



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

November 18, 2024

Jason McGraw  
General Shale Brick, Inc.  
1845 W. Dartmouth  
Ave. Denver, CO  
80110-1308

**Re: Chieftain South Mine - File No. M-1981-148**  
**General Shale Brick, Inc.**  
**Surety Increase (SI-1)**  
**M1981148 Chieftain South Mine Surety Increase**

Dear Jason McGraw:

On November 18, 2024 the Division of Reclamation, Mining and Safety increased the current Financial Warranty for this permit to \$817,050.00, in accordance with Rule 4.2.1 of the Rules and Regulations. This is an increase of \$419,220.00.

During the review of the Chieftain South Mine, it has come to the Division's attention that the reclamation liability amount has not been updated since 2007. Because the reclamation bond has not been adjusted in some time, the Division has updated the reclamation cost estimate for the Chieftain South Mine to ensure the financial warranty reflects the actual current cost of fulfilling the requirements of the reclamation plan per Rule 4.2.1. The financial warranty increase accounts for the increased cost in the event the state is to perform earthwork and revegetation. The operator has 60 days to post the additional financial warranty from the date of this written notice from the Division per Rule 4.2.1(2).

Please see the September 16, 2024 inspection report for details regarding why this surety increase is required.

On November 18, 2024, the Division ordered amendment of the current Financial Warranty or submittal of a new Financial Warranty reflecting the increase, within 60 days.

Please make arrangements with Sara M. Stevenson-Benn at the Division's Denver office for submittal of the financial warranty. Any other questions regarding completion, execution and/or submittal of financial warranty forms should also be directed to Sara M. Stevenson-Benn by telephone at (303) 866-3567, or by email at [Sara.stevenson-benn@state.co.us](mailto:Sara.stevenson-benn@state.co.us).

The Permittee for this site may be scheduled for a Formal Board Hearing for possible revocation of

Physical Address: 1313 Sherman Street, Room 215, Denver, CO 80203 P 303.866.3567 F 303.832.8106

Mailing Address: DRMS Room 215, 1001 E 62nd Ave, Denver, CO 80216 <https://drms.colorado.gov>

Jared S. Polis, Governor | Dan Gibbs, Executive Director | Michael A. Cunningham, Director



the permit if the amount of any increased Financial Warranty has not been provided by January 17, 2025.

Bond Held:	\$397,830.00
Prior Liability:	\$397,830.00
Change in Liability:	\$419,220.00
Revised Liability:	\$817,050.00
Prior Permit Acreage:	98.52
Change in Permit Acreage:	0.00
Revised Permit Acreage:	98.52
Prior Affected Acreage:	98.52
Change in Affected Acreage:	0.00
Revised Affected Acreage:	98.52

If you have any questions, please contact me by telephone at (720) 793-2988, or by email at [Ben.hammar@state.co.us](mailto:Ben.hammar@state.co.us).

Sincerely,

A handwritten signature in blue ink, appearing to read "Ben Hammar". The signature is fluid and cursive.

Ben E. Hammar  
Environmental Protection Specialist

cc: Jason McGraw

M-GR-04

## COST SUMMARY WORK

Task description: \_\_\_\_\_

Site: Chieftain South Mine

Permit Action: 2024 Bond Calculation

Permit/Job#: M1981148

### PROJECT IDENTIFICATION

Task #: 010

State: Colorado

Abbreviation: None

Date: 9/20/2024

County: Jefferson

Filename: M148-010

User: BEH

Agency or organization name: DRMS

### TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
011	Regrading	TRUCK1	1	658.55	\$478,068
012	Revegetating affected area	REVEGE	1	63.00	\$99,230
013	Topsoil Spreading	TRUCK1	1	54.60	\$39,638
014	Equipment Mobilization	MOBILIZE	1	1.44	\$3,906
<b><u>SUBTOTALS:</u></b>				<b>777.59</b>	<b>\$620,842</b>

### INDIRECT COSTS

#### OVERHEAD AND PROFIT:

Liability insurance: 2.02

Total = \$12,541

Performance bond: 1.05

Total = \$6,519

Job superintendent: 573.08

Total = \$45,428

Profit: 10.00

Total = \$62,084

TOTAL O & P = \$126,572

CONTRACT AMOUNT (direct + O & P) = \$747,414

#### LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs): \$500

Total = \$500

Engineering work and/or contract/bid preparation: 4.25

Total = \$31,765

Reclamation management and/or administration: 5.00

\$37,371

CONTINGENCY: 0.00

Total = \$0

TOTAL INDIRECT COST = \$196,208

**TOTAL BOND AMOUNT (direct + indirect) = \$817,050**

**TRUCK/LOADER TEAM WORK**Task description: **Regrading**Site: **Chieftain South Mine**Permit Action: 2024 Bond CalculationPermit/Job#: M1981148**PROJECT IDENTIFICATION**Task #: 011State: ColoradoAbbreviation: NoneDate: 9/20/2024County: JeffersonFilename: M148-011User: BEHAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Shift basis: 1 per day

	Equipment Description
Truck Loader Team -Truck:	Cat 730
-Loader:	CAT 950H
Support Equipment -Load Area:	NA
-Dump Area:	Cat D6T XL
Road Maintenance –Motor Grader:	NA
-Water Truck:	NA

**Cost Breakdown:****Truck/Loader Team****Support Equipment****Maintenance Equipment**

	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	100	NA	NA
Ownership cost/hour:	\$108.67	\$36.61	NA	\$90.43	NA	NA
Operating cost/hour:	\$66.26	\$35.43	NA	\$67.29	NA	NA
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	\$0.00	NA	NA
Ripper op. cost/hour:	NA	\$0.00	NA	\$0.00	NA	NA
Operator cost/hour:	\$24.82	\$56.64	NA	\$40.04	NA	NA
Unit Subtotals:	\$199.75	\$128.68	NA	\$197.76	NA	NA
Number of Units:	2	1	0	1	0	0
Group Subtotals:	Work: \$528.18		Support: \$197.76		Maint: \$0.00	

Total work team cost/hour: **\$725.94****MATERIAL QUANTITIES**Initial volume: 252,915

CCY

Swell factor: 1.090Loose volume: **275,677**

LCY

Source of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat HandbookMaterial Purchase Cost: \$0.00Total Cost: \$0.00**HOURLY PRODUCTION****Truck Capacity:****Truck Payload (weight) Basis:**Material weight: 2,400

Pounds/LCY

Description: Clay and gravel - DryRated Payload: 62,000

Pounds

Payload Capacity: 25.83

LCY

**Truck Bed (volume) Basis:**

Struck Volume:	17.10	LCY
Heaped Volume:	22.10	LCY
Average Volume:	19.60	LCY
Adjusted Volume:	22.10	LCY

Final Truck Volume Based on Number of Loader Passes: **18.06** LCY

**Loading Tool Capacity**

Bucket Size Class: NA

Rated Capacity:	4.300	LCY (heaped)
Bucket Fill Factor:	1.050	Moist loam or sandy clay (100% - 110%) 1.050
Adjusted Capacity:	<b>4.515</b>	LCY

**Job Condition Corrections:**

Site Altitude (ft.): 6000 feet

	<b>Truck</b>	<b>Loader</b>	<b>Source</b>
Altitude Adj:	1.000	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)
Net Correction:	<b>0.830</b>	<b>0.830</b>	

**Loading Tool Cycle Time:** Number of Loading Tool Passes Required to Fill Truck: 4 passes

**Excavators and Front Shovels:**

Machine Cycle Time vs. Job Condition Rating: NA  
 Selected Value within this Basic Rating: NA

Track Loaders – Material Description: \_\_\_\_\_

Cycle Time Elements (min.):

Load: NA Maneuver: NA Dump: 0.100

Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver): 0.500 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Mixed material 0.02	0.020	(Cat HB)
Stockpile:	Dumped by truck 0.02	0.020	(Cat HB)
Truck Ownership:	Common ownership of trucks and loaders -0.04	-0.040	(Cat HB)
Operation:	Constant operation -0.04	-0.040	(Cat HB)
Dump Target:	Nominal target 0.00	0.000	(Cat HB)
Net Cycle Time Adjustment:		-0.040	minutes
Adjusted Loader Cycle Time:		<b>0.460</b>	minutes
Net Load Time per Truck:		<b>1.480</b>	minutes

**Truck Cycle Time:**

Truck Exchange Time:	0.60	Minutes	Adjusted for site altitude:	0.600	Minutes
Truck Load Time:	1.480	Minutes	Adjusted for site altitude:	1.480	Minutes
Truck Maneuver and Dump Time:	1.00	Minutes	Adjusted for site altitude:	1.000	Minutes

Truck Travel (Haul & Return) Time:  
maintained 3.0

Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered,

## Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	0.00	3.00	3.00	2183	0.722

Haul Time: **0.722** minutes

## Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	0.00	3.00	3.00	2936	0.495

Return Time: **0.495** minutesTotal Truck Cycle Time: **4.297** minutes

Loading Tool unit  
 Production 520.96 LCY/Hour      Adjusted for job efficiency: 432.40 LCY/Hour  
 Truck Unit Production  
252.18 LCY/Hour      Adjusted for job efficiency: 209.31 LCY/Hour  
 Optimal No. of Trucks: 2 Truck(s)      Selected Number of Trucks: 2 Truck(s)

Adjusted hourly truck team production: 418.61 LCY/Hour  
 Adjusted single truck/loader team production: 418.61 LCY/Hour  
 Adjusted multiple truck/loader team production: **418.61** LCY/Hour

**JOB TIME AND COST**

Fleet size: 1 Team(s)      Total job time: **658.55** Hours  
 Unit cost: \$1.734 /LCY      Total job cost: **\$478,068**

**REVEGETATION WORK**Task description: Revegetating affected areaSite: Chieftain South MinePermit Action: 2024 Bond CalculationPermit/Job#: M1981148**PROJECT IDENTIFICATION**Task #: 012State: ColoradoAbbreviation: NoneDate: 9/20/2024County: JeffersonFilename: M148-012User: BEHAgency or organization name: DRMS**FERTILIZING****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
			\$	\$
			<b>Total Fertilizer Materials Cost/Acre</b>	<b>\$0.00</b>

**Application**

Description	Cost /Acre
	\$
<b>Total Fertilizer Application Cost/Acre</b>	<b>\$0.00</b>

**TILLING**

Description	Cost /Acre
Chisel plowing {DMG}	\$102.41
<b>Total Tilling Cost/Acre</b>	<b>\$102.41</b>

**SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Little Bluestem - Native	1.00	5.97	\$15.39
Sideoats Grama - Butte	1.00	3.28	\$24.16
Intermediate Wheatgrass - Oahe	4.00	8.54	\$18.58
Pubescent Wheatgrass - Greenleaf	3.50	7.23	\$16.66
Slender Wheatgrass - Native	3.00	10.95	\$21.19
Wheat, Winter - Tam 107	4.00	3.67	\$2.16
<b>Totals Seed Mix</b>	<b>16.50</b>	<b>39.65</b>	<b>\$98.14</b>

**Application**

Description	Cost /Acre
Drill Seeding (DRMS Survey Cost)	\$236.64
<b>Total Seed Application Cost/Acre</b>	<b>\$236.64</b>

## MULCHING and MISCELLANEOUS

## Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Hay, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$492.78	\$985.56
<b>Total Mulch Materials Cost/Acre</b>				<b>\$985.56</b>

## Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$85.37
<b>Total Mulch Application Cost/Acre</b>	<b>\$85.37</b>

## NURSERY STOCK PLANTING

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

### JOB TIME AND COST

No. of Acres:	<u>63</u>	Cost /Acre:	<u>\$1,508.12</u>
Estimated Failure Rate:	<u>20%</u>	Cost /Acre*:	<u>\$334.78</u>
*Selected Replanting Work Items:	<u>SEEDING</u>		
Initial Job Cost:	<u><b>\$95,011.56</b></u>		
Reseeding Job Cost:	<u><b>\$4,218.23</b></u>		
Total Job Cost:	<u><b>\$99,230</b></u>		
Job Hours:	<b>63.00</b>		



**TRUCK/LOADER TEAM WORK**Task description: Topsoil SpreadingSite: Chieftain South MinePermit Action: 2024 Bond CalculationPermit/Job#: M1981148**PROJECT IDENTIFICATION**Task #: 013State: ColoradoAbbreviation: NoneDate: 9/20/2024County: JeffersonFilename: M148-013User: BEHAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Shift basis: 1 per day

Equipment Description	
Truck Loader Team -Truck:	Cat 730
-Loader:	CAT 950H
Support Equipment -Load Area:	NA
-Dump Area:	Cat D6T XL
Road Maintenance –Motor Grader:	NA
-Water Truck:	NA

**Cost Breakdown:****Truck/Loader Team****Support Equipment****Maintenance Equipment**

	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	100	NA	NA
Ownership cost/hour:	\$108.67	\$36.61	NA	\$90.43	NA	NA
Operating cost/hour:	\$66.26	\$35.43	NA	\$67.29	NA	NA
%Utilization-ripper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	\$0.00	NA	NA
Ripper op. cost/hour:	NA	\$0.00	NA	\$0.00	NA	NA
Operator cost/hour:	\$24.82	\$56.64	NA	\$40.04	NA	NA
Unit Subtotals:	\$199.75	\$128.68	NA	\$197.76	NA	NA
Number of Units:	2	1	0	1	0	0
Group Subtotals:	Work: \$528.18		Support: \$197.76		Maint: \$0.00	

Total work team cost/hour: \$725.94**MATERIAL QUANTITIES**Initial volume: 20,970

CCY

Swell factor: 1.090Loose volume: 22,857

LCY

Source of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat HandbookMaterial Purchase Cost: \$0.00Total Cost: \$0.00**HOURLY PRODUCTION****Truck Capacity:**Truck Payload (weight) Basis:Material weight: 2,400

Pounds/LCY

Description: Clay and gravel - DryRated Payload: 62,000

Pounds

Payload Capacity: 25.83

LCY

Truck Bed (volume) Basis:

Struck Volume:	17.10	LCY
Heaped Volume:	22.10	LCY
Average Volume:	19.60	LCY
Adjusted Volume:	22.10	LCY

Final Truck Volume Based on Number of Loader Passes: 18.06 LCY

Loading Tool Capacity

Bucket Size Class: NA

Rated Capacity:	4.300	LCY (heaped)
Bucket Fill Factor:	1.050	Moist loam or sandy clay (100% - 110%) 1.050
Adjusted Capacity:	<b>4.515</b>	LCY

Job Condition Corrections:

Site Altitude (ft.): 6000 feet

	Truck	Loader	Source
Altitude Adj:	1.000	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)
Net Correction:	<b>0.830</b>	<b>0.830</b>	

Loading Tool Cycle Time: Number of Loading Tool Passes Required to Fill Truck: 4 passes

Excavators and Front Shovels:

Machine Cycle Time vs. Job Condition Rating: NA  
 Selected Value within this Basic Rating: NA

Track Loaders – Material Description: \_\_\_\_\_

Cycle Time Elements (min.):

Load: NA Maneuver: NA Dump: 0.100

Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver): 0.500 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Mixed material 0.02	0.020	(Cat HB)
Stockpile:	Dumped by truck 0.02	0.020	(Cat HB)
Truck Ownership:	Common ownership of trucks and loaders -0.04	-0.040	(Cat HB)
Operation:	Constant operation -0.04	-0.040	(Cat HB)
Dump Target:	Nominal target 0.00	0.000	(Cat HB)
Net Cycle Time Adjustment:		-0.040	minutes
Adjusted Loader Cycle Time:		<b>0.460</b>	minutes
Net Load Time per Truck:		<b>1.480</b>	minutes

Truck Cycle Time:

Truck Exchange Time:	0.60	Minutes	Adjusted for site altitude:	0.600	Minutes
Truck Load Time:	1.480	Minutes	Adjusted for site altitude:	1.480	Minutes
Truck Maneuver and Dump Time:	1.00	Minutes	Adjusted for site altitude:	1.000	Minutes

Truck Travel (Haul & Return) Time:  
maintained 3.0

Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered,

## Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	0.00	3.00	3.00	2183	0.722

Haul Time: **0.722** minutes

## Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	0.00	3.00	3.00	2936	0.495

Return Time: **0.495** minutesTotal Truck Cycle Time: **4.297** minutes

Loading Tool unit  
 Production 520.96 LCY/Hour      Adjusted for job efficiency: 432.40 LCY/Hour  
 Truck Unit Production  
252.18 LCY/Hour      Adjusted for job efficiency: 209.31 LCY/Hour  
 Optimal No. of Trucks: 2 Truck(s)      Selected Number of Trucks: 2 Truck(s)

Adjusted hourly truck team production: 418.61 LCY/Hour  
 Adjusted single truck/loader team production: 418.61 LCY/Hour  
 Adjusted multiple truck/loader team production: **418.61** LCY/Hour

**JOB TIME AND COST**Fleet size: 1 Team(s)      Total job time: **54.60** HoursUnit cost: \$1.734 /LCY      Total job cost: **\$39,638**

**EQUIPMENT MOBILIZATION/DEMOBILIZATION**Task description: **Equipment Mobilization**Site: **Chieftain South Mine**Permit Action: **2024 Bond Calculation**Permit/Job#: **M1981148****PROJECT IDENTIFICATION**Task #: **014**State: **Colorado**Abbreviation: **None**Date: **9/20/2024**County: **Jefferson**Filename: **M148-014**User: **BEH**Agency or organization name: **DRMS****EQUIPMENT TRANSPORT RIG COST**Shift basis: **1 per day**Cost Data Source: **CRG Data**Truck Tractor Description: **GENERIC ON-HIGHWAY TRUCK TRACTOR, 6X4, DIESEL POWERED,  
400 HP (2ND HALF, 2006)**Truck Trailer Description: **GENERIC FOLDING GOOSENECK, DROP DECK EQUIPMENT  
TRAILER (25T, 50T, AND 100T)****Cost Breakdown:**

<b>Available Rig Capacities</b>	<b>0-25 Tons</b>	<b>26-50 Tons</b>	<b>51+ Tons</b>
Ownership Cost/Hour:	\$10.44	\$22.18	\$23.94
Operating Cost/Hour:	\$26.48	\$54.55	\$55.65
Operator Cost/Hour:	\$22.52	\$22.52	\$22.52
Helper Cost/Hour:	\$0.00	\$23.53	\$23.53
Total Unit Cost/Hour:	\$59.44	\$122.78	\$125.64

**NON ROADABLE EQUIPMENT:**

Machine Description	Weight/ Unit (TONS)	Owner ship Cost/hr/ unit	Haul Rig Cost/hr/unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
Cat D6T XL	23.25	\$90.43	\$59.44	1	\$149.87	\$59.44	\$250.00
Cat 730	25.19	\$108.67	\$59.44	2	\$336.22	\$118.88	\$750.00
Drill/Broadcast Seeder with Tractor	25.00	\$41.02	\$59.44	1	\$100.46	\$59.44	\$250.00
CAT 950H	20.13	\$36.61	\$59.44	1	\$96.05	\$59.44	\$250.00

Subtotals: **\$682.60** **\$297.20** **\$1,500.00****ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Light Duty Pickup, 4x4, 1 T. Crew	\$24.60	1	\$24.60	\$24.60

Subtotals: **\$24.60** **\$24.60**

**EQUIPMENT HAUL DISTANCE and Time**

Nearest Major City or Town within project area region: LAKEWOOD  
 Total one-way travel distance: 5.00 miles  
 Average Travel Speed: 45.00 mph

Total Non-Roadable Mob/Demob Cost \* \$3,900.33  
 \*\* two round trips with haul rig:  
 Total Roadable Mob/Demob Cost \*\* \$5.47  
 \*\* one round trip, no haul rig:

**Transportation Cycle Time:**

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	<u>0.11</u>	<u>0.11</u>
Return Time (Hours):	<u>0.11</u>	<u>0.11</u>
Loading Time (Hours):	<u>0.25</u>	<u>NA</u>
Unloading Time (Hours):	<u>0.25</u>	<u>NA</u>
Subtotals:	<u>0.72</u>	<u>0.22</u>

**JOB TIME AND COST**

Total job time: 1.44 Hours

Total job cost: \$3,906