January 18, 2021

Via Federal Express

Mr. Bill Childress
District Manager, Las Cruces District Office
Bureau of Land Management
1800 Marquess Street
Las Cruces, NM 88005

Mr. Holland Shepherd
Program Manager, Mining Act Reclamation Program
New Mexico Energy, Minerals and Natural Resources Department
Mining and Minerals Division
1220 South St. Francis Drive
Santa Fe, NM 87505

RE: **Permit Tracking No. LU035MN**
Submittal of American Magnesium, LLC's
Revised Financial Assurance Cost Estimates, Foothill Dolomite Mine

Dear Messrs. Childress and Shepherd:

American Magnesium, LLC (AmMg) is pleased to submit the enclosed revised financial assurance cost estimates for the proposed Foothill Dolomite Mine. Daniel B. Stephens & Associates, Inc. (DBS&A) revised the original cost estimates to address comments received from the New Mexico Energy, Minerals and Natural Resources Department, Mining and Minerals Division (MMD).

Enclosed is a letter prepared by DBS&A that provides responses to the MMD comments and the revised cost estimates. The cost estimates are being submitted to the Bureau of Land Management and MMD to support AmMg's Minimal Impact New Mine Permit Application (permit tracking number LU035MN).

AmMg hopes that the revised financial assurance cost estimates are sufficient for BLM and MMD to issue the required permits for AmMg to operate a new minimal impact dolomite mine near Deming, New Mexico. Magnesium has been identified as a critical mineral under Presidential Executive Order 13817 signed December 20, 2017 and the Final List of Critical Minerals issued by the U.S. Geological Survey on May 18, 2018. The AmMg Foothill Dolomite Mine will provide the nation with a reliable source of this critical mineral.

Should you have any questions, please contact AmMg's permitting lead, Mr. John Ayarbe, PG, with DBS&A at 505-822-9400 or by e-mail at jayarbe@geo-logic.com.

Regards,

American Magnesium, LLC

Carol Ness Brewka, Managing Member

Enclosure: Financial Assurance Cost Estimates (Revision 1)

January 18, 2021

Mr. Bill Childress
District Manager, Las Cruces District Office
Bureau of Land Management
1800 Marquess Street
Las Cruces, NM 88005

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Re: Permit Tracking No. LU035MN
Submittal of American Magnesium, LLC's
Revised Financial Assurance Cost Estimates, Foothill Dolomite Mine

Dear Messrs. Childress and Shepherd:

On December 9, 2020, the Mining and Minerals Division (MMD) of the New Mexico Energy, Minerals and Natural Resources Department issued a letter to American Magnesium, LLC (AmMg) providing technical comments on the financial assurance cost estimates for AmMg's Foothill Dolomite Mine dated October 16, 2020. On behalf of AmMg, Daniel B. Stephens & Associates, Inc. (DBS&A) has prepared this letter responding to each of MMD's technical comments. DBS&A developed the original and revised cost estimates using the Standardized Reclamation Cost Estimator (SRCE) Version 1.4.1, Build 17b (revised May 16, 2019).

MMD's letter required that AmMg submit responses to comments within 15 days of receipt of this letter, which would have been December 24, 2020. DBS&A contacted Jennifer Johnson, MMD Permit Lead, and requested an extension of time to respond to comments. In an e-mail dated December 16, 2020, MMD kindly extended the response deadline to January 23, 2021.

Although some of MMD's comments refer to the Plan of Operations for the Foothill Dolomite Mine (Revision 5) dated August 27, 2020, those comments do not require any changes to the Plan of Operations. MMD's complete comment is provided in italics, followed by AmMg's response in regular text.

1. *American Magnesium provided a cost estimate for a 20-year mine plan. MMD only requires financial assurance for a 5-year mine plan. American Magnesium can provide a cost estimate for the 5-year plan mentioned in section 3.4 of the Plan of Operations ("PoO") if they would like.*

AmMg understands that MMD only requires financial assurance for a 5-year mine plan. Following discussions with MMD, it was decided that AmMg would submit financial assurance

cost estimates for reclamation of disturbed areas at the site at two points in time: (1) following completion of the resource verification drilling program and (2) at the end of mine life (20-year mine plan).

2. *Cost Data File: In the tab "Equipment Costs" the costs for the following equipment should be changed in accordance with the costs currently in EquipmentWatch:*
    a. *The D6R dozer should be changed to $7,222.35/month from $6,570.00/month.*
    b. *The D7R dozer should be changed to $10,466.40/month from $18,300/month.*
    c. *The 966G loader should be changed to $5,856.20/month from $11,500.00/month.*
    d. *The 725 truck should be changed to $9,300.06/month from $10,824.00/month.*
    e. *The 120H motor grader should be changed to $3,964.95/month from $8,670.00/month.*
    f. *The 325C track excavator should be changed to $10,047.96/month from $10,750.00/month.*

Rates for the equipment identified in the tab "Equipment Costs" and used in the AmMg SRCEs have been revised in accordance with the rates currently in EquipmentWatch. The revisions are consistent with the rates listed above.

3. *In the tab "Labor Rates" the labor rates for the following equipment should be changed in accordance with the New Mexico Department of Workforce Solutions prevailing wage rates for Type H – Heavy Engineering:*
    a. *The labor rates for the D6R and D7R bulldozers should be changed to $28.02/hour from $21.14/hour.*
    b. *The 966G loader labor rate should be changed to $28.02/hour from $27.12/hour.*
    c. *The 725 truck labor rate should be changed to $28.02/hour from $18.97/hour.*
    d. *The 120H motor grader labor rate should be changed to $30.23/hour (or $28.31/hour) from $21.14/hour.*
    e. *The 325C track excavator labor rate should be changed to $30.23/hour from $27.12/hour.*
    f. *Any remaining labor rates for equipment not mentioned in this letter should be adjusted to the New Mexico Department Workforce Solutions Type H – Heavy Engineering labor rates.*

Labor rates for the operators of the equipment identified in the tab "Labor Rates" and used in the AmMg SRCEs have been revised in accordance with the New Mexico Department of Workforce Solutions prevailing wage rates for Type H – Heavy Engineering. The revisions are consistent with the rates listed above.

In addition, the following labor rate changes were made: (1) scraper operators from $14.03/hour to $28.02/hour, (2) backhoe operators from $14.03/hour to $28.02/hour, (3) vibratory roller operators from $14.03/hour to $28.02/hour, (4) compressor + tools operators from $14.03/hour to $27.69/hour, (5) welding equipment operators from $27.12/hour to $27.88/hour, (6) heavy

duty drill rig and pump (plugging) drill rig operators from $14.03/hour to $27.88/hour, (7) dump truck (10 to 12 cubic yard) from $11.90/hour to $24.92/hour, (8) general laborer from $12.37/hour to $23.88/hour, (9) skilled laborer from $17.97/hour to $26.14/hour, (10) driller's helper from $17.83/hour to $26.14/hour, (11) rodmen (reinforcing concrete) from $17.74/hour to $23.88/hour, (12) cement finisher from $17.83/hour to $26.14/hour, and (13) carpenter from $22.26/hour to $36.47/hour. Labor groups and base pay rate fringe benefits have been included.

4. *Cost Estimate for Reclamation After Exploration: The cost in tab "Exploration" for plugging the boreholes is not calculated and included in the overall total. Please fix this error in the excel file so it is added to the total cost.*

SRCE for reclamation after exploration has been updated to include plugging and abandonment of the exploration boreholes.

5. *The cost for the access road in the "Roads" tab can be removed because the exact same cost is in the Cost Estimate for Reclamation at End of Mining and since section 2.16 of the PoO states "improvement of the BLM road and final construction of the mine site access road will occur within 6 months of completion of verification drilling".*

The cost for the access road in the "Roads" tab has been removed.

6. *Cost Estimate for Reclamation at End of Mining: Please include the costs to reclaim the improvements to the BLM road in the "Roads" tab in the SRCE. Unless the BLM approves that the improvements to the BLM road can stay after mining has ceased, the costs must be included in the cost estimate.*

SRCE for reclamation at end of mining has been updated to include costs to reclaim improvements to the unnamed BLM road. Reclamation of the road will consist of ripping and revegetating approximately 3 feet on each side of the road to bring the road back to its original width. The revision was made in the "Roads" tab.

7. *The ungraded slope in the tab "Quarries & Borrow Pits" should be 2:1 not 3:1 to reflect section 2.4.6 of the PoO. Please correct this in the SRCE.*

The ungraded slope in the "Quarries & Borrow Pits" tab has been changed from 3:1 to 2:1.

8. *Section 2.4.1 of the PoO states "a cattle guard will be installed at the swing gate currently located in the upper portion of the BLM road". Please include the cost to remove this cattle guard at the end of operations in the SRCE.*

Removal and disposal of the cattle guard has been added to the "Waste Disposal" tab.

9. *Section 2.4.2 of the PoO states "the proposed alignment will require the installation of single culverts to cross two or three narrow, steep-sided gullies". Please provide culvert removal costs in SRCE.*

Removal and disposal of three culverts has been added to the "Misc. Costs" tab.

10. *Section 2.4.3 of the PoO mentions that portable sanitation facilities will be on site but is not included in tab "Other Demo & Equip Removal". Please provide these costs in the SRCE.*

The "Other Demo & Equip Removal" tab has been revised to include the cost to remove portable sanitation facilities (two units).

11. *Section 2.4.6 state that the maximum amount of staged ore will be 15 cubic yards. Please provide costs to remove this pile in the cost estimate.*

The "Waste Disposal" tab has been revised to include disposal of 15 cubic yards of unprocessed ore.

12. *Tab "Foundations & Buildings" does not include the cost for the demolition of the concrete slab ford across the arroyo. Please fix the excel file to include this cost.*

The "Foundations & Buildings" tab has been revised to include the cost to demolish and remove the concrete slab ford.

13. *Section 3.3 states that "seed will be planted along contour using a rangeland drill or similar equipment. When drill seeding cannot be accomplished, broadcast seeding will be employed". Please include the costs for drill seeding in the SRCE.*

The seed application method has been revised to include drill seeding for all disturbance types. This change was also made to the Exploration SRCE so that the two SRCEs are consistent.

14. *Both Cost Estimates: The Monitoring & Maintenance table in tab "Constr. Mgmt" has one water truck and one grader for a duration of 36 months but there is no value provided for the Hours/Month. Please clarify the number of hours/month the water truck and grader are needed for Monitoring & Maintenance and include it in the excel file.*

The anticipated rate for both pieces of equipment is 1 hour per month for monitoring and maintenance. Both SRCEs have been updated.

Closing

DBS&A revised the financial assurance cost estimates for AmMg's Foothill Dolomite Mine. Revisions to estimated costs for reclamation following (1) completion of the resource verification drilling program and (2) at the end of mine life are provided as Attachments 1 and 2, respectively. The estimated cost for reclamation of disturbances related to resource verification

activities is $518,589 (Attachment 1). The estimated cost for reclamation of disturbances related to mining operations at is $892,483 (Attachment 2).

If you have any questions or comments regarding our approach, please contact us at (505) 822-9400.

Sincerely,

DANIEL B. STEPHENS & ASSOCIATES, INC.

Bill Casadevall, C.P.G.
Senior Geologist

John Ayarbe, P.G.
Senior Hydrologist

BC/JA/rpf
Attachments
cc: Carol Ness Brewka, AmMg (cnbrewka@msn.com)

Attachment 1

Cost Estimate for Reclamation of Disturbance from Resource Verification Program

Enter Data Below in Green and Blue Spaces

STANDARDIZED RECLAMATION COST ESTIMATOR

Version 1.4.1
Build 017b (Revised 16 May 2019)

Approved for use in Nevada, August 1, 2012

COST DATA FILE INFORMATION

File Name:	Att 1_Cost 20200820_SRCE_Version_1_4_1_017b_NV_2020 Exploration Rev 2.xlsm
Cost Data File:	SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 1.xlsm
Cost Data Date:	January 6, 2021
Cost Data Basis:	User Data — Data Cost Units: Imperial
Author/Source:	New Mexico Department of Workforce Solutions Public Works Prevailing Wage Rates Type H

PROJECT INFORMATION

Property/Mine Name:	Foothill Dolomite Mine — Property Code: N/A
Project Name:	Foothill Dolomite Mine
Date of Submittal:	01/18/2021 — Average Altitude: 4865 ft.
Select One:	○ Notice or Sm Exploration Plan ○ Lg Exploration Plan ● Mine Operation
Select One:	○ Private Land ● Public or Public/Private
Cost Estimate Type:	Surety
Cost Basis Category:	American Magnesium - Option 1 Revised
Cost Basis Description:	**American Magnesium - Foothill Dolomite Mine - Northern Nevada Equipment**

Closure Cost Estimate
Cost Summary

Project Name: Foothill Dolomite Mine
Project Date: 01/18/2021
Model Version: Version 1.4.1
File Name: Att 1_Cost 20200820_SRCE_Version_1_4_1_017b_NV_2020 Exploration Rev 2.xlsm

A. Earthwork/Recontouring	Labor [1]	Equipment [2]	Materials	Total
Exploration	$29,627	$191,491	$844	$221,962
Exploration Roads & Drill Pads	$3,716	$12,009	$0	$15,725
Roads	$0	$0	$0	$0
Well Abandonment	$0	$0	$0	$0
Pits	$0	$0	N/A	$0
Quarries & Borrow Areas	$0	$0	$0	$0
Underground Openings	$0	$0	$0	$0
Process Ponds	$0	$0	$0	$0
Heaps	$0	$0	$0	$0
Waste Rock Dumps	$0	$0	$0	$0
Landfills	$0	$0	$0	$0
Tailings	$0	$0	$0	$0
Foundation & Buildings Areas	$0	$0	$0	$0
Yards, Etc.	$172	$532	$0	$704
Drainage & Sediment Control	$0	$0	$0	$0
Generic Material Hauling	$0	$0	$0	$0
Other User Costs (from Other User sheet)	$0	$0	$59,427	$59,427
Other**				$0
Subtotal	**$33,515**	**$204,032**	**$60,271**	**$297,818**
Mob/Demob if included in Other User sheet	$0	$0	$0	$0
Mob/Demob				$0
Subtotal "A"	**$33,515**	**$204,032**	**$60,271**	**$297,818**

B. Revegetation/Stabilization	Labor [1]	Equipment [2]	Materials	Total
Exploration	$0	$0	$0	$0
Exploration Roads & Drill Pads	$410	$352	$18,755	$19,517
Roads	$0	$0	$0	$0
Well Abandonment				N/A
Pits	$0	$0	$0	$0
Quarries & Borrow Areas	$0	$0	$0	$0
Underground Openings				N/A
Process Ponds	$0	$0	$0	$0
Heaps	$0	$0	$0	$0
Waste Rock Dumps	$0	$0	$0	$0
Landfills	$0	$0	$0	$0
Tailings	$0	$0	$0	$0
Foundation & Buildings Areas	$0	$0	$0	$0
Yards, Etc.	$140	$120	$1,601	$1,861
Drainage & Sediment Control	$0	$0	$0	$0
Generic Material Hauling	$0	$0	$0	$0
Other User Costs (from Other User sheet)	$0	$0	$0	$0
Other**				$0
Subtotal "B"	**$550**	**$472**	**$20,356**	**$21,378**

C. Detoxification/Water Treatment/Disposal of Wastes**	Labor [1]	Equipment [2]	Materials	Total
Process Ponds/Sludge				$0
Heaps				$0
Dumps (Waste & Landfill)				$0
Tailings				$0
Surplus Water Disposal				$0
Monitoring				$0
Miscellaneous				$0
Solid Waste - On Site	$0	$0	N/A	$0
Solid Waste - Off Site				$0
Hazardous Materials				$0
Hydrocarbon Contaminated Soils	$0	$0	$0	$0
Other User Costs (from Other User sheet)	$0	$0	$0	$0
Other**				$0
Subtotal "C"	**$0**	**$0**	**$0**	**$0**

D. Structure, Equipment and Facility Removal, and Misc.	Labor [1]	Equipment [2]	Materials	Total
Foundation & Buildings Areas	$0	$0	$0	$0
Other Demolition	$0	$0	$0	$0
Equipment Removal	$0	$0	$0	$0
Fence Removal	$0	$0		$0
Fence Installation	$0	$0	$0	$0
Culvert Removal	$0	$0	N/A	$0
Pipe Removal	$0	$0	N/A	$0
Powerline Removal	$0			$0
Transformer Removal	$0			$0
Rip-rap, rock lining, gabions	$0	$0	$0	$0
Other Misc. Costs	$0	$0	$0	$0
Other User Costs (from Other User sheet)	$0	$0	$0	$0
Other**				$0
Subtotal "D"	**$0**	**$0**	**$0**	**$0**

E. Monitoring	Labor [1]	Equipment [2]	Materials	Total
Reclamation Monitoring and Maintenance	$9,562	$2,093	$199	$11,854
Ground and Surface Water Monitoring	$0	$0	$0	$0
Other User Costs (from Other User sheet)	$0	$0	$0	$0
Subtotal "E"	**$9,562**	**$2,093**	**$199**	**$11,854**

F. Construction Management & Support	Labor	Equipment [2]	Materials	Total
Construction Management	$9,979	$1,436	N/A	$11,415
Construction Support	$0	$214	$0	$214
Road Maintenance	$4,545	$13,835	$726	$19,106
Other User Costs (from Other User sheet)	$0	$0	$0	$0
Other**				$0
Subtotal "F"	**$14,524**	**$15,485**	**$726**	**$30,735**

Subtotal Operational & Maintenance Costs	Labor [1]	Equipment [2]	Materials [3]	Total
Subtotal A through F	**$58,151**	**$222,082**	**$81,552**	**$361,785**

** Other Operator supplied costs - additional documentation required.

Closure Cost Estimate
Cost Summary

Project Name: Foothill Dolomite Mine
Project Date: 01/18/2021
Model Version: Version 1.4.1
File Name: Att 1_Cost 20200820_SRCE_Version_1_4_1_017b_NV_2020 Exploration Rev 2.xlsm

Indirect Costs				Include?	Total
1. Engineering, Design and Construction (ED&C) Plan (7)					$28,943
2. Contingency (8)					$36,179
3. Insurance (9)	$872				$872
4. Performance Bond (10)					$10,854
5. Contractor Profit (11)					$36,179
6. Contract Administration (12)					$36,179
7. Government Indirect Cost (13)					$7,598
Subtotal Add-On Costs					**$156,804**
Total Indirect Costs as % of Direct Cost					43%
GRAND TOTAL					**$518,589**

Administrative Cost Rates (%)

	Cost Ranges for Indirect Cost Percentages				
	<=	<=	<=	>	
1. Engineering, Design and Construction (ED&C) Plan (7)	$1,000,000	$25,000,000		$25,000,000	Small Plan
Variable Rate	8%	6%		4%	0%
	<=	<=	<=	>	
2. Contingency (8)	$500,000	$5,000,000	$50,000,000	$50,000,000	Small Plan
Variable Rate	10%	8%	6%	4%	0%
3. Insurance (9)	1.5%	of labor costs			
4. Bond (10)	3.0%	of the O&M costs if O&M costs are >$100,000			
5. Contractor Profit (11)	10%	of the O&M costs			
	<=	<=	<=	>	
6. Contract Administration (12)	$1,000,000	$25,000,000		$25,000,000	
Variable Rate	10%	8%		6%	
0	21%	of contract administration			

RECLAMATION COST ESTIMATION SUMMARY SHEET FOOTNOTES

1. Federal construction contracts require Davis-Bacon wage rates for contracts over $2,000. Wage rate estimates may include base pay, payroll loading,
2. The reclamation cost estimate must include the estimated plugging cost of at least one drill hole for each active drill rig in the project area. Where the
3. Miscellaneous items should be itemized on accompanying worksheets.
4. Fluid management should be calculated only when mineral processing activities are involved. Fluid management represents the costs of maintaining proper
5. Handling of hazardous materials includes the cost of decontaminating, neutralizing, disposing, treating and/or isolating all hazardous materials used, produced,
6. Any mitigation measures required in the Plan of Operations must be included in the reclamation cost estimate. Mitigation may include measures to avoid,
7. Engineering, design and construction (ED&C) plans are often necessary to provide details on the reclamation needed to contract for the required work. To
8. A contingency cost is included in the reclamation cost estimation to cover unforeseen cost elements. Calculate the contingency cost as a percentage of the
9. Insurance premiums are calculated at 1.5% of the total labor costs. Enter the premium amount if liability insurance is not included in the itemized unit costs.
10. Federal construction contracts exceeding $100,000 require both a performance and a payment bond (Miller Act, 40 USC 270et seq.). Each bond premium is
11. For Federal construction contracts, use 10% of estimated O&M cost for the contractor's profit.
12. To estimate the contract administration cost, use 6 to 10% of the operational and maintenance (O&M) cost. Calculate the contract administration cost as a
13. Government indirect cost rate is 21% of the contract administration costs.

Closure Cost Estimate
Other User

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2021
File Name: Att 1_Cost 20200820_SRCE_Version_1_4_1_017b_NV_2020 Exploration Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 1.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Other Cost Items Calculated Elsewhere

	Description (required)	ID Code	Facility Type	Quantity	Units	Total Capital Cost $	Material Unit Cost $	Labor Unit Cost $	Equipment/ Operating Unit Cost $	Cost Type (select)	Total Cost $	Comments
1	Topdressing Purchase and Hauling		Off Site - Other Load Out	4,055	1	$15,503.60	$10.83			A. Earthwork	$59,427	
						$15,504	$43,924	$0	$0		$59,427	

Notes: Capital cost is lump sum (i.e. not multiplied by the quantity).
Material, Labor and Equipment/Operating costs are unit costs (i.e. multiplied by the quantity).
Note: Assumes 20% discount on purchased soil for bulk discount at $13.54/cy original Cost
Note: Assumes Capitol Cost as Delivery cost at $3.50 per mile using an 18 cy dump truck at 19.6 miles for delivery.

Closure Cost Estimate
Reclamation Quantities

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2021
File Name: Att 1_Cost 20200820_SRCE_Version_1_4_1_017b_NV_2020 Exploration Rev 2.xlsm
Model Version: Version 1.4.1
Data Cost File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 1.xlsm
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 1.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Reclamation Quantity Summary

	Description	Total Regrade or Haul Volume cy	Total Regrade or Haul Cost $	Total Cover Volume cy	Cover Placement Cost $	Total Growth Media Volume cy	Growth Media Placement Cost $	Total Surface Area acres	Total Scarify Cost $	Total Revetation Cost $	TOTALS $	Unit Costs: Regrade Unit Cost $/CY	Material Haul or Backfill Unit Cost $/CY	Cover Unit Cost $/CY	Growth Media Unit Cost $/CY	Scarify Unit Cost $/CY	Area Unit Cost $/acre
1	Waste Rock Dumps		$ -		$ -		$ -		$ -	$ -	$ -		N/A				
2	Tailings Impoundments		$ -		$ -		$ -		$ -	$ -	$ -		N/A				
3	Heap Leach Pads		$ -		$ -		$ -		$ -	$ -	$ -		N/A				
5	Open Pits		$ -							$ -	$ -		N/A				
4	Quarries & Borrow Pits		$ -		$ -		$ -		$ -	$ -	$ -		N/A				
6	Roads		$ -				$ -		$ -	$ -	$ -		N/A				
7	Landfills		$ -		$ -		$ -		$ -	$ -	$ -		N/A				
8	Buildings				$ -		$ -		$ -	$ -	$ -		N/A				
9	Yards		$ -		$ -	484	$ 582	0.25	$ 122	$ 1,861	$ 2,565		N/A		$1.20	$488.00	$10,260.00
10	Ponds		$ -				$ -			$ -	$ -	N/A					
11	Exploration Roads	1,653	$ 5,218			4,722	$ 10,261	2.93	$ 246	$ 19,517	$ 35,242	$3.16	N/A		$2.17	$83.96	$12,027.99
12	Exploration Trenches		$ -							$ -	$ -		N/A				
13	Diversion Ditches		$ -							$ -	$ -		N/A				
14	Sediment Ponds		$ -				$ -		$ -	$ -	$ -						
15	Generic Haulage/Backfill		$ -		$ -		$ -		$ -	$ -	$ -	N/A					
16	Adit/Decline Backfilling1		$ -								$ -	N/A					
17	Shaft Backfilling		$ -								$ -	N/A					
	TOTALS	1,653	$ 5,218	-	$ -	5,206	$ 10,843	3.18	$ 368	$ 21,378	$ 37,807						
	Average Costs	per CY	$3.16	per CY		per CY	$2.08	per acre	$115.72	$58.09	$11,889	per acre					

Closure Cost Estimate
Exploration

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2021
File Name: Att 1_Cost 20200820_SRCE_Version_1_4_1_017b_NV_2020 Exploration Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 1.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Exploration - Cost Summary				
	Labor	Equipment	Materials	Totals
Hole Abandonment Costs	$29,627	$191,491	$844	$221,962
Trench Backfilling Costs	$0	$0		$0
Subtotal Earthworks	**$29,627**	**$191,491**	**$844**	**$221,962**
Trench Revegetation Costs	$0	$0	$0	$0
TOTALS	**$29,627**	**$191,491**	**$844**	**$221,962**

Exploration Drillhole Abandonment - User Input

	Facility Description		Hole Plugging							
	Description (required)	ID Code	Hole Type (select)	Diameter in	Total Number of Holes	Max Holes Open at One Time	Casing to Remove ft	Average Depth of Hole[1] ft bgs	Depth to Water ft bgs	Hole Plug Method (select)
1	**Exploration Boreholes**	**N/A**	**Rotary Pre-drill**	**3.0**	**86.0**	**86.0**	**100.0**	**100.0**	**250.0**	**Grout Only**

Notes:
1. If core holes are pre-drilled, use length of hole below pre-drilled length
2. If Top Plug is selected, assumes maximum 1/2hr laborer time to place plug and backfill with cuttings/soil (including move-to/set up time).

NOTE: Exploration Boreholes and casings will be removed and backfilled with grout upon drilling completion of each exploration borehole.

Closure Cost Estimate
Exploration

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2021
File Name: Att 1_Cost 20200820_SRCE_Version_1_4_1_017b_NV_2020 Exploration Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 1.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Exploration - Cost Summary				
	Labor	Equipment	Materials	Totals
Hole Abandonment Costs	$29,627	$191,491	$844	$221,962
Trench Backfilling Costs	$0	$0		$0
Subtotal Earthworks	**$29,627**	**$191,491**	**$844**	**$221,962**
Trench Revegetation Costs	$0	$0	$0	$0
TOTALS	**$29,627**	**$191,491**	**$844**	**$221,962**

Exploration Trenches - User Input

Facility Description		Trench Parameters					Backfill			Revegetation		
Description (required)	ID Code	Trench Length ft	Trench Depth ft	Trench Bottom Width ft	Trench Sideslope Angle degrees	Additional Hrs for Walk-in [1] hr	Backfill Material (select)	Cut Material Type (select)	Backfilling Fleet (select)	Seed Mix (select)	Mulch (select)	Fertilizer (select)

Notes:
1. Include one-way hours necessary to walk equipment in from drop-off point to work area
2. Material Types are used for density correction based on material densities in Caterpillar Performance Handbook material density table

Closure Cost Estimate
Exploration

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2021
File Name: Att 1_Cost 20200820_SRCE_Version_1_4_1_017b_NV_2020 Exploration Rev 2.xlsm
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Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Exploration - Cost Summary	Labor	Equipment	Materials	Totals
Hole Abandonment Costs	$29,627	$191,491	$844	$221,962
Trench Backfilling Costs	$0	$0		$0
Subtotal Earthworks	**$29,627**	**$191,491**	**$844**	**$221,962**
Trench Revegetation Costs	$0	$0	$0	$0
TOTALS	**$29,627**	**$191,491**	**$844**	**$221,962**

Exploration Drillhole Abandonment

	Description (required)	Vol/foot of depth ft3	Hole Plugging Material [1]	Total Grout Volume [2] cy	Total Cuttings Volume cy	Total Top Seal Volume [3,4] cy	Total Drillhole Abandon. Hours [6,7] hrs	Casing Removal Labor Cost [5] $	Casing Removal Equipment Cost $	Plugging Labor Cost $	Plugging Equipment Cost $	Plugging Material Cost $	Top Seal Material Cost [2,3] $	Total Cost [6,7] $
1	**Exploration Boreholes**	0.050	Cuttings	0.19		0.05	4	$4,232	$27,517	$25,395	$163,974	$689	$155	$221,962
				0.19		0.05	4	**$4,232**	**$27,517**	**$25,395**	**$163,974**	**$689**	**$155**	**$221,962**

Notes:

1. Assumes grout backfill from bottom of hole to 50' (15.24m) above static water level, up to 10' (3m) from top of hole
2. Assumes 25% loss to formation for grout backfill
3. If "Top Plug" hole plug method is used, assumes physical plug installed without backfill, grout or cement. Not available option for Nevada projects
4. Assumes top 20' (6 m) of hole is plugged with cement if "Grout Only", "Backfill + Grout", or "Cement Plug" hole plug method are chosen.
5. Assumes that a) casing is not cemented entire length, b) does not include temporary surface casing
6. Assumes minimum 1 hr per hole for abandonment (excluding move-to and casing removal)
7. Assumes fixed hours per hole for setup & tear-down and moving between holes (see Productivty Sheet) per drill hole (includes rig time if grouting required, labor crew only if cuttings backfill only)

Closure Cost Estimate
Exploration

Project Name: Foothill Dolomite Mine - Reclamation Plan
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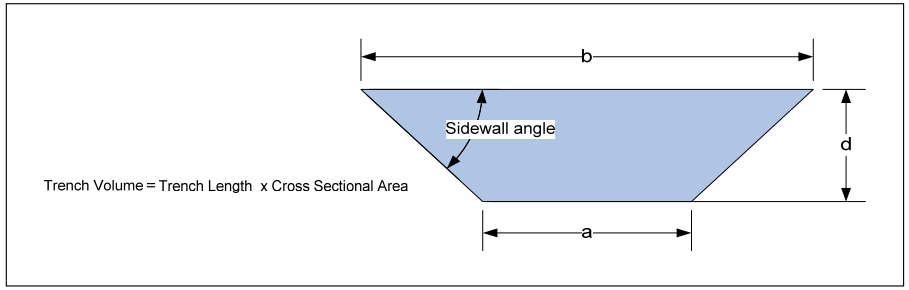
Exploration - Cost Summary				
	Labor	Equipment	Materials	Totals
Hole Abandonment Costs	$29,627	$191,491	$844	$221,962
Trench Backfilling Costs	$0	$0		$0
Subtotal Earthworks	**$29,627**	**$191,491**	**$844**	**$221,962**
Trench Revegetation Costs	$0	$0	$0	$0
TOTALS	**$29,627**	**$191,491**	**$844**	**$221,962**

Exploration Trenches - Calculations

Exploration Trench Volume Calculation



Dozing & Ripping/Scarifying Calculations

Dozing: Dozing distance = 1/2 trench length or 400 ft (max push) whichever is less
Assumes flat push (grade correction factor = 1)

Revegetation: 10 ft added to trench width to account for revegetation under spoil pile

Closure Cost Estimate
Exploration

Project Name: Foothill Dolomite Mine - Reclamation Plan
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Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 1.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Exploration - Cost Summary				
	Labor	Equipment	Materials	Totals
Hole Abandonment Costs	$29,627	$191,491	$844	$221,962
Trench Backfilling Costs	$0	$0		$0
Subtotal Earthworks	**$29,627**	**$191,491**	**$844**	**$221,962**
Trench Revegetation Costs	$0	$0	$0	$0
TOTALS	**$29,627**	**$191,491**	**$844**	**$221,962**

Exploration Trenches - Backfill/Regrading Costs

Productivity = Dozer Productivity x Grade Correction x Density Correction x Operator (0.75) x Material x Visibility x Job Efficiency (0.83)

Description (required)	Trench Backfill Volume LCY (BCY+30%)	Dozer Push Distance ft	Equipment Productivity yd3/hr	Dozing Material	Density Correction	Backfilling Fleet	Corrected Hourly Productivity yd3/hr	Total Dozer Hours hr	Trench Backfill Labor Cost $	Trench Backfill Equipment Cost $	Total Trench Backfill Cost $
									$0	**$0**	**$0**

Closure Cost Estimate
Exploration

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Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Exploration - Cost Summary

	Labor	Equipment	Materials	Totals
Hole Abandonment Costs	$29,627	$191,491	$844	$221,962
Trench Backfilling Costs	$0	$0		$0
Subtotal Earthworks	**$29,627**	**$191,491**	**$844**	**$221,962**
Trench Revegetation Costs	$0	$0	$0	$0
TOTALS	**$29,627**	**$191,491**	**$844**	**$221,962**

Exploration Trenches - Revegetation Costs

Description (required)	Surface Area acres	Revegetation Labor Cost $	Revegetation Equipment Cost $	Revgetation Material Cost $	Total Revegetation Cost $
		$0	**$0**	**$0**	**$0**

Closure Cost Estimate
Expl. Roads & Pads

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2021
File Name: Att 1_Cost 20200820_SRCE_Version_1_4_1_017b_NV_2020 Exploration Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 1.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Exploration Roads & Pads - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$1,376	$3,842	N/A	$5,218
Cover Placement Cost	$2,271	$7,990	N/A	$10,261
Ripping/Scarifying Cost	$69	$177	N/A	$246
Subtotal Earthworks	**$3,716**	**$12,009**		**$15,725**
Revegetation Cost	$410	$352	$18,755	$19,517
TOTALS	**$4,126**	**$12,361**	**$18,755**	**$35,242**

Exploration Roads & Pads - User Input — You must fill in ALL green cells and relevant blue cells in this section for each road

	Facility Description		Physical (1) - MANDATORY										User Overrides		Growth Media		
	Description (required)	ID Code	Underlying Ground Slope % grade	Ungraded Slope _H:1V	Cut Slope degrees	Road + Drill Pad Length ft	Road Width ft	Number of Drill Pads	Individual Sump Volume cy	Drill Pad Width ft	Drill Pad Length ft	Slope Replacement Percent %	Regrade Volume (if calculated elsewhere) cy	Disturbed Area (if calculated elsewhere) acres	Growth Media Thickness in	Distance to Growth Media Stockpile ft	Slope from Road to Stockpile % grade
1	**Exploration Roads**		**15.0**	**2.0**	**66.7**	**10,626**	**12.0**	**86**	**0**	**12.0**	**10**	**115%**		**2.93**	**12**	**1,379**	**15.0**

Notes:
1. All Physical parameters must be input even if manual overrides for volume or area are used.
2. Slope replacement refers to the percentage of cut volumn replaced during regrading.
3. If Slope from facility to borrow source is >20, downhill travel time may be underestimated due to limitation of uphill travel time curves and downhill speed tables from CAT Handbook (see Productivty Sheet)
4. Sump volume will be applied to all roads on slopes <20%. On slopes >20% pad width (i.e. cut volume) should be adequate to account for sump volume.

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Exploration Roads & Pads - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$1,376	$3,842	N/A	$5,218
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Exploration Roads & Pads - User Input (cont.) **You must fill in ALL green cells and relevant blue cells in this section for each road**

		Grading				Growth Media				Revegetation				
	Description (required)	Regrade Material Condition (select)	Cut Material Type (select)	Recontouring Equipment Fleet (select)	Additional Hrs for Walk-in [1]	Growth Media Material Type (select)	Growth Media Placement Equipment Fleet (select)	Maximum Fleet Size (user override)	Additional Hrs for Walk-in [1]	Seed Mix (select)	Mulch (select)	Fertilizer (select)	Scarifying/ Ripping? (select)	Ripping Fleet (select)
1	**Exploration Roads**	**0.8**	**LS - broken**	**Small Dozer**	**1.0**	**Alluvium**	**Small Truck**		**1.0**	**User Mix 1**	**Straw Mulch**	**None**	**Yes**	**Small Dozer**

Notes:
1. Include one-way hours necessary to walk equipment in from drop-off point to work area
2. Material Types are used for density correction based on material densities in Caterpillar Performance Handbook material density table

Project Name: Foothill Dolomite Mine - Reclamation Plan
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Exploration Roads & Pads - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$1,376	$3,842	N/A	$5,218
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TOTALS	**$4,126**	**$12,361**	**$18,755**	**$35,242**

Exploration Roads & Pads - Calculations

Regrading Volume and Footprint Volume

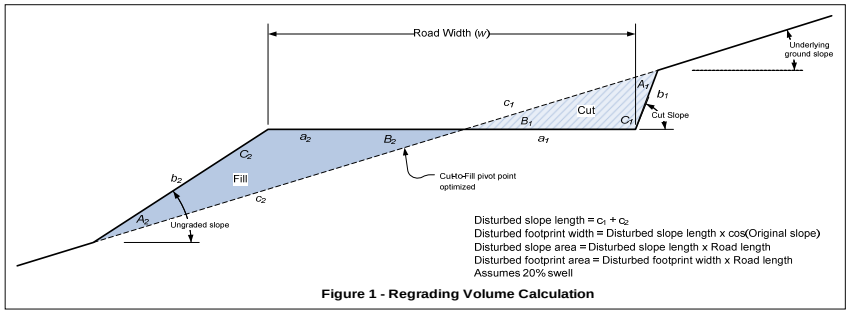

Figure 1 - Regrading Volume Calculation

Will not allow dozer for slopes greater than 30%
For dozer regrading push distance = road width
Assumes dozer push is uphill
Assumes minimum push distance of 100 ft

Swell Factor: 1.2

Ripping/Scarifying Calculations

Minimum 1 hr ripping/scarifying time per area
Number of passes = Final slope length ÷ Grader width
Travel distance = Number of passes x Road length
Total hours = (Travel distance ÷ Grader productivity) + (Number of passes x Grader maneuver time)
For dozer regrading assumes push distance = 3 x road width

Revegetation Calculations

Minimum of 1 acre crew time per area

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Exploration Roads & Pads - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$1,376	$3,842	N/A	$5,218
Cover Placement Cost	$2,271	$7,990	N/A	$10,261
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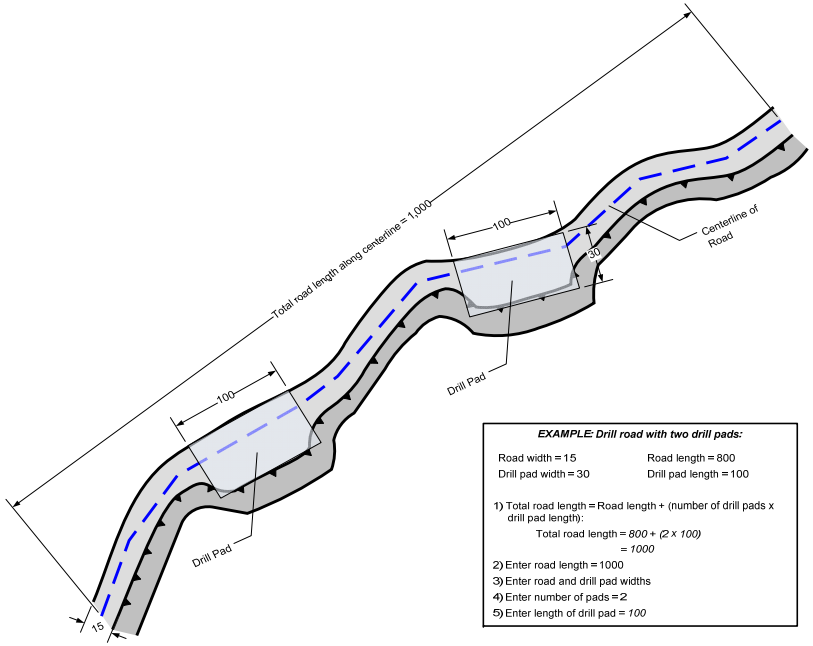
TOTALS	**$4,126**	**$12,361**	**$18,755**	**$35,242**

Inputting Exploration Roads and Drill Pads



EXAMPLE: Drill road with two drill pads:

Road width = 15 Road length = 800
Drill pad width = 30 Drill pad length = 100

1) Total road length = Road length + (number of drill pads x drill pad length):
Total road length = *800 + (2 x 100)*
= 1000
2) Enter road length = 1000
3) Enter road and drill pad widths
4) Enter number of pads = *2*
5) Enter length of drill pad = *100*

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Exploration Roads & Pads - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$1,376	$3,842	N/A	$5,218
Cover Placement Cost	$2,271	$7,990	N/A	$10,261
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TOTALS	**$4,126**	**$12,361**	**$18,755**	**$35,242**

Exploration Roads & Pads - Regrading Costs

	Description (required)	Total Road Length ft	Total Drill Pad Length ft	Regrading Volume cy	Recontouring Fleet	Equipment Productivity cy/hr	Total Equipment Hours (1) hr	Total Labor Cost $	Total Equipment Cost $	Total Regrading Cost $
1	**Exploration Roads**	9,766	860	1,653	D6R	43	40	$1,376	$3,842	$5,218
		9,766	860	1,653			40	**$1,376**	**$3,842**	**$5,218**

(1) Includes walk-in time based on distance and travel speed (see Productivity sheet for speeds)

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Exploration Roads & Pads - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$1,376	$3,842	N/A	$5,218
Cover Placement Cost	$2,271	$7,990	N/A	$10,261
Ripping/Scarifying Cost	$69	$177	N/A	$246
Subtotal Earthworks	**$3,716**	**$12,009**		**$15,725**
Revegetation Cost	$410	$352	$18,755	$19,517
TOTALS	**$4,126**	**$12,361**	**$18,755**	**$35,242**

Exploration Roads & Pads - Growth Media Costs

	Description (required)	Growth Media Volume cy	Growth Media Replacement Fleet	Fleet Productivity LCY/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Total Labor Cost $	Total Equipment Cost $	Total Growth Media Cost $
1	**Exploration Roads**	4,722	725/966G/D7R	515	4	11	$2,271	$7,990	$10,261
		4,722				11	**$2,271**	**$7,990**	**$10,261**

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Exploration Roads & Pads - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$1,376	$3,842	N/A	$5,218
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TOTALS	**$4,126**	**$12,361**	**$18,755**	**$35,242**

Exploration Roads & Pads - Scarifying/Revegetation Costs

	Description (required)	Surface Area acres	Ripping/ Scarifying Fleet	Ripping Hours hrs	Ripping Labor Costs $	Ripping Equipment Cost $	Total Ripping Costs $	Revegetation Labor Cost $	Revegetation Equipment Cost $	Revgetation Material Cost $	Total Revegetation Cost $
1	**Exploration Roads**	2.93	D7R	2	$69	$177	$246	$410	$352	$18,755	$19,517
		2.93		2	**$69**	**$177**	**$246**	**$410**	**$352**	**$18,755**	**$19,517**

Closure Cost Estimate
Roads

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2021
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Cost Estimate Type: Surety **Cost Basis: American Magnesium - Option 1 Revised**

Roads - Cost Summary	Labor	Equipment	Materials	Totals
Grading Costs	$0	$0	N/A	$0
Cover Placement Cost	$0	$0	N/A	$0
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$0**	**$0**		**$0**
Revegetation Cost	$0	$0	$0	$0
TOTALS	**$0**	**$0**	**$0**	**$0**

Color Code Key	
User Input - Direct Input	**Direct Input**
User Input - Pull Down List	**Pull Down Selection**
Program Constant (can override)	**Alternate Input**
Program Calculated Value	**Locked Cell - Formula or Reference**

Maximum slope grade allowed for dozer: **20** % (max 40%)

Closure Cost Estimate
Roads

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Cost Estimate Type: Surety **Cost Basis: American Magnesium - Option 1 Revised**

Roads - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$0	$0	N/A	$0
Cover Placement Cost	$0	$0	N/A	$0
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$0**	**$0**		**$0**
Revegetation Cost	$0	$0	$0	$0
TOTALS	**$0**	**$0**	**$0**	**$0**

Roads - User Input

You must fill in ALL green cells and relevant blue cells in this section for each road

	Facility Description			Physical (1) - MANDATORY						User Overrides		Growth Media		
	Description (required)	ID Code	Type	Underlying Ground Slope % grade	Ungraded Slope _H:1V	Cut Slope degrees	Road Width ft	Road Length ft	Slope Replacement Percent %	Regrade Volume (if calculated elsewhere) cy	Disturbed Area (if calculated elsewhere) acres	Growth Media Thickness in	Haul Distance from Growth Media Stockpile ft	Slope from Road to Stockpile % grade

Notes:
1. All Physical parameters must be input even if manual overrides for volume or area are used.
2. If Slope from facility to borrow source is >20, downhill travel time may be underestimated due to limitation of uphill travel time curves and downhill speed tables from CAT Handbook (see Productivty Sheet)
3. Because the work required for building roads with a dozer is similar to that required to regrade a road with a dozer, this sheet could be used to provide a rough estimate of road construction costs if a dozer is selected as the grading fleet.

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Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Roads - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$0	$0	N/A	$0
Cover Placement Cost	$0	$0	N/A	$0
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$0**	**$0**		**$0**
Revegetation Cost	$0	$0	$0	$0
TOTALS	**$0**	**$0**	**$0**	**$0**

Roads - User Input (cont.)

		Haul Road Safety Berms				
	Description (required)	Berm Length ft	Berm Height ft	Berm Base Width ft	Berm Sideslope Angle _H:1V	Number of Berms (2) (1 or 2 sides)

(2) Enter 1 if berm on only one side of road, 2 if both sides of road are bermed.

Closure Cost Estimate
Roads

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2021
File Name: Att 1_Cost 20200820_SRCE_Version_1_4_1_017b_NV_2020 Exploration Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 1.xlsm
Cost Estimate Type: Surety **Cost Basis: American Magnesium - Option 1 Revised**

Roads - Cost Summary	Labor	Equipment	Materials	Totals
Grading Costs	$0	$0	N/A	$0
Cover Placement Cost	$0	$0	N/A	$0
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$0**	**$0**		**$0**
Revegetation Cost	$0	$0	$0	$0
TOTALS	**$0**	**$0**	**$0**	**$0**

Roads - User Input (cont.) — **You must fill in ALL green cells and relevant blue cells in this section for each road**

		Grading				Growth Media			Revegetation				
	Description (required)	Regrading Material Condition (select)	Regrading Material Type (select)	Regrading Equipment Fleet (select)	No. of Excavators if grade >30% (select)	Growth Media Material Type (select)	Cover Placement Equipment Fleet (select)	Maximum Fleet Size (user override)	Seed Mix (select)	Mulch (select)	Fertilizer (select)	Scarifying/ Ripping? (select)	Ripping Fleet (select)

Notes:
1. Material Types are used for density correction based on material densities in Caterpillar Performance Handbook material density table
2. If original slope >30% only excavators are allowed.

Closure Cost Estimate
Roads

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2021
File Name: Att 1_Cost 20200820_SRCE_Version_1_4_1_017b_NV_2020 Exploration Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 1.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Roads - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$0	$0	N/A	$0
Cover Placement Cost	$0	$0	N/A	$0
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$0**	**$0**		**$0**
Revegetation Cost	$0	$0	$0	$0
TOTALS	**$0**	**$0**	**$0**	**$0**

Roads - Calculations

Regrading Volume and Footprint Volume

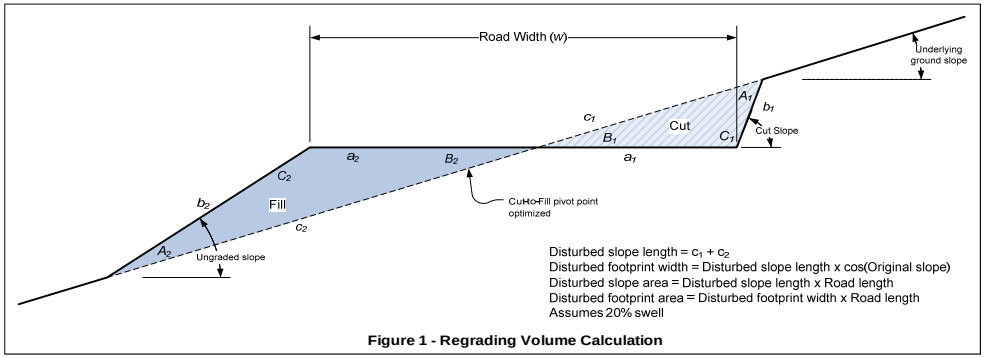


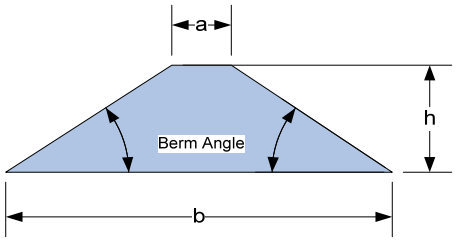
Figure 1 - Regrading Volume Calculation

Will not allow dozer for slopes greater than 30%
For dozer regrading push distance = road width
Assumes dozer push is uphill
Assumes minimum push distance of 100 ft

Safety Berm Volume Calculation

Cross Sectional Area = $\frac{(a+b)}{2} \cdot h$

Berm Volume = Berm Length x Cross Sectional Area x No. Sides



Total berm volume doubled if both sides of road are bermed.
If length of berm on each side of road is different, input total length of both berms and input 1 for number of sides

Ripping/Scarifying Calculations

Minimum 1 hr ripping/scarifying time per area
Number of passes = Final slope length ÷ Grader width
Travel distance = Number of passes x Road length
Total hours = (Travel distance ÷ Grader productivity) + (Number of passes x Grader maneuver time)
For dozer regrading assumes push distance = 3 x road width

Revegetation Calculations

Minimum of 1 acre crew time per area

Closure Cost Estimate
Roads

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2021
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Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 1.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Roads - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$0	$0	N/A	$0
Cover Placement Cost	$0	$0	N/A	$0
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$0**	**$0**		**$0**
Revegetation Cost	$0	$0	$0	$0
TOTALS	**$0**	**$0**	**$0**	**$0**

Roads - Regrading Costs

	Description (required)	Regrading Volume cy	Recontouring Fleet	Fleet Productivity cy/hr	Total Fleet Hours hr	Total Labor Cost $	Total Equipment Cost $	Total Regrading Cost $
						$0	**$0**	**$0**

Closure Cost Estimate
Roads

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2021
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Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 1.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Roads - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$0	$0	N/A	$0
Cover Placement Cost	$0	$0	N/A	$0
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$0**	**$0**		**$0**
Revegetation Cost	$0	$0	$0	$0
TOTALS	**$0**	**$0**	**$0**	**$0**

Roads - Growth Media Costs

	Description (required)	Growth Media Volume cy	Growth Media Replacement Fleet	Fleet Productivity LCY/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Total Labor Cost $	Total Equipment Cost $	Total Growth Media Cost $
							$0	**$0**	**$0**

Closure Cost Estimate
Roads

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2021
File Name: Att 1_Cost 20200820_SRCE_Version_1_4_1_017b_NV_2020 Exploration Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 1.xlsm
Cost Estimate Type: Surety **Cost Basis: American Magnesium - Option 1 Revised**

Roads - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$0	$0	N/A	$0
Cover Placement Cost	$0	$0	N/A	$0
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$0**	**$0**		**$0**
Revegetation Cost	$0	$0	$0	$0
TOTALS	**$0**	**$0**	**$0**	**$0**

Roads - Scarifying/Revegetation Costs

	Description (required)	Total Surface Area acres	Final Slope Length ft	Ripping/ Scarifying Fleet	Ripping Hours hrs	Ripping Labor Costs $	Ripping Equipment Cost $	Total Ripping Costs $	Revegetation Labor Cost $	Revegetation Equipment Cost $	Revgetation Material Cost $	Total Revegetation Cost $
						$0	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**

Closure Cost Estimate
Yards, Etc.

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2021
File Name: Att 1_Cost 20200820_SRCE_Version_1_4_1_017b_NV_2020 Exploration Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 1.xlsm
Cost Estimate Type: Surety **Cost Basis: American Magnesium - Option 1 Revised**

Yards, Etc. - Cost Summary

	Labor	Equipment	Materials	Totals
Regrading Cost	$0	$0	N/A	$0
Cover Placement Cost	$0	$0	N/A	$0
Growth Media Placement Cost	$138	$444	N/A	$582
Ripping/Scarifying Cost	$34	$88	N/A	$122
Subtotal Earthworks	**$172**	**$532**		**$704**
Revegetation Cost	$140	$120	$1,601	$1,861
TOTALS	**$312**	**$652**	**$1,601**	**$2,565**

Color Code Key

User Input - Direct Input	**Direct Input**
User Input - Pull Down List	**Pull Down Selection**
Program Constant (can override)	**Alternate Input**
Program Calculated Value	**Locked Cell - Formula or Reference**

Yards, Etc. - User Input — **You must fill in ALL green cells and relevant blue cells in this section for each building or facility**

	Facility Description			Physical			Cover			Growth Media		
	Description (required)	ID Code	Type	Area acres	Average Flat Area Long Dimension (ripping distance) ft	Regrade Volume (calculated elsewhere) cy	Cover Thickness in	Distance from Cover Borrow Area ft	Slope from Facility to Borrow Area % grade	Growth Media Thickness in	Distance from Growth Media Stockpile ft	Slope from Facility to Stockpile % grade
1	**Laydown Yard**		**Other Facilities**	**0.25**	**100**		**0**	**100**	**0.1**	**12**	**100**	**0.1**

Notes:
1. All Physical parameters must be input even if manual overrides for volume or area are used.
2. If Slope from facility to borrow source is >20, downhill travel time may be underestimated due to limitation of uphill travel time curves and downhill speed tables from CAT Handbook (see Productivty Sheet)

Note: A portion of the Laydown Yard will be used during reclamation as a temporary staging area for equipment and topdressing.

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2021
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Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 1.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Yards, Etc. - Cost Summary

	Labor	Equipment	Materials	Totals
Regrading Cost	$0	$0	N/A	$0
Cover Placement Cost	$0	$0	N/A	$0
Growth Media Placement Cost	$138	$444	N/A	$582
Ripping/Scarifying Cost	$34	$88	N/A	$122
Subtotal Earthworks	**$172**	**$532**		**$704**
Revegetation Cost	$140	$120	$1,601	$1,861
TOTALS	**$312**	**$652**	**$1,601**	**$2,565**

Yards, Etc. - User Input (cont.) — You must fill in ALL green cells and relevant blue cells in this section for each building or facility

		Grading			Cover			Growth Media			Revegetation				
	Description (required)	Regrading Material Condition (select)	Regrading Material Type (select)	Regrading Equipment Fleet (select)	Cover Material Type (select)	Cover Placement Equipment Fleet (select)	Maximum Fleet Size (user override)	Growth Media Material Type (select)	Growth Media Equipment Fleet (select)	Maximum Fleet Size (user override)	Seed Mix (select)	Mulch (select)	Fertilizer (select)	Scarify/ Rip? (select)	Ripping Fleet (select)
1	Laydown Yard	1	Alluvium	Small	Alluvium	Small Truck		Alluvium	Small Truck		User Mix 1	Straw Mulch	None	Yes	Small Dozer

Notes:
1. Material Types are used for density correction based on material densities in Caterpillar Performance Handbook material density table

Project Name: Foothill Dolomite Mine - Reclamation Plan
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File Name: Att 1_Cost 20200820_SRCE_Version_1_4_1_017b_NV_2020 Exploration Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 1.xlsm
Cost Estimate Type: Surety **Cost Basis: American Magnesium - Option 1 Revised**

Yards, Etc. - Cost Summary

	Labor	Equipment	Materials	Totals
Regrading Cost	$0	$0	N/A	$0
Cover Placement Cost	$0	$0	N/A	$0
Growth Media Placement Cost	$138	$444	N/A	$582
Ripping/Scarifying Cost	$34	$88	N/A	$122
Subtotal Earthworks	**$172**	**$532**		**$704**
Revegetation Cost	$140	$120	$1,601	$1,861
TOTALS	**$312**	**$652**	**$1,601**	**$2,565**

Yards, Etc. - Calculations

Grading Calculations

Average push distance assumed to be 2/3 of the 600 feet maximum from Catepillar Handbook or 400 feet
Material assumed to be loose stockile (1.2 productivity factor)
Slope assumed to be 0 to 5% (1.0 productivity factor)

Cover Volume Calculation

Yard area x cover thickness

Ripping/Scarifying Calculations

Flat area width = Final flat area ÷ Average long dimensions
Number of passes = Flat area width ÷ Grader width
Travel distance = Number of passes x Average long dimensions
Total hours = (Travel distance ÷ Grader productivity) + (Number of passes x Grader maneuver time)
Minimum 1 hr ripping/scarifying per area

Revegetation

Minimum 1 acre revegetation crew time per area

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2021
File Name: Att 1_Cost 20200820_SRCE_Version_1_4_1_017b_NV_2020 Exploration Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 1.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Yards, Etc. - Cost Summary

	Labor	Equipment	Materials	Totals
Regrading Cost	$0	$0	N/A	$0
Cover Placement Cost	$0	$0	N/A	$0
Growth Media Placement Cost	$138	$444	N/A	$582
Ripping/Scarifying Cost	$34	$88	N/A	$122
Subtotal Earthworks	**$172**	**$532**		**$704**
Revegetation Cost	$140	$120	$1,601	$1,861
TOTALS	**$312**	**$652**	**$1,601**	**$2,565**

Yards, Etc. - Regrading Costs

Productivity = Dozer Productivity x Grade Correction x Density Correction x Operator (0.75) x Material x Visibility x Job Efficiency (0.83) x (Slot/Side-by-Side)

	Description (required)	Regrading Volume cy	Dozing Distance (see above) ft	Regrading Fleet	Uncorrected Dozer Productivity cy/hr	Grade Correction	Dozing Material	Density Correction	Total Hourly Productivity cy/hr	Total Dozer Hours hr	Total Labor Cost $	Total Equipment Cost $	Total Regrading Cost $
1	**Laydown Yard**			D7R							$0	$0	$0
											$0	**$0**	**$0**

Project Name: Foothill Dolomite Mine - Reclamation Plan
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Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 1.xlsm
Cost Estimate Type: Surety **Cost Basis: American Magnesium - Option 1 Revised**

Yards, Etc. - Cost Summary

	Labor	Equipment	Materials	Totals
Regrading Cost	$0	$0	N/A	$0
Cover Placement Cost	$0	$0	N/A	$0
Growth Media Placement Cost	$138	$444	N/A	$582
Ripping/Scarifying Cost	$34	$88	N/A	$122
Subtotal Earthworks	**$172**	**$532**		**$704**
Revegetation Cost	$140	$120	$1,601	$1,861
TOTALS	**$312**	**$652**	**$1,601**	**$2,565**

Yards, Etc. - Cover and Growth Media Costs

		Cover								Growth Media							
	Description (required)	Cover Volume cy	Topsoil Repacement Fleet	Fleet Productivity LCY/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Total Labor Cost $	Total Equipment Cost $	Total Cover Cost $	Growth Media Volume cy	Growth Media Fleet	Fleet Productivity LCY/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Total Labor Cost $	Total Equipment Cost $	Total Growth Media Cost $
1	**Laydown Yard**						$0	$0	$0	484	725/966G/D7R	483	2	1	$138	$444	$582
							$0	**$0**	**$0**	484				1	**$138**	**$444**	**$582**

Closure Cost Estimate
Yards, Etc.

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2021
File Name: Att 1_Cost 20200820_SRCE_Version_1_4_1_017b_NV_2020 Exploration Rev 2.xlsm
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Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Yards, Etc. - Cost Summary

	Labor	Equipment	Materials	Totals
Regrading Cost	$0	$0	N/A	$0
Cover Placement Cost	$0	$0	N/A	$0
Growth Media Placement Cost	$138	$444	N/A	$582
Ripping/Scarifying Cost	$34	$88	N/A	$122
Subtotal Earthworks	**$172**	**$532**		**$704**
Revegetation Cost	$140	$120	$1,601	$1,861
TOTALS	**$312**	**$652**	**$1,601**	**$2,565**

Yards, Etc. - Scarifying/Revegetation Costs

	Description (required)	Surface Area acres	Area Long Dimension ft	Ripping/ Scarifying Fleet	Scarifying/ Ripping Hours hrs	Scarifying/ Ripping Labor Costs $	Scarifying/ Ripping Equipment Cost $	Total Scarifying/ Ripping Costs $	Revegetation Labor Cost $	Revegetation Equipment Cost $	Revgetation Material Cost $	Total Revegetation Cost $
1	**Laydown Yard**	0.25	100	D7R	1	$34	$88	$122	$140	$120	$1,601	$1,861
		0.25			1	**$34**	**$88**	**$122**	**$140**	**$120**	**$1,601**	**$1,861**

Project Name: Foothill Dolomite Mine - Reclamation Plan
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Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Reclamation Monitoring & Maintenance - Cost Summary

	Labor	Equipment	Lab & Materials	Totals
Revegetation Maintenance	$111	$95	$199	$405
Erosion Maintenance	$541	$1,624	N/A	$2,165
Reclamation Monitoring	$8,910	$374	N/A	$9,284
Subtotal Reclamation Monitoring	**$9,562**	**$2,093**	**$199**	**$11,854**
Water Quality Monitoring	$0	$0	$0	$0
TOTAL MONITORING	**$9,562**	**$2,093**	**$199**	**$11,854**

Reclamation Maintenance

Description	Total Revegetation Surface Area (1,2) acres	% Area Requiring Reseeding	Seed Mix (select)	Area Requiring Reseeding acres	Seed $/acres	Labor $/acres	Equipment $/acres	Totals $
Revegetation Maintenance	3	**25%**	**User Mix 1**	0.8	$250.00	$140.00	$120.00	
Labor								$111
Equipment								$95
Materials								$199
Cost/Acre								$510
							Subtotal	**$405**

Notes: 1) Surface area is NOT the same as footprint disturbance area typically used for permitting purposes.

	Total Volume Growth Media cy	% Volume Requiring Maintenance	Average Growth Media Placement Cost $/CY	Volume Requiring Replacement cy		Labor (assume: 25%) $/acres	Equipment (assume: 75%) $/acres	Total $
Erosion Maintenance	5,206	**20%**	$2.08	1,041		$541.00	$1,624.00	$2,165

Notes:

Reclamation Monitoring

Description	Hrs/Day	Days/Year	Number of Years	Rate $/hr		
Field Work						
Field Geologist/Engineer	**8**	**1**	**3**	$134.99		$3,240
Range Scientist				$119.42		$0
Reporting						
Field Geologist/Engineer	**14**	**1**	**3**	$134.99		$5,670
Range Scientist				$119.42		$0
					Subtotal	**$8,910**
Travel						
	Hrs/Trip hr	**Trips/Year**	**Years**	**Truck Cost** $/hr		
Travel	**4**	**1**	**3**	$31.13		$374
					Subtotal	**$374**
					Total Reclamation Monitoring	**$9,284**

Notes: **Assumes Engineer will travel from Silver City, NM**
Assumes 10 hours for reporting and 4 hours for mobilization and demobilization

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2021
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Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Reclamation Monitoring & Maintenance - Cost Summary

	Labor	Equipment	Lab & Materials	Totals
Revegetation Maintenance	$111	$95	$199	$405
Erosion Maintenance	$541	$1,624	N/A	$2,165
Reclamation Monitoring	$8,910	$374	N/A	$9,284
Subtotal Reclamation Monitoring	**$9,562**	**$2,093**	**$199**	**$11,854**
Water Quality Monitoring	$0	$0	$0	$0
TOTAL MONITORING	**$9,562**	**$2,093**	**$199**	**$11,854**

Water and Rock Sample Analysis

Description	Samples #	Events/Year	No. Years	First Sample Year closure year (1-100)	No. of Samplers	Days/Event	Hrs/Day	Analysis Cost $/sample	Supplies $/sample	Lab Cost $	Material Cost $	Equipment Cost $	Labor Cost $	Cost $	Comments
														$0	
														$0	
														$0	
														$0	
														$0	
														$0	
														$0	
														$0	
														$0	
														$0	
														$0	
														$0	
														$0	
														$0	
														$0	
														$0	
										$0.00	$0.00	$0.00	$0.00		
													Subtotal Sampling Costs	**$0**	

Notes: Sampling labor cost = No. Samplers x Years x Events/year x Days/event x Hour/Day x Labor Rate
Sampling equipment costs include 1 pickup truck for every two samplers

Ground & Surface Water Monitoring

Pump Costs

Description	No. of units		Years		Cost $
Pump (purchased)		Replacement period (yrs):			$0
				Subtotal Field Work	**$0**

Notes: Replacement period = frequency of pump replacement

Reporting

Description	Hrs/Event	Rate $/hr	Cost $
Field Geologist/Engineer			
		Subtotal Reporting	

Notes:

Closure Cost Estimate
Constr. Mgmt

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2021
File Name: Att 1_Cost 20200820_SRCE_Version_1_4_1_017b_NV_2020 Exploration Rev 2.xlsm
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Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Construction Management & Road Maintenance - Cost Summary

	Labor	Equipment	Materials	Totals
Construction Management	$9,979	$1,436	N/A	$11,415
Construction Support		$214		$214
Road Maintenance	$4,545	$13,835	$726	$19,106
TOTAL CONSTRUCTION MANAGEMENT	**$14,524**	**$15,485**	**$726**	**$30,735**

Construction Management

Construction Management Staff

Description	Duration mo.	Hours/ Month hr.	Number of Supervisors	Supervisor Rate $/hr	Labor Cost $	Equipment Cost[1] $	Totals $
Active Reclamation	**0.5**	**80**	**1**	$89.10	$3,564	$513	$4,077
Monitoring & Maintenance	**36**	**2**	**1**	$89.10	$6,415	$923	$7,338
				Total Staff	**$9,979**	**$1,436**	**$11,415**

Construction Management Support

Description	Duration mo.	Number of Units		Rental Rate $/mo	Generator Cost $/mo	Equipment Cost[1] $	Totals $
Temporary Office Rental						$0	$0
Temporary Toilets	**1**	**1**		$214		$214	$214
					Total Support	**$214**	**$214**

Notes: Office rental assumes only 1 generator required for every 4 trailers

Total Construction Management **$11,629**

Road Maintenance

Description	Fleet Size (select)	Number	Duration mo.	Hours/ Month hr.	Labor Cost $	Equipment Cost $	Totals $
Active Reclamation							
Water Truck	**Small**	**1**	**1**	**40**	$1,376	$5,273	$6,649
Grader	**Small**	**1**	**1**	**16**	$594	$1,174	$1,768
Monitoring & Maintenance							
Water Truck	**Small**	**1**	**36**	**1**	$1,239	$4,746	$5,985
Grader	**Small**	**1**	**36**	**1**	$1,336	$2,642	$3,978

Description	Gallons/ Day	Days/ Month	Duration mo.	Cost/ Gallon $			Totals $
Water Fees							
Water Fees	**6000**	**14**	**1**	**0.01**			$726
				Total Project Maintenance	**$4,545**	**$13,835**	**$19,106**

Notes: 1) Supervisor equipment = pickup truck

Note: Assumes water from City of Demning at $8.64 per 1,000 gallons.

Closure Cost Estimate
Labor Rates

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2021
File Name: Att 1_Cost 20200820_SRCE_Version_1_4_1_017b_NV_2020 Exploration Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 1.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Color Code Key	
User Input - Direct Input	Direct Input
User Input - Pull Down List	Pull Down Selection
Program Constant (can override)	Alternate Input
Program Calculated Value	Locked Cell - Formula or Reference

ZONE ADJUSTMENTS			
Cost Basis/Project Region	American Magnesium - Option 1 Revised	American Magnesium - Foothill Dolomite Mine - Northern Nevada Equipment	
Power Equipment Operators	0-50 miles	$0.00	
Truck Drivers	0-50 miles	$0.00	
Laborers	0-50 miles	$0.00	

INDIRECT COSTS	
Unemployment (%)	1.84%
Retirement/SS/Medicare (%)	7.65%
Workman's Compensation (%)	13.30%
Other Indirects	
State Payroll Tax (13),(15),(17),(1	
Total Other Indirects	**0.00%**

HOURLY LABOR RATE TABLE

EQUIPMENT TYPE (1) OR JOB DESCRIPTION	Labor Group	Base Rate ($/hr)	Zone Adjustment ($/hr)	Hourly Wage ($/hr)	Fringe ($/hr)	Retirement/ Medicare ($/hr)	Unemployment Insurance ($/hr)	Workman's Compensation ($/hr)	Other Indirect Costs ($/hr)	Total ($/hr)
Equipment Operators ($/hr) (2)										
Bulldozers										
D6R		$28.02	$0.00	$28.02		$0.52	$2.14	$3.73	$0.00	$34.41
D6R w/ Winch		$28.02	$0.00	$28.02		$0.52	$2.14	$3.73	$0.00	$34.41
D7R		$28.02	$0.00	$28.02		$0.52	$2.14	$3.73	$0.00	$34.41
D8R		$28.02	$0.00	$28.02		$0.52	$2.14	$3.73	$0.00	$34.41
D9R		$28.02	$0.00	$28.02		$0.52	$2.14	$3.73	$0.00	$34.41
D10R		$28.02	$0.00	$28.02		$0.52	$2.14	$3.73	$0.00	$34.41
D11R		$28.02	$0.00	$28.02		$0.52	$2.14	$3.73	$0.00	$34.41
Wheeled Dozers										
824G										
834G										
844										
854G										
Motor Graders										
120H		$30.23	$0.00	$30.23		$0.56	$2.31	$4.02	$0.00	$37.12
14G/H		$30.23	$0.00	$30.23		$0.56	$2.31	$4.02	$0.00	$37.12
16G/H		$30.23	$0.00	$30.23		$0.56	$2.31	$4.02	$0.00	$37.12
24M		$30.23	$0.00	$30.23		$0.56	$2.31	$4.02	$0.00	$37.12
Track Excavators										
312C		$30.23	$0.00	$30.23		$0.56	$2.31	$4.02	$0.00	$37.12
320C		$30.23	$0.00	$30.23		$0.56	$2.31	$4.02	$0.00	$37.12
325C		$30.23	$0.00	$30.23		$0.56	$2.31	$4.02	$0.00	$37.12
330C		$30.23	$0.00	$30.23		$0.56	$2.31	$4.02	$0.00	$37.12
345B		$30.23	$0.00	$30.23		$0.56	$2.31	$4.02	$0.00	$37.12
365BL		$30.23	$0.00	$30.23		$0.56	$2.31	$4.02	$0.00	$37.12
385BL		$30.23	$0.00	$30.23		$0.56	$2.31	$4.02	$0.00	$37.12
Scrapers										
631G		$28.02	$0.00	$28.02		$0.52	$2.14	$3.73	$0.00	$34.41
637G		$28.02	$0.00	$28.02		$0.52	$2.14	$3.73	$0.00	$34.41
Wheeled Loaders										
924G		$28.02	$0.00	$28.02		$0.52	$2.14	$3.73	$0.00	$34.41
928G		$28.02	$0.00	$28.02		$0.52	$2.14	$3.73	$0.00	$34.41
950G		$28.02	$0.00	$28.02		$0.52	$2.14	$3.73	$0.00	$34.41
966G		$28.02	$0.00	$28.02		$0.52	$2.14	$3.73	$0.00	$34.41
972G		$28.02	$0.00	$28.02		$0.52	$2.14	$3.73	$0.00	$34.41
980G		$28.02	$0.00	$28.02		$0.52	$2.14	$3.73	$0.00	$34.41
988G		$28.02	$0.00	$28.02		$0.52	$2.14	$3.73	$0.00	$34.41
990		$28.02	$0.00	$28.02		$0.52	$2.14	$3.73	$0.00	$34.41
992G		$28.02	$0.00	$28.02		$0.52	$2.14	$3.73	$0.00	$34.41
994D		$28.02	$0.00	$28.02		$0.52	$2.14	$3.73	$0.00	$34.41
L2350		$28.02	$0.00	$28.02		$0.52	$2.14	$3.73	$0.00	$34.41
Shovels										
PC2000										
PC3000										
PC4000										
PC5500										
PC8000										
Hydraulic Hammers										
H-120 (fits 325)										
H-160 (fits 345)										
H-180 (fits 365/385)										
Demolition Shears										
S340 (fits 322/325/330)										
S365 (fits 330/345)										
S390 (fits 365/385)										
Demolition Grapples										
G315 (fits 322/325)										
G320 (fits 325/330)										
G330 (fits 345/365)										

Closure Cost Estimate
Labor Rates

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2021
File Name: Att 1_Cost 20200820_SRCE_Version_1_4_1_017b_NV_2020 Exploration Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 1.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Color Code Key	
User Input - Direct Input	Direct Input
User Input - Pull Down List	Pull Down Selection
Program Constant (can override)	Alternate Input
Program Calculated Value	Locked Cell - Formula or Reference

ZONE ADJUSTMENTS			
Cost Basis/Project Region	American Magnesium - Option 1 Revised	American Magnesium - Foothill Dolomite Mine - Northern Nevada Equipment	
Power Equipment Operators	0-50 miles	$0.00	
Truck Drivers	0-50 miles	$0.00	
Laborers	0-50 miles	$0.00	
INDIRECT COSTS			
Unemployment (%)	1.84%		
Retirement/SS/Medicare (%)	7.65%		
Workman's Compensation (%)	13.30%		
Other Indirects			
State Payroll Tax (13),(15),(17),(1			
Total Other Indirects	**0.00%**		

HOURLY LABOR RATE TABLE

Other Equipment										
420D 4WD Backhoe		$28.02	$0.00	$28.02		$0.52	$2.14	$3.73	$0.00	$34.41
428D 4WD Backhoe		$28.02	$0.00	$28.02		$0.52	$2.14	$3.73	$0.00	$34.41
CS533E Vibratory Roller		$28.02	$0.00	$28.02		$0.52	$2.14	$3.73	$0.00	$34.41
CS633E Vibratory Roller		$28.02	$0.00	$28.02		$0.52	$2.14	$3.73	$0.00	$34.41
CP533E Sheepsfoot Compactor		$28.02	$0.00	$28.02		$0.52	$2.14	$3.73	$0.00	$34.41
CP633E Sheepsfoot Compactor		$28.02	$0.00	$28.02		$0.52	$2.14	$3.73	$0.00	$34.41
Light Truck - 1.5 Ton		$0.00		$0.00		$0.00	$0.00	$0.00	$0.00	$0.00
Supervisor's Truck		$0.00		$0.00		$0.00	$0.00	$0.00	$0.00	$0.00
Flatbed Truck										
Air Compressor + tools		$27.69	$0.00	$27.69		$0.51	$2.12	$3.68	$0.00	$34.00
Welding Equipment		$27.88	$0.00	$27.88		$0.51	$2.13	$3.71	$0.00	$34.23
Heavy Duty Drill Rig		$27.88	$0.00	$27.88		$0.51	$2.13	$3.71	$0.00	$34.23
Pump (plugging) Drill Rig		$27.88	$0.00	$27.88		$0.51	$2.13	$3.71	$0.00	$34.23
Concrete Pump										
Gas Engine Vibrator		$14.03	$0.00	$14.03		$0.26	$1.07	$1.87	$0.00	$17.23
Generator 5KW										
HDEP Welder (pipe or liner)										
5 Ton Crane		$27.12	$0.00	$27.12		$0.50	$2.07	$3.61	$0.00	$33.30
20 Ton Crane		$27.12	$0.00	$27.12		$0.50	$2.07	$3.61	$0.00	$33.30
50 Ton Crane		$27.12	$0.00	$27.12		$0.50	$2.07	$3.61	$0.00	$33.30
120 Ton Crane		$27.12	$0.00	$27.12		$0.50	$2.07	$3.61	$0.00	$33.30

NOTES:

(1) Equipment Type:	Catepillar model or equivalent, LeTourneau
(2) Equipment Operator Source:	New Mexico Department of Workforce Solutions Public Works Prevailing Wage Rates Type H -
(3) Zone Basis:	From Deming

Truck Drivers ($/hr) (4)										
725	ruck Driver > 25 yds	$28.02	$0.00	$28.02	$0.00	$0.52	$2.14	$3.73	$0.00	$34.41
730	ruck Driver > 25 yds	$28.02	$0.00	$28.02	$0.00	$0.52	$2.14	$3.73	$0.00	$34.41
735	ruck Driver > 25 yds	$28.02	$0.00	$28.02	$0.00	$0.52	$2.14	$3.73	$0.00	$34.41
740	ruck Driver > 25 yds	$28.02	$0.00	$28.02	$0.00	$0.52	$2.14	$3.73	$0.00	$34.41
769D	ruck Driver > 25 yds	$28.02	$0.00	$28.02	$0.00	$0.52	$2.14	$3.73	$0.00	$34.41
773E		$28.02	$0.00	$28.02	$0.00	$0.52	$2.14	$3.73	$0.00	$34.41
777D	ruck Driver > 60 yds	$28.02	$0.00	$28.02	$0.00	$0.52	$2.14	$3.73	$0.00	$34.41
785C					$0.00					
793C					$0.00					
797B					$0.00					
613E (5,000 gal) Water Wagon	ter Truck > 2,500 gall	$28.02	$0.00	$28.02	$0.00	$0.52	$2.14	$3.73	$0.00	$34.41
621E (8,000 gal) Water Wagon	ter Truck > 2,500 gall	$28.02	$0.00	$28.02	$0.00	$0.52	$2.14	$3.73	$0.00	$34.41
777D Water Truck					$0.00					
785C Water Truck					$0.00					
Dump Truck (10-12 yd3)	ruck Driver > 8 yds <	$24.92	$0.00	$24.92	$0.00	$0.46	$1.91	$3.31	$0.00	$30.60

NOTES:

(4) Truck Driver Source:	New Mexico Department of Workforce Solutions Public Works Prevailing Wage Rates Type H -
(5) Zone Basis:	From Deming

Closure Cost Estimate
Labor Rates

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2021
File Name: Att 1_Cost 20200820_SRCE_Version_1_4_1_017b_NV_2020 Exploration Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 1.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Color Code Key	
User Input - Direct Input	Direct Input
User Input - Pull Down List	Pull Down Selection
Program Constant (can override)	Alternate Input
Program Calculated Value	Locked Cell - Formula or Reference

ZONE ADJUSTMENTS			
Cost Basis/Project Region	American Magnesium - Option 1 Revised	American Magnesium - Foothill Dolomite Mine - Northern Nevada Equipment	
Power Equipment Operators	0-50 miles	$0.00	
Truck Drivers	0-50 miles	$0.00	
Laborers	0-50 miles	$0.00	

INDIRECT COSTS	
Unemployment (%)	1.84%
Retirement/SS/Medicare (%)	7.65%
Workman's Compensation (%)	13.30%
Other Indirects	
State Payroll Tax (13),(15),(17),(1	
Total Other Indirects	**0.00%**

HOURLY LABOR RATE TABLE

Laborers ($/hr) (6,7)

General Laborer	Group 1	$23.88	$0.00	$23.88	$0.00	$0.44	$1.83	$3.18	$0.00	$29.32
Skilled Laborer	Group 4	$26.14	$0.00	$26.14	$0.00	$0.48	$2.00	$3.48	$0.00	$32.10
Driller's Helper	Group 3	$26.14	$0.00	$26.14	$0.00	$0.48	$2.00	$3.48	$0.00	$32.10
Rodmen (reinforcing concrete)	Group 1	$23.88	$0.00	$23.88	$0.00	$0.44	$1.83	$3.18	$0.00	$29.32
Cement finisher	Group 3	$26.14	$0.00	$26.14	$0.00	$0.48	$2.00	$3.48	$0.00	$32.10
Carpenter		$36.47	$0.00	$36.47	$0.00	$0.67	$2.79	$4.85	$0.00	$44.78

NOTES:

(6) Laborer Source:	New Mexico Department of Workforce Solutions Public Works Prevailing Wage Rates Type H -
(7) Carpenter Source:	New Mexico Department of Workforce Solutions Public Works Prevailing Wage Rates Type H -
(8) Zone Basis:	From Deming

Project Management and Technical Labor ($/hr) (9)

Project Manager		$72.56		$72.56	$0.00	$1.34	$5.55	$9.65	$0.00	$89.10
Foreman		$67.50		$67.50	$0.00	$1.24	$5.16	$8.98	$0.00	$82.88
Field Geologist/Engineer		$109.94		$109.94	$0.00	$2.02	$8.41	$14.62	$0.00	$134.99
Field Tech/Sampler		$76.11		$76.11	$0.00	$1.40	$5.82	$10.12	$0.00	$93.46
Range Scientist		$97.25		$97.25	$0.00	$1.79	$7.44	$12.93	$0.00	$119.42
Senior Planning Engineer					$0.00					
Project Engineer					$0.00					
Mechanic/Fitter					$0.00					
					$0.00					
					$0.00					
					$0.00					
					$0.00					

NOTES:

(9) Project Manager:	R.S.Means 2020 Q2 (01 31 1320 0200 Total Incl.O&P-10%) Adjusted for Elko, NV
(9) Foreman Source:	R.S.Means 2020 Q2 (01 31 1320 0200 Total Incl.O&P-10%) Adjusted for Elko, NV
(9) Techical Labor Source:	Wood plc 2020 Adjusted for Zone,Tax and Ins.
Other Labor Source:	
Other Labor Source:	
†Additional User Markups	
(These are added by the user to the	
base rate to account for site-specific	
conditions or corporate requirements)	

Closure Cost Estimate
Equipment Costs

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2021
File Name: Att 1_Cost 20200820_SRCE_Version_1_4_1_017b_NV_2020 Exploration Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 1.xlsm
Monthly Rental Basis: 160 hrs month

EQUIPMENT RENTAL RATE TABLE

EQUIPMENT TYPE (1)	Monthly Owner/Rental Rate	Equipment Hourly Rate	Fuel/Lube/ Wear	Total Rate
Bulldozers				
D6R	$7,222.35	$45.14	$50.90	$96.04
D6R w/ Winch	$7,222.35	$45.14	$50.90	$96.04
D7R	$10,466.40	$65.42	$22.95	$88.37
D8R	$20,180.00	$126.13	$29.70	$155.83
D9R	$30,100.00	$188.13	$41.41	$229.54
D10R	$44,500.00	$278.13	$51.43	$329.55
D11R	$56,234.00	$351.46	$235.44	$586.90
Wheeled Dozers				
824G	$19,849.00	$124.06	$113.00	$237.06
834G	$24,929.00	$155.81	$138.70	$294.51
844	$33,734.00	$210.84	$184.06	$394.90
854G	$33,802.00	$211.26	$221.85	$433.11
Motor Graders				
120H	$3,964.95	$24.78	$48.60	$73.38
14G/H	$14,790.00	$92.44	$94.28	$186.72
16G/H	$18,806.00	$117.54	$129.63	$247.16
24M	$20,686.00	$129.29	$158.47	$287.75
Track Excavators				
312C	$5,610.00	$35.06	$7.59	$42.65
320C	$7,750.00	$48.44	$15.05	$63.49
325C	$10,047.96	$62.80	$18.57	$81.37
330C	$11,500.00	$71.88	$23.64	$95.51
345B	$16,730.00	$104.56	$29.42	$133.99
365BL	$23,119.00	$144.49	$113.51	$258.00
385BL	$28,472.00	$177.95	$134.75	$312.70
Scrapers				
631G	$27,700.00	$173.13	$70.61	$243.74
637G	$36,819.00	$230.12	$200.40	$430.52
Wheeled Loaders				
924G	$5,610.00	$35.06	$19.78	$54.85
928G	$6,530.00	$40.81	$36.90	$77.71
950G	$9,520.00	$59.50	$32.45	$91.95
966G	$5,856.20	$36.60	$37.28	$73.88
972G	$13,480.00	$84.25	$43.86	$128.11
980G	$15,690.00	$98.06	$61.05	$159.11
988G	$19,589.00	$122.43	$151.77	$274.20
990	$28,299.00	$176.87	$233.36	$410.23
992G	$47,500.00	$296.88	$225.73	$522.61
994D	$45,175.00	$282.34	$350.03	$632.37
L2350	$82,607.00	$516.29	$625.53	$1,141.82
Shovels				
PC2000	$70,917.00	$443.23	$278.28	$721.51
PC3000	$72,526.00	$453.29	$345.19	$798.47
PC4000	$74,135.00	$463.34	$427.42	$890.76
PC5500	$81,548.00	$509.68	$562.14	$1,071.82
PC8000	$89,703.00	$560.64	$658.00	$1,218.64
Hydraulic Hammers				
H-120 (fits 325)	$3,420.00	$21.38	$11.57	$32.95
H-160 (fits 345)	$7,028.00	$43.93	$23.24	$67.17
H-180 (fits 365/385)	$8,168.00	$51.05	$24.96	$76.01
Demolition Shears				
S340 (fits 322/325/330)	$3,524.00	$22.03	$20.50	$42.53
S365 (fits 330/345)	$4,131.00	$25.82	$25.23	$51.05
S390 (fits 365/385)	$6,593.00	$41.21	$31.61	$72.82
Demolition Grapples				
G315 (fits 322/325)				$0.00
G320 (fits 325/330)				$0.00
G330 (fits 345/365)				$0.00
Other Equipment				
420D 4WD Backhoe	$3,240.00	$20.25	$22.10	$42.35
428D 4WD Backhoe	$3,870.00	$24.19	$22.59	$46.78
CS533E Vibratory Roller	$4,402.00	$27.51	$27.54	$55.06
CS633E Vibratory Roller	$4,291.00	$26.82	$31.05	$57.87
CP533E Sheepsfoot Compactor	$4,085.00	$25.53	$33.08	$58.61
CP633E Sheepsfoot Compactor	$6,588.00	$41.18	$40.18	$81.36
Light Truck - 1.5 Ton	$2,184.00	$13.65	$17.48	$31.13
Supervisor's Truck	$834.00	$5.21	$7.61	$12.82
Flatbed Truck	$621.00	$3.88	$21.62	$25.50
Air Compressor + tools	$597.00	$3.73	$5.57	$9.30
Welding Equipment	$405.00	$2.53	$6.30	$8.83
Heavy Duty Drill Rig	$52,018.00	$325.11	$314.83	$639.94
Pump (plugging) Drill Rig	$52,018.00	$325.11	$310.45	$635.56
Concrete Pump	$14,864.20	$92.90	$21.90	$114.80
Gas Engine Vibrator	$357.00	$2.23	$3.65	$5.88
Generator 5KW	$938.00	$5.86	$6.87	$12.73
HDEP Welder (pipe or liner)	$7,022.96	$43.89	$4.38	$48.27
5 Ton Crane	$7,159.50	$44.75	$42.14	$86.88
20 Ton Crane	$7,955.00	$49.72	$48.28	$98.00
50 Ton Crane	$15,154.00	$94.71	$88.82	$183.54
120 Ton Crane	$28,943.00	$180.89	$177.03	$357.92
Trucks				
725	$9,300.06	$58.13	$82.89	$141.02
730	$14,640.00	$91.50	$62.31	$153.81
735	$16,730.00	$104.56	$70.00	$174.56
740	$18,820.00	$117.63	$74.01	$191.63
769D			$23.86	$23.86
773E	$18,267.00	$114.17	$160.85	$275.02
777D	$37,750.00	$235.94	$325.91	$561.85
785C	$40,948.00	$255.93	$366.30	$622.22
793C	$49,547.00	$309.67	$470.39	$780.06
797B	$89,160.00	$557.25	$817.64	$1,374.89
613E (5,000 gal) Water Wagon	$8,726.00	$54.54	$77.29	$131.83
621E (8,000 gal) Water Wagon	$10,006.00	$62.54	$103.42	$165.96
777D Water Truck	$37,226.00	$232.66	$321.40	$554.07
785C Water Truck	$40,948.00	$255.93	$366.30	$622.22
Dump Truck (10-12 yd^3)	$3,752.00	$23.45	$32.89	$56.34

NOTES:

(1) Power Equipment Source:	
(2) Power Equipment Type:	Catepillar model or equivalent, LeTourneau loader, Komatsu shovels
(3) Drilliing Equipment Source:	RS Means Heavy Construction (2020 Q2)
(4) Other Equipment Source:	RS Means Heavy Construction (2020 Q2)

(5) Drill rig includes support (pipe) truck

Closure Cost Estimate
Equipment Costs

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2021
File Name: Att 1_Cost 20200820_SRCE_Version_1_4_1_017b_NV_2020 Exploration Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 1.xlsm

FUEL, LUBE AND WEAR CALCULATIONS

EQUIPMENT TYPE	PM Cost Per Hour (1)	Under carriage or Tires (2)	G.E.T Consumption (3)	Fuel Use Rate gal/hr (4)	Cost@ 2.19/gal	Total Hourly Equipment Cost
Bulldozers						
D6R	$34.60		$2.61	6.25	$13.69	$50.90
D6R w/ Winch	$34.60		$2.61	6.25	$13.69	$50.90
D7R	$2.69		$3.84	7.50	$16.43	$22.95
D8R	$3.49		$4.86	9.75	$21.35	$29.70
D9R	$3.61		$6.59	14.25	$31.21	$41.41
D10R	$3.79		$8.22	18.00	$39.42	$51.43
D11R	$160.74		$16.66	26.50	$58.04	$235.44
Wheeled Dozers						
824G	$49.58	$38.56	$1.32	10.75	$23.54	$113.00
834G	$59.69	$49.72	$1.70	12.60	$27.59	$138.70
844	$77.91	$70.88	$2.42	15.00	$32.85	$184.06
854G	$90.20	$87.64	$2.40	19.00	$41.61	$221.85
Motor Graders						
120H	$20.32	$18.90	$0.62	4.00	$8.76	$48.60
14G/H	$37.21	$42.00	$1.38	6.25	$13.69	$94.28
16G/H	$50.42	$60.78	$2.00	7.50	$16.43	$129.63
24M	$55.46	$66.86	$2.20	15.50	$33.95	$158.47
Track Excavators						
312C	$2.14		$1.33	1.88	$4.12	$7.59
320C	$2.38		$1.94	4.90	$10.73	$15.05
325C	$2.64		$1.48	6.60	$14.45	$18.57
330C	$3.01		$2.67	8.20	$17.96	$23.64
345B	$3.36		$2.85	10.60	$23.21	$29.42
365BL	$80.63		$3.97	13.20	$28.91	$113.51
385BL	$91.31		$5.11	17.50	$38.33	$134.75
Scrapers						
631G	$3.22	$32.68	$1.86	15.00	$32.85	$70.61
637G	$116.00	$30.28	$2.11	23.75	$52.01	$200.40
Wheeled Loaders						
924G	$9.33	$4.24	$0.19	2.75	$6.02	$19.78
928G	$16.35	$12.28	$0.60	3.50	$7.67	$36.90
950G	$2.30	$20.52	$0.87	4.00	$8.76	$32.45
966G	$2.42	$21.40	$0.87	5.75	$12.59	$37.28
972G	$2.53	$26.56	$1.08	6.25	$13.69	$43.86
980G	$2.57	$40.64	$1.41	7.50	$16.43	$61.05
988G	$57.81	$65.20	$2.26	12.10	$26.50	$151.77
990	$85.58	$106.84	$3.71	17.00	$37.23	$233.36
992G	$11.87	$130.76	$32.73	23.00	$50.37	$225.73
994D	$122.36	$143.84	$4.99	36.00	$78.84	$350.03
L2350	$203.53	$268.16	$9.30	66.00	$144.54	$625.53
Shovels						
PC2000	$183.38		$13.87	37.00	$81.03	$278.28
PC3000	$218.80		$16.89	50.00	$109.50	$345.19
PC4000	$254.21		$19.91	70.00	$153.30	$427.42
PC5500	$279.63		$21.90	119.00	$260.61	$562.14
PC8000	$307.59		$24.09	149.00	$326.31	$658.00
Hydraulic Hammers						
H-120 (fits 325)	N/A		$11.57			$11.57
H-160 (fits 345)	N/A		$23.24			$23.24
H-180 (fits 365/385)	N/A		$24.96			$24.96
Demolition Shears						
S340 (fits 322/325/330)	N/A		$20.50			$20.50
S365 (fits 330/345)	N/A		$25.23			$25.23
S390 (fits 365/385)	N/A		$31.61			$31.61
Demolition Grapples						
G315 (fits 322/325)	N/A					$0.00
G320 (fits 325/330)	N/A					$0.00
G330 (fits 345/365)	N/A					$0.00
Other Equipment						
420D 4WD Backhoe	$11.81	$3.18	$0.54	3.00	$6.57	$22.10
428D 4WD Backhoe	$12.20	$3.22	$0.60	3.00	$6.57	$22.59
CS533E Vibratory Roller	$19.33			3.75	$8.21	$27.54
CS633E Vibratory Roller	$20.65			4.75	$10.40	$31.05
CP533E Sheepsfoot Compactor	$24.87			3.75	$8.21	$33.08
CP633E Sheepsfoot Compactor	$29.78			4.75	$10.40	$40.18
Light Truck - 1.5 Ton	$8.67	$5.52		1.50	$3.29	$17.48
Supervisor's Truck	$3.62	$1.80		1.00	$2.19	$7.61
Flatbed Truck	$3.85	$7.48		4.70	$10.29	$21.62
Air Compressor + tools	$3.38		N/A	1.00	$2.19	$5.57
Welding Equipment	$1.92		N/A	2.00	$4.38	$6.30
Heavy Duty Drill Rig	$278.95		$9.60	12.00	$26.28	$314.83
Pump (plugging) Drill Rig	$278.95		$9.60	10.00	$21.90	$310.45
Concrete Pump			N/A	10.00	$21.90	$21.90
Gas Engine Vibrator	$1.46		N/A	1.00	$2.19	$3.65
Generator 5KW	$3.58		N/A	1.50	$3.29	$6.87
HDEP Welder (pipe or liner)			N/A	2.00	$4.38	$4.38
5 Ton Crane	$23.22	$12.35		3.00	$6.57	$42.14
20 Ton Crane	$25.80	$13.72		4.00	$8.76	$48.28
50 Ton Crane	$45.47	$33.06		4.70	$10.29	$88.82
120 Ton Crane	$80.14	$85.50		5.20	$11.39	$177.03
Trucks						
725	$28.22	$41.16	$3.22	4.70	$10.29	$82.89
730	$2.76	$44.94	$3.22	5.20	$11.39	$62.31
735	$2.86	$47.82	$3.22	7.35	$16.10	$70.00
740	$2.97	$51.72	$3.22	7.35	$16.10	$74.01
769D			$3.60	9.25	$20.26	$23.86
773E	$47.92	$83.16	$4.04	11.75	$25.73	$160.85
777D	$95.60	$189.12	$4.51	16.75	$36.68	$325.91
785C	$105.16	$208.03		24.25	$53.11	$366.30
793C	$127.24	$251.72		41.75	$91.43	$470.39
797B	$204.78	$484.20		58.75	$128.66	$817.64
613E (5,000 gal) Water Wagon	$45.31	$18.84		6.00	$13.14	$77.29
621E (8,000 gal) Water Wagon	$50.66	$29.22		10.75	$23.54	$103.42
777D Water Truck	$95.60	$189.12		16.75	$36.68	$321.40
785C Water Truck	$105.16	$208.03		24.25	$53.11	$366.30
Dump Truck (10-12 yd3) (5)	N/A	$21.50	N/A	5.20	$11.39	$32.89

Notes:

(1) PM Source:	
(2) Undercarriage Source:	
(3) G.E.T. Source:	
(4) Fuel Use Source:	Caterpillar Handbook, Edition 35, Ch. 20; or estimated average for smaller vehicles
(5) Dump Truck Oper. Cost Source:	Means Heavy Construction (2008)

Closure Cost Estimate
Equipment Costs

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2021
File Name: Att 1_Cost 20200820_SRCE_Version_1_4_1_017b_NV_2020 Exploration Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
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TIRE COST TABLES

Equipment	Tire Size	# of Tires Per Piece of Equipment	Cost Per Tire	Tire Cost (1)(2)	Life Expectency Hours (Low/Zone A) (3)	Tire Cost per Hour
Bulldozers						
D6R			N/A			
D6R w/ Winch			N/A			
D7R			N/A			
D8R			N/A			
D9R			N/A			
D10R			N/A			
D11R			N/A			
Wheeled Dozers						
824G	29.5R25	4	$33,740.00	$134,960.00	3,500	$38.56
834G	35/65-R33	4	$43,505.00	$174,020.00	3,500	$49.72
844	45/65-R39	4	$62,020.00	$248,080.00	3,500	$70.88
854G	45/65-R45	4	$76,685.00	$306,740.00	3,500	$87.64
Motor Graders						
120H	13PR24	6	$11,025.00	$66,150.00	3,500	$18.90
14G/H	20.5R25	6	$24,500.00	$147,000.00	3,500	$42.00
16G/H	23.5R25	6	$35,455.00	$212,730.00	3,500	$60.78
24M	23.5R25	6	$39,000.50	$234,003.00	3,500	$66.86
Track Excavators						
312C			N/A			
320C			N/A			
325C			N/A			
330C			N/A			
345B			N/A			
365BL			N/A			
385BL			N/A			
Scrapers						
631G	37.25R35	4	$32,680.00	$130,720.00	4,000	$32.68
637G	37.25R35	4	$30,280.00	$121,120.00	4,000	$30.28
Wheeled Loaders						
924G	17.5R25	4	$4,770.00	$19,080.00	4,500	$4.24
928G	17.5R25	4	$13,815.00	$55,260.00	4,500	$12.28
950G	26.5R25	4	$23,085.00	$92,340.00	4,500	$20.52
966G	26.5R25	4	$24,075.00	$96,300.00	4,500	$21.40
972G	26.5R25	4	$29,880.00	$119,520.00	4,500	$26.56
980G	29.5R25	4	$45,720.00	$182,880.00	4,500	$40.64
988G	35/65-33	4	$73,350.00	$293,400.00	4,500	$65.20
990	41.25/70-39	4	$120,195.00	$480,780.00	4,500	$106.84
992G	45/65R45	4	$147,105.00	$588,420.00	4,500	$130.76
994D	55/85R57	4	$161,815.50	$647,262.00	4,500	$143.84
L2350	55/85R57	4	$301,680.00	$1,206,720.00	4,500	$268.16
Shovels						
PC2000			N/A			
PC3000			N/A			
PC4000			N/A			
PC5500			N/A			
PC8000			N/A			
Hydraulic Hammers						
H-120 (fits 325)			N/A			
H-160 (fits 345)			N/A			
H-180 (fits 365/385)			N/A			
Demolition Shears						
S340 (fits 322/325/330)			N/A			
S365 (fits 330/345)			N/A			
S390 (fits 365/385)			N/A			
Demolition Grapples						
G315 (fits 322/325)			N/A			
G320 (fits 325/330)			N/A			
G330 (fits 345/365)			N/A			
Other Equipment						
420D 4WD Backhoe	340/80R18-19.5LR24	2	$4,770.00	$9,540.00	3,000	$3.18
428D 4WD Backhoe	340/80R18-16.9R28	2	$4,830.00	$9,660.00	3,000	$3.22
CS533E Vibratory Roller			N/A			
CS633E Vibratory Roller			N/A			
CP533E Sheepsfoot Compactor			N/A			
CP633E Sheepsfoot Compactor			N/A			
Light Truck - 1.5 Ton		4	4140	$16,560.00	3,000	$5.52
Supervisor's Truck		4	1350	$5,400.00	3,000	$1.80
Flatbed Truck		22	1020	$22,440.00	3,000	$7.48
Air Compressor + tools			N/A			
Welding Equipment			N/A			
Heavy Duty Drill Rig		4		$0.00	3,000	
Pump (plugging) Drill Rig		4		$0.00	3,000	
Concrete Pump			N/A			
Gas Engine Vibrator			N/A			
Generator 5KW			N/A			
HDEP Welder (pipe or liner)			N/A			
5 Ton Crane		4	$9,261.00	$37,044.00	3,000	$12.35
20 Ton Crane		4	$10,290.00	$41,160.00	3,000	$13.72
50 Ton Crane		6	$16,530.00	$99,180.00	3,000	$33.06
120 Ton Crane		6	$42,750.00	$256,500.00	3,000	$85.50
Trucks						
725	23.5R25	6	$13,720.00	$82,320.00	2,000	$41.16
730	23.5R25	6	$14,980.00	$89,880.00	2,000	$44.94
735	26.5R25	6	$15,940.00	$95,640.00	2,000	$47.82
740	29.5R25	6	$17,240.00	$103,440.00	2,000	$51.72
769D	18.00R33	6		$0.00	6,000	
773E	24.00R35	6	$69,300.00	$415,800.00	5,000	$83.16
777D	27.00R49	6	$157,600.00	$945,600.00	5,000	$189.12
785C	33.00R51	6	$138,688.00	$832,128.00	4,000	$208.03
793C	40.00R57	6	$167,812.48	$1,006,874.88	4,000	$251.72
797B	40.00R57	6	$322,800.00	$1,936,800.00	4,000	$484.20
613E (5,000 gal) Water Wagon	23.5R25	6	$18,840.00	$113,040.00	6,000	$18.84
621E (8,000 gal) Water Wagon	33.25R29	6	$38,960.00	$233,760.00	8,000	$29.22
777D Water Truck	27.00R49	6	$157,600.00	$945,600.00	5,000	$189.12
785C Water Truck	33.00R51	6	$138,688.00	$832,128.00	4,000	$208.03
Dump Truck (10-12 yd3)		10	$12,900.00	$129,000.00	6,000	$21.50

Notes:

(1) Unit Cost Basis:	
(2) Cost Basis:	
(3) Tire Cost Source:	
(4) Tire Wear Source:	

Closure Cost Estimate
Material Costs

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2021
File Name: Att 1_Cost 20200820_SRCE_Version_1_4_1_017b_NV_2020 Exploration Rev
Model Version: Version 1.4.1
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Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 1.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Revegetation Materials

Seed Mixes

Seed Mix	Description	Cost/Acre
None		
Mix 1	Basins	$302.50
Mix 2	Low Hills	$332.75
Mix 3	Uplands	$363.00
Mix 4	Riparian or Custom	$393.25
User Mix 1	**Site Specific Seed Mix**	**$250.00**
User Mix 2		
User Mix 3		
User Mix 4		

	Cost/lb	lbs/Acre	Cost/Acre
User Mix 5 (from Seed Mix sheet)	$0.00	$9.18	$0.00

Notes:

Mulch

Item	Cost/lb	lbs/Acre	Cost/Acre
None			
Straw Mulch	$0.17	**36300**	$6,150.83
Hydro Mulch	$0.25		
Timber Mulch			

Notes:

Granite Seed $500 per Ton in 50 lb bag Wood (Hydro) Mulch (June 2020)

Closure Cost Estimate
Material Costs

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Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Amendments			
Item	**Cost/lb**	**lbs/Acre**	**Cost/Acre**
None			
Organic Matter	$0.70		$0.00
Treated Sludge			
Chemical	$0.59		$0.00
Notes:	Western Nevada Supply $29.34 per 50 lb. bag 15-15-15 (June 2020)		

Closure Cost Estimate
Material Costs

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Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Well Abandonment Materials

Description	Cost/50lb bag	Units	Cost/unit*
Cement	$7.57	cy	$36.07
Grout (Low Grade Bentonite)	$8.85	cy	$42.14
Inert Material/Cuttings		cy	
		cy	
		cy	

(1) Jentech Drilling Supply quote (June 2020) Type I,II Cement at $14.24 per 94 lb. bag
(2) Jentech Drilling Supply (June 2020) 3/8 in. Chunk Bentonite Hole Plug at $8.85 per 50 lb. bag (5.75 cf/bag at 4

* Assumes 1 bag mixes with water to make 0.21 y3 or 0.16 m3 of grout/cement slurry.

Monitoring Costs

Description	Units	Cost/unit
Monitor Well Pump	ea.	$2,788.41
Sampling Supplies	ea.	$6.51
Water Analysis (Profile I) (1)	ea.	$411.00
Leach Test (MWMP) w/ analysis	ea.	$483.40
ABA + S speciation	ea.	$150.00
WAD Cyanide in water	ea.	$56.00
Water Analysis (Profile II) (1)	ea.	$461.00
	ea.	
	ea.	
	ea.	
	ea.	
	ea.	
	ea.	
	ea.	
	ea.	
	ea.	
	ea.	

(1) WET Lab, Reno, Nevada (July 2020)
Well pump and Sample supply costs adjusted to 2020.
Original source unknown.

Closure Cost Estimate
Material Costs

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Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 1.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Fuel, Etc.

Description	Units	Cost/unit
Off-road Diesel - delivered (1)	$/gal	$2.190
Pickup Truck Mileage	$/mi	$0.575
Electical Power	$/kWh	$0.079

(1) Source: Oil Price Infomration Service , average annual cost including freight to Nevada (July 2020).
Source: Federal Government Vehicle Allowance Rate 2020
Source: NV Energy (July 2020) $0.07872

Closure Cost Estimate
Material Costs

Revegetation Method				
Slopes				
Disturbance Type	**Seed Application Method**	**Labor** Cost/Acre	**Equipment** Cost/Acre	**Total** Cost/Acre
Waste Rock Dumps	**Drill**	$140.00	$120.00	$260.00
Heap Leach	**Drill**	$140.00	$120.00	$260.00
Tailings	**Drill**	$140.00	$120.00	$260.00
Quarries & Borrow Pits	**Drill**	$140.00	$120.00	$260.00
Flat Areas and Undifferentiated				
Disturbance Type	**Seed Application Method**	**Labor** Cost/Acre	**Equipment** Cost/Acre	**Total** Cost/Acre
Exploration Trenches	**Drill**	$140.00	$120.00	$260.00
Exploration Roads	**Drill**	$140.00	$120.00	$260.00
Waste Rock Dumps	**Drill**	$140.00	$120.00	$260.00
Heap Leach	**Drill**	$140.00	$120.00	$260.00
Tailings	**Drill**	$140.00	$120.00	$260.00
Quarries & Borrow Pits	**Drill**	$140.00	$120.00	$260.00
Roads	**Drill**	$140.00	$120.00	$260.00
Pits	**Drill**	$140.00	$120.00	$260.00
Haul Material	**Drill**	$140.00	$120.00	$260.00
Foundations & Buildings	**Drill**	$140.00	$120.00	$260.00
Sediment & Drainge Control	**Drill**	$140.00	$120.00	$260.00
Process Ponds	**Drill**	$140.00	$120.00	$260.00
Landfills	**Drill**	$140.00	$120.00	$260.00
Yards, Etc.	**Drill**	$140.00	$120.00	$260.00
Revegetation Maintenance	**Drill**	$140.00	$120.00	$260.00

Closure Cost Estimate
Misc. Unit Costs

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Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 1.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Revegetation

	Means Number	Unit	Crew	Daily Output	Daily Output User	Materials	Labor	Equipment	Total	Notes
Seeding - Broadcast Hand (1)		acres					$140.00	$50.00	$190.00	
Seeding - Broadcast Mechanical (1)		acres					$140.00	$50.00	$190.00	
Seeding - Drill (1)		acres		365			$140.00	$120.00	$260.00	
Seeding - Hydroseeding (1)				365			$250.00	$150.00	$400.00	
Shrub Planting - bare root 6-10 in (150- 250mm) (2)	02910-400-0561	ea.	1 Clab	365					$0.00	
Tree Planting - bare root 11-16 in (270- 400mm) (3)	02910-400-0562	ea.	1 Clab	260					$0.00	
Cactus Planting (4)		ea.	1 Clab						$0.00	
NOTES:										
(1) Seeding Source:	Source: Kelley Erosion Control (July 2020).									
(2) Shrub Source:										
(3) Tree Source:										
(4) Cactus Source:										

Building and Wall Demolition

Hourly productivity rates and crew composition from Means Heavy Construction 2005 Edition by permission of R.S.Means/Reed Construction Data .
All equipment, labor and material unit costs are from Labor Costs, Equipment Costs and Material Costs spreadsheets

	Means Number	Unit	Crew	Daily Output	Daily Output User	Labor	Equipment	Premium	Total	Notes
Building Demolition										
Lg. steel	02220-110-0012	C.F.	B-8	21500		$0.10	$0.11		$0.21	
Lg. concrete	02220-110-0050	C.F.	B-8	15300		$0.14	$0.15		$0.29	
Lg. masonry	02220-110-0080	C.F.	B-8	20100		$0.11	$0.11		$0.22	
Lg. mixed	02220-110-0100	C.F.	B-8	20100		$0.11	$0.11		$0.22	
Sm. steel	02220-110-0500	C.F.	B-3	14800		$0.13	$0.10		$0.23	
Sm. concrete	02220-110-0600	C.F.	B-3	11300		$0.17	$0.13		$0.30	
Sm. masonry	02220-110-0650	C.F.	B-3	14800		$0.13	$0.10		$0.23	
Sm. wood	02220-110-0700	C.F.	B-3	14800		$0.13	$0.10		$0.23	
Wall Demolition										
Block 4 in (100 mm) thick	02220-130-2000	S.F.	1 Clab	180		$1.30	$0.00	20%	$1.56	
Block 6 in (150 mm) thick	02220-130-2040	S.F.	1 Clab	170		$1.38	$0.00	20%	$1.66	
Block 8 in (200 mm) thick	02220-130-2080	S.F.	1 Clab	150		$1.56	$0.00	20%	$1.87	
Block 12 in (300 mm) thick	02220-130-2100	S.F.	1 Clab	150		$1.56	$0.00	20%	$1.87	
Conc 6 in (150 mm) thick	02220-130-2400	S.F.	B-9	160		$11.71	$0.47	10%	$13.40	
Conc 8 in (200 mm) thick	02220-130-2420	S.F.	B-9	140		$13.38	$0.53	10%	$15.30	
Conc 10 in (250 mm) thick	02220-130-2440	S.F.	B-9	120		$15.61	$0.62	10%	$17.85	
Conc 12 in (300 mm) thick	02220-130-2500	S.F.	B-9	100		$18.73	$0.74	10%	$21.42	

Closure Cost Estimate
Misc. Unit Costs

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2021
File Name: Att 1_Cost 20200820_SRCE_Version_1_4_1_017b_NV_2020 Exploration Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 1.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Waste Disposal

Unit rates from Means Heavy Construction 2006 Edition by permission of R.S.Means/Reed Construction Data .

	Means Number	Unit	Crew	Daily Output	Materials	Labor	Equipment		Total	Notes
Rubbish Handling										
Dumpster delivery (average for all sizes)	02220-350-0910	ea.			$51.50				$51.50	
Haul (average for all sizes)	02220-350-0920	ea.			$161.00				$161.00	
Rent per month (average for all sizes)	02220-350-0940	ea.			$55.00				$55.00	
Disposal fee per ton (tonne) (average for all sizes)	02220-350-0950	ton			$60.50				$60.50	
NOTES:										
Dumpster Cost Source	R.S. Means Heavy Construction (2020 Q2).									
Dumpster Disposal Fee Source:	R.S. Means Heavy Construction (2020 Q2).									
Hazardous Material Handling - Solids (+ Liquids in drums)										
Pickup fees 55 gal (200 L). drums	02110-300-1100	ea.			$251.00				$251.00	
Bulk material (average)	02110-300-1220/1230	ton			$409.50				$409.50	
Transport - truck load (80 drums, 25 cy (m3), 18 tons)	02110-300-1260/1270	mile			$5.88				$5.88	
Dump site solid disposal fee	02110-300-6000/6020	ton			$288.50				$288.50	
NOTES:										
Solid Handling Cost Source	R.S. Means Heavy Construction (2019 Q2).									
Solid Disposal Fee Source:	2019 Q2 R.S. Means Heavy Const. ave. 02 81									
Hazardous Material Handling - Liquids										
Vacuum Truck Pickup (2200 gal/8300 L)	02110-300-3110	hr.			$147.00				$147.00	
Vacuum Truck Pickup (5000 gal/19000 L)	02110-300-3120	hr.			$213.00				$213.00	
Dump site liquid disposal fee	02110-300-6000/6020	ton			$288.50				$288.50	
NOTES:										
Liquid Handling Cost Source	R.S. Means Heavy Construction (2020 Q2).									
Liquid Disposal Fee Source:	2020 Q2 R.S. Means Heavy Const. ave. 02 81									
Hydrocarbon Contaminated Soils (HCS)										
Insitu Biotreatment	02115-200-2020/2021	C.Y.			$17.64				$17.64	
HCS disposal fee	02115-200-2050/2055	C.Y.			$278.50				$278.50	
NOTES:										
Insitu Treatement Cost Source	2020 Q2 R.S. Means Heavy Const., ave. 02 65									
HCS Disposal Fee Source:	2020 Q2 R.S. Means Heavy Const., ave. 02 65									

Closure Cost Estimate
Misc. Unit Costs

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2021
File Name: Att 1_Cost 20200820_SRCE_Version_1_4_1_017b_NV_2020 Exploration Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 1.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Concrete Structure Installation

Weekly dumpster rental rates from Means Heavy Construction 2005 Edition with permission by R.S.Means/Reed Construction Data .
Weekly dumpster rental rates include haul to off-site disposal site and disposal fees

	Means Number	Unit	Crew	Daily Output	Materials	Labor	Equipment	Premium	Total	Notes
Reinforced Concrete Bulkheads and Shaft Covers										
Grade walls - 15 in (400mm) thick, 8 ft (2.5m) high	03310-240-4300	C.Y.	C-14D	80.02	$163.00	$105.53	$13.35		$281.88	includes reinforcing
Grade walls - 15 in (400mm) thick, 12 ft (3.7m) high	03310-240-4350	C.Y.	C-14D	26.2	$163.00	$322.30	$40.76		$526.06	includes reinforcing
Elevated conc, 1-way beam & slab - 15ft (4.6m) span	03310-240-2700	C.Y.	C-14B	20.59	$278.00	$410.57	$51.87		$740.44	includes reinforcing
Elevated conc, 1-way beam & slab - 25ft (7.5m) span	03310-240-2750	C.Y.	C-14B	28.36	$265.00	$298.08	$37.66		$600.74	includes reinforcing
Bat Gate/Foam Plug Installation										
Bat Gate (5)		ea.			$3,367.61					materials $/ea. Installed
Culvert Gate (5)		ea.			$6,735.21					materials $/ea. Installed
Adit Foam Plug (6)		ea./C.Y.			$336.76					materials $/cy placed
Production Opening Foam Plug (6)		ea./C.Y.			$336.76					materials $/cy placed

NOTES:

(5) Bat Gate Source:	NV BLM, 2/2006: 8 hr + 1hr mob/demob + 1hr setup per gate (adjusted to 2020)
(6) Foam Plug Source:	NV BLM, 2/2006: 8 hr+ 1hr mob/demob + 1hr setup per adit; 16 hrs per production opening (adjusted to 2020)

Closure Cost Estimate
Misc. Unit Costs

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2021
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Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Misc. Linear Projects

Hourly productivity rates and crew composition from Means Heavy Construction 2005 Edition by permission of R.S.Means/Reed Construction Data .
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	Means Number	Unit	Crew	Daily Output	Materials	Labor	Equipment	Premium	Total	Notes
Fencing Installation										
Barbed 3-strand	02820-170-1650	L.F.	B-80A	760	$0.51	$0.93	$0.33		$1.77	
Barbed 4-strand	extrapolated	L.F.	B-80A	570	$0.68	$1.23	$0.44		$2.35	
Barbed 5-strand	02820-130-0920	L.F.	B-80A	456	$0.85	$1.54	$0.55		$2.94	
Chain link 8-10ft (2.5-3m) Install	02820-130-0920	L.F.	B-80C	180	$38.00	$3.91	$1.38		$43.29	
Wood stockade fence 6 ft (2 m) high - Install	02820-510-1240	L.F.	B-80C	150	$16.00	$4.69	$1.66		$22.35	
	user	L.F.							$0.00	
	user	L.F.							$0.00	
	user	L.F.							$0.00	
	user	L.F.							$0.00	
Fencing Removal										
Barbed 3-strand Removal	02220-220-1600	L.F.	2 Clab	430		$1.09	$0.58		$1.67	
Barbed 4-strand Removal	extrapolated	L.F.	2 Clab	355		$1.32	$0.70		$2.02	
Barbed 5-strand Removal	02220-220-1650	L.F.	2 Clab	280		$1.68	$0.89		$2.57	
Chain link 8-10 ft (2.5-3 m) Removal	02220-220-1700	L.F.	B-6	445		$1.67	$1.40		$3.07	
Wood, all types 4-6 ft ("1.5-2 m) high - Removal	02220-220-1775	L.F.	2 Clab	430		$1.09	$0.58		$1.67	
	user	L.F.								
	user	L.F.							$0.00	
	user	L.F.							$0.00	
	user	L.F.							$0.00	
Culvert Removal										
12 in (300 mm) Diameter	02220-220-2900	L.F.	B-6	175		$4.25	$3.55		$7.80	
18 in (450 mm) Diameter	02220-220-2930	L.F.	B-6	150		$4.96	$4.14		$9.10	
24 in (600 mm) Diameter	02220-220-2960	L.F.	B-6	120		$6.20	$5.18		$11.38	
36 in (1m) Diameter	02220-220-3000	L.F.	B-6	90		$8.27	$6.91		$15.18	
Pipeline Removal										
0.75 in (20mm) - 4 in (100 mm) diameter	02220-381-1600	L.F.	B-20	700		$1.65	$0.36		$2.01	
6 in (150 mm) - 8 in (200 mm)	02220-381-1700	L.F.	B-20	500		$2.31	$0.50		$2.81	
10 in (250 mm) - 18 in (450 mm)	02220-381-1800	L.F.	B-20	300		$3.85	$0.83		$4.68	
20 in (500 mm) - 36 in (1 m)	02220-381-1900	L.F.	B-20	200		$5.77	$1.25		$7.02	
Pipe and Drainpipe Installation										
Water 4in (100mm) 40ft (12m) length, welded HDPE	02510-760-0100	L.F.	B-22A	400	$2.70	$3.19	$4.46		$10.35	
Water 6in (150mm) 40ft (12m) length, welded HDPE	02510-760-0200	L.F.	B-22A	380	$5.85	$3.36	$4.69		$13.90	
Water 12in (300mm) 40ft (12m) length, welded HDPE	02510-760-0500	L.F.	B-22A	260		$4.91	$6.86		$11.77	
Drain 4in (100mm) perforated PVC	02620-630-2100	L.F.	B-14	315	$1.74	$5.96	$1.87		$9.57	
Drain 6in (150mm) perforated PVC	02620-630-2110	L.F.	B-14	300	$4.22	$6.26	$1.96		$12.44	
Drain 4in (100mm) corrugated, perf or plain	02620-660-0040	L.F.	2 Clab	1200	$0.78	$0.39	$0.21		$1.38	
Drain 6in (150mm) corrugated., perf or plain	02620-660-0060	L.F.	2 Clab	900	$2.18	$0.52	$0.28		$2.98	

Closure Cost Estimate
Misc. Unit Costs

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2021
File Name: Att 1_Cost 20200820_SRCE_Version_1_4_1_017b_NV_2020 Exploration Rev 2.xlsm
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Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Drain Rock Preparation										
Crushing		C.Y.							$0.50	
Screening		C.Y.							$0.50	
TOTAL									$1.00	
Misc.										
Backhoe work	02210-700-0120	C.Y.	B-11M	28		$9.83	$12.10		$21.93	
Powerline and Transformer Removal										
Single Pole		mile							$46,803.69	
Double Pole		mile							$53,489.93	
Transformer (9)		ea.							$58,997.31	
NOTES:										
(7) Single Pole Source:	NV Energy estimate (2009) Adjusted to 2020									
(8) Double Pole Source:	NV Energy estimate (2009) Adjusted to 2020									
(9) Transformer Source:	NV Energy estimate (2018) adjusted to 2020									

Erosion and Sedimentation Control

Hourly productivity rates and crew composition from Means Heavy Construction 2005 Edition by permission of R.S.Means/Reed Construction Data .
All equipment, labor and material unit costs are from Labor Costs, Equipment Costs and Material Costs spreadsheets

	Means Number	Unit	Crew	Daily Output	Materials	Labor	Equipment	Premium	Total	Notes
Rip-Rap & Rock Lining										
Rip-Rap 3/8 to 1/4 CY (m3) pieces, grouted	02370-450-0110	S.Y.	B-13	80	$25.00	$23.35	$9.80		$58.15	assumes on-site source of rip-rap
Rip-Rap 18 in (450 mm) min thick, no grout	02370-450-0200	S.Y.	B-13	53	$7.65	$35.24	$14.79		$57.68	assumes on-site source of rip-rap
Gabions, 6 in (150 mm) deep	02370-450-0400	S.Y.	B-13	200	$7.05	$9.34	$3.92		$20.31	assumes on-site source rock fill for gabions
Gabions, 9 in (250 mm) deep	02370-450-0500	S.Y.	B-13	163	$9.85	$11.46	$4.81		$26.12	assumes on-site source rock fill for gabions
Gabions, 12 in (300 mm) deep	02370-450-0200	S.Y.	B-13	153	$14.30	$12.21	$5.12		$31.63	assumes on-site source rock fill for gabions
Gabions, 18 in (450 mm) deep	02370-450-0200	S.Y.	B-13	102	$18.35	$18.31	$7.69		$44.35	assumes on-site source rock fill for gabions
Gabions, 36 in (1m) deep	02370-450-0200	S.Y.	B-13	60	$31.00	$31.13	$13.07		$75.20	assumes on-site source rock fill for gabions
HDEP Liner Installation										
Finish grading large area	2310-100-0100	S.F.	B-11L	18000		$0.03	$0.08		$0.11	
Compaction-riding, vibrating roller - 12in (300mm) lifts	2315-310-5100	C.Y.	B-10Y	2600		$0.20	$0.17		$0.37	
60 mil HDPE	2660-610-0010	S.F.	3 Skwk	1600	$0.57	$0.65	$0.45		$1.67	
80 mil HDPE	user	S.F.	3 Skwk	149		$7.02	$4.87		$11.89	
40 mil VLDPE	user	S.F.	3 Skwk	150		$6.97	$4.83		$11.80	
	user	S.F.	3 Skwk	149		$7.02	$4.87		$11.89	
	user	S.F.	3 Skwk	149		$7.02	$4.87		$11.89	

Closure Cost Estimate
Misc. Unit Costs

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2021
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Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Construction Management Support											
Office Trailer, Furnished, no hook-ups	0150-500-0250	mo.			$198.00				$198.00	
Toilet Portable, chemical	1590-400-6410	mo.			$214.20				$214.20	
TOTAL					$412.20				$412.20	

Pump and Casing Removal											
	Pump Type	**Measurement**	**Unit**				**Labor**	**Equipment**		**Total**	**Notes**
Pump Removal											
	Submersible	ft to pump	L.F.				$7.65	$18.86		$26.51	
	Line Shaft	ft to pump	L.F.				$7.65	$18.86		$26.51	
	NOTES:										
	(10) Pump Removal Source:	Boart Longyear Quote: June 2020									

Project Name: Foothill Dolomite Mine - Reclamation Plan
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Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

EQUIPMENT FLEETS

ACTIVITY AND FLEET		Standard Crew Size	EQUIPMENT UNIT COST (Hourly)	TOTAL LABOR UNIT COST (Hourly)	TOTAL COST (Hourly)
RIPPING					
Rip road					
Waste rock dumps, heaps, tails - rip flat surfaces					
Surface preparation					
Scarify					
Small Dozer w/ multi-shank					
D7R		1	$88.37	$34.41	$122.78
Totals			$88.37	$34.41	$122.78
Medium Dozer w/ multi-shank					
D9R		1	$229.54	$34.41	$263.95
Totals			$229.54	$34.41	$263.95
Large Dozer w/ multi-shank					
D10R		1	$329.55	$34.41	$363.96
Totals			$329.55	$34.41	$363.96
Grader w/ multi-shank					
16G/H		1	$247.16	$37.12	$284.28
Totals			$247.16	$37.12	$284.28
GRADING					
Grading storage and structure areas					
Grading waste rock dumps and heaps					
Grading landfills					
Constructing pit safety berms					
Small Dozer Fleet					
D7R		1	$88.37	$34.41	$122.78
Totals			$88.37	$34.41	$122.78
Medium Dozer Fleet					
D9R		1	$229.54	$34.41	$263.95
Totals			$229.54	$34.41	$263.95
Large Dozer Fleet					
D10R		1	$329.55	$34.41	$363.96
Totals			$329.55	$34.41	$363.96
EXPLORATION GRADING					
Backfilling and grading exploration trenches					
Grading flat exploration roads					
Small Dozer Fleet					
D6R		1	$96.04	$34.41	$130.45
Totals			$96.04	$34.41	$130.45
Medium Dozer Fleet					
D7R		1	$88.37	$34.41	$122.78
Totals			$88.37	$34.41	$122.78
Large Dozer Fleet					
D8R		1	$155.83	$34.41	$190.24
Totals			$155.83	$34.41	$190.24

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Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

EQUIPMENT FLEETS

ACTIVITY AND FLEET		Standard Crew Size	EQUIPMENT UNIT COST (Hourly)	TOTAL LABOR UNIT COST (Hourly)	TOTAL COST (Hourly)
EXCAVATING					
Earthen Berms					
Diversion ditch excavation and backfill					
Underground openings backfill - excavate and place					
Pit berm construction (excavator option)					
Small Excavator					
325C		1	$81.37	$37.12	$118.49
Totals			$81.37	$37.12	$118.49
Medium Excavator					
345B		1	$133.99	$37.12	$171.11
Totals			$133.99	$37.12	$171.11
Large Excavator					
385BL		1	$312.70	$37.12	$349.82
Totals			$312.70	$37.12	$349.82
EXCAVATE AND RECONTOUR					
Recontour large roads (haul roads, access roads, etc.)					
Ponds - Excavate and pull liner and bury					
Small Excavator + Dozer					
325C		1	$81.37	$37.12	$118.49
D7R		1	$88.37	$34.41	$122.78
Total Equipment			$169.74	$71.53	$241.27
Medium Excavator + Dozer					
345B		1	$133.99	$37.12	$171.11
D9R		1	$229.54	$34.41	$263.95
Totals			$363.53	$71.53	$435.06
Large Excavator + Dozer					
385BL		1	$312.70	$37.12	$349.82
D10R		1	$329.55	$34.41	$363.96
Totals			$642.25	$71.53	$713.78
EXPLORATION ROAD/PAD RECONTOUR					
Recontour small roads (exploration roads, service roads, etc.)					
Cut and Fill reclamation on slopes					
Drill pad recountour					
Drill sump backfill					
Small Dozer					
D6R		1	$96.04	$34.41	$130.45
Totals			$96.04	$34.41	$130.45
Large Dozer					
D8R		1	$155.83	$34.41	$190.24
Totals			$155.83	$34.41	$190.24
Grader					
14G/H		1	$186.72	$37.12	$223.84
Totals			$186.72	$37.12	$223.84
Small Excavator					
320C		1	$63.49	$37.12	$100.61
Totals			$63.49	$37.12	$100.61
Medium Excavator					
325C		1	$81.37	$37.12	$118.49
Totals			$81.37	$37.12	$118.49

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2021
File Name: Att 1_Cost 20200820_SRCE_Version_1_4_1_017b_NV_2020 Exploration Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 1.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

EQUIPMENT FLEETS

ACTIVITY AND FLEET		Standard Crew Size	EQUIPMENT UNIT COST (Hourly)	TOTAL LABOR UNIT COST (Hourly)	TOTAL COST (Hourly)
LOAD, HAUL AND PLACE MATERIAL					
Rock placement					
Haul overburden for backfill					
Haul borrow for backfill					
Haul cover or growth media					
Small Truck/Loader Fleet					
725		Calculated	$141.02	$34.41	$175.43
966G	**Loader**	1	$73.88	$34.41	$108.29
D7R		1	$88.37	$34.41	$122.78
Totals			$303.27	$103.23	$406.50
Medium Truck/Loader Fleet					
740		Calculated	$191.63	$34.41	$226.04
988G	**Loader**	1	$274.20	$34.41	$308.61
D8R		1	$155.83	$34.41	$190.24
Totals			$621.66	$103.23	$724.89
Large Truck/Loader Fleet					
769D		Calculated	$23.86	$34.41	$58.27
988G	**Loader**	1	$274.20	$34.41	$308.61
D7R		1	$88.37	$34.41	$122.78
Totals			$386.43	$103.23	$489.66
Extra Large Truck/Loader Fleet					
777D		Calculated	$561.85	$34.41	$596.26
992G	**Loader**	1	$522.61	$34.41	$557.02
D7R		1	$88.37	$34.41	$122.78
Totals			$1,172.83	$103.23	$1,276.06
Scraper/Dozer Fleet					
631G		Calculated	$243.74	$34.41	$278.15
D10R		1	$329.55	$34.41	$363.96
D7R		1	$88.37	$34.41	$122.78
Totals			$661.66	$103.23	$764.89
Tandem Scraper Fleet					
637G		2	$430.52	$34.41	$464.93
D7R		1	$88.37	$34.41	$122.78
Totals			$518.89	$68.82	$587.71
MISC. LOAD AND HAUL AND EARTHWORKS					
Sludge removal					
Drainage controls					
Misc. - Cat 325B Excavator / 10-12 yd3 Truck					
325C		1	$81.37	$37.12	$118.49
Dump Truck (10-12 yd3)		1	$56.34	$30.60	$86.94
Totals			$137.71	$67.72	$205.43
Misc. - Cat D9R Dozer/ Loader (5 yd3) / 10-12 yd3 Truck					
D9R		1	$229.54	$34.41	$263.95
966G		1	$73.88	$34.41	$108.29
Dump Truck (10-12 yd3)		1	$56.34	$30.60	$86.94
Totals			$359.76	$99.42	$459.18
Misc. - Cat D6 Dozer / Cat 966 Loader / 10-12 yd3 Truck					
D6R		1	$96.04	$34.41	$130.45
966G		1	$73.88	$34.41	$108.29
Dump Truck (10-12 yd3)		1	$56.34	$30.60	$86.94
Totals			$226.26	$99.42	$325.68

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Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

EQUIPMENT FLEETS

ACTIVITY AND FLEET		Standard Crew Size	EQUIPMENT UNIT COST (Hourly)	TOTAL LABOR UNIT COST (Hourly)	TOTAL COST (Hourly)
CONCRETE BREAKING					
Slab demolition					
Footing demolition					
Wall demolition					
Small - Cat 325B Excavator w/ H140D s Hammer					
325C		1	$81.37	$37.12	$118.49
H-120 (fits 325)		1	$32.95	$0.00	$32.95
D9R		1	$229.54	$34.41	$263.95
Totals			$343.86	$71.53	$415.39
Medium - Cat 345B Excavator w/ H180D s Hammer					
345B		1	$133.99	$37.12	$171.11
H-160 (fits 345)		1	$67.17	$0.00	$67.17
D9R		1	$229.54	$34.41	$263.95
Totals			$430.70	$71.53	$502.23
Large - Cat 385B Excavator w/ H180D s Hammer					
385BL		1	$312.70	$37.12	$349.82
H-180 (fits 365/385)		1	$76.01	$0.00	$76.01
D9R		1	$229.54	$34.41	$263.95
Totals			$618.25	$71.53	$689.78
DRILL HOLE ABANDONMENT					
Drill Hole - Grout or Cement					
Pump (plugging) Drill Rig		1	$635.56	$34.23	$669.79
Driller's Helper		2	$0.00	$64.20	$64.20
Totals			$635.56	$98.43	$733.99
Drill Hole - Inert Media (Means Crew B-11M+ 1 Laborer)					
420D 4WD Backhoe		1	$42.35	$34.41	$76.76
General Laborer		1	$0.00	$29.32	$29.32
Totals			$42.35	$63.73	$106.08
Drill Hole - Casing Perforation or Removal					
Heavy Duty Drill Rig		1	$639.94	$34.23	$674.17
Driller's Helper		2	$0.00	$64.20	$64.20
Totals			$639.94	$98.43	$738.37
MAINTENANCE FLEET					
Road Grading, Dust Suppression, Clean Up					
Maintenance - Small Water Truck and Cat 14G Grader					
613E (5,000 gal) Water Wagon		1	$131.83	$34.41	$166.24
120H		1	$73.38	$37.12	$110.50
Totals			$205.21	$71.53	$276.74
Maintenance - Medium Water Truck and Cat 16G Grader					
613E (5,000 gal) Water Wagon		1	$131.83	$34.41	$166.24
14G/H		1	$186.72	$37.12	$223.84
Totals			$318.55	$71.53	$390.08
Maintenance - Large Water Truck and Cat 16G Grader					
621E (8,000 gal) Water Wagon		1	$165.96	$34.41	$200.37
16G/H		1	$247.16	$37.12	$284.28
Totals			$413.12	$71.53	$484.65
PROJECT SUPERVISION					
Foreman		1	$0.00	$82.88	$82.88
Supervisor's Truck		1	$12.82	$0.00	$12.82
Totals			$12.82	$82.88	$95.70

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EQUIPMENT FLEETS

ACTIVITY AND FLEET		Standard Crew Size	EQUIPMENT UNIT COST (Hourly)	TOTAL LABOR UNIT COST (Hourly)	TOTAL COST (Hourly)
MEANS CREW DEFINITIONS					
Crew composition from Means Heavy Construction 2005 Edition by permission of R.S.Means/Reed Construction Data . For use with misc. unit costs where Means is the source for productivity					
1 Clab - Seedling Planting/Block Wall Demolition					
General Laborer		1	$0.00	$29.32	$29.32
Totals			$0.00	$29.32	$29.32
2 Clab - Barbed Wire/Wood Fence Removal, Drainpipe Installation, Pumping, Evaporation					
General Laborer		2	$0.00	$58.64	$58.64
Light Truck - 1.5 Ton		1	$31.13	$0.00	$31.13
Totals			$31.13	$58.64	$89.77
2 Clab + Excavator - Pond Liner Cut and Fold					
General Laborer		2	$0.00	$58.64	$58.64
325C		1	$81.37	$37.12	$118.49
Totals			$81.37	$95.76	$177.13
2 Clab + Welder - Bat Gates					
General Laborer		2	$0.00	$58.64	$58.64
Welding Equipment		1	$8.83	$34.23	$43.06
Light Truck - 1.5 Ton		1	$31.13	$0.00	$31.13
Totals			$39.96	$92.87	$132.83
3 Clab - Foam Adit Plugs					
General Laborer		2	$0.00	$58.64	$58.64
420D 4WD Backhoe		1	$42.35	$34.41	$76.76
Light Truck - 1.5 Ton		1	$31.13	$0.00	$31.13
Totals			$73.48	$93.05	$166.53
3 Clab + Welder - Culvert Bat Gate					
General Laborer		2	$0.00	$58.64	$58.64
Welding Equipment		1	$8.83	$34.23	$43.06
420D 4WD Backhoe		1	$42.35	$34.41	$76.76
Light Truck - 1.5 Ton		1	$31.13	$0.00	$31.13
Totals			$82.31	$127.28	$209.59
3 Clab D - 3 Laborers + Foreman - Decontamination					
General Laborer		3	$0.00	$87.96	$87.96
Foreman		1	$0.00	$82.88	$82.88
Supervisor's Truck		1	$12.82	$0.00	$12.82
Light Truck - 1.5 Ton		1	$31.13	$0.00	$31.13
Totals			$43.95	$170.84	$214.79
3 SKWK - Liner Installation					
Skilled Laborer		3	$0.00	$96.30	$96.30
HDEP Welder (pipe or liner)		1	$48.27	$0.00	$48.27
420D 4WD Backhoe		1	$42.35	$34.41	$76.76
			$0.00		$0.00
			$0.00		$0.00
			$0.00		$0.00
Totals			$90.62	$130.71	$221.33

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EQUIPMENT FLEETS

ACTIVITY AND FLEET		Standard Crew Size	EQUIPMENT UNIT COST (Hourly)	TOTAL LABOR UNIT COST (Hourly)	TOTAL COST (Hourly)
B-3 - Small Building Demoltion					
LABOR					
General Laborer		2	$0.00	$58.64	$58.64
Foreman		1	$0.00	$82.88	$82.88
			$0.00		$0.00
			$0.00		$0.00
			$0.00		$0.00
EQUIPMENT					
928G		1	$77.71	$34.41	$112.12
Dump Truck (10-12 yd3)		2	$112.68	$61.20	$173.88
			$0.00		$0.00
			$0.00		$0.00
			$0.00		$0.00
			$0.00		$0.00
			$0.00		$0.00
			$0.00		$0.00
			$0.00		$0.00
Totals			$190.39	$237.13	$427.52
B-6 - Chain Link Fence/Culvert Removal					
General Laborer		2	$0.00	$58.64	$58.64
928G		1	$77.71	$34.41	$112.12
Totals			$77.71	$93.05	$170.76
B-8 - Large Building Demolition					
LABOR					
General Laborer		2	$0.00	$58.64	$58.64
Foreman		1	$0.00	$82.88	$82.88
			$0.00		$0.00
			$0.00		$0.00
			$0.00		$0.00
EQUIPMENT					
928G		1	$77.71	$34.41	$112.12
20 Ton Crane		1	$98.00	$33.30	$131.30
Dump Truck (10-12 yd3)		2	$112.68	$61.20	$173.88
			$0.00		$0.00
			$0.00		$0.00
			$0.00		$0.00
			$0.00		$0.00
			$0.00		$0.00
			$0.00		$0.00
			$0.00		$0.00
			$0.00		$0.00
			$0.00		$0.00
			$0.00		$0.00
			$0.00		$0.00
Totals			$288.39	$270.43	$558.82
B-9 - Concrete Wall Demolition					
General Laborer		4	$0.00	$117.28	$117.28
Foreman		1	$0.00	$82.88	$82.88
Air Compressor + tools			$9.30	$34.00	$43.30
Totals			$9.30	$234.16	$243.46

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Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

EQUIPMENT FLEETS

ACTIVITY AND FLEET		Standard Crew Size	EQUIPMENT UNIT COST (Hourly)	TOTAL LABOR UNIT COST (Hourly)	TOTAL COST (Hourly)
B-10Y - General Compaction					
General Laborer		1	$0.00	$29.32	$29.32
CS533E Vibratory Roller		1	$55.06	$34.41	$89.47
Totals			$55.06	$63.73	$118.79
B-11L - Fine Grading for Evaporation Pond Liner Base					
General Laborer		1	$0.00	$29.32	$29.32
14G/H		1	$186.72	$37.12	$223.84
Totals			$186.72	$66.44	$253.16
B-11M - Backhoe Work					
420D 4WD Backhoe		1	$42.35	$34.41	$76.76
Totals			$42.35	$34.41	$76.76
B-12G - Rip-Rap Machine Placed (Modified)					
966G		1	$73.88	$34.41	$108.29
325C		1	$81.37	$37.12	$118.49
Light Truck - 1.5 Ton		1	$31.13	$0.00	$31.13
Totals			$186.38	$71.53	$257.91
B-13 - Grouted Rip-Rap & Gabion Baskets					
General Laborer		4	$0.00	$117.28	$117.28
Foreman		1	$0.00	$82.88	$82.88
20 Ton Crane		1	$98.00	$33.30	$131.30
Totals			$98.00	$233.46	$331.46
B-14 PVC Drain Pipe Installation					
Foreman		1	$0.00	$82.88	$82.88
General Laborer		4	$0.00	$117.28	$117.28
420D 4WD Backhoe		1	$42.35	$34.41	$76.76
Light Truck - 1.5 Ton		1	$31.13	$0.00	$31.13
Totals			$73.48	$234.57	$308.05
B-20 - Remove Pipelines					
Foreman		1	$0.00	$82.88	$82.88
Skilled Laborer		1	$0.00	$32.10	$32.10
General Laborer		1	$0.00	$29.32	$29.32
Light Truck - 1.5 Ton		1	$31.13	$0.00	$31.13
Totals			$31.13	$144.30	$175.43
B-22A - HDEP Installation - Pipe or Liner					
Skilled Laborer		1	$0.00	$32.10	$32.10
General Laborer		2	$0.00	$58.64	$58.64
D7R		1	$88.37	$34.41	$122.78
Light Truck - 1.5 Ton		1	$31.13	$0.00	$31.13
420D 4WD Backhoe		1	$42.35	$34.41	$76.76
Generator 5KW		1	$12.73	$0.00	$12.73
HDEP Welder (pipe or liner)		1	$48.27	$0.00	$48.27
Totals			$222.85	$159.56	$382.41
B-80A - Install Barbed Wire Fence					
General Laborer		3	$0.00	$87.96	$87.96
Light Truck - 1.5 Ton		1	$31.13	$0.00	$31.13
Totals			$31.13	$87.96	$119.09

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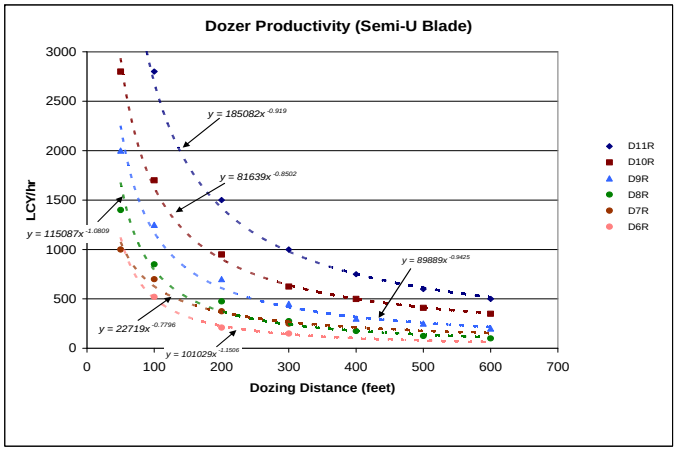
EQUIPMENT FLEETS

ACTIVITY AND FLEET		Standard Crew Size	EQUIPMENT UNIT COST (Hourly)	TOTAL LABOR UNIT COST (Hourly)	TOTAL COST (Hourly)
B-80C - Install Chain Link Fence (Flatbed truck has small crane)					
General Laborer		3	$0.00	$87.96	$87.96
Light Truck - 1.5 Ton		1	$31.13	$0.00	$31.13
Totals			$31.13	$87.96	$119.09
C-14B - Elevated Concrete Slabs (Reinforced Concrete Shaft Covers)					
Foreman		1	$0.00	$82.88	$82.88
Supervisor's Truck		1	$12.82	$0.00	$12.82
Carpenter		16	$0.00	$716.48	$716.48
General Laborer		2	$0.00	$58.64	$58.64
Rodmen (reinforcing concrete)		4	$0.00	$117.28	$117.28
Cement finisher		2	$0.00	$64.20	$64.20
Gas Engine Vibrator		1	$5.88	$17.23	$23.11
Concrete Pump		1	$114.80	$0.00	$114.80
Totals			$133.50	$1,056.71	$1,190.21
C-14D - Concrete Walls Formed in Place (Reinforced Concrete Adit Bulkheads)					
Foreman		1	$0.00	$82.88	$82.88
Supervisor's Truck		1	$12.82	$0.00	$12.82
Carpenter		18	$0.00	$806.04	$806.04
General Laborer		2	$0.00	$58.64	$58.64
Rodmen (reinforcing concrete)		2	$0.00	$58.64	$58.64
Cement finisher		1	$0.00	$32.10	$32.10
Gas Engine Vibrator		1	$5.88	$17.23	$23.11
Concrete Pump		1	$114.80	$0.00	$114.80
Totals			$133.50	$1,055.53	$1,189.03

Productivity - Bulldozers

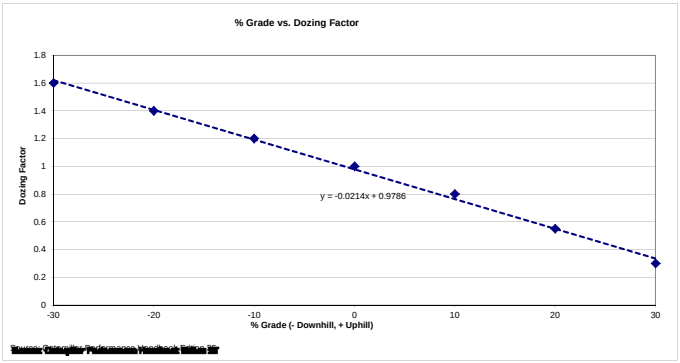
Dozer Specifications						
Description	**D11R**	**D10R**	**D9R**	**D8R**	**D7R**	**D6R**
Blade Width (SU) (ft)	18.33	15.92	14.17	12.92	12.08	10.67
Shank Guage (3 shanks) (ft)	9.83	8.67	7.67	7.08	6.5	6.5
Pocket Spacing (ft)	4.75	4.33	3.87	3.58	3.25	3.25
Ripping Width (Ripper + 1 Pocket) (ft)	14.58	13	11.54	10.66	9.75	9.75
Ripping Speed (mph)	1	1	1	1	1	1
Ripping Maneuver (turn) Time (min)	0.25	0.25	0.25	0.25	0.25	0.25
Altitude Deration Factor	1	1	1	1	1	1
Ripping Hourly Production (excluding maneuvering time) (ft)	5,280	5,280	5,280	5,280	5,280	5,280
Source: Caterpillar Performance Handbook Edition 35						

Dozer Productivity vs. Grading Distance						
	Production (LCY/hr)					
Average Dozing Distance (feet)	**D11R**	**D10R**	**D9R**	**D8R**	**D7R**	**D6R**
50	4,800	2,800	2,000	1,400	1,000	
100	2,800	1,700	1,250	850	700	520
200	1,500	950	700	475	375	210
300	1,000	625	450	275	250	150
400	750	500	300	175		
500	600	410	250	125		
600	500	350	200	100		
Source: Caterpillar Performance Handbook Edition 35						
dozer productivity = k x Dozing Distance^{p} (see graph)						
k =	185082	81639	89889	115087	22719	101029
p =	-0.919	-0.8502	-0.9425	-1.0809	-0.7796	-1.1506



Productivity - Bulldozers (cont.)

% Grade vs. Dozing Factor	
% Grade	**Dozing Factor**
-30	1.6
-20	1.4
-10	1.2
0	1
10	0.8
20	0.55
30	0.3
Source: Caterpillar Performance Handbook Edition 35	
% Grade Dozing Factor = -0.0214x + 0.9786 (see graph)	



Source: Caterpillar Performance Handbook Edition 35

Job Condition Correction Factors - Bulldozers	
OPERATOR	
Average	0.75
MATERIAL (1)	
Loose stockpile	1.2
Normal	1
Hard to cut; frozen — with tilt cylinder	0.8
Hard to drift; "dead" (dry,non-cohesive material) or very sticky material	0.8
Rock, ripped or blasted	0.6
SLOT DOZING OR SIDE BY SIDE (1)	1.2
VISIBILITY	
Good conditions	1
JOB EFFICIENCY	
50 min/hr	0.83
(1) Selected in facility worksheets. Other factors included as standard factors.	
Source: Caterpillar Performance Handbook Edition 35	

Material Densities(1)		
Material	**lb/cy**	**kg/m^3**
Alluvium	2,900	1,720
Basalt	3,300	1,960
Clay - Dry	2,500	1,480
Granite - broken	2,800	1,660
Gravel	2,550	1,510
LS - broken	2,600	1,540
LS - crushed	2,600	1,540
Sandstone	2,550	1,510
Shale	2,100	1,250
Stone - crushed	2,700	1,600
Tailings - Coarse (dry, loose sand)	2,400	1,420
Tailings - Slimes (loose sand & clay)	2,700	1,600
Topsoil	1,600	950
(1) Source: Caterpillar Performance Handbook Edition 35		

Note: uses Sand & Gravel - Dry from Caterpillar Handbook

Productivity - Scrapers

Scraper Specifications		
Description	**631G**	**637G**
Empty Weight	100,600	112,760
Payload Capacity (cy)		
Struck	24	24
Heaped	34	34
Average	29	29
Loaded by	One D10R	Self*
Load Time (min)	1	1
Maneuver and Spread (min)	1	1
Job Efficiency	1	1
Rolling Resistance**	3	3
Altitude Deration Factor	1	1

* Requires pair

**A firm, smooth, rolling roadway with dirt or light surfacing, flexing slightly under load or undulating, maintained fairly regularly, watered

Source: Caterpillar Performance Handbook Edition 35

Weight of Materials			Downhill Scraper Speed - Grade Retarding vs. Effective Grade (Grade - Rolling Resistance)											
			631G						637G PP					
Material	**lb/cy**	**Scraper Load lb**	**Loaded Weight (lbs)**	**22**	**16**	**10**	**5**	**1**	**Loaded Weight (lbs)**	**25**	**15**	**10**	**5**	**1**
Alluvium	2,900	84,100	184,700	7.5	10	13	33	33	196,860	7	10	18.5	34	34
Basalt	3,300	95,700	196,300	7.5	10	13	24.5	33	208,460	7	10	18.5	25	34
Clay - Dry	2,500	72,500	173,100	7.5	10	13	33	33	185,260	7	10	18.5	34	34
Granite - broken	2,800	81,200	181,800	7.5	10	13	33	33	193,960	7	10	18.5	34	34
Gravel	2,550	73,950	174,550	7.5	10	13	33	33	186,710	7	10	18.5	34	34
LS - broken	2,600	75,400	176,000	7.5	10	13	33	33	188,160	7	10	18.5	34	34
LS - crushed	2,600	75,400	176,000	7.5	10	13	33	33	188,160	7	10	18.5	34	34
Sandstone	2,550	73,950	174,550	7.5	10	13	33	33	186,710	7	10	18.5	34	34
Shale	2,100	60,900	161,500	7.5	10	18	33	33	173,660	10	13.5	18.5	34	34
Stone - crushed	2,700	78,300	178,900	7.5	10	13	33	33	191,060	7	10	18.5	34	34
Tailings - Coarse (dry, loose sand)	2,400	69,600	170,200	7.5	10	13	33	33	182,360	7	10	18.5	34	34
Tailings - Slimes (loose sand & clay)	2,700	78,300	178,900	7.5	10	13	33	33	191,060	7	10	18.5	34	34
Topsoil	1,600	46,400	147,000	7.5	10	18	33	33	159,160	10	13.5	18.5	34	34
			Empty	10	18	24.5	33	33	Empty	10	13.5	18.5	34	34

Source: Caterpillar Performance Handbook Edition 34

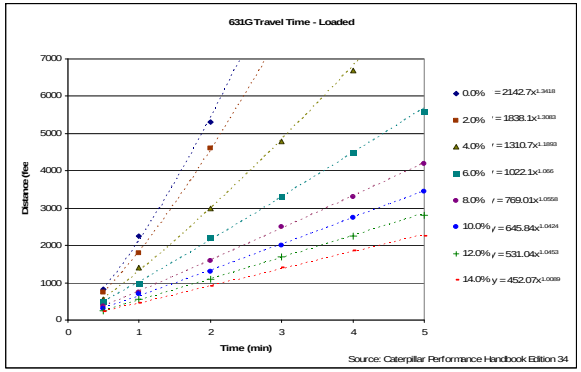
Productivity - Scrapers (cont.)

631G Scraper Travel Time - Uphill Loaded

Total Resistance (%) (rolling + grade)	Time (min)						k	p
	0.5	1	2	3	4	5		
0	825	2,250	5,300				2142.7	1.3418
2	750	1,800	4,600				1838.1	1.3083
4	550	1,400	3,000	4,800	6,700		1310.7	1.1893
6	490	1,000	2,200	3,300	4,500	5,600	1022.1	1.066
8	375	750	1,600	2,500	3,300	4,200	769.01	1.0558
10	300	700	1,300	2,000	2,750	3,450	645.84	1.0424
12	250	550	1,100	1,700	2,250	2,800	531.04	1.0453
14	225	450	900	1,400	1,850	2,250	452.07	1.0089

Travel Time (min) = $\sqrt[p]{\frac{\text{distance}}{k}}$

Source: Caterpillar Performance Handbook Edition 35

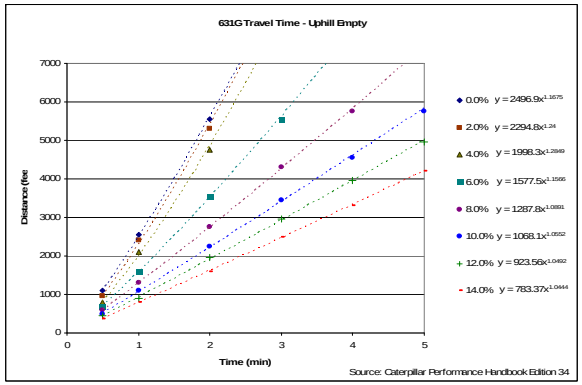


631G Scraper Travel Time - Uphill Empty

Total Resistance (%) (rolling + grade)	Time (min)						k	p
	0.5	1	2	3	4	5		
0	1,100	2,550	5,550				2496.9	1.1675
2	950	2,400	5,300				2294.8	1.24
4	800	2,100	4,750				1998.3	1.2849
6	700	1,600	3,550	5,550			1557.5	1.1566
8	600	1,300	2,750	4,300	5,750		1287.8	1.0891
10	500	1,100	2,250	3,450	4,550	5,750	1068.1	1.0552
12	450	900	1,950	2,950	3,950	4,950	923.56	1.0492
14	375	800	1,600	2,500	3,300	4,200	783.37	1.0444

Travel Time (min) = $\sqrt[p]{\frac{\text{distance}}{k}}$

Source: Caterpillar Performance Handbook Edition 35



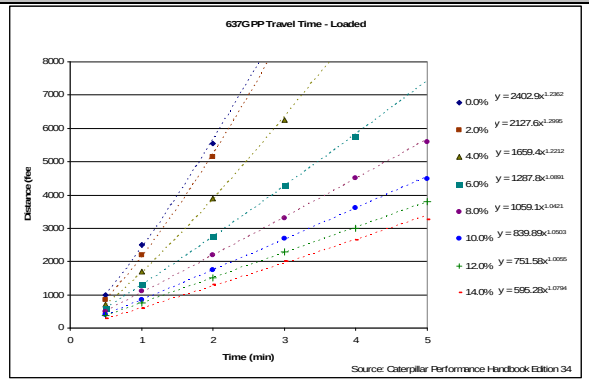
Productivity - Scrapers (cont.)

637G Push-Pull Scraper Travel Time - Uphill Loaded

Total Resistance (%) (rolling + grade)	Time (min) 0.5	1	2	3	4	5	k	p
0	1,000	2,500	5,550				2402.9	1.2362
2	850	2,200	5,150				2127.6	1.2995
4	700	1,700	3,900	6,250			1659.4	1.2212
6	600	1,300	2,750	4,300	5,750		1287.8	1.0891
8	500	1,100	2,200	3,300	4,500	5,600	1059.1	1.0421
10	400	850	1,750	2,700	3,600	4,475	839.89	1.0503
12	375	750	1,500	2,300	3,000	3,800	751.58	1.0055
14	275	600	1,300	2,000	2,650	3,250	595.28	1.0794

Travel Time (min) = $\sqrt[p]{\frac{\text{distance}}{k}}$

Source: Caterpillar Performance Handbook Edition 35



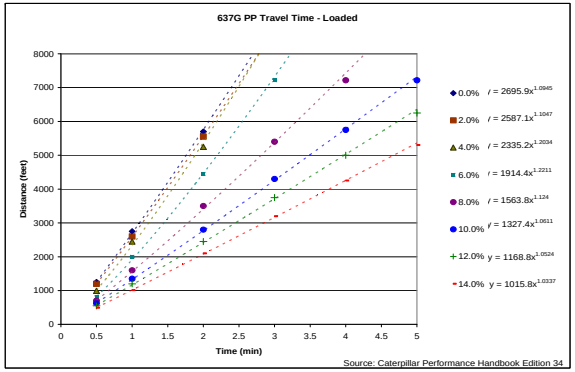
Source: Caterpillar Performance Handbook Edition 34

637G Push-Pull Scraper Travel Time - Uphill Empty

Total Resistance (%) (rolling + grade)	Time (min) 0.5	1	2	3	4	5	k	p
0	1,250	2,750	5,700				2695.9	1.0945
2	1,200	2,600	5,550				2587.1	1.1047
4	990	2,450	5,250				2335.2	1.0234
6	800	2,000	4,450	7,216			1914.4	1.2211
8	700	1,600	3,500	5,400	7,216		1563.8	1.124
10	625	1,350	2,800	4,300	5,750	7,216	1327.4	1.0611
12	550	1,200	2,450	3,750	5,000	6,250	1168.8	1.0524
14	495	1,010	2,100	3,200	4,250	5,300	1015.8	1.0337

Travel Time (min) = $\sqrt[p]{\frac{\text{distance}}{k}}$

Source: Caterpillar Performance Handbook Edition 35



Source: Caterpillar Performance Handbook Edition 34

Productivity - Haul Trucks

Haul Truck Specifications

Description	769D	773E	777D	785C	793C	797B
Chassis Weight (lb)	53,506	70,330	113,160	170,000	259,500	473,600
Body Weight (lb)	17,350	20,300	34,785	36,788	70,785	104,200
Standard Liner Weight (lb)	7,000	8,600	12,040	16,846	24,418	8,800
Total Truck Weight (lb)	77,856	99,230	159,985	223,634	354,703	586,600
Payload Capacity (cy)						
Struck	21.6	34.8	55	78.5	126	228
Heaped	31.7	46	78.6	102	169	290
Average	26.65	40.4	66.8	90.25	147.5	259
Maneuver to Load Time (min)	0.7	0.7	0.7	0.7	0.7	0.7
Maneuver and Dump Time (min)	1.1	1.1	1.1	1.1	1.1	1.1
Job Efficiency	0.83	0.83	0.83	0.83	0.83	0.83
Rolling Resistance**	2.5	2.5	2.5	2.5	2.5	2.5
Altitude Deration Factor	1	1	1	1	1	1

**A firm, smooth, rolling roadway with dirt or light surfacing, flexing slightly under load or undulating, maintained fairly regularly, watered

Source: Caterpillar Performance Handbook Edition 35

Weight of Materials

Downhill Haul Truck Speed - Grade Retarding vs. Effective Grade (Grade - Rolling Resistance)

Material	lb/cy	Truck (769D) Load lb	Truck (773E) Load lb	Truck (777D) Load lb	769D Loaded Weight (lbs)	20	15	10	5	773E Loaded Weight (lbs)	20	15	10	5	777D Loaded Weight (lbs)	20	15	10	5
Alluvium	2,900	77,285	117,160	193,720	155,141	11	11	15	26	216,390	7	7	13	23	353,705	7	9	12	29
Basalt	3,300	87,945	133,320	220,440	165,801	11	11	11	20	232,550	7	7	13	23	380,425	7	7	12	21
Clay - Dry	2,500	66,625	101,000	167,000	144,481	11	11	15	26	200,230	7	9	13	23	326,985	7	9	16	29
Granite - broken	2,800	74,620	113,120	187,040	152,476	11	11	15	26	212,350	7	7	13	23	347,025	7	9	12	29
Gravel	2,550	67,958	103,020	170,340	145,814	11	11	15	26	202,250	7	9	13	23	330,325	7	9	16	29
LS - broken	2,600	69,290	105,040	173,680	147,146	11	11	15	26	204,270	7	9	13	23	333,665	7	9	12	29
LS - crushed	2,600	69,290	105,040	173,680	147,146	11	11	15	26	204,270	7	9	13	23	333,665	7	9	12	29
Sandstone	2,550	67,958	103,020	170,340	145,814	11	11	15	26	202,250	7	9	13	23	330,325	7	9	16	29
Shale	2,100	55,965	84,840	140,280	133,821	11	11	15	26	184,070	7	9	13	31	300,265	7	9	16	29
Stone - crushed	2,700	71,955	109,080	180,360	149,811	11	11	15	26	208,310	7	7	13	23	340,345	7	9	12	29
Tailings - Coarse (dry, loose sand)	2,400	63,960	96,960	160,320	141,816	11	11	15	26	196,190	7	9	13	23	320,305	7	9	16	29
Tailings - Slimes (loose sand & clay)	2,700	71,955	109,080	180,360	149,811	11	11	15	26	208,310	7	7	13	23	340,345	7	9	12	29
Topsoil	1,600	42,640	64,640	106,880	120,496	11	11	15	26	163,870	7	9	17	31	266,865	9	12	16	29
					Empty	15	15	26	36	Empty	13	17	23	42	Empty	16	16	29	39

Source: Caterpillar Performance Handbook Edition 35

Weight of Materials

Downhill Haul Truck Speed - Grade Retarding vs. Effective Grade (Grade - Rolling Resistance)

Material	lb/cy	Truck (785C) Load lb	Truck (793C) Load lb	Truck (797B) Load lb	785C Loaded Weight (lbs)	20	15	10	5	793C Loaded Weight (lbs)	20	15	10	5	797B Loaded Weight (lbs)	20	15	10	5
Alluvium	2,900	261,725	427,750	751,100	485,359	8	8	14	27	782,453	7	7	10	17	1,337,700	7	7	9	17
Basalt	3,300	297,825	486,750	854,700	521,459	8	8	14	27	841,453	7	7	10	17	1,441,300	7	7	9	17
Clay - Dry	2,500	225,625	368,750	647,500	449,259	8	11	14	36	723,453	7	7	10	25	1,234,100	7	7	9	23
Granite - broken	2,800	252,700	413,000	725,200	476,334	8	8	14	27	767,703	7	7	10	17	1,311,800	7	7	9	17
Gravel	2,550	230,138	376,125	660,450	453,772	8	8	14	36	730,828	7	7	10	25	1,247,050	7	7	9	23
LS - broken	2,600	234,650	383,500	673,400	458,284	8	8	14	27	738,203	7	7	10	25	1,260,000	7	7	9	23
LS - crushed	2,600	234,650	383,500	673,400	458,284	8	8	14	27	738,203	7	7	10	25	1,260,000	7	7	9	23
Sandstone	2,550	230,138	376,125	660,450	453,772	8	8	14	36	730,828	7	7	10	25	1,247,050	7	7	9	23
Shale	2,100	189,525	309,750	543,900	413,159	8	11	14	36	664,453	7	7	10	25	1,130,500	7	7	13	23
Stone - crushed	2,700	243,675	398,250	699,300	467,309	8	8	14	27	752,953	7	7	10	17	1,285,900	7	7	9	23
Tailings - Coarse (dry, loose sand)	2,400	216,600	354,000	621,600	440,234	8	11	14	36	708,703	7	7	10	25	1,208,200	7	7	9	23
Tailings - Slimes (loose sand & clay)	2,700	243,675	398,250	699,300	467,309	8	8	14	27	752,953	7	7	10	17	1,285,900	7	7	9	23
Topsoil	1,600	144,400	236,000	414,400	368,034	8	11	19	36	590,703	7	10	13	25	1,001,000	7	9	13	23
					Empty	14	19	36	36	Empty	10	13	17	33	Empty	13	17	23	42

Source: Caterpillar Performance Handbook Edition 35

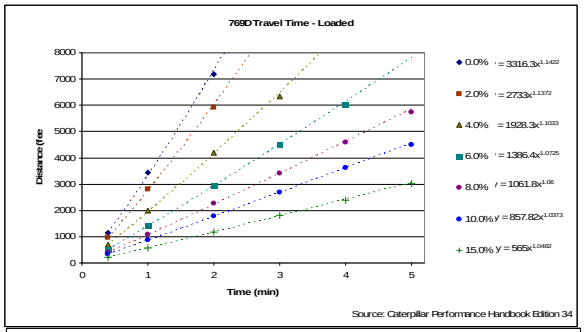
Productivity - Haul Trucks (cont.)

769D Haul Truck Travel Time - Uphill Loaded

Total Resistance (%) (rolling + grade)	Time (min) 0.4	1	2	3	4	5	k	p
0	1,148	3,428	7,183				3316.3	1.1422
4	689	1,984	4,198	6,330			1928.3	1.1033
6	508	1,427	2,952	4,510	6,002		1386.4	1.0725
8	394	1,082	2,263	3,411	4,592	5,740	1061.8	1.06
10	328	869	1,771	2,690	3,608	4,510	857.82	1.0373
15	213	574	1,181	1,804	2,394	3,018	565	1.0482

Travel Time (min) = $\sqrt[p]{\frac{\text{distance}}{k}}$

Source: Caterpillar Performance Handbook Edition 35



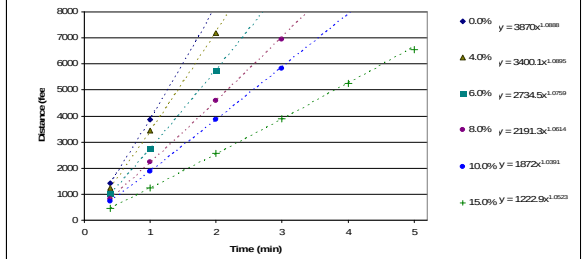
Source: Caterpillar Performance Handbook Edition 34

769D Haul Truck Travel Time - Uphill Empty

Total Resistance (%) (rolling + grade)	Time (min) 0.4	1	2	3	4	5	k	p
0	1,427	3,870					3870	1.0888
4	1,246	3,444	7,183				3400.1	1.0895
6	1,017	2,755	5,740				2734.5	1.0759
8	820	2,230	4,592	6,954			2191.3	1.0614
10	722	1,870	3,870	5,838			1872	1.0391
15	459	1,246	2,558	3,903	5,248	6,560	1222.9	1.0523

Travel Time (min) = $\sqrt[p]{\frac{\text{distance}}{k}}$

Source: Caterpillar Performance Handbook Edition 35



Source: Caterpillar Performance Handbook Edition 34

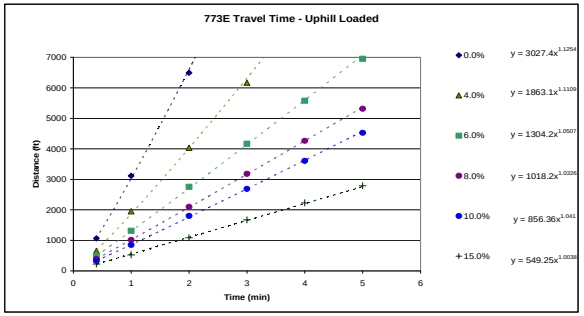
Productivity - Haul Trucks (cont.)

773E Haul Truck Travel Time - Uphill Loaded

Total Resistance (%) (rolling + grade)	Time (min) 0.4	1	2	3	4	5	k	p
0	1,066	3,117	6,496				3027.4	1.1254
4	656	1,952	4,035	6,168			1863.1	1.1109
6	492	1,312	2,756	4,167	5,577	6,955	1304.2	1.0507
8	394	1,017	2,100	3,182	4,265	5,315	1018.2	1.0326
10	328	853	1,804	2,690	3,609	4,528	856.36	1.041
15	226	525	1,083	1,673	2,231	2,789	549.25	1.0038

Travel Time (min) = $\sqrt[p]{\frac{distance}{k}}$

Source: Caterpillar Performance Handbook Edition 35

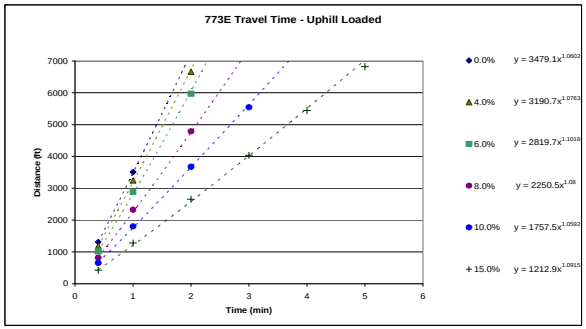


773E Haul Truck Travel Time - Uphill Empty

Total Resistance (%) (rolling + grade)	Time (min) 0.4	1	2	3	4	5	k	p
0	1,312	3,510	7,218				3479.1	1.0602
4	1,181	3,248	6,660				3190.7	1.0763
6	1,017	2,887	5,971				2819.7	1.1018
8	820	2,329	4,790	7,218			2250.5	1.08
10	656	1,804	3,675	5,545			1757.5	1.0592
15	427	1,280	2,657	4,035	5,446	6,824	1212.9	1.0915

Travel Time (min) = $\sqrt[p]{\frac{distance}{k}}$

Source: Caterpillar Performance Handbook Edition 35



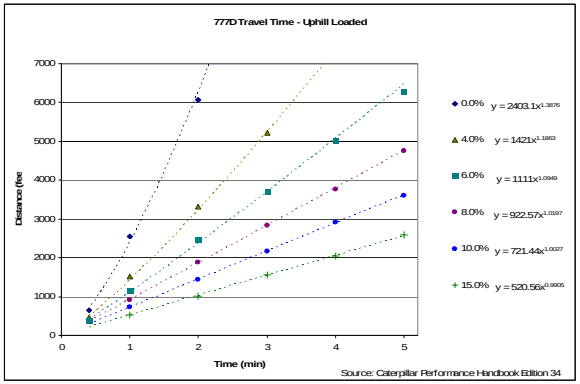
Productivity - Haul Trucks (cont.)

777D Haul Truck Travel Time - Uphill Loaded

Total Resistance (%) (rolling + grade)	Time (min) 0.4	1	2	3	4	5	k	p
0	656	2,558	6,068				2403.1	1.3876
4	459	1,509	3,313	5,215	7,085		1412	1.1863
6	394	1,148	2,460	3,706	5,018	6,298	1111	1.0949
8		918	1,886	2,837	3,772	4,756	922.57	1.0197
10		722	1,443	2,165	2,919	3,608	721.44	1.0027
15		525	1,017	1,558	2,034	2,591	520.56	0.9905

Travel Time (min) = $\sqrt[p]{\frac{distance}{k}}$

Source: Caterpillar Performance Handbook Edition 35

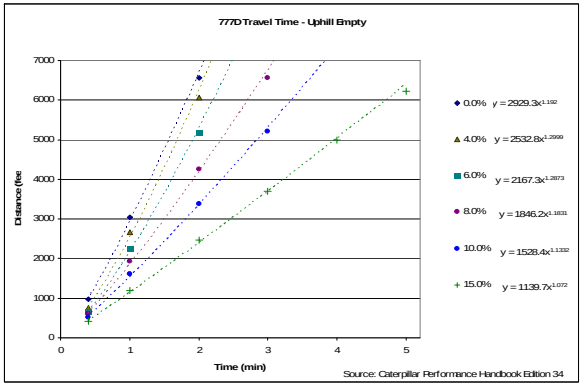


777D Haul Truck Travel Time - Uphill Empty

Total Resistance (%) (rolling + grade)	Time (min) 0.4	1	2	3	4	5	k	p
0	968	3,034	6,560				2929.3	1.192
4	754	2,657	6,068				2532.8	1.2999
6	656	2,247	5,182				2167.3	1.2873
8	607	1,935	4,248	6,560			1846.2	1.1831
10	525	1,607	3,378	5,215	7,282		1528.4	1.1332
15	410	1,197	2,460	3,706	4,986	6,232	1139.7	1.072

Travel Time (min) = $\sqrt[p]{\frac{distance}{k}}$

Source: Caterpillar Performance Handbook Edition 35



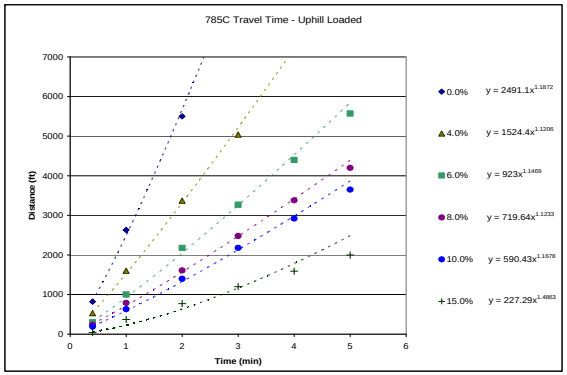
Productivity - Haul Trucks (cont.)

785C Haul Truck Travel Time - Uphill Loaded

Total Resistance (%) (rolling + grade)	Time (min) 0.4	1	2	3	4	5	k	p
0	820	2,630	5,500				2491.1	1.1872
4	530	1,600	3,370	5,040			1524.4	1.1206
6	300	1,000	2,180	3,270	4,400	5,570	923	1.1469
8	240	790	1,610	2,480	3,380	4,200	719.64	1.1233
10	190	630	1,400	2,180	2,920	3,650	590.43	1.1678
15	40	370	770	1,200	1,590	2,000	227.29	1.4863

Travel Time (min) = $\sqrt[p]{\frac{distance}{k}}$

Source: Caterpillar Performance Handbook Edition 35

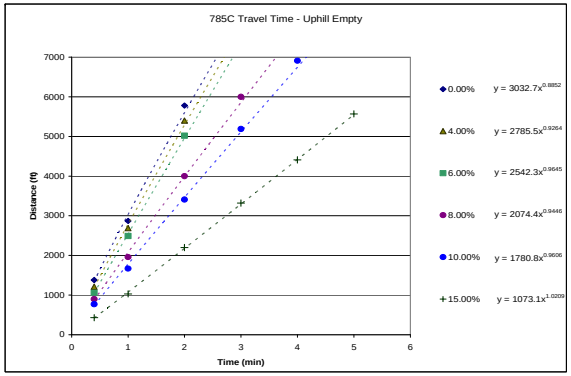


785C Haul Truck Travel Time - Uphill Empty

Total Resistance (%) (rolling + grade)	Time (min) 0.4	1	2	3	4	5	k	p
0	1,380	2,870	5,780				3032.7	0.8852
4	1,210	2,690	5,400				2785.5	0.9264
6	1,060	2,490	5,020				2542.3	0.9645
8	900	1,960	4,000	6,000			2074.4	0.9446
10	770	1,670	3,410	5,190	6,910		1780.8	0.9606
15	430	1,030	2,200	3,320	4,410	5,570	1073.1	1.0209

Travel Time (min) = $\sqrt[p]{\frac{distance}{k}}$

Source: Caterpillar Performance Handbook Edition 35



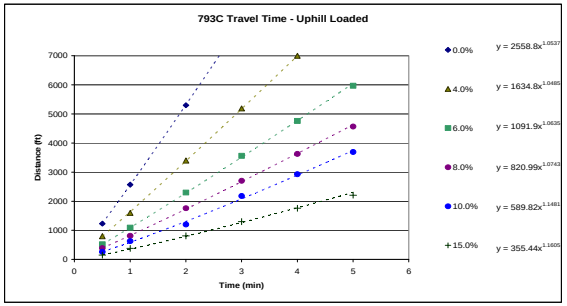
Productivity - Haul Trucks (cont.)

793C Haul Truck Travel Time - Uphill Loaded

Total Resistance (%) (rolling + grade)	Time (min) 0.5	1	2	3	4	5	k	p
0	1,230	2,570	5,300				2558.8	1.0537
4	800	1,600	3,400	5,190	7,000		1634.8	1.0485
6	520	1,090	2,300	3,560	4,760	5,970	1091.9	1.0635
8	390	810	1,760	2,700	3,630	4,570	820.99	1.0743
10	260	630	1,200	2,180	2,930	3,690	589.82	1.1481
15	150	380	810	1,300	1,760	2,210	355.44	1.1605

Travel Time (min) = $\sqrt[p]{\frac{\text{distance}}{k}}$

Source: Caterpillar Performance Handbook Edition 35

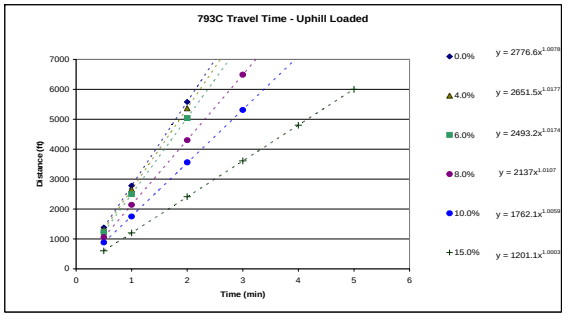


793C Haul Truck Travel Time - Uphill Empty

Total Resistance (%) (rolling + grade)	Time (min) 0.5	1	2	3	4	5	k	p
0	1,380	2,780	5,580				2776.6	1.0078
4	1,310	2,650	5,370				2651.5	1.0177
6	1,230	2,500	5,040				2493.2	1.0174
8	1,060	2,140	4,300	6,490			2137	1.0107
10	880	1,750	3,560	5,310			1762.1	1.0059
15	600	1,200	2,410	3,610	4,800	6,000	1201.1	1.0003

Travel Time (min) = $\sqrt[p]{\frac{\text{distance}}{k}}$

Source: Caterpillar Performance Handbook Edition 35

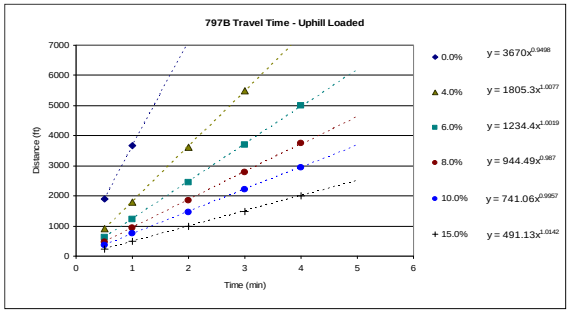


Productivity - Haul Trucks (cont.)

797B Haul Truck Travel Time - Uphill Loaded								
Total Resistance (%) (rolling + grade)	Time (min)						k	p
	0.5	1	2	3	4	5		
0	1,900	3,670					3670	0.9498
4	900	1,800	3,620	5,480			1805.3	1.0077
6	620	1,230	2,450	3,700	5,000		1234.4	1.0019
8	480	940	1,850	2,790	3,750		944.49	0.987
10	370	750	1,460	2,220	2,950		741.06	0.9957
15	240	500	1,000	1,480	2,000		491.13	1.0142

Travel Time (min) = $\sqrt[p]{\frac{distance}{k}}$

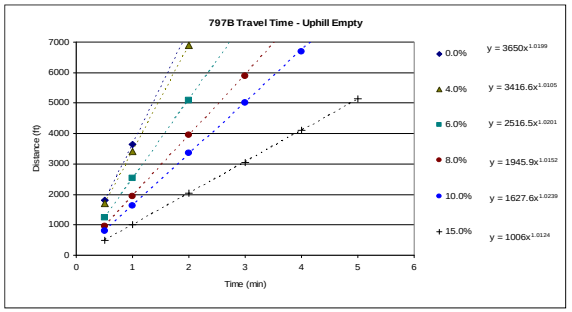
Source: Caterpillar Performance Handbook Edition 35



797B Haul Truck Travel Time - Uphill Empty								
Total Resistance (%) (rolling + grade)	Time (min)						k	p
	0.5	1	2	3	4	5		
0	1,800	3,650					3650	1.0199
4	1,700	3,400	6,900				3416.6	1.0105
6	1,240	2,520	5,100				2516.5	1.0201
8	960	1,950	3,960	5,900			1945.9	1.0152
10	800	1,620	3,350	5,000	6,700		1627.6	1.0239
15	500	1,000	2,040	3,050	4,100	5,130	1006	1.0124

Travel Time (min) = $\sqrt[p]{\frac{distance}{k}}$

Source: Caterpillar Performance Handbook Edition 35



Productivity - Articulated Trucks

Articulated Truck Specifications				
Description	**725**	**730**	**735**	**740**
Chassis Weight (lb)				
Body Weight (lb)				
Standard Liner Weight (lb)				
Operating Weight (Empty) (lb)	50,120	51,220	65,830	72,070
Payload Capacity (cy)				
Struck	14.5	17.1	19.3	23.3
Heaped	18.8	22.1	31.8	30.2
Average	16.65	19.6	25.55	26.75
Maneuver to Load Time (min)	0.7	0.7	0.7	0.7
Maneuver and Dump Time (min)	1.1	1.1	1.1	1.1
Job Efficiency	0.83	0.83	0.83	0.83
Rolling Resistance**	2.5	2.5	2.5	2.5
Altitude Deration Factor	1	1	1	1

**A firm, smooth, rolling roadway with dirt or light surfacing, flexing slightly under load or undulating, maintained fairly regularly, watered

Source: Caterpillar Performance Handbook Edition 35

Weight of Materials				Downhill Haul Truck Speed - Grade Retarding vs. Effective Grade (Grade - Rolling Resistance)									
				725					730				
Material	**lb/cy**	**Truck (725) Load lb**	**Truck (730) Load lb**	**Loaded Weight (lbs)**	**20**	**15**	**10**	**5**	**Loaded Weight (lbs)**	**20**	**15**	**10**	**5**
Alluvium	2,900	48,285	56,840	98,405	9	9	13	30	108,060	5	8	13	29
Basalt	3,300	54,945	64,680	105,065	5	9	13	22	115,900	5	8	13	29
Clay - Dry	2,500	41,625	49,000	91,745	9	13	13	30	100,220	8	8	13	29
Granite - broken	2,800	46,620	54,880	96,740	9	13	13	30	106,100	5	8	13	29
Gravel	2,550	42,458	49,980	92,578	9	13	13	30	101,200	8	8	13	29
LS - broken	2,600	43,290	50,960	93,410	9	13	13	30	102,180	8	8	13	29
LS - crushed	2,600	43,290	50,960	93,410	9	13	13	30	102,180	8	8	13	29
Sandstone	2,550	42,458	49,980	92,578	9	13	13	30	101,200	8	8	13	29
Shale	2,100	34,965	41,160	85,085	9	13	22	30	92,380	8	13	13	29
Stone - crushed	2,700	44,955	52,920	95,075	9	13	13	30	104,140	8	8	13	29
Tailings - Coarse (dry, loose sand)	2,400	39,960	47,040	90,080	9	13	13	30	98,260	8	8	13	29
Tailings - Slimes (loose sand & clay)	2,700	44,955	52,920	95,075	9	13	13	30	104,140	8	8	13	29
Topsoil	1,600	26,640	31,360	76,760	9	13	22	30	82,580	8	13	22	35
				Empty	13	13	22	30	Empty	13	13	22	35

Source: Caterpillar Performance Handbook Edition 35

Weight of Materials				Downhill Haul Truck Speed - Grade Retarding vs. Effective Grade (Grade - Rolling Resistance)									
				735					740				
Material	**lb/cy**	**Truck (735) Load lb**	**Truck (740) Load lb**	**Loaded Weight (lbs)**	**20**	**15**	**10**	**5**	**Loaded Weight (lbs)**	**20**	**15**	**10**	**5**
Alluvium	2,900	74,095	77,575	139,925	7	9	13	27	149,645	7	9	17	23
Basalt	3,300	84,315	88,275	150,145	7	9	13	27	160,345	7	9	13	23
Clay - Dry	2,500	63,875	66,875	129,705	7	9	13	27	138,945	9	13	17	31
Granite - broken	2,800	71,540	74,900	137,370	7	9	13	27	146,970	7	9	17	23
Gravel	2,550	65,153	68,213	130,983	7	9	13	27	140,283	7	9	17	31
LS - broken	2,600	66,430	69,550	132,260	7	9	13	27	141,620	7	9	17	31
LS - crushed	2,600	66,430	69,550	132,260	7	9	13	27	141,620	7	9	17	31
Sandstone	2,550	65,153	68,213	130,983	7	9	13	27	140,283	7	9	17	31
Shale	2,100	53,655	56,175	119,485	9	9	18	27	128,245	7	13	17	31
Stone - crushed	2,700	68,985	72,225	134,815	7	9	13	27	144,295	7	9	17	23
Tailings - Coarse (dry, loose sand)	2,400	61,320	64,200	127,150	7	9	13	27	136,270	9	13	17	31
Tailings - Slimes (loose sand & clay)	2,700	68,985	72,225	134,815	7	9	13	27	144,295	7	9	17	23
Topsoil	1,600	40,880	42,800	106,710	9	13	18	36	114,870	9	13	17	31
				Empty	13	18	27	42	Empty	17	17	23	31

Source: Caterpillar Performance Handbook Edition 35

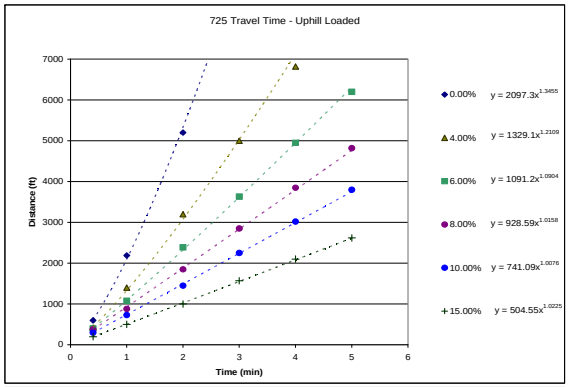
Productivity - Articulated Trucks (cont.)

725 Articulated Truck Travel Time - Uphill Loaded

Total Resistance (%) (rolling + grade)	Time (min) 0.5	1	2	3	4	5	k	p
0	600	2,190	5,200				2097.3	1.3455
4	420	1,400	3,200	5,000	6,820		1329.1	1.2109
6	400	1,080	2,390	3,630	4,950	6,200	1091.2	1.0904
8	380	880	1,850	2,850	3,850	4,820	928.59	1.0158
10	300	729	1,450	2,250	3,020	3,800	741.09	1.0076
15	200	500	1,000	1,570	2,100	2,620	504.55	1.0225

Travel Time (min) = $\sqrt[p]{\frac{distance}{k}}$

Source: Caterpillar Performance Handbook Edition 35

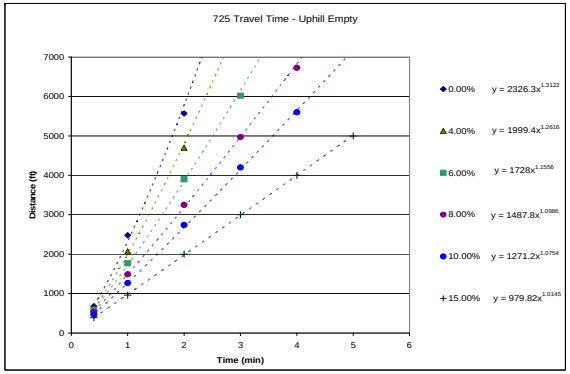


725 Haul Truck Travel Time - Uphill Empty

Total Resistance (%) (rolling + grade)	Time (min) 0.5	1	2	3	4	5	k	p
0	680	2,480	5,570				2326.3	1.3122
4	620	2,070	4,700				1999.4	1.2616
6	590	1,770	3,900	6,020			1728	1.1556
8	540	1,490	3,250	4,970	6,730		1487.8	1.0986
10	470	1,270	2,740	4,200	5,600	7,050	1271.2	1.0754
15	390	960	2,000	3,000	4,000	5,000	979.82	1.0145

Travel Time (min) = $\sqrt[p]{\frac{distance}{k}}$

Source: Caterpillar Performance Handbook Edition 35



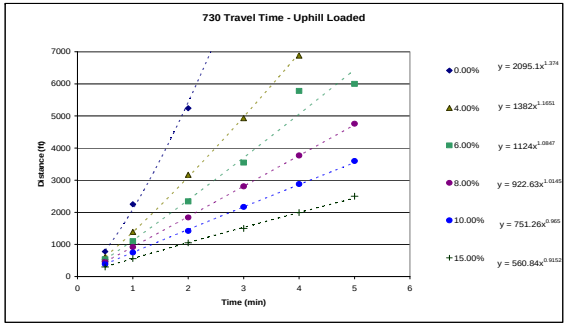
Productivity - Articulated Trucks (cont.)

730 Articulated Truck Travel Time - Uphill Loaded

Total Resistance (%) (rolling + grade)	Time (min) 0.5	1	2	3	4	5	k	p
0	780	2,250	5,240				2095	1.374
4	610	1,390	3,170	4,930	6,880		1382	1.1651
6	540	1,100	2,340	3,550	5,780	6,000	112	1.0847
8	460	920	1,840	2,810	3,770	4,760	922.63	1.0145
10	390	750	1,420	2,170	2,880	3,600	751.26	0.965
15	300	560	1,050	1,500	1,995	2,500	560.84	0.9152

Travel Time (min) = $\sqrt[p]{\frac{\text{distance}}{k}}$

Source: Caterpillar Performance Handbook Edition 35

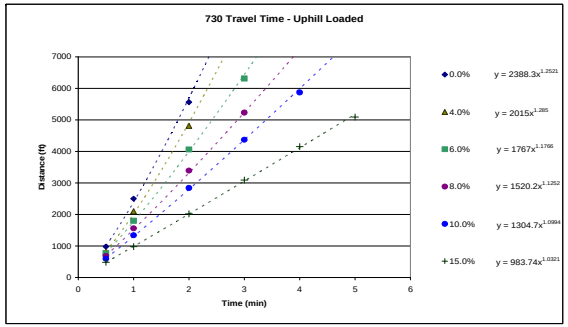


730 Haul Truck Travel Time - Uphill Empty

Total Resistance (%) (rolling + grade)	Time (min) 0.5	1	2	3	4	5	k	p
0	980	2,500	5,560				2388	1.25621
4	810	2,100	4,810				2015	1.285
6	770	1,800	4,060	6,310			1767	1.1766
8	680	1,560	3,390	5,230	7,070		1520.2	1.1252
10	595	1,340	2,840	4,370	5,870		1304.7	1.0994
15	480	980	2,020	3,090	4,150	5,090	983.74	1.0321

Travel Time (min) = $\sqrt[p]{\frac{\text{distance}}{k}}$

Source: Caterpillar Performance Handbook Edition 35



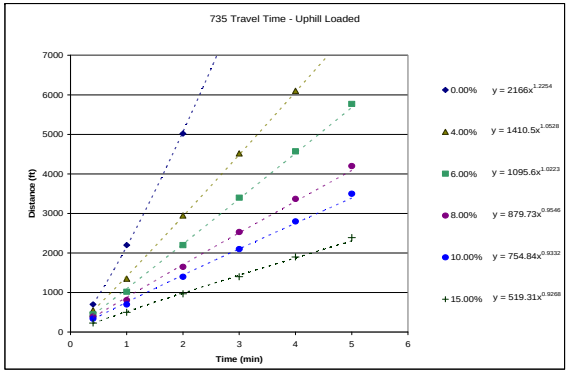
Productivity - Articulated Trucks (cont.)

735 Articulated Truck Travel Time - Uphill Loaded

Total Resistance (%) (rolling + grade)	Time (min) 0.5	1	2	3	4	5	k	p
0	700	2,200	5,020				2166	1.2254
4	550	1,350	2,950	4,520	6,100		1410.5	1.0528
6	450	1,020	2,200	3,400	4,570	5,770	1095.6	1.0223
8	390	810	1,650	2,530	3,370	4,200	879.73	0.9546
10	340	700	1,400	2,100	2,800	3,500	754.84	0.9332
15	230	500	970	1,400	1,900	2,390	519.31	0.9268

Travel Time (min) = $\sqrt[p]{\frac{distance}{k}}$

Source: Caterpillar Performance Handbook Edition 35

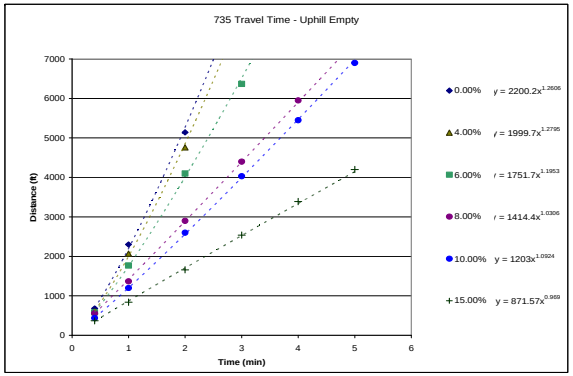


735 Haul Truck Travel Time - Uphill Empty

Total Resistance (%) (rolling + grade)	Time (min) 0.5	1	2	3	4	5	k	p
0	680	2,300	5,140				2200.2	1.2606
4	610	2,070	4,760				1999.7	1.2795
6	580	1,770	4,100	6,370			1751.7	1.1953
8	560	1,370	2,900	4,400	5,950		1414.4	1.0306
10	440	1,200	2,600	4,030	5,450	6,900	1203	1.0924
15	370	840	1,660	2,540	3,390	4,200	871.57	0.969

Travel Time (min) = $\sqrt[p]{\frac{distance}{k}}$

Source: Caterpillar Performance Handbook Edition 35



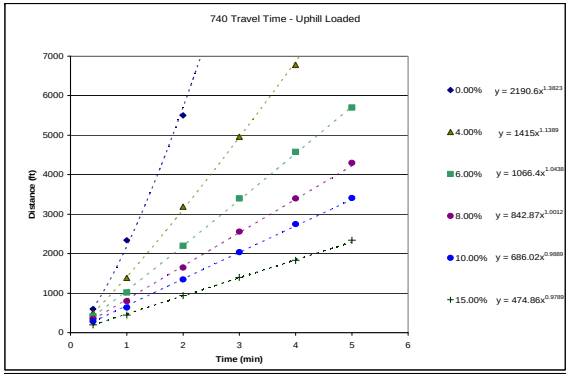
Productivity - Articulated Trucks (cont.)

740 Articulated Truck Travel Time - Uphill Loaded

Total Resistance (%) (rolling + grade)	Time (min) 0.5	1	2	3	4	5	k	p
0	600	2,340	5,500				2190.6	1.3823
4	500	1,390	3,190	4,960	6,780		1415	1.1389
6	420	1,020	2,200	3,400	4,580	5,700	1066.4	1.0438
8	350	800	1,650	2,560	3,400	4,300	842.87	1.0012
10	290	640	1,350	2,040	2,750	3,410	686.02	0.9889
15	200	450	940	1,400	1,830	2,340	474.86	0.9789

Travel Time (min) = $\sqrt[p]{\frac{\text{distance}}{k}}$

Source: Caterpillar Performance Handbook Edition 35

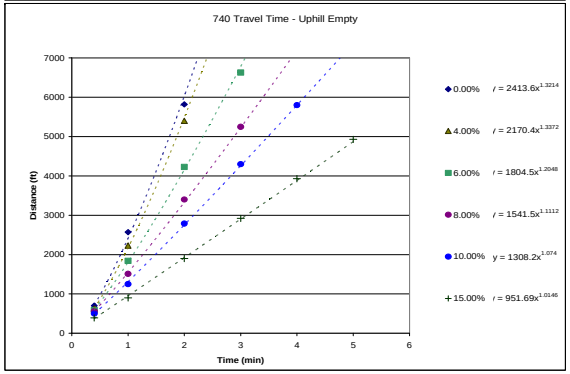


740 Haul Truck Travel Time - Uphill Empty

Total Resistance (%) (rolling + grade)	Time (min) 0.5	1	2	3	4	5	k	p
0	700	2,570	5,820				2413.6	1.3214
4	630	2,230	5,400				2170.4	1.3372
6	590	1,840	4,230	6,630			1804.5	1.2048
8	560	1,510	3,400	5,250	7,120		1541.5	1.1112
10	500	1,250	2,790	4,300	5,800		1308.2	1.074
15	390	900	1,900	2,920	3,930	4,930	951.69	1.0146

Travel Time (min) = $\sqrt[p]{\frac{\text{distance}}{k}}$

Source: Caterpillar Performance Handbook Edition 35



Productivity - Wheel Loaders

Wheel Loader Specifications

Description	924G	928G	950G	966G	972G	972G (2)	980G	988G	988G(2)	990	992G	992G(2)	994D	L2350
Payload Capacity (cy)														
Struck	2.2	2.5	3.46	4.46	4.71	4.71	6.34	6.9	6.9	9.5	13.2	13.2	18	
Heaped	2.7	3.25	4	5.25	5.5	5.5	7.25	8.33	8.33	11.25	16	16	22.5	
Average	2.45	2.875	3.73	4.855	5.105	5.105	6.795	7.615	7.615	10.375	14.6	14.6	20.25	53
Matched Truck	N/A	N/A	N/A	725	730	735	N/A	740	769D	773D	777D	785C	793C	797B
Average Cycle Time (min)	0.45	0.45	0.5	0.5	0.5	0.5	0.55	0.55	0.55	0.55	0.6	0.6	0.6	0.75
Passes to Fill Truck	N/A	N/A	N/A	3	4	5	N/A	4	3	4	5	6	7	5
Altitude Deration Factor	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Operator Efficiency	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Job Efficiency	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Time to Fill Truck	N/A	N/A	N/A	1.5	2	2.5	N/A	2.2	1.65	2.2	3	3.6	4.2	3.75
Rolling Resistance**	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5

Loader matched to small truck fleet
Loader matched to medium truck fleet
Loader matched to large truck fleet
Loader matched to extra large truck fleet

**A firm, smooth, rolling roadway with dirt or light surfacing, flexing slightly under load or undulating, maintained fairly regularly, watered
992G (2) - can be used to load 785 with 6 passes

Source: Caterpillar Performance Handbook Edition 35; LeTourneau/actual Chilean mine operating data for L2350.

Wheeled Loaders	General Purpose	Spade Nose-Rock
928G	3.25 cubic yard	not available
966G	5.0 cubic yard	not available
972G	5.5 cubic yard	not available
988G	not available	8.3 cubic yard
992G	not available	16.0 cubic yard

note: capacities are 2:1 heaped, SAE standards
NOTES: Buckets for both Track Excavators and Wheel Loaders are offered by CECo & available for the rental rates quoted. Bucket sizes and capacities obtained from CATERPILLAR PERFORMANCE HANDBOOK, ED 34; Section 12, Wheel Loader and Section 4, Excavators

Bucket capacity and width dictated by material weight and configuration, ie., shot, loose, tight bank, stockpile, rock, etc. Typical Nevada applications were used to determine above bucket capacities as related to materials & densities. Job site specifics may alter specific bucket requirements. (Cashman Equipment, Elko, Nevada - February 21, 2005)

Productivity - Shovels

Shovel Specifications (Komatsu equivalent)

Description	PC2000	PC3000	PC4000	PC5500	PC8000
Payload Capacity (cy)					
Struck	10.46	18.84	26.16	33.48	47.09
Heaped	14.39	25.9	35.97	46.04	64.75
Average	12.43	22.37	31.07	39.76	55.92
Matched Truck	740	777D	785C	793C	797B
Average Cycle Time (min)	0.49	0.49	0.59	0.59	0.69
Passes to Fill Truck	2.05	2.84	3.38	4.69	5.11
Altitude Deration Factor	1	1	0.9	1	1
Operator Efficiency	1	1	1	1	1
Job Efficiency	0.83	0.83	0.83	0.83	0.83
Time to Fill Truck	1.68	2.33	3.32	4.61	5.86
Rolling Resistance**	2.5	2.5	2.5	2.5	2.5

Shovel matched to small truck fleet
Shovel matched to medium truck fleet
Shovel matched to large truck fleet
Shovel matched to extra large truck fleet

**A firm, smooth, rolling roadway with dirt or light surfacing, flexing slightly under load or undulating, maintained fairly regularly, watered
992G (2) - can be used to load 785 with 6 passes
Source: Caterpillar Performance Handbook Edition 35; Komatsu actual Peruvian mine (Lagunas Norte) operating data for PC4000.

Productivity - Motor Graders

Motor Grader Specifications

Description	120H	14G/H	16G/H	24M
Grader Width (ft)	8	9.25	10.08	14.04
Blade Width (ft)	12	14	16	16
Ripper Width (7 shanks) (ft)	7.6	8.5	9.75	12.83
Road Maintence Speed (mph)				
Minimum	3	3	3	3
Maximum	9.5	9.5	9.5	9.5
Average	6.25	6.25	6.25	6.25
Hourly Production	33,000	33,000	33,000	33,000
Ripping Speed (mph)	1	1	1	1
Minimum	0	0	0	0
Maximum	3	3	3	3
Average	1.5	1.5	1.5	1.5
Altitude Deration Factor	1	1	1	1
Hourly Production (with job efficiency correction & altitude deration factors) (excluding manuever time)	6,574	6,574	6,574	6,574
Maneuver time per pass (min)	0.5	0.5	0.5	0.5
Operator Efficiency	1	1	1	1
Job Efficiency	0.83	0.83	0.83	0.83

Source: Caterpillar Performance Handbook Edition 35

Productivity - Excavators

Track Excavator Specifications

Description	312C	320C	325C	330C	345B	365BL	385BL
Bucket Capacity (cy)	0.68	1.57	2.22	2.22	3	4.6	7.3
Fill Factor	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Average Bucket Load (cy)	0.612	1.413	1.998	1.998	2.7	4.14	6.57
Soil Type	packed earth	hard clay	hard clay	hard clay	hard clay	hard clay	hard clay
Job Condition	med-hard	med-hard	med-hard	med-hard	med-hard	med-hard	med-hard
Cycle Times (minutes) - based on hard clay							
Load Bucket	0.07	0.09	0.09	0.09	0.13	0.1	0.19
Swing Loaded	0.06	0.06	0.06	0.07	0.07	0.09	0.06
Dump Bucket	0.03	0.03	0.04	0.04	0.02	0.04	0.03
Swing Empty	0.05	0.05	0.06	0.07	0.06	0.07	0.07
Total Cycle Time	0.21	0.23	0.25	0.27	0.28	0.3	0.35
Job Efficiency	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Operator Efficiency	1	1	1	1	1	1	1
Altitude Deration Factor	1	1	1	1	1	1	1
Corrected Productivity (LCY/hr)	145	306	398	369	480	687	935
Exploration Road Cycle Time [1] (min)	N/A	0.38	0.4	N/A	0.42	N/A	N/A
Exploration Road Corr Prod (LCY/hr)	N/A	185	249	N/A	320	N/A	N/A
Track Width (ft)	8.17	9.17	9.83	10.5	11.42	11.5	11.5
Ditch/Trench Excavation							
Bucket Capacity (cy)	0.42	0.58	0.88	0.89	2.09	3.27	2.75
Fill Factor	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Corrected Productivity (LCY/hr)	50	63	88	82	186	271	196

Source: Caterpillar Performance Handbook Edition 35

Track Excavators	Hvy Duty Rock	Extreme Service Exc (e.g. haulroad recontour)	Hvy Duty Trench
312C	30", 0.68 cubic yd	47", 0.94 cubic yd	22", .42 cubic yd
320C	30", 0.90 cubic yd	55.1", 1.57 cubic yd	23.6", .58 cubic yd
325C	36", 1.25 cubic yd	60", 2.22 cubic yd	30", .88 cubic yd
330C	36", 1.25 cubic yd	60", 2.22 cubic yd	30", .89 cubic yd
345B	43.2", 1.69 cubic yd	65", 3.0 cubic yd	48", 2.09 cubic yd
365BL	60", 3.25 cubic yd	82", 4.6 cubic yd	59", 3.27 cubic yd
385BL	85", 6.30 cubic yd.	96.0, 7.30 cubic yd	57", 2.75 cubic yd

Note: capacities are 2:1 heaped, SAE standards
NOTES: Buckets for both Track Excavators and Wheel Loaders are offered by CECo &

available for the rental rates quoted. Bucket sizes and capacities obtained from CATERPILLAR PERFORMANCE HANDBOOK, ED 34; Section 12, Wheel Loader and Section 4, Excavators
Bucket capacity and width dictated by material weight and configuration, ie., shot, loose, tight bank, stockpile, rock, etc. Typical Nevada applications were used to determine above bucket capacities as related to materials & densities. Job site specifics may alter specific bucket requirements (Cashman Equipment, Elko, Nevada - February 21, 2005)

(1) Exploration cycle time assumes feathering/smoothing performed by excavator

Concrete Breaking Production

Track Excavator w/Hammer Specifications

Description	325C	345B	385BL
Hydraulic Hammer	H120D s	H160D s	H180D s
Material	reinforced concrete		
Min Shift Production (yd3/8hr)	160	300	350
Max Shift Production (yd3/8hr)	300	850	1,550
Avg Shift Production (8hr)	230	575	950
Job Efficiency	0.83	0.83	0.83
Altitude Deration Factor	1	1	1

Source: Caterpillar Performance Handbook Edition 35

Drill Hole Plugging Productivity

Drill Hole Plugging Productivity

Description	Drill Rig	Pump Rig
Move-to-hole, set-up, tear-down [1,2]	2	2
Trip in tremmie pipe [1,2]	500	
Pulling casing (threaded, not cemented)	200	
Single-pass perforating (water wells)	Productivity(all p	Passes
4	60	4
6	60	4
8	50	4
12	45	6
18	40	9
24	28	12
Perforation setup,trip in/out,tear-down	2	
Perforation tool cost (wear cost)[3]	2.5	
Inert Material Placement (backfill)		
Grouting/Cement [4] (cy/hr)		5.33
Cuttings (see below) (cy/hr)		3.5

Sources:
1. Drillers daily logs from Newmont, Barrick, New West Gold, Agnico Eagle, Idaho General Mines Inc.
2. Drillers daily logs from Newmont, Barrick, Target Minerals
3. Drillers daily logs from Newmont
4. WDC Exploration, Dec 2005

Sournce: WDC Exploration, Dec 2005

Cuttings Placement Productivity

Shift productivity (Means 02210-700-0120; Crew B11M)	28	cy / shift
Shift length	8	hours
Estimated Hourly Productivity	3.5	cy / hour

Altitude Deration Table

MODEL	Elevation 0-760 m (0-2500') CAT	User	760-1500 m (2500-5000') CAT	User	1500-2300 m (5000-7000') CAT	User	2300-3000 m (7500-10,000') CAT	User	3000-3800 m (10,000-12,000') CAT	User	3800-4600 m (12,500-15,000') CAT	User
Bulldozers												
D6R	100		100		100		100		92		84	
D6R w/ Winch	100		100		100		100		92		84	
D7R	100		100		100		100		100		96	
D8R	100		100		100		93		85		77	
D9R	100		100		100		93		85		77	
D10R	100		100		100		100		97		89	
D11R	100		100		100		93		85		77	
Wheeled Dozers												
824G	100		100		100		100		92		84	
834G	100		100		100		100		92		84	
844	100		100		100		100		100		96	
854G	100		100		100		93		85		77	
Graders												
120H	100		100		100		100		96		93	
14G/H	100		100		100		100		98		96	
16G/H	100		100		100		100		98		96	
24M	100		100		100		100		98		96	
Excavators												
312C	100		100		100		83		78		73	
320C	100		100		90		87		83		76	
325C	100		100		100		100		100		100	
330C	100		100		100		100		100		100	
345B	100		100		100		100		93		93	
365BL	100		100		100		86		86		86	
385BL	100		100		100		93		85		78	
Scrapers												
631G	100		100		100		100		97		90	
637G	100		100		100		95		87		80	
Loaders												
924G	100		100		100		100		97		89	
928G	100		100		100		100		92		85	
950G	100		100		100		100		100		100	
966G	100		100		100		100		96		88	
972G	100		100		92		84		77		70	
980G	100		100		100		100		96		88	
988G	100		100		100		95		85		75	
990	100		100		100		100		92		85	
992G	100		100		100		100		93		87	
994D	100		100		100		100		96		88	
L2350	100		100		100		100		96		90	
Shovels												
PC2000	100		100		100		100		96		90	
PC3000	100		100		100		100		96		90	
PC4000	100		100		100		100		96		90	
PC5500	100		100		100		100		96		90	
PC8000	100		100		100		100		96		90	
Other Equipment												
420D 4WD Backhoe	99		97		95		91		91		91	
428D 4WD Backhoe	99		97		95		91		91		91	
CS533E Vibratory Roller	100		100		98		95		91		86	
CS633E Vibratory Roller	100		100		100		100		91		86	
CP533E Sheepsfoot Compactor	100		100		98		95		91		100	
CP633E Sheepsfoot Compactor	100		100		100		100		91		86	
Light Truck - 1.5 Ton												
Supervisor's Truck												
Flatbed Truck												
Air Compressor + tools												
Welding Equipment												
Heavy Duty Drill Rig												
Pump (plugging) Drill Rig												
Concrete Pump												
Gas Engine Vibrator												
Generator 5KW												
HDEP Welder (pipe or liner)												
5 Ton Crane												
20 Ton Crane												
50 Ton Crane												
120 Ton Crane												
Trucks												
725	100		100		100		100		100		95	
730	100		100		100		100		100		95	
735	100		100		100		100		99		91	
740	100		100		100		100		99		91	
769D	100		100		100		93		88		82	
773E	100		100		100		100		93		85	
777D	100		100		100		100		93		87	
785C	100		100		100		93		86		80	
793C	100		100		100		100		100		93	
797B	100		100		100		100		100		93	
613E (5,000 gal) Water Wagon	100		100		100		100		95		87	
621E (8,000 gal) Water Wagon	100		100		100		100		97		90	
777D Water Truck	100		100		100		100		93		87	
785C Water Truck	100		100		100		93		86		80	
Dump Truck (10-12 yd^3) (5)												

Notes:
User entered deration value will override values from CAT Performance Handbook, except L2350 Loader: data from actual mine performance in Chile.
Komatsu altitude deration assumed from LeTourneau L2350

Closure Cost Estimate
Seed Mixture

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2021
File Name: Att 1_Cost 20200820_SRCE_Version_1_4_1_017b_NV_2020 Exploration Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 1.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Seed Mixture

Common Name	Scientific Name	Species Number of Seeds / lb	Species % in Mix	PLS/acre	Cost/Lb	Cost/Acre
Grasses						
Indian ricegrass	*Achnatherum hymenoides*		14.16	1.30		
Plains lovegrass	*Eragrostis intermedia*		0.44	0.04		
NM feathergrass	*Hesperostipa newmexicana*		5.45	0.50		
Sideoats grama	*Bouteloua curtipendula*		11.98	1.10		
Blue grama	*Bouteloua gracilis*		2.72	0.25		
Cane beardgrass	*Bothriochloa barbinodis*		2.18	0.20		
Galleta	*Pleuraphis jamesii*		11.98	1.10		
Green sprangletop	*Leptochloa dubia*		2.18	0.20		
Plains bristlegrass	*Seteria vulpiseta*		3.27	0.30		
Sand dropseed	*Sporobolus cryptandrus*		0.44	0.04		
Forbs						
White prairie clover	*Dale candida c*		4.36	0.40		
Blue flax	*Linum lewisii c*		3.81	0.35		
Prairie coneflower	*Ratibida colomnifera c*		1.09	0.10		
Desert globemallow	*Sphaeralcea ambugua c*		4.36	0.40		
Shrubs						
Four-wing saltbush	*Atriplex canescens*		19.06	1.75		
Rubber rabbitbrush	*Ericamerica intermedia c*		3.81	0.35		
Apache plume	*Fallugia paradoxa c*		1.09	0.10		
Winterfat	*Krascheninnikovia lanata*		7.63	0.70		
Total				$9.18		$0.00

Source:

Notes:

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2021
File Name: Att 1_Cost 20200820_SRCE_Version_1_4_1_017b_NV_2020 Exploration Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 1.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Seed Mix Cost Quotes

THEMAC RESOURCES | NEW MEXICO COPPER CORPORATION

TO: Feliz Toprak, Mining Consultant, SRK Consulting, Inc.
CC: Jeff Smith, Chief Operating Officer, NMCC
FROM: Katie Emmer, Permitting & Environmental Compliance Manager, NMCC
DATE: 20 March 2018
SUBJECT: Seed Mix Quotes – Average cost $175.00/acre PLS

The purpose of this memorandum is to summarize research into seed mix costs for seed mixes identified in the Copper Flat Mine Operation & Reclamation Plan (MORP) and to present the estimated cost of pure live seed (PLS) per acre.

The MORP calls for a specific seed mix and rate of application for interim and final reclamation:

Table E7: Interim and Final Reclamation Seed Mixes

Scientific Name	Common Name	PLS/ac[1]	
		Interim	Final
Grasses – Warm Season			
Bothriochloa barbinodis	Cane bluestem	0.15	0.20
Bouteloua curtipendula	Sideoats grama	1.00	1.10
Bouteloua gracilis	Blue grama	0.20	0.25
Pleuraphis jamesii	Galleta	0.75	1.10
Leptochloa dubia	Green sprangletop	0.15	0.20
Seteria vulpiseta	Plains bristlegrass	0.20	0.30
Sporobolus cryptandrus	Sand dropseed	0.03	0.04
Grasses – Cool, Intermediate Season			
Achnatherum hymenoides	Indian ricegrass	0.60	1.30
Eragrostis intermedia	Plains lovegrass	0.05	0.04
Hesperostipa newmexicana	NM feathergrass	0.70	0.50
Shrubs			
Atriplex canescens	Four-wing saltbush	0.30	1.75
Ericamerica nauseosus	Rubber rabbitbrush	0.10	0.35
Fallugia paradoxa	Apache plume	--	0.10
Krascheninnikovia lanata	Winterfat	0.15	0.70
Forbs			
Dalea candida	White prairie clover	0.10	0.40
Linum lewisii	Blue flax	0.15	0.35
Ratibida colomnifera	Prairie coneflower	--	0.10
Sphaeralcea ambigua	Desert globemallow	0.10	0.40
	Total	**4.73**	**9.18**

Notes:
1 - Rate is in pounds of pure live seed (PLS) per acre; Substitutions may change seeding rates.

In the week of 12 March 2018, I requested recommendations for seed mix suppliers from knowledgeable personnel at the Bureau of Land Management (BLM) Las Cruces office and Golder & Associates.

Emily Clark, Soil Scientist at Golder, indicated that they commonly work with Granite Seed. Shannon Gentry, Rangeland Management Specialist, suggested Bamert Seed, Granite Seed, and Curtis & Curtis Seed companies. Based on these recommendations, I contacted all three companies and provided MORP Table E7 and requested quotes on PLS/acre that would be certified weed free at the final reclamation rate. I instructed each company that comparable seed substitutions could be made based on availability. Quotes for PLS/acre were received from each company and are presented in the table below.

Seed Mix Quotes for MORP Table E7, Final Rate, March 2018

Company	Date	Price quote PLS/acre	Notes
Curtis & Curtis, Inc.	15 March 2018	$174.72	Low acreage Quote attached
Curtis & Curtis, Inc.	15 March 2018	$163.79	100 acres+ Quote attached
Granite Seed	15 March 2018	$186.50	Quote attached
Bamert Seed	16 March 2018	$750.00	Quote via email, attached.

In further correspondence with Bamert, the supplier speculated the quote could be decreased "as much as 2/3rds" if strategic substitutions of similar seeds were made based on availability. If the Bamert quote was decreased by 67%, it would be about $247.50/acre. Based on the difference in price from the other two suppliers, I conclude this quote is an outlier that is based on differing assumptions from those communicated in the quote request and have not included it in our estimated average seed mix cost.

Based on these quotes, attached, I conclude the average cost of PLS that would meet MORP requirements for final seed rates shown in Table E7 would be $175.00 per acre.

Attachements:
Curtis & Curtis, Inc. Quote
Granite Seed Quote
Bamert Seed Quote (via email)

Closure Cost Estimate
User 1

CURTIS & CURTIS, INC.

4500 North Prince, Clovis, New Mexico 88101
PH: 575-762-4759 FAX: 575-763-4213

Irrigated Pasture Grasses
Mountain Pasture Grasses
Native Pasture Grasses

Yard and Playground Grasses
Golf Course Grasses
Alfalfa/Clovers

PRICE QUOTATION

TO:	Themac Resources	DATE:	March 15, 2018
ATTENTION:	Katie Emmer	SALESPERSON:	Tyler Stuemky
PHONE:	505-400-7925	SHIPPING DATE:	As Directed
EMAIL:	kemmer@themacresourcesgroup.com	FOB:	Clovis
PROJECT:	Sierra County Mine Reclamation	TERMS:	30 Days Net

DESCRIPTION	PRICE	AMOUNT
Custom Seed Mix:	$174.72/Acre (Low Acreage) $163.79/Acre (100 Acres+)	

COMMON NAME	BOTANICAL NAME	PLS/ACRE
~~Cane Bluestem~~ Sub. Buffalograss	*Bouteloua dactyloides*	0.20
Sideoats Grama	*Bouteloua curtipendula*	1.10
Blue Grama	*Bouteloua gracilis*	0.25
Galleta Grass	*Pleuraphis jamesii*	1.10
Green Sprangletop	*Leptochloa dubia*	0.20
Plains Bristlegrass	*Setaria vulpiseta*	0.30
Sand Dropseed	*Sporobolus cryptandrus*	0.04
Indian Ricegrass	*Oryzopsis hymenoides*	1.30
~~Plains Lovegrass~~ Sand Lovegrass	*Eragrostis trichodes*	0.04
~~NM Feathergrass~~ Needle and Thread	*Hesperostipa comata*	0.50
Four-Wing Saltbush	*Atriplex canescens*	1.75
Rubber Rabbitbrush	*Ericameria nauseosa*	0.35
~~Apache Plume~~ Sub. Three-Leaf Sumac	*Rhus trilobata*	0.10
Winterfat	*Krascheninnikovia lanata*	0.70
~~White Prairie Clover~~ Sub. Purple Prairie Clover	*Dalea purpurea*	0.40
Blue Flax	*Linum lewisii*	0.35
Prairie Coneflower	*Ratibida columnifera*	0.10
Desert Globemallow	*Sphaeralcea ambigua*	0.40

*****THIS QUOTE IS GOOD FOR 10 DAYS*****

*****ALL PRICES SUBJECT TO AVAILABILITY**SUBJECT TO BEING UNSOLD*****

Here is our quotation on the goods named, subject to the conditions noted:

The prices and terms on this quotation are not subject to verbal changes or other agreements unless approved in writing by the Home Office of the Seller. All quotations and agreements are contingent upon strikes, accidents, fires, availability of materials and all other causes beyond our control. Prices are based on costs and conditions existing on date of quotation and are subject to change by the Seller before final acceptance.

Typographical and stenographic errors are subject to correction. Purchaser agrees to accept either overage or shortage not in excess of ten percent to be charged for pro-rata. Purchaser assumes liability for patent and copyright infringement when goods are made to Purchaser's specifications. When quotation specifies material to be furnished by the purchaser, ample allowance must be made for reasonable spoilage and material must be of suitable quality to facilitate efficient production. Conditions not specifically stated herein shall be governed by established trade customs. Terms inconsistent with those stated herein, which may appear on Purchaser's formal order will not be binding on the Seller.

Closure Cost Estimate
User 1

QUOTE

granite SEED
and erosion control

Tren Hagman
1697 West 2100 North
Lehi, UT 84043

tren@graniteseed.com
Phone: (801) 768-4422
Fax: (801) 701-9413

Date: March 15, 2018
To: Katie Emmer
Company: Themac Resources
From: Tren Hagman
Re: Seed Quote

Katie,

We can provide the mix below for $186.50/acre

Species	PLS lbs./acre
Cane beardgrass (Bothriochloa barbinodis)	0.20
Sideoats grama (Bouteloua curtipendula)	1.10
Blue grama (Bouteloua gracilis)	0.25
Galleta grass (Pleuraphis jamesii)	1.10
Green sprangletop (Leptochloa dubia)	0.20
Plains bristlegrass (Setaria vulpiseta)	0.30
Sand dropseed (Sporobolus cryptandrus)	0.04
Indian ricegrass (Achnatherum hymenoides)	1.30
Fourwing saltbush (Atriplex canescens)	1.75
Rubber rabbitbrush (Ericameria nauseosa)	0.35
Apache plume (Fallugia paradoxa)	0.10
Winterfat (Krascheninnikovia lanata)	0.70
White prairie clover (Dalea candida)	0.40
Blue flax (Linum perenne)	0.35
Prairie coneflower (Ratibida columnifera)	0.10
Desert globemallow (Sphaeralcea ambigua)	0.40
Toal:	**8.64**

If you have any questions, please contact me at the number above or by email tren@graniteseed.com .

Thanks

Katie Emmer

From: Colby Scroggins <cscroggins@bamertseed.com>
Sent: Friday, March 16, 2018 12:18 PM
To: Katie Emmer
Subject: RE: Seed mix quote

Katie,

I would estimate that the attached blend may be near $750 per acre.

Please let me know if I may be of help in the future!

Have a great day,

Colby F. Scroggins
Reclamation Specialist
cscroggins@BamertSeed.com
Office | 800.262.9892
Fax | 888.378.0419
www.BamertSeed.com

BAMERT SEED COMPANY
Native Seeds Since 1951

Sign Up for Our Newsletter!

From: Katie Emmer [mailto:kemmer@themacresourcesgroup.com]
Sent: Wednesday, March 14, 2018 4:25 PM
To: Colby Scroggins <cscroggins@bamertseed.com>
Subject: Seed mix quote

Here's the seed mix I'm looking at, see attached.

Katie Emmer | Permitting & Environmental Compliance Manager

M: +1 505.400.7925| **F:** +1 505.881.4616
A: 4253 Montgomery Blvd. NE, Suite 130, Albuquerque, NM 87109
W: themacresourcesgroup.com | **E:** kemmer@themacresourcesgroup.com

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Attachment 2

Cost Estimate for Reclamation of Disturbance at the End of Mine Operations

Closure Cost Estimate
Property Information

Enter Data Below in Green and Blue Spaces

STANDARDIZED RECLAMATION COST ESTIMATOR

Version 1.4.1
Build 017b (Revised 16 May 2019)

Approved for use in Nevada, August 1, 2012

COST DATA FILE INFORMATION

File Name:	Att 2_Cost 20200820_SRCE_Version_1_4_1_017b_NV_20 Year Rev 2.xlsm
Cost Data File:	SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 2.xlsm
Cost Data Date:	January 6, 2021
Cost Data Basis:	User Data
Data Cost Units:	Imperial
Author/Source:	New Mexico Department of Workforce Solutions Public Works Prevailing Wage Rates Type H

PROJECT INFORMATION

Property/Mine Name:	Foothill Dolomite Mine
Property Code:	N/A
Project Name:	Foothill Dolomite Mine
Date of Submittal:	01/18/2020
Average Altitude:	4865 ft.
Select One:	○ Notice or Sm Exploration Plan ○ Lg Exploration Plan ◉ Mine Operation
Select One:	○ Private Land ◉ Public or Public/Private
Cost Estimate Type:	Surety
Cost Basis Category:	American Magnesium - Option 1 Revised
Cost Basis Description:	**American Magnesium - Foothill Dolomite Mine - Northern Nevada Equipment**

Closure Cost Estimate
Cost Summary

Project Name: Foothill Dolomite Mine
Project Date: 01/18/2020
Model Version: Version 1.4.1
File Name: Att 2_Cost 20200820_SRCE_Version_1_4_1_017b_NV_20 Year Rev 2.xlsm

A. Earthwork/Recontouring	Labor [1]	Equipment [2]	Materials	Total
Exploration	$0	$0	$0	$0
Exploration Roads & Drill Pads	$0	$0	$0	$0
Roads	$1,757	$5,791	$0	$7,548
Well Abandonment	$0	$0	$0	$0
Pits	$0	$0	N/A	$0
Quarries & Borrow Areas	$13,455	$44,595	$0	$58,050
Underground Openings	$0	$0	$0	$0
Process Ponds	$0	$0	$0	$0
Heaps	$0	$0	$0	$0
Waste Rock Dumps	$0	$0	$0	$0
Landfills	$0	$0	$0	$0
Tailings	$0	$0	$0	$0
Foundation & Buildings Areas	$34	$88	$0	$122
Yards, Etc.	$1,032	$3,287	$0	$4,319
Drainage & Sediment Control	$0	$0	$0	$0
Generic Material Hauling	$0	$0	$0	$0
Other User Costs (from Other User sheet)	$0	$0	$271,364	$271,364
Other**				$0
Subtotal	**$16,278**	**$53,761**	**$271,364**	**$341,403**
Mob/Demob if included in Other User sheet	$0	$0	$0	$0
Mob/Demob				$0
Subtotal "A"	**$16,278**	**$53,761**	**$271,364**	**$341,403**

B. Revegetation/Stabilization	Labor [1]	Equipment [2]	Materials	Total
Exploration	$0	$0	$0	$0
Exploration Roads & Drill Pads	$0	$0	$0	$0
Roads	$437	$374	$19,970	$20,781
Well Abandonment				N/A
Pits	$0	$0	$0	$0
Quarries & Borrow Areas	$3,266	$2,800	$142,942	$149,008
Underground Openings				N/A
Process Ponds	$0	$0	$0	$0
Heaps	$0	$0	$0	$0
Waste Rock Dumps	$0	$0	$0	$0
Landfills	$0	$0	$0	$0
Tailings	$0	$0	$0	$0
Foundation & Buildings Areas	$140	$120	$640	$900
Yards, Etc.	$280	$240	$12,802	$13,322
Drainage & Sediment Control	$0	$0	$0	$0
Generic Material Hauling	$0	$0	$0	$0
Other User Costs (from Other User sheet)	$0	$0	$0	$0
Other**				$0
Subtotal "B"	**$4,123**	**$3,534**	**$176,354**	**$184,011**

C. Detoxification/Water Treatment/Disposal of Wastes**	Labor [1]	Equipment [2]	Materials	Total
Process Ponds/Sludge				$0
Heaps				$0
Dumps (Waste & Landfill)				$0
Tailings				$0
Surplus Water Disposal				$0
Monitoring				$0
Miscellaneous				$0
Solid Waste - On Site	$595	$1,829	N/A	$2,424
Solid Waste - Off Site				$0
Hazardous Materials				$0
Hydrocarbon Contaminated Soils	$0	$0	$0	$0
Other User Costs (from Other User sheet)	$0	$0	$0	$0
Other**				$0
Subtotal "C"	**$595**	**$1,829**	**$0**	**$2,424**

D. Structure, Equipment and Facility Removal, and Misc.	Labor [1]	Equipment [2]	Materials	Total
Foundation & Buildings Areas	$86	$413	$0	$499
Other Demolition	$0	$0	$0	$0
Equipment Removal	$4,150	$7,100	$100	$11,350
Fence Removal	$11,116	$6,198		$17,314
Fence Installation	$0	$0	$0	$0
Culvert Removal	$204	$171	N/A	$375
Pipe Removal	$0	$0	N/A	$0
Powerline Removal	$0			$0
Transformer Removal	$0			$0
Rip-rap, rock lining, gabions	$0	$0	$0	$0
Other Misc. Costs	$0	$0	$0	$0
Other User Costs (from Other User sheet)	$0	$0	$0	$0
Other**				$0
Subtotal "D"	**$15,556**	**$13,882**	**$100**	**$29,538**

E. Monitoring	Labor [1]	Equipment [2]	Materials	Total
Reclamation Monitoring and Maintenance	$12,368	$8,462	$1,905	$22,735
Ground and Surface Water Monitoring	$0	$0	$0	$0
Other User Costs (from Other User sheet)	$0	$0	$0	$0
Subtotal "E"	**$12,368**	**$8,462**	**$1,905**	**$22,735**

F. Construction Management & Support	Labor	Equipment [2]	Materials	Total
Construction Management	$20,671	$2,974	N/A	$23,645
Construction Support	$0	$428	$0	$428
Road Maintenance	$6,516	$20,282	$726	$27,524
Other User Costs (from Other User sheet)	$0	$0	$0	$0
Other**				$0
Subtotal "F"	**$27,187**	**$23,684**	**$726**	**$51,597**

Subtotal Operational & Maintenance Costs	Labor [1]	Equipment [2]	Materials [3]	Total
Subtotal A through F	**$76,107**	**$105,152**	**$450,449**	**$631,708**

** Other Operator supplied costs - additional documentation required.

Closure Cost Estimate
Cost Summary

Project Name: Foothill Dolomite Mine
Project Date: 01/18/2020
Model Version: Version 1.4.1
File Name: Att 2_Cost 20200820_SRCE_Version_1_4_1_017b_NV_20 Year Rev 2.xlsm

Indirect Costs				Include?	Total
1. Engineering, Design and Construction (ED&C) Plan (7)					$50,537
2. Contingency (8)					$50,537
3. Insurance (9)	$1,142				$1,142
4. Performance Bond (10)					$18,951
5. Contractor Profit (11)					$63,171
6. Contract Administration (12)					$63,171
7. Government Indirect Cost (13)					$13,266
Subtotal Add-On Costs					**$260,775**
Total Indirect Costs as % of Direct Cost					41%
GRAND TOTAL					**$892,483**

Administrative Cost Rates (%)					
	Cost Ranges for Indirect Cost Percentages				
	<=	<=	<=	>	
1. Engineering, Design and Construction (ED&C) Plan (7)	$1,000,000	$25,000,000		$25,000,000	Small Plan
Variable Rate	8%	6%		4%	0%
	<=	<=	<=	>	
2. Contingency (8)	$500,000	$5,000,000	$50,000,000	$50,000,000	Small Plan
Variable Rate	10%	8%	6%	4%	0%
3. Insurance (9)	1.5%	of labor costs			
4. Bond (10)	3.0%	of the O&M costs if O&M costs are >$100,000			
5. Contractor Profit (11)	10%	of the O&M costs			
	<=	<=	<=	>	
6. Contract Administration (12)	$1,000,000	$25,000,000		$25,000,000	
Variable Rate	10%	8%		6%	
0	21%	of contract administration			

RECLAMATION COST ESTIMATION SUMMARY SHEET FOOTNOTES

1. Federal construction contracts require Davis-Bacon wage rates for contracts over $2,000. Wage rate estimates may include base pay, payroll loading,
2. The reclamation cost estimate must include the estimated plugging cost of at least one drill hole for each active drill rig in the project area. Where the
3. Miscellaneous items should be itemized on accompanying worksheets.
4. Fluid management should be calculated only when mineral processing activities are involved. Fluid management represents the costs of maintaining proper
5. Handling of hazardous materials includes the cost of decontaminating, neutralizing, disposing, treating and/or isolating all hazardous materials used, produced,
6. Any mitigation measures required in the Plan of Operations must be included in the reclamation cost estimate. Mitigation may include measures to avoid,
7. Engineering, design and construction (ED&C) plans are often necessary to provide details on the reclamation needed to contract for the required work. To
8. A contingency cost is included in the reclamation cost estimation to cover unforeseen cost elements. Calculate the contingency cost as a percentage of the
9. Insurance premiums are calculated at 1.5% of the total labor costs. Enter the premium amount if liability insurance is not included in the itemized unit costs.
10. Federal construction contracts exceeding $100,000 require both a performance and a payment bond (Miller Act, 40 USC 270et seq.). Each bond premium is
11. For Federal construction contracts, use 10% of estimated O&M cost for the contractor's profit.
12. To estimate the contract administration cost, use 6 to 10% of the operational and maintenance (O&M) cost. Calculate the contract administration cost as a
13. Government indirect cost rate is 21% of the contract administration costs.

Closure Cost Estimate
Other User

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2020
File Name: Att 2_Cost 20200820_SRCE_Version_1_4_1_017b_NV_20 Year Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 2.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Other Cost Items Calculated Elsewhere

	Description (required)	ID Code	Facility Type	Quantity	Units	Total Capital Cost $	Material Unit Cost $	Labor Unit Cost $	Equipment/ Operating Unit Cost $	Cost Type (select)	Total Cost $	Comments
1	Topdressing Purchase and Hauling		Off Site - Other Load Out	18,529	1	$70,658.00	$10.83			A. Earthwork	$271,364	
						$70,658	$200,706	$0	$0		$271,364	

Notes: Capital cost is lump sum (i.e. not multiplied by the quantity).
Material, Labor and Equipment/Operating costs are unit costs (i.e. multiplied by the quantity).
Note: Assumes 20% discount on purchased soil for bulk discount at $13.54/cy original Cost
Note: Assumes Capitol Cost as Delivery cost at $3.50 per mile using an 18 cy dump truck at 19.6 miles for delivery.

Closure Cost Estimate
Reclamation Quantities

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2020
File Name: Att 2_Cost 20200820_SRCE_Version_1_4_1_017b_NV_20 Year Rev 2.xlsm
Model Version: Version 1.4.1
Data Cost File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 2.xlsm
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 2.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Reclamation Quantity Summary

	Description	Total Regrade or Haul Volume cy	Total Regrade or Haul Cost $	Total Cover Volume cy	Cover Placement Cost $	Total Growth Media Volume cy	Growth Media Placement Cost $	Total Surface Area acres	Total Scarify Cost $	Total Revetation Cost $	TOTALS $	Unit Costs: Regrade Unit Cost $/CY	Material Haul or Backfill Unit Cost $/CY	Cover Unit Cost $/CY	Growth Media Unit Cost $/CY	Scarify Unit Cost $/CY	Area Unit Cost $/acre
1	Waste Rock Dumps		$ -		$ -		$ -		$ -	$ -	$ -		N/A				
2	Tailings Impoundments		$ -		$ -		$ -		$ -	$ -	$ -		N/A				
3	Heap Leach Pads		$ -		$ -		$ -		$ -	$ -	$ -		N/A				
5	Open Pits		$ -							$ -	$ -		N/A				
4	Quarries & Borrow Pits	15,887	$ 2,579		$ -	36,029	$ 53,016	22.33179063	$ 2,455	$ 148,748	$ 206,798	$0.16	N/A		$1.47	$109.93	$9,260.25
6	Roads	88	$ 364			5,033	$ 6,816	3.12	$ 368	$ 20,781	$ 28,329	$4.14	N/A		$1.35	$117.95	$9,079.81
7	Landfills		$ -		$ -		$ -		$ -	$ -	$ -		N/A				
8	Buildings				$ -		$ -	0.1	$ 122	$ 900	$ 1,022		N/A			$1,220.00	$10,220.00
9	Yards		$ -		$ -	3,227	$ 4,073	2	$ 246	$ 13,322	$ 17,641		N/A		$1.26	$123.00	$8,820.50
10	Ponds		$ -				$ -			$ -	$ -	N/A					
11	Exploration Roads		$ -				$ -	2.93	$ -	$ -	$ -		N/A			$0.00	$0.00
12	Exploration Trenches		$ -							$ -	$ -		N/A				
13	Diversion Ditches		$ -							$ -	$ -		N/A				
14	Sediment Ponds		$ -				$ -		$ -	$ -	$ -						
15	Generic Haulage/Backfill		$ -		$ -		$ -		$ -	$ -	$ -	N/A					
16	Adit/Decline Backfilling1		$ -								$ -	N/A					
17	Shaft Backfilling		$ -								$ -	N/A					
	TOTALS	15,975	$ 2,943	-	$ -	44,289	$ 63,905	30.48	$ 3,191	$ 183,751	$ 253,790						
	Average Costs	per CY	$0.18	per CY		per CY	$1.44	per acre	$104.69	$57.58	$8,326	per acre					

Closure Cost Estimate
Exploration

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2020
File Name: Att 2_Cost 20200820_SRCE_Version_1_4_1_017b_NV_20 Year Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 2.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Exploration - Cost Summary	Labor	Equipment	Materials	Totals
Hole Abandonment Costs	$0	$0	$0	$0
Trench Backfilling Costs	$0	$0		$0
Subtotal Earthworks	**$0**	**$0**	**$0**	**$0**
Trench Revegetation Costs	$0	$0	$0	$0
TOTALS	**$0**	**$0**	**$0**	**$0**

Exploration Drillhole Abandonment - User Input

	Facility Description		Hole Plugging							
	Description (required)	ID Code	Hole Type (select)	Diameter in	Total Number of Holes	Max Holes Open at One Time	Casing to Remove ft	Average Depth of Hole[1] ft bgs	Depth to Water ft bgs	Hole Plug Method (select)
1	**Exploration Boreholes**	**N/A**	**Rotary Pre-drill**	**3.0**	**86.0**	**0.0**	**0.0**	**100.0**	**250.0**	**Grout Only**

Notes:
1. If core holes are pre-drilled, use length of hole below pre-drilled length
2. If Top Plug is selected, assumes maximum 1/2hr laborer time to place plug and backfill with cuttings/soil (including move-to/set up time).

Note: Exploration Boreholes will be mined out during life of mine and not be present for final reclamation.

Closure Cost Estimate
Exploration

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2020
File Name: Att 2_Cost 20200820_SRCE_Version_1_4_1_017b_NV_20 Year Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 2.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Exploration - Cost Summary				
	Labor	Equipment	Materials	Totals
Hole Abandonment Costs	$0	$0	$0	$0
Trench Backfilling Costs	$0	$0		$0
Subtotal Earthworks	**$0**	**$0**	**$0**	**$0**
Trench Revegetation Costs	$0	$0	$0	$0
TOTALS	**$0**	**$0**	**$0**	**$0**

Exploration Trenches - User Input

Facility Description			Trench Parameters					Backfill			Revegetation		
	Description (required)	ID Code	Trench Length ft	Trench Depth ft	Trench Bottom Width ft	Trench Sideslope Angle degrees	Additional Hrs for Walk-in [1] hr	Backfill Material (select)	Cut Material Type (select)	Backfilling Fleet (select)	Seed Mix (select)	Mulch (select)	Fertilizer (select)

Notes:
1. Include one-way hours necessary to walk equipment in from drop-off point to work area
2. Material Types are used for density correction based on material densities in Caterpillar Performance Handbook material density table

Closure Cost Estimate
Exploration

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2020
File Name: Att 2_Cost 20200820_SRCE_Version_1_4_1_017b_NV_20 Year Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 2.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Exploration - Cost Summary	Labor	Equipment	Materials	Totals
Hole Abandonment Costs	$0	$0	$0	$0
Trench Backfilling Costs	$0	$0		$0
Subtotal Earthworks	**$0**	**$0**	**$0**	**$0**
Trench Revegetation Costs	$0	$0	$0	$0
TOTALS	**$0**	**$0**	**$0**	**$0**

Exploration Drillhole Abandonment

	Description (required)	Vol/foot of depth ft3	Hole Plugging Material [1]	Total Grout Volume [2] cy	Total Cuttings Volume cy	Total Top Seal Volume [3,4] cy	Total Drillhole Abandon. Hours [6,7] hrs	Casing Removal Labor Cost [5] $	Casing Removal Equipment Cost $	Plugging Labor Cost $	Plugging Equipment Cost $	Plugging Material Cost $	Top Seal Material Cost [2,3] $	Total Cost [6,7] $
1	**Exploration Boreholes**	0.050	Cuttings	0.19			3	$0	$0	$0	$0	$0	$0	
				0.19			3	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**

Notes:

1. Assumes grout backfill from bottom of hole to 50' (15.24m) above static water level, up to 10' (3m) from top of hole
2. Assumes 25% loss to formation for grout backfill
3. If "Top Plug" hole plug method is used, assumes physical plug installed without backfill, grout or cement. Not available option for Nevada projects
4. Assumes top 20' (6 m) of hole is plugged with cement if "Grout Only", "Backfill + Grout", or "Cement Plug" hole plug method are chosen.
5. Assumes that a) casing is not cemented entire length, b) does not include temporary surface casing
6. Assumes minimum 1 hr per hole for abandonment (excluding move-to and casing removal)
7. Assumes fixed hours per hole for setup & tear-down and moving between holes (see Productivty Sheet) per drill hole (includes rig time if grouting required, labor crew only if cuttings backfill only)

Closure Cost Estimate
Exploration

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2020
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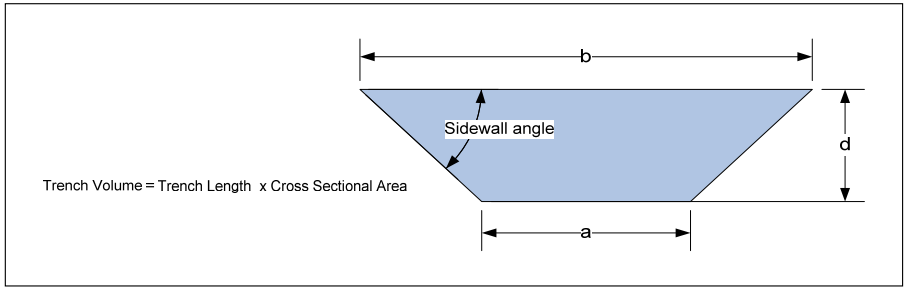
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 2.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Exploration - Cost Summary	Labor	Equipment	Materials	Totals
Hole Abandonment Costs	$0	$0	$0	$0
Trench Backfilling Costs	$0	$0		$0
Subtotal Earthworks	**$0**	**$0**	**$0**	**$0**
Trench Revegetation Costs	$0	$0	$0	$0
TOTALS	**$0**	**$0**	**$0**	**$0**

Exploration Trenches - Calculations

Exploration Trench Volume Calculation



Dozing & Ripping/Scarifying Calculations

Dozing: Dozing distance = 1/2 trench length or 400 ft (max push) whichever is less
Assumes flat push (grade correction factor = 1)

Revegetation: 10 ft added to trench width to account for revegetation under spoil pile

Closure Cost Estimate
Exploration

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2020
File Name: Att 2_Cost 20200820_SRCE_Version_1_4_1_017b_NV_20 Year Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 2.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Exploration - Cost Summary	Labor	Equipment	Materials	Totals
Hole Abandonment Costs	$0	$0	$0	$0
Trench Backfilling Costs	$0	$0		$0
Subtotal Earthworks	**$0**	**$0**	**$0**	**$0**
Trench Revegetation Costs	$0	$0	$0	$0
TOTALS	**$0**	**$0**	**$0**	**$0**

Exploration Trenches - Backfill/Regrading Costs

Productivity = Dozer Productivity x Grade Correction x Density Correction x Operator (0.75) x Material x Visibility x Job Efficiency (0.83)

Description (required)	Trench Backfill Volume LCY (BCY+30%)	Dozer Push Distance ft	Equipment Productivity yd3/hr	Dozing Material	Density Correction	Backfilling Fleet	Corrected Hourly Productivity yd3/hr	Total Dozer Hours hr	Trench Backfill Labor Cost $	Trench Backfill Equipment Cost $	Total Trench Backfill Cost $
									$0	**$0**	**$0**

Closure Cost Estimate
Exploration

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2020
File Name: Att 2_Cost 20200820_SRCE_Version_1_4_1_017b_NV_20 Year Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 2.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Exploration - Cost Summary				
	Labor	Equipment	Materials	Totals
Hole Abandonment Costs	$0	$0	$0	$0
Trench Backfilling Costs	$0	$0		$0
Subtotal Earthworks	**$0**	**$0**	**$0**	**$0**
Trench Revegetation Costs	$0	$0	$0	$0
TOTALS	**$0**	**$0**	**$0**	**$0**

Exploration Trenches - Revegetation Costs

Description (required)	Surface Area acres	Revegetation Labor Cost $	Revegetation Equipment Cost $	Revgetation Material Cost $	Total Revegetation Cost $
		$0	**$0**	**$0**	**$0**

Closure Cost Estimate
Expl. Roads & Pads

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2020
File Name: Att 2_Cost 20200820_SRCE_Version_1_4_1_017b_NV_20 Year Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 2.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Exploration Roads & Pads - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$0	$0	N/A	$0
Cover Placement Cost	$0	$0	N/A	$0
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$0**	**$0**		**$0**
Revegetation Cost	$0	$0	$0	$0
TOTALS	**$0**	**$0**	**$0**	**$0**

Exploration Roads & Pads - User Input — You must fill in ALL green cells and relevant blue cells in this section for each road

	Facility Description		Physical (1) - MANDATORY										User Overrides		Growth Media		
	Description (required)	ID Code	Underlying Ground Slope % grade	Ungraded Slope _H:1V	Cut Slope degrees	Road + Drill Pad Length ft	Road Width ft	Number of Drill Pads	Individual Sump Volume cy	Drill Pad Width ft	Drill Pad Length ft	Slope Replacement Percent %	Regrade Volume (if calculated elsewhere) cy	Disturbed Area (if calculated elsewhere) acres	Growth Media Thickness in	Distance to Growth Media Stockpile ft	Slope from Road to Stockpile % grade
1	**Exploration Roads**	**N/A**	**15.0**	**2.0**	**66.7**	**0**	**12.0**	**86**	**0**	**12.0**	**10**	**115%**		**2.93**	**12**	**1,379**	**15.0**

Notes:
1. All Physical parameters must be input even if manual overrides for volume or area are used.
2. Slope replacement refers to the percentage of cut volumn replaced during regrading.
3. If Slope from facility to borrow source is >20, downhill travel time may be underestimated due to limitation of uphill travel time curves and downhill speed tables from CAT Handbook (see Productivty Sheet)
4. Sump volume will be applied to all roads on slopes <20%. On slopes >20% pad width (i.e. cut volume) should be adequate to account for sump volume.

Note: Exploration Roads will be mined out during life of mine and not be present for final reclamation.

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2020
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Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 2.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Exploration Roads & Pads - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$0	$0	N/A	$0
Cover Placement Cost	$0	$0	N/A	$0
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$0**	**$0**		**$0**
Revegetation Cost	$0	$0	$0	$0
TOTALS	**$0**	**$0**	**$0**	**$0**

Exploration Roads & Pads - User Input (cont.) **You must fill in ALL green cells and relevant blue cells in this section for each road**

		Grading				Growth Media				Revegetation				
	Description (required)	**Regrade Material Condition** (select)	**Cut Material Type** (select)	**Recontouring Equipment Fleet** (select)	**Additional Hrs for Walk-in** [1]	**Growth Media Material Type** (select)	**Growth Media Placement Equipment Fleet** (select)	**Maximum Fleet Size** (user override)	**Additional Hrs for Walk-in** [1]	**Seed Mix** (select)	**Mulch** (select)	**Fertilizer** (select)	**Scarifying/ Ripping?** (select)	**Ripping Fleet** (select)
1	**Exploration Roads**													

Notes:
1. Include one-way hours necessary to walk equipment in from drop-off point to work area
2. Material Types are used for density correction based on material densities in Caterpillar Performance Handbook material density table

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2020
File Name: Att 2_Cost 20200820_SRCE_Version_1_4_1_017b_NV_20 Year Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 2.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Exploration Roads & Pads - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$0	$0	N/A	$0
Cover Placement Cost	$0	$0	N/A	$0
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$0**	**$0**		**$0**
Revegetation Cost	$0	$0	$0	$0
TOTALS	**$0**	**$0**	**$0**	**$0**

Exploration Roads & Pads - Calculations

Regrading Volume and Footprint Volume

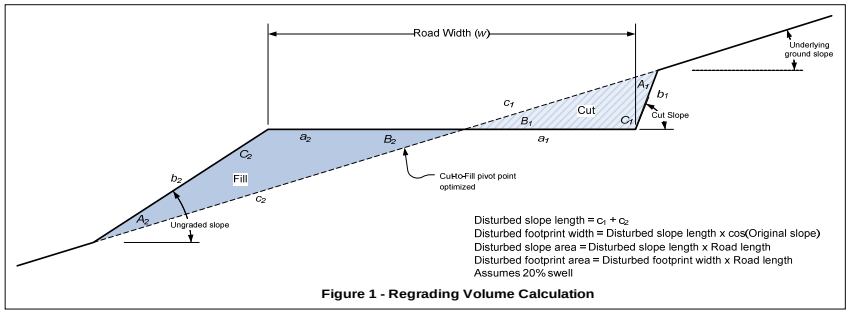

Figure 1 - Regrading Volume Calculation

Will not allow dozer for slopes greater than 30%
For dozer regrading push distance = road width
Assumes dozer push is uphill
Assumes minimum push distance of 100 ft

Swell Factor: 1.2

Ripping/Scarifying Calculations

Minimum 1 hr ripping/scarifying time per area
Number of passes = Final slope length ÷ Grader width
Travel distance = Number of passes x Road length
Total hours = (Travel distance ÷ Grader productivity) + (Number of passes x Grader maneuver time)
For dozer regrading assumes push distance = 3 x road width

Revegetation Calculations

Minimum of 1 acre crew time per area

Project Name: Foothill Dolomite Mine - Reclamation Plan
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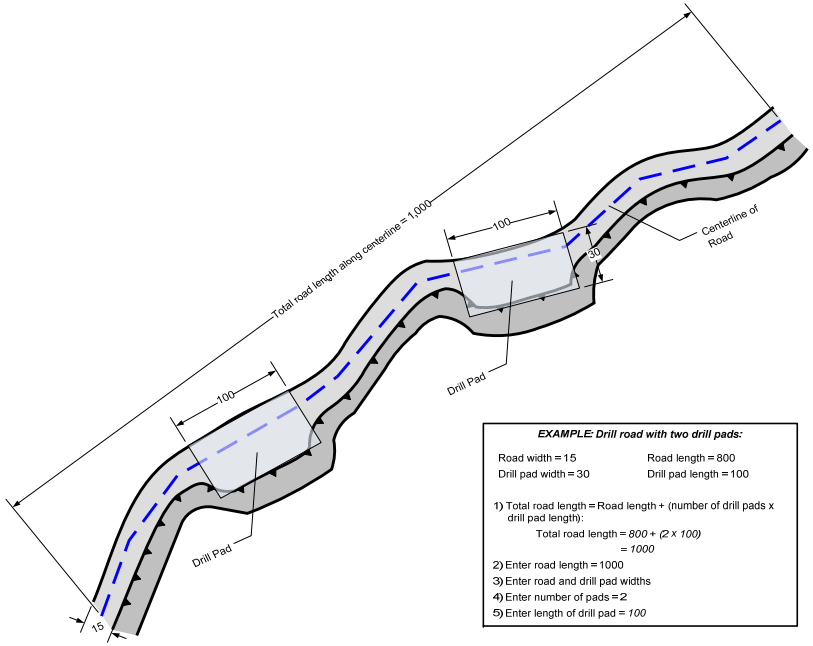
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Exploration Roads & Pads - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$0	$0	N/A	$0
Cover Placement Cost	$0	$0	N/A	$0
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$0**	**$0**		**$0**
Revegetation Cost	$0	$0	$0	$0
TOTALS	**$0**	**$0**	**$0**	**$0**

Inputting Exploration Roads and Drill Pads



EXAMPLE: Drill road with two drill pads:

Road width = 15 Road length = 800
Drill pad width = 30 Drill pad length = 100

1) Total road length = Road length + (number of drill pads x drill pad length):
Total road length = *800 + (2 x 100)*
= 1000
2) Enter road length = 1000
3) Enter road and drill pad widths
4) Enter number of pads = *2*
5) Enter length of drill pad = *100*

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Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Exploration Roads & Pads - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$0	$0	N/A	$0
Cover Placement Cost	$0	$0	N/A	$0
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$0**	**$0**		**$0**
Revegetation Cost	$0	$0	$0	$0
TOTALS	**$0**	**$0**	**$0**	**$0**

Exploration Roads & Pads - Regrading Costs

	Description (required)	Total Road Length ft	Total Drill Pad Length ft	Regrading Volume cy	Recontouring Fleet	Equipment Productivity cy/hr	Total Equipment Hours (1) hr	Total Labor Cost $	Total Equipment Cost $	Total Regrading Cost $
1	**Exploration Roads**	**Excess Pads!**	860	0		**Material Type!**		$0	$0	$0
			860					**$0**	**$0**	**$0**

(1) Includes walk-in time based on distance and travel speed (see Productivity sheet for speeds)

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Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Exploration Roads & Pads - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$0	$0	N/A	$0
Cover Placement Cost	$0	$0	N/A	$0
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$0**	**$0**		**$0**
Revegetation Cost	$0	$0	$0	$0
TOTALS	**$0**	**$0**	**$0**	**$0**

Exploration Roads & Pads - Growth Media Costs

	Description (required)	Growth Media Volume cy	Growth Media Replacement Fleet	Fleet Productivity LCY/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Total Labor Cost $	Total Equipment Cost $	Total Growth Media Cost $
1	**Exploration Roads**	0					$0	$0	$0
							$0	**$0**	**$0**

Project Name: Foothill Dolomite Mine - Reclamation Plan
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Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 2.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Exploration Roads & Pads - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$0	$0	N/A	$0
Cover Placement Cost	$0	$0	N/A	$0
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$0**	**$0**		**$0**
Revegetation Cost	$0	$0	$0	$0
TOTALS	**$0**	**$0**	**$0**	**$0**

Exploration Roads & Pads - Scarifying/Revegetation Costs

	Description (required)	Surface Area acres	Ripping/ Scarifying Fleet	Ripping Hours hrs	Ripping Labor Costs $	Ripping Equipment Cost $	Total Ripping Costs $	Revegetation Labor Cost $	Revegetation Equipment Cost $	Revgetation Material Cost $	Total Revegetation Cost $
1	**Exploration Roads**	2.93						$0	$0	$0	$0
		2.93			**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**

Closure Cost Estimate
Roads

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2020
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Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 2.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Roads - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$106	$258	N/A	$364
Cover Placement Cost	$1,548	$5,268	N/A	$6,816
Ripping/Scarifying Cost	$103	$265	N/A	$368
Subtotal Earthworks	**$1,757**	**$5,791**		**$7,548**
Revegetation Cost	$437	$374	$19,970	$20,781
TOTALS	**$2,194**	**$6,165**	**$19,970**	**$28,329**

Roads - User Input

You must fill in ALL green cells and relevant blue cells in this section for each road

	Facility Description			Physical (1) - MANDATORY						User Overrides		Growth Media		
	Description (required)	ID Code	Type	Underlying Ground Slope % grade	Ungraded Slope _H:1V	Cut Slope degrees	Road Width ft	Road Length ft	Slope Replacement Percent %	Regrade Volume (if calculated elsewhere) cy	Disturbed Area (if calculated elsewhere) acres	Growth Media Thickness in	Haul Distance from Growth Media Stockpile ft	Slope from Road to Stockpile % grade
1	**Access Roads**		**Haul Road**	**2.0**	**3.0**	**50.0**	**16.0**	**1,350**	**115%**		**1.50**	**12.0**	**1,379**	**-2%**
2	**BLM Road Improvements**		**Access Road**	**2.0**	**3.0**	**50.0**	**6.0**	**10,560**	**115%**		**1.62**	**12.0**	**1,379**	**-2%**

Notes:
1. All Physical parameters must be input even if manual overrides for volume or area are used.
2. If Slope from facility to borrow source is >20, downhill travel time may be underestimated due to limitation of uphill travel time curves and downhill speed tables from CAT Handbook (see Productivty Sheet)
3. Because the work required for building roads with a dozer is similar to that required to regrade a road with a dozer, this sheet could be used to provide a rough estimate of road construction costs if a dozer is selected as the grading fleet.

Note: BLM Road Improvements area override accounts for additional disturbance of road turnouts.

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Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 2.xlsm
Cost Estimate Type: Surety **Cost Basis: American Magnesium - Option 1 Revised**

Roads - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$106	$258	N/A	$364
Cover Placement Cost	$1,548	$5,268	N/A	$6,816
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Revegetation Cost	$437	$374	$19,970	$20,781
TOTALS	**$2,194**	**$6,165**	**$19,970**	**$28,329**

Roads - User Input (cont.)

		Haul Road Safety Berms				
	Description (required)	Berm Length ft	Berm Height ft	Berm Base Width ft	Berm Sideslope Angle _H:1V	Number of Berms (2) (1 or 2 sides)
1	**Access Roads**	**0.0**	**2.0**	**6.0**	**1.3**	**2**
2	**BLM Road Improvements**	**0.0**	**2.0**	**6.0**	**1.3**	**2**

(2) Enter 1 if berm on only one side of road, 2 if both sides of road are bermed.

Closure Cost Estimate
Roads

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Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Roads - Cost Summary	Labor	Equipment	Materials	Totals
Grading Costs	$106	$258	N/A	$364
Cover Placement Cost	$1,548	$5,268	N/A	$6,816
Ripping/Scarifying Cost	$103	$265	N/A	$368
Subtotal Earthworks	**$1,757**	**$5,791**		**$7,548**
Revegetation Cost	$437	$374	$19,970	$20,781
TOTALS	**$2,194**	**$6,165**	**$19,970**	**$28,329**

Roads - User Input (cont.) — **You must fill in ALL green cells and relevant blue cells in this section for each road**

		Grading				Growth Media			Revegetation				
	Description (required)	Regrading Material Condition (select)	Regrading Material Type (select)	Regrading Equipment Fleet (select)	No. of Excavators if grade >30% (select)	Growth Media Material Type (select)	Cover Placement Equipment Fleet (select)	Maximum Fleet Size (user override)	Seed Mix (select)	Mulch (select)	Fertilizer (select)	Scarifying/ Ripping? (select)	Ripping Fleet (select)
1	**Access Roads**	**1**	**Alluvium**	**Sm Dozer**		**Alluvium**	**Small Truck**		**User Mix 1**	**Straw Mulch**	**None**	**Yes**	**Small Dozer**
2	**BLM Road Improvements**	**1**	**Alluvium**	**Sm Excavator**		**Alluvium**	**Small Truck**		**User Mix 1**	**Straw Mulch**	**None**	**Yes**	**Small Dozer**

Notes:
1. Material Types are used for density correction based on material densities in Caterpillar Performance Handbook material density table
2. If original slope >30% only excavators are allowed.

Closure Cost Estimate
Roads

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Roads - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$106	$258	N/A	$364
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Subtotal Earthworks	**$1,757**	**$5,791**		**$7,548**
Revegetation Cost	$437	$374	$19,970	$20,781
TOTALS	**$2,194**	**$6,165**	**$19,970**	**$28,329**

Roads - Calculations

Regrading Volume and Footprint Volume

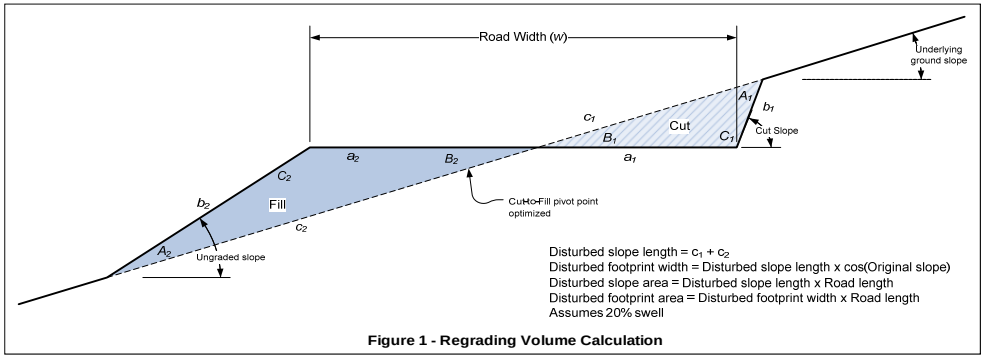


Figure 1 - Regrading Volume Calculation

Will not allow dozer for slopes greater than 30%
For dozer regrading push distance = road width
Assumes dozer push is uphill
Assumes minimum push distance of 100 ft

Ripping/Scarifying Calculations

Minimum 1 hr ripping/scarifying time per area
Number of passes = Final slope length ÷ Grader width
Travel distance = Number of passes x Road length
Total hours = (Travel distance ÷ Grader productivity) + (Number of passes x Grader maneuver time)
For dozer regrading assumes push distance = 3 x road width

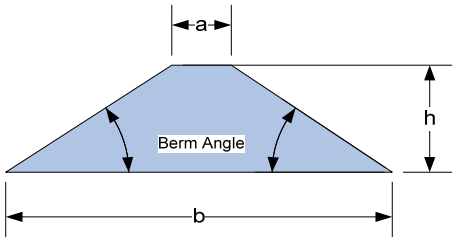
Revegetation Calculations

Minimum of 1 acre crew time per area

Safety Berm Volume Calculation

Cross Sectional Area = $\frac{(a+b)}{2} \cdot h$

Berm Volume = Berm Length x Cross Sectional Area x No. Sides



Total berm volume doubled if both sides of road are bermed.
If length of berm on each side of road is different, input total length of both berms and input 1 for number of sides

Closure Cost Estimate
Roads

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Roads - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$106	$258	N/A	$364
Cover Placement Cost	$1,548	$5,268	N/A	$6,816
Ripping/Scarifying Cost	$103	$265	N/A	$368
Subtotal Earthworks	**$1,757**	**$5,791**		**$7,548**
Revegetation Cost	$437	$374	$19,970	$20,781
TOTALS	**$2,194**	**$6,165**	**$19,970**	**$28,329**

Roads - Regrading Costs

	Description (required)	Regrading Volume cy	Recontouring Fleet	Fleet Productivity cy/hr	Total Fleet Hours hr	Total Labor Cost $	Total Equipment Cost $	Total Regrading Cost $
1	**Access Roads**	42	D7R	296	1	$34	$88	$122
2	**BLM Road Improvements**	46	325C	398	1	$72	$170	$242
		88			2	**$106**	**$258**	**$364**

Closure Cost Estimate
Roads

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Roads - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$106	$258	N/A	$364
Cover Placement Cost	$1,548	$5,268	N/A	$6,816
Ripping/Scarifying Cost	$103	$265	N/A	$368
Subtotal Earthworks	**$1,757**	**$5,791**		**$7,548**
Revegetation Cost	$437	$374	$19,970	$20,781
TOTALS	**$2,194**	**$6,165**	**$19,970**	**$28,329**

Roads - Growth Media Costs

	Description (required)	Growth Media Volume cy	Growth Media Replacement Fleet	Fleet Productivity LCY/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Total Labor Cost $	Total Equipment Cost $	Total Growth Media Cost $
1	**Access Roads**	2,420	725/966G/D7R	548	3	4	$688	$2,341	$3,029
2	**BLM Road Improvements**	2,613	725/966G/D7R	548	3	5	$860	$2,927	$3,787
		5,033				9	**$1,548**	**$5,268**	**$6,816**

Closure Cost Estimate
Roads

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Roads - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$106	$258	N/A	$364
Cover Placement Cost	$1,548	$5,268	N/A	$6,816
Ripping/Scarifying Cost	$103	$265	N/A	$368
Subtotal Earthworks	**$1,757**	**$5,791**		**$7,548**
Revegetation Cost	$437	$374	$19,970	$20,781
TOTALS	**$2,194**	**$6,165**	**$19,970**	**$28,329**

Roads - Scarifying/Revegetation Costs

	Description (required)	Total Surface Area acres	Final Slope Length ft	Ripping/ Scarifying Fleet	Ripping Hours hrs	Ripping Labor Costs $	Ripping Equipment Cost $	Total Ripping Costs $	Revegetation Labor Cost $	Revegetation Equipment Cost $	Revgetation Material Cost $	Total Revegetation Cost $
1	**Access Roads**	1.50	48.0	D7R	1	$34	$88	$122	$210	$180	$9,601	$9,991
2	**BLM Road Improvements**	1.62	7.0	D7R	2	$69	$177	$246	$227	$194	$10,369	$10,790
		3.12			3	**$103**	**$265**	**$368**	**$437**	**$374**	**$19,970**	**$20,781**

Closure Cost Estimate
Quarries & Borrow Pits

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2020
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Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Waste Rock Dumps - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$723	$1,856	N/A	$2,579
Cover Placement Cost	$0	$0	N/A	$0
Topsoil Placement Cost	$12,044	$40,972	N/A	$53,016
Ripping/Scarifying Cost	$688	$1,767	N/A	$2,455
Safety Berm Construction Cost	$0	$0	N/A	$0
Subtotal Earthwork	**$13,455**	**$44,595**	**$0**	**$58,050**
Revegetation Cost	$3,126	$2,680	$142,942	$148,748
Safety Berm Revegetation Cost	$140	$120	$0	$260
	$3,266	**$2,800**	**$142,942**	**$149,008**
TOTALS	**$16,721**	**$47,395**	**$142,942**	**$207,058**

Quarries & Borrow Pits - User Input

You must fill in ALL green cells in this section for each dump, lift or dump category

	Facility Description			Physical - MANDATORY									Cover				Growth Media			
	Description (required)	ID Code	Type	Underlying Ground Slope % Grade	Ungraded Slope _H:1V	Final Slope _H:1V	Final Top Slope % Grade	Bench or Highwall Height ft	Mid-Bench Length ft	Average Flat Area Long Dimension (ripping distance) ft	Final (Regraded) Footprint acres	Regrade Volume (1) (if calculated elsewhere) cy	Cover Thickness Slopes in	Cover Thickness Flat Areas in	Distance from Cover Borrow ft	Slope from Dump to Cover Borrow % grade	Slope Growth Media Thickness in	Flat Area Growth Media Thickness in	Distance from Growth Media Stockpile ft	Slope from Dump to Stockpile % grade
1	**Main Quarry**		**Quarry**	**1.0**	**2.0**	**3.0**	**1.0**	**20**	**8,411**	**1,089**	**21.75**		**0.0**	**0.0**	**1,379**	**-2.0**	**12.0**	**12.0**	**1,379**	**-2.0**

Notes:
1. All Physical parameters must be input even if manual overrides for volume or area are used.
2. If Slope from facility to borrow source is >20, downhill travel time may be underestimated due to limitation of uphill travel time curves and downhill speed tables from CAT Handbook (see Productivty Sheet)

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Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Waste Rock Dumps - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$723	$1,856	N/A	$2,579
Cover Placement Cost	$0	$0	N/A	$0
Topsoil Placement Cost	$12,044	$40,972	N/A	$53,016
Ripping/Scarifying Cost	$688	$1,767	N/A	$2,455
Safety Berm Construction Cost	$0	$0	N/A	$0
Subtotal Earthwork	**$13,455**	**$44,595**	**$0**	**$58,050**
Revegetation Cost	$3,126	$2,680	$142,942	$148,748
Safety Berm Revegetation Cost	$140	$120	$0	$260
	$3,266	**$2,800**	**$142,942**	**$149,008**
TOTALS	**$16,721**	**$47,395**	**$142,942**	**$207,058**

Quarries & Borrow Pits - User Input (cont.) — You must fill in ALL green cells and relevant blue cells in this section for each dump, lift or dump category

		Grading				Cover		Growth Media		Revegetation								
	Description (required)	Regrading Material Condition (select)	Regrading Material Type (select)	Regrading Equipment Fleet (select)	Slot/Side-by-Side (select)	Cover Material Type (select)	Cover Placement Equipment Fleet (select)	Growth Media Material Type (select)	Growth Media Equipment Fleet (select)	Seed Mix Slopes (select)	Seed Mix Flat Areas (select)	Mulch Slopes (select)	Mulch Flat Areas (select)	Fertilizer Slopes (select)	Fertilizer Flat Areas (select)	Slope Scarify/ Rip? (select)	Flat Area Scarify/ Rip? (select)	Scarify/ Ripping Fleet (select)
1	**Main Quarry**	**0.8**	**LS - broken**	**Small**		**Alluvium**	**Small Truck**	**Alluvium**	**Small Truck**	**User Mix 1**	**User Mix 1**	**Straw Mulch**	**Straw Mulch**	**None**	**None**	**Yes**	**Yes**	**Small Dozer**

Notes:
1. Material Types are used for density correction based on material densities in Caterpillar Performance Handbook material density table

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Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Waste Rock Dumps - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$723	$1,856	N/A	$2,579
Cover Placement Cost	$0	$0	N/A	$0
Topsoil Placement Cost	$12,044	$40,972	N/A	$53,016
Ripping/Scarifying Cost	$688	$1,767	N/A	$2,455
Safety Berm Construction Cost	$0	$0	N/A	$0
Subtotal Earthwork	**$13,455**	**$44,595**	**$0**	**$58,050**
Revegetation Cost	$3,126	$2,680	$142,942	$148,748
Safety Berm Revegetation Cost	$140	$120	$0	$260
	$3,266	**$2,800**	**$142,942**	**$149,008**
TOTALS	**$16,721**	**$47,395**	**$142,942**	**$207,058**

Quarries & Borrow Pits - User Input (cont.)

	Facility Description	Highwall Berms					Berm Construction		Excavate or Doze	Hauling (if selected method)				Revegetation		
	Description (required)	Berm (or Highwall) Length ft	Berm Height ft	Berm Base Width ft	Berm Sideslope Angle _H:1V	Volume (if calculated elsewhere) cy	Construction Method (select)	Berm Material Type (select)	Berm Construction Equipment Fleet (select)	Berm Hauling Fleet (select)	Distance to Borrow Source ft	Slope to Borrow Source % grade	Maximum Fleet Size (user override)	Seed Mix (select)	Mulch (select)	Fertilizer (select)
1	**Main Quarry**	**3,917.0**	**0.0**	**0.0**	**2.0**		**Haul & Place**	**Alluvium**	**Small**	**Small Truck**	**1,379**	**-5.0**		**User Mix 1**	**Straw Mulch**	**None**

Notes:
1. All Physical parameters must be input even if manual overrides for volume or area are used.
2. If Slope from facility to borrow source is >20, downhill travel time may be underestimated due to limitation of uphill travel time curves and downhill speed tables from CAT Handbook (see Productivty Sheet)
3. Material Types are used for density correction based on material densities in Caterpillar Performance Handbook material density table

Note: Assumes no berm will be required due to regraded 3:1 slopes.

Quarries & Borrow Pits - Calculations

Regrading Volume Calculation

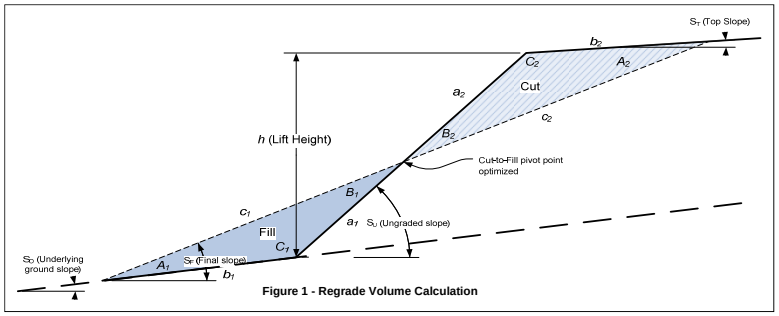


Figure 1 - Regrade Volume Calculation

Final Slope Area and Footprint Area Calculations

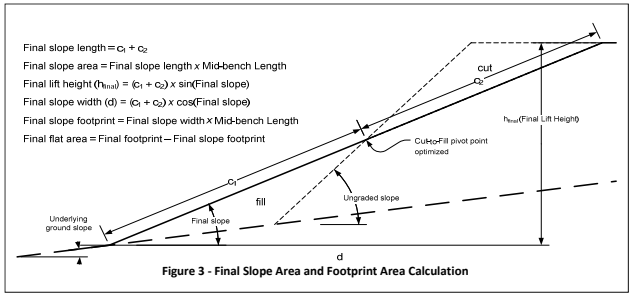
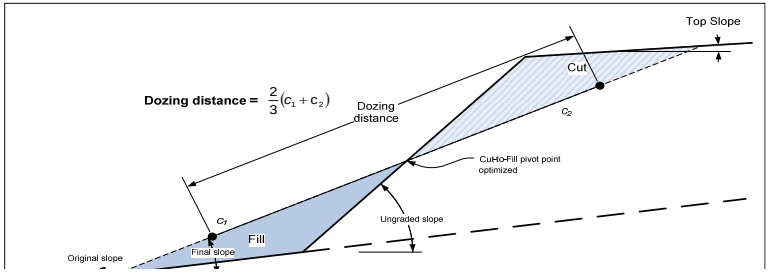


Figure 3 - Final Slope Area and Footprint Area Calculation

Regrading Push Distance Calculation

dozing distance: based on 2/3 final cut slope + 2/3 final fill slope (minimum = 50 ft)



Ripping/Scarifying Calculations

Minimum 1 hr ripping/scarifying time per dump

Slopes:
Number of passes = Final slope length ÷ Grader width
Travel distance = Number of passes x Mid-bench length
Total hours = (Travel distance ÷ Grader productivity) + (Number of passes x Grader maneuver time)
Minimum 1 hr

Flat Areas:
Flat area width = Final flat area ÷ Average long dimensions
Number of passes = Flat area width ÷ Grader width
Travel distance = Number of passes x Average long dimensions
Total hours = (Travel distance ÷ Grader productivity) + (Number of passes x Grader maneuver time)

Revegetation: Minimum 1 acre revegetation crew time per area

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Waste Rock Dumps - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$723	$1,856	N/A	$2,579
Cover Placement Cost	$0	$0	N/A	$0
Topsoil Placement Cost	$12,044	$40,972	N/A	$53,016
Ripping/Scarifying Cost	$688	$1,767	N/A	$2,455
Safety Berm Construction Cost	$0	$0	N/A	$0
Subtotal Earthwork	**$13,455**	**$44,595**	**$0**	**$58,050**
Revegetation Cost	$3,126	$2,680	$142,942	$148,748
Safety Berm Revegetation Cost	$140	$120	$0	$260
	$3,266	**$2,800**	**$142,942**	**$149,008**
TOTALS	**$16,721**	**$47,395**	**$142,942**	**$207,058**

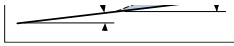
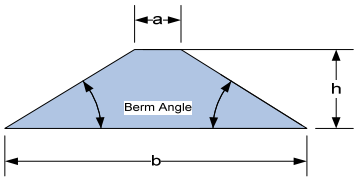


Figure 2 - Dozing Distance Calculation

Safety Berm Volume Calculation

$$\text{Cross Sectional Area} = \frac{(a+b)}{2} \times h$$

Berm Volume = Berm Length x Cross Sectional Area



Dozer productivity assumes push distance of:
100 feet

Dozer:
Length x (Berm Base Width + Dozer Push Distance) - accounts for disturbance created in borrow area

Excavator:
Length x (Berm Base Width + (2 x Excavator Track Width) - accounts for disturbance created in borrow area

Haul & Place:
Length x Berm Base Width - if necessary use Yards sheet to account for disturbance created in borrow area

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	$3,266	**$2,800**	**$142,942**	**$149,008**
TOTALS	**$16,721**	**$47,395**	**$142,942**	**$207,058**

Quarries & Borrow Pits - Regrading Costs

Productivity = Dozer Productivity x Grade Correction x Density Correction x Operator (0.75) x Material x Visibility x Job Efficiency (0.83) x (Slot/Side-by-Side) x (Altitude Deration)

	Description (required)	Regrading Volume cy	Dozing Distance (see above) ft	Regrading Fleet	Uncorrected Dozer Productivity cy/hr	Grade Correction	Dozing Material	Density Correction	Side-by-Side or Slot Dozing	Total Hourly Productivity cy/hr	Total Dozer Hours hr	Total Labor Cost $	Total Equipment Cost $	Total Regrading Cost $
1	**Main Quarry**	15,887	50	D7R	1,076	1.6	0.8	0.88	1.0	754	21	$723	$1,856	$2,579
		15,887									21	**$723**	**$1,856**	**$2,579**

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Waste Rock Dumps - Cost Summary

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Ripping/Scarifying Cost	$688	$1,767	N/A	$2,455
Safety Berm Construction Cost	$0	$0	N/A	$0
Subtotal Earthwork	**$13,455**	**$44,595**	**$0**	**$58,050**
Revegetation Cost	$3,126	$2,680	$142,942	$148,748
Safety Berm Revegetation Cost	$140	$120	$0	$260
	$3,266	**$2,800**	**$142,942**	**$149,008**
TOTALS	**$16,721**	**$47,395**	**$142,942**	**$207,058**

Quarries & Borrow Pits - Cover and Growth Media Costs

		Cover (lower layer)								Growth Media Placement							
	Description (required)	Cover Volume cy	Cover Replacement Fleet	Fleet Productivity LCY/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Cover Labor Cost $	Cover Equipment Cost $	Total Cover Cost $	Growth Media Volume cy	Growth Media Replacement Fleet	Fleet Productivity BCY/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Total Labor Cost $	Total Equipment Cost $	Total Growth Media Cost $
1	**Main Quarry**	0					$0	$0	$0	36,029	725/966G/D7R	513	3	70	$12,044	$40,972	$53,016
							$0	**$0**	**$0**	36,029				70	**$12,044**	**$40,972**	**$53,016**

Closure Cost Estimate
Quarries & Borrow Pits

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Waste Rock Dumps - Cost Summary

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Grading Costs	$723	$1,856	N/A	$2,579
Cover Placement Cost	$0	$0	N/A	$0
Topsoil Placement Cost	$12,044	$40,972	N/A	$53,016
Ripping/Scarifying Cost	$688	$1,767	N/A	$2,455
Safety Berm Construction Cost	$0	$0	N/A	$0
Subtotal Earthwork	**$13,455**	**$44,595**	**$0**	**$58,050**
Revegetation Cost	$3,126	$2,680	$142,942	$148,748
Safety Berm Revegetation Cost	$140	$120	$0	$260
	$3,266	**$2,800**	**$142,942**	**$149,008**
TOTALS	**$16,721**	**$47,395**	**$142,942**	**$207,058**

Quarries & Borrow Pits - Scarifying/Revegetation Costs

	Description (required)	Slope Area acres	Flat Area acres	Total Surface Area acres	Final Slope Length ft	Flat Area Long Dimension ft	Ripping/ Scarifying Fleet	Slope Scarifying/ Ripping Hours hrs	Flat Area Scarifying/ Ripping Hours hrs	Scarifying/ Ripping Labor Costs $	Scarifying/ Ripping Equipment Cost $	Total Scarifying/ Ripping Costs $	Revegetation Labor Cost $	Revegetation Equipment Cost $	Revgetation Material Cost $	Total Revegetation Cost $
1	**Main Quarry**	12.36	9.97	22.33	64	1,089	D7R	11	9	$688	$1,767	$2,455	$3,126	$2,680	$142,942	$148,748
		12.36	9.97	22.33				11	9	**$688**	**$1,767**	**$2,455**	**$3,126**	**$2,680**	**$142,942**	**$148,748**

Notes: 1) Minimum total ripping hours = 1 (i.e. If total ripping hrs (slope + flat) < 1, then one hour of fleet time is assumed, regardless of acres shown in in scarifying table.)

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Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Buildings & Foundation Demolition Cost Summary

	Labor	Equipment	Materials	Totals
Building Demolition Cost	$0	$0	N/A	$0
Wall Demolition Cost	$0	$0	N/A	$0
Slab Demolition	$86	$413	N/A	$499
Subtotal Demolition	**$86**	**$413**	**$0**	**$499**
Cover Placement Cost	$0	$0	N/A	$0
Growth Media Placement Cost	$0	$0	N/A	$0
Ripping/Scarifying Cost	$34	$88	N/A	$122
Subtotal Earthworks	**$34**	**$88**	**$0**	**$122**
Revegetation Cost	$140	$120	$640	$900
TOTALS	**$260**	**$621**	**$640**	**$1,521**

Buildings & Foundation - User Input

You must fill in ALL green cells and relevant blue cells in this section for each building or facility

	Facility Description			Physical - MANDATORY								Foundation Cover (1)			Growth Media (1) (entire footprint)		
	Description (required)	ID Code	Type	Length ft	Width ft	Eve Height ft	Slab Thickness in	Foundation Wall Thickness in	Foundation Wall Height ft	Average Flat Area Long Dimension (ripping distance) ft	Building Area Footprint (including surrounding facilities) acres	Foundation Cover Thickness in	Distance from Foundation Cover Borrow Area ft	Slope from Facility to Borrow Area % grade	Growth Media Thickness in	Distance from Growth Media Stockpile ft	Slope from Facility to Stockpile % grade
1	**Concrete slab ford across the arroyo**		**Other Site Facilities - Sub-Stat**	**70**	**16**	**0**	**8**	**0**	**0**	**70**	**0.00**	**0**	**1**	**1.0**	**12**	**35**	**1.0**

Notes:
1. Foundation cover only calculated to cover slab. Growth media estimated over entire footprint area
2. If Slope from facility to borrow source is >20, downhill travel time may be underestimated due to limitation of uphill travel time curves and downhill speed tables from CAT Handbook (see Productivty Sheet)

NOTE: Arroyo concrete slab ford crossing will be broken in place and concrete will be removed and disposed off site.
NOTE: All on site facilities will be mobile equipment and only require demobilization.

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Subtotal Demolition	**$86**	**$413**	**$0**	**$499**
Cover Placement Cost	$0	$0	N/A	$0
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Ripping/Scarifying Cost	$34	$88	N/A	$122
Subtotal Earthworks	**$34**	**$88**	**$0**	**$122**
Revegetation Cost	$140	$120	$640	$900
TOTALS	**$260**	**$621**	**$640**	**$1,521**

Buildings & Foundation - User Input (cont.) — You must fill in ALL green cells and relevant blue cells in this section for each building or facility

		Construction Materials		Slab Demolition		Foundation Cover			Growth Media			Revegetation				
	Description (required)	Building Type (select)	Foundation Wall Type (select)	Slab Demo Method (select)	Slab Breaking Equipment Fleet (select)	Cover Material Type (select)	Cover Placement Equipment Fleet (select)	Maximum Fleet Size (user override)	Growth Media Material Type (select)	Growth Media Placement Equipment Fleet (select)	Maximum Fleet Size (user override)	Seed Mix (select)	Mulch (select)	Fertilizer (select)	Scarify/ Rip? (select)	Ripping Fleet (select)
1	Concrete slab ford across the arroyo	Sm. concrete	Conc 8 in (200 mm) thick	Break & bury	Sm Excavator	Alluvium	Small Truck		Alluvium	Small Truck		User Mix 1	Straw Mulch	None	Yes	Small Dozer

Notes:
1. Material Types are used for density correction based on material densities in Caterpillar Performance Handbook material density table

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Buildings & Foundation Demolition Cost Summary

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TOTALS	**$260**	**$621**	**$640**	**$1,521**

Buildings & Foundation - Calculations

Building Volume Calculations

Using Means Heavy Construction Cost Data (2004) calculates cubic feet from building dimensions
Estimage slab thickness and wall thickness if not known
Assumes that all concrete slabs are reinforced
Productivity for crew from Means Heavy Construction Cost Data (2004) adjusted for supervision
(addressed in Misc. Costs) and Davis-Bacon Wage Rates
Demolition costs do not include hauling or disposing if debris - Use Waste Disposal module

Slab Demolition Calculations

Minimum 1 hr excavator time for slab demolition

Cover Volume Calculation

Foundation area x cover thickness
If "Bury in Place" is selected as slab demolition method, cover thickness is adjusted such that
total cover (cover + growth media) equals value entered in "Minimum thickness of cover over unbroken slab" cell above

Ripping/Scarifying Calculations

Flat area width = Final flat area ÷ Average long dimensions
Number of passes = Flat area width ÷ Grader width
Travel distance = Number of passes x Average long dimensions
Total hours = (Travel distance ÷ Grader productivity) + (Number of passes x Grader maneuver time)

Revegetation

Minimum 1 acre revegetation crew time per area

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Building & Foundation Demolition Costs

Uses RS Means Heavy Construction Cost Data for building and wall demolition cost calculations. Uses CAT Handbook for slab breaking production.

								Building Demolition			Wall Demolition			Slab Demolition			Total Costs		
	Description (required)	Building Footprint (slab area) sqft	Building Volume cu ft	Wall Length ft	Wall Area sq ft	Slab Demolition Fleet	Slab Volume cy	Total Labor Cost $	Total Equipment Cost $	Total Building Demolition Cost $	Total Labor Cost $	Total Equipment Cost $	Total Wall Demolition Cost $	Total Labor Cost $	Total Equipment Cost $	Total Slab Breaking Cost $	Total Labor Cost $	Total Equipment Cost $	Total Demolition Costs $
1	**Concrete slab ford across the arroyo**	1,120	0	172	0	325C	28	$0	$0	$0	$0	$0	$0	$86	$413	$499	$86	$413	$499
							28	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$86**	**$413**	**$499**	**$86**	**$413**	**$499**

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Building & Foundation - Foundation Cover and Growth Media Costs

		Foundation Cover								Growth Media								Total Cover & Growth Media Costs		
	Description (required)	Cover Volume cy	Cover Repacement Fleet	Fleet Productivity LCY/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Total Labor Cost $	Total Equipment Cost $	Total Cover Cost $	Growth Media Volume cy	Growth Media Repacement Fleet	Fleet Productivity LCY/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Total Labor Cost $	Total Equipment Cost $	Total Growth Media Cost $	Total Labor Cost $	Total Equipment Cost $	Total Costs $
1	**Concrete slab ford across the arroyo**						$0	$0	$0						$0	$0	$0	$0	$0	$0
							$0	**$0**	**$0**						**$0**	**$0**	**$0**	**$0**	**$0**	**$0**

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2020
File Name: Att 2_Cost 20200820_SRCE_Version_1_4_1_017b_NV_20 Year Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 2.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Buildings & Foundation Demolition Cost Summary

	Labor	Equipment	Materials	Totals
Building Demolition Cost	$0	$0	N/A	$0
Wall Demolition Cost	$0	$0	N/A	$0
Slab Demolition	$86	$413	N/A	$499
Subtotal Demolition	**$86**	**$413**	**$0**	**$499**
Cover Placement Cost	$0	$0	N/A	$0
Growth Media Placement Cost	$0	$0	N/A	$0
Ripping/Scarifying Cost	$34	$88	N/A	$122
Subtotal Earthworks	**$34**	**$88**	**$0**	**$122**
Revegetation Cost	$140	$120	$640	$900
TOTALS	**$260**	**$621**	**$640**	**$1,521**

Building & Foundation - Scarifying/Revegetation Costs

					Scarifying/Ripping			Revegetation				Total Scarify & Revegation Costs			
	Description (required)	Flat Area acres	Ripping/ Scarifying Fleet	Scarifying/ Ripping Hours hrs	Scarifying/ Ripping Labor Costs $	Scarifying/ Ripping Equipment Cost $	Total Scarifying/ Ripping Costs $	Revegetation Labor Cost $	Revegetation Equipment Cost $	Revgetation Material Cost $	Total Revegetation Cost $	Total Labor Cost $	Total Equipment Cost $	Total Material Cost $	Total Costs $
1	**Concrete slab ford across the arroyo**	0.10	D7R	1	$34	$88	$122	$140	$120	$640	$900	$174	$208	$640	$1,022
		0.10		1	**$34**	**$88**	**$122**	**$140**	**$120**	**$640**	**$900**	**$174**	**$208**	**$640**	**$1,022**

Closure Cost Estimate
Other Demo & Equip Removal

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2020
File Name: Att 2_Cost 20200820_SRCE_Version_1_4_1_017b_NV_20 Year Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 2.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Other Demoltion and Equipment Removal - Cost Summary	Labor	Equipment	Materials	Totals
Other Demolition	$0	$0	$0	$0
Equipment Removal	$4,150	$7,100	$100	$11,350
TOTALS	**$4,150**	**$7,100**	**$100**	**$11,350**

Other Demolition

Facility Description									
	Description (required)	ID Code	Type	Quantity	Units	Labor Unit Cost $	Equipment Unit Cost $	Material Unit Cost $	Total Cost $
						$0	**$0**	**$0**	

Notes:

Closure Cost Estimate
Other Demo & Equip Removal

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2020
File Name: Att 2_Cost 20200820_SRCE_Version_1_4_1_017b_NV_20 Year Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 2.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Other Demoltion and Equipment Removal - Cost Summary

	Labor	Equipment	Materials	Totals
Other Demolition	$0	$0	$0	$0
Equipment Removal	$4,150	$7,100	$100	$11,350
TOTALS	**$4,150**	**$7,100**	**$100**	**$11,350**

Equipment & Material Removal

Facility Description

	Description (required)	ID Code	Type	Quantity	Units	Labor Unit Cost ($)	Equipment Unit Cost ($)	Material Unit Cost ($)	Total Cost ($)
1	**Portable 5000 Gallon Mobile Water Tank**		Site Facilities - Mobile/Fixed Equipn	1	1	**$1,000.00**	**$1,000.00**	**$0.00**	$2,000
2	**Portable Office Trailer**		Site Facilities - Mobile/Fixed Equipn	1	1	**$1,000.00**	**$1,000.00**	**$0.00**	$2,000
3	**Mobile Tracked Crusher**		Site Facilities - Mobile/Fixed Equipn	1	1	**$2,000.00**	**$5,000.00**	**$0.00**	$7,000
4	**Portable Sanitation Faclities**		Site Facilities - Mobile/Fixed Equipn	1	2	**$150.00**	**$100.00**	**$100.00**	$350
						$4,150	**$7,100**	**$100**	**$11,350**

Notes:

Closure Cost Estimate
Yards, Etc.

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2020
File Name: Att 2_Cost 20200820_SRCE_Version_1_4_1_017b_NV_20 Year Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 2.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Yards, Etc. - Cost Summary

	Labor	Equipment	Materials	Totals
Regrading Cost	$0	$0	N/A	$0
Cover Placement Cost	$0	$0	N/A	$0
Growth Media Placement Cost	$963	$3,110	N/A	$4,073
Ripping/Scarifying Cost	$69	$177	N/A	$246
Subtotal Earthworks	**$1,032**	**$3,287**		**$4,319**
Revegetation Cost	$280	$240	$12,802	$13,322
TOTALS	**$1,312**	**$3,527**	**$12,802**	**$17,641**

Yards, Etc. - User Input

You must fill in ALL green cells and relevant blue cells in this section for each building or facility

	Facility Description			Physical			Cover			Growth Media		
	Description (required)	ID Code	Type	Area acres	Average Flat Area Long Dimension (ripping distance) ft	Regrade Volume (calculated elsewhere) cy	Cover Thickness in	Distance from Cover Borrow Area ft	Slope from Facility to Borrow Area % grade	Growth Media Thickness in	Distance from Growth Media Stockpile ft	Slope from Facility to Stockpile % grade
1	**Laydown Yard**		**Other Facilities**	**2.00**	**400**		**0**	**100**	**1.0**	**12**	**100**	**1.0**

Notes:
1. All Physical parameters must be input even if manual overrides for volume or area are used.
2. If Slope from facility to borrow source is >20, downhill travel time may be underestimated due to limitation of uphill travel time curves and downhill speed tables from CAT Handbook (see Productivty Sheet)

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2020
File Name: Att 2_Cost 20200820_SRCE_Version_1_4_1_017b_NV_20 Year Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 2.xlsm
Cost Estimate Type: Surety **Cost Basis: American Magnesium - Option 1 Revised**

Yards, Etc. - Cost Summary

	Labor	Equipment	Materials	Totals
Regrading Cost	$0	$0	N/A	$0
Cover Placement Cost	$0	$0	N/A	$0
Growth Media Placement Cost	$963	$3,110	N/A	$4,073
Ripping/Scarifying Cost	$69	$177	N/A	$246
Subtotal Earthworks	**$1,032**	**$3,287**		**$4,319**
Revegetation Cost	$280	$240	$12,802	$13,322
TOTALS	**$1,312**	**$3,527**	**$12,802**	**$17,641**

Yards, Etc. - User Input (cont.) **You must fill in ALL green cells and relevant blue cells in this section for each building or facility**

		Grading			Cover			Growth Media			Revegetation				
	Description (required)	Regrading Material Condition (select)	Regrading Material Type (select)	Regrading Equipment Fleet (select)	Cover Material Type (select)	Cover Placement Equipment Fleet (select)	Maximum Fleet Size (user override)	Growth Media Material Type (select)	Growth Media Equipment Fleet (select)	Maximum Fleet Size (user override)	Seed Mix (select)	Mulch (select)	Fertilizer (select)	Scarify/ Rip? (select)	Ripping Fleet (select)
1	Laydown Yard	1	Alluvium	Small	Alluvium	Small Truck		Alluvium	Small Truck		User Mix 1	Straw Mulch	None	Yes	Small Dozer

Notes:
1. Material Types are used for density correction based on material densities in Caterpillar Performance Handbook material density table

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2020
File Name: Att 2_Cost 20200820_SRCE_Version_1_4_1_017b_NV_20 Year Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 2.xlsm
Cost Estimate Type: Surety **Cost Basis: American Magnesium - Option 1 Revised**

Yards, Etc. - Cost Summary

	Labor	Equipment	Materials	Totals
Regrading Cost	$0	$0	N/A	$0
Cover Placement Cost	$0	$0	N/A	$0
Growth Media Placement Cost	$963	$3,110	N/A	$4,073
Ripping/Scarifying Cost	$69	$177	N/A	$246
Subtotal Earthworks	**$1,032**	**$3,287**		**$4,319**
Revegetation Cost	$280	$240	$12,802	$13,322
TOTALS	**$1,312**	**$3,527**	**$12,802**	**$17,641**

Yards, Etc. - Calculations

Grading Calculations

Average push distance assumed to be 2/3 of the 600 feet maximum from Catepillar Handbook or 400 feet
Material assumed to be loose stockile (1.2 productivity factor)
Slope assumed to be 0 to 5% (1.0 productivity factor)

Cover Volume Calculation

Yard area x cover thickness

Ripping/Scarifying Calculations

Flat area width = Final flat area ÷ Average long dimensions
Number of passes = Flat area width ÷ Grader width
Travel distance = Number of passes x Average long dimensions
Total hours = (Travel distance ÷ Grader productivity) + (Number of passes x Grader maneuver time)
Minimum 1 hr ripping/scarifying per area

Revegetation

Minimum 1 acre revegetation crew time per area

Closure Cost Estimate
Yards, Etc.

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2020
File Name: Att 2_Cost 20200820_SRCE_Version_1_4_1_017b_NV_20 Year Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 2.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Yards, Etc. - Cost Summary

	Labor	Equipment	Materials	Totals
Regrading Cost	$0	$0	N/A	$0
Cover Placement Cost	$0	$0	N/A	$0
Growth Media Placement Cost	$963	$3,110	N/A	$4,073
Ripping/Scarifying Cost	$69	$177	N/A	$246
Subtotal Earthworks	**$1,032**	**$3,287**		**$4,319**
Revegetation Cost	$280	$240	$12,802	$13,322
TOTALS	**$1,312**	**$3,527**	**$12,802**	**$17,641**

Yards, Etc. - Regrading Costs

Productivity = Dozer Productivity x Grade Correction x Density Correction x Operator (0.75) x Material x Visibility x Job Efficiency (0.83) x (Slot/Side-by-Side)

	Description (required)	Regrading Volume cy	Dozing Distance (see above) ft	Regrading Fleet	Uncorrected Dozer Productivity cy/hr	Grade Correction	Dozing Material	Density Correction	Total Hourly Productivity cy/hr	Total Dozer Hours hr	Total Labor Cost $	Total Equipment Cost $	Total Regrading Cost $
1	**Laydown Yard**			D7R							$0	$0	$0
											$0	**$0**	**$0**

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2020
File Name: Att 2_Cost 20200820_SRCE_Version_1_4_1_017b_NV_20 Year Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 2.xlsm
Cost Estimate Type: Surety **Cost Basis: American Magnesium - Option 1 Revised**

Yards, Etc. - Cost Summary

	Labor	Equipment	Materials	Totals
Regrading Cost	$0	$0	N/A	$0
Cover Placement Cost	$0	$0	N/A	$0
Growth Media Placement Cost	$963	$3,110	N/A	$4,073
Ripping/Scarifying Cost	$69	$177	N/A	$246
Subtotal Earthworks	**$1,032**	**$3,287**		**$4,319**
Revegetation Cost	$280	$240	$12,802	$13,322
TOTALS	**$1,312**	**$3,527**	**$12,802**	**$17,641**

Yards, Etc. - Cover and Growth Media Costs

		Cover								Growth Media							
	Description (required)	Cover Volume cy	Topsoil Repacement Fleet	Fleet Productivity LCY/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Total Labor Cost $	Total Equipment Cost $	Total Cover Cost $	Growth Media Volume cy	Growth Media Fleet	Fleet Productivity LCY/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Total Labor Cost $	Total Equipment Cost $	Total Growth Media Cost $
1	**Laydown Yard**						$0	$0	$0	3,227	725/966G/D7R	483	2	7	$963	$3,110	$4,073
							$0	**$0**	**$0**	3,227				7	**$963**	**$3,110**	**$4,073**

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2020
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Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 2.xlsm
Cost Estimate Type: Surety **Cost Basis: American Magnesium - Option 1 Revised**

Yards, Etc. - Cost Summary

	Labor	Equipment	Materials	Totals
Regrading Cost	$0	$0	N/A	$0
Cover Placement Cost	$0	$0	N/A	$0
Growth Media Placement Cost	$963	$3,110	N/A	$4,073
Ripping/Scarifying Cost	$69	$177	N/A	$246
Subtotal Earthworks	**$1,032**	**$3,287**		**$4,319**
Revegetation Cost	$280	$240	$12,802	$13,322
TOTALS	**$1,312**	**$3,527**	**$12,802**	**$17,641**

Yards, Etc. - Scarifying/Revegetation Costs

	Description (required)	Surface Area acres	Area Long Dimension ft	Ripping/ Scarifying Fleet	Scarifying/ Ripping Hours hrs	Scarifying/ Ripping Labor Costs $	Scarifying/ Ripping Equipment Cost $	Total Scarifying/ Ripping Costs $	Revegetation Labor Cost $	Revegetation Equipment Cost $	Revgetation Material Cost $	Total Revegetation Cost $
1	**Laydown Yard**	2.00	400	D7R	2	$69	$177	$246	$280	$240	$12,802	$13,322
		2.00			2	**$69**	**$177**	**$246**	**$280**	**$240**	**$12,802**	**$13,322**

Closure Cost Estimate
Waste Disposal

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2020
File Name: Att 2_Cost 20200820_SRCE_Version_1_4_1_017b_NV_20 Year Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 2.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Waste Disposal - Cost Summary

	Labor	Equipment	Fees	Totals
Solid Waste - On Site	$595	$1,829	N/A	$2,424
Solid Waste - Off Site				$0
Hazardous Materials				$0
Hydrocarbon Contaminated Soils	$0	$0	$0	$0
TOTALS	**$595**	**$1,829**	**$0**	**$2,424**

Waste Disposal - User Input - Solid Waste

						Landfill (Bulk) Disposal			Dumpster
	Description (required)	ID Code	Waste Type (select)	Disposal Method (select)	Quantity cy	Distance to Landfill ft	Slope to Landfill % grade	Number of Trucks (user override)	Months Dumpster Rental months
1	**Concrete slab ford across the arroyo**		**Waste Mgmt & Disposal**	**Landfill (bulk)**	**28**	**210000**	**0.0**	**2**	**0**
2	**Cattle Guard**		**Waste Mgmt & Disposal**	**Landfill (bulk)**	**2**	**210000**	**0.0**	**1**	**0**
3	**15 cy of Staged Ore**		**Waste Mgmt & Disposal**	**Landfill (bulk)**	**15**	**210000**	**0.0**	**1**	**0**

Notes:
1. All Physical parameters must be input even if manual overrides for volume or area are used.
2. If Slope from facility to borrow source is >20, downhill travel time may be underestimated due to limitation of uphill travel time curves and downhill speed tables from CAT Handbook (see Productivty Sheet)

Note: SW Solid Waste Authority cost to dispose concrete = $22.00 per ton. Assumes 56 Tons to dispose of off site.

Closure Cost Estimate
Waste Disposal

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2020
File Name: Att 2_Cost 20200820_SRCE_Version_1_4_1_017b_NV_20 Year Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 2.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Waste Disposal - Cost Summary

	Labor	Equipment	Fees	Totals
Solid Waste - On Site	$595	$1,829	N/A	$2,424
Solid Waste - Off Site				$0
Hazardous Materials				$0
Hydrocarbon Contaminated Soils	$0	$0	$0	$0
TOTALS	**$595**	**$1,829**	**$0**	**$2,424**

Waste Disposal - User Input - Hazardous Materials

	Description (required)	ID Code	Waste Type (select)	Container Type (select)	Vacuum Truck Size (select)	Liquid Quantity gallons	Soild Quantity cy	One Way Travel Distance to Disposal Site mi	One Way Travel Time to Disposal Site hr

Notes:
1. Use Other Demo & Equip Removal Sheet for tank removal

Closure Cost Estimate
Waste Disposal

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2020
File Name: Att 2_Cost 20200820_SRCE_Version_1_4_1_017b_NV_20 Year Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 2.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Waste Disposal - Cost Summary

	Labor	Equipment	Fees	Totals
Solid Waste - On Site	$595	$1,829	N/A	$2,424
Solid Waste - Off Site				$0
Hazardous Materials				$0
Hydrocarbon Contaminated Soils	$0	$0	$0	$0
TOTALS	**$595**	**$1,829**	**$0**	**$2,424**

Waste Disposal - User Input - Hydrocarbon Contaminated Soils

	Description (required)	ID Code	Waste Type (select)	Disposal Method (select)	Quantity cy	Travel Distance to Offsite Disposal mi

Notes:
1. Use Yards or Landfills Sheets for bioremediation facility reclamation

Closure Cost Estimate
Waste Disposal

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2020
File Name: Att 2_Cost 20200820_SRCE_Version_1_4_1_017b_NV_20 Year Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 2.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Waste Disposal - Cost Summary

	Labor	Equipment	Fees	Totals
Solid Waste - On Site	$595	$1,829	N/A	$2,424
Solid Waste - Off Site				$0
Hazardous Materials				$0
Hydrocarbon Contaminated Soils	$0	$0	$0	$0
TOTALS	**$595**	**$1,829**	**$0**	**$2,424**

Waste Disposal - Assumptions & Calculations

Solid Waste Disposal

Off site disposal assumes use of average rolloff dumpster [30 cy (m3), 10 ton (tonne)]
On site disposal assumes use of small loader/truck fleet for haulage
Average density for on site disposal = 2,600 lb/cy (1,540 kg/m3)
For on site disposal only 1 truck is required unless total truck hours > 8, only 2 trucks unless total truck hours are > 16

Hazardous Materials Disposal

Assumes all hazardous materials are known
Enter EITHER solid or liquid quantity each line.
If container type = 55 gallon (200 liter) drum then solid waste hauling costs apply
Average density for solids assumed to be 2,600 lb/cy (1,540 kg/m3)
Vacuum truck sizes: small = 2,200 gal (~8,300 litres), large = 5,000 gal (~19,000 litres)
Vacuum truck on site for 4 hours for each load

Hydrocarbon Contaminated Soils Disposal

Assumes all hazardous materials are known
On site disposal assumes biopad treatment
Exavation productivity =45 cy./hr (35 m3/hr) (Means Heavy Construction, 2006: 02315-424-0360)

Closure Cost Estimate
Waste Disposal

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2020
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Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Waste Disposal - Cost Summary

	Labor	Equipment	Fees	Totals
Solid Waste - On Site	$595	$1,829	N/A	$2,424
Solid Waste - Off Site				$0
Hazardous Materials				$0
Hydrocarbon Contaminated Soils	$0	$0	$0	$0
TOTALS	**$595**	**$1,829**	**$0**	**$2,424**

Waste Disposal - Solid Waste Disposal

	Description (required)	Waste Volume cy	Number of Off Site Dumpster Loads	Landfill Fleet Equipment	Landfill Fleet Productivity LCY/hr	Number of Trucks	Total Fleet Hours	Total Dumpster Cost $	Total Labor Cost $	Total Equipment Cost $	Total Waste Disposal Cost $
1	**Concrete slab ford across the arroyo**	28		725/966G/D7R	14	2	2	$0	$275	$889	$1,164
2	**Cattle Guard**	2		725/966G/D7R	7	1	1	$0	$103	$303	$406
3	**15 cy of Staged Ore**	15		725/966G/D7R	7	1	2	$0	$217	$637	$854
		45					5	**$0**	**$595**	**$1,829**	**$2,424**

Closure Cost Estimate
Waste Disposal

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2020
File Name: Att 2_Cost 20200820_SRCE_Version_1_4_1_017b_NV_20 Year Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 2.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Waste Disposal - Cost Summary

	Labor	Equipment	Fees	Totals
Solid Waste - On Site	$595	$1,829	N/A	$2,424
Solid Waste - Off Site				$0
Hazardous Materials				$0
Hydrocarbon Contaminated Soils	$0	$0	$0	$0
TOTALS	**$595**	**$1,829**	**$0**	**$2,424**

Waste Disposal - Hazardous Materials Disposal

	Description (required)	Liquid Waste Volume gallons	Solid Waste Volume cy	Number of Truck Loads	Tons of Waste Tons	Pick-up Fees $	Transport Fees $	Disposal Fees $	Total Hazardous Material Cost $
						$0	**$0**	**$0**	**$0**

Closure Cost Estimate
Waste Disposal

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2020
File Name: Att 2_Cost 20200820_SRCE_Version_1_4_1_017b_NV_20 Year Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 2.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Waste Disposal - Cost Summary

	Labor	Equipment	Fees	Totals
Solid Waste - On Site	$595	$1,829	N/A	$2,424
Solid Waste - Off Site				$0
Hazardous Materials				$0
Hydrocarbon Contaminated Soils	$0	$0	$0	$0
TOTALS	**$595**	**$1,829**	**$0**	**$2,424**

Waste Disposal - Hydrocarbon Contaminated Soils

	Description (required)	Quantity cy	Disposal Equipment Fleet	Total Fleet Hours	Treatment Cost $	Transport Fees $	Disposal Fees $	Total Labor Cost $	Total Equipment Cost $	Total Waste Disposal Cost $
					$0	**$0**	**$0**	**$0**	**$0**	**$0**

Closure Cost Estimate
Misc. Costs

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2020
File Name: Att 2_Cost 20200820_SRCE_Version_1_4_1_017b_NV_20 Year Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 2.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Miscellaneous Cost Summary

	Labor	Equipment	Materials	Totals
Fence Removal	$11,116	$6,198	N/A	$17,314
Fence Installation	$0	$0	$0	$0
Culvert & Buried Pipe Removal	$204	$171	N/A	$375
Surface Pipe Removal	$0	$0	N/A	$0
Power Lines	$0	N/A	N/A	$0
Substations/Transformers	$0	N/A	N/A	$0
Rip-rap, rock lining, gabions	$0	$0	$0	$0
Other Costs	$0	$0	$0	$0
TOTALS	**$11,320**	**$6,369**	**$0**	**$17,689**

Fence Removal — You must fill in ALL green and blue cells

	Description (required)	ID Code	Length ft	Type (select type)	Costs: Labor Cost $	Equipment Cost $	Total Cost $
1	Main Gate		400	Barbed 5-strand	$672	$356	$1,028
2	Main Quarry Perimeter		3920	Barbed 5-strand	$6,586	$3,489	$10,075
3	Laydown Yard		600	Chain link 8-10 ft	$1,002	$840	$1,842
4	Vegetation Reference Area Perimeter		1700	Barbed 5-strand	$2,856	$1,513	$4,369
					$11,116	**$6,198**	**$17,314**

Notes:
Note: Main gate assumes 200 linear feet of fencing on each side of the main gate.
Note: Main Quarry Perimeter assumes the external perimeter of mining phases will be fenced.
Note: Laydown yard assumes 150 feet by 150 feet.

Fence Installation — You must fill in ALL green and blue cells

	Description (required)	ID Code	Input: Length ft	Input: Type (select type)	Costs: Labor Cost $	Equipment Cost $	Material Cost ($)	Total Cost $
					$0	**$0**	**$0**	**$0**

Notes:

Closure Cost Estimate
Misc. Costs

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2020
File Name: Att 2_Cost 20200820_SRCE_Version_1_4_1_017b_NV_20 Year Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 2.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Miscellaneous Cost Summary

	Labor	Equipment	Materials	Totals
Fence Removal	$11,116	$6,198	N/A	$17,314
Fence Installation	$0	$0	$0	$0
Culvert & Buried Pipe Removal	$204	$171	N/A	$375
Surface Pipe Removal	$0	$0	N/A	$0
Power Lines	$0	N/A	N/A	$0
Substations/Transformers	$0	N/A	N/A	$0
Rip-rap, rock lining, gabions	$0	$0	$0	$0
Other Costs	$0	$0	$0	$0
TOTALS	**$11,320**	**$6,369**	**$0**	**$17,689**

Culvert & Buried Pipe Removal — You must fill in ALL green and blue cells

	Description (required)	ID Code	Input: Length ft	Input: Type (select type)	Input: Location (select)	Costs: Labor Cost $	Costs: Equipment Cost $	Costs: Total Cost $
1	**Single Culvert Removal #1**		**16**	**12 in (300 mm) D**	**On site**	$68	$57	$125
2	**Single Culvert Removal #2**		**16**	**12 in (300 mm) D**	**On site**	$68	$57	$125
3	**Single Culvert Removal #3**		**16**	**12 in (300 mm) D**	**On site**	$68	$57	$125
						$204	**$171**	**$375**

Notes:

Surface Pipe Removal — You must fill in ALL green and blue cells

	Description (required)	ID Code	Input: Length ft	Input: Type (select type)	Input: Location (select)	Costs: Labor Cost $	Costs: Equipment Cost $	Costs: Total Cost $
						$0	**$0**	**$0**

Notes:

Closure Cost Estimate
Misc. Costs

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2020
File Name: Att 2_Cost 20200820_SRCE_Version_1_4_1_017b_NV_20 Year Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 2.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Miscellaneous Cost Summary

	Labor	Equipment	Materials	Totals
Fence Removal	$11,116	$6,198	N/A	$17,314
Fence Installation	$0	$0	$0	$0
Culvert & Buried Pipe Removal	$204	$171	N/A	$375
Surface Pipe Removal	$0	$0	N/A	$0
Power Lines	$0	N/A	N/A	$0
Substations/Transformers	$0	N/A	N/A	$0
Rip-rap, rock lining, gabions	$0	$0	$0	$0
Other Costs	$0	$0	$0	$0
TOTALS	**$11,320**	**$6,369**	**$0**	**$17,689**

Power Line and Substation Removal — You must fill in ALL green and blue cells

			Input				Costs			Cost Breakdown	
	Description (required)	ID Code	Power Line Length miles	Power Line Type (select)	Number of Substations #	Location (select)	Power Line Removal $	Substation Removal $	Total Cost $	Labor Cost $	Equipment Cost $
							$0	**$0**	**$0**	**$0**	**$0**

Notes: If substation owned by operator, use Other Demo & Equipment Removal sheet
User may need to add line items in Foundations & Buildings for substation slab demolition and fence removal
Labor/Equipment costs assume approximately 80% of cost are equipment and 20% are labor related costs

Closure Cost Estimate
Misc. Costs

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2020
File Name: Att 2_Cost 20200820_SRCE_Version_1_4_1_017b_NV_20 Year Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 2.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Miscellaneous Cost Summary

	Labor	Equipment	Materials	Totals
Fence Removal	$11,116	$6,198	N/A	$17,314
Fence Installation	$0	$0	$0	$0
Culvert & Buried Pipe Removal	$204	$171	N/A	$375
Surface Pipe Removal	$0	$0	N/A	$0
Power Lines	$0	N/A	N/A	$0
Substations/Transformers	$0	N/A	N/A	$0
Rip-rap, rock lining, gabions	$0	$0	$0	$0
Other Costs	$0	$0	$0	$0
TOTALS	**$11,320**	**$6,369**	**$0**	**$17,689**

Rip-Rap & Rock Lining — You must fill in ALL green and blue cells

	Description (required)	ID Code	Input: Area S.Y.	Input: Type (select type)	Costs: Labor Cost $	Costs: Equipment Cost $	Costs: Material Cost $	Costs: Total Cost $
					$0	**$0**	**$0**	**$0**

Notes:

Closure Cost Estimate
Misc. Costs

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2020
File Name: Att 2_Cost 20200820_SRCE_Version_1_4_1_017b_NV_20 Year Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 2.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Miscellaneous Cost Summary

	Labor	Equipment	Materials	Totals
Fence Removal	$11,116	$6,198	N/A	$17,314
Fence Installation	$0	$0	$0	$0
Culvert & Buried Pipe Removal	$204	$171	N/A	$375
Surface Pipe Removal	$0	$0	N/A	$0
Power Lines	$0	N/A	N/A	$0
Substations/Transformers	$0	N/A	N/A	$0
Rip-rap, rock lining, gabions	$0	$0	$0	$0
Other Costs	$0	$0	$0	$0
TOTALS	**$11,320**	**$6,369**	**$0**	**$17,689**

Closure Cost Estimate
Monitoring

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2020
File Name: Att 2_Cost 20200820_SRCE_Version_1_4_1_017b_NV_20 Year Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 2.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Reclamation Monitoring & Maintenance - Cost Summary

	Labor	Equipment	Lab & Materials	Totals
Revegetation Maintenance	$1,067	$914	$1,905	$3,886
Erosion Maintenance	$2,391	$7,174	N/A	$9,565
Reclamation Monitoring	$8,910	$374	N/A	$9,284
Subtotal Reclamation Monitoring	**$12,368**	**$8,462**	**$1,905**	**$22,735**
Water Quality Monitoring	$0	$0	$0	$0
TOTAL MONITORING	**$12,368**	**$8,462**	**$1,905**	**$22,735**

Reclamation Maintenance

Description	Total Revegetation Surface Area (1,2) acres	% Area Requiring Reseeding	Seed Mix (select)	Area Requiring Reseeding acres	Seed $/acres	Labor $/acres	Equipment $/acres	Totals $
Revegetation Maintenance	30	**25%**	**User Mix 1**	7.6	$250.00	$140.00	$120.00	
Labor								$1,067
Equipment								$914
Materials								$1,905
Cost/Acre								$510
							Subtotal	**$3,886**

Notes: 1) Surface area is NOT the same as footprint disturbance area typically used for permitting purposes.

	Total Volume Growth Media cy	% Volume Requiring Maintenance	Average Growth Media Placement Cost $/CY	Volume Requiring Replacement cy		Labor (assume: 25%) $/acres	Equipment (assume: 75%) $/acres	Total $
Erosion Maintenance	44,289	**15%**	$1.44	6,643		$2,391.00	$7,174.00	$9,565

Notes:

Reclamation Monitoring

Description	Hrs/Day	Days/Year	Number of Years	Rate $/hr		
Field Work						
Field Geologist/Engineer	**8**	**1**	**3**	$134.99		$3,240
Range Scientist				$119.42		$0
Reporting						
Field Geologist/Engineer	**14**	**1**	**3**	$134.99		$5,670
Range Scientist				$119.42		$0
					Subtotal	**$8,910**
Travel						
	Hrs/Trip hr	**Trips/Year**	**Years**	**Truck Cost** $/hr		
Travel	**4**	**1**	**3**	$31.13		$374
					Subtotal	**$374**
					Total Reclamation Monitoring	**$9,284**

Notes: **Assumes Engineer will travel from Silver City, NM**
Assumes 10 hours for reporting and 4 hours for mobilization and demobilization

Closure Cost Estimate
Monitoring

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2020
File Name: Att 2_Cost 20200820_SRCE_Version_1_4_1_017b_NV_20 Year Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 2.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Reclamation Monitoring & Maintenance - Cost Summary

	Labor	Equipment	Lab & Materials	Totals
Revegetation Maintenance	$1,067	$914	$1,905	$3,886
Erosion Maintenance	$2,391	$7,174	N/A	$9,565
Reclamation Monitoring	$8,910	$374	N/A	$9,284
Subtotal Reclamation Monitoring	**$12,368**	**$8,462**	**$1,905**	**$22,735**
Water Quality Monitoring	$0	$0	$0	$0
TOTAL MONITORING	**$12,368**	**$8,462**	**$1,905**	**$22,735**

Water and Rock Sample Analysis

Description	Samples #	Events/Year	No. Years	First Sample Year closure year (1-100)	No. of Samplers	Days/Event	Hrs/Day	Analysis Cost $/sample	Supplies $/sample	Lab Cost $	Material Cost $	Equipment Cost $	Labor Cost $	Cost $	Comments
														$0	
														$0	
														$0	
														$0	
														$0	
														$0	
														$0	
														$0	
														$0	
														$0	
														$0	
														$0	
														$0	
														$0	
														$0	
														$0	
														$0	
										$0.00	$0.00	$0.00	$0.00		
													Subtotal Sampling Costs	**$0**	

Notes: Sampling labor cost = No. Samplers x Years x Events/year x Days/event x Hour/Day x Labor Rate
Sampling equipment costs include 1 pickup truck for every two samplers

Ground & Surface Water Monitoring

Pump Costs

Description	No. of units		Years		Cost $
Pump (purchased)		Replacement period (yrs):			$0
				Subtotal Field Work	**$0**

Notes: Replacement period = frequency of pump replacement

Reporting

Description	Hrs/Event	Rate $/hr	Cost $
Field Geologist/Engineer			
		Subtotal Reporting	

Notes:

Closure Cost Estimate
Constr. Mgmt

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2020
File Name: Att 2_Cost 20200820_SRCE_Version_1_4_1_017b_NV_20 Year Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 2.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Construction Management & Road Maintenance - Cost Summary

	Labor	Equipment	Materials	Totals
Construction Management	$20,671	$2,974	N/A	$23,645
Construction Support		$428		$428
Road Maintenance	$6,516	$20,282	$726	$27,524
TOTAL CONSTRUCTION MANAGEMENT	**$27,187**	**$23,684**	**$726**	**$51,597**

Construction Management

Construction Management Staff

Description	Duration mo.	Hours/ Month hr.	Number of Supervisors	Supervisor Rate $/hr	Labor Cost $	Equipment Cost[1] $	Totals $
Active Reclamation	**1**	**160**	**1**	$89.10	$14,256	$2,051	$16,307
Monitoring & Maintenance	**36**	**2**	**1**	$89.10	$6,415	$923	$7,338
				Total Staff	**$20,671**	**$2,974**	**$23,645**

Construction Management Support

Description	Duration mo.	Number of Units		Rental Rate $/mo	Generator Cost $/mo	Equipment Cost[1] $	Totals $
Temporary Office Rental						$0	$0
Temporary Toilets	**1**	**2**		$214		$428	$428
					Total Support	**$428**	**$428**

Notes: Office rental assumes only 1 generator required for every 4 trailers

Total Construction Management **$24,073**

Road Maintenance

Description	Fleet Size (select)	Number	Duration mo.	Hours/ Month hr.	Labor Cost $	Equipment Cost $	Totals $
Active Reclamation							
Water Truck	**Small**	**1**	**1**	**80**	$2,753	$10,546	$13,299
Grader	**Small**	**1**	**1**	**32**	$1,188	$2,348	$3,536
Monitoring & Maintenance							
Water Truck	**Small**	**1**	**36**	**1**	$1,239	$4,746	$5,985
Grader	**Small**	**1**	**36**	**1**	$1,336	$2,642	$3,978

Description	Gallons/ Day	Days/ Month	Duration mo.	Cost/ Gallon $			Totals $
Water Fees							
Water Fees	**6000**	**14**	**1**	**0.01**			$726
				Total Project Maintenance	**$6,516**	**$20,282**	**$27,524**

Notes: 1) Supervisor equipment = pickup truck

Note: Assumes water from City of Demning at $8.64 per 1,000 gallons.

Closure Cost Estimate
Labor Rates

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2020
File Name: Att 2_Cost 20200820_SRCE_Version_1_4_1_017b_NV_20 Year Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 2.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Color Code Key	
User Input - Direct Input	Direct Input
User Input - Pull Down List	Pull Down Selection
Program Constant (can override)	Alternate Input
Program Calculated Value	Locked Cell - Formula or Reference

ZONE ADJUSTMENTS			
Cost Basis/Project Region	American Magnesium - Option 1 Revised	American Magnesium - Foothill Dolomite Mine - Northern Nevada Equipment	
Power Equipment Operators	0-50 miles	$0.00	
Truck Drivers	0-50 miles	$0.00	
Laborers	0-50 miles	$0.00	

INDIRECT COSTS	
Unemployment (%)	1.84%
Retirement/SS/Medicare (%)	7.65%
Workman's Compensation (%)	13.30%
Other Indirects	
State Payroll Tax (13),(15),(17),(1	
Total Other Indirects	**0.00%**

HOURLY LABOR RATE TABLE

EQUIPMENT TYPE (1) OR JOB DESCRIPTION	Labor Group	Base Rate ($/hr)	Zone Adjustment ($/hr)	Hourly Wage ($/hr)	Fringe ($/hr)	Retirement/ Medicare ($/hr)	Unemployment Insurance ($/hr)	Workman's Compensation ($/hr)	Other Indirect Costs ($/hr)	Total ($/hr)
Equipment Operators ($/hr) (2)										
Bulldozers										
D6R		$28.02	$0.00	$28.02		$0.52	$2.14	$3.73	$0.00	$34.41
D6R w/ Winch		$28.02	$0.00	$28.02		$0.52	$2.14	$3.73	$0.00	$34.41
D7R		$28.02	$0.00	$28.02		$0.52	$2.14	$3.73	$0.00	$34.41
D8R		$28.02	$0.00	$28.02		$0.52	$2.14	$3.73	$0.00	$34.41
D9R		$28.02	$0.00	$28.02		$0.52	$2.14	$3.73	$0.00	$34.41
D10R		$28.02	$0.00	$28.02		$0.52	$2.14	$3.73	$0.00	$34.41
D11R		$28.02	$0.00	$28.02		$0.52	$2.14	$3.73	$0.00	$34.41
Wheeled Dozers										
824G										
834G										
844										
854G										
Motor Graders										
120H		$30.23	$0.00	$30.23		$0.56	$2.31	$4.02	$0.00	$37.12
14G/H		$30.23	$0.00	$30.23		$0.56	$2.31	$4.02	$0.00	$37.12
16G/H		$30.23	$0.00	$30.23		$0.56	$2.31	$4.02	$0.00	$37.12
24M		$30.23	$0.00	$30.23		$0.56	$2.31	$4.02	$0.00	$37.12
Track Excavators										
312C		$30.23	$0.00	$30.23		$0.56	$2.31	$4.02	$0.00	$37.12
320C		$30.23	$0.00	$30.23		$0.56	$2.31	$4.02	$0.00	$37.12
325C		$30.23	$0.00	$30.23		$0.56	$2.31	$4.02	$0.00	$37.12
330C		$30.23	$0.00	$30.23		$0.56	$2.31	$4.02	$0.00	$37.12
345B		$30.23	$0.00	$30.23		$0.56	$2.31	$4.02	$0.00	$37.12
365BL		$30.23	$0.00	$30.23		$0.56	$2.31	$4.02	$0.00	$37.12
385BL		$30.23	$0.00	$30.23		$0.56	$2.31	$4.02	$0.00	$37.12
Scrapers										
631G		$28.02	$0.00	$28.02		$0.52	$2.14	$3.73	$0.00	$34.41
637G		$28.02	$0.00	$28.02		$0.52	$2.14	$3.73	$0.00	$34.41
Wheeled Loaders										
924G		$28.02	$0.00	$28.02		$0.52	$2.14	$3.73	$0.00	$34.41
928G		$28.02	$0.00	$28.02		$0.52	$2.14	$3.73	$0.00	$34.41
950G		$28.02	$0.00	$28.02		$0.52	$2.14	$3.73	$0.00	$34.41
966G		$28.02	$0.00	$28.02		$0.52	$2.14	$3.73	$0.00	$34.41
972G		$28.02	$0.00	$28.02		$0.52	$2.14	$3.73	$0.00	$34.41
980G		$28.02	$0.00	$28.02		$0.52	$2.14	$3.73	$0.00	$34.41
988G		$28.02	$0.00	$28.02		$0.52	$2.14	$3.73	$0.00	$34.41
990		$28.02	$0.00	$28.02		$0.52	$2.14	$3.73	$0.00	$34.41
992G		$28.02	$0.00	$28.02		$0.52	$2.14	$3.73	$0.00	$34.41
994D		$28.02	$0.00	$28.02		$0.52	$2.14	$3.73	$0.00	$34.41
L2350		$28.02	$0.00	$28.02		$0.52	$2.14	$3.73	$0.00	$34.41
Shovels										
PC2000										
PC3000										
PC4000										
PC5500										
PC8000										
Hydraulic Hammers										
H-120 (fits 325)										
H-160 (fits 345)										
H-180 (fits 365/385)										
Demolition Shears										
S340 (fits 322/325/330)										
S365 (fits 330/345)										
S390 (fits 365/385)										
Demolition Grapples										
G315 (fits 322/325)										
G320 (fits 325/330)										
G330 (fits 345/365)										

Closure Cost Estimate
Labor Rates

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2020
File Name: Att 2_Cost 20200820_SRCE_Version_1_4_1_017b_NV_20 Year Rev 2.xlsm
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Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Color Code Key	
User Input - Direct Input	Direct Input
User Input - Pull Down List	Pull Down Selection
Program Constant (can override)	Alternate Input
Program Calculated Value	Locked Cell - Formula or Reference

ZONE ADJUSTMENTS			
Cost Basis/Project Region	American Magnesium - Option 1 Revised	American Magnesium - Foothill Dolomite Mine - Northern Nevada Equipment	
Power Equipment Operators	0-50 miles	$0.00	
Truck Drivers	0-50 miles	$0.00	
Laborers	0-50 miles	$0.00	
INDIRECT COSTS			
Unemployment (%)	1.84%		
Retirement/SS/Medicare (%)	7.65%		
Workman's Compensation (%)	13.30%		
Other Indirects			
State Payroll Tax (13),(15),(17),(1			
Total Other Indirects	**0.00%**		

HOURLY LABOR RATE TABLE

Other Equipment										
420D 4WD Backhoe		$28.02	$0.00	$28.02		$0.52	$2.14	$3.73	$0.00	$34.41
428D 4WD Backhoe		$28.02	$0.00	$28.02		$0.52	$2.14	$3.73	$0.00	$34.41
CS533E Vibratory Roller		$28.02	$0.00	$28.02		$0.52	$2.14	$3.73	$0.00	$34.41
CS633E Vibratory Roller		$28.02	$0.00	$28.02		$0.52	$2.14	$3.73	$0.00	$34.41
CP533E Sheepsfoot Compactor		$28.02	$0.00	$28.02		$0.52	$2.14	$3.73	$0.00	$34.41
CP633E Sheepsfoot Compactor		$28.02	$0.00	$28.02		$0.52	$2.14	$3.73	$0.00	$34.41
Light Truck - 1.5 Ton		$0.00		$0.00		$0.00	$0.00	$0.00	$0.00	$0.00
Supervisor's Truck		$0.00		$0.00		$0.00	$0.00	$0.00	$0.00	$0.00
Flatbed Truck										
Air Compressor + tools		$27.69	$0.00	$27.69		$0.51	$2.12	$3.68	$0.00	$34.00
Welding Equipment		$27.88	$0.00	$27.88		$0.51	$2.13	$3.71	$0.00	$34.23
Heavy Duty Drill Rig		$27.88	$0.00	$27.88		$0.51	$2.13	$3.71	$0.00	$34.23
Pump (plugging) Drill Rig		$27.88	$0.00	$27.88		$0.51	$2.13	$3.71	$0.00	$34.23
Concrete Pump										
Gas Engine Vibrator		$14.03	$0.00	$14.03		$0.26	$1.07	$1.87	$0.00	$17.23
Generator 5KW										
HDEP Welder (pipe or liner)										
5 Ton Crane		$27.12	$0.00	$27.12		$0.50	$2.07	$3.61	$0.00	$33.30
20 Ton Crane		$27.12	$0.00	$27.12		$0.50	$2.07	$3.61	$0.00	$33.30
50 Ton Crane		$27.12	$0.00	$27.12		$0.50	$2.07	$3.61	$0.00	$33.30
120 Ton Crane		$27.12	$0.00	$27.12		$0.50	$2.07	$3.61	$0.00	$33.30

NOTES:

(1) Equipment Type:	Catepillar model or equivalent, LeTourneau
(2) Equipment Operator Source:	New Mexico Department of Workforce Solutions Public Works Prevailing Wage Rates Type H -
(3) Zone Basis:	From Deming

Truck Drivers ($/hr) (4)										
725	ruck Driver > 25 yds	$28.02	$0.00	$28.02	$0.00	$0.52	$2.14	$3.73	$0.00	$34.41
730	ruck Driver > 25 yds	$28.02	$0.00	$28.02	$0.00	$0.52	$2.14	$3.73	$0.00	$34.41
735	ruck Driver > 25 yds	$28.02	$0.00	$28.02	$0.00	$0.52	$2.14	$3.73	$0.00	$34.41
740	ruck Driver > 25 yds	$28.02	$0.00	$28.02	$0.00	$0.52	$2.14	$3.73	$0.00	$34.41
769D	ruck Driver > 25 yds	$28.02	$0.00	$28.02	$0.00	$0.52	$2.14	$3.73	$0.00	$34.41
773E		$28.02	$0.00	$28.02	$0.00	$0.52	$2.14	$3.73	$0.00	$34.41
777D	ruck Driver > 60 yds	$28.02	$0.00	$28.02	$0.00	$0.52	$2.14	$3.73	$0.00	$34.41
785C					$0.00					
793C					$0.00					
797B					$0.00					
613E (5,000 gal) Water Wagon	ter Truck > 2,500 gall	$28.02	$0.00	$28.02	$0.00	$0.52	$2.14	$3.73	$0.00	$34.41
621E (8,000 gal) Water Wagon	ter Truck > 2,500 gall	$28.02	$0.00	$28.02	$0.00	$0.52	$2.14	$3.73	$0.00	$34.41
777D Water Truck					$0.00					
785C Water Truck					$0.00					
Dump Truck (10-12 yd3)	Truck Driver > 8 yds <	$24.92	$0.00	$24.92	$0.00	$0.46	$1.91	$3.31	$0.00	$30.60

NOTES:

(4) Truck Driver Source:	New Mexico Department of Workforce Solutions Public Works Prevailing Wage Rates Type H -
(5) Zone Basis:	From Deming

Closure Cost Estimate
Labor Rates

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2020
File Name: Att 2_Cost 20200820_SRCE_Version_1_4_1_017b_NV_20 Year Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 2.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Color Code Key	
User Input - Direct Input	Direct Input
User Input - Pull Down List	Pull Down Selection
Program Constant (can override)	Alternate Input
Program Calculated Value	Locked Cell - Formula or Reference

ZONE ADJUSTMENTS			
Cost Basis/Project Region	American Magnesium - Option 1 Revised	American Magnesium - Foothill Dolomite Mine - Northern Nevada Equipment	
Power Equipment Operators	0-50 miles	$0.00	
Truck Drivers	0-50 miles	$0.00	
Laborers	0-50 miles	$0.00	

INDIRECT COSTS	
Unemployment (%)	1.84%
Retirement/SS/Medicare (%)	7.65%
Workman's Compensation (%)	13.30%
Other Indirects	
State Payroll Tax (13),(15),(17),(1	
Total Other Indirects	**0.00%**

HOURLY LABOR RATE TABLE

Laborers ($/hr) (6,7)

General Laborer	Group 1	$23.88	$0.00	$23.88	$0.00	$0.44	$1.83	$3.18	$0.00	$29.32
Skilled Laborer	Group 4	$26.14	$0.00	$26.14	$0.00	$0.48	$2.00	$3.48	$0.00	$32.10
Driller's Helper	Group 3	$26.14	$0.00	$26.14	$0.00	$0.48	$2.00	$3.48	$0.00	$32.10
Rodmen (reinforcing concrete)	Group 1	$23.88	$0.00	$23.88	$0.00	$0.44	$1.83	$3.18	$0.00	$29.32
Cement finisher	Group 3	$26.14	$0.00	$26.14	$0.00	$0.48	$2.00	$3.48	$0.00	$32.10
Carpenter		$36.47	$0.00	$36.47	$0.00	$0.67	$2.79	$4.85	$0.00	$44.78

NOTES:

(6) Laborer Source:	New Mexico Department of Workforce Solutions Public Works Prevailing Wage Rates Type H -
(7) Carpenter Source:	New Mexico Department of Workforce Solutions Public Works Prevailing Wage Rates Type H -
(8) Zone Basis:	From Deming

Project Management and Technical Labor ($/hr) (9)

Project Manager		$72.56		$72.56	$0.00	$1.34	$5.55	$9.65	$0.00	$89.10
Foreman		$67.50		$67.50	$0.00	$1.24	$5.16	$8.98	$0.00	$82.88
Field Geologist/Engineer		$109.94		$109.94	$0.00	$2.02	$8.41	$14.62	$0.00	$134.99
Field Tech/Sampler		$76.11		$76.11	$0.00	$1.40	$5.82	$10.12	$0.00	$93.46
Range Scientist		$97.25		$97.25	$0.00	$1.79	$7.44	$12.93	$0.00	$119.42
Senior Planning Engineer					$0.00					
Project Engineer					$0.00					
Mechanic/Fitter					$0.00					
					$0.00					
					$0.00					
					$0.00					
					$0.00					

NOTES:

(9) Project Manager:	R.S.Means 2020 Q2 (01 31 1320 0200 Total Incl.O&P-10%) Adjusted for Elko, NV
(9) Foreman Source:	R.S.Means 2020 Q2 (01 31 1320 0200 Total Incl.O&P-10%) Adjusted for Elko, NV
(9) Techical Labor Source:	Wood plc 2020 Adjusted for Zone,Tax and Ins.
Other Labor Source:	
Other Labor Source:	
†Additional User Markups	
(These are added by the user to the	
base rate to account for site-specific	
conditions or corporate requirements)	

Closure Cost Estimate
Equipment Costs

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2020
File Name: Att 2_Cost 20200820_SRCE_Version_1_4_1_017b_NV_20 Year Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 2.xlsm
Monthly Rental Basis: 160 hrs month

EQUIPMENT RENTAL RATE TABLE

EQUIPMENT TYPE (1)	Monthly Owner/Rental Rate	Equipment Hourly Rate	Fuel/Lube/ Wear	Total Rate
Bulldozers				
D6R	$7,222.35	$45.14	$50.90	$96.04
D6R w/ Winch	$7,222.35	$45.14	$50.90	$96.04
D7R	$10,466.40	$65.42	$22.95	$88.37
D8R	$20,180.00	$126.13	$29.70	$155.83
D9R	$30,100.00	$188.13	$41.41	$229.54
D10R	$44,500.00	$278.13	$51.43	$329.55
D11R	$56,234.00	$351.46	$235.44	$586.90
Wheeled Dozers				
824G	$19,849.00	$124.06	$113.00	$237.06
834G	$24,929.00	$155.81	$138.70	$294.51
844	$33,734.00	$210.84	$184.06	$394.90
854G	$33,802.00	$211.26	$221.85	$433.11
Motor Graders				
120H	$3,964.95	$24.78	$48.60	$73.38
14G/H	$14,790.00	$92.44	$94.28	$186.72
16G/H	$18,806.00	$117.54	$129.63	$247.16
24M	$20,686.00	$129.29	$158.47	$287.75
Track Excavators				
312C	$5,610.00	$35.06	$7.59	$42.65
320C	$7,750.00	$48.44	$15.05	$63.49
325C	$10,047.96	$62.80	$18.57	$81.37
330C	$11,500.00	$71.88	$23.64	$95.51
345B	$16,730.00	$104.56	$29.42	$133.99
365BL	$23,119.00	$144.49	$113.51	$258.00
385BL	$28,472.00	$177.95	$134.75	$312.70
Scrapers				
631G	$27,700.00	$173.13	$70.61	$243.74
637G	$36,819.00	$230.12	$200.40	$430.52
Wheeled Loaders				
924G	$5,610.00	$35.06	$19.78	$54.85
928G	$6,530.00	$40.81	$36.90	$77.71
950G	$9,520.00	$59.50	$32.45	$91.95
966G	$5,856.20	$36.60	$37.28	$73.88
972G	$13,480.00	$84.25	$43.86	$128.11
980G	$15,690.00	$98.06	$61.05	$159.11
988G	$19,589.00	$122.43	$151.77	$274.20
990	$28,299.00	$176.87	$233.36	$410.23
992G	$47,500.00	$296.88	$225.73	$522.61
994D	$45,175.00	$282.34	$350.03	$632.37
L2350	$82,607.00	$516.29	$625.53	$1,141.82
Shovels				
PC2000	$70,917.00	$443.23	$278.28	$721.51
PC3000	$72,526.00	$453.29	$345.19	$798.47
PC4000	$74,135.00	$463.34	$427.42	$890.76
PC5500	$81,548.00	$509.68	$562.14	$1,071.82
PC8000	$89,703.00	$560.64	$658.00	$1,218.64
Hydraulic Hammers				
H-120 (fits 325)	$3,420.00	$21.38	$11.57	$32.95
H-160 (fits 345)	$7,028.00	$43.93	$23.24	$67.17
H-180 (fits 365/385)	$8,168.00	$51.05	$24.96	$76.01
Demolition Shears				
S340 (fits 322/325/330)	$3,524.00	$22.03	$20.50	$42.53
S365 (fits 330/345)	$4,131.00	$25.82	$25.23	$51.05
S390 (fits 365/385)	$6,593.00	$41.21	$31.61	$72.82
Demolition Grapples				
G315 (fits 322/325)				$0.00
G320 (fits 325/330)				$0.00
G330 (fits 345/365)				$0.00
Other Equipment				
420D 4WD Backhoe	$3,240.00	$20.25	$22.10	$42.35
428D 4WD Backhoe	$3,870.00	$24.19	$22.59	$46.78
CS533E Vibratory Roller	$4,402.00	$27.51	$27.54	$55.06
CS633E Vibratory Roller	$4,291.00	$26.82	$31.05	$57.87
CP533E Sheepsfoot Compactor	$4,085.00	$25.53	$33.08	$58.61
CP633E Sheepsfoot Compactor	$6,588.00	$41.18	$40.18	$81.36
Light Truck - 1.5 Ton	$2,184.00	$13.65	$17.48	$31.13
Supervisor's Truck	$834.00	$5.21	$7.61	$12.82
Flatbed Truck	$621.00	$3.88	$21.62	$25.50
Air Compressor + tools	$597.00	$3.73	$5.57	$9.30
Welding Equipment	$405.00	$2.53	$6.30	$8.83
Heavy Duty Drill Rig	$52,018.00	$325.11	$314.83	$639.94
Pump (plugging) Drill Rig	$52,018.00	$325.11	$310.45	$635.56
Concrete Pump	$14,864.20	$92.90	$21.90	$114.80
Gas Engine Vibrator	$357.00	$2.23	$3.65	$5.88
Generator 5KW	$938.00	$5.86	$6.87	$12.73
HDEP Welder (pipe or liner)	$7,022.96	$43.89	$4.38	$48.27
5 Ton Crane	$7,159.50	$44.75	$42.14	$86.88
20 Ton Crane	$7,955.00	$49.72	$48.28	$98.00
50 Ton Crane	$15,154.00	$94.71	$88.82	$183.54
120 Ton Crane	$28,943.00	$180.89	$177.03	$357.92
Trucks				
725	$9,300.06	$58.13	$82.89	$141.02
730	$14,640.00	$91.50	$62.31	$153.81
735	$16,730.00	$104.56	$70.00	$174.56
740	$18,820.00	$117.63	$74.01	$191.63
769D			$23.86	$23.86
773E	$18,267.00	$114.17	$160.85	$275.02
777D	$37,750.00	$235.94	$325.91	$561.85
785C	$40,948.00	$255.93	$366.30	$622.22
793C	$49,547.00	$309.67	$470.39	$780.06
797B	$89,160.00	$557.25	$817.64	$1,374.89
613E (5,000 gal) Water Wagon	$8,726.00	$54.54	$77.29	$131.83
621E (8,000 gal) Water Wagon	$10,006.00	$62.54	$103.42	$165.96
777D Water Truck	$37,226.00	$232.66	$321.40	$554.07
785C Water Truck	$40,948.00	$255.93	$366.30	$622.22
Dump Truck (10-12 yd^3)	$3,752.00	$23.45	$32.89	$56.34

NOTES:

(1) Power Equipment Source:	
(2) Power Equipment Type:	Catepillar model or equivalent, LeTourneau loader, Komatsu shovels
(3) Drilliing Equipment Source:	RS Means Heavy Construction (2020 Q2)
(4) Other Equipment Source:	RS Means Heavy Construction (2020 Q2)
(5) Drill rig includes support (pipe) truck	

Closure Cost Estimate
Equipment Costs

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2020
File Name: Att 2_Cost 20200820_SRCE_Version_1_4_1_017b_NV_20 Year Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 2.xlsm

FUEL, LUBE AND WEAR CALCULATIONS

EQUIPMENT TYPE	PM Cost Per Hour (1)	Under carriage or Tires (2)	G.E.T Consumption (3)	Fuel Use Rate gal/hr (4)	Cost@ 2.19/gal	Total Hourly Equipment Cost
Bulldozers						
D6R	$34.60		$2.61	6.25	$13.69	$50.90
D6R w/ Winch	$34.60		$2.61	6.25	$13.69	$50.90
D7R	$2.69		$3.84	7.50	$16.43	$22.95
D8R	$3.49		$4.86	9.75	$21.35	$29.70
D9R	$3.61		$6.59	14.25	$31.21	$41.41
D10R	$3.79		$8.22	18.00	$39.42	$51.43
D11R	$160.74		$16.66	26.50	$58.04	$235.44
Wheeled Dozers						
824G	$49.58	$38.56	$1.32	10.75	$23.54	$113.00
834G	$59.69	$49.72	$1.70	12.60	$27.59	$138.70
844	$77.91	$70.88	$2.42	15.00	$32.85	$184.06
854G	$90.20	$87.64	$2.40	19.00	$41.61	$221.85
Motor Graders						
120H	$20.32	$18.90	$0.62	4.00	$8.76	$48.60
14G/H	$37.21	$42.00	$1.38	6.25	$13.69	$94.28
16G/H	$50.42	$60.78	$2.00	7.50	$16.43	$129.63
24M	$55.46	$66.86	$2.20	15.50	$33.95	$158.47
Track Excavators						
312C	$2.14		$1.33	1.88	$4.12	$7.59
320C	$2.38		$1.94	4.90	$10.73	$15.05
325C	$2.64		$1.48	6.60	$14.45	$18.57
330C	$3.01		$2.67	8.20	$17.96	$23.64
345B	$3.36		$2.85	10.60	$23.21	$29.42
365BL	$80.63		$3.97	13.20	$28.91	$113.51
385BL	$91.31		$5.11	17.50	$38.33	$134.75
Scrapers						
631G	$3.22	$32.68	$1.86	15.00	$32.85	$70.61
637G	$116.00	$30.28	$2.11	23.75	$52.01	$200.40
Wheeled Loaders						
924G	$9.33	$4.24	$0.19	2.75	$6.02	$19.78
928G	$16.35	$12.28	$0.60	3.50	$7.67	$36.90
950G	$2.30	$20.52	$0.87	4.00	$8.76	$32.45
966G	$2.42	$21.40	$0.87	5.75	$12.59	$37.28
972G	$2.53	$26.56	$1.08	6.25	$13.69	$43.86
980G	$2.57	$40.64	$1.41	7.50	$16.43	$61.05
988G	$57.81	$65.20	$2.26	12.10	$26.50	$151.77
990	$85.58	$106.84	$3.71	17.00	$37.23	$233.36
992G	$11.87	$130.76	$32.73	23.00	$50.37	$225.73
994D	$122.36	$143.84	$4.99	36.00	$78.84	$350.03
L2350	$203.53	$268.16	$9.30	66.00	$144.54	$625.53
Shovels						
PC2000	$183.38		$13.87	37.00	$81.03	$278.28
PC3000	$218.80		$16.89	50.00	$109.50	$345.19
PC4000	$254.21		$19.91	70.00	$153.30	$427.42
PC5500	$279.63		$21.90	119.00	$260.61	$562.14
PC8000	$307.59		$24.09	149.00	$326.31	$658.00
Hydraulic Hammers						
H-120 (fits 325)	N/A		$11.57			$11.57
H-160 (fits 345)	N/A		$23.24			$23.24
H-180 (fits 365/385)	N/A		$24.96			$24.96
Demolition Shears						
S340 (fits 322/325/330)	N/A		$20.50			$20.50
S365 (fits 330/345)	N/A		$25.23			$25.23
S390 (fits 365/385)	N/A		$31.61			$31.61
Demolition Grapples						
G315 (fits 322/325)	N/A					$0.00
G320 (fits 325/330)	N/A					$0.00
G330 (fits 345/365)	N/A					$0.00
Other Equipment						
420D 4WD Backhoe	$11.81	$3.18	$0.54	3.00	$6.57	$22.10
428D 4WD Backhoe	$12.20	$3.22	$0.60	3.00	$6.57	$22.59
CS533E Vibratory Roller	$19.33			3.75	$8.21	$27.54
CS633E Vibratory Roller	$20.65			4.75	$10.40	$31.05
CP533E Sheepsfoot Compactor	$24.87			3.75	$8.21	$33.08
CP633E Sheepsfoot Compactor	$29.78			4.75	$10.40	$40.18
Light Truck - 1.5 Ton	$8.67	$5.52		1.50	$3.29	$17.48
Supervisor's Truck	$3.62	$1.80		1.00	$2.19	$7.61
Flatbed Truck	$3.85	$7.48		4.70	$10.29	$21.62
Air Compressor + tools	$3.38		N/A	1.00	$2.19	$5.57
Welding Equipment	$1.92		N/A	2.00	$4.38	$6.30
Heavy Duty Drill Rig	$278.95		$9.60	12.00	$26.28	$314.83
Pump (plugging) Drill Rig	$278.95		$9.60	10.00	$21.90	$310.45
Concrete Pump			N/A	10.00	$21.90	$21.90
Gas Engine Vibrator	$1.46		N/A	1.00	$2.19	$3.65
Generator 5KW	$3.58		N/A	1.50	$3.29	$6.87
HDEP Welder (pipe or liner)			N/A	2.00	$4.38	$4.38
5 Ton Crane	$23.22	$12.35		3.00	$6.57	$42.14
20 Ton Crane	$25.80	$13.72		4.00	$8.76	$48.28
50 Ton Crane	$45.47	$33.06		4.70	$10.29	$88.82
120 Ton Crane	$80.14	$85.50		5.20	$11.39	$177.03
Trucks						
725	$28.22	$41.16	$3.22	4.70	$10.29	$82.89
730	$2.76	$44.94	$3.22	5.20	$11.39	$62.31
735	$2.86	$47.82	$3.22	7.35	$16.10	$70.00
740	$2.97	$51.72	$3.22	7.35	$16.10	$74.01
769D			$3.60	9.25	$20.26	$23.86
773E	$47.92	$83.16	$4.04	11.75	$25.73	$160.85
777D	$95.60	$189.12	$4.51	16.75	$36.68	$325.91
785C	$105.16	$208.03		24.25	$53.11	$366.30
793C	$127.24	$251.72		41.75	$91.43	$470.39
797B	$204.78	$484.20		58.75	$128.66	$817.64
613E (5,000 gal) Water Wagon	$45.31	$18.84		6.00	$13.14	$77.29
621E (8,000 gal) Water Wagon	$50.66	$29.22		10.75	$23.54	$103.42
777D Water Truck	$95.60	$189.12		16.75	$36.68	$321.40
785C Water Truck	$105.16	$208.03		24.25	$53.11	$366.30
Dump Truck (10-12 yd3) (5)	N/A	$21.50	N/A	5.20	$11.39	$32.89

Notes:

(1) PM Source:	
(2) Undercarriage Source:	
(3) G.E.T. Source:	
(4) Fuel Use Source:	Caterpillar Handbook, Edition 35, Ch. 20; or estimated average for smaller vehicles
(5) Dump Truck Oper. Cost Source:	Means Heavy Construction (2008)

Closure Cost Estimate
Equipment Costs

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2020
File Name: Att 2_Cost 20200820_SRCE_Version_1_4_1_017b_NV_20 Year Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 2.xlsm

TIRE COST TABLES

Equipment	Tire Size	# of Tires Per Piece of Equipment	Cost Per Tire	Tire Cost (1)(2)	Life Expectency Hours (Low/Zone A) (3)	Tire Cost per Hour
Bulldozers						
D6R			N/A			
D6R w/ Winch			N/A			
D7R			N/A			
D8R			N/A			
D9R			N/A			
D10R			N/A			
D11R			N/A			
Wheeled Dozers						
824G	29.5R25	4	$33,740.00	$134,960.00	3,500	$38.56
834G	35/65-R33	4	$43,505.00	$174,020.00	3,500	$49.72
844	45/65-R39	4	$62,020.00	$248,080.00	3,500	$70.88
854G	45/65-R45	4	$76,685.00	$306,740.00	3,500	$87.64
Motor Graders						
120H	13PR24	6	$11,025.00	$66,150.00	3,500	$18.90
14G/H	20.5R25	6	$24,500.00	$147,000.00	3,500	$42.00
16G/H	23.5R25	6	$35,455.00	$212,730.00	3,500	$60.78
24M	23.5R25	6	$39,000.50	$234,003.00	3,500	$66.86
Track Excavators						
312C			N/A			
320C			N/A			
325C			N/A			
330C			N/A			
345B			N/A			
365BL			N/A			
385BL			N/A			
Scrapers						
631G	37.25R35	4	$32,680.00	$130,720.00	4,000	$32.68
637G	37.25R35	4	$30,280.00	$121,120.00	4,000	$30.28
Wheeled Loaders						
924G	17.5R25	4	$4,770.00	$19,080.00	4,500	$4.24
928G	17.5R25	4	$13,815.00	$55,260.00	4,500	$12.28
950G	26.5R25	4	$23,085.00	$92,340.00	4,500	$20.52
966G	26.5R25	4	$24,075.00	$96,300.00	4,500	$21.40
972G	26.5R25	4	$29,880.00	$119,520.00	4,500	$26.56
980G	29.5R25	4	$45,720.00	$182,880.00	4,500	$40.64
988G	35/65-33	4	$73,350.00	$293,400.00	4,500	$65.20
990	41.25/70-39	4	$120,195.00	$480,780.00	4,500	$106.84
992G	45/65R45	4	$147,105.00	$588,420.00	4,500	$130.76
994D	55/85R57	4	$161,815.50	$647,262.00	4,500	$143.84
L2350	55/85R57	4	$301,680.00	$1,206,720.00	4,500	$268.16
Shovels						
PC2000			N/A			
PC3000			N/A			
PC4000			N/A			
PC5500			N/A			
PC8000			N/A			
Hydraulic Hammers						
H-120 (fits 325)			N/A			
H-160 (fits 345)			N/A			
H-180 (fits 365/385)			N/A			
Demolition Shears						
S340 (fits 322/325/330)			N/A			
S365 (fits 330/345)			N/A			
S390 (fits 365/385)			N/A			
Demolition Grapples						
G315 (fits 322/325)			N/A			
G320 (fits 325/330)			N/A			
G330 (fits 345/365)			N/A			
Other Equipment						
420D 4WD Backhoe	340/80R18-19.5LR24	2	$4,770.00	$9,540.00	3,000	$3.18
428D 4WD Backhoe	340/80R18-16.9R28	2	$4,830.00	$9,660.00	3,000	$3.22
CS533E Vibratory Roller			N/A			
CS633E Vibratory Roller			N/A			
CP533E Sheepsfoot Compactor			N/A			
CP633E Sheepsfoot Compactor			N/A			
Light Truck - 1.5 Ton		4	4140	$16,560.00	3,000	$5.52
Supervisor's Truck		4	1350	$5,400.00	3,000	$1.80
Flatbed Truck		22	1020	$22,440.00	3,000	$7.48
Air Compressor + tools			N/A			
Welding Equipment			N/A			
Heavy Duty Drill Rig		4		$0.00	3,000	
Pump (plugging) Drill Rig		4		$0.00	3,000	
Concrete Pump			N/A			
Gas Engine Vibrator			N/A			
Generator 5KW			N/A			
HDEP Welder (pipe or liner)			N/A			
5 Ton Crane		4	$9,261.00	$37,044.00	3,000	$12.35
20 Ton Crane		4	$10,290.00	$41,160.00	3,000	$13.72
50 Ton Crane		6	$16,530.00	$99,180.00	3,000	$33.06
120 Ton Crane		6	$42,750.00	$256,500.00	3,000	$85.50
Trucks						
725	23.5R25	6	$13,720.00	$82,320.00	2,000	$41.16
730	23.5R25	6	$14,980.00	$89,880.00	2,000	$44.94
735	26.5R25	6	$15,940.00	$95,640.00	2,000	$47.82
740	29.5R25	6	$17,240.00	$103,440.00	2,000	$51.72
769D	18.00R33	6		$0.00	6,000	
773E	24.00R35	6	$69,300.00	$415,800.00	5,000	$83.16
777D	27.00R49	6	$157,600.00	$945,600.00	5,000	$189.12
785C	33.00R51	6	$138,688.00	$832,128.00	4,000	$208.03
793C	40.00R57	6	$167,812.48	$1,006,874.88	4,000	$251.72
797B	40.00R57	6	$322,800.00	$1,936,800.00	4,000	$484.20
613E (5,000 gal) Water Wagon	23.5R25	6	$18,840.00	$113,040.00	6,000	$18.84
621E (8,000 gal) Water Wagon	33.25R29	6	$38,960.00	$233,760.00	8,000	$29.22
777D Water Truck	27.00R49	6	$157,600.00	$945,600.00	5,000	$189.12
785C Water Truck	33.00R51	6	$138,688.00	$832,128.00	4,000	$208.03
Dump Truck (10-12 yd3)		10	$12,900.00	$129,000.00	6,000	$21.50

Notes:

(1) Unit Cost Basis:	
(2) Cost Basis:	
(3) Tire Cost Source:	
(4) Tire Wear Source:	

Closure Cost Estimate
Material Costs

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2020
File Name: Att 2_Cost 20200820_SRCE_Version_1_4_1_017b_NV_20 Year Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 2.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Revegetation Materials

Seed Mixes

Seed Mix	Description	Cost/Acre
None		
Mix 1	Basins	$302.50
Mix 2	Low Hills	$332.75
Mix 3	Uplands	$363.00
Mix 4	Riparian or Custom	$393.25
User Mix 1	**Site Specific Seed Mix**	**$250.00**
User Mix 2		
User Mix 3		
User Mix 4		

	Cost/lb	lbs/Acre	Cost/Acre
User Mix 5 (from Seed Mix sheet)	$0.00	$9.18	$0.00

Notes:

Mulch

Item	Cost/lb	lbs/Acre	Cost/Acre
None			
Straw Mulch	$0.17	**36300**	$6,150.83
Hydro Mulch	$0.25		
Timber Mulch			

Notes:

Granite Seed $500 per Ton in 50 lb bag Wood (Hydro) Mulch (June 2020)

Closure Cost Estimate
Material Costs

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Date of Submittal: 01/18/2020
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Model Version: Version 1.4.1
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Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Amendments			
Item	**Cost/lb**	**lbs/Acre**	**Cost/Acre**
None			
Organic Matter	$0.70		$0.00
Treated Sludge			
Chemical	$0.59		$0.00
Notes:	Western Nevada Supply $29.34 per 50 lb. bag 15-15-15 (June 2020)		

Closure Cost Estimate
Material Costs

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Date of Submittal: 01/18/2020
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Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Well Abandonment Materials

Description	Cost/50lb bag	Units	Cost/unit*
Cement	$7.57	cy	$36.07
Grout (Low Grade Bentonite)	$8.85	cy	$42.14
Inert Material/Cuttings		cy	
		cy	
		cy	

(1) Jentech Drilling Supply quote (June 2020) Type I,II Cement at $14.24 per 94 lb. bag
(2) Jentech Drilling Supply (June 2020) 3/8 in. Chunk Bentonite Hole Plug at $8.85 per 50 lb. bag (5.75 cf/bag at 4

* Assumes 1 bag mixes with water to make 0.21 y3 or 0.16 m3 of grout/cement slurry.

Monitoring Costs

Description	Units	Cost/unit
Monitor Well Pump	ea.	$2,788.41
Sampling Supplies	ea.	$6.51
Water Analysis (Profile I) (1)	ea.	$411.00
Leach Test (MWMP) w/ analysis	ea.	$483.40
ABA + S speciation	ea.	$150.00
WAD Cyanide in water	ea.	$56.00
Water Analysis (Profile II) (1)	ea.	$461.00
	ea.	
	ea.	
	ea.	
	ea.	
	ea.	
	ea.	
	ea.	
	ea.	
	ea.	
	ea.	

(1) WET Lab, Reno, Nevada (July 2020)
Well pump and Sample supply costs adjusted to 2020.
Original source unknown.

Closure Cost Estimate
Material Costs

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2020
File Name: Att 2_Cost 20200820_SRCE_Version_1_4_1_017b_NV_20 Year Rev 2.xlsm
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Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Fuel, Etc.

Description	Units	Cost/unit
Off-road Diesel - delivered (1)	$/gal	$2.190
Pickup Truck Mileage	$/mi	$0.575
Electical Power	$/kWh	$0.079

(1) Source: Oil Price Infomration Service , average annual cost including freight to Nevada (July 2020).
Source: Federal Government Vehicle Allowance Rate 2020
Source: NV Energy (July 2020) $0.07872

Closure Cost Estimate
Material Costs

Revegetation Method				
Slopes				
Disturbance Type	**Seed Application Method**	**Labor** Cost/Acre	**Equipment** Cost/Acre	**Total** Cost/Acre
Waste Rock Dumps	**Drill**	$140.00	$120.00	$260.00
Heap Leach	**Drill**	$140.00	$120.00	$260.00
Tailings	**Drill**	$140.00	$120.00	$260.00
Quarries & Borrow Pits	**Drill**	$140.00	$120.00	$260.00
Flat Areas and Undifferentiated				
Disturbance Type	**Seed Application Method**	**Labor** Cost/Acre	**Equipment** Cost/Acre	**Total** Cost/Acre
Exploration Trenches	**Drill**	$140.00	$120.00	$260.00
Exploration Roads	**Drill**	$140.00	$120.00	$260.00
Waste Rock Dumps	**Drill**	$140.00	$120.00	$260.00
Heap Leach	**Drill**	$140.00	$120.00	$260.00
Tailings	**Drill**	$140.00	$120.00	$260.00
Quarries & Borrow Pits	**Drill**	$140.00	$120.00	$260.00
Roads	**Drill**	$140.00	$120.00	$260.00
Pits	**Drill**	$140.00	$120.00	$260.00
Haul Material	**Drill**	$140.00	$120.00	$260.00
Foundations & Buildings	**Drill**	$140.00	$120.00	$260.00
Sediment & Drainge Control	**Drill**	$140.00	$120.00	$260.00
Process Ponds	**Drill**	$140.00	$120.00	$260.00
Landfills	**Drill**	$140.00	$120.00	$260.00
Yards, Etc.	**Drill**	$140.00	$120.00	$260.00
Revegetation Maintenance	**Drill**	$140.00	$120.00	$260.00

Closure Cost Estimate
Misc. Unit Costs

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2020
File Name: Att 2_Cost 20200820_SRCE_Version_1_4_1_017b_NV_20 Year Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 2.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Revegetation

	Means Number	Unit	Crew	Daily Output	Daily Output User	Materials	Labor	Equipment	Total	Notes
Seeding - Broadcast Hand (1)		acres					$140.00	$50.00	$190.00	
Seeding - Broadcast Mechanical (1)		acres					$140.00	$50.00	$190.00	
Seeding - Drill (1)		acres		365			$140.00	$120.00	$260.00	
Seeding - Hydroseeding (1)				365			$250.00	$150.00	$400.00	
Shrub Planting - bare root 6-10 in (150- 250mm) (2)	02910-400-0561	ea.	1 Clab	365					$0.00	
Tree Planting - bare root 11-16 in (270- 400mm) (3)	02910-400-0562	ea.	1 Clab	260					$0.00	
Cactus Planting (4)		ea.	1 Clab						$0.00	
NOTES:										
(1) Seeding Source:	Source: Kelley Erosion Control (July 2020).									
(2) Shrub Source:										
(3) Tree Source:										
(4) Cactus Source:										

Building and Wall Demolition

Hourly productivity rates and crew composition from Means Heavy Construction 2005 Edition by permission of R.S.Means/Reed Construction Data .
All equipment, labor and material unit costs are from Labor Costs, Equipment Costs and Material Costs spreadsheets

	Means Number	Unit	Crew	Daily Output	Daily Output User	Labor	Equipment	Premium	Total	Notes
Building Demolition										
Lg. steel	02220-110-0012	C.F.	B-8	21500		$0.10	$0.11		$0.21	
Lg. concrete	02220-110-0050	C.F.	B-8	15300		$0.14	$0.15		$0.29	
Lg. masonry	02220-110-0080	C.F.	B-8	20100		$0.11	$0.11		$0.22	
Lg. mixed	02220-110-0100	C.F.	B-8	20100		$0.11	$0.11		$0.22	
Sm. steel	02220-110-0500	C.F.	B-3	14800		$0.13	$0.10		$0.23	
Sm. concrete	02220-110-0600	C.F.	B-3	11300		$0.17	$0.13		$0.30	
Sm. masonry	02220-110-0650	C.F.	B-3	14800		$0.13	$0.10		$0.23	
Sm. wood	02220-110-0700	C.F.	B-3	14800		$0.13	$0.10		$0.23	
Wall Demolition										
Block 4 in (100 mm) thick	02220-130-2000	S.F.	1 Clab	180		$1.30	$0.00	20%	$1.56	
Block 6 in (150 mm) thick	02220-130-2040	S.F.	1 Clab	170		$1.38	$0.00	20%	$1.66	
Block 8 in (200 mm) thick	02220-130-2080	S.F.	1 Clab	150		$1.56	$0.00	20%	$1.87	
Block 12 in (300 mm) thick	02220-130-2100	S.F.	1 Clab	150		$1.56	$0.00	20%	$1.87	
Conc 6 in (150 mm) thick	02220-130-2400	S.F.	B-9	160		$11.71	$0.47	10%	$13.40	
Conc 8 in (200 mm) thick	02220-130-2420	S.F.	B-9	140		$13.38	$0.53	10%	$15.30	
Conc 10 in (250 mm) thick	02220-130-2440	S.F.	B-9	120		$15.61	$0.62	10%	$17.85	
Conc 12 in (300 mm) thick	02220-130-2500	S.F.	B-9	100		$18.73	$0.74	10%	$21.42	

Closure Cost Estimate
Misc. Unit Costs

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2020
File Name: Att 2_Cost 20200820_SRCE_Version_1_4_1_017b_NV_20 Year Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 2.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Waste Disposal

Unit rates from Means Heavy Construction 2006 Edition by permission of R.S.Means/Reed Construction Data .

	Means Number	Unit	Crew	Daily Output	Materials	Labor	Equipment		Total	Notes
Rubbish Handling										
Dumpster delivery (average for all sizes)	02220-350-0910	ea.			$51.50				$51.50	
Haul (average for all sizes)	02220-350-0920	ea.			$161.00				$161.00	
Rent per month (average for all sizes)	02220-350-0940	ea.			$55.00				$55.00	
Disposal fee per ton (tonne) (average for all sizes)	02220-350-0950	ton			$60.50				$60.50	
NOTES:										
Dumpster Cost Source	R.S. Means Heavy Construction (2020 Q2).									
Dumpster Disposal Fee Source:	R.S. Means Heavy Construction (2020 Q2).									
Hazardous Material Handling - Solids (+ Liquids in drums)										
Pickup fees 55 gal (200 L). drums	02110-300-1100	ea.			$251.00				$251.00	
Bulk material (average)	02110-300-1220/1230	ton			$409.50				$409.50	
Transport - truck load (80 drums, 25 cy (m3), 18 tons)	02110-300-1260/1270	mile			$5.88				$5.88	
Dump site solid disposal fee	02110-300-6000/6020	ton			$288.50				$288.50	
NOTES:										
Solid Handling Cost Source	R.S. Means Heavy Construction (2019 Q2).									
Solid Disposal Fee Source:	2019 Q2 R.S. Means Heavy Const. ave. 02 81									
Hazardous Material Handling - Liquids										
Vacuum Truck Pickup (2200 gal/8300 L)	02110-300-3110	hr.			$147.00				$147.00	
Vacuum Truck Pickup (5000 gal/19000 L)	02110-300-3120	hr.			$213.00				$213.00	
Dump site liquid disposal fee	02110-300-6000/6020	ton			$288.50				$288.50	
NOTES:										
Liquid Handling Cost Source	R.S. Means Heavy Construction (2020 Q2).									
Liquid Disposal Fee Source:	2020 Q2 R.S. Means Heavy Const. ave. 02 81									
Hydrocarbon Contaminated Soils (HCS)										
Insitu Biotreatment	02115-200-2020/2021	C.Y.			$17.64				$17.64	
HCS disposal fee	02115-200-2050/2055	C.Y.			$278.50				$278.50	
NOTES:										
Insitu Treatement Cost Source	2020 Q2 R.S. Means Heavy Const., ave. 02 65									
HCS Disposal Fee Source:	2020 Q2 R.S. Means Heavy Const., ave. 02 65									

Closure Cost Estimate
Misc. Unit Costs

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2020
File Name: Att 2_Cost 20200820_SRCE_Version_1_4_1_017b_NV_20 Year Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 2.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Concrete Structure Installation

Weekly dumpster rental rates from Means Heavy Construction 2005 Edition with permission by R.S.Means/Reed Construction Data .
Weekly dumpster rental rates include haul to off-site disposal site and disposal fees

	Means Number	Unit	Crew	Daily Output	Materials	Labor	Equipment	Premium	Total	Notes
Reinforced Concrete Bulkheads and Shaft Covers										
Grade walls - 15 in (400mm) thick, 8 ft (2.5m) high	03310-240-4300	C.Y.	C-14D	80.02	$163.00	$105.53	$13.35		$281.88	includes reinforcing
Grade walls - 15 in (400mm) thick, 12 ft (3.7m) high	03310-240-4350	C.Y.	C-14D	26.2	$163.00	$322.30	$40.76		$526.06	includes reinforcing
Elevated conc, 1-way beam & slab - 15ft (4.6m) span	03310-240-2700	C.Y.	C-14B	20.59	$278.00	$410.57	$51.87		$740.44	includes reinforcing
Elevated conc, 1-way beam & slab - 25ft (7.5m) span	03310-240-2750	C.Y.	C-14B	28.36	$265.00	$298.08	$37.66		$600.74	includes reinforcing
Bat Gate/Foam Plug Installation										
Bat Gate (5)		ea.			$3,367.61					materials $/ea. Installed
Culvert Gate (5)		ea.			$6,735.21					materials $/ea. Installed
Adit Foam Plug (6)		ea./C.Y.			$336.76					materials $/cy placed
Production Opening Foam Plug (6)		ea./C.Y.			$336.76					materials $/cy placed

NOTES:

(5) Bat Gate Source:	NV BLM, 2/2006: 8 hr + 1hr mob/demob + 1hr setup per gate (adjusted to 2020)
(6) Foam Plug Source:	NV BLM, 2/2006: 8 hr+ 1hr mob/demob + 1hr setup per adit; 16 hrs per production opening (adjusted to 2020)

Closure Cost Estimate
Misc. Unit Costs

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2020
File Name: Att 2_Cost 20200820_SRCE_Version_1_4_1_017b_NV_20 Year Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 2.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Misc. Linear Projects

Hourly productivity rates and crew composition from Means Heavy Construction 2005 Edition by permission of R.S.Means/Reed Construction Data .
All equipment, labor and material unit costs are from Labor Costs, Equipment Costs and Material Costs spreadsheets

	Means Number	Unit	Crew	Daily Output	Materials	Labor	Equipment	Premium	Total	Notes
Fencing Installation										
Barbed 3-strand	02820-170-1650	L.F.	B-80A	760	$0.51	$0.93	$0.33		$1.77	
Barbed 4-strand	extrapolated	L.F.	B-80A	570	$0.68	$1.23	$0.44		$2.35	
Barbed 5-strand	02820-130-0920	L.F.	B-80A	456	$0.85	$1.54	$0.55		$2.94	
Chain link 8-10ft (2.5-3m) Install	02820-130-0920	L.F.	B-80C	180	$38.00	$3.91	$1.38		$43.29	
Wood stockade fence 6 ft (2 m) high - Install	02820-510-1240	L.F.	B-80C	150	$16.00	$4.69	$1.66		$22.35	
	user	L.F.							$0.00	
	user	L.F.							$0.00	
	user	L.F.							$0.00	
	user	L.F.							$0.00	
Fencing Removal										
Barbed 3-strand Removal	02220-220-1600	L.F.	2 Clab	430		$1.09	$0.58		$1.67	
Barbed 4-strand Removal	extrapolated	L.F.	2 Clab	355		$1.32	$0.70		$2.02	
Barbed 5-strand Removal	02220-220-1650	L.F.	2 Clab	280		$1.68	$0.89		$2.57	
Chain link 8-10 ft (2.5-3 m) Removal	02220-220-1700	L.F.	B-6	445		$1.67	$1.40		$3.07	
Wood, all types 4-6 ft ("1.5-2 m) high - Removal	02220-220-1775	L.F.	2 Clab	430		$1.09	$0.58		$1.67	
	user	L.F.								
	user	L.F.							$0.00	
	user	L.F.							$0.00	
	user	L.F.							$0.00	
Culvert Removal										
12 in (300 mm) Diameter	02220-220-2900	L.F.	B-6	175		$4.25	$3.55		$7.80	
18 in (450 mm) Diameter	02220-220-2930	L.F.	B-6	150		$4.96	$4.14		$9.10	
24 in (600 mm) Diameter	02220-220-2960	L.F.	B-6	120		$6.20	$5.18		$11.38	
36 in (1m) Diameter	02220-220-3000	L.F.	B-6	90		$8.27	$6.91		$15.18	
Pipeline Removal										
0.75 in (20mm) - 4 in (100 mm) diameter	02220-381-1600	L.F.	B-20	700		$1.65	$0.36		$2.01	
6 in (150 mm) - 8 in (200 mm)	02220-381-1700	L.F.	B-20	500		$2.31	$0.50		$2.81	
10 in (250 mm) - 18 in (450 mm)	02220-381-1800	L.F.	B-20	300		$3.85	$0.83		$4.68	
20 in (500 mm) - 36 in (1 m)	02220-381-1900	L.F.	B-20	200		$5.77	$1.25		$7.02	
Pipe and Drainpipe Installation										
Water 4in (100mm) 40ft (12m) length, welded HDPE	02510-760-0100	L.F.	B-22A	400	$2.70	$3.19	$4.46		$10.35	
Water 6in (150mm) 40ft (12m) length, welded HDPE	02510-760-0200	L.F.	B-22A	380	$5.85	$3.36	$4.69		$13.90	
Water 12in (300mm) 40ft (12m) length, welded HDPE	02510-760-0500	L.F.	B-22A	260		$4.91	$6.86		$11.77	
Drain 4in (100mm) perforated PVC	02620-630-2100	L.F.	B-14	315	$1.74	$5.96	$1.87		$9.57	
Drain 6in (150mm) perforated PVC	02620-630-2110	L.F.	B-14	300	$4.22	$6.26	$1.96		$12.44	
Drain 4in (100mm) corrugated, perf or plain	02620-660-0040	L.F.	2 Clab	1200	$0.78	$0.39	$0.21		$1.38	
Drain 6in (150mm) corrugated., perf or plain	02620-660-0060	L.F.	2 Clab	900	$2.18	$0.52	$0.28		$2.98	

Closure Cost Estimate
Misc. Unit Costs

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Date of Submittal: 01/18/2020
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Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Drain Rock Preparation										
Crushing		C.Y.							$0.50	
Screening		C.Y.							$0.50	
TOTAL									$1.00	
Misc.										
Backhoe work	02210-700-0120	C.Y.	B-11M	28		$9.83	$12.10		$21.93	
Powerline and Transformer Removal										
Single Pole		mile							$46,803.69	
Double Pole		mile							$53,489.93	
Transformer (9)		ea.							$58,997.31	
NOTES:										
(7) Single Pole Source:	NV Energy estimate (2009) Adjusted to 2020									
(8) Double Pole Source:	NV Energy estimate (2009) Adjusted to 2020									
(9) Transformer Source:	NV Energy estimate (2018) adjusted to 2020									

Erosion and Sedimentation Control

Hourly productivity rates and crew composition from Means Heavy Construction 2005 Edition by permission of R.S.Means/Reed Construction Data .
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	Means Number	Unit	Crew	Daily Output	Materials	Labor	Equipment	Premium	Total	Notes
Rip-Rap & Rock Lining										
Rip-Rap 3/8 to 1/4 CY (m3) pieces, grouted	02370-450-0110	S.Y.	B-13	80	$25.00	$23.35	$9.80		$58.15	assumes on-site source of rip-rap
Rip-Rap 18 in (450 mm) min thick, no grout	02370-450-0200	S.Y.	B-13	53	$7.65	$35.24	$14.79		$57.68	assumes on-site source of rip-rap
Gabions, 6 in (150 mm) deep	02370-450-0400	S.Y.	B-13	200	$7.05	$9.34	$3.92		$20.31	assumes on-site source rock fill for gabions
Gabions, 9 in (250 mm) deep	02370-450-0500	S.Y.	B-13	163	$9.85	$11.46	$4.81		$26.12	assumes on-site source rock fill for gabions
Gabions, 12 in (300 mm) deep	02370-450-0200	S.Y.	B-13	153	$14.30	$12.21	$5.12		$31.63	assumes on-site source rock fill for gabions
Gabions, 18 in (450 mm) deep	02370-450-0200	S.Y.	B-13	102	$18.35	$18.31	$7.69		$44.35	assumes on-site source rock fill for gabions
Gabions, 36 in (1m) deep	02370-450-0200	S.Y.	B-13	60	$31.00	$31.13	$13.07		$75.20	assumes on-site source rock fill for gabions
HDEP Liner Installation										
Finish grading large area	2310-100-0100	S.F.	B-11L	18000		$0.03	$0.08		$0.11	
Compaction-riding, vibrating roller - 12in (300mm) lifts	2315-310-5100	C.Y.	B-10Y	2600		$0.20	$0.17		$0.37	
60 mil HDPE	2660-610-0010	S.F.	3 Skwk	1600	$0.57	$0.65	$0.45		$1.67	
80 mil HDPE	user	S.F.	3 Skwk	149		$7.02	$4.87		$11.89	
40 mil VLDPE	user	S.F.	3 Skwk	150		$6.97	$4.83		$11.80	
	user	S.F.	3 Skwk	149		$7.02	$4.87		$11.89	
	user	S.F.	3 Skwk	149		$7.02	$4.87		$11.89	

Closure Cost Estimate
Misc. Unit Costs

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Construction Management Support											
Office Trailer, Furnished, no hook-ups	0150-500-0250	mo.			$198.00				$198.00	
Toilet Portable, chemical	1590-400-6410	mo.			$214.20				$214.20	
TOTAL					$412.20				$412.20	

Pump and Casing Removal											
	Pump Type	**Measurement**	**Unit**				**Labor**	**Equipment**		**Total**	**Notes**
Pump Removal											
Submersible		ft to pump	L.F.				$7.65	$18.86		$26.51	
Line Shaft		ft to pump	L.F.				$7.65	$18.86		$26.51	
NOTES:											
(10) Pump Removal Source:		Boart Longyear Quote: June 2020									

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Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

EQUIPMENT FLEETS

ACTIVITY AND FLEET		Standard Crew Size	EQUIPMENT UNIT COST (Hourly)	TOTAL LABOR UNIT COST (Hourly)	TOTAL COST (Hourly)
RIPPING					
Rip road					
Waste rock dumps, heaps, tails - rip flat surfaces					
Surface preparation					
Scarify					
Small Dozer w/ multi-shank					
D7R		1	$88.37	$34.41	$122.78
Totals			$88.37	$34.41	$122.78
Medium Dozer w/ multi-shank					
D9R		1	$229.54	$34.41	$263.95
Totals			$229.54	$34.41	$263.95
Large Dozer w/ multi-shank					
D10R		1	$329.55	$34.41	$363.96
Totals			$329.55	$34.41	$363.96
Grader w/ multi-shank					
16G/H		1	$247.16	$37.12	$284.28
Totals			$247.16	$37.12	$284.28
GRADING					
Grading storage and structure areas					
Grading waste rock dumps and heaps					
Grading landfills					
Constructing pit safety berms					
Small Dozer Fleet					
D7R		1	$88.37	$34.41	$122.78
Totals			$88.37	$34.41	$122.78
Medium Dozer Fleet					
D9R		1	$229.54	$34.41	$263.95
Totals			$229.54	$34.41	$263.95
Large Dozer Fleet					
D10R		1	$329.55	$34.41	$363.96
Totals			$329.55	$34.41	$363.96
EXPLORATION GRADING					
Backfilling and grading exploration trenches					
Grading flat exploration roads					
Small Dozer Fleet					
D6R		1	$96.04	$34.41	$130.45
Totals			$96.04	$34.41	$130.45
Medium Dozer Fleet					
D7R		1	$88.37	$34.41	$122.78
Totals			$88.37	$34.41	$122.78
Large Dozer Fleet					
D8R		1	$155.83	$34.41	$190.24
Totals			$155.83	$34.41	$190.24

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Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

EQUIPMENT FLEETS

ACTIVITY AND FLEET		Standard Crew Size	EQUIPMENT UNIT COST (Hourly)	TOTAL LABOR UNIT COST (Hourly)	TOTAL COST (Hourly)
EXCAVATING					
Earthen Berms					
Diversion ditch excavation and backfill					
Underground openings backfill - excavate and place					
Pit berm construction (excavator option)					
Small Excavator					
325C		1	$81.37	$37.12	$118.49
Totals			$81.37	$37.12	$118.49
Medium Excavator					
345B		1	$133.99	$37.12	$171.11
Totals			$133.99	$37.12	$171.11
Large Excavator					
385BL		1	$312.70	$37.12	$349.82
Totals			$312.70	$37.12	$349.82
EXCAVATE AND RECONTOUR					
Recontour large roads (haul roads, access roads, etc.)					
Ponds - Excavate and pull liner and bury					
Small Excavator + Dozer					
325C		1	$81.37	$37.12	$118.49
D7R		1	$88.37	$34.41	$122.78
Total Equipment			$169.74	$71.53	$241.27
Medium Excavator + Dozer					
345B		1	$133.99	$37.12	$171.11
D9R		1	$229.54	$34.41	$263.95
Totals			$363.53	$71.53	$435.06
Large Excavator + Dozer					
385BL		1	$312.70	$37.12	$349.82
D10R		1	$329.55	$34.41	$363.96
Totals			$642.25	$71.53	$713.78
EXPLORATION ROAD/PAD RECONTOUR					
Recontour small roads (exploration roads, service roads, etc.)					
Cut and Fill reclamation on slopes					
Drill pad recountour					
Drill sump backfill					
Small Dozer					
D6R		1	$96.04	$34.41	$130.45
Totals			$96.04	$34.41	$130.45
Large Dozer					
D8R		1	$155.83	$34.41	$190.24
Totals			$155.83	$34.41	$190.24
Grader					
14G/H		1	$186.72	$37.12	$223.84
Totals			$186.72	$37.12	$223.84
Small Excavator					
320C		1	$63.49	$37.12	$100.61
Totals			$63.49	$37.12	$100.61
Medium Excavator					
325C		1	$81.37	$37.12	$118.49
Totals			$81.37	$37.12	$118.49

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Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

EQUIPMENT FLEETS

ACTIVITY AND FLEET		Standard Crew Size	EQUIPMENT UNIT COST (Hourly)	TOTAL LABOR UNIT COST (Hourly)	TOTAL COST (Hourly)
LOAD, HAUL AND PLACE MATERIAL					
Rock placement					
Haul overburden for backfill					
Haul borrow for backfill					
Haul cover or growth media					
Small Truck/Loader Fleet					
725		Calculated	$141.02	$34.41	$175.43
966G	**Loader**	1	$73.88	$34.41	$108.29
D7R		1	$88.37	$34.41	$122.78
Totals			$303.27	$103.23	$406.50
Medium Truck/Loader Fleet					
740		Calculated	$191.63	$34.41	$226.04
988G	**Loader**	1	$274.20	$34.41	$308.61
D8R		1	$155.83	$34.41	$190.24
Totals			$621.66	$103.23	$724.89
Large Truck/Loader Fleet					
769D		Calculated	$23.86	$34.41	$58.27
988G	**Loader**	1	$274.20	$34.41	$308.61
D7R		1	$88.37	$34.41	$122.78
Totals			$386.43	$103.23	$489.66
Extra Large Truck/Loader Fleet					
777D		Calculated	$561.85	$34.41	$596.26
992G	**Loader**	1	$522.61	$34.41	$557.02
D7R		1	$88.37	$34.41	$122.78
Totals			$1,172.83	$103.23	$1,276.06
Scraper/Dozer Fleet					
631G		Calculated	$243.74	$34.41	$278.15
D10R		1	$329.55	$34.41	$363.96
D7R		1	$88.37	$34.41	$122.78
Totals			$661.66	$103.23	$764.89
Tandem Scraper Fleet					
637G		2	$430.52	$34.41	$464.93
D7R		1	$88.37	$34.41	$122.78
Totals			$518.89	$68.82	$587.71
MISC. LOAD AND HAUL AND EARTHWORKS					
Sludge removal					
Drainage controls					
Misc. - Cat 325B Excavator / 10-12 yd3 Truck					
325C		1	$81.37	$37.12	$118.49
Dump Truck (10-12 yd3)		1	$56.34	$30.60	$86.94
Totals			$137.71	$67.72	$205.43
Misc. - Cat D9R Dozer/ Loader (5 yd3) / 10-12 yd3 Truck					
D9R		1	$229.54	$34.41	$263.95
966G		1	$73.88	$34.41	$108.29
Dump Truck (10-12 yd3)		1	$56.34	$30.60	$86.94
Totals			$359.76	$99.42	$459.18
Misc. - Cat D6 Dozer / Cat 966 Loader / 10-12 yd3 Truck					
D6R		1	$96.04	$34.41	$130.45
966G		1	$73.88	$34.41	$108.29
Dump Truck (10-12 yd3)		1	$56.34	$30.60	$86.94
Totals			$226.26	$99.42	$325.68

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EQUIPMENT FLEETS

ACTIVITY AND FLEET		Standard Crew Size	EQUIPMENT UNIT COST (Hourly)	TOTAL LABOR UNIT COST (Hourly)	TOTAL COST (Hourly)
CONCRETE BREAKING					
Slab demolition					
Footing demolition					
Wall demolition					
Small - Cat 325B Excavator w/ H140D s Hammer					
325C		1	$81.37	$37.12	$118.49
H-120 (fits 325)		1	$32.95	$0.00	$32.95
D9R		1	$229.54	$34.41	$263.95
Totals			$343.86	$71.53	$415.39
Medium - Cat 345B Excavator w/ H180D s Hammer					
345B		1	$133.99	$37.12	$171.11
H-160 (fits 345)		1	$67.17	$0.00	$67.17
D9R		1	$229.54	$34.41	$263.95
Totals			$430.70	$71.53	$502.23
Large - Cat 385B Excavator w/ H180D s Hammer					
385BL		1	$312.70	$37.12	$349.82
H-180 (fits 365/385)		1	$76.01	$0.00	$76.01
D9R		1	$229.54	$34.41	$263.95
Totals			$618.25	$71.53	$689.78
DRILL HOLE ABANDONMENT					
Drill Hole - Grout or Cement					
Pump (plugging) Drill Rig		1	$635.56	$34.23	$669.79
Driller's Helper		2	$0.00	$64.20	$64.20
Totals			$635.56	$98.43	$733.99
Drill Hole - Inert Media (Means Crew B-11M+ 1 Laborer)					
420D 4WD Backhoe		1	$42.35	$34.41	$76.76
General Laborer		1	$0.00	$29.32	$29.32
Totals			$42.35	$63.73	$106.08
Drill Hole - Casing Perforation or Removal					
Heavy Duty Drill Rig		1	$639.94	$34.23	$674.17
Driller's Helper		2	$0.00	$64.20	$64.20
Totals			$639.94	$98.43	$738.37
MAINTENANCE FLEET					
Road Grading, Dust Suppression, Clean Up					
Maintenance - Small Water Truck and Cat 14G Grader					
613E (5,000 gal) Water Wagon		1	$131.83	$34.41	$166.24
120H		1	$73.38	$37.12	$110.50
Totals			$205.21	$71.53	$276.74
Maintenance - Medium Water Truck and Cat 16G Grader					
613E (5,000 gal) Water Wagon		1	$131.83	$34.41	$166.24
14G/H		1	$186.72	$37.12	$223.84
Totals			$318.55	$71.53	$390.08
Maintenance - Large Water Truck and Cat 16G Grader					
621E (8,000 gal) Water Wagon		1	$165.96	$34.41	$200.37
16G/H		1	$247.16	$37.12	$284.28
Totals			$413.12	$71.53	$484.65
PROJECT SUPERVISION					
Foreman		1	$0.00	$82.88	$82.88
Supervisor's Truck		1	$12.82	$0.00	$12.82
Totals			$12.82	$82.88	$95.70

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Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

EQUIPMENT FLEETS

ACTIVITY AND FLEET		Standard Crew Size	EQUIPMENT UNIT COST (Hourly)	TOTAL LABOR UNIT COST (Hourly)	TOTAL COST (Hourly)
MEANS CREW DEFINITIONS					
Crew composition from Means Heavy Construction 2005 Edition by permission of R.S.Means/Reed Construction Data . For use with misc. unit costs where Means is the source for productivity					
1 Clab - Seedling Planting/Block Wall Demolition					
General Laborer		1	$0.00	$29.32	$29.32
Totals			$0.00	$29.32	$29.32
2 Clab - Barbed Wire/Wood Fence Removal, Drainpipe Installation, Pumping, Evaporation					
General Laborer		2	$0.00	$58.64	$58.64
Light Truck - 1.5 Ton		1	$31.13	$0.00	$31.13
Totals			$31.13	$58.64	$89.77
2 Clab + Excavator - Pond Liner Cut and Fold					
General Laborer		2	$0.00	$58.64	$58.64
325C		1	$81.37	$37.12	$118.49
Totals			$81.37	$95.76	$177.13
2 Clab + Welder - Bat Gates					
General Laborer		2	$0.00	$58.64	$58.64
Welding Equipment		1	$8.83	$34.23	$43.06
Light Truck - 1.5 Ton		1	$31.13	$0.00	$31.13
Totals			$39.96	$92.87	$132.83
3 Clab - Foam Adit Plugs					
General Laborer		2	$0.00	$58.64	$58.64
420D 4WD Backhoe		1	$42.35	$34.41	$76.76
Light Truck - 1.5 Ton		1	$31.13	$0.00	$31.13
Totals			$73.48	$93.05	$166.53
3 Clab + Welder - Culvert Bat Gate					
General Laborer		2	$0.00	$58.64	$58.64
Welding Equipment		1	$8.83	$34.23	$43.06
420D 4WD Backhoe		1	$42.35	$34.41	$76.76
Light Truck - 1.5 Ton		1	$31.13	$0.00	$31.13
Totals			$82.31	$127.28	$209.59
3 Clab D - 3 Laborers + Foreman - Decontamination					
General Laborer		3	$0.00	$87.96	$87.96
Foreman		1	$0.00	$82.88	$82.88
Supervisor's Truck		1	$12.82	$0.00	$12.82
Light Truck - 1.5 Ton		1	$31.13	$0.00	$31.13
Totals			$43.95	$170.84	$214.79
3 SKWK - Liner Installation					
Skilled Laborer		3	$0.00	$96.30	$96.30
HDEP Welder (pipe or liner)		1	$48.27	$0.00	$48.27
420D 4WD Backhoe		1	$42.35	$34.41	$76.76
			$0.00		$0.00
			$0.00		$0.00
			$0.00		$0.00
Totals			$90.62	$130.71	$221.33

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2020
File Name: Att 2_Cost 20200820_SRCE_Version_1_4_1_017b_NV_20 Year Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 2.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

EQUIPMENT FLEETS

ACTIVITY AND FLEET		Standard Crew Size	EQUIPMENT UNIT COST (Hourly)	TOTAL LABOR UNIT COST (Hourly)	TOTAL COST (Hourly)
B-3 - Small Building Demoltion					
LABOR					
General Laborer		2	$0.00	$58.64	$58.64
Foreman		1	$0.00	$82.88	$82.88
			$0.00		$0.00
			$0.00		$0.00
			$0.00		$0.00
EQUIPMENT					
928G		1	$77.71	$34.41	$112.12
Dump Truck (10-12 yd3)		2	$112.68	$61.20	$173.88
			$0.00		$0.00
			$0.00		$0.00
			$0.00		$0.00
			$0.00		$0.00
			$0.00		$0.00
			$0.00		$0.00
			$0.00		$0.00
Totals			$190.39	$237.13	$427.52
B-6 - Chain Link Fence/Culvert Removal					
General Laborer		2	$0.00	$58.64	$58.64
928G		1	$77.71	$34.41	$112.12
Totals			$77.71	$93.05	$170.76
B-8 - Large Building Demolition					
LABOR					
General Laborer		2	$0.00	$58.64	$58.64
Foreman		1	$0.00	$82.88	$82.88
			$0.00		$0.00
			$0.00		$0.00
			$0.00		$0.00
EQUIPMENT					
928G		1	$77.71	$34.41	$112.12
20 Ton Crane		1	$98.00	$33.30	$131.30
Dump Truck (10-12 yd3)		2	$112.68	$61.20	$173.88
			$0.00		$0.00
			$0.00		$0.00
			$0.00		$0.00
			$0.00		$0.00
			$0.00		$0.00
			$0.00		$0.00
			$0.00		$0.00
			$0.00		$0.00
			$0.00		$0.00
			$0.00		$0.00
			$0.00		$0.00
Totals			$288.39	$270.43	$558.82
B-9 - Concrete Wall Demolition					
General Laborer		4	$0.00	$117.28	$117.28
Foreman		1	$0.00	$82.88	$82.88
Air Compressor + tools			$9.30	$34.00	$43.30
Totals			$9.30	$234.16	$243.46

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2020
File Name: Att 2_Cost 20200820_SRCE_Version_1_4_1_017b_NV_20 Year Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 2.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

EQUIPMENT FLEETS

ACTIVITY AND FLEET		Standard Crew Size	EQUIPMENT UNIT COST (Hourly)	TOTAL LABOR UNIT COST (Hourly)	TOTAL COST (Hourly)
B-10Y - General Compaction					
General Laborer		1	$0.00	$29.32	$29.32
CS533E Vibratory Roller		1	$55.06	$34.41	$89.47
Totals			$55.06	$63.73	$118.79
B-11L - Fine Grading for Evaporation Pond Liner Base					
General Laborer		1	$0.00	$29.32	$29.32
14G/H		1	$186.72	$37.12	$223.84
Totals			$186.72	$66.44	$253.16
B-11M - Backhoe Work					
420D 4WD Backhoe		1	$42.35	$34.41	$76.76
Totals			$42.35	$34.41	$76.76
B-12G - Rip-Rap Machine Placed (Modified)					
966G		1	$73.88	$34.41	$108.29
325C		1	$81.37	$37.12	$118.49
Light Truck - 1.5 Ton		1	$31.13	$0.00	$31.13
Totals			$186.38	$71.53	$257.91
B-13 - Grouted Rip-Rap & Gabion Baskets					
General Laborer		4	$0.00	$117.28	$117.28
Foreman		1	$0.00	$82.88	$82.88
20 Ton Crane		1	$98.00	$33.30	$131.30
Totals			$98.00	$233.46	$331.46
B-14 PVC Drain Pipe Installation					
Foreman		1	$0.00	$82.88	$82.88
General Laborer		4	$0.00	$117.28	$117.28
420D 4WD Backhoe		1	$42.35	$34.41	$76.76
Light Truck - 1.5 Ton		1	$31.13	$0.00	$31.13
Totals			$73.48	$234.57	$308.05
B-20 - Remove Pipelines					
Foreman		1	$0.00	$82.88	$82.88
Skilled Laborer		1	$0.00	$32.10	$32.10
General Laborer		1	$0.00	$29.32	$29.32
Light Truck - 1.5 Ton		1	$31.13	$0.00	$31.13
Totals			$31.13	$144.30	$175.43
B-22A - HDEP Installation - Pipe or Liner					
Skilled Laborer		1	$0.00	$32.10	$32.10
General Laborer		2	$0.00	$58.64	$58.64
D7R		1	$88.37	$34.41	$122.78
Light Truck - 1.5 Ton		1	$31.13	$0.00	$31.13
420D 4WD Backhoe		1	$42.35	$34.41	$76.76
Generator 5KW		1	$12.73	$0.00	$12.73
HDEP Welder (pipe or liner)		1	$48.27	$0.00	$48.27
Totals			$222.85	$159.56	$382.41
B-80A - Install Barbed Wire Fence					
General Laborer		3	$0.00	$87.96	$87.96
Light Truck - 1.5 Ton		1	$31.13	$0.00	$31.13
Totals			$31.13	$87.96	$119.09

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2020
File Name: Att 2_Cost 20200820_SRCE_Version_1_4_1_017b_NV_20 Year Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 2.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

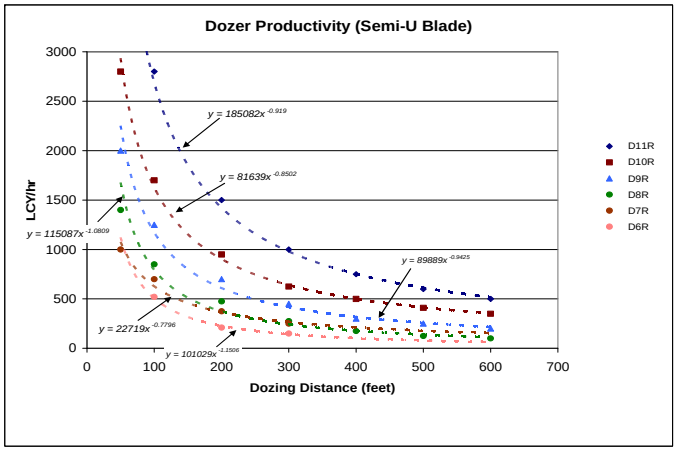
EQUIPMENT FLEETS

ACTIVITY AND FLEET		Standard Crew Size	EQUIPMENT UNIT COST (Hourly)	TOTAL LABOR UNIT COST (Hourly)	TOTAL COST (Hourly)
B-80C - Install Chain Link Fence (Flatbed truck has small crane)					
General Laborer		3	$0.00	$87.96	$87.96
Light Truck - 1.5 Ton		1	$31.13	$0.00	$31.13
Totals			$31.13	$87.96	$119.09
C-14B - Elevated Concrete Slabs (Reinforced Concrete Shaft Covers)					
Foreman		1	$0.00	$82.88	$82.88
Supervisor's Truck		1	$12.82	$0.00	$12.82
Carpenter		16	$0.00	$716.48	$716.48
General Laborer		2	$0.00	$58.64	$58.64
Rodmen (reinforcing concrete)		4	$0.00	$117.28	$117.28
Cement finisher		2	$0.00	$64.20	$64.20
Gas Engine Vibrator		1	$5.88	$17.23	$23.11
Concrete Pump		1	$114.80	$0.00	$114.80
Totals			$133.50	$1,056.71	$1,190.21
C-14D - Concrete Walls Formed in Place (Reinforced Concrete Adit Bulkheads)					
Foreman		1	$0.00	$82.88	$82.88
Supervisor's Truck		1	$12.82	$0.00	$12.82
Carpenter		18	$0.00	$806.04	$806.04
General Laborer		2	$0.00	$58.64	$58.64
Rodmen (reinforcing concrete)		2	$0.00	$58.64	$58.64
Cement finisher		1	$0.00	$32.10	$32.10
Gas Engine Vibrator		1	$5.88	$17.23	$23.11
Concrete Pump		1	$114.80	$0.00	$114.80
Totals			$133.50	$1,055.53	$1,189.03

Productivity - Bulldozers

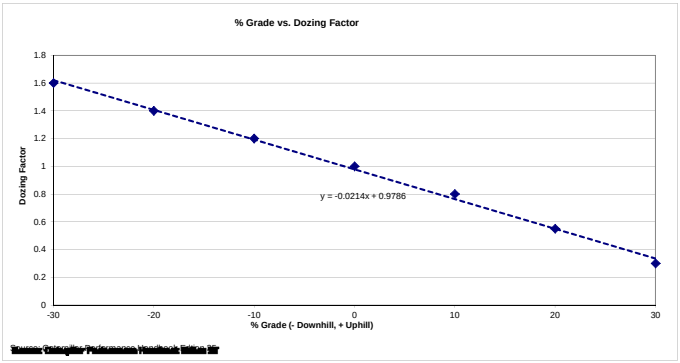
Dozer Specifications						
Description	**D11R**	**D10R**	**D9R**	**D8R**	**D7R**	**D6R**
Blade Width (SU) (ft)	18.33	15.92	14.17	12.92	12.08	10.67
Shank Guage (3 shanks) (ft)	9.83	8.67	7.67	7.08	6.5	6.5
Pocket Spacing (ft)	4.75	4.33	3.87	3.58	3.25	3.25
Ripping Width (Ripper + 1 Pocket) (ft)	14.58	13	11.54	10.66	9.75	9.75
Ripping Speed (mph)	1	1	1	1	1	1
Ripping Maneuver (turn) Time (min)	0.25	0.25	0.25	0.25	0.25	0.25
Altitude Deration Factor	1	1	1	1	1	1
Ripping Hourly Production (excluding maneuvering time) (ft)	5,280	5,280	5,280	5,280	5,280	5,280
Source: Caterpillar Performance Handbook Edition 35						

Dozer Productivity vs. Grading Distance						
	Production (LCY/hr)					
Average Dozing Distance (feet)	**D11R**	**D10R**	**D9R**	**D8R**	**D7R**	**D6R**
50	4,800	2,800	2,000	1,400	1,000	
100	2,800	1,700	1,250	850	700	520
200	1,500	950	700	475	375	210
300	1,000	625	450	275	250	150
400	750	500	300	175		
500	600	410	250	125		
600	500	350	200	100		
Source: Caterpillar Performance Handbook Edition 35						
dozer productivity = k x Dozing Distance^{p} (see graph)						
k =	185082	81639	89889	115087	22719	101029
p =	-0.919	-0.8502	-0.9425	-1.0809	-0.7796	-1.1506



Productivity - Bulldozers (cont.)

% Grade vs. Dozing Factor	
% Grade	**Dozing Factor**
-30	1.6
-20	1.4
-10	1.2
0	1
10	0.8
20	0.55
30	0.3
Source: Caterpillar Performance Handbook Edition 35	
% Grade Dozing Factor = -0.0214x + 0.9786 (see graph)	



Source: Caterpillar Performance Handbook Edition 35

Job Condition Correction Factors - Bulldozers	
OPERATOR	
Average	0.75
MATERIAL (1)	
Loose stockpile	1.2
Normal	1
Hard to cut; frozen — with tilt cylinder	0.8
Hard to drift; "dead" (dry,non-cohesive material) or very sticky material	0.8
Rock, ripped or blasted	0.6
SLOT DOZING OR SIDE BY SIDE (1)	1.2
VISIBILITY	
Good conditions	1
JOB EFFICIENCY	
50 min/hr	0.83
(1) Selected in facility worksheets. Other factors included as standard factors.	
Source: Caterpillar Performance Handbook Edition 35	

Material Densities(1)		
Material	**lb/cy**	**kg/m^3**
Alluvium	2,900	1,720
Basalt	3,300	1,960
Clay - Dry	2,500	1,480
Granite - broken	2,800	1,660
Gravel	2,550	1,510
LS - broken	2,600	1,540
LS - crushed	2,600	1,540
Sandstone	2,550	1,510
Shale	2,100	1,250
Stone - crushed	2,700	1,600
Tailings - Coarse (dry, loose sand)	2,400	1,420
Tailings - Slimes (loose sand & clay)	2,700	1,600
Topsoil	1,600	950
(1) Source: Caterpillar Performance Handbook Edition 35		

Note: uses Sand & Gravel - Dry from Caterpillar Handbook

Productivity - Scrapers

Scraper Specifications		
Description	**631G**	**637G**
Empty Weight	100,600	112,760
Payload Capacity (cy)		
Struck	24	24
Heaped	34	34
Average	29	29
Loaded by	One D10R	Self*
Load Time (min)	1	1
Maneuver and Spread (min)	1	1
Job Efficiency	1	1
Rolling Resistance**	3	3
Altitude Deration Factor	1	1

* Requires pair

**A firm, smooth, rolling roadway with dirt or light surfacing, flexing slightly under load or undulating, maintained fairly regularly, watered

Source: Caterpillar Performance Handbook Edition 35

Weight of Materials			Downhill Scraper Speed - Grade Retarding vs. Effective Grade (Grade - Rolling Resistance)											
			631G						637G PP					
Material	**lb/cy**	**Scraper Load lb**	**Loaded Weight (lbs)**	**22**	**16**	**10**	**5**	**1**	**Loaded Weight (lbs)**	**25**	**15**	**10**	**5**	**1**
Alluvium	2,900	84,100	184,700	7.5	10	13	33	33	196,860	7	10	18.5	34	34
Basalt	3,300	95,700	196,300	7.5	10	13	24.5	33	208,460	7	10	18.5	25	34
Clay - Dry	2,500	72,500	173,100	7.5	10	13	33	33	185,260	7	10	18.5	34	34
Granite - broken	2,800	81,200	181,800	7.5	10	13	33	33	193,960	7	10	18.5	34	34
Gravel	2,550	73,950	174,550	7.5	10	13	33	33	186,710	7	10	18.5	34	34
LS - broken	2,600	75,400	176,000	7.5	10	13	33	33	188,160	7	10	18.5	34	34
LS - crushed	2,600	75,400	176,000	7.5	10	13	33	33	188,160	7	10	18.5	34	34
Sandstone	2,550	73,950	174,550	7.5	10	13	33	33	186,710	7	10	18.5	34	34
Shale	2,100	60,900	161,500	7.5	10	18	33	33	173,660	10	13.5	18.5	34	34
Stone - crushed	2,700	78,300	178,900	7.5	10	13	33	33	191,060	7	10	18.5	34	34
Tailings - Coarse (dry, loose sand)	2,400	69,600	170,200	7.5	10	13	33	33	182,360	7	10	18.5	34	34
Tailings - Slimes (loose sand & clay)	2,700	78,300	178,900	7.5	10	13	33	33	191,060	7	10	18.5	34	34
Topsoil	1,600	46,400	147,000	7.5	10	18	33	33	159,160	10	13.5	18.5	34	34
			Empty	10	18	24.5	33	33	Empty	10	13.5	18.5	34	34

Source: Caterpillar Performance Handbook Edition 34

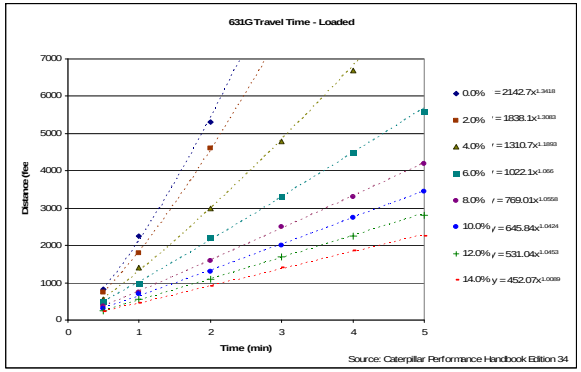
Productivity - Scrapers (cont.)

631G Scraper Travel Time - Uphill Loaded

Total Resistance (%) (rolling + grade)	Time (min)						k	p
	0.5	1	2	3	4	5		
0	825	2,250	5,300				2142.7	1.3418
2	750	1,800	4,600				1838.1	1.3083
4	550	1,400	3,000	4,800	6,700		1310.7	1.1893
6	490	1,000	2,200	3,300	4,500	5,600	1022.1	1.066
8	375	750	1,600	2,500	3,300	4,200	769.01	1.0558
10	300	700	1,300	2,000	2,750	3,450	645.84	1.0424
12	250	550	1,100	1,700	2,250	2,800	531.04	1.0453
14	225	450	900	1,400	1,850	2,250	452.07	1.0089

Travel Time (min) = $\sqrt[p]{\frac{\text{distance}}{k}}$

Source: Caterpillar Performance Handbook Edition 35

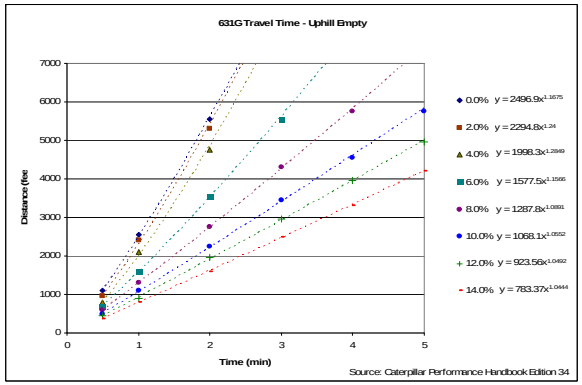


631G Scraper Travel Time - Uphill Empty

Total Resistance (%) (rolling + grade)	Time (min)						k	p
	0.5	1	2	3	4	5		
0	1,100	2,550	5,550				2496.9	1.1675
2	950	2,400	5,300				2294.8	1.24
4	800	2,100	4,750				1998.3	1.2849
6	700	1,600	3,550	5,550			1557.5	1.1566
8	600	1,300	2,750	4,300	5,750		1287.8	1.0891
10	500	1,100	2,250	3,450	4,550	5,750	1068.1	1.0552
12	450	900	1,950	2,950	3,950	4,950	923.56	1.0492
14	375	800	1,600	2,500	3,300	4,200	783.37	1.0444

Travel Time (min) = $\sqrt[p]{\frac{\text{distance}}{k}}$

Source: Caterpillar Performance Handbook Edition 35



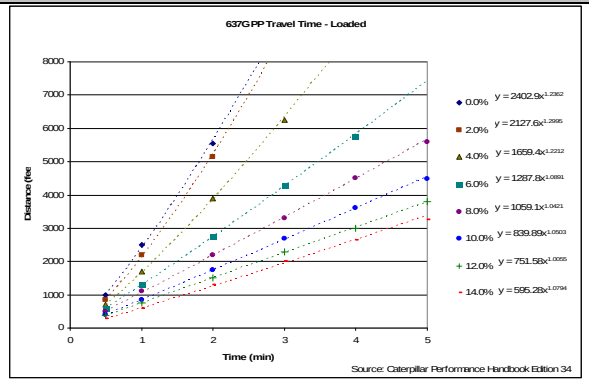
Productivity - Scrapers (cont.)

637G Push-Pull Scraper Travel Time - Uphill Loaded

Total Resistance (%) (rolling + grade)	Time (min) 0.5	1	2	3	4	5	k	p
0	1,000	2,500	5,550				2402.9	1.2362
2	850	2,200	5,150				2127.6	1.2995
4	700	1,700	3,900	6,250			1659.4	1.2212
6	600	1,300	2,750	4,300	5,750		1287.8	1.0891
8	500	1,100	2,200	3,300	4,500	5,600	1059.1	1.0421
10	400	850	1,750	2,700	3,600	4,475	839.89	1.0503
12	375	750	1,500	2,300	3,000	3,800	751.58	1.0055
14	275	600	1,300	2,000	2,650	3,250	595.28	1.0794

Travel Time (min) = $\sqrt[p]{\frac{\text{distance}}{k}}$

Source: Caterpillar Performance Handbook Edition 35



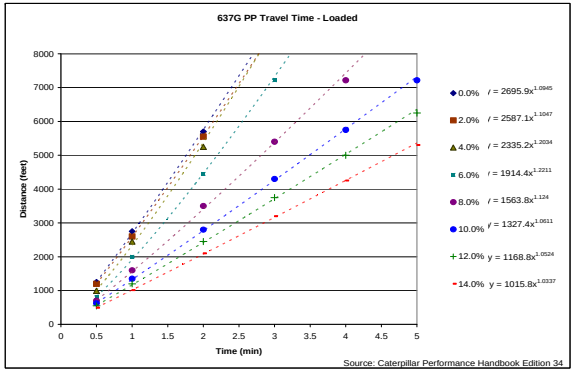
Source: Caterpillar Performance Handbook Edition 34

637G Push-Pull Scraper Travel Time - Uphill Empty

Total Resistance (%) (rolling + grade)	Time (min) 0.5	1	2	3	4	5	k	p
0	1,250	2,750	5,700				2695.9	1.0945
2	1,200	2,600	5,550				2587.1	1.1047
4	990	2,450	5,250				2335.2	1.0234
6	800	2,000	4,450	7,216			1914.4	1.2211
8	700	1,600	3,500	5,400	7,216		1563.8	1.124
10	625	1,350	2,800	4,300	5,750	7,216	1327.4	1.0611
12	550	1,200	2,450	3,750	5,000	6,250	1168.8	1.0524
14	495	1,010	2,100	3,200	4,250	5,300	1015.8	1.0337

Travel Time (min) = $\sqrt[p]{\frac{\text{distance}}{k}}$

Source: Caterpillar Performance Handbook Edition 35



Source: Caterpillar Performance Handbook Edition 34

Productivity - Haul Trucks

Haul Truck Specifications

Description	769D	773E	777D	785C	793C	797B
Chassis Weight (lb)	53,506	70,330	113,160	170,000	259,500	473,600
Body Weight (lb)	17,350	20,300	34,785	36,788	70,785	104,200
Standard Liner Weight (lb)	7,000	8,600	12,040	16,846	24,418	8,800
Total Truck Weight (lb)	77,856	99,230	159,985	223,634	354,703	586,600
Payload Capacity (cy)						
Struck	21.6	34.8	55	78.5	126	228
Heaped	31.7	46	78.6	102	169	290
Average	26.65	40.4	66.8	90.25	147.5	259
Maneuver to Load Time (min)	0.7	0.7	0.7	0.7	0.7	0.7
Maneuver and Dump Time (min)	1.1	1.1	1.1	1.1	1.1	1.1
Job Efficiency	0.83	0.83	0.83	0.83	0.83	0.83
Rolling Resistance**	2.5	2.5	2.5	2.5	2.5	2.5
Altitude Deration Factor	1	1	1	1	1	1

**A firm, smooth, rolling roadway with dirt or light surfacing, flexing slightly under load or undulating, maintained fairly regularly, watered

Source: Caterpillar Performance Handbook Edition 35

Weight of Materials

Downhill Haul Truck Speed - Grade Retarding vs. Effective Grade (Grade - Rolling Resistance)

Material	lb/cy	Truck (769D) Load lb	Truck (773E) Load lb	Truck (777D) Load lb	769D Loaded Weight (lbs)	20	15	10	5	773E Loaded Weight (lbs)	20	15	10	5	777D Loaded Weight (lbs)	20	15	10	5
Alluvium	2,900	77,285	117,160	193,720	155,141	11	11	15	26	216,390	7	7	13	23	353,705	7	9	12	29
Basalt	3,300	87,945	133,320	220,440	165,801	11	11	11	20	232,550	7	7	13	23	380,425	7	7	12	21
Clay - Dry	2,500	66,625	101,000	167,000	144,481	11	11	15	26	200,230	7	9	13	23	326,985	7	9	16	29
Granite - broken	2,800	74,620	113,120	187,040	152,476	11	11	15	26	212,350	7	7	13	23	347,025	7	9	12	29
Gravel	2,550	67,958	103,020	170,340	145,814	11	11	15	26	202,250	7	9	13	23	330,325	7	9	16	29
LS - broken	2,600	69,290	105,040	173,680	147,146	11	11	15	26	204,270	7	9	13	23	333,665	7	9	12	29
LS - crushed	2,600	69,290	105,040	173,680	147,146	11	11	15	26	204,270	7	9	13	23	333,665	7	9	12	29
Sandstone	2,550	67,958	103,020	170,340	145,814	11	11	15	26	202,250	7	9	13	23	330,325	7	9	16	29
Shale	2,100	55,965	84,840	140,280	133,821	11	11	15	26	184,070	7	9	13	31	300,265	7	9	16	29
Stone - crushed	2,700	71,955	109,080	180,360	149,811	11	11	15	26	208,310	7	7	13	23	340,345	7	9	12	29
Tailings - Coarse (dry, loose sand)	2,400	63,960	96,960	160,320	141,816	11	11	15	26	196,190	7	9	13	23	320,305	7	9	16	29
Tailings - Slimes (loose sand & clay)	2,700	71,955	109,080	180,360	149,811	11	11	15	26	208,310	7	7	13	23	340,345	7	9	12	29
Topsoil	1,600	42,640	64,640	106,880	120,496	11	11	15	26	163,870	7	9	17	31	266,865	9	12	16	29
					Empty	15	15	26	36	Empty	13	17	23	42	Empty	16	16	29	39

Source: Caterpillar Performance Handbook Edition 35

Weight of Materials

Downhill Haul Truck Speed - Grade Retarding vs. Effective Grade (Grade - Rolling Resistance)

Material	lb/cy	Truck (785C) Load lb	Truck (793C) Load lb	Truck (797B) Load lb	785C Loaded Weight (lbs)	20	15	10	5	793C Loaded Weight (lbs)	20	15	10	5	797B Loaded Weight (lbs)	20	15	10	5
Alluvium	2,900	261,725	427,750	751,100	485,359	8	8	14	27	782,453	7	7	10	17	1,337,700	7	7	9	17
Basalt	3,300	297,825	486,750	854,700	521,459	8	8	14	27	841,453	7	7	10	17	1,441,300	7	7	9	17
Clay - Dry	2,500	225,625	368,750	647,500	449,259	8	11	14	36	723,453	7	7	10	25	1,234,100	7	7	9	23
Granite - broken	2,800	252,700	413,000	725,200	476,334	8	8	14	27	767,703	7	7	10	17	1,311,800	7	7	9	17
Gravel	2,550	230,138	376,125	660,450	453,772	8	8	14	36	730,828	7	7	10	25	1,247,050	7	7	9	23
LS - broken	2,600	234,650	383,500	673,400	458,284	8	8	14	27	738,203	7	7	10	25	1,260,000	7	7	9	23
LS - crushed	2,600	234,650	383,500	673,400	458,284	8	8	14	27	738,203	7	7	10	25	1,260,000	7	7	9	23
Sandstone	2,550	230,138	376,125	660,450	453,772	8	8	14	36	730,828	7	7	10	25	1,247,050	7	7	9	23
Shale	2,100	189,525	309,750	543,900	413,159	8	11	14	36	664,453	7	7	10	25	1,130,500	7	7	13	23
Stone - crushed	2,700	243,675	398,250	699,300	467,309	8	8	14	27	752,953	7	7	10	17	1,285,900	7	7	9	23
Tailings - Coarse (dry, loose sand)	2,400	216,600	354,000	621,600	440,234	8	11	14	36	708,703	7	7	10	25	1,208,200	7	7	9	23
Tailings - Slimes (loose sand & clay)	2,700	243,675	398,250	699,300	467,309	8	8	14	27	752,953	7	7	10	17	1,285,900	7	7	9	23
Topsoil	1,600	144,400	236,000	414,400	368,034	8	11	19	36	590,703	7	10	13	25	1,001,000	7	9	13	23
					Empty	14	19	36	36	Empty	10	13	17	33	Empty	13	17	23	42

Source: Caterpillar Performance Handbook Edition 35

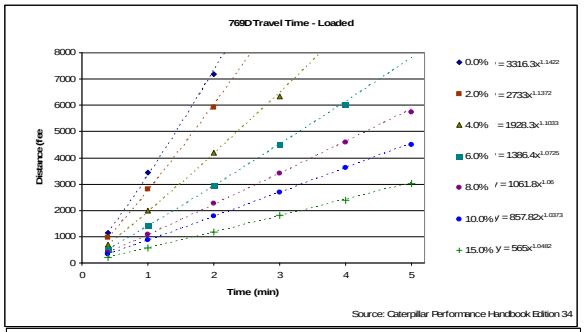
Productivity - Haul Trucks (cont.)

769D Haul Truck Travel Time - Uphill Loaded

Total Resistance (%) (rolling + grade)	Time (min) 0.4	1	2	3	4	5	k	p
0	1,148	3,428	7,183				3316.3	1.1422
4	689	1,984	4,198	6,330			1928.3	1.1033
6	508	1,427	2,952	4,510	6,002		1386.4	1.0725
8	394	1,082	2,263	3,411	4,592	5,740	1061.8	1.06
10	328	869	1,771	2,690	3,608	4,510	857.82	1.0373
15	213	574	1,181	1,804	2,394	3,018	565	1.0482

Travel Time (min) = $\sqrt[p]{\frac{\text{distance}}{k}}$

Source: Caterpillar Performance Handbook Edition 35



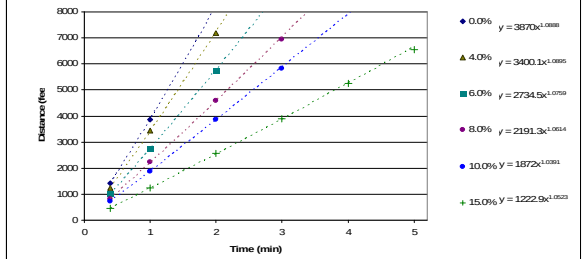
Source: Caterpillar Performance Handbook Edition 34

769D Haul Truck Travel Time - Uphill Empty

Total Resistance (%) (rolling + grade)	Time (min) 0.4	1	2	3	4	5	k	p
0	1,427	3,870					3870	1.0888
4	1,246	3,444	7,183				3400.1	1.0895
6	1,017	2,755	5,740				2734.5	1.0759
8	820	2,230	4,592	6,954			2191.3	1.0614
10	722	1,870	3,870	5,838			1872	1.0391
15	459	1,246	2,558	3,903	5,248	6,560	1222.9	1.0523

Travel Time (min) = $\sqrt[p]{\frac{\text{distance}}{k}}$

Source: Caterpillar Performance Handbook Edition 35



Source: Caterpillar Performance Handbook Edition 34

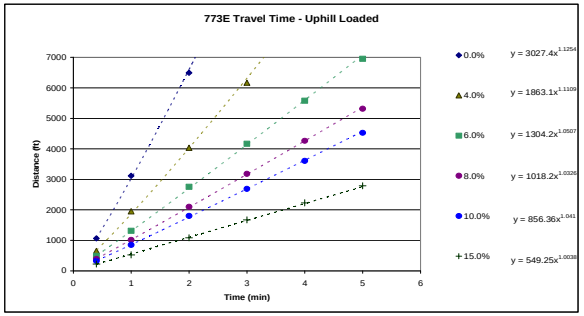
Productivity - Haul Trucks (cont.)

773E Haul Truck Travel Time - Uphill Loaded

Total Resistance (%) (rolling + grade)	Time (min) 0.4	1	2	3	4	5	k	p
0	1,066	3,117	6,496				3027.4	1.1254
4	656	1,952	4,035	6,168			1863.1	1.1109
6	492	1,312	2,756	4,167	5,577	6,955	1304.2	1.0507
8	394	1,017	2,100	3,182	4,265	5,315	1018.2	1.0326
10	328	853	1,804	2,690	3,609	4,528	856.36	1.041
15	226	525	1,083	1,673	2,231	2,789	549.25	1.0038

Travel Time (min) = $\sqrt[p]{\frac{distance}{k}}$

Source: Caterpillar Performance Handbook Edition 35

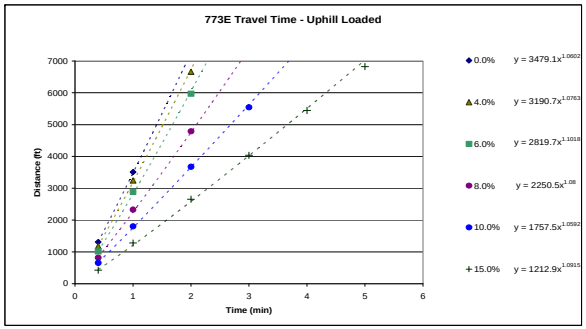


773E Haul Truck Travel Time - Uphill Empty

Total Resistance (%) (rolling + grade)	Time (min) 0.4	1	2	3	4	5	k	p
0	1,312	3,510	7,218				3479.1	1.0602
4	1,181	3,248	6,660				3190.7	1.0763
6	1,017	2,887	5,971				2819.7	1.1018
8	820	2,329	4,790	7,218			2250.5	1.08
10	656	1,804	3,675	5,545			1757.5	1.0592
15	427	1,280	2,657	4,035	5,446	6,824	1212.9	1.0915

Travel Time (min) = $\sqrt[p]{\frac{distance}{k}}$

Source: Caterpillar Performance Handbook Edition 35



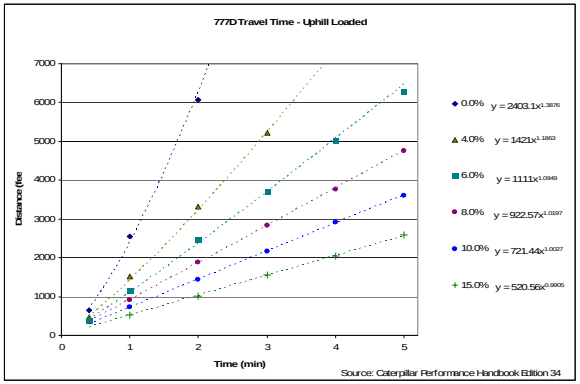
Productivity - Haul Trucks (cont.)

777D Haul Truck Travel Time - Uphill Loaded

Total Resistance (%) (rolling + grade)	Time (min) 0.4	1	2	3	4	5	k	p
0	656	2,558	6,068				2403.1	1.3876
4	459	1,509	3,313	5,215	7,085		1412	1.1863
6	394	1,148	2,460	3,706	5,018	6,298	1111	1.0949
8		918	1,886	2,837	3,772	4,756	922.57	1.0197
10		722	1,443	2,165	2,919	3,608	721.44	1.0027
15		525	1,017	1,558	2,034	2,591	520.56	0.9905

Travel Time (min) = $\sqrt[p]{\frac{distance}{k}}$

Source: Caterpillar Performance Handbook Edition 35

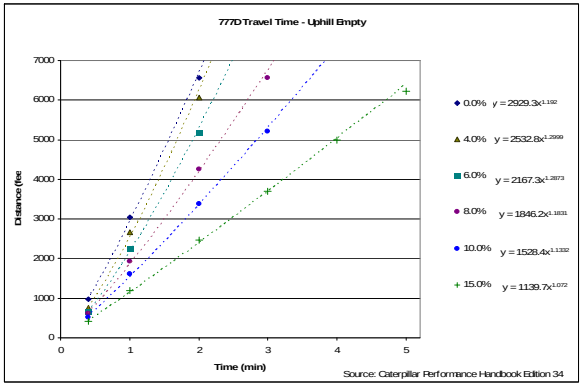


777D Haul Truck Travel Time - Uphill Empty

Total Resistance (%) (rolling + grade)	Time (min) 0.4	1	2	3	4	5	k	p
0	968	3,034	6,560				2929.3	1.192
4	754	2,657	6,068				2532.8	1.2999
6	656	2,247	5,182				2167.3	1.2873
8	607	1,935	4,248	6,560			1846.2	1.1831
10	525	1,607	3,378	5,215	7,282		1528.4	1.1332
15	410	1,197	2,460	3,706	4,986	6,232	1139.7	1.072

Travel Time (min) = $\sqrt[p]{\frac{distance}{k}}$

Source: Caterpillar Performance Handbook Edition 35



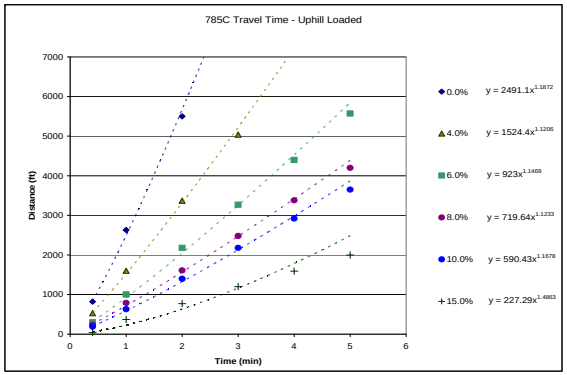
Productivity - Haul Trucks (cont.)

785C Haul Truck Travel Time - Uphill Loaded

Total Resistance (%) (rolling + grade)	Time (min) 0.4	1	2	3	4	5	k	p
0	820	2,630	5,500				2491.1	1.1872
4	530	1,600	3,370	5,040			1524.4	1.1206
6	300	1,000	2,180	3,270	4,400	5,570	923	1.1469
8	240	790	1,610	2,480	3,380	4,200	719.64	1.1233
10	190	630	1,400	2,180	2,920	3,650	590.43	1.1678
15	40	370	770	1,200	1,590	2,000	227.29	1.4863

Travel Time (min) = $\sqrt[p]{\frac{distance}{k}}$

Source: Caterpillar Performance Handbook Edition 35

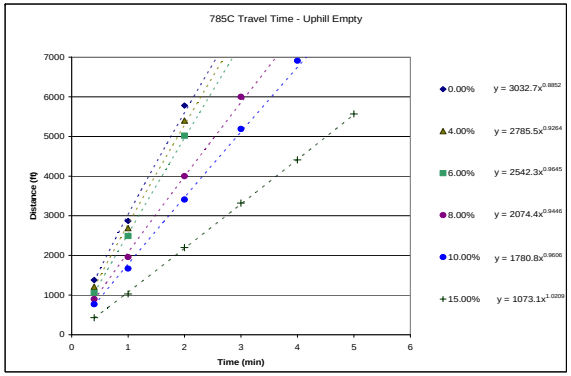


785C Haul Truck Travel Time - Uphill Empty

Total Resistance (%) (rolling + grade)	Time (min) 0.4	1	2	3	4	5	k	p
0	1,380	2,870	5,780				3032.7	0.8852
4	1,210	2,690	5,400				2785.5	0.9264
6	1,060	2,490	5,020				2542.3	0.9645
8	900	1,960	4,000	6,000			2074.4	0.9446
10	770	1,670	3,410	5,190	6,910		1780.8	0.9606
15	430	1,030	2,200	3,320	4,410	5,570	1073.1	1.0209

Travel Time (min) = $\sqrt[p]{\frac{distance}{k}}$

Source: Caterpillar Performance Handbook Edition 35



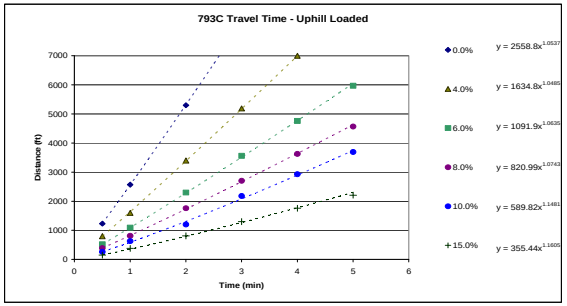
Productivity - Haul Trucks (cont.)

793C Haul Truck Travel Time - Uphill Loaded

Total Resistance (%) (rolling + grade)	Time (min) 0.5	1	2	3	4	5	k	p
0	1,230	2,570	5,300				2558.8	1.0537
4	800	1,600	3,400	5,190	7,000		1634.8	1.0485
6	520	1,090	2,300	3,560	4,760	5,970	1091.9	1.0635
8	390	810	1,760	2,700	3,630	4,570	820.99	1.0743
10	260	630	1,200	2,180	2,930	3,690	589.82	1.1481
15	150	380	810	1,300	1,760	2,210	355.44	1.1605

Travel Time (min) = $\sqrt[p]{\frac{\text{distance}}{k}}$

Source: Caterpillar Performance Handbook Edition 35

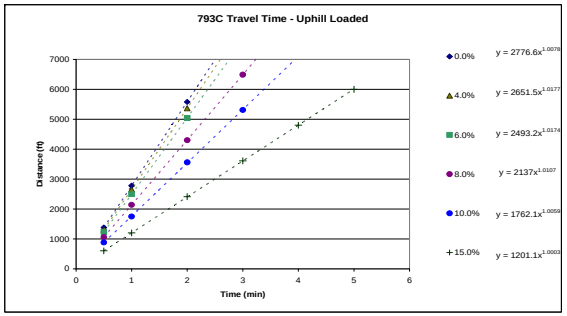


793C Haul Truck Travel Time - Uphill Empty

Total Resistance (%) (rolling + grade)	Time (min) 0.5	1	2	3	4	5	k	p
0	1,380	2,780	5,580				2776.6	1.0078
4	1,310	2,650	5,370				2651.5	1.0177
6	1,230	2,500	5,040				2493.2	1.0174
8	1,060	2,140	4,300	6,490			2137	1.0107
10	880	1,750	3,560	5,310			1762.1	1.0059
15	600	1,200	2,410	3,610	4,800	6,000	1201.1	1.0003

Travel Time (min) = $\sqrt[p]{\frac{\text{distance}}{k}}$

Source: Caterpillar Performance Handbook Edition 35

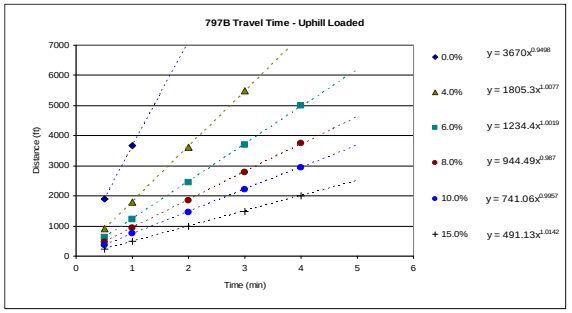


Productivity - Haul Trucks (cont.)

797B Haul Truck Travel Time - Uphill Loaded								
Total Resistance (%) (rolling + grade)	Time (min)						k	p
	0.5	1	2	3	4	5		
0	1,900	3,670					3670	0.9498
4	900	1,800	3,620	5,480			1805.3	1.0077
6	620	1,230	2,450	3,700	5,000		1234.4	1.0019
8	480	940	1,850	2,790	3,750		944.49	0.987
10	370	750	1,460	2,220	2,950		741.06	0.9957
15	240	500	1,000	1,480	2,000		491.13	1.0142

Travel Time (min) = $\sqrt[p]{\frac{distance}{k}}$

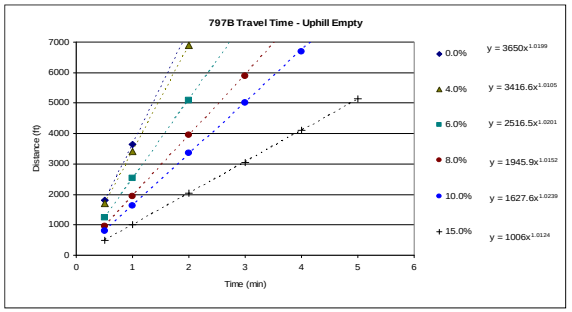
Source: Caterpillar Performance Handbook Edition 35



797B Haul Truck Travel Time - Uphill Empty								
Total Resistance (%) (rolling + grade)	Time (min)						k	p
	0.5	1	2	3	4	5		
0	1,800	3,650					3650	1.0199
4	1,700	3,400	6,900				3416.6	1.0105
6	1,240	2,520	5,100				2516.5	1.0201
8	960	1,950	3,960	5,900			1945.9	1.0152
10	800	1,620	3,350	5,000	6,700		1627.6	1.0239
15	500	1,000	2,040	3,050	4,100	5,130	1006	1.0124

Travel Time (min) = $\sqrt[p]{\frac{distance}{k}}$

Source: Caterpillar Performance Handbook Edition 35



Productivity - Articulated Trucks

Articulated Truck Specifications				
Description	**725**	**730**	**735**	**740**
Chassis Weight (lb)				
Body Weight (lb)				
Standard Liner Weight (lb)				
Operating Weight (Empty) (lb)	50,120	51,220	65,830	72,070
Payload Capacity (cy)				
Struck	14.5	17.1	19.3	23.3
Heaped	18.8	22.1	31.8	30.2
Average	16.65	19.6	25.55	26.75
Maneuver to Load Time (min)	0.7	0.7	0.7	0.7
Maneuver and Dump Time (min)	1.1	1.1	1.1	1.1
Job Efficiency	0.83	0.83	0.83	0.83
Rolling Resistance**	2.5	2.5	2.5	2.5
Altitude Deration Factor	1	1	1	1

**A firm, smooth, rolling roadway with dirt or light surfacing, flexing slightly under load or undulating, maintained fairly regularly, watered

Source: Caterpillar Performance Handbook Edition 35

Weight of Materials				Downhill Haul Truck Speed - Grade Retarding vs. Effective Grade (Grade - Rolling Resistance)									
				725					730				
Material	**lb/cy**	**Truck (725) Load lb**	**Truck (730) Load lb**	**Loaded Weight (lbs)**	**20**	**15**	**10**	**5**	**Loaded Weight (lbs)**	**20**	**15**	**10**	**5**
Alluvium	2,900	48,285	56,840	98,405	9	9	13	30	108,060	5	8	13	29
Basalt	3,300	54,945	64,680	105,065	5	9	13	22	115,900	5	8	13	29
Clay - Dry	2,500	41,625	49,000	91,745	9	13	13	30	100,220	8	8	13	29
Granite - broken	2,800	46,620	54,880	96,740	9	13	13	30	106,100	5	8	13	29
Gravel	2,550	42,458	49,980	92,578	9	13	13	30	101,200	8	8	13	29
LS - broken	2,600	43,290	50,960	93,410	9	13	13	30	102,180	8	8	13	29
LS - crushed	2,600	43,290	50,960	93,410	9	13	13	30	102,180	8	8	13	29
Sandstone	2,550	42,458	49,980	92,578	9	13	13	30	101,200	8	8	13	29
Shale	2,100	34,965	41,160	85,085	9	13	22	30	92,380	8	13	13	29
Stone - crushed	2,700	44,955	52,920	95,075	9	13	13	30	104,140	8	8	13	29
Tailings - Coarse (dry, loose sand)	2,400	39,960	47,040	90,080	9	13	13	30	98,260	8	8	13	29
Tailings - Slimes (loose sand & clay)	2,700	44,955	52,920	95,075	9	13	13	30	104,140	8	8	13	29
Topsoil	1,600	26,640	31,360	76,760	9	13	22	30	82,580	8	13	22	35
				Empty	13	13	22	30	Empty	13	13	22	35

Source: Caterpillar Performance Handbook Edition 35

Weight of Materials				Downhill Haul Truck Speed - Grade Retarding vs. Effective Grade (Grade - Rolling Resistance)									
				735					740				
Material	**lb/cy**	**Truck (735) Load lb**	**Truck (740) Load lb**	**Loaded Weight (lbs)**	**20**	**15**	**10**	**5**	**Loaded Weight (lbs)**	**20**	**15**	**10**	**5**
Alluvium	2,900	74,095	77,575	139,925	7	9	13	27	149,645	7	9	17	23
Basalt	3,300	84,315	88,275	150,145	7	9	13	27	160,345	7	9	13	23
Clay - Dry	2,500	63,875	66,875	129,705	7	9	13	27	138,945	9	13	17	31
Granite - broken	2,800	71,540	74,900	137,370	7	9	13	27	146,970	7	9	17	23
Gravel	2,550	65,153	68,213	130,983	7	9	13	27	140,283	7	9	17	31
LS - broken	2,600	66,430	69,550	132,260	7	9	13	27	141,620	7	9	17	31
LS - crushed	2,600	66,430	69,550	132,260	7	9	13	27	141,620	7	9	17	31
Sandstone	2,550	65,153	68,213	130,983	7	9	13	27	140,283	7	9	17	31
Shale	2,100	53,655	56,175	119,485	9	9	18	27	128,245	7	13	17	31
Stone - crushed	2,700	68,985	72,225	134,815	7	9	13	27	144,295	7	9	17	23
Tailings - Coarse (dry, loose sand)	2,400	61,320	64,200	127,150	7	9	13	27	136,270	9	13	17	31
Tailings - Slimes (loose sand & clay)	2,700	68,985	72,225	134,815	7	9	13	27	144,295	7	9	17	23
Topsoil	1,600	40,880	42,800	106,710	9	13	18	36	114,870	9	13	17	31
				Empty	13	18	27	42	Empty	17	17	23	31

Source: Caterpillar Performance Handbook Edition 35

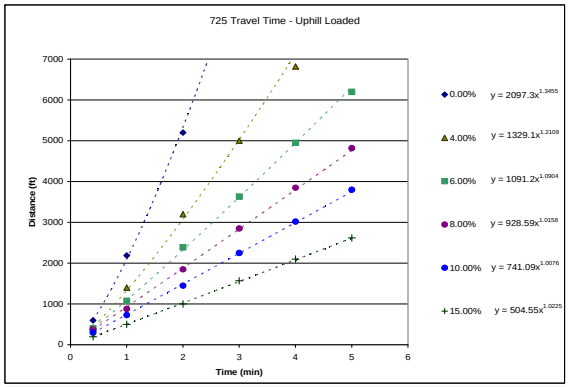
Productivity - Articulated Trucks (cont.)

725 Articulated Truck Travel Time - Uphill Loaded

Total Resistance (%) (rolling + grade)	Time (min) 0.5	1	2	3	4	5	k	p
0	600	2,190	5,200				2097.3	1.3455
4	420	1,400	3,200	5,000	6,820		1329.1	1.2109
6	400	1,080	2,390	3,630	4,950	6,200	1091.2	1.0904
8	380	880	1,850	2,850	3,850	4,820	928.59	1.0158
10	300	729	1,450	2,250	3,020	3,800	741.09	1.0076
15	200	500	1,000	1,570	2,100	2,620	504.55	1.0225

Travel Time (min) = $\sqrt[p]{\frac{distance}{k}}$

Source: Caterpillar Performance Handbook Edition 35

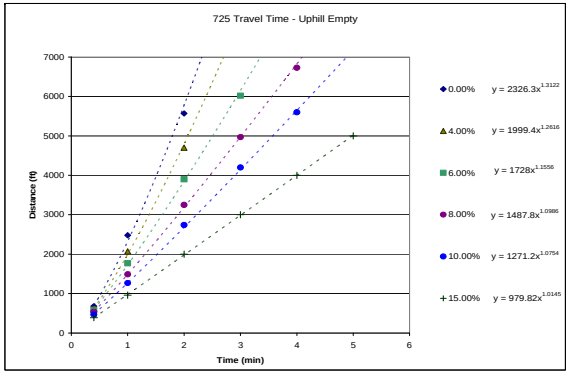


725 Haul Truck Travel Time - Uphill Empty

Total Resistance (%) (rolling + grade)	Time (min) 0.5	1	2	3	4	5	k	p
0	680	2,480	5,570				2326.3	1.3122
4	620	2,070	4,700				1999.4	1.2616
6	590	1,770	3,900	6,020			1728	1.1556
8	540	1,490	3,250	4,970	6,730		1487.8	1.0986
10	470	1,270	2,740	4,200	5,600	7,050	1271.2	1.0754
15	390	960	2,000	3,000	4,000	5,000	979.82	1.0145

Travel Time (min) = $\sqrt[p]{\frac{distance}{k}}$

Source: Caterpillar Performance Handbook Edition 35



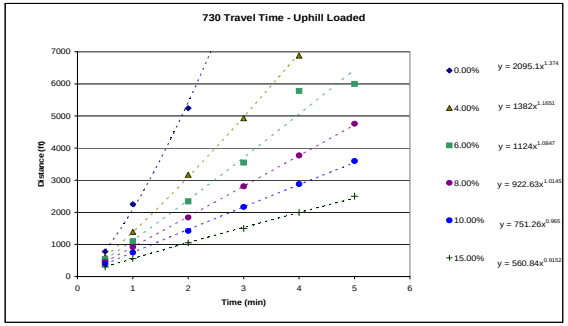
Productivity - Articulated Trucks (cont.)

730 Articulated Truck Travel Time - Uphill Loaded

Total Resistance (%) (rolling + grade)	Time (min) 0.5	1	2	3	4	5	k	p
0	780	2,250	5,240				2095	1.374
4	610	1,390	3,170	4,930	6,880		1382	1.1651
6	540	1,100	2,340	3,550	5,780	6,000	112	1.0847
8	460	920	1,840	2,810	3,770	4,760	922.63	1.0145
10	390	750	1,420	2,170	2,880	3,600	751.26	0.965
15	300	560	1,050	1,500	1,995	2,500	560.84	0.9152

Travel Time (min) = $\sqrt[p]{\frac{\text{distance}}{k}}$

Source: Caterpillar Performance Handbook Edition 35

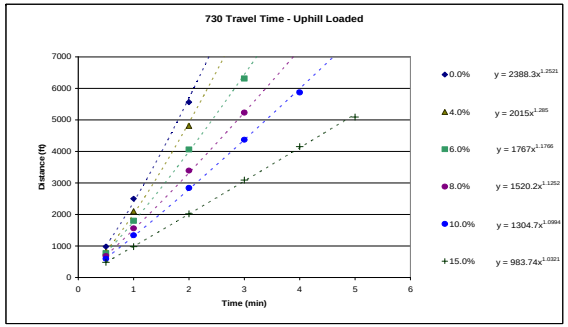


730 Haul Truck Travel Time - Uphill Empty

Total Resistance (%) (rolling + grade)	Time (min) 0.5	1	2	3	4	5	k	p
0	980	2,500	5,560				2388	1.25621
4	810	2,100	4,810				2015	1.285
6	770	1,800	4,060	6,310			1767	1.1766
8	680	1,560	3,390	5,230	7,070		1520.2	1.1252
10	595	1,340	2,840	4,370	5,870		1304.7	1.0994
15	480	980	2,020	3,090	4,150	5,090	983.74	1.0321

Travel Time (min) = $\sqrt[p]{\frac{\text{distance}}{k}}$

Source: Caterpillar Performance Handbook Edition 35



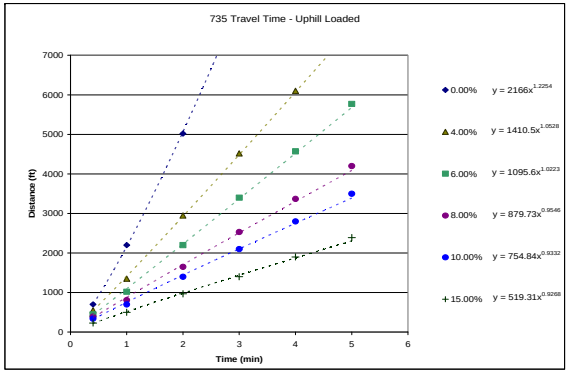
Productivity - Articulated Trucks (cont.)

735 Articulated Truck Travel Time - Uphill Loaded

Total Resistance (%) (rolling + grade)	Time (min) 0.5	1	2	3	4	5	k	p
0	700	2,200	5,020				2166	1.2254
4	550	1,350	2,950	4,520	6,100		1410.5	1.0528
6	450	1,020	2,200	3,400	4,570	5,770	1095.6	1.0223
8	390	810	1,650	2,530	3,370	4,200	879.73	0.9546
10	340	700	1,400	2,100	2,800	3,500	754.84	0.9332
15	230	500	970	1,400	1,900	2,390	519.31	0.9268

Travel Time (min) = $\sqrt[p]{\frac{distance}{k}}$

Source: Caterpillar Performance Handbook Edition 35

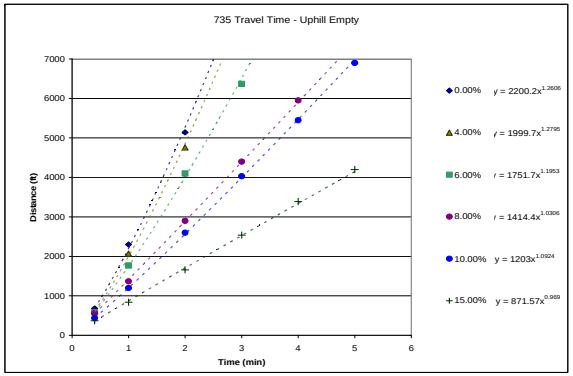


735 Haul Truck Travel Time - Uphill Empty

Total Resistance (%) (rolling + grade)	Time (min) 0.5	1	2	3	4	5	k	p
0	680	2,300	5,140				2200.2	1.2606
4	610	2,070	4,760				1999.7	1.2795
6	580	1,770	4,100	6,370			1751.7	1.1953
8	560	1,370	2,900	4,400	5,950		1414.4	1.0306
10	440	1,200	2,600	4,030	5,450	6,900	1203	1.0924
15	370	840	1,660	2,540	3,390	4,200	871.57	0.969

Travel Time (min) = $\sqrt[p]{\frac{distance}{k}}$

Source: Caterpillar Performance Handbook Edition 35



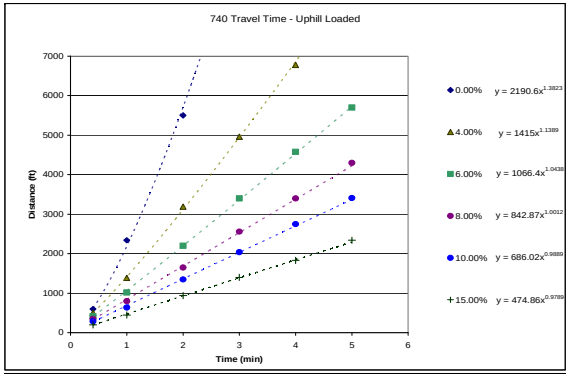
Productivity - Articulated Trucks (cont.)

740 Articulated Truck Travel Time - Uphill Loaded

Total Resistance (%) (rolling + grade)	Time (min) 0.5	1	2	3	4	5	k	p
0	600	2,340	5,500				2190.6	1.3823
4	500	1,390	3,190	4,960	6,780		1415	1.1389
6	420	1,020	2,200	3,400	4,580	5,700	1066.4	1.0438
8	350	800	1,650	2,560	3,400	4,300	842.87	1.0012
10	290	640	1,350	2,040	2,750	3,410	686.02	0.9889
15	200	450	940	1,400	1,830	2,340	474.86	0.9789

Travel Time (min) = $\sqrt[p]{\frac{\text{distance}}{k}}$

Source: Caterpillar Performance Handbook Edition 35

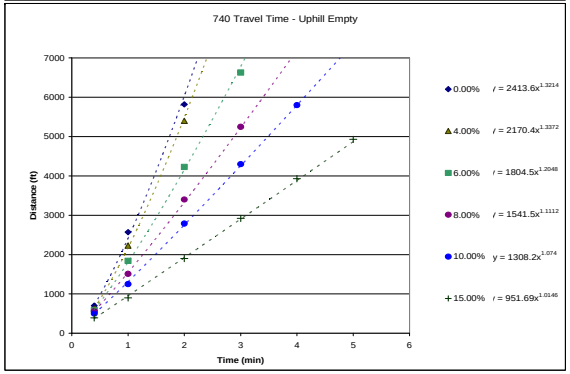


740 Haul Truck Travel Time - Uphill Empty

Total Resistance (%) (rolling + grade)	Time (min) 0.5	1	2	3	4	5	k	p
0	700	2,570	5,820				2413.6	1.3214
4	630	2,230	5,400				2170.4	1.3372
6	590	1,840	4,230	6,630			1804.5	1.2048
8	560	1,510	3,400	5,250	7,120		1541.5	1.1112
10	500	1,250	2,790	4,300	5,800		1308.2	1.074
15	390	900	1,900	2,920	3,930	4,930	951.69	1.0146

Travel Time (min) = $\sqrt[p]{\frac{\text{distance}}{k}}$

Source: Caterpillar Performance Handbook Edition 35



Productivity - Wheel Loaders

Wheel Loader Specifications

Description	924G	928G	950G	966G	972G	972G (2)	980G	988G	988G(2)	990	992G	992G(2)	994D	L2350
Payload Capacity (cy)														
Struck	2.2	2.5	3.46	4.46	4.71	4.71	6.34	6.9	6.9	9.5	13.2	13.2	18	
Heaped	2.7	3.25	4	5.25	5.5	5.5	7.25	8.33	8.33	11.25	16	16	22.5	
Average	2.45	2.875	3.73	4.855	5.105	5.105	6.795	7.615	7.615	10.375	14.6	14.6	20.25	53
Matched Truck	N/A	N/A	N/A	725	730	735	N/A	740	769D	773D	777D	785C	793C	797B
Average Cycle Time (min)	0.45	0.45	0.5	0.5	0.5	0.5	0.55	0.55	0.55	0.55	0.6	0.6	0.6	0.75
Passes to Fill Truck	N/A	N/A	N/A	3	4	5	N/A	4	3	4	5	6	7	5
Altitude Deration Factor	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Operator Efficiency	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Job Efficiency	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Time to Fill Truck	N/A	N/A	N/A	1.5	2	2.5	N/A	2.2	1.65	2.2	3	3.6	4.2	3.75
Rolling Resistance**	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5

Loader matched to small truck fleet
Loader matched to medium truck fleet
Loader matched to large truck fleet
Loader matched to extra large truck fleet

**A firm, smooth, rolling roadway with dirt or light surfacing, flexing slightly under load or undulating, maintained fairly regularly, watered
992G (2) - can be used to load 785 with 6 passes

Source: Caterpillar Performance Handbook Edition 35; LeTourneau/actual Chilean mine operating data for L2350.

Wheeled Loaders	General Purpose	Spade Nose-Rock
928G	3.25 cubic yard	not available
966G	5.0 cubic yard	not available
972G	5.5 cubic yard	not available
988G	not available	8.3 cubic yard
992G	not available	16.0 cubic yard

note: capacities are 2:1 heaped, SAE standards
NOTES: Buckets for both Track Excavators and Wheel Loaders are offered by CECo & available for the rental rates quoted. Bucket sizes and capacities obtained from CATERPILLAR PERFORMANCE HANDBOOK, ED 34; Section 12, Wheel Loader and Section 4, Excavators

Bucket capacity and width dictated by material weight and configuration, ie., shot, loose, tight bank, stockpile, rock, etc. Typical Nevada applications were used to determine above bucket capacities as related to materials & densities. Job site specifics may alter specific bucket requirements. (Cashman Equipment, Elko, Nevada - February 21, 2005)

Productivity - Shovels

Shovel Specifications (Komatsu equivalent)

Description	PC2000	PC3000	PC4000	PC5500	PC8000
Payload Capacity (cy)					
Struck	10.46	18.84	26.16	33.48	47.09
Heaped	14.39	25.9	35.97	46.04	64.75
Average	12.43	22.37	31.07	39.76	55.92
Matched Truck	740	777D	785C	793C	797B
Average Cycle Time (min)	0.49	0.49	0.59	0.59	0.69
Passes to Fill Truck	2.05	2.84	3.38	4.69	5.11
Altitude Deration Factor	1	1	0.9	1	1
Operator Efficiency	1	1	1	1	1
Job Efficiency	0.83	0.83	0.83	0.83	0.83
Time to Fill Truck	1.68	2.33	3.32	4.61	5.86
Rolling Resistance**	2.5	2.5	2.5	2.5	2.5

Shovel matched to small truck fleet
Shovel matched to medium truck fleet
Shovel matched to large truck fleet
Shovel matched to extra large truck fleet

**A firm, smooth, rolling roadway with dirt or light surfacing, flexing slightly under load or undulating, maintained fairly regularly, watered
992G (2) - can be used to load 785 with 6 passes
Source: Caterpillar Performance Handbook Edition 35; Komatsu actual Peruvian mine (Lagunas Norte) operating data for PC4000.

Productivity - Motor Graders

Motor Grader Specifications

Description	120H	14G/H	16G/H	24M
Grader Width (ft)	8	9.25	10.08	14.04
Blade Width (ft)	12	14	16	16
Ripper Width (7 shanks) (ft)	7.6	8.5	9.75	12.83
Road Maintence Speed (mph)				
Minimum	3	3	3	3
Maximum	9.5	9.5	9.5	9.5
Average	6.25	6.25	6.25	6.25
Hourly Production	33,000	33,000	33,000	33,000
Ripping Speed (mph)	1	1	1	1
Minimum	0	0	0	0
Maximum	3	3	3	3
Average	1.5	1.5	1.5	1.5
Altitude Deration Factor	1	1	1	1
Hourly Production (with job efficiency correction & altitude deration factors) (excluding manuever time)	6,574	6,574	6,574	6,574
Maneuver time per pass (min)	0.5	0.5	0.5	0.5
Operator Efficiency	1	1	1	1
Job Efficiency	0.83	0.83	0.83	0.83

Source: Caterpillar Performance Handbook Edition 35

Productivity - Excavators

Track Excavator Specifications

Description	312C	320C	325C	330C	345B	365BL	385BL
Bucket Capacity (cy)	0.68	1.57	2.22	2.22	3	4.6	7.3
Fill Factor	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Average Bucket Load (cy)	0.612	1.413	1.998	1.998	2.7	4.14	6.57
Soil Type	packed earth	hard clay	hard clay	hard clay	hard clay	hard clay	hard clay
Job Condition	med-hard	med-hard	med-hard	med-hard	med-hard	med-hard	med-hard
Cycle Times (minutes) - based on hard clay							
Load Bucket	0.07	0.09	0.09	0.09	0.13	0.1	0.19
Swing Loaded	0.06	0.06	0.06	0.07	0.07	0.09	0.06
Dump Bucket	0.03	0.03	0.04	0.04	0.02	0.04	0.03
Swing Empty	0.05	0.05	0.06	0.07	0.06	0.07	0.07
Total Cycle Time	0.21	0.23	0.25	0.27	0.28	0.3	0.35
Job Efficiency	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Operator Efficiency	1	1	1	1	1	1	1
Altitude Deration Factor	1	1	1	1	1	1	1
Corrected Productivity (LCY/hr)	145	306	398	369	480	687	935
Exploration Road Cycle Time [1] (min)	N/A	0.38	0.4	N/A	0.42	N/A	N/A
Exploration Road Corr Prod (LCY/hr)	N/A	185	249	N/A	320	N/A	N/A
Track Width (ft)	8.17	9.17	9.83	10.5	11.42	11.5	11.5
Ditch/Trench Excavation							
Bucket Capacity (cy)	0.42	0.58	0.88	0.89	2.09	3.27	2.75
Fill Factor	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Corrected Productivity (LCY/hr)	50	63	88	82	186	271	196

Source: Caterpillar Performance Handbook Edition 35

Track Excavators	Hvy Duty Rock	Extreme Service Exc (e.g. haulroad recontour)	Hvy Duty Trench
312C	30", 0.68 cubic yd	47", 0.94 cubic yd	22", .42 cubic yd
320C	30", 0.90 cubic yd	55.1", 1.57 cubic yd	23.6", .58 cubic yd
325C	36", 1.25 cubic yd	60", 2.22 cubic yd	30", .88 cubic yd
330C	36", 1.25 cubic yd	60", 2.22 cubic yd	30", .89 cubic yd
345B	43.2", 1.69 cubic yd	65", 3.0 cubic yd	48", 2.09 cubic yd
365BL	60", 3.25 cubic yd	82", 4.6 cubic yd	59", 3.27 cubic yd
385BL	85", 6.30 cubic yd.	96.0, 7.30 cubic yd	57", 2.75 cubic yd

Note: capacities are 2:1 heaped, SAE standards
NOTES: Buckets for both Track Excavators and Wheel Loaders are offered by CECo &

available for the rental rates quoted. Bucket sizes and capacities obtained from CATERPILLAR PERFORMANCE HANDBOOK, ED 34; Section 12, Wheel Loader and Section 4, Excavators
Bucket capacity and width dictated by material weight and configuration, ie., shot, loose, tight bank, stockpile, rock, etc. Typical Nevada applications were used to determine above bucket capacities as related to materials & densities. Job site specifics may alter specific bucket requirements (Cashman Equipment, Elko, Nevada - February 21, 2005)

(1) Exploration cycle time assumes feathering/smoothing performed by excavator

Concrete Breaking Production

Track Excavator w/Hammer Specifications

Description	325C	345B	385BL
Hydraulic Hammer	H120D s	H160D s	H180D s
Material	reinforced concrete		
Min Shift Production (yd3/8hr)	160	300	350
Max Shift Production (yd3/8hr)	300	850	1,550
Avg Shift Production (8hr)	230	575	950
Job Efficiency	0.83	0.83	0.83
Altitude Deration Factor	1	1	1

Source: Caterpillar Performance Handbook Edition 35

Drill Hole Plugging Productivity

Drill Hole Plugging Productivity

Description	Drill Rig	Pump Rig
Move-to-hole, set-up, tear-down [1,2]	2	2
Trip in tremmie pipe [1,2]	500	
Pulling casing (threaded, not cemented)	200	
Single-pass perforating (water wells)	Productivity(all p	Passes
4	60	4
6	60	4
8	50	4
12	45	6
18	40	9
24	28	12
Perforation setup,trip in/out,tear-down	2	
Perforation tool cost (wear cost)[3]	2.5	
Inert Material Placement (backfill)		
Grouting/Cement [4] (cy/hr)		5.33
Cuttings (see below) (cy/hr)		3.5

Sources:
1. Drillers daily logs from Newmont, Barrick, New West Gold, Agnico Eagle, Idaho General Mines Inc.
2. Drillers daily logs from Newmont, Barrick, Target Minerals
3. Drillers daily logs from Newmont
4. WDC Exploration, Dec 2005

Sournce: WDC Exploration, Dec 2005

Cuttings Placement Productivity

Shift productivity (Means 02210-700-0120; Crew B11M)	28	cy / shift
Shift length	8	hours
Estimated Hourly Productivity	3.5	cy / hour

Altitude Deration Table

MODEL	Elevation 0-760 m (0-2500') CAT	User	760-1500 m (2500-5000') CAT	User	1500-2300 m (5000-7000') CAT	User	2300-3000 m (7500-10,000') CAT	User	3000-3800 m (10,000-12,000') CAT	User	3800-4600 m (12,500-15,000') CAT	User
Bulldozers												
D6R	100		100		100		100		92		84	
D6R w/ Winch	100		100		100		100		92		84	
D7R	100		100		100		100		100		96	
D8R	100		100		100		93		85		77	
D9R	100		100		100		93		85		77	
D10R	100		100		100		100		97		89	
D11R	100		100		100		93		85		77	
Wheeled Dozers												
824G	100		100		100		100		92		84	
834G	100		100		100		100		92		84	
844	100		100		100		100		100		96	
854G	100		100		100		93		85		77	
Graders												
120H	100		100		100		100		96		93	
14G/H	100		100		100		100		98		96	
16G/H	100		100		100		100		98		96	
24M	100		100		100		100		98		96	
Excavators												
312C	100		100		100		83		78		73	
320C	100		100		90		87		83		76	
325C	100		100		100		100		100		100	
330C	100		100		100		100		100		100	
345B	100		100		100		100		93		93	
365BL	100		100		100		86		86		86	
385BL	100		100		100		93		85		78	
Scrapers												
631G	100		100		100		100		97		90	
637G	100		100		100		95		87		80	
Loaders												
924G	100		100		100		100		97		89	
928G	100		100		100		100		92		85	
950G	100		100		100		100		100		100	
966G	100		100		100		100		96		88	
972G	100		100		92		84		77		70	
980G	100		100		100		100		96		88	
988G	100		100		100		95		85		75	
990	100		100		100		100		92		85	
992G	100		100		100		100		93		87	
994D	100		100		100		100		96		88	
L2350	100		100		100		100		96		90	
Shovels												
PC2000	100		100		100		100		96		90	
PC3000	100		100		100		100		96		90	
PC4000	100		100		100		100		96		90	
PC5500	100		100		100		100		96		90	
PC8000	100		100		100		100		96		90	
Other Equipment												
420D 4WD Backhoe	99		97		95		91		91		91	
428D 4WD Backhoe	99		97		95		91		91		91	
CS533E Vibratory Roller	100		100		98		95		91		86	
CS633E Vibratory Roller	100		100		100		100		91		86	
CP533E Sheepsfoot Compactor	100		100		98		95		91		100	
CP633E Sheepsfoot Compactor	100		100		100		100		91		86	
Light Truck - 1.5 Ton												
Supervisor's Truck												
Flatbed Truck												
Air Compressor + tools												
Welding Equipment												
Heavy Duty Drill Rig												
Pump (plugging) Drill Rig												
Concrete Pump												
Gas Engine Vibrator												
Generator 5KW												
HDEP Welder (pipe or liner)												
5 Ton Crane												
20 Ton Crane												
50 Ton Crane												
120 Ton Crane												
Trucks												
725	100		100		100		100		100		95	
730	100		100		100		100		100		95	
735	100		100		100		100		99		91	
740	100		100		100		100		99		91	
769D	100		100		100		93		88		82	
773E	100		100		100		100		93		85	
777D	100		100		100		100		93		87	
785C	100		100		100		93		86		80	
793C	100		100		100		100		100		93	
797B	100		100		100		100		100		93	
613E (5,000 gal) Water Wagon	100		100		100		100		95		87	
621E (8,000 gal) Water Wagon	100		100		100		100		97		90	
777D Water Truck	100		100		100		100		93		87	
785C Water Truck	100		100		100		93		86		80	
Dump Truck (10-12 yd^3) (5)												

Notes:
User entered deration value will override values from CAT Performance Handbook, except L2350 Loader: data from actual mine performance in Chile.
Komatsu altitude deration assumed from LeTourneau L2350

Closure Cost Estimate
Seed Mixture

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2020
File Name: Att 2_Cost 20200820_SRCE_Version_1_4_1_017b_NV_20 Year Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 2.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised

Seed Mixture

Common Name	Scientific Name	Species Number of Seeds / lb	Species % in Mix	PLS/acre	Cost/Lb	Cost/Acre
Grasses						
Indian ricegrass	*Achnatherum hymenoides*		14.16	1.30		
Plains lovegrass	*Eragrostis intermedia*		0.44	0.04		
NM feathergrass	*Hesperostipa newmexicana*		5.45	0.50		
Sideoats grama	*Bouteloua curtipendula*		11.98	1.10		
Blue grama	*Bouteloua gracilis*		2.72	0.25		
Cane beardgrass	*Bothriochloa barbinodis*		2.18	0.20		
Galleta	*Pleuraphis jamesii*		11.98	1.10		
Green sprangletop	*Leptochloa dubia*		2.18	0.20		
Plains bristlegrass	*Seteria vulpiseta*		3.27	0.30		
Sand dropseed	*Sporobolus cryptandrus*		0.44	0.04		
Forbs						
White prairie clover	*Dale candida c*		4.36	0.40		
Blue flax	*Linum lewisii c*		3.81	0.35		
Prairie coneflower	*Ratibida colomnifera c*		1.09	0.10		
Desert globemallow	*Sphaeralcea ambugua c*		4.36	0.40		
Shrubs						
Four-wing saltbush	*Atriplex canescens*		19.06	1.75		
Rubber rabbitbrush	*Ericamerica intermedia c*		3.81	0.35		
Apache plume	*Fallugia paradoxa c*		1.09	0.10		
Winterfat	*Krascheninnikovia lanata*		7.63	0.70		
Total				$9.18		$0.00

Source:

Notes:

Project Name: Foothill Dolomite Mine - Reclamation Plan
Date of Submittal: 01/18/2020
File Name: Att 2_Cost 20200820_SRCE_Version_1_4_1_017b_NV_20 Year Rev 2.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 2.xlsm
Cost Estimate Type: Surety Cost Basis: American Magnesium - Option 1 Revised
Seed Mix Cost Quotes

THEMAC RESOURCES | NEW MEXICO COPPER CORPORATION

TO: Feliz Toprak, Mining Consultant, SRK Consulting, Inc.
CC: Jeff Smith, Chief Operating Officer, NMCC
FROM: Katie Emmer, Permitting & Environmental Compliance Manager, NMCC
DATE: 20 March 2018
SUBJECT: Seed Mix Quotes – Average cost $175.00/acre PLS

The purpose of this memorandum is to summarize research into seed mix costs for seed mixes identified in the Copper Flat Mine Operation & Reclamation Plan (MORP) and to present the estimated cost of pure live seed (PLS) per acre.

The MORP calls for a specific seed mix and rate of application for interim and final reclamation:

Table E7: Interim and Final Reclamation Seed Mixes

Scientific Name	Common Name	PLS/ac[1]	
		Interim	Final
Grasses – Warm Season			
Bothriochloa barbinodis	Cane bluestem	0.15	0.20
Bouteloua curtipendula	Sideoats grama	1.00	1.10
Bouteloua gracilis	Blue grama	0.20	0.25
Pleuraphis jamesii	Galleta	0.75	1.10
Leptochloa dubia	Green sprangletop	0.15	0.20
Seteria vulpiseta	Plains bristlegrass	0.20	0.30
Sporobolus cryptandrus	Sand dropseed	0.03	0.04
Grasses – Cool, Intermediate Season			
Achnatherum hymenoides	Indian ricegrass	0.60	1.30
Eragrostis intermedia	Plains lovegrass	0.05	0.04
Hesperostipa newmexicana	NM feathergrass	0.70	0.50
Shrubs			
Atriplex canescens	Four-wing saltbush	0.30	1.75
Ericamerica nauseosus	Rubber rabbitbrush	0.10	0.35
Fallugia paradoxa	Apache plume	--	0.10
Krascheninnikovia lanata	Winterfat	0.15	0.70
Forbs			
Dalea candida	White prairie clover	0.10	0.40
Linum lewisii	Blue flax	0.15	0.35
Ratibida colomnifera	Prairie coneflower	--	0.10
Sphaeralcea ambigua	Desert globemallow	0.10	0.40
	Total	**4.73**	**9.18**

Notes:
1 - Rate is in pounds of pure live seed (PLS) per acre; Substitutions may change seeding rates.

In the week of 12 March 2018, I requested recommendations for seed mix suppliers from knowledgeable personnel at the Bureau of Land Management (BLM) Las Cruces office and Golder & Associates.

Emily Clark, Soil Scientist at Golder, indicated that they commonly work with Granite Seed. Shannon Gentry, Rangeland Management Specialist, suggested Bamert Seed, Granite Seed, and Curtis & Curtis Seed companies. Based on these recommendations, I contacted all three companies and provided MORP Table E7 and requested quotes on PLS/acre that would be certified weed free at the final reclamation rate. I instructed each company that comparable seed substitutions could be made based on availability. Quotes for PLS/acre were received from each company and are presented in the table below.

Seed Mix Quotes for MORP Table E7, Final Rate, March 2018

Company	Date	Price quote PLS/acre	Notes
Curtis & Curtis, Inc.	15 March 2018	$174.72	Low acreage Quote attached
Curtis & Curtis, Inc.	15 March 2018	$163.79	100 acres+ Quote attached
Granite Seed	15 March 2018	$186.50	Quote attached
Bamert Seed	16 March 2018	$750.00	Quote via email, attached.

In further correspondence with Bamert, the supplier speculated the quote could be decreased "as much as 2/3rds" if strategic substitutions of similar seeds were made based on availability. If the Bamert quote was decreased by 67%, it would be about $247.50/acre. Based on the difference in price from the other two suppliers, I conclude this quote is an outlier that is based on differing assumptions from those communicated in the quote request and have not included it in our estimated average seed mix cost.

Based on these quotes, attached, I conclude the average cost of PLS that would meet MORP requirements for final seed rates shown in Table E7 would be $175.00 per acre.

Attachements:
Curtis & Curtis, Inc. Quote
Granite Seed Quote
Bamert Seed Quote (via email)

Closure Cost Estimate
User 1

CURTIS & CURTIS, INC.

4500 North Prince, Clovis, New Mexico 88101
PH: 575-762-4759 FAX: 575-763-4213

Irrigated Pasture Grasses
Mountain Pasture Grasses
Native Pasture Grasses

Yard and Playground Grasses
Golf Course Grasses
Alfalfa/Clovers

PRICE QUOTATION

TO:	Themac Resources	DATE:	March 15, 2018
ATTENTION:	Katie Emmer	SALESPERSON:	Tyler Stuemky
PHONE:	505-400-7925	SHIPPING DATE:	As Directed
EMAIL:	kemmer@themacresourcesgroup.com	FOB:	Clovis
PROJECT:	Sierra County Mine Reclamation	TERMS:	30 Days Net

DESCRIPTION	PRICE	AMOUNT
Custom Seed Mix:	$174.72/Acre (Low Acreage) $163.79/Acre (100 Acres+)	

COMMON NAME	BOTANICAL NAME	PLS/ACRE
~~Cane Bluestem~~ Sub. Buffalograss	*Bouteloua dactyloides*	0.20
Sideoats Grama	*Bouteloua curtipendula*	1.10
Blue Grama	*Bouteloua gracilis*	0.25
Galleta Grass	*Pleuraphis jamesii*	1.10
Green Sprangletop	*Leptochloa dubia*	0.20
Plains Bristlegrass	*Setaria vulpiseta*	0.30
Sand Dropseed	*Sporobolus cryptandrus*	0.04
Indian Ricegrass	*Oryzopsis hymenoides*	1.30
~~Plains Lovegrass~~ Sand Lovegrass	*Eragrostis trichodes*	0.04
~~NM Feathergrass~~ Needle and Thread	*Hesperostipa comata*	0.50
Four-Wing Saltbush	*Atriplex canescens*	1.75
Rubber Rabbitbrush	*Ericameria nauseosa*	0.35
~~Apache Plume~~ Sub. Three-Leaf Sumac	*Rhus trilobata*	0.10
Winterfat	*Krascheninnikovia lanata*	0.70
~~White Prairie Clover~~ Sub. Purple Prairie Clover	*Dalea purpurea*	0.40
Blue Flax	*Linum lewisii*	0.35
Prairie Coneflower	*Ratibida columnifera*	0.10
Desert Globemallow	*Sphaeralcea ambigua*	0.40

*****THIS QUOTE IS GOOD FOR 10 DAYS*****

*****ALL PRICES SUBJECT TO AVAILABILITY**SUBJECT TO BEING UNSOLD*****

Here is our quotation on the goods named, subject to the conditions noted:

The prices and terms on this quotation are not subject to verbal changes or other agreements unless approved in writing by the Home Office of the Seller. All quotations and agreements are contingent upon strikes, accidents, fires, availability of materials and all other causes beyond our control. Prices are based on costs and conditions existing on date of quotation and are subject to change by the Seller before final acceptance.

Typographical and stenographic errors are subject to correction. Purchaser agrees to accept either overage or shortage not in excess of ten percent to be charged for pro-rata. Purchaser assumes liability for patent and copyright infringement when goods are made to Purchaser's specifications. When quotation specifies material to be furnished by the purchaser, ample allowance must be made for reasonable spoilage and material must be of suitable quality to facilitate efficient production. Conditions not specifically stated herein shall be governed by established trade customs. Terms inconsistent with those stated herein, which may appear on Purchaser's formal order will not be binding on the Seller.

Closure Cost Estimate
User 1

QUOTE

granite SEED
and erosion control

Tren Hagman
1697 West 2100 North
Lehi, UT 84043

tren@graniteseed.com
Phone: (801) 768-4422
Fax: (801) 701-9413

Date: March 15, 2018
To: Katie Emmer
Company: Themac Resources
From: Tren Hagman
Re: Seed Quote

Katie,

We can provide the mix below for $186.50/acre

Species	PLS lbs./acre
Cane beardgrass (Bothriochloa barbinodis)	0.20
Sideoats grama (Bouteloua curtipendula)	1.10
Blue grama (Bouteloua gracilis)	0.25
Galleta grass (Pleuraphis jamesii)	1.10
Green sprangletop (Leptochloa dubia)	0.20
Plains bristlegrass (Setaria vulpiseta)	0.30
Sand dropseed (Sporobolus cryptandrus)	0.04
Indian ricegrass (Achnatherum hymenoides)	1.30
Fourwing saltbush (Atriplex canescens)	1.75
Rubber rabbitbrush (Ericameria nauseosa)	0.35
Apache plume (Fallugia paradoxa)	0.10
Winterfat (Krascheninnikovia lanata)	0.70
White prairie clover (Dalea candida)	0.40
Blue flax (Linum perenne)	0.35
Prairie coneflower (Ratibida columnifera)	0.10
Desert globemallow (Sphaeralcea ambigua)	0.40
Toal:	**8.64**

If you have any questions, please contact me at the number above or by email tren@graniteseed.com .

Thanks

Katie Emmer

From: Colby Scroggins <cscroggins@bamertseed.com>
Sent: Friday, March 16, 2018 12:18 PM
To: Katie Emmer
Subject: RE: Seed mix quote

Katie,

I would estimate that the attached blend may be near $750 per acre.

Please let me know if I may be of help in the future!

Have a great day,

Colby F. Scroggins
Reclamation Specialist
cscroggins@BamertSeed.com
Office | 800.262.9892
Fax | 888.378.0419
www.BamertSeed.com

BAMERT SEED COMPANY
Native Seeds Since 1951

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From: Katie Emmer [mailto:kemmer@themacresourcesgroup.com]
Sent: Wednesday, March 14, 2018 4:25 PM
To: Colby Scroggins <cscroggins@bamertseed.com>
Subject: Seed mix quote

Here's the seed mix I'm looking at, see attached.

Katie Emmer | Permitting & Environmental Compliance Manager

M: +1 505.400.7925| **F:** +1 505.881.4616
A: 4253 Montgomery Blvd. NE, Suite 130, Albuquerque, NM 87109
W: themacresourcesgroup.com | **E:** kemmer@themacresourcesgroup.com

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Attachment 3

Cost Data

Format Version:	*SRCE Data File v1.12*
File Name:	*SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 2.xlsm*
Date:	*January 6, 2021*
Cost Type:	*User Data*
Author/Source:	*New Mexico Department of Workforce Solutions Public Works Prevailing Wage Rates Type H - Heavy Engineering Construction & Equipr*

Units of Measure:	**Imperial**

No. of Bases/Regions:	1

Basis/Region	Basis/Region Name	Basis/Region Description
Basis 1	*American Magnesium - Option 1 Revised*	*American Magnesium - Foothill Dolomite Mine - Northern Nevada Equipment*
Basis 2		
Basis 3		
Basis 4		
Basis 5		
Basis 6		
Basis 7		
Basis 8		
Basis 9		
Basis 10		
Basis 11		
Basis 12		
Basis 13		
Basis 14		
Basis 15		

Equipment Costs

File Name:	***SRCE_Cost_data-Am_Mg_Foothill_Dolom***
Date:	***January 6, 2021***
Cost Basis:	***User Data***
Author/Source:	***New Mexico Department of Workforce Solutions Public Works Prevailing Wage Rates Type H - Heavy Eng***

Monthly Rental Basis (operating hrs/ period)	***160***				

MONTHLY EQUIPMENT RATE TABLE [Cost Per Month] (1)

EQUIPMENT TYPE (2)	Basis 1	Basis 2	Basis 3	Basis 4	Basis 5
	American Magnesium - Option 1 Revised				
Bulldozers					
D6R	$7,222				
D6R w/ Winch	$7,222				
D7R	$10,466				
D8R	$20,180				
D9R	$30,100				
D10R	$44,500				
D11R	$56,234				
Wheeled Dozers					
824G	$19,849				
834G	$24,929				
844	$33,734				
854G	$33,802				
Motor Graders					
120H	$3,965				
14G/H	$14,790				
16G/H	$18,806				
24M	$20,686				
Track Excavators					
312C	$5,610				
320C	$7,750				
325C	$10,048				
330C	$11,500				
345B	$16,730				
365BL	$23,119				
385BL	$28,472				
Scrapers					
631G	$27,700				
637G PP	$36,819				
Wheeled Loaders					
924G	$5,610				
928G	$6,530				
950G	$9,520				
966G	$5,856				
972G	$13,480				
980G	$15,690				
988G	$19,589				
990	$28,299				
992G	$47,500				
994D	$45,175				
L-2350	$82,607				

Equipment Costs

EQUIPMENT TYPE [2]	Basis 1 *American Magnesium - Option 1 Revised*	Basis 2	Basis 3	Basis 4	Basis 5
Shovels					
KOM PC2000	$70,917				
KOM PC3000	$72,526				
KOM PC4000	$74,135				
KOM PC5500	$81,548				
KOM PC8000	$89,703				
Hydraulic Hammers					
H-120 (fits 325)	$3,420				
H-160 (fits 345)	$7,028				
H-180 (fits 365/385)	$8,168				
Demolition Shears					
S340 (fits 322/325/330)	$3,524				
S365 (fits 330/345)	$4,131				
S390 (fits 365/385)	$6,593				
Demolition Grapples					
G315 (fits 322/325)					
G320 (fits 325/330)					
G330 (fits 345/365)					
Other Equipment					
420D 4WD Backhoe	$3,240				
428D 4WD Backhoe	$3,870				
CS533E Vibratory Roller	$4,402				
CS663E Vibratory Roller	$4,291				
CP533E Sheepsfoot Compactor	$4,085				
CP663E Sheepsfoot Compactor	$6,588				
Light Truck - 1.5 Ton	$2,184				
Supervisor's Truck	$834				
Flatbed Truck	$621				
Air Compressor + tools	$597				
Welding Equipment	$405				
Heavy Duty Drill Rig	$52,018				
Pump (plugging) Drill Rig	$52,018				
Concrete Pump	$14,864				
Gas Engine Vibrator	$357				
Generator 5KW	$938				
HDEP Welder (pipe or liner)	$7,023				
5 Ton Crane	$7,160				
20 Ton Crane	$7,955				
50 Ton Crane	$15,154				
120 Ton Crane	$28,943				
Trucks					
725 (articulated)	$9,300				
730 (articulated)	$14,640				
735 (articulated)	$16,730				
740 (articulated)	$18,820				
769D					
773E	$18,267				
777D	$37,750				
785C	$40,948				
793C	$49,547				
797B	$89,160				
613E (5,000 gal) Water Wagon	$8,726				
621E (8,000 gal) Water Wagon	$10,006				
777D Water Truck	$37,226				
785C Water Truck	$40,948				
Dump Truck (10-12 yd^3) (5)	$3,752				

Equipment Costs

EQUIPMENT TYPE (2)	Basis 1 ***American Magnesium - Option 1 Revised***	Basis 2	Basis 3	Basis 4	Basis 5
NOTES:					
(1) Power Equipment Source:	Catepillar model or equivalent, LeTourneau loader, Komatsu shovels				
(2) Power Equipment Type:	Catepillar model or equivalent, LeTourneau loader, Komatsu shovels	Catepillar model or equivalent, LeTourneau loader, Komatsu shovels	Catepillar model or equivalent, LeTourneau loader, Komatsu shovels	Catepillar model or equivalent, LeTourneau loader, Komatsu shovels	Catepillar model or equivalent, LeTourneau loader, Komatsu shovels
(3) Drilliing Equipment Source:	RS Means Heavy Construction (2020 Q2)				
(4) Other Equipment Source:	RS Means Heavy Construction (2020 Q2)				

Equipment Costs

EQUIPMENT TYPE [2]	Basis 1	Basis 2	Basis 3	Basis 4	Basis 5
	American Magnesium - Option 1 Revised				
PREVENTATIVE MAINTENANCE COST [Cost Per Hour] [1]					
EQUIPMENT TYPE	**Basis 1**	**Basis 2**	**Basis 3**	**Basis 4**	**Basis 5**
	Magnesium -				
Bulldozers					
D6R	$34.60				
D6R w/ Winch	$34.60				
D7R	$2.69				
D8R	$3.49				
D9R	$3.61				
D10R	$3.79				
D11R	$160.74				
Wheeled Dozers					
824G	$49.58				
834G	$59.69				
844	$77.91				
854G	$90.20				
Motor Graders					
120H	$20.32				
14G/H	$37.21				
16G/H	$50.42				
24M	$55.46				
Track Excavators					
312C	$2.14				
320C	$2.38				
325C	$2.64				
330C	$3.01				
345B	$3.36				
365BL	$80.63				
385BL	$91.31				
Scrapers					
631G	$3.22				
637G PP	$116.00				
Wheeled Loaders					
924G	$9.33				
928G	$16.35				
950G	$2.30				
966G	$2.42				
972G	$2.53				
980G	$2.57				
988G	$57.81				
990	$85.58				
992G	$11.87				
994D	$122.36				
L-2350	$203.53				

Equipment Costs

EQUIPMENT TYPE (2)	Basis 1 *American Magnesium - Option 1 Revised*	Basis 2	Basis 3	Basis 4	Basis 5
Shovels					
KOM PC2000	$183.38				
KOM PC3000	$218.80				
KOM PC4000	$254.21				
KOM PC5500	$279.63				
KOM PC8000	$307.59				
Hydraulic Hammers					
H-120 (fits 325)	N/A	N/A	N/A	N/A	N/A
H-160 (fits 345)	N/A	N/A	N/A	N/A	N/A
H-180 (fits 365/385)	N/A	N/A	N/A	N/A	N/A
Demolition Shears					
S340 (fits 322/325/330)	N/A	N/A	N/A	N/A	N/A
S365 (fits 330/345)	N/A	N/A	N/A	N/A	N/A
S390 (fits 365/385)	N/A	N/A	N/A	N/A	N/A
Demolition Grapples					
G315 (fits 322/325)	N/A	N/A	N/A	N/A	N/A
G320 (fits 325/330)	N/A	N/A	N/A	N/A	N/A
G330 (fits 345/365)	N/A	N/A	N/A	N/A	N/A
Other Equipment					
420D 4WD Backhoe	$11.81				
428D 4WD Backhoe	$12.20				
CS533E Vibratory Roller	$19.33				
CS663E Vibratory Roller	$20.65				
CP533E Sheepsfoot Compactor	$24.87				
CP663E Sheepsfoot Compactor	$29.78				
Light Truck - 1.5 Ton	$8.67				
Supervisor's Truck	$3.62				
Flatbed Truck	$3.85				
Air Compressor + tools	$3.38				
Welding Equipment	$1.92				
Heavy Duty Drill Rig	$278.95				
Pump (plugging) Drill Rig	$278.95				
Concrete Pump					
Gas Engine Vibrator	$1.46				
Generator 5KW	$3.58				
HDEP Welder (pipe or liner)					
5 Ton Crane	$23.22				
20 Ton Crane	$25.80				
50 Ton Crane	$45.47				
120 Ton Crane	$80.14				
Trucks					
725 (articulated)	$28.22				
730 (articulated)	$2.76				
735 (articulated)	$2.86				
740 (articulated)	$2.97				
769D					
773E	$47.92				
777D	$95.60				
785C	$105.16				
793C	$127.24				
797B	$204.78				
613E (5,000 gal) Water Wagon	$45.31				
621E (8,000 gal) Water Wagon	$50.66				
777D Water Truck	$95.60				
785C Water Truck	$105.16				
Dump Truck (10-12 yd3) (5)	N/A				
(1) PM Source:					

Equipment Costs

EQUIPMENT TYPE (2)	Basis 1	Basis 2	Basis 3	Basis 4	Basis 5
	American Magnesium - Option 1 Revised				

G.E.T CONSUMPTION [Cost Per Hour] (1) (Wear Items)

EQUIPMENT TYPE	Basis 1	Basis 2	Basis 3	Basis 4	Basis 5
	American				
Bulldozers					
D6R	$2.61				
D6R w/ Winch	$2.61				
D7R	$3.84				
D8R	$4.86				
D9R	$6.59				
D10R	$8.22				
D11R	$16.66				
Wheeled Dozers					
824G	$1.32				
834G	$1.70				
844	$2.42				
854G	$2.40				
Motor Graders					
120H	$0.62				
14G/H	$1.38				
16G/H	$2.00				
24M	$2.20				
Track Excavators					
312C	$1.33				
320C	$1.94				
325C	$1.48				
330C	$2.67				
345B	$2.85				
365BL	$3.97				
385BL	$5.11				
Scrapers					
631G	$1.86				
637G PP	$2.11				
Wheeled Loaders					
924G	$0.19				
928G	$0.60				
950G	$0.87				
966G	$0.87				
972G	$1.08				
980G	$1.41				
988G	$2.26				
990	$3.71				
992G	$32.73				
994D	$4.99				
L-2350	$9.30				
Shovels					
KOM PC2000	$13.87				
KOM PC3000	$16.89				
KOM PC4000	$19.91				
KOM PC5500	$21.90				
KOM PC8000	$24.09				
Hydraulic Hammers					
H-120 (fits 325)	$11.57				
H-160 (fits 345)	$23.24				
H-180 (fits 365/385)	$24.96				
Demolition Shears					

Equipment Costs

EQUIPMENT TYPE (2)	Basis 1 *American Magnesium - Option 1 Revised*	Basis 2	Basis 3	Basis 4	Basis 5
S340 (fits 322/325/330)	$20.50				
S365 (fits 330/345)	$25.23				
S390 (fits 365/385)	$31.61				
Demolition Grapples					
G315 (fits 322/325)					
G320 (fits 325/330)					
G330 (fits 345/365)					
Other Equipment					
420D 4WD Backhoe	$0.54				
428D 4WD Backhoe	$0.60				
CS533E Vibratory Roller					
CS663E Vibratory Roller					
CP533E Sheepsfoot Compactor					
CP663E Sheepsfoot Compactor					
Light Truck - 1.5 Ton					
Supervisor's Truck					
Flatbed Truck					
Air Compressor + tools	N/A	N/A	N/A	N/A	N/A
Welding Equipment	N/A	N/A	N/A	N/A	N/A
Heavy Duty Drill Rig	$9.60				
Pump (plugging) Drill Rig	$9.60				
Concrete Pump	N/A	N/A	N/A	N/A	N/A
Gas Engine Vibrator	N/A	N/A	N/A	N/A	N/A
Generator 5KW	N/A	N/A	N/A	N/A	N/A
HDEP Welder (pipe or liner)	N/A	N/A	N/A	N/A	N/A
5 Ton Crane					
20 Ton Crane					
50 Ton Crane					
120 Ton Crane					
Trucks					
725 (articulated)	$3.22				
730 (articulated)	$3.22				
735 (articulated)	$3.22				
740 (articulated)	$3.22				
769D	$3.60				
773E	$4.04				
777D	$4.51				
785C					
793C					
797B					
613E (5,000 gal) Water Wagon					
621E (8,000 gal) Water Wagon					
777D Water Truck					
785C Water Truck					
Dump Truck (10-12 yd3) (5)	$3.22				
Notes:					
(1) G.E.T. Source:					

Equipment Costs

EQUIPMENT TYPE [2]	Basis 1 *American Magnesium - Option 1 Revised*	Basis 2	Basis 3	Basis 4	Basis 5
TIRE COST TABLE [Cost Per Tire[1,2,3]]					
EQUIPMENT TYPE	**Basis 1** *American*	**Basis 2**	**Basis 3**	**Basis 4**	**Basis 5**
Bulldozers					
D6R	N/A	N/A	N/A	N/A	N/A
D6R w/ Winch	N/A	N/A	N/A	N/A	N/A
D7R	N/A	N/A	N/A	N/A	N/A
D8R	N/A	N/A	N/A	N/A	N/A
D9R	N/A	N/A	N/A	N/A	N/A
D10R	N/A	N/A	N/A	N/A	N/A
D11R	N/A	N/A	N/A	N/A	N/A
Wheeled Dozers					
824G	$33,740.00				
834G	$43,505.00				
844	$62,020.00				
854G	$76,685.00				
Motor Graders					
120H	$11,025.00				
14G/H	$24,500.00				
16G/H	$35,455.00				
24M	$39,000.50				
Track Excavators					
312C	N/A	N/A	N/A	N/A	N/A
320C	N/A	N/A	N/A	N/A	N/A
325C	N/A	N/A	N/A	N/A	N/A
330C	N/A	N/A	N/A	N/A	N/A
345B	N/A	N/A	N/A	N/A	N/A
365BL	N/A	N/A	N/A	N/A	N/A
385BL	N/A	N/A	N/A	N/A	N/A
Scrapers					
631G	$32,680.00				
637G PP	$30,280.00				
Wheeled Loaders					
924G	$4,770.00				
928G	$13,815.00				
950G	$23,085.00				
966G	$24,075.00				
972G	$29,880.00				
980G	$45,720.00				
988G	$73,350.00				
990	$120,195.00				
992G	$147,105.00				
994D	$161,815.50				
L-2350	$301,680.00				
Shovels					
KOM PC2000	N/A	N/A	N/A	N/A	N/A
KOM PC3000	N/A	N/A	N/A	N/A	N/A
KOM PC4000	N/A	N/A	N/A	N/A	N/A
KOM PC5500	N/A	N/A	N/A	N/A	N/A
KOM PC8000	N/A	N/A	N/A	N/A	N/A
Hydraulic Hammers					
H-120 (fits 325)	N/A	N/A	N/A	N/A	N/A
H-160 (fits 345)	N/A	N/A	N/A	N/A	N/A
H-180 (fits 365/385)	N/A	N/A	N/A	N/A	N/A

Equipment Costs

EQUIPMENT TYPE (2)	Basis 1 *American Magnesium - Option 1 Revised*	Basis 2	Basis 3	Basis 4	Basis 5
Demolition Shears					
S340 (fits 322/325/330)	N/A	N/A	N/A	N/A	N/A
S365 (fits 330/345)	N/A	N/A	N/A	N/A	N/A
S390 (fits 365/385)	N/A	N/A	N/A	N/A	N/A
Demolition Grapples					
G315 (fits 322/325)	N/A	N/A	N/A	N/A	N/A
G320 (fits 325/330)	N/A	N/A	N/A	N/A	N/A
G330 (fits 345/365)	N/A	N/A	N/A	N/A	N/A
Other Equipment					
420D 4WD Backhoe	$4,770.00				
428D 4WD Backhoe	$4,830.00				
CS533E Vibratory Roller	N/A	N/A	N/A	N/A	N/A
CS663E Vibratory Roller	N/A	N/A	N/A	N/A	N/A
CP533E Sheepsfoot Compactor	N/A	N/A	N/A	N/A	N/A
CP663E Sheepsfoot Compactor	N/A	N/A	N/A	N/A	N/A
Light Truck - 1.5 Ton	$4,140.00				
Supervisor's Truck	$1,350.00				
Flatbed Truck	$1,020.00				
Air Compressor + tools	N/A	N/A	N/A	N/A	N/A
Welding Equipment	N/A	N/A	N/A	N/A	N/A
Heavy Duty Drill Rig					
Pump (plugging) Drill Rig					
Concrete Pump	N/A	N/A	N/A	N/A	N/A
Gas Engine Vibrator	N/A	N/A	N/A	N/A	N/A
Generator 5KW	N/A	N/A	N/A	N/A	N/A
HDEP Welder (pipe or liner)	N/A	N/A	N/A	N/A	N/A
5 Ton Crane	$9,261.00				
20 Ton Crane	$10,290.00				
50 Ton Crane	$16,530.00				
120 Ton Crane	$42,750.00				
Trucks					
725 (articulated)	$13,720.00				
730 (articulated)	$14,980.00				
735 (articulated)	$15,940.00				
740 (articulated)	$17,240.00				
769D					
773E	$69,300.00				
777D	$157,600.00				
785C	$138,688.00				
793C	$167,812.48				
797B	$322,800.00				
613E (5,000 gal) Water Wagon	$18,840.00				
621E (8,000 gal) Water Wagon	$38,960.00				
777D Water Truck	$157,600.00				
785C Water Truck	$138,688.00				
Dump Truck (10-12 yd3) (5)	$12,900.00				
Notes:					
(1) Unit Cost Basis:					
(2) Cost Basis:					
(3) Tire Cost Source:					
(4) Tire Wear Source (defined in model):					

Labor Rates

File Name:	***SRCE_Cost_data-Am_Mg_Foothill_Dolon***
Date:	***January 6, 2021***
Cost Basis:	***User Data***
Author/Source:	***New Mexico Department of Workforce Solutions Public Works Prevailing Wage Rates Type H - Heavy Engineering Construction & EquipmentWatch & Neva***

HOURLY LABOR RATE TABLE

EQUIPMENT TYPE (1) OR JOB DESCRIPTION	Basis 1		Basis 2		Basis 3		Basis 4		Basis 5		Basis 6	
	American Magnesium - Option 1 Revised											
EQUIPMENT OPERATORS - Labor Groups and Base Pay Rate ($/hr) (2)												
Bulldozers												
D6R		$28.02										
D6R w/ Winch		$28.02										
D7R		$28.02										
D8R		$28.02										
D9R		$28.02										
D10R		$28.02										
D11R		$28.02										
Wheeled Dozers												
824G												
834G												
844												
854G												
Motor Graders												
120H		$30.23										
14G/H		$30.23										
16G/H		$30.23										
24M		$30.23										
Track Excavators												
312C		$30.23										
320C		$30.23										
325C		$30.23										
330C		$30.23										
345B		$30.23										
365BL		$30.23										
385BL		$30.23										
Scrapers												
631G		$28.02										
637G PP		$28.02										
Wheeled Loaders												
924G		$28.02										
928G		$28.02										
950G		$28.02										
966G		$28.02										
972G		$28.02										
980G		$28.02										
988G		$28.02										
990		$28.02										
992G		$28.02										
994D		$28.02										
L-2350		$28.02										
Shovels												
KOM PC2000												
KOM PC3000												
KOM PC4000												
KOM PC5500												
KOM PC8000												
Hydrauilc Hammers												
H-120 (fits 325)												
H-160 (fits 345)												
H-180 (fits 365/385)												
Demolition Shears												
S340 (fits 322/325/330)												
S365 (fits 330/345)												
S390 (fits 365/385)												
Demolition Grapples												
G315 (fits 322/325)												
G320 (fits 325/330)												
G330 (fits 345/365)												
Other Equipment												
420D 4WD Backhoe		$28.02										
428D 4WD Backhoe		$28.02										
CS533E Vibratory Roller		$28.02										
CS663E Vibratory Roller		$28.02										
CP533E Sheepsfoot Compactor		$28.02										
CP663E Sheepsfoot Compactor		$28.02										
Light Truck - 1.5 Ton		$0.00										
Supervisor's Truck		$0.00										
Flatbed Truck												
Air Compressor + tools		$27.69										
Welding Equipment		$27.88										
Heavy Duty Drill Rig		$27.88										
Pump (plugging) Drill Rig		$27.88										
Concrete Pump												
Gas Engine Vibrator		$14.03										
Generator 5KW												

Labor Rates

File Name:	***SRCE_Cost_data-Am_Mg_Foothill_Dolon***
Date:	***January 6, 2021***
Cost Basis:	***User Data***
Author/Source:	***New Mexico Department of Workforce Solutions Public Works Prevailing Wage Rates Type H - Heavy Engineering Construction & EquipmentWatch & Neva***

HOURLY LABOR RATE TABLE

EQUIPMENT TYPE (1) **OR JOB DESCRIPTION**	**Basis 1**		**Basis 2**		**Basis 3**		**Basis 4**		**Basis 5**		**Basis 6**	
	American Magnesium - Option 1 Revised											
HDEP Welder (pipe or liner)												
5 Ton Crane		$27.12										
20 Ton Crane		$27.12										
50 Ton Crane		$27.12										
120 Ton Crane		$27.12										
Fringe Benefits												
Equip Op Fringe Benefits ($/hr)						$0.00		$0.00		$0.00		
Zone and Area Adjustments - Miles and Rates ($/hr) (3)												
Equipment Zone 1	0-50 miles	$0.00	none	$0.00	none	$0.00	none	$0.00	none	$0.00		
Equipment Zone 2	50-150 miles	$0.00										
Equipment Zone 3	150-300 miles	$0.00										
Equipment Zone 4	>300 miles	$0.00										
Equipment Zone 5												
Equipment Zone 6												
Equipment Zone 7												
NOTES:												
(1) Equipment Type:	Catepillar model or equivalent		Catepillar model or equivalent		Catepillar model or equivalent		Catepillar model or equivalent		Catepillar model or equivalent		Catepillar model or equivalent	
(2) Equipment Operator Source:	New Mexico Department of											
(3) Zone Basis:	From Deming											
TRUCK DRIVERS - Labor Groups and Base Pay Rate ($/hr) (4)												
725 (articulated)	Dump Truck Driver > 25 yds < 60 yds	$28.02										
730 (articulated)	Dump Truck Driver > 25 yds < 60 yds	$28.02										
735 (articulated)	Dump Truck Driver > 25 yds < 60 yds	$28.02										
740 (articulated)	Dump Truck Driver > 25 yds < 60 yds	$28.02										
769D	Dump Truck Driver > 25 yds < 60 yds	$28.02										
773E		$28.02										
777D	Dump Truck	$28.02										
785C												
793C												
797B												
613E (5,000 gal) Water Wagon	Water Truck > 2,500 gallons	$28.02										
621E (8,000 gal) Water Wagon	Water Truck > 2,500 gallons	$28.02										
777D Water Truck												
785C Water Truck												
Dump Truck (10-12 yd3)	Dump Truck Driver > 8 yds < 18 yds	$24.92										
Fringe Benefits												
Truck Driver Fringe Benefits ($/hr)		$0.00				$0.00		$0.00		$0.00		
Zone and Area Adjustments (5)												
Truck Zone 1	0-50 miles	$0.00	none	$0.00	none	$0.00	none	$0.00	none	$0.00		
Truck Zone 2	50-150 miles	$0.00										
Truck Zone 3	150-300 miles	$0.00										
Truck Zone 4	>300 miles	$0.00										
Truck Zone 5												
Truck Zone 6												
Truck Zone 7												
NOTES:												
(4) Truck Driver Source:	New Mexico Department of											
(5) Zone Basis:	From Deming											
LABORERS - Labor Groups and Base Pay Rate ($/hr) (6,7)												
General Laborer	Group 1	$23.88										
Skilled Laborer	Group 4	$26.14										
Driller's Helper	Group 3	$26.14										
Rodmen (reinforcing concrete)	Group 1	$23.88										
Cement finisher	Group 3	$26.14										
Carpenter		$36.47										
Fringe Benefits												
Laborer Fringe Benefits ($/hr)		$0.00										
Carpenter Fringe Benefits ($/hr)		$0.00										
Zone and Area Adjustments (8)												
Laborer Zone 1	0-50 miles	$0.00	none	$0.00	none	$0.00	none	$0.00	none	$0.00		
Laborer Zone 2	50-150 miles	$0.00										
Laborer Zone 3	150-300 miles	$0.00										
Laborer Zone 4	>300 miles	$0.00										

Labor Rates

File Name:	***SRCE_Cost_data-Am_Mg_Foothill_Dolon***
Date:	***January 6, 2021***
Cost Basis:	***User Data***
Author/Source:	***New Mexico Department of Workforce Solutions Public Works Prevailing Wage Rates Type H - Heavy Engineering Construction & EquipmentWatch & Neva***

HOURLY LABOR RATE TABLE

EQUIPMENT TYPE (1) OR JOB DESCRIPTION	Basis 1		Basis 2		Basis 3		Basis 4		Basis 5		Basis 6	
	American Magnesium - Option 1 Revised											
Laborer Zone 5												
Laborer Zone 6												
Laborer Zone 7												
NOTES:												
(6) Laborer Source:	New Mexico Department of											
(7) Carpenter Source:	New Mexico Department of											
(8) Zone Basis:	From Deming											
PROJECT MANAGEMENT AND TECHNICAL LABOR - Base Pay Rate ($/hr) (9)												
Project Manager		$72.56										
Foreman		$67.50										
Field Geologist/Engineer		$109.94										
Field Tech/Sampler		$76.11										
Range Scientist		$97.25										
Senior Planning Engineer												
Project Engineer												
Mechanic/Fitter												
NOTES:												
(9) Project Manager:	R.S.Means 2020 Q2 (01 31											
(9) Foreman Source:	R.S.Means 2020 Q2 (01 31											
(9) Techical Labor Source:	Wood plc 2020 Adjusted for											
INDIRECT COSTS												
SOCIAL SECURITY, WORKMAN'S COMP, INSURANCE, ETC.												
Unemployment (%)		1.84%										
Retirement/SS/Medicare (%)		7.65%										
Workman's Compensation (%)		13.30%										
State Payroll Tax (13),(15),(17),(18)												
NOTES:												
(10) Workman's Comp Source:	RS Means R013113-60 NV											
Unemployment Tax	NRS 612.540, NRS 612.606											

File Name:	***SRCE_Cost_data-Am_Mg_Footh***
Date:	***January 6, 2021***
Cost Basis:	***User Data***
Author/Source:	***New Mexico Department of Workforce Solutions Public Works Prevailing Wage Rates Type H - Heavy Engineering Constructio***

RECLAMATION MATERIAL COST TABLE

MATERIAL TYPE		Basis 1	Basis 2	Basis 3	Basis 4	Basis 5	Basis 6
		American Magnesium - Option 1 Revised					
Revegetation Materials							
Seed Mixes							
Seed Mix	Units						
None							
Mix 1	Cost/Acre	$302.50	$302.50				
Mix 2	Cost/Acre	$332.75	$332.75				
Mix 3	Cost/Acre	$363.00	$363.00				
Mix 4	Cost/Acre	$393.25	$393.25				
User Mix 1	Cost/Acre						
User Mix 2	Cost/Acre						
User Mix 3	Cost/Acre						
User Mix 4	Cost/Acre						
User Mix 5 (see Seed Mix sheet)	Cost/Acre						
Notes:							
Mulch							
Item	Units						
None							
Straw Mulch	Cost/lb	$0.17	$0.17				
Hydro Mulch	Cost/lb	$0.25	$0.25				
Timber Mulch	Cost/lb						
	Cost/lb						
	Cost/lb						
Notes:		Straw Spec 60 lb. bale, Cert. weed free, (June 2019)100 bales per load	Straw Spec 60 lb. bale, Cert. weed free, (June 2019)100 bales per load				
		Granite Seed $500 per Ton in 50 lb bag Wood (Hydro) Mulch (June 2020)	Granite Seed $500 per Ton in 50 lb bag Wood (Hydro) Mulch (June 2020)				
Amendments							
Item	Units						
None							
Organic Matter	Cost/lb	$0.70	$0.70				
Treated Sludge	Cost/lb						
Chemical	Cost/lb	$0.59	$0.59				
	Cost/lb						
	Cost/lb						
	Cost/lb						
Notes:		Granite Seed $0.70 per lb. in 50 lb. bag, 1 Ton min order Sustain 4-6-4 (June 2020)	Granite Seed $0.70 per lb. in 50 lb. bag, 1 Ton min order Sustain 4-6-4 (June 2020)				
		Western Nevada Supply $29.34 per 50 lb. bag 15-15-15 (June 2020)	Western Nevada Supply $29.34 per 50 lb. bag 15-15-15 (June 2020)				
Well Abandonment Materials							
Description	Units						
Cement	50lb bag	$7.57	$7.57				
Grout (Low Grade Bentonite)	50lb bag	$8.85	$8.85				
Inert Material/Cuttings	cy						
Notes:		(1) Jentech Drilling Supply quote (June 2020) Type I,II Cement at $14.24 per 94 lb. bag	(1) Jentech Drilling Supply quote (June 2020) Type I,II Cement at $14.24 per 94 lb. bag				
		(2) Jentech Drilling Supply (June 2020) 3/8 in. Chunk Bentonite Hole Plug at $8.85 per 50 lb. bag (5.75 cf/bag at 43 gallons slurry and 12.1% solids)+ 10% for bentonite chips added.	(2) Jentech Drilling Supply (June 2020) 3/8 in. Chunk Bentonite Hole Plug at $8.85 per 50 lb. bag (5.75 cf/bag at 43 gallons slurry and 12.1% solids)+ 10% for bentonite chips added.				
Monitoring Costs							
Description	Units	Cost/unit	Cost/unit	Cost/unit	Cost/unit	Cost/unit	Cost/unit

File Name:	***SRCE_Cost_data-Am_Mg_Footh***
Date:	***January 6, 2021***
Cost Basis:	***User Data***
Author/Source:	***New Mexico Department of Workforce Solutions Public Works Prevailing Wage Rates Type H - Heavy Engineering Constructio***

RECLAMATION MATERIAL COST TABLE

MATERIAL TYPE		Basis 1	Basis 2	Basis 3	Basis 4	Basis 5	Basis 6
		American Magnesium - Option 1 Revised					
Monitor Well Pump	ea.	$2,788.41	$2,788.41				
Sampling Supplies	ea.	$6.51	$6.51				
Water Analysis (Profile I) (1)	ea.	$411.00	$411.00				
Leach Test (MWMP) w/ analysis	ea.	$483.40	$483.40				
ABA + S speciation	ea.	$150.00	$150.00				
WAD Cyanide in water	ea.	$56.00	$56.00				
Water Analysis (Profile II) (1)	ea.	$461.00	$461.00				
	ea.						
	ea.						
	ea.						
	ea.						
	ea.						
	ea.						
	ea.						
	ea.						
	ea.						
	ea.						
Notes:		(1) WET Lab, Reno, Nevada (July 2020) Well pump and Sample supply costs adjusted to 2020. Original source unknown.	(1) WET Lab, Reno, Nevada (July 2020) Well pump and Sample supply costs adjusted to 2020. Original source unknown.				

Fuel, Etc.							
Description	Units	Cost/unit	Cost/unit	Cost/unit	Cost/unit	Cost/unit	Cost/unit
Off-road Diesel - delivered (1)	$/gal	$2.19	$2.19				
Pickup Truck Travel	$/mi	$0.58	$0.58				
Electical Power	$/kWh	$0.0787	$0.0787				
Notes:		(1) Source: Oil Price Infomration Service , average annual cost including freight to Nevada (July 2020). Source: Federal Government Vehicle Allowance Rate 2020 Source: NV Energy (July 2020) $0.07872	(1) Source: Oil Price Infomration Service , average annual cost including freight to Nevada (July 2020). Source: Federal Government Vehicle Allowance Rate 2020 Source: NV Energy (July 2020) $0.07872				

Nevada Standardized Bond Calculation
Misc. Unit Costs

File Name:	***SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 2.xlsm***
Date:	***January 6, 2021***
Cost Basis:	***User Data***
Author/Source:	***New Mexico Department of Workforce Solutions Public Works Prevailing Wage Rates Type H - Heavy Engineering Construction & EquipmentWatch & Nevada***

MISCELLANEOUS COST TABLE

JOB DESCRIPTION		Basis 1		Basis 2		Basis 3		Basis 4		Basis 5		Basis 6	
		American Magnesium - Option 1 Revised											
REVEGETATION													
Item	**Units**	**Labor**	**Equip**	**Labor**	**Equip**	**Labor**	**Equip**	**Labor**	**Equip**	**Labor**	**Equip**	**Labor**	**Equip**
Seeding - Broadcast Manual [1]	$/acres	$140.00	$50.00	$140.00	$50.00								
Seeding - Broadcast Mechanical [1]	$/acres	$140.00	$50.00	$140.00	$50.00								
Seeding - Drill [1]	$/acres	$140.00	$120.00	$140.00	$120.00								
Seeding - Hydroseeding [1]	$/acres	$250.00	$150.00	$250.00	$150.00								
Item	**Units**	**Materials**		**Materials**		**Materials**		**Materials**		**Materials**		**Materials**	
Shrub Planting - bare root 6-10 in (150- 250mm) [2]	ea.												
Tree Planting - bare root 11-16 in (270- 400mm) [3]	ea.												
Cactus Planting [4]	ea.												
NOTES:													
(1) Seeding Source:		Source: Kelley Erosion Control (July 2020).		Source: Kelley Erosion Control (July 2020).									
(2) Shrub Source:													
(3) Tree Source:													
(4) Cactus Source:													
BUILDING and WALL DEMOLITION													
Item	**Units**		**Premium**		**Premium**		**Premium**		**Premium**		**Premium**		**Premium**
Building Demolition													
Lg. steel	C.F.												
Lg. concrete	C.F.												
Lg. masonry	C.F.												
Lg. mixed	C.F.												
Sm. steel	C.F.												
Sm. concrete	C.F.												
Sm. masonry	C.F.												
Sm. wood	C.F.												
Wall Demolition													
Block 4 in thick	S.F.		20%		20%		20%		20%		20%		
Block 6 in thick	S.F.		20%		20%		20%		20%		20%		
Block 8 in thick	S.F.		20%		20%		20%		20%		20%		
Block 12 in thick	S.F.		20%		20%		20%		20%		20%		
Conc 6 in thick	S.F.		10%		10%		10%		10%		10%		
Conc 8 in thick	S.F.		10%		10%		10%		10%		10%		
Conc 10 in thick	S.F.		10%		10%		10%		10%		10%		
Conc 12 in thick	S.F.		10%		10%		10%		10%		10%		
WASTE DISPOSAL													
Item	**Units**	**Materials**		**Materials**		**Materials**		**Materials**		**Materials**		**Materials**	
Rubbish and Waste Handling													
Dumpster delivery (average for all sizes)	ea.	$51.50		$51.50									
Haul (average for all sizes)	ea.	$161.00		$161.00									
Rent per month (average for all sizes)	ea.	$55.00		$55.00									
Disposal fee per ton (tonne) (average for all sizes)	ton	$60.50		$60.50									
NOTES:													
Dumpster Cost Source		R.S. Means Heavy Construction (2020 Q2).		R.S. Means Heavy Construction (2020 Q2).									
Disposal Fee Source:		R.S. Means Heavy Construction (2020 Q2).		R.S. Means Heavy Construction (2020 Q2).									
Hazardous Material Handling - Solids													
Pickup fees 55 gal. drums	ea.	$251.00		$251.00									
Bulk material (average)	ton	$409.50		$409.50									
Transport - truck load (80 drums, 25 cy (m3), 18 tons)	mile	$5.88		$5.88									
Dump site disposal fee	ton	$288.50		$288.50									
NOTES:													
Solid Handling Cost Source		R.S. Means Heavy Construction (2019 Q2).		R.S. Means Heavy Construction (2019 Q2).									
Solid Disposal Fee Source:		2019 Q2 R.S. Means Heavy Const. ave. 02 81		2019 Q2 R.S. Means Heavy Const. ave. 02 81									
Hazardous Material Handling - Liquids													
Vacuum Truck Pickup (2200 gal or 9,700 litres)	hr.	$147.00		$147.00									
Vacuum Truck Pickup (5000 gal or 19,000 litres)	hr.	$213.00		$213.00									
Dump site disposal fee	ton	$288.50		$288.50									
NOTES:													
Liquid Handling Cost Source		R.S. Means Heavy Construction (2020 Q2).		R.S. Means Heavy Construction (2020 Q2).									
Liquid Disposal Fee Source:		2020 Q2 R.S. Means Heavy Const. ave. 02 81		2020 Q2 R.S. Means Heavy Const. ave. 02 81									
Hydrocarbon Contaminated Soils (HCS)													
Insitu Biotreatment	C.Y	$17.64		$17.64									
HCS disposal fee	C.Y	$278.50		$278.50									
NOTES:													
Insitu Treatement Cost Source		2020 Q2 R.S. Means Heavy Const., ave. 02 65		2020 Q2 R.S. Means Heavy Const., ave. 02 65									
HCS Disposal Fee Source:		2020 Q2 R.S. Means Heavy Const., ave. 02 65		2020 Q2 R.S. Means Heavy Const., ave. 02 65									

Nevada Standardized Bond Calculation
Misc. Unit Costs

File Name:	***SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 2.xlsm***
Date:	***January 6, 2021***
Cost Basis:	***User Data***
Author/Source:	***New Mexico Department of Workforce Solutions Public Works Prevailing Wage Rates Type H - Heavy Engineering Construction & EquipmentWatch & Nevada***

MISCELLANEOUS COST TABLE

JOB DESCRIPTION		Basis 1		Basis 2		Basis 3		Basis 4		Basis 5		Basis 6	
		American Magnesium - Option 1 Revised											
UNDERGROUND OPENING CLOSURE													
Item	**Units**	**Materials**	**Premium**	**Materials**	**Premium**	**Materials**	**Premium**	**Materials**	**Premium**	**Materials**	**Premium**	**Materials**	**Premium**
Reinforced Concrete Bulkheads and Shaft Covers													
Grade walls - 15 in thick, 8 ft high	C.Y	$163.00		$163.00									
Grade walls - 15 in thick, 12 ft high	C.Y	$163.00		$163.00									
Elevated conc, 1-way beam & slab - 15ft span	C.Y	$278.00		$278.00									
Elevated conc, 1-way beam & slab - 25ft span	C.Y	$265.00		$265.00									
Item	**Units**	**Materials**		**Materials**		**Materials**		**Materials**		**Materials**		**Materials**	
Small Adit Plugging													
Bat Gate [5]	ea.	$3,367.61		$3,367.61									
Culvert Gate [5]	C.Y	$6,735.21		$6,735.21									
Adit Foam Plug [6]	C.Y	$336.76		$336.76									
Production Opening Foam Plug [6]	C.Y	$336.76		$336.76									
NOTES:													
(5) Bat Gate Source:		NV BLM, 2/2006: 8 hr + 1hr mob/demob + 1hr setup per gate (adjusted to 2020)		NV BLM, 2/2006: 8 hr + 1hr mob/demob + 1hr setup per gate (adjusted to 2020)									
(6) Foam Plug Source:		NV BLM, 2/2006: 8 hr+ 1hr mob/demob + 1hr setup per adit; 16 hrs per production opening (adjusted to 2020)		NV BLM, 2/2006: 8 hr+ 1hr mob/demob + 1hr setup per adit; 16 hrs per production opening (adjusted to 2020)									
MISC. LINEAR PROJECTS													
Item	**Units**	**Materials**	**Premium**	**Materials**	**Premium**	**Materials**	**Premium**	**Materials**	**Premium**	**Materials**	**Premium**	**Materials**	**Premium**
Fencing Installation													
Barbed 3-strand	ft	$0.51		$0.51									
Barbed 4-strand	ft	$0.68		$0.68									
Barbed 5-strand	ft	$0.85		$0.85									
Chain link 8 ft -10 ft Install	ft	$38.00		$38.00									
Wood stockade fence 6 ft high - Install	ft	$16.00		$16.00									
	ft												
	ft												
Fencing Removal													
Barbed 3-strand Removal	ft												
Barbed 4-strand Removal	ft												
Barbed 5-strand Removal	ft												
Chain link 8 ft -10 ft Removal	ft												
Wood, all types 4 ft -6 ft high Removal	ft												
	ft												
	ft												
Culvert Removal													
12 in (300 mm) Diameter	ft												
18 in (450 mm) Diameter	ft												
24 in (600 mm) Diameter	ft												
36 in (1m) Diameter	ft												
Pipeline Removal													
Plastic Pipe 3/4 in (mm) - 4 in (100 mm) diameter	ft												
6 in (150 mm) - 8 in (200 mm)	ft												
10 in (250 mm) - 18 in (450 mm)	ft												
20 in (500 mm) - 36 in (1 m)	ft												
Pipe and Drainpipe Installation													
Water 4in (100mm) 40ft (12m) length, welded HDPE	ft	$2.70		$2.70									
Water 6in (150mm) 40ft (12m) length, welded HDPE	ft	$5.85		$5.85									
Water 12in (300mm) 40ft (12m) length, welded HDPE	ft												
Drain 4in (100mm) perforated PVC	ft	$1.74		$1.74									
Drain 6in (150mm) perforated PVC	ft	$4.22		$4.22									
Drain 4in (100mm) corrugated, perf or plain	ft	$0.78		$0.78									
Drain 6in (150mm) corrugated., perf or plain	ft	$2.18		$2.18									
Drain Rock Preparation													
Item	**Units**		**Total**		**Total**		**Total**		**Total**		**Total**		**Total**
Crushing	C.Y		$0.50		$0.50								
Screening	C.Y		$0.50		$0.50								
Misc.													
Item	**Units**		**Premium**		**Premium**		**Premium**		**Premium**		**Premium**		**Premium**
Backhoe work	C.Y												
Powerline and Transformer Removal			**Total**		**Total**		**Total**		**Total**		**Total**		**Total**
Single Pole Powerlines [7]	mile		$46,804		$46,804								
Double Pole Powerlines [8]	mile		$53,490		$53,490								
Substation [9]	unit		$58,997		$58,997								
NOTES:													
(7) Single Pole Source:		NV Energy estimate (2009) Adjusted to 2020		NV Energy estimate (2009) Adjusted to 2020									
(8) Double Pole Source:		NV Energy estimate (2009) Adjusted to 2020		NV Energy estimate (2009) Adjusted to 2020									
(9) Transformer Source:		NV Energy estimate (2018) adjusted to 2020		NV Energy estimate (2018) adjusted to 2020									

Nevada Standardized Bond Calculation
Misc. Unit Costs

File Name:	*SRCE_Cost_data-Am_Mg_Foothill_Dolomite_ Mine_1_12 Rev 2.xlsm*
Date:	*January 6, 2021*
Cost Basis:	*User Data*
Author/Source:	*New Mexico Department of Workforce Solutions Public Works Prevailing Wage Rates Type H - Heavy Engineering Construction & EquipmentWatch & Nevada*

MISCELLANEOUS COST TABLE

JOB DESCRIPTION		Basis 1		Basis 2		Basis 3		Basis 4		Basis 5		Basis 6	
		American Magnesium - Option 1 Revised											
EROSION, EVAPORATION and SEDIMENTATION CONTROL													
Item	**Units**	**Materials**	**Premium**	**Materials**	**Premium**	**Materials**	**Premium**	**Materials**	**Premium**	**Materials**	**Premium**	**Materials**	**Premium**
Rip-Rap & Rock Lining													
Rip-Rap 3/8 to 1/4 C.Y. pieces, grouted	S.Y.	$25.00		$25.00									
Rip-Rap 18 in min thick, no grout	S.Y.	$7.65		$7.65									
Gabions, 6 in deep	S.Y.	$7.05		$7.05									
Gabions, 9 in deep	S.Y.	$9.85		$9.85									
Gabions, 12 in deep	S.Y.	$14.30		$14.30									
Gabions, 18 in deep	S.Y.	$18.35		$18.35									
Gabions, 36 in deep	S.Y.	$31.00		$31.00									
Liner Installation													
Item	**Units**	**Materials**	**Premium**	**Materials**	**Premium**	**Materials**	**Premium**	**Materials**	**Premium**	**Materials**	**Premium**	**Materials**	**Premium**
Site grading	S.F.												
Compaction	S.F.												
Item	**Units**		**Materials**		**Materials**		**Materials**		**Materials**		**Materials**		**Materials**
60 mil HDPE Liner	S.F.		$0.57		$0.57								
Construction Management Support													
Item	**Units**		**Materials**		**Materials**		**Materials**		**Materials**		**Materials**		**Materials**
Office Trailer, Furnished, no hook-ups	month		$198.00		$198.00								
Toilet Portable, chemical	month		$214.20		$214.20								
PRODUCTION OR DEWATERING WELL PUMP REMOVAL													
Item	**Units**	**Labor**	**Equip**	**Labor**	**Equip**	**Labor**	**Equip**	**Labor**	**Equip**	**Labor**	**Equip**	**Labor**	**Equip**
Pump Type													
Submersible [10]	ft to pump	$7.65	$18.86	$7.65	$18.86								
Line Shaft [10]	ft to pump	$7.65	$18.86	$7.65	$18.86								
NOTES:													
(10) Pump Removal Source:		Boart Longyear Quote: June 2020		Boart Longyear Quote: June 2020									

File Name:	***CostData STD 3.xls***
Date:	***December 1, 2005***
Cost Basis:	***Standardized Data***
Author/Source:	***New Mexico Department of Workforce Solutions Public Works Prevailing Wage Rates Type H - Heavy Engineering Const***

Administrative Cost Rates (%)

	Cost Ranges for Indirect Cost Percentages				
	<=	<=	<=	>	
1. Engineering, Design and Construction (ED&C) Plan (7)	$1,000,000	$25,000,000		$25,000,000	Small Plan
Variable Rate	8%	6%		4%	
	<=	<=	<=	>	
2. Contingency (8)	$500,000	$5,000,000	$50,000,000	$50,000,000	Small Plan
Variable Rate	10%	8%	6%	4%	
3. Insurance (9)	1.5%	of labor costs			
4. Bond (10)	3.0%	of the O&M costs if O&M costs are >$100,000			
5. Contractor Profit (11)	10.0%	of the O&M costs			
	<=	<=	<=	>	
6. Contract Administration (12)	$1,000,000	$25,000,000		$25,000,000	
Variable Rate	10%	8%		6%	
	21%	of contract administration			

RECLAMATION COST ESTIMATION SUMMARY SHEET FOOTNOTES

1. Federal construction contracts require Davis-Bacon wage rates for contracts over $2,000. Wage rate estimates may include base pay, payroll loading, overhead and profit. To avoid double counting of any of the identified administrative costs the operator must itemize the components of their labor cost estimates or provide BLM with a signed statement, under penalty of USC 1001, that identifies what specific administrative costs are included in the quoted hourly rate.

2. The reclamation cost estimate must include the estimated plugging cost of at least one drill hole for each active drill rig in the project area. Where the submitted Notice or approved Plan of Operations calls for drill holes to be plugged, but doesn't specifically require the drill holes be plugged before the drill rig has been moved from the drill pad, the reclamation cost estimate must include the plugging cost for those drill holes. For all drill holes and wells scheduled to be left open, the estimated plugging cost must be included in the reclamation cost estimate. Where the approved Plan of Operations proposes immediate mining through an area where the drilling is to occur, and the cost of the post-mining reclamation is included in the reclamation cost estimate, the cost estimate does not need to include the plugging costs for those drill holes.

3. Miscellaneous items should be itemized on accompanying worksheets.