COLORADO
Division of Reclamation, Mining and Safety
Department of Natural Resources

1313 Sherman Street, Room 215
Denver, CO 80203

March 9, 2017

Mr. Clint L. Fletcher
Ouray Silver Mines Inc.
P.O. Box 564
Ouray, CO 81427

Re: Revenue Mine, Permit No.M-2012-032, Second Adequacy Review of Technical Revision No. 9 application, TR-9.

Dear Mr. Fletcher,
The Division of Reclamation, Mining and Safety (DRMS) has reviewed the application for a technical revision to the above referenced 112d(1) permit. The technical revision proposes building upgrades and expansions that will facilitate winter operations, mill water treatment and discharge, updates water quality monitoring and proposes to allow the sale of a waste rock / tailings blend for road aggregate use. A review of the application has revealed a few clarifications required to process the technical revision:

1) Page 6 of 14 states that once mill improvements are complete and operational OSMI will sample various mill tailings and waste rock blends to determine what blend is most desirable while remaining inert. Please commit to providing the DRMS with SPLP test results and the proposed composition of the waste rock and mill tailing blend a minimum of 30 days prior to any material being sold for off-site use. Furthermore variances in tailing composition may occur over time, how often will the tailings be tested to insure the material remains inert?

   - Please commit to disclosing the SPLP results to the DRMS a minimum of 30 days prior to selling the material.

2) Please specify in greater detail the proposed water treatment for the mill discharge from the lead and zinc thickeners. What type(s) of treatment will actually be implemented? What equipment will need to be constructed / built to carry out this treatment? Is the proposed treatment able to treat mill discharge to meet the requirements of Colorado Department of Public Health and Environment Regulation No. 41 Standards for Ground Water? In order to approve this technical revision this information must be provided.

   - The DRMS will require submittal of a separate Technical Revision once a proven final treatment system has been designed.

3) Please provide a reclamation cost estimate for the demolition and disposal of all mine related structures existing and proposed.

   - Please see enclosed Table L-1 submitted and approved in Amendment 1 (AM-01). The user provided data states that the cost to demolish all components of the thickener is $23,000.00. If this is inaccurate please provide a minimum of three quotes from contractors that include the cost to disassembly, demolition, hauling and disposal of the thickener and all associated

foundations and piping. Also please see enclosed updated Reclamation Cost estimate which includes the demolition increases associated with TR-09.

The technical revision cannot be approved until the issues are adequately addressed. Please submit a response to the issues as soon as possible but no later than March 9, 2017, so the decision date of March 9, 2017 can be met. If your response, or a written request for an extension of the decision date, is not received by March 9, 2017 the request for the revision may be denied.

If you need additional information, please contact me at the Division of Reclamation, Mining and Safety, Grand Junction Field Office, 101 S. 3rd St., Suite 301, Grand Junction, Colorado 81501, telephone no. 970.241.2042.

Sincerely,

Travis Marshall
Environmental Protection Specialist

Enclosure(s) - Table L-1 from AM-01 and updated Reclamation Cost Estimate

ec: Brianna Greer, OSMI
Russ Means, DRMS
Lucas West, DRMS

Table L-1 – Revenue Portal Cost Summary

Task #	Description	Quantity	Unit	Unit Cost	Cost	Time Needed (Months)	Time Needed (Years)
1	Grade all disturbed areas steeper than 3H:1V. Leave all three sediment ponds until reclamation is satisfory then remove them.	47,000	CY	$ 0.65	$ 30,550	6.0	0.50
2	Topsoil of regraded waste pile areas and all other ranglenad areas to a depth of 6 inches. This is a volume of 23,780 cy. Since there is 3045 cy available on site, the remaining 10,200 cy of topsoil will be imported.	3,045	CY	$ 1.40	$ 4,263	3.0	0.25
		10,200	CY	$ 15.00	$ 153,000		
3	Seed all topsoiled areas with high altitude seed mix from reclamation plan.	16.42	acres	$ 780	$ 12,808	1.0	0.08
4	Mulch all seeded areas at 2000 lbs/acre	16.42	acres	$ 250	$ 4,105	1.0	0.08
5	Reinforce gates at underground storage portals, and mill portal. (3 portals)				$ 4,500	2.5	0.21
6	Reinforce gate at Revenue Mine portal				$ 3,000	0.5	0.04
7	Weed Control				$ 1,200	0.2	0.02
8	Structure Removal (See Table L-2)				$ 46,700	1.0	0.08
9	Half-Culvert Removal				$ 7,840	0.1	0.01
10	Mobilization				$ 13,000		
	Subtotal Direct Costs				$ 280,966		
	DRMS Overhead 28%				$ 78,670		
	Total Bond Estimate				**$ 359,636**	**15.3**	**1.28**

Table L-2: Building Inventory and Cost Summary of Building Removal

#	Structure	Construction	Foundation	Permanent	Post Mine Use	Reclamation Cost
1	Office/Dry Building	2 story	6" concrete slab/w rebar	Yes but remove certain inside items	Storage	$ 2400
2	Filter Building	2 story 6" concrete walls	12" concrete slab/ w rebar	Yes but remove inside equipment	Storage	$ 4000
3	500 gal Water Tanks (4)	Plastic 500 gallon tanks	None	No	None	$ 600
4	Snow Shed/Battery Charger Bldg	45' x 120' with track with metal siding	6" slab concrete	Yes but remove inside equipment	Storage	$ 1400
5	Crusher Retaining Wall	28 ft long x 16 ft high	Wood beams and steel beams	No	None	$ 4000
6	Septic Tank/Septic Field			Yes	None	$ 0
7	Access Road Retaining Wall	100 ft long gabions	None	Yes	Site Access	$ 0
8	Miscellaneous Surface Cleanup	Various materials on site	None	No	None	$ 3500
9	8000 gal diesel tank	Steel tank on skids	None	No	None	$ 500
10	Propane Tanks		None	No	None	$ 300

COST SUMMARY WORK

Task description: **Final Reclamation Cost Estimate: TR-09**

Site: **Revenue Mine** Permit Action: TR-09 Permit/Job#: M2012032

PROJECT IDENTIFICATION

Task #: 001 State: Colorado Abbreviation: None
Date: 3/9/2017 County: Ouray Filename: M032-001
User: THM

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
01a	Demolish and dispose of buildings and debris	DEMOLISH	1	120.00	$104,991.32
02a	Dispose of mill chemicals	DEMOLISH	1	10.00	$15,926.61
03a	Grade slopes to 3:1 max and fill sed. ponds 2-3	DOZER	1	183.01	$42,031.00
04a	Improve permanent portal closures	MINESEAL	1	30.00	$4,526.76
05a	Purchase, deliver and dump topsoil from permitted source	NA	1	250.00	$153,000.00
06a	Spread topsoil	DOZER	1	19.66	$4,515.00
07a	Revegetate disturbed area	REVEGE	1	40.00	$25,437.00
08a	Haul reclamation equipment to and from site	MOBILIZE	1	7.14	$4,780.00
		SUBTOTALS:		**659.81**	**$355,208**

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance:	2.02	Total =	$7,175.20
Performance bond:	1.05	Total =	$3,729.68
Job superintendent:	329.91	Total =	$24,099.56
Profit:	10.00	Total =	$35,520.80
		TOTAL O & P =	$70,525.24
		CONTRACT AMOUNT (direct + O & P) =	$425,733.24

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs):	500.00	Total =	500.00
Engineering work and/or contract/bid preparation:	4.25	Total =	$18,093.66
Reclamation management and/or administration:	5.00		$21,286.66
CONTINGENCY:	3.00	Total =	$10,656.24
		TOTAL INDIRECT COST =	$121,061.80
		TOTAL BOND AMOUNT (direct + indirect) =	**$476,269.80**

DEMOLITION WORK

Task description: **Demolish and dispose of buildings and debris**

Site: **Revenue Mine** Permit Action: TR-09 Permit/Job#: M2012032

PROJECT IDENTIFICATION

Task #: 01A State: Colorado Abbreviation: None
Date: 3/9/2017 County: Ouray Filename: TR09
User: THM

Agency or organization name: DRMS

UNIT COSTS

Location adjustment: 94.70 %

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Remove track	400 LF	Railroad track - Ties and track	400.00	LF	$9.32	$3,728.00
Remove diesel tank	10,000 gal total	Haul tank to certified salvage dump - 3,000 to 5,000 gal. tank	2.00	EA	$760.00	$1,520.00
Remove tailings conveyor	50 x 10	Conveyor, overland, including supports - 5 ft. W x 6 ft. H housing	50.00	LF	$17.60	$880.00
Remove crusher retaining wall	28' x 16'	USER PROVIDED ITEM	1.00	EA	$4,000.00	$4,000.00
Office/Dry Building	2 story	USER PROVIDED ITEM	1.00	EA	$3,600.00	$3,600.00
Filter Building	2 story	USER PROVIDED ITEM	1.00	EA	$8,000.00	$8,000.00
Snow shed/battery charger bldg.	45' x 120'	USER PROVIDED ITEM	1.00	EA	$1,400.00	$1,400.00
Portal cover structure - permanent	80 x 20 x 15	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 50 ft. push	24,000.00	CF	$0.17	$4,176.00
Storage bldg (quonset, empty)	145 x 50 x 20	Loading and 5 mile haul, salvage allowed - Steel frame structures	1,000.00	CY	$10.71	$10,710.00
Misc debris - hauling	150 cy	Hauling only, per mile, 12-18 CY truck - 30 mph average speed	390.00	MI	$7.89	$3,077.10
Misc debris - disposal	150 cy	Dump fees - Building construction materials.	150.00	CY	$11.10	$1,665.00
Propane Tanks	2 tanks	USER PROVIDED ITEM	2.00	EA	$750.00	$1,500.00
Remove Thickner, Foundation and Piping	26' x 8'	USER PROVIDED ITEM	1,692.00	SF	$13.60	$23,011.20
Remove 3 Shaft superstructures and foundations	16' x 12' x 12'	USER PROVIDED ITEM	3.00	EA	$14,333.33	$42,999.99
Remove 4 water tanks	500 gal	USER PROVIDED ITEM	4.00	EA	$150.00	$600.00

Job Hours: 120.00 **Subtotal (unadjusted):** $110,867.29 **Total Cost (adjusted for location):** $104,991.32

DEMOLITION WORK

Task description: **Dispose of mill chemicals**

Site: **Revenue Mine** Permit Action: TR-09 Permit/Job#: M2012032

PROJECT IDENTIFICATION

Task #: 02A State: Colorado Abbreviation: None
Date: 3/9/2017 County: Ouray Filename: TR09
User: THM

Agency or organization name: DRMS

UNIT COSTS

Location adjustment: 94.70 %

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Mill item (1)	Drum/liq. qty.	Hazardous waste removal - Bulk solids, large quantities (over 1.5 tons)	4.00	TON	$1,810.74	$7,242.96
Mill item (2)	Container/dry qty.	Hazardous waste removal - Bulk liquids, large quantities (over 2,500 gal.)	1,000.00	GAL	$2.05	$2,050.00
Mill item (3)	Transporation	Solid transport, large truck (max. 80 drums, 25 cy, or 18 tons) - Minimum	500.00	MI	$3.95	$1,975.00
Mill item (4)	Disposal	Dumpsite disposal charge - Average	20.00	TON	$277.50	$5,550.00

Job Hours: **10.00** **Subtotal (unadjusted):** **$16,817.96** **Total Cost (adjusted for location):** **$15,926.61**

BULLDOZER WORK

Task description: **Grade slopes to 3:1 max and fill sed ponds 2-3**

Site: **Revenue Mine** Permit Action: TR-09 Permit/Job#: M2012032

PROJECT IDENTIFICATION

Task #: 03A State: Colorado Abbreviation: None
Date: 3/9/2017 County: Ouray Filename: TR09
User: THM

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D9T - 9SU
Horsepower: 405
Blade Type: Semi-Universal
Attachment: NA
Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	$100.59	NA
Operating Cost/Hour:	$87.23	100
Ripper own. Cost/Hour:	$0.00	NA
Ripper op. Cost/Hour:	$0.00	0
Operator Cost/Hour:	$41.85	NA

Total unit Cost/Hour: $229.67
Total Fleet Cost/Hour: **$229.67**

MATERIAL QUANTITIES

Initial Volume: 47,000
Swell factor: 1.000
Loose volume: **47,000** LCY

Source of estimated volume: Division of Reclamation, Mining & Safety
Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Average push distance: 90 feet
Unadjusted hourly production: 1,351.7 LCY/hr

Materials consistency description: Rock, well ripped or blasted 0.8

Average push gradient: 0 %
Average site altitude: 10,650 feet

Material weight: 2,900 lbs/LCY

Weight description: Decomposed rock - 50% Rock, 50% Earth

Job Condition Correction Factor		Source
Operator Skill:	0.750	(AVG.)
Material consistency:	0.800	(CAT HB)
Dozing method:	1.000	(GEN.)
Visibility:	0.800	(POOR)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.2527

Adjusted unit production: 341.57 LCY/hr
Adjusted fleet production: **341.57** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: $0.672/LCY

Total job time: **137.60** Hours
Total job cost: **$31,602**

SAFEGUARDING UNDERGROUND OPENINGS

Task description: **Improve permanent portal closures**

Site: **Revenue Mine** Permit Action: TR-09 Permit/Job#: M2012032

PROJECT IDENTIFICATION

Task #: 04A State: Colorado Abbreviation: None
Date: 3/9/2017 County: Ouray Filename: TR09
User: THM

Agency or organization name: DRMS

UNIT COSTS

Opening Description	Dimensions	Closure Method	Quantity	Unit	Unit Cost	Total Cost
Revenue main portal - existing bat grate	12 x 12	USER PROVIDED ITEM	1.00	EA	$0.00	$0.00
Close mill portal - strengthen door	35 x 35	USER PROVIDED ITEM	1.00	EA	$1,500.00	$1,500.00
Close storage portal (1) - strengthen	20 x 15	USER PROVIDED ITEM	1.00	EA	$1,000.00	$1,000.00
Close storage portal (2) - strengthen	20 x 15	USER PROVIDED ITEM	1.00	EA	$1,000.00	$1,000.00
Close storage portal (3) - strengthen	8 x 8	USER PROVIDED ITEM	1.00	EA	$1,000.00	$1,000.00
Close vent shafts (3 qty)	6 x 6	Shaft closure - precast concrete panel (per opening)	3.00	SF	$8.92	$26.76

Job Hours: **30.00** **Total Cost:** **$4,526.76**

BULLDOZER WORK

Task description: **Spread topsoil**

Site: **Revenue Mine** Permit Action: TR-09 Permit/Job#: M2012032

PROJECT IDENTIFICATION

Task #: 06A State: Colorado Abbreviation: None
Date: 3/9/2017 County: Ouray Filename: TR09
User: THM

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D9T - 9SU
Horsepower: 405
Blade Type: Semi-Universal
Attachment: NA
Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	$100.59	NA
Operating Cost/Hour:	$87.23	100
Ripper own. Cost/Hour:	$0.00	NA
Ripper op. Cost/Hour:	$0.00	0
Operator Cost/Hour:	$41.85	NA

Total unit Cost/Hour: $229.67
Total Fleet Cost/Hour: **$229.67**

MATERIAL QUANTITIES

Initial Volume: 13,245
Swell factor: 1.125
Loose volume: **14,901** LCY

Source of estimated volume: Division of Reclamation, Mining & Safety
Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Average push distance: 65 feet
Unadjusted hourly production: 1,752.8 LCY/hr

Materials consistency description: Partly consolidated stockpile 1.1

Average push gradient: 0 %
Average site altitude: 10,650 feet

Material weight: 2,550 lbs/LCY

Weight description: Earth - Dry packed

Job Condition Correction Factor		Source
Operator Skill:	0.750	(AVG.)
Material consistency:	1.100	(CAT HB)
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.700	(FND-MF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4324

Adjusted unit production: 757.91 LCY/hr
Adjusted fleet production: **757.91** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: $0.303/LCY

Total job time: **19.66** Hours
Total job cost: **$4,515**

REVEGETATION WORK

Task description: **Revegetate disturbed area**

Site: **Revenue Mine** Permit Action: TR-09 Permit/Job#: M2012032

PROJECT IDENTIFICATION

Task #: 07A State: Colorado Abbreviation: None
Date: 3/9/2017 County: Ouray Filename: TR09
User: THM

Agency or organization name: DRMS

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
			$	$
			Total Fertilizer Materials Cost/Acre	**$0.00**

Application

Description	Cost /Acre
	$
Total Fertilizer Application Cost/Acre	**$0.00**

TILLING

Description	Cost /Acre
Weed control spraying (MEANS 31 31 16.13 3100)	$242.00
Total Tilling Cost/Acre	**$242.00**

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Alpine Fescue	1.80	53.72	$31.36
Nodding Brome	4.00	9.96	$33.80
Lupine, Silver	0.80	0.47	$55.98
Slender Wheatgrass - Native	4.40	16.06	$12.41
Muttongrass	0.50	10.33	$17.27
Needlegrass, Letterman's	3.30	14.39	$325.05
Sagebrush, Louisiana or Prairie	0.20	20.16	$26.70
Sagebrush, Silver	0.40	7.77	$12.40
Yarrow, Western	0.20	12.16	$8.36

Totals Seed Mix	15.60	145.02	**$523.33**

Application

Description	Cost /Acre
	$0.00
Total Seed Application Cost/Acre	**$0.00**

MULCHING and MISCELLANEOUS

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	1.00	TON	$261.00	$261.00
Total Mulch Materials Cost/Acre				**$261.00**

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	$66.02
Power mulcher (MEANS 32 91 13.16 0350)	$99.32
Total Mulch Application Cost/Acre	**$165.34**

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					$
Totals Nursery Stock Cost / Acre					**$0.00**

JOB TIME AND COST

No. of Acres: 16.42 Cost /Acre: $1,191.67
Estimated Failure Rate: 30% Cost /Acre*: $1,191.67
*Selected Replanting Work Items: TILLING,SEEDING,MULCHING

Initial Job Cost: **$19,567.22**
Reseeding Job Cost: **$5,870.17**
Total Job Cost: **$25,437**
Job Hours: **40.00**

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description: **Haul reclamation equipment to and from site**

Site: **Revenue Mine** Permit Action: TR-09 Permit/Job#: M2012032

PROJECT IDENTIFICATION

Task #: 08A State: Colorado Abbreviation: None
Date: 3/9/2017 County: Ouray Filename: TR09
User: THM

Agency or organization name: DRMS

EQUIPMENT TRANSPORT RIG COST

Shift basis: 1 per day
Cost Data Source: CRG Data

Truck Tractor Description: GENERIC ON-HIGHWAY TRUCK TRACTOR, 6X4, DIESEL POWERED, 400 HP (2ND HALF, 2006)

Truck Trailer Description: GENERIC FOLDING GOOSENECK, DROP DECK EQUIPMENT TRAILER (25T, 50T, AND 100T)

Cost Breakdown:

Available Rig Capacities	0-25 Tons	26-50 Tons	51+ Tons
Ownership Cost/Hour:	$16.63	$18.37	$22.33
Operating Cost/Hour:	$44.38	$46.13	$50.07
Operator Cost/Hour:	$27.66	$27.66	$27.66
Helper Cost/Hour:	$0.00	$25.39	$25.39
Total Unit Cost/Hour:	$88.67	$117.55	$125.45

NON ROADABLE EQUIPMENT:

Machine Description	Weight/ Unit (TONS)	Owner ship Cost/hr/ unit	Haul Rig Cost/hr/unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
Cat D9T - 9SU	60.01	$69.88	$125.45	1	$195.33	$125.45	$250.00
Drill/Broadcast Seeder with Tractor	25.00	$41.05	$88.67	1	$129.72	$88.67	$250.00
Cat 336D L 10'-6" Stick	32.23	$42.57	$117.55	1	$160.12	$117.55	$250.00
Subtotals:					**$485.17**	**$331.67**	**$750.00**

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Power Mulcher (Reinco M90)	$25.56	1	$25.56	$25.56
Flatbed 45 GVW 6x4	$55.61	1	$55.61	$55.61
Subtotals:			**$81.17**	**$81.17**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	MONTROSE	
Total one-way travel distance:	45.00	miles
Average Travel Speed:	35.00	mph
Total Non-Roadable Mob/Demob Cost * '* two round trips with haul rig:	$4,570.79	
Total Roadable Mob/Demob Cost ** ** one round trip, no haul rig:	$208.72	

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	1.29	1.29
Return Time (Hours):	1.29	1.29
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	3.57	2.57

JOB TIME AND COST

Total job time:	**7.14**	Hours
Total job cost:	**$4,780**	