

Department of Natural Resources

1313 Sherman Street, Room 215 Denver, CO 80203

June 17, 2019

Kirk Daehling Natural Soda LLC 3200 CR 31 Rifle, CO 81650

RE: Nacholite Project, Permit No. M-1983-194, Technical Revision (TR-43) Approval

Dear Mr. Daehling:

On June 17, 2019 the Division of Reclamation, Mining and Safety (Division) <u>approved</u> the Technical Revision request (TR-43) submitted on May 16, 2019, addressing the following:

Addition of 6 wells on 3 pads (15H-IR-E, 16H-IR-E, 17H-IR-E, 15H-1V, 16H-1V and 17H-1V)

The terms of the TR-43 approved by the Division are hereby incorporated into Permit No. M-1983-194. All other conditions and requirements of the permit remain in full force and effect.

Division calculations estimate the cost to reclaim the above referenced site to be \$57,521,565.00. This is an increase of \$91,812.00 over the \$7,429,753.00 currently held by the Division. Please review the enclosed figures as soon as possible and contact our office if any calculation errors are noted. The revision will not be final until the bond is approved by the Division.

Please make arrangements with Barbara Coria at the Division of Reclamation, Mining and Safety Denver Office, phone no. 303.866.3567, ext. 8148 for submittal of the financial warranty. Any questions regarding completion, execution and/or submittal of financial warranty forms should also be directed to Barbara Coria.

If you require additional information, or have questions or concerns, please feel free to contact me. Amy Yeldell at the Division of Reclamation, Mining and Safety, 1313 Sherman St., Room 215, Denver, CO 80203. Direct contact can be made by phone at 970-254-8511 or via email at amy.yeldell@ state.co.us

Sincerely,

Amy Yeldell

Environmental Protection Specialist



Enclosures:

TR-43 Reclamation Cost Estimate-Changes to Bond

TR-43 Reclamation Cost Estimate

TR-43 Adequacy Responses from Daub and Associates, Inc.

Ec:

Travis Marshall, Senior EPS, Grand Junction DRMS Paul Daggett, White River Field Office, BLM Gerry Deschaine, Natural Soda EH&S Manager Gerald Daub, Consultant



Department of Natural Resources

1313 Sherman Street, Room 215 Denver, CO 80203

June 3, 2019

Kirk Daehling Natural Soda LLC 3200 CR 31 Rifle, CO 81650

RE: Nacholite Project, Permit No. M-1983-194, TR-43 Reclamation Cost Estimate-Changes to Bond

Dear Mr. Daehling:

This reclamation cost update was in response to the technical revision request (TR-43) which was submitted on May 16, 2019 and a site inspection conducted on May 14, 2019. The Division is mandated to recalculate the reclamation cost estimate to ensure that the Financial Warranty adequately, reflects the actual current cost of fulfilling the requirements of the approved reclamation plan.

Below is a table summarizing input values that have been updated with technical revision (TR-43) as compared to previous technical revision (TR-42). This table does not account for price changes resulting from inflation or other RS Means cost changes. Bond calculations are based on a combination of field observations and worst case scenario based on the approved reclamation permit.

Task	Form Used	Change	Justification
02a	Borehole	+	Added 6 wells: 15H-1V, 15H-IR-E, 16H-IR-E, 17H-IR-E, 16H-1V and 17H-1V
			Removed 3 wells: 8H-I, 8H-R, and 13H-I
			61 wells @10 hrs to P&A each
05a	Dozer	+	Updated per D&A Repose 49 ac of pads requiring reclamation (Disturbed and Interim Reclamation)
			49 ac of well pads to be graded assume 2 ft. avg. cut/fill (158,107 CY)
05b	Dozer	+	49 ac of pads @ 6" depth (39,527 CY)



05c	Reveg	+	Reveg 49 ac, updated seeding cost
06a	Ripper	-	Updated per D&A Repose 6 ac of roads (disturbed and Interim Reclamation)
06b	Dozer	-	6 ac of roads @ 6" (4,840 CY)
06c	Reveg	-	Reveg 6 ac, updated seeding cost

Please feel free to contact me with any further questions. Amy Yeldell at the Division of Reclamation, Mining and Safety, 1313 Sherman St., Room 215, Denver, CO 80203. Direct contact can be made by phone at 970-254-8511 or via email at amy.yeldell@ state.co.us

Sincerely,

Amy Yeldell

Environmental Protection Specialist

Amy Geldell

COST SUMMARY WORK

Task descri	ption:	TR-43 update				
Site: Nahcolit	e Project	Per	mit Action:	TR-43	Permit/Job	o#: M1983194
PROJECT	IDENTIFIC	<u>CATION</u>				
Task #:	ACY	State:	Colorado		Abbreviation:	None
Date:	5/30/2019	County:	Rio Blanco)	Filename:	M194-ACY
User:	ACY					

TASK LIST (DIRECT COSTS)

Task		Form	Fleet	Task	
	Description	Used	Size	Hours	Cost
01a	Demo of Plant, pipelines, powerlines and parking	DEMOLISH	1	160.00	\$5,106,446
	lot		ļ		
02a	Borehole P&A	BOREHOLE	1	610.00	\$565,317
03a	Regrade Process Ponds	DOZER	2	133.65	\$55,729
03b	Decompact Process Pond	RIPPER	2	6.85	\$3,086
03c	Topsoil Process Pond	DOZER	2	14.06	\$5,863
03d	Reveg Process Pond	REVEGE	1	28.50	\$35,938
04a	Regrade Plant Area	DOZER	2	23.69	\$9,879
04b	Decompact Plant Area	RIPPER	2	7.02	\$3,163
04c	Topsoil Plant Area	DOZER	2	6.07	\$2,530
04d	Reveg Plant Area	REVEGE	1	12.30	\$15,510
05a	Regrade Well Pads	DOZER	2	176.58	\$73,630
05b	Topsoil Well Pads	DOZER	2	36.26	\$15,120
05c	Reveg Well Pads	REVEGE	1	73.50	\$92,683
06a	Decompact Roads	RIPPER	2	4.82	\$2,175
06b	Topsoil roads	DOZER	2	4.44	\$1,851
06c	Reveg Roads	REVEGE	1	9.00	\$11,349
12a	Initial Mobilization	MOBILIZE	1	8.00	\$14,224
12b	Secondary Mobilization	MOBILIZE	1	8.00	\$2,742
		SUBTO	TALS:	1322.74	\$6,017,235

INDIRECT COSTS

OVERHEAD AND PROFIT:

 Liability insurance:
 2.02 Total =
 \$121,548

 Performance bond:
 1.05 Total =
 \$63,181

 Job superintendent:
 661.37 Total =
 \$48,313

 Profit:
 10.00 Total =
 \$601,724

TOTAL O & P = \$834,766 CONTRACT AMOUNT (direct + O & P) = \$6,852,001

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs):	\$500	Total =	\$500
Engineering work and/or contract/bid preparation:	4.00	Total =	\$274,080
Reclamation management and/or administration:	3.13		\$214,468
CONTINGENCY:	3.00	Total =	\$180,517
		TOTAL INDIRECT COST =	\$1,504,330

TOTAL BOND AMOUNT (direct + indirect) = __\$7,521,565

DEMOLITION WORK

Site:	Nahcolite Project		Permit Action:	TR-43	Permit/J	Job#: <u>M198</u>	3194
ROJEC	CT IDENTIFICATIO	<u>ON</u>					
Task #:	01A	State:	Colorado		Abbreviation:	None	
Date:	5/30/2019	County:	Rio Blanco		Filename:	M194-01a	
User:	ACY						

<u>UNIT COSTS</u> <u>Location adjustment: 95.50 %</u>

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./off-site disposal in approved landfill - Max. 30 mile haul	1,750,000.00	CF	\$0.70	\$1,221,500.00
Product Storage Dome	100'L x 100'W x 50'H	Plant (3S) demo./off-site disposal in approved landfill - Max. 30 mile haul	500,000.00	CF	\$0.70	\$349,000.00
Removal of NSI Plant Slab	200'L x 175'W x 8"	Demo. and on-site disposal in excavated pit, 8 in. thick - Max. 200 ft. push	35,000.00	SF	\$1.14	\$39,830.00
Removal of Storage Dome Slab	100'L x 100'W x8"	Demo. and on-site disposal in excavated pit, 8 in. thick - Max. 200 ft. push	10,000.00	SF	\$1.14	\$11,380.00
Scale Building	20'W x 100'L x 10'H	Plant (1S) demo./off-site disposal in approved landfill - Max. 30 mile haul	30,000.00	CF	\$0.70	\$21,000.00
Removal of Scale Building Slab	20'W x 100'L x 6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	2,000.00	SF	\$0.85	\$1,706.00
Tank Farm	30'W x 50'H	Haul tank to certified salvage dump - 3,000 to 5,000 gal. tank	5.00	EA	\$760.00	\$3,800.00
Removal of Flagpole/Monument	70 SqFt	USER PROVIDED ITEM	70.00	Ft^2	\$5.00	\$350.00
TR-36 Processing Building 1	165' x 79' x 60'	Plant (3S) demo./off-site disposal in approved landfill - Max. 30 mile haul	782,100.00	CF	\$0.70	\$545,905.80
TR-36 Processing Building 2	105' x 36' x 170'	Plant (3S) demo./off-site disposal in approved landfill - Max. 30 mile haul	642,600.00	CF	\$0.70	\$448,534.80
TR-36 Dry handling, Screening and Storage	90' x 65' x 160'	Plant (3S) demo./off-site disposal in approved landfill - Max. 30 mile haul	936,000.00	CF	\$0.70	\$653,328.00
TR-36 Warehouse and Packaging Building	400' x 150' x 22'	Plant (3S) demo./off-site disposal in approved landfill - Max. 30 mile	273,000.00	CF	\$0.70	\$190,554.00

Demo Worksheet Cont'd Task # TTT Page 2 of 2

		haul				
TR-36 Warehouse Building	400' x 150' x 22'	Plant (1C) demo./off-site disposal in approved landfill - Max. 30 mile haul	1,320,000.00	CF	\$0.79	\$1,038,840.00
TR-36 Removal of concrete foundations	101285 sq. ft,	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	101,285.00	SF	\$0.85	\$86,396.11
TR-36 Asphalt Parking Removal	133' x 182'	Pavement, bituminous, demolition only - 4 in. to 6 in. thick	897.00	SY	\$7.00	\$6,279.00
Off Site removal of asphalt-Loading	12,103 CuFt	Loading and 2 mile haul, no salvage - Machine loading	448.00	CY	\$17.20	\$7,705.60
Off site removal of asphalt-Hauling	448 CY @ 19 mi a trip	Hauling only, per mile, 12-18 CY truck - 50 mph average speed	473.00	MI	\$3.08	\$1,456.84
Off site removal of asphalt-dump fee	448 CY	Dump fees - Building construction materials.	448.00	CY	\$11.10	\$4,972.80
Demolition of Screening and Magnet System	120' x 160' x 40'	Plant (3S) demo./off-site disposal in approved landfill - Max. 30 mile haul	672,000.00	CF	\$0.70	\$469,056.00
Pipelines averaged to 10" diam	36, 050 LF	Pipe, steel, welded connections - 10 in. diameter pipe	36,050.00	LF	\$6.33	\$228,196.50
Overhead Powerline Removal-Pole	57 poles	Utility Poles, Wood 35' - 45' high (each pole)	57.00	EA	\$258.00	\$14,706.00
Overhead Powerline Removal-Cross Arms	57 Arms	Utility Pole Cross Arm	27.00	EA	\$93.00	\$2,511.00
Disposal of Power Poles	57 @ 45'	Disposal of utility pole and hardware surplus material	2,565.00	LF	\$0.02	\$51.30
Disposal of Cross Arms	57 @ 8 ft wide each	Disposal of utility pole cross arms and hardware surplus material	456.00	LF	\$0.01	\$4.56

				1 otai Cost		
		Subtotal		(adjusted for		
Job Hours:	160.00	(unadiusted):	\$5,347,064.31	location):	\$5,106,446.42	

BOREHOLE SEALING WORK

	Task description:	Borehole P&A				
Site:	Nahcolite Project	Permit Action:	TR-43	Permit/Job#:	M1983194	

PROJECT IDENTIFICATION

Task #:	02A	State:	Colorado	Abbreviation:	None
Date:	5/30/2019	County:	Rio Blanco	Filename:	M194-03a
Hser.	ACY	· · · · · · · · · · · · · · · · · · ·		-	

Agency or organization name: DRMS

UNIT COSTS

Borehole	Sealing/Item Method					TT *4	T-4-1 C4
Description		Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
3M-TDR	Portland cement grout - 4 in. (labor, equip, materials)	4	1876	1,876.00	LF	\$4.68	\$8,779.68
89-1	Portland cement grout - 4 in. (labor, equip, materials)	4	1627	1,627.00	LF	\$4.68	\$7,614.36
89-2	Portland cement grout - 4 in. (labor, equip, materials)	4	1417	1,417.00	LF	\$4.68	\$6,631.56
89-3	Portland cement grout - 4 in. (labor, equip, materials)	4	347	347.00	LF	\$4.68	\$1,623.96
90-1	Portland cement grout - 8 in. (labor, equip, materials)	8.9	1417	1,417.00	LF	\$5.95	\$8,431.15
90-3	Portland cement grout - 4 in. (labor, equip, materials)	4	1627	1,627.00	LF	\$4.68	\$7,614.36
90-4	Portland cement grout - 4 in. (labor, equip, materials)	4	1417	1,417.00	LF	\$4.68	\$6,631.56
BG-1	Portland cement grout - 4 in. (labor, equip, materials)	4	1627	1,627.00	LF	\$4.68	\$7,614.36
BG-4	Portland cement grout - 4 in. (labor, equip, materials)	4	1627	1,627.00	LF	\$4.68	\$7,614.36
DS-2	Portland cement grout - 4 in. (labor, equip, materials)	4	1876	1,876.00	LF	\$4.68	\$8,779.68
DS-3	Portland cement grout - 4 in. (labor, equip, materials)	4	1876	1,876.00	LF	\$4.68	\$8,779.68
EX-2	Portland cement grout - 4 in. (labor, equip, materials)	4	1876	1,876.00	LF	\$4.68	\$8,779.68
IRI-1	Portland cement grout - 4 in. (labor, equip, materials)	4	347	347.00	LF	\$4.68	\$1,623.96
IRI-4	Portland cement grout - 4 in. (labor, equip, materials)	4	1417	1,417.00	LF	\$4.68	\$6,631.56

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IRI-5	Portland cement grout - 4	4.1	347	347.00	LF	\$4.68	\$1,623.96
	in. (labor, equip,						
IRI-6	materials) Portland cement grout - 4	4	1627	1,627.00	LF	\$4.68	\$7,614.36
IK1-0	in. (labor, equip,	4	1027	1,627.00	LF	\$4.08	\$7,014.30
	materials)						
IRI-7	Portland cement grout - 4	4	1876	1,876.00	LF	\$4.68	\$8,779.68
III /	in. (labor, equip,	·	1070	1,070.00		Ψ1.00	ψο, ττο
	materials)						
IRI-8	Portland cement grout - 4	4	347	347.00	LF	\$4.68	\$1,623.96
	in. (labor, equip,						
	materials)						
12H-I	Portland cement grout - 8	7	2100	2,100.00	LF	\$5.95	\$12,495.00
	in. (labor, equip,						
	materials)				<u> </u>		
12H-I Bridge Plug	PVC plug - 8 in.	7	1	1.00	EA	\$79.19	\$79.19
10H D	diameter borehole	7	2100	2 100 00	1.5	Φ5.05	Φ12 405 00
12H-R	Portland cement grout - 8	7	2100	2,100.00	LF	\$5.95	\$12,495.00
	in. (labor, equip, materials)						
12H-R Bridge	PVC plug - 8 in.	7	1	1.00	EA	\$79.19	\$79.19
Plug	diameter borehole	/	1	1.00	EA	\$79.19	\$79.19
10H-I	Portland cement grout - 8	7	1935	1,935.00	LF	\$5.95	\$11,513.25
1011 1	in. (labor, equip,	'	1933	1,555.00		φοινο	ψ11,513.25
	materials)						
10H-I Bridge Plug	PVC plug - 8 in.	7	1	1.00	EA	\$79.19	\$79.19
	diameter borehole						
10H-R	Portland cement grout - 8	7	1935	1,935.00	LF	\$5.95	\$11,513.25
	in. (labor, equip,						
	materials)						
10H-R Bridge	PVC plug - 8 in.	7	1	1.00	EA	\$79.19	\$79.19
Plug	diameter borehole		1.515	1.517.00	1.5	\$4.50	Φ= 500 50
BG-5	Portland cement grout - 4	4	1645	1,645.00	LF	\$4.68	\$7,698.60
	in. (labor, equip,						
DS-5 (BG-9)	materials)	4	1902	1,902.00	LF	\$4.68	\$8,901.36
DS-3 (DG-9)	Portland cement grout - 4 in. (labor, equip,	4	1902	1,902.00	LF	\$4.08	\$8,901.30
	materials)						
BG-6	Portland cement grout - 4	4	1639	1,639.00	LF	\$4.68	\$7,670.52
20 0	in. (labor, equip,	·	1035	1,035.00		Ψ1.00	ψ1,010.32
	materials)						
WSW-2	Portland cement grout - 8	7	1460	1,460.00	LF	\$5.95	\$8,687.00
	in. (labor, equip,						
	materials)						
DVPW-1(A)	Portland cement grout - 6	6.4	1900	1,900.00	LF	\$5.33	\$10,127.00
	in. (labor, equip,						
DAIDHA ())	materials)		1	1.00	<u> </u>	Φ. 7.5 0.1	\$77.01
DVPW-1(A)	PVC plug - 6 in.	6.4	1	1.00	EA	\$57.81	\$57.81
Bridge Plug	diameter borehole	6.4	1000	1,000,00	1.5	¢5 22	\$10,127,00
DVPW-1(B)	Portland cement grout - 6 in. (labor, equip,	6.4	1900	1,900.00	LF	\$5.33	\$10,127.00
	materials)						
DVPW-1(B)	PVC plug - 6 in.	6.4	1	1.00	EA	\$57.81	\$57.81
Bridge Plug	diameter borehole	0.4	1	1.00	LA	Ψ.57.01	ψυ γ.υ1
10H-IV	Portland cement grout - 8	7	1950	1,950.00	LF	\$5.95	\$11,602.50
~== = ·	in. (labor, equip,	1		_,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		72.25	,,
	materials)						
13H-RI-E (13H-R)	Portland cement grout - 8	7	2100	2,100.00	LF	\$5.95	\$12,495.00
					_		

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	in. (labor, equip, materials)						
13H-RI-E Bridge Plug	PVC plug - 8 in. diameter borehole	7	1	1.00	EA	\$79.19	\$79.19
14H-I	Portland cement grout - 8 in. (labor, equip, materials)	7	2050	2,050.00	LF	\$5.95	\$12,197.50
14H-I Bridge Plug	PVC plug - 8 in. diameter borehole	7	1	1.00	EA	\$79.19	\$79.19
14H-RI-E (14H-R)	Portland cement grout - 8 in. (labor, equip, materials)	7	2110	2,110.00	LF	\$5.95	\$12,554.50
14H-RI-E Bridge Plug	PVC plug - 8 in. diameter borehole	7	1	1.00	EA	\$79.19	\$79.19
WSW-3	Portland cement grout - 8 in. (labor, equip, materials)	7	1420	1,420.00	LF	\$5.95	\$8,449.00
WSW-4	Portland cement grout - 8 in. (labor, equip, materials)	7	1431	1,431.00	LF	\$5.95	\$8,514.45
DS-8 (I, Phase 1)	Portland cement grout - 4 in. (labor, equip, materials)	4	1882	1,882.00	LF	\$4.68	\$8,807.76
AG-1 (J, Phase 1)	Portland cement grout - 4 in. (labor, equip, materials)	4	1487	1,487.00	LF	\$4.68	\$6,959.16
BG-7 (K, Phase 1)	Portland cement grout - 4 in. (labor, equip, materials)	4	1593	1,593.00	LF	\$4.68	\$7,455.24
DS-9 (M, Phase 1)	Portland cement grout - 4 in. (labor, equip, materials)	4	1917	1,917.00	LF	\$4.68	\$8,971.56
DS-7	Portland cement grout - 4 in. (labor, equip, materials)	4	1897	1,897.00	LF	\$4.68	\$8,877.96
O-GWM-A (O, Phase 2)	Portland cement grout - 8 in. (labor, equip, materials)	7	1294	1,294.00	LF	\$5.95	\$7,699.30
DS-6	Portland cement grout - 4 in. (labor, equip, materials)	4	1882	1,882.00	LF	\$4.68	\$8,807.76
IRI-9	Portland cement grout - 4 in. (labor, equip, materials)	4	1710	1,710.00	LF	\$4.68	\$8,002.80
IRI-11	Portland cement grout - 4 in. (labor, equip, materials)	4	1550	1,550.00	LF	\$4.68	\$7,254.00
15H-I	Portland cement grout - 6 in. (labor, equip, materials)	6.4	1960	1,960.00	LF	\$5.33	\$10,446.80
15H-1 Bridge Plug	PVC plug - 6 in. diameter borehole	6.4	1	1.00	EA	\$57.81	\$57.81
15H-RI (15H-R)	Portland cement grout - 6 in. (labor, equip, materials)	6.4	1960	1,960.00	LF	\$5.33	\$10,446.80
15H-RI Bridge Plug	PVC plug - 6 in. diameter borehole	6.4	1	1.00	EA	\$57.81	\$57.81
16H-I	Portland cement grout - 6	6.4	1960	1,960.00	LF	\$5.33	\$10,446.80

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	in. (labor, equip, materials)						
16H-I Bridge Plug	PVC plug - 6 in. diameter borehole	6.4	1	1.00	EA	\$57.81	\$57.81
16H-R	Portland cement grout - 8 in. (labor, equip, materials)	8.9	1960	1,960.00	LF	\$5.95	\$11,662.00
16H-R Bridge Plug	PVC plug - 8 in. diameter borehole	8.9	1	1.00	EA	\$79.19	\$79.19
17H-I	Portland cement grout - 6 in. (labor, equip, materials)	6.4	1960	1,960.00	LF	\$5.33	\$10,446.80
17H-I Bridge Plug	PVC plug - 6 in. diameter borehole	6.4	1	1.00	EA	\$57.81	\$57.81
17H-R (17R-I)	Portland cement grout - 10 in. (labor, equip, materials)	9	2000	2,000.00	LF	\$6.80	\$13,600.00
17H-R Bridge Plug	PVC plug - 10 in. diameter borehole	9	1	1.00	EA	\$108.49	\$108.49
12H-IR	Portland cement grout - 10 in. (labor, equip, materials)	9	2100	2,100.00	LF	\$6.80	\$14,280.00
12H-IRBridge Plug	PVC plug - 10 in. diameter borehole	9	1	1.00	EA	\$108.49	\$108.49
13H-IR	Portland cement grout - 10 in. (labor, equip, materials)	9	2100	2,100.00	LF	\$6.80	\$14,280.00
13H-IR Bridge Plug	PVC plug - 10 in. diameter borehole	9	1	1.00	EA	\$108.49	\$108.49
15H-SSMW	Portland cement grout - 4 in. (labor, equip, materials)	4	1760	1,760.00	LF	\$4.68	\$8,236.80
17H-SSMW	Portland cement grout - 4 in. (labor, equip, materials)	4	1720	1,720.00	LF	\$4.68	\$8,049.60
DS-10	Portland cement grout - 4 in. (labor, equip, materials)	4	1882	1,882.00	LF	\$4.68	\$8,807.76
14H-1V	Portland cement grout - 8 in. (labor, equip, materials)	8.9	2130	2,130.00	LF	\$5.95	\$12,673.50
14H-1V Bridge Plug	PVC plug - 8 in. diameter borehole	8.9	1	1.00	EA	\$79.19	\$79.19
15H-1V	Portland cement grout - 8 in. (labor, equip, materials)	8.9	1898	1,898.00	LF	\$5.95	\$11,293.10
16H-1V	Portland cement grout - 8 in. (labor, equip, materials)	8.9	1976	1,976.00	LF	\$5.95	\$11,757.20
17H-1V	Portland cement grout - 8 in. (labor, equip, materials)	8.9	2100	2,100.00	LF	\$5.95	\$12,495.00
15H-IR-E	Portland cement grout - 8 in. (labor, equip, materials)	8.9	2135	2,135.00	LF	\$5.95	\$12,703.25
15H-IR-E Bridge Plug	PVC plug - 8 in. diameter borehole	8.9	1	1.00	EA	\$79.19	\$79.19
16H-IR-E	Portland cement grout - 8	8.9	2131	2,131.00	LF	\$5.95	\$12,679.45

Borehole Worksheet Cont'd Task # TTT Page 5 of 5

	in. (labor, equip, materials)						
16H-IR-E Bridge	PVC plug - 8 in.	8.9	1	1.00	EA	\$79.19	\$79.19
Plug	diameter borehole						
17H-IR-E	Portland cement grout - 8	8.9	2138	2,138.00	LF	\$5.95	\$12,721.10
	in. (labor, equip,						
	materials)						
17H-IR-E Bridge	PVC plug - 8 in.	8.9	1	1.00	EA	\$79.19	\$79.19
Plug	diameter borehole						

Job Hours:	610.00	Total Cost:	\$565,317.00	
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BULLDOZER WORK

Task description:	Regrade Process Ponds			
: Nahcolite Project	Permit Action:	TR-43	Permit/Job#:	M1983194
PROJECT IDENTIFI	CATION			
Task #: 03A	State: Colorado		Abbreviation:	None
Date: 5/30/2019	County: Rio Blanco)	Filename:	M194-03a
User: ACY			-	
Agency or organ	ization name: DRMS			
HOURLY EQUIPME	NT COST			
	D8T - 8SU			
Horsepower: 310	D01 - 050	<u> </u>		
<u></u>	ni-Universal	<u> </u>		
Attachment: NA		_		
	er day			
Data Source: (CR				
	,	_		
Cost Breakdown:		<u>Utilization %</u>		
Ownership Cost/Hour:	\$93.62	NA		
Operating Cost/Hour:	\$73.35	100		
Ripper own. Cost/Hour:	\$0.00	NA		
Ripper op. Cost/Hour:	\$0.00	0		
Operator Cost/Hour:	\$41.52	NA		
-	·	1111		
Total unit Cost/Hour:	\$208.49			
Total Fleet Cost/Hour:	\$416.99			
MATERIAL QUANT Initial Volume: 66,14				
Swell factor: 1.115	5			
Loose volume: 73,75	54 LCY			
Source of estimated volum Source of estimated swell	· · · · · · · · · · · · · · · · · · ·			
HOURLY PRODUCT	<u>'ION</u>			
Average push distance:	175 feet			
Unadjusted hourly produc				
Materials consistency des	cription: Compacted fill or en	mbankment 0.9		
Average push gradient: Average site altitude:	0 % 6,600 feet			
Material weight:	2,100 lbs/LCY		<u> </u>	
Weight description:				
	Earth - Loam			
Job Condition Correction	Earth - Loam	Source		
	Earth - Loam Factor	Source (AVG.)		
Job Condition Correction	Earth - Loam Factor Skill: 0.750			
Job Condition Correction Operator S	Earth - Loam Factor Skill: 0.750 ency: 0.900 chod: 1.000	(AVG.)		

0.830	(1 SHIFT/DAY)
0.800	(FND-RF)
1.000	(CAT HB)
1.000	(CAT HB)
1.095	(CAT HB)
1.000	(PAT)
	0.800 1.000 1.000 1.095

Net correction: 0.4908

Adjusted unit production: 275.93 LCY/hr
Adjusted fleet production: 551.86 LCY/hr

JOB TIME AND COST

Fleet size: 2 Dozer(s)
Unit cost: \$0.756/LCY

Total job time: 133.65 Hours
Total job cost: \$55,729

BULLDOZER RIPPING WORK

	Task description:	Deco	mpact Process Pond					
Site	: Nahcolite Pro	ject	Permit Action:	TR-43	I	Permit/Job#:	M198	3194
	PROJECT ID	ENTIFICATIO	<u>ON</u>					
	Task #: 03	R	State: Colorado		Δhl	breviation:	None	
		30/2019	County: Rio Blanco	<u> </u>		Filename:	M194-	03h
	User: AC		County. Kio Bianco	<u>′</u>		i ilchame.	11174	030
	Agency	or organization i	name: DRMS					
	HOURLY EQ	UIPMENT CO	<u>ost</u>					
	Basic	Machine: Cat	D8T - 8SU		Horsepower:		310	
	Ripper Att	achment: 3-Sh	nank Ripper	_	Shift Basis:	1 p	er day	
					Data Source:	((CRG)	
	Cost Breakdown	<u>:</u>						
					Utilization %			
		Ownership Co		\$93.62	NA	_		
		Operating Co		\$73.35	100	_		
		er Ownership Co		\$8.93	NA	_		
	Ripj	per Operating Co		\$7.78	100	_		
		Operator Co Total Unit Co		\$41.52	NA			
				\$225.20				
		Total Fleet Co	st/Hour: \$45 0	0.40				
	MATERIAL (<u>)UANTITIES</u>	Sele	cted estimating	g method: Are	ea		
	Alternate Method	ds:						
Seismic:	NA		Bank Volume:	NA	BCY		NA	
Area:	8.00	acres	Rip Depth (ft):	2.00	Volume:	25,813		BCY or CC
		Source of estim	nated quantity: TR-42					
	HOURLY PRO	ODUCTION						
	Seismic:							
		S	eismic Velocity:	NA	feet/see	cond		
	Area:							
	Alca.	Average	Ripping Depth:	2.56	feet/pa	88		
			Ripping Width:	7.08	feet/pa			
		_	Ripping Length:	100.00	feet/pa			
		_	ge Dozer Speed:	88.00	feet/mi			
			Maneuver Time:	0.25	minute	s/pass		
		Producti	on per unit area:	0.703	acres/h	our		
	Job Condition Co	orrection Factors						
	Un	adjusted Hourly	Unit Production:	0.703	Acres/	hr		
			Site Altitude:	6,600	feet			
			Altitude Adj:	1.00	(CAT	HB)		
			Job Efficiency:	0.83	(1 shift			
			Net Correction:	0.83	multip	lier		
		Adjusted l	Hourly Unit Production:	0.58	Acres/hr			
			Iourly Fleet Production:	1.17	Acres/hr			
	JOB TIME AN	ND COST			<u> </u>			
	Fleet size:	2	Grader(s)	Total job tim	ne:	6.85	I	Hours
	Unit cost:	\$385.719	Per acre	Total job co		\$3,086		
	omi cost.	ψ505./17	1 CI acic	1 otal job CO	· · · · · · · · · · · · · · · · · · ·	φ ઝ ,υου		

BULLDOZER WORK

Task description:	Topsoil Process Pond			
: Nahcolite Project	Permit Action: _T	°R-43	Permit/Job#:	M1983194
PROJECT IDENTIFI	CATION			
Task #: 03C	State: Colorado		Abbreviation:	None
Date: 5/30/2019	County: Rio Blanco		Filename:	M194-03c
User: ACY				
Agency or organ	ization name: DRMS			
HOURLY EQUIPME	NT COST			
Basic Machine: Cat	D8T - 8SU			
Horsepower: 310				
7 1	ni-Universal			
Attachment: NA Shift Basis: 1 pe	or dox			
Data Source: (CR	er day (G)			
Cost Breakdown:		<u>Utilization %</u>		
Ownership Cost/Hour:	\$93.62	NA		
Operating Cost/Hour:	\$73.35	100		
Ripper own. Cost/Hour:	\$0.00	NA		
Ripper op. Cost/Hour:	\$0.00	0		
Operator Cost/Hour:	\$41.52	NA		
Total unit Cost/Hour:	\$208.49			
Total Fleet Cost/Hour:	\$416.99			
Total Fleet Cost/Hour.	φ-10.//			
MATERIAL QUANT	ITIES			
Initial Volume: 15,32				
Swell factor: 1.000 Loose volume: 15,32	<u>)</u> 27 LCY			
Loose volume: 15,32	Z/ LC i			
Source of estimated volum				
Source of estimated swell	factor: Cat Handbook			
HOURLY PRODUCT	TION			
Average push distance: Unadjusted hourly produc	tion: 150 feet 634.3 LCY/hr	<u></u>		
Materials consistency des	cription: Loose stockpile 1.2			
Average push gradient:	0 % 6,600 feet			
Average site altitude:	0,000 1661			
Material weight:	1,600 lbs/LCY			
Weight description:	Top Soil			
Job Condition Correction		Source		
Operator S		(AVG.)		
Material consiste		(CAT HB)		
Dozing met		(GEN.)		
Visib	ility:1.000	(AVG.)		

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

Net correction: 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: 14.06 Hours
Total job cost: \$5,863

Total Fertilizer Materials Cost/Acre

\$0.00

REVEGETATION WORK

Task de	scription:	Reveg Process P	ond			
Site: Nahc	ite: Nahcolite Project		rmit Action: TR-4	.3	Permit/Jol	o#: M1983194
PROJE	CT IDENTIFIC	CATION				
Task Da Us	te: 5/30/2019	State: County: zation name: DF	Colorado Rio Blanco		_ Abbreviation: _ Filename:	None M194-03d
FERTII Material	s		Units /		G AVV	G . (4)
Descr	ription		Acre	Unit	Cost / Unit	Cost /Acre

Application

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

TILLING

Description		Cost /Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)		\$106.29
Weed control spraying (MEANS 31 31 16.13 3100)		\$193.60
	Total Tilling Cost/Acre	\$299.89

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Alkali Sacaton	0.10	3.90	\$2.90
Crested Wheatgrass - Ephraim	4.00	18.37	\$15.00
Blue Wildrye - Arlington or Elkton	1.50	5.17	\$9.99
Russian Wildrye - Bozoisky	1.50	6.03	\$9.72
Hard Fescue - Discovery	1.00	12.97	\$3.80
Pubescent Wheatgrass - Luna	1.50	3.10	\$6.26
Yellow Sweet Clover - Madrid		2.98	\$1.45
Tall Wheatgrass - Jose		3.26	\$4.46
Thickspike Wheatgrass - Critana	4.30	15.20	\$25.24

Sweetvetch, Utah or Northern	0.10	0.05	\$7.68
Western Wheatgrass - Barton	1.50	3.79	\$11.66
Yarrow, Western	0.20	12.16	\$8.56
Totals Seed Mix	18.00	86.97	\$106.71

Application

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

MULCHING and MISCELLANEOUS

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Herbicide - 2,4D @ 1.0 pt/ac	2.00	ACRE	\$2.81	\$5.61
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$288.00	\$576.00
Total Mulch Materials Cost/Acre				\$581.61

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$68.78
Power mulcher (MEANS 32 91 13.16 0350)		\$92.78
Weed spray, truck, non-aquatic area, nox. [DMG]		\$73.22
	Total Mulch Application Cost/Acre	\$234.78

NURSERY STOCK PLANTING

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

JOB TIME AND COST

 No. of Acres:
 19
 Cost /Acre:
 \$1,454.99

 Estimated Failure Rate:
 30%
 Cost /Acre*:
 \$1,454.99

*Selected Replanting Work Items: TILLING,SEEDING,MULCHING

Initial Job Cost: \$27,644.81

Reseeding Job Cost: \$8,293.44

Total Job Cost: \$35,938

Job Hours: 28.50

BULLDOZER WORK

Task description:	Regrade Plant Area			
te: Nahcolite Project	Permit Acti	on: TR-43	Permit/Job#:	M1983194
PROJECT IDENTIFIC	<u>CATION</u>			
Task #: 04A	State: Color	ado	Abbreviation:	None
Date: 5/30/2019	County: Rio B		Filename:	M194-04a
User: ACY				
A	DDMC			
Agency or organi	zation name: DRMS			
HOURLY EQUIPMEN	NT COST			
Basic Machine: Cat l	D8T - 8SU			
Horsepower: 310				
	i-Universal			
Attachment: NA				
Shift Basis: 1 per	r day			
Data Source: (CR	G)			
Coat Decaledores				
Cost Breakdown:		T T4:1:4:	- · · · 0/	
Ownership Cost/Hours	\$93	Utilization NA		
Ownership Cost/Hour:				
Operating Cost/Hour: Ripper own. Cost/Hour:	\$73		_	
Ripper own. Cost/Hour:		.00 NA .00 0	<u> </u>	
Operator Cost/Hour:	\$41	.52 NA	<u>. </u>	
Total unit Cost/Hour:	\$208.49			
Total Fleet Cost/Hour:	\$416.99			
-	,			
MATERIAL QUANTI	TIES			
MATERIAL QUANTI	THES			
Initial Volume: 13,22	9			
Swell factor: 1.115				
Loose volume: 14,75	0 LCY			
Source of estimated volum	ne: TR-42 8.2 ac @ 1	10"		
Source of estimated world Source of estimated swell		12		
Source of estimated swell	Cat Hallubook			
HOURLY PRODUCT	ION			
Avaraga nuch dietanaa	 150 feet			
Average push distance: Unadjusted hourly product				
Materials consistency desc	ription: Compacted fill	or embankment 0.9		
·	-			
Average push gradient:	0 %			
Average site altitude:	6,600 feet			
Material weight:	2,100 lbs/LCY			
Weight description:	Earth - Loam			
Job Condition Correction 1	Factor	So	<u>ource</u>	
Operator S			VG.)	
Material consister			T HB))	
Dozing met			GEN.)	
Visibi			VG.)	

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: 0.4908

Adjusted unit production: 311.31 LCY/hr
Adjusted fleet production: 622.62 LCY/hr

JOB TIME AND COST

Fleet size: 2 Dozer(s)
Unit cost: \$0.670/LCY

Total job time: 23.69 Hours Sp,879

BULLDOZER RIPPING WORK

Source of estimated quantity: TR-42 HOURLY PRODUCTION Seismic: Seismic Velocity: NA feet/second Area: Average Ripping Depth: 2.56 feet/pass Average Ripping Width: 7.08 feet/pass Average Ripping Length: 100.00 feet/pass Average Ripping Length: 100.00 feet/pass Average Dozer Speed: 88.00 feet/minute Average Maneuver Time: 0.25 minutes/pass Production per unit area: 0.703 acres/hour Job Condition Correction Factors Unadjusted Hourly Unit Production: 0.703 Acres/hr Site Altitude: 6,600 feet Altitude Adj: 1.00 (CAT HB) Job Efficiency: 0.83 (1 shift/day) Net Correction: 0.83 multiplier Adjusted Hourly Unit Production: 0.58 Acres/hr Adjusted Hourly Unit Production: 1.17 Acres/hr		Task description:	Deco	mpact Plant Area					
Task #: 04B	Site:	: Nahcolite Pro	ject	Permit Action:	TR-43	Per	mit/Job#:	M198319	4
Date:		PROJECT ID	ENTIFICATI	<u>ON</u>					
Date:		Task #: 041	В	State: Colorado		Abbre	viation:	None	
Material Outs Material Out					 		_		
HOURLY EQUIPMENT COST							-		
Basic Machine: Cat D8T - 8SU		Agency	or organization	name: DRMS					<u> </u>
Ripper Attachment: 3-Shank Ripper		HOURLY EQ	UIPMENT CO	<u>OST</u>					
Ripper Attachment: 3-Shank Ripper		Basic	Machine: Cat	D8T - 8SU		Horsepower:	3	310	
Data Source: (CRG)									
Ownership Cost/Hour: \$93.62 NA		11		**		Data Source:			_
Ownership Cost/Hour: \$93.62 NA		Cost Breakdown:	<u>.</u>						
Operating Cost/Hour: \$3.35 100				~~	402.4				
Ripper Ownership Cost/Hour: \$8,93 NA Ripper Operating Cost/Hour: \$7.78 100 Operator Cost/Hour: \$41.52 NA Total Unit Cost/Hour: \$425.40									
Ripper Operating Cost/Hour: \$41.52 NA		D:							
Operator Cost/Hour:									
Total Unit Cost/Hour: \$450.40		Kipj							
MATERIAL QUANTITIES Selected estimating method: Area						INA			
MATERIAL QUANTITIES Selected estimating method: Area			Total Fleet Co	ost/Hour: \$450	40				
Seismic NA		MATERIAL C							
Seismic NA				Sele	cted estimating	g method: Area			
Area: 8.20		Alternate Method	<u>ls:</u>						
Source of estimated quantity: TR-42 HOURLY PRODUCTION Seismic: Seismic Velocity: NA feet/second Area: Average Ripping Depth: 2.56 feet/pass Average Ripping Width: 7.08 feet/pass Average Ripping Length: 100.00 feet/pass Average Ripping Length: 0.25 minutes/pass Average Maneuver Time: 0.25 minutes/pass Production per unit area: 0.703 acres/hour Job Condition Correction Factors Unadjusted Hourly Unit Production: 0.703 Acres/hr Site Altitude: 6,600 feet Altitude Adj: 1.00 (CAT HB) Job Efficiency: 0.83 (1 shift/day) Net Correction: 0.83 multiplier Adjusted Hourly Unit Production: 0.58 Acres/hr Adjusted Hourly Unit Production: 1.17 Acres/hr				_					
HOURLY PRODUCTION Seismic: Seismic Velocity: NA feet/second Area: Average Ripping Depth: 2.56 feet/pass Average Ripping Width: 7.08 feet/pass Average Ripping Length: 100.00 feet/pass Average Dozer Speed: 88.00 feet/minute Average Maneuver Time: 0.25 minutes/pass Production per unit area: 0.703 acres/hour Job Condition Correction Factors Unadjusted Hourly Unit Production: 0.703 Acres/hr Site Altitude: 6,600 feet Altitude Adj: 1.00 (CAT HB) Job Efficiency: 0.83 (1 shift/day) Net Correction: 0.83 multiplier Adjusted Hourly Unit Production: 0.58 Acres/hr Adjusted Hourly Unit Production: 1.17 Acres/hr	Alea.	8.20			2.00	voiume	,437	·	SCI OI CC
Seismic: Seismic Velocity: NA feet/second Area: Average Ripping Depth: Average Ripping Width: 7.08 Average Ripping Length: 100.00 feet/pass Average Dozer Speed: 88.00 Average Maneuver Time: 0.25 minutes/pass Production per unit area: 0.703 acres/hour Job Condition Correction Factors Unadjusted Hourly Unit Production: 0.703 Acres/hr Site Altitude: Altitude Adj: 1.00 GCAT HB) Job Efficiency: 0.83 Highlight Adjusted Hourly Unit Production: 0.58 Acres/hr Adjusted Hourly Unit Production: 0.58 Acres/hr Adjusted Hourly Unit Production: 1.17 Acres/hr JOB TIME AND COST				nated quantity: 1R-42					_
Seismic Velocity: NA feet/second Area: Average Ripping Depth: 2.56 feet/pass Average Ripping Width: 7.08 feet/pass Average Ripping Length: 100.00 feet/pass Average Dozer Speed: 88.00 feet/minute Average Maneuver Time: 0.25 minutes/pass Production per unit area: 0.703 acres/hour Job Condition Correction Factors Unadjusted Hourly Unit Production: 0.703 Acres/hr Site Altitude Adj: 1.00 (CAT HB) Job Efficiency: 0.83 (1 shift/day) Net Correction: 0.83 multiplier Adjusted Hourly Unit Production: 0.58 Acres/hr Adjusted Hourly Fleet Production: 1.17 Acres/hr		HOURLY PRO	<u>ODUCTION</u>						
Area: Average Ripping Depth: Average Ripping Width: 7.08 Feet/pass Average Ripping Length: 100.00 Feet/pass Average Dozer Speed: 88.00 Feet/minute Average Maneuver Time: 0.25 Production per unit area: 0.703 Feet/minute Acres/hour Job Condition Correction Factors Unadjusted Hourly Unit Production: Site Altitude: Altitude Adj: Altitude Adj: 1.00 CAT HB) Job Efficiency: 0.83 Inditividiay Net Correction: Adjusted Hourly Unit Production: 0.58 Acres/hr Adjusted Hourly Fleet Production: 0.58 Acres/hr Acres/hr JOB TIME AND COST		Seismic:	,	N	27.4	C			
Average Ripping Depth: Average Ripping Width: Average Ripping Length: Average Ripping Length: Average Dozer Speed: Average Maneuver Time: Average Maneuver Time: Dozes Maneuver Time: Average Maneuver Time: A				Seismic Velocity:	NA	feet/secoi	na		
Average Ripping Width: Average Ripping Length: Average Dozer Speed: Average Maneuver Time: Production per unit area: Unadjusted Hourly Unit Production: Site Altitude: Altitude Adj: Altitude Adj: Job Efficiency: Net Correction: Adjusted Hourly Unit Production: Adjusted Hourly Unit Production: Adjusted Hourly Unit Production: Adjusted Hourly Unit Production: O.703 Acres/hr Seet Altitude: Altitude Adj: Job Efficiency: Adjusted Hourly Unit Production: O.83 Intitude Adj: Adjusted Hourly Unit Production: Adjusted Hourly Unit Production: Adjusted Hourly Unit Production: Adjusted Hourly Fleet Production: Adjusted Hourly Fleet Production: Acres/hr JOB TIME AND COST		Area:		D D1	2.56	C			
Average Ripping Length: Average Dozer Speed: Average Maneuver Time: Production per unit area: Unadjusted Hourly Unit Production: Site Altitude: Altitude Adj: Job Efficiency: Net Correction: Adjusted Hourly Unit Production: Adjusted Hourly Unit Production: Adjusted Hourly Unit Production: O.703 Acres/hr Site Altitude Adj: 1.00 (CAT HB) Job Efficiency: 0.83 (1 shift/day) Net Correction: Adjusted Hourly Unit Production: 0.58 Acres/hr Adjusted Hourly Fleet Production: 1.17 Acres/hr JOB TIME AND COST									
Average Dozer Speed: Average Maneuver Time: Doze Maneuver Time: Production per unit area: Oze minutes/pass acres/hour Job Condition Correction Factors Unadjusted Hourly Unit Production: Site Altitude: Altitude Adj: Job Efficiency: Net Correction: Oze			_						
Average Maneuver Time: Production per unit area: 0.25				11 0 0			te		
Production per unit area: 0.703 acres/hour Job Condition Correction Factors Unadjusted Hourly Unit Production: 0.703 Acres/hr Site Altitude: 6,600 feet Altitude Adj: 1.00 (CAT HB) Job Efficiency: 0.83 (1 shift/day) Net Correction: 0.83 multiplier Adjusted Hourly Unit Production: 0.58 Acres/hr Adjusted Hourly Fleet Production: 1.17 Acres/hr JOB TIME AND COST									
Unadjusted Hourly Unit Production: Site Altitude: Altitude Adj: Job Efficiency: Net Correction: Adjusted Hourly Unit Production: Adjusted Hourly Unit Production: Adjusted Hourly Fleet Production: 1.17 Acres/hr Acres/hr Acres/hr Acres/hr Acres/hr									
Site Altitude: 6,600 feet Altitude Adj: 1.00 (CAT HB) Job Efficiency: 0.83 (1 shift/day) Net Correction: 0.83 multiplier Adjusted Hourly Unit Production: 0.58 Acres/hr Adjusted Hourly Fleet Production: 1.17 Acres/hr JOB TIME AND COST		Job Condition Co	orrection Factors						
Site Altitude: Altitude Adj: 1.00 (CAT HB) Job Efficiency: 0.83 (1 shift/day) Net Correction: 0.83 multiplier Adjusted Hourly Unit Production: Adjusted Hourly Fleet Production: 1.17 Acres/hr JOB TIME AND COST		Un	adjusted Hourly	Unit Production:	0.703	Acres/hr			
Altitude Adj: 1.00 (CAT HB) Job Efficiency: 0.83 (1 shift/day) Net Correction: 0.83 multiplier Adjusted Hourly Unit Production: 0.58 Acres/hr Adjusted Hourly Fleet Production: 1.17 Acres/hr JOB TIME AND COST				Site Altitude:	6 600	 feet			
Job Efficiency: 0.83 (1 shift/day) Net Correction: 0.83 multiplier Adjusted Hourly Unit Production: 0.58 Acres/hr Adjusted Hourly Fleet Production: 1.17 Acres/hr JOB TIME AND COST							3)		
Adjusted Hourly Unit Production: Adjusted Hourly Fleet Production: 1.17 Acres/hr Acres/hr JOB TIME AND COST									
Adjusted Hourly Fleet Production: 1.17 Acres/hr JOB TIME AND COST					0.83		•		
Adjusted Hourly Fleet Production: 1.17 Acres/hr JOB TIME AND COST			Adjusted	Hourly Unit Production:	0.58	Acres/hr			
Fleet size: 2 Grader(s) Total ion time: 7.02 Hours		JOB TIME AN	ND COST						
1 rect size 2 Grader(s) 1 otal job time 1.02 Indus		Fleet size:	2	Grader(s)	Total job tim	ne: 7.	02	Hou	rs.
Unit cost: \$385.719 Per acre Total job cost: \$3,163		Unit cost:	\$385.719	Per acre	Total job cos	st: \$3.	163		

BULLDOZER WORK

Task description:	Topsoil Plant Area			
: Nahcolite Project	Permit Action: _T	R-43	Permit/Job#:	M1983194
PROJECT IDENTIFI	CATION			
Task #: 04C	State: Colorado		Abbreviation:	None
Date: 5/30/2019	County: Rio Blanco		Filename:	M194-04c
User: ACY				
Agency or organ	nization name: DRMS			
HOURLY EQUIPME	NT COST			
Basic Machine: Cat	D8T - 8SU			
Horsepower: 310				
71	ni-Universal			
Attachment: NA	1			
	er day			
Data Source: (CR	.U)			
Cost Breakdown:	r			
O 1' C //II	фод са	<u>Utilization %</u>		
Ownership Cost/Hour:	\$93.62 \$73.35	NA 100		
Operating Cost/Hour: Ripper own. Cost/Hour:	\$0.00	100 NA		
Ripper op. Cost/Hour:	\$0.00	0		
Operator Cost/Hour:	\$41.52	NA		
-	`	1471		
Total unit Cost/Hour:	\$208.49			
Total Fleet Cost/Hour:	\$416.99			
	YOYDG			
MATERIAL QUANT	<u>ITTES</u>			
Initial Volume: 6,615	5			
Swell factor: 1.000				
Loose volume: 6,615	5 LCY			
Source of estimated volum	ne: 8.2 ac @ 6" depth			
Source of estimated swell				
		<u></u>		
HOURLY PRODUCT	TON			
Average push distance: Unadjusted hourly produc	150 feet 624.2 LCV/hr	<u> </u>		
, , , ,		<u></u>		
Materials consistency des	cription: Loose stockpile 1.2			
Average push gradient:	0 %			
Average site altitude:	6,600 feet			
Material weight:	1,600 lbs/LCY		_	
Weight description:	Top Soil			
Job Condition Correction	<u>Factor</u>	<u>Source</u>		
Operator S		(AVG.)		
Material consiste		(CAT HB)		
Dozing met		(GEN.)		
Visib	ility: 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)

Net correction: 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:
Total job cost:

6.07 Hours
\$2,530

Cost /Acre

\$

\$0.00

REVEGETATION WORK

: Nahcolite Project Permit Action: TR-43			3	Permit/Job#: M1983194		
ROJEC'	T IDENTIFIC	<u>CATION</u>				
Task #: Date: User:	5/30/2019	State: County:	Colorado Rio Blanco		Abbreviation: Filename:	None M194-04d
			DMG			
A	gency or organ	ization name: DI	RMS			
		ization name: <u>DI</u>	KMS			
A E RTILI Z aterials		ization name:DI	RMS			
ERTILIZ	ZING	ization name:DI	Units /	Unit	Cost / Unit	Cost /Acre
ERTILIZ aterials	ZING	ization name: _DI	Units /	Unit	Cost / Unit	Cost /Acre

TILLING

Description

Description		Cost /Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)		\$106.29
Weed control spraying (MEANS 31 31 16.13 3100)		\$193.60
	Total Tilling Cost/Acre	\$299.89

Total Fertilizer Application Cost/Acre

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Alkali Sacaton	0.10	3.90	\$2.90
Crested Wheatgrass - Ephraim	4.00	18.37	\$15.00
Blue Wildrye - Arlington or Elkton	1.50	5.17	\$9.99
Russian Wildrye - Bozoisky	1.50	6.03	\$9.72
Hard Fescue - Discovery	1.00	12.97	\$3.80
Pubescent Wheatgrass - Luna	1.50	3.10	\$6.26
Yellow Sweet Clover - Madrid	0.50	2.98	\$1.45
Tall Wheatgrass - Jose	1.80	3.26	\$4.46
Thickspike Wheatgrass - Critana	4.30	15.20	\$25.24

Sweetvetch, Utah or Northern Western Wheatgrass - Barton	0.10 1.50	0.05 3.79	\$7.68 \$11.66
Yarrow, Western	0.20	12.16	\$8.56
Totals Seed Mix	18.00	86.97	\$106.71

Application

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

MULCHING and MISCELLANEOUS

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Herbicide - 2,4D @ 1.0 pt/ac	2.00	ACRE	\$2.81	\$5.61
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$288.00	\$576.00
Total Mulch Materials Cost/Acre				\$581.61

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$68.78
Power mulcher (MEANS 32 91 13.16 0350)		\$92.78
Weed spray, truck, non-aquatic area, nox. [DMG]		\$73.22
	Total Mulch Application Cost/Acre	\$234.78

NURSERY STOCK PLANTING

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

JOB TIME AND COST

 No. of Acres:
 8.2
 Cost /Acre:
 \$1,454.99

 Estimated Failure Rate:
 30%
 Cost /Acre*:
 \$1,454.99

*Selected Replanting Work Items: TILLING,SEEDING,MULCHING

Initial Job Cost: \$11,930.92

Reseeding Job Cost: \$3,579.28

Total Job Cost: \$15,510

12.30

BULLDOZER WORK

Task description:	Regrade	Well Pads			
: Nahcolite Project		Permit Actio	on: TR-43	Permit/Job#:	M1983194
PROJECT IDENT	IFICATION				
Task #: 05A		State: Colora	do	Abbreviation:	None
Date: $\frac{6/3}{201}$	9 (County: Rio Bl		Filename:	M194-05a
User: ACY					
	ganization nam	e: DRMS			
Agency of o	gamzanon nam	e. DRIVIS			
HOURLY EQUIP	MENT COST	·			
Basic Machine:	Cat D8T - 8SU				
Horsepower:	310				
	Semi-Universal				
_	NA				
	1 per day				
Data Source:	(CRG)				
Cost Breakdown:					
			<u>Utilization %</u>		
Ownership Cost/Hou		\$93.6			
Operating Cost/Hou		\$73.3			
Ripper own. Cost/Hou Ripper op. Cost/Hou		\$0.0 \$0.0			
Operator Cost/Hot		\$41.5 \$41.5			
Operator Cost/1100		Φ41	52 NA		
	58,107 .115				
Loose volume: 1	76,289 LCY				
Source of estimated vo Source of estimated sv		9 ac of pads grad Cat Handbook	e 24" depth		
HOURLY PRODU	CTION				
Average push distance	e: 75 i	feet			
Unadjusted hourly pro		17.1 LCY/hr			
Materials consistency	description:	Compacted fill	or embankment 0.9		
Average push gradien Average site altitude:	0 % 6,600 feet				
Material weight:	2,100 lbs/	LCY			
Weight description:	Earth - Lo	am			
Job Condition Correct Operation	ion Factor or Skill:	0.750	Source (AVG.)		
Material con		0.900	(CAT HB)))	
	method:	1.000	(GEN.)	·	
	isibility:	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)

Page 2 of 2

Net correction: 0.4908

Adjusted unit production: 499.19 LCY/hr
Adjusted fleet production: 998.38 LCY/hr

JOB TIME AND COST

Fleet size: 2 Dozer(s)
Unit cost: \$0.418/LCY

Total job time: 176.58 Hours 70tal job cost: 73,630

BULLDOZER WORK

Task description: Topsoil V	Well Pads			
: Nahcolite Project	Permit Action:T	R-43	Permit/Job#:	M1983194
PROJECT IDENTIFICATION				
Task #: 05B	State: Colorado		Abbreviation:	None
	County: Rio Blanco		Filename:	M194-05b
User: ACY			-	
Agency or organization nam	e: DRMS			
HOURLY EQUIPMENT COST				
Basic Machine: Cat D8T - 8SU				
Horsepower: 310				
Blade Type: Semi-Universal				
Attachment: NA				
Shift Basis: 1 per day				
Data Source: (CRG)				
Cost Breakdown:				
		<u>Utilization %</u>		
Ownership Cost/Hour:	\$93.62	NA		
Operating Cost/Hour:	\$73.35	100		
Ripper own. Cost/Hour:	\$0.00	NA		
Ripper op. Cost/Hour:	\$0.00	0		
Operator Cost/Hour:	\$41.52	NA		
Total unit Cost/Hour: \$208.49				
Total Fleet Cost/Hour: \$416.99				
MATERIAL QUANTITIES				
Initial Volume: 39,527				
Swell factor: 1.000				
Loose volume: 39,527 LCY				
	9 ac @ 6" depth			
Source of estimated swell factor:	Cat Handbook			
HOURLY PRODUCTION				
Average push distance: 150) feet			
Unadjusted hourly production: 634	4.3 LCY/hr			
Materials consistency description:	Loose stockpile 1.2			
Average push gradient: 0 % Average site altitude: 6,600 feet	<u> </u>			
Material weight: 1,600 lbs/	LCY			
Weight description: Top Soil				
Job Condition Correction Factor		Source		
Operator Skill:	0.750	(AVG.)		
Material consistency:	1.200	(CAT HB)		
Dozing method:	1.000	(GEN.)		
Visibility:	1.000	(AVG.)		

0.830	(1 SHIFT/DAY)
0.800	(FND-RF)
1.000	(CAT HB)
1.000	(CAT HB)
1.438	(CAT HB)
1.000	(PAT)
	0.800 1.000 1.000 1.438

Net correction: 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: 36.26 Hours
Total job cost: \$15,120

REVEGETATION WORK

Task description:	Reveg Well Pads				
Nahcolite Project	Permit A	ction: TR-4	3	Permit/Job#	: <u>M1983194</u>
PROJECT IDENTIF	<u>ICATION</u>				
Task #: 05C Date: 6/3/2019 User: ACY		orado Blanco		_	None M194-05c
Agency or orga	nnization name: DRMS				
FERTILIZING					
Materials					
Description		Units / Acre	Unit	Cost / Unit	Cost /Acre
				\$	\$
				Total Fertilizer Materials Cost/Acre	\$0.00
Application					
Description					Cost /Acre
					\$

TILLING

Description		Cost /Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)		\$106.29
Weed control spraying (MEANS 31 31 16.13 3100)		\$193.60
	Total Tilling Cost/Acre	\$299.89

Total Fertilizer Application Cost/Acre

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Alkali Sacaton	0.10	3.90	\$2.90
Crested Wheatgrass - Ephraim	4.00	18.37	\$15.00
Blue Wildrye - Arlington or Elkton	1.50	5.17	\$9.99
Russian Wildrye - Bozoisky	1.50	6.03	\$9.72
Hard Fescue - Discovery	1.00	12.97	\$3.80
Pubescent Wheatgrass - Luna	1.50	3.10	\$6.26
Yellow Sweet Clover - Madrid	0.50	2.98	\$1.45
Tall Wheatgrass - Jose	1.80	3.26	\$4.46
Thickspike Wheatgrass - Critana	4.30	15.20	\$25.24

\$0.00

Sweetvetch, Utah or Northern Western Wheatgrass - Barton	0.10 1.50	0.05 3.79	\$7.68 \$11.66
Yarrow, Western	0.20	12.16	\$8.56
Totals Seed Mix	18.00	86.97	\$106.71

Application

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

MULCHING and MISCELLANEOUS

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Herbicide - 2,4D @ 1.0 pt/ac	2.00	ACRE	\$2.81	\$5.61
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$288.00	\$576.00
Total Mulch Materials Cost/Acre				\$581.61

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$68.78
Power mulcher (MEANS 32 91 13.16 0350)		\$92.78
Weed spray, truck, non-aquatic area, nox. [DMG]		\$73.22
	Total Mulch Application Cost/Acre	\$234.78

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					\$
		Totals 1	Nursery Stoc	k Cost / Acre	\$0.00

JOB TIME AND COST

 No. of Acres:
 49
 Cost /Acre:
 \$1,454.99

 Estimated Failure Rate:
 30%
 Cost /Acre*:
 \$1,454.99

*Selected Replanting Work Items: TILLING,SEEDING,MULCHING

Initial Job Cost: \$71,294.51

Reseeding Job Cost: \$21,388.35

Total Job Cost: \$92,683

Job Hours: 73.50

BULLDOZER RIPPING WORK

	Task description:	_ Decor	mpact Roads					
Site	: Nahcolite Pro	ject	Permit Action:	TR-43	F	Permit/Job#:	M198	33194
	PROJECT ID	ENTIFICATIO	<u>ON</u>					
	Task #: 06.	Δ	State: Colorado		Δhł	oreviation:	None	
		3/2019	County: Rio Blanco)	-	Filename:	M194	-06a
	User: AC		The Blance	<u>, </u>		Titolianio.	1,1171	004
	Agency	or organization i	name: DRMS					
	HOURLY EQ	UIPMENT CO	<u>ST</u>					
	Basic	Machine: Cat	D8T - 8SU		Horsepower:		310	
	Ripper Att	tachment: 3-Sh	nank Ripper		Shift Basis:		er day	
					Data Source:	(0	CRG)	
	Cost Breakdown	• <u>•</u>						
					Utilization %			
		Ownership Co		\$93.62	NA	_		
	D'	Operating Co		\$73.35	100	_		
		er Ownership Co		\$8.93	NA 100	=		
	Kipj	per Operating Coa Operator Coa		\$7.78 \$41.52	100 NA	_		
		Total Unit Co		\$225.20	NA	_		
		Total Fleet Co		140				
	MATERIAL (
			Sele	ected estimating	g method: Are	ea		
	Alternate Method	<u> 18:</u>						
Seismic: Area:	NA 6.00	acres	Bank Volume: Rip Depth (ft):	NA 2.00	BCY Volume:	19,360	NA	BCY or CCY
111000			nated quantity: TR-43			17,000		
	HOUDI V DD		atted quantity. 110 13					
	HOURLY PRO	ODUCTION						
	Seismic:	C	ojemio Volocity	NA	feet/sec	aand		
		သ	eismic Velocity:	INA		Cona		
	Area:							
			Ripping Depth:	2.56	feet/pa			
			Ripping Width:	7.08	feet/pa			
			Ripping Length:	150.00	feet/pa			
			ge Dozer Speed:	88.00 0.25	feet/mi minute			
			Maneuver Time: on per unit area:	0.23	acres/h	•		
	Joh Condition Co		on per unit area.	0.740	acres/11	loui		
	Job Condition Co		Hali David adlam	0.740	A //	L		
	Un	nadjusted Hourly		0.748	Acres/l	nr		
			Site Altitude:	6,600	feet	IID)		
			Altitude Adj:	1.00	(CAT)			
			Job Efficiency: Net Correction:	0.83	(1 shift	• .		
					multipl	IICI		
			Hourly Unit Production:	0.62	Acres/hr			
		Adjusted H	Iourly Fleet Production:	1.24	Acres/hr			
	JOB TIME AN	ND COST						
	Fleet size:	2	Grader(s)	Total job tin	ne:	4.83	·	Hours
	Unit cost:	\$362.534	Per acre	Total job co	ost:	\$2,175		

BULLDOZER WORK

Task description:	Topsoil roads			
: Nahcolite Project	Permit Action:T	R-43	Permit/Job#:	M1983194
PROJECT IDENTIF	<u>ICATION</u>			
Task #: 06B	State: Colorado		Abbreviation:	None
Date: 6/3/2019	County: Rio Blanco		Filename:	M194-06b
User: ACY				
Agency or orga	nization name: DRMS			
HOURLY EQUIPME	ENT COST			
Basic Machine: Car	t D8T - 8SU			
Horsepower: 310				
7 1	mi-Universal			
Attachment: NA	·			
	er day			
	RG)			
Cost Breakdown:	1			
0 1: 0 47	Ф02 (2	<u>Utilization %</u>		
Ownership Cost/Hour:	\$93.62 \$73.35	NA 100		
Operating Cost/Hour: Ripper own. Cost/Hour:	\$13.33	NA		
Ripper op. Cost/Hour:	\$0.00	0		
Operator Cost/Hour:	\$41.52	NA		
-		1111		
Total unit Cost/Hour:	\$208.49	<u>—</u>		
Total Fleet Cost/Hour:	\$416.99			
MATERIAL OLIANG				
MATERIAL QUANT	ITTES			
Initial Volume: 4,84				
Swell factor: 1.00	_			
Loose volume: 4,84	0 LCY			
Source of estimated volu	me: 6 ac @ 6" depth			
Source of estimated swel				
	T Y 0.3.7			
HOURLY PRODUC	<u>HON</u>			
Average push distance:	150 feet			
Unadjusted hourly produ	ction: 634.3 LCY/hr			
Materials consistency des	scription: Loose stockpile 1.2			
Average push gradient:	0 %			
Average site altitude:	6,600 feet			
Material weight:	1,600 lbs/LCY		<u> </u>	
Weight description:	Top Soil			
Job Condition Correction		Source		
Operator		(AVG.)		
Material consist		(CAT HB)		
Dozing me		(GEN.)		
Visil	oility: 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)

Net correction: 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: 4.44 Hours
Total job cost: \$1,851

REVEGETATION WORK

1 dok dese	ription:	Reveg Roads				
: Nahco	ite Project	Pe	ermit Action: TR-4	13	Permit/Job	o#: <u>M1983194</u>
<u>PROJEC</u>	Γ IDENTIFI	<u>ICATION</u>				
Task #	: 06C	State:	Colorado		Abbreviation:	None
Date		County:	Rio Blanco		Filename:	M194-06c
Usei	ACY					
A	~~~~					
ERTIL		nization name: <u>DI</u>	RMS			
ERTIL	ZING	nization name:DI	Units /	Unit	Cost / Unit	Cost /Acre
FERTIL!	ZING	nization name:DI	Units /	Unit	Cost / Unit	Cost /Acre
ERTIL!	ZING	nization name:DI	Units /	Unit	\$	\$
FERTIL	ZING	nization name:DI	Units /	Unit		\$

TILLING

Description		Cost /Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)		\$106.29
Weed control spraying (MEANS 31 31 16.13 3100)		\$193.60
	Total Tilling Cost/Acre	\$299.89

Total Fertilizer Application Cost/Acre

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Alkali Sacaton	0.10	3.90	\$2.90
Crested Wheatgrass - Ephraim	4.00	18.37	\$15.00
Blue Wildrye - Arlington or Elkton	1.50	5.17	\$9.99
Russian Wildrye - Bozoisky	1.50	6.03	\$9.72
Hard Fescue - Discovery	1.00	12.97	\$3.80
Pubescent Wheatgrass - Luna	1.50	3.10	\$6.26
Yellow Sweet Clover - Madrid	0.50	2.98	\$1.45
Tall Wheatgrass - Jose	1.80	3.26	\$4.46
Thickspike Wheatgrass - Critana	4.30	15.20	\$25.24

\$0.00

Sweetvetch, Utah or Northern	0.10	0.05	\$7.68
Western Wheatgrass - Barton	1.50	3.79	\$11.66
Yarrow, Western	0.20	12.16	\$8.56
Totals Seed Mix	18.00	86.97	\$106.71

Application

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

MULCHING and MISCELLANEOUS

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Herbicide - 2,4D @ 1.0 pt/ac	2.00	ACRE	\$2.81	\$5.61
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$288.00	\$576.00
Total Mulch Materials Cost/Acre				\$581.61

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$68.78
Power mulcher (MEANS 32 91 13.16 0350)		\$92.78
Weed spray, truck, non-aquatic area, nox. [DMG]		\$73.22
	Total Mulch Application Cost/Acre	\$234.78

NURSERY STOCK PLANTING

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

JOB TIME AND COST

 No. of Acres:
 6
 Cost / Acres:
 \$1,454.99

 Estimated Failure Rate:
 30%
 Cost / Acre*:
 \$1,454.99

*Selected Replanting Work Items: TILLING, SEEDING, MULCHING

Initial Job Cost: \$8,729.94

Reseeding Job Cost: \$2,618.98

Total Job Cost: \$11,349

9.00

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description:	Initial Mo	bilization			
ite: Nahcolite Project		Permit Action	: TR-43	Permit/J	ob#: M1983194
PROJECT IDENTIFI	CATION				
Task #: 12A	S	tate: Colorado	ı	Abbreviation:	None
Date: 5/30/2019	Cou	ınty: Rio Blan	со	Filename:	M194-12a
User: ACY					
Agency or organ	nization name:	DRMS			
rigorie, or organ					
EQUIPMENT TRANS	SPORT RIC	COST			
EQUI MENT TRAIN	SI OKI KIO	COSI			
				Shift basis:	1 per day
				Cost Data Source:	CRG Data
Truck Tracto	or Description:	GENERIC O	N-HIGHW.	AY TRUCK TRACTOR, 6X4	DIESEL POWERED.
	or Bestription.	021,21110 0		400 HP (2ND HALF, 2006)	, 21202210 21122,
Truck Traile	er Description:	GENER		IG GOOSENECK, DROP DE	CK EOUIPMENT
	1			AILER (25T, 50T, AND 1007	•
					,
Cost Breakdown:					
Available Rig Capaciti	es 0-25	Tons 26-	50 Tons	51+ Tons	
Ownership Cost/I		6.63 \$	18.37	\$22.33	
Operating Cost/I	Hour: \$4	4.38 \$	46.13	\$50.07	

\$27.66

\$25.39

\$117.55

\$27.66

\$25.39

\$125.45

NON ROADABLE EQUIPMENT:

Total Unit Cost/Hour:

Operator Cost/Hour:

Helper Cost/Hour:

\$27.66

\$0.00

\$88.67

Machine	Weight/	Owner ship	Haul Rig	Fleet	Haul Trip	Return Trip	DOT Permit
Description	Unit	Cost/hr/ unit	Cost/hr/uni	Size	Cost/hr/	Cost/hr/ fleet	Cost/ fleet
_	(TONS)		t		fleet		
Cat D8T - 8SU	53.08	\$102.55	\$125.45	2	\$456.00	\$250.90	\$500.00
Drill/Broadcast	25.00	\$15.54	\$88.67	1	\$104.21	\$88.67	\$250.00
Seeder with							
Tractor							
Power Mulcher	6.00	\$8.33	\$88.67	1	\$97.00	\$88.67	\$250.00
(Bowie LD-90)							
Grove RT650E,	28.74	\$49.93	\$117.55	1	\$167.48	\$117.55	\$250.00
105', 45.4 MT							
Broderson IC-200-	8.68	\$15.37	\$88.67	1	\$104.04	\$88.67	\$250.00
2F, 45', 13.6MT							
Cat 345D L 12'-	54.31	\$66.64	\$125.45	1	\$192.09	\$125.45	\$250.00
10" Stick							
CAT 973D	29.07	\$63.94	\$117.55	1	\$181.49	\$117.55	\$250.00

Subtotals: \$1,302.31 \$877.46 \$2,000.00

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Light Duty Pickup, 4x4, 3/4 T.	\$67.83	1	\$67.83	\$67.83
Generic 12-18 cy, 6x4	\$97.40	3	\$292.20	\$292.20

Subtotals: \$360.03 \$360.03	03
------------------------------	----

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:

Total one-way travel distance:

Average Travel Speed:

RIFLE miles 40.00 mph

Total Non-Roadable Mob/Demob Cost *

'* two round trips with haul rig:

Total Roadable Mob/Demob Cost **

** one round trip, no haul rig:

\$13,143.93 \$1,080.09

Transportation Cycle Time:

	Non-	
	Roadable	Roadable
	Equipment	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: **\$14,224**

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description:	Secondary Mobiliz	ation						
Site: Nahcolite Project	Permi	t Action: TR-43	Permit/.	Job#: <u>M1983194</u>				
PROJECT IDENTIFIC	CATION							
Task #: 12B	State: 0	Colorado	Abbreviation	: None				
Date: 5/30/2019	County: I	Rio Blanco	Filename	e: M194-12b				
User: ACY								
Agency or organi	ization name: DRM	S						
EQUIPMENT TRANS	PORT RIG COST							
			Shift basis:	1 per day				
			Cost Data Source:	CRG Data				
Truck Tractor	Description: GEN	ERIC ON-HIGHWA	AY TRUCK TRACTOR, 6X4	4, DIESEL POWERED,				
	1		400 HP (2ND HALF, 2006)	,				
Truck Trailer	Description:	GENERIC FOLDING GOOSENECK, DROP DECK EQUIPMENT						
		TR	AILER (25T, 50T, AND 100	T)				
Cost Breakdown:								
	s 0-25 Tons	26-50 Tons	51+ Tons					
Available Rig Capacitie Ownership Cost/H		\$18.37	\$22.33					
Operating Cost/He		\$46.13	\$50.07					
Operator Cost/H		\$27.66	\$27.66					
Helper Cost/He	our: \$0.00	\$25.39	\$25.39					

NON ROADABLE EQUIPMENT:

Total Unit Cost/Hour:

\$88.67

Machine Description	Weight/ Unit	Owner ship Cost/hr/ unit	Haul Rig Cost/hr/uni	Fleet Size	Haul Trip Cost/hr/	Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
Drill/Broadcast	(TONS) 25.00	\$15.54	\$88.67	1	fleet \$104.21	\$88.67	\$250.00
Seeder with Tractor	23.00	Ψ13.31	φοσ.σ7		Ψ101.21	ψοσ.σ7	Ψ230.00
Power Mulcher (Bowie LD-90)	6.00	\$8.33	\$88.67	1	\$97.00	\$88.67	\$250.00

\$117.55

\$125.45

Subtotals: \$201.21 \$177.34 \$500.00

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Light Duty Pickup, 4x4, 3/4 T.	\$67.83	1	\$67.83	\$67.83

Subtotals: \$67.83 \$67.83

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:

Total one-way travel distance:

Average Travel Speed:

RIFLE

miles

40.00

mph

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

\$2,538.07

\$203.49

Transportation Cycle Time:

	Non-	
	Roadable	Roadable
	Equipment	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 cost: 8.00 Hours

Total job cost: \$2,742

Natural Soda, LLC Well Pad & Road Acreage

В	С	D	E	F	G	Н	I	J	K	L	М	N	0	Р	Q	R	S	Т	U	V
3 WELL PADS								ROADS												
DISTURE	BED		UNDERGOING INTERIM	NDERGOING INTERIM RECLAMATION UNDERGOING FINAL RECLAMATION		TION	SUCCESSFULLY RECLAIMED (meets ROD goals)			DISTURBED			UNDERGOING INTERIM RECLAMATION		М	UNDERGOING FINAL RECLAMATION				
Description	Area, ft ²	Acres	Description	Area, ft ²	Acres	Description	Area, ft ²	Acres	Description	Area, ft ²	Acres	Description	Area, ft ²	Acres	Description	Area, ft ²	Acres	Description	Area, ft ²	Acres
/3A-4H (2013)	88,287	2.027	2M-TDR, 3M-TDR	5,554	0.128	A (May 2016, Good Response)	24,345	0.559	1A-4HI (2013)	29,896	0.686	RD A	23,690	0.544	RD D	1,044	0.024	RD A rdp	928	0.021
	98,187	2.254	89-1	14,961		Response)	28,725	0.659	1A-5HR (13,14,15)	68,443	1.571	RD B	45,832	1.052	RD G	8,168	0.188	RD E rdp	10,649	0.244
	76,787	1.763	90-1	38,490	0.884	D (Aug 2015, Good Response)	27,853	0.639	3A-5V (13,14,15)	64,843	1.489	RD C	18,711	0.430	RD H	6,168	0.142	RD G rdp	1,050	0.024
-1V (see 15H-1V)	0	0.000	90-2	18,509		E (May 2016, Good Response)	25,379	0.583	4-3H(V) (2013)	39,927	0.917	RD E	778	0.018	RD I	1,528	0.035	RD H-C rdp	10,103	0.232
н-13Н	290,596	6.671	90-5H	8,791	0.202	G (May 2016, Good Response)	26,321	0.604	4-2V & 93-3V (13,14,15)	131,882	3.028	RD F	900	0.021	RD I rdp (DS-8)	1,476	0.034	RD H rdp	11,542	0.265
Н	98,457	2.260	94-1 M	56,433		H (Aug 2015, Good Response)	28,880		91-1V (2013,14,15)	8,746	0.201	RD K	1,808	0.042	RD J	578	0.013	RD N-C rdp	10,196	0.234
-1V	19,714	0.453	BG-4	20,343		N (Aug 2015, Good Response)	29,639	0.680	4A-5M, 4A-6V (13,14,15 chk w/ BLM)	26,122	0.600	RD 14H	421		RD M rdp (DS-9)	7,799	0.179	RD P rdp	4,607	0.106
H-17H	207,133	4.755	BG-5 (see RR 2015 rept)	38,668	0.888	P (May 2016, Good Response)	24,581	0.564	91-2H (2017)	88,994	2.043	RD 15-17	13,252	0.304	RD M-K rdp (DS- 9/BG-7)	8,651	0.199	RD Q rdp	30,284	0.695
H-13H-IR (1-3A, 2B-3C)	74,053	1.700	BG-6 (see RR 2015 rept)	25,439	0.564	Q (May 2016, Good Response)	24,786	0.569	4A-1V (2018, 11yrs of rec)	57,885	1.329	RD 15H-SSMW	1,464	0.034	RD O rdp	11,436	0.263	RD U-T rdp	27,602	0.634
-10 2019	52,708	1.210	DS-2	6,659	0.153	R (May 2016, Good Response)	26,013	0.597			0.000	16/17H-1V	3,600	0.083	RD DS-6 rdp	453	0.010			0.000
H-1V 2019	77,972	1.790	DS-3	6,524	0.150	T (May 2016, Good Response)	31,010	0.712			0.000	DS-10	1,300	0.030	WSW-3 pipeline	21,521	0.494			0.000
17H-IR-E	126,324		DS-5 (see RR 2015 rept)	29,973	0.688	U (May 2016, Good Response)	25,075	0.576			0.000			0.000	WSW-4 pipeline	53,675	1.232			0.000
H-1V (subsumes 7H-)	113,256		DS-6 (Aug 2015, Good Response)	25,160	0.578	MW-1, PW-1, PW-2 (RR to ck 07 or 08 2016)	24,278	0.557			0.000			0.000	RD WSW-3 rdp	2,405	0.055			0.000
-17H-1V (162,900 - .600 of existing 1A-4HI d)	243,946	5.600	DS-7, 2A-2V (Aug 2015, Fair Response)			IRI-3 (P&A 2015, RR to ck 07 or 08 2016)	6,872	0.158			0.000			0.000	RD WSW-4 rdp	344	0.008			0.000
			I (DS-8) (Aug 2015, Good Response)	26,732	0.614	BG-8 (DS-4) P&A 2017, 2018 1st grow yr	45,021	1.034			0.000			0.000	RD 17H-SSMW	4,354	0.100			0.000
			K (BG-7) (Aug 2015, Good Response)			5H-1V (2012 & <mark>2014</mark>)	35,862	0.823			0.000			0.000			0.000			0.000
		0.000	M (DS-9) (Aug 2015, Good Response)	29,224	0.671	93-2M (2011 & <mark>2013</mark>)	12,505	0.287			0.000			0.000			0.000			0.000
		0.000	WSW-2	30,389	0.698			0.000			0.000			0.000			0.000			0.000
		0.000	WSW-3 (May 2016, Good Response)	32,647	0.749			0.000			0.000			0.000			0.000			0.000
		0.000	WSW-4 (Aug 2015, Good Response)	32,789	0.753			0.000			0.000			0.000			0.000			0.000
			WSW-5 (O-GMW-A) (Aug 2015, Good Response)		0.662			0.000			0.000			0.000			0.000			0.000
			15H-SSMW 17H-SSMW Pad	24,594 12,791	0.565 0.294			0.000			0.000			0.000			0.000			0.000
		0.000		,	0.000			0.000			0.000			0.000			0.000			0.000
OTAL	1,567,420	0.000 36	TOTAL	579,439	0.000	TOTAL	447,145	0.000	TOTAL	516,738	0.000	TOTAL	111,756	0.000	TOTAL	129,600	0.000	TOTAL	106,961	0.000
TOTAL Pad & Road A Pad & Road DI d & Rd UNDERGOING RECL Pad & Rd UNDERGOI RECL SUCCESSFULLY RE	ACREAGE STURBED SINTERIM AMATION ING FINAL AMATION ECLAIMED	79 39 16 13																		
Pad SI	Pad & Road Di Rd UNDERGOING RECL d & Rd UNDERGO RECL UCCESSFULLY RE	Pad & Road DISTURBED Red UNDERGOING INTERIM RECLAMATION RECLAMATION RECLAMATION RECLAMATION UCCESSFULLY RECLAIMED	Pad & Road DISTURBED 39 Rd UNDERGOING INTERIM RECLAMATION 16 R & Rd UNDERGOING FINAL RECLAMATION 13 UCCESSFULLY RECLAIMED 12	Pad & Road DISTURBED 39 Rd UNDERGOING INTERIM RECLAMATION 16 d & Rd UNDERGOING FINAL RECLAMATION 13 UCCESSFULLY RECLAIMED 12	Pad & Road DISTURBED 39 Rd UNDERGOING INTERIM RECLAMATION 16 d & Rd UNDERGOING FINAL RECLAMATION 13 UCCESSFULLY RECLAIMED 12	Pad & Road DISTURBED 39 Rd UNDERGOING INTERIM RECLAMATION 16 d & Rd UNDERGOING FINAL RECLAMATION 13 UCCESSFULLY RECLAIMED 12	Pad & Road DISTURBED 39 Rd UNDERGOING INTERIM RECLAMATION 16 d & Rd UNDERGOING FINAL RECLAMATION 13 UCCESSFULLY RECLAIMED 12	Pad & Road DISTURBED 39 Rd UNDERGOING INTERIM RECLAMATION 16 d & Rd UNDERGOING FINAL RECLAMATION 13 UCCESSFULLY RECLAIMED 12	Pad & Road DISTURBED 39 Red UNDERGOING INTERIM RECLAMATION 16 RECLAMATION 13 UCCESSFULLY RECLAIMED 12	Pad & Road DISTURBED 39 Red UNDERGOING INTERIM RECLAMATION 16 RECLAMATION 13 UCCESSFULLY RECLAIMED 12	Pad & Road DISTURBED 39 Red UNDERGOING INTERIM RECLAMATION 16 RECLAMATION 13 UCCESSFULLY RECLAIMED 12	Pad & Road DISTURBED 39 Red UNDERGOING INTERIM RECLAMATION 16 RECLAMATION 13 UCCESSFULLY RECLAIMED 12	Pad & Road DISTURBED 39 Red UNDERGOING INTERIM RECLAMATION 16 RECLAMATION 13 UCCESSFULLY RECLAIMED 12	Pad & Road DISTURBED 39 Red UNDERGOING INTERIM RECLAMATION 16 Reclamation 13 UCCESSFULLY RECLAIMED 12	Pad & Road DISTURBED 39 Red UNDERGOING INTERIM RECLAMATION 16 Reclamation 13 UCCESSFULLY RECLAIMED 12	Pad & Road DISTURBED 39 Red UNDERGOING INTERIM RECLAMATION 16 d & Rd UNDERGOING FINAL RECLAMATION 13 UCCESSFULLY RECLAIMED 12	Pad & Road DISTURBED 39 Red UNDERGOING INTERIM RECLAMATION 16 d & Rd UNDERGOING FINAL RECLAMATION 13 UCCESSFULLY RECLAIMED 12	Pad & Road DISTURBED 39 Red UNDERGOING INTERIM RECLAMATION 16 d & Rd UNDERGOING FINAL RECLAMATION 13 UCCESSFULLY RECLAIMED 12	Pad & Road DISTURBED 39 Red UNDERGOING INTERIM RECLAMATION 16 d & Rd UNDERGOING FINAL RECLAMATION 13 UCCESSFULLY RECLAIMED 12	Pad & Road DISTURBED 39 Red UNDERGOING INTERIM RECLAMATION 16 d & Rd UNDERGOING FINAL RECLAMATION 13 UCCESSFULLY RECLAIMED 12

Natural Soda, LLC Well Pad & Road Acreage

Cell: B6

Comment: R. G. Dean:

8H-I&R P&A 2019

Cell: L6

Comment: R. G. Dean:

5/29/19 xfered 38547 sqft to 16/17H-1V.

Cell: L8

Comment: R. G. Dean:

Reduced for 16/17H-1V access rd.

Cell: B10

Comment: R. G. Dean:

coalesced with the 15-17-IR-E pad

Cell: C15

Comment: R. G. Dean:

D&A field checked as-built 5/31/19 reduced from 66211 to 52708

Cell: C16

Comment: R. G. Dean:

D&A field checked as-built 5/31/19 reduced from 108900 to 77972

Cell: B17

Comment: R. G. Dean:

coalesced with the 10-13 pad

Cell: C19

Comment: R. G. Dean:

changed from 215,336 to DRG:5.6ac (243,946 sqft)

			Permit	# M1983-19	4
Borehole Description	Sealing/Item Method	Diameter (inch)	Length (feet)	Bridge Plug at Indicated Depth (feet)	Comments
	Portland cement grout	4.0	1876		
	Portland cement grout	4.0	1627		
	Portland cement grout Portland cement grout	4.0 4.0	1417 347		
	Portland cement grout	8.9	1417		
	Portland cement grout	4.0	1627		
	Portland cement grout	4.0	1417		
	Portland cement grout	4.0	1627		
	Portland cement grout	4.0	1627		
	Portland cement grout	4.0	1876		
	Portland cement grout Portland cement grout	4.0 4.0	1876 1876		
	Portland cement grout	4.0	347		
	Portland cement grout	4.0	1417		
	Portland cement grout	4.1	347		
IRI-6	Portland cement grout	4.0	1627		
	Portland cement grout	4.0	1876		
	Portland cement grout	4.0	347	<u>.</u>	
	Portland cement grout	7.0	2100	2100 2010	
	Portland cement grout Portland cement grout	7.0 7.0	2100 1935	2010 1935	
	Portland cement grout	7.0	1935	1935	
	Portland cement grout	4.0	1645	1733	
	Portland cement grout	4.0	1902		DRMS should change name to BG-9 (DS-5)
BG-6	Portland cement grout	4.0	1639		-
	Portland cement grout	7.0	1460		
	Portland cement grout	6.4	1900	1900	
	Portland cement grout	6.4	1900	1900	
	Portland cement grout Portland cement grout	7.0 8.0	1950 2335		P&A process is ongoing, to be completed by 5/24/19
	Portland cement grout	7.0	2100	2100	DRMS should change name to 13H-RI-E
	Portland cement grout	7.0	2110	2100	P&A process is ongoing, to be completed by 5/24/19
	Portland cement grout	7.0	2110		P&A process is ongoing, to be completed by 5/24/19
	Portland cement grout	7.0	2050	2050	
	Portland cement grout	7.0	2110	2110	DRMS should change name to 14H-RI-E
	Portland cement grout	7.0	1420		
	Portland cement grout	7.0	1431		DDMC should show so move to DC 0
	Portland cement grout Portland cement grout	4.0 4.0	1882 1487		DRMS should change name to DS-8 DRMS should change name to AG-1
	Portland cement grout	4.0	1593		DRMS should change name to BG-7
	Portland cement grout	4.0	1917		DRMS should change name to DS-9
	Portland cement grout	4.0	1897		
	Portland cement grout	7.0	1294		DRMS should change name to O-GMW-A
	Portland cement grout	4.0	1882		
	Portland cement grout	4.0	1710		
	Portland cement grout	4.0	1550 1960	1060	
	Portland cement grout Portland cement grout	6.4 6.4	1960	1960 1960	DRMS should change name to 15H-RI
	Portland cement grout	6.4	1960	1960	Drivis should change hame to 1511 Ki
	Portland cement grout	8.9	1960	1960	
	Portland cement grout	6.4	1960	1960	
17H-R	Portland cement grout	9.0	2000	2000	DRMS should change name from 17R-I to 17H-R
401H-l	Portland cement grout	6.4	2094		NS will not drill this well (similar to 9H and 2014
		0.1			RDP wells, see Travis M. for additional details)
401H-R	Portland cement grout	8.8	2094		NS will not drill this well (similar to 9H and 2014
	<u> </u>				RDP wells, see Travis M. for additional details)
4 02H-l	Portland cement grout	6.4	2097		NS will not drill this well (similar to 9H and 2014 RDP wells, see Travis M. for additional details)
402H-R	Portland cement grout	8.8	2097		NS will not drill this well (similar to 9H and 2014 RDP wells, see Travis M. for additional details)
403H-I	Portland cement grout	6.4	2095		NS will not drill this well (similar to 9H and 2014 RDP wells, see Travis M. for additional details)
403H-R	Portland cement grout	8.8	2095		NS will not drill this well (similar to 9H and 2014 RDP wells, see Travis M. for additional details)
12H-IR	Portland cement grout	9.0	2100	2010	•
13H-IR	Portland cement grout	9.0	2100	2010	
	Portland cement grout	4.0	1760		
-	Portland cement grout	4.0	1720		
	Portland cement grout	4.0	1882		
	Portland cement grout	8.9	2130	2130	
	Portland cement grout	8.9	1898		
	Portland cement grout	8.9	1976		
1 7 1 1 1 1 1 1	Portland cement grout	8.9	2100		
		0 0		7175	
15H-IR-E	Portland cement grout Portland cement grout	8.9 8.9		2135 2131	