



Via Email

March 16, 2017

Michael Cunningham
Division of Reclamation and Mine Safety
Department of Natural Resources
1313 Sherman Street, Room 215
Denver, CO 80203

Subject: Technical Revision 23 Deposition of Excavated Solid Source Term Material onto Existing Waste Rock Piles Schwartzwalder Mine, Golden, Colorado, Mine Permit 1977-300, ("TR-23");

Dear Mr. Cunningham:

By letter dated March 16, 2017, the Division of Reclamation and Mine Safety ("DRMS") issued its latest round of adequacy review comments for the Cotter Corporation (N.S.L.) ("Cotter") TR-23. Attached to this email are Cotter's specific responses to the comments contained in that letter. Cotter's responses include a text document presenting our responses to DRMS's comments and a revised Attachment F to TR-23.

Thank you for your consideration of this matter. If you have any questions, please contact me at (720) 554-6207 or via email at ken.mushinski@cotterusa.com.

Sincerely,

Ken Mushinski
President

Cc: Tony Waldron, DRMS
Steve Cohen, Cotter

**COTTER CORPORATION (N.S.L.)
SCHWARTZWALDER MINE, GOLDEN, COLORADO
PERMIT NO. M-1977-300
RESPONSE TO COMMENTS REGARDING
TECHNICAL REVISION 23 (TR-23)**

Responses to March 16, 2017 Comment Letter

1. DRMS Comment: The list of proposed items includes telephone poles, wood timber, pallets and other miscellaneous wood structures. Pursuant to Rule 3.1.5, any material used as backfill or placed within the mine must be inert, which is defined as non-water soluble and non-putrescible solids together with such minor amounts and types of other materials, unless such materials are acid-or toxic producing, as will not significantly affect the inert nature of such solids. The inventory must be revised to not include wood or any other materials which are subject to decomposition.

Cotter Response:

Cotter commits to not disposing of wood or other material subject to decomposition, in the mine. The inventory list (Attachment F to TR-23) has been revised to reflect this change.

2. DRMS Comment: Confirm the propane tanks are empty and specify if the propane tanks will be cut up before being placed into the glory hole.

Cotter Response:

Cotter commits that all propane tanks will be emptied and cut open such that they cannot accumulate any liquids prior to disposal.

3. DRMS Comment: Confirm the septic tank has been emptied and cleaned out.

Cotter Response:

Cotter commits to emptying and cleaning out the septic tank prior to disposal.

4. DRMS Comment: The Operator has not demonstrated that the RO units will not have an impact to groundwater quality. How will the RO units be decommissioned to ensure that no residuals are introduced into the mine pool? Pursuant to Rule 3.1.7(9), in order to be released from reclamation liability, the Operator shall demonstrate that reclamation has been achieved so that existing and reasonably future potential uses of groundwater are protected. In absence of a technical justification for placing the RO units into the mine and a demonstration that the RO units have been appropriately decommissioned, they must be removed from the Adit Disposal Inventory.

Cotter Response:

Cotter commits to not disposing of the RO units in the mine. The inventory list (Attachment F to TR-23) has been revised to reflect this change.

5. The Operator has not included a discussion of the fate of the materials once they are placed into the glory hole. Please describe what will happen to the items. Will they fall to the bottom of the glory hole? Is there any potential for these items to come into contact with the mine pool? Is the glory hole currently in a dry condition?

Cotter Response:

The disposition of the materials listed in Attachment F to TR-23 will occur within a large, structurally stable underground stope area that resulted from the extraction of uranium ore in the late 1970s; this stope is identified as the CV Glory Hole and is isolated from the existing mine pool. The specific location of the stope is shown in Figure 14: “Schematic drawing of the underground mine workings showing the CV Glory Hole in relation to the Minnesota Level access Portal”, of Technical Revision 14 to Mining Permit M-1977-300, December 22, 2011. The excavated extent of the CV Glory Hole is located above the maximum post – mine closure water level identified in “Schwartzwalder Mine Hydrologic Evaluation of Mine Closure and Reclamation” (Whetstone Associates, Inc., November, 2007). This stope is also above the maximum post-mine closure water level identified in Appendix E-2, “Anticipated Post-Mining Hydrology of the Schwartzwalder Mine Jefferson Co., Colorado,” of Permit M-77-300.

To summarize, the materials, inventoried in Attachment F to TR-23, when deposited in the CV Glory Hole, will accumulate near the bottom of the stope, above the maximum mine closure water level, such that they will not affect the chemistry of the mine pool or the local ground or surface water resources.

Attachment F – Minnesota Adit Disposal Inventory

Table	Item	Summary of All Material	
		Trucked Placement Volume (cu.ft.)	Trucked Placement Volume (cu.yd.)
Table 1	Boneyard	2,269	84
Table 2	Old WTP Area	88,035	3,261
Table 3	Hillside Adits	3,560	132
Table 4	New WTP	18,614	689
Table 5	Valley Floor Sites	15,748	583

Total Facilities Disposal Volume	128,226	4,749
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Boneyard			
Item		Trucked Placement Volume (cu.ft.)	Description
1	Building, Domestic Well	119	Metal Siding
2	Building, Domestic Well Vault	307	Concrete
3	Foundation, Domestic Well Vault	450	Concrete
4	Bridge	95	Steel
5	Stairs, Steel	68	Steel
6	Water Heater	6	Steel
7	Rock Grizzly	48	Steel
9	Concrete, Wing Walls	972	Concrete
9	Culvert, 3ft dia	56	Steel
10	Culvert, 5ft dia	78	Steel
11	Planks, Plates	70	Steel
Total		2,269	

Attachment F – Minnesota Adit Disposal Inventory

		Original Waste Treatment Plant Area	
Item		Trucked Placement Volume (cu.ft.)	Description
1	Building, WTP	18,900	Steel - structural + Siding + Interior equipment
2	Building Foundation, WTP	12,960	Concrete
3	Concrete Containment Ponds-Sides	2,700	Concrete
4	Concrete Containment Ponds - Floor	28,200	Concrete
5	Fencing	15,667	Steel
6	Pump House Foundation	384	Concrete
7	Pump Support + Electrical Panel	50	Steel
8	Monitor Well	0	Steel
9	Monitor Well Foundation	2	Concrete
10	Empty Propane Tanks, 1000 gal.	85	Steel
11	Empty Propane Tanks, 500 gal.	28	Steel
12	Concrete Box (Sides)	38	Concrete
13	Concrete Box (Bottom)	32	Concrete
14	Receiver Tank	23	Steel
15	Pipe	175	PVC
16	Empty 60,000 Gal Tank (Creek Water)	641	Steel
17	Foundation, 60,000 Gal Tank (Creek)	754	Concrete
18	Pipe, PVC to WTP	3	PVC
19	Empty Septic Tank	180	PVC
20	Power Poles	13	Steel
21	"Old" WTP Foundation	7,200	Concrete
Total		88,035	

Attachment F – Minnesota Adit Disposal Inventory

			Hillside Adits
	Item	Trucked Placement Volume (cu.ft.)	Description
	Minnesota Adit		
1	Pipe, PVC, Misc.	963	PVC-Plastic
2	Steel, Misc.	1,650	Concrete
3	Portal Gate	75	Steel
4	Portal Steel	150	Steel
5	Portal Walls, Steel	23	Steel
	CV Adit		
1	Vent Riser	47	Steel
2	Portal Steel	203	Steel
3	Telephone Poles	16	Steel
4	Power Cable	2	Steel
	Sunshine Adit		
1	Power Cable	7	Copper + Ins
2	Steel, Misc.	38	Steel
3	Portal Walls, Sheet Steel	25	Steel
	Pierce Adit		
1	Portal Steel	27	Steel
2	Culvert	34	Steel
3	Monitor Well	2	Steel
4	Monitor Well Foundation	2	Concrete
	Black Forest Adit		
1	Gate	183	Steel
2	Steel, Misc., Lift	28	Steel
3	Fence	30	Steel
4	East Portal Entrance - Culvert	51	Steel
5	Monitor Well	2	Steel
6	Monitor Well Foundation	2	Concrete
	Total	3,560	

Attachment F – Minnesota Adit Disposal Inventory

		New Waste Treatment Plant	
Item		Trucked Placement Volume (cu.ft.)	Description
1	Building, Steel Frame	5,760	Steel - Structural + Siding
2	Building, Concrete Foundation	5,760	Concrete
3	Fan + Frame	180	Steel
4	Fan Duct	53	Steel
5	Liner, PVC	179	PVC-Plastic
6	Empty Mix Tanks, Tall	848	Fiberglass
7	Empty Mix Tanks, Short	157	Fiberglass
8	Pipe, Misc.	40	PVC-Plastic
9	Power Box	7	Steel
10	Clarifiers	1,008	Steel
11	Clarifier stairs	450	Steel
12	Empty Tanks	2,651	Fiberglass
13	Empty Tanks, Clear Water	353	Fiberglass
14	Empty Tank, Plastic - Potable Water	79	Plastic
15	Rock, Dirt and Debris	1,089	Rock
Total		18,614	

Attachment F – Minnesota Adit Disposal Inventory

		Valley Floor Sites (1 of 2)	
	Items	Trucked Placement Volume (cu.ft.)	Description
	Valley Creek Pipe		
1	Pipe, PVC	4,665	PVC
2	Electric Cable	58	Copper + Ins
3	Electrical Panel	7	Steel
4	Power Boxes	13	Steel
	Sump 4		
1	Power Panel	16	Steel
2	Sump	30	Steel
	Office Trailer		
1	Trailer	650	Steel Siding
	Substation		
1	Building	343	Steel
2	Foundation, Concrete	720	Concrete
3	Step, Concrete	7	Concrete
4	Transformer Enclosure	432	Steel
5	Transformer Pad, Concrete	96	Concrete
6	Electrical Apparatus	216	Steel
7	Wall, Concrete	60	Concrete
8	Fence	363	Steel
	Ore Sorter Area		
1	Electrical Boxes	44	Steel
2	Electrical Boxes	12	Steel
3	Electrical Box Support	148	Steel
4	Scale Posts	2	Steel
5	Pipe, PVC	682	PVC
6	Culverts	424	Steel
7	Culvert Scrap	4,158	Steel
8	Elbow, Vent	79	Steel
	Subtotal (1 of 2)	13,225	

Attachment F – Minnesota Adit Disposal Inventory

		Valley Floor Sites (2 of 2)	
Items		Trucked Placement Volume (cu.ft.)	Description
Creek Head Gate			
1	Pipe, Creek Discharge Pipe	754	Steel
2	Gate, Creek Discharge Pipe	13	Steel
3	Gate Mounting, Creek Discharge Pipe	64	Steel
4	Control Panel	11	Steel
5	Control Panel Foundation	24	Concrete
6	Concrete, Dam Wall	900	Concrete
Old Emergency Storage Pond			
1	Electrical Box	13	Steel
2	Electrical Cable	9	Copper + Ins
3	Monitor Well	2	Steel
4	Monitor Well Foundation	2	Concrete
5	Sump	15	Steel
Entry Gate Area			
1	Gate	30	Steel
2	Gate Posts	8	Concrete
3	Stairs, Metal - BPL	54	Steel
4	Monitor Well	2	Steel
5	Monitor Well Foundation	2	Concrete
6	Monitor Well	1	Steel
7	Monitor Well Foundation	2	Concrete
8	Creek Sump	81	Steel
9	Old Sumps	151	Steel
10	Electric Panel Skids	192	Steel
11	Concrete Sump - Walls	50	Concrete
12	Concrete Sump - Floor	144	Concrete
Subtotal (2 of 2)		2,523	
Total		15,748	