

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

Form C-101
August 1, 2011

Permit 386431

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

1. Operator Name and Address BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701		2. OGRID Number 260297
4. Property Code 337380		3. API Number 30-025-55984
5. Property Name VINDICATOR CANYON STATE UNIT COM		6. Well No. 413H

7. Surface Location

UL - Lot N	Section 20	Township 17S	Range 36E	Lot Idn N	Feet From 300	N/S Line S	Feet From 2600	E/W Line W	County Lea
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8. Proposed Bottom Hole Location

UL - Lot C	Section 17	Township 17S	Range 36E	Lot Idn C	Feet From 50	N/S Line N	Feet From 2530	E/W Line W	County Lea
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9. Pool Information

WC-025 G-09 S173615C;UPPER PENN	98333
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Additional Well Information

11. Work Type New Well	12. Well Type OIL	13. Cable/Rotary	14. Lease Type State	15. Ground Level Elevation 3870
16. Multiple N	17. Proposed Depth 22570	18. Formation Upper Pennsylvanian Undesignated	19. Contractor	20. Spud Date 4/28/2026
Depth to Ground water		Distance from nearest fresh water well		Distance to nearest surface water

We will be using a closed-loop system in lieu of lined pits

21. Proposed Casing and Cement Program

Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Surf	17.5	13.375	54.5	1970	990	0
Int1	12.25	9.625	36	5045	1170	0
Liner1	8.75	7.625	29.7	11136	320	4845
Prod	6.75	5.5	20	22570	875	0

Casing/Cement Program: Additional Comments

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22. Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
Annular	10000	14000	

23. I hereby certify that the information given above is true and complete to the best of my knowledge and belief. I hereby certify that no additives containing PFAS chemicals will be added to the completion or recompletion of this well. I further certify I have complied with 19.15.14.9 (A) NMAC <input checked="" type="checkbox"/> and/or 19.15.14.9 (B) NMAC <input checked="" type="checkbox"/> , if applicable. Signature:	OIL CONSERVATION DIVISION		
	Printed Name: Electronically filed by Katy Reddell	Approved By: Jeffrey Harrison	
	Title: kreddell@btaoil.com	Title: Petroleum Specialist III	
	Email Address: kreddell@btaoil.com	Approved Date: 3/3/2026	Expiration Date: 3/3/2028
	Date: 3/2/2026	Phone: 432-682-3753	Conditions of Approval Attached

<p>C-102</p> <p>Submit Electronically Via OCD Permitting</p>	<p>State of New Mexico Energy, Minerals, & Natural Resources Department OIL CONSERVATION DIVISION</p>	<p>Revised July 9, 2024 PAGE 1 OF 2</p>		
		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:10%; text-align: right;">Submittal Type:</td> <td> <input checked="" type="checkbox"/> Initial Submittal <input type="checkbox"/> Amended Report <input type="checkbox"/> As Drilled </td> </tr> </table>	Submittal Type:	<input checked="" type="checkbox"/> Initial Submittal <input type="checkbox"/> Amended Report <input type="checkbox"/> As Drilled
Submittal Type:	<input checked="" type="checkbox"/> Initial Submittal <input type="checkbox"/> Amended Report <input type="checkbox"/> As Drilled			

WELL LOCATION INFORMATION

API Number 30-025-55984	Pool Code [98333]	Pool Name WC-025 G-09 S173615C; UPPER PENN
Property Code 337380	Property Name VINDICATOR CANYON STATE UNIT COM	Well Number 413H
OGRID No. 260297	Operator Name BTA OIL PRODUCERS, LLC	Ground Level Elevation 3870'
Surface Owner: <input type="checkbox"/> State <input checked="" type="checkbox"/> Fee <input type="checkbox"/> Tribal <input type="checkbox"/> Federal		Mineral Owner: <input checked="" type="checkbox"/> State <input type="checkbox"/> Fee <input type="checkbox"/> Tribal <input type="checkbox"/> Federal

Surface Location

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude (NAD83)	Longitude (NAD83)	County
N	20	17S	36E		300' FSL	2600' FWL	32.81388587	-103.37699623	LEA

Bottom Hole Location

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude (NAD83)	Longitude (NAD83)	County
C	17	17S	36E		50' FNL	2530' FWL	32.84200164	-103.37723853	LEA

Dedicated Acres 1280.00	Infill or Defining Well INFILL	Defining Well API VINDICATOR CANYON STATE UNIT COM 412H - API PENDING	Overlapping Spacing Unit (Y/N) N	Consolidation Code C
Order Numbers: NSP PENDING			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 (NAD83)	Longitude (NAD83)	County
C	29	17S	36E		500' FNL	2530' FWL	32.81168572	-103.37721745	LEA


First Take Point (FTP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude (NAD83)	Longitude (NAD83)	County
N	20	17S	36E		100' FSL	2530' FWL	32.81333474	-103.37722347	LEA

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude (NAD83)	Longitude (NAD83)	County
C	17	17S	36E		100' FNL	2530' FWL	32.84186422	-103.37723835	LEA

Unitized Area or Area of Uniform Interest Com Agreement Pending	Spacing Unit Type: <input checked="" type="checkbox"/> Horizontal <input type="checkbox"/> Vertical	Ground Floor Elevation 3870'
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<p>OPERATOR CERTIFICATIONS</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 a 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><u>Sammy Hajar</u> 2/10/2026 Signature Date</p> <p><u>Sammy Hajar</u> Printed Name</p> <p><u>SHAJAR@BTAOIL.COM</u> Email Address</p>	<p>SURVEYOR CERTIFICATIONS</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> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%;">Certificate Number 21653</td> <td style="width:50%;">Date of Survey JANUARY 30, 2026</td> </tr> </table>	Certificate Number 21653	Date of Survey JANUARY 30, 2026
Certificate Number 21653	Date of Survey JANUARY 30, 2026		

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.

VINDICATOR CANYON STATE UNIT COM 413H

ACREAGE DEDICATION PLATS

PAGE 2 OF 2

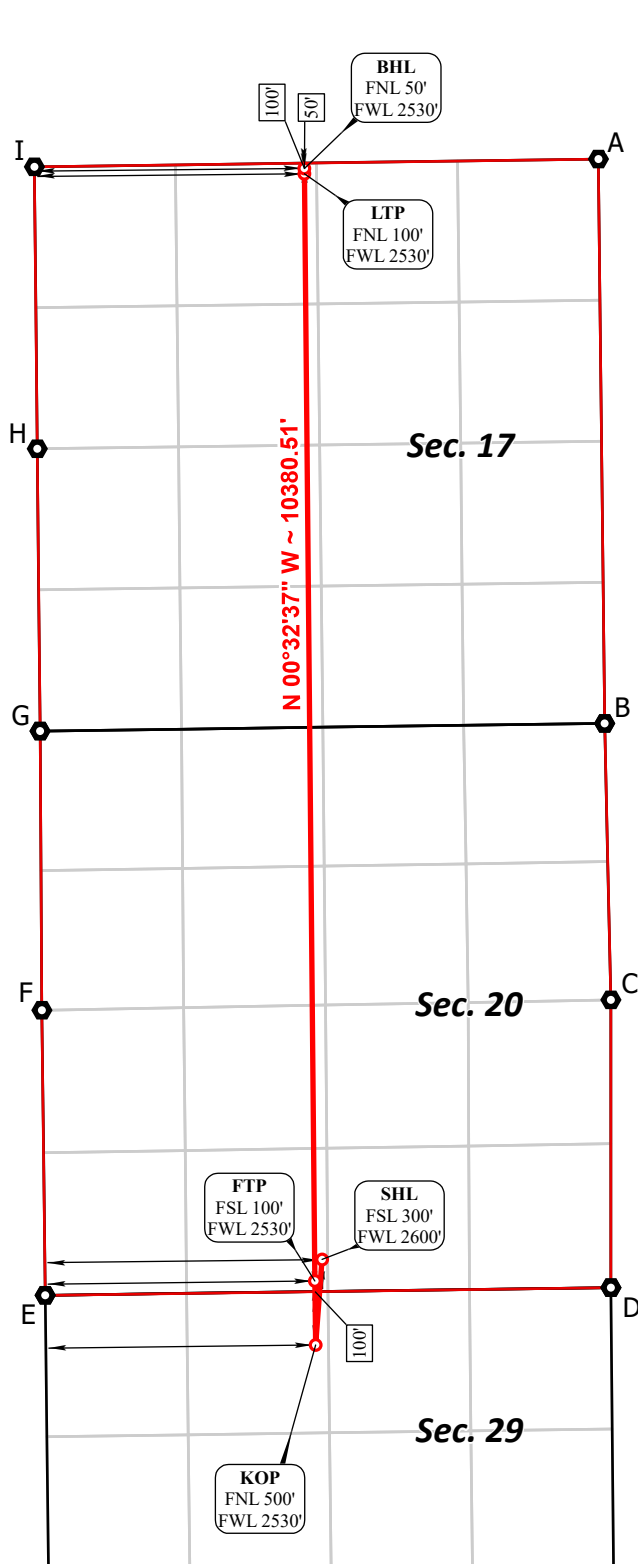
BHL
 FNL 50' FWL 2530', SECTION 17
NAD 83, SPCS NM EAST
 X:834980.72' / Y:671382.07'
 LAT:32.84200164 / LON:-103.37723853
NAD 27, SPCS NM EAST
 X:793802.12' / Y:671317.86'
 LAT:32.84188150 / LON:-103.37674333

LTP
 FNL 100' FWL 2530', SECTION 17
NAD 83, SPCS NM EAST
 X:834981.23' / Y:671332.07'
 LAT:32.84186422 / LON:-103.37723835
NAD 27, SPCS NM EAST
 X:793802.63' / Y:671267.86'
 LAT:32.84174408 / LON:-103.37674316

FTP
 FSL 100' FWL 2530', SECTION 20
NAD 83, SPCS NM EAST
 X:835079.71' / Y:660952.03'
 LAT:32.81333474 / LON:-103.37722347
NAD 27, SPCS NM EAST
 X:793900.81' / Y:660888.06'
 LAT:32.81321438 / LON:-103.37672942

KOP
 FNL 500' FWL 2530', SECTION 29
NAD 83, SPCS NM EAST
 X:835086.99' / Y:660352.07'
 LAT:32.81168572 / LON:-103.37721745
NAD 27, SPCS NM EAST
 X:793908.07' / Y:660288.12'
 LAT:32.81156535 / LON:-103.37672346

SHL
 FSL 300' FWL 2600', SECTION 20
NAD 83, SPCS NM EAST
 X:835147.71' / Y:661153.18'
 LAT:32.81388587 / LON:-103.37699623
NAD 27, SPCS NM EAST
 X:793968.82' / Y:661089.21'
 LAT:32.81376552 / LON:-103.37650216



CORNER COORDINATES NAD 83, SPCS NM EAST	
A - X: 837738.10' / Y:671470.07'	
B - X: 837796.01' / Y:666179.18'	
C - X: 837854.66' / Y:663587.44'	
D - X: 837854.81' / Y:660889.38'	
E - X: 832551.41' / Y:660817.98'	
F - X: 832520.49' / Y:663490.26'	
G - X: 832503.43' / Y:666107.46'	
H - X: 832477.28' / Y:668754.03'	
I - X: 832450.44' / Y:671397.20'	

CORNER COORDINATES NAD 27, SPCS NM EAST	
A - X: 796559.50' / Y:671405.95'	
B - X: 796617.25' / Y:666115.19'	
C - X: 796675.82' / Y:663523.51'	
D - X: 796675.89' / Y:660825.51'	
E - X: 791372.52' / Y:660753.93'	
F - X: 791341.67' / Y:663426.15'	
G - X: 791324.69' / Y:666043.29'	
H - X: 791298.62' / Y:668689.80'	
I - X: 791271.85' / Y:671332.91'	

● Drill Line Events
 ● Section Corners
 — Drill Line
 ↔ Dimension Lines
 Federal Leases
 Project Area

All bearings and coordinates refer to New Mexico State Plane Coordinate System, East Zone, U.S. Survey Feet.



JOB No. BTA_0006_VC20
 REV 2 ANC 1/30/2026

Distances/areas relative to NAD 83 grid measurements. Combined Scale Factor: 0.99981955 and a Convergence Angle: 0.50466944°

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

Form APD Comments

Permit 386431

PERMIT COMMENTS

Operator Name and Address: BTA OIL PRODUCERS, LLC [260297] 104 S Pecos Midland, TX 79701		API Number: 30-025-55984
		Well: VINDICATOR CANYON STATE UNIT COM #413H
Created By	Comment	Comment Date
jeffrey.harrison	Infill to 30-025-55983 VINDICATOR CANYON STATE UNIT COM #412H [337380]	3/3/2026

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Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

Form APD Conditions

Permit 386431

PERMIT CONDITIONS OF APPROVAL

Operator Name and Address: BTA OIL PRODUCERS, LLC [260297] 104 S Pecos Midland, TX 79701	API Number: 30-025-55984
	Well: VINDICATOR CANYON STATE UNIT COM #413H

OCD Reviewer	Condition
jeffrey.harrison	No additives containing PFAS chemicals will be added to the drilling fluids or completion fluids used during drilling, completions, or recompletions operations.
jeffrey.harrison	NSP required if not included in an existing order or not an infill to an appropriate defining well in the same pool and spacing unit.
jeffrey.harrison	Cement is required to circulate on both surface and intermediate strings of casing.
jeffrey.harrison	If the method of isolation was not by circulation, a CBL must be performed; if strata isolation is not achieved, then remediation will be required before further operations.
jeffrey.harrison	File As Drilled C-102 and a directional Survey with C-104 completion packet.
jeffrey.harrison	A [C-103] Sub. Drilling (C-103N) is required within (10) days of spud.
jeffrey.harrison	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system.
jeffrey.harrison	Notify the OCD 24 hours prior to casing & cement.
jeffrey.harrison	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string.
jeffrey.harrison	Surface casing shall be set a minimum of 25' into the Rustler Anhydrite, above the salt, and below usable fresh water and cemented to the surface. If salt is encountered set casing at least 25 ft. above the salt.
jeffrey.harrison	Any string of casing or liner that is not circulated to surface must have a minimum of 200' of cement tie-back into the previous string of casing.

State of New Mexico
 Energy, Minerals and Natural Resources Department

Submit Electronically
 Via E-permitting

Oil Conservation Division
 1220 South St. Francis Dr.
 Santa Fe, NM 87505

NATURAL GAS MANAGEMENT PLAN

This Natural Gas Management Plan must be submitted with each Application for Permit to Drill (APD) for a new or recompleted well.

Section 1 – Plan Description Effective May 25, 2021

I. Operator: BTA Oil Producers, LLC **OGRID:** 260297 **Date:** 2 /27/ 2026

II. Type: Original Amendment due to 19.15.27.9.D(6)(a) NMAC 19.15.27.9.D(6)(b) NMAC Other.

If Other, please describe: _____

III. Well(s): Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
VINDICATOR CANYON STATE UNIT COM 413H		N-20-17S-36E	300 FSL, 2600 FWL	+/- 800	+/- 2000	+/- 1200

IV. Central Delivery Point Name: VINDICATOR CTB [See 19.15.27.9(D)(1) NMAC]

V. Anticipated Schedule: Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production Date
VINDICATOR CANYON STATE UNIT COM 413H		4/28/2026	5/18/2026	6/1/2026	6/22//2026	7/22/2026

VI. Separation Equipment: Attach a complete description of how Operator will size separation equipment to optimize gas capture.

VII. Operational Practices: Attach a complete description of the actions Operator will take to comply with the requirements of Subsection A through F of 19.15.27.8 NMAC.

VIII. Best Management Practices: Attach a complete description of Operator’s best management practices to minimize venting during active and planned maintenance.

Section 2 – Enhanced Plan

EFFECTIVE APRIL 1, 2022

Beginning April 1, 2022, an operator that is not in compliance with its statewide natural gas capture requirement for the applicable reporting area must complete this section.

Operator certifies that it is not required to complete this section because Operator is in compliance with its statewide natural gas capture requirement for the applicable reporting area.

IX. Anticipated Natural Gas Production:

Well	API	Anticipated Average Natural Gas Rate MCF/D	Anticipated Volume of Natural Gas for the First Year MCF

X. Natural Gas Gathering System (NGGS):

Operator	System	ULSTR of Tie-in	Anticipated Gathering Start Date	Available Maximum Daily Capacity of System Segment Tie-in

XI. Map. Attach an accurate and legible map depicting the location of the well(s), the anticipated pipeline route(s) connecting the production operations to the existing or planned interconnect of the natural gas gathering system(s), and the maximum daily capacity of the segment or portion of the natural gas gathering system(s) to which the well(s) will be connected.

XII. Line Capacity. The natural gas gathering system will will not have capacity to gather 100% of the anticipated natural gas production volume from the well prior to the date of first production.

XIII. Line Pressure. Operator does does not anticipate that its existing well(s) connected to the same segment, or portion, of the natural gas gathering system(s) described above will continue to meet anticipated increases in line pressure caused by the new well(s).

Attach Operator’s plan to manage production in response to the increased line pressure.

XIV. Confidentiality: Operator asserts confidentiality pursuant to Section 71-2-8 NMSA 1978 for the information provided in Section 2 as provided in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and attaches a full description of the specific information for which confidentiality is asserted and the basis for such assertion.

Section 3 - Certifications

Effective May 25, 2021

Operator certifies that, after reasonable inquiry and based on the available information at the time of submittal:

Operator will be able to connect the well(s) to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system; or

Operator will not be able to connect to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system.

If Operator checks this box, Operator will select one of the following:

Well Shut-In. Operator will shut-in and not produce the well until it submits the certification required by Paragraph (4) of Subsection D of 19.15.27.9 NMAC; or

Venting and Flaring Plan. Operator has attached a venting and flaring plan that evaluates and selects one or more of the potential alternative beneficial uses for the natural gas until a natural gas gathering system is available, including:

- (a) power generation on lease;
- (b) power generation for grid;
- (c) compression on lease;
- (d) liquids removal on lease;
- (e) reinjection for underground storage;
- (f) reinjection for temporary storage;
- (g) reinjection for enhanced oil recovery;
- (h) fuel cell production; and
- (i) other alternative beneficial uses approved by the division.

Section 4 - Notices

1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

(a) Operator becomes aware that the natural gas gathering system it planned to connect the well(s) to has become unavailable or will not have capacity to transport one hundred percent of the production from the well(s), no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised venting and flaring plan containing the information specified in Paragraph (5) of Subsection D of 19.15.27.9 NMAC; or

(b) Operator becomes aware that it has, cumulatively for the year, become out of compliance with its baseline natural gas capture rate or natural gas capture requirement, no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised Natural Gas Management Plan for each well it plans to spud during the next 90 days containing the information specified in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and shall file an update for each Natural Gas Management Plan until Operator is back in compliance with its baseline natural gas capture rate or natural gas capture requirement.

2. OCD may deny or conditionally approve an APD if Operator does not make a certification, fails to submit an adequate venting and flaring plan which includes alternative beneficial uses for the anticipated volume of natural gas produced, or if OCD determines that Operator will not have adequate natural gas takeaway capacity at the time a well will be spud.

I certify that, after reasonable inquiry, the statements in and attached to this Natural Gas Management Plan are true and correct to the best of my knowledge and acknowledge that a false statement may be subject to civil and criminal penalties under the Oil and Gas Act.

Signature:	
Printed Name:	Liz Velasco
Title:	Regulatory Analyst
E-mail Address:	lvelasco@btaoil.com
Date:	2/27/2026
Phone:	432-682-3753

OIL CONSERVATION DIVISION
(Only applicable when submitted as a standalone form)

Approved By:
Title:
Approval Date:
Conditions of Approval:

VI. Separation Equipment: Attach a complete description of how Operator will size separation equipment to optimize gas capture.

- Separation equipment will be sized to provide adequate separation for anticipated rates.
- Separation equipment will allow for adequate retention time to allow gas and liquids to separate.
- Separation equipment will utilize air power pneumatic dump controllers and ventless pressure control valves.
- Separation equipment will separate all three phases (Oil, Water, and Gas).
- Storage tanks will utilize blanket gas and vapor recovery systems to moderate tank pressures and capture gas from storage tanks.
- Collection systems are appropriately sized to handle facility production rates on all (3) phases.
- Ancillary equipment and metering is selected to be serviced without flow interruptions or the need to release gas from the well.

VII. Operational Practices: Attach a complete description of the actions Operator will take to comply with the requirements of Subsection A through F 19.15.27.8 NMAC.

Drilling Operations

- All flare stacks will be properly sized. The flare stacks will be located at a minimum 100' from the nearest surface hole location on the pad.
- All natural gas produced during drilling operations will be flared, unless there is an equipment malfunction and/or to avoid risk of an immediate and substantial adverse impact on safety and the environment, at which point the gas will be vented.

Completions/Recompletions Operations

- New wells will not be flowed back until they are connected to a properly sized gathering system.
- The facility will be built/sized for maximum anticipated flowrates and pressures to minimize waste.
- For flowback operations, multiple stages of separation will be used as well as excess VRU and blowers to make sure waste is minimized off the storage tanks and facility.
- During initial flowback, the well stream will be routed to separation equipment.
- At an existing facility, when necessary, post separation natural gas will be flared until it meets pipeline specifications, at which point it will be turned into a collection system.
- At a new facility, post separation natural gas will be vented until storage tanks can safely function, at which point it will be flared until it meets pipeline spec.

Production Operations

- Weekly AVOs will be performed on all facilities that produce more than 60 MCFD.
- All facilities will be inspected with an Optical Gas Imaging Thermographer Camera quarterly to find and repair fugitive emissions.
- Leaking thief hatches and pressure safety valves found during AVOs will be cleaned and properly re-sealed.

- All flares will be equipped with continuous pilot system and air assist systems that will ensure the flare burns efficiently.
- After a well is stabilized from liquid unloading, the well will be turned back into the collection system.
- All gas lift systems will be optimized to limit the amount of waste.
- All tanks will have automatic gauging equipment installed.

Performance Standards

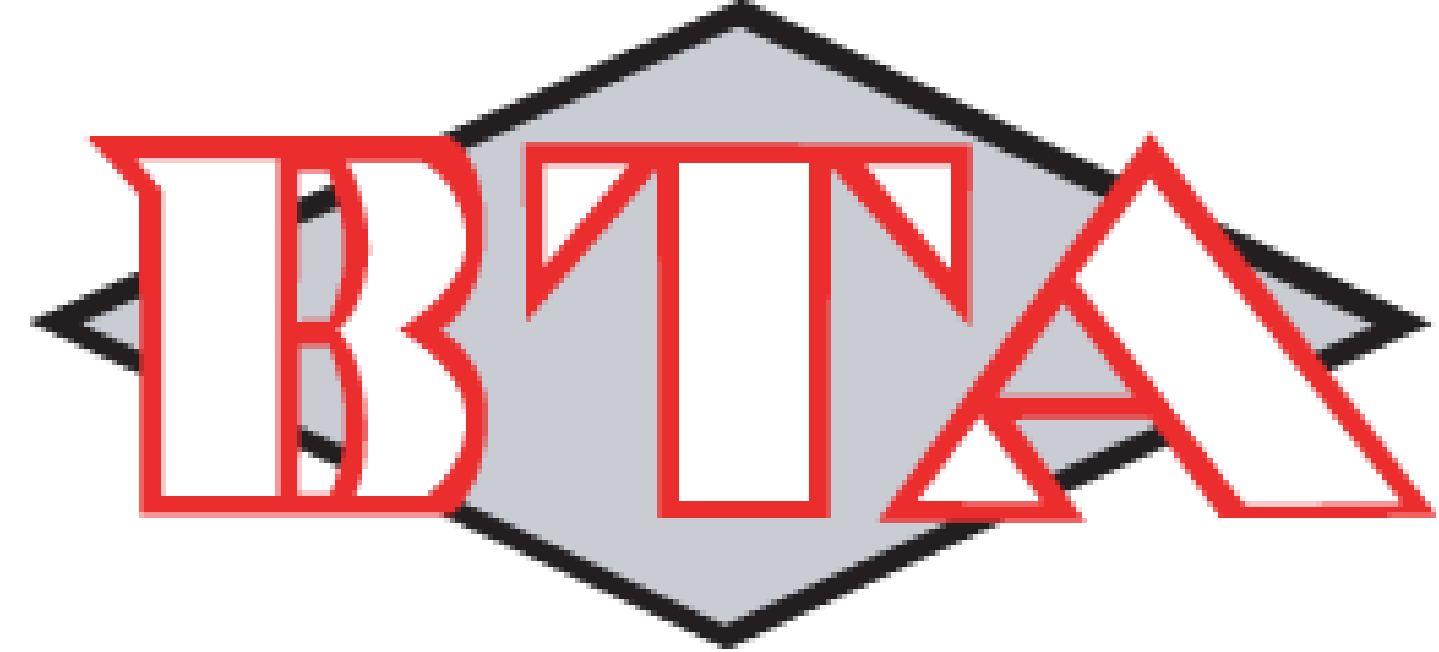
- Production equipment will be designed to handle maximum anticipated rates and pressure.
- All flared gas will be combusted in a flare stack that is properly sized and designed to ensure proper combustion.
- All gas will have multiple points of separation to ensure no liquids enter flares, combustors, or gas sales line.
- Weekly AVOs will be performed on all wells and facilities that produce more than 60 MCFD.
- All OOOOa facilities will be filmed with an Optical Gas Imaging Thermographer camera once per month to check for fugitive emissions.

Measurement & Estimation

- All volume that is flared and vented that is not measured will be estimated.
- All measurement equipment for flared volumes will conform to API 14.10.
- All meters will be calibrated at regular intervals according to meter manufacturer recommendations.
- When metering is not practical due to low pressure/low rate, the vented or flared volume will be estimated.

VIII. Best Management Practices: Attach a complete description of Operator's best management practices to minimize venting during active and planned maintenance.

- During downhole well maintenance, BTA will use best management practices to vent as minimally as possible.
- Prior to the commencement of any maintenance, the tank or vessel will be isolated from the rest of the facilities.
- All valves upstream of the equipment will be closed and isolated.
- After equipment has been isolated, the equipment will be blown down to as low a pressure as possible into the collection system.
- If the equipment being maintained cannot be relieved into the collection system, it shall be released to a tank where the vapor can either be captured or combusted if possible.
- After downhole well maintenance, natural gas will be flared until it reaches pipeline specification.



Project: Lea County, NM (NAD83 NME)
 Site: Vindicator Canyon State Unit Com West Pad
 Well: Vindicator Canyon State Unit Com 413H
 Wellbore: OH
 Design: Plan 1 02-23-26
 Rig: Patterson 566



PHOENIX TECHNOLOGY SERVICES

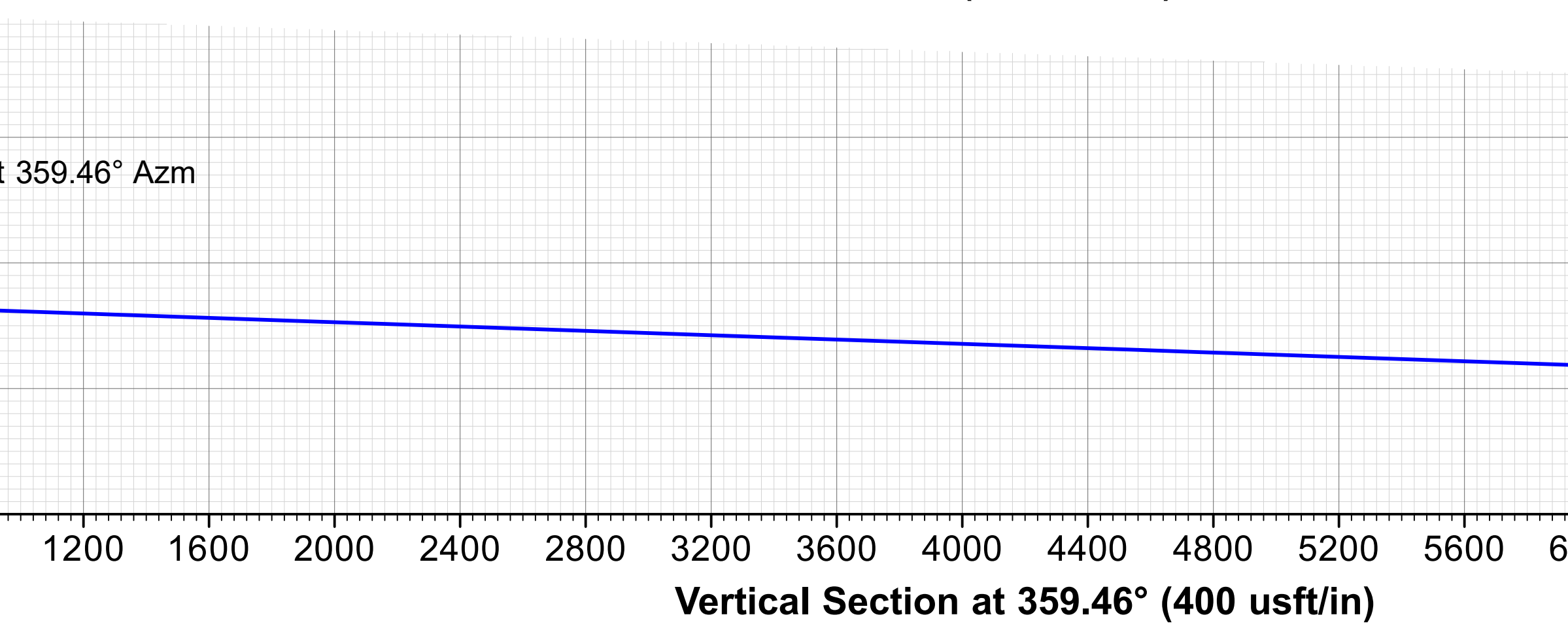
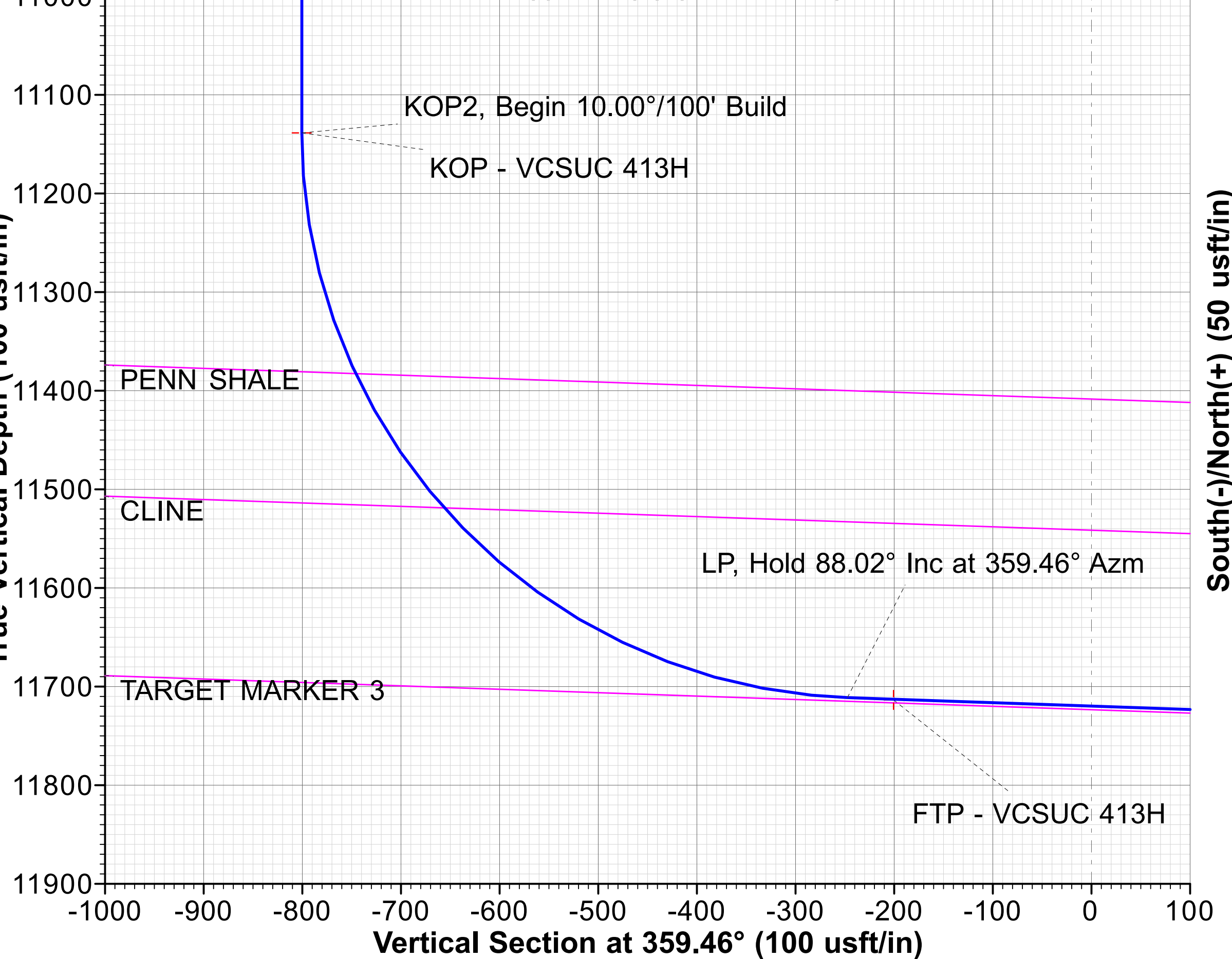
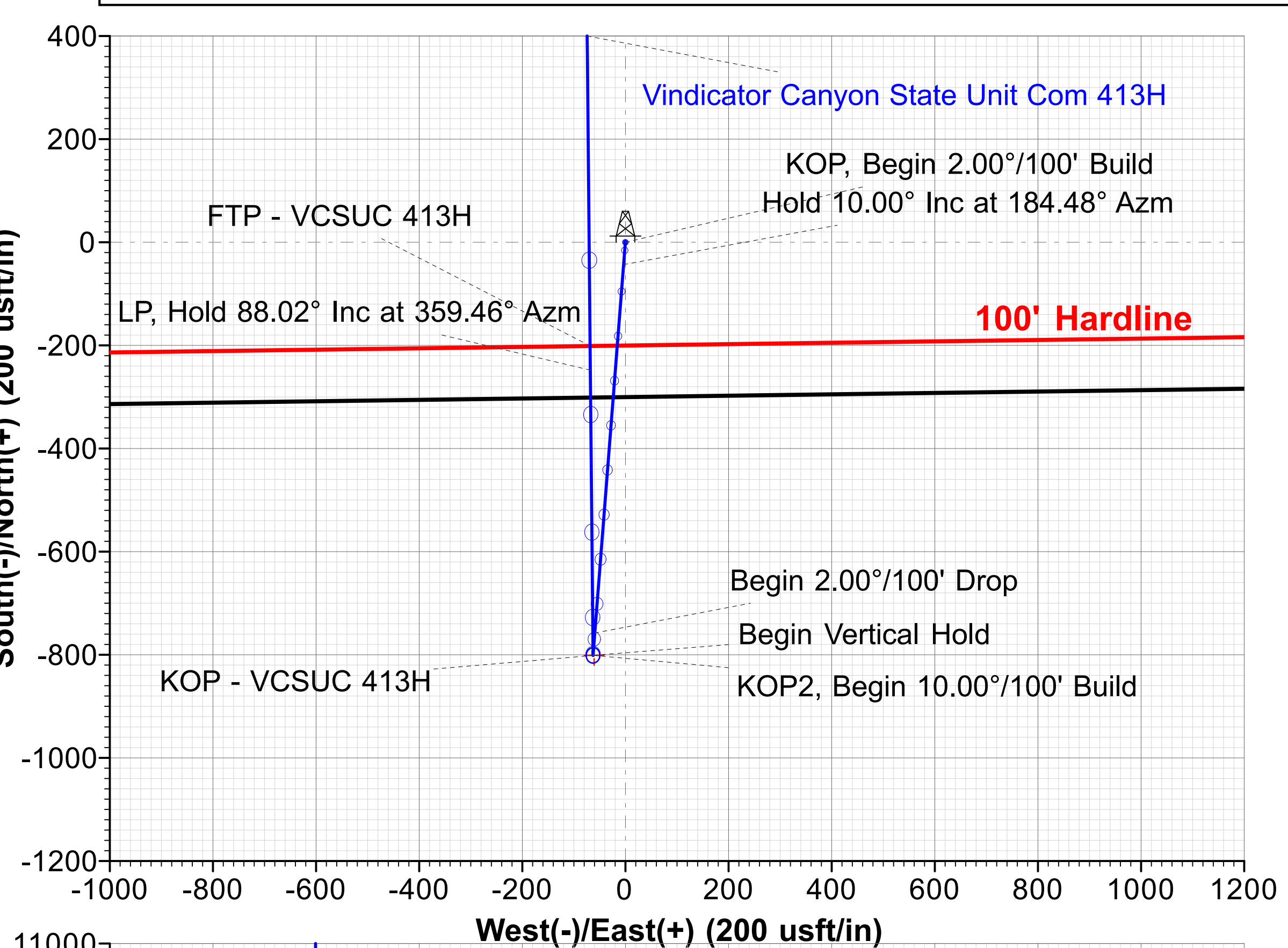
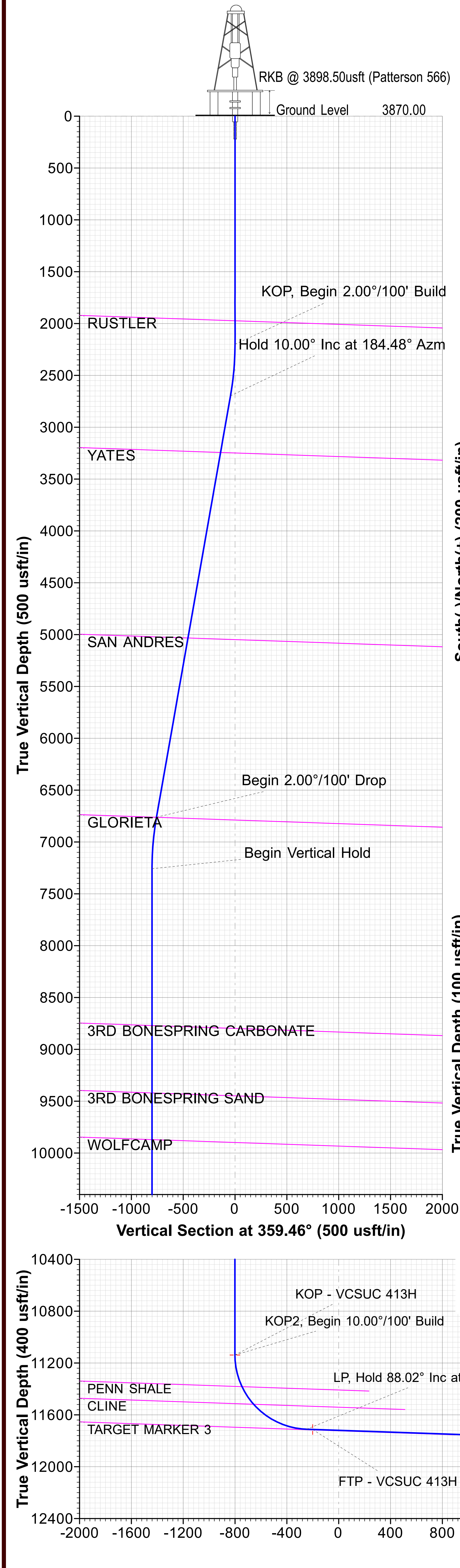
T G M

Azimuths to Grid North
 True North: -0.52°
 Magnetic North: 5.47°

Magnetic Field
 Strength: 47177.7nT
 Dip Angle: 60.43°
 Date: 4/20/2026
 Model: HDGM

WELL DETAILS											
Ground Level 3870.00											
		+N/-S	+E/-W	Northing		Easting		Latitude		Longitude	
		0.00	0.00	661153.18	835147.71	32° 48' 49.989116 N	103° 22' 37.186475 W				
SECTION DETAILS											
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
2	2200.00	0.00	0.00	2200.00	0.00	0.00	0.00	0.00	0.00		KOP, Begin 2.00°/100' Build
3	2700.00	10.00	184.48	2697.47	-43.39	-3.40	2.00	184.477	-43.36		Hold 10.00° Inc at 184.48° Azm
4	6826.25	10.00	184.48	6761.03	-757.72	-59.32	0.00	0.000	-757.13		Begin 2.00°/100' Drop
5	7326.25	0.00	0.00	7258.50	-801.11	-62.72	2.00	180.000	-800.48		Begin Vertical Hold
6	11206.43	0.00	0.00	11138.67	-801.11	-62.72	0.00	0.000	-800.48		KOP2, Begin 10.00°/100' Build
7	12086.63	88.02	359.46	11711.29	-247.97	-67.95	10.00	359.458	-247.32		LP, Hold 88.02° Inc at 359.46° Azm
8	22570.22	88.02	359.46	12073.50	10228.89	-166.99	0.00	0.000	10230.01	BHL - VCSUC 413H	TD at 22570.22' MD

DESIGN TARGET DETAILS							
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
KOP - VCSUC 413H	11138.67	-801.11	-60.72	660352.07	835086.99	32° 48' 42.068563 N	103° 22' 37.982780 W
FTP - VCSUC 413H	11713.50	-201.15	-68.00	660952.03	835079.71	32° 48' 48.005072 N	103° 22' 38.004504 W
LTP - VCSUC 413H	12071.77	10178.89	-166.48	671332.07	834981.23	32° 50' 30.711220 N	103° 22' 38.058057 W
BHL - VCSUC 413H	12073.50	10228.89	-166.99	671382.07	834980.72	32° 50' 31.205951 N	103° 22' 38.058731 W



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

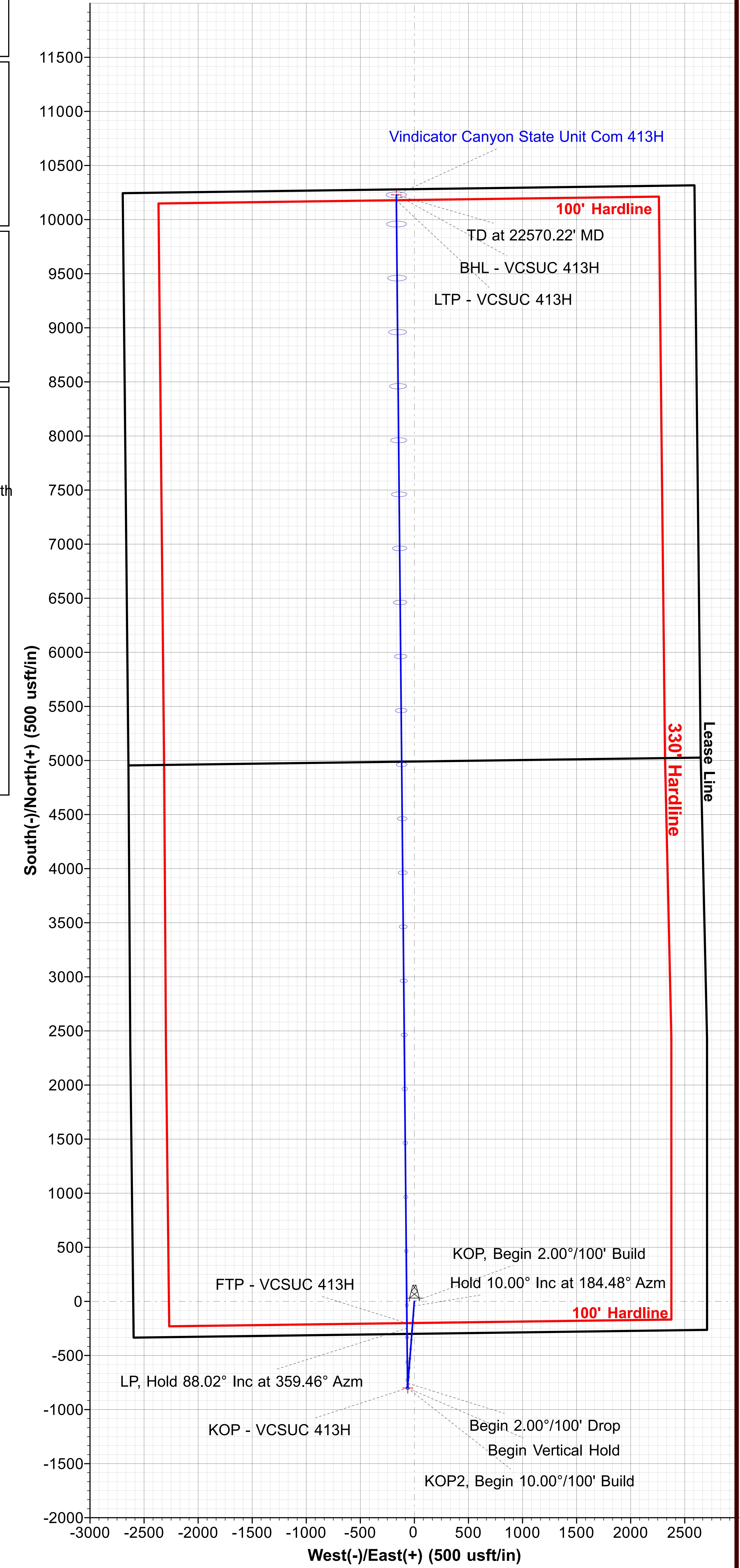
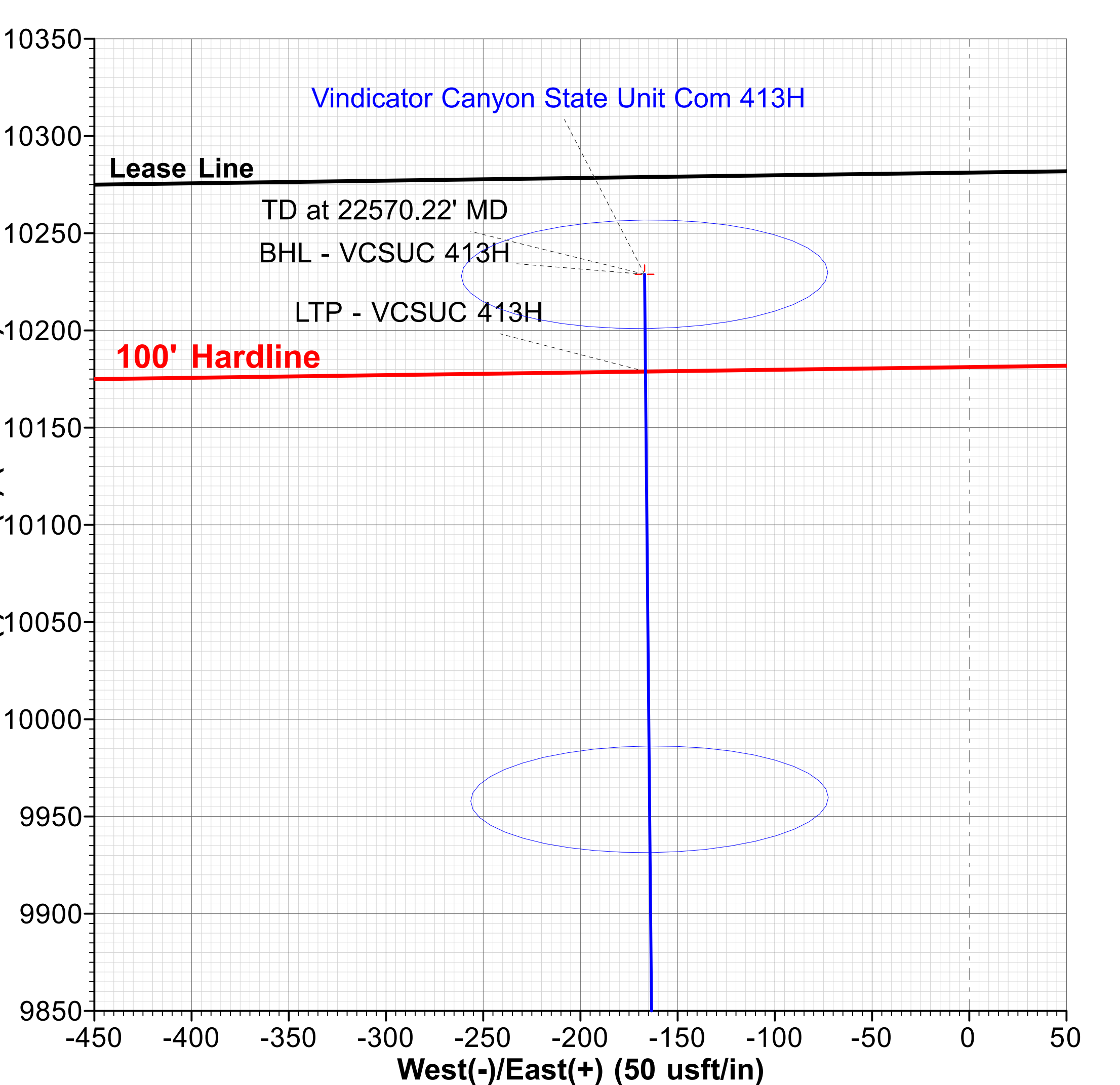
Local Origin: Well Vindicator Canyon State Unit Com 413H, Grid North

Latitude: 32° 48' 49.989116 N
 Longitude: 103° 22' 37.186475 W

Grid East: 835147.71
 Grid North: 661153.18
 Scale Factor: 1.000

Geomagnetic Model: HDGM
 Sample Date: 20-Apr-26
 Magnetic Declination: 5.983°
 Dip Angle from Horizontal: 60.433°
 Magnetic Field Strength: 47177.70000000nT

To convert a Magnetic Direction to a Grid Direction, Add 5.465°
 To convert a Magnetic Direction to a True Direction, Add 5.983° East
 To convert a True Direction to a Grid Direction, Subtract 0.518°





BTA Oil Producers, LLC

**Lea County, NM (NAD83 NME)
Vindicator Canyon State Unit Com West Pad
Vindicator Canyon State Unit Com 413H**

OH

Plan: Plan 1 02-23-26

Standard Planning Report

23 February, 2026





Phoenix Technology Services

Planning Report



Database:	W10USAEDMDB	Local Co-ordinate Reference:	Well Vindicator Canyon State Unit Com 413H
Company:	BTA Oil Producers, LLC	TVD Reference:	RKB @ 3898.50usft (Patterson 566)
Project:	Lea County, NM (NAD83 NME)	MD Reference:	RKB @ 3898.50usft (Patterson 566)
Site:	Vindicator Canyon State Unit Com West Pad	North Reference:	Grid
Well:	Vindicator Canyon State Unit Com 413H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1 02-23-26		

Project	Lea County, NM (NAD83 NME)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Vindicator Canyon State Unit Com West Pad				
Site Position:	Northing:	661,153.34 usft	Latitude:	32° 48' 49.985333 N	
From: Map	Easting:	835,207.66 usft	Longitude:	103° 22' 36.484059 W	
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.518 °

Well	Vindicator Canyon State Unit Com 413H					
Well Position	+N/-S	-0.16 usft	Northing:	661,153.18 usft	Latitude:	32° 48' 49.989116 N
	+E/-W	-59.95 usft	Easting:	835,147.71 usft	Longitude:	103° 22' 37.186475 W
Position Uncertainty	1.00 usft	Wellhead Elevation:		Ground Level:	3,870.00 usft	

Wellbore	OH			
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	4/20/2026	5.983	60.433	47,177.70000000

Design	Plan 1 02-23-26			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	359.46

Plan Survey Tool Program	Date	2/23/2026		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	22,570.22 Plan 1 02-23-26 (OH)	SQC_C705Mb_MWD+IFR'	MWD+IFR1+Sag+FDIR

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	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	
2,700.00	10.00	184.48	2,697.47	-43.39	-3.40	2.00	2.00	0.00	184.477	0.000	
6,826.25	10.00	184.48	6,761.03	-757.72	-59.32	0.00	0.00	0.00	0.00	0.000	
7,326.25	0.00	0.00	7,258.50	-801.11	-62.72	2.00	-2.00	0.00	180.000	0.000	
11,206.43	0.00	0.00	11,138.67	-801.11	-62.72	0.00	0.00	0.00	0.00	0.000	
12,086.63	88.02	359.46	11,711.29	-247.97	-67.95	10.00	10.00	-0.06	359.458	0.000	
22,570.22	88.02	359.46	12,073.50	10,228.89	-166.99	0.00	0.00	0.00	0.000	BHL - VCSUC 413H	



Phoenix Technology Services

Planning Report



Database:	W10USAEDMDB	Local Co-ordinate Reference:	Well Vindicator Canyon State Unit Com 413H
Company:	BTA Oil Producers, LLC	TVD Reference:	RKB @ 3898.50usft (Patterson 566)
Project:	Lea County, NM (NAD83 NME)	MD Reference:	RKB @ 3898.50usft (Patterson 566)
Site:	Vindicator Canyon State Unit Com West Pad	North Reference:	Grid
Well:	Vindicator Canyon State Unit Com 413H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1 02-23-26		

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)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,973.50	0.00	0.00	1,973.50	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	2.00	184.48	2,299.98	-1.74	-0.14	-1.74	2.00	2.00	0.00
2,400.00	4.00	184.48	2,399.84	-6.96	-0.54	-6.95	2.00	2.00	0.00
2,500.00	6.00	184.48	2,499.45	-15.65	-1.22	-15.63	2.00	2.00	0.00
2,600.00	8.00	184.48	2,598.70	-27.79	-2.18	-27.77	2.00	2.00	0.00
2,700.00	10.00	184.48	2,697.47	-43.39	-3.40	-43.36	2.00	2.00	0.00
2,800.00	10.00	184.48	2,795.95	-60.70	-4.75	-60.65	0.00	0.00	0.00
2,900.00	10.00	184.48	2,894.43	-78.01	-6.11	-77.95	0.00	0.00	0.00
3,000.00	10.00	184.48	2,992.91	-95.33	-7.46	-95.25	0.00	0.00	0.00
3,100.00	10.00	184.48	3,091.39	-112.64	-8.82	-112.55	0.00	0.00	0.00
3,200.00	10.00	184.48	3,189.87	-129.95	-10.17	-129.85	0.00	0.00	0.00
3,254.65	10.00	184.48	3,243.68	-139.41	-10.91	-139.30	0.00	0.00	0.00
3,300.00	10.00	184.48	3,288.35	-147.26	-11.53	-147.15	0.00	0.00	0.00
3,400.00	10.00	184.48	3,386.83	-164.57	-12.88	-164.44	0.00	0.00	0.00
3,500.00	10.00	184.48	3,485.31	-181.88	-14.24	-181.74	0.00	0.00	0.00
3,600.00	10.00	184.48	3,583.79	-199.20	-15.60	-199.04	0.00	0.00	0.00
3,700.00	10.00	184.48	3,682.27	-216.51	-16.95	-216.34	0.00	0.00	0.00
3,800.00	10.00	184.48	3,780.75	-233.82	-18.31	-233.64	0.00	0.00	0.00
3,900.00	10.00	184.48	3,879.23	-251.13	-19.66	-250.94	0.00	0.00	0.00
4,000.00	10.00	184.48	3,977.72	-268.44	-21.02	-268.23	0.00	0.00	0.00
4,100.00	10.00	184.48	4,076.20	-285.76	-22.37	-285.53	0.00	0.00	0.00
4,200.00	10.00	184.48	4,174.68	-303.07	-23.73	-302.83	0.00	0.00	0.00
4,300.00	10.00	184.48	4,273.16	-320.38	-25.08	-320.13	0.00	0.00	0.00
4,400.00	10.00	184.48	4,371.64	-337.69	-26.44	-337.43	0.00	0.00	0.00
4,500.00	10.00	184.48	4,470.12	-355.00	-27.79	-354.73	0.00	0.00	0.00
4,600.00	10.00	184.48	4,568.60	-372.31	-29.15	-372.02	0.00	0.00	0.00
4,700.00	10.00	184.48	4,667.08	-389.63	-30.50	-389.32	0.00	0.00	0.00
4,800.00	10.00	184.48	4,765.56	-406.94	-31.86	-406.62	0.00	0.00	0.00
4,900.00	10.00	184.48	4,864.04	-424.25	-33.22	-423.92	0.00	0.00	0.00
5,000.00	10.00	184.48	4,962.52	-441.56	-34.57	-441.22	0.00	0.00	0.00
5,071.38	10.00	184.48	5,032.82	-453.92	-35.54	-453.56	0.00	0.00	0.00
5,100.00	10.00	184.48	5,061.00	-458.87	-35.93	-458.52	0.00	0.00	0.00
5,200.00	10.00	184.48	5,159.48	-476.19	-37.28	-475.81	0.00	0.00	0.00
5,300.00	10.00	184.48	5,257.97	-493.50	-38.64	-493.11	0.00	0.00	0.00
5,400.00	10.00	184.48	5,356.45	-510.81	-39.99	-510.41	0.00	0.00	0.00
5,500.00	10.00	184.48	5,454.93	-528.12	-41.35	-527.71	0.00	0.00	0.00
5,600.00	10.00	184.48	5,553.41	-545.43	-42.70	-545.01	0.00	0.00	0.00
5,700.00	10.00	184.48	5,651.89	-562.75	-44.06	-562.30	0.00	0.00	0.00
5,800.00	10.00	184.48	5,750.37	-580.06	-45.41	-579.60	0.00	0.00	0.00
5,900.00	10.00	184.48	5,848.85	-597.37	-46.77	-596.90	0.00	0.00	0.00
6,000.00	10.00	184.48	5,947.33	-614.68	-48.12	-614.20	0.00	0.00	0.00
6,100.00	10.00	184.48	6,045.81	-631.99	-49.48	-631.50	0.00	0.00	0.00
6,200.00	10.00	184.48	6,144.29	-649.30	-50.83	-648.80	0.00	0.00	0.00
6,300.00	10.00	184.48	6,242.77	-666.62	-52.19	-666.09	0.00	0.00	0.00
6,400.00	10.00	184.48	6,341.25	-683.93	-53.55	-683.39	0.00	0.00	0.00
6,500.00	10.00	184.48	6,439.73	-701.24	-54.90	-700.69	0.00	0.00	0.00



Phoenix Technology Services

Planning Report



Database:	W10USAEDMDB	Local Co-ordinate Reference:	Well Vindicator Canyon State Unit Com 413H
Company:	BTA Oil Producers, LLC	TVD Reference:	RKB @ 3898.50usft (Patterson 566)
Project:	Lea County, NM (NAD83 NME)	MD Reference:	RKB @ 3898.50usft (Patterson 566)
Site:	Vindicator Canyon State Unit Com West Pad	North Reference:	Grid
Well:	Vindicator Canyon State Unit Com 413H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1 02-23-26		

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)	
6,600.00	10.00	184.48	6,538.22	-718.55	-56.26	-717.99	0.00	0.00	0.00	
6,700.00	10.00	184.48	6,636.70	-735.86	-57.61	-735.29	0.00	0.00	0.00	
6,800.00	10.00	184.48	6,735.18	-753.18	-58.97	-752.59	0.00	0.00	0.00	
6,826.25	10.00	184.48	6,761.03	-757.72	-59.32	-757.13	0.00	0.00	0.00	
Begin 2.00°/100' Drop										
6,827.56	9.97	184.48	6,762.32	-757.95	-59.34	-757.35	2.00	-2.00	0.00	
GLORIETA										
6,900.00	8.53	184.48	6,833.81	-769.55	-60.25	-768.95	2.00	-2.00	0.00	
7,000.00	6.53	184.48	6,932.95	-782.61	-61.27	-782.00	2.00	-2.00	0.00	
7,100.00	4.53	184.48	7,032.48	-792.21	-62.02	-791.59	2.00	-2.00	0.00	
7,200.00	2.53	184.48	7,132.28	-798.34	-62.50	-797.71	2.00	-2.00	0.00	
7,300.00	0.53	184.48	7,232.24	-800.99	-62.71	-800.36	2.00	-2.00	0.00	
7,326.25	0.00	0.00	7,258.50	-801.11	-62.72	-800.48	2.00	-2.00	0.00	
Begin Vertical Hold										
7,400.00	0.00	0.00	7,332.24	-801.11	-62.72	-800.48	0.00	0.00	0.00	
7,500.00	0.00	0.00	7,432.24	-801.11	-62.72	-800.48	0.00	0.00	0.00	
7,600.00	0.00	0.00	7,532.24	-801.11	-62.72	-800.48	0.00	0.00	0.00	
7,700.00	0.00	0.00	7,632.24	-801.11	-62.72	-800.48	0.00	0.00	0.00	
7,800.00	0.00	0.00	7,732.24	-801.11	-62.72	-800.48	0.00	0.00	0.00	
7,900.00	0.00	0.00	7,832.24	-801.11	-62.72	-800.48	0.00	0.00	0.00	
8,000.00	0.00	0.00	7,932.24	-801.11	-62.72	-800.48	0.00	0.00	0.00	
8,100.00	0.00	0.00	8,032.24	-801.11	-62.72	-800.48	0.00	0.00	0.00	
8,200.00	0.00	0.00	8,132.24	-801.11	-62.72	-800.48	0.00	0.00	0.00	
8,300.00	0.00	0.00	8,232.24	-801.11	-62.72	-800.48	0.00	0.00	0.00	
8,400.00	0.00	0.00	8,332.24	-801.11	-62.72	-800.48	0.00	0.00	0.00	
8,500.00	0.00	0.00	8,432.24	-801.11	-62.72	-800.48	0.00	0.00	0.00	
8,600.00	0.00	0.00	8,532.24	-801.11	-62.72	-800.48	0.00	0.00	0.00	
8,700.00	0.00	0.00	8,632.24	-801.11	-62.72	-800.48	0.00	0.00	0.00	
8,800.00	0.00	0.00	8,732.24	-801.11	-62.72	-800.48	0.00	0.00	0.00	
8,838.58	0.00	0.00	8,770.83	-801.11	-62.72	-800.48	0.00	0.00	0.00	
3RD BONESPRING CARBONATE										
8,900.00	0.00	0.00	8,832.24	-801.11	-62.72	-800.48	0.00	0.00	0.00	
9,000.00	0.00	0.00	8,932.24	-801.11	-62.72	-800.48	0.00	0.00	0.00	
9,100.00	0.00	0.00	9,032.24	-801.11	-62.72	-800.48	0.00	0.00	0.00	
9,200.00	0.00	0.00	9,132.24	-801.11	-62.72	-800.48	0.00	0.00	0.00	
9,300.00	0.00	0.00	9,232.24	-801.11	-62.72	-800.48	0.00	0.00	0.00	
9,400.00	0.00	0.00	9,332.24	-801.11	-62.72	-800.48	0.00	0.00	0.00	
9,488.58	0.00	0.00	9,420.83	-801.11	-62.72	-800.48	0.00	0.00	0.00	
3RD BONESPRING SAND										
9,500.00	0.00	0.00	9,432.24	-801.11	-62.72	-800.48	0.00	0.00	0.00	
9,600.00	0.00	0.00	9,532.24	-801.11	-62.72	-800.48	0.00	0.00	0.00	
9,700.00	0.00	0.00	9,632.24	-801.11	-62.72	-800.48	0.00	0.00	0.00	
9,800.00	0.00	0.00	9,732.24	-801.11	-62.72	-800.48	0.00	0.00	0.00	
9,900.00	0.00	0.00	9,832.24	-801.11	-62.72	-800.48	0.00	0.00	0.00	
9,938.58	0.00	0.00	9,870.83	-801.11	-62.72	-800.48	0.00	0.00	0.00	
WOLFCAMP										
10,000.00	0.00	0.00	9,932.24	-801.11	-62.72	-800.48	0.00	0.00	0.00	
10,100.00	0.00	0.00	10,032.24	-801.11	-62.72	-800.48	0.00	0.00	0.00	
10,200.00	0.00	0.00	10,132.24	-801.11	-62.72	-800.48	0.00	0.00	0.00	
10,300.00	0.00	0.00	10,232.24	-801.11	-62.72	-800.48	0.00	0.00	0.00	
10,400.00	0.00	0.00	10,332.24	-801.11	-62.72	-800.48	0.00	0.00	0.00	
10,500.00	0.00	0.00	10,432.24	-801.11	-62.72	-800.48	0.00	0.00	0.00	
10,600.00	0.00	0.00	10,532.24	-801.11	-62.72	-800.48	0.00	0.00	0.00	



Phoenix Technology Services

Planning Report



Database:	W10USAEDMDB	Local Co-ordinate Reference:	Well Vindicator Canyon State Unit Com 413H
Company:	BTA Oil Producers, LLC	TVD Reference:	RKB @ 3898.50usft (Patterson 566)
Project:	Lea County, NM (NAD83 NME)	MD Reference:	RKB @ 3898.50usft (Patterson 566)
Site:	Vindicator Canyon State Unit Com West Pad	North Reference:	Grid
Well:	Vindicator Canyon State Unit Com 413H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1 02-23-26		

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)
10,700.00	0.00	0.00	10,632.24	-801.11	-62.72	-800.48	0.00	0.00	0.00
10,800.00	0.00	0.00	10,732.24	-801.11	-62.72	-800.48	0.00	0.00	0.00
10,900.00	0.00	0.00	10,832.24	-801.11	-62.72	-800.48	0.00	0.00	0.00
11,000.00	0.00	0.00	10,932.24	-801.11	-62.72	-800.48	0.00	0.00	0.00
11,100.00	0.00	0.00	11,032.24	-801.11	-62.72	-800.48	0.00	0.00	0.00
11,200.00	0.00	0.00	11,132.24	-801.11	-62.72	-800.48	0.00	0.00	0.00
11,206.43	0.00	0.00	11,138.67	-801.11	-62.72	-800.48	0.00	0.00	0.00
KOP2, Begin 10.00°/100' Build									
11,300.00	9.36	359.46	11,231.83	-793.49	-62.79	-792.86	10.00	10.00	0.00
11,400.00	19.36	359.46	11,328.58	-768.72	-63.03	-768.09	10.00	10.00	0.00
11,458.53	25.21	359.46	11,382.71	-746.54	-63.24	-745.91	10.00	10.00	0.00
PENN SHALE									
11,500.00	29.36	359.46	11,419.57	-727.53	-63.42	-726.90	10.00	10.00	0.00
11,600.00	39.36	359.46	11,502.01	-671.17	-63.95	-670.54	10.00	10.00	0.00
11,622.08	41.57	359.46	11,518.81	-656.84	-64.08	-656.21	10.00	10.00	0.00
CLINE									
11,700.00	49.36	359.46	11,573.42	-601.35	-64.61	-600.72	10.00	10.00	0.00
11,800.00	59.36	359.46	11,631.62	-520.19	-65.38	-519.55	10.00	10.00	0.00
11,900.00	69.36	359.46	11,674.84	-430.16	-66.23	-429.51	10.00	10.00	0.00
12,000.00	79.36	359.46	11,701.77	-333.99	-67.14	-333.34	10.00	10.00	0.00
12,086.63	88.02	359.46	11,711.29	-247.97	-67.95	-247.32	10.00	10.00	0.00
LP, Hold 88.02° Inc at 359.46° Azm									
12,100.00	88.02	359.46	11,711.75	-234.61	-68.08	-233.96	0.00	0.00	0.00
12,200.00	88.02	359.46	11,715.20	-134.67	-69.02	-134.02	0.00	0.00	0.00
12,300.00	88.02	359.46	11,718.66	-34.74	-69.96	-34.08	0.00	0.00	0.00
12,400.00	88.02	359.46	11,722.11	65.20	-70.91	65.87	0.00	0.00	0.00
12,500.00	88.02	359.46	11,725.57	165.14	-71.85	165.81	0.00	0.00	0.00
12,600.00	88.02	359.46	11,729.02	265.07	-72.80	265.75	0.00	0.00	0.00
12,700.00	88.02	359.46	11,732.48	365.01	-73.74	365.69	0.00	0.00	0.00
12,800.00	88.02	359.46	11,735.93	464.94	-74.69	465.63	0.00	0.00	0.00
12,900.00	88.02	359.46	11,739.39	564.88	-75.63	565.57	0.00	0.00	0.00
13,000.00	88.02	359.46	11,742.84	664.81	-76.58	665.51	0.00	0.00	0.00
13,100.00	88.02	359.46	11,746.30	764.75	-77.52	765.45	0.00	0.00	0.00
13,200.00	88.02	359.46	11,749.75	864.69	-78.47	865.39	0.00	0.00	0.00
13,300.00	88.02	359.46	11,753.21	964.62	-79.41	965.33	0.00	0.00	0.00
13,400.00	88.02	359.46	11,756.66	1,064.56	-80.36	1,065.27	0.00	0.00	0.00
13,500.00	88.02	359.46	11,760.12	1,164.49	-81.30	1,165.21	0.00	0.00	0.00
13,600.00	88.02	359.46	11,763.57	1,264.43	-82.25	1,265.15	0.00	0.00	0.00
13,700.00	88.02	359.46	11,767.03	1,364.37	-83.19	1,365.09	0.00	0.00	0.00
13,800.00	88.02	359.46	11,770.48	1,464.30	-84.14	1,465.03	0.00	0.00	0.00
13,900.00	88.02	359.46	11,773.94	1,564.24	-85.08	1,564.97	0.00	0.00	0.00
14,000.00	88.02	359.46	11,777.39	1,664.17	-86.03	1,664.91	0.00	0.00	0.00
14,100.00	88.02	359.46	11,780.85	1,764.11	-86.97	1,764.85	0.00	0.00	0.00
14,200.00	88.02	359.46	11,784.30	1,864.04	-87.91	1,864.79	0.00	0.00	0.00
14,300.00	88.02	359.46	11,787.76	1,963.98	-88.86	1,964.73	0.00	0.00	0.00
14,400.00	88.02	359.46	11,791.21	2,063.92	-89.80	2,064.67	0.00	0.00	0.00
14,500.00	88.02	359.46	11,794.67	2,163.85	-90.75	2,164.61	0.00	0.00	0.00
14,600.00	88.02	359.46	11,798.12	2,263.79	-91.69	2,264.55	0.00	0.00	0.00
14,700.00	88.02	359.46	11,801.58	2,363.72	-92.64	2,364.49	0.00	0.00	0.00
14,800.00	88.02	359.46	11,805.03	2,463.66	-93.58	2,464.43	0.00	0.00	0.00
14,900.00	88.02	359.46	11,808.49	2,563.60	-94.53	2,564.37	0.00	0.00	0.00
15,000.00	88.02	359.46	11,811.94	2,663.53	-95.47	2,664.31	0.00	0.00	0.00
15,100.00	88.02	359.46	11,815.40	2,763.47	-96.42	2,764.25	0.00	0.00	0.00
15,200.00	88.02	359.46	11,818.85	2,863.40	-97.36	2,864.19	0.00	0.00	0.00



Phoenix Technology Services
Planning Report



Database:	W10USAEDMDB	Local Co-ordinate Reference:	Well Vindicator Canyon State Unit Com 413H
Company:	BTA Oil Producers, LLC	TVD Reference:	RKB @ 3898.50usft (Patterson 566)
Project:	Lea County, NM (NAD83 NME)	MD Reference:	RKB @ 3898.50usft (Patterson 566)
Site:	Vindicator Canyon State Unit Com West Pad	North Reference:	Grid
Well:	Vindicator Canyon State Unit Com 413H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1 02-23-26		

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)	
15,300.00	88.02	359.46	11,822.31	2,963.34	-98.31	2,964.13	0.00	0.00	0.00	
15,400.00	88.02	359.46	11,825.77	3,063.27	-99.25	3,064.07	0.00	0.00	0.00	
15,500.00	88.02	359.46	11,829.22	3,163.21	-100.20	3,164.01	0.00	0.00	0.00	
15,600.00	88.02	359.46	11,832.68	3,263.15	-101.14	3,263.95	0.00	0.00	0.00	
15,700.00	88.02	359.46	11,836.13	3,363.08	-102.09	3,363.89	0.00	0.00	0.00	
15,800.00	88.02	359.46	11,839.59	3,463.02	-103.03	3,463.84	0.00	0.00	0.00	
15,900.00	88.02	359.46	11,843.04	3,562.95	-103.97	3,563.78	0.00	0.00	0.00	
16,000.00	88.02	359.46	11,846.50	3,662.89	-104.92	3,663.72	0.00	0.00	0.00	
16,100.00	88.02	359.46	11,849.95	3,762.83	-105.86	3,763.66	0.00	0.00	0.00	
16,200.00	88.02	359.46	11,853.41	3,862.76	-106.81	3,863.60	0.00	0.00	0.00	
16,300.00	88.02	359.46	11,856.86	3,962.70	-107.75	3,963.54	0.00	0.00	0.00	
16,400.00	88.02	359.46	11,860.32	4,062.63	-108.70	4,063.48	0.00	0.00	0.00	
16,500.00	88.02	359.46	11,863.77	4,162.57	-109.64	4,163.42	0.00	0.00	0.00	
16,600.00	88.02	359.46	11,867.23	4,262.50	-110.59	4,263.36	0.00	0.00	0.00	
16,700.00	88.02	359.46	11,870.68	4,362.44	-111.53	4,363.30	0.00	0.00	0.00	
16,800.00	88.02	359.46	11,874.14	4,462.38	-112.48	4,463.24	0.00	0.00	0.00	
16,900.00	88.02	359.46	11,877.59	4,562.31	-113.42	4,563.18	0.00	0.00	0.00	
17,000.00	88.02	359.46	11,881.05	4,662.25	-114.37	4,663.12	0.00	0.00	0.00	
17,100.00	88.02	359.46	11,884.50	4,762.18	-115.31	4,763.06	0.00	0.00	0.00	
17,200.00	88.02	359.46	11,887.96	4,862.12	-116.26	4,863.00	0.00	0.00	0.00	
17,300.00	88.02	359.46	11,891.41	4,962.06	-117.20	4,962.94	0.00	0.00	0.00	
17,400.00	88.02	359.46	11,894.87	5,061.99	-118.15	5,062.88	0.00	0.00	0.00	
17,500.00	88.02	359.46	11,898.32	5,161.93	-119.09	5,162.82	0.00	0.00	0.00	
17,600.00	88.02	359.46	11,901.78	5,261.86	-120.04	5,262.76	0.00	0.00	0.00	
17,700.00	88.02	359.46	11,905.23	5,361.80	-120.98	5,362.70	0.00	0.00	0.00	
17,800.00	88.02	359.46	11,908.69	5,461.73	-121.92	5,462.64	0.00	0.00	0.00	
17,900.00	88.02	359.46	11,912.14	5,561.67	-122.87	5,562.58	0.00	0.00	0.00	
18,000.00	88.02	359.46	11,915.60	5,661.61	-123.81	5,662.52	0.00	0.00	0.00	
18,100.00	88.02	359.46	11,919.05	5,761.54	-124.76	5,762.46	0.00	0.00	0.00	
18,200.00	88.02	359.46	11,922.51	5,861.48	-125.70	5,862.40	0.00	0.00	0.00	
18,300.00	88.02	359.46	11,925.96	5,961.41	-126.65	5,962.34	0.00	0.00	0.00	
18,400.00	88.02	359.46	11,929.42	6,061.35	-127.59	6,062.28	0.00	0.00	0.00	
18,500.00	88.02	359.46	11,932.87	6,161.29	-128.54	6,162.22	0.00	0.00	0.00	
18,600.00	88.02	359.46	11,936.33	6,261.22	-129.48	6,262.16	0.00	0.00	0.00	
18,700.00	88.02	359.46	11,939.78	6,361.16	-130.43	6,362.10	0.00	0.00	0.00	
18,800.00	88.02	359.46	11,943.24	6,461.09	-131.37	6,462.04	0.00	0.00	0.00	
18,900.00	88.02	359.46	11,946.69	6,561.03	-132.32	6,561.98	0.00	0.00	0.00	
19,000.00	88.02	359.46	11,950.15	6,660.96	-133.26	6,661.92	0.00	0.00	0.00	
19,100.00	88.02	359.46	11,953.60	6,760.90	-134.21	6,761.86	0.00	0.00	0.00	
19,200.00	88.02	359.46	11,957.06	6,860.84	-135.15	6,861.81	0.00	0.00	0.00	
19,300.00	88.02	359.46	11,960.51	6,960.77	-136.10	6,961.75	0.00	0.00	0.00	
19,400.00	88.02	359.46	11,963.97	7,060.71	-137.04	7,061.69	0.00	0.00	0.00	
19,500.00	88.02	359.46	11,967.42	7,160.64	-137.98	7,161.63	0.00	0.00	0.00	
19,600.00	88.02	359.46	11,970.88	7,260.58	-138.93	7,261.57	0.00	0.00	0.00	
19,700.00	88.02	359.46	11,974.33	7,360.52	-139.87	7,361.51	0.00	0.00	0.00	
19,800.00	88.02	359.46	11,977.79	7,460.45	-140.82	7,461.45	0.00	0.00	0.00	
19,900.00	88.02	359.46	11,981.24	7,560.39	-141.76	7,561.39	0.00	0.00	0.00	
20,000.00	88.02	359.46	11,984.70	7,660.32	-142.71	7,661.33	0.00	0.00	0.00	
20,100.00	88.02	359.46	11,988.15	7,760.26	-143.65	7,761.27	0.00	0.00	0.00	
20,200.00	88.02	359.46	11,991.61	7,860.19	-144.60	7,861.21	0.00	0.00	0.00	
20,300.00	88.02	359.46	11,995.06	7,960.13	-145.54	7,961.15	0.00	0.00	0.00	
20,400.00	88.02	359.46	11,998.52	8,060.07	-146.49	8,061.09	0.00	0.00	0.00	
20,500.00	88.02	359.46	12,001.97	8,160.00	-147.43	8,161.03	0.00	0.00	0.00	
20,600.00	88.02	359.46	12,005.43	8,259.94	-148.38	8,260.97	0.00	0.00	0.00	



Phoenix Technology Services

Planning Report



Database:	W10USAEDMDB	Local Co-ordinate Reference:	Well Vindicator Canyon State Unit Com 413H
Company:	BTA Oil Producers, LLC	TVD Reference:	RKB @ 3898.50usft (Patterson 566)
Project:	Lea County, NM (NAD83 NME)	MD Reference:	RKB @ 3898.50usft (Patterson 566)
Site:	Vindicator Canyon State Unit Com West Pad	North Reference:	Grid
Well:	Vindicator Canyon State Unit Com 413H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1 02-23-26		

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)
20,700.00	88.02	359.46	12,008.88	8,359.87	-149.32	8,360.91	0.00	0.00	0.00
20,800.00	88.02	359.46	12,012.34	8,459.81	-150.27	8,460.85	0.00	0.00	0.00
20,900.00	88.02	359.46	12,015.79	8,559.75	-151.21	8,560.79	0.00	0.00	0.00
21,000.00	88.02	359.46	12,019.25	8,659.68	-152.16	8,660.73	0.00	0.00	0.00
21,100.00	88.02	359.46	12,022.70	8,759.62	-153.10	8,760.67	0.00	0.00	0.00
21,200.00	88.02	359.46	12,026.16	8,859.55	-154.05	8,860.61	0.00	0.00	0.00
21,300.00	88.02	359.46	12,029.61	8,959.49	-154.99	8,960.55	0.00	0.00	0.00
21,400.00	88.02	359.46	12,033.07	9,059.42	-155.93	9,060.49	0.00	0.00	0.00
21,500.00	88.02	359.46	12,036.52	9,159.36	-156.88	9,160.43	0.00	0.00	0.00
21,600.00	88.02	359.46	12,039.98	9,259.30	-157.82	9,260.37	0.00	0.00	0.00
21,700.00	88.02	359.46	12,043.43	9,359.23	-158.77	9,360.31	0.00	0.00	0.00
21,800.00	88.02	359.46	12,046.89	9,459.17	-159.71	9,460.25	0.00	0.00	0.00
21,900.00	88.02	359.46	12,050.34	9,559.10	-160.66	9,560.19	0.00	0.00	0.00
22,000.00	88.02	359.46	12,053.80	9,659.04	-161.60	9,660.13	0.00	0.00	0.00
22,100.00	88.02	359.46	12,057.25	9,758.98	-162.55	9,760.07	0.00	0.00	0.00
22,200.00	88.02	359.46	12,060.71	9,858.91	-163.49	9,860.01	0.00	0.00	0.00
22,300.00	88.02	359.46	12,064.16	9,958.85	-164.44	9,959.95	0.00	0.00	0.00
22,400.00	88.02	359.46	12,067.62	10,058.78	-165.38	10,059.89	0.00	0.00	0.00
22,500.00	88.02	359.46	12,071.07	10,158.72	-166.33	10,159.84	0.00	0.00	0.00
22,570.22	88.02	359.46	12,073.50	10,228.89	-166.99	10,230.01	0.00	0.00	0.00
TD at 22570.22' MD									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
KOP - VCSUC 413H - hit/miss target - Shape - Point	0.00	0.00	11,138.67	-801.11	-60.72	660,352.07	835,086.99	2° 48' 42.068563 N	3° 22' 37.982780 W
- plan misses target center by 2.00usft at 11206.43usft MD (11138.67 TVD, -801.11 N, -62.72 E)									
FTP - VCSUC 413H - hit/miss target - Shape - Point	0.00	0.00	11,713.50	-201.15	-68.00	660,952.03	835,079.71	2° 48' 48.005073 N	3° 22' 38.004504 W
- plan misses target center by 0.71usft at 12133.50usft MD (11712.91 TVD, -201.13 N, -68.39 E)									
LTP - VCSUC 413H - hit/miss target - Shape - Point	0.00	0.00	12,071.77	10,178.89	-166.48	671,332.07	834,981.23	2° 50' 30.711220 N	3° 22' 38.058057 W
- plan misses target center by 20.18usft at 22500.00usft MD (12071.07 TVD, 10158.72 N, -166.33 E)									
BHL - VCSUC 413H - hit/miss target - Shape - Point	0.00	0.00	12,073.50	10,228.89	-166.99	671,382.07	834,980.72	2° 50' 31.205951 N	3° 22' 38.058731 W
- plan hits target center									



Phoenix Technology Services
Planning Report



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Company:	BTA Oil Producers, LLC	TVD Reference:	RKB @ 3898.50usft (Patterson 566)
Project:	Lea County, NM (NAD83 NME)	MD Reference:	RKB @ 3898.50usft (Patterson 566)
Site:	Vindicator Canyon State Unit Com West Pad	North Reference:	Grid
Well:	Vindicator Canyon State Unit Com 413H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1 02-23-26		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,973.50	1,973.50	RUSTLER		1.980	359.46	
3,254.65	3,243.68	YATES		1.980	359.46	
5,071.38	5,032.82	SAN ANDRES		1.980	359.46	
6,827.56	6,762.32	GLORIETA		1.980	359.46	
8,838.58	8,770.83	3RD BONESPRING CARBONATE		1.980	359.46	
9,488.58	9,420.83	3RD BONESPRING SAND		1.980	359.46	
9,938.58	9,870.83	WOLFCAMP		1.980	359.46	
11,458.53	11,382.71	PENN SHALE		1.980	359.46	
11,622.08	11,518.81	CLINE		1.980	359.46	

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
2,200.00	2,200.00	0.00	0.00	KOP, Begin 2.00°/100' Build	
2,700.00	2,697.47	-43.39	-3.40	Hold 10.00° Inc at 184.48° Azm	
6,826.25	6,761.03	-757.72	-59.32	Begin 2.00°/100' Drop	
7,326.25	7,258.50	-801.11	-62.72	Begin Vertical Hold	
11,206.43	11,138.67	-801.11	-62.72	KOP2, Begin 10.00°/100' Build	
12,086.63	11,711.29	-247.97	-67.95	LP, Hold 88.02° Inc at 359.46° Azm	
22,570.22	12,073.50	10,228.89	-166.99	TD at 22570.22' MD	