

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

1313 Sherman Street, Room 215 Denver, CO 80203

August 27, 2014

Mr. Bob Warneke Natural Soda, Inc. 3200 Rio Blanco CR 31 Rifle, CO 81650

Re: Nahcolite Project, Permit No. M-1983-194, Surety Increase, Revision No. SI-3

Dear Mr. Warneke

On August 27, 2014 the Division of Reclamation, Mining and Safety increased the current Financial Warranty for this permit to \$3,098,807.55, in accordance with Rule 4.2.1 of the Rules and Regulations. This is an increase of \$245,861.89 over the currently held \$2,852,945.66 financial warranty. The reason for the surety increase is to cover reclamation costs for an additional 8 monitoring wells that were not included in the previous reclamation cost estimate.

The Division ordered amendment of the current Financial Warranty or submittal of a new Financial Warranty reflecting the increase is due within 60 days from the date of this letter. If you wish to submit a different type of Financial Warranty or have questions regarding modification of the existing financial warranty please contact Barbara Coria at (303) 866-3567 extension 8148.

If you have any other questions regarding this permit activity please contact me at 970.241.2042.

Sincerely Travis Marshall

Environmental Protection Specialist

Enclosure - Reclamation Cost Estimate

cc: Russ Means, DRMS Barbara Coria, DRMS

> Paul Daggett BLM - WRFO 220 East Market Street Meeker, CO 81641

Gerald Daub Daub & Associates, Inc 1985 ½ South Broadway Grand Junction, CO 81507



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COST SUMMARY WORK

: Nahcolite	e Project		Permit Action: SI-3	Permit/J	ob#: <u>M1983194</u>
PROJECT	<u>IDENTIFICA</u>	TION			
Task #:	001	State:	Colorado	Abbreviation:	None
Date:	8/27/2014	County:	Rio Blanco	Filename:	
User:	THM				

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
01a	Demo. of NSI Plant, Pipelines and Powerlines	DEMOLISH	1	80.00	\$656,170.36
02a	Borehole P&A	BOREHOLE] 1	460.00	\$1,474,618.58
03a	Re-grade Process Ponds	DOZER	2	141.43	\$59,092.00
04a	Re-grade Plant Area	DOZER	2	41.97	\$17,537.00
05a	Re-grade Well Pads	DOZER	2	100.17	\$41,851.00
06a	Distribute 6" of topsoil over 8 acre process pond area	DOZER	2	5.92	\$2,473.00
07a	Distribute 6" topsoil over 6.2 acre process area	DOZER	2	4.59	\$1,916.00
08a	Replace topsoil over re-graded well pads and access roads	DOZER	2	25.45	\$10,631.00
09a	Rip compacted areas	RIPPER	2	14.08	\$6,276.00
10a	Distribute 6" topsoil over18.7 acres of decompacted area	DOZER	2	10.27	\$4,292.00
11a	Revegetate 73.76 acres	REVEGE	1	73.76	\$136,105.00
12a	Mobilization	MOBILIZE	1	8.00	\$6,399.00
		SUBTO	TALS:	965.64	\$2,417,361

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance:	2.02%	Total =	\$48,830.69
Performance bond:	1.05%	Total =	\$25,382.29
Job superintendent:	482.82 hrs	Total =	\$36,288.75
Profit:	10.00%	Total =	\$241,736.10
		TOTAL O & P =	\$352,237.83
		CONTRACT AMOUNT (direct + O & P) =	\$2,769,598.83

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

TOTAL B	OND AMOUNT (d	lirect + indirect) =	\$3,098,807.55	
	TOTAL I	NDIRECT COST =	\$681,446.55	
CONTINGENCY:	3.00	Total =	\$72,520.83	
Reclamation management and/or administration:	5.00%		\$138,479.94	_
Engineering work and/or contract/bid preparation:	4.25%	Total =	\$117,707.95	
Financial warranty processing (legal/related costs):	500.00	Total =	500.00	

Cost Summary Worksheet Cont'd

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Task # 001

DEMOLITION WORK

Demo. of NSI Plant, Pipelines and Powerlines

Site: Nahcolite Project

Task description:

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Permit Action: SI-3

Permit/Job#: M1983194

PROJECT IDENTIFICATION

Task #:	01A	State:	Colorado	Abbreviation:	None
Date:	8/21/2014	County:	Rio Blanco	Filename:	SI-3
User:	THM				

Agency or organization name: DRMS

UNIT COSTS

Location adjustment: 91.30 %

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
NSI Plant	200'L x 175'W x 50'H	Plant (3S) demo./on-site disposal in excavated pit - Max. 200 ft. push	1,750,000.00	CF	\$0.25	\$434,000.00
Product Storage Dome	100'L x 100'W x 50'H	Plant (3S) demo./on-site disposal in excavated pit - Max. 200 ft. push	500,000.00	CF	\$0.25	\$124,000.00
Removal of NSI Plant Slab	200'L x 175'W	Demo. and on-site disposal in excavated pit, 8 in. thick - Max. 200 ft. push		SF	\$2.33	\$81,550.00
Removal of Storage Dome slab	100'L x 100'W	Demo. and on-site disposal in existing pit, 8 in. thick - Max. 200 ft. push	10,000.00	SF	\$2.28	\$22,800.00
Scale Building	20'W x 100'L x 15'H	Plant (1S) demo./on-site disposal in excavated pit - Max. 200 ft. push	30,000.00	CF	\$0.20	\$5,880.00
Removal of Scale Building Slab	20'W x 100'L	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	2,000.00	SF	\$1.75	\$3,500.00
Removal of Conveyor System	200'L	Conveyor, elevated, including supports - 5 ft. W x 6 ft. H housing	200.00	LF	\$44.42	\$8,884.00
Removal of Overhead Powerline	2100'L	Powerline or utility line, overhead, wood - Double or "H" pole	2,100.00	LF	\$5.38	\$11,298.00
Tank Farm	30'W x 50'H	Tank Removal and disposal in pit	5.00	Tank	\$2,000.00	\$10,000.00
Removal of Pipeline	3600	Pipe, steel, welded connections - 10 in. diameter pipe	3,600.00	LF	\$1.90	\$6,840.00
Removal of Flagpoles/Monument	70 sq feet	USER PROVIDED ITEM	70.00	FT^2	\$5.00	\$350.00
Removal of 12" barren liquor pileline	5050 LF	Pipe, steel, welded connections - 10 in. diameter pipe	5,050.00	LF	\$1.90	\$9,595.00

				Total Cost	
		Subtotal		(adjusted for	
Job Hours:	80.00	(unadjusted):	\$718,697.00	location):	\$656,170.36

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BOREHOLE SEALING WORK

,	Task description:	Borehole P&	čΑ				
Site:	Nahcolite Project		Permit Action:	SI-3	Permit/.	Job#: M1983194	
PROJE	CT IDENTIFICATIO	N					
Task #:	02A	State:	Colorado		Abbreviation:	None	
Date:	8/21/2014	County:	Rio Blanco		Filename:	M194-02a	
User:	THM						

Agency or organization name: DRMS

UNIT COSTS

Borehole	Sealing/Item Method						
Description		Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
3M-TDR	Portland cement grout - 4 in. (labor, equip, materials)	4.5"	1876	1,876.00	LF	\$8.04	\$15,090.73
89-1	Portland cement grout - 4 in. (labor, equip, materials)	4.5"	1627	1,627.00	LF	\$8.04	\$13,087.75
89-2	Portland cement grout - 4 in. (labor, equip, materials)	4.5"	1417	1,417.00	LF	\$8.04	\$11,398.49
89-3	Portland cement grout - 4 in. (labor, equip, materials)	4.5"	347	347.00	LF	\$8.04	\$2,791.30
90-1	Portland cement grout - 10 in. (labor, equip, materials)	9.625"	1417	1,417.00	LF	\$18.36	\$26,018.25
90-3	Portland cement grout - 4 in. (labor, equip, materials)	4.5"	1627	1,627.00	LF	\$8.04	\$13,087.75
90-4	Portland cement grout - 4 in. (labor, equip, materials)	4.5"	1417	1,417.00	LF	\$8.04	\$11,398.49
94-1M	Portland cement grout - 6 in. (labor, equip, materials)	5"	2200	2,200.00	LF	\$11.24	\$24,722.28
BG-1	Portland cement grout - 4 in. (labor, equip, materials)	4.5"	1627	1,627.00	LF	\$8.04	\$13,087.75
BG-4	Portland cement grout - 4 in. (labor, equip, materials)	4.5	1627	1,627.00	LF	\$8.04	\$13,087.75
DS-2	Portland cement grout - 4 in. (labor, equip, materials)	4.5"	1876	1,876.00	LF	\$8.04	\$15,090.73
DS-3	Portland cement grout - 4 in. (labor, equip, materials)	4.5"	1876	1,876.00	LF	\$8.04	\$15,090.73
EX-2	Portland cement grout - 4 in. (labor, equip, materials)	4.5"	1876	1,876.00	LF	\$8.04	\$15,090.73
IRI-1	Portland cement grout - 4 in. (labor, equip, materials)	4"	347	347.00	LF	\$8.04	\$2,791.30

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IRI-4	Portland cement grout - 4 in. (labor, equip, materials)	4"	1417	1,417.00	LF	\$8.04	\$11,398.49
IRI-5	Portland cement grout - 4 in. (labor, equip, materials)	4.625"	347	347.00	LF	\$8.04	\$2,791.30
IRI-6	Portland cement grout - 4 in. (labor, equip, materials)	4"	1627	1,627.00	LF	\$8.04	\$13,087.75
IRI-7	Portland cement grout - 4 in. (labor, equip, materials)	4.5"	1876	1,876.00	LF	\$8.04	\$15,090.73
IRI-8	Portland cement grout - 4 in. (labor, equip, materials)	4.5"	347	347.00	LF	\$8.04	\$2,791.30
7H-1R	Portland cement grout - 8 in. (labor, equip, materials)	7.625"	1876	1,876.00	LF	\$12.22	\$22,927.72
7H-1V	Portland cement grout - 8 in. (labor, equip, materials)	7.625"	1876	1,876.00	LF	\$12.22	\$22,927.72
7H-2I	Portland cement grout - 8 in. (labor, equip, materials)	7.625"	1876	1,876.00	LF	\$12.22	\$22,927.72
12H-I	Portland cement grout - 8 in. (labor, equip, materials)	7.625"	1935	1,935.00	LF	\$12.22	\$23,648.80
12H-R	Portland cement grout - 8 in. (labor, equip, materials)	7.625"	1935	1,935.00	LF	\$12.22	\$23,648.80
10H-I	Portland cement grout - 8 in. (labor, equip, materials)	7.625"	1935	1,935.00	LF	\$12.22	\$23,648.80
11H-I	Portland cement grout - 8 in. (labor, equip, materials)	7.625"	1935	1,935.00	LF	\$12.22	\$23,648.80
10H-R	Portland cement grout - 8 in. (labor, equip, materials)	7.625"	1935	1,935.00	LF	\$12.22	\$23,648.80
11H-R	Portland cement grout - 8 in. (labor, equip, materials)	7.625"	1935	1,935.00	LF	\$12.22	\$23,648.80
DS-4	Portland cement grout - 4 in. (labor, equip, materials)	4.5"	1876	1,876.00	LF	\$8.04	\$15,090.73
BG-5	Portland cement grout - 4 in. (labor, equip, materials)	4.5"	1645	1,645.00	LF	\$8.04	\$13,232.54
DS-5	Portland cement grout - 4 in. (labor, equip, materials)	4.5"	1902	1,902.00	LF	\$8.04	\$15,299.88
BG-6	Portland cement grout - 4 in. (labor, equip, materials)	4.5"	1639	1,639.00	LF	\$8.04	\$13,184.28
WSW-2	Portland cement grout - 8 in. (labor, equip, materials)	7.625"	1460	1,460.00	LF	\$12.22	\$17,843.54
DVPW-1(A)	Portland cement grout - 8	7"	2350	2,350.00	LF	\$12.22	\$28,720.76

Task # TTT

Page 3 of 5

	in. (labor, equip, materials)						
DVPW-(B)	Portland cement grout - 8 in. (labor, equip, materials)	7"	2350	2,350.00	LF	\$12.22	\$28,720.76
10H-1V	Portland cement grout - 8 in. (labor, equip, materials)	7"	2010	2,010.00	LF	\$12.22	\$24,565.42
13H-I	Portland cement grout - 8 in. (labor, equip, materials)	8"	2335	2,335.00	LF	\$12.22	\$28,537.44
13H-R	Portland cement grout - 8 in. (labor, equip, materials)	8"	2310	2,310.00	LF	\$12.22	\$28,231.90
8H-I	Portland cement grout - 8 in. (labor, equip, materials)	7"	2110	2,110.00	LF	\$12.22	\$25,787.58
8H-R	Portland cement grout - 8 in. (labor, equip, materials)	7"	2110	2,110.00	LF	\$12.22	\$25,787.58
14H-I	Portland cement grout - 8 in. (labor, equip, materials)	7"	2110	2,110.00	LF	\$12.22	\$25,787.58
14H-R	Portland cement grout - 8 in. (labor, equip, materials)	7"	2110	2,110.00	LF	\$12.22	\$25,787.58
WSW-3	Portland cement grout - 8 in. (labor, equip, materials)	7"	1420	1,431.00	LF	\$12.22	\$17,489.11
WSW-4	Portland cement grout - 8 in. (labor, equip, materials)	7"	1431	1,431.00	LF	\$12.22	\$17,489.11
A (Phase 1)	Portland cement grout - 8 in. (labor, equip, materials)	6.5"	1844	1,844.00	LF	\$12.22	\$22,536.63
B (Phase 1)	Portland cement grout - 8 in. (labor, equip, materials)	6.5"	1879	1,879.00	LF	\$12.22	\$22,964.39
C (Phase 1)	Portland cement grout - 8 in. (labor, equip, materials)	6.5"	1898	1,898.00	LF	\$12.22	\$23,196.60
D (Phase 1)	Portland cement grout - 8 in. (labor, equip, materials)	6.5"	1949	1,949.00	LF	\$12.22	\$23,819.90
E (Phase 1)	Portland cement grout - 8 in. (labor, equip, materials)	6.5"	1967	1,967.00	LF	\$12.22	\$24,039.89
F (Phase 1)	Portland cement grout - 8 in. (labor, equip, materials)	6.5"	1933	1,933.00	LF	\$12.22	\$23,624.35
G (Phase 1)	Portland cement grout - 8 in. (labor, equip, materials)	6.5"	2012	2,012.00	LF	\$12.22	\$24,589.86
H (Phase 1)	Portland cement grout - 8 in. (labor, equip, materials)	6.5"	1983	1,983.00	LF	\$12.22	\$24,235.43
I (Phase 1)	Portland cement grout - 8 in. (labor, equip,	6.5"	1986	1,986.00	LF	\$12.22	\$24,272.10

Task # TTT

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J (Phase 1)	Portland cement grout - 8 in. (labor, equip, materials)	6.5"	2038	2,038.00	LF	\$12.22	\$24,907.62
K (Phase 1)	Portland cement grout - 8 in. (labor, equip, materials)	6.5"	1963	1,963.00	LF	\$12.22	\$23,991.00
L (Phase 1)	Portland cement grout - 8 in. (labor, equip, materials)	6.5"	1901	1,901.00	LF	\$12.22	\$23,233.26
M (Phase 1)	Portland cement grout - 8 in. (labor, equip, materials)	6.5"	1917	1,917.00	LF	\$12.22	\$23,428.81
DS-7 (Phase 1)	Portland cement grout - 8 in. (labor, equip, materials)	6.5"	1897	1,897.00	LF	\$12.22	\$23,184.38
N (Phase 2)	Portland cement grout - 8 in. (labor, equip, materials)	6.5	1859	1,859.00	LF	\$12.22	\$22,719.95
O (Phase 2)	Portland cement grout - 8 in. (labor, equip, materials)	6.5	1807	1,807.00	LF	\$12.22	\$22,084.43
P (Phase 2)	Portland cement grout - 8 in. (labor, equip, materials)	6.5"	1817	1,817.00	LF	\$12.22	\$22,206.65
Q (Phase 2)	Portland cement grout - 8 in. (labor, equip, materials)	6.5"	1836	1,836.00	LF	\$12.22	\$22,438.86
R (Phase 2)	Portland cement grout - 8 in. (labor, equip, materials)	6.5"	1835	1,835.00	LF	\$12.22	\$22,426.64
S (Phase 2)	Portland cement grout - 8 in. (labor, equip, materials)	6.5"	1744	1,744.00	LF	\$12.22	\$21,314.47
T (Phase 2)	Portland cement grout - 8 in. (labor, equip, materials)	6.5"	1739	1,739.00	LF	\$12.22	\$21,253.36
U (Phase 2)	Portland cement grout - 8 in. (labor, equip, materials)	6.5"	1694	1,694.00	LF	\$12.22	\$20,703.39
DS-6 (Phase 3)	Portland cement grout - 4 in. (labor, equip, materials)	4"	1882	1,882.00	LF	\$8.04	\$15,139.00
9H-I	Portland cement grout - 8 in. (labor, equip, materials)	7"	2110	2,110.00	LF	\$12.22	\$25,787.58
9H-R	Portland cement grout - 8 in. (labor, equip, materials)	7"	2110	2,110.00	LF	\$12.22	\$25,787.58
IRI-2	Portland cement grout - 4 in. (labor, equip, materials)	4"	604	604.00	LF	\$8.04	\$4,858.64
IRI-3	Portland cement grout - 4 in. (labor, equip, materials)	4"	1100	1,100.00	LF	\$8.04	\$8,848.51
IRI-9	Portland cement grout - 4 in. (labor, equip, materials)	4"	1710	1,710.00	LF	\$8.04	\$13,755.41

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Task # TTT

IRI-10	Portland cement grout - 4 in. (labor, equip, materials)	4"	1761	1,761.00	LF	\$8.04	\$14,165.66
IRI-11	Portland cement grout - 4 in. (labor, equip, materials)	4"	1550	1,550.00	LF	\$8.04	\$12,468.36
IRI-MW-1	Portland cement grout - 6 in. (labor, equip, materials)	5.5"	1770	1,770.00	LF	\$11.24	\$19,890.20
IRI-PW-1	Portland cement grout - 6 in. (labor, equip, materials)	5.5	1849	1,849.00	LF	\$11.24	\$20,777.95
IRI-PW-2	Portland cement grout - 6 in. (labor, equip, materials)	5.5	600	600.00	LF	\$11.24	\$6,742.44

Job Hours: 460.00

Total Cost: \$1,474,619.00

Page 1 of 2

BUILI DOZER WORK

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Task description:	Re-	grade Process Ponds			
Nahcolite Proje	ect	Permit Action:	SI-3	Permit/Job#:	M1983194
				hide	
PROJECT IDE	NTIFICAT	ION			
Task #: 03A		State: Colorado		Abbreviation:	None
	/2014	County: Rio Blance	0	Filename:	SI-3
User: THN	1				
Agency of	r organizatio	n name: DRMS			
HOURLY EQU	IPMENT C	COST			
Basic Machine:					
Horsepower:	310	000			
Blade Type:	Semi-Uni	versal			
Attachment:					
Shift Basis:					
Data Source:	(CRG)				
Cost Breakdown:					
			Utilization %		
Ownership Cost/		\$62.67	NA		
Operating Cost/		\$108.22	100		
Ripper op. Cost/	that it is not a second s	\$0.00	0		
Operator Cost/	Hour				
Total unit Cost/Ho Total Fleet Cost/H	ur: \$208	The second se	NA		
Total Fleet Cost/H <u>MATERIAL O</u> Initial Volume: Swell factor: Loose volume:	ur: \$203 our: \$41 UANTITIE 52,723 1.110 58,523 LC	8.90 7.81 <u>S</u>			
Total Fleet Cost/H MATERIAL O Initial Volume: Swell factor: Loose volume: Source of estimate	ur: \$203 our: \$41' UANTITIE: 52,723 1.110 58,523 LC d volume:	8.90 7.81 <u>S</u> <u>Y</u> Division of Reclamat			
Total Fleet Cost/H MATERIAL OI Initial Volume: Swell factor: Loose volume: Source of estimate Source of estimate	ur: \$203 our: \$41' UANTITIE: 52,723 1.110 58,523 LC d volume: d swell factor	8.90 7.81 <u>S</u> <u>Y</u> Division of Reclamat			
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Total Fleet Cost/H MATERIAL OI Initial Volume: Swell factor: Loose volume: Source of estimate Source of estimate HOURLY PRO Average push dista Unadjusted hourly Materials consister Average push grac Average site altitu	ur: $$203$ our: $$41'$ UANTITIE: 52,723 1.110 58,523 LC d volume: d swell factor DUCTION ance: production: ncy descriptio lient: 0 % de: 6,60 2,80	8.90 7.81 S Y Division of Reclamat Cat Handbook 175 feet 562.2 LCY/hr on: Compacted fill or e	ion, Mining & Safety		
Total Fleet Cost/H MATERIAL OI Initial Volume: Swell factor: Loose volume: Source of estimate Source of estimate HOURLY PRO Average push dista Unadjusted hourly Materials consister Average push grac Average site altitu Material weight:	ur: $$203$ our: $$41'$ UANTITIE:52,7231.11058,523 LCd volume:d volume:d swell factorDUCTIONance:production:ncy descriptionde: 0% de: $6,60$ 2,80n:Clay	8.90 7.81 S Y Tr: Division of Reclamat Cat Handbook 175 feet 562.2 LCY/hr on: Compacted fill or e 00 feet 00 lbs/LCY y - Natural bed	ion, Mining & Safety		
Total Fleet Cost/H MATERIAL O Initial Volume: Swell factor: Loose volume: Source of estimate Source of estimate MOURLY PRO Average push dista Unadjusted hourly Materials consister Average push grac Average site altitu Material weight: Weight description Job Condition Cor Op	ur: $$203$ our: $$41'$ our: $$41'$ UANTITIE: $52,723$ 1.110 $58,523$ LCd volume:d volume:d swell factorDUCTIONance:production:ncy descriptionde: 0% de: $6,60$ $2,80$ n:Clayrection Factorperator Skill:	8.90 7.81 \underline{S} \underline{Y} \underline{Y} $\underline{Division of Reclamat}$ $\underline{Cat Handbook}$ $\underline{175 feet}$ $\underline{562.2 LCY/hr}$ $\underline{Division of Reclamat}$ $\underline{Cat Handbook}$ $\underline{175 feet}$ $\underline{562.2 LCY/hr}$ $\underline{OO feet}$ $\underline{OO feet}$ $\underline{OO feet}$ $\underline{OO lbs/LCY}$ \underline{Y} - Natural bed \underline{T} $\underline{0.750}$	ion, Mining & Safety mbankment 0.9 <u>Source</u> (AVG.)		
Total Fleet Cost/H MATERIAL ON Initial Volume: Swell factor: Loose volume: Source of estimate Source of estimate Source of estimate HOURLY PRO Average push dista Unadjusted hourly Materials consister Average push grac Average site altitu Material weight: Weight description Job Condition Cor Op Material	ur: $$203$ our: $$41'$ $$000000000000000000000000000000000000$	8.90 7.81 S Y Tr: Division of Reclamat Cat Handbook 175 feet 562.2 LCY/hr on: Compacted fill or e 00 feet 00 lbs/LCY y - Natural bed <u>r</u>	ion, Mining & Safety mbankment 0.9		

Visibilit	y: 1.000	(AVG.)
Job efficience	ey: 0.830	(1 SHIFT/DAY)
Spoil pi	le: 0.800	(FND-RF)
Push gradier	nt: 1.000	(CAT HB)
Altitud	le: 1.000	(CAT HB)
Material Weig	ht: 0.821	(CAT HB)
Blade typ	be: 1.000	(PAT)
Net correction	on: 0.3680	
Adjusted unit production:	206.89 LCY/hr	
Adjusted fleet production:	413.78 LCY/hr	

JOB TIME AND COST

Fleet size:	2 Dozer(s)
Unit cost:	\$1.010/LCY

Total job time:	141.43 Hours
Total job cost:	\$59,092

Page 1 of 2

BULLDOZER WORK

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6

Task description:	Re-grade Plant Area			
Nahcolite Project	Permit Action:	SI-3	Permit/Job#:	M1983194
PROJECT IDENTIFIC	CATION			
Task #: 04A	State: Colorado		A hhan intinu	Nama
Date: $\frac{04A}{8/27/2014}$	County: Rio Blanco)	Abbreviation: Filename:	None SI-3
User: THM			i nename.	
Agency or organi	zation name: DRMS			
HOURLY EQUIPMEN	NT COST			
	D8T - 8SU			
Horsepower: 310				
	i-Universal			
Attachment: NA				
	r day			
Data Source: (CR	(i			
Cost Breakdown:	1	I Itilization 0/		
Ownership Cost/Hour:	\$62.67	Utilization % NA		
Operating Cost/Hour:	\$108.22	100		
Ripper op. Cost/Hour:	\$0.00	0		
Operator Cost/Hour:	\$38.01	NA		
	\$50.01	INA		
Total unit Cost/Hour:	\$208.90			
Total Fleet Cost/Hour:	\$417.81			
MATERIAL QUANTI	TIES			
Initial Volume: 19,68	2			
Swell factor: 1.110				
Loose volume: 21,84	7 LCY			
Source of estimated volum	e: Division of Reclamati	on. Mining & Safety		
Source of estimated swell		on, mining & buildy	·	
HOURLY PRODUCT	ION			
Average push distance:	150 feet			
Unadjusted hourly product				
Materials consistency desc	cription: Compacted fill or e	mbankment 0.9		
Average push gradient:	-5 %			
Average site altitude:	6,600 feet			
Material weight:	2,800 lbs/LCY			
	Clay - Natural bed			
Weight description:	Chay Matanar bed			
Job Condition Correction	Factor	Source		
Job Condition Correction Operator S	F <u>actor</u> kill: 0.750	(AVG.)		
Job Condition Correction	Factor kill: 0.750 ncy: 0.900			

Balldozer Worksheet Cont'd

Task # 04A

1.000	(AVG.)
0.830	(1 SHIFT/DAY)
0.800	(FND-RF)
1.115	(CAT HB)
1.000	(CAT HB)
0.821	(CAT HB)
1.000	(PAT)
0.4103	
0 25 LCY/hr	
	0.800 1.115 1.000 0.821 1.000

JOB TIME AND COST

Adjusted fleet production:

Fleet size:	2 Dozer(s)	
Unit cost:	\$0.803/LCY	

520.5 LCY/hr

Total job time:	41.97 Hours
Total job cost:	\$17,537

Page 1 of 2

BULLDOZER WORK

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	Damate A at	CI 2	B 1.47 F 4	1/100010:
Nahcolite Project	Permit Action:	51-3	Permit/Job#:	M1983194
PROJECT IDENTIFI	[CATION			
Task #: 05A	State: Colorado		Abbreviation:	None
Date: 8/27/2014	County: Rio Blanc	0	Filename:	SI-3
User: THM			-	
Agency or organ	nization name: DRMS			
HOURLY EQUIPME	NT COST			
Basic Machine: Cat	D8T - 8SU			
Horsepower: 310	1			
	ni-Universal			
Attachment: NA				
	er day			
Data Source: (CR	(G)			
Cost Breakdown:		Utilization %		
Ownership Cost/Hour:	\$62.67	NA		
Operating Cost/Hour:	\$108.22	100		
Ripper op. Cost/Hour:	\$0.00	0		
Operator Cost/Hour:	\$38.01	NA		
Total unit Cost/Hour:	\$208.90			
Total Fleet Cost/Hour:	\$417.81			
MATERIAL QUANT	<u>'ITIES</u>			
VALUE VUANT				
-	47			
Initial Volume:74,54				
Initial Volume:74,54 Swell factor:111	0			
Initial Volume: 74,54 Swell factor: 1.111 Loose volume: 82, 74	0 47 LCY			
Initial Volume: 74,54 Swell factor: 1.110 Loose volume: 82,74 Source of estimated volum	0 47 LCY me:Division of Reclamat	tion, Mining & Safety		
Initial Volume: 74,54 Swell factor: 1.111 Loose volume: 82, 74	0 47 LCY me:Division of Reclamat	tion, Mining & Safety		
Initial Volume: 74,54 Swell factor: 1.110 Loose volume: 82,74 Source of estimated volum Source of estimated swell	0 47 LCY me: Division of Reclamat l factor: Cat Handbook	tion, Mining & Safety		
Initial Volume: 74,54 Swell factor: 1.110 Loose volume: 82,74 Source of estimated volum	0 47 LCY me: Division of Reclamat l factor: Cat Handbook	tion, Mining & Safety		
Initial Volume: 74,54 Swell factor: 1.110 Loose volume: 82,74 Source of estimated volur Source of estimated swell HOURLY PRODUCT Average push distance:	0 47 LCY me: Division of Reclamat l factor: Cat Handbook <u>FION</u> _75 feet	tion, Mining & Safety		
Initial Volume: 74,54 Swell factor: 1.110 Loose volume: 82,74 Source of estimated volur Source of estimated swell HOURLY PRODUCT	0 47 LCY me: Division of Reclamat l factor: Cat Handbook FION 75 feet	tion, Mining & Safety		
Initial Volume: 74,54 Swell factor: 1.110 Loose volume: 82,74 Source of estimated volur Source of estimated swell HOURLY PRODUCT Average push distance:	0 47 LCY me: Division of Reclamat l factor: Cat Handbook FION 75 feet ction: 1,017.1 LCY/hr			
Initial Volume: 74,54 Swell factor: 1.110 Loose volume: 82,74 Source of estimated volur Source of estimated swell HOURLY PRODUCT Average push distance: Unadjusted hourly product	0 47 LCY me: Division of Reclamat l factor: Cat Handbook FION 75 feet ction: 1,017.1 LCY/hr scription: Partly consolidated			
Initial Volume: 74,54 Swell factor: 1.111 Loose volume: 82,74 Source of estimated volur Source of estimated swell HOURLY PRODUCT Average push distance: Unadjusted hourly product Materials consistency des Average push gradient:	0 47 LCY me: Division of Reclamat 1 factor: Cat Handbook TION 75 feet ction: 1,017.1 LCY/hr scription: Partly consolidated 5 %			
Initial Volume: 74,54 Swell factor: 1.110 Loose volume: 82,74 Source of estimated volur Source of estimated swell HOURLY PRODUCT Average push distance: Unadjusted hourly product	0 47 LCY me: Division of Reclamat l factor: Cat Handbook FION 75 feet ction: 1,017.1 LCY/hr scription: Partly consolidated			
Initial Volume: 74,54 Swell factor: 1.111 Loose volume: 82,74 Source of estimated volur Source of estimated swell HOURLY PRODUCT Average push distance: Unadjusted hourly product Materials consistency des Average push gradient:	0 47 LCY me: Division of Reclamat 1 factor: Cat Handbook TION 75 feet ction: 1,017.1 LCY/hr scription: Partly consolidated 5 %			
Initial Volume: 74,54 Swell factor: 1.110 Loose volume: 82,74 Source of estimated volum Source of estimated swell HOURLY PRODUCT Average push distance: Unadjusted hourly product Materials consistency des Average push gradient: Average site altitude:	0 47 LCY me: Division of Reclamat l factor: Cat Handbook FION 75 feet ction: 1,017.1 LCY/hr scription: Partly consolidated 5 % 6,600 feet			
Initial Volume: 74,54 Swell factor: 1.111 Loose volume: 82,74 Source of estimated volur Source of estimated swell HOURLY PRODUCT Average push distance: Unadjusted hourly product Materials consistency des Average push gradient: Average site altitude: Material weight: Weight description:	0 47 LCY me: Division of Reclamat l factor: Cat Handbook FION 75 feet 1,017.1 LCY/hr scription: Partly consolidated 5 % 6,600 feet 2,800 lbs/LCY Clay - Natural bed	l stockpile 1.1		
Initial Volume: 74,54 Swell factor: 1.111 Loose volume: 82,74 Source of estimated volur Source of estimated swell HOURLY PRODUCT Average push distance: Unadjusted hourly product Materials consistency des Average push gradient: Average site altitude: Material weight: Weight description: Job Condition Correction	0 47 LCY me: Division of Reclamat l factor: Cat Handbook FION 75 feet 1,017.1 LCY/hr scription: Partly consolidated 5% 6,600 feet 2,800 lbs/LCY Clay - Natural bed 1 Factor	l stockpile 1.1 Source		
Initial Volume: 74,54 Swell factor: 1.111 Loose volume: 82,74 Source of estimated volur Source of estimated swell HOURLY PRODUCT Average push distance: Unadjusted hourly product Materials consistency des Average push gradient: Average site altitude: Material weight: Weight description:	0 47 LCY me: Division of Reclamat l factor: Cat Handbook FION 75 feet ction: 1,017.1 LCY/hr scription: Partly consolidated 5 % 6,600 feet 2,800 lbs/LCY Clay - Natural bed h Factor Skill: 0.750	l stockpile 1.1		

Bulldozer Worksheet Cont'd

Task # 05A

Visibili		1.000	(41/0)
Visibili		1.000	(AVG.)
Job efficien	cy:	0.830	(1 SHIFT/DAY)
Spoil pi	ile:	0.800	(FND-RF)
Push gradie	ent:	0.903	(CAT HB)
Altitu	de:	1.000	(CAT HB)
Material Weig	,ht:	0.821	(CAT HB)
Blade ty	pe:	1.000	(PAT)
Net correction	on:	0.4061	
Adjusted unit production:	413	.04 LCY/hr	
Adjusted fleet production:		826.08 LCY/hr	
	-		

JOB TIME AND COST

Fleet size:	2 Dozer(s)	
Unit cost:	\$0.506/LCY	

Total job time:	100.17 Hours
Total job cost:	\$41,851

BULLDOZER WORK

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8

Nahcolite Project	Permit Action:	SI-3	Permit/Job#:	M1983194
PROJECT IDENTIF	ICATION			
Task #: 06A	State: Colorado		Abbreviation:	None
Date: 8/27/2014	County: Rio Blance)	Filename:	SI-3
User: THM			-	
Agency or organ	nization name: DRMS			
HOURLY EQUIPME	CNT COST			
Basic Machine: Cat	D8T - 8SU			
Horsepower: 310				
<i>v</i> 1	ni-Universal			
Attachment: NA				
	er day			
Data Source: (CI	RG)			
Cost Breakdown:		(
Oursell's O 1/11	\$ (2)	Utilization %		
Ownership Cost/Hour:	\$62.67	NA		
Operating Cost/Hour:	\$108.22	100		
Ripper op. Cost/Hour:	\$0.00	0		
Operator Cost/Hour:	\$38.01	NA		
Fotal unit Cost/Hour:	\$208.90			
Total Fleet Cost/Hour:	\$417.81			
MATERIAL QUANI	<u>ITIES</u>			
Initial Volume: 6,45	3			
Initial Volume: 6,45 Swell factor: 1.00				
Swell factor: 1.00				
Swell factor:1.00Loose volume:6,45	0 3 LCY	ion Mining & Safaty		
Swell factor: 1.00 Loose volume: 6,45 Source of estimated volu	0 3 LCY me: Division of Reclamat	ion, Mining & Safety		
Swell factor:1.00Loose volume:6,45	0 3 LCY me: Division of Reclamat	ion, Mining & Safety		
Swell factor: 1.00 Loose volume: 6,45 Source of estimated volu Source of estimated swel	0 3 LCY me: Division of Reclamat l factor: Cat Handbook	ion, Mining & Safety		
Swell factor: 1.00 Loose volume: 6,45 Source of estimated volu Source of estimated swel	0 3 LCY me: Division of Reclamat l factor: Cat Handbook TION	ion, Mining & Safety		
Swell factor: 1.00 Loose volume: 6,45 Source of estimated volu Source of estimated swel HOURLY PRODUC	0 3 LCY me: Division of Reclamat 1 factor: Cat Handbook <u>TION</u> 150 feet	ion, Mining & Safety		
Swell factor: 1.00 Loose volume: 6,45 Source of estimated volu Source of estimated swel	0 3 LCY me: Division of Reclamat 1 factor: Cat Handbook <u>TION</u> 150 feet	ion, Mining & Safety		
Swell factor: 1.00 Loose volume: 6,45 Source of estimated volu Source of estimated swel HOURLY PRODUC	0 3 LCY me: Division of Reclamat l factor: Cat Handbook <u>FION</u> 150 feet ction: 634.3 LCY/hr			
Swell factor: 1.00 Loose volume: 6,45 Source of estimated volu Source of estimated swel HOURLY PRODUC Average push distance: Unadjusted hourly produ Materials consistency de	0 3 LCY me: Division of Reclamat 1 factor: Cat Handbook TION 150 feet ction: 634.3 LCY/hr scription: Loose stockpile 1.2			
Swell factor: 1.00 Loose volume: 6,45 Source of estimated volu Source of estimated swel HOURLY PRODUC Average push distance: Unadjusted hourly produ Materials consistency de Average push gradient:	0 3 LCY me: Division of Reclamat 1 factor: Cat Handbook TION 150 feet ction: 634.3 LCY/hr scription: Loose stockpile 1.2 0 %			
Swell factor: 1.00 Loose volume: 6,45 Source of estimated volu Source of estimated swel HOURLY PRODUC Average push distance: Unadjusted hourly produ Materials consistency de	0 3 LCY me: Division of Reclamat 1 factor: Cat Handbook TION 150 feet ction: 634.3 LCY/hr scription: Loose stockpile 1.2			
Swell factor: 1.00 Loose volume: 6,45 Source of estimated volu Source of estimated swel HOURLY PRODUC Average push distance: Unadjusted hourly produ Materials consistency de Average push gradient:	0 3 LCY me: Division of Reclamat 1 factor: Cat Handbook TION 150 feet ction: 634.3 LCY/hr scription: Loose stockpile 1.2 0 %			
Swell factor: 1.00 Loose volume: 6,45 Source of estimated volu Source of estimated swel HOURLY PRODUC Average push distance: Unadjusted hourly produ Materials consistency de Average push gradient: Average site altitude:	0 3 LCY me: Division of Reclamat 1 factor: Cat Handbook TION 150 feet ction: 634.3 LCY/hr scription: Loose stockpile 1.2 0 % 6,600 feet			
Swell factor: 1.00 Loose volume: 6,45 Source of estimated volu Source of estimated swell HOURLY PRODUC' Average push distance: Unadjusted hourly produ Materials consistency de Average push gradient: Average site altitude: Material weight: Weight description:	0 3 LCY me: Division of Reclamat l factor: Cat Handbook TION 150 feet ction: 634.3 LCY/hr scription: Loose stockpile 1.2 0 % 6,600 feet 1,600 lbs/LCY Top Soil			
Swell factor: 1.00 Loose volume: 6,45 Source of estimated volu Source of estimated swel HOURLY PRODUC Average push distance: Unadjusted hourly produ Materials consistency de Average push gradient: Average site altitude: Material weight:	0 3 LCY me: Division of Reclamat l factor: Cat Handbook TION 150 feet ction: 634.3 LCY/hr scription: Loose stockpile 1.2 0 % 6,600 feet 1,600 lbs/LCY Top Soil n Factor			
Swell factor: 1.00 Loose volume: 6,45 Source of estimated volu Source of estimated swell HOURLY PRODUC Average push distance: Unadjusted hourly produ Materials consistency de Average push gradient: Average site altitude: Material weight: Weight description: Job Condition Correction	0 3 LCY me: Division of Reclamat l factor: Cat Handbook TION 150 feet ction: 634.3 LCY/hr scription: Loose stockpile 1.2 0 % 6,600 feet 1,600 lbs/LCY Top Soil 1 Factor Skill: 0.750	Source		

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Task # 06A

Visibili	ty: 1.000	(AVG.)
Job efficience	cy: 0.830	(1 SHIFT/DAY)
Spoil pi	le: 0.800	(FND-RF)
Push gradie	nt: 1.000	(CAT HB)
Altituc	le: 1.000	(CAT HB)
Material Weig	ht: 1.438	(CAT HB)
Blade typ	be: 1.000	(PAT)
Net correction	on: 0.8593	
Adjusted unit production:	545.05 LCY/hr	
Adjusted fleet production:	1090.1 LCY/hr	

JOB TIME AND COST

Fleet size:	2 Dozer(s)	
Unit cost:	\$0.383/LCY	

Total job time:	5.92 Hours
Total job cost:	\$2,473

Page 1 of 2

BULLDOZER WORK

4

Nahcolite Project	Permit Action:	SI-3	Permit/Job#:	M1983194
PROJECT IDENTIFIC	CATION			
Task #: 07A	State: Colorado		Abbreviation:	None
Date: 8/27/2014	County: Rio Blanc	0	Filename:	SI-3
User: THM				
Agency or organi	zation name: DRMS			
HOURLY EQUIPMEN	NT COST			
Basic Machine: Cat I	D8T - 8SU			
Horsepower: 310				
	i-Universal			
Attachment: NA				
Shift Basis: 1 per				
Data Source: (CR)	G)			
Cost Breakdown:				
		Utilization %		
Ownership Cost/Hour:	\$62.67	NA		
Operating Cost/Hour: Ripper op. Cost/Hour:	\$108.22 \$0.00	100		
Operator Cost/Hour:	\$38.01			
	\$30.01	NA		
Total unit Cost/Hour:	\$208.90			
-	\$208.90			
Total unit Cost/Hour: Total Fleet Cost/Hour:	\$208.90 \$417.81			
Total Fleet Cost/Hour:	\$417.81			
-	\$417.81			
Total Fleet Cost/Hour:	\$417.81 ITIES			
Total Fleet Cost/Hour:	\$417.81			
Total Fleet Cost/Hour: <u>MATERIAL QUANTI</u> Initial Volume: 5,000 Swell factor: 1.000	\$417.81			
Total Fleet Cost/Hour: MATERIAL QUANTI Initial Volume: 5,000 Swell factor: 1.000 Loose volume: 5,000	\$417.81 [TIES LCY	ion Mining & Safety		
Total Fleet Cost/Hour: MATERIAL QUANTI Initial Volume: 5,000 Swell factor: 1.000 Loose volume: 5,000 Source of estimated volume	\$417.81 THES LCY ne:Division of Reclamation	tion, Mining & Safety		
Total Fleet Cost/Hour: MATERIAL QUANTI Initial Volume: 5,000 Swell factor: 1.000 Loose volume: 5,000 Source of estimated volum	\$417.81 THES LCY ne:Division of Reclamation	tion, Mining & Safety		
Total Fleet Cost/Hour: MATERIAL QUANTI Initial Volume: 5,000 Swell factor: 1.000 Loose volume: 5,000 Source of estimated volum Source of estimated swell	\$417.81 TTIES LCY he: Division of Reclamate factor: Cat Handbook	tion, Mining & Safety		
Total Fleet Cost/Hour: MATERIAL QUANTI Initial Volume: 5,000 Swell factor: 1.000 Loose volume: 5,000 Source of estimated volum Source of estimated volum Source of estimated swell HOURLY PRODUCT	\$417.81 THES LCY he: Division of Reclamate factor: Cat Handbook HON	tion, Mining & Safety		
Total Fleet Cost/Hour: MATERIAL QUANTI Initial Volume: 5,000 Swell factor: 1.000 Loose volume: 5,000 Source of estimated volum Source of estimated swell HOURLY PRODUCT Average push distance:	\$417.81 TTIES LCY he: Division of Reclamat factor: Cat Handbook TON 150 feet	tion, Mining & Safety		
Total Fleet Cost/Hour: MATERIAL QUANTI Initial Volume: 5,000 Swell factor: 1.000 Loose volume: 5,000 Source of estimated volum Source of estimated swell HOURLY PRODUCT Average push distance:	\$417.81 TTIES LCY he: Division of Reclamat factor: Cat Handbook TON 150 feet	tion, Mining & Safety		
Total Fleet Cost/Hour: MATERIAL QUANTI Initial Volume: 5,000 Swell factor: 1.000 Loose volume: 5,000 Source of estimated volum Source of estimated swell HOURLY PRODUCT Average push distance: Unadjusted hourly product	\$417.81 (THES 0 1 0			
Total Fleet Cost/Hour: MATERIAL QUANTI Initial Volume: 5,000 Swell factor: 1.000 Loose volume: 5,000 Source of estimated volum Source of estimated volum Source of estimated swell HOURLY PRODUCT Average push distance: Unadjusted hourly product Materials consistency desc	\$417.81 ITIES Division of Reclamate Division of Reclamate factor: Division of Reclamate factor: Cat Handbook ION 150 feet tion: 634.3 LCY/hr cription: Loose stockpile 1.2			
Total Fleet Cost/Hour: MATERIAL QUANTI Initial Volume: 5,000 Swell factor: 1.000 Loose volume: 5,000 Source of estimated volum Source of estimated volum Source of estimated swell HOURLY PRODUCT Average push distance: Unadjusted hourly produc Materials consistency desc Average push gradient:	\$417.81 ITIES DLCY he: Division of Reclamate factor: Cat Handbook ION 150 feet tion: 634.3 LCY/hr cription: Loose stockpile 1.2 0 %			
Total Fleet Cost/Hour: MATERIAL QUANTI Initial Volume: 5,000 Swell factor: 1.000 Loose volume: 5,000 Source of estimated volum Source of estimated volum Source of estimated swell HOURLY PRODUCT Average push distance: Unadjusted hourly product Materials consistency desc	\$417.81 ITIES Division of Reclamate Division of Reclamate factor: Division of Reclamate factor: Cat Handbook ION 150 feet tion: 634.3 LCY/hr cription: Loose stockpile 1.2			
Total Fleet Cost/Hour: MATERIAL QUANTI Initial Volume: 5,000 Swell factor: 1.000 Loose volume: 5,000 Source of estimated volum Source of estimated volum Source of estimated swell HOURLY PRODUCT Average push distance: Unadjusted hourly produc Materials consistency desc Average push gradient:	\$417.81 ITIES DLCY he: Division of Reclamate factor: Cat Handbook ION 150 feet tion: 634.3 LCY/hr cription: Loose stockpile 1.2 0 %			
Total Fleet Cost/Hour: MATERIAL QUANTI Initial Volume: 5,000 Swell factor: 1.000 Loose volume: 5,000 Source of estimated volum Source of estimated volum Source of estimated swell HOURLY PRODUCT Average push distance: Unadjusted hourly product Materials consistency desc Average push gradient: Average site altitude:	\$417.81 ITIES 0 0 0 1 1 50 1 <tr< td=""><td></td><td></td><td></td></tr<>			
Total Fleet Cost/Hour: MATERIAL QUANTI Initial Volume: 5,000 Swell factor: 1.000 Loose volume: 5,000 Source of estimated volum Source of estimated volum Source of estimated swell HOURLY PRODUCT Average push distance: Unadjusted hourly product Materials consistency desc Average push gradient: Average site altitude: Material weight: Weight description:	\$417.81 ITIES Division of Reclamate Division of Reclamate factor: Division of Reclamate factor: Cat Handbook ION 150 feet tion: 634.3 LCY/hr cription: Loose stockpile 1.3 0 % 6,600 feet 1,600 lbs/LCY Top Soil	2		
Total Fleet Cost/Hour: MATERIAL QUANTI Initial Volume: 5,000 Swell factor: 1.000 Loose volume: 5,000 Source of estimated volum Source of estimated volum Source of estimated swell HOURLY PRODUCT Average push distance: Unadjusted hourly product Materials consistency desc Average site altitude: Material weight: Weight description: Job Condition Correction	\$417.81 ITIES PLCY he: Division of Reclamate factor: Cat Handbook ION 150 feet tion: 634.3 LCY/hr cription: Loose stockpile 1.3 0 % 6,600 feet 1,600 lbs/LCY Top Soil Factor	2 2 Source		
Total Fleet Cost/Hour: MATERIAL QUANTI Initial Volume: 5,000 Swell factor: 1.000 Loose volume: 5,000 Source of estimated volum Source of estimated volum Source of estimated swell HOURLY PRODUCT Average push distance: Unadjusted hourly product Materials consistency desc Average push gradient: Average site altitude: Material weight: Weight description:	\$417.81 ITIES Division of Reclamate Division of Reclamate factor: Division of Reclamate factor: Cat Handbook ION ISO feet tion: 634.3 LCY/hr cription: Loose stockpile 1.3 0 % 6,600 feet 1,600 lbs/LCY Top Soil Factor 0.750	2		

,

Task # 07A

Altitude:1.000(CAT HB)Material Weight:1.438(CAT HB)Blade type:1.000(PAT)	Push gradie		(CAT HB)
	-		
Blade type: 1.000 (PAT)	Diade typ	1.000	(FAI)

JOB TIME AND COST

Fleet size:	2 Dozer(s)	
Unit cost:	\$0.383/LCY	_

Total job time:	4.59 Hours
Total job cost:	\$1,916

BULLDOZER WORK

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Nahcolite Project	Permit Action:	SI-3	_ Permit/Job#:	M1983194
PROJECT IDENTIF	ICATION			
Task #: 08A	State: Colorado		Abbreviation:	None
Date: 8/27/2014	County: Rio Bland	00	Filename:	SI-3
User: THM			-	
Agency or orga	nization name: DRMS			
HOURLY EQUIPMI	ENT COST			
Basic Machine: Ca	t D8T - 8SU			
Horsepower: 31				
	mi-Universal			
Attachment: NA	A			
Shift Basis: 1 F	ber day			
Data Source: (C	RG)			
Cost Breakdown:		Litilization 0/		
Ownership Cost/Hour:	\$62.67	Utilization % NA		
Operating Cost/Hour:	\$108.22	100		
Ripper op. Cost/Hour:	\$0.00	0	2 mil 143	
Operator Cost/Hour:	\$38.01	NA	10	
		1112		
Total unit Cost/Hour:	\$208.90			
Total Fleet Cost/Hour:	\$417.81			
MATEDIAL OHAN	TITIES			
MATERIAL QUAN	TITIES			
Initial Volume:28,	394			
Initial Volume: 28, Swell factor: 1.00	394			
Initial Volume: 28, Swell factor: 1.00	394			
Initial Volume: 28, Swell factor: 1.00	394 00 394 LCY	ition, Mining & Safety		
Initial Volume: 28, Swell factor: 1.00 Loose volume: 28,	394 00 394 LCY 1me: Division of Reclama	tion, Mining & Safety		
Initial Volume: 28, Swell factor: 1.00 Loose volume: 28, Source of estimated volu	394 00 394 LCY 1me:Division of Reclama	ition, Mining & Safety		
Initial Volume: 28, Swell factor: 1.00 Loose volume: 28, Source of estimated volu Source of estimated swe	394 00 394 LCY ume: Division of Reclama Il factor: Cat Handbook	tion, Mining & Safety		
Initial Volume: 28, Swell factor: 1.00 Loose volume: 28, Source of estimated volu Source of estimated swe	394 00 394 LCY ume: Division of Reclama Il factor: Cat Handbook	ition, Mining & Safety		
Initial Volume: 28, Swell factor: 1.00 Loose volume: 28, Source of estimated volu Source of estimated swe HOURLY PRODUC	394 00 394 LCY ume: Division of Reclama Il factor: Cat Handbook	ition, Mining & Safety		
Initial Volume: 28, Swell factor: 1.00 Loose volume: 28, Source of estimated volu Source of estimated swe HOURLY PRODUC Average push distance: Unadjusted hourly produ	394 00 394 LCY ume: Division of Reclama Il factor: Cat Handbook CTION 100 feet uction: 852.6 LCY/hr			
Initial Volume: 28, Swell factor: 1.00 Loose volume: 28, Source of estimated volu Source of estimated swe HOURLY PRODUC	394 00 394 LCY ume: Division of Reclama Il factor: Cat Handbook CTION 100 feet uction: 852.6 LCY/hr			
Initial Volume: 28, Swell factor: 1.00 Loose volume: 28, Source of estimated volu Source of estimated swe HOURLY PRODUC Average push distance: Unadjusted hourly produ	394 00 394 LCY ume: Division of Reclama Il factor: Cat Handbook CTION 100 feet uction: 852.6 LCY/hr			
Initial Volume: 28, Swell factor: 1.00 Loose volume: 28, Source of estimated volu Source of estimated swe HOURLY PRODUC Average push distance: Unadjusted hourly produ	394 00 394 LCY ume: Division of Reclama Il factor: Cat Handbook TION uction: 100 feet secription: Loose stockpile 1.			
Initial Volume: 28, Swell factor: 1.00 Loose volume: 28, Source of estimated volu Source of estimated swe HOURLY PRODUC Average push distance: Unadjusted hourly produ Materials consistency de Average push gradient: Average site altitude:	394 00 394 LCY Ime: Division of Reclama Il factor: Cat Handbook TION 100 feet uction: 852.6 LCY/hr escription: Loose stockpile 1. 0 %			
Initial Volume: 28, Swell factor: 1.00 Loose volume: 28, Source of estimated volu Source of estimated swe HOURLY PRODUC Average push distance: Unadjusted hourly produ Materials consistency de Average push gradient:	394 00 394 LCY Ime: Division of Reclama Il factor: Cat Handbook TION 100 feet uction: 852.6 LCY/hr escription: Loose stockpile 1. 0 %			
Initial Volume: 28, Swell factor: 1.00 Loose volume: 28, Source of estimated volu Source of estimated swe HOURLY PRODUC Average push distance: Unadjusted hourly produ Materials consistency de Average push gradient: Average site altitude:	394 00 394 LCY ame: Division of Reclama 11 factor: Cat Handbook TION auction: 100 feet auction: 852.6 LCY/hr escription: Loose stockpile 1. 0 % 6,600 feet			
Initial Volume: 28, Swell factor: 1.00 Loose volume: 28, Source of estimated volu Source of estimated swe HOURLY PRODUC Average push distance: Unadjusted hourly produ Materials consistency de Average push gradient: Average site altitude: Material weight: Weight description:	394 00 394 LCY ame: Division of Reclama 11 factor: Cat Handbook 200 Cat Handbook 200 100 feet auction: 852.6 LCY/hr escription: Loose stockpile 1. 0 % 6,600 feet 2,100 lbs/LCY Earth - Loam	2		
Initial Volume: 28, Swell factor: 1.00 Loose volume: 28, Source of estimated volu Source of estimated swe HOURLY PRODUC Average push distance: Unadjusted hourly produ Materials consistency de Average push gradient: Average push gradient: Average site altitude: Material weight: Weight description: Job Condition Correctio	394 00 394 LCY ame: Division of Reclama 11 factor: Cat Handbook 200 Cat Handbook 200 State 100 feet 100 feet auction: 852.6 LCY/hr escription: Loose stockpile 1. 0 % 6,600 feet 2,100 lbs/LCY Earth - Loam on Factor State	2 2 		
Initial Volume: 28, Swell factor: 1.00 Loose volume: 28, Source of estimated volu Source of estimated swe HOURLY PRODUC Average push distance: Unadjusted hourly produ Materials consistency de Average push gradient: Average site altitude: Material weight: Weight description:	394 00 394 LCY ame: Division of Reclama 11 factor: Cat Handbook 2TION auction: 852.6 LCY/hr escription: Loose stockpile 1 0 % 6,600 feet 2,100 lbs/LCY Earth - Loam on Factor 0.750	2		

Bulldozer Worksheet Cont'd

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Task # 08A

\/:_:L:1:←	1.000	
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.095	(CAT HB)
Blade type:	1.000	(PAT)
Net correction:	0.6544	
Adjusted unit production: 55	57.94 LCY/hr	
Adjusted fleet production: 11	15.88 LCY/hr	

JOB TIME AND COST

Fleet size:	2 Dozer(s)
Unit cost:	\$0.374/LCY

Total job time:	25.45 Hours
Total job cost:	\$10,631

		BUL	LDOZER R	IPPING WOR	<u>K</u>		
	Task description:	Rip compacted	l areas				
Site:	Nahcolite Proje	ct P	ermit Action: _	SI-3	Perm	it/Job#:M19	83194
-	PROJECT IDEN	NTIFICATION					
	Task #: 09A	State			Abbrevi		
	Date: 8/27/ User: THM		Rio Blanco		File	name: SI-3	
			DRMS				
	HOURLY EQU	_					
	Basic M	achine: Cat D8T - 8S	U		Horsepower:	310	
	Ripper Attac			_	Shift Basis:	1 per day	
					Data Source:	(CRG)	
	Cost Breakdown:			ΙT	Jtilization %		
		Ownership Cost/Hour:	\$69		NA		
		Operating Cost/Hour:	\$108	3.22	100		
	Rippe	r Operating Cost/Hour: Operator Cost/Hour:	\$7.		100		
		Total Unit Cost/Hour:	\$38 \$222		NA		
		Total Fleet Cost/Hour:					
	MARTINIAL OF		\$445				
	MATERIAL QU		Sele	cted estimating m	nethod: Area	-	14
	Alternate Methods:	•					
Seismic:	NA		ank Volume:	NA	BCY	NA	
Area:	18.70		ip Depth (ft):	2.00	Volume: <u>60,3</u>	339	BCY or CC
		Source of estimated quar	ntity: Staff E	stimate			
	HOURLY PRO	DUCTION					
	Seismic:	0 - 1	-1'	214	C		
		Seismic V	elocity:	NA	feet/second	l	
	Area:	Average Ripping	Depth:	2.56	mph		
		Average Ripping		7.08	degrees		
		Average Ripping I	Length:	300.00	feet		
		Average Dozer		88.00	feet		
		Average Maneuve Production per ur		0.25	feet acres/hour		
	Job Condition Con	*		0.800			
			·	0.000			
	Una	djusted Hourly Unit Proc		0.800	Acres/hr		
	Una	djusted Hourly Unit Proc	ltitude:	6,600	feet		
	Unad	djusted Hourly Unit Proc Site A Altitu	ltitude: de Adj:	6,600 1.00	feet (CAT HB)		
	Una	djusted Hourly Unit Proc Site A Altitu Job Effi	ltitude: de Adj: ciency:	6,600 1.00 0.83	feet (CAT HB) (1 shift/day		
	Una	djusted Hourly Unit Proc Site A Altitu Job Effi Net Cor	ltitude: de Adj: ciency: rection:	6,600 1.00 0.83 0.83	feet (CAT HB) (1 shift/day multiplier		
	Una	djusted Hourly Unit Proc Site A Altitu Job Effi	ltitude: de Adj: ciency: rection: nit Production:	6,600 1.00 0.83	feet (CAT HB) (1 shift/day		
	JOB TIME ANI	djusted Hourly Unit Proc Site A Altitu Job Effi Net Cor Adjusted Hourly U Adjusted Hourly Fle	ltitude: de Adj: ciency: rection: nit Production:	6,600 1.00 0.83 0.83 0.66	feet (CAT HB) (1 shift/day multiplier Acres/hr		
		djusted Hourly Unit Proc Site A Altitu Job Effi Net Cor Adjusted Hourly U Adjusted Hourly Fle	ltitude: de Adj: ciency: rection: nit Production: eet Production:	6,600 1.00 0.83 0.83 0.66	feet (CAT HB) (1 shift/day multiplier Acres/hr Acres/hr	/)	Hours

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BULLDOZER WORK

a 11 B

Nahcolite Proje	et	Per	mit Action:	SI-3		Permit/Job#:	M1983194
ROJECT IDEN	TIFICATIO	<u>DN</u>					
Task #: 10A		State:	Colorado			Abbreviation:	None
Date: 8/27/	2014	County:	Rio Blanc)		Filename:	SI-3
User: THM							
Agency of	r organization i	name: DF	RMS				
IOURLY EQU	PMENT CO	<u>ST</u>					
Basic Machine:	Cat D8T - 8	SU					
Horsepower:	310						
Blade Type:	Semi-Unive	rsal					
Attachment:	NA						
Shift Basis:	l per day						
Data Source:	(CRG)						
<u>Cost Breakdown</u> :				* 7.**	1 07		
Ourombin Co-+/	Jour	¢() (7		<u>Uti</u>	lization %		
Ownership Cost/I		\$62.67 \$108.22		· · · · · · · · · · · · · · · · · · ·	NA		
Operating Cost/I Ripper op. Cost/I		\$108.22	2		100		
Operator Cost/I	10ur:	\$38.01			NA		
Total Fleet Cost/He		31					
Initial Volume:	15,053						
Swell factor:	1.000						
Loose volume:	15,053 LCY						
ource of estimate	l volume:	Division	of Reclamat	ion. Mining	& Safety		
Source of estimate		Cat Hand			co Surery		
IOURLY PRO	DUCTION						
Average push dista	nce:	100 feet					
Jnadjusted hourly		852.6 LCY	/hr				
Aaterials consister	cy description	Loose	stockpile 1.2				
Average push grad	ient: 0 %						
Average site altitud		feet					
-	1 (00	lbs/LCY					
Material weight:	1,000						
Material weight: Weight descriptior		oil					
-	: Top S	oil			Source		
Weight description	: Top S		0.750	1	Source (AVG.)		
Weight description ob Condition Cor Op Material	: Top S	0	.750				

63

Task # 10A

Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

732.64 LCY/hr	
1465.28 LCY/hr	
	732.64 LCY/hr 1465.28 LCY/hr

JOB TIME AND COST

Fleet size:	2 Dozer(s)	
Unit cost:	\$0.285/LCY	

Total job time:	10.27 Hours
Total job cost:	\$4,292

REVEGETATION WORK

: Nahcoli	te Project	Permit Action: SI-3	Permit/Job#:	M1983194
PROJEC	T IDENTIFI	CATION		
Task #:	11A	State: Colorado	Abbreviation:	None
Date:	8/27/2014	County: Rio Blanco	Filename:	SI-3
	THM			

FERTILIZING

an N M

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

Application

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

TILLING

Description		Cost /Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)		\$98.01
Weed control spraying (MEANS 31 31 16.13 3100)		\$145.20
	Total Tilling Cost/Acre	\$243.21

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Alkali Sacaton	0.10	3.90	\$2.28
Crested Wheatgrass - Ephraim	4.00	18.37	\$8.92
Blue Wildrye - Arlington or Elkton	1.50	5.17	\$17.88
Russian Wildrye - Bozoisky	1.50	6.03	\$9.36
Hard Fescue - Discovery	1.00	12.97	\$2.09
Pubescent Wheatgrass - Luna	1.50	3.10	\$3.36
Yellow Sweet Clover - Madrid	0.50	2.98	\$1.28
Tall Wheatgrass - Jose	1.80	3.26	\$4.05
Thickspike Wheatgrass - Critana	4.30	15.20	\$22.23
Sweetvetch, Utah or Northern	0.10	0.05	\$4.09

Reveg Worksheet Cont'd

Task # 11A

Page 2 of 2

Western Wheatgrass - Barton		1.50	3.79	\$5.52
Yarrow, Western		0.20	12.16	\$6.13
	Totals Seed Mix	18.00	86.97	\$87.18

Application

Description		Cost /Acre
Drill seeding (MEANS 32 92 19.13 0020)		\$404.00
	Total Seed Application Cost/Acre	© 40 4 00
	Total Seeu Application Cost/Acre	\$404.00

MULCHING and MISCELLANEOUS

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Herbicide - 2,4D @ 1.0 pt/ac	2.00	ACRE	\$1.23	\$2.46
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$265.00	\$530.00
Total Mulch Materials Cost/Acre				\$532.46

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$65.89
Power mulcher (MEANS 32 91 13.16 0250)		\$86.68
	Total Mulch Application Cost/Acre	\$152.57

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					\$
		То	tals Nursery Stoc	k Cost / Acre	\$0.00

JOB TIME AND COST

No. of Acres:		 Cost /Acre:		
	ed Failure Rate: ng Work Items:	 Cost /Acre*: IULCHING	\$1,419.42	
Initial Job Cost:				

\$31,408.93	
\$136,105	
73.76	
	\$136,105

Page 1 of 2

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description:	Мо	bilization					·	
Nahcolite Projec	:t	Permit A	Action:	SI-3		Per	mit/Job#: <u>M19</u>	83194
PROJECT IDEN	TIFICAT	ION						
Task #: 12A			lorado	`		A hbre	viation: None	
Date: $\frac{12A}{8/27/2}$	2014		o Blan				ename: SI-3	
User: THM			o Diun					
Agency or	organization	n name: DRMS						
EQUIPMENT T	RANSPOF	RT RIG COST						
						Shift bas	sis: 1 per da	W
						Cost Data Sour		
Truck	Tractor Desc	cription: GENI	ERIC	ON-HIGH			R, 6X4, DIESEL	POWERED,
Truck	Trailer Desc	ription: GENE	PIC F			(2ND HALF, 2	ECK EQUIPME	
TTUCK	Tallel Dest	Inpuoli. OENE	KIC I	OLDING		, 50T, AND 100		NI IKAILEK
					(251	, , , , , , , , , , , , , , , , , , , ,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
Cost Breakdown:								
Available Rig Cap	acities	0-25 Tons	26-	-50 Tons	51-	+ Tons		
Ownership (\$16.63			22.33			
Operating (Cost/Hour:	\$44.38	38 \$46.13		\$	50.07		
Operator (Cost/Hour:	\$27.66	9	\$27.66	\$	27.66		
Helper (Cost/Hour:	\$0.00	9	\$25.39	\$	25.39		
Total Unit (Cost/Hour:	\$88.67	\$	117.55	\$1	25.45		
NON ROADABI	LE EOUIP	MENT:						
Machine	Weight/	Owner ship	На	ıl Rig	Fleet	Haul Trip	Return Trip	DOT Permi
Description	Unit	Cost/hr/ unit		t/hr/unit	Size	Cost/hr/	Cost/hr/ fleet	Cost/ fleet
Description	(TONS)	COSUM/ unit		or m/ ume	SIZC	fleet		
Cat D8T - 8SU	53.08	\$65.28	\$12	5.45	2	\$381.46	\$250.90	\$500.00
Drill/Broadcast Seeder with Tractor	25.00	\$39.59	\$88		1	\$128.26	\$88.67	\$250.00
Power Mulcher (Reinco M90)	6.00	\$7.03	\$88	.67	1	\$95.70	\$88.67	\$250.00
				c	Subtotals:	\$605.42	\$428.24	\$1,000.00
				L.	subiolais.	3003.42	3420.24	\$1,000.00
ROADABLE EQ	JUIPMEN	<u>1:</u>						
Machine Description	n	Total Cost/hr/	unit	Fleet Siz	e	Haul Trip	Return Trip	
					-	Cost/hr/ fleet	Cost/hr/ flee	t
Light Duty Pickup, 4	x4, 3/4 T.	\$14.59		2		\$29.18	\$29.18	
			I		uhtotela			
				SI	ubtotals:	\$29.18	\$29.18	

Page 2 of 2

EQUIPMENT HAUL DISTANCE and Time

	RIFLE	Nearest Major City or Town within project area region:
miles	60.00	Total one-way travel distance:
mph	40.00	Average Travel Speed:
	\$6,311.82	Total Non-Roadable Mob/Demob Cost *
	\$87.54	Total Roadable Mob/Demob Cost ** ** one round trip, no haul rig:

Task # 12A

Transportation Cycle Time:

Mobilization Worksheet Cont'd

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	1.50	1.50
Return Time (Hours):	1.50	1.50
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	4.00	3.00

JOB TIME AND COST

Total job time: **8.00** Hours

Total job cost: \$6,399