-<1/4-inch-02	2.2	60	57.8
Totals	4.4	114.2	109.8
Referenced Documents: Attachment B-7			

+1/4-inch Material Crushed

Material Recombined

Continued on Church Rock Medium Concentration Sample Tracking 2

Material Pre-Cutting Over 270-mesh 12-inch Screen

Material Passing 270-mesh 12-inch Screen Collected in Drum. Allowed to Settle for ~24 hours

Referenced Documents:
Attachment B-7

Samples Collected from Drums			
ID	Tare [lb]	Gross [lb]	Net [lb]
CR-M-0-F-01	2.2	41.8	39.6
CR-M-0-F-02	2.2	39.8	37.6
CR-M-0-F-WT	2.2	18.8	16.6
Totals	6.6	100.4	93.8
Referenced Documents: Attachment B-2A			

Fines Samples Dewatered and Dried for Total Mass.

Referenced Documents:
Attachment B-7
Attachment C-4

Samples Collected After Drying			
ID	Tare [lb]	Gross [lb]	Net [lb]
CR-M-0-F Dried Pans	-	-	12.8
CR-M-0-F Unsettled Water Mass	-	-	2.85 grams

Mass Balance Calculated for Proper Mixing of Concentrate Fractions. Fine samples Analyzed with XRF prior to and after mixing with SY PSD -270 fractions.

Referenced Documents
Attachment B-7
Attachment B-8
Attachment C-4

Material Retained on 270-mesh Screen Placed in tin foil and stainless pans for quick drying and processing

Referenced Documents:
Attachment B-7

HPSA Treatment

Referenced Documents:
Attachment B-7

Continued on Church Rock Medium Concentration Sample Tracking 2

Water Discharge into Troughs, Then Discharge On-Site

2 HPSA System Rinses with ~30 Gallons of Makeup Water Each

Notes:

CoC	Chain of Custody
CR	Church Rock
CR-L	Church Rock Low
HPSA	High-Pressure Slurry Ablation
lb.	Pound
PSD	particle size distribution
SY	slurry
XRF	X-ray fluorescence

Church Rock Medium Concentration Sample Tracking
2

Continued from Church Rock Medium Concentration Sample Tracking 1

Feed Sample	
ID	Net Mass [g]:
CR-M-0-SL-01	1392.81
Referenced Documents:	
Attachment B-2A	

Sample Dried for % Moisture	
Determined % Moisture	6.5%
Dried Mass [g]	1302.25
Referenced Documents:	
Attachment B-4	

Sample Splitting

Reference Documents:
Attachment B-4

Quarter of Sample for Sieve Separation	
ID	Net Mass [g]:
CR-M-0-SL-01 Sieve Charge	317.55
Referenced Documents:	
Attachment B-3	

Quarter of Sample Sent for MLA	
ID	Net Mass [g]:
CR-M-0-SL Bulk MLA Charge	
Referenced Documents:	
Attachment B-2C	

Half of Sample Sent for Bulk TCLP, SPLP, Metals, Radionuclides	
ID	Net Mass [g]:
CR-M-0-SL Bulk Analysis Assay Charge	
Referenced Documents:	
Attachment B-2B	

Continued on Church Rock Medium Concentration Sample Tracking 3

Continued from Church Rock Medium Concentration Sample Tracking 1

HPSA Time Samples (Recorded in Field)			
ID	Tare [lb]	Gross [lb]	Net [lb]
CR-M-4-SY	1.2	18.4	17.2
CR-M-8-SY	1.2	20.2	19
CR-M-30-SY	1.2	19.2	18
Totals	3.6	57.8	54.2
Referenced Documents:			
Attachment B-2A			

HPSA Time Samples (Logged at Shop)			
ID	Tare [lb]	Gross [lb]	Net [lb]
CR-M-4-SY	1.2	18.6	17.4
CR-M-8-SY	1.2	20.0	18.8
CR-M-30-SY	1.2	19.4	18.2
Totals	3.6	58	54.4
Referenced Documents:			
Attachment B-2A			

Water Separated from Solids by 5-micron pressure Filter. Some Samples Analyzed for both Total and Dissolved Metals/Ra 226.

Referenced Documents
Attachment B-7

CR-L-WT Samples Analyzed by Pace Analytical			
ID	Tare [lb]	Gross [lb]	Net [lb]
CR-M-4-WT	1.2	15.0	13.8
CR-M-8-WT	1.2	15.8	14.6
CR-M-30-WT	1.2	15.0	13.8
	3.6	45.8	42.2
Referenced Documents:			
Attachment B-2B			

CR-L-4-SY Solids Sieved for 7 size Fractions
Referenced Documents:
Attachment B-3

CR-L-8-SY Solids Sieved for 7 size Fractions
Referenced Documents:
Attachment B-3

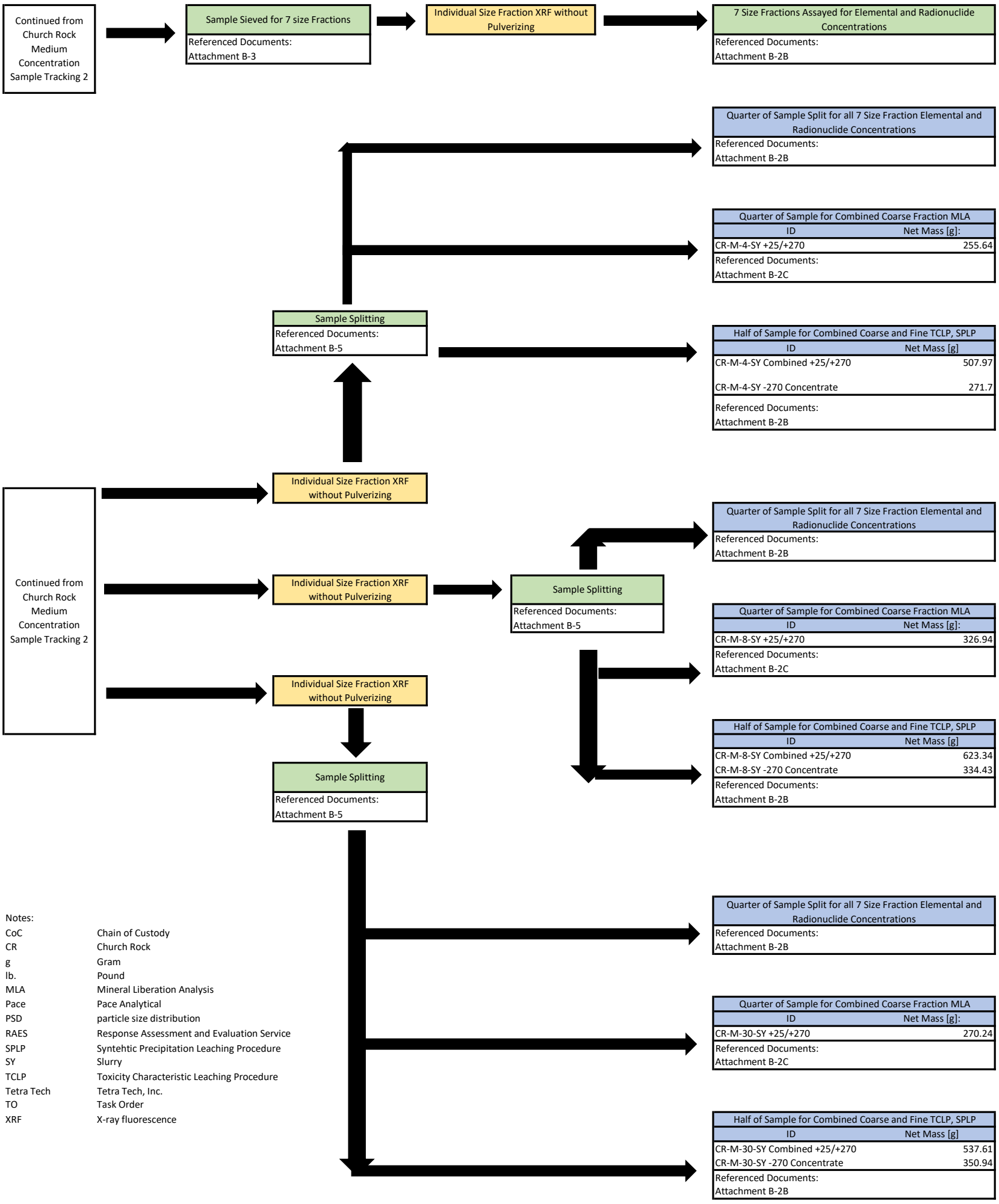
CR-L-30-SY Solids Sieved for 7 size Fractions
Referenced Documents:
Attachment B-3

Continued on Church Rock Medium Concentration Sample Tracking 3

Notes:

CoC	Chain of Cusody
CR	Church Rock
CR-L-WT	Church Rock Low Concentration Water Sample
g	Gram
HPSA	High-Pressure Slurry Ablation
lb.	Pound
MLA	Mineral Liberation Analysis
Pace	Pace Analytical
PSD	particle size distribution
QAQC	Quality assurance quality control
Ra-226	Radium-226
RAES	Response Assessment and Evaluation Services
SL	Soil
SY	Slurry
Tetra Tech	Tetra Tech, Inc.
TO	Task Order
WT	Water

Church Rock Medium Concentration Sample Tracking
3



Notes:

CoC	Chain of Custody
CR	Church Rock
g	Gram
lb.	Pound
MLA	Mineral Liberation Analysis
Pace	Pace Analytical
PSD	particle size distribution
RAES	Response Assessment and Evaluation Service
SPLP	Syntehtic Precipitation Leaching Procedure
SY	Slurry
TCLP	Toxicity Characteristic Leaching Procedure
Tetra Tech	Tetra Tech, Inc.
TO	Task Order
XRF	X-ray fluorescence

Church Rock High Concentration Sample Tracking
1

Collected Bulk Material			
ID	Tare [lb]	Gross [lb]	Net [lb]
CR-H-Unscreened-01	2.2	64.4	62.2
CR-H-Unscreened-02	2.4	60.2	57.8
Totals	4.6	124.6	120
Referenced Documents: Attachent B-7			

Sample Screening Over 1/4-inch sieve

Material Retained on 1/4-inch			
ID	Tare [lb]	Gross [lb]	Net [lb]
CR-H->1/4-inch-01	2.2	3.8	1.6
Totals	2.2	3.8	1.6
Refrenced Documents: Attachent B-7			

+1/4-inch Material Crushed

Material Passing 1/4 inch			
ID	Tare [lb]	Gross [lb]	Net [lb]
CR-H-<1/4-inch-01	2.2	59.2	57
CR-H-<1/4-inch-02	2.2	63.6	61.4
Totals	4.4	122.8	118.4
Referenced Documents: Attachent B-7			

Material Recombined

→ Continued on Church Rock High Concentration Sample Tracking 2

Material Pre-Cutting Over 270-mesh 12-inch Screen

Material Passing 270-mesh 12-inch Screen Collected in Drum. Allowed to Settle for ~24 hours

Referenced Documents:
Attachent B-7

Samples Collected from Drums			
ID	Tare [lb]	Gross [lb]	Net [lb]
CR-H-0-F-01	2.2	41.8	39.6
CR-H-0-F-02	2.2	44.6	42.4
Totals	4.4	86.4	82
Referenced Documents: Attachment B-2A			

Fines Samples Dewatered and Dried for Total Mass.

Referenced Documents:
Attachment B-7
Attachment C-4

Samples Collected After Drying			
ID	Tare [lb]	Gross [lb]	Net [lb]
CR-H-0-F Dried Pans	-	-	14.0

Mass Balance Calculated for Proper Mixing of Concentrate Fractions. Fine samples Analyzed with XRF prior to and after mixing with SY PSD -270 fractions.

Referenced Documents
Attachment B-7
Attachment B-8
Attachment C-4

Material Retained on 270-mesh Screen Placed in tin foil and stainless pans for quick drying and processing

Referenced Documents:
Attachent B-7

HPSA Treatment

Referenced Documents:
Attachent B-7

→ Continued on Church Rock High Concentration Sample Tracking 2

Water Discharge into Troughs, Then Discharge On-Site

2 HPSA System Rinses with 30 Gallons of Makeup Water Each

Notes:

CoC	Chain of Custody
CR	Church Rock
CR-L	Church Rock Low
HPSA	High-Pressure Slurry Ablation
lb.	Pound
PSD	particle size distribution
SY	slurry
XRF	X-ray fluorescence

Church Rock High Concentration Sample Tracking
2

Continued from Church Rock High Concentration Sample Tracking 1

Feed Sample	
ID	Net Mass [g]:
CR-H-0-SL-01	1765.2
Referenced Documents:	
Attachment B-2A	

Sample Dried for % Moisture	
Determined % Moisture	4.7%
Dried Mass [g]	1682.47
Referenced Documents:	
Attachment B-4	

Sample Splitting

Reference Documents:
Attachment B-4

Quarter of Sample for Sieve Separation	
ID	Net Mass [g]:
CR-H-0-SL-01 Sieve Charge	434.58
Referenced Documents:	
Attachment B-3	

Quarter of Sample Sent for MLA	
ID	Net Mass [g]:
CR-H-0-SL Bulk MLA Charge	448.77
Referenced Documents:	
Attachment B-2C	

Half of Sample Sent for Bulk SPLP, Metals, Radionuclides	
ID	Net Mass [g]:
CR-H-0-SL Bulk Analysis Assay Charge	796.62
Referenced Documents:	
Attachment B-2B	

Continued on Church Rock High Concentration Sample Tracking 3

Continued from Church Rock High Concentration Sample Tracking 1

HPSA Time Samples (Recorded in Field)			
ID	Tare [lb]	Gross [lb]	Net [lb]
CR-H-4-SY	1.2	20.8	19.6
CR-H-8-SY	1.2	20	18.8
CR-H-30-SY	1.2	21	19.8
Totals	3.6	61.8	58.2
Referenced Documents:			
Attachment B-2A			

HPSA Time Samples (Logged at Shop)			
ID	Tare [lb]	Gross [lb]	Net [lb]
CR-H-4-SY	1.2	21	19.8
CR-H-8-SY	1.2	20	18.8
CR-H-30-SY	1.2	20	18.8
Totals	3.6	61	57.4
Referenced Documents:			
Attachment B-2A			

Water Separated from Solids by 5-micron pressure Filter. Some Samples Analyzed for both Total and Dissolved Metals/Ra 226.

Referenced Documents
Attachment B-7

CR-L-WT Samples Analyzed by Pace Analytical			
ID	Tare [lb]	Gross [lb]	Net [lb]
CR-H-4-WT	1.2	15.8	14.6
CR-H-8-WT	1.2	14.6	13.4
CR-H-30-WT	1.2	16.0	14.8
Totals	3.6	46.4	42.8
Referenced Documents:			
Attachment B-2B			

CR-H-4-SY Solids Sieved for 7 size Fractions

Referenced Documents:
Attachment B-3

CR-H-8-SY Solids Sieved for 7 size Fractions

Referenced Documents:

Attachment B-3

CR-H-30-SY Solids Sieved for 7 size Fractions

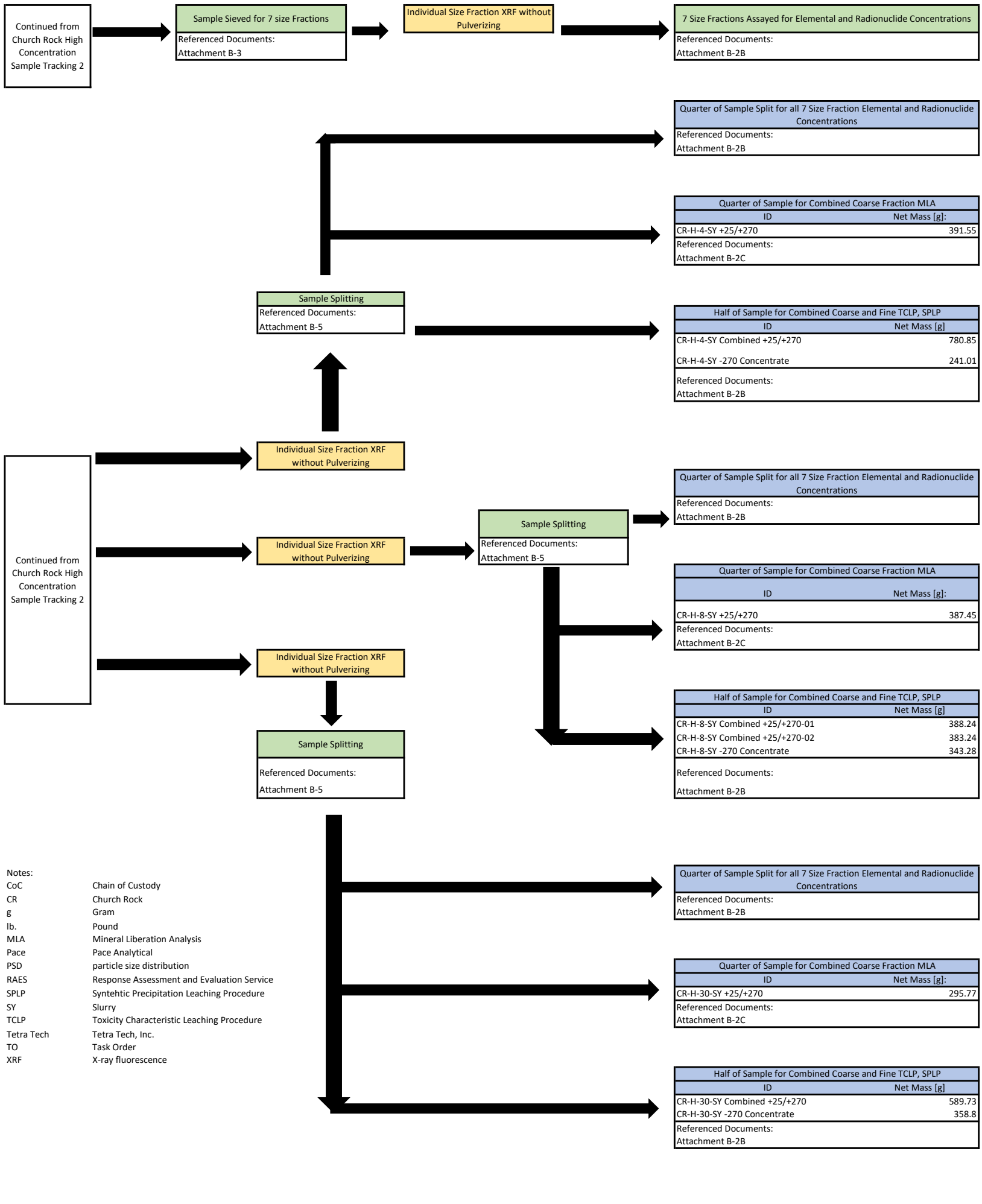
Referenced Documents:
Attachment B-3

Continued on Church Rock High Concentration Sample Tracking 3

Notes:

CoC	Chain of Cusody
CR	Church Rock
CR-L-WT	Church Rock Low Concentration Water Sample
g	Gram
HPSA	High-Pressure Slurry Ablation
lb.	Pound
MLA	Mineral Liberation Analysis
Pace	Pace Analytical
PSD	particle size distribution
QAQC	Quality assurance quality control
Ra-226	Radium-226
RAES	Response Assessment and Evaluation Services
SL	Soil
SY	Slurry
Tetra Tech	Tetra Tech, Inc.
TO	Task Order
WT	Water

Church Rock High Concentration Sample Tracking
3



Notes:

CoC	Chain of Custody
CR	Church Rock
g	Gram
lb.	Pound
MLA	Mineral Liberation Analysis
Pace	Pace Analytical
PSD	particle size distribution
RAES	Response Assessment and Evaluation Service
SPLP	Syntehtic Precipitation Leaching Procedure
SY	Slurry
TCLP	Toxicity Characteristic Leaching Procedure
Tetra Tech	Tetra Tech, Inc.
TO	Task Order
XRF	X-ray fluorescence