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

1313 Sherman Street, Room 215
Denver, CO 80203

July 13, 2021

Jason Burkey
Oldcastle SW Group, Inc. dba United Companies of Mesa County
2273 River Road
Grand Junction, CO 81505

RE: Berry Pit, Permit No. M-1979-132, Reclamation Cost Estimate

Dear Mr. Burkey:

This reclamation cost update was in response to the site inspection conducted on May 25, 2021. There have been no surety increases since SI-6 in 2017. 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 since the SI-6 calculation. A revised Exhibit L was found and is attached, this bond calculation is based on that worst case scenario in the approved reclamation permit. This table does not account for price changes resulting from inflation or other RS Means cost changes. It is noted that over the past few years the Division has had several significant cost changes that needed to be accounted for resulting in increased cost.

Task	**Form Used**	**Change**	**Description**
01a	Dozer	-	Previously 16,500 CY changed to 14,500 CY
02a	Scraper	-	Previously 4.1ac @ 6,614 CY changed to 3.4 ac @ 5,485 CY
03a	Scraper	-	Previously 9,921 CY changed to 8,228
04a	Scraper	+	Previously 8,000 CY Changed to 48,000 CY
05a	Scraper	-	Previously 6,400 CY changed to 4,000 CY
06a	Dozer	+	Previously 6,400 CY changed to 39,200 CY

07a	Reveg	+	Previously 44.8 ac @ 40 hrs changed to 49.45 ac @ 60 hrs
Indirect Costs		No changes	

The updated reclamation cost estimate is a total of $293,049 which is a $106,899.47 increase over the currently held bond amount of 186,149.53. The Division acknowledges that this is a significant increase. Please review the enclosed figures as soon as possible and contact our office if any calculation errors are noted. If no comments are received by Monday, August 23, 2021 than it is the Divisions understanding that the operator has no objections to the bond calculated on July 13, 2021 for the amount of $293,049 according the current permit conditions. At that time a Notice for Surety Increase will be issued for the above amount as required by the Act and Rules.

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

COST SUMMARY WORK

Task description:

Site: **Berry Pit** Permit Action: 2021 Permit/Job#: M1977132

PROJECT IDENTIFICATION

Task #: ACY State: Colorado Abbreviation: None
Date: 7/13/2021 County: Rio Blanco Filename: M132-ACY
User: ACY

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
01a	Regrade two new lease area strips to final grade	DOZER	1	54.26	$12,827
02a	Replace overburden over 3.4 acres at 1' depth	SCRAPER1	1	4.84	$8,951
03a	Replace topsoil from stockpile C on regraded strip	SCRAPER1	1	7.69	$14,685
04a	Regrade old lease area	DOZER	1	147.98	$38,699
05a	Regrade sediment pond	DOZER	1	15.30	$4,002
06a	Regrade protection berm topsoil	DOZER	1	166.11	$43,443
07a	Revegetation	REVEGE	1	60.00	$88,559
08a	Mobilization	MOBILIZE	1	6.00	$12,634
08b	Secondary Mobilization	MOBILIZE	1	6.00	$1,994
	SUBTOTALS:			**468.18**	**$225,794**

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance:	2.02	Total =	$4,561
Performance bond:	1.05	Total =	$2,371
Job superintendent:	234.09	Total =	$16,862
Profit:	10.00	Total =	$22,579
		TOTAL O & P =	$46,373
		CONTRACT AMOUNT (direct + O & P) =	$272,167

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		$13,608
CONTINGENCY:	3.00	Total =	$6,774
		TOTAL INDIRECT COST =	$67,255
		TOTAL BOND AMOUNT (direct + indirect) =	**$293,049**

BULLDOZER WORK

Task description: **Regrade two new lease area strips to final grade**

Site: **Berry Pit** Permit Action: 2021 Permit/Job#: M1977132

PROJECT IDENTIFICATION

Task #:	01A	State:	Colorado	Abbreviation:	None
Date:	7/13/2021	County:	Rio Blanco	Filename:	M132-01a
User:	ACY				

Agency 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:

		Utilization %
Ownership Cost/Hour:	$97.46	NA
Operating Cost/Hour:	$97.63	100
Ripper own. Cost/Hour:	$0.00	NA
Ripper op. Cost/Hour:	$0.00	0
Operator Cost/Hour:	$41.30	NA

Total unit Cost/Hour: $236.39
Total Fleet Cost/Hour: **$236.39**

MATERIAL QUANTITIES

Initial Volume:	14,500
Swell factor:	1.090
Loose volume:	**15,805** LCY

Source of estimated volume: AM-1 Exhibit L
Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Average push distance: 150 feet
Unadjusted hourly production: 634.3 LCY/hr

Materials consistency description: Partly consolidated stockpile 1.1

Average push gradient: 0 %
Average site altitude: 6,350 feet

Material weight: 2,400 lbs/LCY

Weight description: Clay and gravel - Dry

Job Condition Correction Factor		Source
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:	0.700	(FND-MF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.958	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4592

Adjusted unit production: 291.27 LCY/hr
Adjusted fleet production: **291.27** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: $0.812/LCY

Total job time: **54.26** Hours
Total job cost: **$12,827**

SCRAPER TEAM WORK

Task description: **Replace overburden over 3.4 acres at 1' depth**

Site: **Berry Pit** Permit Action: 2021 Permit/Job#: M1977132

PROJECT IDENTIFICATION

Task #: 02A State: Colorado Abbreviation: None
Date: 7/13/2021 County: Rio Blanco Filename: M132-02a
User: ACY

Agency or organization name: DRMS

HOURLY EQUIPMENT

COSTShift basis: 1 per day

	Equipment Description
-Scraper:	Cat 637G w/push-pull
-Dozer:	Cat D8T - 8SU
Support Equipment -Load Area:	Cat D8T - 8SU
-Dump Area:	Cat D8T - 8SU
Road Maintenance –Motor Grader:	CAT 14M
-Water Truck:	Water Tanker, 7,000 Gal.

Cost Breakdown:

	Scraper Work Team		Support Equipment		Maintenance Equipment	
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	100	50	100	50
Ownership cost/hour:	$223.48	$97.46	$97.46	$97.46	$85.80	$53.88
Operating cost/hour:	$193.77	$97.63	$97.63	$48.82	$60.40	$37.62
%Utilization-ripper:	NA	NA	100	NA	NA	NA
Ripper own. cost/hour:	NA	$0.00	$15.19	$0.00	$0.00	$0.00
Ripper op. cost/hour:	NA	$0.00	$9.94	$0.00	$0.00	$0.00
Operator cost/hour:	$30.90	$41.30	$41.30	$41.30	$28.56	$0.00
Unit Subtotals:	$448.15	$236.39	$261.52	$187.58	$174.76	$91.50
Number of Units:	2	1	1	1	1	1
Group Subtotals:	Work:	$1,132.69	Support:	$449.10	Maint:	$266.26

Total work team cost/hour: **$1,848.05**

MATERIAL QUANTITIES

Initial volume: 5,485 CCY Swell factor: 1.090
Loose volume: **5,979** LCY

Source of estimated volume: AM-1 Exhibit L
Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Material weight: 2,400 lbs/LCY
Material description: Clay and gravel - Dry
Rated Payload: 81,600 pounds
Payload Capacity: 34.00 LCY

Scraper Bowl (volume) Basis:

Struck Volume: 24.00 LCY
Heaped Volume: 34.00 LCY
Average Volume: 29.00 LCY
Adjusted Capacity: **29.00** LCY

Cycle Time:

Scraper Loading Time: 1.00 Minutes
Maneuver and Spread Time: 0.60 Minutes

Job Condition Correction: Site Altitude: 6350 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 3.0

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	500.00	1.50	3.00	4.50	2394	0.45

Haul Time: **0.45** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	500.00	-1.50	3.00	1.50	2960	0.29

Return Time: **0.29** minutes

Total Scraper team cycle time: **2.34** minutes
Adjusted for job conditions: 1,234.36 LCY/Hour
Selected Number of Scrapers: 2 Scraper(s)
Adjusted single scraper team (unit) hourly production: 1,234.36 LCY/Hour
Adjusted multiple scraper team (fleet) hourly production: **1,234.36** LCY/Hour

Unadjusted unit production/hour: 1,487.18 LCY/Hour
Optimal Number of Scrapers per push dozer:

JOB TIME AND COST

Fleet size: 1 Team(s) Total job time: **4.84** Hours

Unit cost: $1.497 /LCY Total job cost: **$8,951**

SCRAPER TEAM WORK

Task description: **Replace topsoil from stockpile C on regraded strip**

Site: **Berry Pit** Permit Action: 2021 Permit/Job#: M1977132

PROJECT IDENTIFICATION

Task #: 03A State: Colorado Abbreviation: None
Date: 7/13/2021 County: Rio Blanco Filename: M132-03a
User: ACY

Agency or organization name: DRMS

HOURLY EQUIPMENT

COSTShift basis: 1 per day

	Equipment Description
-Scraper:	Cat 637G w/push-pull
-Dozer:	Cat D8T - 8SU
Support Equipment -Load Area:	Cat D8T - 8SU
-Dump Area:	Cat D8T - 8SU
Road Maintenance –Motor Grader:	CAT 14M
-Water Truck:	Water Tanker, 7,000 Gal.

Cost Breakdown:

	Scraper Work Team		Support Equipment		Maintenance Equipment	
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	100	100	100	100
Ownership cost/hour:	$223.48	$97.46	$97.46	$97.46	$85.80	$53.88
Operating cost/hour:	$193.77	$97.63	$97.63	$97.63	$60.40	$75.23
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	$0.00	$0.00	$0.00	$0.00	$0.00
Ripper op. cost/hour:	NA	$0.00	$0.00	$0.00	$0.00	$0.00
Operator cost/hour:	$30.90	$41.30	$41.30	$41.30	$28.56	$0.00
Unit Subtotals:	$448.15	$236.39	$236.39	$236.39	$174.76	$129.11
Number of Units:	2	1	1	1	1	1
Group Subtotals:	Work:	$1,132.69	Support:	$472.78	Maint:	$303.87

Total work team cost/hour: **$1,909.34**

MATERIAL QUANTITIES

Initial volume: 8,228 CCY Swell factor: 1.000
Loose volume: **8,228** LCY

Source of estimated volume: AM-1 Exhibit L
Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Material weight: 1,600 lbs/LCY
Material description: Top Soil
Rated Payload: 81,600 pounds
Payload Capacity: 51.00 LCY

Scraper Bowl (volume) Basis:

Struck Volume: 24.00 LCY
Heaped Volume: 34.00 LCY
Average Volume: 29.00 LCY
Adjusted Capacity: **29.00** LCY

Cycle Time:

Scraper Loading Time: 1.00 Minutes
Maneuver and Spread Time: 0.60 Minutes

Job Condition Correction: Site Altitude: 6350 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 3.0

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1100.00	-5.00	3.00	-2.00	2972	0.44

Haul Time: **0.44** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1100.00	5.00	3.00	8.00	1931	0.66

Return Time: **0.66** minutes

Total Scraper team cycle time: **2.70** minutes
Adjusted for job conditions: 1,069.78 LCY/Hour
Selected Number of Scrapers: 2 Scraper(s)
Adjusted single scraper team (unit) hourly production: 1,069.78 LCY/Hour
Adjusted multiple scraper team (fleet) hourly production: **1,069.78** LCY/Hour

Unadjusted unit production/hour: 1,288.89 LCY/Hour
Optimal Number of Scrapers per push dozer:

JOB TIME AND COST

Fleet size: 1 Team(s) Total job time: **7.69** Hours

Unit cost: $1.785 /LCY Total job cost: **$14,685**

BULLDOZER WORK

Task description: **Regrade old lease area**

Site: **Berry Pit** Permit Action: 2021 Permit/Job#: M1977132

PROJECT IDENTIFICATION

Task #:	04A	State:	Colorado	Abbreviation:	None
Date:	7/13/2021	County:	Rio Blanco	Filename:	M132-04a
User:	ACY				

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

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

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	$97.46	NA
Operating Cost/Hour:	$97.63	100
Ripper own. Cost/Hour:	$15.19	NA
Ripper op. Cost/Hour:	$9.94	100
Operator Cost/Hour:	$41.30	NA

Total unit Cost/Hour: $261.52
Total Fleet Cost/Hour: **$261.52**

MATERIAL QUANTITIES

Initial Volume:	48,000
Swell factor:	1.090
Loose volume:	**52,320** LCY

Source of estimated volume: AM-1 Exhibit L
Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Average push distance: 100 feet
Unadjusted hourly production: 852.6 LCY/hr

Materials consistency description: Partly consolidated stockpile 1.1

Average push gradient: 5 %
Average site altitude: 6,350 feet

Material weight: 2,400 lbs/LCY

Weight description: Clay and gravel - Dry

Job Condition Correction Factor		Source
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:	0.700	(FND-MF)
Push gradient:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.958	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4147

Adjusted unit production: 353.57 LCY/hr
Adjusted fleet production: **353.57** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: $0.740/LCY

Total job time: **147.98** Hours
Total job cost: **$38,699**

BULLDOZER WORK

Task description: **Regrade sediment pond**

Site: **Berry Pit** Permit Action: 2021 Permit/Job#: M1977132

PROJECT IDENTIFICATION

Task #: 05A State: Colorado Abbreviation: None
Date: 7/13/2021 County: Rio Blanco Filename: M132-05a
User: ACY

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

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

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	$97.46	NA
Operating Cost/Hour:	$97.63	100
Ripper own. Cost/Hour:	$15.19	NA
Ripper op. Cost/Hour:	$9.94	100
Operator Cost/Hour:	$41.30	NA

Total unit Cost/Hour: $261.52
Total Fleet Cost/Hour: **$261.52**

MATERIAL QUANTITIES

Initial Volume: 4,000
Swell factor: 1.135
Loose volume: **4,540** LCY

Source of estimated volume: AM-1 Exhibit L
Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Average push distance: 115 feet
Unadjusted hourly production: 776.8 LCY/hr

Materials consistency description: Compacted fill or embankment 0.9

Average push gradient: 0 %
Average site altitude: 6,350 feet

Material weight: 2,700 lbs/LCY

Weight description: Sand and clay - Loose

Job Condition Correction Factor		Source
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:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.852	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3819

Adjusted unit production: 296.66 LCY/hr
Adjusted fleet production: **296.66** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: $0.882/LCY

Total job time: **15.30** Hours
Total job cost: **$4,002**

BULLDOZER WORK

Task description: **Regrade protection berm topsoil**

Site: **Berry Pit** Permit Action: 2021 Permit/Job#: M1977132

PROJECT IDENTIFICATION

Task #:	06A	State:	Colorado	Abbreviation:	None
Date:	7/13/2021	County:	Rio Blanco	Filename:	M132-06a
User:	ACY				

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

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

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	$97.46	NA
Operating Cost/Hour:	$97.63	100
Ripper own. Cost/Hour:	$15.19	NA
Ripper op. Cost/Hour:	$9.94	100
Operator Cost/Hour:	$41.30	NA

Total unit Cost/Hour: $261.52
Total Fleet Cost/Hour: **$261.52**

MATERIAL QUANTITIES

Initial Volume:	39,200
Swell factor:	1.135
Loose volume:	**44,492** LCY

Source of estimated volume: AM-1 Exhibit L
Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Average push distance: 115 feet
Unadjusted hourly production: 776.8 LCY/hr

Materials consistency description: Compacted fill or embankment 0.9

Average push gradient: 5 %
Average site altitude: 6,350 feet

Material weight: 2,700 lbs/LCY

Weight description: Sand and clay - Loose

Job Condition Correction Factor		Source
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:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.852	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3448

Adjusted unit production: 267.84 LCY/hr
Adjusted fleet production: **267.84** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: $0.976/LCY

Total job time: **166.11** Hours
Total job cost: **$43,443**

REVEGETATION WORK

Task description: **Revegetation**

Site: **Berry Pit** Permit Action: 2021 Permit/Job#: M1977132

PROJECT IDENTIFICATION

Task #: 07A State: Colorado Abbreviation: None
Date: 7/13/2021 County: Rio Blanco Filename: M132-07a
User: ACY

Agency or organization name: DRMS

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
10-34-0, 18-46-0, 5-10-5	200.00	pound	$0.37	$74.00
			Total Fertilizer Materials Cost/Acre	**$74.00**

Application

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	$38.77
Total Fertilizer Application Cost/Acre	**$38.77**

TILLING

Description	Cost /Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	$114.56
Total Tilling Cost/Acre	**$114.56**

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Indian Ricegrass - Nespar	2.50	8.09	$22.19
Beardless Wheatgrass - Whitmar	2.40	7.82	$28.14
Russian Wildrye - Vinal	2.00	8.03	$12.36
Streambank Wheatgrass - Sodar	2.20	7.17	$12.54
Western Wheatgrass - Arriba	3.20	8.08	$20.80
Sagebrush, Mountain or Big	1.00	52.80	$19.75
Totals Seed Mix	13.30	92.00	**$115.78**

Application

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	$2.98	$2.98
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	$307.02	$614.04
Total Mulch Materials Cost/Acre				**$617.02**

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	$71.57
Power mulcher (MEANS 32 91 13.16 0350)	$106.29
Weed spray, truck, non-aquatic area, nox. [DMG]	$62.72
Total Mulch Application Cost/Acre	**$240.58**

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:	49.45	Cost /Acre:	$1,432.71
Estimated Failure Rate:	25%	Cost /Acre*:	$1,432.71
*Selected Replanting Work Items:	FERTILIZING,TILLING,SEEDING,MULCHING		

Initial Job Cost:	**$70,847.51**
Reseeding Job Cost:	**$17,711.88**
Total Job Cost:	**$88,559**
Job Hours:	**60.00**

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description: **Mobilization**

Site: **Berry Pit** Permit Action: 2021 Permit/Job#: M1977132

PROJECT IDENTIFICATION

Task #: 08A State: Colorado Abbreviation: None
Date: 7/13/2021 County: Rio Blanco Filename: M132-08a
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:	$21.28	$37.94	$47.67
Operating Cost/Hour:	$26.55	$50.48	$56.21
Operator Cost/Hour:	$20.54	$20.54	$20.54
Helper Cost/Hour:	$0.00	$23.53	$23.53
Total Unit Cost/Hour:	$68.37	$132.49	$147.95

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 D7R DS Series II LGP	38.49	$90.34	$132.49	2	$445.66	$264.98	$500.00
Cat 637G w/push-pull	59.59	$223.48	$147.95	2	$742.86	$295.90	$500.00
CAT 14M	23.57	$85.80	$68.37	1	$154.17	$68.37	$250.00
Water Tanker, 7,000 Gal.	29.65	$53.88	$132.49	1	$186.37	$132.49	$250.00
Drill/Broadcast Seeder with Tractor	25.00	$7.98	$68.37	1	$76.35	$68.37	$250.00
Power Mulcher (Bowie LD-90)	6.00	$14.98	$68.37	1	$83.35	$68.37	$250.00
Subtotals:					**$1,688.76**	**$898.48**	**$2,000.00**

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	$20.51	2	$41.02	$41.02

Subtotals:	**$41.02**	**$41.02**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	RIFLE	
Total one-way travel distance:	50.00	miles
Average Travel Speed:	50.00	mph
Total Non-Roadable Mob/Demob Cost * '* two round trips with haul rig:	$12,552.00	
Total Roadable Mob/Demob Cost ** ** one round trip, no haul rig:	$82.04	

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	1.00	1.00
Return Time (Hours):	1.00	1.00
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	3.00	2.00

JOB TIME AND COST

Total job time:	**6.00**	Hours
Total job cost:	**$12,634**	

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description: **Secondary Mobilization**

Site: **Berry Pit** Permit Action: 2021 Permit/Job#: M1977132

PROJECT IDENTIFICATION

Task #: 08B State: Colorado Abbreviation: None
Date: 7/13/2021 County: Rio Blanco Filename: M132-08b
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:	$21.28	$37.94	$47.67
Operating Cost/Hour:	$26.55	$50.48	$56.21
Operator Cost/Hour:	$20.54	$20.54	$20.54
Helper Cost/Hour:	$0.00	$23.53	$23.53
Total Unit Cost/Hour:	$68.37	$132.49	$147.95

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	$7.98	$68.37	1	$76.35	$68.37	$250.00
Power Mulcher (Bowie LD-90)	6.00	$14.98	$68.37	1	$83.35	$68.37	$250.00
Subtotals:					**$159.70**	**$136.74**	**$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	$20.51	2	$41.02	$41.02
Subtotals:			**$41.02**	**$41.02**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	RIFLE	
Total one-way travel distance:	50.00	miles
Average Travel Speed:	50.00	mph

Total Non-Roadable Mob/Demob Cost * '* two round trips with haul rig:	$1,912.28
Total Roadable Mob/Demob Cost ** ** one round trip, no haul rig:	$82.04

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	1.00	1.00
Return Time (Hours):	1.00	1.00
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	3.00	2.00

JOB TIME AND COST

Total job time:	**6.00**	Hours
Total job cost:	**$1,994**	

Applicant Oldcastle SW Group, Inc. dba United Companies of Mesa County — M1977-132
Revised Pages and Cost Estimate - Berry Pit AM-01
Received 9/04/02 From Gregg Lewicki & Associates to Gregg Squire DMG

delivered to the job sites by truck. The haul road from the processing area to the Highway 13 entrance in an existing road approximately 25 feet wide and 1600 feet long. A large portion of this road is not in the permit area and no part of the road is planned for reclamation.

Future mining will take place initially in the area east of the existing Berry Pit disturbance and will move to the southern lease (new lease area), as shown on Map C-2. Prior to any mining in the southern lease, the sediment pond will be created in the southwest corner of the disturbed area. This pond will handle the 100 year event from the entire site disturbed area. The southern lease will be mined in strips of 200 feet width, which are numbered from 1 to 9. For the first strip (Strip 1) topsoil will be stripped and placed in Soil Stockpile C to the north in the original Berry Pit area. Any permanent slope cuts will be cut at an angle of 3.0H1.0V. The temporary cuts from Strips 1 and 2 and subsequent strips may be placed at an angle of 1.0H:1.0V. Overburden will also be removed in the same manner and will be isolated from the soil. Overburden from Strip 1 will be placed in two places: 1) the original Berry pit floor to achieve final grade and 2) a permanent backfill immediately west of Strip 1. This backfill area is shown on Map C-2 and will also serve as a visual barrier to the operation. Strip 1 will be mined as shown on Map C-2. Soil and overburden from Strip 2 will be placed in Strip 1. Strip 2 will be mined and the process will be repeated until strip 9 is mined out. A berm of at least 20 feet in height will be left along the southern edge of the mining area for visual and noise protection for residents. The outside part of the berm will be the original existing slope, and the inside edge will be cut at an angle of 2H:1V. This berm area, Strips 10, 11 and 12, will be the final mining area of the site. Once Strip 9 is mined out, the visual berm will be mined from east to west. Therefore, Strip 10 will be mined, followed by Strip 11 and 12. Again, soil from Strip 10 will be placed in Strip 9, etc. The soil and any desired overburden from the initial Strip 1 that was placed in the original Berry pit area will then be placed in Strip 12 to complete the reclamation of the site. This process is similar to coal mine stripping and has the advantage of keeping the overall disturbed area to a minimum while reclaiming the site as mining progresses.

Since much of the site area will be flat, some ponding will occur. 10% ponding of the runoff is assumed, therefore, the area behind the berm needs to hold 202,880 cubic feet. Using an area of 4.66 acres along the inside edge of the berm, an average depth of 1.0 feet is needed so that the volume will be entirely stored behind the berm. Since the area behind the berm is larger than 4.66 acres and the depth is closer to 3.0 feet than 1.0 feet, the berm is more than adequate to contain the 100 year event.

4. Mine Facilities and Operation

The site will consist of a portable crushing and screening plant, portable stacker conveyors, portable asphalt plant, portable concrete plant, truck scale, potential portable office trailer and gen-set portable light fixtures in case some urgent work is needed at night. No night operations are scheduled for the operation. All structures on site are shown on Map C-2. There will be no fuel storage tanks or fuel farm on the site other than the tanks that are part of each of the three portable plants for generating power:

- 10,000 gallon diesel tank that is part of the crushing/screening plant.
- 6,000 gallon diesel tank which is part of the concrete plant
- 6,000 gallon diesel tank which is part of the asphalt plant.

All of the tanks above are attached to their respective plants and are double walled for spill protection. For this reason, they have their own secondary containment and no berms are needed on any of these tanks as normally required for the SPCC plans. To further protect hydrologic balance, tank inspections and ground inspections will occur daily on site. If any fuel or asphaltic material is encountered, the gravel material will be recycled through the asphalt plant. Also, the Division will be notified in case of any spills on site. The portable mining equipment such as loaders, dozers, trucks and excavators will be serviced on an as-needed basis from portable service truck making short visits to the site. Upon reclamation, all portable equipment will be removed from the site.

Power is available from poles at the western side of the permit area or power may also be supplied from diesel generators using the tanks described above.

There will be no fence around the operation, since it is inside private property and protected by berms and natural earth faces. No problems are expected with vandalism. It is extremely unlikely that any toxic or acid-producing materials will be encountered during the mining operation since the total

depth of excavation in the River and the lake (see next section) is shallow and tests down to this depth show that the material is alluvial in nature. However, in the event that such materials are encountered, they will be covered with subsoil and topsoil from the stockpiles to the same depths outlined in the reclamation plan and no more mining will occur in this area.

The operator commits to clearly marking the permit boundary with stakes surveyed on site.
The site will use all existing roads to haul the product to its final destination. It is planned that the material maybe used to re-surface existing roads, make concrete aggregate or provide new road base for any new roads within an economic distance to the site.

5. Topsoil and Overburden Handling

The Berry Pit was begun prior to initiation of reclamation of reclamation laws in 1977 and for most of the disturbance of the original lease area, 29.8 acres, topsoil and overburden were stripped together. Stockpiles were made on the north end of the permit area. These stockpiles cover an area of approximately 2.3 acres with an average thickness of 18 feet, therefore the storage volume is 1,803,000 cubic feet or 66,790 cubic yards. These piles are labeled Stockpiles A and B on Map C-2.

These stockpiles will be used to reclaim the entire disturbed area of the original lease. This will result in an average thickness of 1.0 feet.

The remainder of mining area of the original lease (east side) that requires topsoil stripping is approximately 1.56 acres. For this area, topsoil will be stripped to a depth of 20-24 inches per the recommendations of the local NRCS office. The full recommendations of the NRCS are given in Appendix D. This topsoil will be placed in a stockpile as shown on Map C-2. This volume is 1.56 acres x average depth of 20 inches = 2097 cubic yards. This stockpile is labeled Stockpile C on Map C-2. The average thickness of overburden in this area is approximately 8 feet. The overburden from this area (20,000 cubic yards) will be placed on the pit bottom immediately to the west so that final grade can be achieved in this area.

Prior to the mining of Strip 1, topsoil will be stripped from an area of approximately 1 acre immediately west of strip 1 and will be temporarily stockpiled in the old Berry pit active area. Topsoil will

RECLAMATION PLAN EXHIBIT E

1. General Reclamation Plan

The entire disturbed area will be restored to its original uses as dry rangeland and wildlife habitat. No slopes will be greater than 2.5H:1.0V. The vast majority of the disturbed area will be restored to relatively flat grade.

The original Berry Pit disturbed area (29.8 acres) will be maintained during the mining of the new lease area to the south of the existing pit. The 29.8 acres will be used for roads, processing, stockpiles of product and soil/overburden stockpiles. In the new lease area, strips will be mined one at a time as shown on Map C-2 so that reclamation of the site will be concurrent with the mining operation. In a worst case, three strips will be exposed at any given time. The mining will occur in the middle strip while topsoil and overburden stripping will occur in the immediate strip to the east. Reclamation will be taking place on the immediate strip to the west. Once Strip 9 is mined out, the visual berm will be mined out to complete the project. This visual berm is Strips 10, 11 and 12. Therefore, the maximum disturbed acreage to reclaim at any given time is 29.8 acres (original area) + 10.5 acres (three strips) + 2.79 ac (Strip 10) + 3.21 acres (Strip 11) + 2.25 acres (Strip 11) = 48.55 acres. The final three strips are the visual berm left for the County and this would have to be reclaimed to flat area if mining was permanently stopped in any of the earlier strips.

Since the average gravel thickness is approximately 20 feet, the overall terrain will be reduced by this thickness for reclamation. Any final slopes on the terrain will be no steeper than 3.0H:1.0V. The average overburden thickness is 6-12 feet. Soil Stripping depths average 20-24 inches on the flat areas and 0 to 6 inches on the slope areas. All of these materials will be replaced for reclamation, although the overburden may not be placed to its original average thickness over the entire site. Some areas may have more overburden and some may have less. In order to provide good plant rooting depths of the entire site, United commits to placing a minimum of 12 inches of overburden (subsoil) and 12 inches of topsoil in all areas of the new lease. The actual amounts stripped will be replaced to the same thicknesses.

When the mine has extracted all material from the final strip in the new lease area (Strip 9), final reclamation will begin. Once all portable structures are removed, soil and overburden replacement will begin for the original Berry pit area as well as Strips 11 and 12 of the new lease area. For the original disturbance of the Berry Pit of 29.8 acres, reclamation will be performed by spreading the mixed topsoil/overburden from Stockpiles A and B throughout the area. As demonstrated in the mining plan, these piles contain approximately 66,790 cubic yards. This will result in an average thickness of 1.4 feet for the reclamation.

For the new lease area, Strips 1 through 11 will have been restored with the overburden and topsoil from the adjacent strip lower in number sequence. Strip 12 will be reclaimed by first placing overburden from the original lease area to a depth of 1.0 feet and then topsoiling from Stockpile C, which had stored the soil from Strip 1.The approximate replacement thickness in Strip 12 is12-18 inches.

The final reclamation task is to regrade the sediment pond. The sediment pond area is approximately 0.9 acres and contains 7500 cubic yards. This area will be reclaimed by dozer regrading within a short distance of the work areas. Topsoil will be respread on the bench area on the south perimeter which is the area where the soil was originally obtained.

Prior to any replacement of topsoil, the subsoil/overburden will be ripped to a depth of 12 inches if the material has compaction levels that could inhibit root growth. If any compaction of topsoil occurs during the placement process, it will also be ripped or harrowed to its replacement depth.

Once final topsoil placement has been achieved, the site will be seeded and mulched according to the recommendations of the local NRCS. See report in Appendix D.

RECLAMATION COSTS EXHIBIT L

The worst case reclamation costs occur when the mining is taking place in the new lease area to the south and there are 3 strips in various stages of activity and the entire existing lease area still requires reclamation. Also, the visual berm would need to be smoothed out. Final seeding area = 29.8 acres (original area) + 10.5 acres (three strips) + 2.79 ac (Strip 10) + 3.21 acres (Strip 11) + 2.25 acres (Strip 11) + 0.9 acres (sediment pond) = 49.45 acres.

Worst case reclamation costs for this scenario are given below:
(Reclamation of 1.56 acre mine area on east end of existing Berry Pit will occur prior to final reclamation)

Task #	Description	Time Needed months	Cost
1	Regrade two new lease area strips to final grade. 14500 cy @ $0.66 per cy	1.0	$9570
2	Replace overburden on 1 strip. 3.4 acres x 1 ft depth = 5485 cubic yards @ @1.10 per cy	0.25	$6033
3	Replace topsoil from Stockpile C on regraded strip. Average depth = 18 inches = 8228 cubic yards @ $1.10 per cy	0.4	$9050
4	Regrade old lease area. Short dozer push downhill. 48000 cy @ $0.56 per cy. (only part of the 66,790 cy needs to be moved)	0.6	$26880
5	Regrade sediment pond. 4000 cy @$0.46 per cy	0.2	$1840
6	Regrade visual protection berm 2700' long x 14' high 2:1 slopes = 39200 cy @ 0.34 per cy	2.0	$13328
7	Reseed, mulch and fertilize all top-soiled areas. Drill seeding and crimp mulching will be employed @ $700/acre x 49.45 acres	0.3	$34615
	Totals	**4.75**	**$101,316**
	DMG Costs (21% x direct costs)		**$21,276**
	Total Bond Amount		**$122,592**