AN APPLICATION FOR A PERMIT TO CONDUCT COAL SURFACE MINING AND RECLAMATION ACTIVITIES AT THE TRAPPER MINE IN MOFFAT COUNTY, COLORADO

SUBMITTED BY
TRAPPER MINING INC.
C-1981-010

Submitted:	**January 1981**
Renewal:	**February 1987**
Renewal:	**February 1993**
Renewal:	**January 1998**
Renewal:	**January 2003**
Renewal:	**July 2008**
Renewal:	**July 2013**
Renewal:	**November 2017**
Renewal:	**February 2023**

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VOLUME LII

TRAPPER MINING INC.

Colorado Division of Reclamation, Mining and Safety

Annual Reclamation Report for Calendar Year – 2022

Trapper Mine	C-1981-010	Trapper Mining Inc.
Mine Name	Permit Number	Permittee

PO Box 187, Craig, CO 81626

Address

This report, required by Rule 2.04.13, is due by February 15 of each year, or other date, as agreed upon by the Division. It should include text, discussion, and maps, at a minimum, in addition to any other reclamation monitoring data as required by the approved permit. The location of the acreage reported under each land status category and year of seeding (if applicable) should be clearly identified on a map included with the report.

Land Category	Last Year's Cumulative Total (from last year's ARR)	This Calendar Year			Cumulative Total
		Acres Added (+)	Acres Subtracted (-)		
Acreage in Active Mining Areas[1]	1,345.5	85.3	0.0	=	1,430.8

Land Category	Last Year's Cumulative Total (from last year's ARR)	This Calendar Year			Cumulative Total
		Acres Added (+)	Acres Subtracted (-)		
Acres Disturbed[2]	6,872.3	85.3	51.6	=	6,900.7
Acres Backfilled and Graded	4,747.8	0.0	56.9	=	4,690.9
Acres Topsoiled	4,747.8	0.0	56.9	=	4,690.9

Acreage in Long-term Facilities[3]	Last Year's Cumulative Total (from last year's ARR)	This Calendar Year			Cumulative Total
		Acres Added (+)	Acres Subtracted (-)		
Non-Permanent Facilities	679.5	0.0	0.0	=	679.5
Permanent Facilities (permitted)	99.4	0.0	0.0	=	99.4
Totals	778.9			=	778.9

Acres Seeded (permanent)	Last Year's Cumulative Total (from last year's ARR)	This Calendar Year			Cumulative Total
		Acres Added (+)	Acres Subtracted (-)		
9 Years and Less	764.2	0.0	151.2	=	613.0
10 Years and Greater	3,983.6	151.2	56.9	=	4,077.9
Totals	4,747.8			=	4,748.0

Bond Release	Last Year's Cumulative Total (from last year's ARR)	This Calendar Year			Cumulative Total
		Acres Added (+)	Acres Subtracted (-)		
Phase I Released	4,579.6	0	52.0	=	4,527.6
Phase II Released	4,284.9	0	52.0	=	4,232.9
Phase III Released	3,591.6	0	51.6	=	3,805.5

[1]Includes pits, topsoil stripped areas in advance of pits, and spoil not backfilled and graded

[2]Surface Mine Acres Disturbed = B&G + Long-Term Facilities + Active Mining Areas; Underground Mine Acres Disturbed = B&G + Long-Term Facilities; Separately-permitted Loadouts = B&G + Long-Term Facilities

[3]Includes haul, access and light-use roads, temporary dams and impoundments; permanent dams and impoundments; diversion and collector ditches, water and air monitoring sites; topsoil stockpiles; overburden stockpiles; repair, storage and construction areas; office area, repair shops, and parking; coal stockpiles, loading, and processing areas; railroads; coal conveyors; refuse piles and coal mine waste impoundments; head-of-hollow fills; valley fills; ventilation shafts and entryways; and non-coal waste disposal area (garbage dumps and coal combustion by-products disposal areas).

Annual Reclamation Report Instructions

The Annual Reclamation Report (ARR) form has been designed to aid in the tracking of disturbed acres as they progress through the reclamation process. The rows are arranged so that the initial disturbed acres are entered at the top of the page and the acres will progress down through the rows to final bond release at the bottom.

Note: The "Last Year's Cumulative Total" columns need to have the values entered from the previous year's ARR "Cumulative Total" columns. This ensures accuracy from year to year.

Land Category –

Acreage in Active Mining Areas – This section applies only to surface mines. It does not apply to underground mines nor to separately-permitted loadouts. Footnote 1 on the ARR form describes Active Mining Areas as pits, topsoil stripped areas in advance of pits and spoil not backfilled and graded.

Land Category –

Acres Disturbed – This is the total number of acres that have been disturbed by surface coal mining and reclamation operations for this permit number, regardless of name changes, bond releases and changes to the permit boundary. The subtraction column is for tracking acres transferred to another permit or corrections associated with record keeping and mapping. Do not subtract acres where Phase III bond release was achieved. A formula is shown in footnote 2 on the ARR form for surface and underground mines that explains how this value is determined.

Acres Backfilled and Graded – This is the total number of acres that have been backfilled and graded to the approved post-mining topography. The subtraction column is for tracking acres transferred to another permit, acres re-disturbed or corrections associated with record keeping and mapping. Do not subtract acres where Phase III bond release was achieved.

Acres Topsoiled – This is the total number of acres that have been topsoiled in advance of seeding with approved permanent seedmixes. Do not enter acres for topsoiled outslopes of pond embankments, topsoiled outslopes of road embankments, or topsoiled outslopes of cut-and-fill facility pads. The subtraction column is for tracking acres transferred to another permit, acres re-disturbed or corrections associated with record keeping and mapping. Do not subtract acres where Phase III bond release was achieved.

Acreage in Long-term Facilities –

Non-Permanent Facilities – This is the total number of acres that have a facility listed in Footnote 3 at the bottom of the ARR form that has not been approved in the permit to remain as permanent.

Permanent Features – This is the total number of acres that have a facility listed in Footnote 3 at the bottom of the ARR form that has been approved in the permit to remain as permanent. If the feature is intended to be permanent but has not been approved as permanent through a permitting action (TR, PR, etc.), then it is not considered permanent.

Acres Seeded –

The acres seeded rows are for permanently seeded acres. Do not enter temporary seeding of topsoil piles, cover crops, embankment stabilization, etc.

Acres that were seeded during the current reporting year are entered in the "9 Years and Less" row.

When a parcel becomes seeded for 10 years or greater, subtract the acres from the "9 Years and Less" row and add it to the "10 Years or Greater" row.

The subtraction column in the "10 Years or Greater" row is for tracking acres transferred to another permit, acres re-disturbed or corrections associated with record keeping and mapping. Do not subtract acres where Phase III bond release was achieved.

Bond Release –

This is the total number of acres that have achieved Phase I, II or III bond release for this permit number, regardless of name changes and changes to the permit boundary.

Acres are added to these categories after DRMS' proposed decision becomes final (issuance).

The subtraction column is for tracking acres transferred to another permit, acres re-disturbed or corrections associated with record keeping and mapping. Do not subtract acres where Phase III bond release was achieved.

Objective – The "Cumulative Total" value in each of these rows will be the same as the value in "Acres Disturbed – Cumulative Total" when the mine achieves final bond release.

SECTION 1.0

ANNUAL RECLAMATION REPORT

TRAPPER MINING INC.

C-1981-010

SECTION 1.0 2022 Annual Reclamation Report

As specified by the revisions (1/3/90) to 2CCR 407-2, 2.04.13, Trapper Mine is submitting an Annual Reclamation Report for the previous calendar year (2022).

Historically, section 3.5.3 of Trapper's mining and reclamation permit required a reclamation map be submitted to the CDRMS annually by March 15. Subsequent to 1988 the map entitled the "Postmine Contour Map" was changed to "Reclamation Map." The reclamation maps developed from aerial photographs taken during the previous fall shows pit advancements, recontoured spoil areas and a historical account of the previously regraded areas for the year.

The 2022 reclamation map is a composite of the aerial photographs taken by drone during 2022, and shows the reclamation performed during 2022 for all areas under bond. Map(s) 1 show the aerial extent and location of disturbed acres, graded acres, topsoiled acres and perennial seeded acres during 2022. It also shows the location, aerial extent and reclamation year of all previously revegetated areas, as well as the actual and projected mature shrub clump establishment areas, topsoil stripping areas and laydown areas for 2022.

1.1 Permittee Identification

The Permittee for this annual reclamation report is:

Trapper Mining Inc.
P.O. Box 187
Craig CO 81626
Permit No. C-1981-010

1.2 Results

Table 1.1 and Map(s) 1 show the 2022 reclamation results. The various reclamation stages are addressed below in separate subsections.

1.2.1 Disturbed Acres

In 2022, Trapper disturbed 85.3 acres in the D Pit, I Pit and J Pit areas. Disturbance consisted of some re-disturbance of Phase III Bond released lands in the former D Pit area for topsoil pile retrieval and reclamation tie in. Re-disturbance also occurred in the I Pit and J Pit areas of the former A Pit reclamation. The remaining disturbance was in I Pit and J Pit. Table 1.2 documents acres re-disturbed and the bond release status of each.

1.2.2 Backfilled and Graded Acres

Trapper did not backfill and grade any acres in 2022 to final contour (AOC). The majority of the graded has been completed in D Pit and will be finished in 2023.

1.2.3 Topsoiled Acres

Trapper did not re-topsoil any acres in 2022 to final contour (AOC).

1.2.4 Seeded Acres

Trapper did not seed any permanent vegetation mixture acres in 2022 to final contour (AOC).

1.2.5 Cultural Practices

In 2022 Trapper also conducted several other cultural practices. These practices are addressed below.

Drainage Reconstruction

Refer to Section 3.0 of this annual report.

Contour Ditch Construction

During 2022, Trapper did not construct any contour ditches.

Stock Tank Construction

No new Stock Tanks were constructed during the 2022 field season. Refer to Section 6.

Stock Tank Reclamation

No Stock Tanks were reclaimed during the 2022 field season. Refer to Section 6.

Developmental Drill Sites

During the 2022 Developmental Drilling season 16 holes were drilled within the permit boundary. Drill holes were completed in the proposed C Pit area and for possible re-development of the west panel A Pit. All applicable developmental drill holes were abandoned per permit section 3.3.2 and will be reclaimed and seeded per section 3.6.3.5 of the permit. Drill hole abandonment typically uses Alternative 2 for sealing of the borehole.

Topsoil Piles

During 2022, Trapper moved the entirety of pile EM1 to pile I20-1 in I Pit. Pile E79-6 was nearly entirely depleted for topsoil laydown preparation in D Pit. The remaining yards in this pile will be retrieved in 2023 and used to reclaim the site of the pile. Piles MH2, WC1, I20-2 and NN20-1 all had additional topsoil added to them from stripping operations in I Pit. Trapper also constructed four new topsoil piles, J22-1, J22-2, J22-3A and J22-3B in J Pit. Refer to Section 5.

Sediment Dams

Sediment pond cleaning was conducted on No-Name #2, in 2022.

1.2.6 Previously Revegetated Acres

The locations and acres for all previously revegetated areas, seeded to perennial species, are presented in Map(s) 1. To date, Trapper has revegetated approximately 4,690.9 acres. Of the total revegetated acres, 3,805.5 reclaimed acres have received final phase III bond release. The phase III total includes 51.6 acres of re-disturbance in D, I and J Pit areas during 2022.

Not shown on Map(s) 1 in this annual report are the areas seeded to temporary perennial mixes that will require final reclamation prior to the end of the project (life of mine).

1.2.7 Re-Disturbed Reclamation Acres

The parcel identification and acres re-disturbed due to mining activities for all previously revegetated areas will be documented here. Table 1.2 shows acres re-disturbed and summarizes the bond release status of each parcel. D, I and J Pit development resulted in 56.9 total acres of re-disturbance in 2022.

Table 1.1. Reclamation Summary for Trapper Mine (2022).

	Ashmore Pit	Derringer Pit	L Pit	Z Pit	F Pit	N Pit	I Pit	J Pit	Non-pit Areas	Total
New Disturbance Acres										
Topsoil Strip Areas		11.5					33.1	40.7		85.3
Topsoil Pile Areas										
Total	0.0	11.5	0.0	0.0	0.0	0.0	33.1	40.7	0.0	85.3
Backfilled and Graded Areas										
Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Topsoil Replacement Areas										
Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vegetated (Seeded) Acres										
Range Sites A&B										
Range Site C										
Perennial Haycrop										
Temporary*										
Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

* Includes topsoil piles, diversion ditches, sediment ponds, drill pads, drainageways, and other temporarily reclaimed lands.

Table 1.2. Re-Disturbed Reclamation Summary for Trapper Mine (2022).

Parcel	Year	Re-Disturbed Acres	Bond Release Status			Yearly Total
			Phase I	Phase II	Phase III	
H-B-94	2001	8.5	8.5	8.5		8.5
A-C-86B	2007	1.6	1.6	1.6	1.6	
A-B-86	2007	4.3	4.3	4.3	4.3	
A-A-00	2007	4.7				
Z-AB-05	2007	2.6				13.2
A-B-98	2008	5.0	5.0			
A-B-00	2008	3.1	3.1	3.1		
A-B-98	2008	0.2	0.2			8.3
Z-AB-05	2009	0.3	0.3			
Z-AB-06	2009	0.1	0.1			
Z-A-07	2009	0.8	0.8			
Z-A-08	2009	0.5				1.7
Z-AB-05	2011	0.9	0.9			0.9
F-AB-04	2012	2.2	2.2	2.2		
F-AB-05	2012	0.6	0.6	0.6		
F-AB-06	2012	1.8	1.8	1.8		
F-AB-07	2012	5.1	5.1			
F-AB-08	2012	0.7	0.7			
F-AB-09	2012	0.4				
F-AB-11	2012	0.7				11.5
A-B-94	2014	0.7	0.7	0.7	0.7	0.7
A-C-95	2019	0.4	0.4	0.4	0.3	
A-B-95	2019	4.0	4.0	4.0	3.9	
A-B-96	2019	13.7	13.7	13.7	13.7	
A-B-97	2019	12.6	12.6	12.6	12.6	
A-B-98	2019	17.0	17.0	17.0	17.0	
A-B-99	2019	26.7	26.7	26.7	26.7	
A-B-00	2019	2.8	2.8	2.8	2.8	77.2
A-C-87A	2020	4.7	4.7	4.7	4.7	
A-B-94	2020	74.0	74.0	74.0	74.0	
A-C-94	2020	2.8	2.8	2.8	2.6	
A-C-95	2020	17.3	17.3	17.3	14.9	
A-B-95	2020	25.3	25.3	25.3	25.1	
A-B-96	2020	5.0	5.0	5.0	5.0	
A-B-97	2020	5.2	5.2	5.2	5.2	
A-B-98	2020	8.2	8.2	8.2	8.2	
A-B-99	2020	16.1	16.1	16.1	16.1	
A-B-00	2020	14.3	14.3	14.3	14.3	
A-B-09	2020	1.4	1.4	1.4		
F-AB-05	2020	0.3	0.3	0.3	0.3	
H-B-98	2020	2.2	2.2	2.2	2.2	
H-C-04	2020	6.1	6.1	6.1	6.1	182.9
A-C-94	2021	0.6	0.6	0.6	0.5	
A-C-95	2021	5.6	5.6	5.6	5.1	6.2
A-C-82	2022	0.9	0.9	0.9	0.9	
A-C-86A	2022	0.3	0.3	0.3	0.3	
A-C-87	2022	9.3	9.3	9.3	9.3	
A-C-87A	2022	11.5	11.5	11.5	11.5	
A-C-05	2022	4.5	4.5	4.5	4.5	
CR-82	2022	18.4	18.4	18.4	18.4	
CR-84A	2022	0.5	0.5	0.5	0.5	
E-A-86	2022	2.4	2.4	2.4	2.0	
E-A-87	2022	4.2	4.2	4.2	4.2	
E-AB-08	2022	4.9	0.0	0.0	0.0	56.9
		368.0	354.2	341.1	319.5	Total

E 1408000 E 1410000 E 1412000 E 1414000 E 1416000 E 1418000

N 414000 N 412000 N 410000 N 408000 N 406000 N 404000 N 402000 N 400000

2023 Proposed Topsoil Stripping

F Seam Highwall Mining Asbuilt

2023 Proposed Topsoil Laydown

F Seam Highwall Mining Asbuilt

2023 Proposed Topsoil Laydown

2023 Proposed Topsoil Stripping

2023 Proposed Topsoil Stripping

2023 Proposed Topsoil Laydown

APPROVED PHASE III BOND RELEASE

2023 Proposed Topsoil Laydown

APPROVED PHASE III BOND RELEASE

BUZ-AC-03 11.5 ac

BUZ-AC-03 6.6 AC

C23-1

C23-2

C23-3

BUZ-92-1

J23-1

CG1

A-C-05 2.6ac (1.0ac)

A-C-06 2.6ac (1.6ac)

A-C-87A 8.3ac (4.3ac)

A-C-87A 8.3ac (0.9ac)

A-C-87A 8.3ac (0.9ac)

A-C-87A 8.3ac (2.2ac)

A-C-04A 3.4 ac

A-C-04B 1.8 ac

WEST BUZZARD

FAR EAST BUZZARD

EAST BUZZARD

CR-94 58.9ac

CR-93 126.6ac

Total 1993 171.7ac

C-C-93 45.1ac

C23-4

A-G-86A 28.3 ac

1989 1.5ac

1992 71.5ac

1991 6.7ac

1990 27.4ac

1991 33.9ac

1979 22.9ac

1989 3.2ac

1984 59.1ac

1984 107.6ac

1984 0.5 ac

1986 1.0ac

1984 96.4ac

1989 62.3ac

1985 78.7ac

1986 37.8ac

1987 33.5ac

1989 51.8ac

1990 51.8ac

1991 61.6ac

1991 16.2ac

1984 12.2ac

1984 9.5ac

1982 5.7ac

1983 2.6ac

1984 1.8ac

1987 0.5ac

1982 27.9ac

1987 0.4ac

1982 18.3ac (7.3ac)

1987 3.3ac (2.3ac)

1982 18.3ac (11.0ac)

1987 3.3ac (1.0ac)

1984 29.8ac

1982 23.4ac

1987 55.6ac

1984 36.7ac

1985 28.6ac

1988 60.1ac

1984 5.2ac

1984 7.3ac

1985 9.2ac

1983 10.2ac

1983 42.2ac

1984 29.6ac

1988 35.9ac

1986 3.3ac

1986 74.8ac

1985

7.34ac D-C-99

D-C-95 5.1ac

3.7ac D-C-93

1.9ac D-C-94

D-C-04 0.4ac (21.8ac)

D-C-04 21.4ac (21.8ac)

D-B-04 16.4ac

D-AB-03 70.8 ac

1987 15.7ac

1987 10.1a

1989 TEMPORARILY SEEDED REGRADED SPOILS

2022 St 11.5 ac

D-A-93 4.8ac

D-A-94 8.7ac

D-A-95 14.2ac

D-A-96 16.4ac

D-AB-02 16.0ac

D-AB-03 70.8 ac

Deer Gulch No. 1 1.2 acres

2022 Stripping 10.5 ac

2022 Stripping 22.6 ac

2022 Stripping 13.1 ac

2022 Stripping 1.4 ac

2022 Stripping 4.5 ac

2022 Stripping 34.5 ac

2022 Stripping 1.7 ac

NN20-1 NN20-2 NN1 WB1 JG1 JG4 JG5 SY1 MH1 MH2 JW25 JW23 JW19 JW18 JW17 JW12 JW24 J22-2 J22-3A J22-3B A76-4 A77-1 CR-84 JOHNSON GULCH NNM12 NNM10 NNW12A NNW10 NNW11 NNE #7 NNE #6 NNE #5 NNE #4 NNE #3 NNE #2 NNE #1 NNE NAME CM11 CM10 CM9 CM7 CM6 CW3 CW1 CE5 CE6 EBM5 EBM6 EBM8 EBM9 E84-2 D-93-1 D1-07 D97-1 E79-6-22A E79-6-22B E93-5 SC-D-94 SC-D-95 SC-D-96 SC-D-98 SC-D-99 SC-D-04 APPROVED PHASE III BOND RELEASE

UNDISTURBED

LEGEND

- PERMIT BOUNDARY
- HISTORICAL REVEGETATED AREA
- SC-D-92 — SHRUB CLUMP/Pit ID/Year Constructed
- 2022 FINAL REGRADE AREA
- 2022 RETOPSOILED AND REVEGETATED AREA
- EXISTING TOPSOIL STOCKPILE
- PROPOSED TOPSOIL STOCKPILE
- ASH DUMP STORAGE AREA
- 2022 TOPSOIL STRIP
- AS-BUILT HIGHWALL MINING AREA
- 2023 PROPOSED TOPSOIL LAYDOWN
- 2023 PROPOSED TOPSOIL STRIP
- 2023 PROPOSED TOPSOIL STRIPPING AND LAYDOWN
- ACCESS CORRIDORS
- EXISTING STOCK POND
- EXISTING DOZER BASINS
- RECONSTRUCTED DRAINAGES
- 2022 RECONSTRUCTED DRAINAGES
- CONTOUR DITCH
- APPROVED PHASE III BOND RELEASED BOUNDARY

1 2 3

SHEET LOCATION INDEX

400 0 400 800 1200

SCALE: 1 IN = 400 FT

CONTOUR INTERVAL: 10 FEET

Topographic information compiled from aerial photography dated 12/2022.
AutoCAD file: L:/Engineer/Permits/Annual Reports/2022/Maps/topo2022

TRAPPER MINING INC.

TRAPPER MINE CRAIG, CO.

PERMIT C81-010

2022 ANNUAL RECLAMATION REPORT MAP

SCALE: 1in = 400 ft
DESIGNED BY:
DRAWN BY: JMM
DATE: 3/7/23

Sheet 1 of 3

MAP 1

SHEET 1

Trapper Mine

E 1422000 E 1424000 E 1426000 E 1428000 E 1430000 E 1432000

N 414000 N 412000 N 410000 N 408000 N 406000 N 404000 N 402000 N 400000

18-2 Johnson Coal Pile JG2 JG3 JG6 JG7 JG8

WP2 WP3 MP1 MP2 A92-3 A92-5 EP2 EP3 EP4

WEST PYEATT EAST PYEATT MIDDLE PYEATT

H-C-98 18.1ac (9.0ac) WP #3 H-C-03 20.4 ac 2023 Topsoil Stripping and Laydown A91-8 H-C-98 18.1ac (9.0ac) H-C-04 34.9 ac (26.2 ac) 2023 Proposed Topsoil Stripping and Laydown WP #2

Ash 4-2020 H-C-04 34.9 ac (8.7 ac) Ash 3 Foster Pile WP # SC-H-94 H-B-98 44.3 ac H-B-94 26.7ac

UNDISTURBED A92-4 MP7 A-C-94 28.6ac N20-3 A-C-95 5.3ac (22.2ac) EPM #4 N20-7 A-C-95 16.9ac (22.2ac)

A-B-16 3.8 ac (18.4 ac) A-B-10 73.4 ac (83.5 ac) A-B-10 7.3 ac (83.5 ac) A-B-16 3.8 ac (18.4 ac) ASH DUMP STORAGE AREA A-B-10 2.8 ac (83.6 ac) A-B-94 40.0 ac A-B-12 10.1ac A-B-13 15.6 ac A-B-14 2.71 ac A-B-16 14.6ac (18.4 ac) 18-2 95slide 5.13ac

1995 51.15ac 1992 36.1ac H-B-96 13.3ac Ash 1-2020 Ash 2-2020 APPROVED PHASE III BOND RELEASE 1988 60.1ac 1989 5.4ac ASH1 ASH2 JM16 JM15 JM14 JM13 JM12 JM11 UNDISTURBED 1990 34.2AC. 1991 108.4ac APPROVED PHASE III BOND RELEASE 1991 TEMPORARILY SEEDED REGRADED GRASS 78.5 ac 2023 Proposed Topsoil Laydown N 406000 JW14 1986 3.1ac JW13 JM9 JM8 JE8 JE7 JE6 JW41 NNE5 1985 2.5ac APPROVED PHASE III BOND RELEASE E-93-4 1986 17.3ac E94-1 E93-5 N 404000 JW7 JM6 E78-2 1985 33.1ac JW9 1984 46.1ac E87-12 1983 78.9ac 1986 17.1ac JM2 APPROVED PHASE III BOND RELEASE JE2 JE5 E74-1 UNDISTURBED JE3 UM1 N 402000 E89-11 E79-4 E79-6 1993 56.1 ac

UNDISTURBED A92-1 A94-2 A-B-97 0.2ac (18.5ac) A-B-98 0.9ac (20.5ac) GROUSE N20-6 A-B-98 6.5ac (20.5ac) A96-2 A-B-99 0.1ac (8.0ac) N20-5 A-B-96 4.7ac A-B-97 14.1ac (18.5ac) A-C-95 16.9ac (22.2ac) A-B-95 9.8ac APPROVED PHASE III BOND RELEASE A-B-98 6.5ac (20.5ac) A-B-97 4.2ac (18.5ac) A-B-98 1.3ac (20.5ac) A-B-99 1.5ac (8.0ac) A-B-99 5.3ac (8.0ac) N20-4 A-B-00 6.0ac (90.8ac) A95-2 OAK A-B-99 0.3ac (8.0ac) Diversion Ditch GP-1 SP5-94 SP6-94

Q Seam Highwall Mining Asbuilt Q Seam Highwall Mining Asbuilt

A-B-99 0.8ac (8.0ac) A-B-00 42.9ac (90.8ac) A-B-00 41.7ac (90.8ac) OAK1 SC-T-01 A-B-00 0.2ac (90.8ac) N20-2 A-B-09 0.2 ac (7.8 ac) A-B-09oak 0.3 ac A-B-09 7.6 ac (7.8 ac)

A97-2 A-B-98 2.8 ac (20.5ac) A-B-98 2.7 ac (20.5ac) F-AB-06 55.9 ac (72.1 ac) F-AB-06 3.8 ac (50.5 ac.) F-AB-05 AERIAL SEEDING AREA F-B-19 78.9ac Z-AB-16 88.4ac

F-AB-05 55.9 ac (72.1 ac) F-A-12 69.0 ac (94.6 ac) Z-A-12 10.5 ac (46.5 ac) Z-A-14 2.0 ac Z-AB-05 9.9ac (38.7ac) OAK 3 OAK 4 Z-A-06 1.5 ac Z-AB-05 28.8ac (38.7ac) SC-Z-07 Z-A-07 2.1 ac (12.9 ac) Z-A-08 2.6 ac (7.3 ac) Z-AB-16 88.4ac F-A-16 3.7ac Z-A-13 75.4 ac OAK 2 Z-A-10 2.2 ac (5.7 ac) SC-Z-40

F-AB-04 15.8 ac (39.6 ac) F-AB-02 13.9 ac (28.5 ac) EPM #3 EPM #2 SC-F-08 F-AB-04 12.4 ac (34.8 ac) F-AB-07 9.8 ac (38.3 ac) F-AB-08 12.5 ac (49.8 ac.) F-AB-09 5.3 ac (31.0 ac.) F-A-14 15.8 ac (46.8 ac) F-AB-99 21.9 ac (32.7 ac) F-AB-03 16.0 ac (36.3 ac) F-AB-06 22.1ac (50.5 ac.) F-AB-00 Spoil F-AB-00 Spoil F-AB-00 F-AB-00 F-AB-00 Shrub Plot Test Areas F-A-12 24.4 ac (94.6 ac) F-A-12 24.4 ac (94.6 ac) SC-F-05 F-AB-08 24.5 ac (49.8 ac.) F-AB-09 18.2 ac (31.0 ac.) F-A-11 31.0 ac (46.8 ac) SC-F-09 EPM #1 SC-F-04 F-AB-99 10.8 ac (32.7 ac) F-AB-05 16.5 ac (72.1 ac) F-AB-06 14.8 ac (50.5 ac.) F-AB-07 28.5 ac (38.3ac) F-A-10 11.5 ac (15.0 ac.) F-A-12 69.0 ac (94.6 ac) SC-F-10A F-AB-01 23.3 ac (39.6 ac) F-AB-02 14.6 ac (28.5 ac) F-AB-03 18.3 ac (36.3 ac) F-AB-04 19.7 ac (34.8 ac) F-AB-05 5.7 ac (72.1 ac) F-AB-06 9.8 ac (50.5ac) F-AB-08 12.9 ac (49.8 ac.) F-AB-09 7.6 ac (31.0 ac) F-A-10 3.8 ac (15.0 ac.) F-A-11 31.0 ac (46.8 ac) Z-A-12 36.0 ac (46.5 ac) Z-A-07 8.6 ac (12.9 ac) Z-A-10 2.2 ac (5.7 ac) Z-A-08 2.6 ac (7.3 ac) SC-Z-08 UNDISTURBED HRS K-A-10 18.0 ac K-A-11 57.4 ac HORSE Z-A-13 75.4 ac

H-04

LEGEND

- PERMIT BOUNDARY
- HISTORICAL REVEGETATED AREA
- SC-D-92 SHRUB CLUMP/Pit ID/Year Constructed
- 2022 FINAL REGRADE AREA
- 2022 RETOPSOILED AND REVEGETATED AREA
- EXISTING TOPSOIL STOCKPILE
- PROPOSED TOPSOIL STOCKPILE
- ASH DUMP STORAGE AREA
- 2022 TOPSOIL STRIP
- AS-BUILT HIGHWALL MINING AREA
- 2023 PROPOSED TOPSOIL LAYDOWN
- 2023 PROPOSED TOPSOIL STRIP
- 2023 PROPOSED TOPSOIL STRIPPING AND LAYDOWN
- ACCESS CORRIDORS
- EXISTING STOCK POND
- EXISTING DOZER BASINS
- RECONSTRUCTED DRAINAGES
- 2022 RECONSTRUCTED DRAINAGES
- CONTOUR DITCH
- APPROVED PHASE III BOND RELEASED BOUNDARY

SHEET LOCATION INDEX (1 2 3)

400 0 400 800 1200

SCALE: 1 IN = 400 FT

CONTOUR INTERVAL: 10 FEET

Topographic information compiled from aerial photography dated 12/2022.
AutoCAD file: L:\Engineer\Permits\Annual Reports\2022\Maps\topo2022

TRAPPER MINING INC.

TRAPPER MINE CRAIG, CO.

PERMIT C81-010

2022 ANNUAL RECLAMATION REPORT MAP

SCALE: 1 in = 400 ft
DESIGNED BY:
DRAWN BY: JMM
DATE: 3/7/23

Sheet 2 of 3

MAP 1

SHEET 2

E 1436000
E 1438000
E 1440000
E 1442000
E 1444000
E 1446000

N 412000
N 410000
N 408000
N 406000
N 404000
N 402000
N 400000
N 398000

A-B-00
41.7ac
(90.8ac)

FWF97-1

WEST FLUME

A-B-01
56.1ac

G1-01

A99-3

MIDDLE FLUME

A98-3

MFW #1

EFL

Disturbance Boundary

H Seam Highwall Mining Asbuilt

A1-08

G1-03

G4-02

Z-AB-05
28.8ac
(38.7ac)

Z-AB-05 AERIAL SEEDING AREA

Z-A-07
2.2 ac
(12.9 ac)

Z-A-08
0.5 ac
(7.3 ac)

L5-17

L2-17

MF 2'

MF 3'

MF 1'

L-AB-19
1.8 ac
(117.8 ac)

19-1

L20-2

Z-A-17
44.0 ac

L-AB-20
19.3 ac

Z-A-15
26.9 ac

MF 1

MF'

L-AB-19
102.7 ac
(117.8 ac)

MF 2

2023 Proposed Topsoil Laydown

L-A-18
54.6 ac
(57.6 ac)

19-5

L23-1

2023 Proposed Topsoil Stripping

K-A-16
8.5ac
(32.9ac)

MF 3

SLIDE AREA

K-A-13
29.4 ac

K2-15

MF

L-AB-19
102.7 ac
(117.8 ac)

K-A-11
57.4 ac

L-A-18
3.0 ac
(57.6 ac)

JW-1

K-A-16
24.4ac
(32.9ac)

L-AB-19
10.9 ac
(117.8 ac)

BP201

L-AB-19
2.3 ac
(117.8 ac)

Disturbance Boundary

DITCH

G06-DG

N

LEGEND

- PERMIT BOUNDARY
- HISTORICAL REVEGETATED AREA
- SC-D-92 — SHRUB CLUMP/Pit ID/Year Constructed
- 2022 FINAL REGRADE AREA
- 2022 RETOPSOILED AND REVEGETATED AREA
- EXISTING TOPSOIL STOCKPILE
- PROPOSED TOPSOIL STOCKPILE
- 2022 TOPSOIL STRIP
- AS-BUILT HIGHWALL MINING AREA
- 2023 PROPOSED TOPSOIL LAYDOWN
- 2023 PROPOSED TOPSOIL STRIP
- 2023 PROPOSED TOPSOIL STRIPPING AND LAYDOWN
- ACCESS CORRIDORS
- EXISTING STOCK POND
- EXISTING DOZER BASINS
- RECONSTRUCTED DRAINAGES
- 2022 RECONSTRUCTED DRAINAGES
- CONTOUR DITCH
- APPROVED PHASE III BOND RELEASED BOUNDARY

SHEET LOCATION INDEX

1 2 3

400 0 400 800 1200

SCALE: 1 IN = 400 FT

CONTOUR INTERVAL: 10 FEET

Topographic information compiled from aerial photography dated 12/2022
AutoCAD file: L:\Engineer\Permits\Annual Reports\2022\Maps\topo2022

TRAPPER MINING INC.

TRAPPER MINE — CRAIG, CO.

PERMIT C81-010
2022 ANNUAL RECLAMATION REPORT MAP

SCALE: 1 in = 400 ft
DESIGNED BY:
DRAWN BY: JMM
DATE: 3/7/23

Sheet 3 of 3
MAP 1
SHEET 3

Trapper Mine

SECTION 2.0

RESERVED

TRAPPER MINING INC.

C-1981-010

SECTION 2.0 Reserved

SECTION 3.0

DRAINAGEWAY RECONSTRUCTION, IMPROVEMENTS AND REPAIRS

TRAPPER MINING INC.

C-1981-010

SECTION 3.0 2022 Drainage Reconstruction, Improvement and Repairs at Trapper Mine

3.1 Drainage Reconstruction 1987-2022

At Trapper Mine, all or portions of nine major drainageways (Coyote, Johnson, Buzzard, No-Name, Oak, Grouse, Horse, Flume and Pyeatt) and their tributaries have been regraded and appropriately treated to reduce the erosion rate and assist in permanent channel stabilization from 1987 through 2022. At the conclusion of the 2022 field season, approximately 141,870 linear feet (26.9 miles) of permanent drainage reconstruction has been completed at Trapper Mine (Map 1). In 2022 – No new drainage reconstruction occurred.

3.2 Drainage Improvements and Repairs

Improvements and repairs were performed to provide benefits to all drainages treated in 1987-2022 as well as portions of undisturbed and disturbed drainage segments. Drainage improvements include dozer basins constructed in newly stripped topsoil areas and on newly regraded spoils. Dozer basins and/or stock ponds were cleaned and repaired in East Pyeatt, Oak, Middle Flume and Deal drainages in 2022. Sediment pond No-Name #2 was cleaned of all sediment and the drop inlet spillway/culvert was removed in favor of an open spillway in 2022.

3.3 Drainage Reconstruction Design Summary

Design criteria established with PR-07 shall be summarized for each year for the drainages reconstructed on the site. Table 3.1 shows the model inputs for each drainage designed and reconstructed for the reporting year. Map 1 indicates each drainage section reconstructed during the reporting year. In 2022 – No new drainage reconstruction occurred.

Table 3.1. Drainage Reconstruction Summary for Trapper Mine (2022)

(No Drainage Reconstruction in 2022)

Drainage Model Inputs				
Drainage Designation (Map 1)				
Total Acreage				
Average Curve Number				
Average Slope				
Total Storage Needed, ac-ft.				
Capacity of Check Dam(s), ac-ft.				
Capacity of Dozer Basin(s), ac-ft.				
Dozer Basins Constructed				
Check Dams Constructed				
Required Number of Check Dams				
Total Storage Completed, ac-ft.				

SECTION 4.0

RESERVED

TRAPPER MINING INC.

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SECTION 4.0 Reserved

SECTION 5.0

TOPSOIL
STOCKPILE LOCATIONS

TRAPPER MINING INC.

C-1981-010

SECTION 5.0 Topsoil Stockpile Locations

Trapper's approved permit (Section 4.9.2) specifies that CDRMS will be provided with map(s) illustrating the location of topsoil stockpiles constructed during the previous year and the approximate locations for stockpiles proposed for construction during the upcoming year (Map 1).

Table 5-1 lists all existing stockpiles with their identification nomenclature, coordinates (based on the approximate center of the pile), acres, construction date and volume; which is updated annually.

During 2022, Trapper nearly depleted pile E79-6 for reclamation in D Pit, a small portion remains to be moved and used in reclamation of the topsoil pile site. Pile EM-1 was entirely moved to pile I20-1 in the I Pit area. Piles MH2, WC1, I20-2 and NN20-1 all had additional topsoil added to them from stripping operations in I Pit. Trapper also constructed four new topsoil piles, J22-1, J22-2, J22-3A and J22-3B in J Pit.

At the end of 2022, excluding stockpiles abandoned with the approvals of MR-155 and TR-94, there are 82 existing topsoil stockpiles at Trapper affecting 182.8 acres and storing approximately 3,539,602 cubic yards of salvaged topsoil.

Proposed new topsoil stockpiles near the C, I and J-Pit area may be constructed in 2023.

GCR 2/23
[Annual Report\DRMS22RPT\22TStext5-0]

Table 5-1. Trapper Mine Topsoil Pile Inventory (1)

Topsoil Pile ID	Location	Coordinates Northing	Coordinates Easting	Size (acres)	Approximate CYDS	Year Created
18-2	Johnson Coal Pile	413,427	1,423,038	2.5	20,360	2018
18-3	Ash Dump	405,377	1,424,250	1.2	43,046	2018
19-1	K Ridge Reclamation	404,660	1,437,265	1.2	7,261	2019
19-5	K Ridge Reclamation	403,607	1,437,132	1.9	20,585	2019
A76-4	GB well site	410,070	1,417,400	0.5	7,805	pre 1976
A77-1	A field coal pile	409,850	1,411,300	1.3	10,620	1977
*A91-8	NW Edge of H Pit Reclamation	410,800	1,421,400	5.1	67,159	1991
*A92-1	North A Road East of East Pyeatt	411,900	1,427,900	12.5	336,429	1992
A92-3	North A Road East of West Pyeatt	412,100	1,424,400	0.6	7,632	1992
A92-4	North A Road Middle Pyeatt	411,300	1,425,600	7.2	171,972	1992
A92-5	North A Road West of East Pyeatt	412,670	1,426,360	7.8	194,000	1992
A93-1	A pit South #1	406,550	1,426,040	3.9	150,055	1993
A94-2	E of Grouse Drainage	412,000	1,429,300	4.4	120,606	1994
A96-2	North A Pit west of A 95-2	411,100	1,432,100	3.0	26,216	1996
A97-2	South of LOM Road	408,150	1,429,200	1.5	50,972	1997
A98-3	West Middle Flume Pond #3	407,500	1,438,240	5.3	204,024	1998
A99-3	East Middle Flume Pond	407,630	1,437,275	0.8	9,000	1999
A1-08	East of G1-03 Pile	406,870	1,439,000	5.6	183,982	2008
ASH1_2020	LOM/ASH Road	408,550	1,424,160	1.8	15,129	2020
ASH2_2020	LOM/ASH Road	407,300	1,423,850	3.6	60,000	2020
ASH3_Foster's Pile	LOM/ASH Road	409,850	1,424,000	2.3	38,684	2020
ASH4_2020	LOM/ASH Road	411,210	1,424,290	1.3	9,962	2020
ASH1	Johnson Gulch East Tributary	408,000	1,421,200	3.9	97,092	1992
ASH2	Johnson Gulch East Tributary	408,200	1,422,000	1.3	27,486	1992
BUZ92-1	Far East Buzzard Pond #1	411,100	1,410,250	0.4	882	1992
CG1	Coyote Gulch	411,050	1,412,200	4.8	17,253	1978
D93-1	North D pit #1	407,725	1,418,160	0.5	20,570	1993
D97-1	North end Enfield Pit	405,640	1,419,440	1.8	62,216	1997
D1-07	West Spoils Side of North End D-Pit	406,640	1,416,860	1.5	7,476	2007
E78-1	E pit SE pile small	402,490	1,422,730	0.7	10,000	1978
E78-2	Middle E pit pile	404,400	1,423,100	4.5	25,238	1978
E79-4	E pit SE pile large	401,900	1,422,650	2.8	34,010	pre 1979
E79-D22-A	D Pit	403,250	1,417,700	4.9	196,448	2022
E79-D22-B	D Pit	403,350	1,419,300	0.7	6,957	2022
E87-12	E pit regrade pile	403,850	1,422,350	4.1	73,278	1987
E93-4	North E pit #4	408,750	1,421,050	0.9	14,030	1993
E93-5	Middle E pit #5	403,955	1,419,950	0.8	7,130	1993
E94-1	W of D East Road	404,280	1,420,370	0.3	2,304	1994
E94-2	N of D East Road	407,270	1,418,750	0.2	1,200	1994
G1-01	North of LOM rd @ G Pit	407,740	1,434,270	4.0	101,948	2001
G1-03	East G-Pit	406,526	1,438,555	3.5	89,822	2003
G4-02	North A-E & LOM Roads Intersection	406,728	1,436,968	2.1	137,784	2002
G06-DG	Deal Gulch pond	399,380	1,438,040	0.6	10,104	2006/2018
H04	West Horse pond	401,580	1,430,260	0.7	6,244	2004
HRS	Horse Pond	403,090	1,432,930	1.0	24,781	2000
I20-1	South of I Pit	411,551	1,414,785	1.5	17,340	2020
I20-2	West end I-Pit	411,903	1,413,603	0.9	22,356	2020
I20-3	North Edge I-Pit	412,122	1,414,412	1.8	17,286	2020
J22-1	J-Pit	410,975	1,415,150	2.1	9,978	2022
J22-2	J-Pit	410,500	1,413,480	1.4	12,376	2022
J22-3A	J-Pit	410,360	1,414,800	1.2	13,411	2022
J22-3B	J-Pit	410,270	1,414,370	1.0	13,641	2022

Table 5-1. Cont. - page 2

Topsoil Pile ID	Location	Coordinates Northing	Coordinates Easting	Size (acres)	Approximate CYDS	Year Created
JF-1	Jeffway Pond #1	401,578	1,442,426	0.7	1,760	2018
JG5	Johnson Gulch Elect Station	414,250	1,419,450	0.5	6,209	1989
JG6	North A Haul Road Johnson	413,000	1,420,950	1.2	13,212	1987
JG7	North A Haul Road Ag Field W	412,400	1,422,250	0.5	16,850	1988
JG8	North A Haul Road Ag Field E	412,300	1,422,700	0.7	12,840	1988
K2-15	K Ridge Reclamation	402,400	1,435,600	7.1	67,082	2015
L2-17	East Readyline	405,490	1,434,900	2.4	46,485	2017
L20-2	K2 Road	404,650	1,438,139	2.0	32,400	2020
L21-1	L Reclamation	401,726	1,437,812	2.2	49,516	2021
L21-2	West of Jeffway Pond #1	401,449	1,442,020	1.6	19,502	2021
L21-3	Northwest on knob, Jeffway Pond #1	402,337	1,442,157	1.7	23,815	2021
L5-17	Road to East Ready Line	405,800	1,435,830	4.5	91,745	2017
MH1	Main haul road north	411,710	1,418,660	1.0	32,147	1986
MH2	Main haul road south	410,800	1,418,550	2.6	60,251	1982
MP1	Middle Pyeatt Dam #1	412,200	1,425,030	0.6	4,200	1986
MP2	Middle Pyeatt Dam #2	413,000	1,425,220	1.2	12,500	1986
MP7	Middle Pyeatt Sediment Basin	411,000	1,425,400	0.2	645	1991
N20-2	New LOM Raod	408,760	1,431,933	4.3	10,835	2020
N20-3	New LOM Raod	411,300	1,426,940	2.0	19,770	2020
N20-4	New LOM Raod	410,135	1,431,900	1.2	8,659	2020
N20-5	New LOM Raod	410,790	1,431,300	1.8	5,620	2020
N20-6	New LOM Raod	411,340	1,430,530	1.4	9,970	2020
N20-7	NE of Ash Pond	410,334	1,426,014	0.4	1,713	2020
N21-1	East Pyeatt, A pit reclaim	410,672	1,427,106	0.9	5,035	2021
NN20-1	East No-Name #2	410,711	1,416,540	1.6	17,735	2020
NN20-2	East end I-Pit Overburden Pile	411,282	1,417,835	2.2	38,594	2020
SP5-94	SW of Sage Pond	412,600	1,430,555	0.6	6,318	1994
SP6-94	SE of Sage Pond	412,700	1,431,200	0.7	12,204	1994
SY1	Shop yard pullout expansion	413,660	1,419,250	0.2	900	1990
WC1	Wye coal pile site	412,600	1,417,500	3.7	74,950	1978
			Total	182.8	3,539,602	

* In accordance with MR-155, all of piles A86-6 (depleted in 2004), A92-4 and A92-5 were abandoned and A91-8 and A92-1 were partially abandoned.

In accordance with TR-94, topsoil piles NN1, E89-11, JG-1, JG-2, JG-3, JG-4, WP-2, WP-3, EP-2, EP-3, EP-4, GP-1, A95-2, FWF97-1, A99-3 and EFL were abandoned.

(1) As of December 31, 2022

SECTION 6.0

LIVESTOCK PONDS

TRAPPER MINING INC.

C-1981-010

SECTION 6.0 Stock Tank and Dozer Basin Construction Through 2022

6.1 Stock Tanks

This section updates the location of all constructed stock tanks through 2022 (Map 1). The average tank density for Trapper mined-land areas will not exceed one tank per ten acres. Existing stock tanks meet applicable certification standards.

In 2022 Trapper did not construct any new stock tanks.

6.2 Dozer Basins

As a result of the approval of technical revision TR-73 (January 1997), dozer basin locations will be provided in this Appendix W document on an annual basis (Map 1).

Dozer basins assist sediment impoundments in the containment of sediment, reducing the frequency of sediment impoundment cleaning. Dozer basins are typically constructed along haulroads, regraded spoils, and/or on short or long term disturbed sites.

Table 6-1 Existing Stock Tank Density by Drainage Area (1) through 2022

Drainage Area	Tanks Constructed	Approximate Drainage Area (ac)	Approximate Drainage Acres Per Tank
Johnson	4	165	41
No Name	6	246	41
West Pyeatt	3	279	93
East Pyeatt	5	1,270	254
Oak	3	314	105
Middle Flume	1	18	18
	24	2,292	87

(1) Based on average drainage area above first sediment control structure in any given drainage at Trapper Mine.

GCR 2/23
[DRMS22RPT\22 PONDS text6-0]

SECTION 7.0

MISCELLANEOUS

TRAPPER MINING INC.

C-1981-010

SECTION 7.0 Miscellaneous

7.1 Vegetation Monitoring on Trapper Reclaimed Lands

No vegetation monitoring was conducted on reclaimed parcels in 2022.

Interim baseline monitoring and Phase II vegetation standards monitoring is planned for 2023.

7.2 Grazing of Reclaimed Lands

No cattle grazing occurred on Trapper non final bond-released reclaimed lands during 2022, nor is any planned for 2023.

7.3 2022 Revegetation Seed Mixes

Section 3.6.3.5 of Trapper's Mining and Reclamation permit requires the Division be notified of the seed mixtures proposed to be used each year. Tables 7-1 through 7-4 give the 2023 proposed mixtures.

Required seed packing slips are attached behind Table 7-4 for shipments received in 2022. No seed was purchased in 2022.

7.4 Trapper Mine Facilities

In 2022, existing Trapper Mine facilities were not significantly changed during the reporting year.

7.5 Weed Control Measures

Weed control was performed on all areas of the mine-site. Herbicide was applied aerially as needed and selectively by ground crews. Efforts were primarily focused on newer reclaimed parcels and/or areas of historical concentrations. Areas surrounding facilities were treated by non-selective herbicides to obtain bare ground as needed. Reclaimed parcels were treated with recommended selective broadleaf herbicides for select noxious weeds. Noxious weeds are controlled in accordance with state and county lists and recommendations. Primary species of concern included Hoary cress (*Cardaria draba*), Dalmatian toadflax (*Linaria dalmatica*), Houndstongue (*Cynoglossum officinale*), Scotch thistle (*Onopordum acanthium*), Musk thistle (*Carduus nutans*), Canada thistle (*Cirsium arvense*) and Russian Knapweed (*Acroptilon repens*). Other possible species have included Black henbane (Hyoscyamus niger), Russian Olive (*Elaeagnus angustifolia*) and Tamarisk (*Tamarix spp.*).

Table 7-1. Seed mix for seeding Range Site AB in 2023, Trapper Mine.

SPECIES (1)	Pure Live Seed Per Square Foot	Pounds PLS Per Acre	Origin(1)
Grasses:			
Thickspike wheatgrass	0.5	0.14	N
Streambank wheatgrass	0.5	0.13	N
Western wheatgrass	0.5	0.19	N
Slender wheatgrass	0.5	0.14	N
Beardless bluebunch wheatgrass	2.0	0.62	N
Mountain brome	1.0	0.72	N
Great Basin wildrye	2.0	0.92	N
Kentucky bluegrass	3.0	0.06	*
Green needlegrass	1.0	0.24	N
Sheep Fescue	2.0	0.15	N
Redtop	2.0	0.02	I
Indian Ricegrass	1.0	0.23	N
Total grasses	16.0	3.56	--
Forbs:			
Munro Globemallow	1.0	0.08	N
Lewis Flax	2.0	0.30	N
Western yarrow	4.0	0.07	N
Cicer milkvetch	1.0	0.30	I
Arrowleaf balsamroot	0.5	0.40	N
Pacific aster	2.0	0.02	N
Rocky Mt. penstemon	2.0	0.14	N
Small burnet	0.5	0.40	I
Alfalfa	0.5	0.10	I
Showy Goldeneye	2.0	0.08	N
Total forbs	15.5	1.89	--
Shrubs:			
Rubber rabbitbrush	2.0	0.26	N
Silver sagebrush	2.0	0.10	N
Big sagebrush	3.0	0.07	N
Antelope bitterbrush	2.0	4.40	N
Mountain snowberry	1.0	0.58	N
Woods rose	1.0	0.96	N
Fourwing saltbrush	1.0	0.62	N
Chokecherry	0.3	3.00	N
Saskatoon serviceberry	0.3	0.29	N
Total shrubs	12.6	10.28	--
Total mixture	44.1	15.73	

(1) N - native, I - introduced, * - Naturalized.

FVL, revised 2/07

Table 7-2. Seed mix for seeding Range Site C in 2023, Trapper Mine.

SPECIES	Pure Live Seed Per Square Foot	Pounds PLS Per Acre	Origin (1)
Grasses:			
Beardless bluebunch wheatgrass	1.0	0.31	N
Slender Wheatgrass	2.0	0.66	N
Thickspike wheatgrass	2.0	0.56	N
Streambank wheatgrass	2.0	0.51	I
Western wheatgrass	2.0	0.77	N
Great Basin wildrye	2.0	0.92	N
Sheep fescue	2.0	0.15	N
Kentucky bluegrass	4.0	0.08	*
Indian ricegrass	1.0	0.23	N
Mountain brome	2.0	1.43	N
Green needlegrass	2.0	0.48	N
Redtop	3.0	0.03	I
Total grasses	25.0	6.13	--
Forbs:			
Cicer Milkvetch	1.0	0.30	I
Western yarrow	4.0	0.04	N
Arrowleaf balsamroot	1.0	0.79	N
Lewis flax	4.0	0.61	N
Rocky Mt. penstemon	1.0	0.08	?
Small burnet	0.5	0.40	I
Pacific aster	2.0	0.03	N
Munro globemallow	0.5	0.04	N
Showy goldeneye	2.0	0.08	N
Total forbs	16.0	2.37	--
Total mixture	41.0	8.50	

(1) N - native, I - introduced, * - Naturalized, ? - Unknown, but genus occurs on the mine site.

FVL, revised 2/97.

Table 7-3. Seed mix for seeding temporary disturbance areas in 2023, Trapper Mine.

SPECIES	Pure Live Seed Per Square Foot	Pounds PLS Per Acre	Origin (1)
Grasses:			
Thickspike wheatgrass	3.0	0.84	N
Slender wheatgrass	4.0	1.10	N
Western wheatgrass	2.0	0.51	N
Great Basin wildrye	1.0	0.46	N
Kentucky bluegrass	6.0	0.12	*
Redtop	4.0	0.04	I
Total grasses	20.0	3.07	--
Forbs:			
Western yarrow	2.0	0.02	N
Alfalfa	2.0	0.42	I
Cicer milkvetch	2.0	0.64	I
Total forbs	6.0	1.08	--
Total mixture	26.0	4.15	

(1) N - native, I - introduced, * - Naturalized.

FVL, revised 2/97

Table 7-4. Seed mix for aerial inter-seeding in 2023, Trapper Mine.

SPECIES (1)	Pure Live Seed Per Square Foot	Pounds PLS Per Acre	Origin(1)
Forbs:			
Lewis Flax	2.0	0.30	N
Western yarrow	5.7	0.10	N
Rocky Mt. penstemon	2.9	0.20	N
Total forbs	10.6	0.60	--
Shrubs:			
Rubber rabbitbrush	1.5	0.20	N
Silver sagebrush	4.0	0.20	N
Big sagebrush	8.6	0.20	N
Total shrubs	14.1	0.60	--
Total mixture	24.7	1.20	

(1) N - native

FVL, 2/07