



STATE OF
COLORADO

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Seneca IIW MT8 Findings of Compliance and Reclamation Cost Estimate

1 message

Reilley - DNR, Robin <robin.reilley@state.co.us>

Wed, Jun 21, 2023 at 8:15 PM

To: "Kawcak, Miranda" <MKawcak@peabodyenergy.com>, Robin Reilley - DNR <robin.reilley@state.co.us>

Good Morning Miranda,

Please find the above mentioned documents for Seneca IIW. I am available to answer any questions that come up.

Thank you

Robin Reilley, M.S. GISP
Environmental Protection Specialist II



COLORADO
Division of Reclamation,
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Department of Natural Resources

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Findings_ReclamationCE_SenecaIIW_MT8_06June2023.pdf

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**Mid-Term Permit Review No. 8
(MT8)**

Seneca II-W Mine
Permit No. C1982057



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

Virginia Brannon, Director

Prepared by
Robin Reilley M.S. GISP
Environmental Protection Specialist II
20 June 2023



INTRODUCTION

This document presents the results of Midterm Permit Review MT8 of the Seneca Property, LLC. 's (SPL), Seneca II-W Mine. The Colorado Division of Reclamation, Mining and Safety (The Division), conducted this review for the purpose of fulfilling the requirements of the Colorado Surface Coal Mining Reclamation Act and the Regulations of the Colorado Mined Land Reclamation Board for Coal Mining. Detailed information about the review process can be found in the Act and the Regulations of the Colorado Mined Land Reclamation Board for Coal Mining. All Rules referenced within this document are contained within the Regulations and in the *Guidelines Regarding Selected Coal Mine Bond Release Issues*, dated April 18, 1995. All "Sections" referenced within this document are contained within the Regulations, unless otherwise noted. Detailed information about the mining and reclamation operations at the site are available in the Seneca II-W Mine Permit Application Package, accessible on the Division web site: <https://drms.colorado.gov/data-search>

This Midterm Review was conducted to fulfill the requirements of Sections 2.08.3, 2.06.2(10), 2.06.3(4)(a), 2.06.5(3), 2.06.7(5) and 3.02.2(4).

Section 2.08.3 of the Regulations requires that the Division conduct a review of each permit issued, prior to its midterm. Based on this review, for good cause shown, the Division may require reasonable revisions or modifications of the permit provisions to ensure compliance with the Act and Regulation.

Section 3.02.2(4) requires that the Division review the amount of the bond and the terms of acceptance of the bond every 2 ½ years.

Sections 2.06.2(10), 2.06.3(4)(a), 2.06.5(3) and 2.06.7(5) require that experimental practices, mountaintop removal variances, variances from approximate original contour (AOC) for steep slope mining and variances from contemporaneous reclamation for combined surface and underground mining, respectively, be reviewed by the Division where applicable during the Midterm Review.

This Midterm Review consisted of a detailed review of the following documents:

- The Mine permit application, including stipulations and responses
- All revisions made to the permit since the issuance of the permit
- The Seneca II-W Mine annual reclamation and hydrology reports
- Bond surety and reclamation cost estimate
- The Division findings documents
- The Division's inspection reports
- Any notices of violations since the issuance of the permit

SECTION I - HISTORY

Operations

The Seneca II-W Mine is located approximately 9 miles south of Hayden, Colorado in Routt County. The Seneca II-W Mine comprises 3,878.5 permitted acres. The disturbed area includes the former mine pit area, surface support facilities, haul roads and drainage control facilities. To date, the total disturbed area is 1,335.9 acres, including former mine pit areas, surface support facilities, haul roads and drainage control facilities.

The initial mining and reclamation permit for the mine was issued December 31, 1982, for a 5 year permit

term. The permit has been renewed for additional 5 year permit terms seven times. The most recent permit renewal proposed decision was issued in January of 2021, and the Division's basis for the renewal approval is set forth in the Permit Renewal No. 7 (RN7) Findings of Compliance document, dated 28 January 2021. The current permit term expires 31 December 2025.

The Seneca II-W Mine is a largely reclaimed surface coal operation, more specifically a dip-slope area strip mine, which utilized dragline mining methods during active operations. To date, the total disturbed area is 1,335.9 acres, including mine pit areas, surface support facilities, haul roads and drainage control facilities. Surface ownership is predominantly private, with right of entry based on a variety of private leases, subleases and easements. The permit area also includes limited areas of federal surface managed by BLM, and the State of Colorado. Coal mined at Seneca II-W was owned by private interest, the State of Colorado, and the Federal government, under lease to Seneca Coal Company.

Coal extraction began at Seneca IIW in 1990, and ceased in January 2006, due to a combination of difficult mining conditions and economic factors. Reclamation operations and maintenance activities are continuing. Over the life of the mine, over 12 million tons of coal was produced. Annual production ranged from a low of 376,700 tons to a maximum of 990,300 tons. No further coal production is planned or approved.

Reclamation grading, topsoiling, and seeding of mine pit areas was completed in 2007. Narrowing of permanent roads was completed in August of 2011, and facilities areas were regarded in September of 2011. Temporary sediment control structures will be removed upon demonstration that reclaimed areas have been adequately stabilized by vegetation, unless approved as permanent impoundments for the postmining land use.

Reclamation and Liability

Mining operations and reclamation operations have been completed at the Seneca II-W Mine. Reclamation of pit areas was completed in 2007. SPL has received approval for permanent retention of various facilities. Temporary sediment control structures will be removed upon demonstration that reclaimed areas have been adequately stabilized by vegetation, unless approved as permanent impoundment for the post mining land use. Sediment ponds that have been approved for permanent retention include Pond 5, Pond 6, Pond 9, Pond 15, Pond 16, and Pond 17, though per Stipulation No. 39, Ponds 6, 16, and 17, as well as Stock Tank T22, require approval for permanent retention from the Colorado State Engineer's Office.

Since the approval of RN7, The Division approved a partial Phase III bond release application (SL7), and a combined Phase II/III bond release application (SL6). SL7, issued in 2021, released 367 Phase III acres and SL6 released 379.5 acres of Phase II and 816 acres of Phase III reclamation.

Enforcement Actions

No Notices of Violations have been issued to the Seneca II-W Mine permit since the last Permit Renewal (RN7).

SECTION II - The REVIEW PROCESS; PERMIT HISTORY and REVISIONS

Minor Revisions, Technical Revisions, Permit Revisions, and Bond Release approvals to the Seneca IIW Mine permit since the last permit review (RN7), issued in March of 2021 are listed below.

Minor Revisions (MR)

None since 2018

Technical Revisions (TR)

None since 2016

Permit Revisions (PR)

None since 2012

Surety Releases (SL)

Submittal	Proposed Decision Date(s)	Released Area Ph I (acres)	Released Area Ph II (acres)	Released Area Ph III (acres)	Reduction in Liability
SL7	8 April 2021	0.0	0.0	367.0	\$1,077,186
SL6	24 March 2021	0.0	379.5	816.6	\$2,396,813

SECTION III- STATUS OF STIPULATIONS

The stipulation history associated with the Seneca IIW Mine was reviewed as part of this Midterm Review process. The review included an investigation of the stipulation response file, revisions to the permit, and associated findings documents. Stipulations are a binding part of the permit and previously assigned stipulation numbers are not re-used. Any stipulations associated with the Seneca IIW Mine permit and issued over the life of the operation which are not discussed in this Midterm Review document have been complied with or terminated. Since the last Mid Term Review (MT7), no stipulations have been placed on the permit.

There is one stipulation still attached to the permit. Stipulation No. 39 was attached to the permit with the approval of Technical Revision No. 77 (Approved 8 April 2013). Stipulation No. 39 states:

Division approval of permanent retention of ponds 006, 009, 015, 016, and 017 is conditioned upon the approval of their retention by the state engineer. Documentation of office of state engineer approval of ponds 006, 009, 015, 016, and 017 as permanent impoundments, along with documentation that any necessary water rights have been obtained for the impoundments, shall be provided to the division prior to approval of any bond release application for the impoundments.

This stipulation has been partially complied with. Documentation from the Colorado State Engineer's Office, Division of Water Resources, approving Pond 006, 016 and 017 as permanent structures remain outstanding.

SECTION V - PERMIT VARIANCES AND SPECIFIC APPROVALS

Rule 2.06.7(5)

The Division previously granted variances from contemporaneous reclamation requirements for portions of the Seneca II-W Mine. Changes to the reclamation schedule for various areas at the Seneca II-W Mine were approved with PR4 and PR5. Pursuant to Rule 4.14.l(1)(c), the Division approved a variance from the requirements that rough backfilling and grading be conducted within 180 days following coal removal also, a specified time period for permanent channel construction was inserted. The variances applied to

the request areas described and depicted in amended Tab 19 and amended Exhibit 19-1A and on pages 5-7 of Tab 19 of the permit application, and depicted on the amended Exhibit 19-1 Backfill and Grading Plan. By June 2006, rough grading was completed in all of the variance areas with 2005 completion deadlines. Grading was completed in the Wadge Pit Central Area and Wolf Creek variance areas in 2007. The entire Seneca II-W Mine has been reclaimed.

Enforcement Actions

No enforcement actions have been issued since the last midterm review of the Seneca II West permit application package.

SECTION VI- BONDING SUMMARY

Rule 3.02.2(4)

A site wide reclamation cost estimate was developed by the Division as a part of the Permit Renewal No. 7 (RN7), review process in August of 2020. The Division's reclamation costs have been updated since that date. The Division currently holds a corporate surety in the amount of \$316,698 as a result of the SL7 bond release approval. The enclosed bond calculation is the Division's projection of reclamation costs for maximum reclamation requirements, which would occur during the proposed permit term. The cost estimate for bond liability has been reviewed as a result of the midterm review with costs updated in 2022. The Division estimates the on the ground reclamation liability for mining operations in this permit term to be \$348,177. The amount of performance bond reflects the Division's projection of reclamation costs should the Division be required to reclaim the site during this permit term, and reflects seven bond releases for reclamation work completed. Given the updated bond estimate \$348,177, and the current bond held (\$316,698), an increase of \$31,479 in bond is required. The increase in liability will necessitate a surety increase permitting action as a result of this midterm review.

Please find The CIRCES cost estimate for MT8 attached at the end of this document.

SECTION IV- MID TERM ADEQUACY QUESTIONS

This section may consist of questions or comments raised as a result of the Division's review of the permit application, related materials, and review of the reclamation cost estimate. As a result of this midterm review, for the purpose of fulfilling the requirements of the Colorado Surface Coal Mining Reclamation Act, and the Regulations of the Colorado Mined Land Reclamation Board of Coal Mining, pursuant to Rule 2.08.3, the Division finds that the permit application C1982057 contains no deficiencies at this time, following the review for the purpose of fulfilling the requirements of the Colorado Surface Coal Mining Reclamation Act, and the Regulations of the Colorado Mined Land Reclamation Board for Coal Mining.

COST SUMMARY WORK

Task description: _____

Site: Seneca II-W Mine

Permit Action: MT8

Permit/Job#: C1982057

PROJECT IDENTIFICATION

Task #: 000

State: Colorado

Abbreviation: None

Date: 5/4/2023

County: Routt

Filename: C057-000

User: RAR

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
041	Regrade Pond 016	DOZER	1	31.76	\$10,991
043	Regrade Pond 017	DOZER	1	29.33	\$10,150
090	Plug and Seal .75 to 2" Wells	BOREHOLE	1	22.00	\$23,649
094	Drill Seed Mix 1	REVEGE	1	106.00	\$45,872
094a	Drill Seed Mx No. 2	REVEGE	1	60.00	\$18,245
118	Rill and Gully and Road Maintenance	SITEMAINT ENANCE	1	120.00	\$91,152
126	Mobilize/Demobilize Equipment for Pond Removal	MOBILIZE	1	5.11	\$5,363
127	Mobilize/Demobilize Equipment for Site Maintenance	MOBILIZE	1	5.11	\$28,476
128	Mobilize/Demobilize Equipment for reseeding	MOBILIZE	1	5.11	\$6,458
90A	Plug and Seal 3" to 4" Wells	BOREHOLE	1	20.00	\$16,935
90B	Plug and Seal 5" Wells	BOREHOLE	1	14.00	\$8,572
<u>SUBTOTALS:</u>				418.42	\$265,863

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance: 2.02

Total = \$5,370

Performance bond: 1.05

Total = \$2,792

Job superintendent: 209.21

Total = \$15,718

Profit: 10.00

Total = \$26,586

TOTAL O & P = \$50,466

CONTRACT AMOUNT (direct + O & P) = \$316,329

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs): \$500

Total = \$500

Engineering work and/or contract/bid preparation: 4.61

Total = \$14,583

Reclamation management and/or administration: 5.30

\$16,765

CONTINGENCY: 0.00

Total = \$0

TOTAL INDIRECT COST = \$82,314

TOTAL BOND AMOUNT (direct + indirect) = \$348,177

BULLDOZER WORK

Task description: Regrade Pond 016

Site: Seneca II-W Mine

Permit Action: MT8

Permit/Job#: C1982057

PROJECT IDENTIFICATION

Task #: 041

State: Colorado

Abbreviation: None

Date: 5/5/2023

County: Routt

Filename: MT8

User: RAR

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D9T - 9SU

Horsepower: 405

Blade Type: Semi-Universal

Attachment: 3-shank ripper

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$146.30	NA
Operating Cost/Hour:	\$141.41	100
Ripper own. Cost/Hour:	\$17.01	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA
Total unit Cost/Hour:	\$346.02	
Total Fleet Cost/Hour:	\$346.02	

MATERIAL QUANTITIES

Initial Volume: 10,000

Swell factor: 1.125

Loose volume: **11,250** LCY

Source of estimated volume: Division of Reclamation, Mining & Safety

Source of estimated swell Cat Handbook

factor:

HOURLY PRODUCTION

Average push distance: 150 feet

Unadjusted hourly 910.5 LCY/hr

production:

Materials consistency description: Compacted fill or embankment 0.9

Average push gradient: 0 %

Average site altitude: 7,500 feet

Material weight: 2,650 lbs/LCY

Weight description: Decomposed rock - 25% Rock, 75% Earth

Job Condition Correction Factor

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3890

Adjusted unit production: 354.18 LCY/hr

Adjusted fleet
production: 354.18 LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.977/LCY

Total job time: **31.76** Hours

Total job cost: **\$10,991**

BULLDOZER WORK

Task description: Regrade Pond 017

Site: Seneca II-W Mine

Permit Action: MT8

Permit/Job#: C1982057

PROJECT IDENTIFICATION

Task #: 043

State: Colorado

Abbreviation: None

Date: 5/5/2023

County: Routt

Filename: MT8

User: RAR

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D9T - 9SU

Horsepower: 405

Blade Type: Semi-Universal

Attachment: 3-shank ripper

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$146.30	NA
Operating Cost/Hour:	\$141.41	100
Ripper own. Cost/Hour:	\$17.01	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: \$346.02

Total Fleet Cost/Hour: **\$346.02**

MATERIAL QUANTITIES

Initial Volume: 7,100

Swell factor: 1.125

Loose volume: **7,988** LCY

Source of estimated volume: Division of Reclamation, Mining & Safety

Source of estimated swell Cat Handbook

factor: _____

HOURLY PRODUCTION

Average push distance: 200 feet
Unadjusted hourly production: 700.0 LCY/hr

Materials consistency description: Compacted fill or embankment 0.9

Average push gradient: 0 %
Average site altitude: 7,500 feet

Material weight: 2,650 lbs/LCY

Weight description: Decomposed rock - 25% Rock, 75% Earth

Job Condition Correction Factor

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3890

Adjusted unit production: 272.30 LCY/hr
Adjusted fleet production: 272.3 LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$1.271/LCY

Total job time: **29.33** Hours

Total job cost: **\$10,150**

BOREHOLE SEALING WORK

Task description: Plug and Seal .75 to 2" Wells

Site: Seneca II-W Mine

Permit Action: MT8

Permit/Job#: C1982057

PROJECT IDENTIFICATION

Task 090

State: Colorado

Abbreviation: None

#: _____

Date: 5/5/2023

County: Routt

Filename: MT8

User: RAR

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Bottom Plugs	PVC plug - 2 in. diameter borehole	2	na	16.00	EA	\$24.59	\$393.44
Fill holes with concrete	Portland cement grout - 2 in. (labor, equip, materials)	2	4155.6	4,155.60	LF	\$5.29	\$21,983.12
Borehole Markers	Borehole location/identification marker (EA, material cost only)	2	na	16.00	EA	\$37.50	\$600.00
Drill Rig	Atlas Capco DM45/LP - 7-7/8"	2	na	1.00	EA	\$672.29	\$672.29

Job Hours: 22.00

Total Cost: \$23,649.00

REVEGETATION WORK

Task description: Drill Seed Mix 1

Site: Seneca II-W Mine

Permit Action: MT8

Permit/Job#: C1982057

PROJECT IDENTIFICATION

Task #: 094

State: Colorado

Abbreviation: None

Date: 6/11/2023

County: Routt

Filename: MT8

User: RAR

Agency or organization 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)	\$117.18
Total Tilling Cost/Acre	\$117.18

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per FT SQ.	Cost /Acre
Alfalfa - Common	0.10	0.48	\$0.26
Arrowleaf Balsamroot	0.50	0.62	\$35.10
Bluebunch Wheatgrass - Secar	1.00	3.21	\$10.88
Bitterbrush, Antelope	1.00	0.31	\$19.50
Aster, Engleman's	0.10	0.48	\$19.40
Canada Bluegrass - Talon	0.10	5.74	\$0.34
Mountain Brome - Bromar	2.00	3.21	\$7.60
Orchardgrass - Potomac	0.05	0.62	\$0.21
Great Basin Wildrye - Magnar	2.00	8.13	\$23.10
Chokecherry	1.00	0.07	\$29.00
Lupine, Mountain	1.00	0.57	\$80.00
Slender Wheatgrass - San Luis	2.00	7.30	\$8.50
Streambank Wheatgrass - Sodar	1.00	3.26	\$5.70
Thickspike Wheatgrass - Critana	1.00	3.54	\$6.88
Needlegrass, Green - Lodorm	2.00	8.31	\$23.55
Western Wheatgrass - Rosanna	2.00	5.05	\$11.50
Flax, Lewis Blue	0.50	3.32	\$8.25
Serviceberry	0.50	0.92	\$30.75
Snowberry, Mountain	0.50	0.86	\$25.25
Penstemon, Palmer	0.10	2.21	\$5.45
Penstemon, Rocky Mountain	0.25	3.92	\$7.38
Yarrow, Western	0.10	6.08	\$4.18
Totals Seed Mix	18.80	68.20	\$362.76

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

Application

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

NURSERY STOCK PLANTING

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

JOB TIME AND COST

No. of Acres:	53.3	Cost /Acre:	\$711.94
Estimated Failure Rate:	25%	Cost /Acre*:	\$594.76

*Selected Replanting Work Items: SEEDING

Initial Job Cost: **\$37,946.40**

Reseeding Job Cost: **\$7,925.18**

Total Job Cost: **\$45,872**

Job Hours: **106.00**

REVEGETATION WORK

Task description: Drill Seed Mx No. 2

Site: Seneca II-W Mine

Permit Action: MT8

Permit/Job#: C1982057

PROJECT IDENTIFICATION

Task #: 094a

State: Colorado

Abbreviation: None

Date: 6/11/2023

County: Routt

Filename: MT8

User: RAR

Agency or organization 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)	\$117.18
Total Tilling Cost/Acre	\$117.18

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Birdsfoot Trefoil - Empire	0.25	2.40	\$2.59
Beardless (Creeping) Wildrye - Shoshone	2.00	6.89	\$46.84
Mountain Brome - Bromar	2.00	3.21	\$7.60
Great Basin Wildrye - Magnar	2.00	8.13	\$23.10
Currant, Golden or Alpine	0.25	1.15	\$34.89
Slender Wheatgrass - San Luis	2.00	7.30	\$8.50
Western Wheatgrass - Rosanna	2.00	5.05	\$11.50
Rose, Wood's	1.00	0.00	\$20.50
Red Top	0.10	11.46	\$0.79
Reed Canarygrass - Palaton	0.25	2.90	\$1.47
Yarrow, Western	0.10	6.08	\$4.18
Creeping Foxtail	0.25	5.74	\$1.24
Aster, Pacific	0.10	1.74	\$11.95
Totals Seed Mix	12.30	62.04	\$175.15

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

Application

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

NURSERY STOCK PLANTING

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

JOB TIME AND COST

No. of Acres:	29.14	Cost /Acre:	\$524.33
Estimated Failure Rate:	25%	Cost /Acre*:	\$407.15
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost: **\$15,278.98**Reseeding Job Cost: **\$2,966.09**Total Job Cost: **\$18,245**Job Hours: **60.00**

SITE MAINTENANCE

Task description: **Rill and Gully and Road Maintenance**

Site: **Seneca II-W Mine**

Permit Action: MT8

Permit/Job#: C1982057

PROJECT IDENTIFICATION

Task #: 118

State: Colorado

Abbreviation: None

Date: 5/5/2023

County: Routt

Filename: MT8

User: RAR

Agency or organization name: DRMS

UNIT COSTS

Maintenance Item	Hours per Year	Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Rill/Gully Repair 40hrs/year for first 3 years	40.00	Cat D7R DS XR Series II	120.00	EA	\$213.41	\$25,609.20
Rill/Gully Repair 40hrs/year for first 3 years	40.00	Cat 315D L 8'-6" Stick	120.00	EA	\$152.80	\$18,336.00
Rill/Gully Repair 40hrs/year for first 3 years	40.00	Cat D3K XL - 3P	120.00	EA	\$96.39	\$11,566.80
Rill/Gully Repair 40hrs/year for first 3 years	40.00	CAT 14M	160.00	EA	\$222.75	\$35,640.00

Job Hours: **120.00**

Total Cost: **\$91,152.00**

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: **Mobilize/Demobilize Equipment for Pond Removal**Site: **Seneca II-W Mine**Permit Action: MT8Permit/Job#: C1982057**PROJECT IDENTIFICATION**Task #: 126State: ColoradoAbbreviation: NoneDate: 5/5/2023County: RouttFilename: MT8User: RARAgency or organization name: DRMS**EQUIPMENT TRANSPORT RIG COST**Shift basis: 1 per dayCost Data Source: CRG Data

Truck Tractor Description: GENERIC ON-HIGHWAY TRUCK TRACTOR, 6X4, DIESEL POWERED,
400 HP (2ND HALF, 2006)

Truck Trailer Description: GENERIC FOLDING GOOSENECK, DROP DECK EQUIPMENT
TRAILER (25T, 50T, AND 100T)

Cost Breakdown:

Available Rig Capacities	0-25 Tons	26-50 Tons	51+ Tons
Ownership Cost/Hour:	\$15.25	\$23.06	\$37.58
Operating Cost/Hour:	\$25.26	\$30.83	\$51.41
Operator Cost/Hour:	\$27.71	\$27.71	\$27.71
Helper Cost/Hour:	\$0.00	\$20.22	\$20.22
Total Unit Cost/Hour:	\$68.22	\$101.82	\$136.92

NON ROADABLE EQUIPMENT:

Machine Description	Weight/ Unit (TONS)	Owner ship Cost/hr/ unit	Haul Rig Cost/hr/unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
Cat D9T - 9SU	60.01	\$146.30	\$136.92	1	\$283.22	\$136.92	\$250.00
Cat 657G w/push-pull	80.25	\$418.35	\$136.92	1	\$555.27	\$136.92	\$250.00
Drill/Broadcast Seeder with Tractor	25.00	\$6.25	\$68.22	1	\$74.47	\$68.22	\$250.00

Subtotals:

\$912.96**\$342.06****\$750.00****ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Flatbed Truck, 6x4, 45K GVW	\$54.51	1	\$54.51	\$54.51

Subtotals:

\$54.51**\$54.51****EQUIPMENT HAUL DISTANCE and Time**Nearest Major City or Town within project area region: CRAIGTotal one-way travel distance: 35.00 milesAverage Travel Speed: 45.00 mphTotal Non-Roadable Mob/Demob Cost *
\$5,278.17

** two round trips with haul rig: _____

Total Roadable Mob/Demob Cost **
\$84.79

** one round trip, no haul rig: _____

Transportation Cycle Time:

	Non- Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.78	0.78
Return Time (Hours):	0.78	0.78
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	2.56	1.56

JOB TIME AND COSTTotal job time: 5.11 HoursTotal job cost: \$5,363

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: **Mobilize/Demobilize Equipment for Site Maintenance**Site: **Seneca II-W Mine** Permit Action: **MT8** Permit/Job#: **C1982057****PROJECT IDENTIFICATION**Task #: **127** State: **Colorado** Abbreviation: **None**Date: **5/5/2023** County: **Routt** Filename: **MT8**User: **RAR**Agency or organization name: **DRMS****EQUIPMENT TRANSPORT RIG COST**Shift basis: **1 per day**Cost Data Source: **CRG Data**Truck Tractor Description: **GENERIC ON-HIGHWAY TRUCK TRACTOR, 6X4, DIESEL POWERED,
400 HP (2ND HALF, 2006)**Truck Trailer Description: **GENERIC FOLDING GOOSENECK, DROP DECK EQUIPMENT
TRAILER (25T, 50T, AND 100T)****Cost Breakdown:**

Available Rig Capacities	0-25 Tons	26-50 Tons	51+ Tons
Ownership Cost/Hour:	\$15.25	\$23.06	\$37.58
Operating Cost/Hour:	\$25.26	\$30.83	\$51.41
Operator Cost/Hour:	\$27.71	\$27.71	\$27.71
Helper Cost/Hour:	\$0.00	\$20.22	\$20.22
Total Unit Cost/Hour:	\$68.22	\$101.82	\$136.92

NON ROADABLE EQUIPMENT:

Machine Description	Weight/ Unit (TONS)	Owner ship Cost/hr/ unit	Haul Rig Cost/hr/unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
CAT 14M	23.57	\$114.80	\$68.22	10	\$1,830.20	\$682.20	\$2,500.00
Cat D7R DS XR Series II	32.01	\$92.78	\$101.82	4	\$778.40	\$407.28	\$1,250.00
Cat 315D L 8'-6" Stick	19.05	\$68.58	\$68.22	4	\$547.20	\$272.88	\$1,250.00
Cat D3K XL - 3P	9.22	\$27.70	\$68.22	4	\$383.68	\$272.88	\$1,250.00

Subtotals:

\$3,539.48	\$1,635.24	\$6,250.00
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ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Flatbed Truck, 6x4, 45K GVW	\$54.51	10	\$545.10	\$545.10

Subtotals:

\$545.10	\$545.10
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EQUIPMENT HAUL DISTANCE and TimeNearest Major City or Town within project area region: CRAIGTotal one-way travel distance: 35.00 milesAverage Travel Speed: 45.00 mphTotal Non-Roadable Mob/Demob Cost *
\$27,628.52

** two round trips with haul rig: _____

Total Roadable Mob/Demob Cost **
\$847.93

** one round trip, no haul rig: _____

Transportation Cycle Time:

	Non- Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.78	0.78
Return Time (Hours):	0.78	0.78
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	2.56	1.56

JOB TIME AND COSTTotal job time: 5.11 HoursTotal job cost: \$28,476

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: **Mobilize/Demobilize Equipment for reseeded**Site: **Seneca II-W Mine**Permit Action: MT8Permit/Job#: C1982057**PROJECT IDENTIFICATION**Task #: 128State: ColoradoAbbreviation: NoneDate: 5/5/2023County: RouttFilename: MT8User: RARAgency or organization name: DRMS**EQUIPMENT TRANSPORT RIG COST**Shift basis: 1 per dayCost Data Source: CRG Data

Truck Tractor Description: GENERIC ON-HIGHWAY TRUCK TRACTOR, 6X4, DIESEL POWERED,
400 HP (2ND HALF, 2006)

Truck Trailer Description: GENERIC FOLDING GOOSENECK, DROP DECK EQUIPMENT
TRAILER (25T, 50T, AND 100T)

Cost Breakdown:

Available Rig Capacities	0-25 Tons	26-50 Tons	51+ Tons
Ownership Cost/Hour:	\$15.25	\$23.06	\$37.58
Operating Cost/Hour:	\$25.26	\$30.83	\$51.41
Operator Cost/Hour:	\$27.71	\$27.71	\$27.71
Helper Cost/Hour:	\$0.00	\$20.22	\$20.22
Total Unit Cost/Hour:	\$68.22	\$101.82	\$136.92

NON ROADABLE EQUIPMENT:

Machine Description	Weight/ Unit (TONS)	Owner ship Cost/hr/ unit	Haul Rig Cost/hr/unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
Drill/Broadcast Seeder with Tractor	25.00	\$6.25	\$68.22	6	\$446.82	\$409.32	\$1,500.00
Hydroseeder with Tractor	28.00	\$11.91	\$101.82	1	\$113.73	\$101.82	\$250.00

Subtotals: **\$560.55** **\$511.14** **\$1,750.00**

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Flatbed Truck, 6x4, 45K GVW	\$54.51	2	\$109.02	\$109.02

Subtotals: **\$109.02** **\$109.02**

EQUIPMENT HAUL DISTANCE AND TIME

Nearest Major City or Town within project area region: CRAIG

Total one-way travel distance: 35.00 miles

Average Travel Speed: 45.00 mph

Total Non-Roadable Mob/Demob Cost * \$6,288.17

 ** two round trips with haul rig:

Total Roadable Mob/Demob Cost ** \$169.59

 ** one round trip, no haul rig:

Transportation Cycle Time:

	Non- Roadable Equipment	Roadable Equipment
Haul Time (Hours):	<u>0.78</u>	<u>0.78</u>

Return Time (Hours):	0.78	0.78
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	2.56	1.56

JOB TIME AND COSTTotal job time: 5.11 HoursTotal job cost: \$6,458

BOREHOLE SEALING WORKTask description: **Plug and Seal 3" to 4" Wells**Site: **Seneca II-W Mine**Permit Action: MT8Permit/Job#: C1982057**PROJECT IDENTIFICATION**

Task 90A

State: Colorado

Abbreviation: None

#:

Date: 5/5/2023County: RouttFilename: MT8User: RARAgency or organization name: DRMS**UNIT COSTS**

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Bottom Plug	PVC plug - 4 in. diameter borehole	4	na	19.00	EA	\$33.98	\$645.62
Fill Holes with concrete	Portland cement grout - 4 in. (labor, equip, materials)	4	2685.5	2,685.50	LF	\$5.55	\$14,904.53
Drill Rig	Atlas Capco DM45/LP - 7-7/8"	1	1	1.00	EA	\$672.29	\$672.29
Borehole Marker	Borehole location/identification marker (EA, material cost only)	na	na	19.00	EA	\$37.50	\$712.50

Job Hours: 20.00Total Cost: \$16,935.00

BOREHOLE SEALING WORKTask description: **Plug and Seal 5" Wells**Site: **Seneca II-W Mine**Permit Action: MT8Permit/Job#: C1982057**PROJECT IDENTIFICATION**

Task 90B

State: Colorado

Abbreviation: None

#:

Date: 5/5/2023County: RouttFilename: C057-90BUser: RARAgency or organization name: DRMS**UNIT COSTS**

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Bottom Plug	PVC plug - 6 in. diameter borehole	5	na	2.00	EA	\$61.43	\$122.86
Fill holes with concrete	Portland cement grout - 6 in. (labor, equip, materials)	5	na	1,218.60	LF	\$6.32	\$7,701.55
Borehole marker	Borehole location/identification marker (EA, material cost only)	5	na	2.00	EA	\$37.50	\$75.00
Drill Rig	Atlas Capco DM45/LP - 7-7/8"	5	na	1.00	EA	\$672.29	\$672.29

Job Hours: 14.00Total Cost: \$8,572.00