



Caerus Piceance LLC
1001 Seventeenth Street
Suite 1600
Denver, CO 80202

July 1, 2022

Mr. Aaron Trujillo
Oil and Gas Reclamation Specialist
Colorado Oil and Gas Conservation Commission
Area 148
818 Taughenbaugh Blvd. Suite 103
Rifle, CO 81650

**RE: COGCC Field Inspection Form Document # 696203716
BJU B26-496 Well Pad, NENW, Section 26, T4S R96W, Garfield County, Colorado
COGCC Location ID: 479149**

Dear Mr. Trujillo,

Caerus Piceance LLC (Caerus) is providing this cover letter in response to the COGCC Field Inspection Form (FIR) Document # 696203716 dated May 22, 2022. The COGCC corrective action states, "Operator shall submit documentation (calculations, figures, etc.) showing the topsoil depths over the entire disturbance area prior to construction operations, methods used to determine topsoil depth, the actual depth Operator salvaged to, and justifications as to why Operator salvaged to that depth, Operator shall also include the total amount of topsoil (cubic yards) that was salvaged, and figures showing where the material is stored. Operator shall submit documentation to Reclamation Specialist attached to a Form 4 sundry."

Uintah Engineering and Land Surveying, (UELS) completed the Construction Layout and Cross Sections on March 9, 2020. In 2020, UELS used soil surveys, historical construction data, and field data collected at the time of staking, to estimate that there was approximately 5,960 CY of available topsoil on the B26 496. These diagrams and estimates were submitted and approved in the 2A process.

Caerus hired Moody Construction to build the B26 496 well pad. Moody is an experienced and well qualified earthwork construction contractor that has built many locations in the Piceance Basin. In-field confirmation of available topsoil is completed during the topsoil stripping process. The excavation operator bases his determination of soil horizons on multiple factors. Factors include, but are not limited to, survey data and initial calculations provided in construction plats; the orientation of the slope (northern facing slopes have more topsoil than south facing slopes; east and west orientations likewise have distinct topsoil depths and characteristics.); distinct color change between topsoil and the shale particulate and sandstone substrata; conglomerate or rocky material; and the location and depths at which roots exist. In removing as much topsoil as is practicable, the operator must be careful not to contaminate that topsoil with subsoils, so removal of 100% of the topsoil may not be practically achievable. The amount of topsoil removed across the location varied depending on the aforementioned characteristics. Moody is confident that they had collected all available topsoil on the B26 496. Moody also provides reclamation services and fully understands how critical topsoil management is for achieving successful interim and final



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reclamation. Caerus provided the process for topsoil collection in an initial response (Form 4 Document # 402809772) to COGCC FIR Document # 696203131.

After receiving additional guidance on May 23, 2022 (email correspondence between Mrs. Cowden and Mr. Trujillo), Caerus employed KLJ Engineering (KLJ), to collect the additional information regarding the amount of topsoil salvaged. KLJ conducted a field assessment to calculate the as-built volume of the segregated topsoil piles associated with the B26-496. The topsoil volumes were calculated using 3-D surfaces within AutoCAD Civil 3D. The elevation data for the surfaces was generated using the drone photogrammetry software Propeller. Propeller's AeroPoints were used to establish ground control. The Propeller generated surface and aerial images of the constructed pad were imported into AutoCAD Civil 3D and used to determine the limits of the topsoil piles. KLJ estimates that the total topsoil volume of the four piles associated with the BJU B26 is 8,070 cubic yards. The full report with calculations and a site diagram can be found in Attachment A.

This letter is being submitted with a Form 4 sundry as requested in the corrective action. If you have any questions or need additional information, please contact me at 970-456-3229.

Sincerely,

Lindsey Rider

Lindsey Rider
EHS Manager

- Attachment A – KLJ Engineering – BJU B26 496 Pad Topsoil Volume

Attachment A



1601 Riverfront Dr, Ste 204
Grand Junction, CO 81501-3829
970 450 7474
KLIENG.COM

Memorandum

Date: 6/9/2022
To: Matt Fenton
Copy to: Lindsey Rider
From: Marc Kenney
RE: BJU B26 Pad Topsoil Volume

The purpose of this memorandum is to provide Caerus with the as-built volume of the topsoil piles associated with the BJU B26 Pad and an explanation of how those volumes were derived.

Methodology

The topsoil volumes were calculated using 3-D surfaces within AutoCAD Civil 3D. The elevation data for the surfaces was generated using the drone photogrammetry software Propeller. Propeller's AeroPoints were used to establish ground control. The Propeller generated surface and aerial images of the constructed pad were imported into AutoCAD Civil 3D and used to determine the limits of the topsoil piles.

Assumptions

1. The surface is created from a "point-cloud" of data. The contours show vegetation, equipment, buildings, etc.. The generated surface has the highest relative accuracy in areas free of vegetation or other obstructions (such as soil stockpiles).
2. The existing surface, i.e. the bottom of the pile, was assumed to be a straight grade between the toe of slopes around the pile.

Results

Four piles were evaluated:

1. The topsoil pile along the western and northern edge of the pad between the pad and access road. The estimated volume of this pile is 2,640 cubic yards.
2. The topsoil pile along the north, east, and soil edge of the pad up against the limits of disturbance. The estimated volume of this pile is 4,740 cubic yards.
3. The topsoil pile between the B26 and F26 pads to the south. The estimated volume of this pile is 240 cubic yards.
4. The topsoil pile located southwest of the southwest corner of the B26 cutting's pit. The estimated volume of this pile is 450 cubic yards.

The total topsoil volume of the four piles associated with the BJU B26 is 8,070 cubic yards. The location and volume of the topsoil piles are shown on the attached figure. Please feel free to reach out with any questions or concerns.

Sincerely,

Marc J. Kenney, PE 41215

A handwritten signature in blue ink, appearing to read 'Marc J. Kenney', written over a light blue horizontal line.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

A
B
C
D
E
F
G
H
J

BJU B26 FED 496 PAD
TOPSOIL PILES SURVEY
SEC. 26, T4S, R96W, 5TH P.M.
GARFIELD COUNTY, COLORADO

TOPSOIL PILE
(4,740 CY)

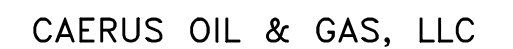
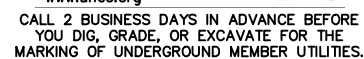
TOPSOIL PILE
(2,640 CY)

TOPSOIL PILE
(240 CY)

50 0 50 100
scale 1" = 100' feet

N

Detailed description: This is an aerial photograph of a large, cleared area, likely a construction or reclamation site. The area is divided into several sections by a network of roads and tracks. Three specific areas are highlighted with black outlines and labeled as 'TOPSOIL PILE'. The largest pile, located in the upper right, is labeled '(4,740 CY)'. A second pile, located in the lower left, is labeled '(2,640 CY)'. A third, smaller pile, located in the lower right, is labeled '(240 CY)'. The ground is mostly light-colored, suggesting bare soil or sand, with some darker patches of vegetation or debris. Several vehicles, including trucks and cars, are visible on the roads and tracks. A scale bar and a north arrow are located in the bottom right corner of the image.



BJU B26 FED 496 PAD

TOPSOIL STOCKPILE SURVEY

DRAWN BY: MB		DESIGN BY: MB		CHECKED BY: MK		APPRVD BY: MK		DATE: 02/22		SCALE: AS SHOWN	
SIZE 11X17	DRAWING No. 2107-00252.19			CAERUS DRAWING No.							
				SHEET 1 REV A							