

COLORADO Division of Reclamation, Mining and Safety

Department of Natural Resources 1313 Sherman Street, Room 215 Denver, Colorado 80203

September 09, 2016

Andre LaRoche Transit Mix Concrete Co. 444 E. Costilla St. Colorado Springs, CO 80903

RE: Hitch Rack Ranch Quarry, File No. M-2016-010, 112 Construction Materials Reclamation Permit Application, Adequacy Review No. 4

Mr. LaRoche:

The Division of Reclamation, Mining and Safety (Division) has completed its fourth adequacy review of the above referenced permit application. Pursuant to Rule 1.4.1(9), the Division's recommendation deadline for the application has been extended to October 04, 2016. However, pursuant to Rule 1.4.9(2)(c), the Division's recommendation and rationale for its recommendation shall be sent to the applicant and to all objectors of record at least three working days prior to the Pre-hearing Conference, currently scheduled to occur on October 05, 2016. Therefore, the Division's recommendation deadline has been moved up from October 04, 2016 to <u>September 29, 2016</u>. Please be advised, on September 29, 2016, the application may be deemed inadequate and consequentially denied unless the following adequacy items are addressed to the Division's satisfaction.

Exhibit D – Mining Plan (Rule 6.4.4):

1. In the Pre-Blast Survey Plan, Table 1: Water Quality Monitoring Parameters, please add the following parameters to be analyzed in water quality samples collected from local groundwater wells: Color, Corrosivity, Foaming Agents, and Odor.

Although these standards are considered Secondary Drinking Water Standards, the Division requires them to be analyzed in the Pre-Blast Survey to aid in better identification of potential impacts to water quality in groundwater wells after mining activities have commenced.

Exhibit G - Water Information (Rule 6.4.7):

2. In the groundwater monitoring plan, Table 2.2: Groundwater Sample Suite, please add the following parameters to be analyzed in water quality samples collected on site: Color, Corrosivity, Foaming Agents, and Odor.

Although these standards are considered Secondary Drinking Water Standards, the Division requires them to be analyzed at least for the five calendar quarters of groundwater quality data to be collected for baseline characterization.



Exhibit L - Reclamation Costs (Rule 6.4.12):

3. The text was not revised correctly per item no. 20 of the Division's adequacy review no. 3. The text was revised to state "All slopes will be regraded to achieve slope angle of 1H:1V or less steep". However, the proposed reclamation plan describes all disturbed slopes (other than pit highwalls) to be graded to slope gradients of 3H:1V or flatter. Please revise this statement accordingly. Please clarify the 1H:1V slope gradient is limited to the highwalls, and all other disturbed slopes will be graded to 3H:1V or flatter.

Exhibit N - Source of Legal Right to Enter (Rule 6.4.14):

4. Please provide a description of the basis for legal right of entry to the site and to conduct mining and reclamation from the surface owner of record of the affected land, RMBC Group, LLC. This may be a copy of access lease, deed, abstract of title, or a current tax receipt. A signed statement by the landowner and acknowledged by a Notary Public stating the Operator/Applicant has legal right to enter and mine is also acceptable.

Exhibit S - Permanent Man-Made Structures (Rule 6.4.19):

5. Please submit damage compensation agreements with RMBC Group, LLC, for the existing Little Turkey Creek Road, Hitch Rack Ranch Road, and any other permanent man-made structures located within the boundary of affected land and within 200 feet of the affected land (e.g., property fencing, gates) which are owned by RMBC Group, LLC. Pursuant to Rule 6.4.19(b), the Division is not authorized to accept an engineering evaluation for any structures until the application demonstrates such agreements have been attempted, but not obtained. Proof of service of the compensation agreements may be in the form of Certified Mail receipts or proof of personal service. Alternatively, if these structures are covered in the lease agreement with RMBC Group, LLC, please provide a copy of the executed lease agreement.

Additional Items:

- 6. Please address the adequacy items provided by Division staff member, Tim Cazier, regarding issues related to Exhibit G Water Information, dated August 30, 2016, which was given to the Applicant in person on August 31, 2016, and is also enclosed with this letter.
- 7. Please address the adequacy items provided by Division staff member, Peter Hays, regarding issues related to Exhibit 6.5 Geotechnical, dated September 8, 2016, and the Blasting Plan, dated September 8, 2016, both reviews enclosed with this letter.
- 8. Pursuant to Rules 1.6.2(1)(c) and (2), your response to this adequacy review must be placed with the County Clerk and Recorder and thereby made available for public review. Please provide proof this was done.



9. The Division has calculated the cost of reclamation through full development of mining phase three, totaling \$3,766,172. Please find the enclosed cost summary work utilized by the Division to calculate the cost of reclamation. Please review the enclosed financial warranty estimate and submit any questions or comments prior to the recommendation deadline.

Please ensure the Division sufficient time to complete its review process by responding to these adequacy items two weeks prior to the recommendation date, by <u>September 15, 2016</u>. If additional time is needed, please request an extension to the recommendation deadline, currently set at September 29, 2016. The Division reserves the right to further supplement this document with additional adequacy items and details as necessary.

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

Sincerely, Anny Eschberger

Amy Eschberger Environmental Protection Specialist

- Enclosures: 1) DRMS 2nd Adequacy Review of Exhibit G Water Information, from Tim Cazier, dated August 30, 2016
 - DRMS 3rd Adequacy Review of Exhibit 6.5 Geotechnical, from Peter Hays, dated September 8, 2016
 - 3) DRMS 3rd Adequacy Review of Blasting Plan, from Peter Hays, dated September 8, 2016
 - 4) Division's cost summary work for required financial warranty, totaling \$3,766,172

ec w/enclosures: Paul Kos, Norwest Corporation Wally Erickson, DRMS Tony Waldron, DRMS Peter Hays, DRMS Tim Cazier, DRMS







1313 Sherman Street, Room 215 Denver, CO 80203

- Date: August 30, 2016
- To: Amy Eschberger
- From: Tim Cazier, P.E.
- RE: Hitch Rack Ranch Quarry, DRMS File No. M-2016-010; Second Adequacy Review - Exhibit G, Water Information

The Division of Reclamation, Mining and Safety (Division) engineering staff has reviewed the July 21, 2016 and August 19, 2016 revised Exhibit G Water Information and Exhibit F portions of the 112c mine reclamation permit application prepared by Norwest Corporation for Transit Mix Concrete Company. The following comments are posed to ensure adequate engineering analyses and design practices are implemented to eliminate or reduce to the extent practical the disturbance to the hydrologic balance expected by the mining operation with respect to water quality and quantity in accordance with Rules 3.1.6(1), 6.4.7. The comment numbers below are consistent with the May 3, 2016 preliminary adequacy review for the purpose of tracking responses.

- 1. <u>Page G-3, paragraph a, Little Turkey Creek</u>. Figure G-5 provides the requested cross-section demonstrating the horizontal and vertical mining offsets, but does not indicate positive drainage will be promoted for either the North Pit Area or the Plant Area/South Pit. The North Pit contours show positive drainage from the northwest towards the southeast, but the southeast portion of the North Pit appears to be contained by an unmined "block" ranging in height from 20 to possible 80 feet. This is also apparent in Figure F-2 for the reclamation plan. A similar, but less prominent blockage may be present in the Plant Area/South Pit, as shown in cross-section A-A' on Figure G-5 where it shows an approximately five-foot rise near Little Turkey Creek that might prevent positive drainage at closure if the rise persists along the creek and until after reclamation is complete. Please provide additional discussion and figures demonstrating how positive drainage will be maintained during operations and after reclamation.
- 2. <u>Page G-9 [now p. G-10]</u>, paragraph b, Deadman Creek. The response is adequate.
- 3. <u>Page G-9 [now p. G-10]</u>, paragraph c, Drainage Discussion. The response is adequate.



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4. <u>Page G-11 [now p. G-12], 100-year, 24-hour storm</u>. The response commits to designing stormwater structures using the 100-year, 24-hour storm event as required by the Division, but continues to defer to El Paso County rules and regulations regarding precipitation data, which may be outdated. As explained below, the Division requires the application acknowledge and utilize current references for precipitation data.

Paragraph a. Site Climate (p. G-12) acknowledges NOAA Atlas 14 has superseded NOAA Atlas 2 (on which the county regulations are based, using data available only prior to 1973), but cites using this older 1973 data. Depending on the "point" selected in the NOAA Atlas 14 (based on data available in 2013), the 100-year, 24-hour precipitation depth can reasonably be expected to be between 5.34 and 5.4 inches. This is 16 to 17 percent higher than the outdated NOAA Atlas 2 selected estimate of 4.6 inches used in the revised analyses. As such, the SEDCAD results in Appendix G-1 are not adequate for Division approval. Please revise the runoff estimates using NOAA Atlas 14 data. Additionally, as the Division requires designs based on the 100-year event, please refrain from providing results to the Division for the 10-year event.

- 5. <u>Page G-11 [now p. G-13]</u>, Table G-3. The response is adequate.
- 6. <u>Page G-12 [now p. G-14]</u>, paragraph a, Ditches. The response is adequate.
- 7. <u>Page G-12 [now p. G-14]</u>, paragraph i, Terrace Ditches. The response is adequate.
- 8. <u>Page G-13 [now p. G-15]</u>, paragraph ii. This paragraph states the PADER method is used for riprap sizing. The response is adequate with the exception of reclamation phase channel DD-F1-1 which Table G-4 indicates has a slope of 25 percent. The USACE EM-1110-2-1601 steep slope method (eq. 3-5) is valid for channels sloped between 2 and 20 percent. An alternative method for sizing riprap for the channel must be selected.
- 9. <u>Page G-13 [now p. G-16]</u>, <u>Table G-4</u>. The response is adequate. Please see Comment No.32.
- 10. <u>Page G-13 [now p. G-17]</u>, paragraph b, Sediment Ponds. The response confirming none of the detention basins will be jurisdictional is adequate.
- 11. <u>Page G-14 [now p. G-18]</u>, paragraph c, <u>Culverts</u>. The response is adequate. Table G-6 was not checked as peak flows will increase based on the response to Comment No. 4.
- 12. <u>Page G-15 [now p. G-18]</u>, Culverts LTC-CC-1 through LTC-CC-6. The response is adequate. However, Table G-6 was not checked as peak flows will increase based on the response to Comment No. 4.
- 13. Page G-15 [now p. G-19], Table G-6. The response is adequate.

- 14. Page G-16 [now p. G-20], Paragraph d. The response is adequate.
- 15. Figure G-5. The purpose of the LTC culverts... The response is adequate.
- 16. Figure G-6. The response is adequate.
- 17. <u>Figure G-7</u>. The requested ditch and grade-to-drain directions were not provided. Please provide the requested information.
- 18. <u>Figure G-8</u>. The requested ditch and grade-to-drain directions were not provided. Please provide the requested information.
- 19. <u>Figure G-9</u>. The requested ditch and grade-to-drain directions were not provided. Please provide the requested information.
- 20. <u>Figure G-10</u>. The requested ditch and grade-to-drain directions were not provided. Please provide the requested information.
- 21. Figure G-11. The requested ditch and grade-to-drain directions were not provided. Please provide the requested information.
- 22. <u>Figure G-12</u>. The requested ditch and grade-to-drain directions were not provided. Please provide the requested information.
- 23. <u>Figure G-14</u>. Cross Section A-A' shows an outlet pipe to the creek. The expressed intent "to excavate a trench/notch for the pipe" is an adequate response.
- 24. <u>Figure G-15</u>. The culvert profile. The expressed response and minimum "1% slope" note added to the drawing provides an adequate response.
- 25. Attachment G-1, SEDCAD Model Reports Times of Concentration. The revised SEDCAD times of concentration limiting overland flow lengths is an adequate response. However, the stated initial assumption suggesting vegetative and litter cover would cause overland flow to occur for longer distances demonstrates an incomplete understanding of how excess rainfall flows through a watershed. Greater litter and rough cover actually cause the length of overland (or sheet flow) to decrease. Sheet flow is defined as that which is about 0.1 feet in depth. Litter, rocks and ground debris cause these shallow flows to be deflected around these small obstacles causing rivulets to form; forcing the second category of runoff flow (shallow concentrated flow) to be initiated. Steep slopes have a similar effect by accelerating the sheet flow such that it is more likely to initiate small erosion rills (as is frequently observed on steep unvegetated soil stockpiles), leading to shallow concentrated flow. Shallow concentrated flow is the formation of small rivulets observed between the shallow uniform flow (sheet flow) and the channel flow that occurs in small streams. No additional response to this adequacy issue is necessary.
- 26.<u>100-foot horizontal and 1-foot vertical offsets for mining activities</u>... The response is adequate.

New Comments:

- 27. Page G-18, Table G-5. There appears to be a discrepancy between a sediment pond label in Table G-5 when compared to the Mining Phase figures (Figures G-6x through G-12) and the SEDCAD sediment pond sizing model. Table G-5 lists "F1-DET-1" that cannot be found on the figures, nor in the SEDCAD model, but it has the same contributing area (149.13 acres) as the sediment pond labeled "P-DET-1" on Figure G-6A and in the SEDCAD model. Please correct Table G-5 to be consistent with the figures and SEDCAD model labels.
- 28. Figures G-6A, B & C:
 - a. The former Figure 6 has been converted from one drawing to three which provide a great deal more hydrologic and stormwater management information. However, portions of the drawings are difficult to differentiate the different kinds of information and the lack of major contour labels and arrows indicating direction of flow make it difficult to interpret the intent in some areas. For example, it is difficult to determine which subbasins contribute to which sediment ponds. Please provide major contour labels and channel/ditch flow direction arrows. The Division suggests using different colors to differentiate undisturbed subbasins (and their culverts and/or ditches) from affected area subbasins that have runoff intercepted and directed to sediment ponds. In this case, it would be helpful if affected area subbasins and their labels were the same color.
 - b. On both Figures G-6B and C, there are two rational method subbasins labeled "F1". Both have 5.30 acres, and 0.46 and 0.60 runoff coefficients for the 10- and 100-year events. Please correct the drawings.
 - c. The reservoir (Glen Cairn Reservoir?) near the proposed access road does not appear on this drawing. Where is the reservoir with respect to the access road and how is sediment prevented from impacting the reservoir?
- 29. Figures G-7, G-8, G-9 and G-10.
 - a. The area "P1" contributing to pond P-DET-1 appears to be identical to the P-1 area on Figure G-6A, but is shown as being 37.88 acres smaller (Note Figures G-9 and G-10 increase this area by 0.05 acres over that shown in Figure G-8). Please provide an explanation for the difference in area.
 - b. Also, please provide major contour labels, channel/ditch flow direction arrows, and use color to differentiate which channels contribute to which ponds as suggested in Comment No. 28a.
 - c. Please define the "honeycomb" hatch pattern shown in the west end of the North Pit area on the legend.

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- 30. <u>Figures G-8 and G-9</u>. There appears to be a culvert in the expanded portion of the fines stockpile. Please explain whether or not this culvert is accessible for maintenance and if not, remove it as previously directed.
- 31. <u>Figures G-9, G-10 and G-11</u>. Unimpacted Drainage. The line representing the upland diversion ditch along the west side of the topsoil stockpile (as shown on Figure G-8) does not appear on either of these drawings. How is undisturbed runoff from subbasins P1 and P2 handled?
- 32. <u>Figure G-12 and Table G-4</u>. The Division could not find closure channel designs or analyses for either the terrace channels on the reclaimed fines stockpile (T-1, T-2, or T-3) or the contact channel along the west side of the south end of the reclaimed fines stockpile (F1b). Please provide the appropriate analyses and designs for these channels.



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

1313 Sherman Street, Room 215 Denver, CO 80203

Date: September 8, 2016

To: Amy Eschberger; Division of Reclamation, Mining & Safety

From: Peter Hays; Division of Reclamation, Mining & Safety

Re: Third Review of Exhibit 6.5 - Geotechnical; Transit Mix Concrete Co.; Hitch Rack Ranch Quarry; File No. M-2016-010

The Division of Reclamation, Mining and Safety (Division/DRMS) has reviewed the Galena software compatible geotechnical model inputs included within Exhibit 6.5 of the Hitch Rack Ranch Quarry adequacy letter response dated August 19, 2016 and submits the following comments. The Division is required to make an approval or denial decision no later than October 4, 2016. Therefore, a response to the following Geotechnical Exhibit adequacy review concerns should be submitted to the Division as soon as possible.

- 1. Please provide the model type and parameter inputs used by Norwest for the Geotechnical Model Analysis (Bench L-E). The models provided for the stockpile analysis indicate Mohr-Coulomb and provide the models parameter inputs. Please provide this information for the Bench L-E models. If Hoek-Brown was used for the Bench L-E models please provide the following input information; unit weight, UCS, "m" and "s" for each rock type.
- 2. Please provide the SLOPE/W slope stability analysis model inputs for the stockpile models (Sections A-D) from the Norwest analysis included in Appendix C dated June 30, 2016 to allow the Division to duplicate the analysis with Clover Technology's Galena software for verification purposes.

If you have any questions, please contact me at <u>peter.hays@state.co.us</u> or (303) 866-3567 Ext. 8124.

Ec: Wally Erickson; Division of Reclamation, Mining & Safety Tim Cazier; Division of Reclamation, Mining & Safety





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

1313 Sherman Street, Room 215 Denver, CO 80203

Date: September 8, 2016

To: Amy Eschberger; Division of Reclamation, Mining & Safety

From: Peter Hays; Division of Reclamation, Mining & Safety

Re: Third Review of Blasting Plan; Transit Mix Concrete Co.; Hitch Rack Ranch Quarry; File No. M-2016-010

The Division of Reclamation, Mining and Safety (Division/DRMS) has reviewed the Blasting Plan included within Exhibit D - Mining Plan for the Hitch Rack Ranch Quarry adequacy letter response dated August 19, 2016 and submits the following comments. The Division is required to make an approval or denial decision no later than October 4, 2016. Therefore, a response to the following Blasting Plan adequacy review concerns should be submitted to the Division as soon as possible.

- In the Mitigation Plan section of the Pre-Blasting Survey Plan included in Exhibit D, the Applicant states in the event a well is determined to be damaged or "dry" and it is determined Transit Mix Concrete Co. is at fault, a new well producing a <u>similar or greater</u> quantity and quality of water as the original well will be drilled at Transit Mix Concrete Co.'s cost. Please commit to installing a new well producing at the <u>historic level or greater</u> if Transit Mix Concrete Co. is determined to be at fault for damage to the well.
- 2. In the Mitigation Plan section of the Pre-Blasting Survey Plan included in Exhibit D, the Applicant states if DRMS determines blasting at the Hitch Rack Ranch Quarry was the cause for degraded water quality and the quality never returns to the same level of the pre-blast survey, Transit Mix Concrete Co. will, at their cost, drill a new well producing a <u>similar or greater</u> quantity and quality of water as the original well. Please commit to installing a new well producing at the <u>historic level or greater</u> if Transit Mix Concrete Co. is determined to be at fault for the degraded water quality.

If you have any questions, please contact me at <u>peter.hays@state.co.us</u> or (303) 866-3567 Ext. 8124.

Cc: Wally Erickson; Division of Reclamation, Mining & Safety Tim Cazier; Division of Reclamation, Mining & Safety



COST SUMMARY WORK

Task description:			Cost Summary					
Site:	Hitch Ra	ck Ranch Qua	<mark>urry</mark> Pe	ermit Action:	112c Permit App 2016	Permit/Job	#: <u>M2016010</u>	
<u>P</u>]	ROJECT	IDENTIFIC	ATION					
	Task #:	000	State:	Colorado		Abbreviation:	None	
	Date:	8/18/2016	County:	El Paso		Filename:	M010-000	
	User:	AME				_		

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task		Form	Fleet	Task	
Iusk	Description	Used	Size	Hours	Cost
001	Demolition of structures (applicant estimate)	NA	0	80.00	\$1,116,431.00
002B	Load/Haul/Grade Subsoil F1 to N Pit Highwall	TRUCK1	1	85.32	\$88,537.00
	Benches				
003B	Load/Haul/Grade Topsoil TS1 to N Pit Highwall	TRUCK1	1	41.06	\$42,609.00
	Benches				
004B	Load/Haul/Grade Subsoil F1 to N Pit Floor + Haul	TRUCK1	1	291.87	\$302,881.00
	Rds + Plant				
005B	Load/Haul/Grade Topsoil TS1 to N Pit Floor +	TRUCK1	1	171.74	\$178,218.00
	Haul Rds +Plant				
006B	Load/Haul/Grade Subsoil F1 to Access Rd + E	TRUCK1	1	400.46	\$415,566.00
	Crossing				
007	Spread Topsoil Berms on Access Rd + E Crossing	DOZER	2	29.82	\$12,662.00
008	Grade F1 Stockpile Area to 3H:1V	DOZER	2	252.69	\$107,302.00
009B	Load/Haul/Grade Topsoil TS1 to F1 Stockpile	TRUCK1	1	29.54	\$30.650.00
	Area				
010	Revegetation of 156.18 ac - Grasses	REVEGE	1	468.00	\$444,818.00
011	Revegetation of 37 ac - Mixed Conifer Slopes	REVEGE	1	111.00	\$4,773.00
012	Revegetation of 60.61 ac - Mixed Conifer Pit	REVEGE	1	180.00	\$7,037.00
	Floor,Plant,Rds				
013	Revegetation of 16.45 ac - Mountain Shrubland	REVEGE	1	49.00	\$14,923.00
	Slopes				
014	Revegetation of 21.69 ac - Mountain Shrubland	REVEGE	1	65.00	\$29,367.00
	Access Rd				
015	Revegetation of 1.02 ac - Riparian E Crossing LTC	REVEGE	1	3.00	\$1,928.00
016	Revegetation of 0.76 ac - Riparian W Crossing	REVEGE	1	1.00	\$1,005.00
	LTC				
017	Revegetation - Planting Materials	DEMOLISH	1	0.00	\$30,979.91
018B	Mobilization/Demobilization	MOBILIZE	1	35.20	\$111,270.00
		<u>SUBTO</u>	TALS:	2294.7	\$2,940,957

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance:	2.02
Performance bond:	1.05
Job superintendent:	1,219.86
Profit:	10.00

Total =	\$59,407.33
Total =	\$30,880.05
Total =	\$90,855.17
Total =	\$294,095.70

TOTAL O & P =	\$475,238.25
CONTRACT AMOUNT (direct + $O \& P$) =	\$3,416,195.25

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs): Engineering work and/or contract/bid preparation: Reclamation management and/or administration:	500.00 5.23 5.00	Total = Total =	500.00 \$178,667.01 \$170,809.76
CONTINGENCY:	0.00	Total =	\$0.00
	TOTAL IN	DIRECT COST =	\$825,215.02
TOTAL BO	\$3,766,172.02		

Task description:	Load/Ha	aul/Grade Subso	il F1 to N Pit Hig	ghwall Benches		
Site: Hitch Rack Ran	ch Quarry	Permit Action	on: 112c Permit	App 2016	Permit/Job#: <u>M</u> 2	2016010
DDA IECT IDEN	TTELCATION					
PROJECT IDEN	TIFICATION		1	. 1	1 X	
Date: $8/22/2$	2016	State: <u>Colora</u> County: El Pas	ado	Ab	Filename: M0	ne 10-002B
User: AME						10 0022
Agency or	organization nan	ne: DRMS				
HOURLY EQUI	PMENT COST	<u>[</u>		Shift bas	is: <u>1 per day</u>	
		_	Equipment Descri	ption		
Т	Truck Loader Tea	m -Truck: Cat	740	r · ·		
Sum	art Equipment I	-Loader: CA	Г 980Н			
Supp	-Dı	imp Area: Cat	D8T - 8SU			
Road M	aintenance – Mote	or Grader: CA	Т 16М			
	-Wa	ter Truck: Wat	ter Tanker, 3,500	Gal.		
Cost Breakdown•	Truck/Los	ader Team	Support	Fauinment	Maintenan	ce Equipment
<u>Cost Dicardown</u> .	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	100	100	50
Ownership cost/hour:	\$65.15	\$53.90	NA	\$82.01	\$79.03	\$11.19
Operating cost/hour:	\$63.46	\$63.95	NA	\$79.23	\$69.17	\$15.64
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$25.46	\$40.86	NA	\$39.87	\$40.67	\$0.00
Unit Subtotals:	\$154.07	\$158.71	NA	\$201.11	\$188.87	\$26.83
Crown Subtotals:	3 Work:	\$620.02	0 Support:	\$201.11	l Moint:	\$215.70
Group Subiotals:	WOIK:	\$020.92	Support:	\$201.11	Ivianit:	\$213.70
Total work team cos	st/hour: <u>\$1,037.7</u>	73				
MATERIAL OU	ANTITIES					
	26.520	COV	G 11	f		
Loose volume:	$\frac{20,339}{28.13}$	$\frac{1}{1}$	Swell	factor: 1.060		
South	urce of estimated	volumo: 16.44	Soc v 1 ft dopth s	absoil		
Source	of estimated swe	ell factor: Cat H	andbook	105011		
	Material Purcha	ase Cost: \$0.00)			
	То	otal Cost: \$0.00)			
HOURLY PRO	DUCTION					
Truck Capacity:						
Truck Payload (weighted States	ght) Basis:		Dounds/I CV			
Descr	iption: 2,900	nd gravel - Drv	Founds/LCY			
Rated Pa	yload: 87,000	<u> </u>	Pounds			
Payload Ca	pacity: <u>30.00</u>		LCY			

Truck Bed (volume) Basis:	-					
Struck Volume:	$\frac{24.20}{21.40}$ L	CY				
Heaped Volume:	31.40 L	CY				
Average Volume:	27.80 L	CY				
Adjusted Volume:	30.00 L	CY				
Final 7	Fruck Volume B	ased on Number of	Loader Passes:	27.75	LCY	
Loading Tool Capacity						
			Buck	ket Size Class: N	IA	
Rated Capacity	7 500	LCY (heaped)				
Bucket Fill Factor:	0.925	Loose material -	1/8" to 3/8" (90	- 95%) 0 925		-
Adjusted Capacity:	6.938	LCY	1/0 10 5/0 (90			-
Job Condition Corrections:		Sit	e Altitude (ft.): 7	7200 feet		
	Truck	Loader	Source			
Altitude Adi:	0.960	1.000	(CAT HB	3)		
Job Efficiency:	0.830	0.830	(CAT HB	3)		
Net Correction:	0.797	0.830				
Londing Tool Cycle Time:	Number	of Loading Tool Pag		Fill Truck:	1 r	205505
Excavators and Front Shovels	s:	J Loading 10011 as	ses Required to I		 ł	105505
	<u>.</u>					
Machine Cycle Time vs Selected Value w	. Job Condition	Rating: <u>NA</u> Rating: <u>NA</u>				
Track Loaders – I	Material Descrip	tion:				
Cycle Time Elements (min.):						
Load: NA	Ma	neuver: NA		Dump: 0.100)	
Wheel and Track Loaders -	Unadjusted Basi	c Loader Cycle Tin	ne (load, dump, r	naneuver): 0	0.550 minu	ites
Cycle Time Factors				Factor (min.)	Source	
Material:	Material 1/8" to	o 3/4" diameter -0.0	2	-0.020	(Cat HB)	_
Stockpile:	Conveyor or do	ozer piled 10 ft. high	and up 0.00	0.000	(Cat HB)	_
Truck Ownership:	Common owne	rship of trucks and	loaders -0.04	-0.040	(Cat HB)	_
Operation:	Constant opera	tion -0.04		-0.040	(Cat HB)	_
Dump Target:	Nominal target	0.00		0.000	(Cat HB)	_
	0	Net Cycle Tim	e Adjustment:	-0.100	minutes	_
		Adjusted Loade	er Cvcle Time:	0.450	minutes	
		Net Load Ti	me per Truck:	1.450	minutes	
Truck Cycle Time:						
Truck Exchange Time:	0.60	Minutes	Adjusted	for site altitude:	0.625	Minute
Truck Load Time:	1.450	Minutes	Adjusted	for site altitude:	1.450	Minute
xk Maneuver and Dump Time:	1.00	Minutes	Adjusted	for site altitude:	1.042	Minute
Truck Travel (Haul & Return) maintained 3.0	<u>) Time:</u>	Road Condition: <u>F</u>	ïrm, smooth, rol	ling, dirt/lt. surface	d, watered,	

Truck/Loader Worksheet Cont'd

Hau	ul Route	:		1			Γ		7
Seg	ç #	Haul	Distance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
		(Ft)			(%)	(%)	(fpm)	1 ime (min)	
1		4500.	00	13.00	3.00	16.00	585	7.752	-
						Haul Time:	7.752	minutes	-
Ret	urn Rou	ite:				=			
Seg	ç #	Haul	Distance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
		(Ft)			(%)	(%)	(fpm)	Time (min)	
1		4500.	00	-13.00	3.00	-10.00	2721	1.705]
					Total Tru	Return Time: ck Cycle Time:	<u> </u>	minut minut	es es
Loadir	ng Tool	unit				-			
	Produc	tion _	802.41	LCY/Hour		Adjusted for j	ob efficiency:	666.00	LCY/Hour
Truck Unit	t Produc	tion -	132.42	LCY/Hour		Adjusted for j	ob efficiency:	109.91	LCY/Hour
Optimal No	o. of Tru	cks:	6	Truck(s)		Selected Num	ber of Trucks:	3	Truck(s)
				Adiuste	d hourly true	k team production	on: 329	.72 LC	Y/Hour
				Adjusted sing	le truck/loade	er team production	on: 329	.72 LC	Y/Hour
				Adjusted multip	le truck/loade	er team production	on: 329	.72 LC	Y/Hour
JO	B TIM	IE AN	ID COST						
	Fleet si	ze:	1	Team(s)]	Fotal job time:	85.3	2 H	lours
	Unit co	ost:	\$3.147	/LCY		Total job cost:	\$88,5	37	

Task description: Site: Hitch Rack Ran	<u>Load/Ha</u> ch Ouarry	aul/Grade Topso Permit Acti	bil TS1 to N Pit H on: 112c Permit	lighwall Benches App 2016	Permit/Job#: M	2016010
PROJECT IDEN	TIFICATION					
Task #: 003B Date: 8/22/2 User: AME	2016	State: Color County: El Pas	ado so	Ab	breviation: <u>No</u> Filename: <u>M0</u>	ne 010-003B
Agency or	organization nar	ne: DRMS				
HOURLY EQUI	PMENT COST	<u>[</u>		Shift bas	sis: <u>1 per day</u>	
			Equipment Descri	ption		
Т	Fruck Loader Tea	m -Truck: Cat	740 T 080H			
Supp	ort Equipment -L	oad Area: NA	1 98011			
	-Dı	imp Area: Cat	D8T - 8SU			
Road M	aintenance – Mot -Wa	ter Truck: Wa	<u>1 16M</u> ter Tanker. 3.500	Gal.		
			, .,			
<u>Cost Breakdown</u> :	Truck/Loa	der Team	Support I	Equipment	Maintenan	ce Equipment
	Писк	Loader	Load Area	Dump Area	Motor Grader	water fluck
%Utilization-machine:	100	100	NA	100	100	50
Ownership cost/hour:	\$65.15	\$53.90	NA	\$82.01	\$79.03	\$11.19
%Utilization-riper:	\$03.40 NA		NA NA	\$79.23 NA	\$09.17 NA	\$15.64 NA
Ripper own. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$25.46	\$40.86	NA	\$39.87	\$40.67	\$0.00
Unit Subtotals:	\$154.07	\$158.71	NA	\$201.11	\$188.87	\$26.83
Number of Units:	3	1	0	1	1	1
Group Subtotals:	Work:	\$620.92	Support:	\$201.11	Maint:	\$215.70
Total work team cos	st/hour: <u>\$1,037.'</u>	73				
MATERIAL OU	ANTITIES					
Initial volume: Loose volume:	: <u>13,270</u> : 16,12	CCY 3 LCY	Swell	factor: <u>1.215</u>		
So	urce of estimated	volume: 16.4	5 ac x 6 in depth to	opsoil		
Source	of estimated swe	ell factor: Cat I	Handbook	1		
	Material Purch	ase Cost: \$0.0	0			
	10	φυ.υ	<u>v</u>			
HOURLY PRO	DUCTION					
Truck Capacity:						
Truck Payload (wei	ght) Basis:			-		
Material v Descr	iption: 1,600	il	Pounds/LCY			
Rated Pa	yload: 87,000		Pounds			
Payload Ca	pacity: <u>54.38</u>		LCY			

Truck Bed (volume) Basis:	24.20 14	CV				
Struck volume:	$\frac{24.20}{21.40}$ L	CV				
A verses Volume:	$\frac{31.40}{27.80}$ L	CV				
Average volume:	$\frac{27.80}{21.40}$ L					
Adjusted Volume:	<u>31.40</u> L	C Y				
Final 7	Truck Volume B	ased on Number of	Loader Passes:	24.75	LCY	
Loading Tool Capacity			Dual	kat Siza Classe N	TA	
Rated Capacity:	7.500	LCY (heaped)	Buc	ket Size Class:	NA	_
Bucket Fill Factor:	1 100	Other - rock/dirt	mixtures (100)-120%) 1 100		-
Adjusted Capacity:	8.250		(100	120/0) 1100		-
Job Condition Corrections:		Site	e Altitude (ft.):	7200 feet		
	Truck	Loader	Source			
Altitude Adj:	0.960	1.000	(CAT HE	3)		
Job Efficiency:	0.830	0.830	(CAT HE	3)		
Net Correction:	0.797	0.830				
Loading Tool Cycle Time•	Number o	of Loading Tool Pass	ses Required to	Fill Truck:	3 г	asses
Excavators and Front Shovel	<u>s:</u>					
Machina Cycle Time ys	Job Condition	Pating: NA				
Selected Value w	vithin this Basic	Rating: NA				
Track Loaders – I	Material Descrip	tion:				
Cycle Time Elements (min.):						
Load: NA	Mai	neuver: NA		Dump: 0.10	0	
Wheel and Track Loaders -	Unadjusted Basi	c Loader Cycle Tim	e (load, dump, 1	maneuver):0	0.550 minu	ites
Cycle Time Factors				Factor (min.)	Source	_
Material:	Material 1/8" to	o 3/4" diameter -0.02	2	-0.020	(Cat HB)	_
Stockpile:	Conveyor or do	zer piled 10 ft. high	and up 0.00	0.000	(Cat HB)	_
Truck Ownership:	Common owne	rship of trucks and l	oaders -0.04	-0.040	(Cat HB)	_
Operation:	Constant operat	tion -0.04		-0.040	(Cat HB)	_
Dump Target:	Nominal target	0.00		0.000	(Cat HB)	_
		Net Cycle Time	e Adjustment:	-0.100	minutes	
		Adjusted Loader	r Cycle Time:	0.450	minutes	
		Net Load Tir	me per Truck:	1.000	minutes	
Truck Cycle Time:						
Truck Exchange Time:	0.60	Minutes	Adjusted	for site altitude:	0.625	Minute
Truck Load Time:	1.000	Minutes	Adjusted	for site altitude:	1.000	Minute
ck Maneuver and Dump Time:	1.00	Minutes	Adjusted	for site altitude:	1.042	Minute
						-

Haul	Route:			Π				
Seg	# Ha	ul Distance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
	(Ft			(%)	(%)	(fpm)	Time (min)	
1	32	00.00	13.00	3.00	16.00	585	5 530	
-	32	00.00	15.00	5.00	10.00	202	0.000	
					Haul Time:	5.530	minutes	
Retu	rn Route:			1				
Seg	# Ha	ul Distance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
	(Ft			(%)	(%)	(fpm)	(min)	
1	32	00.00	-13.00	3.00	-10.00	2721	1.220	
					Return Time:	1.220	minute	5
				Total Tru	ck Cycle Time:	9.417	minute	5
Loodin	- Tool	4			-			
Loading	Production	n 913.85	LCY/Hour		Adjusted for j	ob efficiency:	758 49	I CY/Hour
Truck Unit]	Production	n <u> </u>			rajusted for j	ob efficiency.	750.17	
		157.70	LCY/Hour		Adjusted for j	ob efficiency:	130.89	LCY/Hour
						-		
Optimal No.	of Trucks	:6	Truck(s)		Selected Num	ber of Trucks:	3	Truck(s)
			Adjuste	ed hourly true	k team producti	on: 392	.67 LCY	/Hour
			Adjusted sing	le truck/loade	er team production	on: 392	.67 LCY	/Hour
			Adjusted multip	le truck/loade	er team producti	on: 392	.67 LCY	/Hour
JOE	<u>B TIME </u>	AND COST						
I	Fleet size:	1	Team(s)	r	Fotal job time:	41.0	6 Ho	ours
	Unit cost:	\$2.643	/LCY		Total job cost:	\$42,6	09	
						. /		

Site: <u>Hitch Rack Ranc</u> <u>PROJECT IDEN</u>	<u>h Quarry</u> <u>FIFICATION</u>	Permit Act	ion: <u>112c Permit</u>	t App 2016	Permit/Job#: <u>M</u>	2016010
Task #: 004B Date: 8/22/2 User: AME	016	State: Color County: El Pa	rado Iso	At	breviation: No Filename: MO	ne 010-004B
Agency or	organization nar	ne: DRMS				
HOURLY EQUI	PMENT COST	<u>ר</u>		Shift bas	sis: <u>1 per day</u>	
			Equipment Descri	iption		
T	ruck Loader Tea	m -Truck: Ca	t 740			
Suppo	ort Equipment -L	-Loader: CA	A 980H			
	-Du	ump Area: Ca	t D8T - 8SU			
Road Ma	intenance – Mot	or Grader: CA	AT 16M	Cal		
	- w a	ter Truck: wa	ater Tanker, 5,500	Gal.		
Cost Breakdown:	Truck/Loa	ader Team	Support	Equipment	Maintenan	ce Equipment
	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	100	100	50
Ownership cost/hour:	\$65.15	\$53.90	NA	\$82.01	\$79.03	\$11.19
Operating cost/hour:	\$63.46	\$63.95	NA	\$79.23	\$69.17	\$15.64
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$25.46	\$40.86	NA	\$39.87	\$40.67	\$0.00
Unit Subtotals:	\$154.07	\$158.71	NA	\$201.11	\$188.87	\$26.83
Number of Units:	3 Works	\$620.02	0 Sumporti	\$201.11	l Mointi	\$215.70
Group Subtotals:	work:	\$620.92	Support:	\$201.11	Maint:	\$215.70
MATERIAL QUA	ANTITIES	<u>73</u>		f 1.000		
Loose volume:	<u> </u>	51 LCY	Y Swell Y	factor: 1.060		
Sou	rce of estimated	volume: Tot	al 61 37 ac y 1 ft d	anth subsoil		
Source	of estimated swe	ell factor: Cat	Handbook	epui suoson		
	Material Purch	ase Cost: \$0.0	00			
	То	otal Cost: <u>\$0.0</u>)0			
HOURLY PRO	DUCTION					
Truck Capacity:						
Truck Payload (weig	ht) Basis:		D1 / CO	7		
Material w Descri	eight: 2,900 ption: Sand a	nd gravel - Drv	Pounds/LCY			
Rated Pag	vload: 87,000		Pounds			
Pavload Can	acity: 30.00		LCY			

Truck Bed (volume) Basis:						
Struck Volume:	24.20 L	.CY				
Heaped Volume:	31.40 L	.CY				
Average Volume:	27.80 L	.CY				
Adjusted Volume:	30.00 L	.CY				
Final 7	Truck Volume I	Based on Number of I	Loader Passes:	27.75	LCY	
Loading Tool Capacity						
Pated Capacity	7 500	ICV (haspad)	Buck	tet Size Class: <u>N</u>	A	
Bucket Fill Factor:	7.300	Le 1 (lleapeu)	$\frac{1}{8}$ to $\frac{3}{8}$ (00)	0.5%) 0.025		_
Adjusted Capacity:	6.938	LCY	1/8 10 5/8 (90	- 93%) 0.925		-
Joh Condition Commentioner		6:4-	A 14:4-1 - (ft), 7	200 f t		
Job Condition Corrections:		Site	e Altitude (ft.): <u>/</u>	<u>200</u> feet		
	Truck	Loader	Source	<u> </u>		
Altitude Adj:	0.960	1.000	(CAT HB)		
Job Efficiency:	0.830	0.830	(CAT HB)		
Net Correction:	0.797	0.830				
Looding Tool Cycle Times	Numb	of Loading Tool Deer	Dogwind to I	Fill Truck:	1 -	
Loading Tool Cycle Time:	Inulliber	of Loading 1001 Pass	ses Required to I		ł	Jasses
Excavators and Front Shovel	<u>s:</u>					
Machine Cycle Time vs Selected Value w	. Job Condition	Rating: NA				
Track Looders 1						
Cycle Time Elements (min.):	Material Descrip					
Load: NA	Ma	neuver: NA		Dump: 0.100)	
Wheel and Treats Leaders	- Unadimetad Daa	in London Crock Time			550	-4
wheel and Track Loaders -	Unadjusted Bas	ic Loader Cycle 11m	e (load, dump, n	naneuver): 0	. <u>550</u> mini	utes
Cycle Time Factors	N 1.1.(0)	2/17 1 0.00		Factor (min.)	Source	
Material:	Material 1/8" t	$\frac{1000}{1000}$ $\frac{3}{4}$ diameter -0.02	2	-0.020	(Cat HB)	_
Stockpile:	Conveyor or d	ozer piled 10 ft. high	and up 0.00	0.000	(Cat HB)	_
Truck Ownership:	Common owne	ersnip of trucks and l	oaders -0.04	-0.040	(Cat HB)	
Operation:	Constant opera	11101 - U.U4		-0.040	(Cat HB)	
Dump Target:	nominal target	Not Cycele Time	Adjustment	0.000	(Cat HB)	
		A dinate d L and the	- Aujustment:	-0.100	_ minutes	
		Adjusted Loader	r Cycle Time:	0.450	minutes	
		Net Load 11	me per Truck:	1.450	minutes	
Truck Cycle Time:						
Truck Exchange Time:	0.60	Minutes	Adjusted	for site altitude:	0.625	Minute
Truck Load Time:	1.450	Minutes	Adjusted	for site altitude:	1.450	Minute
ck Maneuver and Dump Time:	1.00	Minutes	Adjusted	for site altitude:	1.042	Minute
Truck Travel (Haul & Return) maintained 3.0) Time:	Road Condition: <u>Fi</u>	irm, smooth, roll	ing, dirt/lt. surfaced	d, watered,	_

Haul Rou	ite:							
Seg #	Haul I (Ft)	Distance	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)	
1	4000.	00	13.00	3.00	16.00	585	6.897	
					Haul Time:	6.897	minutes	
Return R	oute:							
Seg #	Haul	Distance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
	(Ft)			(%)	(%)	(fpm)	(min)	
1	4000.	00	-13.00	3.00	-10.00	2721	1.516	
				Total Tru	Return Time: ck Cycle Time:	1.516 11.530	minute minute	S S
Loading Too Prod Truck Unit Prod	ol unit uction uction	802.41	LCY/Hour		Adjusted for j	ob efficiency:	666.00	LCY/Hour
	-	144.41	LCY/Hour		Adjusted for j	ob efficiency:	119.86	LCY/Hour
Optimal No. of T	rucks:	6	Truck(s)		Selected Num	ber of Trucks:	3	Truck(s)
			Adjuste	d hourly truc	k team production	on: 359	.58 LCY	/Hour
			Adjusted sing	le truck/loade	er team production	on: 359	.58 LCY	/Hour
			Adjusted multipl	le truck/loade	er team production	on: 359	.58 LCY	/Hour
JOB TI	ME AN	D COST						
Fleet	size:	1	Team(s)	r	Fotal job time:	291.8	87 Ho	ours
Unit	cost:	\$2.886	/LCY		Total job cost:	\$302,8	881	

Task description:	Load/Ha	aul/Grade Topso	il TS1 to N Pit F	loor + Haul Rds	+Plant	
Site: Hitch Rack Ranc	ch Quarry	Permit Actio	on: <u>112c Permit</u>	App 2016	Permit/Job#: <u>M</u>	2016010
PROJECT IDEN	TIFICATION	r				
Task #: 005B Date: 8/22/2 User: AME	016	State: <u>Colora</u> County: <u>El Pas</u>	ado o	Ab	breviation: <u>No</u> Filename: <u>M0</u>	ne 110-005B
Agency or	organization nar	ne: DRMS				
HOURLY EOUI	PMENT COST	Г		Shift bas	sis: 1 per day	
]	Equipment Descri	ption		
T	ruck Loader Tea	m -Truck: Cat	740	1		
Suppo	ort Fauinment -I	-Loader: CA	Г 980Н			
	ר בקמוסות -Di	ump Area: Cat	D8T - 8SU			
Road Ma	aintenance – Mot	or Grader: CA'	Γ 16M	Cal		
	- w a	uel lluck: Wal	ei Taliker, 5,500	Ual.		
Cost Breakdown:	Truck/Loa	ader Team	Support 1	Equipment	Maintenan	ce Equipment
	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	100	100	50
Ownership cost/hour:	\$65.15	\$53.90	NA	\$82.01	\$79.03	\$11.1
Operating cost/hour:	\$63.46	\$63.95	NA	\$79.23	\$69.17	\$15.6
%Utilization-riper:	NA NA	0	NA	NA	NA	
Ripper own. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.0
Operator cost/hour:	\$25.46	\$40.86	NA	\$39.87	\$40.67	\$0.0
Unit Subtotals:	\$154.07	\$158.71	NA	\$201.11	\$188.87	\$26.8
Number of Units:	3	1	0	1	1	
Group Subtotals:	Work:	\$620.92	Support:	\$201.11	Maint:	\$215.70
Total work team cos	t/hour: <u>\$1,037.'</u>	73				
Initial volume:	<u>49 505</u>	CCY	Swell	factor: 1.215		
Loose volume:	60,14	9 LCY				
Sou	arce of estimated	volume: 61.37	ac x 6 in depth to	opsoil		
Source	of estimated swe	ell factor: Cat H	Iandbook			
	To Material Purch	ase Cost: <u>\$0.00</u> otal Cost: \$0.00)			
	10	<u>+0.00</u>	-			
HOURLY PRO	DUCTION					
<u>Truck Capacity:</u>						
Truck Payload (weig	<u>ght) Basis:</u>		Daniel J. C.V.			
Material w Descri	ption: 1,600	oil	Pounds/LCY			
Rated Pa	yload: 87,000		Pounds			
Payload Cap	bacity: 54.38		LCY			

Truck Bed (volume) Basis:	24.20 1	CV				
Hasped Volume:	$\frac{24.20}{21.40}$ I					
A verses Volume:	$\frac{31.40}{27.80}$ I					
A diverte d Velamer	$\frac{27.60}{21.40}$ I					
Adjusted Volume:	31.40 1	LΥ				
Final 7	Truck Volume l	Based on Number o	f Loader Passes:	24.75	LCY	
Loading Tool Capacity					T A	
Rated Canacity:	7 500	I CV (heaped)	Buch	ket Size Class:	A	_
Bucket Fill Factor:	1 100	Other - rock/di	t mixtures (100	-120%) 1 100		-
Adjusted Capacity:	8.250	LCY	t mixtures (100	-12070) 1.100		-
Job Condition Corrections:		S	ite Altitude (ft.): <u>'</u>	7 <u>200</u> feet		
	Truck	Loader	Source			
Altitude Adj:	0.960	1.000	(CAT HE	3)		
Job Efficiency:	0.830	0.830	(CAT HE	3)		
Net Correction:	0.797	0.830				
Loading Tool Cycle Time:	Number	of Loading Tool Pa	sses Required to	Fill Truck:	3 1	basses
Excavators and Front Shovel	<u>s:</u>	C	1			
Machine Cycle Time vs	. Job Condition	Rating: NA				
Selected Value w	vithin this Basic	Rating: NA				
Track Loaders – I	Material Descrip	ption:				
Cycle Time Elements (min.):						
Load: NA	Ma	aneuver: NA		Dump: 0.10	0	
Wheel and Track Loaders -	Unadjusted Bas	ic Loader Cycle Ti	me (load, dump, 1	maneuver):0	0.550 minu	ites
Cycle Time Factors				Factor (min.)	Source	
Material:	Material 1/8"	to 3/4" diameter -0.	02	-0.020	(Cat HB)	_
Stockpile:	Conveyor or d	ozer piled 10 ft. hig	sh and up 0.00	0.000	(Cat HB)	_
Truck Ownership:	Common own	ership of trucks and	loaders -0.04	-0.040	(Cat HB)	_
Operation:	Constant opera	ation -0.04		-0.040	(Cat HB)	_
Dump Target:	Nominal targe	t 0.00		0.000	(Cat HB)	
		Net Cycle Tir	ne Adjustment:	-0.100	minutes	
		Adjusted Load	ler Cycle Time:	0.450	minutes	
		Net Load T	ime per Truck:	1.000	minutes	
Truck Cycle Time:						
Truck Exchange Time:	0.60	Minutes	Adjusted	for site altitude:	0.625	Minute
Truck Load Time:	1.000	Minutes	Adjusted	for site altitude:	1.000	Minute
ck Maneuver and Dump Time:	1.00	Minutes	Adjusted	for site altitude:	1.042	Minute
Truck Travel (Haul & Return)) Time:	Road Condition	Firm smooth rol	ling dirt/lt surface	d watered	

Haul Rout	te:							
Seg #	Haul (Ft)	Distance	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)	
1	3750.	00	13.00	3.00	16.00	585	6.470	
					Haul Time:	6.470	minutes	
Return Ro	oute:				_			
Seg #	Haul	Distance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
	(Ft)			(%)	(%)	(fpm)	Time (min)	
1	3750.	00	-13.00	3.00	-10.00	2721	1.421	
				Total Tru	Return Time: ck Cycle Time:	<u> </u>	minute	S S
Loading Too	Junit							
Produ Truch Unit Produ	iction	913.85	LCY/Hour		Adjusted for j	ob efficiency:	758.49	LCY/Hour
		140.66	LCY/Hour		Adjusted for j	ob efficiency:	116.74	LCY/Hour
Optimal No. of Tr	ucks:	6	Truck(s)		Selected Numl	per of Trucks:	3	Truck(s)
			Adjuste	d hourly true	k team production	on: 350.	.23 LCY	/Hour
			Adjusted sing	le truck/loade	er team production	on: 350.	.23 LCY	/Hour
			Adjusted multip	le truck/loade	er team production	on: 350.	.23 LCY	/Hour
JOB TIN	ME AN	D COST						
Fleet	size:	1	Team(s)]	Fotal job time:	171.7	4 Ho	ours
Unit	cost:	\$2.963	/LCY	,	Total job cost:	\$178,2	18	

Task description:	Load/Ha	aul/Grade Subso	il F1 to Access R	d + E Crossing			
Site: Hitch Rack Ran	ch Quarry	Permit Action	on: <u>112c Permit</u>	App 2016	Permit/Job#: <u>M</u>	2016010	
PROJECT IDEN	TIFICATION						
Task #: 006B State: Colorado Abbreviation: None							
Date: 8/22/2016 County: El Paso Filename: M010-006B							
	• .•	DDM					
Agency or	organization nar	ne: DRMS					
HOURLY EQUI	PMENT COST	<u> </u>		Shift bas	is: <u>1 per day</u>		
]	Equipment Descri	ption			
7	Truck Loader Tea	m -Truck: Cat	740	F			
	·	-Loader: CA'	Г 980Н				
Supp	ort Equipment -L	Load Area: NA	D8T - 8SU				
Road M	aintenance – Mot	or Grader: CA'	Г 16М				
	-Wa	ter Truck: Wat	ter Tanker, 3,500	Gal.			
Cost Buoolidown	Travels/Leo	dan Taam	Sumport		Maintanan	a Equipment	
Cost breakdown:	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck	
	100	100	NT A	100	100	50	
% Utilization-machine:	\$65.15	\$53.00	NA NA	100 \$82.01	\$70.03	\$11.10	
Ownership cost/hour:	\$63.15	\$53.90	NA NA	\$82.01	\$79.03	\$11.19	
%Utilization-riper:	\$03.40 NA	0	NA	\$79.23 NA	\$09.17 NA	\$13.04 NA	
Ripper own. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00	
Ripper op. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00	
Operator cost/hour:	\$25.46	\$40.86	NA	\$39.87	\$40.67	\$0.00	
Unit Subtotals:	\$154.07	\$158.71	NA	\$201.11	\$188.87	\$26.83	
Number of Units:	3	1	0	1	1	1	
Group Subtotals:	Work:	\$620.92	Support:	\$201.11	Maint:	\$215.70	
Total work team cos	st/hour: \$1,037. '	73					
<u>MATERIAL QU</u>	ANTITIES						
Initial volume	66,744	CCY	Swell	factor: 1.060			
Loose volume	70,74	9 LCY					
So	urce of estimated	volume: Total	41.37 ac x 1 ft de	epth subsoil			
Source	of estimated swe	ell factor: Cat H	Iandbook				
	Material Purch	ase Cost: <u>\$0.00</u>)				
		<u> </u>	-				
HOURLY PRO	DUCTION						
Truck Canacity:							
Truck Payload (wei	ght) Basis:						
Material v	veight: <u>2,900</u>	1 1 5	Pounds/LCY				
Descr Rated Pa	$\begin{array}{c} \text{1ption:} \text{Sand a} \\ \text{1ption:} 87\ 000 \end{array}$	nd gravel - Dry	Pounds				
Kated I a							

Truck Bed (volume) Basis:						
Struck Volume:	24.20	LCY				
Heaped Volume:	31.40	LCY				
Average Volume:	27.80	LCY				
Adjusted Volume:	30.00	LCY				
Final	Fruck Volume	Based on Number of I	oader Passes.	27 75	ICV	
Loading Tool Capacity	THER VOIUNE	Dased on Number of I	Lodder 1 asses.	21.15	LC1	
Louding 1001 Cupacity			Buck	et Size Class: N	Δ	
Rated Canacity:	7 500	I CV (heaped)	Duer			_
Bucket Fill Factor:	0.925	LCT (incapeu)	1/8" to 3/8" (90	95%) 0 925		-
Adjusted Capacity:	6.938	LCY	1/8 10 5/8 (90	- 95/0) 0.925		-
Job Condition Corrections:		Site	Altitude (ft.): 7	1200 feet		
Job Condition Corrections:	True als	Leader	Annude (n.). <u>/</u>	<u>200</u> leet		
Altitudo Adie	1 FUCK	1 000)		
Lob Efficiency:	0.900	0.820)		
JOU EITICIENCY:	0.830	0.830	(CAT HB)		
Net Correction:	0.797	0.830				
Loading Tool Cycle Time:	Number	r of Loading Tool Pass	es Required to I	Fill Truck:	4 r	asses
Excavators and Front Shovels	s:	U	1		I	
Matin Cal Time						
Machine Cycle Time vs Selected Value w	ithin this Basi	c Rating: NA				
Track Loaders – I	Material Descr	iption:				
Cycle Time Elements (min.):						
Load: NA	M	laneuver: NA		Dump: 0.100)	
Wheel and Track Loaders -	Unadjusted Ba	sic Loader Cycle Time	e (load, dump, n	naneuver): 0	.550 minu	ites
Cycle Time Factors	5	5		Factor (min)	Source	
Material:	Matarial 1/8"	to 3/4" diameter 0.02			(Cat HB)	_
Stocknile:	Conveyor or	dozer niled 10 ft high	and up 0.00	0.020	(Cat HB)	_
Truck Ownership	Common own	nership of trucks and h	paders -0.04	-0.040	(Cat HR)	_
Operation	Constant ope	ration -0.04	Jude 15 -0.04	-0.040	(Cat HB)	_
Dump Target:	Nominal taro	et 0.00		0.000	(Cat HB)	_
		Net Cycle Time	Adjustment:	-0.100	minutes	_
		Adjusted Loader	Cycle Time:	0.450	minutes	
		Net Load Tin	ne per Truck:	1.450	minutes	
Truck Cycle Time:						
Truck Exchange Time:	0.60	Minutes	Adjusted	for site altitude:	0.625	Minute
Truck Load Time:	1.450	Minutes	Adjusted	for site altitude:	1.450	Minute
ck Maneuver and Dump Time:	1.00	Minutes	Adjusted	for site altitude:	1.042	Minute
Truck Travel (Haul & Return) maintained 3.0) Time:	Road Condition: <u>Fi</u>	rm, smooth, roll	 ling, dirt/lt. surface	d, watered,	

Haul I	Route:						T 1	
Seg #	Haul I	Distance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
	(Ft)			(%)	(%)	(fpm)	(min)	
1	12000	.00	10.00	3.00	13.00	708	17.012	
					Haul Time:	17.012	minutes	
Return	n Route:				-			
Seg #	Haul I	Distance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
	(Ft)			(%)	(%)	(fpm)	Time (min)	
1	12000	.00	-10.00	3.00	-7.00	3706	3.338	
				Total Tru	Return Time: ck Cycle Time:	3.338	minutes	
Loading	Tool unit							
Pi	roduction _	802.41	LCY/Hour		Adjusted for j	ob efficiency:	666.00	_ LCY/Hour
Truck Unit Pi	roduction _	70.95	LCY/Hour		Adjusted for j	ob efficiency:	58.89	LCY/Hou
Optimal No. o	f Trucks:	11	Truck(s)		Selected Num	ber of Trucks:	3	Truck(s)
			Adjuste	d hourly true	k team production	on: 176	.67 LCY/	Hour
			Adjusted sing	le truck/loade	er team production	on: 176	.67 LCY/	Hour
			Adjusted multip	le truck/loade	er team production	on: 176	.67 LCY/	Hour
JOB	TIME AN	D COST						
Fl	eet size:	1	Team(s)	r	Fotal job time:	400.4	l6 Hou	rs
U	nit cost:	\$5.874	/LCY		Total job cost:	\$415,5	566	

BULLDOZER WORK

ask description:	Spread T	opson Berms of	Access Ru + E Crossing		
Hitch Rack Ranch	Quarry	Permit Actio	on: <u>112c Permit App 2016</u>	Permit/Job#:	M2016010
PROJECT IDENTI	FICATION				
Task #: 007 Date: 8/18/2010 User: AME	6 C	State: <u>Colora</u> County: <u>El Pase</u>	do D	Abbreviation: Filename:	None M010-007
Agency or org	ganization nam	e: DRMS			
HOURLY EOUIPM	1ENT COST				
Basic Machine: _ C	Cat D8T - 8SU				
Horsepower: 3	10				
Blade Type: S	emi-Universal				
Attachment: 3	-shank ripper				
Shift Basis: 1	per day				
Data Source: (CRG)				
Cost Breakdown:					
			Utilization %		
Ownership Cost/Hour	:	\$82.0)1 NA		
Operating Cost/Hour	:	\$79.2	23 100		
Ripper own. Cost/Hour	:	\$8.4	40 NA		
Ripper op. Cost/Hour	:	\$2.8	31 50		
Operator Cost/Hour		\$39.8	37 NA		
Fotal unit Cost/Hour: Fotal Fleet Cost/Hour: MATERIAL QUAN	\$212.32 \$424.65				
Potal unit Cost/Hour: Potal Fleet Cost/Hour: MATERIAL QUAN Initial Volume: 16 Swell factor:	\$212.32 \$424.65 NTITIES 5,900 215				
Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUAN Initial Volume: 16 Swell factor: 1.2 Loose volume:	\$212.32 \$424.65 NTITIES 5,900 215 9,534 LCY				
Fotal unit Cost/Hour: Cotal Fleet Cost/Hour: MATERIAL QUAN Initial Volume: 16 Swell factor: 1.1 Loose volume: 20 Cource of estimated volume: 16 Source of estimated sw 16	\$212.32 \$424.65 NTITIES 5,900 215 9,534 LCY lume: 4 rell factor: C	1.37 ac x 6 in de Cat Handbook	oth topsoil		
Fotal unit Cost/Hour: Cotal Fleet Cost/Hour: MATERIAL QUAN Initial Volume: 16 Swell factor: 1.2 Loose volume: 20 Source of estimated volume: 16 Source of estimated sw 10 HOURLY PRODUC 10	\$212.32 \$424.65 VTITIES 5,900 215 0,534 LCY lume: 4 rell factor: C CTION	1.37 ac x 6 in de Cat Handbook	oth topsoil		
Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUAN Initial Volume: 16 Swell factor: 1.1 Loose volume: 20 Source of estimated volume: 6 Source of estimated sw 10 HOURLY PRODUCT 10	\$212.32 \$424.65 NTITIES 5,900 215 0,534 LCY lume: 4 rell factor: 0 CTION 300	1.37 ac x 6 in dep Cat Handbook	oth topsoil		
Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUAN Initial Volume: 16 Swell factor: 1.3 Loose volume: 20 Source of estimated volume: 0 Source of estimated sw 0 HOURLY PRODUC 0 Average push distance: 0 Juadjusted hourly procession 0	\$212.32 \$424.65 VTITIES 5,900 215 0,534 LCY lume: 4 rell factor: 0 CTION 4 duction: 300 201	1.37 ac x 6 in dep Cat Handbook	oth topsoil		
Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUAN Initial Volume: 16 Swell factor: 1.2 Loose volume: 20 Source of estimated volume: 20 Source of estimated swell 1000000000000000000000000000000000000	<u>\$212.32</u> \$424.65 NTITIES 5,900 215 0,534 LCY lume: <u>4</u> rell factor: <u>C</u> CTION duction: <u>300</u> duction: <u>291</u> description: <u>-</u>	1.37 ac x 6 in dej Cat Handbook) feet .4 LCY/hr Consolidated sto	oth topsoil		
Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUAN Initial Volume: 16 Swell factor: 1.1 Loose volume: 20 Gource of estimated vol 30 Gource of estimated sw 40 HOURLY PRODUC 40 Average push distance: 10 Jnadjusted hourly proc 40 Average push gradient: 40 Average site altitude: 10	$ \begin{array}{r} & \$212.32 \\ \hline \$424.65 \\ \hline \\ & \$542.65 \\ \hline \\ & $255.65 \\ \hline \\ & $300 \\ \hline \\ & $255.65 \\ \hline \\ & $255.65 \\ \hline \\ & $300 \\ \hline \\ & $255.65 \\ \hline \\ & $300 \\ \hline \\ & $255.65 \\ \hline \\ & $300 \\ \hline \\ & $255.65 \\ \hline \\ & $300 \\ \hline \\$	1.37 ac x 6 in deg Cat Handbook) feet .4 LCY/hr Consolidated sto	pth topsoil		
Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUAN Initial Volume: 16 Swell factor: 1.3 Loose volume: 20 Source of estimated volume: 20 Source of estimated sw 4000000000000000000000000000000000000	$ \begin{array}{r} & \$212.32 \\ \hline \$424.65 \\ \hline \\ & \$5000 \\ \hline \\ & \$5000 \\ \hline \\ & \$5000 \\ \hline \\ & $15000 \\ \hline \\ $	-1.37 ac x 6 in dep Cat Handbook D feet .4 LCY/hr Consolidated sto	oth topsoil		
Total unit Cost/Hour: Total Fleet Cost/Hour: Cotal Fleet Cost/Hour: MATERIAL QUAN Initial Volume: 16 Swell factor: 1.3 Loose volume: 20 Source of estimated vol 30 Source of estimated sw 40 HOURLY PRODUC 40 Average push distance: 10 Jnadjusted hourly proc 40 Average push gradient: 40 Average site altitude: 40 Average site altitude: 40 Average site altitude: 40	$ \begin{array}{r} & \$212.32 \\ \hline \$424.65 \\ \hline \\ & \$5,900 \\ \hline \\ & $2,900 \\ \hline \\ & $2,900 \\ \hline \\ & $2,910 \\ \hline \\ & $3,900 \\ \hline \\ & $2,910 \\ \hline \\ & $3,900 \\ \hline$	1.37 ac x 6 in dep Cat Handbook	oth topsoil		
Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUAN Initial Volume: 16 Swell factor: 1.2 Loose volume: 20 Gource of estimated volume: 20 Gource of estimated sw 40 HOURLY PRODUC 40 Average push distance: 10 Jnadjusted hourly proc 40 Average push gradient: 40 Average site altitude: 40 Auterial weight: 40 Veight description: 60 Ob Condition Correction 60	\$212.32 \$424.65 VTITIES 5,900 215 0,534 LCY lume: 4 rell factor: C CTION cuction: 291 lescription: - 0 % 7,200 feet 1,600 lbs/ Top Soil on Factor	1.37 ac x 6 in deg Cat Handbook	pth topsoil		
Total unit Cost/Hour: Total Fleet Cost/Hour: Cotal Fleet Cost/Hour: MATERIAL QUAN Initial Volume: 16 Swell factor: 1.2 Loose volume: 20 Gource of estimated volume: 20 Gource of estimated volume: 20 Gource of estimated sw 4000000000000000000000000000000000000	\$212.32 \$424.65 VTITIES 5,900 215 0,534 LCY lume:4 rell factor:0 CTION c300 fuction:0 lescription: <u>0 %</u> 7,200 feet 1,600 lbs// Top Soil on Factor pr Skill:	1.000	pth topsoil		
Total unit Cost/Hour: Total Fleet Cost/Hour: Natterial Volume: 16 Swell factor: 1.3 Loose volume: 20 Source of estimated volume: 20 Source of estimated sw 4000000000000000000000000000000000000	\$212.32 \$424.65 VTITIES 5,900 215 0,534 LCY lume:4 rell factor:0 CTION construction:0 1,600 lbs/ 0 0 % 7,200 feet 1,600 lbs/ 0 0 Factor 0 Soil 0 Factor 0 Soil 0 Factor 0 Soil	1.37 ac x 6 in dep Cat Handbook	pth topsoil		
Fotal unit Cost/Hour: Total Fleet Cost/Hour: Cotal Fleet Cost/Hour: MATERIAL QUAN Initial Volume: 16 Swell factor: 1.1 Loose volume: 20 Source of estimated volume: 20 Source of estimated swell Source of estimated swell HOURLY PRODUC Average push distance: Juadjusted hourly proc Aaterials consistency of Average push gradient: Average site altitude: Aaterial weight: Veight description: Operator Operator Material consi Dozing r	<u>\$212.32</u> \$424.65 VTITIES 5,900 215 0,534 LCY lume: <u>4</u> rell factor: <u>6</u> CTION constant <u>300</u> luction: <u>300</u> luction: <u>300</u> constant <u>300</u> luction: <u>300</u> constant <u>300</u> luction: <u>300</u> constant <u>300</u>	1.37 ac x 6 in dep Cat Handbook D feet .4 LCY/hr Consolidated std LCY 1.000 1.000 1.100			
Fotal unit Cost/Hour: Fotal Fleet Cost/Hour: Cotal Fleet Cost/Hour: MATERIAL QUAN Initial Volume: 16 Swell factor: 1.3 Loose volume: 20 Source of estimated volume: 20 Source of estimated sw 4000000000000000000000000000000000000	\$212.32 \$424.65 VTITIES 5,900 215 9,534 LCY lume: 4 rell factor: 0 function: 291 lescription: - 0 % - 7,200 feet - 1,600 lbs/ - Top Soil - on Factor - or Skill: - istency: - nethod: - sibility: -	1.37 ac x 6 in dep 2at Handbook) feet .4 LCY/hr Consolidated sto LCY 1.000 1.000 1.100 1.000			

Spoil pile:	0.900	(SSD-FC)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)
Net correction:	1.1816	
Adjusted unit production: 34	4.32 LCY/hr	

JOB TIME AND COST

Adjusted fleet production:

Fleet size:	2 Dozer(s)
Unit cost:	\$0.617/LCY

688.64 LCY/hr

Total job time:	29.82 Hours
Total job cost:	\$12,662

BULLDOZER WORK

Task description: Grad	le F1 Stockpile Area to) 3H:1V		
Hitch Rack Ranch Quarry	Permit Action:	112c Permit App 2016	Permit/Job#:	M2016010
PROJECT IDENTIFICATION	<u>ON</u>			
Task #: 008 Date: 8/18/2016 User: AME	State: Colorado County: El Paso)	Abbreviation: Filename:	None M010-008
Agency or organization	name: DRMS			
HOURLY EQUIPMENT CO	DST			
Basic Machine: Cat D8T - 8	SU			
Horsepower: 310				
Blade Type: Semi-Unive	ersal			
Attachment: <u>3-shank rip</u>	per			
Shift Basis: 1 per day				
Data Source: (CRG)				
Cost Breakdown:				
		Utilization %		
Ownership Cost/Hour:	\$82.01	NA		
Operating Cost/Hour:	\$79.23	100		
Ripper own. Cost/Hour:	\$8.40	NA		
Ripper op. Cost/Hour:	\$2.81	50		
Operator Cost/Hour:	\$39.87	NA		
MATERIAL QUANTITIES				
Initial Volume: 145,833				
Swell factor: 1.060 Loose volume: 154,583 LC	Y			
Source of estimated volume:	(100' H x 700' I) x	3 benches @ 1 38H·1V		
Source of estimated volume.	Cat Handbook			
HOURLY PRODUCTION				
Assessed and distances	200 fact			
Average push distance:	291 / I CV/br			
	2/1.4 LC 1/III			
Materials consistency description	: Consolidated stock	kpile 1.0		
Average push gradient:-15 %Average site altitude:7,200	feet			
Material weight: 2,900	lbs/LCY		_	
Weight description: Sand	and gravel - Dry			
Job Condition Correction Factor	1 000	Source		
Uperator Skill:	1.000	(EACL.)		
Dozing method	1.000			
Dozing method:	1.200			
Visionity	0.020		<u> </u>	
JOD efficiency:	0.830	(I SHIFI/DAY))	

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Task # 008

Spoil pi	le:	1.000	(DOZ-OC)
Push gradie	nt:	1.329	(CAT HB)
Altitud	de:	1.000	(CAT HB)
Material Weight:		0.793	(CAT HB)
Blade type:		1.000	(PAT)
Net correction	on:	1.0497	
Adjusted unit production:	30	5.88 LCY/hr	
Adjusted fleet production:	61	1.76 LCY/hr	

JOB TIME AND COST

Fleet size:	2 Dozer(s)
Unit cost:	\$0.694/LCY

Total job time:	252.69 Hours
Total job cost:	\$107,302

Task description:	Load/Ha	ul/Grade Topso	oil TS1 to F1 Stoc	ckpile Area					
Site: Hitch Rack Ran	ch Quarry	Permit Action	on: <u>112c Permit</u>	App 2016	Permit/Job#: <u>M</u>	2016010			
PROJECT IDEN	TIFICATION								
	Infication								
Task #: 009B State: Colorado Abbreviation: None Data: 8/22/2016 Country: Fil page Fil page M010.000P									
User: AME									
Agency or	organization name	e: DRMS							
HOURLY EQUI	PMENT COST			Shift bas	is: <u>1 per day</u>				
			Equipment Descri	ption					
Т	ruck Loader Tean	n -Truck: Cat	740	F					
		-Loader: CA	Т 980Н						
Supp	ort Equipment -Lo	ad Area: NA	DOT OCU						
Road M	-Dur aintenance – Moto	r Grader: Cat	<u>D81 - 850</u> T 16M						
	-Wate	er Truck: Wa	ter Tanker, 3,500	Gal.					
		k							
Cost Breakdown:	Truck/Load	ler Team	Support 1	Equipment	Maintenan	ce Equipment			
	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck			
%Utilization-machine:	100	100	NA	100	100	50			
Ownership cost/hour:	\$65.15	\$53.90	NA	\$82.01	\$79.03	\$11.19			
Operating cost/hour:	\$63.46	\$63.95	NA	\$79.23	\$69.17	\$15.64			
%Utilization-riper:	NA	0	NA	NA	NA	NA			
Ripper own. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00			
Ripper op. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00			
Operator cost/hour:	\$25.46	\$40.86	NA	\$39.87	\$40.67	\$0.00			
Unit Subtotals:	\$154.07	\$158.71	NA	\$201.11	\$188.87	\$26.83			
Number of Units:	3	1	0	1	1	1			
Group Subtotals:	Work:	\$620.92	Support:	\$201.11	Maint:	\$215.70			
Total work team cos	st/hour: \$1,037.7	3							
MATERIAL QU	<u>ANTITIES</u>								
Initial volume:	16,900	CCY	Swell	factor: 1.215					
Loose volume:	20,534	LCY							
So	urce of estimated	volume: 20.95	5 ac x 6 in depth to	opsoil					
Source	of estimated swel	l factor: Cat H	Handbook	1					
	Material Purchas	se Cost: $\$0.00$	0						
	Tot	al Cost: \$0.00	J						
HOURI V PRO	DUCTION								
Truck Capacity:	abt) Design								
<u>Truck Payload (Wel</u> Material v	<u>giit) Dasis:</u> veight: 1 600		Pounds/I CY						
Descr	iption: Top Soi	1							
Rated Pa	yload: 87,000		Pounds						
Payload Ca	pacity: 54.38		LCY						

Truck Bed (volume) Basis:						
Struck Volume:	24.20 I	LCY				
Heaped Volume:	31.40 I	LCY				
Average Volume:	27.80 I	LCY				
Adjusted Volume:	31.40 I	LCY				
Final '	Truck Volume 1	Based on Number of	Loader Passes:	24.75	LCY	
Loading Tool Capacity						
			Bucl	ket Size Class: N	A	
Rated Capacity:	7.500	LCY (heaped)				_
Bucket Fill Factor:	1.100	Other - rock/dirt	mixtures (100	-120%) 1.100		-
Adjusted Capacity:	8.250	LCY				_
Job Condition Corrections:		Site	e Altitude (ft.):	7 <u>200</u> feet		
	Truck	Loader	Source			
Altitude Adi:	0.960	1.000	(CAT HB	3)		
Job Efficiency:	0.830	0.830	(CAT HE	ý B)		
Net Correction:	0 797	0 830				
Loading Tool Cycle Time:	Number	of Loading Tool Pass	ses Required to 1	Fill Truck:	<u> 3 </u>	basses
Excavators and Front Shovels	<u>s:</u>					
Machine Cycle Time vs Selected Value w	Job Condition	Rating: <u>NA</u> Rating: NA				
Track Loaders – I	Material Descri	ption:				
Cycle Time Elements (min.):		·				
Load: NA	Ma	aneuver: NA		Dump: 0.100)	
Wheel and Track Loaders -	Unadjusted Bas	sic Loader Cycle Tim	e (load, dump, r	naneuver): 0	.550 minu	ites
Cycle Time Factors	5	2		Factor (min)	Source	
Material:	Material 1/8"	to $3/4$ " diameter -0.0	2	-0.020	(Cat HB)	_
Stockpile:	Conveyor or d	lozer piled 10 ft. high	or less 0.01	0.010	(Cat HB)	_
Truck Ownership:	Common own	ership of trucks and l	oaders -0.04	-0.040	(Cat HB)	_
Operation:	Constant opera	ation -0.04	-	-0.040	(Cat HB)	_
Dump Target:	Nominal targe	et 0.00		0.000	(Cat HB)	_
		Net Cycle Time	e Adjustment:	-0.090	minutes	
		Adjusted Loade	r Cycle Time:	0.460	minutes	
		Net Load Ti	me per Truck:	1.020	minutes	
Truck Cycle Time:						
Truck Exchange Time:	0.60	Minutes	Adjusted	for site altitude:	0.625	Minute
Truck Load Time:	1.020	Minutes	Adjusted	for site altitude:	1.020	Minute
ck Maneuver and Dump Time:	1.00	Minutes	Adjusted	for site altitude:	1.042	Minute
Truck Travel (Haul & Return) maintained 3.0) Time:	Road Condition: <u>F</u>	irm, smooth, rol	ling, dirt/lt. surface	d, watered,	

Haul Rou	ite:							
Seg #	Haul	Distance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
	(Ft)			(%)	(%)	(fpm)	(min)	
1	1500.	00	10.00	3.00	13.00	708	2.182	
					Haul Time:	2.182	minutes	
Return R	oute:		1					
Seg #	Haul	Distance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
	(Ft)			(%)	(%)	(fpm)	(min)	
1	1500.	00	-10.00	3.00	-7.00	3706	0.450	
					Return Time:	0.450	minute	S
				Total Tru	ck Cycle Time:	5.319	minute	S
Loading Too	ol unit							
Produ	uction	902.74	LCY/Hour		Adjusted for j	ob efficiency:	749.27	LCY/Hour
Truck Unit Prod	uction							
	-	279.21	LCY/Hour		Adjusted for j	ob efficiency:	231.74	LCY/Hour
Optimal No. of T	rucks:	3	Truck(s)		Selected Num	per of Trucks:	3	Truck(s)
			Adjuste	d hourly truc	k team production	on: 695.	.22 LCY	/Hour
			Adjusted sing	le truck/loade	er team production	on: 695.	.22 LCY	/Hour
			Adjusted multip	le truck/loade	er team production	on: 695.	.22 LCY	/Hour
JOB TI	ME AN	ND COST						
Fleet	size:	1	Team(s)	r.	Fotal job time:	29.54	4 Ho	ours
Unit	cost:	\$1.493	/LCY		Total job cost:	\$30,6	50	

REVEGETATION WORK

Task	descript	ion:	Revegetation o	f 156.18 ac - (Grasses		
Site: Hi	itch Rac	k Ranch Qua	arry P	ermit Action:	112c Permit App 2016	Permit/Job#	: M2016010
<u>PROJ</u>	JECT I	DENTIFIC	ATION				
Та	ask #:	010	State:	Colorado		Abbreviation:	None
	Date:	8/19/2016	County:	El Paso		Filename:	M010-010
l	User:	AME					

FERTILIZING

Materials

Description	Units /	Unit	Cost / Unit	Cost /Acre
Ammonium nitrate 33-0-0	121.00	nound	\$0.37	\$44.77
Triple superphosphate, 0-46-0	87.00	pound	\$0.51	\$44.37
	07.00	pound	\$0.51	φ11.57
			Total Fertilizer	
			Materials	
			Cost/Acre	\$89.14

Application

Description	Cost /Acre
Hydro spreader (MEANS 32 01 90.13 0180)	\$44.43
Total Fertilizer Application Cost/Acre	\$44.43

TILLING

Description	Cost /Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$107.59
Weed control spraying (MEANS 31 31 16.13 3100)	\$242.00
Total Tilling Cost/Acre	\$349.59

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Hachita	5.00	81.61	\$53.35
Big Bluestem - Native	5.00	14.92	\$49.15
Indian Ricegrass - Native	5.00	16.18	\$33.75
Little Bluestem - Native	5.00	29.84	\$71.55
Sideoats Grama - Butte	5.00	16.41	\$55.80
Sheep Fescue - Bighorn	5.00	78.05	\$15.35
Slender Wheatgrass - Native	5.00	18.25	\$11.25
Thickspike Wheatgrass - Critana	5.00	17.68	\$25.90
Western Wheatgrass - Arriba	5.00	12.63	\$18.45

Penstemon, Rocky Mountain	1.00	15.67	\$33.78
Bluebunch Wheatgrass - Goldar	5.00	16.07	\$27.55
Totals Seed Mix	51.00	317.33	\$395.88

Application

Description		Cost /Acre
Hydro seeding (MEANS 32 92 19.14 0200)		\$936.54
Total S	eed Application Cost/Acre	\$936.54

MULCHING and MISCELLANEOUS

Materials

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

Application

Description	Cost /Acre
Weed spray, hand, aquatic area, nox. [DMG]	\$183.16
Weed spray, hand, non-aquatic area, nox. [DMG]	\$183.16
Total Mulch Application C	Cost/Acre \$366.32

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

Estimate *Selected Replanti	No. of Acres: ed Failure Rate: ng Work Items:	156.18 50% SEEDING	Cost /Acre: Cost /Acre*:	\$2,181.90 \$1,332.42
Initial Job Cost:	\$340,769.14			
Reseeding Job Cost:	\$104,048.68			
Total Job Cost:	\$444,818			
Job Hours:	468.00			

REVEGETATION WORK

Task	k description:	Revegetation of	f 37 ac - Mixe	d Conifer Slopes		
Site: H	litch Rack Ranch (Quarry F	ermit Action:	112c Permit App 2016	Permit/Job#	: M2016010
<u>PRO</u>	JECT IDENTIF	ICATION				
Т	Task #: 011 Date: 8/19/2016 User: AME	5 State: 5 County:	Colorado El Paso		Abbreviation: Filename:	None M010-011
	Agency or orga	anization name:	ORMS			

FERTILIZING

Materials

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

Application

Description	Cost /Acre
	\$
Total Fastilizar Application Cost/Acro	
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

MULCHING and MISCELLANEOUS

Materials

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

Application

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

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
Fir, Douglas	36.5 5	Bare root seedling, 11-16 inch ht. (MEANS)	\$2.04	\$2.40	\$74.56
Pine, Ponderosa	6.45	Bare root seedling, 11-16 inch ht. (MEANS)	\$4.44	\$2.40	\$28.64
		Totals	Nursery Stoc	ek Cost / Acre	\$103.20

JOB TIME AND COST

No. of Acres:	37	Cost /Acre:	\$103.20
Estimated Failure Rate:	25%	Cost /Acre*:	\$103.20
*Selected Replanting Work Items:	NURSERY		

Initial Job Cost:	\$3,818.40
Reseeding Job Cost:	\$954.60
Total Job Cost:	\$4,773
Job Hours:	111.00

REVEGETATION WORK

e: <u>Hi</u>	itch Rack Ra	nch Quarry	Per	rmit Action:	112c Permit App 2016	Permit/Job	#: <u>M2016010</u>
PRO.	JECT IDEN	TIFICATIO	<u>DN</u>				
Т	ask #: 012		State:	Colorado		Abbreviation:	None
	Date: 8/19	/2016	County:	El Paso		Filename:	M010-012
		-					

FERTILIZING

Materials

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

Application

Description	Cost /Acre
	\$
Total Fastilizar Application Cost/Acro	
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

MULCHING and MISCELLANEOUS

Materials

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

Application

\$	/Acre
Total Mulch Application Cost/Acre \$0.00	

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
Fir, Douglas	8.6	Bare root seedling, 11-16 inch ht. (MEANS)	\$2.04	\$2.40	\$17.54
Pine, Ponderosa	30.1	Bare root seedling, 11-16 inch ht. (MEANS)	\$2.04	\$2.40	\$61.40
Oak, Gambel's	2.15	Bare root seedling, 11-16 inch ht. (MEANS)	\$2.04	\$2.40	\$4.39
Sumac, Skunkbrush	2.15	Bare root seedling, 11-16 inch ht. (MEANS)	\$4.44	\$2.40	\$9.55
		Totals	Nursery Stoc	ek Cost / Acre	\$92.88

JOB TIME AND COST

Job Hours: 180.00

	No. of Acres:	60.61	Cost /Acre:	\$92.88
Estimate	ed Failure Rate:	25%	Cost /Acre*:	\$92.88
*Selected Replanti	ng Work Items:	NURSERY		
Initial Job Cost:	\$5,629.46			
Reseeding Job Cost:	\$1,407.36			
Total Job Cost:	\$7,037			

REVEGETATION WORK

	Fask descrip	otion:	Revegetation of	16.45 ac - M	ountain Shrubland Slope	es	
Site:	Hitch Ra	ck Ranch Qu	arry Pe	rmit Action:	112c Permit App 2016	Permit/Job	#: <u>M2016010</u>
<u>P</u>	ROJECT	IDENTIFIC	ATION				
	Task #:	013	State:	Colorado		Abbreviation:	None
	Date:	8/19/2016	County:	El Paso		Filename:	M010-013
	User:	AME				=	

FERTILIZING

Materials

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

Application

Description	Cost /Acre
	\$
Total Fastilizar Application Cost/Acro	
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

MULCHING and MISCELLANEOUS

Materials

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

Application

	\$
Total Mulch Application Cost/Acre	\$0.00

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
Pine, Pinyon	16.8	Bare root seedling, 11-16 inch ht. (MEANS)	\$2.04	\$2.40	\$34.27
Juniper, Common	16.8	Bare root seedling, 11-16 inch ht. (MEANS)	\$2.04	\$2.40	\$34.27
Mahogany, Mountain	33.6	Bare root seedling, 11-16 inch ht. (MEANS)	\$2.04	\$2.40	\$68.54
Oak, Gambel's	252	Bare root seedling, 11-16 inch ht. (MEANS)	\$2.04	\$2.40	\$514.08
Sumac, Skunkbrush	16.8	Bare root seedling, 11-16 inch ht. (MEANS)	\$4.44	\$2.40	\$74.59
		Totals	Nursery Stoc	ck Cost / Acre	\$725.76

JOB TIME AND COST

No. of Acres:	16.45	Cost /Acre:	\$725.76
Estimated Failure Rate:	25%	Cost /Acre*:	\$725.76
*Selected Replanting Work Items:	NURSERY		

Initial Job Cost:	\$11,938.75
Reseeding Job Cost:	\$2,984.69
Total Job Cost:	\$14,923
Job Hours:	49.00

REVEGETATION WORK

Task description:Revegetation of 21.69 ac - Mountain Shrubland Access Rd						
ite: Hitch Ra	ack Ranch Qua	arry Pe	mit Action:	112c Permit App 2016	Permit/Job	#: <u>M2016010</u>
PROJECT	IDENTIFIC	ATION				
Task #:	014	State:	Colorado		Abbreviation:	None
Date:	8/19/2016	County:	El Paso		Filename:	M010-014
* *	AME				—	

FERTILIZING

Materials

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

Application

Description	Cost /Acre
	\$
Total Fastilizar Application Cost/Acro	
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

MULCHING and MISCELLANEOUS

Materials

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

Application

Description		Cost /Acre
		\$
Те	otal Mulch Application Cost/Acre	\$0.00

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
Mahogany, Mountain	50.4	Bare root seedling, 11-16 inch ht. (MEANS)	\$2.04	\$2.40	\$102.82
Oak, Gambel's	268. 8	Bare root seedling, 11-16 inch ht. (MEANS)	\$2.04	\$2.40	\$548.35
Rose, Wood's	10	Bare root seedling, 11-16 inch ht. (MEANS)	\$2.04	\$2.40	\$20.40
Sagebrush, Fringed	90	Bare root seedling, 11-16 inch ht. (MEANS)	\$2.04	\$2.40	\$183.60
Sagebrush, Louisiana	90	Bare root seedling, 11-16 inch ht. (MEANS)	\$2.04	\$2.40	\$183.60
Sumac, Skunkbrush	10	Bare root seedling, 11-16 inch ht. (MEANS)	\$4.44	\$2.40	\$44.40
		Totals 2	Nursery Stoc	ek Cost / Acre	\$1,083.17

JOB TIME AND COST

	No. of Acres:	21.69	Cost /Acre	: \$1,083.17
Estimated Failure Rate:		25%	Cost /Acre*	: \$1,083.17
*Selected Replanti	ng Work Items:	NURSERY		
Initial Job Cost:	\$23,493.96			
Reseeding Job Cost:	\$5,873.49			
Total Job Cost:	\$29,367			
Job Hours:	65.00			

REVEGETATION WORK

Task description:	Revegetation	on of 1.02 ac - I	Riparian E Crossing LTC		
Site: Hitch Rack Ranch (Quarry	Permit Action	n: 112c Permit App 2016	Permit/Job#	: <u>M2016010</u>
PROJECT IDENTIF	TICATION				Ŋ
Date: $\frac{015}{8/19/2010}$	6 Cou	nty: El Paso	0	Abbreviation:	None M010-015
User: <u>AME</u>					

FERTILIZING

Materials

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

Application

Description	Cost /Acre
	\$
Total Fastilizar Application Cost/Acro	
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

MULCHING and MISCELLANEOUS

Materials

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

Application

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

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
Cottonwood, Narrowleaf	35	Bare root seedling, 11-16 inch ht. (MEANS)	\$2.04	\$2.40	\$71.40
Willow, Sandbar	87.5	Bare root seedling, 11-16 inch ht. (MEANS)	\$2.04	\$2.40	\$178.50
Rose, Wood's	227. 5	Bare root seedling, 11-16 inch ht. (MEANS)	\$4.44	\$2.40	\$1,010.10
Totals Nursery Stock Cost / Acre \$1,260.00					

JOB TIME AND COST

No. of Acres:	1.02	Cost /Acre:	\$1,260.00
Estimated Failure Rate:	50%	Cost /Acre*:	\$1,260.00
*Selected Replanting Work Items:	NURSERY		
Initial Job Cost: \$1,285.20			

	<i><i>q</i>_<i>j</i>_<i>0</i>_<i>0</i>_<i>0</i></i>
Reseeding Job Cost:	\$642.60
Total Job Cost:	\$1,928
Job Hours:	3.00

REVEGETATION WORK

Task description:	Revege	etation of	0.76 ac - Rip	arian W Crossing LTC		
Site: Hitch Rack Ra	nch Quarry	Per	mit Action:	112c Permit App 2016	Permit/Job	#: <u>M2016010</u>
PROJECT IDEN	NTIFICATION	[~			
Task #: 016 Date: 8/19	0/2016	State: County:	Colorado El Paso		Abbreviation:	None M010-016
User: AM	E	county.	Li i uso		- includine.	11010 010

FERTILIZING

Materials

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

Application

Description	Cost /Acre
	\$
Total Fastilizar Application Cost/Acro	
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

MULCHING and MISCELLANEOUS

Materials

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

Application

\$	Cost /Acre
	\$
Total Mulch Application Cost/Acre \$0.	\$0.00

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre		
Fir, Douglas	70	Bare root seedling, 11-16 inch ht. (MEANS)	\$2.04	\$2.40	\$142.80		
Cottonwood, Narrowleaf	140	Bare root seedling, 11-16 inch ht. (MEANS)	\$2.04	\$2.40	\$285.60		
Pine, Ponderosa	70	Bare root seedling, 11-16 inch ht. (MEANS)	\$2.04	\$2.40	\$142.80		
Willow, Sandbar	70	Bare root seedling, 11-16 inch ht. (MEANS)	\$4.44	\$2.40	\$310.80		
	Totals Nursery Stock Cost / Acre \$882.00						

JOB TIME AND COST

Estimat	No. of Acres: ed Failure Rate:	0.76	_ Cost /Acre: Cost /Acre*:	\$882.00 \$882.00
*Selected Replanti	ng Work Items:	NURSERY		
Initial Job Cost:	\$670.32			
Reseeding Job Cost:	\$335.16			
Total Job Cost:	\$1,005			
Job Hours:	1.00			

DEMOLITION WORK

	Task description:	Revegetatio	on - Planting Ma	iterials		
Site:	Hitch Rack Ranch Quar	rry	Permit Action:	112c Permit App 2016	Permit/Jo	ob#: <u>M2016010</u>
<u>PROJE</u>	CT IDENTIFICATION	<u>N</u>				
Task #	: 017	State:	Colorado	Abb	previation:	None
Date	: 8/19/2016	County:	El Paso		Filename:	M010-017
User	: AME					
	Agency or organizat	tion name:	DRMS			

UNIT COSTS

Location adjustment: 93.10 %

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
18" protection basket	NA	USER PROVIDED	17,635.00	NA	\$1.25	\$22,043.75
w 3' x 3' weed barrier		ITEM				
Transportation, 2	NA	Light Duty Pickup, 4x4,	140.00	EA	\$80.23	\$11,232.20
Laborers		1 T. Crew				

				Total Cost	
		Subtotal		(adjusted for	
Job Hours:	0.00	(unadjusted):	\$33,275.95	location):	\$30,979.91

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task descriptio	n: Mo	bilization/Demob	ilization				
: Hitch Rack	Ranch Quarry	Permit	Action: 112c	Permit Ap	p 2016	Permit/Job#:	M2016010
PROJECT ID	ENTIFICATI	<u>ON</u>					
Task #: 0	18B	State: Co	olorado		Abbre	eviation: Noi	ne
Date: 8	/22/2016	County: El	Paso		 Fi	lename: M0	10-018B
User: A	ME	·					
Agenc	y or organization	n name: DRMS					
EQUIPMENT	TRANSPOR	<u>T RIG COST</u>					
					Shift ba	sis: 1 per	day
				(Cost Data Sour	rce: CRG I	Data
T	als Tractor Dece	nintion. CENE		WAVTDI			
1 ru	ck Tractor Desc	npuon: GENE	KIC UN-HIGH	WAI IKU	OND HALF	JK, 0A4, DIES.	EL POWEKED,
				400 HP	(ZND HALF,	2000)	
T	1	· · ·		DIG GOO	GENEQU DE	OD DECK EQ	
Tru	ick Trailer Desc	ription: Gl	ENERIC FOLD	ING GOO	SENECK, DF	ROP DECK EQ	UIPMENT
Trı	ick Trailer Desc	ription: G	ENERIC FOLD	ING GOO FRAILER	SENECK, DF (25T, 50T, AN	ROP DECK EQ ND 100T)	UIPMENT
Tru Cost Breakdown	ick Trailer Desc :	ription: G	ENERIC FOLD	ING GOO FRAILER	SENECK, DF (25T, 50T, AN	ROP DECK EQ ND 100T)	UIPMENT
Tru Cost Breakdown Available Rig	ick Trailer Desc <u>-</u> Capacities	ription: G	ENERIC FOLD	VING GOO	SENECK, DF (25T, 50T, AN	ROP DECK EQ ND 100T)	UIPMENT
Tru <u>Cost Breakdown</u> Available Rig Ownersh	ick Trailer Desc : Capacities ip Cost/Hour:	ription: G	ENERIC FOLD 7 26-50 Tons \$18.37	ING GOO TRAILER 51+	SENECK, DF (25T, 50T, AN • Tons • 2.33	ROP DECK EQ ND 100T)	UIPMENT
Tru <u>Cost Breakdown</u> Available Rig Ownersh Operatin	ick Trailer Desc Capacities ip Cost/Hour: ng Cost/Hour:	o-25 Tons \$16.63 \$44.38	ENERIC FOLD 7 26-50 Tons \$18.37 \$46.13	ING GOO TRAILER 51+ \$2 \$5	SENECK, DF (25T, 50T, AN - Tons 	ROP DECK EQ ND 100T)	UIPMENT
Tru Cost Breakdown Available Rig Ownersh Operatin Operati	Capacities ip Cost/Hour: ng Cost/Hour: or Cost/Hour:	o-25 Tons \$16.63 \$44.38 \$27.66	ENERIC FOLD 7 26-50 Tons \$18.37 \$46.13 \$27.66	ING GOO TRAILER 51+ \$2 \$5 \$2 \$2	SENECK, DF (25T, 50T, AN • Tons • 22.33 • 50.07 • 27.66	ROP DECK EQ ND 100T)	UIPMENT
Tru Cost Breakdown Available Rig Ownersh Operati Operati Help	Capacities ip Cost/Hour: ng Cost/Hour: or Cost/Hour: er Cost/Hour:	0-25 Tons \$16.63 \$44.38 \$27.66 \$0.00	ENERIC FOLD 7 26-50 Tons \$18.37 \$46.13 \$27.66 \$25.39	ING GOO FRAILER 51+ \$2 \$5 \$2 \$2 \$2 \$2 \$2	SENECK, DF (25T, 50T, AN Tons 22.33 30.07 27.66 25.39	ROP DECK EQ ND 100T)	UIPMENT
Tru Cost Breakdown Available Rig Ownersh Operati Operati Help Total U	Capacities ip Cost/Hour: ng Cost/Hour: or Cost/Hour: er Cost/Hour: nit Cost/Hour:	0-25 Tons \$16.63 \$44.38 \$27.66 \$0.00 \$88.67	ENERIC FOLD 7 26-50 Tons \$18.37 \$46.13 \$27.66 \$25.39 \$117.55	ING GOO TRAILER 51+ \$2 \$5 \$2 \$2 \$2 \$2 \$2 \$1	SENECK, DF (25T, 50T, AN 22.33 50.07 27.66 25.39 25.45	ROP DECK EQ ND 100T)	UIPMENT
Tru Cost Breakdown Available Rig Ownersh Operati Operati Help Total Un	Capacities ip Cost/Hour: ng Cost/Hour: or Cost/Hour: er Cost/Hour: nit Cost/Hour:	0-25 Tons \$16.63 \$44.38 \$27.66 \$0.00 \$88.67	ENERIC FOLD 7 26-50 Tons \$18.37 \$46.13 \$27.66 \$25.39 \$117.55	ING GOO TRAILER \$2 \$5 \$2 \$2 \$2 \$1	SENECK, DF (25T, 50T, AN 22.33 50.07 27.66 25.39 25.45	ROP DECK EQ ND 100T)	UIPMENT
Tru <u>Cost Breakdown</u> Available Rig Ownersh Operatin Operatin Help Total Un NON ROADA	Capacities ip Cost/Hour: ng Cost/Hour: or Cost/Hour: er Cost/Hour: hit Cost/Hour: BLE EQUIPN	0-25 Tons \$16.63 \$44.38 \$27.66 \$0.00 \$88.67	ENERIC FOLD 7 26-50 Tons \$18.37 \$46.13 \$27.66 \$25.39 \$117.55	ING GOO FRAILER 51+ \$2 \$5 \$2 \$2 \$2 \$1	SENECK, DF (25T, 50T, AN 2.33 20.07 27.66 25.39 25.45	ROP DECK EQ ND 100T)	UIPMENT
Tru Cost Breakdown Available Rig Ownersh Operatin Operatin Help Total Un NON ROADA Machine	Capacities ip Cost/Hour: ng Cost/Hour: or Cost/Hour: er Cost/Hour: hit Cost/Hour: bit Cost/Hour:	0-25 Tons \$16.63 \$44.38 \$27.66 \$0.00 \$88.67 IENT: Owner ship	ENERIC FOLD 7 26-50 Tons \$18.37 \$46.13 \$27.66 \$25.39 \$117.55 Haul Rig	Fleet	SENECK, DF (25T, 50T, AN 22.33 50.07 27.66 25.39 25.45 Haul Trip	OP DECK EQ ND 100T) Return Trip	DOT Permit
Tru Cost Breakdown Available Rig Ownersh Operatin Operatin Operatin Help Total Un NON ROADA Machine Description	Capacities ip Cost/Hour: ng Cost/Hour: or Cost/Hour: er Cost/Hour: hit Cost/Hour: BLE EQUIPN Weight/ Unit	0-25 Tons \$16.63 \$44.38 \$27.66 \$0.00 \$88.67 IENT: Owner ship Cost/hr/ unit	ENERIC FOLD 7 26-50 Tons \$18.37 \$46.13 \$27.66 \$25.39 \$117.55 Haul Rig Cost/hr/uni	Fleet Size	SENECK, DF (25T, 50T, AN 22.33 50.07 27.66 25.39 25.45 Haul Trip Cost/hr/	ROP DECK EQ ND 100T) Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
Tru Cost Breakdown Available Rig Ownersh Operatin Operatin Help Total Un NON ROADA Machine Description	Capacities ip Cost/Hour: ng Cost/Hour: or Cost/Hour: er Cost/Hour: hit Cost/Hour: BLE EQUIPN Weight/ Unit (TONS)	0-25 Tons \$16.63 \$44.38 \$27.66 \$0.00 \$88.67 MENT: Owner ship Cost/hr/ unit	ENERIC FOLD 7 26-50 Tons \$18.37 \$46.13 \$27.66 \$25.39 \$117.55 Haul Rig Cost/hr/uni t	ING GOO FRAILER 51+ \$2 \$5 \$2 \$2 \$1 \$1 Fleet Size	SENECK, DF (25T, 50T, AN 22.33 50.07 27.66 25.39 25.45 Haul Trip Cost/hr/ fleet	ROP DECK EQ ND 100T) Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
Tru Cost Breakdown Available Rig Ownersh Operatin Operatin Operatin Deperatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin	Capacities ip Cost/Hour: ng Cost/Hour: or Cost/Hour: er Cost/Hour: hit Cost/Hour: BLE EQUIPN Weight/ Unit (TONS) 53.08	0-25 Tons \$16.63 \$44.38 \$27.66 \$0.00 \$88.67 MENT: Owner ship Cost/hr/ unit \$90.41	ENERIC FOLD 7 26-50 Tons \$18.37 \$46.13 \$27.66 \$25.39 \$117.55 Haul Rig Cost/hr/uni t \$125.45	ING GOO FRAILER 51+ \$2 \$5 \$2 \$2 \$1 \$1 \$1 \$1 \$1 \$1 \$1 \$1 \$1 \$1 \$1 \$1 \$1	SENECK, DF (25T, 50T, AN 2.33 50.07 27.66 25.39 25.45 Haul Trip Cost/hr/ fleet \$863.44	ROP DECK EQ ND 100T) Return Trip Cost/hr/ fleet \$501.80	DOT Permit Cost/ fleet
Tru Cost Breakdown Available Rig Ownersh Operatin Operatin Operatin Depratin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin O	Capacities ip Cost/Hour: ng Cost/Hour: or Cost/Hour: er Cost/Hour: hit Cost/Hour: BLE EQUIPN Weight/ Unit (TONS) 53.08 28.73	0-25 Tons \$16.63 \$44.38 \$27.66 \$0.00 \$88.67 MENT: Owner ship Cost/hr/ unit \$90.41 \$79.03	ENERIC FOLD 7 26-50 Tons \$18.37 \$46.13 \$27.66 \$25.39 \$117.55 Haul Rig Cost/hr/uni t \$125.45 \$117.55	ING GOO FRAILER 51+ \$2 \$5 \$2 \$2 \$1 \$1 \$1 \$1 \$1 \$1 \$1 \$1 \$1 \$1 \$1 \$1 \$1	SENECK, DF (25T, 50T, AN 2.33 30.07 27.66 25.39 25.45 Haul Trip Cost/hr/ fleet \$863.44 \$393.16	ROP DECK EQ ND 100T) Return Trip Cost/hr/ fleet \$501.80 \$235.10	DOT Permit Cost/ fleet \$750.00 \$250.00
Tru Cost Breakdown Available Rig Ownersh Operatin Operatin Operatin Depratin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin Operatin O	Capacities ip Cost/Hour: ng Cost/Hour: or Cost/Hour: or Cost/Hour: er Cost/Hour: bit Cost/Hour: BLE EQUIPN Weight/ Unit (TONS) 53.08 28.73 33.12	0-25 Tons \$16.63 \$44.38 \$27.66 \$0.00 \$88.67 MENT: Owner ship Cost/hr/ unit \$90.41 \$79.03 \$53.90	ENERIC FOLD 7 26-50 Tons \$18.37 \$46.13 \$27.66 \$25.39 \$117.55 Haul Rig Cost/hr/uni t \$125.45 \$117.55 \$117.55	ING GOO TRAILER (51+ \$2 \$5 \$2 \$2 \$1 \$1 Fleet Size 4 2 2	SENECK, DF (25T, 50T, AN 2.33 50.07 7.66 5.39 25.45 Haul Trip Cost/hr/ fleet \$863.44 \$393.16 \$342.90	ROP DECK EQ ND 100T) Return Trip Cost/hr/ fleet \$501.80 \$235.10 \$235.10	DOT Permit Cost/ fleet \$750.00 \$250.00 \$250.00
Tru Cost Breakdown Available Rig Ownersh Operatin Operatin Operatin Help Total Un NON ROADA Machine Description Cat D8T - 8SU CAT 16M CAT 980H Cat 740	Capacities ip Cost/Hour: ng Cost/Hour: or Cost/Hour: or Cost/Hour: er Cost/Hour: er Cost/Hour: mit Cost/Hour: BLE EQUIPN Weight/ Unit (TONS) 53.08 28.73 33.12 36.49	0-25 Tons \$16.63 \$44.38 \$27.66 \$0.00 \$88.67 MENT: Owner ship Cost/hr/ unit \$90.41 \$79.03 \$53.90 \$65.15	ENERIC FOLD 7 26-50 Tons \$18.37 \$46.13 \$27.66 \$25.39 \$117.55 Haul Rig Cost/hr/uni t \$125.45 \$117.55 \$117.55 \$117.55 \$117.55	ING GOO FRAILER 51+ \$2 \$5 \$2 \$2 \$2 \$1 \$1 \$1 \$1 \$1 \$1 \$1 \$1 \$1 \$1 \$1 \$1 \$1	SENECK, DF (25T, 50T, AN 2.33 50.07 27.66 25.39 25.45 Haul Trip Cost/hr/ fleet \$863.44 \$393.16 \$342.90 \$1,096.20	ROP DECK EQ ND 100T) Return Trip Cost/hr/ fleet \$501.80 \$235.10 \$235.10 \$705.30	DOT Permit Cost/ fleet \$750.00 \$250.00 \$1,500.00

Subtotals: \$3,034.10 \$1,912.40 \$3,000.00

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	2	\$84.92	\$84.92
Light Duty Pickup, 4x4, 1 T.	\$80.23	1	\$80.23	\$80.23
Crew				
		Subtotals.	\$165.15	\$165.15

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	COLORADO SPRINGS	_
Total one-way travel distance:	20.00	miles
Average Travel Speed:	25.00	mph
Total Non-Roadable Mob/Demob Cost * '* two round trips with haul rig:	\$111,005.60	
Total Roadable Mob/Demob Cost ** ** one round trip, no haul rig:	\$264.24	-

Transportation Cycle Time:

	Non-	
	Roadable	Roadable
	Equipment	Equipment
Haul Time (Hours):	0.80	0.80
Return Time (Hours):	0.80	0.80
Loading Time (Hours):	8.00	NA
Unloading Time (Hours):	8.00	NA
Subtotals:	17.60	1.60

JOB TIME AND COST

Total job time: **35.20** Hours

Total job cost: **\$111,270**