

**mtwele@outlook.com**

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**From:** Kautz, Paul, EMNRD <paul.kautz@emnrd.nm.gov>  
**Sent:** Wednesday, September 18, 2024 1:23 PM  
**To:** Meghan Twele  
**Cc:** John Harper  
**Subject:** RE: [EXTERNAL] RE: EMERALD 505H APD

After talking with Ward Rikala, he approved my suggestion. What I will do is attach the new change of location to the APD and add a COA to the APD stating that the well can not be spudded until the BLM has approved the change of plans and the change has also been submitted and approved by the OCD.

Paul Kautz  
Petroleum Specialist  
Hobbs Field Office Geologist  
Energy Minerals Natural Resources Dept.  
Oil Conservation Division  
1625 N. French Dr.  
Hobbs, NM 88240  
Cell # 575-602-4493

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**From:** Meghan Twele <mtwele@outlook.com>  
**Sent:** Wednesday, September 18, 2024 12:04 PM  
**To:** Kautz, Paul, EMNRD <paul.kautz@emnrd.nm.gov>  
**Cc:** John Harper <john@avantnr.com>  
**Subject:** [EXTERNAL] RE: EMERALD 505H APD

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

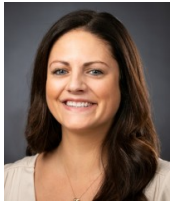
Hi Paul,

I'm not sure how to handle this scenario. We have an APD change sundry submitted to the BLM for the Emerald 505H attached (Name change/SHL/BHL/Dedicated Acreage/CTB) but it's still being approved, and we cannot submit the changes to OCD without an approved APD on file. Have you encountered this before? Is there a way to make an exception to approve with COAs stating "Approved with condition that APD change sundry will be submitted to update SHL, etc"? These wells were acquired from Legacy, so we are having to update to Avant drilling plans.

Please let us know how to proceed.



**Meghan Twele**  
**Contract Regulatory Analyst**  
1515 Wynkoop Street, Suite 700 | Denver, CO |  
80202  
[www.avantnr.com](http://www.avantnr.com)



**Owner—DNVR Regulatory Services, LLC**

Email: [mtwele@outlook.com](mailto:mtwele@outlook.com)

Phone: 720-339-6880

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**From:** Kautz, Paul, EMNRD <[paul.kautz@emnrd.nm.gov](mailto:paul.kautz@emnrd.nm.gov)>

**Sent:** Wednesday, September 18, 2024 11:33 AM

**To:** Meghan Twele <[mtwele@outlook.com](mailto:mtwele@outlook.com)>

**Subject:** EMERALD 505H APD

Hi Meghan,

The C-103A that I approved for the Emerald 514H 30-025-50997 did not have a change of surface location. As a result, I still cannot approve the 505H APD because the 514H and 505H have the same surface location.

Paul Kautz  
Petroleum Specialist  
Hobbs Field Office Geologist  
Energy Minerals Natural Resources Dept.  
Oil Conservation Division  
1625 N. French Dr.  
Hobbs, NM 88240  
Cell # 575-602-4493

**Well Name:** EMERALD FEDERAL COM

**Well Location:** T19S / R33E / SEC 6 / SWSE / 32.68305 / -103.697928

**County or Parish/State:** LEA / NM

**Well Number:** 505H

**Type of Well:** OIL WELL

**Allottee or Tribe Name:**

**Lease Number:** NMNM077002

**Unit or CA Name:**

**Unit or CA Number:**

**US Well Number:**

**Operator:** AVANT OPERATING LLC

### Notice of Intent

**Sundry ID:** 2807464

**Type of Submission:** Notice of Intent

**Type of Action:** APD Change

**Date Sundry Submitted:** 08/19/2024

**Time Sundry Submitted:** 03:20

**Date proposed operation will begin:** 03/01/2025

**Procedure Description:** Avant Operating, LLC would like to make the following changes to the Emerald Federal Com 505H well (APD ID#10400084367, API# 30-025-53574). Avant acquired this APD from Legacy Reserves Operating, LP and the change of operator was approved on 8/14/2024. -Name change from Emerald Federal Com 505H to Emerald Fed Com 515H -SHL change from 350' FSL & 1280' FEL to 350' FSL & 1260' FEL. -BHL change from 100' FNL & 1320 FEL to 100' FNL & 1254' FEL. -Update dedicated acreage to 1302.98 -Updated CTB info. CTB was moved to avoid lizard habitat, revised CTB being approved with new Avant APD for Emerald Federal Com 304H (10400099668) Please see all updated attachments to reflect these changes.

### NOI Attachments

**Procedure Description**

Emerald\_Federal\_Com\_515H\_C\_102\_\_cert\_9\_25\_24\_\_20250113130602.pdf

Emerald\_Pad\_2\_Updated\_CTB\_\_SUPO\_20240819151518.pdf

Emerald\_Fed\_Com\_515H\_Updated\_Drilling\_Info\_20240819151430.pdf

Well Name: EMERALD FEDERAL COM

Well Location: T19S / R33E / SEC 6 / SWSE / 32.68305 / -103.697928

County or Parish/State: LEA / NM

Well Number: 505H

Type of Well: OIL WELL

Allottee or Tribe Name:

Lease Number: NMNM077002

Unit or CA Name:

Unit or CA Number:

US Well Number:

Operator: AVANT OPERATING LLC

Conditions of Approval

Additional

6\_19\_33\_P\_Sundry\_ID\_2807464\_Emerald\_Federal\_Com\_505H\_20250121095905.pdf

Operator

I certify that the foregoing is true and correct. Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction. Electronic submission of Sundry Notices through this system satisfies regulations requiring a

Operator Electronic Signature: MEGHAN TWELE

Signed on: JAN 13, 2025 01:13 PM

Name: AVANT OPERATING LLC

Title: Contract Regulatory Analyst

Street Address: 1515 WYNKOOP ST SUITE 700

City: DENVER

State: CO

Phone: (720) 339-6880

Email address: MTWELE@OUTLOOK.COM

Field

Representative Name:

Street Address:

City:

State:

Zip:

Phone:

Email address:

BLM Point of Contact

BLM POC Name: CHRISTOPHER WALLS

BLM POC Title: Petroleum Engineer

BLM POC Phone: 5752342234

BLM POC Email Address: cwalls@blm.gov

Disposition: Approved

Disposition Date: 01/21/2025

Signature: Chris Walls

Form 3160-5  
(June 2019)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OMB No. 1004-0137  
Expires: October 31, 2021

**SUNDRY NOTICES AND REPORTS ON WELLS**  
**Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.**

<b>SUBMIT IN TRIPLICATE - Other instructions on page 2</b>		5. Lease Serial No.
1. Type of Well <input type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other		6. If Indian, Allottee or Tribe Name
2. Name of Operator		7. If Unit of CA/Agreement, Name and/or No.
3a. Address	3b. Phone No. (include area code)	8. Well Name and No.
4. Location of Well (Footage, Sec., T.,R.,M., or Survey Description)		9. API Well No.
		10. Field and Pool or Exploratory Area
		11. Country or Parish, State

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Hydraulic Fracturing	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input type="checkbox"/> Other
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.)

14. I hereby certify that the foregoing is true and correct. Name (Printed/Typed)	
	Title
Signature	Date

**THE SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved by		
	Title	Date
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.		Office

Title 18 U.S.C Section 1001 and Title 43 U.S.C Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

## GENERAL INSTRUCTIONS

This form is designed for submitting proposals to perform certain well operations and reports of such operations when completed as indicated on Federal and Indian lands pursuant to applicable Federal law and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local area or regional procedures and practices, are either shown below, will be issued by or may be obtained from the local Federal office.

## SPECIFIC INSTRUCTIONS

*Item 4* - Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult the local Federal office for specific instructions.

*Item 13*: Proposals to abandon a well and subsequent reports of abandonment should include such special information as is required by the local Federal office. In addition, such proposals and reports should include reasons for the abandonment; data on any former or present productive zones or other zones with present significant fluid contents not sealed off by cement or otherwise; depths (top and bottom) and method of placement of cement plugs; mud or other material placed below, between and above plugs; amount, size, method of parting of any casing, liner or tubing pulled and the depth to the top of any tubing left in the hole; method of closing top of well and date well site conditioned for final inspection looking for approval of the abandonment. If the proposal will involve **hydraulic fracturing operations**, you must comply with 43 CFR 3162.3-3, including providing information about the protection of usable water. Operators should provide the best available information about all formations containing water and their depths. This information could include data and interpretation of resistivity logs run on nearby wells. Information may also be obtained from state or tribal regulatory agencies and from local BLM offices.

## NOTICES

The privacy Act of 1974 and the regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.

AUTHORITY: 30 U.S.C. 181 et seq., 351 et seq., 25 U.S.C. 396; 43 CFR 3160.

PRINCIPAL PURPOSE: The information is used to: (1) Evaluate, when appropriate, approve applications, and report completion of subsequent well operations, on a Federal or Indian lease; and (2) document for administrative use, information for the management, disposal and use of National Resource lands and resources, such as: (a) evaluating the equipment and procedures to be used during a proposed subsequent well operation and reviewing the completed well operations for compliance with the approved plan; (b) requesting and granting approval to perform those actions covered by 43 CFR 3162.3-2, 3162.3-3, and 3162.3-4; (c) reporting the beginning or resumption of production, as required by 43 CFR 3162.4-1(c) and (d) analyzing future applications to drill or modify operations in light of data obtained and methods used.

ROUTINE USES: Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions in connection with congressional inquiries or to consumer reporting agencies to facilitate collection of debts owed the Government.

EFFECT OF NOT PROVIDING THE INFORMATION: Filing of this notice and report and disclosure of the information is mandatory for those subsequent well operations specified in 43 CFR 3162.3-2, 3162.3-3, 3162.3-4.

The Paperwork Reduction Act of 1995 requires us to inform you that:

The BLM collects this information to evaluate proposed and/or completed subsequent well operations on Federal or Indian oil and gas leases.

Response to this request is mandatory.

The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

**BURDEN HOURS STATEMENT:** Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0137), Bureau Information Collection Clearance Officer (WO-630), 1849 C St., N.W., Mail Stop 401 LS, Washington, D.C. 20240

## Additional Information

### Location of Well

0. SHL: SWSE / 350 FSL / 1280 FEL / TWSP: 19S / RANGE: 33E / SECTION: 6 / LAT: 32.68305 / LONG: -103.697928 ( TVD: 0 feet, MD: 0 feet )

PPP: SENE / 0 FSL / 1320 FWL / TWSP: 18S / RANGE: 33E / SECTION: 31 / LAT: 32.7046 / LONG: -103.698 ( TVD: 9700 feet, MD: 18200 feet )

PPP: SESE / 100 FSL / 1320 FWL / TWSP: 19S / RANGE: 33E / SECTION: 6 / LAT: 32.682363 / LONG: -103.698 ( TVD: 9700 feet, MD: 10086 feet )

BHL: NWNNE / 100 FNL / 1320 FWL / TWSP: 18S / RANGE: 33E / SECTION: 31 / LAT: 32.71088 / LONG: -103.69808 ( TVD: 9700 feet, MD: 20463 feet )

CONFIDENTIAL

Emerald Federal Com 505H

13 3/8		surface csg in a		17 1/2		inch hole.		Design Factors				Surface	
Segment	#/ft	Grade		Coupling	Joint	Collapse	Burst	Length	B@s	a-B	a-C	Weight	
"A"	54.50		j 55	ltc	6.29	1.69	0.98	1,500	4	1.66	3.32	81,750	
"B"				ltc				0				0	
w/8.4#/g mud, 30min Sfc Csg Test psig: 1,263								Totals:	1,500			81,750	
Comparison of Proposed to Minimum Required Cement Volumes Tail Cmt does not circ to sfc.													
Hole Size	Annular Volume	1 Stage Cmt Sx	1 Stage CuFt Cmt	Min Cu Ft	1 Stage % Excess	Drilling Mud Wt	Calc MASP	Req'd BOPE			Min Dist Hole-Cplg		
17 1/2	0.6946	865	1521	1042	46	8.60	1654	2M			2.06		
Burst Frac Gradient(s) for Segment(s) A, B = , b All > 0.70, OK.													

9 5/8		casing inside the		13 3/8		Design Factors				Int 1		
Segment	#/ft	Grade		Coupling	Joint	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"	40.00		j 55	ltc	2.48	0.91	0.84	5,267	1	1.54	1.55	210,680
"B"								0				0
w/8.4#/g mud, 30min Sfc Csg Test psig: 474								Totals:	5,267			210,680
The cement volume(s) are intended to achieve a top of 0 ft from surface or a 1500 overlap.												
Hole Size	Annular Volume	1 Stage Cmt Sx	1 Stage CuFt Cmt	Min Cu Ft	1 Stage % Excess	Drilling Mud Wt	Calc MASP	Req'd BOPE			Min Dist Hole-Cplg	
12 1/4	0.3132	1265	2239	1724	30	10.30	2561	3M			0.81	
r D V Tool(s): t by stage % : #VALUE! #VALUE! Class 'C' tail cmt yld > 1.35 sum of sx 1265 2239 Σ CuFt 2239 Σ%excess 30												
Burst Frac Gradient(s) for Segment(s) A, B, C, D = 0.75, b, c, d All > 0.70, OK.												

5 1/2		casing inside the		9 5/8		Design Factors				Prod 1		
Segment	#/ft	Grade		Coupling	Body	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"	20.00		p 110	gbcd	3.29	2.36	2.69	19,974	3	4.94	4.33	399,480
"B"								0				0
"C"								0				0
"D"								0				0
w/8.4#/g mud, 30min Sfc Csg Test psig: 2,141								Totals:	19,974			399,480
The cement volume(s) are intended to achieve a top of 5067 ft from surface or a 200 overlap.												
Hole Size	Annular Volume	1 Stage Cmt Sx	1 Stage CuFt Cmt	Min Cu Ft	1 Stage % Excess	Drilling Mud Wt	Calc MASP	Req'd BOPE			Min Dist Hole-Cplg	
8 3/4	0.2526	3550	6162	3767	64	9.30					1.23	
Class 'C' tail cmt yld > 1.35												

#N/A		0		5 1/2		Design Factors				<Choose Casing>		
Segment	#/ft	Grade		Coupling	#N/A	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"				0.00				0				0
"B"				0.00				0				0
w/8.4#/g mud, 30min Sfc Csg Test psig:								Totals:	0			0
Cmt vol calc below includes this csg, TOC intended #N/A ft from surface or a #N/A overlap.												
Hole Size	Annular Volume	1 Stage Cmt Sx	1 Stage CuFt Cmt	Min Cu Ft	1 Stage % Excess	Drilling Mud Wt	Calc MASP	Req'd BOPE			Min Dist Hole-Cplg	
0		#N/A	#N/A	0	#N/A							
#N/A Capitan Reef est top XXXX.												



<p><b>C-102</b></p> <p>Submit Electronically Via OCD Permitting</p>	<p>State of New Mexico Energy, Minerals &amp; Natural Resources Department <b>OIL CONSERVATION DIVISION</b></p>	<p>Revised July 9, 2024</p>
		<p>Submittal Type:</p> <p><input checked="" type="checkbox"/> Initial Submittal</p> <p><input type="checkbox"/> Amended Report</p> <p><input type="checkbox"/> As Drilled</p>

**WELL LOCATION INFORMATION**

API Number 30-025-53574	Pool Code 13160	Pool Name CORBIN; BONE SPRING, SOUTH
Property Code 335608	Property Name <b>EMERALD FEDERAL COM</b>	Well Number <b>515H</b>
OGRID No. 330396	Operator Name <b>AVANT OPERATING, LLC</b>	Ground Level Elevation <b>3683.7</b>
Surface Owner: <input type="checkbox"/> State <input type="checkbox"/> Fee <input type="checkbox"/> Tribal <input checked="" type="checkbox"/> Federal		Mineral Owner: <input type="checkbox"/> State <input type="checkbox"/> Fee <input type="checkbox"/> Tribal <input checked="" type="checkbox"/> Federal

**Surface Location**

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
P	6	19 S	33 E		350 FSL	1260 FEL	32.6830507° N	103.6978636° W	LEA

**Bottom Hole Location**

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
A	31	18 S	33 E		100 FNL	1254 FEL	32.7108879° N	103.6978657° W	LEA

Dedicated Acres 1302.98 AC.	Infill or Defining Well Infill	Defining Well API	Overlapping Spacing Unit (Y/N) No	Consolidation Code
Order Numbers. R-23267	Well setbacks are under Common Ownership: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			

**Kick Off Point (KOP)**

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
P	6	19 S	33 E		50 FSL	1254 FEL	32.6822262° N	103.6978446° W	LEA

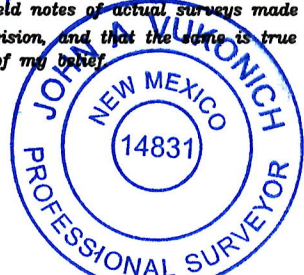
**First Take Point (FTP)**

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
P	6	19 S	33 E		100 FSL	1254 FEL	32.6823637° N	103.6978445° W	LEA

**Last Take Point (LTP)**

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
A	31	18 S	33 E		100 FNL	1254 FEL	32.7108879° N	103.6978657° W	LEA

Unitized Area or Area of Uniform Interest	Spacing Unit Type <input checked="" type="checkbox"/> Horizontal <input type="checkbox"/> Vertical	Ground Floor Elevation:
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<p><b>OPERATOR CERTIFICATIONS</b></p> <p><i>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and, if the well is vertical or directional well, that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of a working interest or unleased mineral interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</i></p> <p><i>If this well is a horizontal well, I further certify that this organization has received the consent of at least one lessee or owner of a working interest or unleased mineral interest in each tract (in the target pool or formation) in which any part of the well's completed interval will be located or obtained a compulsory pooling order from the division.</i></p> <p style="text-align: right;">12/30/2024</p> <p>Signature _____ Date _____</p> <p style="text-align: center;">Meghan Twele</p> <p>Printed Name _____</p> <p style="text-align: center;">mtwele@outlook.com</p> <p>E-mail Address _____</p>	<p><b>SURVEYOR CERTIFICATIONS</b></p> <p><i>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</i></p> <div style="text-align: center;">  </div> <p>Signature and Seal of Professional Surveyor _____</p> <p>Certificate Number _____ Date of Survey _____</p> <p style="text-align: center;">14831      12/20/23      9/25/2024</p>
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Note: No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

ACREAGE DEDICATION PLATS

This grid represents a standard section. You may superimpose a non-standard section, or larger area, over this grid. Operators must outline the dedicated acreage in a red box, clearly show the well surface location and bottom hole location, if it is directionally drilled, with dimensions from the section lines in the cardinal directions. If this is a horizontal wellbore show on this plat the location of the First Take Point and Last Take Point, and the point within the Completed interval (other than the First Take Point or Last Take Point) that is closest to any outer boundary of the tract.

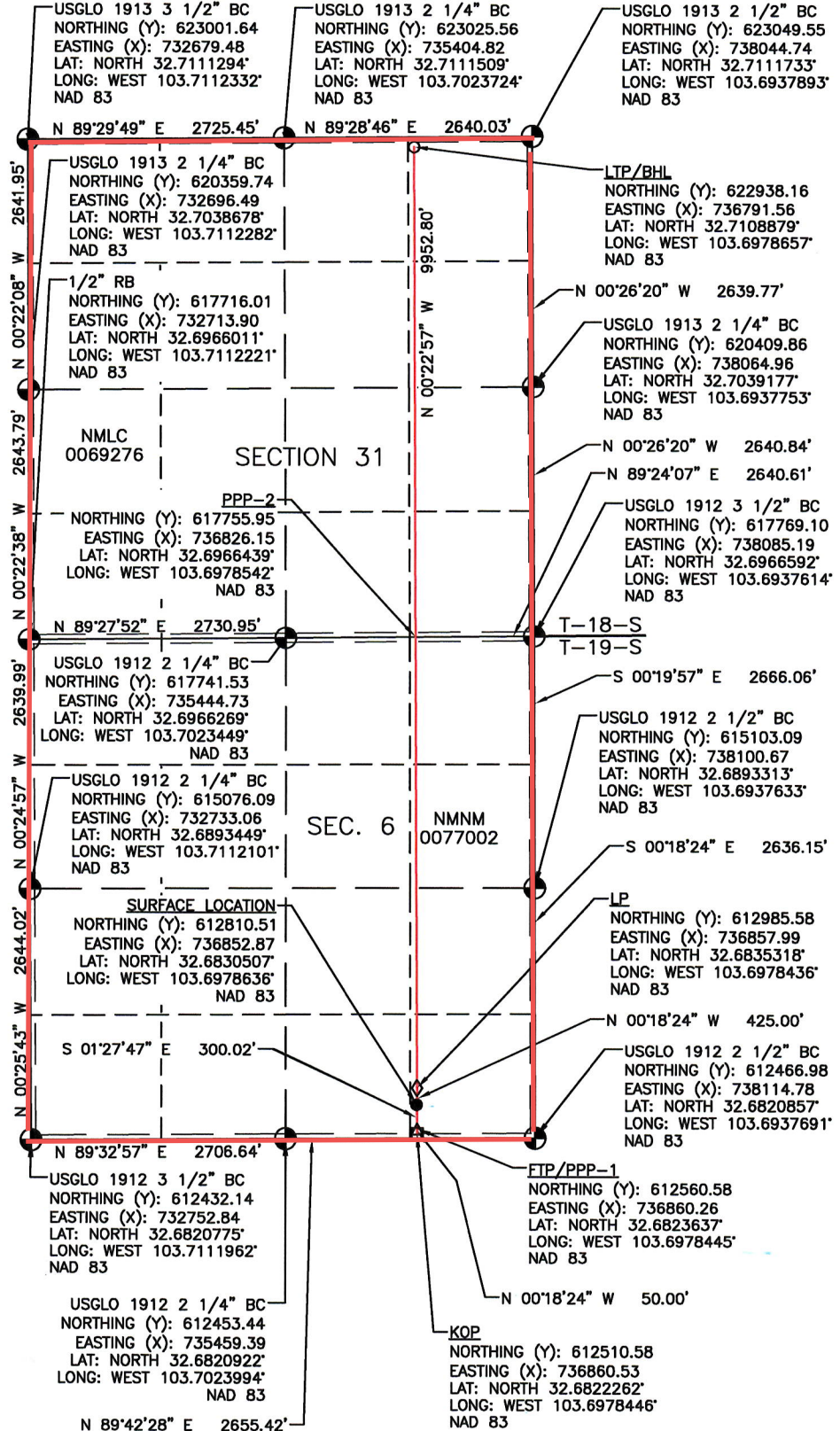
Surveyors shall use the latest United States government survey or dependent resurvey. Well locations will be in reference to the New Mexico Principal Meridian. If the land is not surveyed, contact the OCD Engineering Bureau. Independent subdivision surveys will not be acceptable.

Plat Revised: 9/20/24

LEGEND:

- = SURFACE LOCATION (SHL)
- = KICK OFF POINT (KOP)
- △ = FTP/PPP-1
- ◇ = LANDING POINT (LP)
- = LTP/BHL
- ⊙ = FOUND MONUMENT

FOOTAGES		
SHL	350' FSL	1260' FEL
KOP	50' FSL	1254' FEL
FTP/PPP-1	100' FSL	1254' FEL
LP	525' FSL	1254' FEL
PPP-2	0' FNL	1259' FEL
LTP/BHL	100' FNL	1254' FEL



NOTE: BEARINGS AND DISTANCES SHOWN ARE REFERENCED TO THE NEW MEXICO COORDINATE SYSTEM, EAST ZONE, NAD 83, UNLESS OTHERWISE NOTED

Avant Operating, LLC  
 Emerald Federal Com pad 2  
 Pad center: 400' FSL & 1260' FEL 6-19S-33e  
 Lea County, NM

SURFACE PLAN PAGE 1

This surface use plan covers the following 10 wells on an 8.594-acre pad. Two wells (503H & 504H) were approved for a smaller pad (4.574 acres) for Legacy. Avant has now acquired Legacy's active and pending wells.

304H	503H	604H
305H	514H	605H
306H	515H	606H
	516H	

1. ROAD DIRECTIONS & DESCRIPTIONS (See MAPS 1 - 5AB)

From the junction of US 285 and US 62/180 in Carlsbad...  
 Go East 26.6 miles on US 62/180 to NM 243 (≈Mile Post 61.6 on US 62/180)  
 Then turn left and go North and NE 3.7 miles on paved NM 243  
 Then turn left and go North 6.1 miles on paved County Road 126A (Maljamar)  
 Then turn right and go ENE 5.2 miles on a caliche road to a P&A well  
 Then turn left and go North 3/4 mile on a caliche road  
 Then turn right and go NE 1/2 mile on a caliche road  
 Then turn left and go North 0.6 mile on a caliche road  
 Then turn right and go East 286.97' cross-country to the west side of the pad

An 815.19' road will be built west to the proposed CTB.

Non-NMDOT and non-county roads will be maintained as needed to Gold Book standards. This includes pulling ditches, preserving the crown, and cleaning cattle guards and culverts. This will be done at least once a year, and more often as needed.

2. ROAD TO BE BUILT OR UPGRADED (See MAPS 4 & 5AB)

The 1102.16' of new resource roads will be crowned and ditched, have a ≤24' wide driving surface, and be surfaced with caliche. Pipelines that are crossed will



Avant Operating, LLC  
Emerald Federal Com pad 2  
Pad center: 400' FSL & 1260' FEL 6-19S-33e  
Lea County, NM

SURFACE PLAN PAGE 2

be padded. Maximum disturbed width = 30'. Maximum grade = 1%. Maximum cut or fill = 3'. No culvert, cattle guard, or vehicle turn out is needed. Upgrading will consist of filling potholes with caliche as needed.

### 3. EXISTING WELLS (See MAP 6)

Oil, gas, water, and P & A wells are within 1-mile radii. No SWD or injection well is within a mile.

### 4. PROPOSED PRODUCTION FACILITIES (See MAPS 7ABCD)

A 300' x 500' central tank battery (CTB) will be built northwest of the well pad. Buried pipelines (flow and gas) will run 2104.95' parallel to roads to the CTB. For each well on the pad, there will be one 4" HDPE flowline, one 4" OD HDPE gas lift feed line, and one 3" OD steel gas lift discharge line. (Central tank battery has moved from its Legacy location to avoid lizard habitat.)

Avant will build a 5239.36' long power line from the pad north and west. Avant will build a 55.04' long power line from the CTB north. Total power lines length = 5294.40'. All power lines 3-phase and raptor safe.

### 5. WATER SUPPLY (See MAP 8)

Water will be trucked from the existing JR (aka, Gregory Rockhouse Ranch) Water Station on BLM (NMNM-131541) in NWNW 20-18s-32e.

### 6. CONSTRUCTION MATERIALS & METHODS (See MAPS 9ABCD & 10)

NM One Call (811) will be called before construction starts. Top ≈6" of soil and brush will be stockpiled north and south of the well pad and north of the CTB.

Avant Operating, LLC  
Emerald Federal Com pad 2  
Pad center: 400' FSL & 1260' FEL 6-19S-33e  
Lea County, NM

SURFACE PLAN PAGE 3

Latter topsoil will be piled no higher than 3 feet and seeded. V-doors will face east. Well pad and CTB will be bermed. Closed loop mud system will be used. Caliche will be hauled from the existing Caviness pit on private land in SWNE 13-19s-31e.

#### 7. WASTE DISPOSAL

All trash will be placed in portable trash cages and hauled to the Lea County landfill. There will be no trash burning. Mud tank contents (drill cuttings, mud, salts, and other chemicals) will be hauled to R360's state approved (NM-01-0006) Halfway landfill on US 62/180. Human waste will be disposed of in chemical toilets and hauled to the Hobbs wastewater treatment plant.

#### 8. ANCILLARY FACILITIES

There will be no airstrip or camp. Camper trailers will be on location for the company man, tool pusher, mud logger, et al.

#### 9. WELL SITE LAYOUT (See MAP 9)

Also see Rig Layout diagram for depictions of the well pad, trash cage, access onto the location, parking, living facilities, and rig orientation.

#### 10. RECLAMATION (See MAP 11 ABCD)

A 100' wide swath on the north side of the well pad and 50' wide swath on the south side of the well pad will be interim reclaimed. Once the last well is plugged, then the remainder of the pad, CTB, and new roads will be reclaimed within 6 months of plugging and the power lines will be removed. Disturbed areas will be contoured to match pre-construction grades. Soil and brush will be evenly spread

Avant Operating, LLC  
Emerald Federal Com pad 2  
Pad center: 400' FSL & 1260' FEL 6-19S-33e  
Lea County, NM

SURFACE PLAN PAGE 4

over disturbed areas and harrowed on the contour. Disturbed areas will be seeded in accordance with BLM requirements. New roads will be blocked. Noxious weeds will be controlled. Land use will be:

	30' x 1102.16' roads = 0.76 acres
	520' x 720' well pad = 8.59 acres
	300' x 500' CTB = 3.44 acres
	30' x 2104.95' pipelines = 1.45 acres
	<u>+ 30' x 5294.40' power lines = 3.65 acres</u>
	17.89 acres short term
-	30' x 2104.95' pipelines = 1.45 acres
-	30' x 5294.40' power lines = 3.65 acres
-	50' x 520' well pad interim reclamation = 0.60 acres
-	<u>100' x 520' well pad interim reclamation = 1.19 acres</u>
	11.00 acres long term

11. SURFACE OWNER

All construction will be on BLM. BLM office is the Carlsbad Field Office, 620 E. Greene, Carlsbad NM 88220. Phone is 575 234-5972.

12. OTHER INFORMATION

Legacy on-sited the project July 20, 2021, with Caroline Kaufman of BLM. Avant on-sited the expanded project May 1, 2024, with BLM's Jeff Robertson and Cassandra Aguillard. J. T. Rein Archaeology, LLC inspected the well pads and filed reports NMCRIS-154652 on January 9, 2024, and NMCRIS-155527 on May 13, 2024. He inspected related infrastructure and will file a report for the post-Legacy modifications.

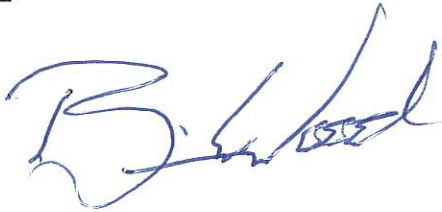


Avant Operating, LLC  
Emerald Federal Com pad 2  
Pad center: 400' FSL & 1260' FEL 6-19S-33e  
Lea County, NM

SURFACE PLAN PAGE 5

CERTIFICATION

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U. S. C. 1001 for the filing of false statements. Executed this 16th day of June 2024.

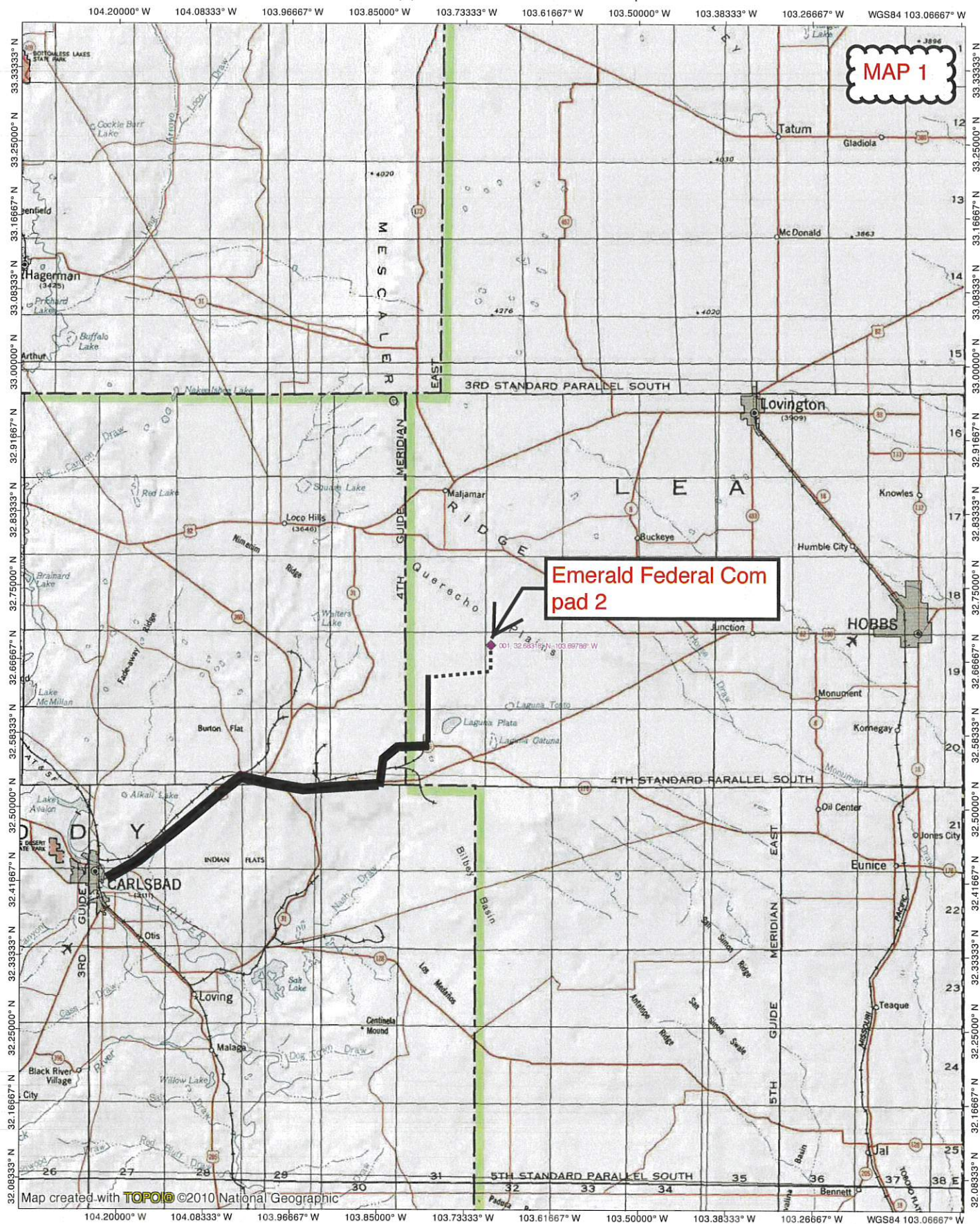


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Brian Wood, Consultant  
Permits West, Inc.  
37 Verano Loop, Santa Fe, NM 87508  
(505) 466-8120      FAX: (505) 466-9682      Cellular: (505) 699-2276

Field representative will be:  
John Harper, Senior Vice President Assets and Exploration  
Avant Operating, LLC  
1515 Wynkoop, Suite 700, Denver CO 80202  
(720) 746-5045

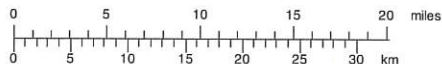
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MAP 1

Emerald Federal Com pad 2

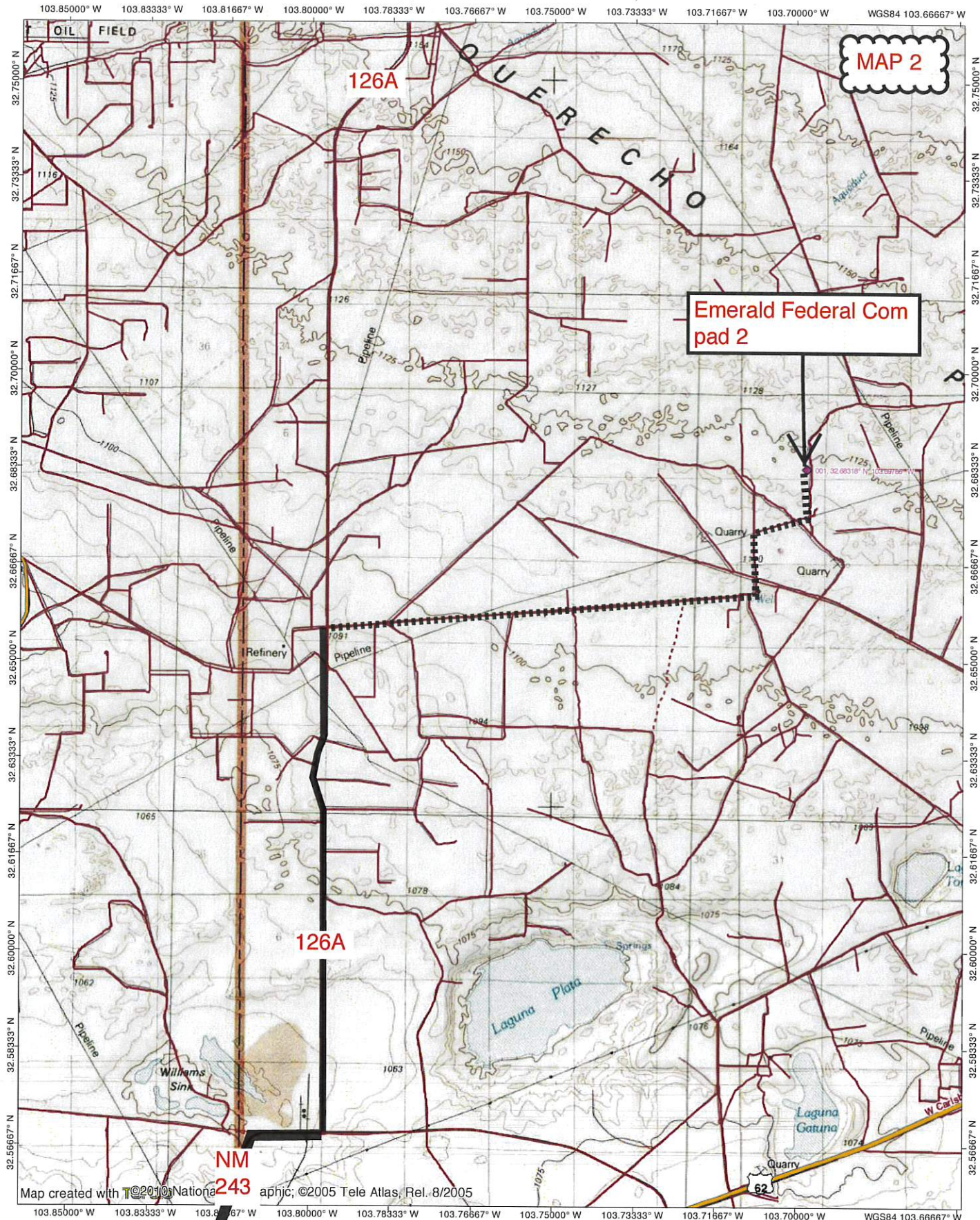
Map created with TOPOI ©2010 National Geographic



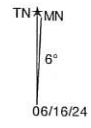
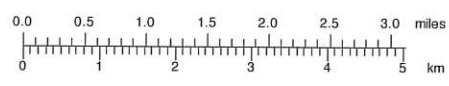
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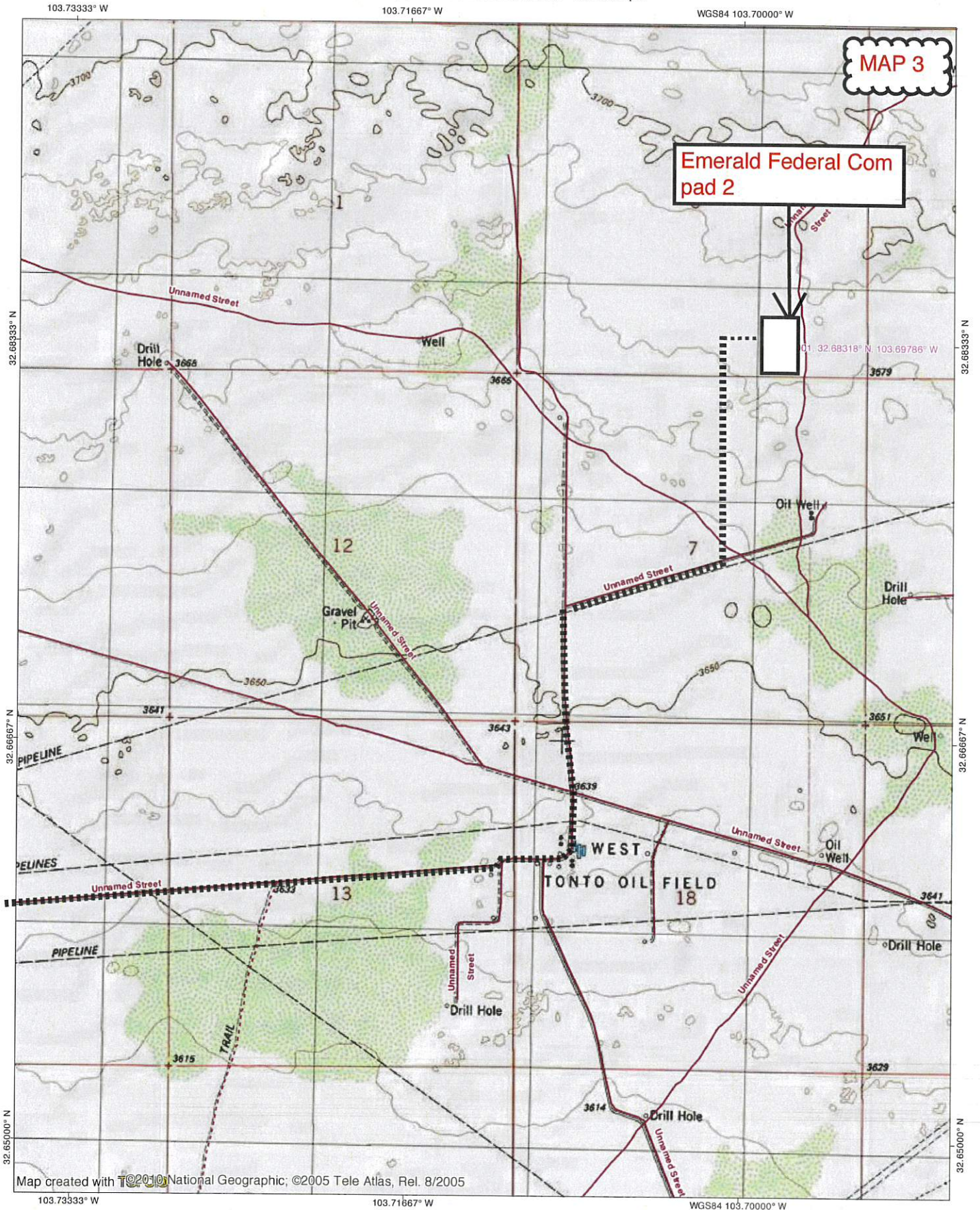
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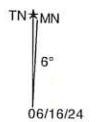
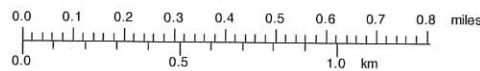
Map created with ©2010 National Geographic, ©2005 Tele Atlas, Rel. 8/2005

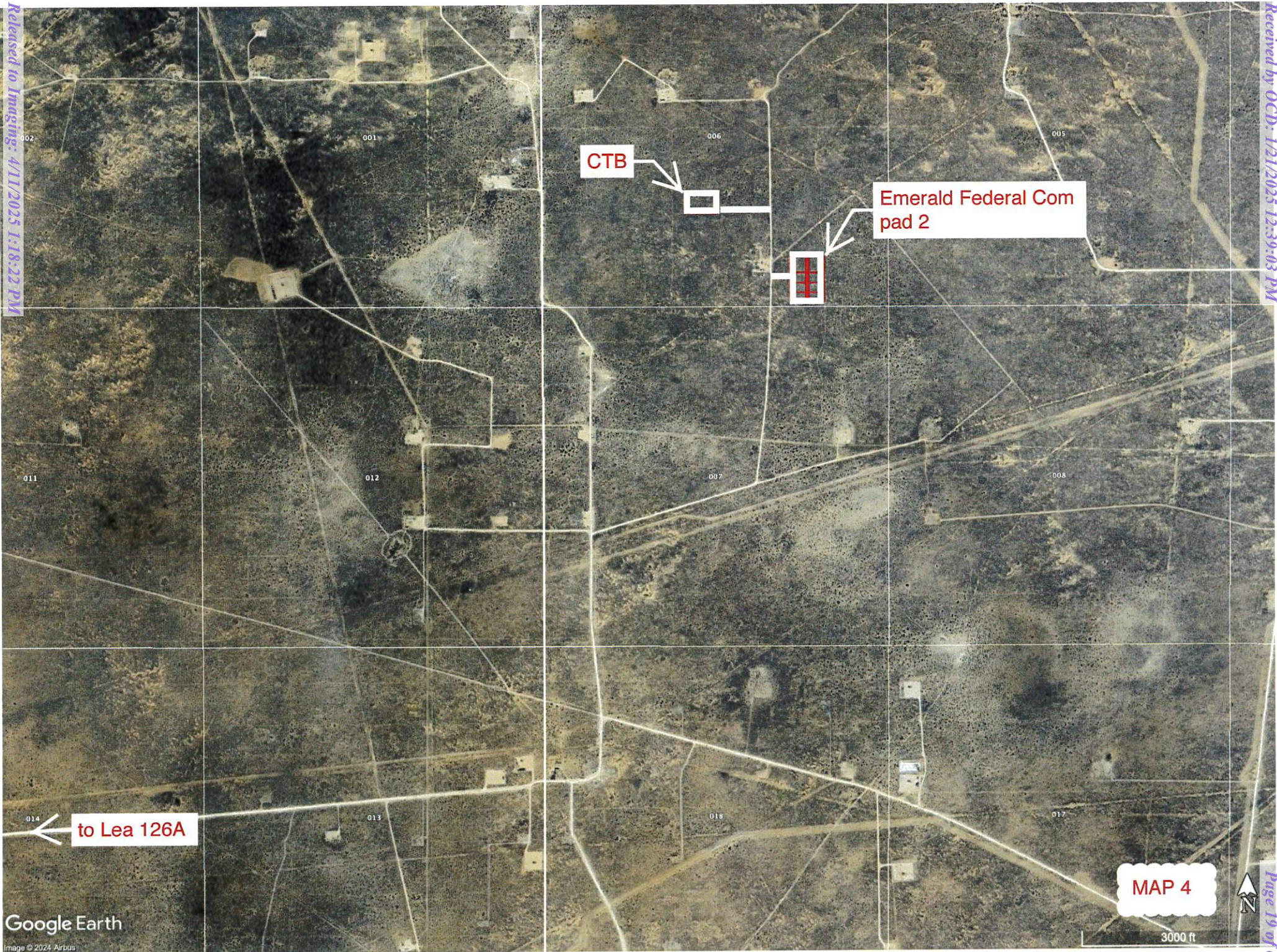


TOPO! map printed on 06/16/24 from "Untitled.tpo"



Map created with ©2010 National Geographic; ©2005 Tele Atlas, Rel. 8/2005





CTB

Emerald Federal Com  
pad 2

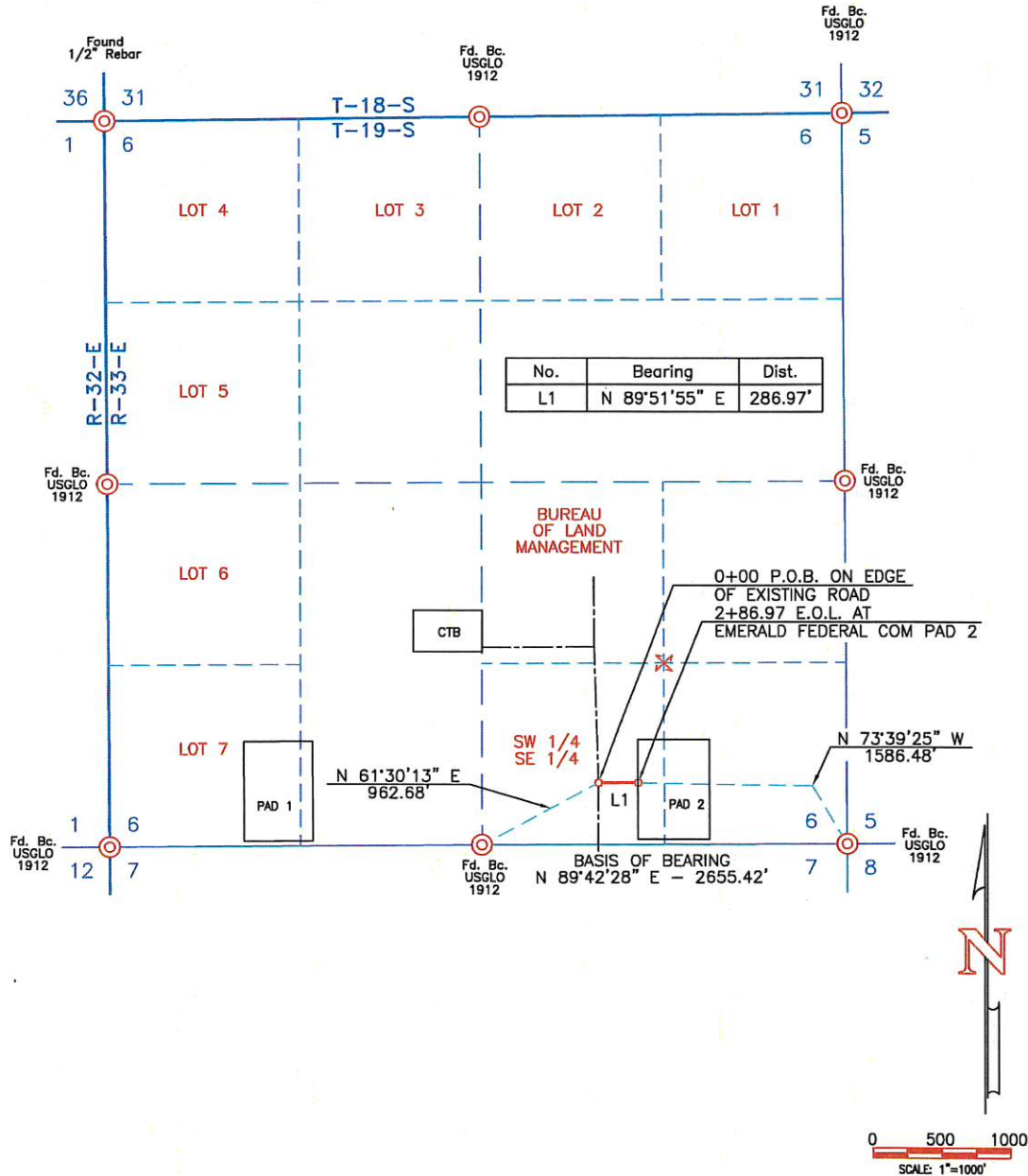
to Lea 126A

MAP 4

3000 ft

**AVANT OPERATING, LLC**  
**EMERALD FEDERAL COM PAD 2 ACCESS ROAD**  
 SW 1/4 SE 1/4 OF SEC. 6, T-19-S, R-33-E, N.M.P.M.,  
 LEA COUNTY, N.M.

**MAP 5A**



**NOTES:**

1. BASIS OF BEARING: MONUMENTED SOUTH LINE OF THE SOUTHEAST QUARTER OF SECTION 6, T-19-S, R-33-E, N.M.P.M., LEA COUNTY, NEW MEXICO. BEARS: N 89°42'28" E - 2655.42'
2. ALL BEARINGS AND DISTANCES SHOWN ARE BASED UPON THE NEW MEXICO COORDINATE SYSTEM, EAST ZONE, NAD 83, IN U.S. SURVEY FEET.

I, JOHN A. VUKONICH, NEW MEXICO PROFESSIONAL SURVEYOR NO. 14831, DO HEREBY CERTIFY THAT THIS SURVEY WAS MADE AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY; THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO; AND THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. I FURTHER CERTIFY THAT THIS SURVEY IS NOT A LAND DIVISION OR SUBDIVISION AS DEFINED IN THE NEW MEXICO SUBDIVISION ACT.

JOHN A. VUKONICH P.E./P.S. N.M.P.S. #14831

DATE

6/7/2024

P.O.B. = POINT OF BEGINNING  
 E.O.L. = END OF LINE

OWNER	STATION	FEET/RODS/ACRES (30' R.O.W.)
BUREAU OF LAND MANAGEMENT	0+00 TO 2+86.97	286.97 / 17.392 / 0.198

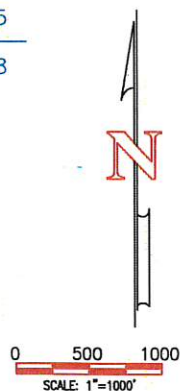
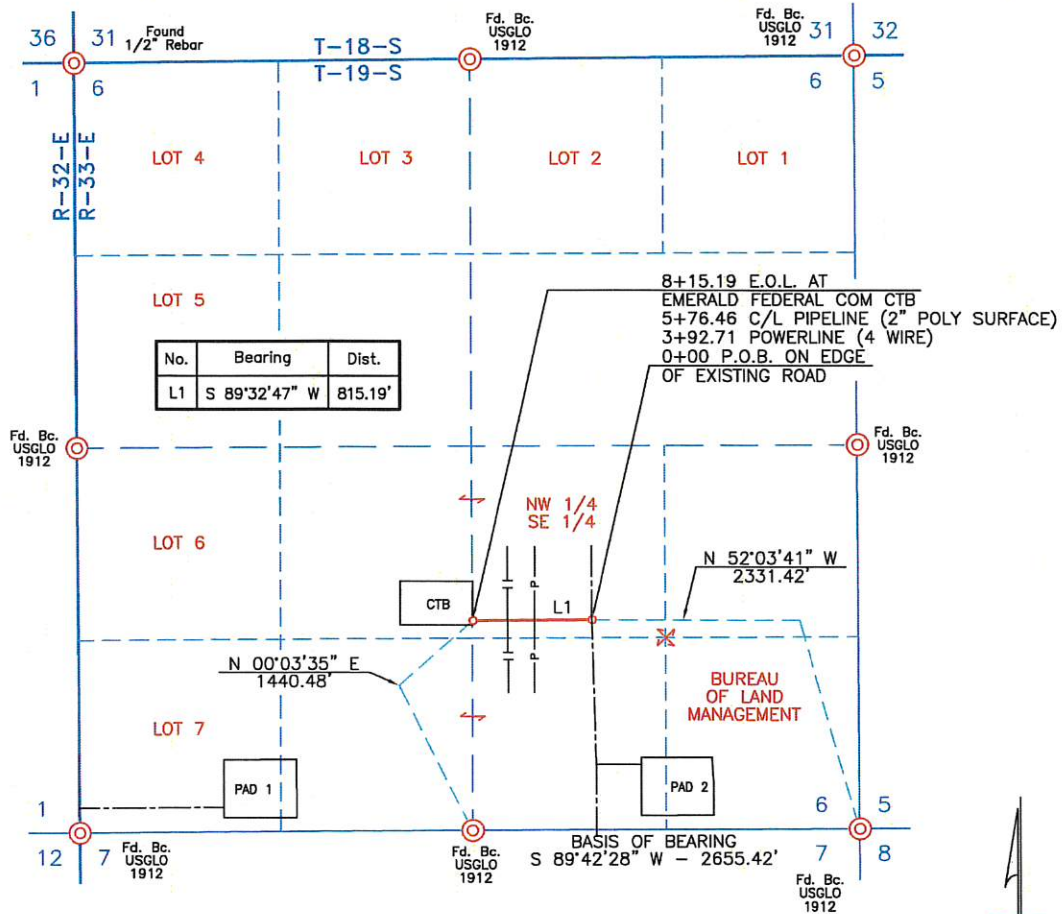
**United Field Services Inc.**

P.O. Box 3651  
 Farmington, NM 87499  
 Office: (505) 334-0408

DWG. No. : 11847-A01	Revision: 2
Drawn by: A.A.D.	Date Drawn: 2/12/24
App by: J.A.V.	Rev. Date: 5/14/24
Surveyed: 2/7-5/12/24	Sheet: 1

**AVANT OPERATING, LLC**  
**EMERALD FEDERAL COM CTB ACCESS ROAD**  
 NW 1/4 SE 1/4 OF SEC. 6, T-19-S, R-33-E, N.M.P.M.,  
 LEA COUNTY, N.M.

**MAP 5B**



**NOTES:**

1. BASIS OF BEARING: MONUMENTED SOUTH LINE OF THE SOUTHEAST QUARTER OF SECTION 6, T-19-S, R-33-E, N.M.P.M., LEA COUNTY, NEW MEXICO. BEARS: S 89°42'28" W - 2655.42'
2. ALL BEARINGS AND DISTANCES SHOWN ARE BASED UPON THE NEW MEXICO COORDINATE SYSTEM, EAST ZONE, NAD 83, IN U.S. SURVEY FEET.

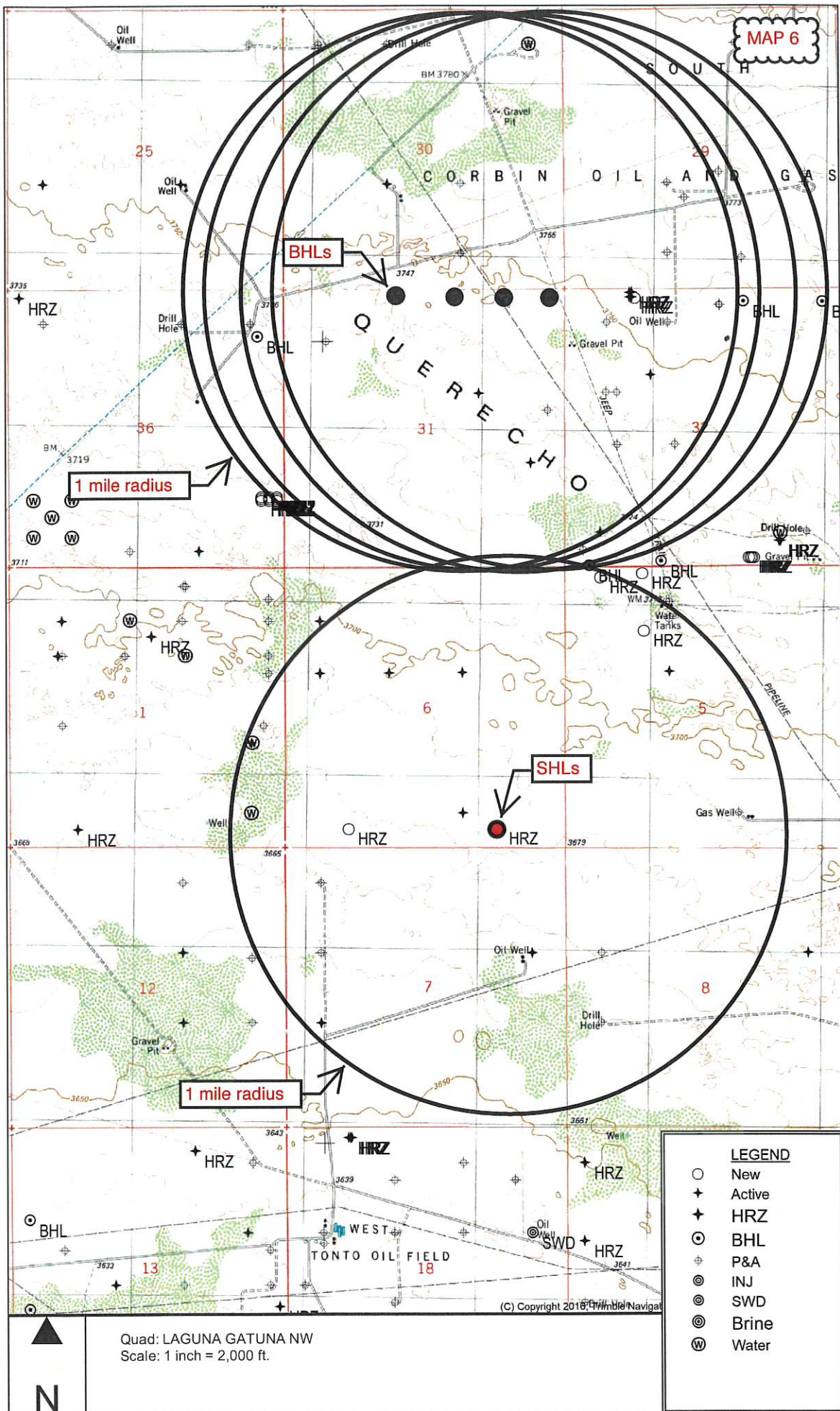
I, JOHN A. VUKONICH, NEW MEXICO PROFESSIONAL SURVEYOR NO. 14831, DO HEREBY CERTIFY THAT THIS SURVEY WAS MADE AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY; THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO AND THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. I FURTHER CERTIFY THAT THIS SURVEY IS NOT A LAND DIVISION OR SUBDIVISION AS DEFINED IN THE NEW MEXICO SUBDIVISION ACT.

*John A. Vukonich*  
 JOHN A. VUKONICH P.E./P.S. N.M.P.S. #14831  
 DATE: 3/7/2024

P.O.B. = POINT OF BEGINNING  
 E.O.L. = END OF LINE

OWNER	STATION	FEET/RODS/ACRES (30' R.O.W.)
BUREAU OF LAND MANAGEMENT	0+00 TO 8+15.19	815.19 / 49.405 / 0.561

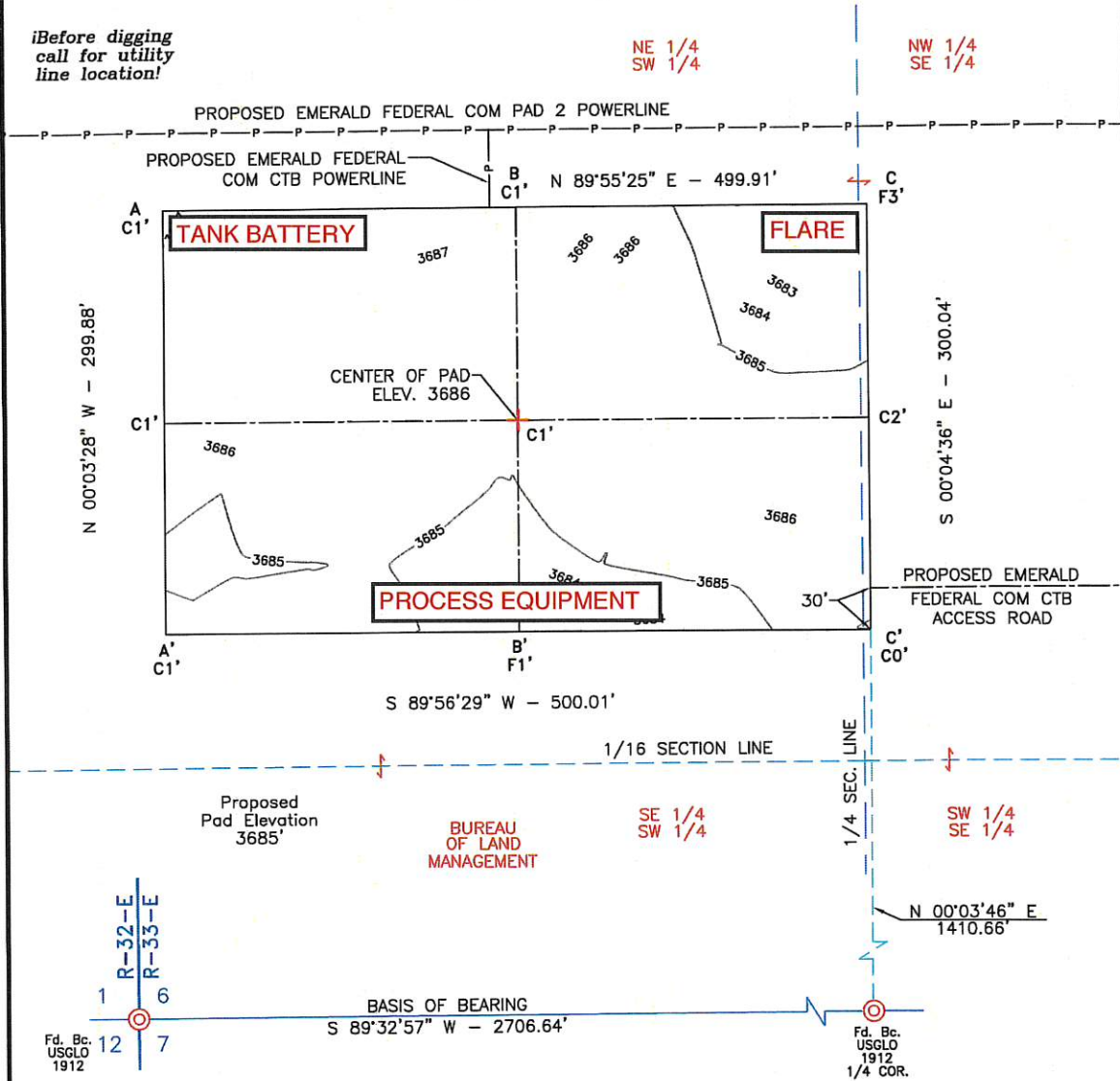
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DWG. No. : 11881-A01	Drawn by: C.B.	Revisions: 1
Surveyed: 02/16/24	Date Drawn: 02/23/24	Rev. Date:
	App by: J.A.V.	Sheet: 1



AVANT OPERATING, LLC  
 EMERALD FEDERAL COM CTB  
 SECTION 6, T-19-S, R-33-E, N.M.P.M.,  
 LEA COUNTY, N.M.

MAP 7A

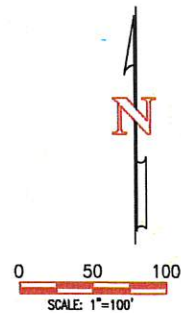
*Before digging  
 call for utility  
 line location!*



CENTER OF PAD FOOTAGES	NAD 83
1562' FSL	LAT: 32.6863849' N
2470' FWL	LONG: 103.7031776' W

**NOTES:**

1. BASIS OF BEARING: MONUMENTED SOUTH LINE OF THE SOUTHWEST QUARTER OF SECTION 6, T-19-S, R-33-E, N.M.P.M., LEA COUNTY, NEW MEXICO. BEARS: S 89°32'57" W - 2706.64'
2. ALL BEARINGS, DISTANCES & COORDINATES SHOWN ARE BASED UPON THE NEW MEXICO STATE PLANE COORDINATE SYSTEM, EAST ZONE, NAD 83, IN U.S. SURVEY FEET.
3. CONTRACTOR SHALL CONTACT "ONE-CALL" FOR LOCATION OF ANY MARKED OR UNMARKED BURIED PIPELINE OR CABLES ON WELL PAD AND/OR ACCESS ROAD AT LEAST TWO (2) WORKING DAYS PRIOR TO CONSTRUCTION.
4. UNITED FIELD SERVICES, INC. IS NOT LIABLE FOR UNDERGROUND UTILITIES OR PIPELINES.
5. CUT AND FILL CALCULATIONS ARE ROUNDED TO THE NEAREST FOOT.



OWNER	SQ. FT.	ACRES
BUREAU OF LAND MANAGEMENT	149,968	3.443

I, JOHN A. VUKONICH, NEW MEXICO PROFESSIONAL SURVEYOR NO. 14831, DO HEREBY CERTIFY THAT THIS SURVEY PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY; THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO; AND THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. I FURTHER CERTIFY THAT THIS SURVEY IS NOT A LAND DIVISION OR SUBDIVISION AS DEFINED IN THE NEW MEXICO SUBDIVISION ACT.

JOHN A. VUKONICH P.E./P.S. N.M.P.S. 14831  
 DATE 3/7/2024

**United Field Services Inc.**  
 P.O. Box 3651  
 Farmington, NM 87499  
 Office: (505) 334-0408

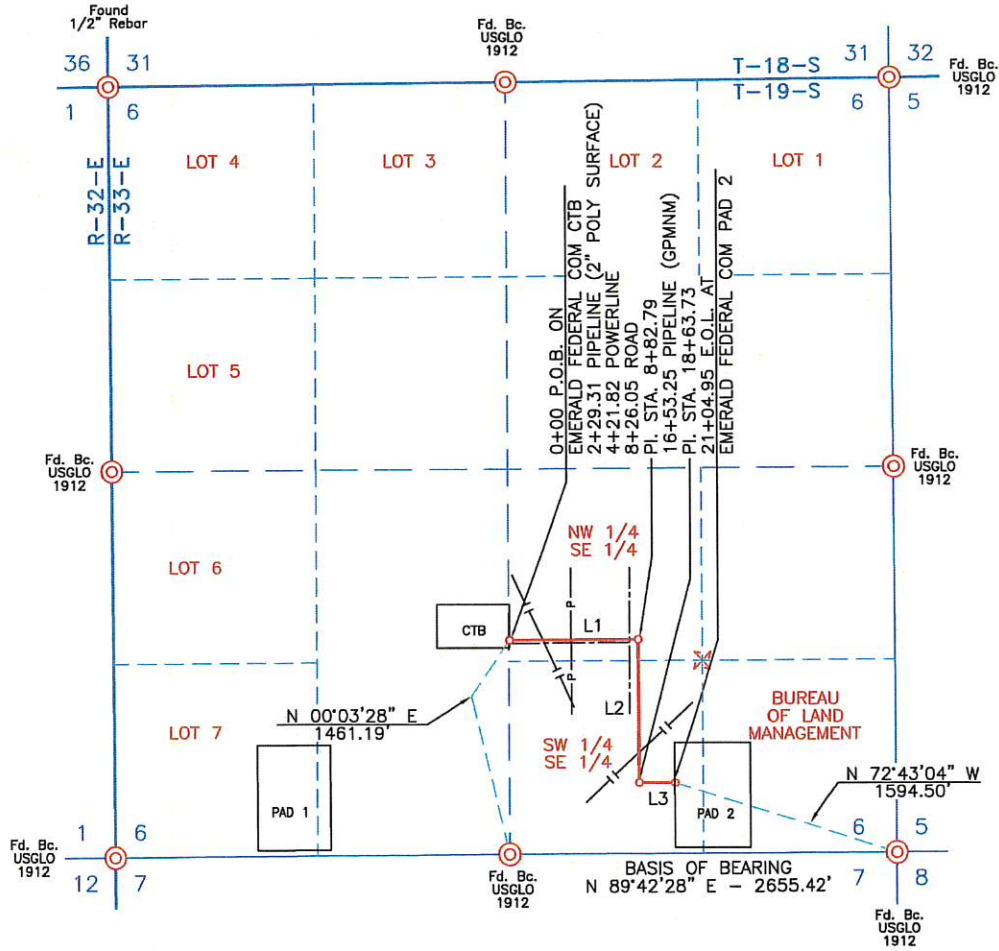
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Drawn by: C.B.	Date Drawn: 2/29/24
Surveyed: 2/16-2/27/24	App by: J.A.V.
	Rev. Date:
	Sheet: 1

# AVANT OPERATING, LLC

## EMERALD FEDERAL COM CTB TO PAD 2 PIPELINES

W 1/2 SE 1/4 OF SEC. 6, T-19-S, R-33-E, N.M.P.M.,  
LEA COUNTY, N.M.

MAP 7B



No.	Bearing	Dist.
L1	N 89°38'30" E	882.79'
L2	S 00°25'58" E	980.94'
L3	N 89°39'39" E	241.22'



0      500      1000  
SCALE: 1"=1000'

- NOTES:**
1. BASIS OF BEARING: MONUMENTED SOUTH LINE OF THE SOUTHEAST QUARTER OF SECTION 6, T-19-S, R-33-E, N.M.P.M., LEA COUNTY, NEW MEXICO. BEARS: N 89°42'28" E - 2655.42'
  2. ALL BEARINGS AND DISTANCES SHOWN ARE BASED UPON THE NEW MEXICO COORDINATE SYSTEM, EAST ZONE, NAD 83, IN U.S. SURVEY FEET.

P.O.B. = POINT OF BEGINNING  
E.O.L. = END OF LINE

OWNER	STATION	FEET/RODS/ACRES (30' R.O.W.)
BUREAU OF LAND MANAGEMENT	0+00 TO 21+04.95	2104.95 / 127.573 / 1.450

I, JOHN A. VUKONICH, NEW MEXICO PROFESSIONAL SURVEYOR NO. 14831, DO HEREBY CERTIFY THAT THIS SURVEY PLAN AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY; THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO; AND THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. I FURTHER CERTIFY THAT THIS SURVEY IS NOT A LAND DIVISION OR SUBDIVISION AS DEFINED IN THE NEW MEXICO SUBDIVISION ACT.

JOHN A. VUKONICH P.E./P.S. N.M.P.S. #14831      DATE: 6/7/2024

**United Field Services Inc.**

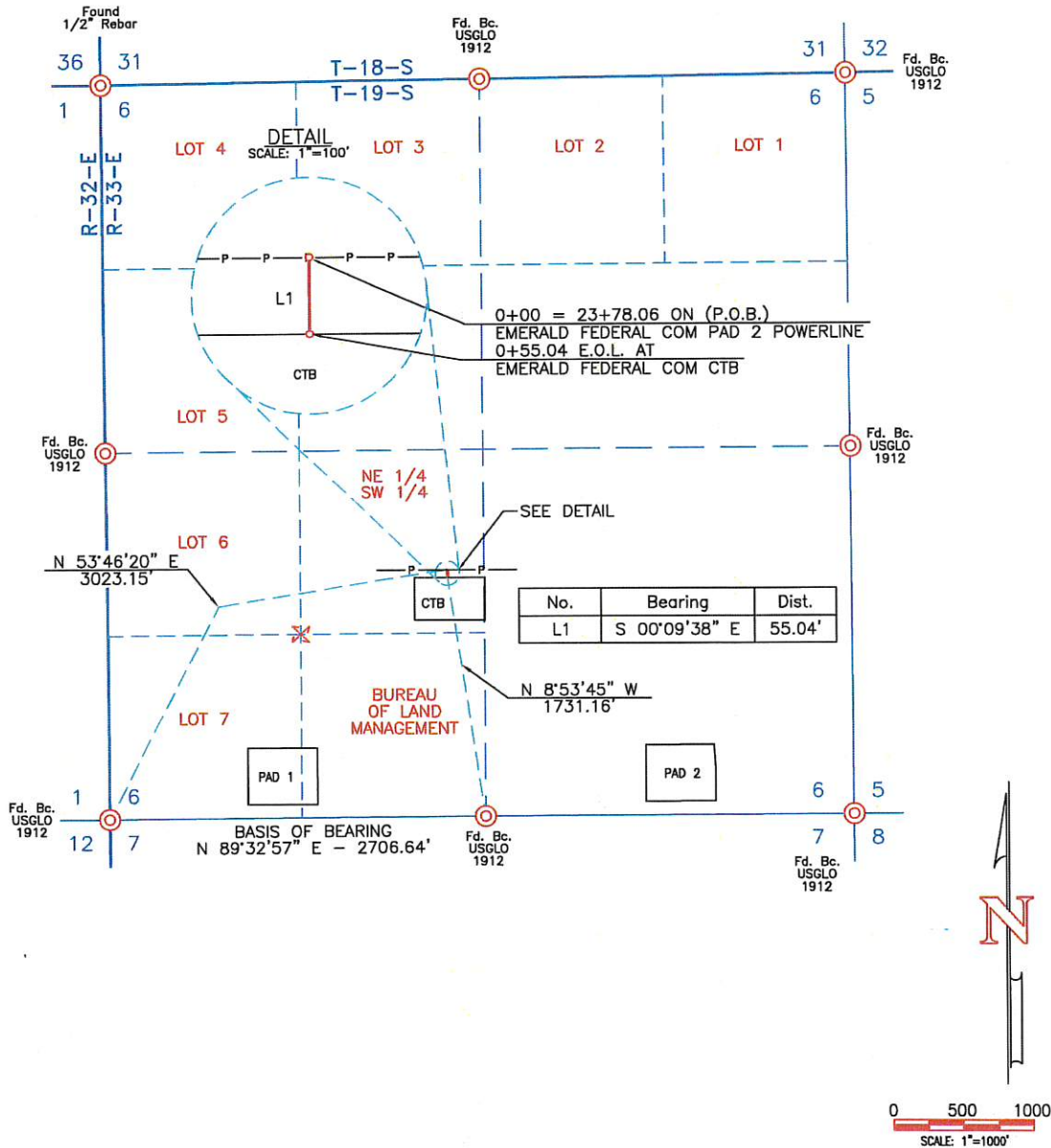
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Drawn by: A.A.D.	App by: J.A.V.	Rev. Date: 5/14/24
Surveyed: 3/7-5/12/24		Sheet: 1

P.O. Box 3651  
Farmington, NM 87499  
Office: (505) 334-0408



**AVANT OPERATING, LLC**  
**EMERALD FEDERAL COM CTB POWERLINE**  
 NE 1/4 SW 1/4 OF SEC. 6, T-19-S, R-33-E, N.M.P.M.,  
 LEA COUNTY, N.M.

**MAP 7C**



**NOTES:**  
 1. BASIS OF BEARING: MONUMENTED SOUTH LINE OF THE SOUTHWEST QUARTER OF SECTION 6, T-19-S, R-33-E, N.M.P.M., LEA COUNTY, NEW MEXICO. BEARS: N 89°32'47" E - 2706.64'  
 2. ALL BEARINGS AND DISTANCES SHOWN ARE BASED UPON THE NEW MEXICO COORDINATE SYSTEM, EAST ZONE, NAD 83, IN U.S. SURVEY FEET.

P.O.B. = POINT OF BEGINNING  
 E.O.L. = END OF LINE

OWNER	STATION	FEET/RODS/ACRES (30' R.O.W.)
BUREAU OF LAND MANAGEMENT	0+00 TO 0+55.04	55.04 / 3.336 / 0.038

I, JOHN A. VUKONICH, NEW MEXICO PROFESSIONAL SURVEYOR NO. 14831, DO HEREBY CERTIFY THAT THIS SURVEY PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY; THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO AND THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. I FURTHER CERTIFY THAT THIS SURVEY IS NOT A LAND DIVISION OR SUBDIVISION AS DEFINED IN THE NEW MEXICO SUBDIVISION ACT.

**United Field Services Inc.**

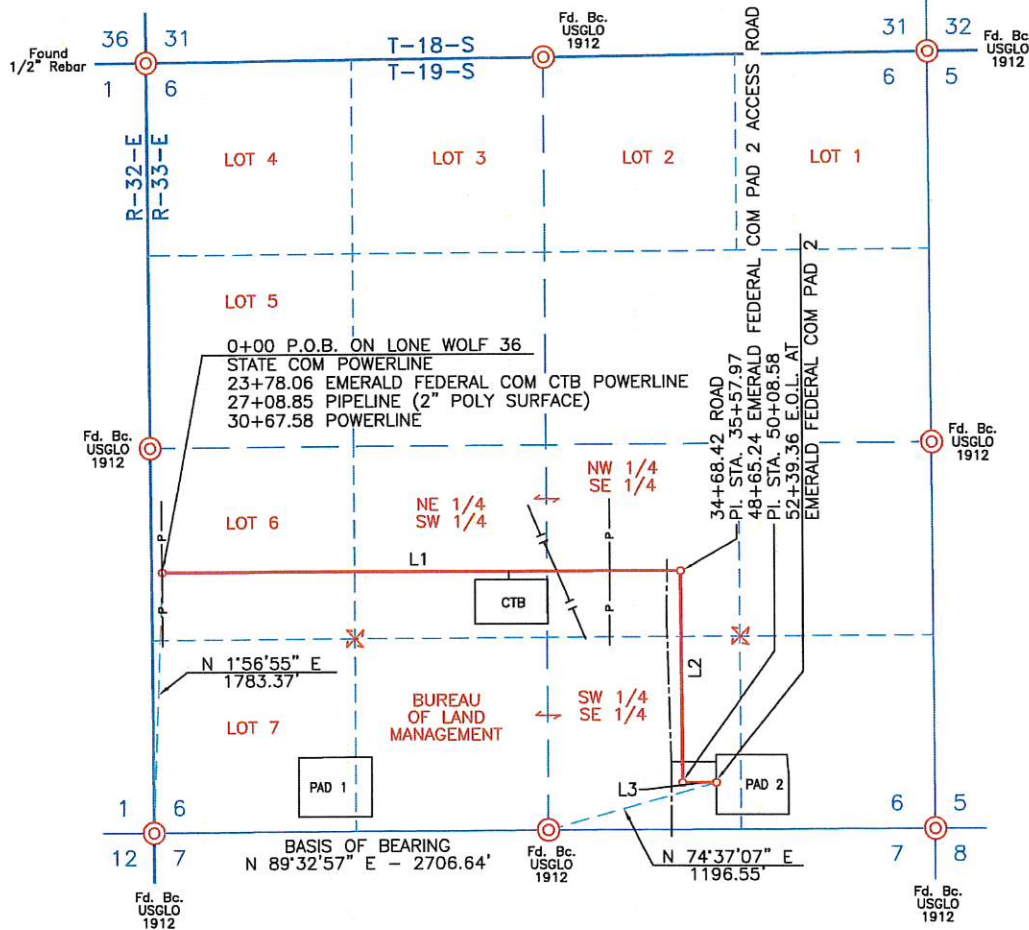
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 Farmington, NM 87499  
 Office: (505) 334-0408

DWG. No. : 11881-PWR-01	Revision: 1
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Surveyed: 02/27/24	App by: J.A.V.
	Rev. Date:
	Sheet: 1

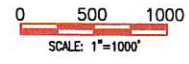
JOHN A. VUKONICH P.E./P.S. N14831  
 3/7/2024  
 DATE

**AVANT OPERATING, LLC**  
**EMERALD FEDERAL COM PAD 2 POWERLINE**  
 LOT 6, NE 1/4 SW 1/4, W 1/2 SE 1/4 OF SEC. 6,  
 T-19-S, R-33-E, N.M.P.M.,  
 LEA COUNTY, N.M.

MAP 7D



No.	Bearing	Dist.
L1	N 89°54'31" E	3557.97'
L2	S 00°25'45" E	1450.61'
L3	N 89°41'35" E	230.78'




- NOTES:**
1. BASIS OF BEARING: MONUMENTED SOUTH LINE OF THE SOUTHWEST QUARTER OF SECTION 6, T-19-S, R-33-E, N.M.P.M., LEA COUNTY, NEW MEXICO.  
 BEARS: N 89°32'57" E - 2706.64'
  2. ALL BEARINGS AND DISTANCES SHOWN ARE BASED UPON THE NEW MEXICO COORDINATE SYSTEM, EAST ZONE, NAD 83, IN U.S. SURVEY FEET.

I, JOHN A. YUKONICH, NEW MEXICO PROFESSIONAL SURVEYOR NO. 14831, DO HEREBY CERTIFY THAT THIS SURVEY PLAN AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY AND THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO AND THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. FURTHER CERTIFY THAT THIS SURVEY IS NOT A LAND DIVISION OR SUBDIVISION AS DEFINED IN THE NEW MEXICO SUBDIVISION ACT.

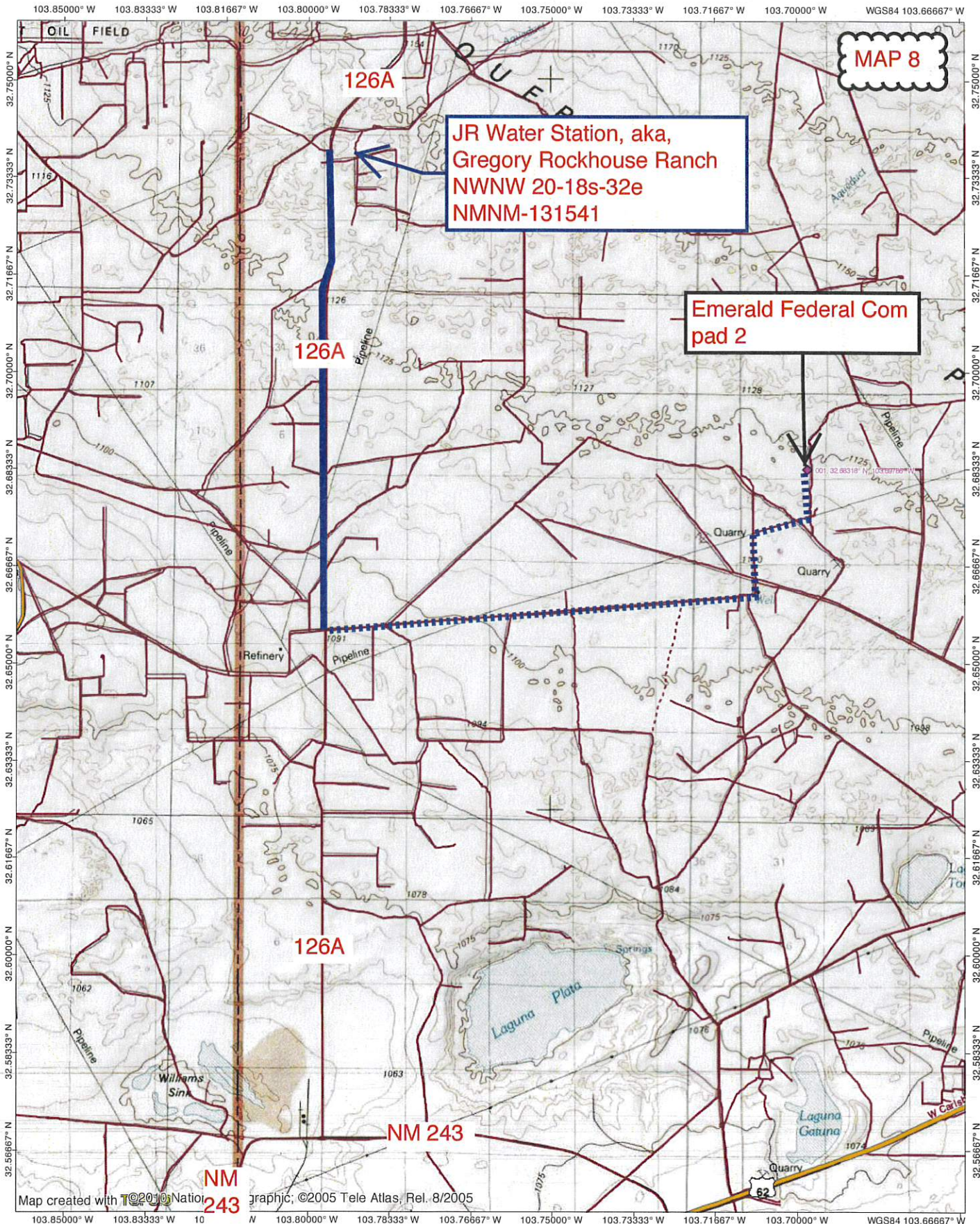
  
 JOHN A. YUKONICH P.E./P.S. N.M.P.S. #14831  
 DATE 3/8/2024

P.O.B. = POINT OF BEGINNING  
 E.O.L. = END OF LINE

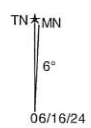
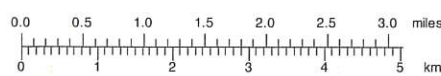
OWNER	STATION	FEET/RODS/ACRES (30' R.O.W.)
BUREAU OF LAND MANAGEMENT	0+00 TO 52+39.36	5239.36 / 317.537 / 3.608

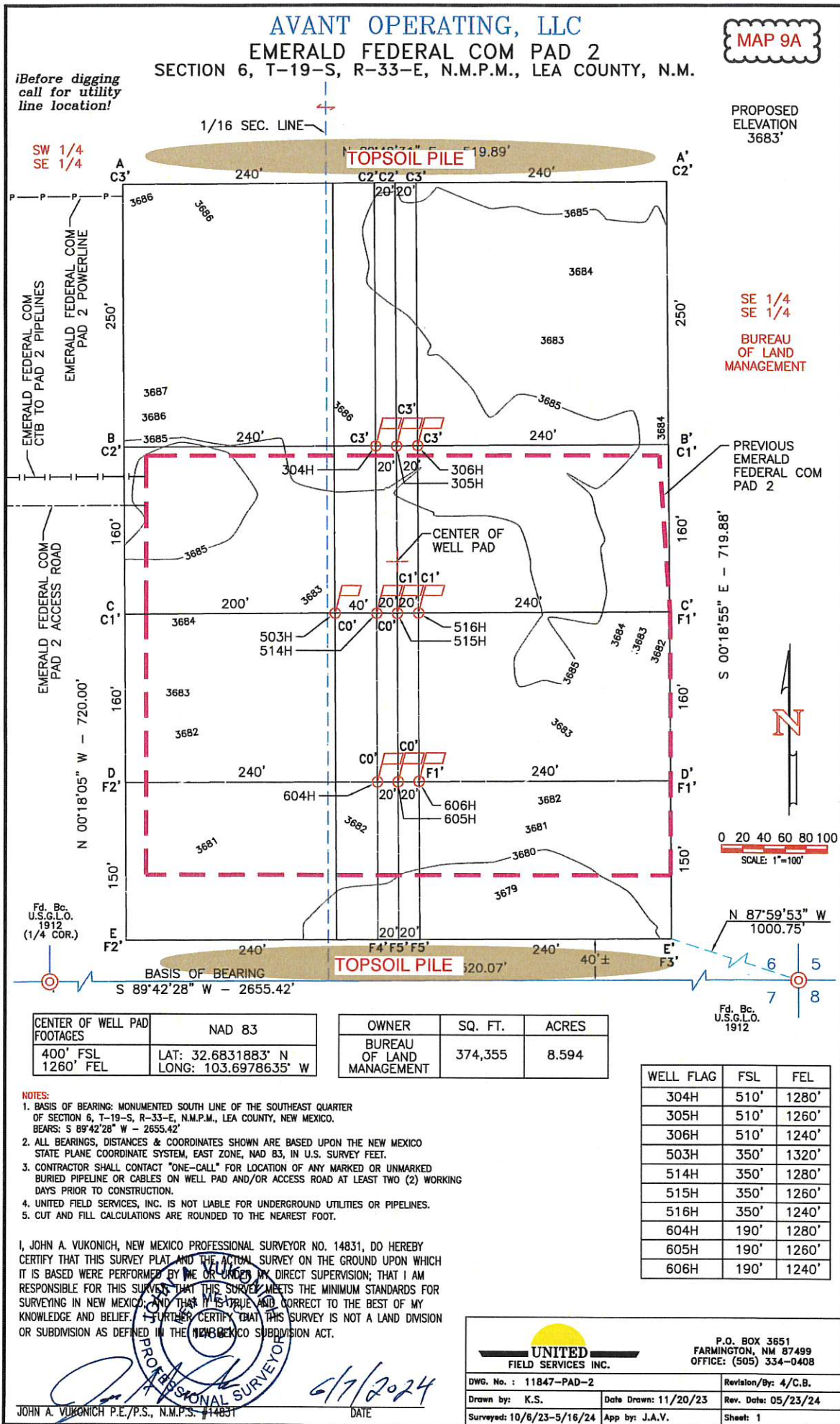
 <b>United Field Services Inc.</b>		P.O. Box 3651 Farmington, NM 87499 Office: (505) 334-0408
DWG. No. : 11847-PWR-01	Date Drawn: 02/28/24	Revision: 1
Drawn by: A.A.D.	App by: J.A.V.	Rev. Date:
Surveyed: 02/27/24		Sheet: 1

TOPO! map printed on 06/16/24 from "Untitled.tpo"



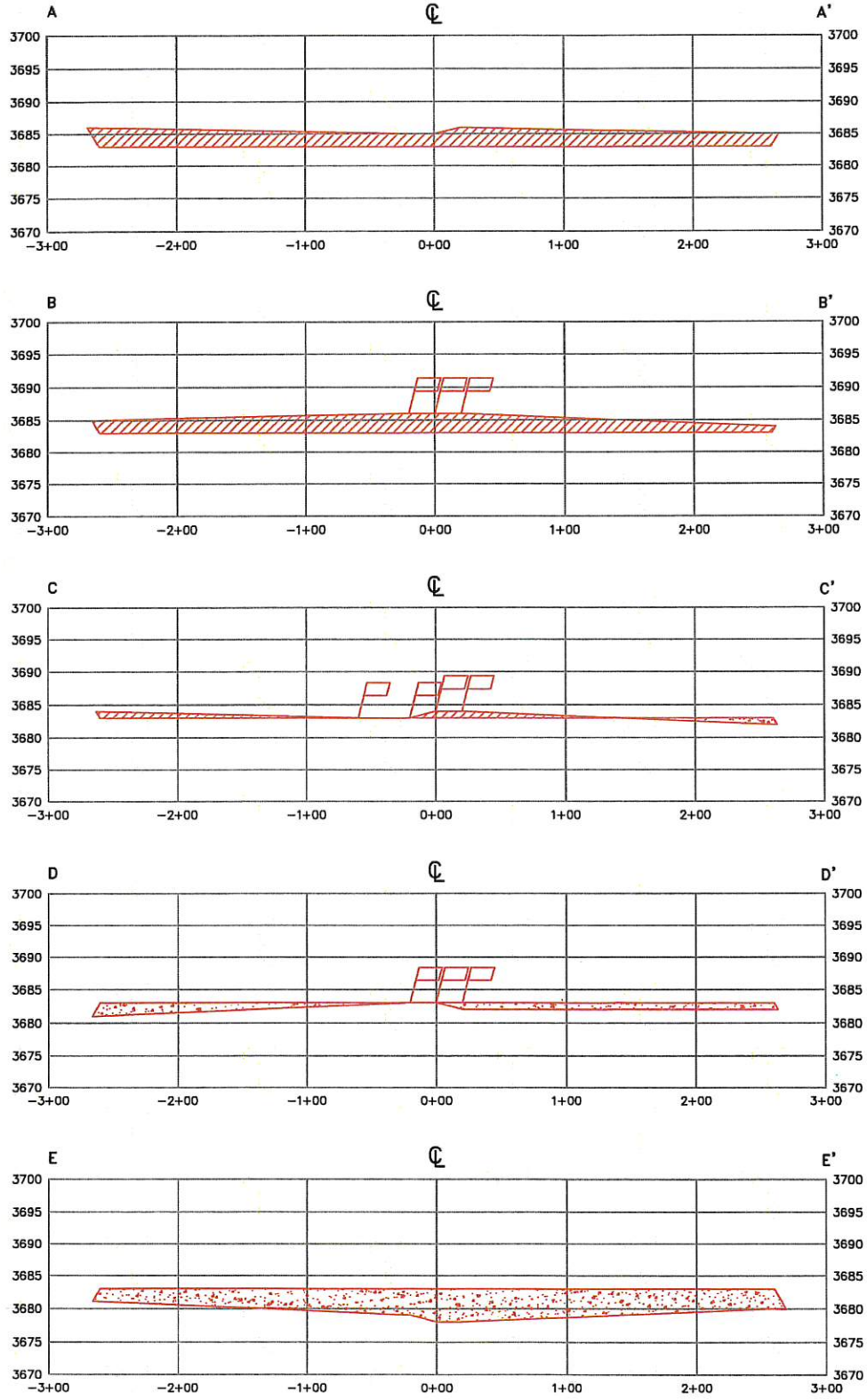
Map created with Topographic, ©2005 Tele Atlas, Rel. 8/2005






AVANT OPERATING, LLC  
 EMERALD FEDERAL COM PAD 2  
 SECTION 6, T-19-S, R-33-E, N.M.P.M., LEA COUNTY, N.M.

MAP 9B



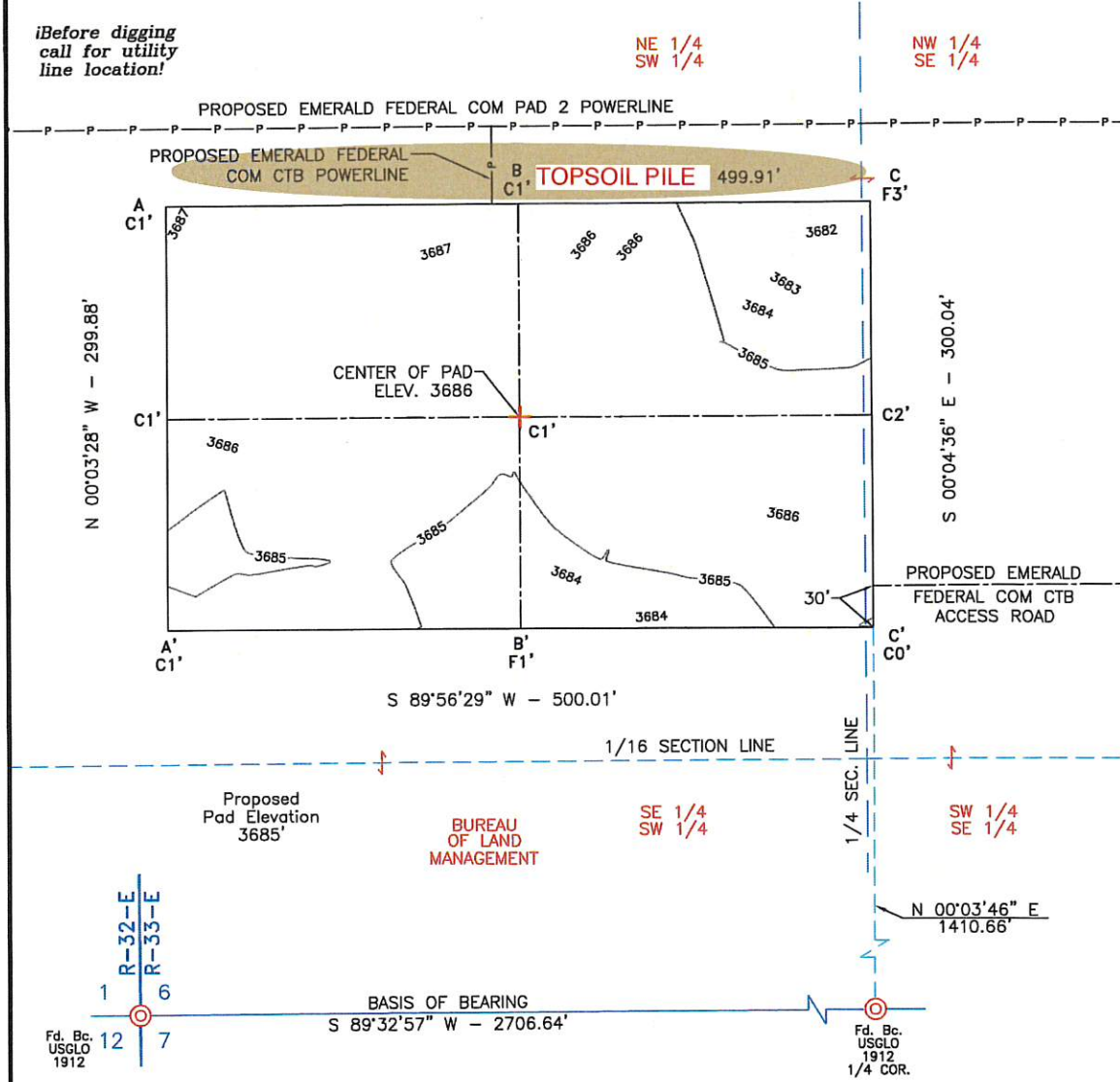
Horizontal Scale: 1" = 100'  
 Vertical Scale: 1" = 20'

 <p><b>UNITED</b> FIELD SERVICES INC.</p>		P.O. BOX 3651 FARMINGTON, NM 87499 OFFICE: (505) 334-0408
DWG. No. : 11847-PAD-2	Revision/By: 4/C.B.	
Drawn by: K.S.	Date Drawn: 11/20/23	Rev. Date: 05/23/24
Surveyed: 10/6/23-5/16/24	App by: J.A.V.	Sheet: 2

AVANT OPERATING, LLC  
 EMERALD FEDERAL COM CTB  
 SECTION 6, T-19-S, R-33-E, N.M.P.M.,  
 LEA COUNTY, N.M.

MAP 9C

*Before digging  
 call for utility  
 line location!*



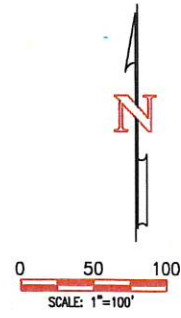
CENTER OF PAD FOOTAGES	NAD 83
1562' FSL	LAT: 32.6863849° N
2470' FWL	LONG: 103.7031776° W

**NOTES:**

1. BASIS OF BEARING: MONUMENTED SOUTH LINE OF THE SOUTHWEST QUARTER OF SECTION 6, T-19-S, R-33-E, N.M.P.M., LEA COUNTY, NEW MEXICO. BEARS: S 89°32'57" W - 2706.64'
2. ALL BEARINGS, DISTANCES & COORDINATES SHOWN ARE BASED UPON THE NEW MEXICO STATE PLANE COORDINATE SYSTEM, EAST ZONE, NAD 83, IN U.S. SURVEY FEET.
3. CONTRACTOR SHALL CONTACT "ONE-CALL" FOR LOCATION OF ANY MARKED OR UNMARKED BURIED PIPELINE OR CABLES ON WELL PAD AND/OR ACCESS ROAD AT LEAST TWO (2) WORKING DAYS PRIOR TO CONSTRUCTION.
4. UNITED FIELD SERVICES, INC. IS NOT LIABLE FOR UNDERGROUND UTILITIES OR PIPELINES.
5. CUT AND FILL CALCULATIONS ARE ROUNDED TO THE NEAREST FOOT.

I, JOHN A. VUKONICH, NEW MEXICO PROFESSIONAL SURVEYOR NO. 14831, DO HEREBY CERTIFY THAT THIS SURVEY PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO, AND THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. I FURTHER CERTIFY THAT THIS SURVEY IS NOT A LAND DIVISION OR SUBDIVISION AS DEFINED IN THE NEW MEXICO SUBDIVISION ACT.

*John A. Vukonich*  
 JOHN A. VUKONICH P.E./P.S. N.M.P.S. 14831 SURVEYOR  
 3/7/2024  
 DATE



OWNER	SQ. FT.	ACRES
BUREAU OF LAND MANAGEMENT	149,968	3.443

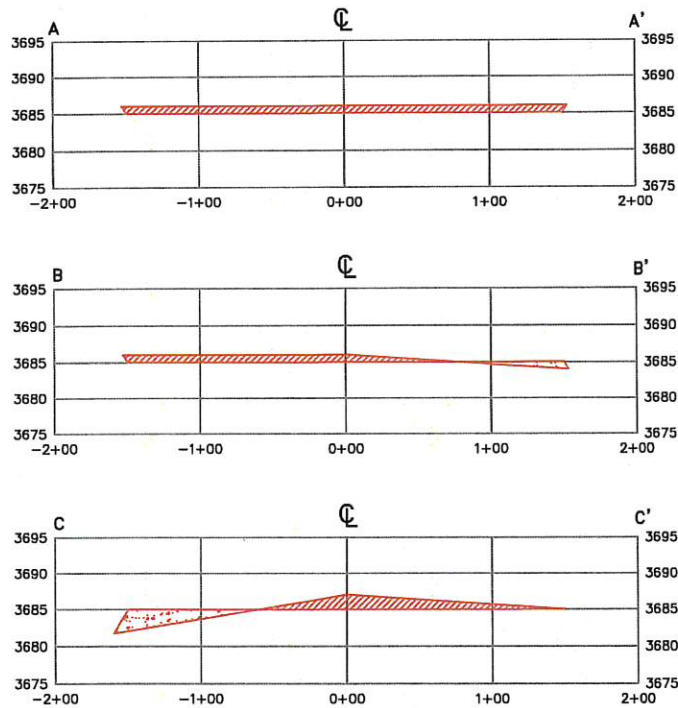
**United Field Services Inc.**  
 P.O. Box 3651  
 Farmington, NM 87499  
 Office: (505) 334-0408

DWG. No.: 11881-CTB  
 Drawn by: C.B. Date Drawn: 2/29/24  
 Surveyed: 2/16-2/27/24 App by: J.A.V.


Revision/By:  
 Rev. Date:  
 Sheet: 1

AVANT OPERATING, LLC  
 EMERALD FEDERAL COM CTB  
 SECTION 6, T-19-S, R-33-E, N.M.P.M.,  
 LEA COUNTY, N.M.

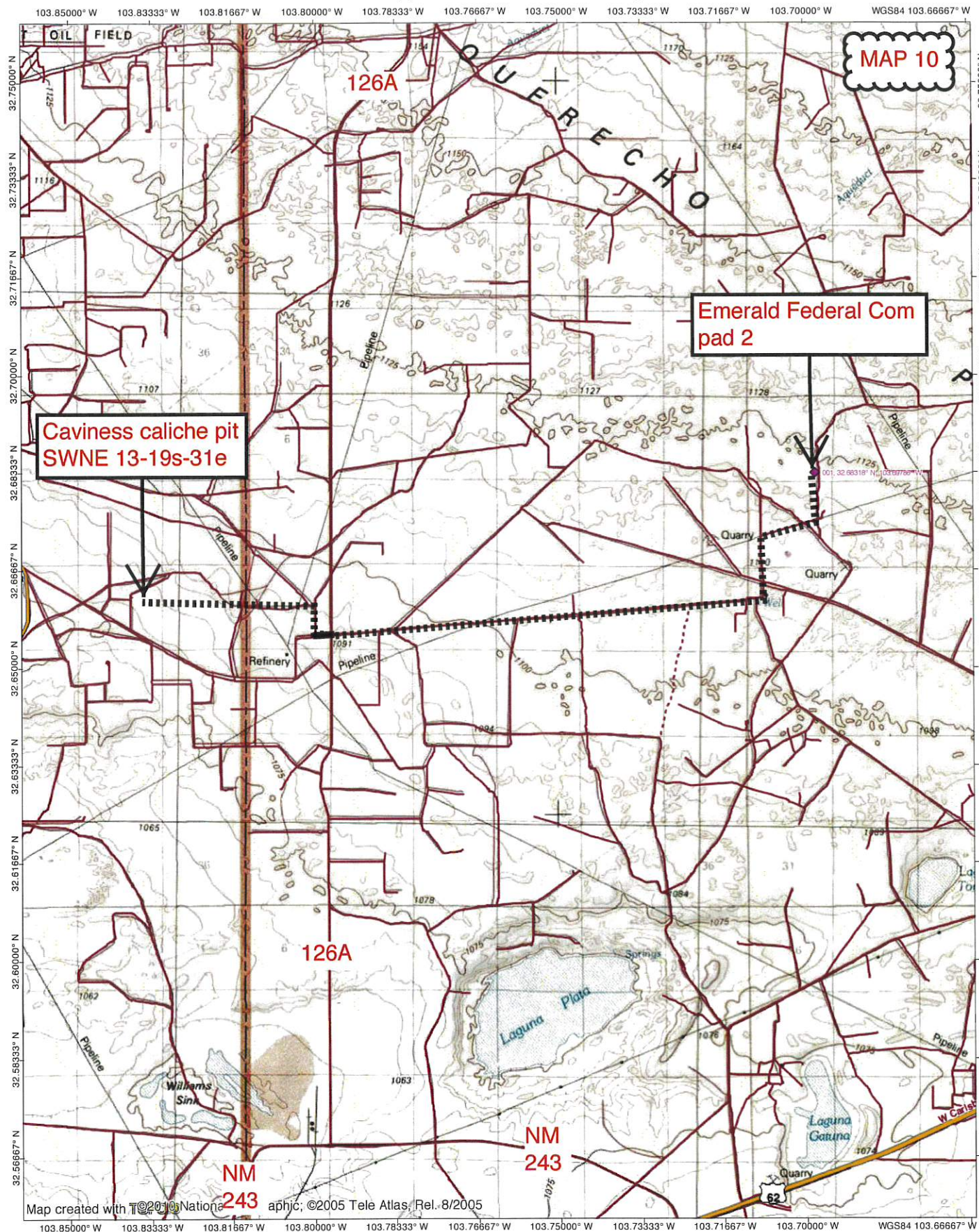
MAP 9D



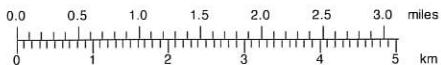
Horizontal Scale: 1" = 100'  
 Vertical Scale: 1" = 20'

		P.O. Box 3651 Farmington, NM 87499 Office: (505) 334-0408	
DWG. No. : 11881-CTB		Revision/By:	
Drawn by: C.B.	Date Drawn: 2/29/24	Rev. Date:	
Surveyed: 2/16-2/27/24	App by: J.A.V.	Sheet: 2	

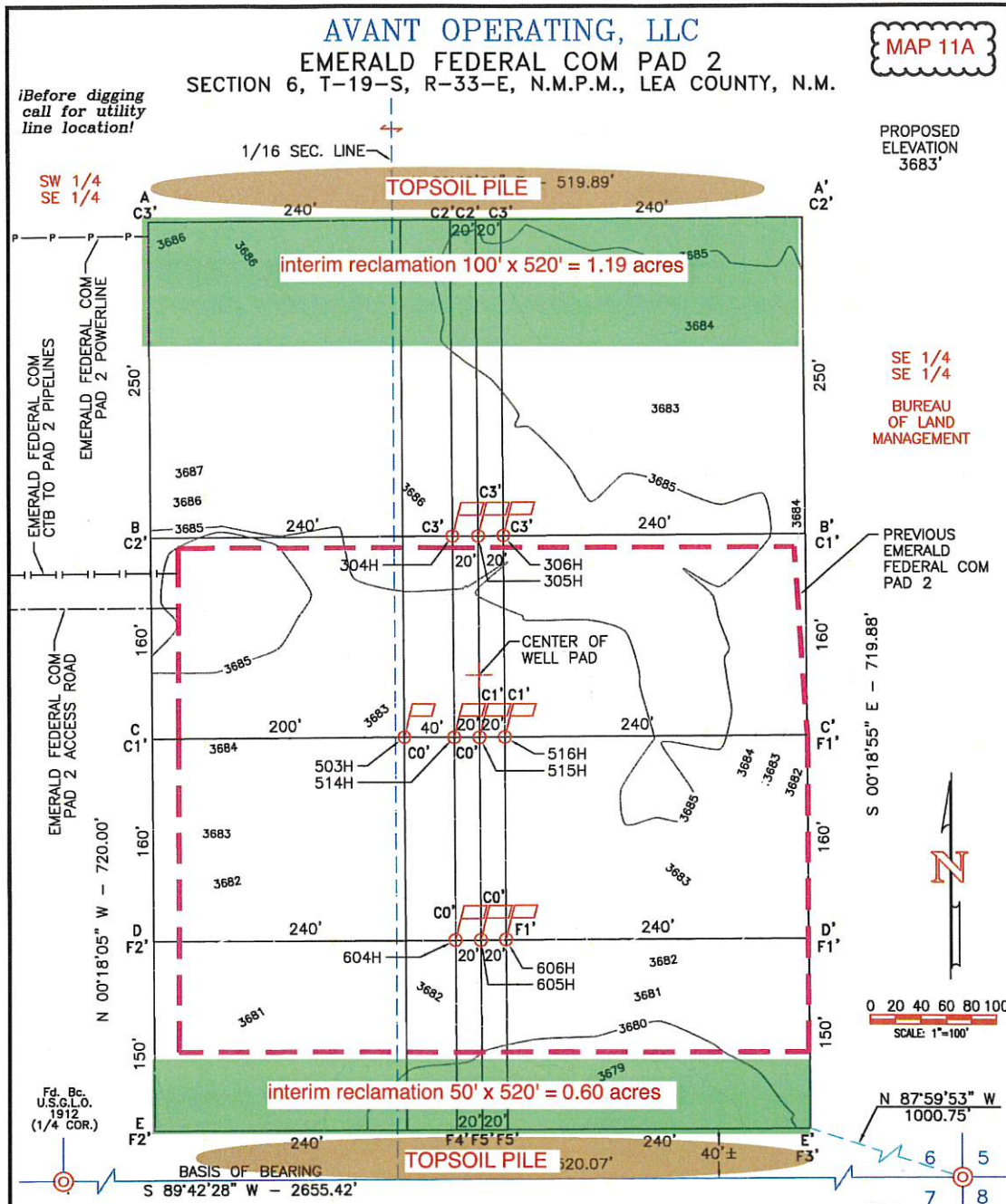
TOPO! map printed on 06/16/24 from "Untitled.tpo"



Map created with T@2010 Nations 243 aphjc; ©2005 Tele Atlas; Rel. 8/2005







MAP 11A

AVANT OPERATING, LLC  
EMERALD FEDERAL COM PAD 2  
SECTION 6, T-19-S, R-33-E, N.M.P.M., LEA COUNTY, N.M.

Before digging call for utility line location!

PROPOSED ELEVATION 3683'

SE 1/4 SE 1/4 BUREAU OF LAND MANAGEMENT

PREVIOUS EMERALD FEDERAL COM PAD 2

S 00°18'55" E - 719.88'

0 20 40 60 80 100 SCALE: 1"=100'

N 87°59'53" W 1000.75'

Fd. Bc. U.S.G.L.O. 1912

CENTER OF WELL PAD FOOTAGES	NAD 83
400' FSL	LAT: 32.6831883' N
1260' FEL	LONG: 103.6978635' W

OWNER	SQ. FT.	ACRES
BUREAU OF LAND MANAGEMENT	374,355	8.594

WELL FLAG	FSL	FEL
304H	510'	1280'
305H	510'	1260'
306H	510'	1240'
503H	350'	1320'
514H	350'	1280'
515H	350'	1260'
516H	350'	1240'
604H	190'	1280'
605H	190'	1260'
606H	190'	1240'

- NOTES:**
1. BASIS OF BEARING: MONUMENTED SOUTH LINE OF THE SOUTHEAST QUARTER OF SECTION 6, T-19-S, R-33-E, N.M.P.M., LEA COUNTY, NEW MEXICO. BEARS: S 89°42'28" W - 2655.42'
  2. ALL BEARINGS, DISTANCES & COORDINATES SHOWN ARE BASED UPON THE NEW MEXICO STATE PLANE COORDINATE SYSTEM, EAST ZONE, NAD 83, IN U.S. SURVEY FEET.
  3. CONTRACTOR SHALL CONTACT "ONE-CALL" FOR LOCATION OF ANY MARKED OR UNMARKED BURIED PIPELINE OR CABLES ON WELL PAD AND/OR ACCESS ROAD AT LEAST TWO (2) WORKING DAYS PRIOR TO CONSTRUCTION.
  4. UNITED FIELD SERVICES, INC. IS NOT LIABLE FOR UNDERGROUND UTILITIES OR PIPELINES.
  5. CUT AND FILL CALCULATIONS ARE ROUNDED TO THE NEAREST FOOT.

I, JOHN A. VUKONICH, NEW MEXICO PROFESSIONAL SURVEYOR NO. 14831, DO HEREBY CERTIFY THAT THIS SURVEY PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY; THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO; AND THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. I FURTHER CERTIFY THAT THIS SURVEY IS NOT A LAND DIVISION OR SUBDIVISION AS DEFINED IN THE NEW MEXICO SUBDIVISION ACT.

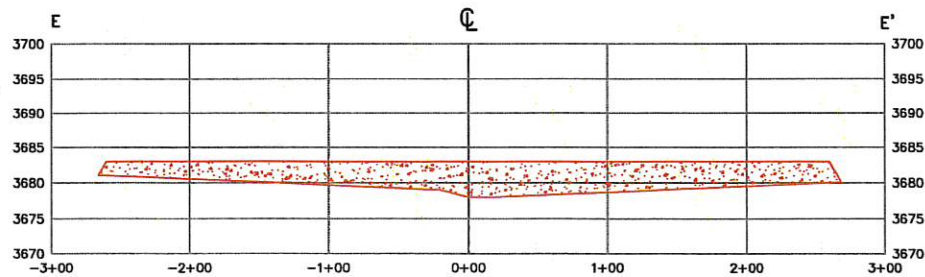
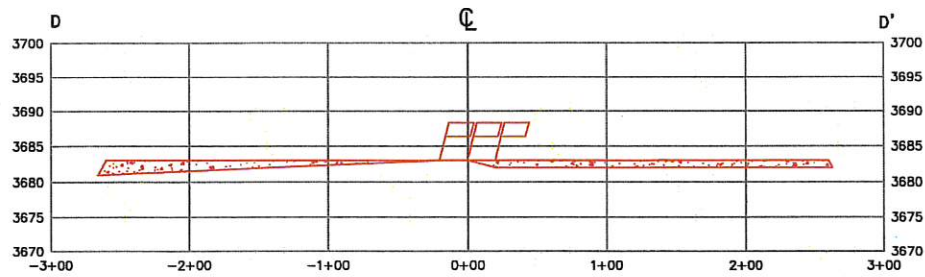
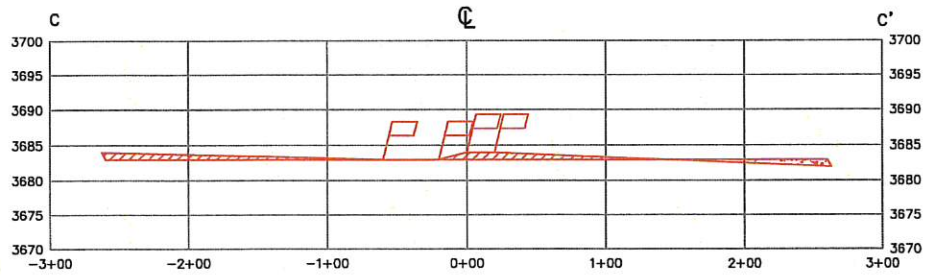
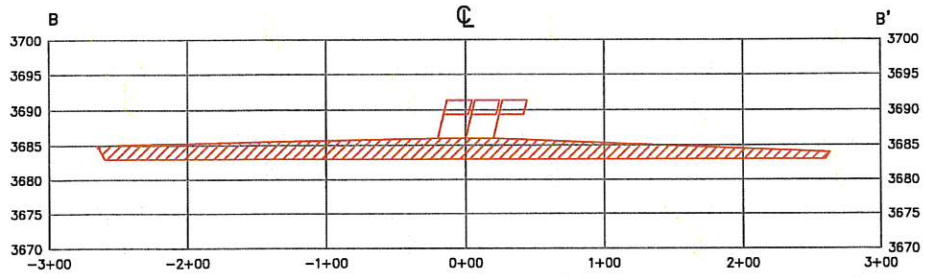
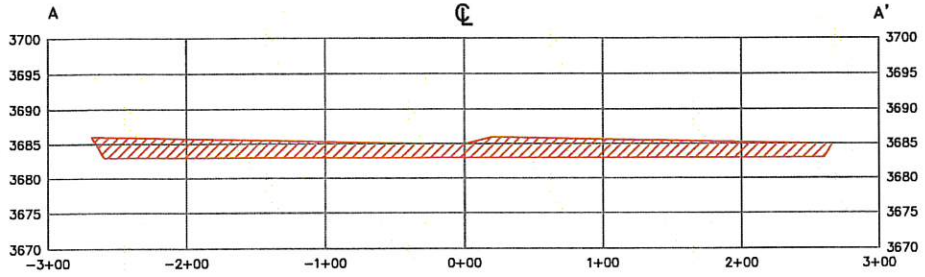
JOHN A. VUKONICH P.E./P.S., N.M.P.S. 14831  
DATE 6/7/2024

**UNITED FIELD SERVICES INC.**  
P.O. BOX 3651 FARMINGTON, NM 87499 OFFICE: (505) 334-0408


DWG. No. : 11847-PAD-2	Revision/By: 4/C.B.
Drawn by: K.S.	Date Drawn: 11/20/23
Surveyed: 10/6/23-5/16/24	App by: J.A.V.
	Rev. Date: 05/23/24
	Sheet: 1

AVANT OPERATING, LLC  
 EMERALD FEDERAL COM PAD 2  
 SECTION 6, T-19-S, R-33-E, N.M.P.M., LEA COUNTY, N.M.

MAP 11B



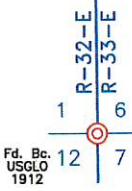
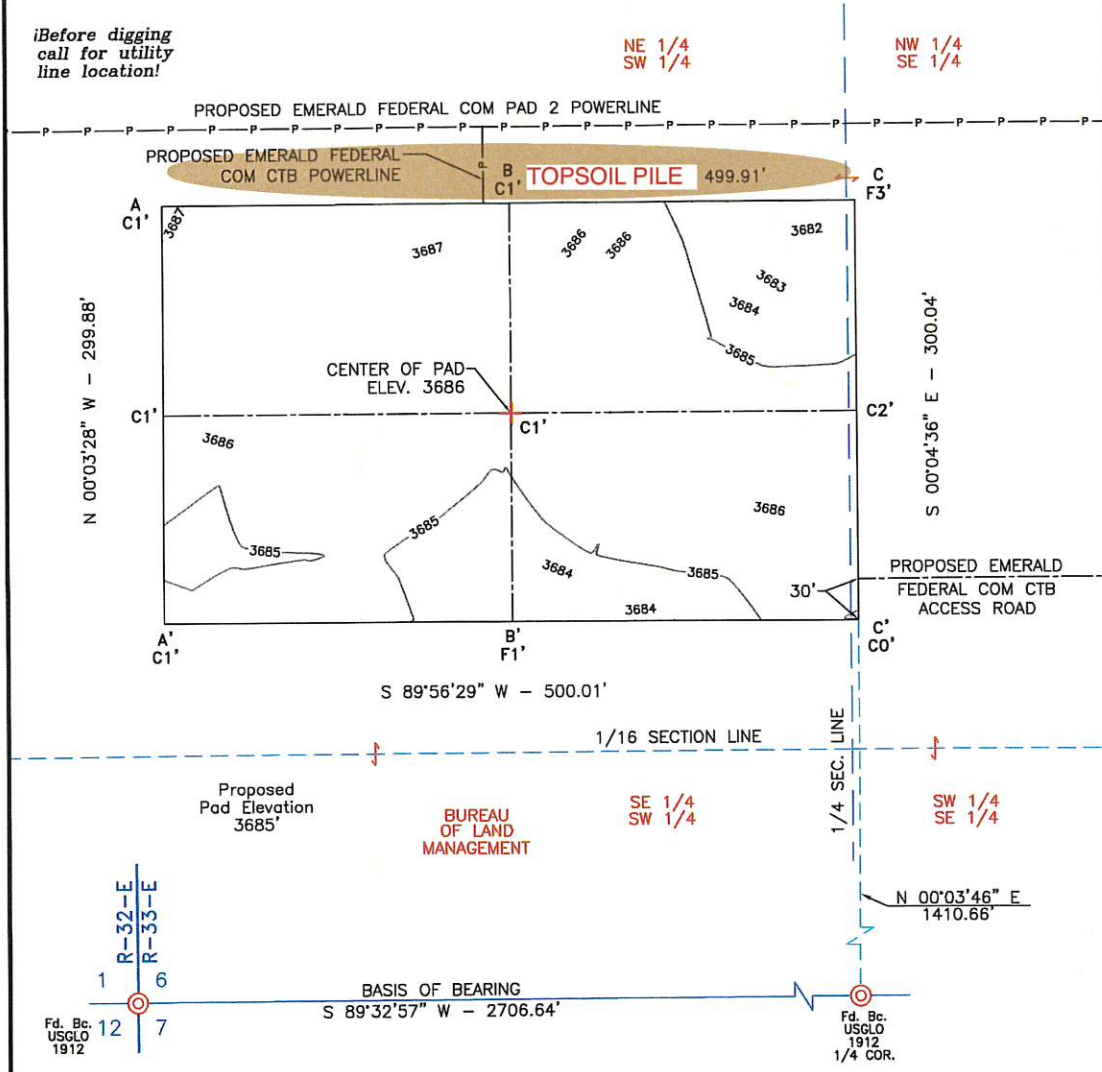
Horizontal Scale: 1" = 100'  
 Vertical Scale: 1" = 20'

 <b>UNITED</b> FIELD SERVICES INC.		P.O. BOX 3651 FARMINGTON, NM 87499 OFFICE: (505) 334-0408
DWG. No. : 11847-PAD-2	Revision/By: 4/C.B.	
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AVANT OPERATING, LLC  
 EMERALD FEDERAL COM CTB  
 SECTION 6, T-19-S, R-33-E, N.M.P.M.,  
 LEA COUNTY, N.M.

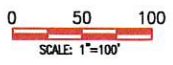
MAP 11C

*Before digging  
 call for utility  
 line location!*



CENTER OF PAD FOOTAGES	NAD 83
1562' FSL	LAT: 32.6863849' N
2470' FWL	LONG: 103.7031776' W

- NOTES:**
1. BASIS OF BEARING: MONUMENTED SOUTH LINE OF THE SOUTHWEST QUARTER OF SECTION 6, T-19-S, R-33-E, N.M.P.M., LEA COUNTY, NEW MEXICO. BEARS: S 89°32'57" W - 2706.64'
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OWNER	SQ. FT.	ACRES
BUREAU OF LAND MANAGEMENT	149,968	3.443

I, JOHN A. VUKONICH, NEW MEXICO PROFESSIONAL SURVEYOR NO. 14831, DO HEREBY CERTIFY THAT THIS SURVEY PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY AND THAT IT MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO, AND THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. I FURTHER CERTIFY THAT THIS SURVEY IS NOT A LAND DIVISION OR SUBDIVISION AS DEFINED IN THE NEW MEXICO SUBDIVISION ACT.

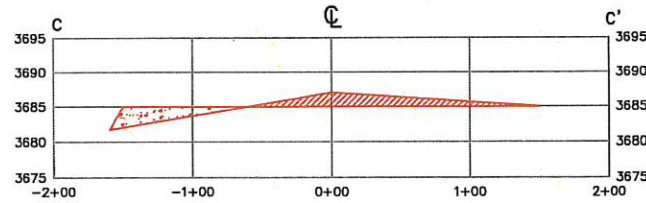
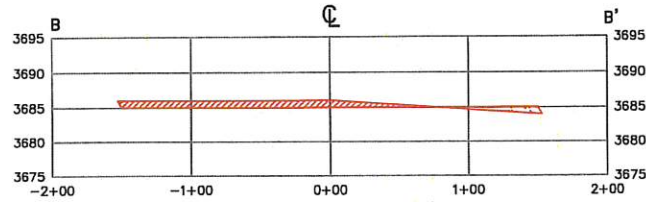
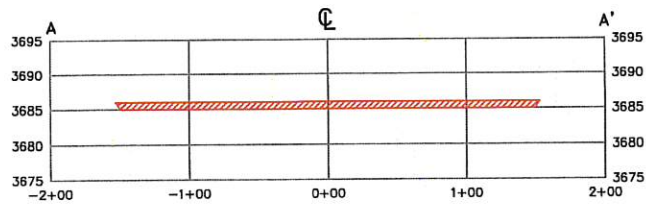
*John A. Vukonich*  
 JOHN A. VUKONICH P.E./P.S. N.M.P.S. 14831  
 DATE 3/7/2024

**United Field Services Inc.**  
 P.O. Box 3851  
 Farmington, NM 87499  
 Office: (505) 334-0408


DWG. No. : 11881-CTB	Revision/By:
Drawn by: C.B.	Date Drawn: 2/29/24
Surveyed: 2/16-2/27/24	App by: J.A.V.
	Rev. Date:
	Sheet: 1

AVANT OPERATING, LLC  
 EMERALD FEDERAL COM CTB  
 SECTION 6, T-19-S, R-33-E, N.M.P.M.,  
 LEA COUNTY, N.M.

MAP 11D



Horizontal Scale: 1" = 100'  
 Vertical Scale: 1" = 20'

 United Field Services Inc.		P.O. Box 3851 Farmington, NM 87499 Office: (505) 334-0408	
DWG. No. : 11881-CTB		Revision/By:	
Drawn by: C.B.	Date Drawn: 2/29/24	Rev. Date:	
Surveyed: 2/16-2/27/24	App by: J.A.V.	Sheet: 2	

**WELL DETAILS: Emerald Fed Com 515H**

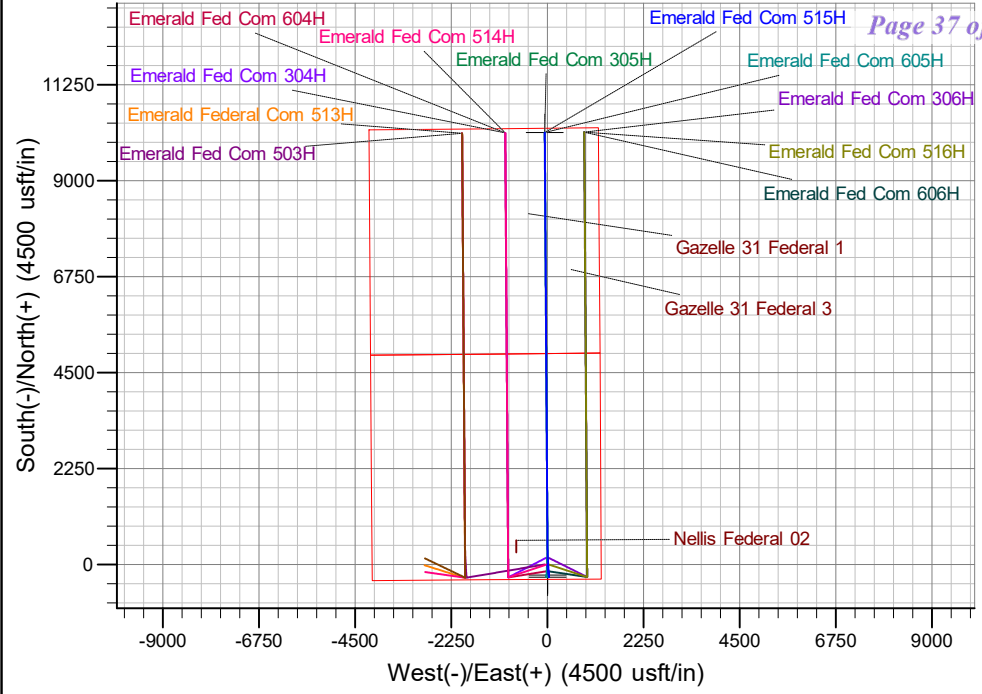
Ground Elev: 3683.7 KB: Original Well Elev

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	612810.51	736852.87	32.683051	-103.697864

**PROJECT DETAILS: Lea Co., NM (NAD 83)**

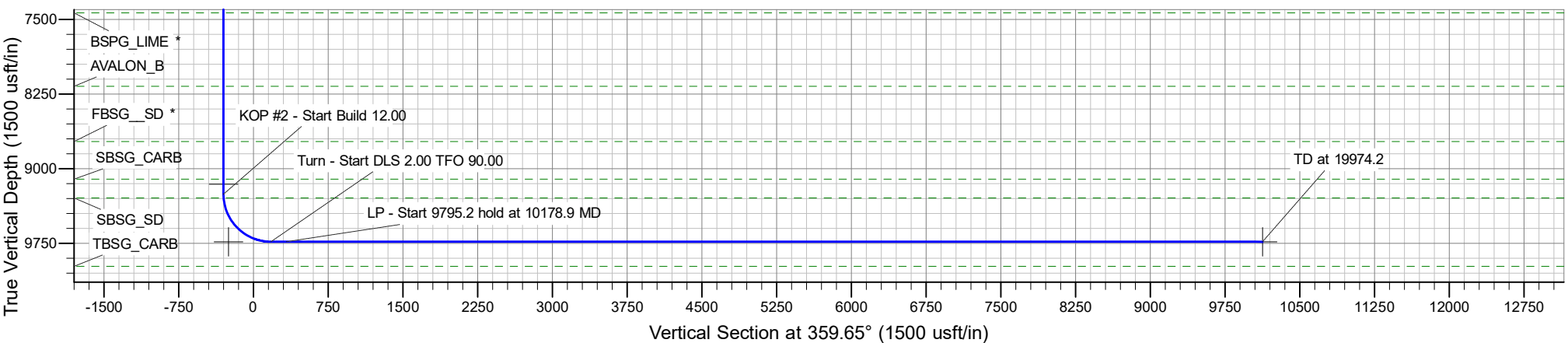
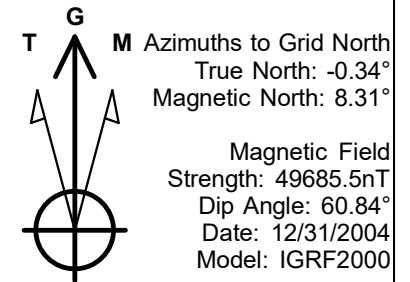
Geodetic System: US State Plane 1983  
 Datum: North American Datum 1983  
 Ellipsoid: GRS 1980  
 Zone: New Mexico Eastern Zone

System Datum: Mean Sea Level



**SECTION DETAILS**

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Annotation
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	2000.0	0.00	0.00	2000.0	0.0	0.0	0.00	0.00	0.0	KOP - Start Build 2.00
3	2322.1	6.44	172.84	2321.4	-17.9	2.3	2.00	172.84	-18.0	Start 2372.2 hold at 2322.1 MD
4	4694.3	6.44	172.84	4678.6	-282.0	35.4	0.00	0.00	-282.2	Start Drop -2.00
5	5016.3	0.00	0.00	5000.0	-299.9	37.7	2.00	180.00	-300.2	Start 4256.5 hold at 5016.3 MD
6	9272.8	0.00	0.00	9256.5	-299.9	37.7	0.00	0.00	-300.2	KOP #2 - Start Build 12.00
7	10022.8	90.00	356.50	9734.0	176.6	8.6	12.00	356.50	176.6	Turn - Start DLS 2.00 TFO 90.00
8	10178.9	90.00	359.62	9734.0	332.6	3.3	2.00	90.00	332.6	LP - Start 9795.2 hold at 10178.9 MD
9	19974.2	90.00	359.62	9734.0	10127.6	-61.3	0.00	0.00	10127.8	TD at 19974.2



# **Avant Operating, LLC**

**Lea Co., NM (NAD 83)**

**Emerald Pad 2**

**Emerald Fed Com 515H**

**OH**

**Plan: Plan 0.1**

## **Standard Planning Report**

**24 June, 2024**

Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Emerald Fed Com 515H
<b>Company:</b>	Avant Operating, LLC	<b>TVD Reference:</b>	WELL @ 3710.2usft (Original Well Elev)
<b>Project:</b>	Lea Co., NM (NAD 83)	<b>MD Reference:</b>	WELL @ 3710.2usft (Original Well Elev)
<b>Site:</b>	Emerald Pad 2	<b>North Reference:</b>	Grid
<b>Well:</b>	Emerald Fed Com 515H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan 0.1		

<b>Project</b>	Lea Co., NM (NAD 83)		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	New Mexico Eastern Zone		

<b>Site</b>	Emerald Pad 2				
<b>Site Position:</b>		<b>Northing:</b>	612,970.48 usft	<b>Latitude:</b>	32.683491
<b>From:</b>	Lat/Long	<b>Easting:</b>	736,832.01 usft	<b>Longitude:</b>	-103.697929
<b>Position Uncertainty:</b>	0.0 usft	<b>Slot Radius:</b>	13-3/16 "		

<b>Well</b>	Emerald Fed Com 515H					
<b>Well Position</b>	<b>+N/-S</b>	0.0 usft	<b>Northing:</b>	612,810.51 usft	<b>Latitude:</b>	32.683051
	<b>+E/-W</b>	0.0 usft	<b>Easting:</b>	736,852.87 usft	<b>Longitude:</b>	-103.697864
<b>Position Uncertainty</b>		0.0 usft	<b>Wellhead Elevation:</b>	usft	<b>Ground Level:</b>	3,683.7 usft
<b>Grid Convergence:</b>	0.34 °					

<b>Wellbore</b>	OH				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2000	12/31/2004	8.66	60.84	49,685.45175380

<b>Design</b>	Plan 0.1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	359.65

<b>Plan Survey Tool Program</b>	<b>Date</b>	6/24/2024		
<b>Depth From (usft)</b>	<b>Depth To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>
1	0.0	19,973.7 Plan 0.1 (OH)	B001Mb_MWD+HRGM OWSG MWD + HRGM	

Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Emerald Fed Com 515H
<b>Company:</b>	Avant Operating, LLC	<b>TVD Reference:</b>	WELL @ 3710.2usft (Original Well Elev)
<b>Project:</b>	Lea Co., NM (NAD 83)	<b>MD Reference:</b>	WELL @ 3710.2usft (Original Well Elev)
<b>Site:</b>	Emerald Pad 2	<b>North Reference:</b>	Grid
<b>Well:</b>	Emerald Fed Com 515H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan 0.1		

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,322.1	6.44	172.84	2,321.4	-17.9	2.3	2.00	2.00	0.00	172.84	
4,694.3	6.44	172.84	4,678.6	-282.0	35.4	0.00	0.00	0.00	0.00	
5,016.3	0.00	0.00	5,000.0	-299.9	37.7	2.00	-2.00	0.00	180.00	
9,272.8	0.00	0.00	9,256.5	-299.9	37.7	0.00	0.00	0.00	0.00	
10,022.8	90.00	356.50	9,734.0	176.6	8.6	12.00	12.00	0.00	356.50	
10,178.9	90.00	359.62	9,734.0	332.6	3.3	2.00	0.00	2.00	90.00	
19,974.2	90.00	359.62	9,734.0	10,127.6	-61.3	0.00	0.00	0.00	0.00	LTP/BHL - Emerald F



Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Emerald Fed Com 515H
<b>Company:</b>	Avant Operating, LLC	<b>TVD Reference:</b>	WELL @ 3710.2usft (Original Well Elev)
<b>Project:</b>	Lea Co., NM (NAD 83)	<b>MD Reference:</b>	WELL @ 3710.2usft (Original Well Elev)
<b>Site:</b>	Emerald Pad 2	<b>North Reference:</b>	Grid
<b>Well:</b>	Emerald Fed Com 515H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan 0.1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,460.0	0.00	0.00	1,460.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>RUSTLER</b>									
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,754.0	0.00	0.00	1,754.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>SOLADO</b>									
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>KOP - Start Build 2.00</b>									
2,100.0	2.00	172.84	2,100.0	-1.7	0.2	-1.7	2.00	2.00	0.00
2,200.0	4.00	172.84	2,199.8	-6.9	0.9	-6.9	2.00	2.00	0.00
2,300.0	6.00	172.84	2,299.5	-15.6	2.0	-15.6	2.00	2.00	0.00
2,322.1	6.44	172.84	2,321.4	-17.9	2.3	-18.0	2.00	2.00	0.00
<b>Start 2372.2 hold at 2322.1 MD</b>									
2,400.0	6.44	172.84	2,398.8	-26.6	3.3	-26.6	0.00	0.00	0.00
2,500.0	6.44	172.84	2,498.2	-37.7	4.7	-37.8	0.00	0.00	0.00
2,600.0	6.44	172.84	2,597.6	-48.9	6.1	-48.9	0.00	0.00	0.00
2,700.0	6.44	172.84	2,696.9	-60.0	7.5	-60.1	0.00	0.00	0.00
2,800.0	6.44	172.84	2,796.3	-71.1	8.9	-71.2	0.00	0.00	0.00
2,900.0	6.44	172.84	2,895.7	-82.3	10.3	-82.3	0.00	0.00	0.00
3,000.0	6.44	172.84	2,995.0	-93.4	11.7	-93.5	0.00	0.00	0.00
3,100.0	6.44	172.84	3,094.4	-104.5	13.1	-104.6	0.00	0.00	0.00
3,200.0	6.44	172.84	3,193.8	-115.7	14.5	-115.7	0.00	0.00	0.00
3,300.0	6.44	172.84	3,293.1	-126.8	15.9	-126.9	0.00	0.00	0.00
3,400.0	6.44	172.84	3,392.5	-137.9	17.3	-138.0	0.00	0.00	0.00
3,460.9	6.44	172.84	3,453.0	-144.7	18.2	-144.8	0.00	0.00	0.00
<b>YATES</b>									
3,500.0	6.44	172.84	3,491.9	-149.1	18.7	-149.2	0.00	0.00	0.00
3,600.0	6.44	172.84	3,591.3	-160.2	20.1	-160.3	0.00	0.00	0.00
3,700.0	6.44	172.84	3,690.6	-171.3	21.5	-171.4	0.00	0.00	0.00
3,800.0	6.44	172.84	3,790.0	-182.4	22.9	-182.6	0.00	0.00	0.00
3,900.0	6.44	172.84	3,889.4	-193.6	24.3	-193.7	0.00	0.00	0.00
4,000.0	6.44	172.84	3,988.7	-204.7	25.7	-204.9	0.00	0.00	0.00
4,100.0	6.44	172.84	4,088.1	-215.8	27.1	-216.0	0.00	0.00	0.00
4,200.0	6.44	172.84	4,187.5	-227.0	28.5	-227.1	0.00	0.00	0.00
4,300.0	6.44	172.84	4,286.8	-238.1	29.9	-238.3	0.00	0.00	0.00
4,400.0	6.44	172.84	4,386.2	-249.2	31.3	-249.4	0.00	0.00	0.00

Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Emerald Fed Com 515H
<b>Company:</b>	Avant Operating, LLC	<b>TVD Reference:</b>	WELL @ 3710.2usft (Original Well Elev)
<b>Project:</b>	Lea Co., NM (NAD 83)	<b>MD Reference:</b>	WELL @ 3710.2usft (Original Well Elev)
<b>Site:</b>	Emerald Pad 2	<b>North Reference:</b>	Grid
<b>Well:</b>	Emerald Fed Com 515H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan 0.1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
4,500.0	6.44	172.84	4,485.6	-260.4	32.7	-260.6	0.00	0.00	0.00	
4,600.0	6.44	172.84	4,584.9	-271.5	34.1	-271.7	0.00	0.00	0.00	
4,694.3	6.44	172.84	4,678.6	-282.0	35.4	-282.2	0.00	0.00	0.00	
<b>Start Drop -2.00</b>										
4,700.0	6.33	172.84	4,684.3	-282.6	35.5	-282.8	2.00	-2.00	0.00	
4,745.9	5.41	172.84	4,730.0	-287.3	36.1	-287.5	2.00	-2.00	0.00	
<b>CAPITAN_REEF</b>										
4,800.0	4.33	172.84	4,783.9	-291.8	36.7	-292.0	2.00	-2.00	0.00	
4,900.0	2.33	172.84	4,883.7	-297.6	37.4	-297.8	2.00	-2.00	0.00	
5,000.0	0.33	172.84	4,983.7	-299.9	37.7	-300.1	2.00	-2.00	0.00	
5,016.3	0.00	0.00	5,000.0	-299.9	37.7	-300.2	2.00	-2.00	0.00	
<b>Start 4256.5 hold at 5016.3 MD</b>										
5,100.0	0.00	0.00	5,083.7	-299.9	37.7	-300.2	0.00	0.00	0.00	
5,167.3	0.00	0.00	5,151.0	-299.9	37.7	-300.2	0.00	0.00	0.00	
<b>CHERRY_CNYN</b>										
5,200.0	0.00	0.00	5,183.7	-299.9	37.7	-300.2	0.00	0.00	0.00	
5,300.0	0.00	0.00	5,283.7	-299.9	37.7	-300.2	0.00	0.00	0.00	
5,400.0	0.00	0.00	5,383.7	-299.9	37.7	-300.2	0.00	0.00	0.00	
5,500.0	0.00	0.00	5,483.7	-299.9	37.7	-300.2	0.00	0.00	0.00	
5,600.0	0.00	0.00	5,583.7	-299.9	37.7	-300.2	0.00	0.00	0.00	
5,700.0	0.00	0.00	5,683.7	-299.9	37.7	-300.2	0.00	0.00	0.00	
5,784.3	0.00	0.00	5,768.0	-299.9	37.7	-300.2	0.00	0.00	0.00	
<b>BRUSHY_CANYON</b>										
5,800.0	0.00	0.00	5,783.7	-299.9	37.7	-300.2	0.00	0.00	0.00	
5,900.0	0.00	0.00	5,883.7	-299.9	37.7	-300.2	0.00	0.00	0.00	
6,000.0	0.00	0.00	5,983.7	-299.9	37.7	-300.2	0.00	0.00	0.00	
6,100.0	0.00	0.00	6,083.7	-299.9	37.7	-300.2	0.00	0.00	0.00	
6,200.0	0.00	0.00	6,183.7	-299.9	37.7	-300.2	0.00	0.00	0.00	
6,300.0	0.00	0.00	6,283.7	-299.9	37.7	-300.2	0.00	0.00	0.00	
6,400.0	0.00	0.00	6,383.7	-299.9	37.7	-300.2	0.00	0.00	0.00	
6,500.0	0.00	0.00	6,483.7	-299.9	37.7	-300.2	0.00	0.00	0.00	
6,600.0	0.00	0.00	6,583.7	-299.9	37.7	-300.2	0.00	0.00	0.00	
6,700.0	0.00	0.00	6,683.7	-299.9	37.7	-300.2	0.00	0.00	0.00	
6,800.0	0.00	0.00	6,783.7	-299.9	37.7	-300.2	0.00	0.00	0.00	
6,900.0	0.00	0.00	6,883.7	-299.9	37.7	-300.2	0.00	0.00	0.00	
7,000.0	0.00	0.00	6,983.7	-299.9	37.7	-300.2	0.00	0.00	0.00	
7,100.0	0.00	0.00	7,083.7	-299.9	37.7	-300.2	0.00	0.00	0.00	
7,200.0	0.00	0.00	7,183.7	-299.9	37.7	-300.2	0.00	0.00	0.00	
7,300.0	0.00	0.00	7,283.7	-299.9	37.7	-300.2	0.00	0.00	0.00	
7,400.0	0.00	0.00	7,383.7	-299.9	37.7	-300.2	0.00	0.00	0.00	
7,450.3	0.00	0.00	7,434.0	-299.9	37.7	-300.2	0.00	0.00	0.00	
<b>BSPG_LIME *</b>										
7,500.0	0.00	0.00	7,483.7	-299.9	37.7	-300.2	0.00	0.00	0.00	
7,600.0	0.00	0.00	7,583.7	-299.9	37.7	-300.2	0.00	0.00	0.00	
7,700.0	0.00	0.00	7,683.7	-299.9	37.7	-300.2	0.00	0.00	0.00	
7,800.0	0.00	0.00	7,783.7	-299.9	37.7	-300.2	0.00	0.00	0.00	
7,900.0	0.00	0.00	7,883.7	-299.9	37.7	-300.2	0.00	0.00	0.00	
8,000.0	0.00	0.00	7,983.7	-299.9	37.7	-300.2	0.00	0.00	0.00	
8,100.0	0.00	0.00	8,083.7	-299.9	37.7	-300.2	0.00	0.00	0.00	
8,188.3	0.00	0.00	8,172.0	-299.9	37.7	-300.2	0.00	0.00	0.00	
<b>AVALON_B</b>										
8,200.0	0.00	0.00	8,183.7	-299.9	37.7	-300.2	0.00	0.00	0.00	
8,300.0	0.00	0.00	8,283.7	-299.9	37.7	-300.2	0.00	0.00	0.00	

Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Emerald Fed Com 515H
<b>Company:</b>	Avant Operating, LLC	<b>TVD Reference:</b>	WELL @ 3710.2usft (Original Well Elev)
<b>Project:</b>	Lea Co., NM (NAD 83)	<b>MD Reference:</b>	WELL @ 3710.2usft (Original Well Elev)
<b>Site:</b>	Emerald Pad 2	<b>North Reference:</b>	Grid
<b>Well:</b>	Emerald Fed Com 515H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan 0.1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
8,400.0	0.00	0.00	8,383.7	-299.9	37.7	-300.2	0.00	0.00	0.00	
8,500.0	0.00	0.00	8,483.7	-299.9	37.7	-300.2	0.00	0.00	0.00	
8,600.0	0.00	0.00	8,583.7	-299.9	37.7	-300.2	0.00	0.00	0.00	
8,700.0	0.00	0.00	8,683.7	-299.9	37.7	-300.2	0.00	0.00	0.00	
8,743.3	0.00	0.00	8,727.0	-299.9	37.7	-300.2	0.00	0.00	0.00	
<b>FBSG_SD *</b>										
8,800.0	0.00	0.00	8,783.7	-299.9	37.7	-300.2	0.00	0.00	0.00	
8,900.0	0.00	0.00	8,883.7	-299.9	37.7	-300.2	0.00	0.00	0.00	
9,000.0	0.00	0.00	8,983.7	-299.9	37.7	-300.2	0.00	0.00	0.00	
9,100.0	0.00	0.00	9,083.7	-299.9	37.7	-300.2	0.00	0.00	0.00	
9,120.3	0.00	0.00	9,104.0	-299.9	37.7	-300.2	0.00	0.00	0.00	
<b>SBSG_CARB</b>										
9,172.3	0.00	0.00	9,156.0	-299.9	37.7	-300.2	0.00	0.00	0.00	
<b>KOP - Emerald Fed Com 515H</b>										
9,200.0	0.00	0.00	9,183.7	-299.9	37.7	-300.2	0.00	0.00	0.00	
9,272.8	0.00	0.00	9,256.5	-299.9	37.7	-300.2	0.00	0.00	0.00	
<b>KOP #2 - Start Build 12.00</b>										
9,275.0	0.26	356.50	9,258.7	-299.9	37.7	-300.1	12.00	12.00	0.00	
9,300.0	3.26	356.50	9,283.7	-299.2	37.7	-299.4	12.00	12.00	0.00	
9,310.4	4.50	356.50	9,294.0	-298.5	37.6	-298.7	12.00	12.00	0.00	
<b>SBSG_SD</b>										
9,325.0	6.26	356.50	9,308.6	-297.1	37.5	-297.3	12.00	12.00	0.00	
9,350.0	9.26	356.50	9,333.3	-293.7	37.3	-293.9	12.00	12.00	0.00	
9,375.0	12.26	356.50	9,357.9	-289.1	37.0	-289.3	12.00	12.00	0.00	
9,400.0	15.26	356.50	9,382.2	-283.1	36.7	-283.3	12.00	12.00	0.00	
9,425.0	18.26	356.50	9,406.1	-275.9	36.2	-276.1	12.00	12.00	0.00	
9,450.0	21.26	356.50	9,429.6	-267.5	35.7	-267.7	12.00	12.00	0.00	
9,475.0	24.26	356.50	9,452.7	-257.8	35.1	-258.1	12.00	12.00	0.00	
9,500.0	27.26	356.50	9,475.2	-247.0	34.5	-247.2	12.00	12.00	0.00	
9,525.0	30.26	356.50	9,497.1	-235.0	33.7	-235.2	12.00	12.00	0.00	
9,550.0	33.26	356.50	9,518.4	-221.9	32.9	-222.1	12.00	12.00	0.00	
9,575.0	36.26	356.50	9,538.9	-207.6	32.1	-207.8	12.00	12.00	0.00	
9,600.0	39.26	356.50	9,558.7	-192.4	31.1	-192.5	12.00	12.00	0.00	
9,625.0	42.26	356.50	9,577.6	-176.1	30.1	-176.2	12.00	12.00	0.00	
9,650.0	45.26	356.50	9,595.6	-158.8	29.1	-159.0	12.00	12.00	0.00	
9,675.0	48.26	356.50	9,612.8	-140.6	28.0	-140.8	12.00	12.00	0.00	
<b>FTP - Emerald Fed Com 515H</b>										
9,700.0	51.26	356.50	9,628.9	-121.6	26.8	-121.7	12.00	12.00	0.00	
9,725.0	54.26	356.50	9,644.0	-101.7	25.6	-101.9	12.00	12.00	0.00	
9,750.0	57.26	356.50	9,658.1	-81.1	24.3	-81.2	12.00	12.00	0.00	
9,775.0	60.26	356.50	9,671.1	-59.8	23.0	-59.9	12.00	12.00	0.00	
9,800.0	63.26	356.50	9,682.9	-37.8	21.7	-37.9	12.00	12.00	0.00	
9,825.0	66.26	356.50	9,693.6	-15.2	20.3	-15.3	12.00	12.00	0.00	
9,850.0	69.26	356.50	9,703.0	7.9	18.9	7.8	12.00	12.00	0.00	
9,875.0	72.26	356.50	9,711.3	31.4	17.4	31.3	12.00	12.00	0.00	
9,900.0	75.26	356.50	9,718.3	55.4	16.0	55.3	12.00	12.00	0.00	
9,925.0	78.26	356.50	9,724.0	79.7	14.5	79.6	12.00	12.00	0.00	
9,950.0	81.26	356.50	9,728.4	104.2	13.0	104.2	12.00	12.00	0.00	
9,975.0	84.26	356.50	9,731.6	129.0	11.5	128.9	12.00	12.00	0.00	
10,000.0	87.26	356.50	9,733.4	153.9	9.9	153.8	12.00	12.00	0.00	
10,022.8	90.00	356.50	9,734.0	176.6	8.6	176.6	12.00	12.00	0.00	
<b>Turn - Start DLS 2.00 TFO 90.00</b>										
10,100.0	90.00	358.04	9,734.0	253.7	4.9	253.7	2.00	0.00	2.00	

Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Emerald Fed Com 515H
<b>Company:</b>	Avant Operating, LLC	<b>TVD Reference:</b>	WELL @ 3710.2usft (Original Well Elev)
<b>Project:</b>	Lea Co., NM (NAD 83)	<b>MD Reference:</b>	WELL @ 3710.2usft (Original Well Elev)
<b>Site:</b>	Emerald Pad 2	<b>North Reference:</b>	Grid
<b>Well:</b>	Emerald Fed Com 515H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan 0.1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
10,178.9	90.00	359.62	9,734.0	332.6	3.3	332.6	2.00	0.00	2.00	
<b>LP - Start 9795.2 hold at 10178.9 MD</b>										
10,200.0	90.00	359.62	9,734.0	353.7	3.1	353.7	0.00	0.00	0.00	
10,300.0	90.00	359.62	9,734.0	453.7	2.5	453.7	0.00	0.00	0.00	
10,400.0	90.00	359.62	9,734.0	553.7	1.8	553.7	0.00	0.00	0.00	
10,500.0	90.00	359.62	9,734.0	653.7	1.2	653.7	0.00	0.00	0.00	
10,600.0	90.00	359.62	9,734.0	753.7	0.5	753.7	0.00	0.00	0.00	
10,700.0	90.00	359.62	9,734.0	853.7	-0.2	853.7	0.00	0.00	0.00	
10,800.0	90.00	359.62	9,734.0	953.7	-0.8	953.7	0.00	0.00	0.00	
10,900.0	90.00	359.62	9,734.0	1,053.7	-1.5	1,053.7	0.00	0.00	0.00	
11,000.0	90.00	359.62	9,734.0	1,153.7	-2.1	1,153.7	0.00	0.00	0.00	
11,100.0	90.00	359.62	9,734.0	1,253.7	-2.8	1,253.7	0.00	0.00	0.00	
11,200.0	90.00	359.62	9,734.0	1,353.7	-3.5	1,353.7	0.00	0.00	0.00	
11,300.0	90.00	359.62	9,734.0	1,453.7	-4.1	1,453.7	0.00	0.00	0.00	
11,400.0	90.00	359.62	9,734.0	1,553.7	-4.8	1,553.7	0.00	0.00	0.00	
11,500.0	90.00	359.62	9,734.0	1,653.7	-5.4	1,653.7	0.00	0.00	0.00	
11,600.0	90.00	359.62	9,734.0	1,753.7	-6.1	1,753.7	0.00	0.00	0.00	
11,700.0	90.00	359.62	9,734.0	1,853.7	-6.8	1,853.7	0.00	0.00	0.00	
11,800.0	90.00	359.62	9,734.0	1,953.7	-7.4	1,953.7	0.00	0.00	0.00	
11,900.0	90.00	359.62	9,734.0	2,053.7	-8.1	2,053.7	0.00	0.00	0.00	
12,000.0	90.00	359.62	9,734.0	2,153.7	-8.7	2,153.7	0.00	0.00	0.00	
12,100.0	90.00	359.62	9,734.0	2,253.7	-9.4	2,253.7	0.00	0.00	0.00	
12,200.0	90.00	359.62	9,734.0	2,353.7	-10.1	2,353.7	0.00	0.00	0.00	
12,300.0	90.00	359.62	9,734.0	2,453.7	-10.7	2,453.7	0.00	0.00	0.00	
12,400.0	90.00	359.62	9,734.0	2,553.7	-11.4	2,553.7	0.00	0.00	0.00	
12,500.0	90.00	359.62	9,734.0	2,653.7	-12.0	2,653.7	0.00	0.00	0.00	
12,600.0	90.00	359.62	9,734.0	2,753.7	-12.7	2,753.7	0.00	0.00	0.00	
12,700.0	90.00	359.62	9,734.0	2,853.7	-13.4	2,853.7	0.00	0.00	0.00	
12,800.0	90.00	359.62	9,734.0	2,953.6	-14.0	2,953.7	0.00	0.00	0.00	
12,900.0	90.00	359.62	9,734.0	3,053.6	-14.7	3,053.7	0.00	0.00	0.00	
13,000.0	90.00	359.62	9,734.0	3,153.6	-15.3	3,153.7	0.00	0.00	0.00	
13,100.0	90.00	359.62	9,734.0	3,253.6	-16.0	3,253.7	0.00	0.00	0.00	
13,200.0	90.00	359.62	9,734.0	3,353.6	-16.6	3,353.7	0.00	0.00	0.00	
13,300.0	90.00	359.62	9,734.0	3,453.6	-17.3	3,453.7	0.00	0.00	0.00	
13,400.0	90.00	359.62	9,734.0	3,553.6	-18.0	3,553.7	0.00	0.00	0.00	
13,500.0	90.00	359.62	9,734.0	3,653.6	-18.6	3,653.7	0.00	0.00	0.00	
13,600.0	90.00	359.62	9,734.0	3,753.6	-19.3	3,753.7	0.00	0.00	0.00	
13,700.0	90.00	359.62	9,734.0	3,853.6	-19.9	3,853.7	0.00	0.00	0.00	
13,800.0	90.00	359.62	9,734.0	3,953.6	-20.6	3,953.7	0.00	0.00	0.00	
13,900.0	90.00	359.62	9,734.0	4,053.6	-21.3	4,053.7	0.00	0.00	0.00	
14,000.0	90.00	359.62	9,734.0	4,153.6	-21.9	4,153.7	0.00	0.00	0.00	
14,100.0	90.00	359.62	9,734.0	4,253.6	-22.6	4,253.7	0.00	0.00	0.00	
14,200.0	90.00	359.62	9,734.0	4,353.6	-23.2	4,353.7	0.00	0.00	0.00	
14,300.0	90.00	359.62	9,734.0	4,453.6	-23.9	4,453.7	0.00	0.00	0.00	
14,400.0	90.00	359.62	9,734.0	4,553.6	-24.6	4,553.7	0.00	0.00	0.00	
14,500.0	90.00	359.62	9,734.0	4,653.6	-25.2	4,653.7	0.00	0.00	0.00	
14,600.0	90.00	359.62	9,734.0	4,753.6	-25.9	4,753.7	0.00	0.00	0.00	
14,700.0	90.00	359.62	9,734.0	4,853.6	-26.5	4,853.7	0.00	0.00	0.00	
14,800.0	90.00	359.62	9,734.0	4,953.6	-27.2	4,953.7	0.00	0.00	0.00	
14,900.0	90.00	359.62	9,734.0	5,053.6	-27.9	5,053.7	0.00	0.00	0.00	
15,000.0	90.00	359.62	9,734.0	5,153.6	-28.5	5,153.7	0.00	0.00	0.00	
15,100.0	90.00	359.62	9,734.0	5,253.6	-29.2	5,253.7	0.00	0.00	0.00	
15,200.0	90.00	359.62	9,734.0	5,353.6	-29.8	5,353.7	0.00	0.00	0.00	
15,300.0	90.00	359.62	9,734.0	5,453.6	-30.5	5,453.7	0.00	0.00	0.00	

Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Emerald Fed Com 515H
<b>Company:</b>	Avant Operating, LLC	<b>TVD Reference:</b>	WELL @ 3710.2usft (Original Well Elev)
<b>Project:</b>	Lea Co., NM (NAD 83)	<b>MD Reference:</b>	WELL @ 3710.2usft (Original Well Elev)
<b>Site:</b>	Emerald Pad 2	<b>North Reference:</b>	Grid
<b>Well:</b>	Emerald Fed Com 515H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan 0.1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
15,400.0	90.00	359.62	9,734.0	5,553.6	-31.2	5,553.7	0.00	0.00	0.00
15,500.0	90.00	359.62	9,734.0	5,653.6	-31.8	5,653.7	0.00	0.00	0.00
15,600.0	90.00	359.62	9,734.0	5,753.6	-32.5	5,753.7	0.00	0.00	0.00
15,700.0	90.00	359.62	9,734.0	5,853.6	-33.1	5,853.7	0.00	0.00	0.00
15,800.0	90.00	359.62	9,734.0	5,953.6	-33.8	5,953.7	0.00	0.00	0.00
15,900.0	90.00	359.62	9,734.0	6,053.6	-34.4	6,053.7	0.00	0.00	0.00
16,000.0	90.00	359.62	9,734.0	6,153.6	-35.1	6,153.7	0.00	0.00	0.00
16,100.0	90.00	359.62	9,734.0	6,253.6	-35.8	6,253.7	0.00	0.00	0.00
16,200.0	90.00	359.62	9,734.0	6,353.6	-36.4	6,353.7	0.00	0.00	0.00
16,300.0	90.00	359.62	9,734.0	6,453.6	-37.1	6,453.7	0.00	0.00	0.00
16,400.0	90.00	359.62	9,734.0	6,553.6	-37.7	6,553.7	0.00	0.00	0.00
16,500.0	90.00	359.62	9,734.0	6,653.6	-38.4	6,653.7	0.00	0.00	0.00
16,600.0	90.00	359.62	9,734.0	6,753.6	-39.1	6,753.7	0.00	0.00	0.00
16,700.0	90.00	359.62	9,734.0	6,853.6	-39.7	6,853.7	0.00	0.00	0.00
16,800.0	90.00	359.62	9,734.0	6,953.6	-40.4	6,953.7	0.00	0.00	0.00
16,900.0	90.00	359.62	9,734.0	7,053.6	-41.0	7,053.7	0.00	0.00	0.00
17,000.0	90.00	359.62	9,734.0	7,153.6	-41.7	7,153.7	0.00	0.00	0.00
17,100.0	90.00	359.62	9,734.0	7,253.6	-42.4	7,253.7	0.00	0.00	0.00
17,200.0	90.00	359.62	9,734.0	7,353.6	-43.0	7,353.7	0.00	0.00	0.00
17,300.0	90.00	359.62	9,734.0	7,453.6	-43.7	7,453.7	0.00	0.00	0.00
17,400.0	90.00	359.62	9,734.0	7,553.5	-44.3	7,553.7	0.00	0.00	0.00
17,500.0	90.00	359.62	9,734.0	7,653.5	-45.0	7,653.7	0.00	0.00	0.00
17,600.0	90.00	359.62	9,734.0	7,753.5	-45.7	7,753.7	0.00	0.00	0.00
17,700.0	90.00	359.62	9,734.0	7,853.5	-46.3	7,853.7	0.00	0.00	0.00
17,800.0	90.00	359.62	9,734.0	7,953.5	-47.0	7,953.7	0.00	0.00	0.00
17,900.0	90.00	359.62	9,734.0	8,053.5	-47.6	8,053.7	0.00	0.00	0.00
18,000.0	90.00	359.62	9,734.0	8,153.5	-48.3	8,153.7	0.00	0.00	0.00
18,100.0	90.00	359.62	9,734.0	8,253.5	-49.0	8,253.7	0.00	0.00	0.00
18,200.0	90.00	359.62	9,734.0	8,353.5	-49.6	8,353.7	0.00	0.00	0.00
18,300.0	90.00	359.62	9,734.0	8,453.5	-50.3	8,453.7	0.00	0.00	0.00
18,400.0	90.00	359.62	9,734.0	8,553.5	-50.9	8,553.7	0.00	0.00	0.00
18,500.0	90.00	359.62	9,734.0	8,653.5	-51.6	8,653.7	0.00	0.00	0.00
18,600.0	90.00	359.62	9,734.0	8,753.5	-52.3	8,753.7	0.00	0.00	0.00
18,700.0	90.00	359.62	9,734.0	8,853.5	-52.9	8,853.7	0.00	0.00	0.00
18,800.0	90.00	359.62	9,734.0	8,953.5	-53.6	8,953.7	0.00	0.00	0.00
18,900.0	90.00	359.62	9,734.0	9,053.5	-54.2	9,053.7	0.00	0.00	0.00
19,000.0	90.00	359.62	9,734.0	9,153.5	-54.9	9,153.7	0.00	0.00	0.00
19,100.0	90.00	359.62	9,734.0	9,253.5	-55.5	9,253.7	0.00	0.00	0.00
19,200.0	90.00	359.62	9,734.0	9,353.5	-56.2	9,353.7	0.00	0.00	0.00
19,300.0	90.00	359.62	9,734.0	9,453.5	-56.9	9,453.7	0.00	0.00	0.00
19,400.0	90.00	359.62	9,734.0	9,553.5	-57.5	9,553.7	0.00	0.00	0.00
19,500.0	90.00	359.62	9,734.0	9,653.5	-58.2	9,653.7	0.00	0.00	0.00
19,600.0	90.00	359.62	9,734.0	9,753.5	-58.8	9,753.7	0.00	0.00	0.00
19,700.0	90.00	359.62	9,734.0	9,853.5	-59.5	9,853.7	0.00	0.00	0.00
19,800.0	90.00	359.62	9,734.0	9,953.5	-60.2	9,953.7	0.00	0.00	0.00
19,900.0	90.00	359.62	9,734.0	10,053.5	-60.8	10,053.7	0.00	0.00	0.00
19,974.2	90.00	359.62	9,734.0	10,127.6	-61.3	10,127.8	0.00	0.00	0.00
TD at 19974.2 - LTP/BHL - Emerald Fed Com 515H									

Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Emerald Fed Com 515H
<b>Company:</b>	Avant Operating, LLC	<b>TVD Reference:</b>	WELL @ 3710.2usft (Original Well Elev)
<b>Project:</b>	Lea Co., NM (NAD 83)	<b>MD Reference:</b>	WELL @ 3710.2usft (Original Well Elev)
<b>Site:</b>	Emerald Pad 2	<b>North Reference:</b>	Grid
<b>Well:</b>	Emerald Fed Com 515H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan 0.1		

Design Targets										
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	
- hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)			
- Shape										
KOP - Emerald Fed Con - plan misses target center by 30.0usft at 9172.3usft MD (9156.0 TVD, -299.9 N, 37.7 E) - Point	0.00	0.00	9,156.0	-299.9	7.7	612,510.58	736,860.53	32.682226	-103.697845	
LTP/BHL - Emerald Fed - plan hits target center - Point	0.00	0.00	9,734.0	10,127.6	-61.3	622,938.16	736,791.56	32.710888	-103.697866	
FTP - Emerald Fed Com - plan misses target center by 164.5usft at 9675.0usft MD (9612.8 TVD, -140.6 N, 28.0 E) - Point	0.00	0.00	9,734.0	-249.9	7.4	612,560.58	736,860.26	32.682364	-103.697845	

Casing Points					
Measured Depth	Vertical Depth	Name	Casing Diameter	Hole Diameter	
(usft)	(usft)		(")	(")	
19,963.4	9,734.0	20" Casing	20	24	

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(usft)	(usft)			(°)	(°)	
1,460.0	1,460.0	RUSTLER				
1,754.0	1,754.0	SOLADO				
3,460.9	3,453.0	YATES				
4,745.9	4,730.0	CAPITAN_REEF				
5,167.3	5,151.0	CHERRY_CNYN				
5,784.3	5,768.0	BRUSHY_CANYON				
7,450.3	7,434.0	BSPG_LIME *				
8,188.3	8,172.0	AVALON_B				
8,743.3	8,727.0	FBSG_SD *				
9,120.3	9,104.0	SBSG_CARB				
9,310.4	9,294.0	SBSG_SD				

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates		Comment	
(usft)	(usft)	+N/-S	+E/-W		
		(usft)	(usft)		
2,000.0	2,000.0	0.0	0.0	KOP - Start Build 2.00	
2,322.1	2,321.4	-17.9	2.3	Start 2372.2 hold at 2322.1 MD	
4,694.3	4,678.6	-282.0	35.4	Start Drop -2.00	
5,016.3	5,000.0	-299.9	37.7	Start 4256.5 hold at 5016.3 MD	
9,272.8	9,256.5	-299.9	37.7	KOP #2 - Start Build 12.00	
10,022.8	9,734.0	176.6	8.6	Turn - Start DLS 2.00 TFO 90.00	
10,178.9	9,734.0	332.6	3.3	LP - Start 9795.2 hold at 10178.9 MD	
19,974.2	9,734.0	10,127.6	-61.3	TD at 19974.2	

AFE: 0



# Emerald Federal Com 515H

API:  
REGULATORY: NMOCD  
PERMIT #

**Bone Spring**  
Lea County, NM

RIG: H&P 460  
KB: 3710.5 (26.5')  
GL: 3684'  
CAMERON WELLHEAD  
13" x 7-1/16" NOM

SHL:  
Sec. 6, T-19S, R-33E; 350 FSL, 1260 FEL  
Lat: 32.6830507, Long: -103.6978636 (NAD83)

HOLE SIZE	MD	FORMATION	TVD	MUD	CASING	CEMENT	SPECIAL INSTRUCTIONS
17 1/2 "	120	20" Conductor	120	SPUD MW	13 3/8 "	LEAD: 12.8 PPG Top of Lead: 0 50% Excess	Circ cement to surface is a NMOCD requirement  Casing must be set 25' into the Rustler  MUD: Fresh water only
	1,460	Rustler	1,460	Fresh	54.5# J-55 LTC +/- 12 Bowsprings	TAIL: 14.8 PPG Top of Tail: 1185' 20% Excess	
	1,485	SURF CSG PT	1,485	9 ppg	1 joint shoe track		
12 1/4 "	1,754	Solado	1,754	DRLOUT MW	9 5/8 "	LEAD: 11 PPG Top of Lead: 0' 50% excess	Circ cement to surface is a NMOCD requirement
	3,461	Yates	3,453	Cut Brine	40# J-55 LTC	TAIL: 14.8 PPG Top of Tail: 4213' 20% Excess	
	4,746	Capitan Reef	4,730	TD MW	+/- 9 Bowsprings		
	5,167	Cherry Canyon	5,151	9.5 ppg	1 joint shoe track		
	5,267	INTRM CSG PT	5,251				
8 3/4 " VERTICAL	5,784	Brushy Canyon	5,768	DRLOUT MW			
	7,450	Bone Spring	7,434	9.2 ppg			
	8,188	Avalon	8,172	Cut Brine			
	8,743	1st BS Sand	8,727	KOP MW			
8 3/4 " CURVE	9,273	KOP	9,257	9.5 ppg	EOC Cut Brine Lat MW 9.2 ppg	Float collar @ KOP	
	9,310	2nd BS Sand	9,294				
	10,023	EOC	9,734				
8 3/4 " LATERAL	DIRECTIONAL PLAN			5 1/2 "		LEAD: 10.7 PPG Top of Lead: 0 50% Excess	Expected Btm Hole Pressure 4672.32 psi
	MD	INC	INC	TVD	ANNOTATION	TAIL: 14.8 PPG Top of Tail: 9273 20% Excess	
				1 15' pup joints 2 20' Marker Jts +/- 33 Bowsprings +/- 27 Doublebows +/- 236 Solid Bodies		All aqueous fluids (spacer and disp) left inside or outside of pipe must have biocide & corrosion inhibitor	

Preliminary

DIRECTIONS TO LOCALTON:

PROPOSAL#: 240625131709-A



## CEMENT PROCEDURE & PROPOSAL

**PREPARED FOR:**

Mr. Braden Harris

EMAIL: braden@avantnr.com

PHONE NUMBER: 406-600-3310

### Avant Natural Resources

#### Emerald Federal Com #515H

Lea County, NM

Rig: H&P 460

**Service Point**

Odessa

1400 S JBS Parkway Odessa, TX 79766

432-701-8955

**Technical Writer**

Jonathan Smith

jonathan@wtcementers.com

432-701-3719

**WTC Representative**

Jon Reynolds

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432-257-1234

.Disclaimer Notice:

**The ability of West Texas Cementers to complete this work is subject to the availability of the raw materials required to complete the job.**

This information is presented in good faith, but no warranty is given by and West Texas Cementers LLC assumes no liability for advice or recommendations made concerning results to be obtained from the use of any product or service. The results given are estimates based on calculations produced by a computer model including various assumptions on the well, reservoir and treatment. The results depend on input data provided by the Operator and estimates as to unknown data and can be no more accurate than the model, the assumptions and such input data. The information presented is WTC LLC best estimate of the actual results that may be achieved and should be used for comparison purposes rather than absolute values. The quality of input data, and hence results, may be improved through the use of certain tests and procedures which West Texas Cementers LLC can assist in selecting. The Operator has superior knowledge of the well, the reservoir, the field and conditions affecting them. If the Operator is aware of any conditions whereby a neighboring well or wells might be affected by the treatment proposed herein it is the Operator's responsibility to notify the owner or owners of the well or wells accordingly. Prices quoted are estimates only and are good for 30 days from the date of issue. Actual charges may vary depending upon time, equipment, and material ultimately required to perform these services. Freedom from infringement of patents of West Texas Cementers LLC or others is not to be inferred.

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VERSION: v0.29b



Avant Natural Resources  
 Emerald Federal Com #515H  
 Lea County, NM  
 Rig: H&P 460

# Surface



**PROPOSAL#: 240625131709-A**

WELL INFORMATION						
MUD	8.4# Fresh Water					
PREVIOUS PIPE	20" 94# CSG to 120					
OPEN HOLE	17.5" OH to 1485					
CASING/INJECTION	13.375" 54.5# J-55/LTC to 1485					
MD	1485					
EST BHST/BHCT	92-F / 85-F (0.8-F/100-FT)					
NOTES	Standby charges start after WTC has been on location for more than 4-hrs.					
VOLUMES						
FLUID NAME	LENGTH (ft)	OD (in.)	ID (in.)	XS (%)	FACTOR (bbl/ft)	VOLUME (bbl)
Lead	120	19.124	13.375		0.1815	21.8
Lead	1065	17.5	13.375	50%	0.1856	197.6
Tail	300	17.5	13.375	20%	0.1485	44.5
SHOE JOINT	40	13.375	12.615		0.1546	6.2
FLUIDS						
SPACER						
Fresh Water						
VOLUME	20-bbl					
Lead						
35% B_Poz+65% Class C+6% Gel+5% SALT+0.25PPS Pol-E-Flake+0.005GPS NoFoam V1A						
VOLUME	650-SX		Slurry Volume: 220-bbls			
DENSITY	12.8-ppg		Mix Water Required: 158-bbls			
YIELD	1.9-cf/sx					
MIX WATER	10.17-gps					
TOP OF CEMENT	Surface					
EXCESS	50%					

Avant Natural Resources  
Emerald Federal Com #515H  
Lea County, NM  
Rig: H&P 460

# Surface



**PROPOSAL#: 240625131709-A**

Tail		
	100% Class C+1% CaCl2+0.005GPS NoFoam V1A	
VOLUME	215-SX	Slurry Volume: 50.9-bbls
DENSITY	14.8-ppg	Mix Water Required: 33-bbls
YIELD	1.33-cf/sx	
MIX WATER	6.34-gps	
TOP OF CEMENT	1185-ft	
EXCESS	20%	
DISPLACEMENT		
	Displacement	
VOLUME	223.4-bbl	

Avant Natural Resources  
 Emerald Federal Com #515H  
 Lea County, NM  
 Rig: H&P 460

# Intermediate



**PROPOSAL#: 240625131709-A**

WELL INFORMATION						
MUD	9.5# Cut Brine					
PREVIOUS PIPE	13.375" 54.5# CSG to 1485					
OPEN HOLE	12.25" OH to 5267					
CASING/INJECTION	9.625" 40# J-55/LTC to 5267					
MD	5267					
TVD	5251					
EST BHST/BHCT	123-F / 107-F (0.8-F/100-FT)					
NOTES	Standby charges start after WTC has been on location for more than 4-hrs.					
VOLUMES						
FLUID NAME	LENGTH (ft)	OD (in.)	ID (in.)	XS (%)	FACTOR (bbl/ft)	VOLUME (bbl)
Lead	1485	12.615	9.625		0.0646	95.9
Lead	2728	12.25	9.625	50%	0.0837	228.2
Tail	1054	12.25	9.625	20%	0.0669	70.5
SHOE JOINT	40	9.625	8.835		0.0758	3.0
FLUIDS						
SPACER						
Fresh Water						
VOLUME	25-bbl					
Lead						
35% B_Poz+65% Class C+6% Gel+5% SALT+0.5% R-1300+0.25PPS Pol-E-Flake+0.005GPS NoFoam V1A						
VOLUME	960-SX		Slurry Volume: 324.9-bbls			
DENSITY	12.8-ppg		Mix Water Required: 233-bbls			
YIELD	1.9-cf/sx					
MIX WATER	10.18-gps					
TOP OF CEMENT	Surface					
EXCESS	50%					

Avant Natural Resources  
Emerald Federal Com #515H  
Lea County, NM  
Rig: H&P 460

# Intermediate



**PROPOSAL#: 240625131709-A**

Tail		
	100% Class C+5% SALT+0.005GPS NoFoam V1A	
VOLUME	305-SX	Slurry Volume: 73.9-bbls
DENSITY	14.8-ppg	Mix Water Required: 48-bbls
YIELD	1.36-cf/sx	
MIX WATER	6.51-gps	
TOP OF CEMENT	4213-ft	
EXCESS	20%	
DISPLACEMENT		
	Displacement	
VOLUME	396.3-bbl	

Avant Natural Resources  
 Emerald Federal Com #515H  
 Lea County, NM  
 Rig: H&P 460

# Production



PROPOSAL#: 240625131709-A

WELL INFORMATION						
MUD	9.2# OBM					
PREVIOUS PIPE	9.625" 40# CSG to 5267					
OPEN HOLE	8.75" OH to 19974					
CASING/INJECTION	5.5" 20# P-110 HC/GBCD to 19974					
MD	19974					
TVD	9734					
EST BHST/BHCT	211-F / 194-F (1.34-F/100-FT)					
KOP	9273					
NOTES	Standby charges start after WTC has been on location for more than 8-hrs.					
VOLUMES						
FLUID NAME	LENGTH (ft)	OD (in.)	ID (in.)	XS (%)	FACTOR (bbl/ft)	VOLUME (bbl)
Lead	5267	8.835	5.5		0.0464	244.6
Lead	4006	8.75	5.5	50%	0.0675	270.3
Tail	10701	8.75	5.5	20%	0.0540	577.7
SHOE JOINT	80	5.5	4.778		0.0222	1.8
FLUIDS						
SPACER						
Wt. Spacer 38.01GPB Water+8PPB PolyScrub 4320+73.29PPB Barite+1GPB HoleScrub 4311+1PPB R-1300						
VOLUME	40-bbl					
DENSITY	9.7-ppg					
Lead						
100% ProLite+5PPS Plexcrete STE+2% SMS+0.65% R-1300+0.2% FL-24+3PPS Gilsonite+0.005GPS NoFoam V1A						
VOLUME	860-SX				Slurry Volume: 517.7-bbls	
DENSITY	10.7-ppg				Mix Water Required: 432-bbls	
YIELD	3.38-cf/sx					
MIX WATER	21.06-gps					
TOP OF CEMENT	Surface					
EXCESS	50%					

Avant Natural Resources  
Emerald Federal Com #515H  
Lea County, NM  
Rig: H&P 460

# Production



**PROPOSAL#: 240625131709-A**

Tail		
50% B_Poz+50% Class H+5% SALT+0.05% RCKCAS-100+0.75% FR-5+0.5% FL-24+0.005GPS NoFoam V1A		
VOLUME	2690-SX	Slurry Volume: 579.7-bbls
DENSITY	14.5-ppg	Mix Water Required: 339-bbls
YIELD	1.21-cf/sx	
MIX WATER	5.28-gps	
TOP OF CEMENT	9273-ft	
EXCESS	20%	
DISPLACEMENT		
Fresh Water+ 0.25GPT Plexicide 24L+1GPT Corplex		
VOLUME	441.2-bbl	
DENSITY	8.34-ppg	

CHEMICAL DESCRIPTIONS		
CHEMICAL NAME	CODE	DESCRIPTION
B_Poz	WTC228	Poz - Fly Ash, Extender
Class H	WTC101	API Cement
Class C	WTC100	API Cement
M_Poz	WTC280	Poz - Fly Ash, Extender
ProLite		Blended Based Cement
Plexcrete SFA	WTC129	Cement Strength Enhancer
Gel	WTC102	Extender
Micro Crystal	WTC212	Cement Strength Enhancer
Micro Shell	WTC209	Cement Strength Enhancer
WTC1	WTC250	Extender
GB-52	WTC008	Microspheres, Extender
Plexcrete STE	WTC127	Cement Strength Enhancer
CSE-NP	WTC236	Cement Strength Enhancer
Gypsum	WTC111	Free Water Control, Extender
CaCl2	WTC112	Accelerator
SMS	WTC115	Free Water Control, Extender
RCKCAS-100	WTC276	Free Water Control, Anti-Settling Agent
R-1300	WTC201	Low Temperature Retarder
CRT-201	WTC278	Lignosulfonate Retarder
FR-5	WTC258	Lignosulfonate Retarder
C-37	WTC224	Dispersant, Friction Reducer
CFL-312	WTC265	Fluid Loss and Gas Migration Control
FL-24	WTC277	Fluid Loss (polymers/copolymers - 300-F max)
FL-17	WTC130	Fluid Loss and Gas Migration Control (400-F max)
MagBond	WTC271	Expanding Agent
Gilsonite	WTC003	Premium Lost Circulation Material, Free Water Control
Pol-E-Flake	WTC106	Lost Circulation Material
Web Seal	WTC133	Premium Fiber Lost Circulation Material
Zone Seal	WTC207	Premium Lost Circulation Material
NoFoam V1A	WTC105	Liquid Defoamer
Water		Fresh Water
PolyScrub 4320	WTC232	Spacer Gelling Agent
Barite	WTC116	Weighting Agent
HoleScrub 4311	WTC281	Surfactant
HoleScrub 4305	WTC213	Surfactant
HoleScrub 4308	WTC215	Surfactant
Soda Ash	WTC164	pH Control
R-1300	WTC201	Low Temperature Retarder
RCKCAS-100	WTC276	Free Water Control, Anti-Settling Agent
Sugar	WTC119	Retarder
R-33	WTC243	Lignosulfonate Retarder
Plexcide 24L	WTC166	Biocide
Complex	WTC134	Corrosion Inhibitor
Clay Max	WTC096	KCL Substitute
Zone Seal	WTC207	Premium Lost Circulation Material

## Hydrogen Sulfide Plan Summary

- A. All personnel shall receive proper H<sub>2</sub>S training in accordance with Onshore Order III.C.3.a.
- B. Briefing Area: two perpendicular areas will be designated by signs and readily accessible.
- C. Required Emergency Equipment:

- Well control equipment
  - a. Flare line 150' from wellhead to be ignited by flare gun.
  - b. Choke manifold with a remotely operated choke.
  - c. Mud/gas separator

- Protective equipment for essential personnel.

Breathing apparatus:

- a. Rescue Packs (SCBA) — 1 unit shall be placed at each breathing area, 2 shall be stored in the safety trailer.
- b. Work/Escapes packs — 4 packs shall be stored on the rig floor with sufficient air hose not to restrict work activity.
- c. Emergency Escape Packs — 4 packs shall be stored in the doghouse for emergency evacuation.

Auxiliary Rescue Equipment:

- a. Stretcher
- b. Two OSHA full body harness
- c. 100 ft 5/8 inch OSHA approved rope
- d. 1-20# class ABC fire extinguisher

- H<sub>2</sub>S detection and monitoring equipment:

The stationary detector with three sensors will be placed in the upper dog house if equipped, set to visually alarm @ 10 ppm and audible @ 14 ppm. Calibrate a minimum of every 30 days or as needed. The sensors will be placed in the following places: Rig floor / Bell nipple / End of flow line or where well bore fluid is being discharged.

(Gas sample tubes will be stored in the safety trailer)

- Visual warning systems.
  - a. One color code condition sign will be placed at the entrance to the site reflecting the possible conditions at the site.
  - b. A colored condition flag will be on display, reflecting the current condition at the site at the time.
  - c. Two wind socks will be placed in strategic locations, visible from all angles.





- **Mud program:**  
The mud program has been designed to minimize the volume of H2S circulated to surface. The operator will have the necessary mud products to minimize hazards while drilling in H2S bearing zones.
- **Metallurgy:**  
All drill strings, casings, tubing, wellhead, blowout preventer, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H2S service.
- **Communication:**  
Communication will be via cell phones and land lines where available.

Company Personnel to be Notified

John Harper, Vice President of Geoscience	Office: (720) 746-5045
	Mobile: (678) 988-6644
Braden Harris, Engineer	Mobile: (406) 600-3310

Local & County Agencies

Maljamar Volunter Fire Department	911 or (575) 676-4100
Lea County Sheriff (Lovington)	911 or (575) 396-3611
Lea County Emergency Management (Lovington)	(575) 396-8602
Lea Regional Medical Center Hopital (Hobbs)	(575) 492-5000

State Agencies

NM State Police (Hobbs)	(575) 392-5588
NM Oil Conservation (Hobbs)	(575) 370-3186
NM Oil Conservation (Santa Fe)	(505) 476-3440
NM Dept. of Transportation (Roswell)	(575) 637-7201



Federal Agencies

BLM (Carlsbad)	(575) 234-5972
BLM (Hobbs)	(575) 393-3612
National Response Center	(800) 424-8802
US EPA Region 6 (Dallas)	(800) 887-6063
	(214) 665-6444

Veterinarians

Lovington Veterinary Clinic	(575) 396-7387
Hobbs Animal Clinic	(575) 392-5563
Dal Paso Animal Hospital (Hobbs)	(575) 397-2286

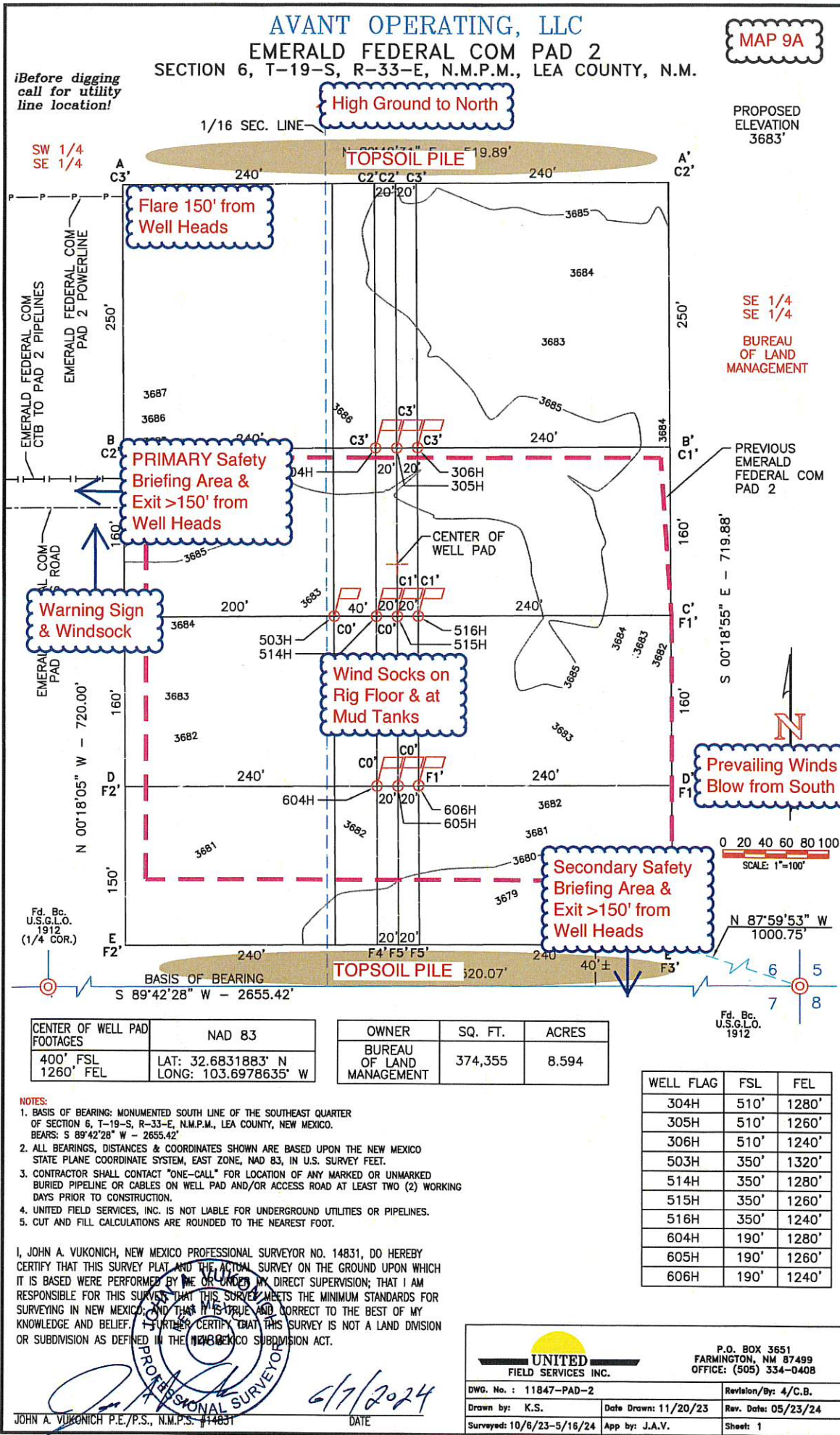
Residents within 2 miles

None

Air Evacuation

AeroCare (Lubbock)	(800) 627-2376
Med Flight Air Ambulance (Albuquerque)	(800) 842-4431
Lifeguard (Albuquerque)	(888) 866-7256





CENTER OF WELL PAD FOOTAGES	NAD 83
400' FSL	LAT: 32.6831883° N
1260' FEL	LONG: 103.6978635° W

OWNER	SQ. FT.	ACRES
BUREAU OF LAND MANAGEMENT	374,355	8.594

WELL FLAG	FSL	FEL
304H	510'	1280'
305H	510'	1260'
306H	510'	1240'
503H	350'	1320'
514H	350'	1280'
515H	350'	1260'
516H	350'	1240'
604H	190'	1280'
605H	190'	1260'
606H	190'	1240'

- NOTES:**
1. BASIS OF BEARING: MONUMENTED SOUTH LINE OF THE SOUTHEAST QUARTER OF SECTION 6, T-19-S, R-33-E, N.M.P.M., LEA COUNTY, NEW MEXICO. BEARS: S 89°42'28" W - 2655.42'
  2. ALL BEARINGS, DISTANCES & COORDINATES SHOWN ARE BASED UPON THE NEW MEXICO STATE PLANE COORDINATE SYSTEM, EAST ZONE, NAD 83, IN U.S. SURVEY FEET.
  3. CONTRACTOR SHALL CONTACT "ONE-CALL" FOR LOCATION OF ANY MARKED OR UNMARKED BURIED PIPELINE OR CABLES ON WELL PAD AND/OR ACCESS ROAD AT LEAST TWO (2) WORKING DAYS PRIOR TO CONSTRUCTION.
  4. UNITED FIELD SERVICES, INC. IS NOT LIABLE FOR UNDERGROUND UTILITIES OR PIPELINES.
  5. CUT AND FILL CALCULATIONS ARE ROUNDED TO THE NEAREST FOOT.

I, JOHN A. VUKONICH, NEW MEXICO PROFESSIONAL SURVEYOR NO. 14831, DO HEREBY CERTIFY THAT THIS SURVEY PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY; THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO; AND THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. I FURTHER CERTIFY THAT THIS SURVEY IS NOT A LAND DIVISION OR SUBDIVISION AS DEFINED IN THE NEW MEXICO SUBDIVISION ACT.

JOHN A. VUKONICH P.E./P.S., N.M.P.S. #14831  
 PROFESSIONAL SURVEYOR  
 DATE: 6/7/2024

**UNITED FIELD SERVICES INC.**  
 P.O. BOX 3651  
 FARMINGTON, NM 87499  
 OFFICE: (505) 334-0408

DWG. No. : 11847-PAD-2	Revision/By: 4/C.B.
Drawn by: K.S.	Date Drawn: 11/20/23
Surveyed: 10/6/23-5/16/24	App by: J.A.V.
Rev. Date: 05/23/24	Sheet: 1

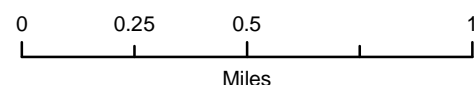
# Avant Operating, LLC

**Emerald Federal Com  
Pad 2  
H2S Contingency Plan:  
Radius Map**

Section 6, Township 19S, Range 33E  
Lea County, New Mexico



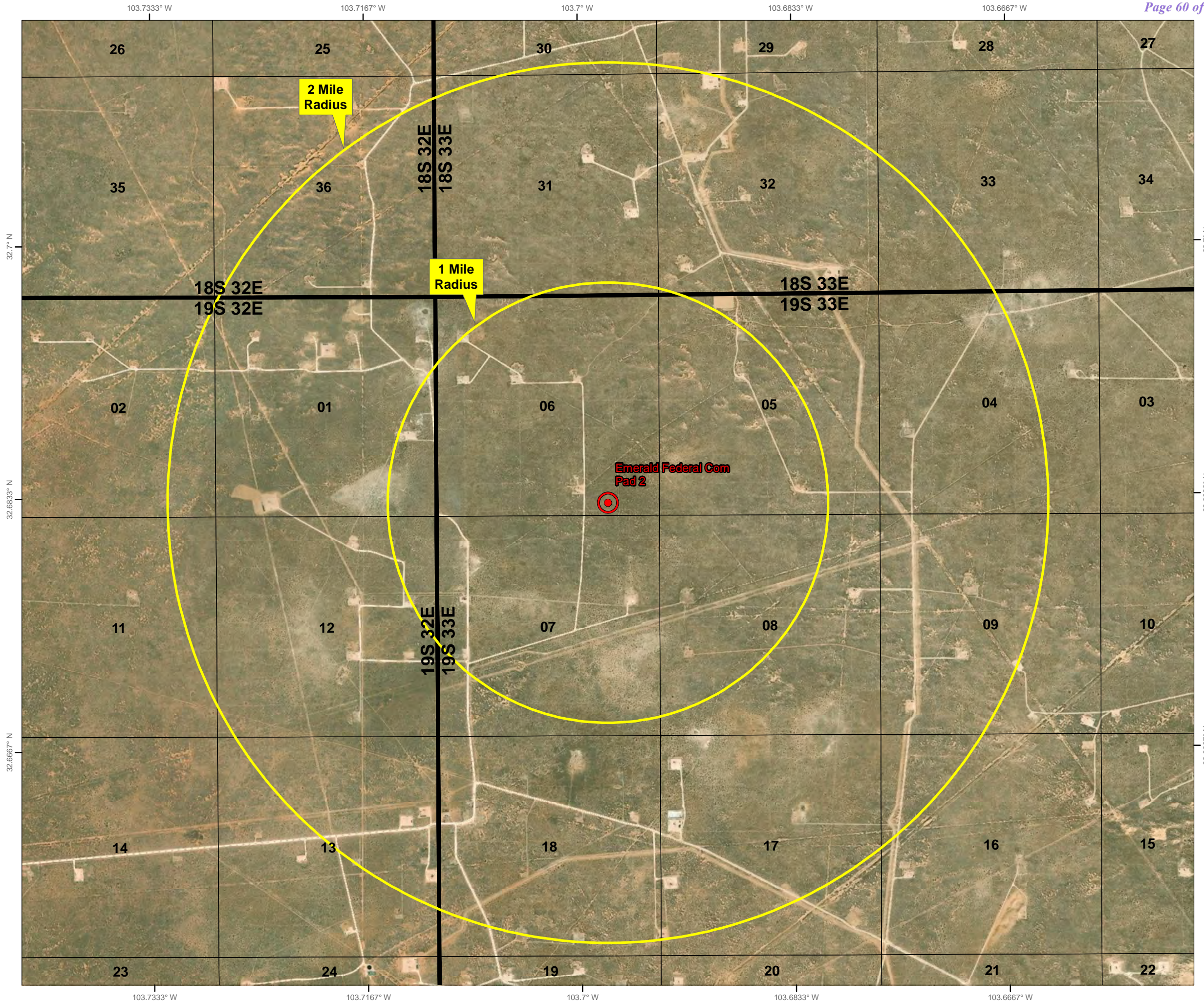
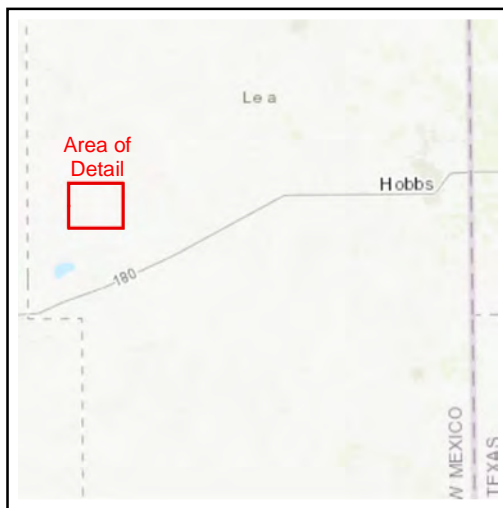
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NAD 1983 New Mexico State Plane East  
FIPS 3001 Feet



Prepared by Permits West, Inc., February 20, 2024  
for Avant Operating, LLC



Sante Fe Main Office  
Phone: (505) 476-3441

General Information  
Phone: (505) 629-6116

Online Phone Directory  
<https://www.emnrd.nm.gov/ocd/contact-us>

**State of New Mexico**  
**Energy, Minerals and Natural Resources**  
**Oil Conservation Division**  
**1220 S. St Francis Dr.**  
**Santa Fe, NM 87505**

CONDITIONS

Action 422861

**CONDITIONS**

Operator: Avant Operating, LLC 6001 Deauville Blvd Midland, TX 79706	OGRID: 330396
	Action Number: 422861
	Action Type: [C-103] NOI Change of Plans (C-103A)

**CONDITIONS**

Created By	Condition	Condition Date
matthew.gomez	Any previous COA's not addressed within the updated COA's still apply.	4/11/2025