

# STATE OF COLORADO

## DIVISION OF RECLAMATION, MINING AND SAFETY

Department of Natural Resources

1313 Sherman St., Room 215  
Denver, Colorado 80203  
Phone: (303) 866-3567  
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John W. Hickenlooper  
Governor

Mike King  
Executive Director

Loretta E. Pineda  
Director

February 11, 2014

Mr. James MacDonald  
APC Southern Construction Co., LLC  
14802 W 44th Avenue  
Golden, CO 80403

**Re: Velarde Pit, DRMS Permit No. M-2002-118  
Financial Warranty Increase  
Surety Increase SI-01**

Dear Mr. MacDonald:

On February 11, 2014 the Division of Reclamation, Mining and Safety increased the current Financial Warranty for this permit to \$114,200.00, in accordance with Rule 4.2.1 of the Rules and Regulations. This is an increase of \$46,400.00. Please see attached calculations. The increase reflects the Division's efforts to ensure the financial warranty for this operation will fulfill the requirements of the approved reclamation plan. **In accordance with section 34-32.5-117(4) of the Colorado Land Reclamation Act, adequate financial warranty must be submitted to the Division within 60 days of notification (the mailing date of this letter);** therefore, the required additional amount needs to be accepted prior to April 14, 2014.

Please make arrangements with Barbara Coria 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 Barbara Coria. Her phone number is 303-899-3567, extension 8148.

If you need additional information please contact me at the Division of Reclamation, Mining and Safety, 1313 Sherman St., Room 215, Denver, CO 80203, by telephone at 303-866-3567, extension 8131, or by email at [tyler.odonnell@state.co.us](mailto:tyler.odonnell@state.co.us).

Sincerely,

A handwritten signature in cursive script that reads "Tyler O'Donnell".

Tyler V. O'Donnell  
Environmental Protection Specialist

CERTIFIED Mail No. 7011 3500 0002 9607 6896  
Return Receipt Requested

Enclosure: Financial warranty calculation

CC: Tom Kaldenbach, DRMS

## COST SUMMARY WORK

Task description: Reclaim the Velarde Pit

Site: Velarde Pit Permit Action: 2014 Inspection Permit/Job#: M2002118

### PROJECT IDENTIFICATION

Task #: 999 State: Colorado Abbreviation: None  
Date: 2/4/2014 County: Huerfano Filename: M118-999  
User: TOD

Agency or organization name: DRMS

### TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Grade slopes to 3H:1V	DOZER	1	12.84	\$2,709.75
002	Replace overburden	SCRAPER1	1	60.57	\$31,038.80
003	Replace 6 inches of topsoil 30 acres	SCRAPER1	1	39.71	\$20,349.50
004	Rip 5 acres	RIPPER	1	7.32	\$1,546.00
005	Revegetation of 30 acres	REVEGE	1	90.00	\$32,056.35
007	Mobilization/Demobilization	MOBILIZE	1	3.33	\$2,264.68
<b><u>SUBTOTALS:</u></b>				<b>213.77</b>	<b>\$89,965.08</b>

### INDIRECT COSTS

#### OVERHEAD AND PROFIT:

Liability insurance:	2.02%	Total =	\$1,817.29
Performance bond:	1.05%	Total =	\$944.63
Job superintendent:	106.88 hrs	Total =	\$6,991.02
Profit:	10.00%	Total =	\$8,996.51
		TOTAL O & P =	\$18,749.45
		CONTRACT AMOUNT (direct + O & P) =	\$108,714.53

#### LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs):	0.00	Total =	0.00
Engineering work and/or contract/bid preparation:	0.00%	Total =	\$0.00
Reclamation management and/or administration:	5.00%		\$5,435.73

CONTINGENCY: 0.00 Total = \$0.00

TOTAL INDIRECT COST = \$24,185.18

**TOTAL BOND AMOUNT (direct + indirect) = \$114,150.26**

**BULLDOZER WORK**Task description: **Grade slopes to 3H:1V**Site: **Velarde Pit** Permit Action: 2014 Inspection Permit/Job#: M2002118**PROJECT IDENTIFICATION**

Task #: 001 State: Colorado Abbreviation: None  
 Date: 2/4/2014 County: Huerfano Filename: M118-001  
 User: TOD

Agency or organization name: DRMS**HOURLY EQUIPMENT COST**

Basic Machine: Cat D8T - 8U  
 Horsepower: 310  
 Blade Type: Universal  
 Attachment: 3-shank ripper  
 Shift Basis: 1 per day  
 Data Source: (CRG)

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$63.00</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$104.06</u>	<u>100</u>
Ripper op. Cost/Hour:	<u>\$6.53</u>	<u>100</u>
Operator Cost/Hour:	<u>\$37.41</u>	<u>NA</u>

Total unit Cost/Hour: \$211.01  
 Total Fleet Cost/Hour: **\$211.01**

**MATERIAL QUANTITIES**

Initial Volume: 6,666  
 Swell factor: 1.250  
 Loose volume: **8,333 LCY**

Source of estimated volume: DRMS field estimate Heigh 20 feet leght 1500 feet slope 2H1VSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**

Average push distance: 90 feet  
 Unadjusted hourly production: 1,021.2 LCY/hr

Materials consistency description: Consolidated stockpile 1.0

Average push gradient: -10 %  
 Average site altitude: 6,100 feet

Material weight: 2,650 lbs/LCYWeight description: Decomposed rock - 25% Rock, 75% EarthJob Condition Correction Factor

		<u>Source</u>
Operator Skill:	<u>0.750</u>	<u>(AVG.)</u>
Material consistency:	<u>1.000</u>	<u>(CAT HB)</u>

Dozing method:	1.200	(SLOT)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(SSD-AC)
Push gradient:	1.225	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.6354

Adjusted unit production: 648.87 LCY/hr

Adjusted fleet production: **648.87** LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)

Unit cost: \$0.325/LCY

Total job time: **12.84** Hours

Total job cost: **\$2,709.75**

**SCRAPER TEAM WORK**Task description: Replace overburdenSite: Velarde Pit Permit Action: 2014 Inspection Permit/Job#: M2002118**PROJECT IDENTIFICATION**

Task #: 002 State: Colorado Abbreviation: None  
 Date: 2/4/2014 County: Huerfano Filename: M118-002  
 User: TOD

Agency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 637G
-Dozer:	Cat D8T - 8U
Support Equipment -Load Area:	NA
-Dump Area:	NA
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	50	NA	NA	NA	NA
Ownership cost/hour:	\$97.63	\$63.00	NA	NA	NA	NA
Operating cost/hour:	\$232.31	\$52.03	NA	NA	NA	NA
Ripper op. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Operator cost/hour:	\$30.02	\$37.41	NA	NA	NA	NA
Unit Subtotals:	\$359.96	\$152.45	NA	NA	NA	NA
Number of Units:	1	1	0	0	0	0
Group Subtotals:	Work:	\$512.41	Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$512.41****MATERIAL QUANTITIES**

Initial volume: 32,266 CCY Swell factor: 1.125  
 Loose volume: 36,299 LCY

Source of estimated volume: Division of Reclamation, Mining & Safety estimate 2004  
 Source of estimated swell factor: Cat Handbook

**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<u>2,650 lbs/LCY</u>	Struck Volume:	<u>24.00</u>	LCY
Material description:	<u>Decomposed rock - 25% Rock, 75% Earth</u>	Heaped Volume:	<u>34.00</u>	LCY
Rated Payload:	<u>81,600 pounds</u>	Average Volume:	<u>29.00</u>	LCY
Payload Capacity:	<u>30.79 LCY</u>	Adjusted Capacity:	<u>29.00</u>	LCY

Cycle Time:Scraper Loading Time: 0.80 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 6100 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: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	800.00	0.00	5.00	5.00	1867	0.56

Haul Time: 0.56 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	800.00	0.00	5.00	5.00	2795	0.45

Return Time: 0.45 minutesTotal Scraper team cycle time: 2.41 minutesAdjusted for job conditions: 599.25 LCY/HourSelected Number of Scrapers: 1 Scraper(s)Adjusted single scraper team (unit) hourly production: 599.25 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 599.25 LCY/HourUnadjusted unit production/hour: 721.99 LCY/Hour

Optimal Number of Scrapers per push dozer: \_\_\_\_\_

**JOB TIME AND COST**Fleet size: 1 Team(s)Total job time: 60.57 HoursUnit cost: \$0.855 /LCYTotal job cost: \$31,038.80

**SCRAPER TEAM WORK**Task description: Replace 6 inches of topsoil 30 acresSite: Velarde PitPermit Action: 2014 InspectionPermit/Job#: M2002118**PROJECT IDENTIFICATION**Task #: 003State: ColoradoAbbreviation: NoneDate: 2/4/2014County: HuerfanoFilename: M118-003User: TODAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 637G
-Dozer:	Cat D8T - 8U
Support Equipment -Load Area:	NA
-Dump Area:	NA
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	50	NA	NA	NA	NA
Ownership cost/hour:	\$97.63	\$63.00	NA	NA	NA	NA
Operating cost/hour:	\$232.31	\$52.03	NA	NA	NA	NA
Ripper op. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Operator cost/hour:	\$30.02	\$37.41	NA	NA	NA	NA
Unit Subtotals:	\$359.96	\$152.45	NA	NA	NA	NA
Number of Units:	1	1	0	0	0	0
Group Subtotals:	Work:	\$512.41	Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$512.41****MATERIAL QUANTITIES**Initial volume: 19,918

CCY

Swell factor: 1.215Loose volume: **24,200**

LCY

Source of estimated volume: Division of Reclamation, Mining & Safety estimate 2004Source of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<u>1,600 lbs/LCY</u>	Struck Volume:	<u>24.00</u>	LCY
Material description:	<u>Top Soil</u>	Heaped Volume:	<u>34.00</u>	LCY
Rated Payload:	<u>81,600 pounds</u>	Average Volume:	<u>29.00</u>	LCY
Payload Capacity:	<u>51.00 LCY</u>	Adjusted Capacity:	<b><u>29.00</u></b>	LCY

Cycle Time:Scraper Loading Time: 0.80 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 6100 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: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	800.00	0.00	5.00	5.00	1867	0.52

Haul Time: 0.52 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	800.00	0.00	5.00	5.00	2795	0.45

Return Time: 0.45 minutesTotal Scraper team cycle time: 2.37 minutesAdjusted for job conditions: 609.37 LCY/HourSelected Number of Scrapers: 1 Scraper(s)Adjusted single scraper team (unit) hourly production: 609.37 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 609.37 LCY/HourUnadjusted unit production/hour: 734.18 LCY/Hour

Optimal Number of Scrapers per push dozer: \_\_\_\_\_

**JOB TIME AND COST**Fleet size: 1 Team(s)Total job time: 39.71 HoursUnit cost: \$0.841 /LCYTotal job cost: \$20,349.50



## BULLDOZER RIPPING WORK

Task description: Rip 5 acres

Site: Velarde Pit Permit Action: 2014 Inspection Permit/Job#: M2002118

### PROJECT IDENTIFICATION

Task #: 004 State: Colorado Abbreviation: None  
Date: 2/4/2014 County: Huerfano Filename: M118-004  
User: TOD

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

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

#### Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	<u>\$63.00</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$104.06</u>	<u>100</u>
Ripper Operating Cost/Hour:	<u>\$6.53</u>	<u>100</u>
Operator Cost/Hour:	<u>\$37.41</u>	<u>NA</u>
Total Unit Cost/Hour:	<u>\$211.01</u>	
Total Fleet Cost/Hour:	<u><b>\$211.01</b></u>	

### MATERIAL QUANTITIES

Selected estimating method: Area

#### Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA  
Area: 5.00 acres Rip Depth (ft): 1.50 Volume: 12,100 BCY or CCY

Source of estimated quantity: Exhibit L

### 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: 6,100 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: **7.33** Hours

Unit cost: \$309.276 Per acre Total job cost: **\$1,546.00**

**REVEGETATION WORK**Task description: **Revegetation of 30 acres**Site: **Velarde Pit**Permit Action: **2014 Inspection**Permit/Job#: **M2002118****PROJECT IDENTIFICATION**Task #: **005**State: **Colorado**Abbreviation: **None**Date: **2/4/2014**County: **Huerfano**Filename: **M118-005**User: **TOD**Agency or organization name: **DRMS****FERTILIZING****Materials**

<b>Description</b>	<b>Units / Acre</b>	<b>Unit</b>	<b>Cost / Unit</b>	<b>Cost /Acre</b>
10-34-0, 18-46-0, 5-10-5	40.00	pound	\$0.33	\$13.08
			<b>Total Fertilizer Materials Cost/Acre</b>	<b>\$13.08</b>

**Application**

<b>Description</b>	<b>Cost /Acre</b>
Truck whirlwind spreader (MEANS 32 01 90.13 0140)	\$22.22
<b>Total Fertilizer Application Cost/Acre</b>	<b>\$22.22</b>

**TILLING**

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

**SEEDING**

<b>Seed Mix</b>	<b>Rate – PLS LBS / Acre</b>	<b>Seeds per SQ. FT</b>	<b>Cost /Acre</b>
Indian Ricegrass - Nespar	6.00	19.42	\$42.48
Blue Grama - Native	1.50	24.48	\$15.53
Sideoats Grama - Vaughn	4.50	14.77	\$50.58
Western Wheatgrass - Arriba	8.00	20.20	\$29.44
<b>Totals Seed Mix</b>	<b>20.00</b>	<b>78.88</b>	<b>\$138.03</b>

**Application**

<b>Description</b>	<b>Cost /Acre</b>
Drill seeding (DRMS Cost Data)	\$88.20

<b>Total Seed Application Cost/Acre</b>	<b>\$88.20</b>
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**MULCHING and MISCELLANEOUS****Materials**

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

**Application**

<b>Description</b>	<b>Cost /Acre</b>
Crimping, with tractor {DMG survey data}	\$65.89
<b>Total Mulch Application Cost/Acre</b>	<b>\$65.89</b>

**NURSERY STOCK PLANTING**

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

**JOB TIME AND COST**

No. of Acres:	30	Cost /Acre:	\$955.43
Estimated Failure Rate:	50%	Cost /Acre*:	\$226.23
*Selected Replanting Work Items:	SEEDING		
Initial Job Cost:	<b>\$28,662.90</b>		
Reseeding Job Cost:	<b>\$3,393.45</b>		
Total Job Cost:	<b>\$32,056.35</b>		
Job Hours:	<b>90.00</b>		

**EQUIPMENT MOBILIZATION/DEMOBILIZATION**Task description: **Mobilization/Demobilization**Site: **Velarde Pit** Permit Action: **2014 Inspection** Permit/Job#: **M2002118****PROJECT IDENTIFICATION**

Task #: **007** State: **Colorado** Abbreviation: **None**  
 Date: **2/4/2014** County: **Huerfano** Filename: **M118-007**  
 User: **TOD**

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:	\$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 - 8U	53.70	\$63.00	\$125.45	1	\$188.45	\$125.45	\$250.00
Cat 637G	57.28	\$97.63	\$125.45	1	\$223.08	\$125.45	\$250.00

Subtotals: **\$411.53** **\$250.90** **\$500.00**

**ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
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Subtotals: **\$0.00** **\$0.00**

**EQUIPMENT HAUL DISTANCE and Time**

Nearest Major City or Town within project area region:	<u>WALSENBURG</u>	
Total one-way travel distance:	<u>15.00</u>	miles
Average Travel Speed:	<u>45.00</u>	mph

Total Non-Roadable Mob/Demob Cost *	<u>\$2,264.68</u>
** two round trips with haul rig:	
Total Roadable Mob/Demob Cost **	<u>\$0.00</u>
** one round trip, no haul rig:	

**Transportation Cycle Time:**

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	<u>0.33</u>	<u>0.33</u>
Return Time (Hours):	<u>0.33</u>	<u>0.33</u>
Loading Time (Hours):	<u>0.50</u>	<u>NA</u>
Unloading Time (Hours):	<u>0.50</u>	<u>NA</u>
Subtotals:	<u>1.67</u>	<u>0.67</u>

**JOB TIME AND COST**

Total job time:	<u>3.33</u>	Hours
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Total job cost:	<u>\$2,264.68</u>
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