District I
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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 C-101
August 1, 2011

Permit 272135

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 30-015-46288
4. Property Code 326121	5. Property Name DELIRIUM STATE COM	6. Well No. 234H

7. Surface Location

UL - Lot	Section	Township	Range	Lot Idn	Feet From	N/S Line	Feet From	E/W Line	County
P	13	25S	27E		409	S	941	E	Eddy

8. Proposed Bottom Hole Location

UL - Lot	Section	Township	Range	Lot Idn	Feet From	N/S Line	Feet From	E/W Line	County
A	13	25S	27E	A	200	N	332	E	Eddy

9. Pool Information

PURPLE SAGE;WOLFCAMP (GAS)	98220

Additional Well Information

11. Work Type	12. Well Type	13. Cable/Rotary	14. Lease Type	15. Ground Level Elevation
New Well	GAS		State	3088
16. Multiple	**17. Proposed Depth**	**18. Formation**	**19. Contractor**	**20. Spud Date**
N	14900	Wolfcamp		8/5/2020
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	750	775	0
Int1	12.25	9.625	40	2425	650	0
Int2	8.75	7.625	29.7	9400	400	2125
Prod	6.75	5.5	20	9400	0	8900
Prod	6.75	5	18	14900	500	8900

Casing/Cement Program: Additional Comments

22. Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
Annular	5000	1500	
Double Ram	10000	5000	
Blind	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:	Raymond Podany
Title:	Regulatory Manager	Title:	Geologist
Email Address:	ccombs@taprk.com	Approved Date:	9/20/2019
Date:	9/20/2019 Phone: 720-360-4028	Conditions of Approval Attached	Expiration Date: 9/20/2021

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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

[4]Property Code	[5]Property Name	[6]Well Number
	DELIRIUM STATE COM	234H

[7]OGRID No.	[8]Operator Name	[9]Elevation
	TAP ROCK OPERATING, LLC.	3088'

[10]Surface Location

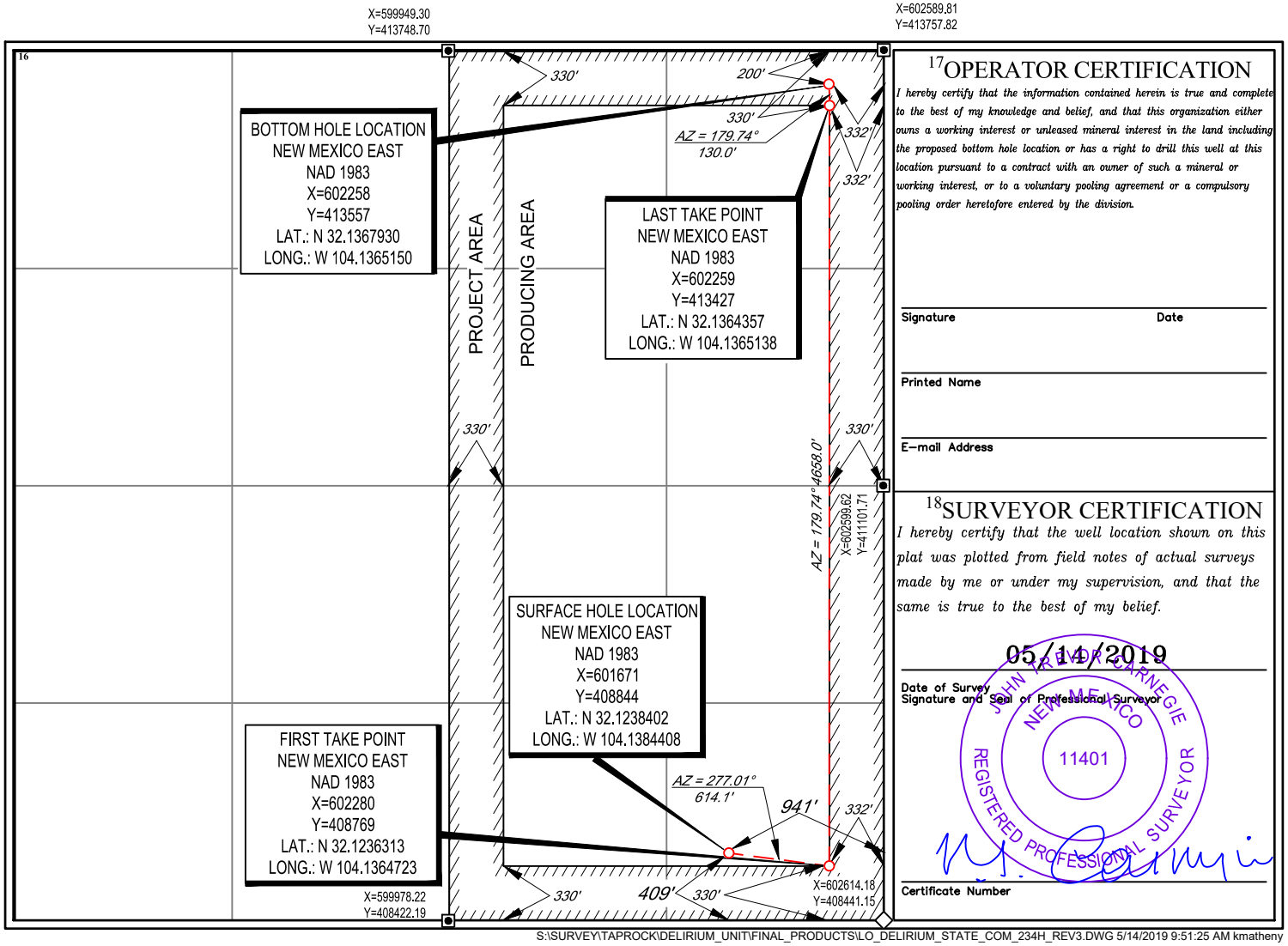
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	13	25-S	27-E	–	409'	SOUTH	941'	EAST	EDDY

[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
A	13	25-S	27-E	–	200'	NORTH	332'	EAST	EDDY

[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

Printed Name

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.

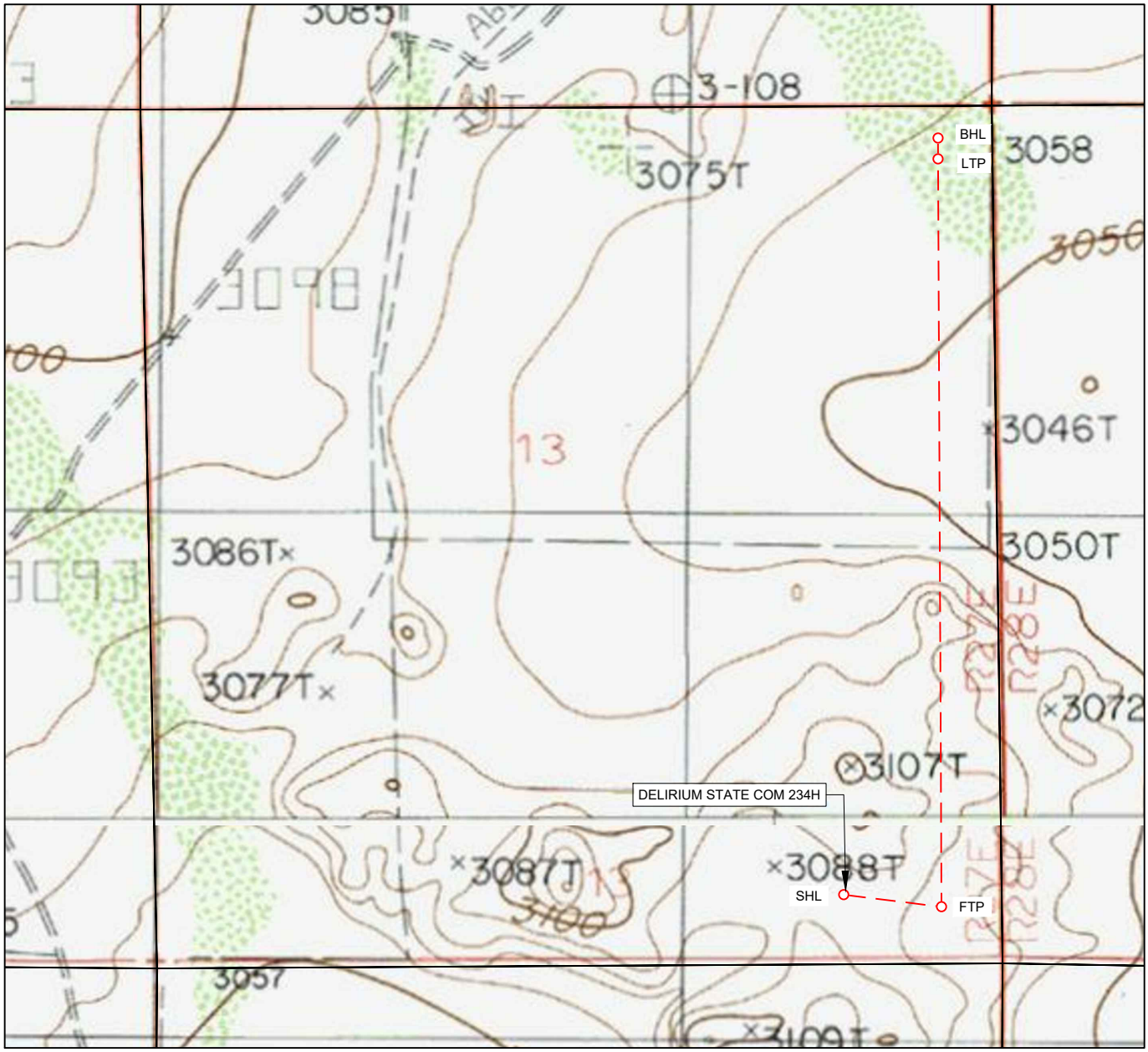
05/14/2019
Date of Survey
Signature and Seal of Professional Surveyor

JOHN KENDRICK CARNEGIE
NEW MEXICO
11401
REGISTERED PROFESSIONAL SURVEYOR

Certificate Number

S:\SURVEY\TAPROCK\DELIRIUM_UNIT\FINAL_PRODUCTS\LO_DELIRIUM_STATE_COM_234H_REV3.DWG 5/14/2019 9:51:25 AM kmatheny

LOCATION & ELEVATION VERIFICATION MAP



LEASE NAME & WELL NO.: DELIRIUM STATE COM 234H

SECTION 13 TWP 25-S RGE 27-E SURVEY N.M.P.M.
COUNTY EDDY STATE NM ELEVATION 3088'
DESCRIPTION 409' FSL & 941' FEL

LATITUDE N 32.1238402 LONGITUDE W 104.1384408

–N–

SCALE: 1" = 1000'

0' 500' 1000'

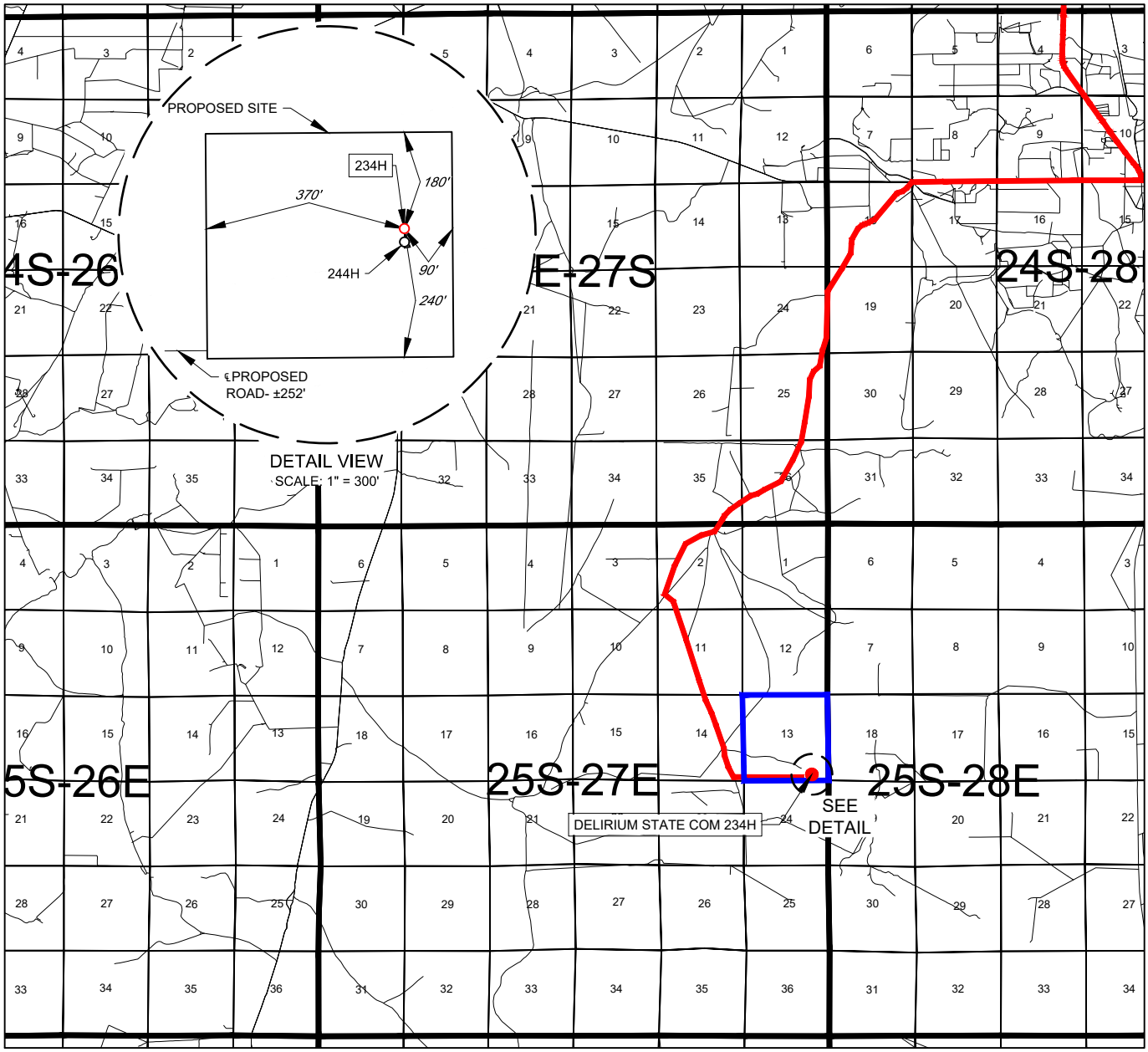
THIS EASEMENT/SERVITUDE LOCATION SHOWN HEREON HAS BEEN SURVEYED ON THE GROUND UNDER MY SUPERVISION AND PREPARED ACCORDING TO THE EVIDENCE FOUND AT THE TIME OF SURVEY, AND DATA PROVIDED BY TAP ROCK OPERATING, LLC. THIS CERTIFICATION IS MADE AND LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF 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.: DELIRIUM STATE COM 234H

SECTION 13 TWP 25-S RGE 27-E SURVEY N.M.P.M.
COUNTY EDDY STATE NM
DESCRIPTION 409' FSL & 941' FEL

DISTANCE & DIRECTION
FROM INT. OF US-285 & BLACK RIVER VILLAGE RD., HEAD WEST ON BLACK RIVER VILLAGE RD. ±2.7 MILES, THENCE LEFT ONTO ROADRUNNER RD. ±6.1 MILES, THENCE LEFT ON LEASE RD. ±2.4 MILES, THENCE LEFT ON A LEASE RD. ±0.8 MILE, THENCE LEFT ON A PROPOSED RD. ±252 FEET TO A POINT ±433 FEET SOUTHWEST OF THE LOCATION.

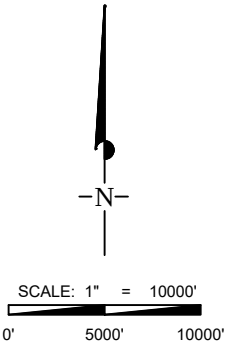


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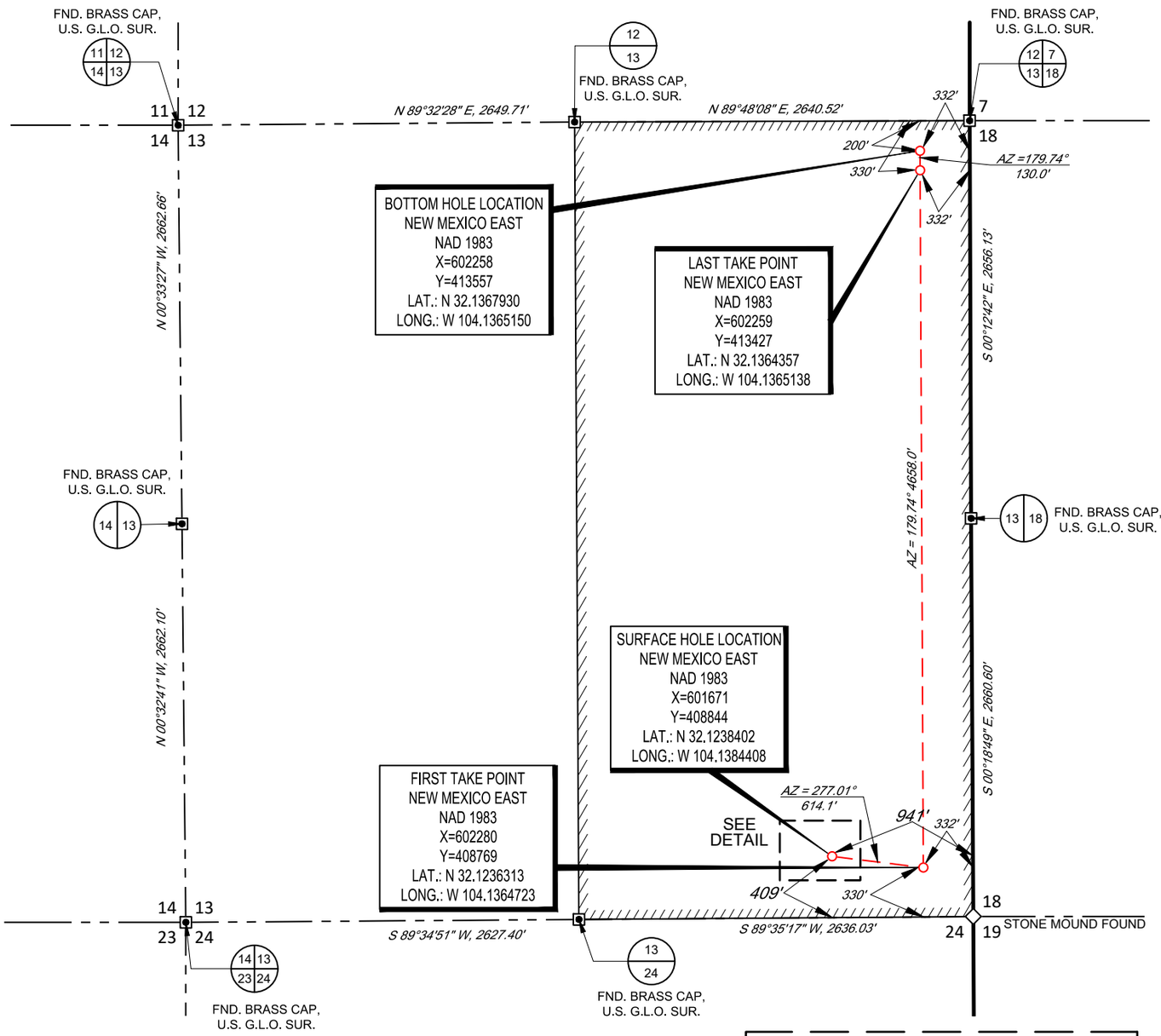
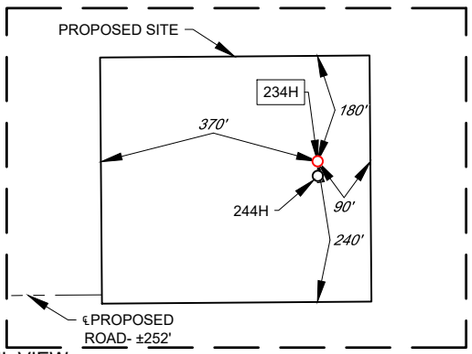
EXHIBIT 2A

SECTION 13, TOWNSHIP 25-S, RANGE 27-E, N.M.P.M.
EDDY COUNTY, NEW MEXICO





DETAIL VIEW
SCALE: 1" = 300'

N

SCALE: 1" = 1000'
0' 500' 1000'

LEASE NAME & WELL NO.: DELIRIUM STATE COM 234H

SECTION 13 TWP 25-S RGE 27-E SURVEY N.M.P.M.
COUNTY EDDY STATE NM
DESCRIPTION 409' FSL & 941' FEL

DISTANCE & DIRECTION
FROM INT. OF US-285 & BLACK RIVER VILLAGE RD., HEAD WEST ON BLACK RIVER VILLAGE RD. ±2.7 MILES, THENCE LEFT ONTO ROADRUNNER RD. ±6.1 MILES, THENCE LEFT ON LEASE RD. ±2.4 MILES, THENCE LEFT ON A LEASE RD. ±0.8 MILE, THENCE LEFT ON A PROPOSED RD. ±252 FEET TO A POINT ±433 FEET SOUTHWEST OF THE LOCATION.

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.

JOHN TREVOR CARNEGIE
NEW MEXICO
11401
REGISTERED PROFESSIONAL SURVEYOR

John Trevor Carnegie, P.S. No. 11401
MAY 14, 2019

TOPOGRAPHIC
LOYALTY INNOVATION LEGACY
1400 EVERMAN PARKWAY, Ste. 146 • FT. WORTH, TEXAS 76140
TELEPHONE: (817) 744-7512 • FAX (817) 744-7554
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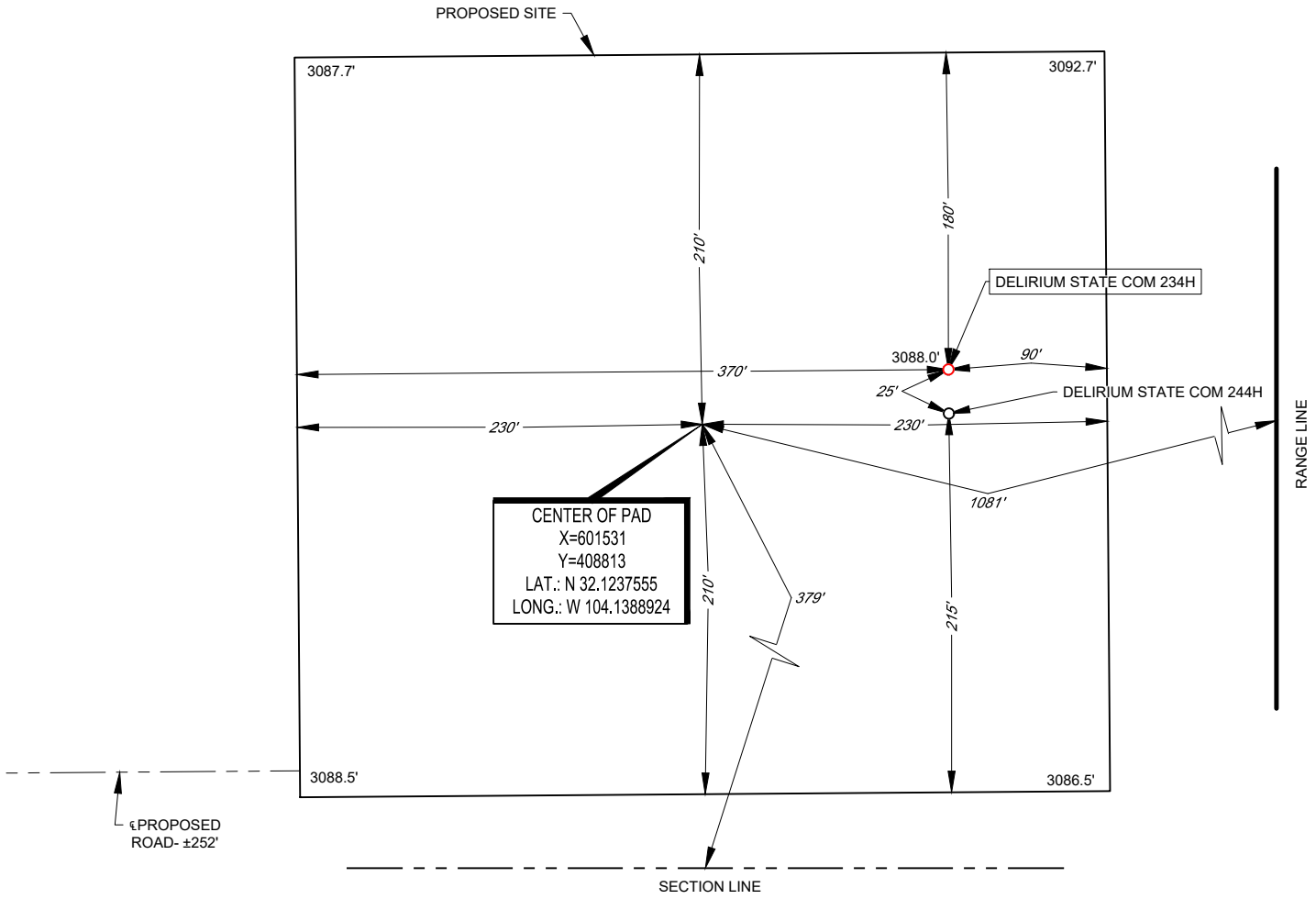
EXHIBIT 2B

SECTION 13, TOWNSHIP 25-S, RANGE 27-E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

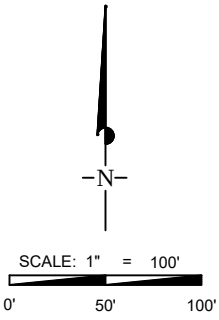
DETAIL VIEW
SCALE: 1" = 100'



LEASE NAME & WELL NO.: DELIRIUM STATE COM 234H

234H LATITUDE N 32.1238402 234H LONGITUDE W 104.1384408

CENTER OF PAD IS 379' FSL & 1081' FEL



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: 9/20/2019

☒ 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
DELIRIUM STATE COM #234H	30-015-46288	P-13-25S-27E	0409S 0941E	200	None	

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 ARM Midstream Management, LLC and will be connected to ARM Midstream Management, LLC High Pressure gathering system located in Eddy County, New Mexico. It will require 100' of pipeline to connect the facility to High Pressure gathering system. TAP ROCK OPERATING, LLC provides (periodically) to ARM Midstream Management, 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 ARM Midstream Management, LLC have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at ARM Midstream Management, LLC Processing Plant located in Sec. 13, Twn. 25S, Rng. 27E, Eddy 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 ARM Midstream Management, 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

PERMIT COMMENTS

Operator Name and Address:	API Number:
TAP ROCK OPERATING, LLC [372043] 602 Park Point Drive Golden, CO 80401	30-015-46288
	Well: DELIRIUM STATE COM #234H

Created By	Comment	Comment Date

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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

PERMIT CONDITIONS OF APPROVAL

Operator Name and Address:	API Number:
TAP ROCK OPERATING, LLC [372043] 602 Park Point Drive Golden, CO 80401	30-015-46288
	Well: DELIRIUM STATE COM #234H

OCD Reviewer	Condition
rpodany	Will require a directional survey with the C-104
rpodany	Cement is required to circulate on both surface and intermediate1 strings of casing

Tap Rock Operating, LLC.

Eddy County, NM (NAD83)
Delirium State Com
234H

OH

Plan: Plan #1

Standard Planning Report

09 June, 2019

Project	Eddy 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	Delirium State Com				
Site Position:		Northing:	408,843.65 usft	Latitude:	32° 7' 25.825 N
From:	Lat/Long	Easting:	601,670.57 usft	Longitude:	104° 8' 18.387 W
Position Uncertainty:	2.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.10 °

Well	234H					
Well Position	+N/-S	0.0 usft	Northing:	408,843.65 usft	Latitude:	32° 7' 25.825 N
	+E/-W	0.0 usft	Easting:	601,670.57 usft	Longitude:	104° 8' 18.387 W
Position Uncertainty		2.0 usft	Wellhead Elevation:	0.0 usft	Ground Level:	3,088.0 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	6/9/2019	6.99	59.86	47,618

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	359.74	

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	
500.0	0.00	0.00	500.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,033.3	8.00	120.00	1,031.6	-18.6	32.2	1.50	1.50	0.00	120.00	
5,563.3	8.00	120.00	5,517.5	-333.8	578.2	0.00	0.00	0.00	0.00	
6,096.7	0.00	0.00	6,049.1	-352.4	610.4	1.50	-1.50	0.00	180.00	
9,511.5	0.00	0.00	9,464.0	-352.4	610.4	0.00	0.00	0.00	0.00	
10,408.5	89.69	359.74	10,037.0	217.5	607.8	10.00	10.00	0.00	359.74	
14,774.2	89.69	359.74	10,060.6	4,583.0	588.0	0.00	0.00	0.00	0.00	LTP (D.234H)
14,904.1	89.69	359.74	10,061.3	4,713.0	587.4	0.00	0.00	0.00	0.00	PBHL (D.234H)

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
Build tang to 8° Inc, 120° Azm									
600.0	1.50	120.00	600.0	-0.7	1.1	-0.7	1.50	1.50	0.00
694.1	2.91	120.00	694.0	-2.5	4.3	-2.5	1.50	1.50	0.00
Rustler									
700.0	3.00	120.00	699.9	-2.6	4.5	-2.6	1.50	1.50	0.00
800.0	4.50	120.00	799.7	-5.9	10.2	-5.9	1.50	1.50	0.00
900.0	6.00	120.00	899.3	-10.5	18.1	-10.5	1.50	1.50	0.00
1,000.0	7.50	120.00	998.6	-16.3	28.3	-16.5	1.50	1.50	0.00
1,033.3	8.00	120.00	1,031.6	-18.6	32.2	-18.7	1.50	1.50	0.00
1,100.0	8.00	120.00	1,097.6	-23.2	40.2	-23.4	0.00	0.00	0.00
1,200.0	8.00	120.00	1,196.6	-30.2	52.3	-30.4	0.00	0.00	0.00
1,300.0	8.00	120.00	1,295.7	-37.1	64.3	-37.4	0.00	0.00	0.00
1,400.0	8.00	120.00	1,394.7	-44.1	76.4	-44.4	0.00	0.00	0.00
1,500.0	8.00	120.00	1,493.7	-51.1	88.4	-51.5	0.00	0.00	0.00
1,600.0	8.00	120.00	1,592.8	-58.0	100.5	-58.5	0.00	0.00	0.00
1,700.0	8.00	120.00	1,691.8	-65.0	112.5	-65.5	0.00	0.00	0.00
1,800.0	8.00	120.00	1,790.8	-71.9	124.6	-72.5	0.00	0.00	0.00
1,900.0	8.00	120.00	1,889.8	-78.9	136.7	-79.5	0.00	0.00	0.00
2,000.0	8.00	120.00	1,988.9	-85.9	148.7	-86.5	0.00	0.00	0.00
2,100.0	8.00	120.00	2,087.9	-92.8	160.8	-93.5	0.00	0.00	0.00
2,149.6	8.00	120.00	2,137.0	-96.3	166.7	-97.0	0.00	0.00	0.00
Base of Salt									
2,200.0	8.00	120.00	2,186.9	-99.8	172.8	-100.6	0.00	0.00	0.00
2,300.0	8.00	120.00	2,285.9	-106.7	184.9	-107.6	0.00	0.00	0.00
2,351.6	8.00	120.00	2,337.0	-110.3	191.1	-111.2	0.00	0.00	0.00
Lamar									
2,374.8	8.00	120.00	2,360.0	-111.9	193.9	-112.8	0.00	0.00	0.00
Bell Canyon									
2,400.0	8.00	120.00	2,385.0	-113.7	196.9	-114.6	0.00	0.00	0.00
2,500.0	8.00	120.00	2,484.0	-120.6	209.0	-121.6	0.00	0.00	0.00
2,600.0	8.00	120.00	2,583.0	-127.6	221.0	-128.6	0.00	0.00	0.00
2,700.0	8.00	120.00	2,682.0	-134.6	233.1	-135.6	0.00	0.00	0.00
2,800.0	8.00	120.00	2,781.1	-141.5	245.1	-142.6	0.00	0.00	0.00
2,900.0	8.00	120.00	2,880.1	-148.5	257.2	-149.6	0.00	0.00	0.00
3,000.0	8.00	120.00	2,979.1	-155.4	269.2	-156.7	0.00	0.00	0.00
3,100.0	8.00	120.00	3,078.2	-162.4	281.3	-163.7	0.00	0.00	0.00
3,200.0	8.00	120.00	3,177.2	-169.4	293.3	-170.7	0.00	0.00	0.00
3,300.0	8.00	120.00	3,276.2	-176.3	305.4	-177.7	0.00	0.00	0.00
3,400.0	8.00	120.00	3,375.2	-183.3	317.4	-184.7	0.00	0.00	0.00
3,473.5	8.00	120.00	3,448.0	-188.4	326.3	-189.9	0.00	0.00	0.00
Cherry Canyon									
3,500.0	8.00	120.00	3,474.3	-190.2	329.5	-191.7	0.00	0.00	0.00
3,600.0	8.00	120.00	3,573.3	-197.2	341.5	-198.7	0.00	0.00	0.00
3,700.0	8.00	120.00	3,672.3	-204.2	353.6	-205.8	0.00	0.00	0.00
3,800.0	8.00	120.00	3,771.3	-211.1	365.7	-212.8	0.00	0.00	0.00
3,900.0	8.00	120.00	3,870.4	-218.1	377.7	-219.8	0.00	0.00	0.00
4,000.0	8.00	120.00	3,969.4	-225.0	389.8	-226.8	0.00	0.00	0.00
4,100.0	8.00	120.00	4,068.4	-232.0	401.8	-233.8	0.00	0.00	0.00
4,200.0	8.00	120.00	4,167.5	-238.9	413.9	-240.8	0.00	0.00	0.00
4,300.0	8.00	120.00	4,266.5	-245.9	425.9	-247.8	0.00	0.00	0.00
4,400.0	8.00	120.00	4,365.5	-252.9	438.0	-254.8	0.00	0.00	0.00
4,441.9	8.00	120.00	4,407.0	-255.8	443.0	-257.8	0.00	0.00	0.00
Brushy Canyon									
4,500.0	8.00	120.00	4,464.5	-259.8	450.0	-261.9	0.00	0.00	0.00
4,600.0	8.00	120.00	4,563.6	-266.8	462.1	-268.9	0.00	0.00	0.00
4,700.0	8.00	120.00	4,662.6	-273.7	474.1	-275.9	0.00	0.00	0.00
4,800.0	8.00	120.00	4,761.6	-280.7	486.2	-282.9	0.00	0.00	0.00
4,900.0	8.00	120.00	4,860.6	-287.7	498.2	-289.9	0.00	0.00	0.00
5,000.0	8.00	120.00	4,959.7	-294.6	510.3	-296.9	0.00	0.00	0.00
5,100.0	8.00	120.00	5,058.7	-301.6	522.3	-303.9	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)
5,200.0	8.00	120.00	5,157.7	-308.5	534.4	-311.0	0.00	0.00	0.00
5,300.0	8.00	120.00	5,256.7	-315.5	546.4	-318.0	0.00	0.00	0.00
5,400.0	8.00	120.00	5,355.8	-322.4	558.5	-325.0	0.00	0.00	0.00
5,500.0	8.00	120.00	5,454.8	-329.4	570.5	-332.0	0.00	0.00	0.00
5,563.3	8.00	120.00	5,517.5	-333.8	578.2	-336.4	0.00	0.00	0.00
Drop to Vertical @ 5563.3' MD									
5,600.0	7.45	120.00	5,553.9	-336.3	582.5	-338.9	1.50	-1.50	0.00
5,700.0	5.95	120.00	5,653.2	-342.1	592.6	-344.8	1.50	-1.50	0.00
5,800.0	4.45	120.00	5,752.7	-346.6	600.4	-349.4	1.50	-1.50	0.00
5,900.0	2.95	120.00	5,852.5	-349.9	606.0	-352.6	1.50	-1.50	0.00
6,000.0	1.45	120.00	5,952.5	-351.8	609.3	-354.6	1.50	-1.50	0.00
6,096.7	0.00	0.00	6,049.1	-352.4	610.4	-355.2	1.50	-1.50	0.00
6,100.0	0.00	0.00	6,052.5	-352.4	610.4	-355.2	0.00	0.00	0.00
6,123.5	0.00	0.00	6,076.0	-352.4	610.4	-355.2	0.00	0.00	0.00
B.S. Lime									
6,200.0	0.00	0.00	6,152.5	-352.4	610.4	-355.2	0.00	0.00	0.00
6,207.5	0.00	0.00	6,160.0	-352.4	610.4	-355.2	0.00	0.00	0.00
Avalon									
6,300.0	0.00	0.00	6,252.5	-352.4	610.4	-355.2	0.00	0.00	0.00
6,400.0	0.00	0.00	6,352.5	-352.4	610.4	-355.2	0.00	0.00	0.00
6,500.0	0.00	0.00	6,452.5	-352.4	610.4	-355.2	0.00	0.00	0.00
6,600.0	0.00	0.00	6,552.5	-352.4	610.4	-355.2	0.00	0.00	0.00
6,700.0	0.00	0.00	6,652.5	-352.4	610.4	-355.2	0.00	0.00	0.00
6,800.0	0.00	0.00	6,752.5	-352.4	610.4	-355.2	0.00	0.00	0.00
6,900.0	0.00	0.00	6,852.5	-352.4	610.4	-355.2	0.00	0.00	0.00
6,964.5	0.00	0.00	6,917.0	-352.4	610.4	-355.2	0.00	0.00	0.00
1st B.S. Sand									
7,000.0	0.00	0.00	6,952.5	-352.4	610.4	-355.2	0.00	0.00	0.00
7,100.0	0.00	0.00	7,052.5	-352.4	610.4	-355.2	0.00	0.00	0.00
7,200.0	0.00	0.00	7,152.5	-352.4	610.4	-355.2	0.00	0.00	0.00
7,300.0	0.00	0.00	7,252.5	-352.4	610.4	-355.2	0.00	0.00	0.00
7,400.0	0.00	0.00	7,352.5	-352.4	610.4	-355.2	0.00	0.00	0.00
7,500.0	0.00	0.00	7,452.5	-352.4	610.4	-355.2	0.00	0.00	0.00
7,581.5	0.00	0.00	7,534.0	-352.4	610.4	-355.2	0.00	0.00	0.00
2nd B.S. Sand									
7,600.0	0.00	0.00	7,552.5	-352.4	610.4	-355.2	0.00	0.00	0.00
7,700.0	0.00	0.00	7,652.5	-352.4	610.4	-355.2	0.00	0.00	0.00
7,800.0	0.00	0.00	7,752.5	-352.4	610.4	-355.2	0.00	0.00	0.00
7,900.0	0.00	0.00	7,852.5	-352.4	610.4	-355.2	0.00	0.00	0.00
8,000.0	0.00	0.00	7,952.5	-352.4	610.4	-355.2	0.00	0.00	0.00
8,100.0	0.00	0.00	8,052.5	-352.4	610.4	-355.2	0.00	0.00	0.00
8,200.0	0.00	0.00	8,152.5	-352.4	610.4	-355.2	0.00	0.00	0.00
8,300.0	0.00	0.00	8,252.5	-352.4	610.4	-355.2	0.00	0.00	0.00
8,400.0	0.00	0.00	8,352.5	-352.4	610.4	-355.2	0.00	0.00	0.00
8,500.0	0.00	0.00	8,452.5	-352.4	610.4	-355.2	0.00	0.00	0.00
8,600.0	0.00	0.00	8,552.5	-352.4	610.4	-355.2	0.00	0.00	0.00
8,700.0	0.00	0.00	8,652.5	-352.4	610.4	-355.2	0.00	0.00	0.00
8,800.0	0.00	0.00	8,752.5	-352.4	610.4	-355.2	0.00	0.00	0.00
8,817.5	0.00	0.00	8,770.0	-352.4	610.4	-355.2	0.00	0.00	0.00
3rd B.S. Sand									
8,900.0	0.00	0.00	8,852.5	-352.4	610.4	-355.2	0.00	0.00	0.00
9,000.0	0.00	0.00	8,952.5	-352.4	610.4	-355.2	0.00	0.00	0.00
9,100.0	0.00	0.00	9,052.5	-352.4	610.4	-355.2	0.00	0.00	0.00
9,152.5	0.00	0.00	9,105.0	-352.4	610.4	-355.2	0.00	0.00	0.00
WCA X Sand									
9,200.0	0.00	0.00	9,152.5	-352.4	610.4	-355.2	0.00	0.00	0.00
9,214.5	0.00	0.00	9,167.0	-352.4	610.4	-355.2	0.00	0.00	0.00
WCA Y Sand									
9,300.0	0.00	0.00	9,252.5	-352.4	610.4	-355.2	0.00	0.00	0.00
9,400.0	0.00	0.00	9,352.5	-352.4	610.4	-355.2	0.00	0.00	0.00
9,500.0	0.00	0.00	9,452.5	-352.4	610.4	-355.2	0.00	0.00	0.00
9,511.5	0.00	0.00	9,464.0	-352.4	610.4	-355.2	0.00	0.00	0.00
KOP @ 9511.5' MD / 9464' TVD									
9,522.5	1.10	359.74	9,475.0	-352.3	610.4	-355.1	9.96	9.96	0.00
WCB									

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)
9,550.0	3.84	359.74	9,502.4	-351.1	610.4	-353.9	10.00	10.00	0.00
9,600.0	8.84	359.74	9,552.1	-345.6	610.3	-348.4	10.00	10.00	0.00
9,650.0	13.84	359.74	9,601.1	-335.8	610.3	-338.5	10.00	10.00	0.00
9,700.0	18.84	359.74	9,649.1	-321.7	610.2	-324.5	10.00	10.00	0.00
9,750.0	23.84	359.74	9,695.6	-303.5	610.2	-306.3	10.00	10.00	0.00
9,800.0	28.84	359.74	9,740.4	-281.3	610.1	-284.1	10.00	10.00	0.00
9,850.0	33.84	359.74	9,783.1	-255.3	609.9	-258.1	10.00	10.00	0.00
9,900.0	38.84	359.74	9,823.4	-225.7	609.8	-228.5	10.00	10.00	0.00
9,950.0	43.84	359.74	9,860.9	-192.7	609.7	-195.4	10.00	10.00	0.00
10,000.0	48.84	359.74	9,895.4	-156.5	609.5	-159.3	10.00	10.00	0.00
10,050.0	53.84	359.74	9,926.6	-117.5	609.3	-120.3	10.00	10.00	0.00
10,100.0	58.84	359.74	9,954.3	-75.9	609.1	-78.6	10.00	10.00	0.00
10,147.0	63.54	359.74	9,977.0	-34.7	608.9	-37.4	10.00	10.00	0.00
WCC									
10,150.0	63.84	359.74	9,978.3	-32.0	608.9	-34.8	10.00	10.00	0.00
10,200.0	68.84	359.74	9,998.4	13.8	608.7	11.0	10.00	10.00	0.00
10,250.0	73.84	359.74	10,014.4	61.1	608.5	58.3	10.00	10.00	0.00
10,300.0	78.84	359.74	10,026.2	109.7	608.3	106.9	10.00	10.00	0.00
10,350.0	83.84	359.74	10,033.7	159.1	608.1	156.3	10.00	10.00	0.00
10,400.0	88.84	359.74	10,036.9	209.0	607.8	206.2	10.00	10.00	0.00
10,408.5	89.69	359.74	10,037.0	217.5	607.8	214.7	10.00	10.00	0.00
EOC - 10037' TVD, 89.69° Inc, 359.74° Azm									
10,500.0	89.69	359.74	10,037.5	309.0	607.4	306.2	0.00	0.00	0.00
10,600.0	89.69	359.74	10,038.0	409.0	606.9	406.2	0.00	0.00	0.00
10,700.0	89.69	359.74	10,038.6	509.0	606.5	506.2	0.00	0.00	0.00
10,800.0	89.69	359.74	10,039.1	609.0	606.0	606.2	0.00	0.00	0.00
10,900.0	89.69	359.74	10,039.7	709.0	605.6	706.2	0.00	0.00	0.00
11,000.0	89.69	359.74	10,040.2	809.0	605.1	806.2	0.00	0.00	0.00
11,100.0	89.69	359.74	10,040.7	909.0	604.7	906.2	0.00	0.00	0.00
11,200.0	89.69	359.74	10,041.3	1,009.0	604.2	1,006.2	0.00	0.00	0.00
11,300.0	89.69	359.74	10,041.8	1,109.0	603.7	1,106.2	0.00	0.00	0.00
11,400.0	89.69	359.74	10,042.4	1,208.9	603.3	1,206.2	0.00	0.00	0.00
11,500.0	89.69	359.74	10,042.9	1,308.9	602.8	1,306.2	0.00	0.00	0.00
11,600.0	89.69	359.74	10,043.4	1,408.9	602.4	1,406.2	0.00	0.00	0.00
11,700.0	89.69	359.74	10,044.0	1,508.9	601.9	1,506.2	0.00	0.00	0.00
11,800.0	89.69	359.74	10,044.5	1,608.9	601.5	1,606.2	0.00	0.00	0.00
11,900.0	89.69	359.74	10,045.1	1,708.9	601.0	1,706.2	0.00	0.00	0.00
12,000.0	89.69	359.74	10,045.6	1,808.9	600.6	1,806.2	0.00	0.00	0.00
12,100.0	89.69	359.74	10,046.2	1,908.9	600.1	1,906.2	0.00	0.00	0.00
12,200.0	89.69	359.74	10,046.7	2,008.9	599.7	2,006.2	0.00	0.00	0.00
12,300.0	89.69	359.74	10,047.2	2,108.9	599.2	2,106.2	0.00	0.00	0.00
12,400.0	89.69	359.74	10,047.8	2,208.9	598.8	2,206.2	0.00	0.00	0.00
12,500.0	89.69	359.74	10,048.3	2,308.9	598.3	2,306.2	0.00	0.00	0.00
12,600.0	89.69	359.74	10,048.9	2,408.9	597.8	2,406.2	0.00	0.00	0.00
12,700.0	89.69	359.74	10,049.4	2,508.9	597.4	2,506.2	0.00	0.00	0.00
12,800.0	89.69	359.74	10,049.9	2,608.9	596.9	2,606.2	0.00	0.00	0.00
12,900.0	89.69	359.74	10,050.5	2,708.9	596.5	2,706.2	0.00	0.00	0.00
13,000.0	89.69	359.74	10,051.0	2,808.9	596.0	2,806.2	0.00	0.00	0.00
13,100.0	89.69	359.74	10,051.6	2,908.9	595.6	2,906.2	0.00	0.00	0.00
13,200.0	89.69	359.74	10,052.1	3,008.9	595.1	3,006.2	0.00	0.00	0.00
13,300.0	89.69	359.74	10,052.6	3,108.9	594.7	3,106.2	0.00	0.00	0.00
13,400.0	89.69	359.74	10,053.2	3,208.9	594.2	3,206.2	0.00	0.00	0.00
13,500.0	89.69	359.74	10,053.7	3,308.9	593.8	3,306.2	0.00	0.00	0.00
13,600.0	89.69	359.74	10,054.3	3,408.9	593.3	3,406.2	0.00	0.00	0.00
13,700.0	89.69	359.74	10,054.8	3,508.9	592.9	3,506.2	0.00	0.00	0.00
13,800.0	89.69	359.74	10,055.3	3,608.9	592.4	3,606.2	0.00	0.00	0.00
13,900.0	89.69	359.74	10,055.9	3,708.9	591.9	3,706.2	0.00	0.00	0.00
14,000.0	89.69	359.74	10,056.4	3,808.9	591.5	3,806.2	0.00	0.00	0.00
14,100.0	89.69	359.74	10,057.0	3,908.9	591.0	3,906.2	0.00	0.00	0.00
14,200.0	89.69	359.74	10,057.5	4,008.9	590.6	4,006.2	0.00	0.00	0.00
14,300.0	89.69	359.74	10,058.1	4,108.9	590.1	4,106.2	0.00	0.00	0.00
14,400.0	89.69	359.74	10,058.6	4,208.9	589.7	4,206.2	0.00	0.00	0.00
14,500.0	89.69	359.74	10,059.1	4,308.9	589.2	4,306.2	0.00	0.00	0.00
14,600.0	89.69	359.74	10,059.7	4,408.9	588.8	4,406.2	0.00	0.00	0.00
14,700.0	89.69	359.74	10,060.2	4,508.9	588.3	4,506.2	0.00	0.00	0.00
14,774.2	89.69	359.74	10,060.6	4,583.0	588.0	4,580.3	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)
14,800.0	89.69	359.74	10,060.8	4,608.9	587.9	4,606.1	0.00	0.00	0.00
14,904.1	89.69	359.74	10,061.3	4,713.0	587.4	4,710.2	0.00	0.00	0.00
PBHL @ 14904.1' MD, 10061.3' TVD, 4710.3' 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
FTP (D.234H) - plan misses target center by 71.7usft at 10140.7usft MD (9974.2 TVD, -40.3 N, 609.0 E) - Point	0.00	0.00	10,037.0	-74.9	609.5	408,768.76	602,280.10	32° 7' 25.073 N	104° 8' 11.300 W
LTP (D.234H) - plan misses target center by 0.4usft at 14774.2usft MD (10060.6 TVD, 4583.0 N, 588.0 E) - Point	0.00	0.01	10,061.0	4,583.0	588.2	413,426.68	602,258.74	32° 8' 11.169 N	104° 8' 11.450 W
PBHL (D.234H) - plan misses target center by 0.4usft at 14904.1usft MD (10061.3 TVD, 4713.0 N, 587.4 E) - Point	0.00	0.00	10,061.7	4,713.0	587.6	413,556.65	602,258.13	32° 8' 12.455 N	104° 8' 11.454 W

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
694.1	694.0	Rustler		0.00	
2,149.6	2,137.0	Base of Salt		0.00	
2,351.6	2,337.0	Lamar		0.00	
2,374.8	2,360.0	Bell Canyon		0.00	
3,473.5	3,448.0	Cherry Canyon		0.00	
4,441.9	4,407.0	Brushy Canyon		0.00	
6,123.5	6,076.0	B.S. Lime		0.00	
6,207.5	6,160.0	Avalon		0.00	
6,964.5	6,917.0	1st B.S. Sand		0.00	
7,581.5	7,534.0	2nd B.S. Sand		0.00	
8,817.5	8,770.0	3rd B.S. Sand		0.00	
9,152.5	9,105.0	WCA X Sand		0.00	
9,214.5	9,167.0	WCA Y Sand		0.00	
9,522.5	9,475.0	WCB		0.00	
10,147.0	9,977.0	WCC		0.00	

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
500.0	500.0	0.0	0.0	Build tang to 8° Inc, 120° Azm
5,563.3	5,517.5	-333.8	578.2	Drop to Vertical @ 5563.3' MD
9,511.5	9,464.0	-352.4	610.4	KOP @ 9511.5' MD / 9464' TVD
10,408.5	10,037.0	217.5	607.8	EOC - 10037' TVD, 89.69° Inc, 359.74° Azm
14,904.1	10,061.3	4,713.0	587.4	PBHL @ 14904.1' MD, 10061.3' TVD, 4710.3' VS