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# TOPSOIL PROTECTION PLAN

**GMT** EXPLORATION COMPANY LLC

**Ragged 6-64 4 Pad**

Sec. 4 T6S R64W Lot 1

Elbert County, Colorado

Surface: Fee

Submitted as an accompaniment to the Form 2A Application,  
Topsoil Protection Plan is consistent with the requirements of Rule 1002.c.

October 19, 2022

# GMT Exploration Company LLC Elbert County, Colorado

## Topsoil Protection Plan

### **Project Summary:**

GMT Exploration Company LLC's (GMT's) proposed Ragged 6-64 4 Pad "Location" is located in Township 6 South Range 64 West of Section 4 in Elbert County, Colorado. The proposed location is on fee surface with a total Location disturbance of 15.898 acres which includes the active working pad surface area of 9.055 acres. During interim reclamation and production phase 8.919 acres will be reclaimed leaving a disturbed production area of 6.979 acres. Construction is anticipated to begin no sooner than January 2023.

### **Purpose:**

Topsoil protection and stabilization is key to successful reclamation. The objective of GMT's topsoil protection and stabilization is to ensure as much topsoil can remain intact with minimal erosions caused by wind, storm events, traffic, and other activities that might cause topsoil erosion or degradation. Good topsoil protection and stabilization ensures successful reclamation and the restoration of the natural vegetative community, hydrology, and wildlife habitats. Salvaging and reuse of all topsoil in a timely manner will not only maintain viable topsoil but will allow for successful reclamation. Best Management Practices (BMPs), where applicable, mixed with other protection and stabilization measures ensure topsoil is maintained in its best condition to be used for both interim and final reclamation.

In areas that are disturbed by construction, topsoil will be stripped and stockpiled near the site. All brush, limbs, and other woody material will be stockpiled separately from the topsoil. Soil materials will be managed so that erosion and sediment transport are minimized.

### **Ragged 6-64 4 Location:**

Topsoil will be monitored throughout all phases of the oil and gas development project, including construction, production, and reclamation. The surrounding topography is relatively flat. As construction progresses, BMPs will be assessed, installed, and/or replaced as needed.

During active construction and development the following BMPs will be implemented on the Ragged 6-64 4 Location:

- Sediment basins will be installed on the northeast corner and on the west side of the wellpad. Please see the attachments.
- Sediment control logs will be installed around both topsoil stockpiles, on the northwest corner, and on the southeast corner of the wellpad.
- Diversion ditches will be installed around the perimeter of the Location directing water to the sediment basins diverting water away from the working pad surface.
- One (1) 18" culvert will be placed at the proposed access road into the wellpad.
- Rip-Rap aprons will be placed on the outlet of the sediment basins to filter all runoff.

- Berms will be placed around the northwest corner, north side, east side, southeast corner and the southwestern side of the wellpad to control run on and run off of water onto the Location.
- During construction and development topsoil stockpiles should not exceed 3:1 (horizontal:vertical) to minimize erosion potential and facilitate interim stabilization.
- Seeding and mulching on the western portion of the location will occur during interim reclamation to minimize the disturbed area to protect the topsoil and negate additional soil erosion.
- A portion of the topsoil stockpile will be seeded and mulched and used in final reclamation.
- The construction area is 15.898 acres. Please see wellsite diagrams. Two (2) topsoil stockpiles will be placed on the north end of the cleared pad and the total will be approximately 17,940 CY.

APPROXIMATE EARTHWORK QUANTITIES	
(12") TOPSOIL STRIPPING	17,940 Cu. Yds.
REMAINING LOCATION	43,800 Cu. Yds.
<b>TOTAL CUT</b>	<b>61,740 Cu. Yds.</b>
<b>FILL</b>	<b>43,800 Cu. Yds.</b>
EXCESS MATERIAL	17,940 Cu. Yds.
TOPSOIL	17,940 Cu. Yds.
<b>EXCESS UNBALANCE</b>	<b>0 Cu. Yds.</b>

- Gravel will be installed on the wellpad and access road. Any area not needed for production activities will be interim reclaimed.
- Topsoil stockpiled for more than six months will be seeded and mulched with a temporary grass cover or will be stabilized using structural and/or non-structural control measures.

Bresser, cool, Nunn, Renohill, similar soils, and minor components are present at the site and along the access road.

**Bresser Sandy Loam, cool**

- Soils are comprised of 85% of Bresser, cool and similar soils and 15% of minor components; drainage class is "Well Drained" with a (0.60 to 6.00 in/hr) capacity to transmit water; loamy coarse sand can be found anywhere from 80" or more in depth.

**Typical profile**

*Ap - 0 to 5 inches: sandy loam*

*Bt1 - 5 to 8 inches: sandy loam*

*Bt2 - 8 to 27 inches: sandy clay loam*

*Bt3 - 27 to 36 inches: sandy loam*

*C - 36 to 80 inches: loamy coarse sand*

### **Nunn Clay Loam**

- Soils are comprised of 85% of Nunn and similar soils and 15% of minor components; drainage class is “Well Drained” with a (0.60 to 0.20 in/hr) capacity to transmit water; clay loam can be found anywhere from 47- 80” or more in depth.

#### **Typical profile**

*A - 0 to 6 inches: clay loam*

*Bt - 6 to 18 inches: clay*

*Btk - 18 to 30 inches: clay*

*Bk - 30 to 47 inches: clay loam*

*BCK - 47 to 80 inches: clay loam*

### **Renohill Clay Loam**

- Soils are comprised of 80% of Renohill and similar soils and 20% of minor components; drainage class is “Well Drained” with a (0.60 to 0.20 in/hr) capacity to transmit water; unweathered bedrock can be found anywhere from 24- 28” or more in depth.

#### **Typical profile**

*H1 - 0 to 2 inches: clay loam*

*H2 - 2 to 14 inches: clay*

*H3 - 14 to 24 inches: clay loam*

*H4 - 24 to 28 inches: unweathered bedrock*

Reference area was determined by wellpad disturbance limits with predominant plant species based on observation and NRCS data. The groundcover is 76% and was determined by observation during a site visit.

### **General Construction Guidelines for Producing Wells**

Wellpad and access road construction will be performed using conventional cut and fill construction. GMT will begin with the clearing of vegetation and removal of available topsoil material to a depth of 12 inches or maximum available. Basic construction activities conducted during this phase include clearing and grubbing, grading and excavation, compaction, final grading and contouring, and installation of surfacing materials such as gravel or road-base.

To the extent feasible, surface vegetation would be cleared by mowing, raking, and burning in preference to scraping to facilitate topsoil protection and stabilization and reclamation potential. If removed, topsoil will be windrowed on either side of the alignment adjacent to the construction limits as staked. Upon commencement of road construction, the topsoil will be replaced in the borrow ditches. Removed soil and overburden would be stored for reclamation purposes. No removed soil or overburden would be pushed into drainages or stored where transport into drainages could occur.

The wellpad would be constructed of native materials with application of gravel as required to allow all-weather operations, and the topsoil pile will be clearly separated. Topsoil not needed for interim reclamation on wellpad with favorable wells will be seeded and crimped with straw to promote vegetative growth until final reclamation. The seed mix planned to be utilized for the Ragged 6-64 4 location will be provided after consultation with the surface owner.

Following drilling and completion activities, the location will be reduced, thus minimizing the area of disturbance for the production life of the well. The location will be recontoured, topsoil reapplied, and the reduced area stabilized with seed, hydro-seed, bonded fiber matrix, mulch, etc. as deemed appropriate for the site.

- To negate topsoil erosion from storm events, the first site inspection must be completed within seven (7) calendar days of the commencement of construction activities.
- Active construction sites will be inspected at one of the two following frequencies:
  - At least one inspection every 7 calendar days;
  - At least one inspection every 14 calendar days, if post-storm event inspections are conducted within 24 hours after the end of any precipitation or snowmelt event that causes surface erosion. Note that post-storm inspections may be used to fulfill the 14-day routine inspection requirement.

The location may be recontoured, topsoil reapplied, and the reduced area stabilized with seed, hydro-seed, bonded fiber matrix, mulch, etc. as deemed appropriate for the site. The borrow ditches will be reseeded to promote topsoil stabilization and will reduce the area utilized by this location.

Topsoil would be segregated from cut areas for use in reclamation.

Salvaging and spreading topsoil will not be performed when the ground or topsoil is frozen or too wet to adequately support construction equipment. If such equipment creates ruts more than four inches deep, the soil will be deemed too wet.

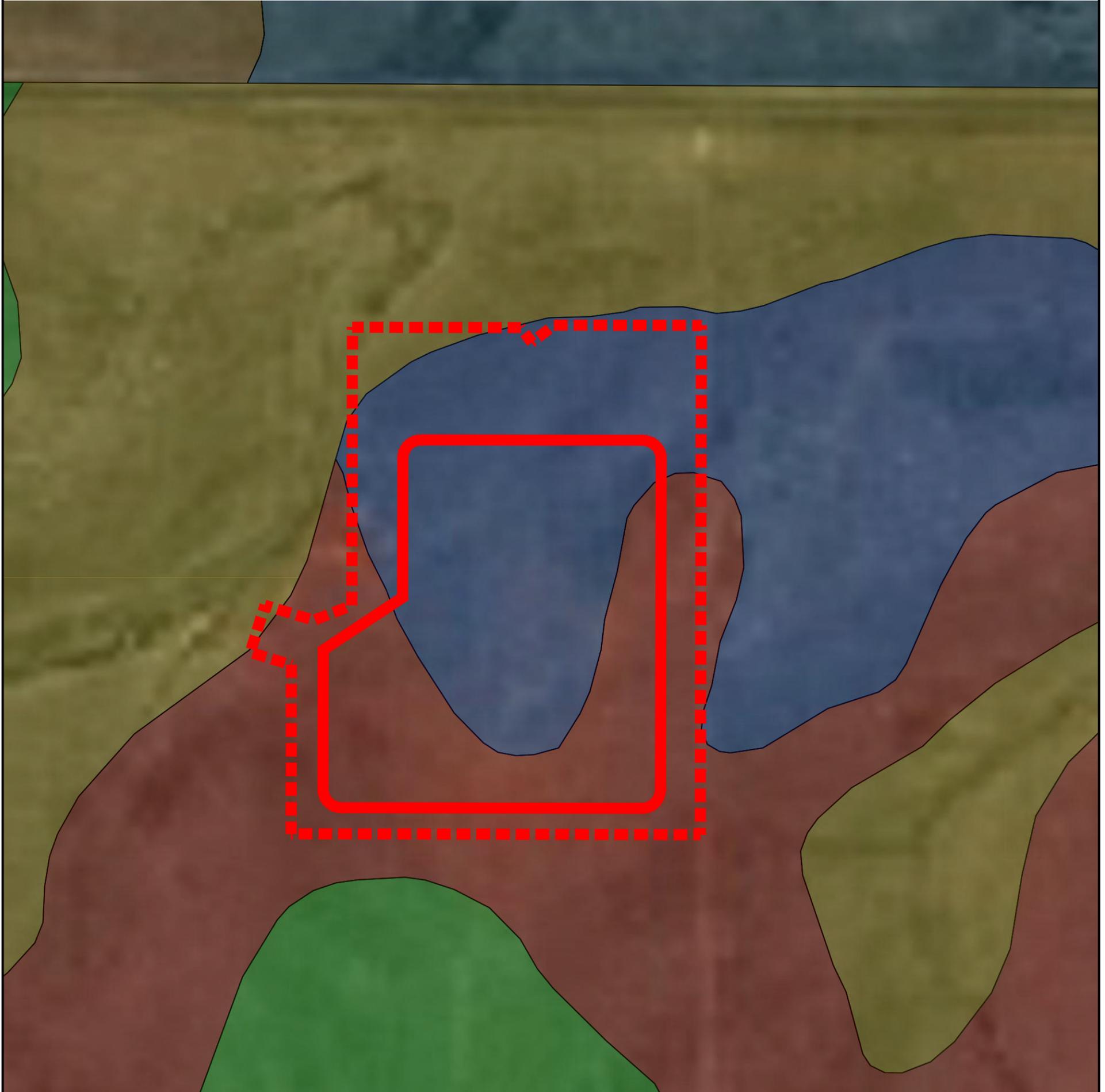
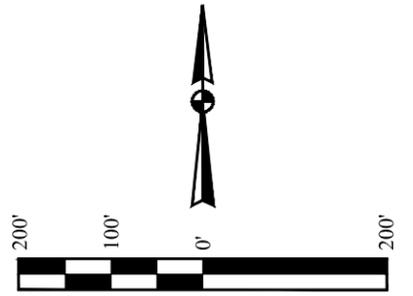
Test pits for topsoil determination will be hand dug to a depth of one-foot or less. Topsoil in this area is not expected to exceed 12-inches.

**Additional Best Management Practices that may be used for General Topsoil Protection and Stabilization:**

- Employee Training
- Seeding
- Mulching
- Mulch Tackifier
- Soil Binder
- Construction Phasing/Sequencing
- Rock Sock
- Rolled Erosion Control Products
- Silt Fence
- Stockpile Management
- Erosion Bale
- Grading Techniques
- Surface Roughening
- Berm/Diversion
- Temporary Drainage Swale
- Temporary and Permanent Seeding
- Terracing
- Vegetative Buffer
- Wind Erosion/Dust Control
- Tarps
- Soil Tackifier
- Hydro-Seed

**LEGEND**

- = OIL & GAS LOCATION
- = WORKING PAD SURFACE
- = RENOHILL CLAY LOAM 4 TO 8 PERCENT SLOPES (6.907 ACRES)
- = NUNN CLAY LOAM 0 TO 3 PERCENT SLOPES (0.000 ACRES)
- = BRESSER SANDY LOAM 4 TO 8 PERCENT SLOPES (8.566 ACRES)
- = NUNN CLAY LOAM 0 TO 4 PERCENT SLOPES (0.425 ACRES)
- = BRESSER-STALETON SANDY LOAMS 9 TO 20 PERCENT SLOPES (0.000 ACRES)
- = BRESSER-STALETON SANDY LOAMS 8 TO 25 PERCENT SLOPES (0.000 ACRES)



**GMT EXPLORATION COMPANY, LLC**

**RAGGED 6-64 4 PAD  
LOT 1, SECTION 4, T6S, R64W, 6th P.M.  
ELBERT COUNTY, COLORADO**

<b>SURVEYED BY</b>	ORION RICE, J.W.	05-10-22	<b>SCALE</b>
<b>DRAWN BY</b>	K.C.	06-06-22	1" = 200'

**SOILS SITE DIAGRAM**



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