

COST SUMMARY WORK

Task description: Post inspection update 10-15-2020

Site: Valley Vista Pit

Permit Action: 2020-10

Permit/Job#: M1981229

PROJECT IDENTIFICATION

Task #: ACY

State: Colorado

Abbreviation: None

Date: 10/15/2020

County: Mesa

Filename: M229-ACY

User: ACY

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
01a	Flatten stockpiles	DOZER	1	23.91	\$7,766
02a	Rip compacted areas	RIPPER	1	53.75	\$18,847
03a	Regrade and rip haul road segment	DOZER	1	5.53	\$1,883
04a	Weed Pre-treatment	REVEGE	1	40.00	\$9,378
05a	Reveg	REVEGE	1	63.43	\$101,454
06a	Initial Mobilization	MOBILIZE	1	2.57	\$2,674
06b	Secondary Mobilization	MOBILIZE	1	2.57	\$1,410
<u>SUBTOTALS:</u>				191.76	\$143,412

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance: 2.02

Total = \$2,897

Performance bond: 1.05

Total = \$1,506

Job superintendent: 95.88

Total = \$6,668

Profit: 10.00

Total = \$14,341

TOTAL O & P = \$25,412

CONTRACT AMOUNT (direct + O & P) = \$168,824

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

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

Total = \$500

Engineering work and/or contract/bid preparation: 0.00

Total = \$0

Reclamation management and/or administration: 5.00

\$8,441

CONTINGENCY: 0.00

Total = \$0

TOTAL INDIRECT COST = \$34,354

TOTAL BOND AMOUNT (direct + indirect) = \$177,766

BULLDOZER WORKTask description: **Flatten stockpiles**Site: **Valley Vista Pit** Permit Action: **2020-10** Permit/Job#: **M1981229****PROJECT IDENTIFICATION**

Task #: **01A** State: **Colorado** Abbreviation: **None**
 Date: **10/15/2020** County: **Mesa** Filename: **M229-01a**
 User: **ACY**

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

Basic Machine: **Cat D9T - 9SU**
 Horsepower: **405**
 Blade Type: **Semi-Universal**
 Attachment: **NA**
 Shift Basis: **1 per day**
 Data Source: **(CRG)**

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$156.88	NA
Operating Cost/Hour:	\$127.87	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$40.04	NA

Total unit Cost/Hour: **\$324.78**
 Total Fleet Cost/Hour: **\$324.78**

MATERIAL QUANTITIES

Initial Volume: **10,077**
 Swell factor: **1.165**
 Loose volume: **11,740 LCY**

Source of estimated volume: **2020 inspection estimates**
 Source of estimated swell factor: **Cat Handbook**

HOURLY PRODUCTION

Average push distance: **100 feet**
 Unadjusted hourly production: **1,243.2 LCY/hr**

Materials consistency description: **Consolidated stockpile 1.0**

Average push gradient: **0 %**
 Average site altitude: **4,980 feet**

Material weight: **2,900 lbs/LCY**Weight description: **Decomposed rock - 50% Rock, 50% Earth****Job Condition Correction Factor**

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

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.600	(FND-SF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.2962

Adjusted unit production: 368.24 LCY/hr

Adjusted fleet production: **368.24** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.882/LCY

Total job time: **31.88** Hours

Total job cost: **\$10,354**

BULLDOZER RIPPING WORK

Task description: Rip compacted areas

Site: Valley Vista Pit Permit Action: 2020-10 Permit/Job#: M1981229

PROJECT IDENTIFICATION

Task #: 02A State: Colorado Abbreviation: None
Date: 10/15/2020 County: Mesa Filename: M229-02a
User: ACY

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D9T - 9SU Horsepower: 405
Ripper Attachment: 3-Shank Ripper Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$156.88	NA
Operating Cost/Hour:	\$127.87	100
Ripper Ownership Cost/Hour:	\$15.59	NA
Ripper Operating Cost/Hour:	\$10.23	100
Operator Cost/Hour:	\$40.04	NA
Total Unit Cost/Hour:	\$350.60	
Total Fleet Cost/Hour:	\$350.60	

MATERIAL QUANTITIES

Selected estimating method: Area

Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA
Area: 34.00 acres Rip Depth (ft): 1.00 Volume: 54,853 BCY or CCY

Source of estimated quantity: Staff estimates of pit floor

HOURLY PRODUCTION

Seismic:

Seismic Velocity: NA feet/second

Area:

Average Ripping Depth: 2.63 feet/pass
Average Ripping Width: 7.67 feet/pass
Average Ripping Length: 100.00 feet/pass
Average Dozer Speed: 88.00 feet/minute
Average Maneuver Time: 0.25 minutes/pass
Production per unit area: 0.762 acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.762 Acres/hr
Site Altitude: 4,980 feet
Altitude Adj: 1.00 (CAT HB)
Job Efficiency: 0.83 (1 shift/day)
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.63 Acres/hr
Adjusted Hourly Fleet Production: **0.63** Acres/hr

JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: **53.76** Hours

Unit cost: \$554.309 Per acre Total job cost: **\$18,847**

BULLDOZER WORKTask description: **Regrade and rip haul road segment**Site: **Valley Vista Pit**Permit Action: 2020-10Permit/Job#: M1981229**PROJECT IDENTIFICATION**Task #: 03AState: ColoradoAbbreviation: NoneDate: 10/15/2020County: MesaFilename: M229-03aUser: ACYAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D9T - 9SUHorsepower: 405Blade Type: Semi-UniversalAttachment: 3-shank ripperShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$156.88	NA
Operating Cost/Hour:	\$127.87	100
Ripper own. Cost/Hour:	\$15.59	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$40.04	NA

Total unit Cost/Hour: \$340.37Total Fleet Cost/Hour: **\$340.37****MATERIAL QUANTITIES**Initial Volume: 3,320Swell factor: 1.000Loose volume: **3,320 LCY**Source of estimated volume: Assume 1.03 ac @ 2 ftSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 50 feetUnadjusted hourly production: 2,110.5 LCY/hrMaterials consistency description: Compacted fill or embankment 0.9Average push gradient: 0 %Average site altitude: 4,980 feetMaterial weight: 2,900 lbs/LCYWeight description: Decomposed rock - 50% Rock, 50% Earth**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	0.800	(POOR)

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: 0.2843

Adjusted unit production: 600.02 LCY/hr

Adjusted fleet production: **600.02** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.567/LCY

Total job time: **5.53** Hours

Total job cost: **\$1,883**

REVEGETATION WORKTask description: **Weed Pre-treatment**Site: **Valley Vista Pit**Permit Action: **2020-10**Permit/Job#: **M1981229****PROJECT IDENTIFICATION**Task #: **04A**State: **Colorado**Abbreviation: **None**Date: **10/15/2020**County: **Mesa**Filename: **M229-04a**User: **ACY**Agency or organization name: **DRMS****FERTILIZING****Materials**

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

Application

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

TILLING

Description	Cost /Acre
	\$
Total Tilling Cost/Acre	\$0.00

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
			\$
Totals Seed Mix	0.00	0.00	\$0.00

Application

Description	Cost /Acre
	\$

Total Seed Application Cost/Acre	\$0.00
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MULCHING and MISCELLANEOUS**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Herbicide - 2,4D @ 1.0 pt/ac	1.00	ACRE	\$2.92	\$2.92
Herbicide - Curtail @ 4.0 pt/ac	1.00	ACRE	\$7.63	\$7.63
Herbicide - Glyphosate (Journey)@ 1.0 pt/ac	1.00	ACRE	\$4.16	\$4.16
Herbicide - Plateau @ 1.0 pt/ac	1.00	ACRE	\$10.11	\$10.11
Total Mulch Materials Cost/Acre				\$24.82

Application

Description	Cost /Acre
Weed spray, hand, non-aquatic areas, ann. [DMG]	\$119.47
Weed spray, truck, non-aquatic area, nox. [DMG]	\$62.72
Total Mulch Application Cost/Acre	\$182.19

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:	45.3	Cost /Acre:	\$207.01
Estimated Failure Rate:	0%	Cost /Acre*:	\$0.00
*Selected Replanting Work Items:	NONE		

Initial Job Cost:	\$9,377.55
Reseeding Job Cost:	\$0.00
Total Job Cost:	\$9,378
Job Hours:	40.00

REVEGETATION WORKTask description: RevegSite: Valley Vista PitPermit Action: 2020-10Permit/Job#: M1981229**PROJECT IDENTIFICATION**Task #: 05AState: ColoradoAbbreviation: NoneDate: 10/15/2020County: MesaFilename: M229-05aUser: ACYAgency or organization name: DRMS**FERTILIZING****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
6-24-24, 10-20-10, 15-15-15	250.00	pound	\$0.27	\$66.25
			Total Fertilizer Materials Cost/Acre	\$66.25

Application

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	\$37.03
Total Fertilizer Application Cost/Acre	\$37.03

TILLING

Description	Cost /Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$107.16
Weed control spraying (MEANS 31 31 16.13 3100)	\$193.60
Total Tilling Cost/Acre	\$300.76

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Indian Ricegrass - Paloma	4.60	14.89	\$51.18
Sand Dropseed	0.20	23.88	\$1.95
Crested Wheatgrass - Nordan	1.80	8.26	\$7.02
Pubescent Wheatgrass - Luna	2.80	5.79	\$9.52
Saltbush, Shadscale	4.00	5.97	\$40.00
Totals Seed Mix	13.40	58.78	\$109.67

Application

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Description	Cost /Acre
Drill Seeding (DRMS Survey Cost)	\$232.00
Total Seed Application Cost/Acre	\$232.00

MULCHING and MISCELLANEOUS

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Herbicide - 2,4D @ 1.0 pt/ac	1.00	ACRE	\$2.92	\$2.92
Herbicide - Glyphosate (Journey)@ 1.0 pt/ac	1.00	ACRE	\$4.16	\$4.16
Herbicide - Plateau @ 1.0 pt/ac	1.00	ACRE	\$10.11	\$10.11
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$301.00	\$602.00
Total Mulch Materials Cost/Acre				\$619.19

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$70.17
Power mulcher (MEANS 32 91 13.16 0350)	\$101.93
Weed spray, truck, non-aquatic area, nox. [DMG]	\$62.72
Total Mulch Application Cost/Acre	\$234.82

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:	45.3	Cost /Acre:	\$1,599.72
Estimated Failure Rate:	40%	Cost /Acre*:	\$1,599.72
*Selected Replanting Work Items:	FERTILIZING,TILLING,SEEDING,MU LCHING		
Initial Job Cost:	\$72,467.32		
Reseeding Job Cost:	\$28,986.93		
Total Job Cost:	\$101,454		
Job Hours:	63.43		

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: **Initial Mobilization**Site: **Valley Vista Pit**Permit Action: **2020-10**Permit/Job#: **M1981229****PROJECT IDENTIFICATION**Task #: **06A**State: **Colorado**Abbreviation: **None**Date: **10/15/2020**County: **Mesa**Filename: **M229-06a**User: **ACY**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:	\$17.20	\$29.63	\$38.69
Operating Cost/Hour:	\$26.56	\$47.02	\$55.69
Operator Cost/Hour:	\$23.63	\$23.63	\$23.63
Helper Cost/Hour:	\$0.00	\$23.53	\$23.53
Total Unit Cost/Hour:	\$67.39	\$123.81	\$141.54

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 - 9SU	65.36	\$174.78	\$141.54	1	\$316.32	\$141.54	\$250.00
Drill/Broadcast Seeder with Tractor	25.00	\$6.72	\$67.39	1	\$74.11	\$67.39	\$250.00
Power Mulcher (Bowie LD-90)	6.00	\$11.19	\$67.39	1	\$78.58	\$67.39	\$250.00

Subtotals: **\$469.01** **\$276.32** **\$750.00****ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Flatbed Truck, 4x2, 15K GVW	\$79.68	1	\$79.68	\$79.68

Subtotals: **\$79.68** **\$79.68**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	<u>GRAND JUNCTION</u>	
Total one-way travel distance:	<u>5.00</u>	miles
Average Travel Speed:	<u>35.00</u>	mph

Total Non-Roadable Mob/Demob Cost *	<u>\$2,650.97</u>
'* two round trips with haul rig:	
Total Roadable Mob/Demob Cost **	<u>\$22.77</u>
** one round trip, no haul rig:	

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	<u>0.14</u>	<u>0.14</u>
Return Time (Hours):	<u>0.14</u>	<u>0.14</u>
Loading Time (Hours):	<u>0.50</u>	<u>NA</u>
Unloading Time (Hours):	<u>0.50</u>	<u>NA</u>
Subtotals:	<u>1.29</u>	<u>0.29</u>

JOB TIME AND COST

Total job time:	<u>2.57</u>	Hours
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Total job cost:	<u>\$2,674</u>
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EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: Secondary MobilizationSite: Valley Vista PitPermit Action: 2020-10Permit/Job#: M1981229**PROJECT IDENTIFICATION**Task #: 06BState: ColoradoAbbreviation: NoneDate: 10/15/2020County: MesaFilename: M229-06bUser: ACYAgency 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:**

Available Rig Capacities	0-25 Tons	26-50 Tons	51+ Tons
Ownership Cost/Hour:	\$17.20	\$29.63	\$38.69
Operating Cost/Hour:	\$26.56	\$47.02	\$55.69
Operator Cost/Hour:	\$23.63	\$23.63	\$23.63
Helper Cost/Hour:	\$0.00	\$23.53	\$23.53
Total Unit Cost/Hour:	\$67.39	\$123.81	\$141.54

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
Drill/Broadcast Seeder with Tractor	25.00	\$6.72	\$67.39	1	\$74.11	\$67.39	\$250.00
Power Mulcher (Bowie LD-90)	6.00	\$11.19	\$67.39	1	\$78.58	\$67.39	\$250.00
Subtotals:					\$152.69	\$134.78	\$500.00

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Flatbed Truck, 4x2, 15K GVW	\$79.68	1	\$79.68	\$79.68
Subtotals:			\$79.68	\$79.68

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	<u>GRAND JUNCTION</u>	
Total one-way travel distance:	<u>5.00</u>	miles
Average Travel Speed:	<u>35.00</u>	mph

Total Non-Roadable Mob/Demob Cost *	<u>\$1,387.51</u>
** two round trips with haul rig:	
Total Roadable Mob/Demob Cost **	<u>\$22.77</u>
** one round trip, no haul rig:	

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	<u>0.14</u>	<u>0.14</u>
Return Time (Hours):	<u>0.14</u>	<u>0.14</u>
Loading Time (Hours):	<u>0.50</u>	<u>NA</u>
Unloading Time (Hours):	<u>0.50</u>	<u>NA</u>
Subtotals:	<u>1.29</u>	<u>0.29</u>

JOB TIME AND COST

Total job time:	<u>2.57</u>	Hours
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Total job cost:	<u>\$1,410</u>
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COLORADO
**Division of Reclamation,
Mining and Safety**
Department of Natural Resources

1313 Sherman Street, Room 215
Denver, CO 80203

October 19, 2020

RE: Valley Vista Pit, Permit No. M-1981-229, 2020-10 Reclamation Cost Estimate

Dear Mr. Parkerson:

This reclamation cost update was in response a previous site inspection conducted on October 15, 2020. There have been no surety increases since the SI-2 in 2008. It is Division policy to periodically update its costs to ensure that the Financial Warranty adequately, reflects the actual current cost of fulfilling the requirements of the approved reclamation plan.

Below is a table summarizing input values that have been updated in this 2020-10 Calculation as compared to SI-2 in 2008. This table does not account for price changes resulting from inflation or other RS Means cost changes. Bond calculations are based on a combination of field observations and worst case scenario based on the approved reclamation permit.

Task	Form Used	Change	Justification
01a/ NA	Dozer	-	Removed - All highwalls have been regraded to 3H: 1V or less
02a/ 01a	Dozer	-/+	2008: 10,999 LCY (6.26 ac of a 10 ac phase 1 ft depth) w/ 50 ft push 2020: 10,077, CCY Total - 6,300 CCY (Approx. 17,000 sqft of stockpiles, avg 10 ft high) and 3,777 CCY (approx. 34,000 sqft of import stockpiles, ave 3 ft high) w/ 100 ft push to better blend
03a/ 02a	Dozer/ Ripper	+	2008: 8.51 ac @ 1 ft - One phase 2020: 34 ac @ 1 ft - Current pit floor
04a/ 03a	Dozer		No Changes



05a/ NA	Scraper	-	Removed - No topsoil available on site to be replaced
06a/ NA	Scraper	-	Removed - No topsoil available on site to be replaced
NA/ 04a	Reveg	+	Added - Pretreatment of weeds prior to beginning reveg work for all 45.3 ac affected to date
07a and 08a/ 05a	Reveg	+	2008: 22.06 ac reveg of flat areas using drill seed, 7.48 ac reveg of slopes using broadcast seed @ double drill rate 2020: Updated acreages to all 45.3 ac affected to date using drill seed. Added weed tilling task. Added herbicide weed spraying
09a/ 06a	Mob	-/+	Removed-Scraper since no longer needed Added-Power mulcher used for reveg task
10a/ 06b	Mob	-/+	Added-Power mulcher used for reveg task
Indirect Costs			No Changes

Please feel free to contact me with any further questions. Amy Yeldell at the Division of Reclamation, Mining and Safety, 1313 Sherman St., Room 215, Denver, CO 80203. Direct contact can be made by phone at 303-866-3567 Ext 8183 or via email at amy.yeldell@state.co.us

Sincerely,



Amy Yeldell
Environmental Protection Specialist

Ec:
Travis Marshall, Senior EPS, Grand Junction DRMS
Greg Monger