October 24st, 2024

Mr. Lucas West Environmental Protection Specialist Colorado Division of Reclamation Mining and Safety 101 3rd Street Grand Junction, CO 81501

Subject: TR-17 Adequacy Review Response - 2 DRMS Permit No. M-2012-032 Revenue Mine, Ouray County, Colorado

Dear Mr. West,

Below are responses to adequacy review #2 for technical revision 17 to DRMS Permit No. M-2012-032.

- Due to time constraints in the driller's schedule and lack of options for contractors that were willing to mobilize to the mine site for the job, work was required to take place at the beginning of the 2024 high alpine construction season (July 22nd 2024). At that time sourcing the perforated piping section for the ground water monitoring wells was difficult and lead times were prohibitive of completing the well at the time of drilling. Drilling of the wells was completed on July 22nd, 2024 using 4" drill casing to the required depth relative to the water table and elevation difference between Sneffles Creek. The 4" casing steel was left in place and nothing was completed until the perforated piping could be procured. The perforated steel piping was procured in early October 2024 and the wells were completed on October 12th, 2024 at the contractors earliest availability. Under Attachment A are the submitted permitting documentation, as-built drawings and pictures of the wells. All that remains to completion is fabrication of a locking lid to go on top of the wells.
- 2. Apologies for the confusion on secondary containment. During early iterations of this process's design, the plan was to use a single containment unit. That later changed to the multiple containment units with calculations provided in Table 1-3 of the TR but was not corrected in the verbiage. Under **Attachment B** are the tables that were provided in TR17 that convey the dimensions and volumetric capacity calculations for the containment units. Additional water/slurry to a containment unit will be no greater than the greatest inflow rate being realized by the process at the time of the shut-down. By closing the emergency valve between the process water tank and the process supply pumps, the anti-cavitation sensors will automatically shut-off the pumps to prevent damage. The pumps will be tied into a single custom control panel with alarm and control fuses that

will trip the remaining pumps. Under **Attachment C** are updated Tables that provide data for containment capacity in the event of an emergency shut-off scenario (2-minute shut-off time with 75 gpm max in-flow or system flow). Table 4 demonstrates total capacity if the max inflow or process flow of 75 gpm were to be flowing into any one containment area during the 2 minute shut-down. Table 5 shows the total time of containment if the max flow were to be continuously entering any of the containment areas.

- The secondary containment will be constructed of 18.5oz PVC. Under Attachment D are the additional specs for the 18.5 oz PVC that will be used. We are planning on and committed to using a ground cloth to prevent punctures.
- 4. RS Means Online version was used for bonding calculations in TR17 and didn't allow for deconstruction assumption line items used in previous bonds. Without the previous bonding calc assumptions for deconstruction, hourly rates for equipment and labor sourced from RS Means were used with a duration to calculate the additional bonding amount. Under **Attachment E** are updated bond tables with additional descriptions and data that have been added to give greater detail as to the cost and work hours for individual labor and equipment. Greater detail is also given on the nature of the work for each item.
- 5. BioZem is no longer planned to be used for any part of this process. Apologies for the confusion and additional complication.
- 6. See 5.

Thank you for your attention to our adequacy review response.

Sincerely,

Chris Skerik

Chris Skerik Chief Operating Officer Thorin Resources cskerik@thorinresources.com

This Page is Intentionally Left Blank

Attachment A – Ground Water Monitoring Well 4A & 4B

	, , , , , , , , , , , , , , , , , , ,						For	• Office Use (July			
Form No.	\ \	NELL CONSTRUCT	ION AND Y	IELD ESTIMA								
GWS-31	4242	State of Colora	do, Office	of the State		25.04						
02/2024	1313	Snerman St., Rooi	m 818, Dei	nver, CO 8020	J3 3U3.866.	3581						
02/2024		<u>awr.colorado.gov</u>	and <u>dwrpe</u>	irmitsontine@	state.co.us							
1. Well Permit	t Number:		Receipt	Number:								
2. Owner's We	ell Designation:											
3. Well Owner	Name:											
4. Well Location	on Street Address	•										
5. 5g 6i]`h GPS	S Well Location ff	Yei]fYXŁ: 🗌 Zone	12 🗌 Zo	ne 13 Easting	g:	Northing:	-					
6. Legal Well I	Location: 1	/4,1/4, Se	ю., <u> </u>	_ Twp,	N or S _	, Range	<u> </u>	r W,	P.M.			
County:					Lot	Block	Fil	ing (Unit)				
					—, LOI ——	_, DIOCK	, 110	ing (01111)				
7. Ground Sur	face Elevation:	feet	Date Com	ipleted:		Drilling Meth	nod:					
8. Completed	Aquifer Name :		<u> </u>	otal Depth:	t	feet Dep	oth Completed	l:	_ feet			
9. Advance No	otification: Was N	otification Require	ed Prior to	Construction	? Yes	No, Date N	otification Giv	en:				
10. Aquifer Ty	/pe:Type I	One Confining Lay	er)	Туре I (<i>I</i>	Multiple Con	fining Layers)	Laramie	Fox Hills				
(Check on	e) 🗌 Type II	(Not overlain by T	ype III)	Type II(Overlain by	Type III)	Type III	alluvial/coll	uvial)			
11. Geologic	Log:	·		- <u>-</u>	12. Hole D	iameter (in.)	Fror	n (ft)	To (ft)			
Depth	Туре	Grain Size	Color	Water Loc.								
				1	13. Plain C	asing						
				1	OD (in)	Kind	Wall Size (in)	From (ft)	To (ft)			
				1	1							
		<u>├</u>		+								
		<u>├</u>		+								
		<u>├</u>		+	· · · · · · · · · · · · · · · · · · ·							
		┼───┼─		+	Perforat	od Casing Cor	Clat Siza (·				
		├		+		Kind N	een slot size ((IN): From (ft)	To (ft)			
		├─── ├─		┿		KIIIU	Wall Size (iii)		10 (10)			
		├ ───┼─		_	l							
		├ ───┼─		┦────								
												
		\vdash				-						
					14. Filter H	Pack:	15. Pack	er Placeme	nt:			
					Material		Туре		-			
					Size							
					Interval		Depth					
					16. Groutir	ng Record						
				1	Material	Amount	Density	Interval	Method			
Remarks:		<u> </u>			1		-					
					<u> </u>							
17 Disinfecti	on. Type				L	ъ.д.						
19 Woll Vield	Estimato Data:		Check h	ov if Test Dat	Ant. 030	ru ad an Form Nu	mbor GWS-39	Wall Vield	Fact Papart			
	Estimate Mathad	L		UX II TEST Dat	d 15 Submice				lest report			
Well Tielu	Estimate Methou.								·			
Static Leve	el:		Estin	nated Yield (g	gpm)		Dry Hole, I	Keep Permit	Active			
Date/Time	measured:		Estin	nate Length (hrs)		Dry Hole, I	Mark "Well Co	onstructed"			
Remarks:												
19. I have read t	he statements made	herein and know the d	contents the	ereof, and they a	are true to my	knowledge. Thi	is document is sig	gned (or name	entered if			
filing online) and	certified in accordan	ce with Rule 17.4 of t	he Water W	ell Construction	Rules, 2 CCR	402 2. The filing	g of a document	that contains f	alse			
statements is a vi	iolation of section 37	91 108(1)(e), C.R.S.,	and is punis	hable by fines u	ıp to \$1,000 ar	nd/or revocation	of the contraction	ng license. If f	iling online			
the State Enginee	er considers the entry	of the licensed contra	actor's name	e to be complia	nce with Rule	17.4.						
Company Name	2:	En	nail:			Phone w/are	a code:	License Nu	imber:			
company name												
Mailing Address		I										
	S											
Sign (or enter i	name if filing onlin	ie)	Print Nam	he and litle				Date:				
Chris S	Skrik											
_												

INSTRUCTIONS FOR WELL CONSTRUCTION AND YIELD ESTIMATE REPORT

This report must be computer generated online, typed or printed in <u>BLACK OR BLUE INK</u> and may be reproduced by photocopy or computer generation. Photocopy reproductions must retain margins and print quality. Attach additional sheets if more space is required. Each additional sheet must be identified at the top by the well owner's name, the permit number, form name/number and a sequential page number. Report depths in feet below ground surface. If filing online please see the <u>Form Submittal, Payment Options, & Fee Schedule</u>. You may also save, print and email the completed form to: dwrpermitsonline@state.co.us

The form must be submitted to the State Engineer's Office within 60 days after completing the well or 7 days after the permit expiration date, whichever is earlier. A copy of the form must be provided to the well owner.

Item Instructions: (numbers correspond with those on the front of this form)

- 1. Complete the well permit and receipt number.
- 2. Provide the identification (owner's well designation) for the well.
- 3. Fill in well owner name.
- 4. Provide the street address where the well is located.
- 5. Provide the GPS location where the well was drilled (required field).

Colorado contains two (2) UTM zones. Zone 13 covers most of Colorado. The boundary between Zone 12 and Zone 13 is the 108th Meridian (longitude). West of the 108th Meridian is UTM Zone 12 and east of the 108th Meridian is UTM Zone 13. The 108th Meridian is approximately 57 miles east of the Colorado-Utah state line. On most GPS units, the UTM zone is given as part of the Easting measurement, e.g. 12T0123456. Check the appropriate box for the zone.

- 6. Complete the legal description location of the well and county. For wells located in subdivisions, the name, lot, block, and filing, must be provided.
- 7. Report the ground surface elevation in feet above sea level if available. This value may be obtained from a topographic map. Provide the date the well was completed and describe the drilling method used to construct the well.
- 8. Indicate the aquifer in which the well was completed, the total depth drilled, and the actual completed depth of the well.
- 9. Indicate whether or not the well inspection team was required to be notified prior to construction. If required, provide the date notification was given. See https://dwr.colorado.gov/services/well-construction-inspection for more information on Notifications.
- 10. Check the box indicating the type aquifer in which the well is completed (See Rule 5.2.2 Well Construction Rules).
- Fully describe the materials encountered in drilling. Do not use formation names unless they are in conjunction with a description of materials. Examples of descriptive terms include: Type - sandstone, sand, etc.

Grain size - Boulders, gravel, sand, silt, clay, etc.

Color - Denote for all materials, most critical in sedimentary rock

Water Location - Depth where water is encountered (if it can be determined)

- 12. Provide the diameters of the drilled borehole.
- 13. The outside diameter, type, wall thickness, and interval of plain and perforated casing lengths must be indicated. For perforated casing, the screen size must be indicated.
- 14. Indicate the material and size of filter pack (e.g. sand, gravel, etc.) and the interval where placed.
- 15. Indicate the type and setting depth for any packers installed.
- 16. The material, amount, and interval of the grout slurry must be reported. Density may be indicated as pounds per gallon, gallons of water per sack, total gallons of water used, or number of sacks used, etc. Specify the grout placement method, i.e. tremie pipe or positive placement. The percentage of additives mixed with the grout should be reported under remarks.
- 17. Record the type and the amount of disinfection used, how placed, and the length of time left in the hole.
- 18. Report Well Yield Estimate data as required by Rule 17.1.1. Spaces are provided to report all estimates made during the assessment. The report should show that the estimate complied with the provisions of the rules. If available, report clock time when measurements were taken. If an estimate was not performed, explain when it will be done. A full Well Yield Test may be performed instead of an estimate; if so, check the appropriate box and submit the data on form GWS-39. If this is to report the construction of a dry hole, check the appropriate box regarding the permit status.
- 19. Fill in Company Name, Email, and Address and License Number (or PE/PG) of the Individual who is responsible for the well construction. The licensed contractor or authorized individual responsible for the construction of the well must sign or if filing online, enter his/her name on the report. If filing online the State Engineer considers the entering of the licensed contractors name on the form to be a certification of accuracy and truthfulness in compliance with Rule 17.4 of the Water Well Construction Rules and Regulations, 2 CCR 402-2.

Rule 17.4 Certification - Work reports must be signed and certified as to accuracy and truthfulness of the information on the report by the well construction or pump installation contractors or authorized individuals responsible for the work performed by them or under their direction or supervision, or by the private driller or private pump installer if the work was performed by them. Such reports are deemed to be completed, signed and certified under oath.

Submit completed report to: State of Colorado, Office of the State Engineer, 1313 Sherman St, Room 818, Denver, CO 80203. You may also save, print, scan and email the completed form to <u>dwrpermitsonline@state.co.us</u>

IF YOU HAVE ANY QUESTIONS regarding any item on this form, please call the Division of Water Resources Ground Water Information Desk (303-866-3587), or the nearest Division of Water Resources Field Office located in Greeley (970-352-8712), Pueblo (719-542-3368), Alamosa (719-589-6683), Montrose (970-249-6622), Glenwood Springs (970-945-5665), Steamboat Springs (970-879-0272), or Durango (970-247-1845), or refer to our web site at <u>dwr.colorado.gov</u> for general information, forms, online filing instructions and access to state rules and statutes.



Form No. GWS-31	WELL CONSTRUCTION AND YIELD ESTIMATE REPORT State of Colorado, Office of the State Engineer 1313 Sherman St., Room 818, Denver, CO 80203 303.866.3581							For Office Use Only				
02/2024	<u></u>	<u>dwr.colorado.gov</u>	and <u>dwrpe</u>	ermitsonline@	state.co.us							
1. Well Permit	Number:		Receipt	Number:								
2. Owner's We	Il Designation:						_					
3. Well Owner	Name:											
4. Well Locatio	on Street Address		·~									
5. 5g6i]`hGPS	Well Location IT	Yei]fYXL: Zone	12 <u>Zo</u>	ne 13 Easting	g:	Northing:		· •				
6. Legal Well L	.ocation: 1/	′4,1/4, Se	<u></u>	_ Twp,	N or S	, Range	,t	or W,	P.M.			
County: Subdivision:					, Lot	_, Block	,	Filing (Unit)				
7. Ground Sur	face Elevation:	feet	Date Com	npleted:		Drilling Meth	hod:					
8. Completed	Aquifer Name:		ت_ <u></u> 1	Total Depth:	f	eet Dep	oth Comple	ted:	feet			
9. Advance No	tification: Was No	otification Require	ed Prior to	Construction	Yes	No, Date N	lotification	Given:				
10. Aquifer Ty	′ pe: Type I (One Confining Lay	er)	Type I (/	Nultiple Con	fining Layers)	Laram	nie-Fox Hills				
(Check one	e) 🔄 Type II	(Not overlain by 1	ype III)	Туре II (Overlain by	Type III)	Туре	III (alluvial/col	luvial)			
11. Geologic I	_og:	·			12. Hole D	iameter (in.)	F	from (ft)	To (ft)			
Depth	Туре	Grain Size	Color	Water Loc.								
		L										
		└────┤─		<u> </u>		<u> </u>			<u>. </u>			
		└─── ↓		<u> </u>	13. Plain Ca	asing		(6)	T_{a} (ft)			
	ļ!	ļ		_	OD (in)	Kind	Wall Size (11	n) From (ft)	10 (11)			
		↓		_								
l	ļ!	ļ		_								
┇─────┤	ļ!	┞────┼─		_								
l		↓		_								
		ļ		_	Perforate	ed Casing Scr	reen Slot Siz	ze (in):	- -			
					OD (in)	Kind	Wall Size (ii	n) From (ft)	10 (ft)			
		L										
		ļ		<u> </u>								
							•					
					14. Filter P	ack:	15. Pa	acker Placeme	nt:			
					Material		Туре		_			
					Size							
				T	Interval		Dept	h				
				Τ	16. Groutin	ng Record						
					Material	Amount	Density	Interval	Method			
Remarks:												
17. Disinfection	on: Type				Amt. Use	d						
18. Well Yield	Estimate Data:	[Check b	ox if Test Dat	a is submitte	ed on Form Nu	umber GWS-	39, Well Yield	Test Report			
Well Yield	Estimate Method:											
Static Leve	l:		Estir	nated Yield (§	(pm)		Dry Hol	e, Keep Permit	Active			
Date/Time	measured:		Estir	nate Length (hrs)		Drv Hol	e Mark "Well C	onstructed"			
Remarks:				nace _e			, -	c, main	0.100.0.222			
19 I have read t	he statements made l	herein and know the (contents the	ereof and they ;	are true to my	knowledge. Th	is document is	s signed (or name	entered if			
filing online) and	certified in accordance	ce with Rule 17.4 of t	the Water W	ell Construction	Rules, 2 CCR	402 2. The filin	g of a docume	ent that contains	false			
statements is a vi	olation of section 37	91 108(1)(e), C.R.S.,	and is punis	hable by fines u	p to \$1,000 an	d/or revocation	of the contra	cting license. If	filing online			
the State Enginee	r considers the entry	of the licensed contra	actor's nam	e to be complia	nce with Rule '	17.4.		-	-			
Company Name		Fr	nail·			Phone w/are	a code:	l icense N	umher			
Company mane	<i>.</i> .		1411.					Electise in				
Mailing Address		I						ļ				
Mailing Address). 	. X						Detai				
Sign (or enter i	name if filing onum	e)	Print Nan	ne and Title				Date:				
Chris	r Skrik											

INSTRUCTIONS FOR WELL CONSTRUCTION AND YIELD ESTIMATE REPORT

This report must be computer generated online, typed or printed in <u>BLACK OR BLUE INK</u> and may be reproduced by photocopy or computer generation. Photocopy reproductions must retain margins and print quality. Attach additional sheets if more space is required. Each additional sheet must be identified at the top by the well owner's name, the permit number, form name/number and a sequential page number. Report depths in feet below ground surface. If filing online please see the <u>Form Submittal, Payment Options, & Fee Schedule</u>. You may also save, print and email the completed form to: dwrpermitsonline@state.co.us

The form must be submitted to the State Engineer's Office within 60 days after completing the well or 7 days after the permit expiration date, whichever is earlier. A copy of the form must be provided to the well owner.

Item Instructions: (numbers correspond with those on the front of this form)

- 1. Complete the well permit and receipt number.
- 2. Provide the identification (owner's well designation) for the well.
- 3. Fill in well owner name.
- 4. Provide the street address where the well is located.
- 5. Provide the GPS location where the well was drilled (required field).

Colorado contains two (2) UTM zones. Zone 13 covers most of Colorado. The boundary between Zone 12 and Zone 13 is the 108th Meridian (longitude). West of the 108th Meridian is UTM Zone 12 and east of the 108th Meridian is UTM Zone 13. The 108th Meridian is approximately 57 miles east of the Colorado-Utah state line. On most GPS units, the UTM zone is given as part of the Easting measurement, e.g. 12T0123456. Check the appropriate box for the zone.

- 6. Complete the legal description location of the well and county. For wells located in subdivisions, the name, lot, block, and filing, must be provided.
- 7. Report the ground surface elevation in feet above sea level if available. This value may be obtained from a topographic map. Provide the date the well was completed and describe the drilling method used to construct the well.
- 8. Indicate the aquifer in which the well was completed, the total depth drilled, and the actual completed depth of the well.
- 9. Indicate whether or not the well inspection team was required to be notified prior to construction. If required, provide the date notification was given. See https://dwr.colorado.gov/services/well-construction-inspection for more information on Notifications.
- 10. Check the box indicating the type aquifer in which the well is completed (See Rule 5.2.2 Well Construction Rules).
- Fully describe the materials encountered in drilling. Do not use formation names unless they are in conjunction with a description of materials. Examples of descriptive terms include: Type - sandstone, sand, etc.

Grain size - Boulders, gravel, sand, silt, clay, etc.

Color - Denote for all materials, most critical in sedimentary rock

Water Location - Depth where water is encountered (if it can be determined)

- 12. Provide the diameters of the drilled borehole.
- 13. The outside diameter, type, wall thickness, and interval of plain and perforated casing lengths must be indicated. For perforated casing, the screen size must be indicated.
- 14. Indicate the material and size of filter pack (e.g. sand, gravel, etc.) and the interval where placed.
- 15. Indicate the type and setting depth for any packers installed.
- 16. The material, amount, and interval of the grout slurry must be reported. Density may be indicated as pounds per gallon, gallons of water per sack, total gallons of water used, or number of sacks used, etc. Specify the grout placement method, i.e. tremie pipe or positive placement. The percentage of additives mixed with the grout should be reported under remarks.
- 17. Record the type and the amount of disinfection used, how placed, and the length of time left in the hole.
- 18. Report Well Yield Estimate data as required by Rule 17.1.1. Spaces are provided to report all estimates made during the assessment. The report should show that the estimate complied with the provisions of the rules. If available, report clock time when measurements were taken. If an estimate was not performed, explain when it will be done. A full Well Yield Test may be performed instead of an estimate; if so, check the appropriate box and submit the data on form GWS-39. If this is to report the construction of a dry hole, check the appropriate box regarding the permit status.
- 19. Fill in Company Name, Email, and Address and License Number (or PE/PG) of the Individual who is responsible for the well construction. The licensed contractor or authorized individual responsible for the construction of the well must sign or if filing online, enter his/her name on the report. If filing online the State Engineer considers the entering of the licensed contractors name on the form to be a certification of accuracy and truthfulness in compliance with Rule 17.4 of the Water Well Construction Rules and Regulations, 2 CCR 402-2.

Rule 17.4 Certification - Work reports must be signed and certified as to accuracy and truthfulness of the information on the report by the well construction or pump installation contractors or authorized individuals responsible for the work performed by them or under their direction or supervision, or by the private driller or private pump installer if the work was performed by them. Such reports are deemed to be completed, signed and certified under oath.

Submit completed report to: State of Colorado, Office of the State Engineer, 1313 Sherman St, Room 818, Denver, CO 80203. You may also save, print, scan and email the completed form to <u>dwrpermitsonline@state.co.us</u>

IF YOU HAVE ANY QUESTIONS regarding any item on this form, please call the Division of Water Resources Ground Water Information Desk (303-866-3587), or the nearest Division of Water Resources Field Office located in Greeley (970-352-8712), Pueblo (719-542-3368), Alamosa (719-589-6683), Montrose (970-249-6622), Glenwood Springs (970-945-5665), Steamboat Springs (970-879-0272), or Durango (970-247-1845), or refer to our web site at <u>dwr.colorado.gov</u> for general information, forms, online filing instructions and access to state rules and statutes.



Picture: Well 4A (right) and 4B (left) located between Sneffels Creek and Pond #3/Mill Facility



Figure: Notice of Intent to Construct Monitoring Holes - Submission Confirmation

Notice of Intent to Construct Monitoring Holes or Dewatering Wells (also Test Holes Penetrating Through ...





Hello CJ DICKERSON,

Thank you for submitting the Notice of Intent to Construct Monitoring Holes or Dewatering Wells (also Test Holes Penetrating Through a Confining Layer) form. If you would like to view a copy of this submission you can click the link <u>here</u>.

Once we've processed your request, we will email all listed owners and consultants a confirmation of this change. If you have any questions or concerns, please contact us <u>here</u>. Do not reply to this email.

Thank you!

Attachment B - Secondary Containment: Volume & Capacity

Containment Area	Description	Volume (cf)	Capcity (gal)
Ball Mill Containment	Secondary Containment	611	4,567
Ball Mill Containment	Process Holding Capacity	239	1,788
	% Containment		255%
Deister Table 01	Secondary Containment	404	3,022
Deister Table 01	Process Holding Capacity	25	187
	% Containment		1616%
Deister Table 02	Secondary Containment	356	2,663
Deister Table 02	Process Holding Capacity	25	187
	% Containment		1424%
Deister Table 03	Secondary Containment	348	2,603
Deister Table 03	Process Holding Capacity	25	187
	% Containment		1392%
Concentrate Conditioning/Press	Secondary Containment	255	1,908
Concentrate Conditioning/Press	Process Holding Capacity	118	881
	% Containment		216%
Process Water & Tailings Conditioning/Pres	Secondary Containment	1,652	12,359
Process Water & Tailings Conditioning/Pres	Process Holding Capacity	804	6,017
	% Containment		205%

Table 2 – TR17: Total Secondary Containment Capacity

Description	Length (ft)	Width (ft)	Area (ft ²)	Height (ft)	Volume (cf)	Capacity (gal)
Ball Mill Containment	33.0	18.5	610.5	1	611	4,567
Deister Table 01	24.0	16.8	403.9	1	404	3,022
Deister Table 02	24.0	14.8	355.9	1	356	2,663
Deister Table 03	24.0	14.5	348.0	1	348	2,603
Concentrate Conditioning/Press	CAD Ge	nerated	255.0	1	255	1,908
Process Water & Tailings Conditioning/Press	CAD Generated		826.0	2	1,652	12,359
		Total	2,799.3		3,625	27,121

Containment Area	Description	Diameter (ft)	Width (ft)	Length (ft)	Area (ft^2)	Height (ft)	Volume (cf)	Capacity (gal)	
Ball Mill Containment	Ball Mill (40% Media Fill)	5			19.63	8	94.2	705.1	
Ball Mill Containment	Ball Mill - Collection		3	3	9.00	3	27.0	202.0	
Ball Mill Containment	Conditioning Tank 01 - Table Feed	5.0			19.63	6	117.8	881.3	
Deister Table 01	Deister Table 01 - Heavy Collection		1.5	1.5	2.25	2	4.5	33.7	
Deister Table 01	Deister Table 01 - Mids Collection		1.5	1.5	2.25	2	4.5	33.7	
Deister Table 01	Deister Table 01 - Lows Collection		2.0	2.0	4.00	2	8.0	59.8	
Deister Table 01	Deister Table 01 - Tails Collection		2.0	2.0	4.00	2	8.0	59.8	
Deister Table 02	Deister Table 02 - Heavy Collection		1.5	1.5	2.25	2	4.5	33.7	
Deister Table 02	Deister Table 02 - Mids Collection		1.5	1.5	2.25	2	4.5	33.7	
Deister Table 02	Deister Table 02 - Lows Collection		2.0	2.0	4.00	2	8.0	59.8	
Deister Table 02	Deister Table 02 - Tails Collection		2.0	2.0	4.00	2	8.0	59.8	
Deister Table 03	Deister Table 03 - Heavy Collection		1.5	1.5	2.25	2	4.5	33.7	
Deister Table 03	Deister Table 03 - Mids Collection		1.5	1.5	2.25	2	4.5	33.7	
Deister Table 03	Deister Table 03 - Lows Collection		2.0	2.0	4.00	2	8.0	59.8	
Deister Table 03	Deister Table 03 - Tails Collection		2.0	2.0	4.00	2	8.0	59.8	
Concentrate Conditioning/Press	Conditioning Tank 02 - Concentrate	5.0			19.63	6	117.8	881.3	
Process Water & Tailings Conditioning/Press	Conditioning Tank 03 - Tailings	8.0			50.27	8	402.1	3,008.3	
Process Water & Tailings Conditioning/Press	Process Water Tank	8.0			50.27	8	402.1	3,008.3	
Total 205.94 1.236.11 9.24									

Table 3 - TR17: Capacity Build-Up Calculations – Circuit Volume

Attachment C – Updated Tables: Secondary Capacity with Emergency Shut-Down

Table 4: Containment Capacity with Max System & Process flow Scenario - 75 gpm

Containment Area	Description		Volume (cf)	Capcity (gal)
Ball Mill Containment	Secondary Containment		611	4,567
Ball Mill Containment	Process Holding Capacity		239	1,788
	Proc. Capacity + (75 gpm x 2 min)			1,938
	% Coi	ntainment		236%
Deister Table 01	Secondary Containment		404	3,022
Deister Table 01	Process Holding Capacity		25	187
	Proc. Capacity + (75 gpm x 2 min)			337
	% Coi	ntainment		897%
Deister Table 02	Secondary Containment		356	2,663
Deister Table 02	Process Holding Capacity		25	187
	Proc. Capacity + (75 gpm x 2 min)			337
	% Coi	ntainment		<mark>790%</mark>
Deister Table 03	Secondary Containment		348	2,603
Deister Table 03	Process Holding Capacity		25	187
	Proc. Capacity + (75 gpm x 2 min)			337
	% Coi	ntainment		772%
Concentrate Conditioning/Press	Secondary Containment		255	1,908
Concentrate Conditioning/Press	Process Holding Capacity		118	881
	Proc. Capacity + (75 gpm x 2 min)			1,031
	% Coi	ntainment		185%
Process Water & Tailings Conditioning/Pre	Secondary Containment		1,652	12,359
Process Water & Tailings Conditioning/Pre	Process Holding Capacity		804	6,017
	Proc. Capacity + (75 gpm x 2 min)			6,167
	% Coi	ntainment		200%

Containment Area	Description	Volume (cf)	Capcity (gal)
Ball Mill Containment	Secondary Containment	611	4,567
Ball Mill Containment	Process Holding Capacity	239	1,788
	Minutes of Containment at Max Inflow - 75 gpm	min	37.1
Deister Table 01	Secondary Containment	404	3,022
Deister Table 01	Process Holding Capacity	25	187
	Minutes of Containment at Max Inflow - 75 gpm	min	37.8
Deister Table 02	Secondary Containment	356	2,663
Deister Table 02	Process Holding Capacity	25	187
	Minutes of Containment at Max Inflow - 75 gpm	min	14.2
Deister Table 03	Secondary Containment	348	2,603
Deister Table 03	Process Holding Capacity	25	187
	Minutes of Containment at Max Inflow - 75 gpm	min	32.2
Concentrate Conditioning/Press	Secondary Containment	255	1,908
Concentrate Conditioning/Press	Process Holding Capacity	118	881
	Minutes of Containment at Max Inflow - 75 gpm	min	13.7
Process Water & Tailings Conditioning/Pre	Secondary Containment	1,652	12,359
Process Water & Tailings Conditioning/Pre	Process Holding Capacity	804	6,017
	Minutes of Containment at Max Inflow - 75 gpm	min	84.6

Table 5: Total Containment Time/Area - Minutes of Containment at Max Flow Rate

Attachment D – Updated Specs: PVC Liner Material



Ultra-Containment Berm®

GROUND TARP AND TRACK BELT SPECIFICATIONS

	Method	Typical Values
TOTAL WEIGHT	FS 5040 / ASTM D3776	18.5 oz. per sq. yd.
WIDTH		61"
MATERIAL		Polyester Blended PVC
COUNT		18 x 17
DENIER		1000 x 1300
GRAB TENSILE	FS 5100 / ASTM D5034	375 x 375 lbs./in.
TONGUE TEAR	FS5134 / ASTM D2261	100 x 100 lbs.
ADHESION	FS 5970 / ASTM D751	26 lbs./2"
COLD CRACK	FS 5874	-20°F
TREATMENTS		Anti-Mildew. UV Pigments
FINISH		Matte
PUTUP		100 yards
COLOR		Ground Tarp: Black. Track Belts: Black.

Attachment E – Bonding Calculations: AdditionalDetail & Data

Table 6: Labor & Equipment Cost Assumptions – Sourced RS Means

Label	Description - RS Means	unit	cost	Hrly Rate
Laborer	Field Personnel, general Purpose Laborer, Average	\$/week	\$ 1,600.00	\$ 40.00
Front-End Loader	Rent front end loader, 4WD, art. Frame, diesel, 4-4.5 CY 185 HP	\$/day	\$ 787.60	\$ 98.45
Skid Steer	Rent Loader, skid steer, wheeled 1 CY 78 HP, diesel	\$/day	\$ 511.80	\$ 63.98
Equipment Operator	Deconstruction process support equipment, as needed, daily use, backhoe, includes operator	\$/day	\$ 410.00	\$ 51.25

			Personnel & Equipment Required				Unit Cost (\$/hr)							
Structure or Item Description	Dimensions	Reclamation Description	Personnel 1	Nun	Personnel 2	Num	Equipment	Num	Personnel 1	Perso	nnel 2	Equipment	Job Duration (hrs)	<u>Total Cost</u>
Remove Ball Mill Feed Hopper	12'x6'x6' Steel Bin	Demo Steel Bin	Laborer		1				\$ 40.00	\$	-	\$-	3.2	<u>\$ 129.6</u>
Remove Ball Mill Feed Hopper	12'x6'x6' Steel Bin	Dispose of in Mill Portal	Equipment Operator		1		Front-End Loader	1	\$ 51.25	\$	-	\$ 98.45	1.1	\$ 163.4
Remove Ball Mill - Trailer Mounted	8'x24' Trailer	Haul to Certified Salvage Dump	Equipment Operator		1 Laborer	1	Front-End Loader	1	\$ 51.25	\$	40.00	\$ 98.45	4.0	\$ 760.0
Remove Ball Mill Collection Tank	3'x3'x3' Steel Box	Dispose of in Mill Portal	Equipment Operator		1		Skid Steer	1	\$ 51.25	\$	-	\$ 63.98	0.5	\$ 55.1
Remove Conditioning Tank 01 - Table Feed	5' Diameter x 6' High Steel Structure on Steel Beams	Dispose of in Mill Portal	Equipment Operator		1 Laborer	1	Front-End Loader	1	\$ 51.25	\$	40.00	\$ 98.45	1.3	\$ 240.7
Remove Deister Table 01 & Steel Frame	17'x7' Wood Table & 12'x6' Steel Frame	Dispose of in Mill Portal	Equipment Operator		1 Laborer	2	Front-End Loader	1	\$ 51.25	\$	80.00	\$ 98.45	5.3	\$ 1,213.8
Remove Deister Table 01 Heavy Collection Box	1.5'x1.5'x1.5' Steel Box	Dispose of in Mill Portal	Laborer		1				\$ 40.00	\$	-	\$-	0.2	\$ 6.9
Remove Deister Table 01 Mids Collection Box	1.5'x1.5'x1.5' Steel Box	Dispose of in Mill Portal	Laborer		1				\$ 40.00	\$	-	\$-	0.2	\$ 6.9
Remove Deister Table 01 Lows Collection Box	2'x2'x2' Steel Box	Dispose of in Mill Portal	Laborer		1				\$ 40.00	\$	-	\$-	0.4	\$ 16.3
Remove Deister Table 01 Tails Collection Box	2'x2'x2' Steel Box	Dispose of in Mill Portal	Laborer		1				\$ 40.00	\$	-	\$-	0.4	\$ 16.3
Remove Deister Table 02 & Steel Frame	17'x7' Wood Table & 12'x6' Steel Frame	Dispose of in Mill Portal	Equipment Operator		1 Laborer	2	Front-End Loader	1	\$ 51.25	\$	80.00	\$ 98.45	5.3	\$ 1,213.8
Remove Deister Table 02 Heavy Collection Box	1.5'x1.5'x1.5' Steel Box	Dispose of in Mill Portal	Laborer		1				\$ 40.00	\$	-	\$-	0.2	\$ 6.9
Remove Deister Table 02 Mids Collection Box	1.5'x1.5'x1.5' Steel Box	Dispose of in Mill Portal	Laborer		1				\$ 40.00	\$	-	\$-	0.2	\$ 6.9
Remove Deister Table 02 Lows Collection Box	2'x2'x2' Steel Box	Dispose of in Mill Portal	Laborer		1				\$ 40.00	\$	-	\$-	0.4	\$ 16.3
Remove Deister Table 02 Tails Collection Box	2'x2'x2' Steel Box	Dispose of in Mill Portal	Laborer		1				\$ 40.00	\$	-	\$-	0.4	\$ 16.3
Remove Deister Table 03 & Steel Frame	17'x7' Wood Table & 12'x6' Steel Frame	Dispose of in Mill Portal	Equipment Operator		1 Laborer	2	Front-End Loader	1	\$ 51.25	\$	80.00	\$ 98.45	5.3	\$ 1,213.8
Remove Deister Table 03 Heavy Collection Box	1.5'x1.5'x1.5' Steel Box	Dispose of in Mill Portal	Laborer		1				\$ 40.00	\$	-	\$-	0.2	\$ 6.9
Remove Deister Table 03 Mids Collection Box	1.5'x1.5'x1.5' Steel Box	Dispose of in Mill Portal	Laborer		1				\$ 40.00	\$	-	\$-	0.2	\$ 6.9
Remove Deister Table 03 Lows Collection Box	2'x2'x2' Steel Box	Dispose of in Mill Portal	Laborer		1				\$ 40.00	\$	-	\$-	0.4	\$ 16.3
Remove Deister Table 03 Tails Collection Box	2'x2'x2' Steel Box	Dispose of in Mill Portal	Laborer		1				\$ 40.00	\$	-	\$-	0.4	\$ 16.3
Remove Conditioning Tank 02 - Concentrate Conditioning	5' Diameter x 6' High Steel Structure on Steel Beams	Dispose of in Mill Portal	Equipment Operator		1		Front-End Loader	1	\$ 51.25	\$	-	\$ 98.45	1.6	\$ 240.7
Remove Concentrate Dewatering Press	14'x3.5' Steel Structure on Steel Beams	Dispose of in Mill Portal	Equipment Operator		1 Laborer	2	Front-End Loader	1	\$ 51.25	\$	80.00	\$ 98.45	3.5	\$ 799.7
Remove Conditioning Tank 03 - Tailings Conditioning	8' Diameter x 8' High Steel Structure on Steel Beams	Dispose of in Mill Portal	Equipment Operator		1 Laborer	1	Front-End Loader	1	\$ 51.25	\$	40.00	\$ 98.45	4.3	\$ 820.1
Remove Tailings Dewatering Press	14'x3.5' Steel Structure on Steel Beams	Dispose of in Mill Portal	Equipment Operator		1 Laborer	2	Front-End Loader	1	\$ 51.25	\$	80.00	\$ 98.45	3.5	\$ 799.7
Remove Process Water Tank	8' Diameter x 8' High HDPE Structure on Steel Beams	Dispose of in Mill Portal	Equipment Operator		1		Front-End Loader	1	\$ 51.25	\$	-	\$ 98.45	5.5	\$ 820.1
Remove Ball Mill Containment	33'x18' x 5 mil HDPE Containment	Dispose of in Mill Portal	Equipment Operator		1 Laborer	1	Front-End Loader	1	\$ 51.25	\$	40.00	\$ 98.45	1.2	\$ 229.5
Remove Deister Table 01 Containment	24'x17' x 5 mil HDPE Containment	Dispose of in Mill Portal	Equipment Operator		1 Laborer	1	Front-End Loader	1	\$ 51.25	\$	40.00	\$ 98.45	0.7	\$ 138.7
Remove Deister Table 02 Containment	24'x15' x 5 mil HDPE Containment	Dispose of in Mill Portal	Equipment Operator		1 Laborer	1	Front-End Loader	1	\$ 51.25	\$	40.00	\$ 98.45	0.6	\$ 122.4
Remove Deister Table 03 Containment	24'x15 x 5 mil HDPE Containment	Dispose of in Mill Portal	Equipment Operator		1 Laborer	1	Front-End Loader	1	\$ 51.25	\$	40.00	\$ 98.45	0.6	\$ 122.4
Remove Concentrate Conditioning/Press Containment	20'x8' x 5 mil HDPE Containment	Dispose of in Mill Portal	Equipment Operator		1 Laborer	1	Front-End Loader	1	\$ 51.25	\$	40.00	\$ 98.45	0.9	\$ 163.2
Remove Process Water & Tailings Conditioning/Press Containment	18'x40' x 5 mil HDPE Containment	Dispose of in Mill Portal	Equipment Operator		1 Laborer	2	Front-End Loader	1	\$ 51.25	\$	80.00	\$ 98.45	4.0	\$ 918.0
											Tota	al	55.9	\$ 10,304

Table 8: Additional Detail for Reclamation Bond – Labor &	& Equipment	Hours &	Cost Break-O	ut
---	-------------	---------	--------------	----

	Personnel & Equipment Required								Γ	Personnel & Equipment - Hours					Personnel & Equipment - Cost						
Structure or Item Description	Personnel 1	Num	Personnel 2	Num	Equipment	Num	Job Duration (hrs)	To	otal Cost	Laborer	Equipment Operator	Front-End Loader	Skid Steer	Lab	orer	Equipme Operate	nt Fr r I	ont-End ₋oader	Skid S	Steer	Total Cost Sum Check
Remove Ball Mill Feed Hopper	Laborer	1					3.2	\$	129.6	3.2	-	-	-	\$ ·	29.6	\$. \$	-	\$	-	TRUE
Remove Ball Mill Feed Hopper	Equipment Operator	1			Front-End Loader		1 1.1	\$	163.4	-	1.1	1.1	-	\$	-	\$ 55	9 \$	107.4	\$	-	TRUE
Remove Ball Mill - Trailer Mounted	Equipment Operator	1	Laborer	1	Front-End Loader		1 4.0	\$	760.0	4.0	4.0	4.0	-	\$	60.3	\$ 205	3 \$	394.4	\$	-	TRUE
Remove Ball Mill Collection Tank	Equipment Operator	1			Skid Steer		0.5	\$	55.1	-	0.5	-	0.5	\$	-	\$ 24	5\$	-	\$	30.6	TRUE
Remove Conditioning Tank 01 - Table Feed	Equipment Operator	1	Laborer	1	Front-End Loader		1 1.3	\$	240.7	1.3	1.3	1.3	-	\$	50.8	\$ 65	0 \$	124.9	\$	-	TRUE
Remove Deister Table 01 & Steel Frame	Equipment Operator	1	Laborer	2	Front-End Loader		1 5.3	\$	1,213.8	10.6	5.3	5.3	-	\$ 4	22.7	\$ 270	8 \$	520.2	\$	-	TRUE
Remove Deister Table 01 Heavy Collection Box	Laborer	1					0.2	\$	6.9	0.2	-	-	-	\$	6.9	\$	\$	-	\$	-	TRUE
Remove Deister Table 01 Mids Collection Box	Laborer	1					0.2	\$	6.9	0.2	-	-	-	\$	6.9	\$	\$	-	\$	-	TRUE
Remove Deister Table 01 Lows Collection Box	Laborer	1					0.4	\$	16.3	0.4	-	-	-	\$	16.3	\$	\$	-	\$	-	TRUE
Remove Deister Table 01 Tails Collection Box	Laborer	1					0.4	\$	16.3	0.4	-	-	-	\$	16.3	\$	\$	-	\$	-	TRUE
Remove Deister Table 02 & Steel Frame	Equipment Operator	1	Laborer	2	Front-End Loader		1 5.3	\$	1,213.8	10.6	5.3	5.3	-	\$ 4	22.7	\$ 270	8 \$	520.2	\$	-	TRUE
Remove Deister Table 02 Heavy Collection Box	Laborer	1					0.2	\$	6.9	0.2	-	-	-	\$	6.9	\$. \$	-	\$	-	TRUE
Remove Deister Table 02 Mids Collection Box	Laborer	1					0.2	\$	6.9	0.2	-	-	-	\$	6.9	\$. \$	-	\$	-	TRUE
Remove Deister Table 02 Lows Collection Box	Laborer	1					0.4	\$	16.3	0.4	-	-	-	\$	16.3	\$. \$	-	\$	-	TRUE
Remove Deister Table 02 Tails Collection Box	Laborer	1					0.4	\$	16.3	0.4	-	-	-	\$	16.3	\$. \$	-	\$	-	TRUE
Remove Deister Table 03 & Steel Frame	Equipment Operator	1	Laborer	2	Front-End Loader		1 5.3	\$	1,213.8	10.6	5.3	5.3	-	\$ 4	22.7	\$ 270	8 \$	520.2	\$	-	TRUE
Remove Deister Table 03 Heavy Collection Box	Laborer	1					0.2	\$	6.9	0.2	-	-	-	\$	6.9	\$. \$	-	\$	-	TRUE
Remove Deister Table 03 Mids Collection Box	Laborer	1					0.2	\$	6.9	0.2	-	-	-	\$	6.9	\$. \$	-	\$	-	TRUE
Remove Deister Table 03 Lows Collection Box	Laborer	1					0.4	\$	16.3	0.4	-	-	-	\$	16.3	\$. \$	-	\$	-	TRUE
Remove Deister Table 03 Tails Collection Box	Laborer	1					0.4	\$	16.3	0.4	-	-	-	\$	16.3	\$	• \$	-	\$	-	TRUE
Remove Conditioning Tank 02 - Concentrate Conditioning	Equipment Operator	1			Front-End Loader		1 1.6	\$	240.7	-	1.6	1.6	-	\$	-	\$ 82	4 \$	158.3	\$	-	TRUE
Remove Concentrate Dewatering Press	Equipment Operator	1	Laborer	2	Front-End Loader		3.5	\$	799.7	7.0	3.5	3.5	-	\$ 2	278.5	\$ 178	4 \$	342.7	\$	-	TRUE
Remove Conditioning Tank 03 - Tailings Conditioning	Equipment Operator	1	Laborer	1	Front-End Loader		4.3	\$	820.1	4.3	4.3	4.3	-	\$	72.9	\$ 221	6 \$	425.6	\$	-	TRUE
Remove Tailings Dewatering Press	Equipment Operator	1	Laborer	2	Front-End Loader		3.5	\$	799.7	7.0	3.5	3.5	-	\$ 2	278.5	\$ 178	4 \$	342.7	\$	-	TRUE
Remove Process Water Tank	Equipment Operator	1			Front-End Loader		1 5.5	\$	820.1	-	5.5	5.5	-	\$	-	\$ 280	8 \$	539.3	\$	-	TRUE
Remove Ball Mill Containment	Equipment Operator	1	Laborer	1	Front-End Loader		1 1.2	\$	229.5	1.2	1.2	1.2	-	\$	48.4	\$ 62	0\$	119.1	\$	-	TRUE
Remove Deister Table 01 Containment	Equipment Operator	1	Laborer	1	Front-End Loader		0.7	\$	138.7	0.7	0.7	0.7	-	\$	29.3	\$ 37	5\$	72.0	\$	-	TRUE
Remove Deister Table 02 Containment	Equipment Operator	1	Laborer	1	Front-End Loader		0.6	\$	122.4	0.6	0.6	0.6	-	\$	25.8	\$ 33	1 \$	63.5	\$	-	TRUE
Remove Deister Table 03 Containment	Equipment Operator	1	Laborer	1	Front-End Loader		0.6	\$	122.4	0.6	0.6	0.6	-	\$	25.8	\$ 33	1 \$	63.5	\$	-	TRUE
Remove Concentrate Conditioning/Press Containment	Equipment Operator	1	Laborer	1	Front-End Loader		0.9	\$	163.2	0.9	0.9	0.9	-	\$	34.4	\$ 44	1 \$	84.7	\$	-	TRUE
Remove Process Water & Tailings Conditioning/Press Containment	Equipment Operator	1	Laborer	2	Front-End Loader		4.0	\$	918.0	8.0	4.0	4.0	-	\$ 3	319.7	\$ 204	8 \$	393.5	\$	-	TRUE
							55.9	\$	10,304	74	49	49	0	\$ 2	2,961	\$ 2,5	9 \$	4,793	\$	31	TRUE