

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

NM OIL CONSERVATION
ARTESIA DISTRICT

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

OCT 17 2019
RECEIVED

FORM C-102

Revised August 1, 2011

Submit one copy to appropriate

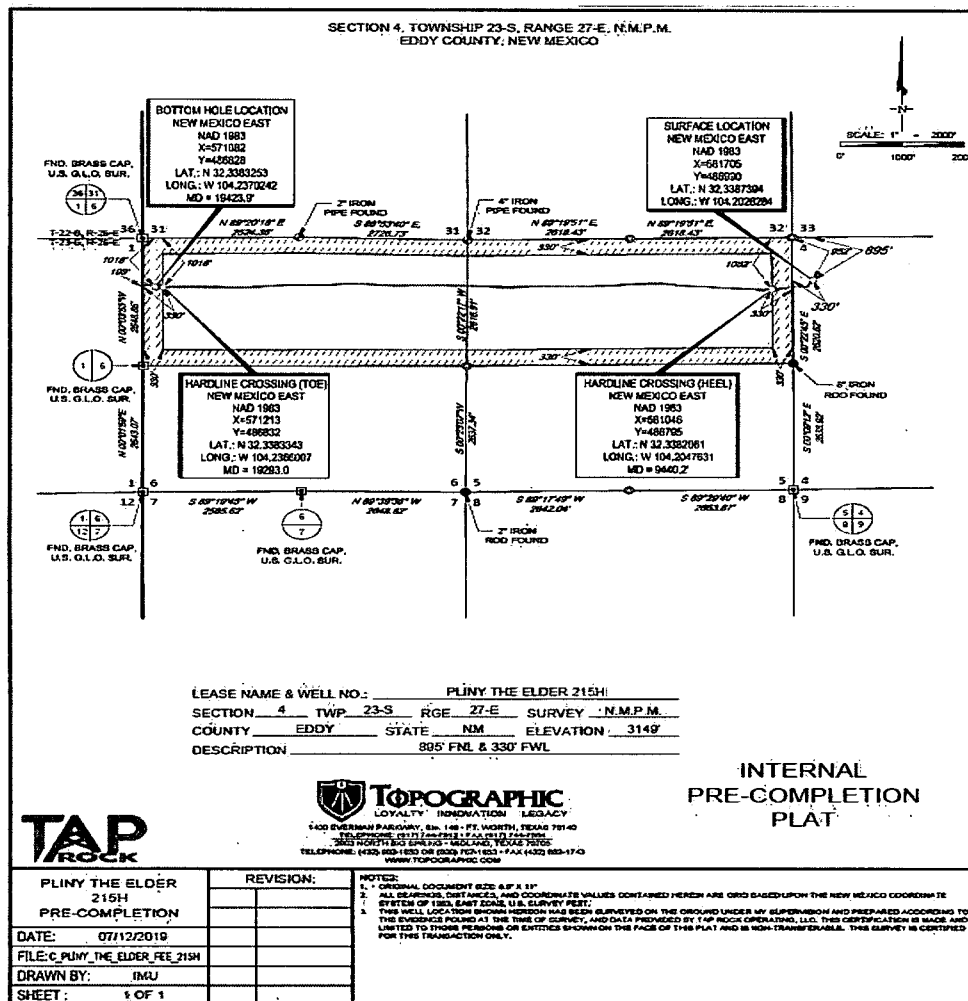
District Office

☒ AMENDED REPORT
☒ AS DRILLED

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number		² Pool Code		³ Pool Name					
		98220		Purple Sage Wolfcamp (Gas)					
⁴ Property Code		⁵ Property Name			⁶ Well Number				
		PLINY THE ELDER FEE			215H				
⁷ GRID No.		⁸ Operator Name			⁹ Elevation				
372043		TAP ROCK OPERATING, LLC.			3150'				
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
4	4	23-S	27-E	-	895'	NORTH	330'	WEST	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
4	6	23-S	27-E	-	990'	NORTH	200'	WEST	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.



¹⁷OPERATOR 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 undivided 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: *Rachel Bierma* Date: 12-18-18

Printed Name: Rachel Bierma

E-mail Address: rbierma@taprk.com

¹⁸SURVEYOR 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.

Date of Survey: 11/27/2018
Signature: *Michael Brown*
Professional Surveyor

MICHAEL BROWN
NEW MEXICO
18329
PROFESSIONAL SURVEYOR

Certificate Number:



NM OIL CONSERVATION
ARTESIA DISTRICT

OCT 17 2019

RECEIVED

Tap Rock Operating, LLC

Eddy County, NM (NAD 83)

Pliny The Elder Fee

215H

OH

Design: OH

Standard Survey Report

21 January, 2019





Pro Directional
Survey Report



Company:	Tap Rock Operating, LLC	Local Co-ordinate Reference:	Well 215H
Project:	Eddy County, NM (NAD 83)	TVD Reference:	Well @ 3176.50usft (GL:3150' + KB: 26.5' (H&P 422))
Site:	Pliny The Elder Fee	MD Reference:	Well @ 3176.50usft (GL:3150' + KB: 26.5' (H&P 422))
Well:	215H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	WellPlanner1

Project	Eddy County, NM (NAD 83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Pliny The Elder Fee		
Site Position:		Northing:	486,990.00 usft
From:	Map	Easting:	581,705.00 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32.338739
		Longitude:	-104.202628
		Grid Convergence:	0.07 °

Well	215H		
Well Position	+N/-S	0.00 usft	Northing:
	+E/-W	0.00 usft	Easting:
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft
		Latitude:	32.338739
		Longitude:	-104.202628
		Ground Level:	3,150.00 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
			(°)
	HDGM	1/15/2019	7.27
			Dip Angle
			(°)
			60.05
			Field Strength
			(nT)
			47,936.30

Design	OH		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.00	0.00	0.00
			Direction
			(°)
			269.83

Survey Program	Date 1/21/2019		
From	To	Survey (Wellbore)	Tool Name
(usft)	(usft)		
187.00	19,426.00	OH (OH)	MWD+HDGM
			Description
			OWSG MWD + HRGM

Survey									
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Vertical	Dogleg	Build	Turn
Depth	(°)	(°)	Depth	(usft)	(usft)	Section	Rate	Rate	Rate
(usft)			(usft)			(usft)	(°/100usft)	(°/100usft)	(°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
187.00	0.70	339.40	187.00	1.07	-0.40	0.40	0.37	0.37	0.00
249.00	1.00	20.80	248.99	1.93	-0.34	0.34	1.07	0.48	66.77
338.00	2.60	41.80	337.94	4.16	1.28	-1.29	1.92	1.80	23.60
518.00	3.50	75.80	517.70	8.55	9.33	-9.35	1.10	0.50	18.89
582.00	3.20	82.40	581.59	9.27	12.99	-13.02	0.76	-0.47	10.31
702.00	2.20	84.50	701.46	9.93	18.60	-18.63	0.84	-0.83	1.75
792.00	0.90	128.80	791.42	9.65	20.87	-20.90	1.86	-1.44	49.22
883.00	2.20	199.50	882.40	7.56	20.85	-20.87	2.29	1.43	77.69



Pro Directional
Survey Report



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Site:	Pliny The Elder Fee	MD Reference:	Well @ 3176.50usft (GL:3150' + KB: 26.5' (H&P 422))
Well:	215H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	WellPlanner1

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)
973.00	3.70	217.70	972.28	3.63	18.50	-18.51	1.94	1.67	20.22
1,063.00	3.80	226.70	1,062.08	-0.71	14.55	-14.55	0.66	0.11	10.00
1,154.00	3.90	227.70	1,152.88	-4.86	10.07	-10.05	0.13	0.11	1.10
1,244.00	3.80	219.10	1,242.68	-9.23	5.92	-5.89	0.65	-0.11	-9.56
1,334.00	2.80	207.10	1,332.53	-13.51	3.04	-3.00	1.34	-1.11	-13.33
1,429.00	2.20	214.90	1,427.44	-17.07	0.94	-0.89	0.72	-0.63	8.21
1,523.00	2.30	201.90	1,521.36	-20.30	-0.80	0.86	0.55	0.11	-13.83
1,618.00	2.20	180.40	1,616.29	-23.89	-1.52	1.59	0.89	-0.11	-22.63
1,713.00	1.50	190.10	1,711.24	-26.94	-1.75	1.83	0.80	-0.74	10.21
1,807.00	1.90	223.80	1,805.20	-29.27	-3.05	3.13	1.12	0.43	35.85
1,901.00	2.00	227.30	1,899.15	-31.51	-5.33	5.42	0.17	0.11	3.72
1,996.00	2.60	231.30	1,994.07	-33.98	-8.23	8.33	0.65	0.63	4.21
2,010.00	2.60	232.60	2,008.06	-34.37	-8.73	8.83	0.42	0.00	9.29
2,163.00	2.00	231.70	2,160.93	-38.14	-13.58	13.70	0.39	-0.39	-0.59
2,257.00	1.90	226.40	2,254.88	-40.23	-16.00	16.12	0.22	-0.11	-5.64
2,351.00	3.70	227.20	2,348.76	-43.36	-19.35	19.48	1.92	1.91	0.85
2,446.00	3.50	228.70	2,443.58	-47.36	-23.78	23.92	0.23	-0.21	1.58
2,540.00	3.70	228.30	2,537.39	-51.27	-28.20	28.35	0.21	0.21	-0.43
2,635.00	3.70	228.00	2,632.19	-55.36	-32.77	32.93	0.02	0.00	-0.32
2,729.00	3.70	226.30	2,726.00	-59.49	-37.21	37.39	0.12	0.00	-1.81
2,824.00	3.50	224.80	2,820.81	-63.66	-41.47	41.66	0.23	-0.21	-1.58
2,918.00	3.50	225.20	2,914.63	-67.72	-45.53	45.73	0.03	0.00	0.43
3,013.00	3.60	224.10	3,009.45	-71.90	-49.66	49.88	0.13	0.11	-1.16
3,107.00	3.60	223.50	3,103.27	-76.16	-53.75	53.97	0.04	0.00	-0.64
3,202.00	3.70	223.30	3,198.07	-80.56	-57.90	58.14	0.11	0.11	-0.21
3,296.00	3.60	221.60	3,291.88	-84.97	-61.94	62.20	0.16	-0.11	-1.81
3,391.00	3.50	221.10	3,386.70	-89.39	-65.83	66.09	0.11	-0.11	-0.53
3,485.00	3.40	221.60	3,480.53	-93.63	-69.57	69.84	0.11	-0.11	0.53
3,580.00	1.70	223.90	3,575.43	-96.76	-72.41	72.70	1.79	-1.79	2.42
3,674.00	1.50	225.00	3,669.40	-98.63	-74.25	74.54	0.22	-0.21	1.17
3,768.00	0.30	267.10	3,763.38	-99.51	-75.37	75.66	1.38	-1.28	44.79
3,863.00	0.30	351.70	3,858.38	-99.28	-75.65	75.95	0.43	0.00	89.05
3,957.00	0.30	350.10	3,952.38	-98.79	-75.73	76.02	0.01	0.00	-1.70
4,051.00	0.20	315.90	4,046.38	-98.43	-75.89	76.18	0.19	-0.11	-36.38
4,146.00	0.30	297.00	4,141.38	-98.20	-76.22	76.51	0.14	0.11	-19.89
4,240.00	0.40	286.60	4,235.38	-98.00	-76.76	77.05	0.13	0.11	-11.06
4,335.00	0.50	276.20	4,330.37	-97.86	-77.49	77.78	0.14	0.11	-10.95
4,429.00	0.50	271.70	4,424.37	-97.80	-78.30	78.59	0.04	0.00	-4.79
4,522.00	0.60	92.70	4,517.37	-97.81	-78.22	78.51	1.18	0.11	-192.47
4,617.00	0.80	102.80	4,612.36	-97.98	-77.08	77.37	0.25	0.21	10.63
4,712.00	0.70	107.40	4,707.35	-98.30	-75.88	76.17	0.12	-0.11	4.84
4,806.00	0.50	112.90	4,801.35	-98.63	-74.95	75.25	0.22	-0.21	5.85



Pro Directional
Survey Report



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Site:	Pliny The Elder Fee	MD Reference:	Well @ 3176.50usft (GL:3150' + KB: 26.5' (H&P 422))
Well:	215H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	WellPlanner1

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,901.00	0.30	135.50	4,896.35	-98.97	-74.40	74.69	0.26	-0.21	23.79
4,995.00	0.30	144.00	4,990.34	-99.35	-74.08	74.37	0.05	0.00	9.04
5,090.00	0.30	163.60	5,085.34	-99.79	-73.86	74.16	0.11	0.00	20.63
5,184.00	0.40	179.20	5,179.34	-100.35	-73.79	74.09	0.15	0.11	16.60
5,373.00	0.60	189.10	5,368.33	-101.99	-73.94	74.24	0.11	0.11	5.24
5,468.00	0.80	179.20	5,463.33	-103.14	-74.01	74.31	0.25	0.21	-10.42
5,563.00	1.00	168.70	5,558.32	-104.62	-73.83	74.14	0.27	0.21	-11.05
5,657.00	0.70	169.30	5,652.31	-105.99	-73.57	73.88	0.32	-0.32	0.64
5,752.00	0.30	148.40	5,747.30	-106.77	-73.33	73.65	0.46	-0.42	-22.00
5,846.00	0.60	142.50	5,841.30	-107.37	-72.90	73.22	0.32	0.32	-6.28
5,941.00	0.50	156.60	5,936.29	-108.14	-72.43	72.75	0.18	-0.11	14.84
6,035.00	1.30	182.40	6,030.28	-109.59	-72.31	72.64	0.93	0.85	27.45
6,130.00	1.90	186.10	6,125.24	-112.23	-72.53	72.86	0.64	0.63	3.89
6,224.00	2.10	187.10	6,219.19	-115.49	-72.91	73.25	0.22	0.21	1.06
6,318.00	2.40	187.00	6,313.11	-119.15	-73.36	73.71	0.32	0.32	-0.11
6,413.00	0.90	157.90	6,408.07	-121.82	-73.32	73.68	1.76	-1.58	-30.63
6,508.00	1.40	185.40	6,503.06	-123.66	-73.15	73.52	0.77	0.53	28.95
6,602.00	1.50	199.00	6,597.03	-125.97	-73.66	74.03	0.38	0.11	14.47
6,697.00	0.70	148.30	6,692.01	-127.64	-73.76	74.14	1.25	-0.84	-53.37
6,791.00	1.00	140.40	6,786.00	-128.76	-72.93	73.31	0.34	0.32	-8.40
6,885.00	1.80	107.20	6,879.97	-129.83	-71.00	71.38	1.18	0.85	-35.32
6,980.00	2.30	125.20	6,974.91	-131.37	-68.02	68.41	0.85	0.53	18.95
7,075.00	2.20	127.30	7,069.84	-133.57	-65.01	65.40	0.14	-0.11	2.21
7,169.00	1.10	109.80	7,163.80	-134.97	-62.72	63.12	1.27	-1.17	-18.62
7,264.00	0.40	47.80	7,258.79	-135.06	-61.62	62.02	1.03	-0.74	-65.26
7,358.00	0.30	349.90	7,352.79	-134.59	-61.42	61.82	0.37	-0.11	-61.60
7,453.00	0.80	283.60	7,447.78	-134.19	-62.11	62.51	0.77	0.53	-69.79
7,547.00	1.50	279.80	7,541.77	-133.83	-63.96	64.36	0.75	0.74	-4.04
7,642.00	2.50	289.20	7,636.71	-132.94	-67.14	67.54	1.10	1.05	9.89
7,736.00	2.20	296.00	7,730.63	-131.47	-70.70	71.09	0.44	-0.32	7.23
7,831.00	2.00	274.40	7,825.57	-130.54	-73.99	74.38	0.85	-0.21	-22.74
7,926.00	1.30	260.90	7,920.53	-130.59	-76.71	77.09	0.84	-0.74	-14.21
8,020.00	1.50	271.70	8,014.50	-130.72	-78.99	79.38	0.35	0.21	11.49
8,115.00	1.50	207.50	8,109.47	-131.79	-80.81	81.20	1.68	0.00	-67.58
8,209.00	1.90	194.10	8,203.43	-134.39	-81.76	82.15	0.60	0.43	-14.26
8,304.00	1.80	199.80	8,298.38	-137.32	-82.64	83.05	0.22	-0.11	6.00
8,382.00	1.70	204.30	8,376.34	-139.53	-83.54	83.95	0.22	-0.13	5.77
8,453.00	1.30	215.90	8,447.32	-141.14	-84.44	84.86	0.70	-0.56	16.34
8,504.00	1.20	226.90	8,498.31	-141.97	-85.17	85.59	0.51	-0.20	21.57
8,598.00	13.40	274.00	8,591.39	-141.88	-96.80	97.22	13.42	12.98	50.11
8,692.00	26.10	279.50	8,679.69	-137.69	-128.19	128.60	13.64	13.51	5.85
8,786.00	31.00	274.50	8,762.25	-132.38	-172.75	173.14	5.80	5.21	-5.32



Pro Directional
Survey Report



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Design:	OH	Database:	WellPlanner1

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
8,880.00	34.20	268.10	8,841.45	-131.35	-223.31	223.70	5.00	3.40	-6.81	
8,974.00	35.80	262.10	8,918.47	-136.01	-276.97	277.37	4.04	1.70	-6.38	
9,067.00	41.50	259.00	8,991.08	-145.64	-334.21	334.64	6.47	6.13	-3.33	
9,160.00	50.90	260.50	9,055.38	-157.50	-400.20	400.66	10.17	10.11	1.61	
9,255.00	64.90	262.30	9,105.74	-169.41	-479.58	480.08	14.82	14.74	1.89	
9,348.00	79.40	261.60	9,134.17	-181.79	-566.99	567.53	15.61	15.59	-0.75	
9,442.00	90.20	262.30	9,142.68	-194.88	-659.55	660.12	11.51	11.49	0.74	
9,536.00	94.10	267.90	9,139.15	-202.90	-753.08	753.68	7.26	4.15	5.96	
9,630.00	92.50	274.60	9,133.73	-200.85	-846.85	847.44	7.32	-1.70	7.13	
9,723.00	90.90	273.80	9,130.97	-194.04	-939.55	940.12	1.92	-1.72	-0.86	
9,817.00	91.80	272.80	9,128.76	-188.63	-1,033.37	1,033.92	1.43	0.96	-1.06	
9,911.00	93.60	273.00	9,124.33	-183.88	-1,127.14	1,127.68	1.93	1.91	0.21	
10,005.00	92.30	274.10	9,119.49	-178.07	-1,220.83	1,221.36	1.81	-1.38	1.17	
10,098.00	89.60	274.50	9,117.95	-171.10	-1,313.55	1,314.05	2.93	-2.90	0.43	
10,192.00	90.20	273.90	9,118.11	-164.22	-1,407.30	1,407.78	0.90	0.64	-0.64	
10,286.00	91.90	272.50	9,116.39	-158.97	-1,501.13	1,501.59	2.34	1.81	-1.49	
10,380.00	92.30	274.40	9,112.95	-153.32	-1,594.89	1,595.34	2.06	0.43	2.02	
10,474.00	90.20	274.00	9,110.90	-146.43	-1,688.61	1,689.04	2.27	-2.23	-0.43	
10,568.00	89.60	273.10	9,111.06	-140.61	-1,782.43	1,782.84	1.15	-0.64	-0.96	
10,661.00	91.00	271.50	9,110.57	-136.88	-1,875.35	1,875.74	2.29	1.51	-1.72	
10,755.00	91.70	274.30	9,108.36	-132.13	-1,969.19	1,969.57	3.07	0.74	2.98	
10,850.00	89.40	276.60	9,107.45	-123.11	-2,063.74	2,064.10	3.42	-2.42	2.42	
10,944.00	89.10	277.20	9,108.68	-111.82	-2,157.05	2,157.38	0.71	-0.32	0.64	
11,038.00	90.40	277.50	9,109.09	-99.79	-2,250.28	2,250.56	1.42	1.38	0.32	
11,132.00	93.00	277.50	9,106.30	-87.53	-2,343.43	2,343.67	2.77	2.77	0.00	
11,225.00	91.00	274.30	9,103.05	-77.98	-2,435.86	2,436.08	4.06	-2.15	-3.44	
11,319.00	88.20	269.50	9,103.71	-74.86	-2,529.77	2,529.98	5.91	-2.98	-5.11	
11,413.00	88.20	268.50	9,106.66	-76.50	-2,623.71	2,623.92	1.06	0.00	-1.06	
11,508.00	92.40	267.30	9,106.16	-79.98	-2,718.62	2,718.84	4.60	4.42	-1.26	
11,602.00	91.30	266.60	9,103.13	-84.98	-2,812.43	2,812.67	1.39	-1.17	-0.74	
11,695.00	89.10	266.10	9,102.81	-90.90	-2,905.24	2,905.50	2.43	-2.37	-0.54	
11,789.00	91.80	265.90	9,102.07	-97.46	-2,999.00	2,999.28	2.88	2.87	-0.21	
11,883.00	91.80	265.30	9,099.11	-104.66	-3,092.68	3,092.97	0.64	0.00	-0.64	
11,978.00	89.80	266.10	9,097.79	-111.79	-3,187.39	3,187.71	2.27	-2.11	0.84	
12,071.00	92.40	266.00	9,096.00	-118.19	-3,280.15	3,280.48	2.80	2.80	-0.11	
12,165.00	89.90	266.20	9,093.72	-125.94	-3,393.85	3,394.21	2.20	-2.19	0.18	
12,279.00	86.20	266.80	9,096.91	-131.68	-3,487.60	3,487.98	3.99	-3.94	0.64	
12,373.00	91.40	267.10	9,098.88	-136.67	-3,581.42	3,581.81	5.54	5.53	0.32	
12,467.00	96.90	268.70	9,092.08	-140.11	-3,675.07	3,675.47	6.09	5.85	1.70	
12,561.00	95.20	268.20	9,082.17	-142.64	-3,768.51	3,768.92	1.88	-1.81	-0.53	
12,655.00	95.60	269.00	9,073.33	-144.93	-3,862.06	3,862.48	0.95	0.43	0.85	
12,749.00	95.60	270.00	9,064.15	-145.75	-3,955.61	3,956.02	1.06	0.00	1.06	



Pro Directional Survey Report



Company:	Tap Rock Operating, LLC	Local Co-ordinate Reference:	Well 215H
Project:	Eddy County, NM (NAD 83)	TVD Reference:	Well @ 3176.50usft (GL:3150' + KB: 26.5' (H&P 422))
Site:	Pliny The Elder Fee	MD Reference:	Well @ 3176.50usft (GL:3150' + KB: 26.5' (H&P 422))
Well:	215H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	WellPlanner1

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)
12,843.00	92.20	270.80	9,057.76	-145.09	-4,049.37	4,049.79	3.72	-3.62	0.85
12,937.00	90.60	271.00	9,055.47	-143.61	-4,143.33	4,143.74	1.72	-1.70	0.21
13,032.00	91.40	270.10	9,053.81	-142.70	-4,238.31	4,238.72	1.27	0.84	-0.95
13,126.00	89.30	270.30	9,053.23	-142.37	-4,332.30	4,332.71	2.24	-2.23	0.21
13,220.00	88.80	269.50	9,054.79	-142.54	-4,426.29	4,426.69	1.00	-0.53	-0.85
13,316.00	88.80	268.90	9,056.80	-143.88	-4,522.26	4,522.67	0.62	0.00	-0.63
13,410.00	90.70	268.30	9,057.21	-146.17	-4,616.23	4,616.64	2.12	2.02	-0.64
13,504.00	95.80	268.00	9,051.89	-149.20	-4,709.99	4,710.42	5.43	5.43	-0.32
13,598.00	94.90	268.20	9,043.12	-152.30	-4,803.53	4,803.96	0.98	-0.96	0.21
13,692.00	94.80	269.10	9,035.17	-154.51	-4,897.17	4,897.61	0.96	-0.11	0.96
13,787.00	92.80	271.10	9,028.88	-154.34	-4,991.95	4,992.39	2.97	-2.11	2.11
13,881.00	92.60	271.90	9,024.45	-151.89	-5,085.81	5,086.24	0.88	-0.21	0.85
13,976.00	89.30	272.80	9,022.87	-147.99	-5,180.71	5,181.12	3.60	-3.47	0.95
14,071.00	89.20	273.30	9,024.12	-142.94	-5,275.56	5,275.96	0.54	-0.11	0.53
14,164.00	89.00	273.50	9,025.58	-137.42	-5,368.39	5,368.77	0.30	-0.22	0.22
14,258.00	90.40	272.80	9,026.07	-132.26	-5,462.24	5,462.61	1.67	1.49	-0.74
14,353.00	90.50	270.50	9,025.32	-129.52	-5,557.19	5,557.55	2.42	0.11	-2.42
14,447.00	92.40	271.00	9,022.95	-128.29	-5,651.15	5,651.51	2.09	2.02	0.53
14,541.00	92.70	272.00	9,018.76	-125.83	-5,745.02	5,745.37	1.11	0.32	1.06
14,634.00	90.80	271.50	9,015.92	-123.00	-5,837.93	5,838.27	2.11	-2.04	-0.54
14,729.00	90.80	270.80	9,014.60	-121.09	-5,932.90	5,933.24	0.74	0.00	-0.74
14,822.00	89.40	272.50	9,014.43	-118.41	-6,025.86	6,026.18	2.37	-1.51	1.83
14,916.00	88.70	272.00	9,015.99	-114.72	-6,119.77	6,120.09	0.92	-0.74	-0.53
15,009.00	87.60	270.70	9,019.00	-112.53	-6,212.69	6,213.00	1.83	-1.18	-1.40
15,104.00	90.90	269.10	9,020.24	-112.70	-6,307.67	6,307.98	3.86	3.47	-1.68
15,198.00	90.40	267.20	9,019.17	-115.73	-6,401.61	6,401.93	2.09	-0.53	-2.02
15,292.00	94.50	267.10	9,015.15	-120.40	-6,495.39	6,495.72	4.36	4.36	-0.11
15,387.00	94.50	267.80	9,007.70	-124.61	-6,590.00	6,590.34	0.73	0.00	0.74
15,480.00	94.90	271.00	9,000.08	-125.59	-6,682.67	6,683.01	3.46	0.43	3.44
15,574.00	90.50	271.20	8,995.65	-123.78	-6,776.53	6,776.86	4.69	-4.68	0.21
15,668.00	93.20	273.00	8,992.62	-120.34	-6,870.40	6,870.73	3.45	2.87	1.91
15,768.00	93.40	274.60	8,985.71	-112.40	-6,989.93	6,990.24	1.34	0.17	1.33
15,862.00	92.90	274.30	8,980.54	-105.12	-7,083.51	7,083.79	0.62	-0.53	-0.32
15,975.00	92.40	272.90	8,976.24	-99.29	-7,176.22	7,176.49	1.60	-0.54	-1.51
16,070.00	90.70	271.30	8,973.67	-95.81	-7,271.12	7,271.37	2.46	-1.79	-1.68
16,164.00	92.80	271.10	8,970.80	-93.84	-7,365.05	7,365.30	2.24	2.23	-0.21
16,258.00	93.80	270.70	8,965.39	-92.37	-7,458.88	7,459.12	1.15	1.06	-0.43
16,353.00	89.90	267.30	8,962.33	-94.03	-7,553.78	7,554.03	5.44	-4.11	-3.58
16,446.00	89.00	265.50	8,963.22	-99.87	-7,646.59	7,646.85	2.16	-0.97	-1.94
16,540.00	89.20	266.00	8,964.69	-106.83	-7,740.32	7,740.60	0.57	0.21	0.53
16,634.00	90.40	266.90	8,965.02	-112.65	-7,834.14	7,834.44	1.60	1.28	0.96
16,728.00	96.80	270.30	8,959.12	-114.95	-7,927.86	7,928.17	7.71	6.81	3.62



Pro Directional
Survey Report



Company:	Tap Rock Operating, LLC	Local Co-ordinate Reference:	Well 215H
Project:	Eddy County, NM (NAD 83)	TVD Reference:	Well @ 3176.50usft (GL:3150' + KB: 26.5' (H&P 422))
Site:	Pliny The Elder Fee	MD Reference:	Well @ 3176.50usft (GL:3150' + KB: 26.5' (H&P 422))
Well:	215H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	WellPlanner1

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)
16,821.00	94.50	269.80	8,949.97	-114.87	-8,020.40	8,020.71	2.53	-2.47	-0.54
16,916.00	95.40	269.90	8,941.77	-115.12	-8,115.05	8,115.35	0.95	0.95	0.11
17,009.00	92.00	270.10	8,935.77	-115.12	-8,207.84	8,208.15	3.66	-3.66	0.22
17,103.00	90.40	269.90	8,933.80	-115.12	-8,301.82	8,302.12	1.72	-1.70	-0.21
17,196.00	89.80	268.50	8,933.64	-116.42	-8,394.80	8,395.11	1.64	-0.65	-1.51
17,291.00	89.10	266.60	8,934.55	-120.48	-8,489.71	8,490.03	2.13	-0.74	-2.00
17,386.00	90.70	265.80	8,934.72	-126.77	-8,584.50	8,584.83	1.88	1.68	-0.84
17,480.00	89.40	264.60	8,934.63	-134.64	-8,678.16	8,678.52	1.88	-1.38	-1.28
17,573.00	88.20	266.90	8,936.58	-141.53	-8,770.88	8,771.26	2.79	-1.29	2.47
17,667.00	87.60	266.90	8,940.03	-146.61	-8,864.68	8,865.07	0.64	-0.64	0.00
17,761.00	90.80	266.80	8,941.34	-151.77	-8,958.51	8,958.92	3.41	3.40	-0.11
17,855.00	90.80	266.20	8,940.03	-157.51	-9,052.33	9,052.76	0.64	0.00	-0.64
17,949.00	90.90	268.60	8,938.63	-161.77	-9,146.21	9,146.65	2.56	0.11	2.55
18,043.00	91.40	269.30	8,936.74	-163.50	-9,240.18	9,240.62	0.92	0.53	0.74
18,137.00	92.50	271.80	8,933.55	-162.60	-9,334.11	9,334.55	2.90	1.17	2.66
18,231.00	90.60	271.00	8,931.00	-160.30	-9,428.04	9,428.48	2.19	-2.02	-0.85
18,325.00	90.00	270.60	8,930.51	-158.99	-9,522.03	9,522.46	0.77	-0.64	-0.43
18,419.00	90.10	270.30	8,930.43	-158.25	-9,616.03	9,616.46	0.34	0.11	-0.32
18,514.00	89.70	270.30	8,930.59	-157.75	-9,711.03	9,711.45	0.42	-0.42	0.00
18,608.00	89.40	269.60	8,931.33	-157.83	-9,805.02	9,805.45	0.81	-0.32	-0.74
18,702.00	90.30	271.10	8,931.58	-157.26	-9,899.02	9,899.44	1.86	0.96	1.60
18,796.00	90.50	271.50	8,930.92	-155.13	-9,992.99	9,993.41	0.48	0.21	0.43
18,890.00	90.00	270.20	8,930.51	-153.73	-10,086.98	10,087.39	1.48	-0.53	-1.38
18,985.00	89.00	270.30	8,931.34	-153.32	-10,181.97	10,182.38	1.06	-1.05	0.11
19,079.00	87.60	269.30	8,934.13	-153.65	-10,275.93	10,276.34	1.83	-1.49	-1.06
19,172.00	89.30	268.10	8,936.65	-155.76	-10,368.86	10,369.28	2.24	1.83	-1.29
19,266.00	90.30	269.30	8,936.97	-157.89	-10,462.84	10,463.26	1.66	1.06	1.28
19,350.00	89.80	268.30	8,936.90	-159.65	-10,546.82	10,547.24	1.33	-0.60	-1.19
Final Survey, 19350.00' MD, 8936.90' TVD									
19,426.00	89.80	268.30	8,937.17	-161.90	-10,622.78	10,623.22	0.00	0.00	0.00
PTB, 19426.00' MD, 8937.17' TVD									

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
19,350.00	8,936.90	-159.65	-10,546.82	Final Survey, 19350.00' MD, 8936.90' TVD
19,426.00	8,937.17	-161.90	-10,622.78	PTB, 19426.00' MD, 8937.17' TVD

Checked By: _____ Approved By: _____ Date: _____