



COLORADO

Division of Reclamation,
Mining and Safety

Department of Natural Resources

1313 Sherman Street, Room 215
Denver, CO 80203

April 14, 2015

Mr. Gayle Lyman
Grand Junction Pipe & Supply Co.
556 Struthers Ave
Grand Junction, CO 81501

**Re: South Fruita Gravel Pit, Permit No. M-1981-243, Financial Warranty Increase,
Revision No. SI-4**

Dear Mr. Lyman:

On April 14, 2015 the Division of Reclamation, Mining and Safety increased the current Financial Warranty for this permit to \$181,476.67, in accordance with Rule 4.2.1 of the Rules and Regulations. This is an increase of \$107,504.67 over the currently held amount of \$73,972.00.

The Division ordered amendment of the current Financial Warranty or submittal of a new Financial Warranty reflecting the increase, within 60 days from the date of this letter. If you wish to submit a different type of Financial Warranty, please contact Barbara Coria at (303) 866-3567 ext. 8148.

If you need additional information, please contact me at the Division of Reclamation, Mining and Safety, Grand Junction Field Office, 101 S. 3rd St., Suite 301, Grand Junction, Colorado 81501, telephone no. (970) 241-2042.

Sincerely,

Travis Marshall
Environmental Protection Specialist

Enclosure(s): Reclamation Cost Update SI-4

ec: Russ Means, DRMS
Barbara Coria, DRMS



COST SUMMARY WORK

Task description: _____

Site: S Fruita Grav Pit Permit Action: Reclamation
Cost Update Permit/Job#: M1981243

PROJECT IDENTIFICATION

Task #: 001 State: Colorado Abbreviation: None
Date: 4/14/2015 County: Mesa Filename: M243-001
User: THM

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
01a	Pump Pit to Establish Pon Final Slope Configuration	PUMPING	1	410.59	\$18,276.00
02a	Cut and Fill Slopes to 3H:1V	DOZER	1	53.84	\$11,259.00
03a	Cut and Fill 5H:1V Slope Area	DOZER	1	1.96	\$409.00
04a	Rip 32.2 acres of compaced area prior to topsoil placement	RIPPER	1	47.19	\$10,515.00
05a	Place 6 inches of topsoil over 32.2 acres	SCRAPER1	1	36.60	\$37,146.00
06a	Revegetate 32.2 acres with approved seed mix	REVEGE	1	24.00	\$46,624.00
07a	Mobilization	MOBILIZE	1	2.88	\$5,743.00
<u>SUBTOTALS:</u>				577.06	\$129,972

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance:	2.02%	Total =	\$2,625.43
Performance bond:	1.05%	Total =	\$1,364.71
Job superintendent:	288.53 hrs	Total =	\$21,685.91
Profit:	10.00%	Total =	\$12,997.20
		TOTAL O & P =	\$38,673.25
		CONTRACT AMOUNT (direct + O & P) =	\$168,645.25

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs):	500.00	Total =	500.00
Engineering work and/or contract/bid preparation:	0.00%	Total =	\$0.00
Reclamation management and/or administration:	5.00%		\$8,432.26

CONTINGENCY: 3.00 Total = \$3,899.16

TOTAL INDIRECT COST = \$51,504.67

TOTAL BOND AMOUNT (direct + indirect) = \$181,476.67

PUMPING WORK

Task description: Pump Pit to Establish Pon Final Slope Configuration

Site: S Fruita Grav Pit Permit Action: Reclamation Cost Update Permit/Job#: M1981243

PROJECT IDENTIFICATION

Task #: 01A State: Colorado Abbreviation: None
Date: 4/13/2015 County: Mesa Filename: M243-01a
User: THM

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

	Description	Quantity
Make and Model:	Centrifugal pump - 200M, 10 in.	1
Attachment 1:	Suction pipe - 10 in. diam., 25 ft.	6
Attachment 2:	Discharge pipe - 10 in. D., 25 ft.	4
Labor Unit 1:		0

Horsepower: 70
Shift Basis: 1 per day
Weight: 1.95
(US Tons)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$22.52	NA
Operating Cost/Hour:	\$21.99	100
Operator Cost/Hour:	\$0.00	NA
Total Unit Cost/Hour:	\$44.51	
Total Fleet Cost/Hour:	\$44.51	

PUMPING QUANTITIES

Initial Pond Volume:	<u>74,940,624.00</u>		Conversion factor:	<u>1.0000</u>
Final Pond Volume:	<u>74,940,624.00</u>	gallons		
Total Pond Inflow Surface Area:	<u>16,800</u>	Sq. ft.	Unit inflow rate in gph/sq. ft.:	<u>0.3516</u>
Total Pond Inflow Volume per Hour:	<u>5,906.88</u>	gallons		

Source of estimated volume: Previously accepted values

PUMPING TIME

Maximum Pump Capacity:	<u>200,000</u>	gph/pump
Estimated Suction Head:	<u>15</u>	feet
Estimated Discharge Head:	<u>15</u>	feet
Total Head:	<u>30</u>	feet
CPB Pump Capacity:	<u>168,000</u>	gph/pump
Site Altitude:	<u>4,600</u>	feet
Adjusted Pumping Capacity:	<u>168,000</u>	gph
Initial Unadjusted Pumping Time:	<u>446.08</u>	hours
Inflow during Initial Pumping:	<u>2,634,912</u>	gallons
Net Unadjusted Pumping Time:	<u>461.76</u>	Hours
Altitude Adjustment Factor:	<u>0.9700</u>	(3% rule)
Pump Efficiency Factor:	<u>0.9167</u>	(55 min./hr.)
Total Adjusted Pumping Time:	<u>410.60</u>	hours

JOB TIME AND COST

Unit cost: \$0.000236 /Gallon Total job time: 410.60 Hours
Total job cost: \$18,276

BULLDOZER WORKTask description: Cut and Fill Slopes to 3H:1VSite: S Fruita Grav PitPermit Action: Reclamation Cost
UpdatePermit/Job#: M1981243**PROJECT IDENTIFICATION**Task #: 02A
Date: 4/14/2015
User: THMState: Colorado
County: MesaAbbreviation: None
Filename: M243-02aAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D8T - 8SU
Horsepower: 310
Blade Type: Semi-Universal
Attachment: NA
Shift Basis: 1 per day
Data Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$62.67	NA
Operating Cost/Hour:	\$107.59	100
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$38.85	NA

Total unit Cost/Hour: \$209.11Total Fleet Cost/Hour: \$209.11**MATERIAL QUANTITIES**Initial Volume: 22,222
Swell factor: 1.180
Loose volume: 26,222 LCYSource of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 75 feet
Unadjusted hourly production: 1,017.1 LCY/hrMaterials consistency description: Compacted fill or embankment 0.9Average push gradient: -5 %
Average site altitude: 4,600 feetMaterial weight: 2,400 lbs/LCYWeight description: Clay and gravel - Dry**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.115	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.958	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4788

Adjusted unit production: 486.99 LCY/hr

Adjusted fleet production: 486.99 LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.429/LCY

Total job time: 53.84 Hours

Total job cost: \$11,259

BULLDOZER WORKTask description: Cut and Fill 5H:1V Slope AreaSite: S Fruita Grav PitPermit Action: Reclamation Cost
UpdatePermit/Job#: M1981243**PROJECT IDENTIFICATION**Task #: 03AState: ColoradoAbbreviation: NoneDate: 4/14/2015County: MesaFilename: M243-03aUser: THMAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D8T - 8SUHorsepower: 310Blade Type: Semi-UniversalAttachment: NAShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$62.67	NA
Operating Cost/Hour:	\$107.59	100
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$38.85	NA

Total unit Cost/Hour: \$209.11Total Fleet Cost/Hour: \$209.11**MATERIAL QUANTITIES**Initial Volume: 1,111Swell factor: 1.180Loose volume: 1,311 LCYSource of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 50 feetUnadjusted hourly production: 1,400.0 LCY/hrMaterials consistency description: Compacted fill or embankment 0.9Average push gradient: -5 %Average site altitude: 4,600 feetMaterial weight: 2,400 lbs/LCYWeight description: Clay and gravel - Dry**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.115	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.958	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4788

Adjusted unit production: 670.32 LCY/hr

Adjusted fleet production: 670.32 LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.312/LCY

Total job time: 1.96 Hours

Total job cost: \$409

BULLDOZER RIPPING WORK

Task description: Rip 32.2 acres of compacted area prior to topsoil placement

Site: S Fruita Grav Pit Permit Action: Reclamation Cost Update Permit/Job#: M1981243

PROJECT IDENTIFICATION

Task #: 04A State: Colorado Abbreviation: None
Date: 4/14/2015 County: Mesa Filename: M243-04a
User: THM

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D8T - 8SU Horsepower: 310
Ripper Attachment: 3-Shank Ripper Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	<u>\$69.05</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$107.59</u>	<u>100</u>
Ripper Operating Cost/Hour:	<u>\$7.31</u>	<u>100</u>
Operator Cost/Hour:	<u>\$38.85</u>	<u>NA</u>
Total Unit Cost/Hour:	<u>\$222.80</u>	
Total Fleet Cost/Hour:	<u>\$222.80</u>	

MATERIAL QUANTITIES

Selected estimating method: Area

Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA
Area: 32.20 acres Rip Depth (ft): 2.00 Volume: 103,899 BCY or CCY

Source of estimated quantity: Annual Report and conditions observed during inspection

HOURLY PRODUCTION

Seismic:

Seismic Velocity: NA feet/second

Area:

Average Ripping Depth: 2.56 mph
Average Ripping Width: 7.08 degrees
Average Ripping Length: 500.00 feet
Average Dozer Speed: 88.00 feet
Average Maneuver Time: 0.25 feet
Production per unit area: 0.822 acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.822 Acres/hr
Site Altitude: 4,600 feet
Altitude Adj: 1.00 (CAT HB)
Job Efficiency: 0.83 (1 shift/day)
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.68 Acres/hr
Adjusted Hourly Fleet Production: 0.68 Acres/hr

JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: 47.20 Hours

Unit cost: \$326.556 Per acre Total job cost: \$10,515

SCRAPER TEAM WORKTask description: Place 6 inches of topsoil over 32.2 acresSite: S Fruita Grav PitPermit Action: Reclamation Cost UpdatePermit/Job#: M1981243**PROJECT IDENTIFICATION**Task #: 05AState: ColoradoAbbreviation: NoneDate: 4/14/2015County: MesaFilename: M243-05aUser: THMAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 627G w/push-pull
-Dozer:	Cat D8T - 8SU
Support Equipment -Load Area:	NA
-Dump Area:	Cat D8T - 8SU
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

Cost Breakdown:**Scraper Work Team****Support Equipment****Maintenance Equipment**

	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	100	NA	NA
Ownership cost/hour:	\$72.62	\$62.67	NA	\$62.67	NA	NA
Operating cost/hour:	\$186.73	\$107.59	NA	\$107.59	NA	NA
Ripper op. cost/hour:	NA	\$0.00	NA	\$0.00	NA	NA
Operator cost/hour:	\$39.02	\$38.85	NA	\$38.85	NA	NA
Unit Subtotals:	\$298.36	\$209.11	NA	\$209.11	NA	NA
Number of Units:	2	1	0	1	0	0
Group Subtotals:	Work: \$805.83		Support: \$209.11		Maint:	\$0.00

Total work team cost/hour: \$1,014.94**MATERIAL QUANTITIES**Initial volume: 26,028

CCY

Swell factor: 1.000Loose volume: 26,028

LCY

Source of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<u>1,600 lbs/LCY</u>	Struck Volume:	<u>15.70</u>	LCY
Material description:	<u>Top Soil</u>	Heaped Volume:	<u>22.00</u>	LCY
Rated Payload:	<u>52,800 pounds</u>	Average Volume:	<u>18.85</u>	LCY
Payload Capacity:	<u>33.00 LCY</u>	Adjusted Capacity:	<u>18.85</u>	LCY

Cycle Time:Scraper Loading Time: 0.90 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 4600 feet

	Scraper	Push Dozer	Source
Altitude Adj:	1.000	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)
Net Correction:	0.830	0.830	

Travel Time:Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1200.00	0.00	3.00	3.00	2824	0.60

Haul Time: 0.60 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1200.00	0.00	3.00	3.00	2874	0.54

Return Time: 0.54 minutesTotal Scraper team cycle time: 2.64 minutesAdjusted for job conditions: 711.16 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 711.16 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 711.16 LCY/HourUnadjusted unit production/hour: 856.82 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 36.60 HoursUnit cost: \$1.427 /LCYTotal job cost: \$37,146

REVEGETATION WORKTask description: Revegetate 32.2 acres with approved seed mixSite: S Fruita Grav PitPermit Action: Reclamation Cost UpdatePermit/Job#: M1981243PROJECT IDENTIFICATIONTask #: 06AState: ColoradoAbbreviation: NoneDate: 4/14/2015County: MesaFilename: M243-06aUser: THMAgency or organization name: DRMSFERTILIZINGMaterials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
6-24-24, 10-20-10, 15-15-15	300.00	pound	\$0.26	\$79.20
			Total Fertilizer Materials Cost/Acre	\$79.20

Application

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	\$52.71
Total Fertilizer Application Cost/Acre	\$52.71

TILLING

Description	Cost /Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$98.01
Total Tilling Cost/Acre	\$98.01

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Alkali Sacaton	0.05	1.95	\$1.14
Indian Ricegrass - Paloma	3.12	10.10	\$27.18
Crested Wheatgrass - Ephraim	1.50	6.89	\$3.35
Canby Bluegrass - Canbar	0.45	9.57	\$3.77
Galleta	3.00	10.95	\$75.60
Saltbush, Four Wing	1.00	1.38	\$10.73
Totals Seed Mix	9.12	40.83	\$121.76

Application

--	--

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

MULCHING and MISCELLANEOUS**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$265.00	\$530.00
Total Mulch Materials Cost/Acre				\$530.00

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$65.89
Power mulcher (MEANS 32 91 13.16 0250)	\$86.68
Total Mulch Application Cost/Acre	\$152.57

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:	32.2	Cost /Acre:	\$1,034.25
Estimated Failure Rate:	40%	Cost /Acre*:	\$1,034.25
*Selected Replanting Work Items:	FERTILIZING,TILLING,SEEDING,MULCHING		
Initial Job Cost:	\$33,302.85		
Reseeding Job Cost:	\$13,321.14		
Total Job Cost:	\$46,624		
Job Hours:	24.00		

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: **Mobilization**Site: **S Fruita Grav Pit**Permit Action: **Reclamation Cost
Update**Permit/Job#: **M1981243****PROJECT IDENTIFICATION**Task #: **07A**
Date: **4/14/2015**
User: **THM**State: **Colorado**
County: **Mesa**Abbreviation: **None**
Filename: **M243-07a**Agency or organization name: **DRMS****EQUIPMENT TRANSPORT RIG COST**Shift basis: **1 per day**
Cost Data Source: **CRG Data**Truck Tractor Description: **GENERIC ON-HIGHWAY TRUCK TRACTOR, 6X4, DIESEL POWERED,
400 HP (2ND HALF, 2006)**Truck Trailer Description: **GENERIC FOLDING GOOSENECK, DROP DECK EQUIPMENT TRAILER
(25T, 50T, AND 100T)****Cost Breakdown:**

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

NON ROADABLE EQUIPMENT:

Machine Description	Weight/ Unit (TONS)	Owner ship Cost/hr/ unit	Haul Rig Cost/hr/unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
Cat D8T - 8SU	53.08	\$69.05	\$125.45	2	\$388.99	\$250.90	\$500.00
Cat 627G w/push-pull	43.48	\$72.62	\$117.55	2	\$380.33	\$235.10	\$500.00
Drill/Broadcast Seeder with Tractor	25.00	\$39.59	\$88.67	1	\$128.26	\$88.67	\$250.00
Power Mulcher (Reinco M90)	6.00	\$7.03	\$88.67	1	\$95.70	\$88.67	\$250.00

Subtotals: **\$993.28** **\$663.34** **\$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, 3/4 T.	\$15.25	3	\$45.75	\$45.75

Subtotals: **\$45.75** **\$45.75**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	<u>GRAND JUNCTION</u>	
Total one-way travel distance:	<u>10.00</u>	miles
Average Travel Speed:	<u>45.00</u>	mph

Total Non-Roadable Mob/Demob Cost *	<u>\$5,722.84</u>
* two round trips with haul rig:	
Total Roadable Mob/Demob Cost **	<u>\$20.33</u>
** one round trip, no haul rig:	

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	<u>0.22</u>	<u>0.22</u>
Return Time (Hours):	<u>0.22</u>	<u>0.22</u>
Loading Time (Hours):	<u>0.50</u>	<u>NA</u>
Unloading Time (Hours):	<u>0.50</u>	<u>NA</u>
Subtotals:	<u>1.44</u>	<u>0.44</u>

JOB TIME AND COST

Total job time:	<u>2.89</u>	Hours
-----------------	-------------	-------

Total job cost:	<u>\$5,743</u>
-----------------	----------------