



**COLORADO DIVISION OF RECLAMATION, MINING AND SAFETY**  
**MINERALS PROGRAM INSPECTION REPORT**  
**PHONE: (303) 866-3567**

The Division of Reclamation, Mining and Safety has conducted an inspection of the mining operation noted below. This report documents observations concerning compliance with the terms of the permit and applicable rules and regulations of the Mined Land Reclamation Board.

<b>MINE NAME:</b> Ft. Garland Pit	<b>MINE/PROSPECTING ID#:</b> M-2008-085	<b>MINERAL:</b> Gravel and sand	<b>COUNTY:</b> Costilla
<b>INSPECTION TYPE:</b> Monitoring	<b>INSPECTOR(S):</b> Wallace H. Erickson	<b>INSP. DATE:</b> May 14, 2013	<b>INSP. TIME:</b> 09:45
<b>OPERATOR:</b> Asphalt Constructors, Inc.	<b>OPERATOR REPRESENTATIVE:</b> Todd Stockebrand	<b>TYPE OF OPERATION:</b> 112c - Construction Regular Operation	
<b>REASON FOR INSPECTION:</b> Normal I&E Program	<b>BOND CALCULATION TYPE:</b> Complete Bond	<b>BOND AMOUNT:</b> \$17,790.00	
<b>DATE OF COMPLAINT:</b> NA	<b>POST INSP. CONTACTS:</b> None	<b>JOINT INSP. AGENCY:</b> None	
<b>WEATHER:</b> Cloudy	<b>INSPECTOR'S SIGNATURE:</b> <i>Wallace H. Erickson</i>	<b>SIGNATURE DATE:</b> May 16, 2013	

**GENERAL INSPECTION TOPICS**

This list identifies the environmental and permit parameters inspected and gives a categorical evaluation of each. No problems or possible violations were noted during the inspection. The mine operation was found to be in full compliance with Mineral Rules and Regulations of the Colorado Mined Land Reclamation Board for the Extraction of Construction Materials and/or for Hard Rock, Metal and Designated Mining Operations. Any person engaged in any mining operation shall notify the office of any failure or imminent failure, as soon as reasonably practicable after such person has knowledge of such condition or of any impoundment, embankment, or slope that poses a reasonable potential for danger to any persons or property or to the environment; or any environmental protection facility designed to contain or control chemicals or waste which are acid or toxic-forming, as identified in the permit.

(AR) RECORDS----- <u>Y</u>	(FN) FINANCIAL WARRANTY----- <u>Y</u>	(RD) ROADS----- <u>Y</u>
(HB) HYDROLOGIC BALANCE----- <u>Y</u>	(BG) BACKFILL & GRADING----- <u>Y</u>	(EX) EXPLOSIVES----- <u>NA</u>
(PW) PROCESSING WASTE/TAILING----- <u>Y</u>	(SF) PROCESSING FACILITIES----- <u>Y</u>	(TS) TOPSOIL----- <u>Y</u>
(MP) GENL MINE PLAN COMPLIANCE- <u>Y</u>	(FW) FISH & WILDLIFE----- <u>Y</u>	(RV) REVEGETATION----- <u>Y</u>
(SM) SIGNS AND MARKERS----- <u>Y</u>	(SP) STORM WATER MGT PLAN----- <u>N</u>	(SB) COMPLETE INSP----- <u>Y</u>
(ES) OVERBURDEN/DEV. WASTE----- <u>Y</u>	(SC) EROSION/SEDIMENTATION----- <u>Y</u>	(RS) RECL PLAN/COMP-- <u>Y</u>
(AT) ACID OR TOXIC MATERIALS----- <u>Y</u>	(OD) OFF-SITE DAMAGE----- <u>Y</u>	(ST) STIPULATIONS----- <u>NA</u>

Y = Inspected and found in compliance / N = Not inspected / NA = Not applicable to this operation / PB = Problem cited / PV = Possible violation cited

### **OBSERVATIONS**

This inspection occurred as part of the Division's routine monitoring plan for permitted operations. The 112c permit is approved for 23.3 acres affected lands for the excavation and processing of construction materials. On-site processing will include crushing, screening, and production of asphalt products. Affected lands will be reclaimed to support rangeland post-mining land use. The Division holds \$17,790 financial warranty. This report is accompanied by two updated reclamation cost estimations, one assuming five acres affected lands and totaling \$11,687.47, and the second assuming three acres affected lands and totaling \$8,506.93.

Mining activities have not commenced. There appeared no affected lands anywhere within the permit boundary. Site conditions appeared unchanged since the pre-operational inspection occurring on March 4, 2009. Pursuant to Rule 1.13.3(2), since mining activities have not commenced the operation is exempt from the requirements of Rule 1.13, regarding Temporary Cessation status. The requirements of Rule 1.13 will not apply until after the commencement of the mining operation and the creation of a mining related surface disturbance (see Rule 1.1(3) for the definition of "affected land").

Pursuant to Rule 4.2.1(4), the amount of financial warranty required by the Division shall not exceed the cost of reclaiming all current affected lands and any lands which could be affected within one year. The original reclamation cost estimation, totaling \$17,790, assumed 10 acres affected land. As noted above the mining operation has not commenced and the \$17,790 financial warranty appears excessive pursuant to Rule 4.2.1(4). However, given the fact a permit has been issued the mining operation could commence at any time and the Division must require an appropriate and adequate financial warranty. Therefore, the Division has calculated the current cost of reclamation based on the following two scenarios:

1. The first scenario assumes the mining operation may commence with on-site processing and creating not more than five acres affected lands within the first year of operations. The reclamation cost estimation for the five acre limitation is dated May 15, 2013, and totals \$11,687.47.
2. The second scenario assumes the mining operation may commence but creates not more than three acres affected lands within the first year of operations. The reclamation cost estimation for the three acre limitation is dated May 16, 2013, and totals \$8,506.93.

The existing \$17,790 financial warranty is more than adequate to ensure the completion of reclamation. If the Operator desires to reduce the financial warranty please submit a request for surety reduction in accordance with Rule 4.14. Pursuant to Rule 4.14.1(2)(b), such request must include an estimate of the actual cost to reclaim the site based on what it would cost an independent contractor to complete reclamation. The two reclamation cost estimations prepared by the Division and enclosed with this report satisfy the requirements of Rule 4.14.1(2)(b). Therefore, the Division will accept a copy of either of the enclosed reclamation cost estimations with the request for surety reduction, if the Operator chooses to submit such a request.

Response to this report should be addressed to Wally Erickson at the Division's office in Durango at 691 County Road 233, Suite A-2, Durango, CO 81301, phone (970) 247-5469.

#### **Inspection Contact Address**

Todd Stockebrand  
Asphalt Constructors, Inc.  
7040 Hwy 160 West  
Alamosa, CO 81101

Enclosures: Reclamation estimation dated 5/15/13, totaling \$11,687.47.  
Reclamation estimation dated 5/16/13, totaling \$8,506.93.

ec w/enclosures: Russ Means, DRMS GJFO

## COST SUMMARY WORK

Task description: Summary of reclamation tasks and costs

Site: Ft. Garland Pit Permit Action: Routine bond update Permit/Job#: M2008085

### PROJECT IDENTIFICATION

Task #: 000 State: Colorado Abbreviation: None  
Date: 5/15/2013 County: Costilla Filename: M085-000  
User: WHE

Agency or organization name: DRMS

### TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Rough grade, slope reduction, 5 acres area	DOZER	1	8.35	\$2,170.92
002	Topsoil replacement 0.25 feet deep, 5 acres area	DOZER	1	5.54	\$1,438.92
003	Revegetate 5 acres affected lands	REVEGE	1	0.00	\$2,629.63
004	Haul reclamation equipment to and from job site	MOBILIZE	1	4.00	\$3,183.66
<b><u>SUBTOTALS:</u></b>				<b>17.89</b>	<b>\$ \$9,423.13</b>

### INDIRECT COSTS

#### OVERHEAD AND PROFIT:

Liability insurance:	2.02	Total =	\$190.35
Performance bond:	1.05	Total =	\$98.94
Job superintendent:	0.00	Total =	\$0.00
Profit:	10.00	Total =	\$942.31
		TOTAL O & P =	\$1,231.60
		CONTRACT AMOUNT (direct + O & P) =	\$10,654.73

#### 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		\$532.74
CONTINGENCY: 0.00		Total =	\$0.00

TOTAL INDIRECT COST = \$2,264.34

TOTAL BOND AMOUNT (direct + indirect) = \$11,687.47

BULLDOZER WORKTask description: Rough grade, slope reduction, 5 acres areaSite: Ft. Garland PitPermit Action: Routine bond updatePermit/Job#: M2008085PROJECT IDENTIFICATIONTask #: 001  
Date: 5/15/2013  
User: WHEState: Colorado  
County: CostillaAbbreviation: None  
Filename: M085-001Agency or organization name: DRMSHOURLY EQUIPMENT COSTBasic Machine: Cat D9T - 9U  
Horsepower: 405  
Blade Type: Universal  
Attachment: 3-shank ripper  
Shift Basis: 1 per day  
Data Source: (CRG)Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$78.33</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$142.13</u>	<u>100</u>
Ripper op. Cost/Hour:	<u>\$1.99</u>	<u>25</u>
Operator Cost/Hour:	<u>\$37.41</u>	<u>NA</u>

Total unit Cost/Hour: \$259.86  
Total Fleet Cost/Hour: \$259.86MATERIAL QUANTITIESInitial Volume: 8,067  
Swell factor: 1.000  
Loose volume: 8,067 LCYSource of estimated volume: (5ac)(43560sf/ac)(1'D) / 27 = 8066.67 cy  
Source of estimated swell factor: NAHOURLY PRODUCTIONAverage push distance: 50 feet  
Unadjusted hourly production: 2,222.9 LCY/hrMaterials consistency description: Partly consolidated stockpile 1.1Average push gradient: 0 %  
Average site altitude: 7,840 feetMaterial weight: 2,900 lbs/LCYWeight description: Decomposed rock - 50% Rock, 50% EarthJob Condition Correction Factor

		<u>Source</u>
Operator Skill:	<u>0.750</u>	<u>(AVG.)</u>
Material consistency:	<u>1.100</u>	<u>(CAT HB)</u>
Dozing method:	<u>1.000</u>	<u>(GEN.)</u>

Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4344

Adjusted unit production: 965.63 LCY/hr  
 Adjusted fleet production: 965.63 LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)  
 Unit cost: \$0.269/LCY

Total job time: 8.35 Hours  
 Total job cost: \$2,170.92

**BULLDOZER WORK**Task description: Topsoil replacement 0.25 feet deep, 5 acres areaSite: Ft. Garland PitPermit Action: Routine bond updatePermit/Job#: M2008085**PROJECT IDENTIFICATION**Task #: 002State: ColoradoAbbreviation: NoneDate: 5/15/2013County: CostillaFilename: M085-002User: WHEAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D9T - 9UHorsepower: 405Blade Type: UniversalAttachment: 3-shank ripperShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$78.33	NA
Operating Cost/Hour:	\$142.13	100
Ripper op. Cost/Hour:	\$1.99	25
Operator Cost/Hour:	\$37.41	NA

Total unit Cost/Hour: \$259.86Total Fleet Cost/Hour: \$259.86**MATERIAL QUANTITIES**Initial Volume: 2,017Swell factor: 1.000Loose volume: 2,017 LCYSource of estimated volume: (5ac)(43560sf/ac)(0.25'D) / 27 = 2016.67 cySource of estimated swell factor: NA**HOURLY PRODUCTION**Average push distance: 200 feetUnadjusted hourly production: 737.1 LCY/hrMaterials consistency description: Partly consolidated stockpile 1.1Average push gradient: 0 %Average site altitude: 7,840 feetMaterial weight: 2,550 lbs/LCYWeight description: Earth - Dry packed**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	1.100	(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:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4941

Adjusted unit production: 364.20 LCY/hr

Adjusted fleet production: 364.2 LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)  
Unit cost: \$0.714/LCY

Total job time: 5.54 Hours  
Total job cost: \$1,438.92

**REVEGETATION WORK**Task description: Revegetate 5 acres affected landsSite: Ft. Garland PitPermit Action: Routine bond updatePermit/Job#: M2008085**PROJECT IDENTIFICATION**Task #: 003State: ColoradoAbbreviation: NoneDate: 5/15/2013County: CostillaFilename: M085-003User: WHEAgency 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
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$98.01
<b>Total Tilling Cost/Acre</b>	<b>\$98.01</b>

**SEEDING**

Seed Mix	Rate -- PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Native	0.50	8.16	\$5.18
Indian Ricegrass - Native	1.00	3.24	\$6.74
Sand Dropseed	0.05	5.97	\$0.35
Bottlebrush Squirreltail	1.00	4.41	\$24.86
Rabbitbrush, Rubber	0.25	3.72	\$9.15
Needle and Thread	1.25	3.30	\$58.74
Western Wheatgrass - Native	3.00	7.58	\$9.12
Sagebrush, Wyoming Big	0.02	1.18	\$0.71
Spike Muhly	0.12	4.41	\$1.10
Winter Fat	1.25	3.19	\$40.86



<b>Totals Seed Mix</b>	8.44	45.15	<b>\$156.80</b>
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**Application**

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

**MULCHING and MISCELLANEOUS****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Herbicide - Curtail @ 4.0 pt/ac	1.00	ACRE	\$16.24	\$16.24
<b>Total Mulch Materials Cost/Acre</b>				<b>\$16.24</b>

**Application**

Description	Cost /Acre
Weed spray, truck, non-aquatic area, nox. [DMG]	\$61.49
<b>Total Mulch Application Cost/Acre</b>	<b>\$61.49</b>

**NURSERY STOCK PLANTING**

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

**JOB TIME AND COST**

No. of Acres: 5 Cost/Acre: \$420.74  
 Estimated Failure Rate: 25% Cost/Acre\*: \$420.74  
 \*Selected Replanting Work Items: TILLING,SEEDING,MULCHING  
 Initial Job Cost: \$2,103.70  
 Reseeding Job Cost: \$525.93  
 Total Job Cost: \$2,629.63  
 Job Hours: 0.00

**EQUIPMENT MOBILIZATION/DEMobilIZATION**Task description: Haul reclamation equipment to and from job siteSite: Ft. Garland PitPermit Action: Routine bond updatePermit/Job#: M2008085**PROJECT IDENTIFICATION**Task #: 004State: ColoradoAbbreviation: NoneDate: 5/15/2013County: CostillaFilename: M085-004User: WHEAgency or organization name: DRMS**EQUIPMENT TRANSPORT RIG COST**Shift basis: 1 per dayCost Data Source: CRG DataTruck 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 D9T - 9U	66.78	\$78.33	\$125.45	1	\$203.78	\$125.45	\$250.00
Drill/Broadcast Seeder with Tractor	25.00	\$39.59	\$88.67	2	\$256.51	\$177.34	\$500.00

Subtotals: **\$460.29** **\$302.79** **\$750.00****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:	ALAMOSA	
Total one-way travel distance:	30.00	miles
Average Travel Speed:	60.00	mph

Total Non-Roadable Mob/Demob Cost *	\$3,183.66
'* two round trips with haul rig:	
Total Roadable Mob/Demob Cost **	\$0.00
'** one round trip, no haul rig:	

**Transportation Cycle Time:**

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.50	0.50
Return Time (Hours):	0.50	0.50
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	2.00	1.00

**JOB TIME AND COST**

Total job time: 4.00 Hours

Total job cost: \$3,183.66

## COST SUMMARY WORK

Task description: Summary of tasks and costs for 3 acres area

Site: Ft. Garland Pit Permit Action: Assume 3 acres affected lands Permit/Job#: M2008085

### PROJECT IDENTIFICATION

Task #: 01A State: Colorado Abbreviation: None  
Date: 5/16/2013 County: Costilla Filename: M085-01A  
User: WHE

Agency or organization name: DRMS

### TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
005	Rough grade, slope reduction, 3 acres affected land	DOZER	1	6.85	\$1,411.47
006	Topsoil replacement 0.25 feet deep, 3 acres area	DOZER	1	2.99	\$617.27
007	Revegetate 3 acres affected lands	REVEGE	1	0.00	\$1,577.78
008	Haul reclamation equipment to and from job site	MOBILIZE	1	4.00	\$3,137.67
<b><u>SUBTOTALS:</u></b>				<b>13.84</b>	<b>\$ \$6,744.19</b>

### INDIRECT COSTS

#### OVERHEAD AND PROFIT:

Liability insurance:	2.02	Total =	\$136.23
Performance bond:	1.05	Total =	\$70.81
Job superintendent:	0.00	Total =	\$0.00
Profit:	10.00	Total =	\$674.42
		TOTAL O & P =	\$881.46
		CONTRACT AMOUNT (direct + O & P) =	\$7,625.65

#### 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		\$381.28
CONTINGENCY:		Total =	\$0.00

TOTAL INDIRECT COST = \$1,762.74

TOTAL BOND AMOUNT (direct + indirect) = \$8,506.93

**BULLDOZER WORK**Task description: Rough grade, slope reduction, 3 acres affected land

Site: Ft. Garland Pit Permit Action: Assume 3 acres affected lands Permit/Job#: M2008085

**PROJECT IDENTIFICATION**

Task #: 005 State: Colorado Abbreviation: None  
 Date: 5/16/2013 County: Costilla Filename: M085-005  
 User: WHE

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>\$1.63</u>	<u>25</u>
Operator Cost/Hour:	<u>\$37.41</u>	<u>NA</u>

Total unit Cost/Hour: \$206.11  
 Total Fleet Cost/Hour: \$206.11

**MATERIAL QUANTITIES**

Initial Volume: 4,840  
 Swell factor: 1.000  
 Loose volume: 4,840 LCY

Source of estimated volume: (3ac)(43560sf/ac)(1'D) / 27 = 4840 cy  
 Source of estimated swell factor: NA

**HOURLY PRODUCTION**

Average push distance: 50 feet  
 Unadjusted hourly production: 1,627.0 LCY/hr

Materials consistency description: Partly consolidated stockpile 1.1

Average push gradient: 0 %  
 Average site altitude: 7,840 feet

Material weight: 2,900 lbs/LCYWeight description: Decomposed rock - 50% Rock, 50% Earth

**Job Condition Correction Factor**

Operator Skill:	<u>0.750</u>	<u>Source (AVG.)</u>
Material consistency:	<u>1.100</u>	<u>(CAT HB)</u>

Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4344

Adjusted unit production: 706.77 LCY/hr

Adjusted fleet production: 706.77 LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)  
 Unit cost: \$0.292/LCY

Total job time: 6.85 Hours  
 Total job cost: \$1,411.47

**BULLDOZER WORK**Task description: Topsoil replacement 0.25 feet deep, 3 acres areaSite: Ft. Garland Pit Permit Action: Assume 3 acres affected landsPermit/Job#: M2008085**PROJECT IDENTIFICATION**

Task #: 006 State: Colorado Abbreviation: None  
 Date: 5/16/2013 County: Costilla Filename: M085-006  
 User: WHE

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>\$1.63</u>	<u>25</u>
Operator Cost/Hour:	<u>\$37.41</u>	<u>NA</u>

Total unit Cost/Hour: \$206.11  
 Total Fleet Cost/Hour: \$206.11

**MATERIAL QUANTITIES**

Initial Volume: 1,210  
 Swell factor: 1.000  
 Loose volume: 1,210 LCY

Source of estimated volume: (3ac)(43560sf/ac)(0.25'D) / 27 = 1210 cy  
 Source of estimated swell factor: NA

**HOURLY PRODUCTION**

Average push distance: 120 feet  
 Unadjusted hourly production: 817.7 LCY/hr

Materials consistency description: Partly consolidated stockpile 1.1

Average push gradient: 0 %  
 Average site altitude: 7,840 feet

Material weight: 2,550 lbs/LCYWeight description: Earth - Dry packed**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	<u>0.750</u>	<u>(AVG.)</u>
Material consistency:	<u>1.100</u>	<u>(CAT HB)</u>

Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4941

Adjusted unit production: 404.03 LCY/hr

Adjusted fleet production: 404.03 LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)  
Unit cost: \$0.510/LCY

Total job time: 2.99 Hours  
Total job cost: \$617.27



**REVEGETATION WORK**Task description: Revegetate 3 acres affected landsSite: Ft. Garland PitPermit Action: Assume 3 acres  
affected landsPermit/Job#: M2008085**PROJECT IDENTIFICATION**Task #: 007State: ColoradoAbbreviation: NoneDate: 5/16/2013County: CostillaFilename: M085-007User: WHEAgency 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
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$98.01
<b>Total Tilling Cost/Acre</b>	<b>\$98.01</b>

**SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Native	0.50	8.16	\$5.18
Indian Ricegrass - Native	1.00	3.24	\$6.74
Sand Dropseed	0.05	5.97	\$0.35
Bottlebrush Squirreltail	1.00	4.41	\$24.86
Rabbitbrush, Rubber	0.25	3.72	\$9.15
Needle and Thread	1.25	3.30	\$58.74
Western Wheatgrass - Native	3.00	7.58	\$9.12
Sagebrush, Wyoming Big	0.02	1.18	\$0.71
Spike Muhly	0.12	4.41	\$1.10
Winter Fat	1.25	3.19	\$40.86

<b>Totals Seed Mix</b>	8.44	45.15	<b>\$156.80</b>
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**Application**

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

**MULCHING and MISCELLANEOUS****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Herbicide - Curtail @ 4.0 pt/ac	1.00	ACRE	\$16.24	\$16.24
<b>Total Mulch Materials Cost/Acre</b>				<b>\$16.24</b>

**Application**

Description	Cost /Acre
Weed spray, truck, non-aquatic area, nox. [DMG]	\$61.49
<b>Total Mulch Application Cost/Acre</b>	<b>\$61.49</b>

**NURSERY STOCK PLANTING**

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

**JOB TIME AND COST**

No. of Acres:	3	Cost /Acre:	\$420.74
Estimated Failure Rate:	25%	Cost /Acre*:	\$420.74
*Selected Replanting Work Items:	TILLING,SEEDING,MULCHING		
Initial Job Cost:	\$1,262.22		
Reseeding Job Cost:	\$315.56		
Total Job Cost:	\$1,577.78		
Job Hours:	0.00		

**EQUIPMENT MOBILIZATION/DEMOBILIZATION**Task description: Haul reclamation equipment to and from job siteSite: Ft. Garland PitPermit Action: Assume 3 acres  
affected landsPermit/Job#: M2008085**PROJECT IDENTIFICATION**Task #: 008State: ColoradoAbbreviation: NoneDate: 5/16/2013County: CostillaFilename: M085-008User: WHEAgency or organization name: DRMS**EQUIPMENT TRANSPORT RIG COST**Shift basis: 1 per day  
Cost Data Source: CRG DataTruck 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
Drill/Broadcast Seeder with Tractor	25.00	\$39.59	\$88.67	2	\$256.51	\$177.34	\$500.00

Subtotals: **\$444.96** **\$302.79** **\$750.00****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:	ALAMOSA	
Total one-way travel distance:	30.00	miles
Average Travel Speed:	60.00	mph

Total Non-Roadable Mob/Demob Cost *	\$3,137.67
** two round trips with haul rig:	
Total Roadable Mob/Demob Cost **	\$0.00
** one round trip, no haul rig:	

**Transportation Cycle Time:**

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.50	0.50
Return Time (Hours):	0.50	0.50
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	2.00	1.00

**JOB TIME AND COST**

Total job time:	4.00	Hours
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Total job cost:	\$3,137.67
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