

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

1313 Sherman Street, Room 215 Denver, CO 80203

October 7, 2019

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

## RE: Nacholite Project, Permit No. M-1983-194, Technical Revision (TR-44 ) Approval

Dear Mr. Daehling:

On October 7, 2019 the Division of Reclamation, Mining, and Safety (Division) <u>approved</u> the Technical Revision request (TR-44) submitted on October 1, 2019, addressing the following:

Updating bonding figures in support of a future surety Reduction Request.

The terms of the TR-44 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.

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 303-866-3567 Ext 8183 or via email at amy.yeldell@ state.co.us

Sincerely,

Geldell

Amy Yeldell Environmental Protection Specialist

Enclosures:

TR-44 Reclamation Cost Estimate TR-44 Reclamation Cost Estimate- Changes to Bond

EC:

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





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## RE: Nacholite Project, Permit No. M-1983-194, TR-44 Reclamation Cost Estimate-Changes to Bond

Dear Mr. Daehling:

This reclamation cost update was in response to the technical revision request (TR-44) which was submitted on October 1, 2019 and a site inspection conducted on October 3, 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-44) as compared to previous technical revision (TR-43). This table does not account for price changes resulting from inflation or other RS Means cost changes. On July 1, 2019 the Division implemented it's second of four incremental increases.

Task	Form Used	Change	Justification
01a	Demo	-	Updated existing building dimensions Removed TR-36 features no longer to be constructed Updated pipeline inventory based on email average of 34,948 LF of 10". Removed electrical infrastructure to be removed by WREA Job task hours adjusted to reflect less work
02a	Borehole		Updated names accordingly
05a	Dozer	-	Updated per D&A Repose 46 ac of pads requiring reclamation (Disturbed and Interim Reclamation) 46 ac @ 24" (148,427 CY)



05b	Dozer	-	46 ac of pads @ 6" depth (37,527 CY)
05c	Reveg	-	Reveg 46 ac, updated seeding cost
Indire	ct		Overall job task hours decreased, less superintendent hours Higher engineering and reclamation % of contract based on \$2,500,000

Please feel free to contact me with any further questions. Amy Yeldell at the Division of Reclamation, Mining and Safety, 1313 Sherman St., Room 215, Denver, CO 80203. Direct contact can be made by phone at 303-866-3567 Ext 8183 or via email at amy.yeldell@ state.co.us

Sincerely,

Amy Geldell

*Amy Yeldell* Environmental Protection Specialist

# COST SUMMARY WORK

Task description: <b>T</b>		TR-44 Updates						
Site:	Nahcolite	e Project	Pe	rmit Action:	TR-44	Permit/Job	o#: <u>M1983194</u>	
<u>P</u> ]	ROJECT	IDENTIFIC	ATION					
	Task #:	ACY	State:	Colorado		Abbreviation:	None	
	Date:	10/1/2019	County:	Rio Blanco		Filename:	M194-ACY	
	User:	ACY						_

Agency or organization name: DRMS

# TASK LIST (DIRECT COSTS)

Task		Form	Fleet	Task	<b>G</b> _4
	Description	Used	Size	Hours	Cost
01a	Demo of Plant, pipelines, powerlines and parking lot	DEMOLISH	1	80.00	\$1,913,936
02a	Borehole P&A	BOREHOLE	1	610.00	\$600,185
03a	Regrade Process Ponds	DOZER	2	133.65	\$60,772
03b	Decompact Process Pond	RIPPER	2	6.85	\$3,373
030 03c	Topsoil Process Pond	DOZER	2	14.06	\$6,394
03d	Reveg Process Pond	REVEGE	1	28.50	\$36,353
			1		
04a	Regrade Plant Area	DOZER	2	23.69	\$10,773
04b	Decompact Plant Area	RIPPER	2	7.02	\$3,457
04c	Topsoil Plant Area	DOZER	2	6.07	\$2,759
04d	Reveg Plant Area	REVEGE	1	12.30	\$15,689
					<b>*-------------</b>
05a	Regrade Well Pads	DOZER	2	165.76	\$75,377
05b	Topsoil Well Pads	DOZER	2	34.04	\$15,479
05c	Reveg Well Pads	REVEGE	1	73.50	\$88,014
06a	Decompact Roads	RIPPER	2	4.82	\$2,378
06b	Topsoil roads	DOZER	2	4.44	\$2,019
06c	Reveg Roads	REVEGE	1	9.00	\$11,480
12a	Initial Mobilization	MOBILIZE	1	8.00	\$14,500
12a 12b	Secondary Mobilization	MOBILIZE	1	8.00	\$2,422
120	Secondary Moonization	MOBILIZE	1	8.00	\$2,422
		<u>SUBTO</u>	TALS:	1229.7	\$2,865,360

# **INDIRECT COSTS**

# OVERHEAD AND PROFIT:

Liability insurance:	2.02	Total =	\$57,880
Performance bond:	1.05	Total =	\$30,086
Job superintendent:	614.85	Total =	\$42,664
Profit:	10.00	Total =	\$286,536
		TOTAL O & P =	\$417,167
		CONTRACT AMOUNT (direct + O & P) = $($	\$3,282,527

#### LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs): Engineering work and/or contract/bid preparation: Reclamation management and/or administration:	\$500 5.23 4.00	Total = Total =	\$500 \$171,676 \$131,301
CONTINGENCY:	3.00	Total =	\$85,961
	TOTAL I	NDIRECT COST =	\$806,605
TOTAL BO	\$3,671,965		

### **DEMOLITION WORK**

	ask description:	Demo of Plant, pipelines,		• • •	<b>1 1 1 1 1 1 1 1 1 1</b>
Site:	Nahcolite Project	Permit Action:	TR-44	Permit/.	Job#: <u>M1983194</u>
ROJEC	CT IDENTIFICATI	ON			
				Abbrovistion	None
Task #:	01A	State: Colorado		Abbreviation:	None
	10/1/2019	County: Rio Blanco		Filename:	M194-01a
Date:	10/1/2019	· · · · · · · · · · · · · · · · · · ·			

Location adjustment: 95.50 %

#### UNIT COSTS

#### Structure or Item **Demolition Menu** Unit **Total Cost** Dimensions Quantity Unit Description Selection Cost 200'L x 227'W NSI Plant Plant (3S) demo./off-site 1,929,500.00 CF \$0.71 \$1,371,681.55 disposal in approved x 42.5'H landfill - Max. 30 mile haul Product Storage 95'L x 95'W x Plant (3S) demo./off-site 451,250.00 CF \$0.71 \$320,793.63 Dome 50'H disposal in approved landfill - Max. 30 mile haul Removal of NSI Plant 200'L x 227'W Demo. and on-site 45,400.00 SF \$1.25 \$56,532.08 x 8" disposal in excavated pit, Slab 8 in. thick - Max. 200 ft. push Demo. and on-site 9,025.00 SF Removal of Storage 95'L x 95'W x8" \$1.25 \$11,237.93 Dome Slab disposal in excavated pit, 8 in. thick - Max. 200 ft. push Plant (1S) demo./off-site CF Scale Building 108'W x 18'L x 19,440.00 \$0.72 \$13,919.04 10'H disposal in approved landfill - Max. 30 mile haul Demo. and on-site 1.944.00 Removal of Scale 108'W x 18'L x SF \$1.25 \$2,420.67 **Building Slab** 8" disposal in excavated pit, 8 in. thick - Max. 200 ft. push Tank Farm 30'W x 50'H Haul tank to certified 5.00 EA \$760.00 \$3,800.00 salvage dump - 3,000 to 5,000 gal. tank USER PROVIDED 70.00 Ft^2 \$5.00 Removal of 70 SqFt \$350.00 Flagpole/Monument ITEM Demolition of 6'W x 18'L x Plant (3S) demo./off-site 1.080.00 CF \$0.71 \$767.77 Screening and Magnet 10'H disposal in approved landfill - Max. 30 mile System haul Pipelines averaged to 34,948 LF Pipe, steel, welded 34,948.00 LF \$6.37 \$222,618.76 10" diam connections - 10 in. diameter pipe

				<b>Total Cost</b>	
		Subtotal		(adjusted for	
<b>Job Hours:</b>	80.00	(unadjusted):	\$2,004,121.43	location):	\$1,913,935.97

# BOREHOLE SEALING WORK

,	Task description:	Borehole P	&A			
Site:	Nahcolite Project		Permit Action:	TR-44	Permit/J	lob#:M1983194
<u>PROJE</u>	CT IDENTIFICATION	N				
Task #: Date: User:	10/1/2019	State: County:	Colorado Rio Blanco		Abbreviation: Filename:	None M194-02a
	Agency or organizat	ion name:	DRMS			

# **UNIT COSTS**

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit	Total Cost
-		Diumeter	-			Cost	
3M-TDR	Portland cement grout - 4 in. (labor, equip, materials)	4	1876	1,876.00	LF	\$5.00	\$9,376.25
89-1	Portland cement grout - 4 in. (labor, equip, materials)	4	1627	1,627.00	LF	\$5.00	\$8,131.75
89-2	Portland cement grout - 4 in. (labor, equip, materials)	4	1417	1,417.00	LF	\$5.00	\$7,082.17
89-3	Portland cement grout - 4 in. (labor, equip, materials)	4	347	347.00	LF	\$5.00	\$1,734.31
90-1	Portland cement grout - 8 in. (labor, equip, materials)	8.9	1417	1,417.00	LF	\$6.29	\$8,915.76
90-3	Portland cement grout - 4 in. (labor, equip, materials)	4	1627	1,627.00	LF	\$5.00	\$8,131.75
90-4	Portland cement grout - 4 in. (labor, equip, materials)	4	1417	1,417.00	LF	\$5.00	\$7,082.17
BG-1	Portland cement grout - 4 in. (labor, equip, materials)	4	1627	1,627.00	LF	\$5.00	\$8,131.75
BG-4	Portland cement grout - 4 in. (labor, equip, materials)	4	1627	1,627.00	LF	\$5.00	\$8,131.75
DS-2	Portland cement grout - 4 in. (labor, equip, materials)	4	1876	1,876.00	LF	\$5.00	\$9,376.25
DS-3	Portland cement grout - 4 in. (labor, equip, materials)	4	1876	1,876.00	LF	\$5.00	\$9,376.25
EX-2	Portland cement grout - 4 in. (labor, equip, materials)	4	1876	1,876.00	LF	\$5.00	\$9,376.25
IRI-1	Portland cement grout - 4 in. (labor, equip, materials)	4	347	347.00	LF	\$5.00	\$1,734.31
IRI-4	Portland cement grout - 4 in. (labor, equip, materials)	4	1417	1,417.00	LF	\$5.00	\$7,082.17

IRI-5       Portland cement grout - 4 in. (labor, equip, materials)       4.1       347       347.00       LF       \$5.00       \$1,734.         IRI-6       Portland cement grout - 4 in. (labor, equip, materials)       4       1627       1,627.00       LF       \$5.00       \$8,131.         IRI-7       Portland cement grout - 4 in. (labor, equip, materials)       4       1876       1,876.00       LF       \$5.00       \$9,376.         IRI-8       Portland cement grout - 4 in. (labor, equip, materials)       4       347       347.00       LF       \$5.00       \$9,376.         I2H-I       Portland cement grout - 4 in. (labor, equip, materials)       4       347       347.00       LF       \$6.29       \$1,734.         12H-I       Portland cement grout - 8 in. (labor, equip, materials)       7       2100       2,100.00       LF       \$6.29       \$13,217.         12H-I Bridge Plug       PVC plug - 8 in. diameter borehole       7       1       1.00       EA       \$80.77       \$80.77         12H-R       Portland cement grout - 8 in. (labor, equip,       7       2100       2,100.00       LF       \$6.29       \$13,217	75 25 31
IRI-6       Portland cement grout - 4       4       1627       1,627.00       LF       \$5.00       \$8,131.         IRI-7       Portland cement grout - 4       4       1876       1,876.00       LF       \$5.00       \$9,376.         IRI-7       Portland cement grout - 4       4       1876       1,876.00       LF       \$5.00       \$9,376.         IRI-8       Portland cement grout - 4       4       347       347.00       LF       \$5.00       \$1,734.         IRI-8       Portland cement grout - 4       4       347       347.00       LF       \$5.00       \$1,734.         I2H-I       Portland cement grout - 8       7       2100       2,100.00       LF       \$6.29       \$13,213.         12H-I       Portland cement grout - 8       7       1       1.00       EA       \$80.77       \$80.77         12H-I Bridge Plug       PVC plug - 8 in.       7       2100       2,100.00       LF       \$6.29       \$13,213.         12H-R       Portland cement grout - 8       7       2100       2,100.00       LF       \$6.29       \$13,213.	25 31
in. (labor, equip, materials)       in. (labor, equip, materials)       in. (labor, equip, materials)       1876       1,876.00       LF       \$5.00       \$9,376.00         IRI-7       Portland cement grout - 4 in. (labor, equip, materials)       4       1876       1,876.00       LF       \$5.00       \$9,376.00         IRI-8       Portland cement grout - 4 in. (labor, equip, materials)       4       347       347.00       LF       \$5.00       \$1,734.00         12H-I       Portland cement grout - 8 in. (labor, equip, materials)       7       2100       2,100.00       LF       \$6.29       \$13,213.00         12H-I Bridge Plug       PVC plug - 8 in. diameter borehole       7       1       1.00       EA       \$80.77       \$80.77         12H-R       Portland cement grout - 8       7       2100       2,100.00       LF       \$6.29       \$13,213	25 31
IRI-7       Portland cement grout - 4       4       1876       1,876.00       LF       \$5.00       \$9,376.         IRI-8       Portland cement grout - 4       4       347       347.00       LF       \$5.00       \$1,734.         IRI-8       Portland cement grout - 4       4       347       347.00       LF       \$5.00       \$1,734.         IRI-8       Portland cement grout - 4       4       347       347.00       LF       \$5.00       \$1,734.         I2H-I       Portland cement grout - 8       7       2100       2,100.00       LF       \$6.29       \$13,213.         12H-I Bridge Plug       PVC plug - 8 in.       7       1       1.00       EA       \$80.77       \$80.77         12H-R       Portland cement grout - 8       7       2100       2,100.00       LF       \$6.29       \$13,213.	31
IRI-8       Portland cement grout - 4       4       347       347.00       LF       \$5.00       \$1,734.         in. (labor, equip, materials)       materials)       7       2100       2,100.00       LF       \$6.29       \$13,212.         12H-I       Portland cement grout - 8 in. (labor, equip, materials)       7       1       1.00       EA       \$80.77       \$80.77         12H-I Bridge Plug       PVC plug - 8 in. diameter borehole       7       2100       2,100.00       LF       \$6.29       \$13,212         12H-R       Portland cement grout - 8       7       2100       2,100.00       LF       \$6.29       \$13,212	
12H-I       Portland cement grout - 8       7       2100       2,100.00       LF       \$6.29       \$13,213         12H-I       Bridge Plug       PVC plug - 8 in.       7       1       1.00       EA       \$80.77       \$80.77         12H-R       Portland cement grout - 8       7       2100       2,100.00       LF       \$6.29       \$13,213	3.20
diameter borehole         2100         2,100.00         LF         \$6.29         \$13,212	
materials)	3.20
12H-R Bridge PlugPVC plug - 8 in. diameter borehole711.00EA\$80.77\$80.77	
10H-I         Portland cement grout - 8         7         1935         1,935.00         LF         \$6.29         \$12,175           in. (labor, equip, materials)         materials         1	5.02
10H-I Bridge PlugPVC plug - 8 in. diameter borehole711.00EA\$80.77\$80.77	
10H-R         Portland cement grout - 8 in. (labor, equip, materials)         7         1935         1,935.00         LF         \$6.29         \$12,175	5.02
10H-R BridgePVC plug - 8 in.711.00EA\$80.77\$80.77Plugdiameter borehole	
BG-5         Portland cement grout - 4         4         1645         1,645.00         LF         \$5.00         \$8,221.           in. (labor, equip, materials)         materials         1645	71
BG-5 (DS-5)         Portland cement grout - 4 in. (labor, equip, materials)         4         1902         1,902.00         LF         \$5.00         \$9,506.	20
BG-6 Portland cement grout - 4 4 1639 1,639.00 LF \$5.00 \$8,191. in. (labor, equip, materials)	72
WSW-2         Portland cement grout - 8 in. (labor, equip, materials)         7         1460         1,460.00         LF         \$6.29         \$9,186.	32
DVPW-1(A)         Portland cement grout - 6         6.4         1900         1,900.00         LF         \$5.67         \$10,773           in. (labor, equip, materials)         materials)         1	3.00
DVPW-1(A)PVC plug - 6 in. diameter borehole6.411.00EA\$58.97\$58.97	
DVPW-1(B)Portland cement grout - 6 in. (labor, equip, materials)6.419001,900.00LF\$5.67\$10,773	3.00
DVPW-1(B) PVC plug - 6 in. 6.4 1 1.00 EA \$58.97 \$58.97	
	10
Bridge Plug     diameter borehole     Image: Constraint of the state of th	9.40

CIRCES Cost Estimating Software

	in (labor couin						1
	in. (labor, equip, materials)						
13H-RI-E Bridge	PVC plug - 8 in.	7	1	1.00	EA	\$80.77	\$80.77
Plug	diameter borehole						
14H-I	Portland cement grout - 8	7	2050	2,050.00	LF	\$6.29	\$12,898.60
	in. (labor, equip,						
	materials)						
14H-I Bridge Plug	PVC plug - 8 in.	7	1	1.00	EA	\$80.77	\$80.77
	diameter borehole						
14H-RI-E (14H-R)	Portland cement grout - 8	7	2110	2,110.00	LF	\$6.29	\$13,276.12
	in. (labor, equip,						
	materials) PVC plug - 8 in.	7	1	1.00	EA	\$80.77	\$80.77
14H-RI-E Bridge Plug	diameter borehole	/	1	1.00	EA	\$80.77	<i>\$</i> 00.77
WSW-3	Portland cement grout - 8	7	1420	1,420.00	LF	\$6.29	\$8,934.64
11511-5	in. (labor, equip,	,	1420	1,420.00	1.1	ψ0.27	φ <b>0</b> ,73 <b>-</b> .0 <del>-</del>
	materials)						
WSW-4	Portland cement grout - 8	7	1431	1,431.00	LF	\$6.29	\$9,003.85
	in. (labor, equip,			,			
	materials)						
DS-8 (I, Phase 1)	Portland cement grout - 4	4	1882	1,882.00	LF	\$5.00	\$9,406.24
	in. (labor, equip,						
	materials)						
AG-1 (J, Phase 1)	Portland cement grout - 4	4	1487	1,487.00	LF	\$5.00	\$7,432.03
	in. (labor, equip,						
$\mathbf{D} \subset \mathcal{T} (\mathbf{V} \mid \mathbf{D} \mid \dots \mid 1)$	materials)	4	1502	1 502 00	LE	¢5.00	¢7.0 <i>c</i> 1.01
BG-7 (K, Phase 1)	Portland cement grout - 4	4	1593	1,593.00	LF	\$5.00	\$7,961.81
	in. (labor, equip, materials)						
DS-9 (M, Phase 1)	Portland cement grout - 4	4	1917	1,917.00	LF	\$5.00	\$9,581.17
$DS^{-j}$ (WI, I has $T$ )	in. (labor, equip,	-	1717	1,717.00	1.1	ψ5.00	φ),501.17
	materials)						
DS-7	Portland cement grout - 4	4	1897	1,897.00	LF	\$5.00	\$9,481.21
	in. (labor, equip,			,			
	materials)						
O-GWM-A (O,	Portland cement grout - 8	7	1294	1,294.00	LF	\$6.29	\$8,141.85
Phase 2)	in. (labor, equip,						
	materials)						
DS-6	Portland cement grout - 4	4	1882	1,882.00	LF	\$5.00	\$9,406.24
	in. (labor, equip,						
IDI O	materials) Portland cement grout - 4	4	1710	1 710 00	IE	\$5.00	¢9 516 50
IRI-9	in. (labor, equip,	4	1710	1,710.00	LF	\$5.00	\$8,546.58
	materials)						
IRI-11	Portland cement grout - 4	4	1550	1,550.00	LF	\$5.00	\$7,746.90
	in. (labor, equip,	'	1550	1,550.00		ψ5.00	φι,ι ιο.νο
	materials)						
15H-I	Portland cement grout - 6	6.4	1960	1,960.00	LF	\$5.67	\$11,113.20
	in. (labor, equip,						
	materials)						
15H-1 Bridge Plug	PVC plug - 6 in.	6.4	1	1.00	EA	\$58.97	\$58.97
	diameter borehole			-			
15H-RI (15H-R)	Portland cement grout - 6	6.4	1960	1,960.00	LF	\$5.67	\$11,113.20
	in. (labor, equip,						
15U DI Duidas	materials)	61	1	1.00	EA	\$50.07	\$58.07
15H-RI Bridge Plug	PVC plug - 6 in. diameter borehole	6.4	1	1.00	EA	\$58.97	\$58.97
16H-I	Portland cement grout - 6	6.4	1960	1,960.00	LF	\$5.67	\$11,113.20
1011-1	i ornanu coment grout - 0	0.4	1900	1,900.00		ψ5.07	ψ11,113.20

CIRCES Cost Estimating Software

		1			1		
	in. (labor, equip,						
1 CIL I Dridaa Dhua	materials)	6.4	1	1.00	EA	¢50.07	\$59.07
16H-I Bridge Plug	PVC plug - 6 in. diameter borehole	6.4	1	1.00	EA	\$58.97	\$58.97
16H-R	Portland cement grout - 8	8.9	1960	1,960.00	LF	\$6.29	\$12,332.32
1011-1	in. (labor, equip,	0.7	1700	1,700.00	LI	\$0.27	φ12,552.52
	materials)						
16H-R Bridge	PVC plug - 8 in.	8.9	1	1.00	EA	\$80.77	\$80.77
Plug	diameter borehole						
17H-I	Portland cement grout - 6	6.4	1960	1,960.00	LF	\$5.67	\$11,113.20
	in. (labor, equip,						
	materials)						
17H-I Bridge Plug	PVC plug - 6 in.	6.4	1	1.00	EA	\$58.97	\$58.97
	diameter borehole						
17H-R	Portland cement grout -	9	2000	2,000.00	LF	\$7.14	\$14,288.20
	10 in. (labor, equip,						
	materials)						
17H-R Bridge	PVC plug - 10 in.	9	1	1.00	EA	\$110.66	\$110.66
Plug	diameter borehole						
12H-IR	Portland cement grout -	9	2100	2,100.00	LF	\$7.14	\$15,002.61
	10 in. (labor, equip,						
1011 IDD - 1.	materials)	0	1	1.00	Π.	¢110.66	¢110.cc
12H-IRBridge	PVC plug - 10 in. diameter borehole	9	1	1.00	EA	\$110.66	\$110.66
Plug 13H-IR	Portland cement grout -	9	2100	2,100.00	LF	\$7.14	\$15,002.61
1311-IK	10 in. (labor, equip,	9	2100	2,100.00	LI	φ/.14	\$15,002.01
	materials)						
13H-IR Bridge	PVC plug - 10 in.	9	1	1.00	EA	\$110.66	\$110.66
Plug	diameter borehole	,	1	1.00	2.1	<i><b></b></i>	\$110.00
15H-SSMW	Portland cement grout - 4	4	1760	1,760.00	LF	\$5.00	\$8,796.48
	in. (labor, equip,			· · · · · · ·			
	materials)						
17H-SSMW	Portland cement grout - 4	4	1720	1,720.00	LF	\$5.00	\$8,596.56
	in. (labor, equip,						
	materials)						
DS-10	Portland cement grout - 4	4	1882	1,882.00	LF	\$5.00	\$9,406.24
	in. (labor, equip,						
	materials)						
14H-1V	Portland cement grout - 8	8.9	2130	2,130.00	LF	\$6.29	\$13,401.96
	in. (labor, equip,						
	materials)		1	1.00	E A	<b>000 77</b>	¢00.77
14H-1V Bridge	PVC plug - 8 in. diameter borehole	8.9	1	1.00	EA	\$80.77	\$80.77
Plug 15H-1V	Portland cement grout - 8	8.9	1898	1,898.00	LF	\$6.29	\$11,942.22
13H-1V	in. (labor, equip,	0.9	1090	1,090.00	LГ	\$0.29	\$11,942.22
	materials)						
16H-1V	Portland cement grout - 8	8.9	1976	1,976.00	LF	\$6.29	\$12,432.99
	in. (labor, equip,	0.7	1710	1,270.00		Ψ <b>Ο.</b> Δ <i>γ</i>	\$1 <b>2</b> ,1 <i>32</i> ,77
	materials)						
17H-1V	Portland cement grout - 8	8.9	2100	2,100.00	LF	\$6.29	\$13,213.20
	in. (labor, equip,						
	materials)						
15H-IR-E	Portland cement grout - 8	8.9	2135	2,135.00	LF	\$6.29	\$13,433.42
	in. (labor, equip,						
	materials)						
15H-IR-E Bridge	PVC plug - 8 in.	8.9	1	1.00	EA	\$80.77	\$80.77
Plug	diameter borehole	0.0				<b>\$ 5 \$ 5</b>	<b>*10</b> 100 <b>57</b>
16H-IR-E	Portland cement grout - 8	8.9	2131	2,131.00	LF	\$6.29	\$13,408.25

CIRCES Cost Estimating Software

	in. (labor, equip, materials)						
16H-IR-E Bridge Plug	PVC plug - 8 in. diameter borehole	8.9	1	1.00	EA	\$80.77	\$80.77
0							
17H-IR-E	Portland cement grout - 8	8.9	2138	2,138.00	LF	\$6.29	\$13,452.30
	in. (labor, equip,						
	materials)						
17H-IR-E Bridge	PVC plug - 8 in.	8.9	1	1.00	EA	\$80.77	\$80.77
Plug	diameter borehole						

Job Hours: 610.00

Total Cost: \$600,185.00

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# BULLDOZER WORK

Task description:	Regrade Well Pac	ds			
Nahcolite Project	Pern	nit Action:	TR-44	Permit/Job#:	M1983194
PROJECT IDENTIF	<b>ICATION</b>				
Task #: 05A	State:	Colorado		Abbreviation:	None
Date: $10/1/2019$	County:	Rio Blanco	)	Filename:	M194-04a
User: ACY					
Agency or orga	nization name: DR	MS			
HOURLY EQUIPMI	ENT COST				
Basic Machine: Ca	t D8T - 8SU				
Horsepower: 310					
	mi-Universal				
Attachment: NA					
	er day				
Data Source: (Cl	RG)				
Cost Breakdown:					
			Utilization %		
Ownership Cost/Hour:		\$103.86	NA		
Operating Cost/Hour:		\$82.26	100		
		\$0.00	NA		
Ripper own. Cost/Hour:			0		
Ripper own. Cost/Hour: Ripper op. Cost/Hour:		\$0.00	0		
Ripper own. Cost/Hour: Ripper op. Cost/Hour: Operator Cost/Hour: Total unit Cost/Hour: Total Fleet Cost/Hour:	\$227.36 \$454.72		0 NA		
Ripper own. Cost/Hour: Ripper op. Cost/Hour: Operator Cost/Hour: Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 148,	\$454.72 FITIES 427	\$0.00			
Ripper own. Cost/Hour: Ripper op. Cost/Hour: Operator Cost/Hour: Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 148, Swell factor: 1.11	\$454.72 FIFIES 427 5	\$0.00			
Ripper own. Cost/Hour: Ripper op. Cost/Hour: Operator Cost/Hour: Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 148, Swell factor: 1.11	\$454.72 FITIES 427	\$0.00			
Ripper own. Cost/Hour: Ripper op. Cost/Hour: Operator Cost/Hour: Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 148, Swell factor: 1.11	\$454.72 <u>FITIES</u> ,427 5 ,496 LCY	\$0.00 \$41.24	NA		
Ripper own. Cost/Hour: Ripper op. Cost/Hour: Operator Cost/Hour: Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 148, Swell factor: 1.11 Loose volume: 165,	\$454.72 <b>FITIES</b> ,427 5 ,496 LCY me:46 ac of particular	\$0.00 \$41.24	NA		
Ripper own. Cost/Hour: Ripper op. Cost/Hour: Operator Cost/Hour: Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 148, Swell factor: 1.11 Loose volume: 165, Source of estimated volu	\$454.72 <b>FITIES</b> ,427 5 ,496 LCY me:46 ac of particular	\$0.00 \$41.24	NA		
Ripper own. Cost/Hour: Ripper op. Cost/Hour: Operator Cost/Hour: Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 148, Swell factor: 1.11 Loose volume: 165, Source of estimated volu	\$454.72 <u>FITIES</u> 427 5 496 LCY me: <u>46 ac of pr</u> 1 factor: <u>Cat Handb</u>	\$0.00 \$41.24	NA		
Ripper own. Cost/Hour: Ripper op. Cost/Hour: Operator Cost/Hour: Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 148. Swell factor: 1.11 Loose volume: 165. Source of estimated volu Source of estimated swel HOURLY PRODUCC	\$454.72 <u>FITIES</u> 427 5 496 LCY me: <u>46 ac of p</u> 1 factor: <u>Cat Handt</u> <u>FION</u>	\$0.00 \$41.24	NA		
Ripper own. Cost/Hour: Ripper op. Cost/Hour: Operator Cost/Hour: Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 148, Swell factor: 1.11 Loose volume: 165, Source of estimated volu Source of estimated swel HOURLY PRODUCT Average push distance:	\$454.72 <u>FITIES</u> 427 5 496 LCY me: <u>46 ac of p</u> 1 factor: <u>Cat Handb</u> <u>FION</u> 75 feet	\$0.00 \$41.24	NA		
Ripper own. Cost/Hour: Ripper op. Cost/Hour: Operator Cost/Hour: Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 148. Swell factor: 1.11 Loose volume: 165. Source of estimated volu Source of estimated swel HOURLY PRODUCC	\$454.72         CITIES         ,427         5         ,496 LCY         me:       46 ac of p.         1 factor:       Cat Handb <b>TION</b> ction:       75 feet         1,017.1 LCY	\$0.00 \$41.24	NA		
Ripper own. Cost/Hour: Ripper op. Cost/Hour: Operator Cost/Hour: Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 148, Swell factor: 1.11 Loose volume: 165, Source of estimated volu Source of estimated swel HOURLY PRODUCT Average push distance: Unadjusted hourly produ Materials consistency dest	\$454.72         CITIES         .427         5         .496 LCY         me:       46 ac of p.         1 factor:       Cat Handb         FION         ction:       75 feet         1,017.1 LCY         scription:       Compace	\$0.00 \$41.24			
Ripper own. Cost/Hour: Ripper op. Cost/Hour: Operator Cost/Hour: Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 148, Swell factor: 1.11 Loose volume: 165, Source of estimated volu Source of estimated swel HOURLY PRODUCT Average push distance: Unadjusted hourly produ Materials consistency des Average push gradient:	\$454.72         CITIES         .427         5         .496 LCY         me:       46 ac of p.         1 factor:       Cat Handb         FION         ction:       75 feet         1,017.1 LCY         scription:       Compace         0 %	\$0.00 \$41.24			
Ripper own. Cost/Hour: Ripper op. Cost/Hour: Operator Cost/Hour: Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 148, Swell factor: 1.11 Loose volume: 165, Source of estimated volu Source of estimated swel HOURLY PRODUCT Average push distance: Unadjusted hourly produ Materials consistency dest	\$454.72         CITIES         .427         5         .496 LCY         me:       46 ac of p.         1 factor:       Cat Handb         FION         ction:       75 feet         1,017.1 LCY         scription:       Compace	\$0.00 \$41.24			
Ripper own. Cost/Hour: Ripper op. Cost/Hour: Operator Cost/Hour: Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 148, Swell factor: 1.11 Loose volume: 165, Source of estimated volu Source of estimated swel HOURLY PRODUCT Average push distance: Unadjusted hourly produ Materials consistency des Average push gradient:	\$454.72         CITIES         .427         5         .496 LCY         me:       46 ac of p.         1 factor:       Cat Handb         FION         ction:       75 feet         1,017.1 LCY         scription:       Compace         0 %	\$0.00 \$41.24			
Ripper own. Cost/Hour: Ripper op. Cost/Hour: Operator Cost/Hour: Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 148, Swell factor: 1.11 Loose volume: 165, Source of estimated volu Source of estimated volu Source of estimated swel HOURLY PRODUCT Average push distance: Unadjusted hourly produ Materials consistency des Average push gradient: Average push gradient: Average site altitude:	\$454.72         CITIES         .427         5         .496 LCY         me:       46 ac of p.         1 factor:       Cat Handb         TION         ction:       1,017.1 LCY         scription:       Compace         0 %       6,600 feet	\$0.00 \$41.24			
Ripper own. Cost/Hour: Ripper op. Cost/Hour: Operator Cost/Hour: Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 148, Swell factor: 1.11 Loose volume: 165, Source of estimated volu Source of estimated volu Source of estimated swel HOURLY PRODUCT Average push distance: Unadjusted hourly produ Materials consistency des Average push gradient: Average site altitude: Material weight:	\$454.72         CITIES         .427         5         .496 LCY         me:       .46 ac of p.         1 factor:       .Cat Handb         TION         ction:       .1,017.1 LCY         scription:       .Compac         0 %       .6,600 feet         2,100 lbs/LCY         Earth - Loam	\$0.00 \$41.24			
Ripper own. Cost/Hour: Ripper op. Cost/Hour: Operator Cost/Hour: Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 148, Swell factor: 1.11 Loose volume: 165, Source of estimated volu Source of estimated volu Source of estimated swel HOURLY PRODUCT Average push distance: Unadjusted hourly produ Materials consistency des Average push gradient: Average site altitude: Material weight: Weight description: Job Condition Correction Operator	\$454.72         CITIES         .427         5         .496 LCY         me:       _46 ac of p.         1 factor:       _Cat Handt         TION         ction:       _75 feet	\$0.00 \$41.24 	NA		
Ripper own. Cost/Hour: Ripper op. Cost/Hour: Operator Cost/Hour: Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 148, Swell factor: 1.11 Loose volume: 165, Source of estimated volu Source of estimated volu Source of estimated swel HOURLY PRODUCC Average push distance: Unadjusted hourly produ Materials consistency des Average push gradient: Average site altitude: Material weight: Weight description: Job Condition Correction Operator Material consist	\$454.72         CITIES         .427         5         .496 LCY         me:       46 ac of p.         1 factor:       Cat Handb         TION         ction:       75 feet         .1,017.1 LCY         scription:       Compace         0 %       6,600 feet         2,100 lbs/LCY       Earth - Loam         Factor       Skill:       0.7         ency:       0.9	\$0.00 \$41.24 	NA		
Ripper own. Cost/Hour: Ripper op. Cost/Hour: Operator Cost/Hour: Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 148, Swell factor: 1.11 Loose volume: 165, Source of estimated volu Source of estimated volu Source of estimated swel HOURLY PRODUCC Average push distance: Unadjusted hourly produ Materials consistency des Average push gradient: Average site altitude: Material weight: Weight description: Job Condition Correction Operator Material consist Dozing me	\$454.72         CITIES         .427         5         .496 LCY         me:       46 ac of p.         1 factor:       Cat Handb         TION         ction:       75 feet         1,017.1 LCY         scription:       Compace         0 %       6,600 feet         2,100 lbs/LCY       Earth - Loam         Factor       Skill:       0.7         ency:       0.9         ethod:       1.0	\$0.00 \$41.24 	NA		

y: 0.830	(1 SHIFT/DAY)
e: 0.800	(FND-RF)
nt: 1.000	(CAT HB)
e: 1.000	(CAT HB)
nt: 1.095	(CAT HB)
e: 1.000	(PAT)
n: <u>0.4908</u>	
499.19 LCY/hr	
998.38 LCY/hr	
	e:       0.800         ht:       1.000         e:       1.000         ht:       1.095         e:       1.000         ht:       0.4908

# JOB TIME AND COST

Fleet size:	2 Dozer(s)
Unit cost:	\$0.455/LCY

Total job time:	165.76 Hours
Total job cost:	\$75,377

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# BULLDOZER WORK

Task description:	Topsoil W	Vell Pads				
Nahcolite Project		Permit Action:	TR-44	Permit/Job#:	M1983194	
PROJECT IDENT	<b>IFICATION</b>					
Task #: 05B		State: Colorado		Abbreviation:	None	
Date: 10/1/20 User: ACY	19 Co	ounty: Rio Blanco	)	Filename:	M194-05b	
		e: DRMS				
	rganization name					
HOURLY EQUIP						
	Cat D8T - 8SU					
	310 Semi-Universal					
JI	NA					
	1 per day					
	(CRG)					
	(CKO)					
Cost Breakdown:		1				
		¢102.07	<u>Utilization %</u>			
Ownership Cost/Hou		\$103.86 \$82.26	<u>NA</u> 100			
Operating Cost/Hou		\$82.26	NA			
		\$0.00	0			
Ripper own. Cost/Hou Ripper on Cost/Hou		ψ0.00	0			
Ripper op. Cost/Hou		\$41.24	NA			
Ripper op. Cost/Hou Operator Cost/Hou Total unit Cost/Hour: Total Fleet Cost/Hour	ır: \$227.36 : <b>\$454.72</b>	\$41.24	NA			
Ripper op. Cost/Hou Operator Cost/Hou Total unit Cost/Hour: Total Fleet Cost/Hour MATERIAL QUA	ır: \$227.36 \$ <b>454.72</b> NTITIES	\$41.24	NA			
Ripper op. Cost/Hou Operator Cost/Hou Total unit Cost/Hour: Total Fleet Cost/Hour MATERIAL QUA Initial Volume: <u>3</u> Swell factor: <u>1</u>	ır: \$227.36 : <b>\$454.72</b>	\$41.24	NA			
Ripper op. Cost/Hou Operator Cost/Hou Total unit Cost/Hour: Total Fleet Cost/Hour MATERIAL QUA Initial Volume: 3 Swell factor: 1 Loose volume: 3	ır: \$227.36 \$454.72 NTITIES 7,107 .000 7,107 LCY		NA			
Ripper op. Cost/Hou Operator Cost/Hou Total unit Cost/Hour: Total Fleet Cost/Hour MATERIAL QUA Initial Volume: 3 Swell factor: 1 Loose volume: 3 Source of estimated vo	ır:	5 ac @ 6" depth	NA			
Ripper op. Cost/Hou Operator Cost/Hou Total unit Cost/Hour: Total Fleet Cost/Hour MATERIAL QUA Initial Volume: 3 Swell factor: 1 Loose volume: 3	ır:		NA			
Ripper op. Cost/Hou Operator Cost/Hou Total unit Cost/Hour: Total Fleet Cost/Hour MATERIAL QUA Initial Volume: 3 Swell factor: 1 Loose volume: 3 Source of estimated vo Source of estimated so	ır:	5 ac @ 6" depth	NA			
Ripper op. Cost/Hou Operator Cost/Hou Total unit Cost/Hour: Total Fleet Cost/Hour MATERIAL QUA Initial Volume: 3 Swell factor: 1 Loose volume: 3 Source of estimated vo Source of estimated sw HOURLY PRODU	ur: \$227.36 \$ <b>454.72</b> <b>NTITIES</b> 7,107 .000 7,107 LCY plume: 46 well factor: Call <b>CTION</b>	5 ac @ 6" depth at Handbook	NA			
Ripper op. Cost/Hou Operator Cost/Hou Total unit Cost/Hour: Total Fleet Cost/Hour MATERIAL QUA Initial Volume: <u>3</u> Swell factor: <u>1</u> Loose volume: <u>3</u> Source of estimated vo Source of estimated sw HOURLY PRODU	\$227.36 $$454.72$ <b>NTITIES</b> 7,107         .000 <b>7,107</b> LCY         olume: $46$ well factor:       C <b>UCTION</b> e:       150	5 ac @ 6" depth at Handbook	NA			
Ripper op. Cost/Hou Operator Cost/Hou Total unit Cost/Hour: Total Fleet Cost/Hour MATERIAL QUA Initial Volume: 3 Swell factor: 1 Loose volume: 3 Source of estimated vo Source of estimated sw HOURLY PRODU	\$227.36 $$454.72$ <b>NTITIES</b> 7,107         .000 <b>7,107</b> LCY         olume: $46$ well factor:       C <b>UCTION</b> e:       150	5 ac @ 6" depth at Handbook	NA			
Ripper op. Cost/Hou Operator Cost/Hou Total unit Cost/Hour: Total Fleet Cost/Hour MATERIAL QUA Initial Volume: <u>3</u> Swell factor: <u>1</u> Loose volume: <u>3</u> Source of estimated vo Source of estimated sw HOURLY PRODU	\$227.36 $$454.72$ <b>NTITIES</b> 7,107         .000 <b>7,107</b> .000 <b>1</b> .01         .02         .03         .04         .05         .05         .06         .07         .08         .09         .09         .010         .02	5 ac @ 6" depth at Handbook	NA			
Ripper op. Cost/Hou Operator Cost/Hou Total unit Cost/Hour: Total Fleet Cost/Hour <u>MATERIAL QUA</u> Initial Volume: <u>3</u> Swell factor: <u>1</u> Loose volume: <u>3</u> Source of estimated vo Source of estimated sw <u>HOURLY PRODU</u> Average push distance Unadjusted hourly pro	\$227.36 $$454.72$ <b>NTITIES</b> 7,107         .000 <b>7,107</b> .000         .000         .010         .020         .020         .030         .040         .050         .050         .0634         .050         .050         .050         .050 <td< td=""><td>5 ac @ 6" depth at Handbook feet 3 LCY/hr</td><td>NA</td><td></td><td></td></td<>	5 ac @ 6" depth at Handbook feet 3 LCY/hr	NA			
Ripper op. Cost/Hou Operator Cost/Hou Total unit Cost/Hour: Total Fleet Cost/Hour MATERIAL QUA Initial Volume: 3 Swell factor: 1 Loose volume: 3 Source of estimated vo Source of estimated sw HOURLY PRODU Average push distance Unadjusted hourly pro	\$227.36 $$454.72$ <b>NTITIES</b> 7,107         .000 <b>7,107</b> .000         .000         .010         .020         .020         .030         .040         .050         .050         .0634         .050         .050         .050         .050 <td< td=""><td>5 ac @ 6" depth at Handbook feet 3 LCY/hr</td><td>NA</td><td></td><td></td></td<>	5 ac @ 6" depth at Handbook feet 3 LCY/hr	NA			
Ripper op. Cost/Hou Operator Cost/Hou Total unit Cost/Hour: Total Fleet Cost/Hour <u>MATERIAL QUA</u> Initial Volume: <u>3</u> Swell factor: <u>1</u> Loose volume: <u>3</u> Source of estimated vo Source of estimated vo Source of estimated sw <u>HOURLY PRODU</u> Average push distance Unadjusted hourly pro Materials consistency Average push gradien	ır:	6 ac @ 6" depth at Handbook feet 3 LCY/hr Loose stockpile 1.2				
Ripper op. Cost/Hou Operator Cost/Hou Total unit Cost/Hour: Total Fleet Cost/Hour <u>MATERIAL QUA</u> Initial Volume: <u>3</u> Swell factor: <u>1</u> Loose volume: <u>3</u> Source of estimated vo Source of estimated sw <u>HOURLY PRODU</u> Average push distance Unadjusted hourly pro Materials consistency Average push gradien Average site altitude:	ur:       \$227.36         \$454.72         NTITIES         7,107         .000         7,107         .000         7,107         .000         7,107         .000         7,107         .000         7,107         .000         7,107         .000         7,107         .000         7,107         .000         7,107         .000         7,107         .000         7,107         .000         7,107         .000         7,107         .000         7,107         .000         7,107         .000         .001         .01         .021         .031         .0321         .0331         .0341         .0341         .0341         .0341         .0341         .0341         .0341         .0341         .0341         .0341	6 ac @ 6" depth at Handbook feet 3 LCY/hr Loose stockpile 1.2				
Ripper op. Cost/Hou Operator Cost/Hou Total unit Cost/Hour: Total Fleet Cost/Hour MATERIAL QUA Initial Volume: 3 Swell factor: 1 Loose volume: 3 Source of estimated vo Source of estimated vo Source of estimated sw HOURLY PRODU Average push distance Unadjusted hourly pro Materials consistency Average push gradien Average site altitude: Material weight:	ur: $$227.36$ \$454.72         NTITIES         7,107         .000         7,107         .000         7,107         .000         7,107         .000         7,107         .000         7,107         .000         7,107         .000         7,107         .000         7,107         .000         7,107         .000         7,107         .000         7,107         .000         7,107         .000         7,107         .000         7,107         .000         .000         .000         .000         .010         .010         .010         .010         .010         .010         .010         .010         .010         .010         .010         .010         .010         .010         .010	6 ac @ 6" depth at Handbook feet 3 LCY/hr Loose stockpile 1.2	NA			
Ripper op. Cost/Hou Operator Cost/Hou Total unit Cost/Hour: Total Fleet Cost/Hour MATERIAL QUA Initial Volume: 3 Swell factor: 1 Loose volume: 3 Source of estimated vo Source of estimated vo Source of estimated sw HOURLY PRODU Average push distance Unadjusted hourly pro Materials consistency Average push gradien Average site altitude: Material weight: Weight description: Job Condition Correct Operat	\$227.36 $$454.72$ <b>NTITIES</b> 7,107         .000 <b>7,107</b> LCY         olume: $46$ well factor:       C: <b>0</b> CTION         e:       150         oduction:       634.         description:	6 ac @ 6" depth at Handbook feet 3 LCY/hr Loose stockpile 1.2				
Ripper op. Cost/Hou Operator Cost/Hou Total unit Cost/Hour: Total Fleet Cost/Hour MATERIAL QUA Initial Volume: 3 Swell factor: 1 Loose volume: 3 Source of estimated vo Source of estimated vo Source of estimated sw HOURLY PRODU Average push distance Unadjusted hourly pro Materials consistency Average push gradien Average site altitude: Material weight: Weight description: Job Condition Correct Operat	\$227.36 $$454.72$ <b>NTITIES</b> 7,107         .000         7,107 LCY         olume:       46         well factor:       C         VCTION         e:       150         oduction:       634.         description:	feet 3 LCY/hr Loose stockpile 1.2 .CY	<u>Source</u> (AVG.) (CAT HB)			
Ripper op. Cost/Hou Operator Cost/Hou Total unit Cost/Hour: Total Fleet Cost/Hour MATERIAL QUA Initial Volume:	\$227.36 $$454.72$ <b>NTITIES</b> 7,107         .000 <b>7,107</b> LCY         olume: $46$ well factor:       C: <b>0</b> CTION         e:       150         oduction:       634.         description:	feet 3 LCY/hr Loose stockpile 1.2				

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: 54	45.05 LCY/hr	
Adjusted fleet production: 10	<b>990.1</b> LCY/hr	

# JOB TIME AND COST

Fleet size:	2 Dozer(s)
Unit cost:	\$0.417/LCY

Total job time:	<b>34.04</b> Hours
Total job cost:	\$15,479

# **REVEGETATION WORK**

Task descrip	otion:	Reveg Well Pads	
ite: Nahcolite	Project	Permit Action:	4 Permit/Job#: <u>M1983194</u>
PROJECT	IDENTIFIC	CATION	
Task #: Date: User:	05C 10/1/2019 ACY	State:     Colorado       County:     Rio Blanco	Abbreviation:NoneFilename:M194-05c
	ACY ency or organi	zation name: DRMS	

# **FERTILIZING**

#### Materials

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

# 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)	\$101.93
Weed control spraying (MEANS 31 31 16.13 3100)	\$193.60
Total Tilling Cost/Acre	\$295.53

# **SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Alkali Sacaton	0.10	3.90	\$2.85
Crested Wheatgrass - Ephraim	4.00	18.37	\$17.30
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	\$2.93
Pubescent Wheatgrass - Luna	1.50	3.10	\$5.10
Yellow Sweet Clover - Madrid	0.50	2.98	\$1.41
Tall Wheatgrass - Jose	1.80	3.26	\$6.08
Thickspike Wheatgrass - Critana	4.30	15.20	\$29.56

Sweetvetch, Utah or Northern	0.10	0.05	\$7.50
Western Wheatgrass - Barton	1.50	3.79	\$10.50
Yarrow, Western	0.20	12.16	\$8.36
Totals Seed Mix	18.00	86.97	\$111.29

## **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	\$2.74	\$5.48
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$295.00	\$590.00
Total Mulch Materials Cost/Acre				\$595.48

## **Application**

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$70.17
Power mulcher (MEANS 32 91 13.16 0350)		\$95.83
Weed spray, truck, non-aquatic area, nox. [DMG]		\$71.50
	Total Mulch Application Cost/Acre	\$237.50

## **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 Estimated Fa *Selected Replanting W	-	30%	Cost /Acre: Cost /Acre*: NG,MULCHING	
Initial Job Cost: \$67 Reseeding Job Cost: \$20 Total Job Cost: \$88 Job Hours: 73.	0,310.84 8,014			



Yeldell - DNR, Amy <amy.yeldell@state.co.us>

# Re: NS TR 44

1 message

Daub, Gerald <gjdaub@daubandassociates.com> To: "Yeldell - DNR, Amy" <amy.yeldell@state.co.us> Cc: Randy Dean <randy.dean@daubandassociates.com>, "Johnson, Liz" <ljohnson@daubandassociates.com>

Amy:

As a result of this exercise there was a 250' reduction in the total NS pipeline footage. Here are the NS pipeline numbers: 16 inch – 9,200 feet

12 inch – 7,000 feet

8 inch - 7,500 feet

6 inch - 11,248 feet

Regards,

Jerry

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Jerry Daub, PG, CPG Daub & Associates, Inc. 1985 1/2 South Broadway Grand Junction, CO 81507

http://www.daubandassociates.com

(970) 254-1224 (phone) (970) 242-8438 (fax) (970) 216-1010 (cell) gjdaub@daubandassociates.com

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On Tue, Oct 1, 2019 at 11:32 AM Yeldell - DNR, Amy <amy.yeldell@state.co.us> wrote: Can I please get the piping totals that resulted in the average of 35,198 LF of 10" Wed, Oct 2, 2019 at 10:33 AM

10/7/2019

Amy Yeldell Environmental Protection Specialist Minerals Program, Grand Junction Field Office



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

#### P 303-866-3567 Ext:8183| F 303-832-8106

101 S. 3rd St., Suite 301, Grand Junction, CO 81501

amy.yeldell@state.co.us | www.mining.state.co.us

On Mon, Sep 30, 2019 at 2:55 PM Daub, Gerald <gjdaub@daubandassociates.com> wrote:

Amy:

Thanks for meeting with us last week. Attached please find the TR 44 that I have sent to your Denver office via FedEx for delivery tomorrow. We would appreciate anything you could do to expedite this process and the ability to request the surety reduction as quickly as possible as well Thank you.

Regards, Jerry

Jerry Daub, PG, CPG Daub & Associates, Inc. 1985 1/2 South Broadway Grand Junction, CO 81507

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