District I
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District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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 280680

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

1. Operator Name and Address	2. OGRID Number
TAP ROCK OPERATING, LLC 602 Park Point Drive Golden, CO 80401	372043
	3. API Number 30-025-47427

4. Property Code	5. Property Name	6. Well No.
328891	APOLLO STATE COM	201H

7. Surface Location

UL - Lot	Section	Township	Range	Lot Idn	Feet From	N/S Line	Feet From	E/W Line	County
M	21	24S	33E	M	823	S	550	W	Lea

8. Proposed Bottom Hole Location

UL - Lot	Section	Township	Range	Lot Idn	Feet From	N/S Line	Feet From	E/W Line	County
D	16	24S	33E	D	30	N	331	W	Lea

9. Pool Information

WC-025 G-09 S243310P;UPPER WOLFCAMP	98135

Additional Well Information

11. Work Type	12. Well Type	13. Cable/Rotary	14. Lease Type	15. Ground Level Elevation
New Well	OIL		State	3535
16. Multiple	**17. Proposed Depth**	**18. Formation**	**19. Contractor**	**20. Spud Date**
N	22775	Wolfcamp		1/1/2021
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	1250	1400	0
Int1	12.25	9.625	40	5250	1400	0
Int2	8.75	7.625	29.7	11865	400	4000
Prod	6.75	5.5	20	11665	0	11165
Prod	6.75	5	18	22775	950	11165

Casing/Cement Program: Additional Comments

22. Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
Annular	5000	3500	
Blind	10000	5000	
Double Ram	10000	5000	

23. I hereby certify that the information given above is true and complete to the best of my knowledge and belief.
I further certify I have complied with 19.15.14.9 (A) NMAC ☒ and/or 19.15.14.9 (B) NMAC ☒, if applicable.

Signature:

OIL CONSERVATION DIVISION

Printed Name:	Electronically filed by Christian Combs	Approved By:	Paul F Kautz
Title:	Regulatory Manager	Title:	Geologist
Email Address:	ccombs@taprk.com	Approved Date:	7/17/2020
Date:	7/15/2020 Phone: 720-360-4028	Conditions of Approval Attached	Expiration Date: 7/17/2022

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State of New Mexico
Energy, Minerals & Natural Resources
Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

FORM C-102
Revised August 1, 2011
Submit one copy to appropriate District Office

☐ **AMENDED REPORT**

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1]API Number	[2]Pool Code	[3]Pool Name
	98135	WC-025 G-09 S243310P; Upper Wolfcamp

[4]Property Code	[5]Property Name	[6]Well Number
	APOLLO STATE COM	201H

[7]OGRID No.	[8]Operator Name	[9]Elevation
372043	TAP ROCK OPERATING, LLC.	3535'

[10]Surface Location

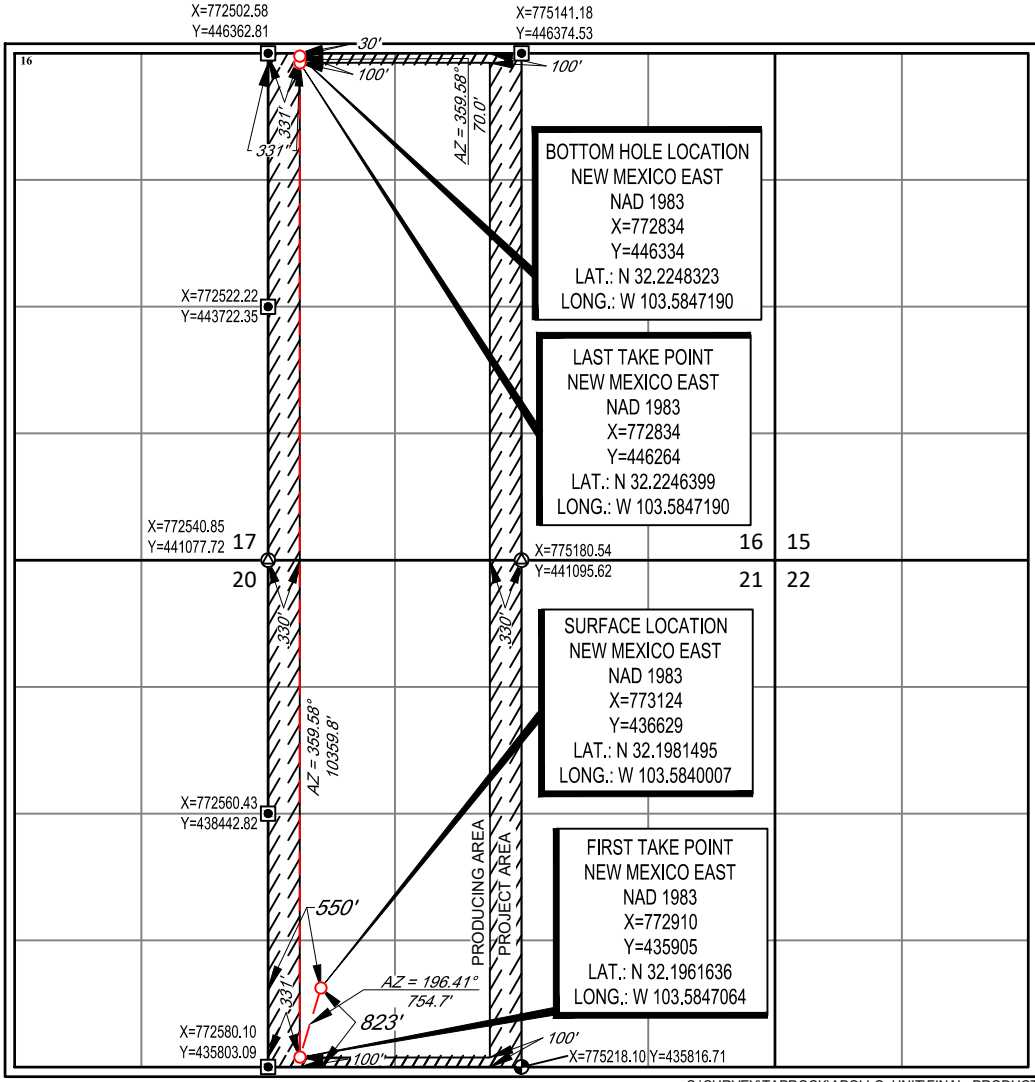
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	21	24-S	33-E	–	823'	SOUTH	550'	WEST	LEA

[11]Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	16	24-S	33-E	–	30'	NORTH	331'	WEST	LEA

[12]Dedicated Acres	[13]Joint or Infill	[14]Consolidation Code	[15]Order No.

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.



[17]OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and 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 such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature — Date: 11/5/2019

Rachelle Reese
Printed Name

rreese@taprk.com
E-mail Address

[18]SURVEYOR CERTIFICATION

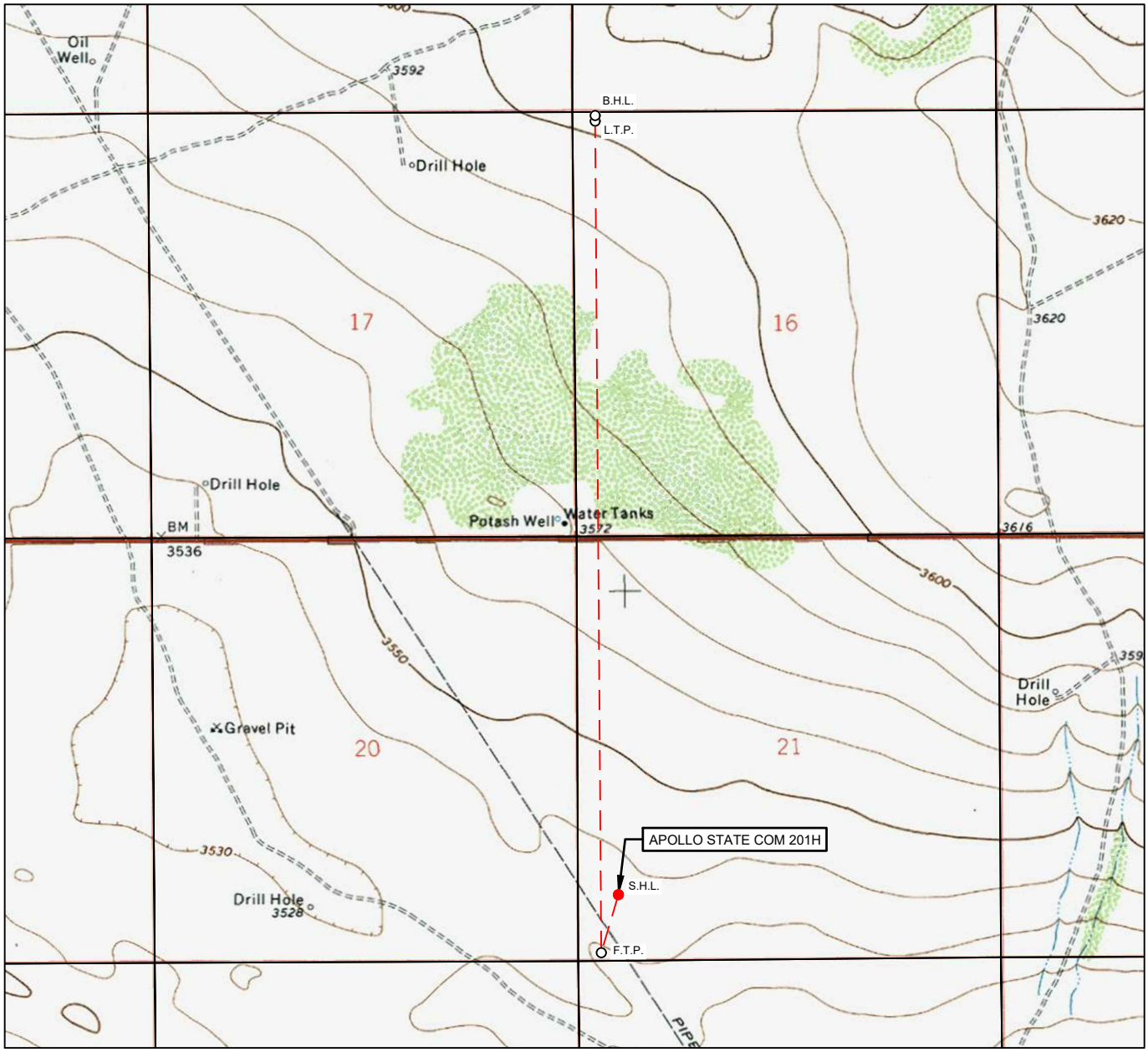
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true to the best of my belief.

08/26/2019
Date of Survey
Signature and Seal of Professional Surveyor

JOHN KENDRICK CARNEGIE
NEW MEXICO
11401
REGISTERED PROFESSIONAL SURVEYOR

Certificate Number

LOCATION & ELEVATION VERIFICATION MAP



LEASE NAME & WELL NO.: APOLLO STATE COM 201H

SECTION 21 TWP 24-S RGE 33-E SURVEY N.M.P.M.
COUNTY LEA STATE NM ELEVATION 3535'
DESCRIPTION 823' FSL & 550' FWL

LATITUDE N 32.1981495 LONGITUDE W 103.5840007

−N−

SCALE: 1" = 2000'

0' 1000' 2000'

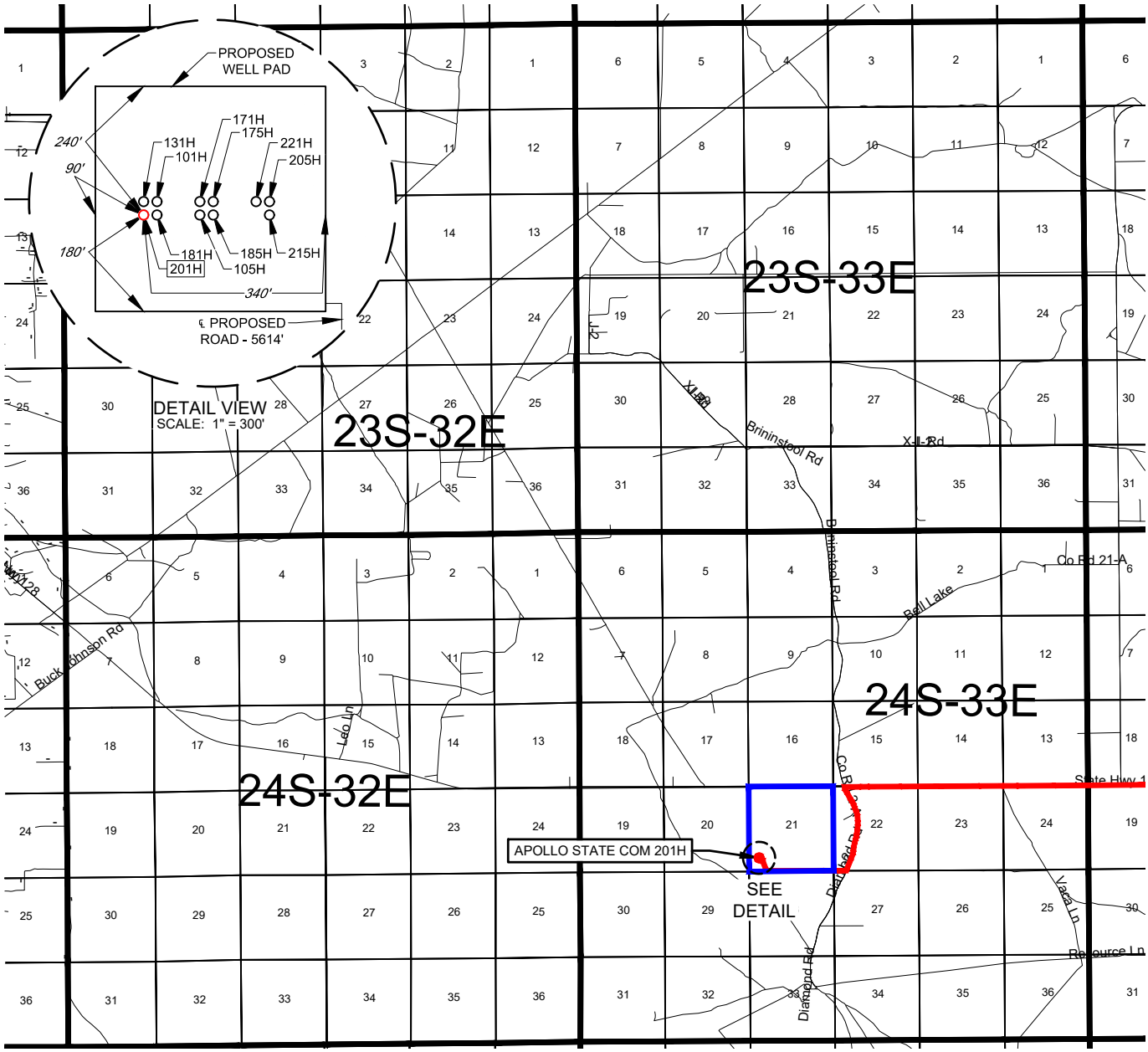
THIS EASEMENT/SERVITUDE LOCATION SHOWN HEREON HAS BEEN SURVEYED ON THE GROUND UNDER MY SUPERVISION AND PREPARED ACCORDING TO THE EVIDENCE FOUND AT THE TIME OF SURVEY, AND DATA PROVIDED BY TAP ROCK OPERATING, LLC. THIS CERTIFICATION IS MADE AND LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE. THIS SURVEY IS CERTIFIED FOR THIS TRANSACTION ONLY.

ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREON ARE GRID BASED UPON THE NEW MEXICO COORDINATE SYSTEM OF 1983, EAST ZONE, U.S. SURVEY FEET.

TOPOGRAPHIC
LOYALTY INNOVATION LEGACY
1400 EVERMAN PARKWAY, Ste. 146 • FT. WORTH, TEXAS 76140
TELEPHONE: (817) 744-7512 • FAX (817) 744-7554
2903 NORTH BIG SPRING • MIDLAND, TEXAS 79705
TELEPHONE: (432) 682-1653 OR (800) 767-1653 • FAX (432) 682-1743
WWW.TOPOGRAPHIC.COM

EXHIBIT 2

VICINITY MAP



TAP ROCK

LEASE NAME & WELL NO.: APOLLO STATE COM 201H

SECTION 21 TWP 24-S RGE 33-E SURVEY N.M.P.M.
COUNTY LEA STATE NM
DESCRIPTION 823' FSL & 550' FWL

DISTANCE & DIRECTION

FROM INT. OF NM-128, & DELAWARE BASIN RD., GO WEST ON NM-128 ±3.3 MILES, THENCE SOUTH (LEFT) ON DIAMOND RD./J-2 ±1.1 MILES, THENCE WEST (RIGHT) ON A PROPOSED RD. ±5614 FEET TO A POINT ±378 FEET SOUTHEAST OF THE LOCATION.

–N–

SCALE: 1" = 10000'

0' 5000' 10000'

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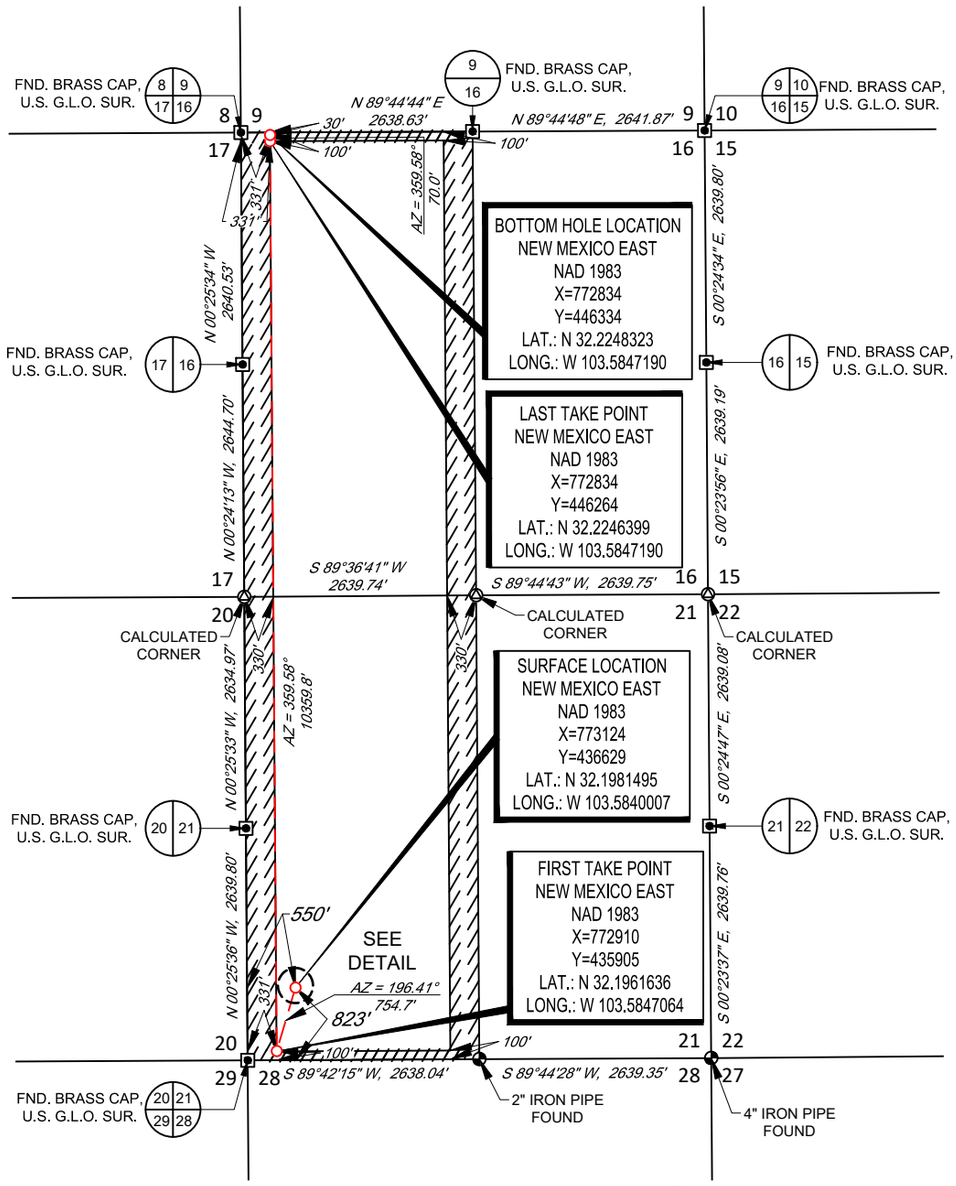
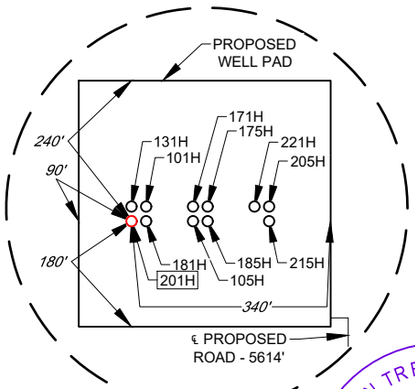
EXHIBIT 2A

SECTION 21, TOWNSHIP 24-S, RANGE 33-E, N.M.P.M.
LEA COUNTY, NEW MEXICO





DETAIL VIEW
SCALE: 1" = 300'

N

SCALE: 1" = 2000'
0' 1000' 2000'

LEASE NAME & WELL NO.: APOLLO STATE COM 201H

SECTION 21 TWP 24-S RGE 33-E SURVEY N.M.P.M.
COUNTY LEA STATE NM
DESCRIPTION 823' FSL & 550' FWL

DISTANCE & DIRECTION

FROM INT. OF NM-128, & DELAWARE BASIN RD., GO WEST ON NM-128 ±3.3 MILES, THENCE SOUTH (LEFT) ON DIAMOND RD./J-2 ±1.1 MILES, THENCE WEST (RIGHT) ON A PROPOSED RD. ±5614 FEET TO A POINT ±378 FEET SOUTHEAST OF THE LOCATION.

JOHN TREVOR CARNEGIE
NEW MEXICO
11401
REGISTERED PROFESSIONAL SURVEYOR

John Trevor Carnegie, P.S. No. 11401
SEPTEMBER 4, 2019

ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREON ARE GRID BASED UPON THE NEW MEXICO COORDINATE SYSTEM OF 1983, EAST ZONE, U.S. SURVEY FEET.

THIS EASEMENT/SERVITUDE LOCATION SHOWN HEREON HAS BEEN SURVEYED ON THE GROUND UNDER MY SUPERVISION AND PREPARED ACCORDING TO THE EVIDENCE FOUND AT THE TIME OF SURVEY, AND DATA PROVIDED BY TAP ROCK OPERATING, LLC THIS CERTIFICATION IS MADE AND LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE. THIS SURVEY IS CERTIFIED FOR THIS TRANSACTION ONLY.

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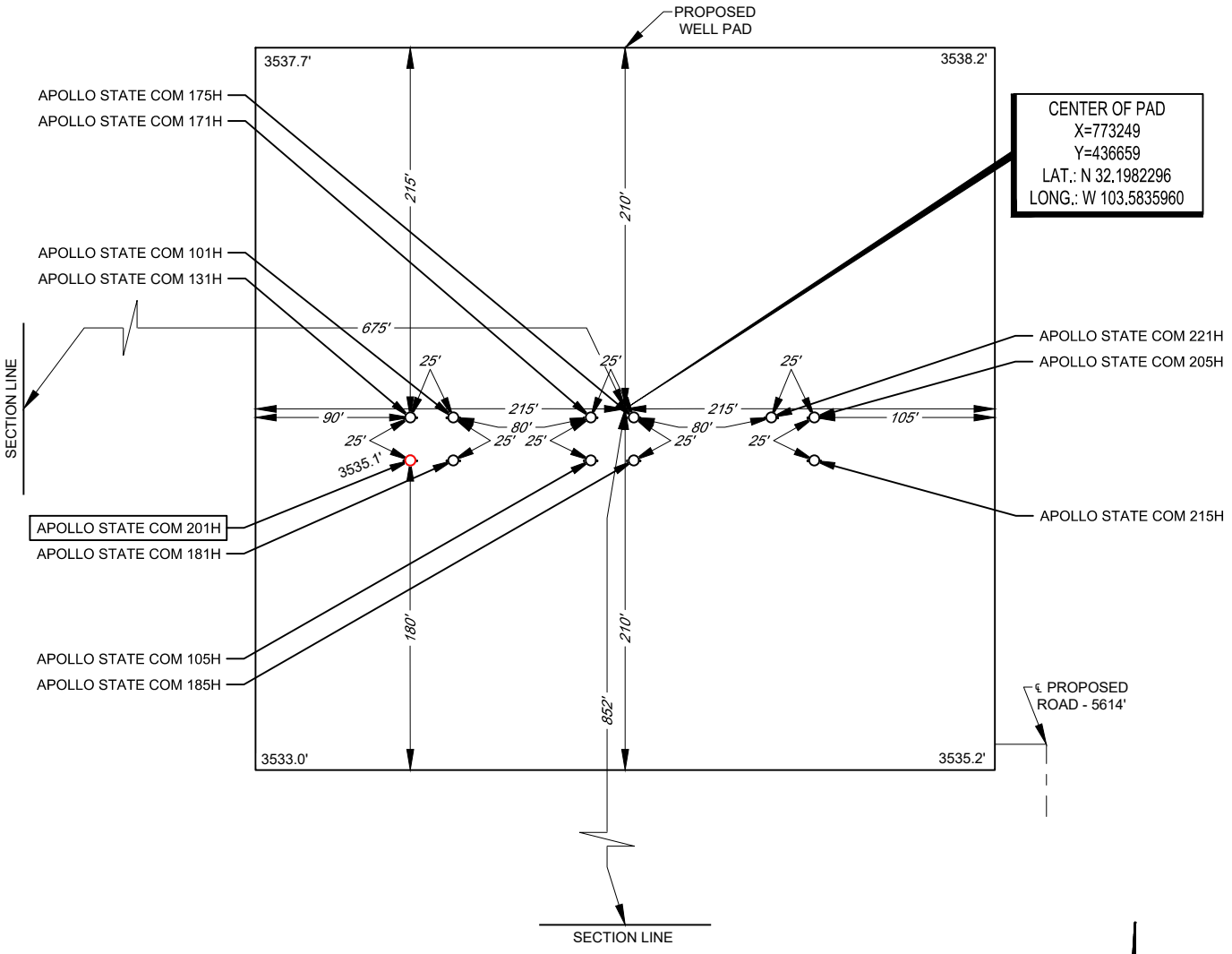
EXHIBIT 2B

TAP ROCK

SECTION 21, TOWNSHIP 24-S, RANGE 33-E, N.M.P.M.
LEA COUNTY, NEW MEXICO

DETAIL VIEW
SCALE: 1" = 100'



LEASE NAME & WELL NO.: APOLLO STATE COM 201H

201H LATITUDE N 32.1981495 201H LONGITUDE W 103.5840007

SCALE: 1" = 100'
0' 50' 100'

LEGEND

SECTION LINE
PROPOSED ROAD

CENTER OF PAD IS 852' FSL & 675' FWL

ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREON ARE GRID BASED UPON THE NEW MEXICO COORDINATE SYSTEM OF 1983, EAST ZONE, U.S. SURVEY FEET.

THIS PROPOSED PAD SITE LOCATION SHOWN HEREON HAS BEEN SURVEYED ON THE GROUND UNDER MY SUPERVISION AND PREPARED ACCORDING TO THE EVIDENCE FOUND AT THE TIME OF SURVEY, AND DATA PROVIDED BY TAP ROCK OPERATING, LLC. THIS CERTIFICATION IS MADE AND LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE. THIS SURVEY IS CERTIFIED FOR THIS TRANSACTION ONLY.

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ORIGINAL DOCUMENT SIZE: 8.5" X 11"

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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

GAS CAPTURE PLAN

Date: 7/17/2020

☒ Original
☐ Amended - Reason for Amendment:

Operator & OGRID No.: [372043] TAP ROCK OPERATING, LLC

This Gas Capture Plan outlines actions to be taken by the Operator to reduce well/production facility flaring/venting for new completion (new drill, recomplete to new zone, re-frac) activity.

Note: Form C-129 must be submitted and approved prior to exceeding 60 days allowed by Rule (Subsection A of 19.15.18.12 NMAC).

Well(s)/Production Facility – Name of facility

The well(s) that will be located at the production facility are shown in the table below.

Well Name	API	Well Location (ULSTR)	Footages	Expected MCF/D	Flared or Vented	Comments
APOLLO STATE COM #201H	30-025-47427	M-21-24S-33E	0823S 0550W	3200	Flared	

Gathering System and Pipeline Notification

Well(s) will be connected to a production facility after flowback operations are complete, if gas transporter system is in place. The gas produced from production facility is dedicated to LUCID ENERGY DELAWARE, LLC and will be connected to LUCID ENERGY DELAWARE, LLC High Pressure gathering system located in Lea County, New Mexico. It will require 2500' of pipeline to connect the facility to High Pressure gathering system. TAP ROCK OPERATING, LLC provides (periodically) to LUCID ENERGY DELAWARE, LLC a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, TAP ROCK OPERATING, LLC and LUCID ENERGY DELAWARE, LLC have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at LUCID ENERGY DELAWARE, LLC Processing Plant located in Sec. 13, Twn. 24S, Rng. 33E, Lea County, New Mexico. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

Flowback Strategy

After the fracture treatment/completion operations, well(s) will be produced to temporary production tanks and gas will be flared or vented. During flowback, the fluids and sand content will be monitored. When the produced fluids contain minimal sand, the wells will be turned to production facilities. Gas sales should start as soon as the wells start flowing through the production facilities, unless there are operational issues on LUCID ENERGY DELAWARE, LLC system at that time. Based on current information, it is TAP ROCK OPERATING, LLC's belief the system can take this gas upon completion of the well(s).

Safety requirements during cleanout operations from the use of underbalanced air cleanout systems may necessitate that sand and non-pipeline quality gas be vented and/or flared rather than sold on a temporary basis.

Alternatives to Reduce Flaring

Below are alternatives considered from a conceptual standpoint to reduce the amount of gas flared.

- Power Generation – On lease
  - Only a portion of gas is consumed operating the generator, remainder of gas will be flared
- Compressed Natural Gas – On lease
  - Gas flared would be minimal, but might be uneconomical to operate when gas volume declines
- NGL Removal – On lease
  - Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines

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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 280680

PERMIT COMMENTS

Operator Name and Address:	API Number:
TAP ROCK OPERATING, LLC [372043] 602 Park Point Drive Golden, CO 80401	30-025-47427
	Well: APOLLO STATE COM #201H

Created By	Comment	Comment Date

District I
1625 N. French Dr., Hobbs, NM 88240
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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 Conditions

Permit 280680

PERMIT CONDITIONS OF APPROVAL

Operator Name and Address:	API Number:
TAP ROCK OPERATING, LLC [372043] 602 Park Point Drive Golden, CO 80401	30-025-47427
	Well: APOLLO STATE COM #201H

OCD Reviewer	Condition
pkautz	Will require a directional survey with the C-104
pkautz	1) SURFACE & INTERMEDIATE1 CASING - Cement must circulate to surface -- 2) INTERMEDIATE2 CASING - Cement must tie back into intermediate1 casing -- 3) PRODUCTION CASING - Cement must tie back into intermediate2 casing --
pkautz	If cement does not circulate to surface, must run temperature survey or other log to determine top of cement
pkautz	Surface casing must be set 25' below top of Rustler Anhydrite in order to seal off protectable water
pkautz	1)- The Operator is to notify NMOCD by sundry (Form C-103) within ten (10) days of the well being spud 2)- Drilling Sundries Form C-103 (Casing and Cement test are to be submitted within 10 days 3)- Completion Reports & Logs are to be submitted within 45 days 4)- Deviation / Directional Drill Survey are to be filed with or prior to C-104
pkautz	It is the operator's responsibility to monitor cancellation dates of approved APDs. APD's are good for 2 years and may be extended for one year. Only one 1 year extension will be granted if submitted by C-103 before expiration date. After expiration date or after a 1 year extension must submit new APD. If an APD expires and if site construction has occurred, site remediation is required.
pkautz	Stage Tool 1) Must notify OCD Hobbs Office prior to running Stage Tool at 5753703186 2) If using Stage Tool on Surface casing, Stage Tool must be set greater than 350' from surface and a minimum of 200 feet above surface shoe. 3) When using a Stage Tool on Intermediate or Production Casing Stage must be a minimum of 50 feet below previous casing shoe

Tap Rock Operating, LLC.

Lea County, NM (NAD83)
Apollo State COM
201H

OH

Plan: Plan #1

Standard Planning Report

28 October, 2019

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

Site	Apollo State COM				
Site Position:		Northing:	436,628.77 usft	Latitude:	32° 11' 53.336 N
From:	Lat/Long	Easting:	773,148.60 usft	Longitude:	103° 35' 2.112 W
Position Uncertainty:	2.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.40 °

Well	201H					
Well Position	+N/-S	0.0 usft	Northing:	436,628.78 usft	Latitude:	32° 11' 53.338 N
	+E/-W	-25.0 usft	Easting:	773,123.61 usft	Longitude:	103° 35' 2.403 W
Position Uncertainty		2.0 usft	Wellhead Elevation:		Ground Level:	3,535.0 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	10/28/2019	6.70	60.01	47,677.63358387

Design	Plan #1				
Audit Notes:					
Version:		Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.0	0.0	0.0	359.58	

Plan Survey Tool Program Date 10/28/2019

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	22,775.7	Plan #1 (OH)		

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	
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,266.7	7.00	197.00	2,265.5	-27.2	-8.3	1.50	1.50	0.00	197.00	
8,466.7	7.00	197.00	8,419.3	-749.8	-229.2	0.00	0.00	0.00	0.00	
8,933.3	0.00	0.00	8,884.8	-777.0	-237.6	1.50	-1.50	0.00	180.00	
11,965.5	0.00	0.00	11,917.0	-777.0	-237.6	0.00	0.00	0.00	0.00	
12,867.7	90.21	1.80	12,490.0	-202.2	-219.5	10.00	10.00	0.00	1.80	
12,978.7	90.21	359.58	12,489.6	-91.3	-218.2	2.00	0.00	-2.00	-90.00	
22,705.8	90.21	359.58	12,454.0	9,635.5	-289.3	0.00	0.00	0.00	0.00	LTP_A.201H
22,775.7	90.21	359.58	12,453.7	9,705.5	-289.8	0.00	0.00	0.00	0.00	PBHL_A.201H

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
1,162.9	0.00	0.00	1,162.9	0.0	0.0	0.0	0.00	0.00	0.00
Rustler Anhydrite									
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
1,500.0	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
1,660.9	0.00	0.00	1,660.9	0.0	0.0	0.0	0.00	0.00	0.00
Top Salt									
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
Nudge to 7° Inc, 197° Azm									
1,900.0	1.50	197.00	1,900.0	-1.3	-0.4	-1.2	1.50	1.50	0.00
2,000.0	3.00	197.00	1,999.9	-5.0	-1.5	-5.0	1.50	1.50	0.00
2,100.0	4.50	197.00	2,099.7	-11.3	-3.4	-11.2	1.50	1.50	0.00
2,200.0	6.00	197.00	2,199.3	-20.0	-6.1	-20.0	1.50	1.50	0.00
2,266.7	7.00	197.00	2,265.5	-27.2	-8.3	-27.2	1.50	1.50	0.00
2,300.0	7.00	197.00	2,298.6	-31.1	-9.5	-31.0	0.00	0.00	0.00
2,400.0	7.00	197.00	2,397.8	-42.8	-13.1	-42.7	0.00	0.00	0.00
2,500.0	7.00	197.00	2,497.1	-54.4	-16.6	-54.3	0.00	0.00	0.00
2,600.0	7.00	197.00	2,596.4	-66.1	-20.2	-65.9	0.00	0.00	0.00
2,700.0	7.00	197.00	2,695.6	-77.7	-23.8	-77.6	0.00	0.00	0.00
2,800.0	7.00	197.00	2,794.9	-89.4	-27.3	-89.2	0.00	0.00	0.00
2,900.0	7.00	197.00	2,894.1	-101.0	-30.9	-100.8	0.00	0.00	0.00
3,000.0	7.00	197.00	2,993.4	-112.7	-34.5	-112.4	0.00	0.00	0.00
3,100.0	7.00	197.00	3,092.6	-124.3	-38.0	-124.1	0.00	0.00	0.00
3,200.0	7.00	197.00	3,191.9	-136.0	-41.6	-135.7	0.00	0.00	0.00
3,300.0	7.00	197.00	3,291.1	-147.7	-45.1	-147.3	0.00	0.00	0.00
3,400.0	7.00	197.00	3,390.4	-159.3	-48.7	-158.9	0.00	0.00	0.00
3,500.0	7.00	197.00	3,489.6	-171.0	-52.3	-170.6	0.00	0.00	0.00
3,600.0	7.00	197.00	3,588.9	-182.6	-55.8	-182.2	0.00	0.00	0.00
3,700.0	7.00	197.00	3,688.2	-194.3	-59.4	-193.8	0.00	0.00	0.00
3,800.0	7.00	197.00	3,787.4	-205.9	-63.0	-205.5	0.00	0.00	0.00
3,900.0	7.00	197.00	3,886.7	-217.6	-66.5	-217.1	0.00	0.00	0.00
4,000.0	7.00	197.00	3,985.9	-229.2	-70.1	-228.7	0.00	0.00	0.00
4,100.0	7.00	197.00	4,085.2	-240.9	-73.6	-240.3	0.00	0.00	0.00
4,200.0	7.00	197.00	4,184.4	-252.5	-77.2	-252.0	0.00	0.00	0.00
4,300.0	7.00	197.00	4,283.7	-264.2	-80.8	-263.6	0.00	0.00	0.00
4,400.0	7.00	197.00	4,382.9	-275.9	-84.3	-275.2	0.00	0.00	0.00
4,500.0	7.00	197.00	4,482.2	-287.5	-87.9	-286.9	0.00	0.00	0.00
4,600.0	7.00	197.00	4,581.4	-299.2	-91.5	-298.5	0.00	0.00	0.00
4,700.0	7.00	197.00	4,680.7	-310.8	-95.0	-310.1	0.00	0.00	0.00
4,800.0	7.00	197.00	4,780.0	-322.5	-98.6	-321.7	0.00	0.00	0.00
4,900.0	7.00	197.00	4,879.2	-334.1	-102.2	-333.4	0.00	0.00	0.00
4,924.9	7.00	197.00	4,903.9	-337.0	-103.0	-336.3	0.00	0.00	0.00
Base Salt									
5,000.0	7.00	197.00	4,978.5	-345.8	-105.7	-345.0	0.00	0.00	0.00
5,100.0	7.00	197.00	5,077.7	-357.4	-109.3	-356.6	0.00	0.00	0.00
5,170.7	7.00	197.00	5,147.9	-365.7	-111.8	-364.8	0.00	0.00	0.00
Delaware Mountain Gp									
5,180.8	7.00	197.00	5,157.9	-366.9	-112.2	-366.0	0.00	0.00	0.00
Lamar									
5,200.0	7.00	197.00	5,177.0	-369.1	-112.8	-368.3	0.00	0.00	0.00
5,202.9	7.00	197.00	5,179.9	-369.4	-112.9	-368.6	0.00	0.00	0.00

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)
Bell Canyon									
5,219.1	7.00	197.00	5,195.9	-371.3	-113.5	-370.5	0.00	0.00	0.00
Ramsey Sand									
5,300.0	7.00	197.00	5,276.2	-380.7	-116.4	-379.9	0.00	0.00	0.00
5,400.0	7.00	197.00	5,375.5	-392.4	-120.0	-391.5	0.00	0.00	0.00
5,500.0	7.00	197.00	5,474.7	-404.1	-123.5	-403.1	0.00	0.00	0.00
5,600.0	7.00	197.00	5,574.0	-415.7	-127.1	-414.8	0.00	0.00	0.00
5,700.0	7.00	197.00	5,673.2	-427.4	-130.7	-426.4	0.00	0.00	0.00
5,800.0	7.00	197.00	5,772.5	-439.0	-134.2	-438.0	0.00	0.00	0.00
5,900.0	7.00	197.00	5,871.8	-450.7	-137.8	-449.6	0.00	0.00	0.00
6,000.0	7.00	197.00	5,971.0	-462.3	-141.3	-461.3	0.00	0.00	0.00
6,100.0	7.00	197.00	6,070.3	-474.0	-144.9	-472.9	0.00	0.00	0.00
6,183.3	7.00	197.00	6,152.9	-483.7	-147.9	-482.6	0.00	0.00	0.00
Cherry Canyon									
6,200.0	7.00	197.00	6,169.5	-485.6	-148.5	-484.5	0.00	0.00	0.00
6,300.0	7.00	197.00	6,268.8	-497.3	-152.0	-496.2	0.00	0.00	0.00
6,400.0	7.00	197.00	6,368.0	-508.9	-155.6	-507.8	0.00	0.00	0.00
6,500.0	7.00	197.00	6,467.3	-520.6	-159.2	-519.4	0.00	0.00	0.00
6,600.0	7.00	197.00	6,566.5	-532.3	-162.7	-531.0	0.00	0.00	0.00
6,700.0	7.00	197.00	6,665.8	-543.9	-166.3	-542.7	0.00	0.00	0.00
6,800.0	7.00	197.00	6,765.0	-555.6	-169.9	-554.3	0.00	0.00	0.00
6,900.0	7.00	197.00	6,864.3	-567.2	-173.4	-565.9	0.00	0.00	0.00
7,000.0	7.00	197.00	6,963.6	-578.9	-177.0	-577.6	0.00	0.00	0.00
7,100.0	7.00	197.00	7,062.8	-590.5	-180.5	-589.2	0.00	0.00	0.00
7,200.0	7.00	197.00	7,162.1	-602.2	-184.1	-600.8	0.00	0.00	0.00
7,300.0	7.00	197.00	7,261.3	-613.8	-187.7	-612.4	0.00	0.00	0.00
7,400.0	7.00	197.00	7,360.6	-625.5	-191.2	-624.1	0.00	0.00	0.00
7,500.0	7.00	197.00	7,459.8	-637.1	-194.8	-635.7	0.00	0.00	0.00
7,600.0	7.00	197.00	7,559.1	-648.8	-198.4	-647.3	0.00	0.00	0.00
7,633.5	7.00	197.00	7,592.3	-652.7	-199.5	-651.2	0.00	0.00	0.00
Brushy Canyon									
7,700.0	7.00	197.00	7,658.3	-660.5	-201.9	-659.0	0.00	0.00	0.00
7,800.0	7.00	197.00	7,757.6	-672.1	-205.5	-670.6	0.00	0.00	0.00
7,900.0	7.00	197.00	7,856.8	-683.8	-209.0	-682.2	0.00	0.00	0.00
8,000.0	7.00	197.00	7,956.1	-695.4	-212.6	-693.8	0.00	0.00	0.00
8,100.0	7.00	197.00	8,055.4	-707.1	-216.2	-705.5	0.00	0.00	0.00
8,200.0	7.00	197.00	8,154.6	-718.7	-219.7	-717.1	0.00	0.00	0.00
8,300.0	7.00	197.00	8,253.9	-730.4	-223.3	-728.7	0.00	0.00	0.00
8,400.0	7.00	197.00	8,353.1	-742.0	-226.9	-740.3	0.00	0.00	0.00
8,466.7	7.00	197.00	8,419.3	-749.8	-229.2	-748.1	0.00	0.00	0.00
Drop to Vertical									
8,500.0	6.50	197.00	8,452.4	-753.5	-230.4	-751.8	1.50	-1.50	0.00
8,600.0	5.00	197.00	8,551.9	-763.1	-233.3	-761.4	1.50	-1.50	0.00
8,700.0	3.50	197.00	8,651.6	-770.2	-235.5	-768.5	1.50	-1.50	0.00
8,800.0	2.00	197.00	8,751.5	-774.8	-236.9	-773.0	1.50	-1.50	0.00
8,900.0	0.50	197.00	8,851.5	-776.9	-237.5	-775.1	1.50	-1.50	0.00
8,933.3	0.00	0.00	8,884.8	-777.0	-237.6	-775.3	1.50	-1.50	0.00
9,000.0	0.00	0.00	8,951.5	-777.0	-237.6	-775.3	0.00	0.00	0.00
9,100.0	0.00	0.00	9,051.5	-777.0	-237.6	-775.3	0.00	0.00	0.00
9,179.4	0.00	0.00	9,130.9	-777.0	-237.6	-775.3	0.00	0.00	0.00
Bone Spring Lime									
9,200.0	0.00	0.00	9,151.5	-777.0	-237.6	-775.3	0.00	0.00	0.00
9,279.8	0.00	0.00	9,231.3	-777.0	-237.6	-775.3	0.00	0.00	0.00
Upper Avalon									
9,300.0	0.00	0.00	9,251.5	-777.0	-237.6	-775.3	0.00	0.00	0.00
9,400.0	0.00	0.00	9,351.5	-777.0	-237.6	-775.3	0.00	0.00	0.00
9,500.0	0.00	0.00	9,451.5	-777.0	-237.6	-775.3	0.00	0.00	0.00
9,561.3	0.00	0.00	9,512.8	-777.0	-237.6	-775.3	0.00	0.00	0.00
Middle Avalon									
9,600.0	0.00	0.00	9,551.5	-777.0	-237.6	-775.3	0.00	0.00	0.00
9,700.0	0.00	0.00	9,651.5	-777.0	-237.6	-775.3	0.00	0.00	0.00
9,800.0	0.00	0.00	9,751.5	-777.0	-237.6	-775.3	0.00	0.00	0.00
9,900.0	0.00	0.00	9,851.5	-777.0	-237.6	-775.3	0.00	0.00	0.00
9,912.5	0.00	0.00	9,864.0	-777.0	-237.6	-775.3	0.00	0.00	0.00
Lower Avalon									

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)
10,000.0	0.00	0.00	9,951.5	-777.0	-237.6	-775.3	0.00	0.00	0.00
10,100.0	0.00	0.00	10,051.5	-777.0	-237.6	-775.3	0.00	0.00	0.00
10,149.0	0.00	0.00	10,100.5	-777.0	-237.6	-775.3	0.00	0.00	0.00
1st Bone Spring Sand									
10,200.0	0.00	0.00	10,151.5	-777.0	-237.6	-775.3	0.00	0.00	0.00
10,300.0	0.00	0.00	10,251.5	-777.0	-237.6	-775.3	0.00	0.00	0.00
10,400.0	0.00	0.00	10,351.5	-777.0	-237.6	-775.3	0.00	0.00	0.00
10,461.0	0.00	0.00	10,412.5	-777.0	-237.6	-775.3	0.00	0.00	0.00
2nd Bone Spring Carb									
10,500.0	0.00	0.00	10,451.5	-777.0	-237.6	-775.3	0.00	0.00	0.00
10,600.0	0.00	0.00	10,551.5	-777.0	-237.6	-775.3	0.00	0.00	0.00
10,700.0	0.00	0.00	10,651.5	-777.0	-237.6	-775.3	0.00	0.00	0.00
10,800.0	0.00	0.00	10,751.5	-777.0	-237.6	-775.3	0.00	0.00	0.00
10,832.0	0.00	0.00	10,783.5	-777.0	-237.6	-775.3	0.00	0.00	0.00
2nd Bone Spring Sand									
10,900.0	0.00	0.00	10,851.5	-777.0	-237.6	-775.3	0.00	0.00	0.00
11,000.0	0.00	0.00	10,951.5	-777.0	-237.6	-775.3	0.00	0.00	0.00
11,100.0	0.00	0.00	11,051.5	-777.0	-237.6	-775.3	0.00	0.00	0.00
11,200.0	0.00	0.00	11,151.5	-777.0	-237.6	-775.3	0.00	0.00	0.00
11,300.0	0.00	0.00	11,251.5	-777.0	-237.6	-775.3	0.00	0.00	0.00
11,371.5	0.00	0.00	11,323.0	-777.0	-237.6	-775.3	0.00	0.00	0.00
3rd Bone Spring Carb									
11,400.0	0.00	0.00	11,351.5	-777.0	-237.6	-775.3	0.00	0.00	0.00
11,500.0	0.00	0.00	11,451.5	-777.0	-237.6	-775.3	0.00	0.00	0.00
11,600.0	0.00	0.00	11,551.5	-777.0	-237.6	-775.3	0.00	0.00	0.00
11,700.0	0.00	0.00	11,651.5	-777.0	-237.6	-775.3	0.00	0.00	0.00
11,800.0	0.00	0.00	11,751.5	-777.0	-237.6	-775.3	0.00	0.00	0.00
11,900.0	0.00	0.00	11,851.5	-777.0	-237.6	-775.3	0.00	0.00	0.00
11,965.5	0.00	0.00	11,917.0	-777.0	-237.6	-775.3	0.00	0.00	0.00
KOP - 11965.5 MD, 11917 TVD									
11,969.0	0.35	1.80	11,920.5	-777.0	-237.6	-775.3	9.90	9.90	0.00
3rd Bone Spring Sand									
12,000.0	3.45	1.80	11,951.4	-776.0	-237.5	-774.2	10.00	10.00	0.00
12,050.0	8.45	1.80	12,001.2	-770.8	-237.4	-769.1	10.00	10.00	0.00
12,100.0	13.45	1.80	12,050.2	-761.3	-237.1	-759.6	10.00	10.00	0.00
12,150.0	18.45	1.80	12,098.3	-747.6	-236.6	-745.9	10.00	10.00	0.00
12,200.0	23.44	1.80	12,145.0	-729.7	-236.1	-728.0	10.00	10.00	0.00
12,250.0	28.44	1.80	12,189.9	-707.9	-235.4	-706.1	10.00	10.00	0.00
12,286.6	32.10	1.80	12,221.5	-689.5	-234.8	-687.7	10.00	10.00	0.00
3rd BS W Sand									
12,300.0	33.44	1.80	12,232.8	-682.2	-234.6	-680.5	10.00	10.00	0.00
12,350.0	38.44	1.80	12,273.3	-652.9	-233.7	-651.1	10.00	10.00	0.00
12,400.0	43.44	1.80	12,311.0	-620.1	-232.6	-618.4	10.00	10.00	0.00
12,439.1	47.36	1.80	12,338.5	-592.3	-231.8	-590.6	10.00	10.00	0.00
Wolfcamp A X Sand									
12,450.0	48.44	1.80	12,345.8	-584.2	-231.5	-582.5	10.00	10.00	0.00
12,500.0	53.44	1.80	12,377.3	-545.4	-230.3	-543.7	10.00	10.00	0.00
12,550.0	58.44	1.80	12,405.3	-504.0	-229.0	-502.4	10.00	10.00	0.00
12,600.0	63.44	1.80	12,429.5	-460.4	-227.6	-458.7	10.00	10.00	0.00
12,612.5	64.69	1.80	12,435.0	-449.2	-227.3	-447.5	10.00	10.00	0.00
Wolfcamp A Y Sand									
12,650.0	68.44	1.80	12,449.9	-414.8	-226.2	-413.1	10.00	10.00	0.00
12,700.0	73.44	1.80	12,466.2	-367.5	-224.7	-365.9	10.00	10.00	0.00
12,750.0	78.44	1.80	12,478.4	-319.1	-223.2	-317.4	10.00	10.00	0.00
12,800.0	83.44	1.80	12,486.3	-269.7	-221.6	-268.1	10.00	10.00	0.00
12,850.0	88.44	1.80	12,489.8	-219.9	-220.1	-218.3	10.00	10.00	0.00
12,867.7	90.21	1.80	12,490.0	-202.2	-219.5	-200.6	10.00	10.00	0.00
EOC - 12867.7 MD, 12490 TVD, 90.21° Inc									
12,900.0	90.21	1.15	12,489.9	-169.9	-218.7	-168.3	2.00	0.00	-2.00
12,978.7	90.21	359.58	12,489.6	-91.3	-218.2	-89.7	2.00	0.00	-2.00
13,000.0	90.21	359.58	12,489.5	-69.9	-218.3	-68.3	0.00	0.00	0.00
13,100.0	90.21	359.58	12,489.1	30.1	-219.0	31.7	0.00	0.00	0.00
13,200.0	90.21	359.58	12,488.8	130.1	-219.8	131.7	0.00	0.00	0.00
13,300.0	90.21	359.58	12,488.4	230.1	-220.5	231.7	0.00	0.00	0.00
13,400.0	90.21	359.58	12,488.1	330.1	-221.2	331.7	0.00	0.00	0.00

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)
13,500.0	90.21	359.58	12,487.7	430.1	-222.0	431.7	0.00	0.00	0.00
13,600.0	90.21	359.58	12,487.3	530.0	-222.7	531.7	0.00	0.00	0.00
13,700.0	90.21	359.58	12,487.0	630.0	-223.4	631.7	0.00	0.00	0.00
13,800.0	90.21	359.58	12,486.6	730.0	-224.2	731.7	0.00	0.00	0.00
13,900.0	90.21	359.58	12,486.2	830.0	-224.9	831.7	0.00	0.00	0.00
14,000.0	90.21	359.58	12,485.9	930.0	-225.6	931.7	0.00	0.00	0.00
14,100.0	90.21	359.58	12,485.5	1,030.0	-226.4	1,031.7	0.00	0.00	0.00
14,200.0	90.21	359.58	12,485.1	1,130.0	-227.1	1,131.7	0.00	0.00	0.00
14,300.0	90.21	359.58	12,484.8	1,230.0	-227.8	1,231.7	0.00	0.00	0.00
14,400.0	90.21	359.58	12,484.4	1,330.0	-228.6	1,331.7	0.00	0.00	0.00
14,500.0	90.21	359.58	12,484.0	1,430.0	-229.3	1,431.7	0.00	0.00	0.00
14,600.0	90.21	359.58	12,483.7	1,530.0	-230.0	1,531.7	0.00	0.00	0.00
14,700.0	90.21	359.58	12,483.3	1,630.0	-230.8	1,631.7	0.00	0.00	0.00
14,800.0	90.21	359.58	12,482.9	1,730.0	-231.5	1,731.7	0.00	0.00	0.00
14,900.0	90.21	359.58	12,482.6	1,830.0	-232.2	1,831.7	0.00	0.00	0.00
15,000.0	90.21	359.58	12,482.2	1,930.0	-232.9	1,931.7	0.00	0.00	0.00
15,100.0	90.21	359.58	12,481.8	2,030.0	-233.7	2,031.7	0.00	0.00	0.00
15,200.0	90.21	359.58	12,481.5	2,130.0	-234.4	2,131.7	0.00	0.00	0.00
15,300.0	90.21	359.58	12,481.1	2,230.0	-235.1	2,231.7	0.00	0.00	0.00
15,400.0	90.21	359.58	12,480.7	2,330.0	-235.9	2,331.7	0.00	0.00	0.00
15,500.0	90.21	359.58	12,480.4	2,430.0	-236.6	2,431.7	0.00	0.00	0.00
15,600.0	90.21	359.58	12,480.0	2,530.0	-237.3	2,531.7	0.00	0.00	0.00
15,700.0	90.21	359.58	12,479.6	2,630.0	-238.1	2,631.7	0.00	0.00	0.00
15,800.0	90.21	359.58	12,479.3	2,730.0	-238.8	2,731.7	0.00	0.00	0.00
15,900.0	90.21	359.58	12,478.9	2,830.0	-239.5	2,831.7	0.00	0.00	0.00
16,000.0	90.21	359.58	12,478.5	2,930.0	-240.3	2,931.7	0.00	0.00	0.00
16,100.0	90.21	359.58	12,478.2	3,030.0	-241.0	3,031.6	0.00	0.00	0.00
16,200.0	90.21	359.58	12,477.8	3,130.0	-241.7	3,131.6	0.00	0.00	0.00
16,300.0	90.21	359.58	12,477.4	3,230.0	-242.5	3,231.6	0.00	0.00	0.00
16,400.0	90.21	359.58	12,477.1	3,330.0	-243.2	3,331.6	0.00	0.00	0.00
16,500.0	90.21	359.58	12,476.7	3,430.0	-243.9	3,431.6	0.00	0.00	0.00
16,600.0	90.21	359.58	12,476.3	3,529.9	-244.7	3,531.6	0.00	0.00	0.00
16,700.0	90.21	359.58	12,476.0	3,629.9	-245.4	3,631.6	0.00	0.00	0.00
16,800.0	90.21	359.58	12,475.6	3,729.9	-246.1	3,731.6	0.00	0.00	0.00
16,900.0	90.21	359.58	12,475.2	3,829.9	-246.8	3,831.6	0.00	0.00	0.00
17,000.0	90.21	359.58	12,474.9	3,929.9	-247.6	3,931.6	0.00	0.00	0.00
17,100.0	90.21	359.58	12,474.5	4,029.9	-248.3	4,031.6	0.00	0.00	0.00
17,200.0	90.21	359.58	12,474.1	4,129.9	-249.0	4,131.6	0.00	0.00	0.00
17,300.0	90.21	359.58	12,473.8	4,229.9	-249.8	4,231.6	0.00	0.00	0.00
17,400.0	90.21	359.58	12,473.4	4,329.9	-250.5	4,331.6	0.00	0.00	0.00
17,500.0	90.21	359.58	12,473.0	4,429.9	-251.2	4,431.6	0.00	0.00	0.00
17,600.0	90.21	359.58	12,472.7	4,529.9	-252.0	4,531.6	0.00	0.00	0.00
17,700.0	90.21	359.58	12,472.3	4,629.9	-252.7	4,631.6	0.00	0.00	0.00
17,800.0	90.21	359.58	12,472.0	4,729.9	-253.4	4,731.6	0.00	0.00	0.00
17,900.0	90.21	359.58	12,471.6	4,829.9	-254.2	4,831.6	0.00	0.00	0.00
18,000.0	90.21	359.58	12,471.2	4,929.9	-254.9	4,931.6	0.00	0.00	0.00
18,100.0	90.21	359.58	12,470.9	5,029.9	-255.6	5,031.6	0.00	0.00	0.00
18,200.0	90.21	359.58	12,470.5	5,129.9	-256.4	5,131.6	0.00	0.00	0.00
18,300.0	90.21	359.58	12,470.1	5,229.9	-257.1	5,231.6	0.00	0.00	0.00
18,400.0	90.21	359.58	12,469.8	5,329.9	-257.8	5,331.6	0.00	0.00	0.00
18,500.0	90.21	359.58	12,469.4	5,429.9	-258.5	5,431.6	0.00	0.00	0.00
18,600.0	90.21	359.58	12,469.0	5,529.9	-259.3	5,531.6	0.00	0.00	0.00
18,700.0	90.21	359.58	12,468.7	5,629.9	-260.0	5,631.6	0.00	0.00	0.00
18,800.0	90.21	359.58	12,468.3	5,729.9	-260.7	5,731.6	0.00	0.00	0.00
18,900.0	90.21	359.58	12,467.9	5,829.9	-261.5	5,831.6	0.00	0.00	0.00
19,000.0	90.21	359.58	12,467.6	5,929.9	-262.2	5,931.6	0.00	0.00	0.00
19,100.0	90.21	359.58	12,467.2	6,029.9	-262.9	6,031.6	0.00	0.00	0.00
19,200.0	90.21	359.58	12,466.8	6,129.9	-263.7	6,131.6	0.00	0.00	0.00
19,300.0	90.21	359.58	12,466.5	6,229.9	-264.4	6,231.6	0.00	0.00	0.00
19,400.0	90.21	359.58	12,466.1	6,329.9	-265.1	6,331.6	0.00	0.00	0.00
19,500.0	90.21	359.58	12,465.7	6,429.9	-265.9	6,431.6	0.00	0.00	0.00
19,600.0	90.21	359.58	12,465.4	6,529.8	-266.6	6,531.6	0.00	0.00	0.00
19,700.0	90.21	359.58	12,465.0	6,629.8	-267.3	6,631.6	0.00	0.00	0.00
19,800.0	90.21	359.58	12,464.6	6,729.8	-268.1	6,731.6	0.00	0.00	0.00
19,900.0	90.21	359.58	12,464.3	6,829.8	-268.8	6,831.6	0.00	0.00	0.00
20,000.0	90.21	359.58	12,463.9	6,929.8	-269.5	6,931.6	0.00	0.00	0.00

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)
20,100.0	90.21	359.58	12,463.5	7,029.8	-270.3	7,031.6	0.00	0.00	0.00
20,200.0	90.21	359.58	12,463.2	7,129.8	-271.0	7,131.6	0.00	0.00	0.00
20,300.0	90.21	359.58	12,462.8	7,229.8	-271.7	7,231.6	0.00	0.00	0.00
20,400.0	90.21	359.58	12,462.4	7,329.8	-272.4	7,331.6	0.00	0.00	0.00
20,500.0	90.21	359.58	12,462.1	7,429.8	-273.2	7,431.6	0.00	0.00	0.00
20,600.0	90.21	359.58	12,461.7	7,529.8	-273.9	7,531.6	0.00	0.00	0.00
20,700.0	90.21	359.58	12,461.3	7,629.8	-274.6	7,631.6	0.00	0.00	0.00
20,800.0	90.21	359.58	12,461.0	7,729.8	-275.4	7,731.6	0.00	0.00	0.00
20,900.0	90.21	359.58	12,460.6	7,829.8	-276.1	7,831.6	0.00	0.00	0.00
21,000.0	90.21	359.58	12,460.2	7,929.8	-276.8	7,931.6	0.00	0.00	0.00
21,100.0	90.21	359.58	12,459.9	8,029.8	-277.6	8,031.6	0.00	0.00	0.00
21,200.0	90.21	359.58	12,459.5	8,129.8	-278.3	8,131.6	0.00	0.00	0.00
21,300.0	90.21	359.58	12,459.1	8,229.8	-279.0	8,231.6	0.00	0.00	0.00
21,400.0	90.21	359.58	12,458.8	8,329.8	-279.8	8,331.6	0.00	0.00	0.00
21,500.0	90.21	359.58	12,458.4	8,429.8	-280.5	8,431.6	0.00	0.00	0.00
21,600.0	90.21	359.58	12,458.0	8,529.8	-281.2	8,531.6	0.00	0.00	0.00
21,700.0	90.21	359.58	12,457.7	8,629.8	-282.0	8,631.6	0.00	0.00	0.00
21,800.0	90.21	359.58	12,457.3	8,729.8	-282.7	8,731.6	0.00	0.00	0.00
21,900.0	90.21	359.58	12,456.9	8,829.8	-283.4	8,831.6	0.00	0.00	0.00
22,000.0	90.21	359.58	12,456.6	8,929.8	-284.2	8,931.6	0.00	0.00	0.00
22,100.0	90.21	359.58	12,456.2	9,029.8	-284.9	9,031.6	0.00	0.00	0.00
22,200.0	90.21	359.58	12,455.9	9,129.8	-285.6	9,131.6	0.00	0.00	0.00
22,300.0	90.21	359.58	12,455.5	9,229.8	-286.3	9,231.6	0.00	0.00	0.00
22,400.0	90.21	359.58	12,455.1	9,329.8	-287.1	9,331.6	0.00	0.00	0.00
22,500.0	90.21	359.58	12,454.8	9,429.8	-287.8	9,431.6	0.00	0.00	0.00
22,600.0	90.21	359.58	12,454.4	9,529.7	-288.5	9,531.6	0.00	0.00	0.00
22,705.8	90.21	359.58	12,454.0	9,635.5	-289.3	9,637.4	0.00	0.00	0.00
22,775.7	90.21	359.58	12,453.7	9,705.4	-289.8	9,707.3	0.00	0.00	0.00
PBHL - 22775.7 MD, 12453.7 TVD, 9707.4 VS									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
LTP_A.201H - plan hits target center - Point	0.00	0.00	12,454.0	9,635.5	-289.3	446,264.27	772,834.29	32° 13' 28.704 N	103° 35' 4.988 W
PBHL_A.201H - plan misses target center by 0.8usft at 22775.7usft MD (12453.7 TVD, 9705.4 N, -289.8 E) - Point	0.00	0.00	12,454.5	9,705.5	-289.8	446,334.27	772,833.81	32° 13' 29.396 N	103° 35' 4.988 W
FTP_A.201H - plan misses target center by 201.5usft at 12443.5usft MD (12341.4 TVD, -589.1 N, -231.7 E) - Point	0.00	0.00	12,490.0	-724.0	-213.3	435,904.80	772,910.34	32° 11' 46.189 N	103° 35' 4.943 W

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,162.9	1,162.9	Rustler Anhydrite			
1,660.9	1,660.9	Top Salt			
4,924.9	4,903.9	Base Salt			
5,170.7	5,147.9	Delaware Mountain Gp			
5,180.8	5,157.9	Lamar			
5,202.9	5,179.9	Bell Canyon			
5,219.1	5,195.9	Ramsey Sand			
6,183.3	6,152.9	Cherry Canyon			
7,633.5	7,592.3	Brushy Canyon			
9,179.4	9,130.9	Bone Spring Lime			
9,279.8	9,231.3	Upper Avalon			
9,561.3	9,512.8	Middle Avalon			
9,912.5	9,864.0	Lower Avalon			
10,149.0	10,100.5	1st Bone Spring Sand			
10,461.0	10,412.5	2nd Bone Spring Carb			
10,832.0	10,783.5	2nd Bone Spring Sand			
11,371.5	11,323.0	3rd Bone Spring Carb			
11,969.0	11,920.5	3rd Bone Spring Sand			
12,286.6	12,221.5	3rd BS W Sand			
12,439.1	12,338.5	Wolfcamp A X Sand			
12,612.5	12,435.0	Wolfcamp A Y Sand			

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
1,800.0	1,800.0	0.0	0.0	Nudge to 7° Inc, 197° Azm
8,466.7	8,419.3	-749.8	-229.2	Drop to Vertical
11,965.5	11,917.0	-777.0	-237.6	KOP - 11965.5 MD, 11917 TVD
12,867.7	12,490.0	-202.2	-219.5	EOC - 12867.7 MD, 12490 TVD, 90.21° Inc
22,775.7	12,453.7	9,705.4	-289.8	PBHL - 22775.7 MD, 12453.7 TVD, 9707.4 VS