

September 30, 2019

J.C. York J&T Consulting, Inc. 305 Denver Ave., Suite D Fort Lupton, CO 80621

Re: DPG Pit, File No. M-2019-028, 112 Construction Materials Reclamation Permit Application, Adequacy Review No. 3 – Bond Estimate

Mr. York:

The Division of Reclamation, Mining and Safety (Division) has completed its third adequacy review of the application materials submitted for the DPG Pit. All adequacy items have been addressed to the Division's satisfaction.

The Division has calculated a reclamation bond (see enclosed estimate) for the proposed operation based on the information provided in the application. Please review the enclosed estimate and submit any comments at your earliest convenience. If the Division receives no comments from you by the application decision date of **October 4, 2019**, and no extension has been requested by that time, the DPG Pit application will be approved with a required financial warranty in the amount of \$984,566.00.

If you have any questions, you may contact me by telephone at 303-866-3567, ext. 8129, or by email at amy.eschberger@state.co.us.

Sincerely,

Amy Eschberger

any Erchenger

Environmental Protection Specialist

Encl: Division's Bond Estimate

Cc: Chris Leone

J-2 Contracting Company 105 Coronado Ct., Unit A-101 Fort Collins, CO 80525

Michael Cunningham, DRMS



COST SUMMARY WORK

Site: DPG Pit Permit Action: DPG Pit Application Permit/Job#: M2019 PROJECT IDENTIFICATION State: Calculate Albertaicing Albertaicing News					y	Cost Summary	otion:	Task descrip	Τ
	028	nit/Job#: <u>M2019</u>	Permit/Job#	DPG Pit Application	Permit Action:	Per		DPG Pit	Site:
Tool # 000 State Colored Albertation None						CATION	IDENTIFIC	PROJECT	<u>P1</u>
Date: 9/30/2019 County: Weld Filename: M028-000 User: AME Agency or organization name: DRMS					: Weld	zation name:DR	AME ency or organiz	User: Age	T
TASK LIST (DIRECT COSTS) Form Fleet Task Used Size Hours	Cost			-		<u>COS18)</u>		7	

T1-		Form	Fleet	Task	
Task	Description	Used	Size	Hours	Cost
001	Rip 92.55 acres	RIPPER	2	67.82	\$33,221
002	Retopsoil Phase 1 area= 27.15 ac x 12 in	SCRAPER1	1	60.25	\$75,772
003	Retopsoil stockpile/processing area= 33.50 ac x 12 in	SCRAPER1	1	48.65	\$61,282
004	Retopsoil loadout area= 10.40 ac x 12 in	SCRAPER1	1	14.54	\$18,314
005	Retopsoil settling ponds area= 19.57 ac x 12 in	SCRAPER1	1	47.41	\$59,721
006	Retopsoil access road/scale house area= 1.93 ac x 12 in	SCRAPER1	1	4.43	\$5,577
007	Revegetate 92.55 acres	REVEGE	1	92.55	\$123,872
800	Grade berms around sediment ponds (16,000 cy)	NA	1	8.00	\$32,000
009	Demolish/remove scale & scale house foundations (50 cy)	NA	1	8.00	\$10,000
010	Install riprap spillway for Phase 1 pit (3,309 cy)	NA	1	15.00	\$178,668
011	Administrative costs to convert dedicated water shares	NA	1	1.00	\$150,000
012	Slurry wall installation (No costs for Phase 1 only)	NA	1	0.00	\$0
013	Mobilization/Demobilization	MOBILIZE	1	11.48	\$36,715
014	Removal of dewatering overflow pipe (380 lf)	NA	1	5.00	\$2,280
		<u>SUBT</u>	OTALS:	384.13	\$787,422

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance: Total = \$15,906 2.02 Performance bond: 1.05 Total = \$8,268 \$10,408 Job superintendent: 150.00 Total = Profit: 10.00 Total = \$78,742

TOTAL O & P = \$113,325

CONTRACT AMOUNT (direct + O & P) = $\sqrt{\$900,747}$

LEGAL -	· ENGINEERING -	PROJECT	MANAGEMENT:

Financial warranty processing (legal/related costs): \$500 Total = \$500
Engineering work and/or contract/bid preparation: Reclamation management and/or administration: 5.00 Total = \$38,282

\$4.25 Total = \$38,282
\$45,037

CONTINGENCY: 0.00 Total = \$0

TOTAL INDIRECT COST = \$197,144

TOTAL BOND AMOUNT (direct + indirect) = \$984,566

BULLDOZER RIPPING WORK

Task description:	Rip 92.55	acres						
Site: DPG Pit		Permit A	ction:	DPG Pit Ap	plication	Permit/Jol	b#: <u>M2019</u>	028
PROJECT IDEN	TIFICATION							
Task #: 001	S	State: Colo	orado		A	bbreviation:	None	
Date: 9/13/ User: AMI		unty: Wel	d			Filename:	M028-001	
	organization name:	DDMS						
Ç ,	C	DKMS						<u>—</u>
HOURLY EQUI	_							
Basic Maric				-	Horsepowe Shift Basi		310 ber day	
Rippei Attac	illient. 3-Shank I	Kippei		_	Data Sourc		CRG)	<u> </u>
Cost Breakdown:								
	0 1: 0 //			#102.0 6	Utilization 9	%		
•	Ownership Cost/Hot Operating Cost/Hot			\$103.86 \$82.26	NA 100			
Ripper !	Ownership Cost/Hot			\$10.43	NA			
	Operating Cost/Hou			Φ0.20	100			
	Operator Cost/Hou	ur:		\$39.98	NA			
	Total Unit Cost/Hou	ur:		\$244.91				
,	Total Fleet Cost/Hou	ur:	\$489.	81				
MATERIAL QU	<u>ANTITIES</u>		Select	ed estimating	method: A	Area		
					·			<u></u>
Alternate Methods:								
		Bank Vo	lume:	NA	BCY	7	NA	
Alternate Methods: eismic: NA Area: 92.55	acres	Bank Vol Rip Deptl	_	NA 1.50	BCY		NA	BCY or C
eismic: NA Area: 92.55		Rip Deptl	h (ft):	1.50		-		BCY or C
eismic: NA Area: 92.55	Source of estimated of	Rip Deptl	h (ft):	1.50		-		BCY or C
eismic: NA Area: 92.55 HOURLY PROD	Source of estimated of	Rip Deptl	h (ft):	1.50		-		BCY or (
eismic: NA Area: 92.55	Source of estimated of DUCTION	Rip Deptl quantity: <u>I</u>	h (ft):	1.50 L	Volum	e: 223,971		BCY or C
eismic: NA Area: 92.55 S HOURLY PROD	Source of estimated of DUCTION	Rip Deptl	h (ft):	1.50	Volum	-		BCY or C
eismic: NA Area: 92.55 S HOURLY PROD	Source of estimated of DUCTION Seismic	Rip Deptl quantity: <u>I</u>	h (ft):	1.50 L NA	Volum	/second		BCY or 0
eismic: NA Area: 92.55 S HOURLY PROD Seismic:	Source of estimated of DUCTION Seismic Average Ripp	Rip Deptl quantity: <u>F</u> e Velocity: ing Depth:	h (ft):	1.50 L NA 2.56	Volum feet/	e: 223,971		BCY or 0
eismic: NA Area: 92.55 S HOURLY PROD Seismic:	Source of estimated of DUCTION Seismic Average Ripp Average Ripp	Rip Deptl quantity:I c Velocity: ing Depth: ing Width:	h (ft):	1.50 L NA 2.56 7.08	Volum feet/ feet/ feet/	/second /pass /pass		BCY or C
eismic: NA Area: 92.55 S HOURLY PROD Seismic:	Source of estimated of DUCTION Seismic Average Rippi Average Rippii	Rip Deptl quantity:I c Velocity: ing Depth: ing Width: ng Length:	h (ft):	1.50 L NA 2.56 7.08 500.00	feet/ feet/ feet/ feet/	/second /pass /pass /pass		BCY or 0
eismic: NA Area: 92.55 S HOURLY PROD Seismic:	Source of estimated of DUCTION Seismic Average Ripp Average Ripp	Rip Deptl quantity: I e Velocity: ing Depth: ing Width: ng Length: zer Speed:	h (ft):	1.50 L NA 2.56 7.08	feet/ feet/ feet/ feet/ feet/ feet/	/second /pass /pass		BCY or C
eismic: NA Area: 92.55 S HOURLY PROD Seismic:	Source of estimated of DUCTION Seismic Average Rippi Average Rippii Average Rippii Average Do	Rip Deptl quantity: <u>I</u> c Velocity: ing Depth: ing Width: ng Length: izer Speed: uver Time:	h (ft):	1.50 L NA 2.56 7.08 500.00 88.00	feet/ feet/ feet/ feet/ feet/ min	/second /pass /pass /pass /minute		BCY or C
eismic: NA Area: 92.55 S HOURLY PROD Seismic:	Average Rippi Average Rippi Average Rippi Average Do Average Manet Production per	Rip Deptl quantity: <u>I</u> c Velocity: ing Depth: ing Width: ng Length: izer Speed: uver Time:	h (ft):	1.50 L NA 2.56 7.08 500.00 88.00 0.25	feet/ feet/ feet/ feet/ feet/ min	/second /pass /pass /minute utes/pass		BCY or C
eismic: NA Area: 92.55 HOURLY PROD Seismic: Area: Job Condition Corre	Average Rippi Average Rippi Average Rippi Average Do Average Manet Production per	Rip Deptl quantity:I e Velocity: ing Depth: ing Width: ng Length: zer Speed: uver Time: r unit area:	h (ft):	1.50 L NA 2.56 7.08 500.00 88.00 0.25	feet/ feet/ feet/ feet/ feet/ acre	/second /pass /pass /minute utes/pass		BCY or (
eismic: NA Area: 92.55 HOURLY PROD Seismic: Area: Job Condition Corre	Source of estimated of DUCTION Seismic Average Rippi Average Rippii Average Rippii Average Maneu Production per ection Factors justed Hourly Unit P	Rip Deptl quantity:E velocity: ing Depth: ing Width: ng Length: zer Speed: uver Time: r unit area:	h (ft):	NA 2.56 7.08 500.00 88.00 0.25 0.822	feet/ feet/ feet/ feet/ feet/ acre	/second /pass /pass /pass /pass /minute utes/pass s/hour		BCY or (
eismic: NA Area: 92.55 HOURLY PROD Seismic: Area: Job Condition Corre	Source of estimated of DUCTION Seismic Average Rippi Average Rippii Average Rippii Average Maner Production per ection Factors justed Hourly Unit P	Rip Depth quantity:I very Velocity: ing Depth: ing Width: ng Length: izer Speed: uver Time: r unit area: Production: e Altitude:	h (ft):	NA 2.56 7.08 500.00 88.00 0.25 0.822 4,600	feet/ feet/ feet/ feet/ feet/ acre Acre	/second /pass /pass /pass /minute utes/pass s/hour		BCY or C
eismic: NA Area: 92.55 HOURLY PROD Seismic: Area: Job Condition Corre	Source of estimated of DUCTION Seismic Average Rippi Average Rippii Average Rippii Average Maneu Production per extion Factors justed Hourly Unit P	Rip Deptl quantity:E velocity: ing Depth: ing Width: ng Length: zer Speed: uver Time: r unit area:	h (ft):	NA 2.56 7.08 500.00 88.00 0.25 0.822	feet/ feet/ feet/ feet/ feet/ feet/ Acre	/second /pass /pass /pass /minute utes/pass s/hour T HB)		BCY or 0
Pismic: NA Area: 92.55 HOURLY PROD Seismic: Area: Job Condition Corre	Source of estimated of DUCTION Seismic Average Rippi Average Rippii Average Rippii Average Manet Production per ection Factors justed Hourly Unit P	Rip Depth quantity:I very Velocity:ing Depth: ing Width: ng Length: zer Speed: uver Time: r unit area:Production: e Altitude: titude Adj:	h (ft):	NA 2.56 7.08 500.00 88.00 0.25 0.822 4,600 1.00	feet/ care Acre feet (CA (1 sl	/second /pass /pass /pass /minute utes/pass s/hour		BCY or
Pismic: NA Area: 92.55 HOURLY PROD Seismic: Area: Job Condition Corre	Source of estimated of DUCTION Seismic Average Rippi Average Rippii Average Rippii Average Manet Production per ection Factors justed Hourly Unit P	Rip Depth quantity:I very Velocity:ing Depth: ing Width: ng Length: izer Speed: uver Time: r unit area:	h (ft):	NA 2.56 7.08 500.00 88.00 0.25 0.822 4,600 1.00 0.83	feet/ care Acre feet (CA (1 sl	/second /pass /pass /pass /minute utes/pass s/hour T HB) nift/day) tiplier r		BCY or
eismic: NA Area: 92.55 HOURLY PROD Seismic: Area: Job Condition Corre Unadj	Average Rippi Average Rippi Average Rippi Average Rippi Average Rippi Average Maneu Production per extion Factors justed Hourly Unit P Sit Ali Job I Net C Adjusted Hourly Adjusted Hourly	Rip Depth quantity:I very Velocity:ing Depth: ing Width: ng Length: izer Speed: uver Time: r unit area:	h (ft):	1.50 L NA 2.56 7.08 500.00 88.00 0.25 0.822 4,600 1.00 0.83 0.83 0.68	feet/ CA (1 sl multi	/second /pass /pass /pass /minute utes/pass s/hour T HB) nift/day) tiplier r		BCY or (
eismic: NA Area: 92.55 HOURLY PROD Seismic: Area: Job Condition Corre	Source of estimated of DUCTION Seismic Average Rippi Average Rippii Average Rippii Average Maner Production per ection Factors justed Hourly Unit P Sitt Ali Job I Net C Adjusted Hourly Adjusted Hourly Adjusted Hourly	Rip Depth quantity:I very Velocity:ing Depth: ing Width: ng Length: izer Speed: uver Time: r unit area:	h (ft):	1.50 L NA 2.56 7.08 500.00 88.00 0.25 0.822 4,600 1.00 0.83 0.83 0.68	feet/ minimacre Acres/ Acres/h	/second /pass /pass /pass /minute utes/pass s/hour T HB) nift/day) tiplier r		

Task description:	Retopsoil	Phase 1 area= 27	.15 ac x 12 in			
Site: DPG Pit		Permit Action	: DPG Pit App	lication P	ermit/Job#: M2	019028
PROJECT IDENT	<u>IFICATION</u>					
Task #: 002	9	State: Colorado		Abbre	viation: None	
Date: $\frac{002}{9/13/2}$		unty: Weld			ename: M028-	002
User: AME		<u> </u>				
Agency or o	organization name	DRMS				
HOURLY EQUIP	MENT_		COSTS	Shift basis: <u>1 per</u>	<u>day</u>	
		Eauipme	ent Description			
	-\$	Scraper: Cat 637				
		-Dozer: NA				
Suppor	t Equipment -Loa		T - 8SU			
Road Mai	ntenance –Motor		6M			
Ttoud Mai			Гапкег, 3,500 Ga	al.		
Cost Breakdown:	Scraper Wo		Support Equ			e Equipment
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	100	NA	100	100
Ownership cost/hour:	\$162.02	NA	\$103.86	NA	\$82.71	\$13.51
Operating cost/hour:	\$184.64	NA	\$82.26	NA	\$70.09	\$28.95
%Utilization-ripper:	NA	NA	NA	NA	50	NA
Ripper own. cost/hour:	NA	NA	\$0.00	NA	\$4.44	\$0.00
Ripper op. cost/hour:	NA	NA	\$0.00	NA	\$1.96	\$0.00
Operator cost/hour:	\$45.58	NA	\$39.98	NA	\$45.39	\$0.00
Unit Subtotals:	\$392.24	NA	\$226.10	NA	\$204.58	\$42.46
Number of Units:	2	0	1	0	1	1
Group Subtotals:	Work:	\$784.48	Support:	\$226.10	Maint:	\$247.04
Total work team cost/	hour: \$1,257.62					
MATERIAL QUA	<u>NTITIES</u>					
Initial volume:	43,802	CCY	Swell fac	tor: 1.215		
Loose volume:	53,219	LCY				
	ce of estimated vo			, Mining & Safety	<i>I</i>	
Source o	f estimated swell	factor: Cat Han	dbook			
HOURLY PRODU	<u>ICTION</u>					
			Scraper E	Bowl (volume) Ba	sis:	
Material weight:	1,600 lbs/LCY		Struck	Volume: 24.00	I.	CY
Material description:	Top Soil			Volume: 34.00		CY
Rated Payload:	81,600 pounds			Volume: 29.00		CY
Payload Capacity:	51 00 LCY		Adjusted (Capacity: 29 00	Ī	CY

minutes

LCY/Hour

C_{3}	vcle	Tim	e:
\sim	, 010	1 1111	v.

Scraper Loading Time: $\underline{0.80}$ Minutes Maneuver and Spread Time: $\underline{0.60}$ Minutes

Job Condition Correction:

	Scraper	Push Dozer	Source
Altitude Adj:	1.000	NA	(CAT HB)
Job Efficiency:	0.830	NA	(CAT HB)
Net Correction:	0.820	NIA	

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	2100.00	1.00	3.00	4.00	2394	1.04

Haul Time: 1.04 minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2100.00	-1.00	3.00	2.00	2960	0.83

Return Time: 0.83 minutes

Total Scraper team cycle time:
Adjusted for job conditions:
441.65

Selected Number of Scrapers: 2 Scraper(s) team (unit) hourly production: 883.30 LCY/Hour

Adjusted single scraper team (unit) hourly production: 883.30 LCY/Hour Adjusted multiple scraper team (fleet) hourly production: 883.30 LCY/Hour

Unadjusted unit production/hour: 532.11 LCY/Hour Optimal Number of Scrapers per push dozer:

JOB TIME AND COST

Fleet size: _____1 Team(s) Total job time: _____60.25 Hours

Unit cost: \$1.424 /LCY Total job cost: \$75,772

Page 1 of 2

Task description:	ask description: Retopsoil stockpile/processing area= 33.50 ac x 12 in					
Site: DPG Pit	Permit Action: DPG Pit Application Permit/Job#: M2019028			019028		
PROJECT IDENT	<u>TIFICATION</u>					
Task #: 003 Date: 9/13/20 User: AME		te: Colorado Weld)		viation: None M028-	003
Agency or o	organization name:	DRMS				
HOURLY EQUIP	MENT_		COSTS	Shift basis: 1 per	day	
			ent Description			
		raper: Cat 63	7G			
Suppor	t Equipment -Load	Area: Cat D8	T - 8SU			
D 114	-Dump		() (
Road Mai	ntenance –Motor G -Water T		<u>6М</u> Tanker, 3,500 Ga	ս1.		
		•				
Cost Breakdown:	Scraper Work	Team Dozer	Support Equal Load Area	•	Maintenanc Motor Grader	e Equipment Water Truck
	Scraper			Dump Area		
%Utilization-machine:	100	NA	100	NA	100	100
Ownership cost/hour:	\$162.02	NA	\$103.86	NA	\$82.71	\$13.51
Operating cost/hour:	\$184.64	NA	\$82.26	NA	\$70.09	\$28.95
%Utilization-ripper:	NA	NA	NA	NA	100	NA
Ripper own. cost/hour:	NA	NA	\$0.00	NA	\$4.44	\$0.00
Ripper op. cost/hour:	NA	NA	\$0.00	NA	\$3.92	\$0.00
Operator cost/hour:	\$45.58	NA	\$39.98	NA	\$45.39	\$0.00
Unit Subtotals:	\$392.24	NA	\$226.10	NA	\$206.54	\$42.46
Number of Units:	2	0	1	0	1	1
Group Subtotals:	Work:	\$784.48	Support:	\$226.10	Maint:	\$249.00
Total work team cost/	hour: \$1,259.58					
MATERIAL QUA	NTITIES					
Initial volume: Loose volume:	54,047 65,667	CCY LCY	Swell fac	tor: 1.215		
	rce of estimated volu of estimated swell face		•	Mining & Safety	I	
HOURLY PRODU	<u>ICTION</u>					
			Scraper E	Bowl (volume) Ba	sis:	
Material weight:	1,600 lbs/LCY		Struck	Volume: 24.00		CY
Material description:	Top Soil			Volume: 34.00		CY
Rated Payload: Payload Capacity:	81,600 pounds 51.00 LCY		Average Adjusted (Volume: 29.00 29.00 29.00		CY CY

minutes

LCY/Hour

Scraper(s)

C_{3}	vcle	Tim	e:
\sim	, 010	1 1111	v.

Scraper Loading Time: $\underline{0.80}$ Minutes Maneuver and Spread Time: $\underline{0.60}$ Minutes

<u>Job Condition Correction:</u>

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

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	600.00	1.00	3.00	4.00	2394	0.41

Haul Time: **0.41** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	600.00	-1.00	3.00	2.00	2960	0.33

Return Time: 0.33 minutes

Total Scraper team cycle time:

Adjusted for job conditions:

Selected Number of Scrapers:

2.14

674.86

2

Adjusted single scraper team (unit) hourly production: 1,349.72 LCY/Hour Adjusted multiple scraper team (fleet) hourly production: 1,349.72 LCY/Hour

Unadjusted unit production/hour: 813.08 LCY/Hour Optimal Number of Scrapers per push dozer:

JOB TIME AND COST

Fleet size: _____1 Team(s) Total job time: _____48.65 Hours

Unit cost: \$0.933 /LCY Total job cost: \$61,282

Task description:	Retopsoil l	Retopsoil loadout area= 10.40 ac x 12 in						
Site: DPG Pit		Permit Action	n: DPG Pit App	lication P	Permit/Job#: M2	019028		
PROJECT IDENT	<u>IFICATION</u>							
Task #: 004 Date: 9/13/20 User: AME		tate: Colorado unty: Weld)		viation: None M028-	004		
Agency or o	organization name:	DRMS						
HOURLY EQUIP	MENT_		COSTS	Shift basis: 1 per	<u>day</u>			
			ent Description					
		craper: Cat 63 Dozer: NA	7G					
Suppor	t Equipment -Load	d Area: Cat D8	8T - 8SU					
Road Mai	-Dump ntenance –Motor (Area: NA Grader: CAT 1	6M					
	-Water		Tanker, 3,500 Ga	1.				
Cost Breakdown:	Scraper Wor	lr Toom	Support Equ	inmant	Maintanana	e Equipment		
Cost Breakdown.	Scraper Wor	Dozer	Load Area	Dump Area	Motor Grader	Water Truck		
%Utilization-machine:	100	NA	100	NA	100	100		
Ownership cost/hour:	\$162.02	NA	\$103.86	NA	\$82.71	\$13.51		
Operating cost/hour:	\$184.64	NA	\$82.26	NA	\$70.09	\$28.95		
%Utilization-ripper:	NA	NA	NA	NA	100	NA		
Ripper own. cost/hour:	NA	NA	\$0.00	NA	\$4.44	\$0.00		
Ripper op. cost/hour:	NA	NA	\$0.00	NA	\$3.92	\$0.00		
Operator cost/hour:	\$45.58	NA	\$39.98	NA	\$45.39	\$0.00		
Unit Subtotals:	\$392.24	NA	\$226.10	NA	\$206.54	\$42.46		
Number of Units:	2	0	1	0	1	1		
Group Subtotals:	Work:	\$784.48	Support:	\$226.10	Maint:	\$249.00		
Total work team cost/	hour: \$1,259.58							
MATERIAL QUA	NTITIES							
Initial volume:	16,779	CCY	Swell fac	tor: 1.215				
Loose volume:	20,386	LCY						
	ce of estimated vo f estimated swell f		n of Reclamation, ndbook	Mining & Safety	7			
HOUDI V DDODI	CTION							
HOURLY PRODU	CHUN		C)1 (1) D				
				Sowl (volume) Ba				
Material weight:	1,600 lbs/LCY			Volume: 24.00		CY		
Material description: Rated Payload:	Top Soil 81,600 pounds			Volume: 34.00 Volume: 29.00		CY CY		
Payload Capacity:	51.00 LCY							

minutes

C_{3}	vcle	Tim	e:
\sim	, 010	1 1111	v.

Scraper Loading Time: $\underline{0.80}$ Minutes Maneuver and Spread Time: $\underline{0.60}$ Minutes

Job Condition Correction:

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

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	1.00	3.00	4.00	2394	0.37

Haul Time: **0.37** minutes

0.29

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	500.00	-1.00	3.00	2.00	2960	0.29

Total Scraper team cycle time:

Adjusted for job conditions:
Selected Number of Scrapers:

2.06 minutes

701.07 LCY/Hour

Scraper(s)

Return Time:

Adjusted single scraper team (unit) hourly production: 1,402.14 LCY/Hour Adjusted multiple scraper team (fleet) hourly production: 1,402.14 LCY/Hour

Unadjusted unit production/hour: 844.66 LCY/Hour Optimal Number of Scrapers per push dozer:

JOB TIME AND COST

Fleet size:	1	Team(s)	Total job time:	14.54	Hours
Unit cost:	\$0.898	/LCY	Total job cost:	\$18,314	

Task description:	Retopsoil se	Retopsoil settling ponds area= 19.57 ac x 12 in							
Site: DPG Pit Perm			: DPG Pit App	lication P	Permit/Job#: M2	019028			
PROJECT IDENT	<u>IFICATION</u>								
Task #: 005 Date: 9/13/20 User: AME		ate: Colorado nty: Weld			viation: None ename: M028-	005			
Agency or o	rganization name:	DRMS							
HOURLY EQUIP	MENT_		COSTS	Shift basis: 1 per	<u>day</u>				
			ent Description						
		raper: Cat 63	7G						
Suppor	t Equipment -Load		T - 8SU						
• •	-Dump	Area: NA							
Road Mai	ntenance – Motor G								
	-Water T	ruck: Water	Tanker, 3,500 Ga	il.					
Cost Breakdown:	Scraper Work	Team	Support Equ	ipment	Maintenanc	e Equipment			
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck			
%Utilization-machine:	100	NA	100	NA	100	100			
Ownership cost/hour:	\$162.02	NA	\$103.86	NA	\$82.71	\$13.51			
Operating cost/hour:	\$184.64	NA	\$82.26	NA	\$70.09	\$28.95			
%Utilization-ripper:	NA	NA	NA	NA	100	NA			
Ripper own. cost/hour:	NA	NA	\$0.00	NA	\$4.44	\$0.00			
Ripper op. cost/hour:	NA	NA	\$0.00	NA	\$3.92	\$0.00			
Operator cost/hour:	\$45.58	NA	\$39.98	NA	\$45.39	\$0.00			
Unit Subtotals:	\$392.24	NA	\$226.10	NA	\$206.54	\$42.46			
Number of Units:	2	0	1	0	1	1			
Group Subtotals:	Work:	\$784.48	Support:	\$226.10	Maint:	\$249.00			
Total work team cost/	hour: \$1,259.58								
MATERIAL QUA	NTITIES								
Initial volume:	31,573	CCY	Swell fac	tor: 1.215					
Loose volume:	38,361	LCY							
	ce of estimated volu f estimated swell fa			, Mining & Safety	, and the second				
HOURLY PRODU	<u>ICTION</u>								
			Scraper E	Bowl (volume) Ba	sis:				
Material weight:	1,600 lbs/LCY		Struck	Volume: 24.00	L	CY			
Material description:	Top Soil			Volume: 34.00		CY			
Rated Payload:	81,600 pounds		Average			CY			
Payload Capacity:	51.00 LCY		Adjusted (Capacity: 29.00	L	CY			

minutes

LCY/Hour

Scraper(s)

C_{3}	vcle	Tim	e:
\sim	, 010	1 1111	v.

Scraper Loading Time: $\underline{0.80}$ Minutes Maneuver and Spread Time: $\underline{0.60}$ Minutes

Job Condition Correction:

	Scraper	Push Dozer	Source
Altitude Adj:	1.000	NA	(CAT HB)
Job Efficiency:	0.830	NA	(CAT HB)
Net Correction:	0.820	NIA	

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	2500.00	1.00	3.00	4.00	2394	1.20

Haul Time: 1.20 minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2500.00	-1.00	3.00	2.00	2960	0.97

Return Time: **0.97** minutes

Total Scraper team cycle time:
Adjusted for job conditions:
Selected Number of Scrapers:

2
3.57
404.54

Adjusted single scraper team (unit) hourly production: 809.08 LCY/Hour Adjusted multiple scraper team (fleet) hourly production: 809.08 LCY/Hour

Unadjusted unit production/hour: 487.39 LCY/Hour Optimal Number of Scrapers per push dozer:

JOB TIME AND COST

Fleet size: _____1 Team(s) Total job time: _____47.41 Hours

Unit cost: \$1.557 /LCY Total job cost: \$59,721

Task description:	Retopsoil a	Retopsoil access road/scale house area= 1.93 ac x 12 in							
Site: DPG Pit		Permit Action:	DPG Pit App	lication P	Permit/Job#: M2	019028			
PROJECT IDENT	<u>TIFICATION</u>								
Task #: 006 Date: 9/13/2 User: AME		tate: Colorado unty: Weld			viation: None ename: M028-	006			
Agency or o	organization name:	DRMS							
HOURLY EQUIP	MENT_		COSTS	Shift basis: 1 per	day				
			ent Description						
		craper: Cat 637 Dozer: NA	'G						
Suppor	rt Equipment -Load	d Area: Cat D8	T - 8SU						
	-Dump		CM .						
Road Mai	ntenance – Motor C -Water		ым Гапкег, 3,500 Ga	ıl.					
		,							
Cost Breakdown:	Scraper Worl	k Team Dozer	Support Equal Load Area		Maintenanc Motor Grader	e Equipment Water Truck			
	Scraper			Dump Area					
%Utilization-machine:	100	NA	100	NA	100	100			
Ownership cost/hour:	\$162.02	NA	\$103.86	NA	\$82.71	\$13.51			
Operating cost/hour:	\$184.64	NA	\$82.26	NA	\$70.09	\$28.95			
%Utilization-ripper:	NA	NA	NA	NA	100	NA			
Ripper own. cost/hour:	NA	NA	\$0.00	NA	\$4.44	\$0.00			
Ripper op. cost/hour:	NA	NA	\$0.00	NA	\$3.92	\$0.00			
Operator cost/hour:	\$45.58	NA	\$39.98	NA	\$45.39	\$0.00			
Unit Subtotals:	\$392.24	NA	\$226.10	NA	\$206.54	\$42.46			
Number of Units:	2	0	1	0	1	1			
Group Subtotals:	Work:	\$784.48	Support:	\$226.10	Maint:	\$249.00			
Total work team cost/	hour: \$1,259.58								
MATERIAL QUA	<u>NTITIES</u>								
Initial volume: Loose volume:	3,114 3,784	CCY LCY	Swell fac	tor: 1.215					
	rce of estimated vo of estimated swell f			Mining & Safety	7				
HOURLY PRODU	JCTION								
			Scraper E	Bowl (volume) Ba	sis:				
Material weight:	1,600 lbs/LCY		Struck	Volume: 24.00	L	CY			
Material description:	Top Soil		Heaped	Volume: 34.00	L	CY			
Rated Payload:	81,600 pounds		Average			CY			
Payload Capacity:	51.00 LCY		Adjusted (Capacity: 29.00	L	CY			

C_{3}	vcle	Tim	e:
\sim	, 010	1 1111	v.

Scraper Loading Time: $\underline{0.80}$ Minutes Maneuver and Spread Time: $\underline{0.60}$ Minutes

Job Condition Correction:

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

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	2250.00	1.00	3.00	4.00	2394	1.10

Haul Time: 1.10 minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2250.00	-1.00	3.00	2.00	2960	0.88

Return Time: **0.88** minutes Total Scraper team cycle time: 3.38 minutes Adjusted for job conditions: 427.28 LCY/Hour Selected Number of Scrapers: Scraper(s) 2 Adjusted single scraper team (unit) hourly production: 854.56 LCY/Hour Adjusted multiple scraper team (fleet) hourly production: 854.56 LCY/Hour

Unadjusted unit production/hour: 514.79 LCY/Hour Optimal Number of Scrapers per push dozer:

JOB TIME AND COST

 Fleet size:
 1
 Team(s)
 Total job time:
 4.43
 Hours

 Unit cost:
 \$1.474
 /LCY
 Total job cost:
 \$5,577

REVEGETATION WORK

		olorado		Abbreviation:		
Date: 9/13/2019 Co				A 1.1		
Date: 9/13/2019 Co				A nnreviation:	None	
User: AME	<u> </u>			Filename:	M028-007	
Agency or organization name						
Agency of organization name	e: DRMS	S				
RTILIZING						
erials						
Citais		Units /				
Description		Acre	Unit	Cost / Unit	Cost /Acre	
				\$	\$	
				Total Fertilizer		
				Materials		
				Cost/Acre		
					\$	
		Total	Fertilizer A	pplication Cost/Acre	\$0.00	
LLING						
Description					Cost /Acre	
Disc harrowing, 6" deep (MEANS)	32 91 13 23	6100)			\$101.93	
sise harrowing, or deep (MEATA)	32)1 13.23	0100)			ψ101.93	
			To	otal Tilling Cost/Acre	\$101.93	
EDING						
				Rate –		
				PLS Seeds	Cost /Acre	
Seed Mix						
Seed Mix				LBS / per sq.		
Seed Mix				LDS / FT		
				Acre FT	\$7.19	
Blue Grama - Hachita				Acre 0.45 7.35	\$7.19 \$110.98	
Blue Grama - Hachita Switchgrass - Blackwell				Acre 6.45 7.35 9.65 86.18	\$110.98	
Blue Grama - Hachita Switchgrass - Blackwell Sideoats Grama - El Reno				Acre FT 0.45 7.35 9.65 86.18 2.70 8.86	\$110.98 \$22.61	
Blue Grama - Hachita Switchgrass - Blackwell				Acre 6.45 7.35 9.65 86.18	\$110.98	

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
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$295.00	\$590.00
Total Mulch Materials Cost/Acre				\$590.00

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$70.17
Weed spray, truck, aquatic area, annuals [DMG]		\$27.30
	Total Mulch Application Cost/Acre	\$97.47

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					\$
	\$0.00				

JOB TIME AND COST

No. of Acres: 92.55 Cost /Acre: \$1,211.73

Estimated Failure Rate: 30% Cost /Acre*: \$422.33

*Selected Replanting Work Items: SEEDING

Initial Job Cost: \$112,145.61

Reseeding Job Cost: \$11,725.99

Total Job Cost: \$123,872

Job Hours: 92.55

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description: Mo	bilization/Demo	bilization			
te: DPG Pit	Permi	t Action: DPG	Pit Application	Permit/Job	#: <u>M2019028</u>
PROJECT IDENTIFICATI	ON				
Task #: 013 Date: 9/13/2019 User: AME		Colorado Veld		Abbreviation: _ Filename: _	None M028-013
Agency or organization	n name: DRM	S			
EQUIPMENT TRANSPOR	T RIG COST				
			Sh Cost Data		per day RG Data
Truck Tractor Desc	ription: GEN	ERIC ON-HIGH	WAY TRUCK TRA 400 HP (2ND HA		DIESEL POWERED,
Truck Trailer Desc	ription:		OING GOOSENECH FRAILER (25T, 50'	•	EQUIPMENT
Cost Breakdown:					
Available Rig Capacities	0-25 Tons	26-50 Tons	51+ Tons		
Ownership Cost/Hour:	\$17.20	\$29.63	\$38.69	<u></u>	
Operating Cost/Hour:	\$26.56	\$47.02	\$55.69	<u></u>	
Operator Cost/Hour:	\$23.63	\$23.63	\$23.63	<u></u>	
Helper Cost/Hour	\$0.00	\$23.53	\$23.53		

NON ROADABLE EQUIPMENT:

Total Unit Cost/Hour:

Machine	Weight/	Owner ship	Haul Rig	Fleet	Haul Trip	Return Trip	DOT Permit
Description	Unit	Cost/hr/ unit	Cost/hr/uni	Size	Cost/hr/	Cost/hr/ fleet	Cost/ fleet
	(TONS)		t		fleet		
Cat D8T - 8SU	53.08	\$114.29	\$141.54	4	\$1,023.32	\$566.16	\$1,000.00
Cat 637G	57.28	\$162.02	\$141.54	4	\$1,214.24	\$566.16	\$1,000.00
CAT 16M	28.73	\$87.15	\$123.81	2	\$421.92	\$247.62	\$500.00
Drill/Broadcast	25.00	\$18.15	\$67.39	1	\$85.54	\$67.39	\$250.00
Seeder with							
Tractor							

\$123.81

\$67.39

\$141.54

Subtotals: \$2,745.02 \$1,447.33 \$2,750.00

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Water Tanker, 3,500 Gal.	\$42.46	1	\$42.46	\$42.46
Light Duty Pickup, 4x4, 3/4 T.	\$12.96	1	\$12.96	\$12.96

Subtotals:	\$55.42	\$55.42

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:

Total one-way travel distance:

Average Travel Speed:

GREELEY

miles

50.00

mph

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

\$13.30

<u>Transportation Cycle Time:</u>

	Non-	
	Roadable	Roadable
	Equipment	Equipment
Haul Time (Hours):	0.12	0.12
Return Time (Hours):	0.12	0.12
Loading Time (Hours):	2.75	NA
Unloading Time (Hours):	2.75	NA
Subtotals:	5.74	0.24

JOB TIME AND COST

Total job time:	11.48	Hours
Total job cost:	\$36,715	