PFM Consulting LLC

Colorado Division of Reclamation, Mining and Safety
1313 Sherman Street, Room 215
Denver, CO 80203

RE: Ghost River Gravel Pit Regular 112 Operation Reclamation Permit Application Package

June 7, 2024

Please accept the enclosed original and two copies as the application to permit Ghost River Gravel Pit, which was previously permitted under M2003-002.

Warm Regards,

Jodi Schreiber

Jodi Schreiber, Owner
PFM Consulting LLC

1774 N. Cougar Drive
Pueblo West, CO 81007
Phone (719) 529-0916
Fax (719) 766-8339
pfmconsultingcompany@gmail.com
www.pfmconsultingllc.com

STATE OF COLORADO

DIVISION OF RECLAMATION, MINING AND SAFETY
Department of Natural Resources

1313 Sherman St., Room 215
Denver, Colorado 80203
Phone: (303) 866-3567
FAX: (303) 832-8106

COLORADO DIVISION OF RECLAMATION MINING & SAFETY

CONSTRUCTION MATERIALS
REGULAR (112) OPERATION
RECLAMATION PERMIT APPLICATION FORM

CHECK ONE: ☐ **There is a File Number Already Assigned to this Operation**

Permit # M -____-____-____ (Please reference the file number currently assigned to this operation)

☑ **New** Application (Rule 1.4.5) ☐ **Amendment** Application (Rule 1.10)

☐ **Conversion** Application (Rule 1.11)

Permit # M -____-____-____ (provide for **Amendments** and **Conversions** of existing permits)

The application for a Construction Materials Regular 112 Operation Reclamation Permit contains three major parts: (1) the application form; (2) Exhibits A-S, Addendum 1, any sections of Exhibit 6.5 (Geotechnical Stability Exhibit; and (3) the application fee. When you submit your application, be sure to include one (1) complete signed and notarized **ORIGINAL** and one (1) copy of the completed application form, two (2) copies of Exhibits A-S, Addendum 1, appropriate sections of 6.5 (Geotechnical Stability Exhibit, and a check for the application fee described under Section (4) below. Exhibits should **NOT** be bound or in a 3-ring binder; maps should be folded to 8 1/2" X 11" or 8 1/2" X 14" size. To expedite processing, please provide the information in the format and order described in this form.

GENERAL OPERATION INFORMATION

Type or print clearly, in the space provided, ALL information requested below.

1. **Applicant/operator or company name (name to be used on permit):** P B & S Sand and Gravel LLC
   - 1.1 Type of organization (corporation, partnership, etc.): LLC
2. **Operation name (pit, mine or site name):** Ghost River Gravel Pit
3. **Permitted acreage (new or existing site):** _____ permitted acres
   - 3.1 Change in acreage (+) _____ acres
   - 3.2 Total acreage in Permit area 21.6 acres
4. **Fees:**
   - 4.1 New Application $2,696.00 application fee
   - 4.2 New Quarry Application $3,342.00 quarry application
   - 4.4 Amendment Fee $2,229.00 amendment fee
   - 4.5 Conversion to 112 operation (set by statute) $2,696.00 conversion fee
5. **Primary commoditie(s) to be mined:** Sand Gravel _____ _____ _____
   - 5.1 Incidental commoditie(s) to be mined: 1. NA - lbs/Tons/yr 2. ____ / lbs/Tons/yr
     3. ____ / lbs/Tons/yr 4. ____ / lbs/Tons/yr 5. ____ / lbs/Tons/yr
   - 5.2 Anticipated end use of primary commoditie(s) to be mined: Construction Aggregate
   - 5.3 Anticipated end use of incidental commoditie(s) to be mined: NA

6. **Name of owner of subsurface rights of affected land**: Patrick Steele and Jordan Power
   If 2 or more owners, "refer to Exhibit O".

7. **Name of owner of surface of affected land**: Patrick Steele and Jordan Power

8. **Type of mining operation**: ☑ Surface ☐ Underground

9. **Location Information**: The center of the area where the majority of mining will occur:

   COUNTY: Huerfano

   PRINCIPAL MERIDIAN (check one): ☑ 6th (Colorado) ☐ 10th (New Mexico) ☐ Ute

   SECTION (write number): S 35

   TOWNSHIP (write number and check direction): T 25 ☐ North ☑ South

   RANGE (write number and check direction): R 66 ☐ East ☑ West

   QUARTER SECTION (check one): ☐ NE ☐ NW ☐ SE ☑ SW

   QUARTER/QUARTER SECTION (check one): ☑ NE ☐ NW ☐ SE ☐ SW

   GENERAL DESCRIPTION: (the number of miles and direction from the nearest town and the approximate elevation):

   The mine is located approximately 4 miles east of I-25 on County Road 110. It is approximately 5674 feet in elevation. The nearest town is Colorado City and is approximately 9 miles to the northwest.

10. **Primary Mine Entrance Location** (report in either Latitude/Longitude **OR** UTM):

    Latitude/Longitude:

    Example: (N) 39° 44′ 12.98″
    (W) 104° 59′ 3.87″

    Latitude (N): deg _____ min _____ sec ____._____ (2 decimal places)

    Longitude (W): deg _____ min _____ sec ____._____ (2 decimal places)

    OR

    Example: (N) 39.73691°
    (W) -104.98449°

    Latitude (N) 37 . 825628 (5 decimal places)

    Longitude(W) -104 . 749247 (5 decimal places)

    OR

    Universal Tranverse Mercator (UTM)

    Example: 201336.3 E NAD27 Zone 13
    4398351.2 N

    UTM Datum (specify NAD27, NAD83 or WGS 84) Nad 83 Zone 13

    Easting _____

    Northing _____

11. **Correspondence Information**:

APPLICANT/OPERATOR (name, address, and phone of name to be used on permit)

Contact's Name: **Patrick Steele** Title: Owner

Company Name: P B & S Sand and Gravel LLC

Street/P.O. Box: 8425 Park Road P.O. Box:

City: Rye

State: Colorado Zip Code: 81069

Telephone Number: (719) - 569-6297

Fax Number: ( ) -

PERMITTING CONTACT (if different from applicant/operator above)

Contact's Name: Jodi Schreiber Title:

Company Name: PFM Consulting LLC

Street/P.O. Box: 1774 N. Cougar Drive P.O. Box:

City: Pueblo West

State: CO Zip Code: 81007

Telephone Number: (719) - 529-0916

Fax Number: (719) - 766-8339

INSPECTION CONTACT

Contact's Name: Jordan Power Title:

Company Name: P B & S Sand and Gravel LLC

Street/P.O. Box: P.O. Box: 863

City: Rye

State: Colorado Zip Code: 81069

Telephone Number: (719) - 251-5677

Fax Number: ( ) -

CC: STATE OR FEDERAL LANDOWNER (if any)

Agency:

Street:

City:

State: Zip Code:

Telephone Number: ( ) -

CC: STATE OR FEDERAL LANDOWNER (if any)

Agency:

Street:

City:

State: Zip Code:

Telephone Number: ( ) -

12. **Primary future (Post-mining) land use (check one)**:

☐ Cropland(CR)	☐ Pastureland(PL)	☐ General Agriculture(GA)
☐ Rangeland(RL)	☐ Forestry(FR)	☐ Wildlife Habitat(WL)
☑ Residential(RS)	☐ Recreation(RC)	☐ Industrial/Commercial(IC)
☐ Developed Water Resources(WR)		☐ Solid Waste Disposal(WD)

13. **Primary present land use (check one)**:

☐ Cropland(CR)	☐ Pastureland(PL)	☐ General Agriculture(GA)
☑ Rangeland(RL)	☐ Forestry(FR)	☐ Wildlife Habitat(WL)
☐ Residential(RS)	☐ Recreation(RC)	☐ Industrial/Commercial(IC)
☐ Developed Water Resources(WR)		

14. **Method of Mining**: Briefly explain mining method (e.g. truck/shovel): Material will be extracted using front end loaders.

15. **On Site Processing**: ☑ Crushing/Screening

13.1 Briefly explain mining method (e.g. truck/shovel): Excavation will be performed by front end loaders which will remove and haul the raw resource to a processing plant and will deposit the material in a surge pile. A front end loader will deposit the material from the surge pile into the crushing and screening plant.

List any designated chemicals or acid-producing materials to be used or stored within permit area: No designated chemicals or acid-producing materials will be used or stored within the permit area.

16. **Description of Amendment or Conversion**:

If you are amending or converting an existing operation, provide a brief narrative describing the proposed change(s).

This is a re-permitting of a previously permitted site, M-2003-002.

Maps and Exhibits:

Two (2) complete, unbound application packages must be submitted. One complete application package consists of a signed application form and the set of maps and exhibits referenced below as Exhibits A-S, Addendum 1, and the Geotechnical Stability Exhibit. Each exhibit within the application must be presented as a separate section. Begin each exhibit on a new page. Pages should be numbered consecutively for ease of reference. If separate documents are used as appendices, please reference these by name in the exhibit.

With each of the two (2) signed application forms, you must submit a corresponding set of the maps and exhibits as described in the following references to Rule 6.4, 6.5, and 1.6.2(1)(b):

EXHIBIT A	Legal Description
EXHIBIT B	Index Map
EXHIBIT C	Pre-Mining and Mining Plan Map(s) of Affected Lands
EXHIBIT D	Mining Plan
EXHIBIT E	Reclamation Plan
EXHIBIT F	Reclamation Plan Map
EXHIBIT G	Water Information
EXHIBIT H	Wildlife Information
EXHIBIT I	Soils Information
EXHIBIT J	Vegetation Information
EXHIBIT K	Climate Information
EXHIBIT L	Reclamation Costs
EXHIBIT M	Other Permits and Licenses
EXHIBIT N	Source of Legal Right-To-Enter
EXHIBIT O	Owners of Record of Affected Land (Surface Area) and Owners of Substance to be Mined
EXHIBIT P	Municipalities Within Two Miles
EXHIBIT Q	Proof of Mailing of Notices to County Commissioners and Conservation District
EXHIBIT R	Proof of Filing with County Clerk or Recorder
EXHIBIT S	Permanent Man-Made Structures
Rule 1.6.2(1)(b)	ADDENDUM 1 - Notice Requirements (sample enclosed)
Rule 6.5	Geotechnical Stability Exhibit (any required sections)

The instructions for preparing Exhibits A-S, Addendum 1, and Geotechnical Stability Exhibit are specified under Rule 6.4 and 6.5 and Rule 1.6.2(1)(b) of the Rules and Regulations. If you have any questions on preparing the Exhibits or content of the information required, or would like to schedule a pre-application meeting you may contact the Office at 303-866-3567.

Responsibilities as a Permittee:

Upon application approval and permit issuance, this application becomes a legally binding document. Therefore, there are a number of important requirements which you, as a permittee, should fully understand. These requirements are listed below. Please read and initial each requirement, in the space provided, to acknowledge that you understand your obligations. If you do not understand these obligations then please contact this Office for a full explanation.

PS 1. Your obligation to reclaim the site is not limited to the amount of the financial warranty. You assume legal liability for all reasonable expenses which the Board or the Office may incur to reclaim the affected lands associated with your mining operation in the event your permit is revoked and financial warranty is forfeited:

PS 2. The Board may suspend or revoke this permit, or assess a civil penalty, upon a finding that the permittee violated the terms or conditions of this permit, the Act, the Mineral Rules and Regulations, or that information contained in the application or your permit misrepresent important material facts;

PS 3. If your mining and reclamation operations affect areas beyond the boundaries of an approved permit boundary, substantial civil penalties, to you as permittee can result;

PS 4. Any modification to the approved mining and reclamation plan from those described in your approved application requires you to submit a permit modification and obtain approval from the Board or Office;

PS 5. It is your responsibility to notify the Office of any changes in your address or phone number;

PS 6. Upon permit issuance and prior to beginning on-site mining activity, you must post a sign at the entrance of the mine site, which shall be clearly visible from the access road, with the following information (Rule 3.1.12):

a. the name of the operator;

b. a statement that a reclamation permit for the operation has been issued by the Colorado Mined Land Reclamation Board; and,

c. the permit number.

PS 7. The boundaries of the permit boundary area must be marked by monuments or other markers that are clearly visible and adequate to delineate such boundaries prior to site disturbance.

PS 8. It is a provision of this permit that the operations will be conducted in accordance with the terms and conditions listed in your application, as well as with the provisions of the Act and the Construction Material Rules and Regulations in effect at the time the permit is issued.

PS 9. Annually, on the anniversary date of permit issuance, you must submit an annual fee as specified by Statute, and an annual report which includes a map describing the acreage affected and the acreage reclaimed to date (if there are changes from the previous year), any monitoring required by the Reclamation Plan to be submitted annually on the anniversary date of the permit approval. Annual fees are for the previous year a permit is held. For example, a permit with the anniversary date of July 1, 1995, the annual fee is for the period of July 1, 1994 through June 30, 1995. Failure to submit your annual fee and report by the permit anniversary date may result in a civil penalty, revocation of your permit, and forfeiture of your financial warranty. It is your responsibility, as the permittee, to continue to pay your annual fee to the Office until the Board releases you from your total reclamation responsibility.

N/A 10. For joint venture/partnership operators: the signing representative is authorized to sign this document and a power of attorney (provided by the partner(s)) authorizing the signature of the representative is attached to this application.

Certification:

As an authorized representative of the applicant, I hereby certify that the operation described has met the minimum requirements of the following terms and conditions:

1. To the best of my knowledge, all significant, valuable and permanent man-made structure(s) in existence at the time this application is filed, and located within 200 feet of the proposed affected area have been identified in this application (Section 34-32.5-115(4)(e), C.R.S.).

2. No mining operation will be located on lands where such operations are prohibited by law (Section 34-32.5-115(4)(f), C.R.S.;

3. As the applicant/operator, I do not have any extraction/exploration operations in the State of Colorado currently in violation of the provisions of the Colorado Land Reclamation Act for the Extraction of Construction Materials (Section 34-32.5-120, C.R.S.) as determined through a Board finding.

4. I understand that statements in the application are being made under penalty of perjury and that false statements made herein are punishable as a Class 1 misdemeanor pursuant to Section 18-8-503, C.R.S.

This form has been approved by the Mined Land Reclamation Board pursuant to section 34-32.5-112,C.R.S., of the Colorado Land Reclamation Act for the Extraction of Construction Materials. Any alteration or modification of this form shall result in voiding any permit issued on the altered or modified form and subject the operator to cease and desist orders and civil penalties for operating without a permit pursuant to section 34-32.5-123, C.R.S.

Signed and dated this 28th day of June, 2024.

Patrick A. Steele
Applicant/Operator or Company Name

If Corporation Attest (Seal)

Signed: [signature]

Signed: No Seal
Corporate Secretary or Equivalent
Town/City/County Clerk

Title: Owner PB&S Sand and Gravel LLC

State of Colorado)
) ss.
County of Pueblo)

The foregoing instrument was acknowledged before me this 28th day of June, 2024, by Patrick A Steele as Owner of PB&S Sand & Gravel LLC

JODI D SCHREIBER
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 20064001792
MY COMMISSION EXPIRES OCTOBER 6, 2026

[signature]
Notary Public

My Commission expires: 10/4/26

SIGNATURES MUST BE IN BLUE INK

You must post sufficient Notices at the location of the proposed mine site to clearly identify the site as the location of a

Ghost River Gravel Pit

Construction Material

Regular 112 Operation

Reclamation Permit Application Package

Colorado Division of Reclamation, Mining and Safety

May 2024

6.4.1 Exhibit A

Legal Description

The Ghost River Gravel Pit is located 37.825628°, -104.749247°. The pit will be accessed through Huerfano County Road 110 approximately 4 miles east of I-25 in Huerfano County. The site is approximately 21.6 acres and is described by the following legal description:

Location: Huerfano County, CO

SE ¼ of NW ¼ and NE ¼ of SW ¼ of S35 T25S R66W

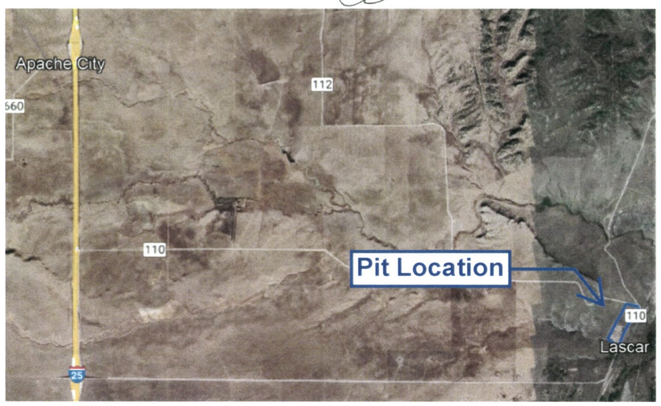
Entrance: 37.825628°, -104.749247°

6.4.2 Exhibit B

Index Map

Ghost River Pit
Legal Description Exhibit A/B

4/30/24
Map By James Higgs
PB&S Sand and Gravel LLC



5
6
110
21.6 Acres
7
8
9
10
4
3
2
1
N
900 ft
Approx. Pit Entrance
37.825628°-104.749247°
Rd

NAD 83 Coordinates

1) 37.825152°-104.749452°
2) 37.825330°-104.749961°
3) 37.825699°-104.750527°
4) 37.825958°-104.751081°
5) 37.830165°-104.748328°
6) 37.829822°-104.746474°
7) 37.828166°-104.747539°
8) 37.827685°-104.748034°
9) 37.827053°-104.748469°
10) 37.826228°-104.748914°

Legal Description

SE 1/4 of NW 1/4 & NE 1/4 of SW 1/4 of S35 T25S R66W

6.4.3 Exhibit C

Pre-Mining and Mining Plan Map

of Affected Lands

Ghost River Pit Legal
Existing Conditions Exhibit C

11/27/24
Map By James Higgs
PB&S Sand and Gravel LLC

Legend
- Permit Boundary (21.6 Acres)
- Existing Fence Line
- 40' Existing Contours
- Property Boundaries
- San Isabel Electric Lines
- Previously Disturbed

Permit Boundary - 21.6 Acres

Land Owner: Huerfano County

Land Owner: Huerfano County

110

110

HACKMAN DAVID C & PATRICIA A

LINE ROY D II & JENNIFER C

SNEAD JILL A

Land Owner: Patrick Steele & Jordon Power

San Isabel Electric

Rail Road (Outside 200')

5680

5640

Huerfano

BRAUNSCHNEIDER JAMES A & SUZANNE

DICKEY CHRIS A & BARBARA A

5680

San Isabel Electric

Rail Road (Outside 200')

HERRLE JEFFREY S & KAREN A

Approx. Pit Entrance
37.825628°-104.749247°

Unknown Spring

Unknown Spring

Spring

Spring

Westworks Land Management LLC

VILLARD SEAN M

Waits Randy and Kathleen

Rokich Gibson D Trustee of the

N

Scale
220'-0"

Ghost River Pit Legal Mining Map Exhibit D

11/22/24
Map By James Higgs
PB&S Sand and Gravel LLC

Legend
- Permit Boundary (21.6 Acres)
- Existing Fence Line
- 40' Existing Contours
- Property Boundaries
- Working Face
- Mining Direction
- Existing Disturbed(11.8 Acres)

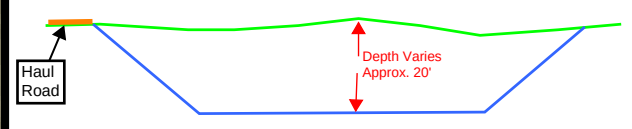
Permit Boundary - 21.6 Acres
Typical Section
Phase 2
(11.6 Acres)
Phase 1
(10 Acres)
Haul Road (approx. 30' wide)
Approximate Processing and Storage Area
25' Buffer Power Poles
Approx. Pit Entrance
37.825628°-104.749247°
San Isabel Electric
Rail Road (Outside 200')
Huerfano
110
5640
5680
Unknown Spring
Spring

HACKMAN DAVID C & PATRICIA A
LINE ROY D II & JENNIFER C
SNEAD JILL A
BRAUNSCHNEIDER JAMES A & SUZANNE
DICKEY CHRIS A & BARBARA A
HERRLE JEFFREY S & KAREN A
Westworks Land Management LLC
Waits Randy and Kathleen
VILLARD SEAN M
Rokich Gibson D Trustee of the

Scale
220'-0"

Scale
465'-1/2"

Typical Section



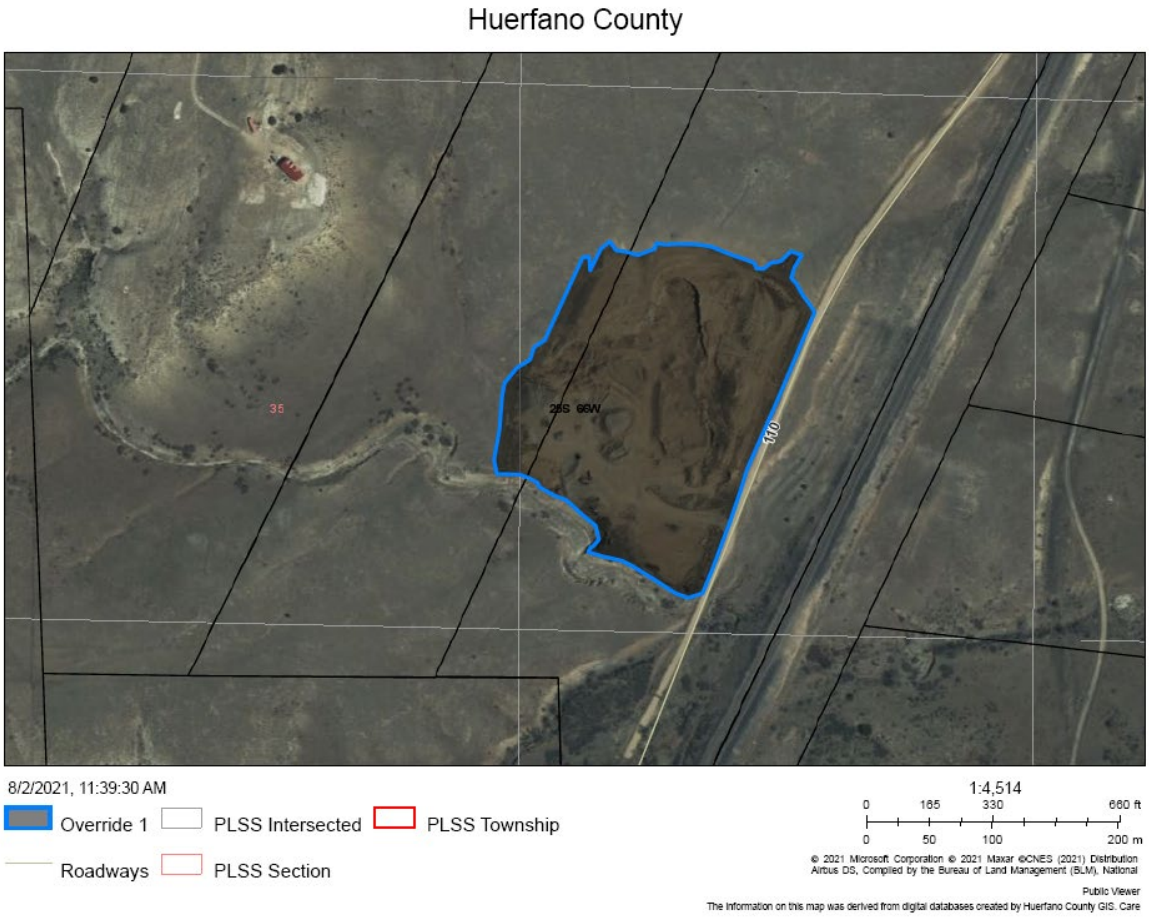
Note: All slopes shall be mined to a 3:1 or Flatter, except for the working face.

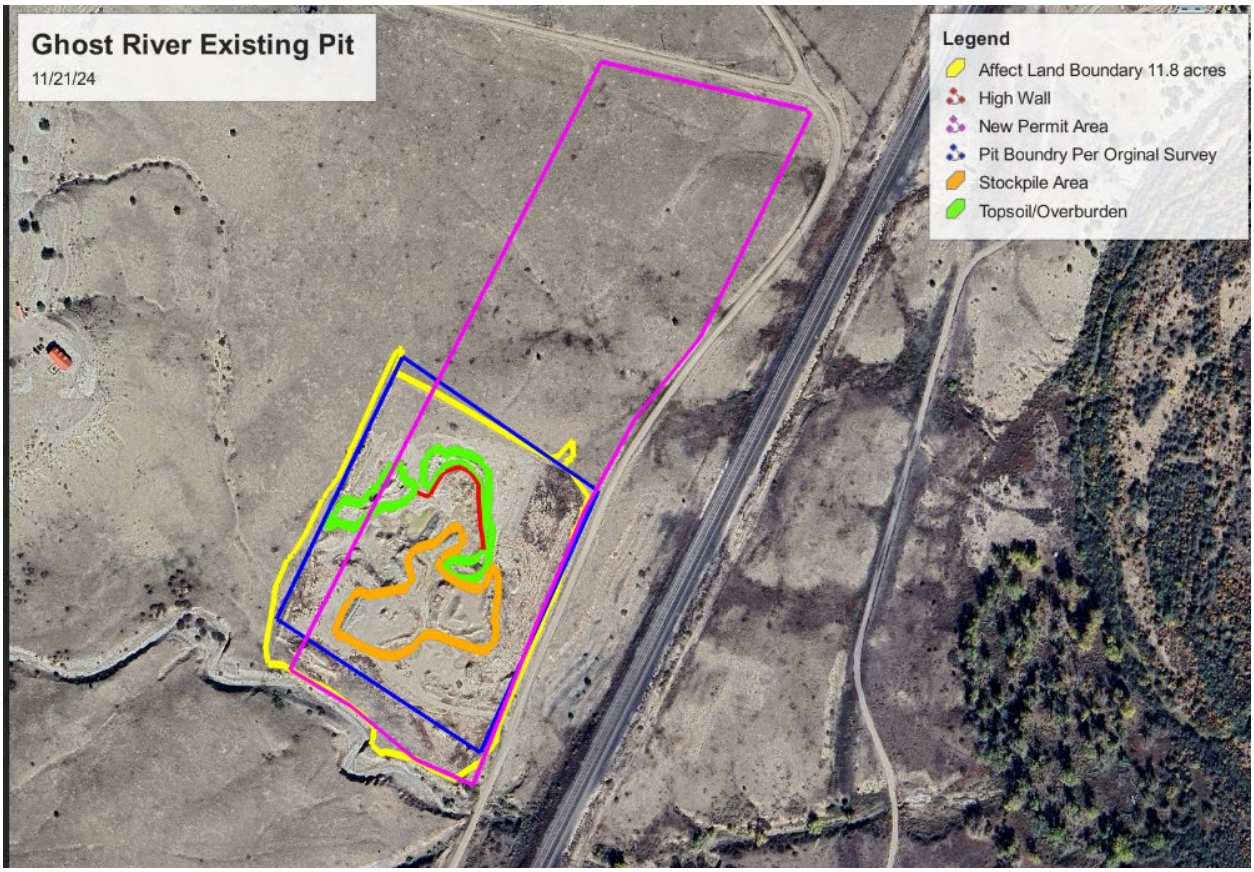
N

6.4.4 Exhibit D

Mining Plan

The Ghost River Gravel Pit (M2003-002) was a construction aggregate site of 9.9 acres. The previous mining disturbed the following based upon DRMS' calculations on 8/2/2021 and encompassed approximately 11.8 acres. This is also outlined in the Exhibit C Existing Conditions Map to show the previously mined area, and the proposed new permit boundary.





A portion of the stockpiles are located outside the proposed pit boundary and are noted in the map above.

The operator understands that anything outside the proposed permit boundary will not be disturbed by their operation and reclamation of this property will be the sole responsibility of the Division of Reclamation, Mining and Safety. The delineation of this line will be done using T-Posts so that it is clear which areas are not the responsibility of the operator.

This application package will re-permit the site with a new operator, P B & S Gravel LLC. In addition, 11.7 acres will be added to the permit to incorporate areas to the north of the previous permit boundary. Access to the site will be from Huerfano County Road 110 at the southeast corner of the site.

The site consists of the Manvel-Minnequa loams, 1 to 5 percent slopes, Kim fine sandy loam, 3 to 9 percent slopes, Penrose-Minnequa complex, 4 to 25 percent slopes and Penrose-Rock outcrop complex, 4 to 25 percent slopes. It is anticipated that shale will be found immediately beneath the material to be mined. The target gravel source is located beneath limited topsoil 6 inches and overburden of an additional 18 inches - 8 feet. The target material is anticipated to be located between 2-10’ deep and run 10-18’ in thickness. Topsoil and overburden will be saved for reclamation of the mine site. The primary commodities of this site

are landscape aggregate, gravel and road base. Incidental materials not used for construction material will be used to reconstruct the pit floor and lessen the pit slopes.

The life of the proposed operation is difficult to quantify due to the changing economic conditions in the construction industry and aggregate quality. Extraction will be limited to 70,000 tons per year. At this rate, the life of the mine would be approximately 3-5 years depending on local economic conditions, with each of the two phases taking an estimated 2-3 years to mine out. Phase I will be completed prior to moving into Phase II. Phase I reclamation will occur concurrently to mining operations, so that when mining is finished, all slopes will be graded to a 3H:1V slope, except for the highwall which will then migrate into Phase II. Processing and storage will remain in the reclaimed floor of Phase I while mining occurs in Phase II. As such, Phase I, 10 acres, will be reclaimed except for topsoil and seeding while Phase II is being actively mined. This will constitute the maximum disturbance; Phase I , 10 acres, being used for processing and storage while Phase II, 11.6 acres, is being actively mined. The total maximum disturbance will be 10 acres that will require topsoil and seeding only, and 11.6 acres that will require grading to 3H:1V of the highwall at a length of no greater than 500', topsoil and seeding.

Mining will proceed to the north of the processing area. Extracted material will be moved to the processing area that is anticipated to be in the central portion of the pit. Earthmoving will be accomplished using front end loaders. Aggregate will be processed and sized using a crusher and screens. Mining will stay at least 25 feet from the San Isabel Power Pole located within the permit boundary. All equipment will be portable. The highwall will be no greater than 500' in length. All highwalls will be inside the permit boundary and away from the perimeter of the affected area against the permit boundary. No highwall will occur along the permit boundary and the operator ensures that all side slopes will not be mined at a slope greater than a 3H:1V.

All plant growth material and topsoil will be salvaged and stockpiled for reclamation use. These stockpiles will be located at the perimeter of the site and posted as reclamation topsoil. Waste rock and overburden will be stockpiled and used to rebuild the pit floor and slopes during reclamation. Established stockpiles will be stored onsite and seeded with the approved seed mix to reduce the chance of erosion. These stockpiles will be located separate from the landscape aggregate and gravel stockpiles.

Overburden perimeter stormwater berms will be constructed as excavation and reclamation progresses. These berms will serve to control erosion and keep sedimentation from reaching any drainage. Water for dust suppression will be purchased from a local source, such as Corey Transport, and hauled onsite.

There will be no storage of fuel or lubricants onsite. Fuel will be hauled onsite as needed by vendor trucks.

Mining will develop a gravel pit to a maximum depth of 20 feet. No groundwater is expected to be encountered during excavation and mining; therefore, no impact to the hydrologic balance is anticipated. No acid or toxic producing materials will be exposed during mining. No explosives will be used in conjunction with mining or reclamation. The interior haul road will remain following reclamation, per the landowner's request. The ranch road connecting the property to Huerfano County Road 110 will remain following reclamation, per the landowner's request. The current haul road is approximately 30 feet wide. There will be additional area left between the top of the pit slopes on the east and the west side of the haul road.

This is a privately owned site and does not require the State Historic Preservation Office requirements for a cultural or historic study. If the operator encounters any structure of note, the State Historic Preservation Office will be notified.

6.4.5 Exhibit E

Reclamation Plan

Reclamation of the site will be of two types, residential and rangeland. Reclamation to residential will occur first on the southern-most 7.0-acre portion of the site. Reclamation back to rangeland will occur for the remaining portions of the site. The land has historically been rangeland and is located within an HOA and will be returned to such uses following mining operations.

Slopes will be returned to a 3H:1V slope or flatter when mining has concluded, thus allowing for reclamation to immediately follow mining as the site progresses. As topsoil, waste rock and overburden are removed from the working face, they will be stockpiled for future reclamation use. Throughout mining, slopes will be maintained at a 3H:1V minimum, except for the active mine face. Waste rock and overburden will be placed on the pit floor as quantity allows. Six inches of topsoil will be replaced on affected surfaces. If necessary, surfaces will be roughened prior to seeding. All materials used for backfilling will be generated from onsite sources. Onsite topsoil will be adequate for reclamation purposes. No importation of materials

for reclamation purposes will be necessary. Topsoil will be replaced at a depth of 6 inches during reclamation.

No trees, shrubs, or bushy-type vegetation will be planted in the rangeland area of the site. Only the appropriate grasses selected by the NRCS will be used. The operator will use the seed mix from the original permit application below. The seed will be broadcast at the rates below. The operator commits to seeding the topsoil piles if they are not used for greater than 180 days and that if the topsoil stockpiles are to be relocated, a Technical Revision will be sent to request that relocation. Expected times of planting would be spring or fall of any year.

Western Wheatgrass-Arriba – 16 pls x 14.6 acres = 233.6 pounds

Blue Grama – 1.2 pls x 14.6 acres = 17.52 pounds

Galleta – 1.6 pls x 14.6 acres = 23.36 pounds

Sand Dropseed – 0.1 pls x 14.6 acres = 1.46 pounds

Winter Fat – 0.1 pls x 14.6 acres = 1.46 pounds

Certified noxious weed free straw or grass hay will be applied at a rate of 4,000 pounds per acre.

All mining structures and stormwater diversion structures, will be reclaimed following all mining operations. All buildings are portable. The interior haul road will remain upon reclamation. Upon commencement of reclamation, the area will be monitored for noxious weeds. The 30-foot-wide access road to the site from County Road 110 will remain following reclamation for use by the residential portion of the site. No material will be imported to be used for backfill during reclamation. The structures that will be constructed following reclamation are for conceptual purposes only on the Reclamation Map and can not be used for construction purposes. The home is estimated to be 3500 square feet, the garage is estimated to be 2000 square feet, the barn is estimated at 4000 square feet. All gravel around these structures will be obtained from the site itself and any exposed areas will be reseeded with the seed mix for the entire side listed above. This is estimated to be 4 acres.

STATE OF COLORADO

Gibson - DNR, Amber <amber.gibson@state.co.us>

Ghost River M2024-029 Adequacy Review #2

Gibson - DNR, Amber <amber.gibson@state.co.us> Tue, Nov 26, 2024 at 12:36 PM
To: PFM Consulting <pfmconsultingcompany@gmail.com>
Cc: PowerHouse Excavation & Construction <phexcavationco@gmail.com>, lynsie pye-steele <lynsie1205@hotmail.com>

One more follow up question:

I still need the dimensions for the gravel area in the residential portion, so that I can include that task in the reclamation estimate. You stated in your last responses that the gravel in the gravel area will be replaced at a depth of 3 inches, but I need an area estimate for the Gravel Area so that I can calculate the volume that needs to be placed.

Thank you,
Amber M. Gibson
Environmental Protection Specialist I

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

P 720.836.0967 | F 303.832.8106 |
amber.gibson@state.co.us

Mailing: DRMS Room 215, 1001 E 62nd Ave, Denver, CO 80216
Physical: 1313 Sherman Street, Room 215, Denver, CO 80203

https://drms.colorado.gov/

[Quoted text hidden]

STATE OF COLORADO

Gibson - DNR, Amber <amber.gibson@state.co.us>

Ghost River M2024-029 Adequacy Review #2

PFM Consulting <pfmconsultingcompany@gmail.com> Tue, Nov 26, 2024 at 1:34 PM
To: "Gibson - DNR, Amber" <amber.gibson@state.co.us>
Cc: PowerHouse Excavation & Construction <phexcavationco@gmail.com>, lynsie pye-steele <lynsie1205@hotmail.com>

Amber,

The road is a ROA that is owned by the local jurisdiction. In this case, I would assume it is Huerfano County.

As for the haul road, it is 30' x 1700' and may shift slightly to align better with any residential structures. Again, this is all for conceptual purposes only.

Any ground that is not surfaced with gravel or structures would be reclaimed in the same fashion as the rest of the site and use the same seed mix.

I'll get you an updated map as quickly as possible.

Thanks,

Jodi Schreiber, Owner
PFM Consulting LLC
719-529-0916
pfmconsultingcompany@gmail.com

PFM Consulting Website

"Success is stumbling from failure to failure with no loss of enthusiasm."
-Winston Churchill

[Quoted text hidden]

STATE OF COLORADO

Gibson - DNR, Amber <amber.gibson@state.co.us>

Ghost River M2024-029 Adequacy Review #2

PFM Consulting <pfmconsultingcompany@gmail.com> Tue, Nov 26, 2024 at 1:43 PM
To: "Gibson - DNR, Amber" <amber.gibson@state.co.us>
Cc: PowerHouse Excavation & Construction <phexcavationco@gmail.com>, lynsie pye-steele <lynsie1205@hotmail.com>

Amber,

The gravel area, not including the road, is 2.1 acres.

Thanks,

Jodi Schreiber, Owner
PFM Consulting LLC
719-529-0916
pfmconsultingcompany@gmail.com

PFM Consulting Website

"Success is stumbling from failure to failure with no loss of enthusiasm."
-Winston Churchill

[Quoted text hidden]

Ghost River Pit Weed Management Plan

The Ghost River Pit is in Huerfano County, Colorado. This weed plan will out line the methods to be used onsite to mitigate noxious weeds. These methods are recommended by the Colorado Weed Management Association:

Control Methods

Species of noxious weeds grow or spread differently, and Colorado's Noxious Weed Act requires certain methods of control to be used depending on the level of control that is mandated.

Below are examples of Integrated Pest Management techniques.

- Biological control – Uses organisms to control noxious weeds. Since we are dealing with living things, a variety of circumstances come into play that impact the success of the establishment of the bio-control and ultimately the control of the noxious weed you are targeting. For example, an organism that works well on the plains may not work in the mountains. Although there has been some success on some noxious weeds, bio-control agents are not available for all species.
- Chemical control – The use of herbicides to control noxious weeds. All herbicides must be used in accordance with the registered label.
- Cultural control – The use of materials or techniques that reduce noxious weed populations. Examples include mulching, rotational grazing, establishing good vegetation cover.
- Mechanical – Cutting, mowing, disking.

Remember, not all techniques will work in all situations. Refer to the Colorado Department of Agriculture for required control levels. Consult with your local weed manager or Licensed Commercial Applicator for specific recommendations.

P B & S Sand and Gravel LLC will contact Huerfano County if noxious weeds are found onsite and are not responding to the above methods of eradication. They will illicit the suggestions from Huerfano County at that time for updated techniques that may be successful if a weed species does not respond to these proposed methods.

P B & S Sand and Gravel LLC will also monitor the site with periodic inspections to evaluate any new species onsite, and to evaluate the effectiveness of the weed control program. If management objectives are not met, weed control actions will be modified.

Below is a chart showing noxious weed types and possible control methods and timing for reference.

Integrated Pest Management Timeline

Weed	I.P.M.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.
Russian Thistle	Chemical	RangeStar herbicide can be applied at a rate of 2 pints/acre during the rosette stage. 2,4-D Amine can be applied at a rate of 2 to 4 pints/acre. (Always refer to the herbicide label).											
	Mechanical												
	Cultural												
Prickly Pear	Chemical	See herbicide label for rates.											
	Mechanical												
Tree of Heaven	Chemical	A foliar application of glyphosate (RoundUp) mixed at a 2% solution plus a non-ionic surfactant is used when controlling this weed.											
	Mechanical												
Kochia	Chemical	Vista herbicide used at the higher rate (1 1/3 pint/ acre) plus Methylated Seed Oil Surfactant (MSO) is recommended.											
	Mechanical												
	Cultural												
Puncture -vine	Chemical	2,4-D, glyphosate, and dicamba can be applied when plant is young and just emerging. RoundUp Pro is effective at a 5-10% solution. The Puncturevine weevil is effective in destroying the roots.											
	Biological												
	Mechanical												
	Cultural												
Rubber Rabbit Brush	Chemical	If stems are less than 6 inches in diameter, a basal treatment applied about 12 inches from the ground can be used. See herbicide label for rates and application methods.											
	Mechanical												
	Cultural												
Oak Brush	Chemical	Garlan 3A can be used at a 1% - 3% solution with a non-ionic surfactant. Remedy can also be used as a foliar application when mixed at a 2% - 4% solution or (when mixed with vegetable or mineral oil) as a basal treatment at a 2% - 3% solution.											
	Mechanical												
	Cultural												

LEGEND

	Garlon / tricolpyr		Pathfinder / triclopyr		Vista / fluroxypyr	2, 4-D Ester	2, 4-D Amine	
	Habitat/Imazapyr		Plateau / imazapic		Roundup / Glyphosate	Landmaster / glyphosate + 2,4-D	Remedy / triclopyr	
	Transline / Clopyralid		Escort XP / metsulfuron		Telar XP / chlorsulfuron	Rangestar / Dicamba + 2,4-D	Milestone / aminopyralid	
	Puncturevine Weevil "M. lypiformis"		Mowing		Hand-Pull	Curtial / clopyralid + 2,4-D	Rust Fungus: Puccinia punctiformis	
	Leafy Spurge Flea Beetle: aphtona spp.		Tamarisk Beetle: Diorhabda spp.		Thistle Seed Head Beetle "rhinocyllus conicus"	Tilling	Prescribed Burn	
	Bulldozers & Hydro-axes.		Aerial application for large areas of Tamarisk & Russian Olive.		Pull with weed wrench when small or with a tractor when larger.	Sever root below ground or uproot with a shovel or hoe.	Prevent seed formation by eliminating seed heads.	
						Seed & sow grasses. Keep irrigated to promote competition. Don't overgraze.	Cut-Stump: 2" from ground & immediately apply herbicide.	

Integrated Pest Management Timeline														
Weed	**I.P.M.**	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.
Leafy Spurge	Chemical	Apply herbicides in spring when true flowers emerge. Effective herbicide control may take several years.											
	Biological												
	Cultural												
Myrtle Spurge	Chemical	C.S.U. has suggested that RangeStar or 2,4-D Ester at 1 1/2 lbs./acre a.e. will control Myrtle Spurge. Also control by pulling or digging with gloves.											
	Mechanical												
Canada Thistle	Chemical	The most effective method is application of Milestone following flowering. Milestone can also be used one month after mowing. Curtail and Transline are effective when plants have emerged in the Spring.											
	Mechanical												
	Cultural/ Biological												
Musk Thistle	Chemical	Apply herbicides before bolting and no later than when developed terminal flowers open to dime size. With Musk Thistle, it is important to prevent seed formation as well.											
	Biological												
	Mechanical												
	Cultural												
Bull Thistle	Chemical	Apply herbicides before bolting and no later than when developed terminal flowers open to dime size.											
	Biological												
	Mechanical												
	Cultural												
Scotch Thistle	Chemical	Apply herbicides before bolting and no later than when developed terminal flowers open to dime size.											
	Biological												
	Mechanical												
	Cultural												
Perennial Sowthistle	Chemical	Tilling is best when plant is just emerging. Herbicides are best applied when plants are in seeding or early bud stage.											
	Mechanical												
Russian Knapweed	Chemical	RangeStar can be applied at any time during active growing. Telar and Milestone should be applied at bloom to post-bloom stages.											
	Mechanical												
	Cultural												
Spotted Knapweed	Chemical												
	Cultural												
Diffuse Knapweed	Chemical												
	Cultural												

Integrated Pest Management Timeline

Weed	I.P.M.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.
Yellow Toadflax	Chemical	A combination of mowing and chemical treatment applied at flowering over a period of several years is best for this weed.											
	Mechanical												
Dalmatian Toadflax	Chemical	Escort & Telar can be used in the fall. Due to the waxy leaves, a non-ionic surfactant is recommended.											
	Cultural												
Perennial Pepper-weed	Chemical	Mowing can be done periodically and controlled burning in the Spring. It is best to treat with Escort XP as soon as found.											
	Mech./Cult.												
Hounds-tongue	Chemical	Mowing 2nd year plants during flowering (before seed production) is useful. Chemical applications are best in Spring (rosettes to 10 inches tall).											
	Mechanical												
Hoary Cress or "White Top"	Chemical	Mowing several times a year is helpful and may make herbicide applications more effective. Telar or Escort are best, but may need several applications.											
	Mechanical												
Field Bindweed	Chemical	Grasses are a good competitor. Mowing and pulling are usually ineffective unless cut below the surface in the early seedling stage. Herbicides can be applied in Spring, at or just after full bloom, or in the fall.											
	Mechanical												
	Cultural												
Salt Cedar or Tamarisk	Chemical	Bulldozer & Hydro-axe methods must be followed by next-season herbicide treatment. It is best to treat in late summer or early fall. Cut-stump or foliar apps. are acceptable.											
	Biological												
	Mech./Cult.												
Russian Olive	Chemical	Remove (or pull) before seed production. Use cut-stump or foliar applications.											
	Mechanical												

LEGEND									
							2, 4-D Ester		2, 4-D Amine
	Garlon / tricolpyr		Pathfinder / triclopyr		Vista / fluroxypyr		Landmaster / glyphosate + 2,4-D		Remedy / triclopyr
	Habitat/Imazapyr		Plateau / imazapic		Roundup / Glyphosate		Rangestar / Dicamba + 2,4-D		Milestone / aminopyralid
	Transline / Clopyralid		Escort XP / metsulfuron		Telar XP / chlorsulfuron		Curtial / clopyralid + 2,4-D		Rust Fungus: Puccinia punctiformis
	Puncturevine Weevil "M. lypiformis"		Mowing		Hand-Pull		Tilling		Prescribed Burn
	Leafy Spurge Flea Beetle: aphthona spp.		Tamarisk Beetle: Diorhabda spp.		Thistle Seed Head Beetle "rhinocyllus conicus"		Sever root below ground or uproot with a shovel or hoe.		Prevent seed formation by eliminating seed heads.
	Bulldozers & Hydro-axes.		Aerial application for large areas of Tamarisk & Russian Olive.		Pull with weed wrench when small or with a tractor when larger.		Seed & sow grasses. Keep irrigated to promote competition. Don't overgraze.		Cut-Stump: 2" from ground & immediately apply herbicide.

6.4.6 Exhibit F

Reclamation Plan Map

Ghost River Pit Legal
Reclamation Map Exhibit F

11/16/24
Map By James Higgs
PB&S Sand and Gravel LLC

Direction of Water Flow

7.0 Acres to be used for Residential

21.6 Acres Total Pit Boundaries

14.6 Acres to be Reclaimed for Range Land

140'x270' Roping arena

100'x40' Barn

Corrals

50'x40' Garage

3500 SF House

Gravel Area

30 ' Gravel Road Aprrox. 1,700 LF

39.4 acres Property Boundaries

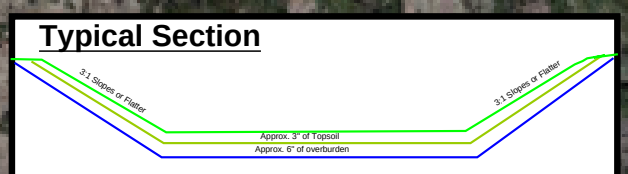
200' Buffer from RR

Lonesome Whistle Rd

Scale
200'-0"

N

Typical Section



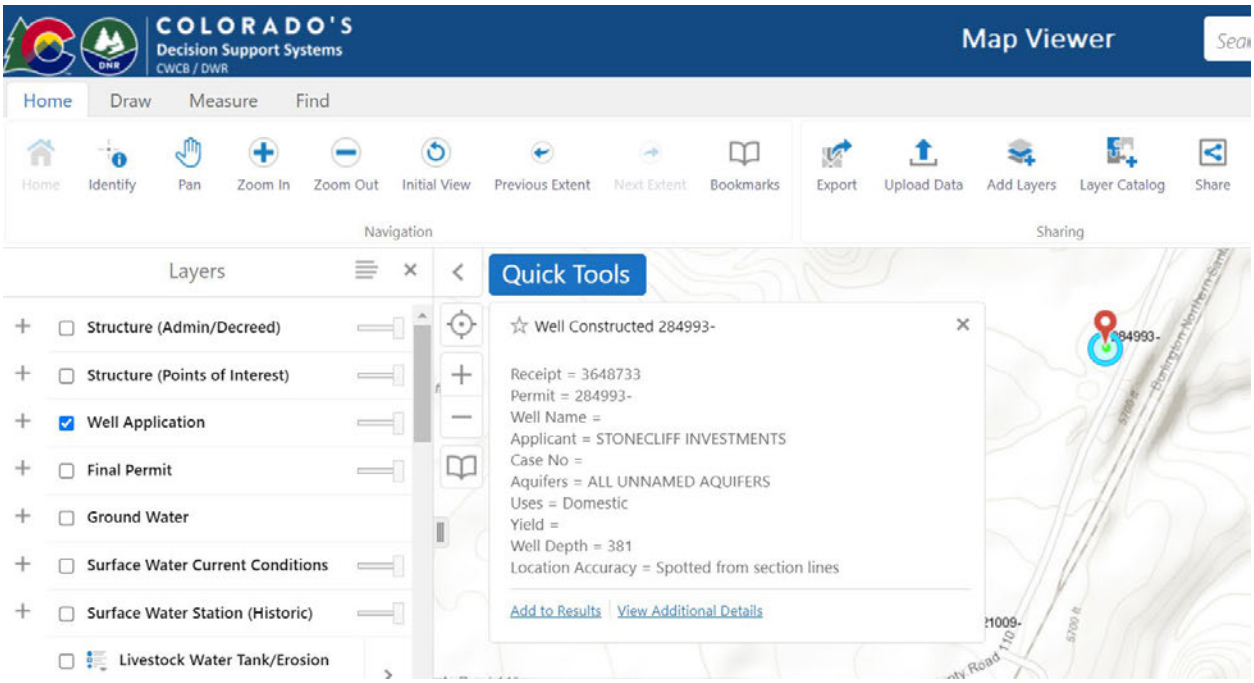
Notes:
All Buildings, Corrals, Arenas, and parking lots are approximate and will be sizes/locations will be determined in the field at the time of construction.

Finish Contours are approximate and are in 5' Intervals

6.4.7 Exhibit G

Water Information

Mining is expected to have no impact on the prevailing hydrologic balance. Groundwater will not be exposed, and stormwater will not leave the site. The site will not discharge stormwater or process water drainage. Water depth is anticipated to be greater than the 20 feet mining depth, as noted below with a nearby depth recorded at 381 feet.



Runoff occurs as overland flow to natural drainage ravines in the vicinity. Stormwater best management practices such as waddles, straw bales, and perimeter berms will be placed to effectively manage stormwater. Historic flow will be maintained during mining. No stormwater will be impounded for greater than 72 hours.

Consumptive use of water may occur as dust suppression on the haul road and affected areas. The operator will purchase the necessary volume of water from an appropriate supplier and transport to the site for use. It is anticipated that the site could use up to 10,000 gallons per day.

The permittee will complete a stormwater management plan. Diversionary berms and impoundments will be constructed as recommended by the Water Quality Division.

COLORADO
Parks and Wildlife
Department of Natural Resources

Pueblo Service Center
600 Pueblo Reservoir Road
Pueblo, CO 81005
P 719.561.5300 | F 719.561.5321

February 7, 2023

Jodi Schreiber
1774 N. Cougar Drive
Pueblo West, CO 81007

RE: Ghost River Gravel Pit Wildlife Review

Dear Ms. Schreiber,

Thank you for allowing Colorado Parks & Wildlife (CPW) the opportunity to review this amendment application and discuss any wildlife concerns. The Ghost River Gravel Pit is located in an area with diverse wildlife populations. CPW species activity maps indicate that nearly 50 different wildlife species are found in this general area. With potential impact to this many different species, this application was carefully reviewed.

My local District Wildlife Manager was able to discuss this project with you in depth via telephone. Its CPW's understanding that the amendment application will not cause any increases in traffic, disruption, or expansion of the gravel pit compared to current operating levels, thus wildlife impacts are negligible. This amendment will correctly identify acres of operation under the current lease. This project will not have any negative impacts to wildlife.

Sincerely,

Michael D Brown
Area Wildlife Manager
Colorado Parks & Wildlife

COLORADO
Parks and Wildlife
Department of Natural Resources

Pueblo Service Center
600 Pueblo Reservoir Road
Pueblo, CO 81005
P 719.561.5300 | F 719.561.5321

September 30th, 2024

Jodi Schreiber
1774 N. Cougar Drive
Pueblo West, CO 81007

RE: Ghost River Gravel Pit Wildlife Review

Dear Ms. Schreiber,

Thank you for allowing Colorado Parks & Wildlife (CPW) the opportunity to review this permit application and discuss any wildlife concerns. The Ghost River Gravel Pit is located in an area with diverse wildlife populations. CPW species activity maps indicate that nearly 50 different wildlife species are found in this general area. With potential impacts to this many different species, this application was carefully reviewed.

Under the new ownership, the size of the gravel pit will increase by 11.7 acres. After examining the area of expansion on the provided map and taking the reclamation plan into consideration, this project as proposed will not have any negative impacts to wildlife.

Sincerely,

Michael D Brown #122

Michael D Brown
Area Wildlife Manager
Area-11 Pueblo
Colorado Parks & Wildlife

6.4.8 Exhibit H

Wildlife Information

The property is used for rangeland and in an HOA. The site will be returned to both residential and rangeland during reclamation. Colorado Parks and Wildlife was contacted for comment during the previous permit application process. The letter states that this project will not have any negative impacts to wildlife. It is attached for review.

Forage and cover for wildlife is very limited due to the arid climate. Small animals, including rabbits, foxes, etc. are found in the surrounding environment. The site is within range for white tail deer, antelope, prairie dog, various snakes, various lizards, and ring-necked pheasant. Impacts to wildlife will be mitigated through a weed management plan and reseeding all mined areas with a diverse and native rangeland seed mix.

Please see the updated statement from the Department of Wildlife. As for the other justifications for not negatively impacting wildlife, the additional acreage does not constitute a larger mining operation, increase in traffic, etc. from the last permitted operation. In fact, this site will be mined in two phases, which are smaller than the original permitted mine. Additionally, mining operations are controlled by the local demand for the product and not by the size of the permit boundary. If there is a local need for aggregate, the site will be used to that capacity. Since the site is in the same location with the same economic conditions and aggregate demand as the previous operation, the operator anticipates no increase in impact that could be extrapolated from the additional acreage in this permit package.

6.4.9 Exhibit I

Soils Information

A Custom Soil Resource Report for Huerfano County, specific to this site, is attached for review. The site is made up of Midway clay loam and Midway-Chicosa complex, as well as Manzanst silty clay loam and Manzanola silty clay loam.

The Midway series consists of shallow, well drained soils that formed in residuum and slope alluvium from calcareous platy, clayey shale. Midway soils are on ridge crests, mesas, plains, and hills in shale bedrock uplands. Slopes range from 0 to 40 percent. Mean annual precipitation is about 13 inches and mean annual air temperature is about 50 degrees F.

The Chicosa series consists of very deep, somewhat excessively drained soils that formed in coarse alluvium on terraces, fans and fan remnants. Slopes range from 1 to 25 percent. Mean annual precipitation is about 14 inches and the mean annual temperature is about 50 degrees F.

Topsoil is found at a depth of 3-6 inches onsite, with overburden accounting for approximately 6 inches onsite. Mineable aggregate is then found up to a depth of approximately 20 feet.

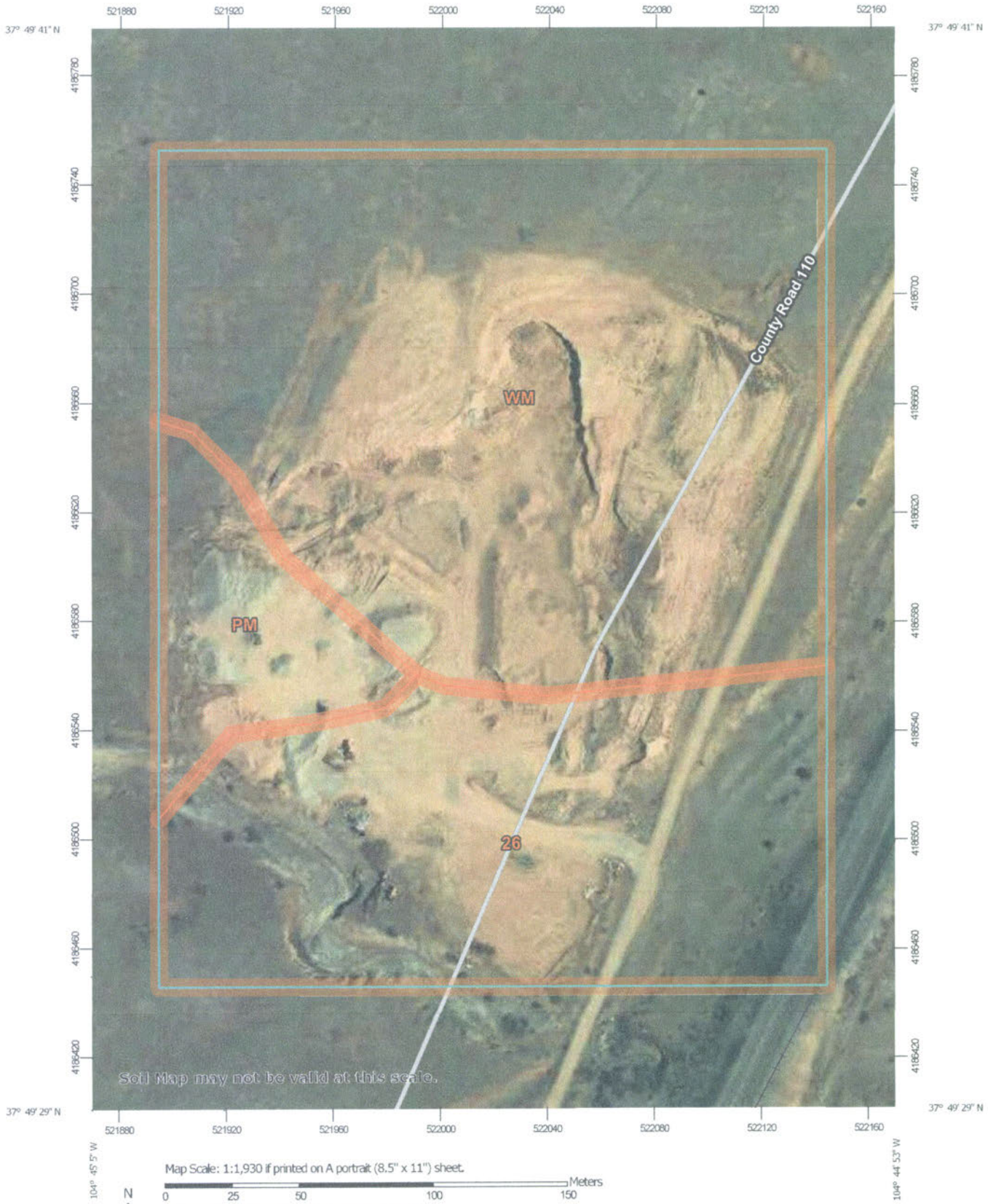
6.4.10 Exhibit J

Vegetation Information

The Ghost River Pit is characterized by grazing land. Native vegetation includes blue grama, western wheatgrass, blue grama, galleta, cactus, yucca, and sagebrush.

There are two small trees onsite currently, with the rest of the acreage being covered by low shrubs and grasses. The Applicant believes that the carrying capacity for the rangeland area would be approximately 3 small grazing livestock per acre, such as goats.

Soil Map—Huerfano County Area, Colorado
(Ghost River Gravel Pit)



Map Scale: 1:1,930 if printed on A portrait (8.5" x 11") sheet.

Meters: 0 25 50 100 150

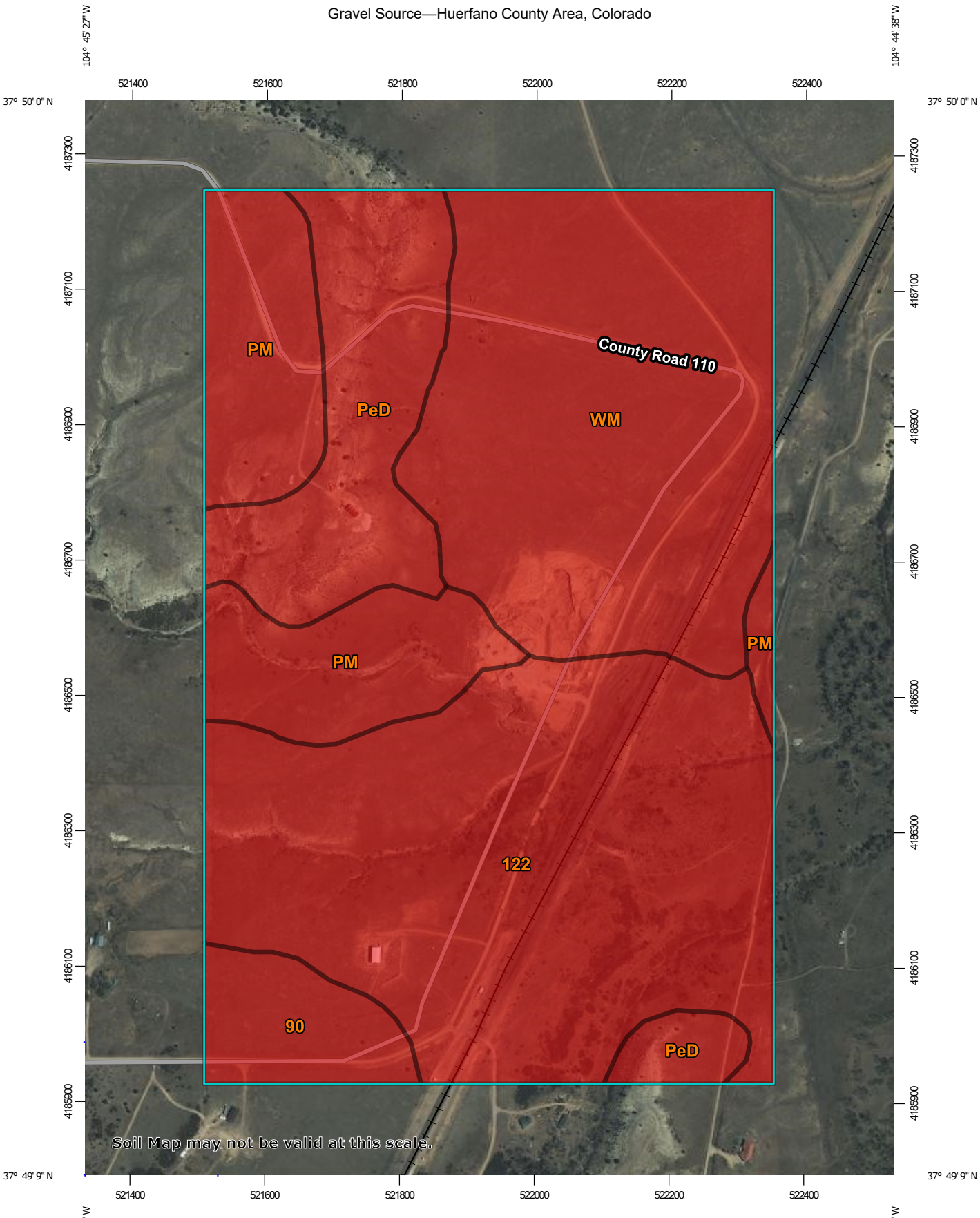
Feet: 0 50 100 200 300

N

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
26	Kim fine sandy loam, 3 to 9 percent slopes	6.4	33.9%
PM	Penrose-Minnequa complex, 1 to 15 percent slopes	1.7	8.7%
WM	Minnequa-Wilid silt loams, 1 to 6 percent slopes	10.9	57.4%
Totals for Area of Interest		**19.0**	**100.0%**



Map Scale: 1:7,740 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 100 200 400 600

Feet
0 350 700 1400 2100

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

Poor

Fair

Good

Not rated or not available

Soil Rating Lines

Poor

Fair

Good

Not rated or not available

Soil Rating Points

Poor

Fair

Good

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Huerfano County Area, Colorado
Survey Area Data: Version 20, Aug 24, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 31, 2020—May 18, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Gravel Source

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
90	Wiley silt loam, 0 to 3 percent slopes, cool	Poor	Wiley, cool (85%)	Bottom layer (0.00)	12.5	4.5%
				Thickest layer (0.00)		
			Baca, cool (10%)	Bottom layer (0.00)		
				Thickest layer (0.00)		
			Kandrix, cool (5%)	Bottom layer (0.00)		
				Thickest layer (0.00)		
122	Kandrix loam, cool, 0 to 3 percent slopes	Poor	Kandrix, cool (90%)	Bottom layer (0.00)	103.5	37.4%
				Thickest layer (0.00)		
			Otero, cool (5%)	Bottom layer (0.00)		
				Thickest layer (0.00)		
			Travessilla, cool (5%)	Bottom layer (0.00)		
				Thickest layer (0.00)		
PeD	Penrose channery loam, 1 to 15 percent slopes	Poor	Penrose (80%)	Bottom layer (0.00)	37.1	13.4%
				Thickest layer (0.00)		
			Minnequa (5%)	Bottom layer (0.00)		
				Thickest layer (0.00)		
			Manvel (5%)	Bottom layer (0.00)		
				Thickest layer (0.00)		
PM	Penrose-Minnequa complex, 1 to 15 percent slopes	Poor	Penrose (50%)	Bottom layer (0.00)	40.6	14.7%
				Thickest layer (0.00)		

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
			Minnequa (35%)	Bottom layer (0.00)		
				Thickest layer (0.00)		
			Shingle (5%)	Bottom layer (0.00)		
				Thickest layer (0.00)		
			Wilid (5%)	Bottom layer (0.00)		
				Thickest layer (0.00)		
WM	Minnequa-Wilid silt loams, 1 to 6 percent slopes	Poor	Minnequa (45%)	Bottom layer (0.00)	83.3	30.1%
				Thickest layer (0.00)		
			Wilid (40%)	Bottom layer (0.00)		
				Thickest layer (0.00)		
			Manzanola (8%)	Bottom layer (0.00)		
				Thickest layer (0.00)		
			Penrose (5%)	Bottom layer (0.00)		
				Thickest layer (0.00)		
			Shingle (2%)	Bottom layer (0.00)		
				Thickest layer (0.00)		
Totals for Area of Interest					**277.0**	**100.0%**

Rating	Acres in AOI	Percent of AOI
Poor	277.0	100.0%
Totals for Area of Interest	**277.0**	**100.0%**

Description

ENG - Engineering

Gravel consists of natural aggregates (2 to 75 millimeters in diameter) suitable for commercial use with a minimum of processing. It is used in many kinds of construction. Specifications for each use vary widely. Only the probability of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material.

The properties used to evaluate the soil as a source of gravel are gradation of grain sizes (as indicated by the Unified classification of the soil), the thickness of suitable material, and the content of rock fragments. If the bottom layer of the soil contains gravel, the soil is considered a likely source regardless of thickness. The assumption is that the gravel layer below the depth of observation exceeds the minimum thickness. The ratings are for the whole soil, from the surface to a depth of about 6 feet. Coarse fragments of soft bedrock, such as shale and siltstone, are not considered to be gravel.

The soils are rated "good," "fair," or "poor" as potential sources of gravel. A rating of "good" or "fair" means that the source material is likely to be in or below the soil. The bottom layer and the thickest layer of the soils are assigned numerical ratings. These ratings indicate the likelihood that the layer is a source of gravel. The number 0.00 indicates that the layer is a poor source. The number 1.00 indicates that the layer is a good source. A number between 0.00 and 1.00 indicates the degree to which the layer is a likely source.

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Soil Map—Huerfano County Area, Colorado

Map Scale: 1:7,740 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 100 200 400 600

Feet
0 350 700 1400 2100

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Huerfano County Area, Colorado
Survey Area Data: Version 20, Aug 24, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 31, 2020—May 18, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
90	Wiley silt loam, 0 to 3 percent slopes, cool	12.5	4.5%
122	Kandrix loam, cool, 0 to 3 percent slopes	103.5	37.4%
PeD	Penrose channery loam, 1 to 15 percent slopes	37.1	13.4%
PM	Penrose-Minnequa complex, 1 to 15 percent slopes	40.6	14.7%
WM	Minnequa-Wilid silt loams, 1 to 6 percent slopes	83.3	30.1%
Totals for Area of Interest		**277.0**	**100.0%**

LOCATION WILEY CO+NE

Established Series
Rev. GB/JWB/LCC
06/2002

WILEY SERIES

The Wiley series consists of very deep, well drained, moderately slowly permeable soils formed in thick, calcareous loess. Wiley soils are on hills, plains, ridges, terraces, and valley side slopes. Slopes range from 0 to 20 percent. Mean annual precipitation is about 15 inches and mean annual temperature is about 52 degrees F.

TAXONOMIC CLASS: Fine-silty, mixed, superactive, mesic Aridic Haplustalfs

TYPICAL PEDON: Wiley silt loam - grassland. (Colors are for dry soil unless otherwise noted).

Ap--0 to 4 inches; brown (10YR 5/3) silt loam, dark brown (10YR 3/3) moist; weak fine granular structure; soft, very friable, slightly sticky and slightly plastic; slightly effervescent; moderately alkaline; clear smooth boundary. (3 to 5 inches thick)

Bt--4 to 10 inches; brown (10YR 5/3) silty clay loam, brown (10YR 4/3) moist; moderate medium subangular blocky structure; hard, friable, slightly sticky and slightly plastic; few faint clay films on faces of peds; slightly effervescent; moderately alkaline; clear smooth boundary. (4 to 11 inches thick)

Btk--10 to 18 inches; pale brown (10YR 6/3) silty clay loam, brown (10YR 4/3) moist; moderate medium subangular blocky structure; hard , firm, moderately sticky and moderately plastic; few faint clay films on faces of peds; few medium masses of calcium carbonate; violently effervescent; moderately alkaline; clear smooth boundary. (8 to 24 inches thick)

BCk--18 to 23 inches; pale brown (10YR 6/3) silty clay loam, brown (10YR 5/3) moist; weak medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common medium masses of calcium carbonate; violently effervescent; strongly alkaline; clear smooth boundary. (5 to 10 inches thick)

C--23 to 60 inches; light yellowish brown (10YR 6/4) silt loam, brown (10YR 5/3) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; violently effervescent; strongly alkaline.

TYPE LOCATION: Lincoln County, Colorado; about 2050 feet east and 150 feet south of the NW corner of Sec. 22, T. 7 S., R. 56 W.

RANGE IN CHARACTERISTICS:
Mean annual soil temperature: 49 to 59 degrees F.
Mean summer soil temperature: 70 to 75 degrees F.
Depth to the base of the argillic horizon: 12 to 40 inches.
Depth to visible calcium carbonate: 7 to 24 inches.
Exchangeable sodium percentage ranges: 0 to 15 percent.
Rock fragment content: 0 to 5 percent.

Ap horizon: (A horizon in some pedons)
Hue: 7.5YR to 2.5Y
Value: 4 to 7 dry, 3 to 6 moist
Chroma: 1 to 4
Reaction: neutral to moderately alkaline.

Bt horizon:
Hue: 7.5YR to 2.5Y
Value: 5 to 7 dry, 4 to 6 moist
Chroma: 1 to 6
Texture: silt loam or silty clay loam
Clay content: 20 to 35 percent
Reaction: moderately alkaline or strongly alkaline.

Btk horizon:
Hue: 7.5YR to 2.5Y
Value: 5 to 7 dry, 4 to 6 moist
Chroma: 3 or 4
Texture: silt loam or silty clay loam
Clay content: 20 to 35 percent
Reaction: moderately alkaline or strongly alkaline
Calcium carbonate equivalent: 5 to 15 percent above 30 inches.

BCk horizon:
Hue: 7.5YR or 10YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 2 to 4
Texture: silt loam or silty clay loam
Reaction: moderately alkaline or strongly alkaline.

C horizon: (Bk horizon in some pedons)
Hue: 7.5YR or 10YR
Value: 6 or 7 dry, 4 to 6 moist
Chroma: , 2 to 4
Texture: silt loam, silty clay loam, loam
Reaction: moderately alkaline or strongly alkaline.

COMPETING SERIES: These include the Altega (NM), Amal (NM), Buick (CO), Chita (NM), Elpedro (NM), Keiser (MT), Klinedray (WY), Moncha (NM), Oshoto (WY), Pulpit (CO), Roubideau (CO), Sharps (CO), Verde (CO) and the Wetherill (NM) soils.
Altega and Amal soils: are dry in May and June.
Buick soils: formed in polylithologic material in which a younger soil is superimposed over a paleosol.
Chita soils: have calcic horizons above 40 inches and are dry in May and June.
Empedro and Wetherill soils: are greater than 40 inches to the base of the argillic horizon.
Keiser soils: have average clay content of 34 to 43 percent.
Klinedraw and Sharps soils: have a paralithic contact at depths of 20 to 40 inches.
Moncha soils: have hues of 5YR and redder.
Oshoto soils: have mean annual soil temperatures colder than 53 degrees F. and are moist March to June.
Pulpit, Roubideau, and Verde soils: have a lithic contact at depths of 20 to 40 inches.

GEOGRAPHIC SETTING:
Landform: plains, hills, ridges, terraces, and valley side slopes.
Slopes: range from 0 to 20 percent.
Parent material: thick, calcareous loess and eolian material.
Elevation: 4,000 to 6,500 feet.
Mean annual precipitation: 14 to 17 inches, with peak periods of precipitation in the spring and summer.
Mean annual temperature: 47 to 53 degrees F.
Mean summer temperature is 68 to 76 degrees F.
Frost free period: 120 to 175 days.

GEOGRAPHICALLY ASSOCIATED SOILS: These are the Baca and Colby soils. Baca soils have more than 35 percent clay in the argillic horizon. Colby soils do not have an argillic horizon.

DRAINAGE AND PERMEABILITY: Well drained; low or medium runoff; moderate through slow permeability.

USE AND VEGETATION: These soils are used as grazing land and as dry or irrigated cropland. Native vegetation is blue grama, western wheatgrass, green needlegrass, buffalo grass, and needleandthread.

DISTRIBUTION AND EXTENT: Eastern Colorado. LRR G, MLRA 67; The series is of large extent.

MLRA SOIL SURVEY REGIONAL OFFICE (MO) RESPONSIBLE: Denver, Colorado

SERIES ESTABLISHED: Lincoln County, Colorado; about 2050 feet east and 150 feet south of the NW corner of Sec. 22, T.24S., R.56W.

REMARKS: Diagnostic features recognized in this pedon include:
Ochric epipedon: the zone from 0 to 4 inches. (A horizon)
Argillic horizon: the zone from 4 to 18 inches. (Bt and Btk horizons)

Remarks: The 3/94 revision documents a change in class from Ustollic Haplargids to Aridic Haplustalfs. The 12/99 revision reflects a change in type location to Lincoln County, Colorado in order to be in MLRA 67.

Modified in January 2002 by Lee Neve to update competing series and associated soils.

Taxonomic Version: Second Edition, 1999.

National Cooperative Soil Survey
U.S.A.

LOCATION KANDRIX CO

Established Series
LAN
07/2007

KANDRIX SERIES

The Kandrix series consists of very deep, well drained soils that formed in eolian sediments and alluvium derived from sedimentary deposits. Kandrix soils are on plains, ridges, and hills. Slopes range from 1 to 6 percent. Mean annual precipitation is about 15 inches and the mean annual temperature is about 52 degrees F.

TAXONOMIC CLASS: Fine-loamy, mixed, superactive, mesic Aridic Calciustepts

TYPICAL PEDON: Kandrix loam, on a south facing, 3 percent slope in grass at an elevation of 5,290 feet. (Colors are for dry soil unless otherwise noted.) When described on April 5, 2002 the soil was dry throughout.

A--0 to 6 inches; brown (10YR 5/3) loam, brown (10YR 4/3) moist; weak fine subangular blocky and weak very fine granular structure; slightly hard, very friable, slightly sticky and slightly plastic; many fine roots throughout; strong effervescence (4 percent calcium carbonate equivalent); slightly alkaline (pH 7.6); abrupt smooth boundary. (4 to 6 inches thick)

Bw--6 to 14 inches; pale brown (10YR 6/3) loam, brown (10YR 4/3) moist; weak fine and medium subangular blocky structure; hard, friable, slightly sticky and slightly plastic; common very fine roots throughout; violent effervescence (11 percent calcium carbonate equivalent); moderately alkaline (pH 8.2); clear smooth boundary. (6 to 14 inches thick)

Bk1--14 to 26 inches; light yellowish brown (10YR 6/4) loam, yellowish brown (10YR 5/4) moist; moderate fine and medium subangular blocky structure; hard, friable, slightly sticky and slightly plastic; few very fine roots throughout; 15 percent patchy distinct pressure faces on vertical faces of peds; violent effervescence (19 percent calcium carbonate equivalent); moderately alkaline (pH 8.3); clear smooth boundary.

Bk2--26 to 42 inches; very pale brown (10YR 7/3) silt loam, yellowish brown (10YR 5/4) moist; weak fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots throughout; few fine irregular carbonate masses; violent effervescence (15 percent calcium carbonate equivalent); moderately alkaline (pH 8.4); clear smooth boundary.

Bk3--42 to 51 inches; light yellowish brown (10YR 6/4) loam, dark yellowish brown (10YR 4/4) moist; weak medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common fine irregular carbonate masses; violent effervescence (16 percent calcium carbonate equivalent); strongly alkaline (pH 8.6); clear smooth boundary. (Combined thickness of the Bk1, Bk2 and Bk3 horizons is 30 to 42 inches)

Bk4--51 to 65 inches; light yellowish brown (10YR 6/4) loam, dark yellowish brown (10YR 4/4) moist; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many fine irregular carbonate masses in matrix; violent effervescence 10 percent calcium carbonate equivalent); moderately alkaline (pH 8.2).

TYPE LOCATION: Las Animas County, Colorado; about 3.5 miles north of Andrix, Colorado; located about 1750 feet east and 2000 feet south of the northwest corner of sec. 19, T. 31 S., R. 51 W.; Andrix USGS quad; lat. 37 degrees 19 minutes 54 seconds N. and long. 103 degrees 11 minutes 9 seconds W., NAD 27

RANGE IN CHARACTERISTICS:

Soil moisture: The soil moisture control section is moist intermittently May through August, driest December through February; ustic moisture regime bordering on aridic.

Mean annual soil temperature: 50 to 54 degrees F
Mean summer soil temperature: 68 to 74 degrees F
Depth to secondary calcium carbonate: 0 to 6 inches
Depth to calcic horizon: 10 to 30 inches
Thickness of the cambic horizon: 6 to 14 inches
Thickness of the calcic horizon: 30 to 42 inches

Particle-size control section (weighted average):
Clay content: 20 to 30 percent
Sand content: 25 to 55, with more than 15 percent fine sand to coarser sand
Rock fragments: 0 to 5 percent gravel

A horizon:
Hue: 7.5YR or 10YR
Value: 4 to 6 dry, 3 or 4 moist
Chroma: 2 or 3
Clay content: 18 to 27 percent
Rock fragments: 0 to 5 percent gravel
Calcium carbonate equivalent: 1 to 5 percent
Reaction: slightly alkaline or moderately alkaline

Bw horizon:
Hue: 7.5YR or 10YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4
Texture: silt loam, loam, clay loam
Clay content: 20 to 30 percent
Rock fragments: 0 to 5 percent gravel
Calcium carbonate equivalent: 5 to 15 percent
Reaction: slightly alkaline or moderately alkaline

Bk1, Bk2 and Bk3 horizons:
Hue: 7.5YR or 10YR
Value: 6 to 8 dry, 4 to 6 moist
Chroma: 3 to 6
Texture: loam, silt loam, clay loam, sandy clay loam
Clay content: 20 to 35 percent
Rock fragments: 0 to 15 percent gravel
Calcium carbonate equivalent: 15 to 35 percent
Reaction: moderately alkaline or strongly alkaline

Bk4 horizon: (Bky is present in some pedons)
Hue: 7.5YR or 10YR
Value: 5 to 7 dry, 4 or 5 moist
Chroma: 3 to 6
Texture: loam, sandy clay loam, fine sandy loam
Clay content: 15 to 27 percent
Calcium carbonate equivalent: 5 to 35 percent
Reaction: moderately alkaline or strongly alkaline

COMPETING SERIES: These are the Cibeque (AZ), Coconino (AZ), and Quartermaster (AZ) series.
Cibeque soils: average more than 15 percent rock fragments and are dry in May and June

Coconino soils: have a paralithic contact at depths of 20 to 40 inches
Quartermaster soils: have an identifiable hard pan and a petrocalcic horizon.

GEOGRAPHIC SETTING:
Parent material: eolian deposits and alluvium derived from sedimentary materials
Landform: plains, hills, ridges, fans
Slopes: 1 to 6 percent
Elevation: 4,700 to 6,000 feet
Mean annual temperature: 51 to 53 degrees F
Mean annual precipitation: 14 to 16 inches
Precipitation pattern: moist intermittently April through August, driest December through February
Frost-free period: 135 to 155 days.

GEOGRAPHICALLY ASSOCIATED SOILS: These are the Chicosa, Olnest, Otero, and Wiley series. The Chicosa soils average more than 35 percent rock fragments and are on fans and ridges. The Olnest and Wiley soils have argillic horizons and are on plains, fans, and hills. The Otero soils do not have a calcic horizon and are on hills and ridges.

DRAINAGE AND PERMEABILITY: well drained, low to moderate runoff, moderate permeability.

USE AND VEGETATION: rangeland, irrigated and nonirrigated cropland, and wildlife habitat; the native vegetation is mainly blue grama, western wheatgrass, buffalograss, sand dropseed, sideoats grama, yucca, and prickly pear cactus.

DISTRIBUTION AND EXTENT: southeastern Colorado; LRR G, MLRA 67; moderate extent.

MLRA SOIL SURVEY REGIONAL OFFICE (MO) RESPONSIBLE: Denver, Colorado

SERIES PROPOSED: Las Animas County, Colorado, Las Animas County soil survey area, Colorado. The name is coined and taken from the town site of Andrix.

REMARKS:
Diagnostic horizons and features recognized in this pedon are:
Series control section: The zone from 10 to 40 inches.
Particle-size control section: The zone from 10 to 40 inches. (parts of Bw, Bk1 and Bk2 horizons)
Ochric epipedon: The zone from 0 to 6 inches. (A horizon)
Cambic horizon: The zone from 6 to 14 inches. (Bw horizons)
Calcic horizon: The zone from 14 to 51 inches. (Bk1, Bk2, and Bk3 horizons)
Other features: aridic ustic moisture regime.

Remarks: This soil was originally included with the Kimst series but was separated due to consistent identifiable carbonates and the presence of a calcic horizon.

The assignment of the cation-exchange activity class is supported by lab sample(s) numbers S03CO071002.

Taxonomic Version: Second Edition, 1999.

ADDITIONAL DATA:

National Cooperative Soil Survey
U.S.A.

LOCATION PENROSE CO+KS NE NM SD

Established Series
AJC/GB
06/2006

PENROSE SERIES

The Penrose series consists of shallow, well and somewhat excessively drained, moderate to slowly permeable soils formed in thin, calcareous, loamy materials weathered in place from limestone and interbedded limy materials. Penrose soils are on hills, plains, ridges, hogbacks, cuestas, and mesa tops. Slopes are 1 to 65 percent. Mean annual precipitation is about 13 inches and mean annual temperature is about 51 degrees F.

TAXONOMIC CLASS: Loamy, carbonatic, mesic Lithic Ustic Torriorthents

TYPICAL PEDON: Penrose channery loam - grassland. (Colors are for dry soil unless otherwise noted).

A--0 to 4 inches; light brownish gray (2.5Y 6/2) channery loam, dark grayish brown (2.5Y 4/2) moist; moderate fine granular structure; soft, very friable, slightly sticky and slightly plastic; 25 percent channers; calcareous; moderately alkaline; clear smooth boundary.

C--4 to 15 inches; light gray (2.5Y 7/2) channery loam, grayish brown (2.5Y 5/2) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; 20 percent limestone channers; calcareous; moderately alkaline; abrupt smooth boundary.

R--15 inches; limestone bedrock.

TYPE LOCATION: Fremont County, Colorado; about 0.1 mile east of "K" Street and about 125 feet north of Highway No. 115 six feet from fence in the southeast quarter of Sec. 21, T. 18 S., R. 68 W.

RANGE IN CHARACTERISTICS:

Soil moisture: The soil moisture control section is moist intermittently April through August; aridic moisture regime bordering on ustic.
Mean annual soil temperature: 52 to 59 degrees F.
Mean summer soil temperature: 68 to 76 degrees F.
Depth to lithic contact: 10 to 20 inches to limestone
Depth to secondary calcium carbonate: 0 to about 5 inches and is not more than 1/4 the thickness of the control section
Gypsum content: 0 to 1.5 percent by weight
Calcium carbonate equivalent: 40 to 75 percent
Electrical conductivity: 0 to 14 millimhos/cm in a major part of the control section
Continuous subhorizons of secondary calcium carbonate and/or sulfate do not occur within the control section although some visible accumulation occurs in some pedons

Particle-size control section (weighted average):
Clay content: 18 to 35 percent
Sand content: 15 to 70 percent
Rock fragments: 0 to 35 percent, dominantly to 10 inches in diameter.

A horizon:
Hue: 7.5YR through 2.5Y

Value: 5 through 8, 3 through 6 moist
Chroma: 1 through 4.
Calcium carbonate equivalent: 35 to 70 percent
Reaction: mildly alkaline or moderately alkaline.
Rock fragments: 0 to 35 percent

C horizon:
Hue: 7.5YR through 2.5Y
Textures of the fine earth fraction: loam, silt loam, clay loam
Clay content: 18 to 35 percent
Rock fragments: 0 to 35
Calcium carbonate equivalent: 40 to 75 percent
Reaction: moderately alkaline or strongly alkaline.

COMPETING SERIES: These are presently no competing series in this family. Welring is similar, but in the loamy-skeletal family.

GEOGRAPHIC SETTING:
Parent material: residuum and slope alluvium derived from limestone and interbedded limy materials.
Landform: hills, mesas, and ridges
Slopes: 1 to 65 percent
Elevation: 3,000 to 6,500 feet
Mean annual temperature: 50 to 53 degrees F
Mean annual precipitation: 11 to 15 inches
Precipitation pattern: peak periods between April and August, dries between November and February
Frost-free period: 125 to 165 days.

GEOGRAPHICALLY ASSOCIATED SOILS: These are the Manvel and Minnequa soils. Manvel soils have no bedrock above a depth of 40 inches. Minnequa soils have bedrock at a depth of 20 to 40 inches.

DRAINAGE AND PERMEABILITY: well or somewhat exessivly drained, low through very rapid runoff, moderate or moderately slow permeability.

USE AND VEGETATION: These soils are used principally as grazing land. Native vegetation is pinyon, juniper, blue grama, cactus, and western wheatgrass.

DISTRIBUTION AND EXTENT: Eastern Colorado and southern Wyoming; LRR E, MLRA 69 and 67; large extent.

MLRA SOIL SURVEY REGIONAL OFFICE (MO) RESPONSIBLE: Denver, Colorado

SERIES ESTABLISHED: Arkansas Valley Area, 1936.

REMARKS:
Diagnostic horizons and features recognized in this pedon are:
Series control section: The zone from 0 to 15 inches.
Particle-size control section: The zone from 0 to 15 inches. (A and C horizons)
Ochric epipedon: The zone from 0 to 4 inches. (A horizon)
Lithic contact: The contact with limestone at 15 inches. (R horizons)
Other features: Carbonatic mineralogy

Remarks: This revision is a change to the semitabular format.

Taxonomic Version: Ninth Edition, 2003

ADDITIONAL DATA: Laboratory pedons sampled; 96CO071005, 96CO071011.

National Cooperative Soil Survey
U.S.A.

LOCATION WILID CO

Established Series
WSH/LC
08/2012

WILID SERIES

The Wilid series consists of very deep, well drained soils that formed in loess. Wilid soils are on plains and interfluves in MLRA 69. Slopes range from 0 to 12 percent. The mean annual precipitation is about 305 millimeters (12 inches). The mean annual temperature is about 11 degrees C (52 degrees F).

TAXONOMIC CLASS: Fine-silty, mixed, superactive, mesic Ustic Calciargids

TYPICAL PEDON: Wilid silt loam, nearly level slope in rangeland at an elevation of 1601 meters (5,250 feet). (Colors are for dry soil unless otherwise noted).

A--0 to 15 cm (0 to 6 inches); pale brown (10YR 6/3) silt loam, brown (10YR 4/3) moist; weak fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine roots; slight effervescence; slightly alkaline (pH 7.8); clear smooth boundary. (5 to 15 cm thick)

Bt--15 to 25 cm (6 to 10 inches); pale brown (10YR 6/3) silty clay loam, brown (10YR 4/3) moist; moderate medium subangular blocky structure; moderately hard, firm, moderately sticky and moderately plastic; common very fine and fine roots; few very fine pores; 30 percent distinct clay films on all faces of peds; violent effervescence; 7 percent calcium carbonate equivalent; moderately alkaline (pH 8.2); clear smooth boundary.

Btk--25 to 76 cm (10 to 30 inches); pale brown (10YR 6/3) silty clay loam, brown (10YR 5/3) moist; moderate medium subangular blocky structure; very hard, firm, moderately sticky and moderately plastic; few very fine roots; few very fine pores; 30 percent distinct clay films on all faces of peds; 1 percent medium distinct carbonate masses throughout; violent effervescence; 8 percent calcium carbonate equivalent; moderately alkaline (pH 8.2); clear smooth boundary. (Combined thickness of Bt and Btk horizons is 28 to 84 cm)

Bk1--76 to 112 cm (30 to 44 inches); pale brown (10YR 6/3) silty clay loam, brown (10YR 5/3) moist; weak medium subangular blocky structure; very hard, friable, slightly sticky and slightly plastic; few very fine roots; common very fine pores; 5 percent medium carbonate masses throughout; violent effervescence; 17 percent calcium carbonate equivalent; moderately alkaline (pH 8.2); clear wavy boundary. (25 to 50 cm thick)

Bk2--112 to 200 cm (44 to 79 inches); very pale brown (10YR 7/4) silt loam, yellowish brown (10YR 5/4) moist; weak course subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; common very fine pores; 25 percent fine faint carbonate masses throughout; violent effervescence; 25 percent calcium carbonate equivalent; moderately alkaline (pH 8.2).

TYPE LOCATION: Las Animas County, Colorado; approximately 10 miles east and 2 miles north of Model; 900 feet east and 2,450 feet north of the southwest corner of Sec. 29, T. 29 S., R. 30 W.; Brown Sheep Camp, CO, USGS quad.; UTM zone 13 585004 E, 4139858 N; latitude 37 degrees, 24 minutes, 5.8 seconds N. and longitude 104 degrees, 2 minutes, 22.5 seconds W., NAD 83.

RANGE IN CHARACTERISTICS:
Soil moisture: Moist in some part March through May and intermittently moist June through October. It is driest December through February.

Moisture regime: aridic bordering on ustic.
Mean annual soil temperature: 9 to 12 degrees C. (49 to 54 degrees F.)
Depth to secondary calcium carbonate: 0 to 25 centimeters (0 to 10 inches)
Depth to calcic horizon: 66 to 127 cm (26 to 50 inches)
Thickness of the argillic horizon: 28 to 84 centimeters (11 to 33 inches)

Particle size control section:
Clay content: 24 to 35 percent
Silt content: 50 to 70 percent
Sand content: 5 to 20 percent, with less than 15 percent fine or coarser sand.

A horizon:
Hue: 10YR
Value: 4 through 6, 3 or 4 moist
Chroma: 2 or 3
Texture: silt loam, silty clay loam
Reaction: neutral through moderately alkaline

Btk and Bt horizons:
Hue: 10YR
Value: 5 or 6, 4 or 5 moist
Chroma: 3 or 4
Texture: silt loam or silty clay loam
Calcium carbonate equivalent: 5 to 15 percent (5 to 10 percent in Bt horizons)
Reaction: moderately alkaline or strongly alkaline

Bk horizons:
Hue: 10YR
Value: 6 through 8, 5 or 6 moist
Chroma: 2 through 4
Texture: silt loam, loam or silty clay loam
Calcium carbonate equivalent: 5 to 25 percent above 100 cm, 10 to 40 percent below 100 cm.
Reaction: moderately alkaline or strongly alkaline

COMPETING SERIES: These are the Almagre (CO), Monogram (CO), Snapill (NM), Tetilla (NM), Villedry (CO), and Witt (NM) series.
Almagre soils: have a lithic contact at depths of 100 to 150 cm, 40 to 60 inches.
Monogram soils: have calcium carbonate equivalent of 40 to 70 percent in the calcic horizon and a lithic contact at 168 cm, 66 inches.
Snapill soils: have a paralithic contact at depths of 50 to 100 cm, 40 to 60 inches.
Tetilla soils: have 10 to 25 percent rock fragments in the Bk2 horizon.
Villedry soils: have a lithic contact at depths of 50 to 100 cm, 40 to 60 inches.
Witt soils: the soil moisture control section is driest during May and June and have hues redder than 10YR.

GEOGRAPHIC SETTING:
Landform: plains and interfluves
Slopes: range from 0 to 12 percent
Parent material: loess
Mean annual precipitation: 254 to 356 millimeters (10 to 14 inches), most of which falls during the months of April through September. Driest period is December through February.
Mean annual air temperature: 9 to 12 degrees C. (49 to 53 degrees F.)
Average summer temperature: 20 to 23 degrees C. (68 to 74 degrees F.)
Frost-free season: 130 to 175 days
Elevation ranges from 1219 to 1981 meters (4,000 to 6,200 feet).

GEOGRAPHICALLY ASSOCIATED SOILS: These are the Bacid, Manzanola, Minnequa and Fort soils. Bacid and Manzanola soils are in the fine family and are in depressions and drainageways. Minnequa soils are on pediments that have a thin loess cap over residuum. They have a paralithic contact at depths of 51 to 100 cm. Fort soils have a fine-loamy control section and are on side slopes of interfluves and ridges.

DRAINAGE AND SATURATED HYDRAULIC CONDUCTIVITY: Well drained; low or medium runoff; moderately high to high hydraulic conductivity.

USE AND VEGETATION: These soils are rangeland or nonirrigated cropland. Native vegetation is mainly blue grama, galleta, sand dropseed, and western wheatgrass. It is correlated to the Loamy Ecological Site Description.

DISTRIBUTION AND EXTENT: MLRA 69. This series is extensive.

MLRA SOIL SURVEY REGIONAL OFFICE (MO) RESPONSIBLE: Denver, Colorado

SERIES ESTABLISHED: Lincoln County, Colorado, 1996.

REMARKS: Diagnostic horizons and features in this pedon are:
Ochric epipedon: 0 to 15 centimeters (0 to 6 inches).
Argillic horizon: 15 to 76 centimeters (6 to 30 inches).
Calcic horizon: 76 to 200 centimeters (30 to 79 inches).

The Wilid series replaces Wiley in the Ustic-Aridic moisture regime. The Wiley series was reclassified from Ustic Haplargids to Aridic Haplustalfs. The name Wilid is coined from Wiley.
LC 11/2011 Revised horizon nomenclature, properties ranges, and updated to metric format based on reexamination of correlation samples, documentation, and field office laboratory measurements.

LAN 5/2012 This update moves the type location from Lincoln County, Colorado to Las Animas County, Colorado and changes the Taxonomic class to Fine-silty, mixed, superactive, mesic Ustic Calciargids.

Keys to Soil Taxonomy used: Eleventh Edition, 2010

National Cooperative Soil Survey
U.S.A.

Rangeland and Forest Vegetation Classification, Productivity, and Plant Composition

In areas that have similar climate and topography, differences in the kind and amount of rangeland or forest understory vegetation are closely related to the kind of soil. Effective management is based on the relationship between the soils and vegetation and water.

This table shows, for each soil that supports vegetation, the ecological site, plant association, or habitat type; the total annual production of vegetation in favorable, normal, and unfavorable years; the characteristic vegetation; and the average percentage of each species. An explanation of the column headings in the table follows.

An *ecological site, plant association, or habitat type* is the product of all the environmental factors responsible for its development. It has characteristic soils that have developed over time throughout the soil development process; a characteristic hydrology, particularly infiltration and runoff that has developed over time; and a characteristic plant community (kind and amount of vegetation). The hydrology of the site is influenced by development of the soil and plant community. The vegetation, soils, and hydrology are all interrelated. Each is influenced by the others and influences the development of the others. The plant community on an ecological site, plant association, or habitat type is typified by an association of species that differs from that of other ecological sites, plant associations, or habitat types in the kind and/or proportion of species or in total production. Descriptions of ecological sites are provided in the Field Office Technical Guide, which is available in local offices of the Natural Resources Conservation Service (NRCS). Descriptions of plant associations or habitat types are available from local U.S. Forest Service offices.

Total dry-weight production is the amount of vegetation that can be expected to grow annually in a well managed area that is supporting the potential natural plant community. It includes all vegetation, whether or not it is palatable to grazing animals. It includes the current year's growth of leaves, twigs, and fruits of woody plants. It does not include the increase in stem diameter of trees and shrubs. It is expressed in pounds per acre of air-dry vegetation for favorable, normal, and unfavorable years. In a favorable year, the amount and distribution of precipitation and the temperatures make growing conditions substantially better than average. In a normal year, growing conditions are about average. In an unfavorable year, growing conditions are well below average, generally because of low available soil moisture. Yields are adjusted to a common percent of air-dry moisture content.

Characteristic vegetation (the grasses, forbs, shrubs, and understory trees that make up most of the potential natural plant community on each soil) is listed by common name. Under *rangeland composition and forest understory*, the expected percentage of the total annual production is given for each species making up the characteristic vegetation. The percentages are by dry weight for rangeland. Percentages for forest understory are by either dry weight or canopy cover. The amount that can be used as forage depends on the kinds of grazing animals and on the grazing season.

Range management requires knowledge of the kinds of soil and of the potential natural plant community. It also requires an evaluation of the present range similarity index and rangeland trend. Range similarity index is determined by comparing the present plant community with the potential natural plant community on a particular rangeland ecological site. The more closely the existing community resembles the potential community, the higher the range similarity index. Rangeland trend is defined as the direction of change in an existing plant community relative to the potential natural plant community. Further information about the range similarity index and rangeland trend is available in the "National Range and Pasture Handbook," which is available in local offices of NRCS or on the Internet.

The objective in range management is to control grazing so that the plants growing on a site are about the same in kind and amount as the potential natural plant community for that site. Such management generally results in the optimum production of vegetation, control of undesirable brush species, conservation of water, and control of erosion. Sometimes, however, an area with a range similarity index somewhat below the potential meets grazing needs, provides wildlife habitat, and protects soil and water resources.

Reference:
United States Department of Agriculture, Natural Resources Conservation Service, National range and pasture handbook.

Report—Rangeland and Forest Vegetation Classification, Productivity, and Plant Composition

Rangeland and Forest Vegetation Classification, Productivity, and Plant Composition–Huerfano County Area, Colorado								
Map unit symbol and soil name	**Ecological Site, Plant Association, or Habitat Type**	**Total dry-weight production**			**Characteristic rangeland or forest understory vegetation**	**Composition**		
		Favorable year	**Normal year**	**Unfavorable year**			**Rangeland**	**Forest understory**
		Lb/ac	*Lb/ac*	*Lb/ac*		*Pct dry wt*	*Pct dry wt*	
90—Wiley silt loam, 0 to 3 percent slopes, cool								
Wiley, cool	Loamy Plains (R069XY006CO); Loamy Plains #6 (069XY006CO_2)	1,300	900	450	blue grama	35		
					western wheatgrass	25		
					green needlegrass	10		
					bottlebrush squirreltail	5		
					galleta	5		
					winterfat	5		
					American vetch	3		
					plains pricklypear	3		
					sand dropseed	2		
					sun sedge	2		
					scarlet globemallow	1		
					tree cholla	1		

Rangeland and Forest Vegetation Classification, Productivity, and Plant Composition–Huerfano County Area, Colorado								
Map unit symbol and soil name	Ecological Site, Plant Association, or Habitat Type	Total dry-weight production			Characteristic rangeland or forest understory vegetation	Composition		
		Favorable year	Normal year	Unfavorable year			Rangeland	Forest understory
		Lb/ac	*Lb/ac*	*Lb/ac*		*Pct dry wt*	*Pct dry wt*	
122—Kandrix loam, cool, 0 to 3 percent slopes								
Kandrix, cool	Loamy Plains (R069XY006CO)	1,600	1,100	500	blue grama	30		
					galleta	20		
					western wheatgrass	20		
					buffalograss	6		
					ring muhly	6		
					sand dropseed	4		
					American vetch	2		
					bottlebrush squirreltail	2		
					dotted blazing star	2		
					fourwing saltbush	2		
					green needlegrass	2		
					sideoats grama	2		
					winterfat	2		

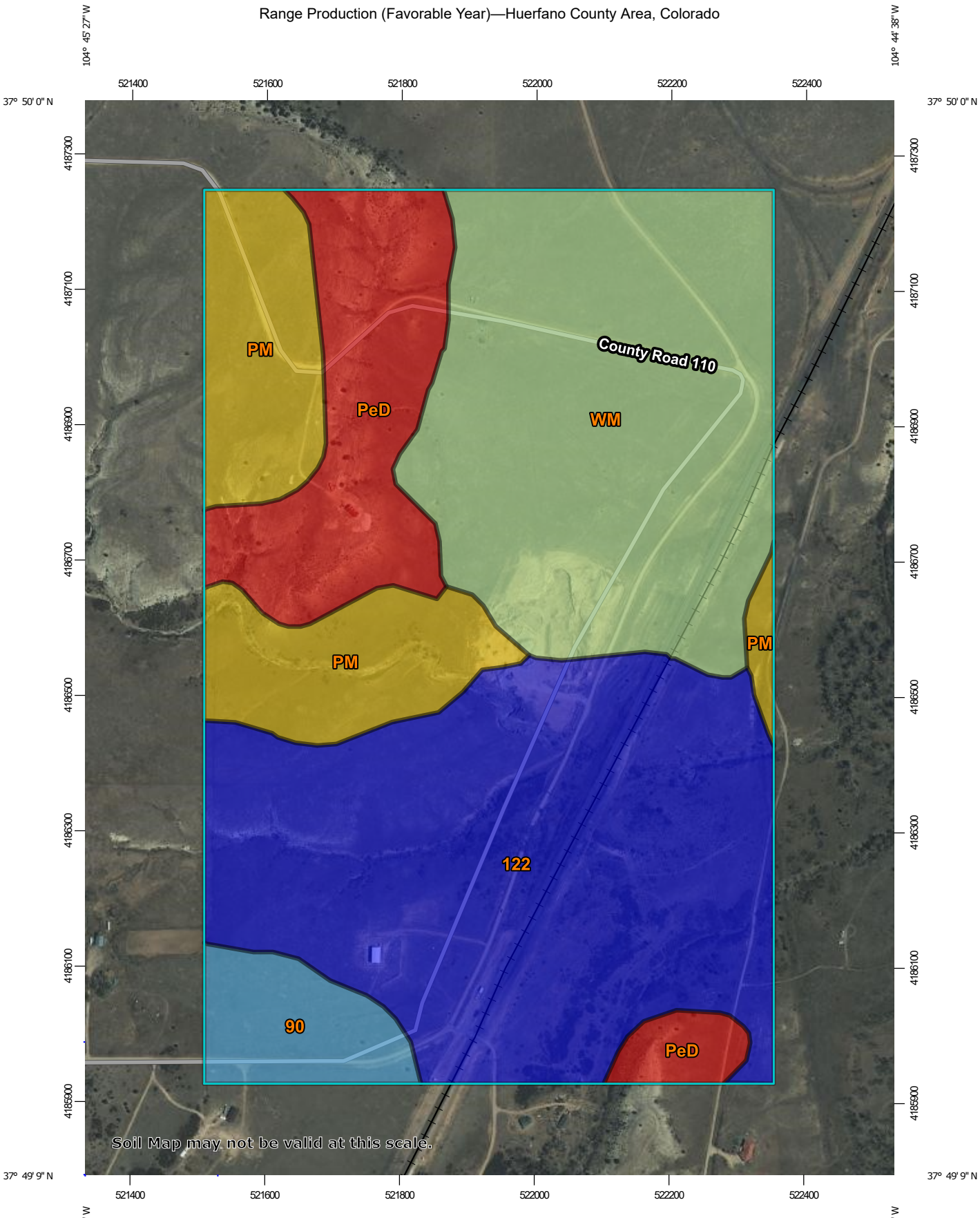
Rangeland and Forest Vegetation Classification, Productivity, and Plant Composition–Huerfano County Area, Colorado								
Map unit symbol and soil name	Ecological Site, Plant Association, or Habitat Type	Total dry-weight production			Characteristic rangeland or forest understory vegetation	Composition		
		Favorable year	Normal year	Unfavorable year			Rangeland	Forest understory
		Lb/ac	*Lb/ac*	*Lb/ac*		*Pct dry wt*	*Pct dry wt*	
PeD—Penrose channery loam, 1 to 15 percent slopes								
Penrose	Limestone Breaks (R069XY058CO)	800	600	300	sideoats grama	25		
					blue grama	20		
					Indian ricegrass	10		
					New Mexico Feathergrass	10		
					Scribner needlegrass	10		
					galleta	5		
					little bluestem	5		
					oneseed juniper	5		

Rangeland and Forest Vegetation Classification, Productivity, and Plant Composition–Huerfano County Area, Colorado								
Map unit symbol and soil name	**Ecological Site, Plant Association, or Habitat Type**	**Total dry-weight production**			**Characteristic rangeland or forest understory vegetation**	**Composition**		
		Favorable year	**Normal year**	**Unfavorable year**			**Rangeland**	**Forest understory**
		Lb/ac	*Lb/ac*	*Lb/ac*		*Pct dry wt*	*Pct dry wt*	
PM—Penrose-Minnequa complex, 1 to 15 percent slopes								
Penrose	Limestone Breaks (R069XY058CO); Limestone Breaks #58 (069XY058CO_2)	800	600	300	sideoats grama	25		
					blue grama	20		
					Indian ricegrass	10		
					New Mexico Feathergrass	10		
					Scribner needlegrass	10		
					galleta	5		
					little bluestem	5		
					oneseed juniper	5		
Minnequa	Loamy Plains (R069XY006CO)	1,200	650	450	blue grama	35		
					western wheatgrass	20		
					galleta	10		
					fourwing saltbush	5		
					sand dropseed	5		
					sideoats grama	5		
					winterfat	5		
					green needlegrass	4		

Rangeland and Forest Vegetation Classification, Productivity, and Plant Composition–Huerfano County Area, Colorado								
Map unit symbol and soil name	Ecological Site, Plant Association, or Habitat Type	Total dry-weight production			Characteristic rangeland or forest understory vegetation	Composition		
		Favorable year	Normal year	Unfavorable year			Rangeland	Forest understory
		Lb/ac	*Lb/ac*	*Lb/ac*		*Pct dry wt*	*Pct dry wt*	
WM—Minnequa-Wilid silt loams, 1 to 6 percent slopes								
Minnequa	Loamy Plains (R069XY006CO)	1,200	650	450	blue grama	35		
					western wheatgrass	20		
					galleta	10		
					fourwing saltbush	5		
					sand dropseed	5		
					sideoats grama	5		
					winterfat	5		
					green needlegrass	4		
Wilid	Loamy Plains (R069XY006CO); Loamy Plains #6 (069XY006CO_2)	1,200	800	350	blue grama	35		
					western wheatgrass	20		
					galleta	10		
					fourwing saltbush	5		
					sand dropseed	5		
					sideoats grama	5		
					winterfat	5		
					green needlegrass	4		

Data Source Information

Soil Survey Area: Huerfano County Area, Colorado
Survey Area Data: Version 20, Aug 24, 2023


104° 45' 27" W
104° 44' 38" W
37° 50' 0" N
37° 49' 9" N
521400
521600
521800
522000
522200
522400
4187300
4187100
4186900
4186700
4186500
4186300
4186100
4185900
PM
PeD
WM
County Road 110
PM
PM
122
90
PeD
Soil Map may not be valid at this scale.
Map Scale: 1:7,740 if printed on A portrait (8.5" x 11") sheet.
N
Meters
0 100 200 400 600
Feet
0 350 700 1400 2100
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- <= 760
- > 760 and <= 918
- > 918 and <= 1171
- > 1171 and <= 1300
- > 1300 and <= 1620
- Not rated or not available

Soil Rating Lines

- <= 760
- > 760 and <= 918
- > 918 and <= 1171
- > 1171 and <= 1300
- > 1300 and <= 1620
- Not rated or not available

Soil Rating Points

- <= 760
- > 760 and <= 918
- > 918 and <= 1171
- > 1171 and <= 1300
- > 1300 and <= 1620
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Huerfano County Area, Colorado
Survey Area Data: Version 20, Aug 24, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 31, 2020—May 18, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Range Production (Favorable Year)

Map unit symbol	Map unit name	Rating (pounds per acre per year)	Acres in AOI	Percent of AOI
90	Wiley silt loam, 0 to 3 percent slopes, cool	1300	12.5	4.5%
122	Kandrix loam, cool, 0 to 3 percent slopes	1620	103.5	37.4%
PeD	Penrose channery loam, 1 to 15 percent slopes	760	37.1	13.4%
PM	Penrose-Minnequa complex, 1 to 15 percent slopes	918	40.6	14.7%
WM	Minnequa-Wilid silt loams, 1 to 6 percent slopes	1171	83.3	30.1%
Totals for Area of Interest			**277.0**	**100.0%**

Description

Total range production is the amount of vegetation that can be expected to grow annually in a well managed area that is supporting the potential natural plant community. It includes all vegetation, whether or not it is palatable to grazing animals. It includes the current year's growth of leaves, twigs, and fruits of woody plants. It does not include the increase in stem diameter of trees and shrubs. It is expressed in pounds per acre of air-dry vegetation. In a favorable year, the amount and distribution of precipitation and the temperatures make growing conditions substantially better than average. Yields are adjusted to a common percent of air-dry moisture content.

In areas that have similar climate and topography, differences in the kind and amount of vegetation produced on rangeland are closely related to the kind of soil. Effective management is based on the relationship between the soils and vegetation and water.

Rating Options

Units of Measure: pounds per acre per year

Aggregation Method: Weighted Average

Aggregation is the process by which a set of component attribute values is reduced to a single value that represents the map unit as a whole.

A map unit is typically composed of one or more "components". A component is either some type of soil or some nonsoil entity, e.g., rock outcrop. For the attribute being aggregated, the first step of the aggregation process is to derive one attribute value for each of a map unit's components. From this set of component attributes, the next step of the aggregation process derives a single value that represents the map unit as a whole. Once a single value for each map unit is derived, a thematic map for soil map units can be rendered. Aggregation must be done because, on any soil map, map units are delineated but components are not.

For each of a map unit's components, a corresponding percent composition is recorded. A percent composition of 60 indicates that the corresponding component typically makes up approximately 60% of the map unit. Percent composition is a critical factor in some, but not all, aggregation methods.

The aggregation method "Weighted Average" computes a weighted average value for all components in the map unit. Percent composition is the weighting factor. The result returned by this aggregation method represents a weighted average value of the corresponding attribute throughout the map unit.

Component Percent Cutoff: None Specified

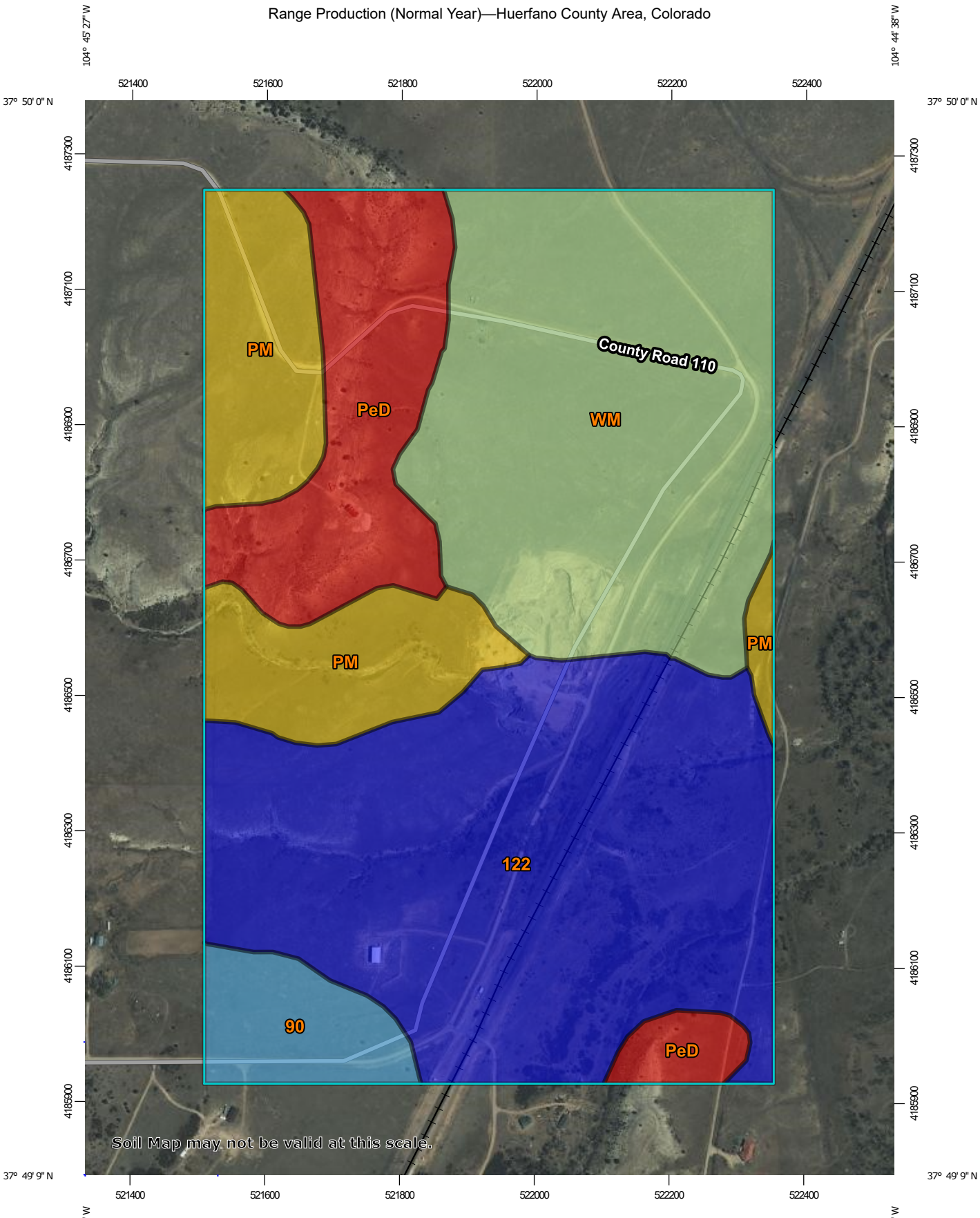
Components whose percent composition is below the cutoff value will not be considered. If no cutoff value is specified, all components in the database will be considered. The data for some contrasting soils of minor extent may not be in the database, and therefore are not considered.

Tie-break Rule: Higher

The tie-break rule indicates which value should be selected from a set of multiple candidate values, or which value should be selected in the event of a percent composition tie.

Interpret Nulls as Zero: Yes

This option indicates if a null value for a component should be converted to zero before aggregation occurs. This will be done only if a map unit has at least one component where this value is not null.



Map Scale: 1:7,740 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 100 200 400 600

Feet: 0 350 700 1400 2100

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- <= 550
- > 550 and <= 595
- > 595 and <= 718
- > 718 and <= 900
- > 900 and <= 1115
- Not rated or not available

Soil Rating Lines

- <= 550
- > 550 and <= 595
- > 595 and <= 718
- > 718 and <= 900
- > 900 and <= 1115
- Not rated or not available

Soil Rating Points

- <= 550
- > 550 and <= 595
- > 595 and <= 718
- > 718 and <= 900
- > 900 and <= 1115
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Huerfano County Area, Colorado
Survey Area Data: Version 20, Aug 24, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 31, 2020—May 18, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Range Production (Normal Year)

Map unit symbol	Map unit name	Rating (pounds per acre per year)	Acres in AOI	Percent of AOI
90	Wiley silt loam, 0 to 3 percent slopes, cool	900	12.5	4.5%
122	Kandrix loam, cool, 0 to 3 percent slopes	1115	103.5	37.4%
PeD	Penrose channery loam, 1 to 15 percent slopes	550	37.1	13.4%
PM	Penrose-Minnequa complex, 1 to 15 percent slopes	595	40.6	14.7%
WM	Minnequa-Wilid silt loams, 1 to 6 percent slopes	718	83.3	30.1%
Totals for Area of Interest			**277.0**	**100.0%**

Description

Total range production is the amount of vegetation that can be expected to grow annually in a well managed area that is supporting the potential natural plant community. It includes all vegetation, whether or not it is palatable to grazing animals. It includes the current year's growth of leaves, twigs, and fruits of woody plants. It does not include the increase in stem diameter of trees and shrubs. It is expressed in pounds per acre of air-dry vegetation. In a normal year, growing conditions are about average. Yields are adjusted to a common percent of air-dry moisture content.

In areas that have similar climate and topography, differences in the kind and amount of vegetation produced on rangeland are closely related to the kind of soil. Effective management is based on the relationship between the soils and vegetation and water.

Rating Options

Units of Measure: pounds per acre per year

Aggregation Method: Weighted Average

Aggregation is the process by which a set of component attribute values is reduced to a single value that represents the map unit as a whole.

A map unit is typically composed of one or more "components". A component is either some type of soil or some nonsoil entity, e.g., rock outcrop. For the attribute being aggregated, the first step of the aggregation process is to derive one attribute value for each of a map unit's components. From this set of component attributes, the next step of the aggregation process derives a single value that represents the map unit as a whole. Once a single value for each map unit is derived, a thematic map for soil map units can be rendered. Aggregation must be done because, on any soil map, map units are delineated but components are not.

For each of a map unit's components, a corresponding percent composition is recorded. A percent composition of 60 indicates that the corresponding component typically makes up approximately 60% of the map unit. Percent composition is a critical factor in some, but not all, aggregation methods.

The aggregation method "Weighted Average" computes a weighted average value for all components in the map unit. Percent composition is the weighting factor. The result returned by this aggregation method represents a weighted average value of the corresponding attribute throughout the map unit.

Component Percent Cutoff: None Specified

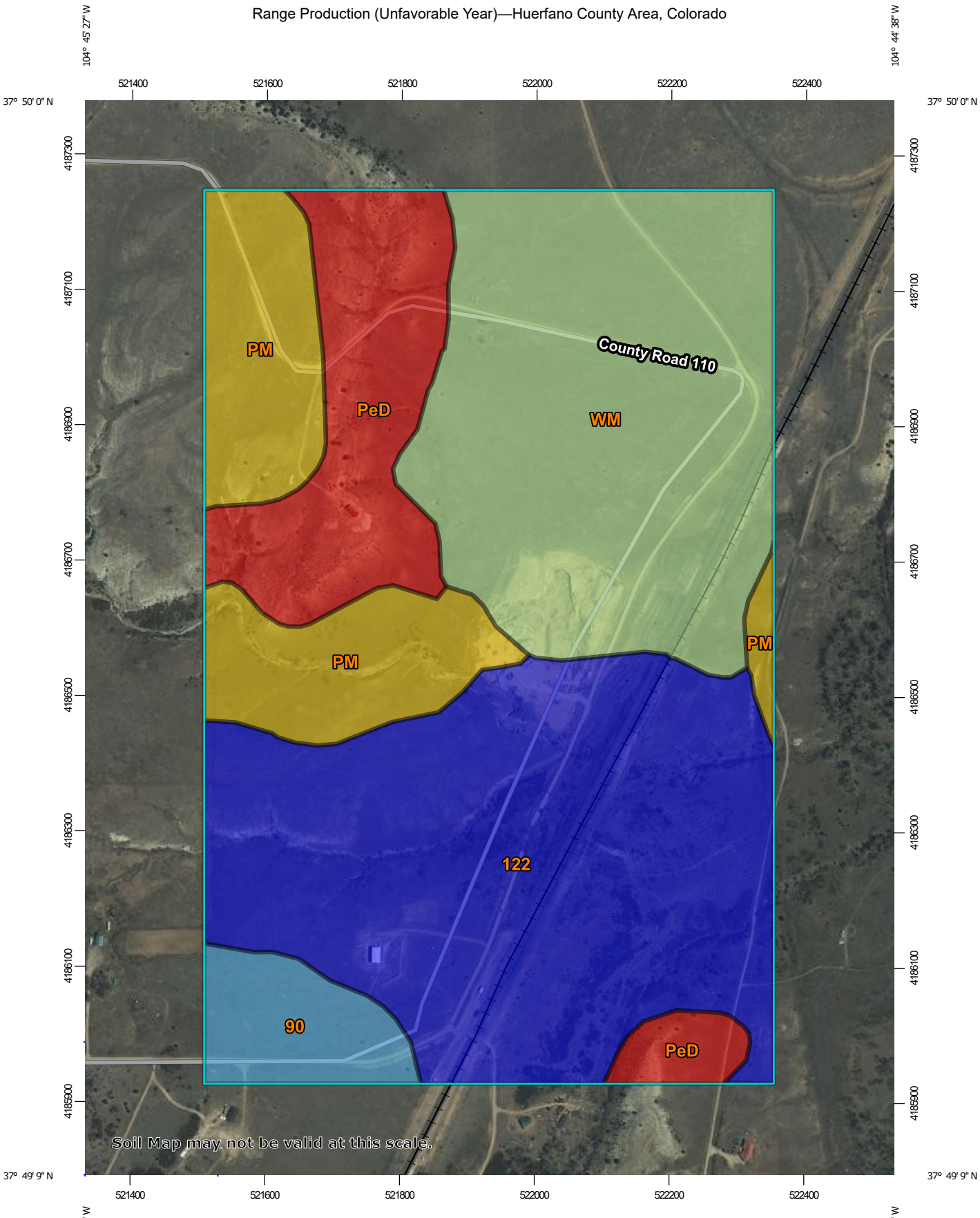
Components whose percent composition is below the cutoff value will not be considered. If no cutoff value is specified, all components in the database will be considered. The data for some contrasting soils of minor extent may not be in the database, and therefore are not considered.

Tie-break Rule: Higher

The tie-break rule indicates which value should be selected from a set of multiple candidate values, or which value should be selected in the event of a percent composition tie.

Interpret Nulls as Zero: Yes

This option indicates if a null value for a component should be converted to zero before aggregation occurs. This will be done only if a map unit has at least one component where this value is not null.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521600
521800
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522200
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4187100
4186900
4186700
4186500
4186300
4186100
4185900
PM
PeD
WM
County Road 110
PM
PM
122
90
PeD
Soil Map may not be valid at this scale.
Map Scale: 1:7,740 if printed on A portrait (8.5" x 11") sheet.
N
Meters
0 100 200 400 600
Feet
0 350 700 1400 2100
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- <= 288
- > 288 and <= 340
- > 340 and <= 412
- > 412 and <= 450
- > 450 and <= 528
- Not rated or not available

Soil Rating Lines

- <= 288
- > 288 and <= 340
- > 340 and <= 412
- > 412 and <= 450
- > 450 and <= 528
- Not rated or not available

Soil Rating Points

- <= 288
- > 288 and <= 340
- > 340 and <= 412
- > 412 and <= 450
- > 450 and <= 528
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

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Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

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This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Huerfano County Area, Colorado
Survey Area Data: Version 20, Aug 24, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 31, 2020—May 18, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Range Production (Unfavorable Year)

Map unit symbol	Map unit name	Rating (pounds per acre per year)	Acres in AOI	Percent of AOI
90	Wiley silt loam, 0 to 3 percent slopes, cool	450	12.5	4.5%
122	Kandrix loam, cool, 0 to 3 percent slopes	528	103.5	37.4%
PeD	Penrose channery loam, 1 to 15 percent slopes	288	37.1	13.4%
PM	Penrose-Minnequa complex, 1 to 15 percent slopes	340	40.6	14.7%
WM	Minnequa-Wilid silt loams, 1 to 6 percent slopes	412	83.3	30.1%
Totals for Area of Interest			**277.0**	**100.0%**

Description

Total range production is the amount of vegetation that can be expected to grow annually in a well managed area that is supporting the potential natural plant community. It includes all vegetation, whether or not it is palatable to grazing animals. It includes the current year's growth of leaves, twigs, and fruits of woody plants. It does not include the increase in stem diameter of trees and shrubs. It is expressed in pounds per acre of air-dry vegetation. In an unfavorable year, growing conditions are well below average, generally because of low available soil moisture. Yields are adjusted to a common percent of air-dry moisture content.

In areas that have similar climate and topography, differences in the kind and amount of vegetation produced on rangeland are closely related to the kind of soil. Effective management is based on the relationship between the soils and vegetation and water.

Rating Options

Units of Measure: pounds per acre per year

Aggregation Method: Weighted Average

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Interpret Nulls as Zero: Yes

6.4.11 Exhibit K

Climate

Climate data was pulled from the U.S Climate Data website for the Huerfano County, Colorado area.

Huerfano County Monthly Climate Averages

12 Month Climate Scroll

°F °C

Month	January	February	March	April	May	June
Avg. Temperatures	Hi 34°F Lo 14°F	Hi 35°F Lo 15°F	Hi 45°F Lo 24°F	Hi 53°F Lo 29°F	Hi 63°F Lo 36°F	Hi 76
Avg. Wind Speed	7 mph	8 mph	8 mph	9 mph	8 mph	7 mpl
Avg. Precipitation	1.6 in	2.6 in	3.1 in	4 in	5.4 in	4.9 in
Average Humidity	76%	74%	60%	52%	48%	44%
Avg. Cloud Cover	26%	28%	24%	23%	21%	15%
Pressure Average	30.1 in	30.1 in	30.0 in	29.9 in	29.9 in	29.9 i
Average Dry Days	11	9	11	12	15	23
Avg. Precip. Days	7	5	5	5	8	7
Avg. Snow Days	14	14	16	13	9	0
Average Fog Days	1	2	0	0	0	0
Average UV Index	2	2	2	3	4	5
Avg. Hours of Sun	285	248	285	272	295	314

Huerfano County Monthly Climate Averages

12 Month Climate Scroll

°F °C

Month	July	August	September	October	November	Decem
Avg. Temperatures	Hi 78°F Lo 51°F	Hi 76°F Lo 49°F	Hi 70°F Lo 45°F	Hi 57°F Lo 33°F	Hi 45°F Lo 24°F	Hi 34°
Avg. Wind Speed	5 mph	5 mph	6 mph	7 mph	8 mph	8 mph
Avg. Precipitation	9.8 in	8.2 in	3.4 in	2.2 in	1.4 in	1.5 in
Average Humidity	56%	54%	52%	51%	56%	70%
Avg. Cloud Cover	23%	18%	16%	15%	15%	25%
Pressure Average	30.0 in	30.0 in	30.0 in	30.0 in	30.1 in	30.1 ir
Average Dry Days	19	22	23	22	20	13
Avg. Precip. Days	12	9	5	3	2	6
Avg. Snow Days	0	0	1	6	8	12
Average Fog Days	0	0	0	0	0	1
Average UV Index	5	5	4	2	2	1
Avg. Hours of Sun	303	325	313	319	311	281

6.4.12 Exhibit L

Reclamation Costs

Reclamation cost estimates were calculated on a per acre basis and applied to maximum active mining area of 21.6 acres.

Direct Tasks	Unit	Quantity	Cost	Total Cost
Grading Highwalls				
3H:1V Pushdown Dozer	Hours	35		$7700.00
Placing Topsoil/Fines				
Bull Dozer	Hours	6	$145.00	$870.00
Loader	Hours	6	$145.00	$870.00
Seeding				
Broadcasting	Hours	3	$300.00	$900.00
Seed Mix	Acre	1	$1200.00	$1200.00
Mulch	Acre	1	$187.50	$187.50
Tracking seed/mulch				
Dozer	Hours	0.33	$154.00	$50.82
Area Reclaimed	Acre	14.7		$34,375.00
Mobilization Fee	Hours	1	$100	$100
Indirect Tasks				
Liability Insurance			0.0155	$635.00
Performance Bond			0.015	$615.00
Profit			0.1	$4,099.00
Job Superintendent	Hours	20	$88.00	$1,760.00
Miscellaneous Indirect			0.0925	$920.00
Total Bond				$51,945.00

6.4.13 Exhibit M

Other Permits and Licenses

- Huerfano County Special Use Permit.

6.4.14 Exhibit N

Source of Legal Right to Enter

Please see enclosed the agreement between the landowner and the permittee.

6.4.15 Exhibit O

Owner of Record of Affected Land

Surface Area and Substance to be Mined

See enclosed deed.

6.4.16 Exhibit P

Municipalities Within Two Miles

There are no towns within two miles of the proposed mining operation.

432265

Page 1 of 1
Erica Vigil, Clerk & Recorder
Huerfano County, CO
01-29-2024 01:24 PM Recording Fee $13.00

QUIT CLAIM DEED

THIS DEED, made this 24th day of January, 2024, between **Patrick Steele aka Patrick Arnold Steele** of the County of Pueblo and State of Colorado, Grantor, and **Patrick Steele and Jordan Power**, whose legal address is 8245 Park Road, Rye, Colorado 81069, Grantees.

WITNESSETH, that the Grantor, for and in consideration of the sum of One Dollar and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, has remised, released, sold and **QUIT CLAIMED**, and by these presents does remise, release, sell and **QUIT CLAIM** unto the Grantees, their heirs, successors and assigns, forever, as tenants in common, all the right, title, interest, claim and demand which the Grantor has in and to the real property, together with improvements, if any, situate, lying and being in the County of Huerfano, State of Colorado described as follows:

Lot 22, Ghost River Ranch Filing #1

Commonly known as: 22 Lascar Road, Rye, Colorado 81069

TO HAVE AND TO HOLD the same, together with all and singular the appurtenances and privileges thereunto belonging or in anywise thereunto appertaining, and all the estate, right, title, interest and claim whatsoever, of the Grantor, either in law or equity, to the only proper use, benefit and behalf of the Grantees, their heirs and assigns forever. The singular number shall include the plural, the plural the singular, and the use of any gender shall be applicable to all genders.

IN WITNESS WHEREOF, the Grantor has executed this Deed on the date set forth above.

Patrick Steele

Patrick Arnold Steele

STATE OF COLORADO)
) SS.
COUNTY OF PUEBLO)

The foregoing document was acknowledged before me this 24th day of January, 2024, by Patrick Steele aka Patrick Arnold Steele..

Witness my hand and official seal.

KYLIE OHLSEN
Notary Public
State of Colorado
Notary ID # 20184012809
My Commission Expires 03-20-2026

Notary Public
My Comm. Exp. «NotaryExpiration»
03-20-2026

COMMERCIAL LEASE AGREEMENT

1. **PARTIES.** This Commercial Lease Agreement ("Agreement") made on 6/28/2024 is between:

   Landlord Name: Patrick Steele & Jordan Power with a mailing address of:

   8425 Park Rd Rye, CO 81069 ("Landlord"), AND

   Tenant Name(s): Jennifer Hunter & Patrick Steele ("Tenant(s)").

   Landlord and Tenant are each collectively referred to as the "Parties."

2. **PROPERTY.** The Landlord agrees to lease the property for permit and mining operations to the Tenant(s):

   Address: 22 Lascar Rd Rye, CO 81069 Ghost River ("Premises").

   Commercial Type: ☐ Single-family ☐ Apartment ☐ Condominium ☒ Other: Gravel Pit

3. **TERM.**
   The Agreement shall begin on 6/28/24 and end on 6/28/2029 ("Term").

4. **RENT.**
   Theres been a verbal agreement between Jordan Power/Pat Steele (Landowners) along with PB & S Sand and Gravel (Jennifer Hunter & Pat Steele) for as long as it is open and an operating business.

   ☒ Shall NOT be required to pay a security deposit.

5. **SIGNATURES.**
   Landlord's Signature: _____ **Date:** 6/28/2024
   Printed Name: Patrick Steele & Jordan Power

   Tenant Signature: _____ **Date:** 6/28/2024
   Printed Name: Jennifer Hunter

   Tenant Signature: _____ **Date:** 6/28/2024
   Printed Name: Patrick Steele

COLORADO NOTARY ACKNOWLEDGMENT

State of Colorado
County of Pueblo (County)
This record was acknowledged before me on June 28, 2024 (Date)
by Jennifer Hunter (Signer name) Patrick Steele, Jordan Power
Notary's Official Signature: _____
Title of Office: _____
My Commission Expires: 10/6/26 (Date)

JODI D SCHREIBER
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 20064001792
MY COMMISSION EXPIRES OCTOBER 6, 2026

eSign

OFFICE OF THE SECRETARY OF STATE
OF THE STATE OF COLORADO

CERTIFICATE OF FACT OF GOOD STANDING

I, Jena Griswold, as the Secretary of State of the State of Colorado, hereby certify that, according to the records of this office,

P B & S Sand and Gravel LLC

is a

Limited Liability Company

formed or registered on 01/23/2024 under the law of Colorado, has complied with all applicable requirements of this office, and is in good standing with this office. This entity has been assigned entity identification number 20241088581 .

This certificate reflects facts established or disclosed by documents delivered to this office on paper through 03/18/2024 that have been posted, and by documents delivered to this office electronically through 03/19/2024 @ 18:04:40 .

I have affixed hereto the Great Seal of the State of Colorado and duly generated, executed, and issued this official certificate at Denver, Colorado on 03/19/2024 @ 18:04:40 in accordance with applicable law. This certificate is assigned Confirmation Number 15859027 .

Jena Griswold

Secretary of State of the State of Colorado

**********End of Certificate**********

Notice: A certificate issued electronically from the Colorado Secretary of State's website is fully and immediately valid and effective. However, as an option, the issuance and validity of a certificate obtained electronically may be established by visiting the Validate a Certificate page of the Secretary of State's website, https://www.coloradosos.gov/biz/CertificateSearchCriteria.do entering the certificate's confirmation number displayed on the certificate, and following the instructions displayed. Confirming the issuance of a certificate is merely optional and is not necessary to the valid and effective issuance of a certificate. For more information, visit our website, https://www.coloradosos.gov click "Businesses, trademarks, trade names" and select "Frequently Asked Questions."

For this Record...
Filing history and documents
Get a certificate of good standing
File a form
Subscribe to email notification
Unsubscribe from email notification
Subscribe to text notification
Unsubscribe from text notification

Business Home
Business Information
Business Search

FAQs, Glossary and Information

Summary

Details			
Name	P B & S Sand and Gravel LLC		
Status	Good Standing	**Formation date**	01/23/2024
ID number	20241088581	**Form**	Limited Liability Company
Periodic report month	January	**Jurisdiction**	Colorado
Principal office street address	8245 Park Rd, Rye, CO 81069, US		
Principal office mailing address	8245 Park Rd, Rye, CO 81069, US		

Registered Agent	
Name	Mark A Ohlsen
Street address	1345 Terry Cir, Pueblo, CO 81006, US
Mailing address	1345 Terry Cir, Pueblo, CO 81006, US

Filing history and documents

Get a certificate of good standing

Get certified copies of documents

File a form

Set up secure business filing

Subscribe to email notification

Unsubscribe from email notification

Subscribe to text notification

Unsubscribe from text notification

Back

6.4.17 Exhibit Q

Proof of Mailing Notices to Board of County Commissioners and Soil Conservation District

PFM Consulting LLC

June 3, 2024

Huerfano County Commissioners
401 Main Street
Walsenburg, CO 81089

RE: Ghost River Gravel Pit

Enclosed is a notice of application for a Construction Materials (112c) Reclamation Permit with the Colorado Mined Land Reclamation Board for the operation known as the Ghost River Pit operated by P B & S Gravel LLC. The Colorado Division of Reclamation, Mining and Safety requires evidence that you received this notice. I ask that you please sign and date the box below and return via mail or email.

If additional information is necessary to complete this request, please feel free to contact me directly.

Sincerely,

Jodi Schreiber

Mobile 719-529-0916
Pfmconsultingcompany@gmail.com

The notice was received on the following date: 6/6/2024

BY: DocuSigned by: Carl Young 0180F140A78A49F...

1774 N. Cougar Drive
Pueblo West, CO 81007
(719) 529-0916
pfmconsultingcompany@gmail.com
www.pfmconsultingllc.com

PFM Consulting LLC

June 3, 2024

Upper Huerfano Conservation District
711 Walsen Ave., Suite A
Walsenburg, CO 81089

RE: Ghost River Gravel Pit

Enclosed is a notice of application for a Construction Materials (112c) Reclamation Permit with the Colorado Mined Land Reclamation Board for the operation known as the Ghost River Pit operated by P B & S Gravel LLC. The Colorado Division of Reclamation, Mining and Safety requires evidence that you received this notice. I ask that you please sign and date the box below and return via mail or email.

If additional information is necessary to complete this request, please feel free to contact me directly.

Sincerely,

Jodi Schreiber

Mobile 719-529-0916
Pfmconsultingcompany@gmail.com

The notice was received on the following date: June 3, 24

BY: Jennifer Lopez

1774 N. Cougar Drive
Pueblo West, CO 81007
(719) 529-0916
pfmconsultingcompany@gmail.com
www.pfmconsultingllc.com

Gmail **PFM Consulting <pfmconsultingcompany@gmail.com>**

Re: FW: [External Email]Gravel Permit Notification

1 message

PFM Consulting <pfmconsultingcompany@gmail.com> Thu, Jun 6, 2024 at 11:20 AM
To: "Quintana, Garrett - FPAC-NRCS, CO" <Garrett.Quintana@usda.gov>
Cc: "Lopez, Jennifer - FPAC-NRCS, CO" <JenniferJ.Lopez@co.nacdnet.net>
Bcc: PFM Consulting <pfmconsultingcompany@gmail.com>

Hello, Jennifer.

I was just checking in on the status of this. Did you receive the email? If so, could you email back to me the receipt verification that I sent?

Thank you!

Jodi Schreiber, Owner
PFM Consulting LLC
719-529-0916
pfmconsultingcompany@gmail.com

PFM Consulting Website

"Success is stumbling from failure to failure with no loss of enthusiasm."
-Winston Churchill

On Mon, Jun 3, 2024 at 8:35 AM Quintana, Garrett - FPAC-NRCS, CO <Garrett.Quintana@usda.gov> wrote:

> Jennifer,
>
> Jodi asked me to forward this to you.
>
> Garrett
>
> **From:** PFM Consulting <pfmconsultingcompany@gmail.com>
> **Sent:** Monday, June 3, 2024 7:00 AM
> **To:** Quintana, Garrett - FPAC-NRCS, CO <Garrett.Quintana@usda.gov>
> **Subject:** [External Email]Gravel Permit Notification
>
> You don't often get email from pfmconsultingcompany@gmail.com. Learn why this is important
>
> [External Email]
> If this message comes from an **unexpected sender** or references a **vague/unexpected topic;**
> Use caution before clicking links or opening attachments.
> Please send any concerns or suspicious messages to: Spam.Abuse@usda.gov

6.4.18 Exhibit R

Proof of Filing with County Clerk and Recorder

PFM Consulting LLC

June 3, 2024

Huerfano County Clerk and Recorder
401 Main Street
Walsenburg, CO 81089

RE: Ghost River Gravel Pit

Enclosed is a notice of application for a Construction Materials (112c) Reclamation Permit with the Colorado Mined Land Reclamation Board for the operation known as the Ghost River Gravel Pit operated by P B & S Gravel LLC. The Colorado Division of Reclamation, Mining and Safety requires evidence that you received this notice along with a copy of the application for public viewing. I ask that you please sign and date the box below and return via mail or email.

If additional information is necessary to complete this request, please feel free to contact me directly.

Sincerely,

Jodi Schreiber
Mobile 719-529-0916
pfmconsultingcompany@gmail.com

The notice was received on the following date: 6/4/24

BY: Erica Vig

1774 N. Cougar Drive
Pueblo West, CO 81007
(719) 529-0916
pfmconsultingcompany@gmail.com
www.pfmconsultingllc.com

6.4.14 Exhibit S

Permanent Man-made Structures

Huerfano County Road 110 and a San Isabel Power Association Power Pole are within 200 feet of the site. Structure agreements for both are enclosed for review.

An example Structure Agreement which meets the requirements of the Statutes is shown below.

Structure Agreement

This letter has been provided to you as the owner of a structure on or within two hundred (200) feet of a proposed mine site. The State of Colorado, Division of Reclamation, Mining and Safety ("Division") requires that where a mining operation will adversely affect the stability of any significant, valuable and permanent man-made structure located within two hundred (200) feet of the affected land, the Applicant shall either:

a) Provide a notarized agreement between the Applicant and the Person(s) having an interest in the structure, that the Applicant is to provide compensation for any damage to the structure; or

b) Where such an agreement cannot be reached, the Applicant shall provide an appropriate engineering evaluation that demonstrates that such structure shall not be damaged by activities occurring at the mining operation; or

c) Where such structure is a utility, the Applicant may supply a notarized letter, on utility letterhead, from the owner(s) of the utility that the mining and reclamation activities, as proposed, will have "no negative effect" on their utility. (*Construction Materials Rule 6.3.12 and Rule 6.4.19 & Hard Rock/Metal Mining Rule 6.3.12 and Rule 6.4.20)*

The Colorado Mined Land Reclamation Board ("Board") has determined that this form, if properly executed, represents an agreement that complies with Construction Materials Rule 6.3.12(a), Rule 6.4.19(a), and C.R.S. § 34-32.5-115(4)(e) and with Hard Rock/Metal Mining Rule 6.3.12(a), Rule 6.4.20(a), and C.R.S. § 34-32-115(4)(d). This form is for the sole purpose of ensuring compliance with the Rules and Regulations and shall not make the Board or Division a necessary party to any private civil lawsuit to enforce the terms of the agreement or create any enforcement obligations in the Board or the Division.

The following structures are located on or within 200 feet of the proposed affected area:

1. Please see attachedf list for poles and equipment.
2. See attached
3.
4.
5.

(Please list additional structures on a separate page)

CERTIFICATION

The Applicant, P B &S Sand and Gravel LLLC (print applicant/company name), by Patrick Steele (print representative's name), as Owner (print representative's title), does hereby certify that San Isabel Electric Association (structure owner) shall be compensated for any damage from the proposed mining operation to the above listed structure(s) located on or within 200 feet of the proposed affected area described within Exhibit A, of the Reclamation Permit Application for Ghost River Gravel Pit (operation name), File Number M-____-____.

This form has been approved by the Colorado Mined Land Reclamation Board pursuant to its authority under the Colorado Land Reclamation Act for the Extraction of Construction Materials and the Colorado Mined Land Reclamation Act for Hard Rock, Metal, and Designated Mining Operations. Any alteration or modification to this form shall result in voiding this form.

NOTARY FOR PERMIT APPLICANT

ACKNOWLEGED BY:

Applicant _____ Representative Name Patricia A. Steele

Date June 28, 2024 Title Owner

STATE OF Colorado)
) ss.
COUNTY OF Pueblo)

The foregoing was acknowledged before me this 28 day of June, 2024, by Patricia A. Steele as Owner of PB&S Sand and Gravel LLC

_____ My Commission Expires: 10/6/2026
Notary Public

JODI D SCHREIBER
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 20064001792
MY COMMISSION EXPIRES OCTOBER 6, 2026

NOTARY FOR STRUCTURE OWNER

ACKNOWLEGED BY:

Structure Owner San Isabel Electric Association Name Royce Anderson

Date April 29, 2024 Title ROW & Safety Manager

STATE OF Colorado)
) ss.
COUNTY OF Pueblo)

The foregoing was acknowledged before me this 29 day of April, 20 24, by
April as 24th of 2024

Notary Public My Commission Expires: June, 30 2026

RALPH JOHN VALDEZ JR.
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 20224025539
MY COMMISSION EXPIRES JUNE 30, 2026

San Isabel Electric

P B & S Sand & Gravel PIT EXPANSION CONFLICTS:

Poles and equipment within the 200' of proposed mine site.

Pole ID #	Lat:	Long:
30410-3	37.82374	-104.74982
30410-4	37.82448	-104.74935
30410-5	37.82521	-104.74889
30410-6	37.82590	-104.74845
30410-7	37.82662	-104.74801
30410-8	37.82739	-104.74753
30410-9	37.82815	-104.74705
30410-10	37.82892	-104.74657

Poles and equipment within the proposed mine site.

Pole ID #	Lat:	Long:
SLACK SPAN	37.82530	-104.74894
MID SPAN	37.82559	-104.74966
END POLE	37.82589	-104.750461

Date: April 29, 2024

An example Structure Agreement which meets the requirements of the Statutes is shown below.
****

Structure Agreement

This letter has been provided to you as the owner of a structure on or within two hundred (200) feet of a proposed mine site. The State of Colorado, Division of Reclamation, Mining and Safety ("Division") requires that where a mining operation will adversely affect the stability of any significant, valuable and permanent man-made structure located within two hundred (200) feet of the affected land, the Applicant shall either:

a) Provide a notarized agreement between the Applicant and the Person(s) having an interest in the structure, that the Applicant is to provide compensation for any damage to the structure; or

b) Where such an agreement cannot be reached, the Applicant shall provide an appropriate engineering evaluation that demonstrates that such structure shall not be damaged by activities occurring at the mining operation; or

c) Where such structure is a utility, the Applicant may supply a notarized letter, on utility letterhead, from the owner(s) of the utility that the mining and reclamation activities, as proposed, will have "no negative effect" on their utility. (*Construction Materials Rule 6.3.12 and Rule 6.4.19 & Hard Rock/Metal Mining Rule 6.3.12 and Rule 6.4.20)*

The Colorado Mined Land Reclamation Board ("Board") has determined that this form, if properly executed, represents an agreement that complies with Construction Materials Rule 6.3.12(a), Rule 6.4.19(a), and C.R.S. § 34-32.5-115(4)(e) and with Hard Rock/Metal Mining Rule 6.3.12(a), Rule 6.4.20(a), and C.R.S. § 34-32-115(4)(d). This form is for the sole purpose of ensuring compliance with the Rules and Regulations and shall not make the Board or Division a necessary party to any private civil lawsuit to enforce the terms of the agreement or create any enforcement obligations in the Board or the Division.

The following structures are located on or within 200 feet of the proposed affected area:

1. Huerfano County Road 110
2. _____
3. _____
4. _____
5. _____

(*Please list additional structures on a separate page*)

CERTIFICATION

The Applicant, P B &S Sand and Gravel LLLC (print applicant/company name), by Patrick Steele (print representative's name), as Owner (print representative's title), does hereby certify that Huerfano County (structure owner) shall be compensated for any damage from the proposed mining operation to the above listed structure(s) located on or within 200 feet of the proposed affected area described within Exhibit A, of the Reclamation Permit Application for Ghost River Gravel Pit (operation name), File Number M-____-____.

This form has been approved by the Colorado Mined Land Reclamation Board pursuant to its authority under the Colorado Land Reclamation Act for the Extraction of Construction Materials and the Colorado Mined Land Reclamation Act for Hard Rock, Metal, and Designated Mining Operations. Any alteration or modification to this form shall result in voiding this form.

NOTARY FOR PERMIT APPLICANT

ACKNOWLEGED BY:

Applicant _____ Representative Name Patrick A. Steele

Date June 28, 2024 Title Owner

STATE OF Colorado)
) ss.
COUNTY OF Pueblo)

The foregoing was acknowledged before me this 28 day of June, 2024 by Patrick A. Steele as Owner of PB&S Sand and Gravel LLC

_____ My Commission Expires: 10/6/26
Notary Public

JODI D SCHREIBER
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 20064001792
MY COMMISSION EXPIRES OCTOBER 6, 2026

NOTARY FOR STRUCTURE OWNER

ACKNOWLEGED BY: Dustin Hribar

Structure Owner Huerfano County Name Dustin Hribar

Date 5-20-2024 Title Road Superintendent

STATE OF Colorado)
) ss.
COUNTY OF Huerfano)

The foregoing was acknowledged before me this 20 day of May, 2024 by Dustin Hribar as Road Superintendent of Huerfano County.

Jodi D Schreiber My Commission Expires: 10/6/26
Notary Public

JODI D SCHREIBER
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 20064001792
MY COMMISSION EXPIRES OCTOBER 6, 2026

NOTICE

This site is the location of a proposed construction materials operation. P B & S Sand and Gravel LLC, whose address and phone number is 719-251-5677, has applied for a Reclamation Permit with the Colorado Mined Land Reclamation Board. Anyone wishing to comment on the application may view the application at the Huerfano County Clerk and Recorder's Office, 401 Main Street, Walsenburg, CO 81089, and should send comments prior to the end of the public comment period to the Division of Reclamation, Mining, and Safety, 1313 Sherman St, Room 215, Denver, Colorado 80203.

Certification:

I, Jodi Schreiber hereby certify that I posted a sign containing the above notice for the proposed permit area known as the Ghost River Gravel Pit, on 6/3/2024.

SIGNATURE DATE

Jodi Schreiber June 3, 2024

PROOF OF PUBLICATION AFFIDAVIT

World Journal
508 Main St.
P. O. Box 346
Walsenburg, CO 81089

I, Brian Orr, of lawful age, being duly sworn upon oath, deposes and says that I am the Publisher of the World Journal, which has a general circulation therein: that the same is a weekly publication that is a "legal newspaper" as that phrase is defined in CRS § 24-70-103 for the Cities of Walsenburg and La Veta, for the County of Huerfano, for the City of Trinidad, for the County of Las Animas, both in the State of Colorado; and for the City of Raton, the County of Colfax, in the state of New Mexico; and has been published continuously and uninterruptedly in said counties and states for a period of more than one year and for more than fifty-two consecutive weeks prior to the first publication of the annexed legal notice; that said newspaper has been admitted to the United States mail as a second-class matter under the provisions of the Act of March 3, 1879, or any amendment thereto and that said newspaper is duly qualified to publish legal notices and advertisements within the meaning of the laws of the State of Colorado and State of New Mexico; and more particularly Chapter 109, Colorado Revised Statues 1963 and amendments thereto; and Chapter 14, Article 11, Section 14-11-2, 2016 New Mexico Statutes, and amendments thereto; and that the attachment hereto contains a true and correct copy of what was actually published in said legal newspaper in consecutive issues on the following dates:

Public Notice	11 day of July	2024
" "	18 day of July	2024
" "	25 day of July	2024
" "	1 day of August	2024
	day of	2024

Publication fee: $ 79.80

Brian Orr

Publisher, Huerfano Journal

****

State of Colorado
County of Huerfano

Signed and sworn to before me this 1 **day of** August **2024.**
by Brian Orr, Publisher.

SIGLI GRETCHEN SPORLEDER ORR
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 20084042715
MY COMMISSION EXPIRES DECEMBER 26, 2024

Sigli Gretchen Sporleder Orr

Sigli Gretchen Sporleder Orr
Notary Public

My Commission expires: December 26, 2024. Commission # 20084042715

PFM Consulting LLC

July 12th, 2024

Chris A and Barbara A Dickey
5350 CO RD 110
Rye, CO 81069

Please see the public notice below:

PUBLIC NOTICE

P B & S Sand and Gravel LLC, PO Box 863, Rye, CO 81069, 719-251-5677, has filed an application for a Regular (112) Construction Materials Operation Reclamation Permit with the Colorado Mined Land Reclamation Board under provisions of the Colorado Land Reclamation Act for the extraction of Construction Materials. The mine is known as the Ghost River Gravel Pit and is located at or near Section 35, Township 35 South, Range 66 West, 6th Principal Meridian.

The proposed date of commencement is September 2024, and the proposed date of completion is September 2029. The proposed future use of the land is residential and rangeland. Additional information and tentative decision date may be obtained from the Division of Reclamation, Mining, and Safety, Room 215, 1001 E. 62nd Ave., Denver, Colorado 80216, (303) 866-3567, or at the Huerfano County Clerk and Recorder's office, 401 Main Street, Walsenburg, CO 81089, or the above-named applicant.

Comments must be in writing and must be received by the Division or Reclamation, Mining and Safety by 4:00 p.m. on August 21st, 2024.

Please note that under the provisions of C.R.S. 34-32.5-101 et seq. Comments related to noise, truck traffic, hours of operation, visual impacts, effects on property values and other social or economic concerns are issues not subject to this Office's jurisdiction. These subjects, and similar ones, are typically addressed by your local governments, rather than the Division of Reclamation, Mining, and Safety or the Mined Land Reclamation Board.

You are receiving this notice since you have a property located within 200 feet of the permit boundary, but not within the permit boundary. If you have any questions, please feel free to call, text or email me.

Thank you,

Jodi Schreiber

Jodi Schreiber
pfmconsultingcompany@gmail.com
719-529-0916

1774 N. Cougar Drive
Pueblo West, CO 81007
Phone (719) 529-0916
Fax (719) 766-8339
pfmconsultingcompany@gmail.com
www.pfmconsultingllc.com

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City, State, ZIP+4® Rye, Co 81069

PFM Consulting LLC

July 12th, 2024

Roy DII and Jennifer C Line
41439 Madrid Drive
Parker, CO 80138

Please see the public notice below:

PUBLIC NOTICE

P B & S Sand and Gravel LLC, PO Box 863, Rye, CO 81069, 719-251-5677, has filed an application for a Regular (112) Construction Materials Operation Reclamation Permit with the Colorado Mined Land Reclamation Board under provisions of the Colorado Land Reclamation Act for the extraction of Construction Materials. The mine is known as the Ghost River Gravel Pit and is located at or near Section 35, Township 35 South, Range 66 West, 6th Principal Meridian.

The proposed date of commencement is September 2024, and the proposed date of completion is September 2029. The proposed future use of the land is residential and rangeland. Additional information and tentative decision date may be obtained from the Division of Reclamation, Mining, and Safety, Room 215, 1001 E. 62nd Ave., Denver, Colorado 80216, (303) 866-3567, or at the Huerfano County Clerk and Recorder's office, 401 Main Street, Walsenburg, CO 81089, or the above-named applicant.

Comments must be in writing and must be received by the Division or Reclamation, Mining and Safety by 4:00 p.m. on August 21st, 2024.

Please note that under the provisions of C.R.S. 34-32.5-101 et seq. Comments related to noise, truck traffic, hours of operation, visual impacts, effects on property values and other social or economic concerns are issues not subject to this Office's jurisdiction. These subjects, and similar ones, are typically addressed by your local governments, rather than the Division of Reclamation, Mining, and Safety or the Mined Land Reclamation Board.

You are receiving this notice since you have a property located within 200 feet of the permit boundary, but not within the permit boundary. If you have any questions, please feel free to call, text or email me.

Thank you,

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Postage $ .68	
Total Postage and Fees $ 8.73	

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JUL 11 2024

Sent To Line

Street and Apt. No., or PO Box No. 4439 Madrid Drive

City, State, ZIP+4® Pueblo CO 81008

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

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- Print your name and address on the reverse so that we can return the card to you.
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1. Article Addressed to:

Roy & Jennifer Line
41439 Madrid Drive
Parker, CO 80138

9590 9402 5705 9346 2691 65

2. Article Number *(Transfer from service label)*

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COMPLETE THIS SECTION ON DELIVERY

A. Signature

X

☐ Agent
☐ Addressee

B. Received by *(Printed Name)*

C. Date of Delivery

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- ☐ Signature Confirmation™
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(over $500)

PFM Consulting LLC

July 12th, 2024

Sean M Villard
37181 Soaring Eagle Circle
Severance, CO 80555

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☐ Return Receipt (electronic)	$
☐ Certified Mail Restricted Delivery	$
☐ Adult Signature Required	$
☐ Adult Signature Restricted Delivery	$
Postage $	68
Total Postage and Fees $	8.73

Pueblo, CO 81001
JUL 11 2024
USPS

Postmark Here

Sent To Villard

Street and Apt. No., or PO Box No. 37181 Soaring Eagle Circle

City, State, ZIP+4® Severance, CO 80550

PS Form 3800, April 2015

7022 0410 0000 5536 1621

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Sean Villard
37181 Soaring Eagle Circle
Severance, CO 80555

9590 9402 5705 9346 2691 96

2. Article Number (Transfer from service label)

7022 0410 0000 5536 1921

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X Christine Villard

☐ Agent
☐ Addressee

B. Received by *(Printed Name)*

Christine Villard

C. Date of Delivery

7/20/24

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type

- ☐ Adult Signature
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- ☐ Certified Mail Restricted Delivery
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- ☐ Collect on Delivery Restricted Delivery
- ☐ Mail
- ☐ Mail Restricted Delivery
- (over $500)
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- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

HOLD TO LIGHT TO VIEW TRUE WATERMARK IN PAPER. HEAT SENSITIVE RED LOCK DISAPPEARS WHEN HEATED

1153

PFM Consulting LLC

1774 N. Cougar Drive
Pueblo West, CO 81007

DATE June 7, 2024

82-7000/3070

PAY TO THE ORDER OF Colorado Division of Reclamation, Mining & Safety $ 2,696.00

Two thousand, six hundred, ninety six and 00/100 DOLLARS

ENT CREDIT UNION
COLORADO SPRINGS, CO 80935-5819

FOR Ghost River Gravel Pit Application fee
M-2024-029
Rec# 47737

[redacted]

MP

Details on back. Security Features

Division of Reclamation, Mining, and Safety

Fee Receipt for M2024029

P B & S Sand and Gravel LLC
Jordan Power
P.O. Box 863

Rye CO 810690000

Receipt #: 47737
Date: 06/17/2024
Permit: M2024029

Payment Method	Revenue Code	Fee Description/Notes	Amount
Check #1153	4300-MAPP	Minerals Application Fees User: AHD Payer: PFM Consulting LLC	$2,696.00
		Receipt Total:	**$2,696.00**

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1 From
Date 6/8/24
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Company PFM CONSULTING LLC
Address 1774 N COUGAR DR Dept./Floor/Suite/Room
City PUEBLO State CO ZIP 81007-1227

2 Your Internal Billing Reference

3 To
Recipient's Name Phone
Company Colorado DRMS
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Hold Saturday
FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

Monday unless Saturday Delivery is selected.

FedEx Priority Overnight
Next business morning.* Friday shipments will be delivered on Monday unless Saturday Delivery is selected.

FedEx Standard Overnight
Next business afternoon.* Saturday Delivery NOT available.

FedEx 2Day
Second business afternoon.* Thursday shipments will be delivered on Monday unless Saturday Delivery is selected.

FedEx Express Saver
Third business day.* Saturday Delivery NOT available.

5 Packaging *Declared value limit $500.
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6 Special Handling and Delivery Signature Options Fees may apply. See the FedEx Service Guide.
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No Signature Required
Package may be left without obtaining a signature for delivery.
Direct Signature
Someone at recipient's address may sign for delivery.
Indirect Signature
If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only.

Does this shipment contain dangerous goods?
One box must be checked.
No
Yes As per associated Shipper's Declaration.
Yes Shipper's Declaration not required.
Dry Ice Dry Ice, 9, UN 1845 ____ x ____ kg
Restrictions apply for dangerous goods — see the current FedEx Service Guide.
Cargo Aircraft Only

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COLORADO
Division of Water Resources
Department of Natural Resources

Response to Reclamation Permit Application Consideration

DATE: July 19, 2024

TO: Amber Gibson

CC: Division 2 Office; District 79 Water Commissioner

FROM: Katharine Anderson

RE: Ghost River Gravel Pit, File No. M-2024-029
Operator: P B & S Gravel, LLC
Contact: Jodi Schreiber, (719) 529-0916
Sec. 35, Twp. 25S, Rng. 66W, 6th P.M., Huerfano County

CONDITIONS FOR APPROVAL

☒ The proposed operation does not anticipate exposing groundwater. Therefore, exposure of ground water must not occur during or after mining operations.

☒ If storm water is contained on-site, the applicant should be aware that, unless the storm water detention structures can meet the requirements of a "storm water detention and infiltration facility" as defined in section 37-92-602(8), Colorado Revised Statutes, the structure may be subject to administration by this office. The applicant should review DWR's *Administrative Statement Regarding the Management of Storm Water Detention Facilities and Post-Wildland Fire Facilities in Colorado* (available at: http://water.state.co.us/DWRIPub/Documents/DWR%20Storm%20Water%20Statement.pdf) to ensure that the notification, construction and operation of the proposed structure meets statutory and administrative requirements. The applicant is encouraged to use *Colorado Stormwater Detention and Infiltration Facility Notification Portal*, located online at: https://maperture.digitaldataservices.com/gvh/?viewer=cswdif, to meet the notification requirements.

☒ Other: All water used on-site shall be a legal supply of water provided by an appropriate supplier. The applicant shall confirm the legality of any proposed source of water supply with the Division of Water Resources prior to use in the operation.

COMMENTS: The local Deputy Water Commissioner, Lenna Rauber, may be contacted at 719-568-0489 or Lenna.Rauber@state.co.us regarding legal water supplies in the area.

COLORADO
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