

NM OIL CONSERVATION

ARTESIA DISTRICT

OCT 07 2019

FORM C-102

Revised August 1, 2011

Submit one copy to appropriate

District Office

State of New Mexico
Energy, Minerals & Natural Resources

RECEIVED

Department
OIL CONSERVATION DIVISION

1220 South St. Francis Dr.

Sante Fe, NM 87505

☒ AMENDED REPORT

☒ AS DRILLED

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., Sante Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015-45261	Pool Code 98220	Pool Name PURPLE SAGE, WOLFCAMP
Property Code 322450	Property Name CYPRESS 34 23S29E3434	Well Number #234H
GRID No. 372043	Operator Name TAP ROCK OPERATING, LLC.	Elevation 3093'

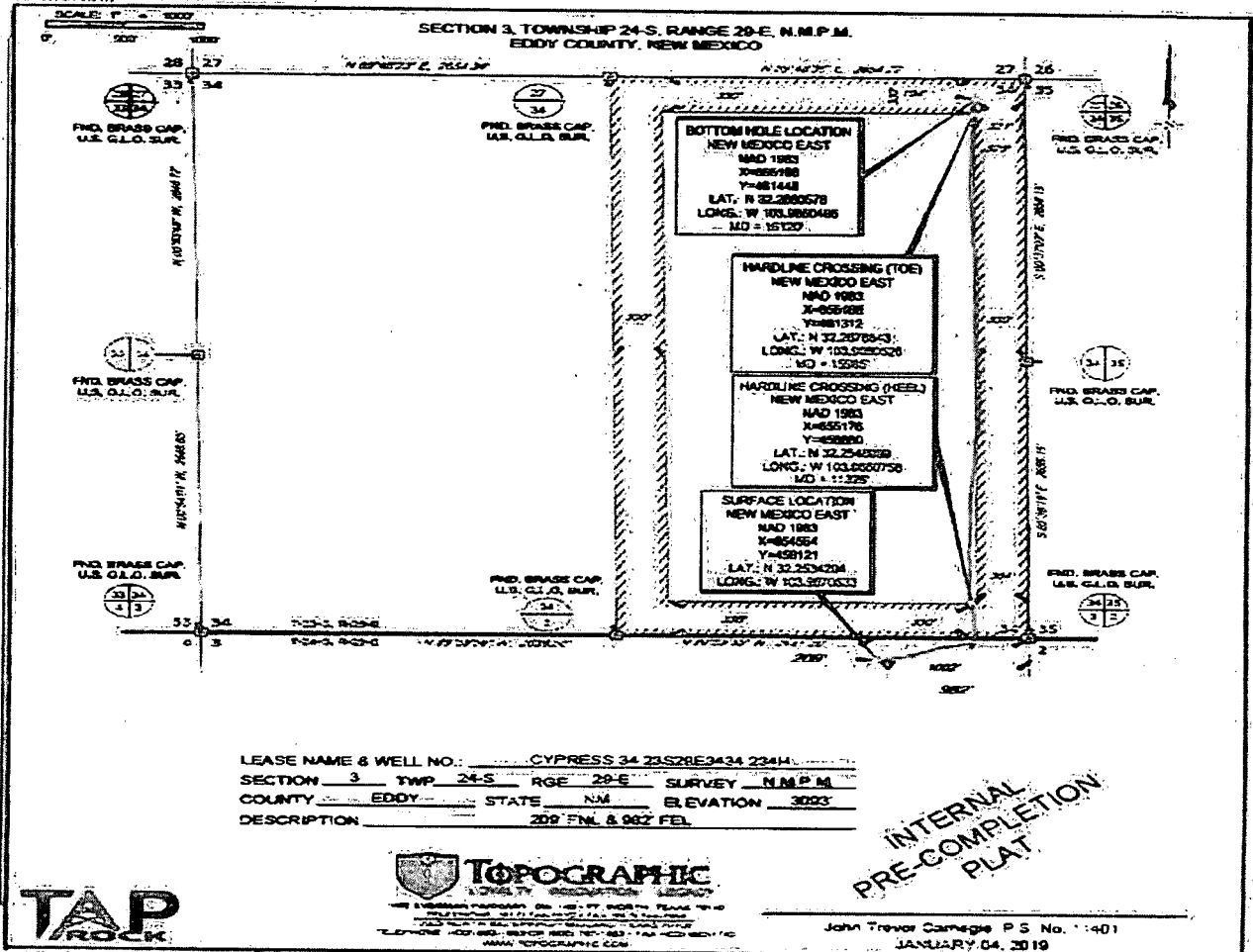
Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	Country
A	3	24-S	29-E	1	209'	NORTH	982'	EAST	EDDY

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	Country
A	34	23-S	29-E	-	200'	NORTH	330'	EAST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
320			

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.





PRODIRECTIONAL

RECEIVED

SEP 26 2019

DISTRICT 7 ARTESIA O.C.D.

**TAP
ROCK**

Cypress 34 No. 234H
Eddy County, NM

December 15, 2018

Job No. LNM5188318
API No. 30-015-45261

Survey Completion Report



PRODIRECTIONAL

Survey Certification Letter

December 15, 2018



Operator Name: Tap Rock Operating
Well Name: Cypress 34 No. 234H
County/Parish: Eddy County,
State: NM
Rig Name: H&P 422
Job Number: LNM5188318

This is to certify the surveys performed on the referenced well by Professional Directional Ent., Inc. are true and correct MWD Surveys, data provided as follows:

<u>Surveyor</u>	<u>Surveyed Depths</u>	<u>Projection to Bit</u>	<u>Dates Performed</u>	<u>Type of Survey</u>
ProDirectional	127' MD – 16,065' MD	16,122' MD	10/31/18 – 11/18/18	MWD

Sincerely,

Mike Coats
Regulatory Specialist
Professional Directional

850 Conroe Park West Drive | Conroe, TX 77303 | Phone: 936.441.7266

prodirectional.com

The Standard of Excellence in Directional Supervision



Tap Rock Operating, LLC

Eddy County, NM

Cypress 34

No. 234H

OH

Survey: ProDirectional

Survey Report

15 December, 2018





ProDirectional
Survey Report



Company:	Tap Rock Operating, LLC	Local Co-ordinate Reference:	Well 234H
Project:	Eddy County, NM (NAD 83)	TVD Reference:	Well @ 3119.50usft (GL: 3093' + KB: 26.5)
Site:	Cypress 34	MD Reference:	Well @ 3119.50usft (GL: 3093' + KB: 26.5)
Well:	234H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH 127'-16065' PTB 16122'	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	Cypress 34				
Site Position:	Northing:	456,089.00 usft	Latitude:	32.253335	
From: Map	Easting:	654,374.00 usft	Longitude:	-103.967678	
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.20 °

Well:	234H					
Well Position	+N/-S	0.00 usft	Northing:	456,121.00 usft	Latitude:	32.253421
	+E/-W	0.00 usft	Easting:	654,564.00 usft	Longitude:	-103.967063
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,093.00 usft	

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
	HDGM	11/15/2018	(°) 7.05	(°) 60.02	(nT) 47,967.40

Design	OH 127'-16065' PTB 16122'				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(usft)	(usft)	(usft)	(°)	
	0.00	0.00	0.00	359.39	

Survey Program	Date	12/15/2018		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
127.00	16,122.00	Pro MWD (OH)	MWD+HDGM	OWSG MWD + HRGM



ProDirectional
Survey Report



Company:	Tap Rock Operating, LLC	Local Co-ordinate Reference:	Well 234H
Project:	Eddy County, NM (NAD 83)	TVD Reference:	Well @ 3119.50usft (GL: 3093' + KB: 26.5)
Site:	Cypress 34	MD Reference:	Well @ 3119.50usft (GL: 3093' + KB: 26.5)
Well:	234H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH 127'-16065' PTB 16122'	Database:	WellPlanner1

Survey:											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	Northing (usft)	Easting (usft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	456,121.00	654,564.00	
127.00	0.20	40.80	127.00	0.17	0.17	0.14	0.22	40.80	456,121.17	654,564.14	
Pro MWD First Survey: 127' MD											
218.00	0.50	41.20	218.00	0.58	0.59	0.51	0.78	41.00	456,121.59	654,564.51	
308.00	0.80	43.40	307.99	1.33	1.34	1.20	1.80	41.88	456,122.34	654,565.20	
375.00	1.30	46.80	374.98	2.18	2.20	2.08	3.02	43.35	456,123.20	654,566.08	
524.00	1.40	44.60	523.94	4.60	4.65	4.59	6.53	44.59	456,125.65	654,568.59	
614.00	1.30	50.30	613.91	6.02	6.09	6.14	8.65	45.27	456,127.09	654,570.14	
704.00	1.20	66.80	703.89	7.03	7.11	7.80	10.55	47.63	456,128.11	654,571.80	
794.00	1.20	93.90	793.87	7.31	7.42	9.60	12.13	52.31	456,128.42	654,573.60	
886.00	1.00	124.50	885.86	6.78	6.90	11.22	13.17	58.43	456,127.90	654,575.22	
976.00	1.30	151.30	975.84	5.42	5.56	12.36	13.55	65.80	456,126.56	654,576.36	
1,157.00	2.70	130.90	1,156.73	0.79	0.96	16.57	16.60	86.67	456,121.96	654,580.57	
1,346.00	3.30	136.40	1,345.47	-6.14	-5.89	23.69	24.41	103.96	456,115.11	654,587.69	
1,441.00	2.90	118.00	1,440.33	-9.29	-9.00	27.69	29.12	108.00	456,112.00	654,591.69	
1,535.00	2.70	89.70	1,534.22	-10.44	-10.10	32.01	33.56	107.52	456,110.90	654,596.01	
1,629.00	2.70	76.60	1,628.12	-9.96	-9.58	36.38	37.62	104.75	456,111.42	654,600.38	
1,724.00	2.60	79.70	1,723.02	-9.11	-8.67	40.67	41.59	102.04	456,112.33	654,604.67	
1,819.00	3.00	75.60	1,817.90	-8.15	-7.67	45.20	45.85	99.63	456,113.33	654,609.20	
2,008.00	4.10	67.00	2,006.54	-4.40	-3.80	56.21	56.34	93.87	456,117.20	654,620.21	
2,197.00	4.30	68.00	2,195.03	0.76	1.49	69.00	69.02	88.76	456,122.49	654,633.00	
2,386.00	4.30	63.90	2,383.50	6.39	7.26	81.93	82.25	84.93	456,128.26	654,645.93	
2,575.00	5.00	82.80	2,571.89	10.39	11.41	96.47	97.14	83.25	456,132.41	654,660.47	
2,764.00	5.20	82.50	2,760.14	12.36	13.56	113.13	113.94	83.16	456,134.56	654,677.13	
2,952.00	4.90	102.50	2,947.43	11.56	12.94	129.42	130.06	84.29	456,133.94	654,693.42	
3,141.00	4.80	63.30	3,135.80	13.21	14.75	144.37	145.12	84.17	456,135.75	654,708.37	
3,309.00	3.70	72.30	3,303.34	17.89	19.55	155.81	157.03	82.85	456,140.55	654,719.81	



ProDirectional Survey Report



Company:	Tap Rock Operating, LLC	Local Co-ordinate Reference:	Well 234H
Project:	Eddy County, NM (NAD 83)	TVD Reference:	Well @ 3119.50usft (GL: 3093' + KB: 26.5)
Site:	Cypress 34	MD Reference:	Well @ 3119.50usft (GL: 3093' + KB: 26.5)
Well:	234H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH 127'-16065' PTB 16122'	Database:	WellPlanner1

Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	Northing (usft)	Easting (usft)
3,403.00	5.00	72.70	3,397.06	19.96	21.69	162.61	164.05	82.40	456,142.69	654,726.61
3,498.00	5.40	74.10	3,491.67	22.33	24.15	170.86	172.56	81.96	456,145.15	654,734.86
3,593.00	5.50	73.60	3,586.24	24.75	26.66	179.53	181.50	81.55	456,147.66	654,743.53
3,687.00	5.60	73.70	3,679.80	27.21	29.22	188.25	190.51	81.18	456,150.22	654,752.25
3,782.00	5.70	73.10	3,774.34	29.79	31.89	197.22	199.78	80.81	456,152.89	654,761.22
3,876.00	5.80	71.90	3,867.87	32.53	34.72	206.20	209.10	80.44	456,155.72	654,770.20
3,970.00	5.80	72.00	3,961.39	35.37	37.67	215.23	218.50	80.07	456,158.67	654,779.23
4,065.00	5.40	70.50	4,055.93	38.25	40.64	224.01	227.66	79.72	456,161.64	654,788.01
4,159.00	5.20	68.20	4,149.53	41.23	43.70	232.13	236.21	79.34	456,164.70	654,796.13
4,254.00	5.20	67.60	4,244.14	44.38	46.94	240.11	244.65	78.94	456,167.94	654,804.11
4,349.00	5.30	68.00	4,338.74	47.58	50.22	248.16	253.19	78.56	456,171.22	654,812.16
4,443.00	5.30	67.30	4,432.34	50.79	53.52	256.19	261.72	78.20	456,174.52	654,820.19
4,537.00	5.30	66.80	4,525.94	54.09	56.91	264.18	270.24	77.84	456,177.91	654,828.18
4,631.00	5.10	66.30	4,619.55	57.40	60.30	272.00	278.60	77.50	456,181.30	654,836.00
4,725.00	4.80	64.80	4,713.20	60.68	63.65	279.38	286.54	77.17	456,184.65	654,843.38
4,819.00	4.80	65.40	4,806.87	63.91	66.97	286.52	294.24	76.84	456,187.97	654,850.52
4,914.00	4.80	65.10	4,901.54	67.16	70.29	293.74	302.03	76.54	456,191.29	654,857.74
5,008.00	5.00	65.10	4,995.19	70.47	73.67	301.02	309.90	76.25	456,194.67	654,865.02
5,103.00	6.40	67.80	5,089.72	74.12	77.42	309.68	319.21	75.96	456,198.42	654,873.68
5,197.00	6.90	69.90	5,183.09	77.93	81.34	319.83	330.01	75.73	456,202.34	654,883.83
5,292.00	6.60	70.30	5,277.43	81.62	85.14	330.33	341.13	75.55	456,206.14	654,894.33
5,386.00	6.40	70.80	5,370.83	85.05	88.68	340.36	351.73	75.40	456,209.68	654,904.36
5,481.00	6.10	71.70	5,465.26	88.28	92.01	350.16	362.04	75.28	456,213.01	654,914.16
5,575.00	5.40	72.20	5,558.79	91.10	94.93	359.11	371.44	75.19	456,215.93	654,923.11
5,669.00	4.60	71.00	5,652.43	93.60	97.51	366.88	379.62	75.12	456,218.51	654,930.88
5,764.00	4.00	64.60	5,747.16	96.19	100.17	373.48	386.68	74.99	456,221.17	654,937.48
5,858.00	4.60	65.00	5,840.90	99.12	103.17	379.86	393.62	74.80	456,224.17	654,943.86



ProDirectional
Survey Report



Company:	Tap Rock Operating, LLC	Local Co-ordinate Reference:	Well 234H
Project:	Eddy County, NM (NAD 83)	TVD Reference:	Well @ 3119.50usft (GL: 3093' + KB: 26.5)
Site:	Cypress 34	MD Reference:	Well @ 3119.50usft (GL: 3093' + KB: 26.5)
Well:	234H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH 127'-16065' PTB 16122'	Database:	WellPlanner1

Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	Northing (usft)	Easting (usft)
5,953.00	4.70	65.30	5,935.59	102.28	106.41	386.85	401.21	74.62	456,227.41	654,950.85
6,048.00	4.30	67.50	6,030.29	105.20	109.40	393.67	408.59	74.47	456,230.40	654,957.67
6,142.00	4.20	72.70	6,124.03	107.50	111.77	400.22	415.53	74.40	456,232.77	654,964.22
6,237.00	3.90	74.20	6,218.80	109.35	113.68	406.65	422.24	74.38	456,234.68	654,970.65
6,332.00	4.90	70.60	6,313.52	111.50	115.91	413.58	429.52	74.34	456,236.91	654,977.58
6,426.00	4.70	70.20	6,407.19	114.06	118.55	420.99	437.36	74.27	456,239.55	654,984.99
6,521.00	5.20	79.90	6,501.83	116.05	120.62	428.89	445.53	74.29	456,241.62	654,992.89
6,615.00	5.20	82.70	6,595.45	117.25	121.91	437.31	453.98	74.42	456,242.91	655,001.31
6,710.00	4.70	83.10	6,690.09	118.17	122.92	445.44	462.09	74.57	456,243.92	655,009.44
6,804.00	4.20	85.90	6,783.81	118.81	123.63	452.70	469.28	74.73	456,244.63	655,016.70
6,899.00	3.80	90.80	6,878.58	118.94	123.84	459.32	475.72	74.91	456,244.84	655,023.32
6,993.00	4.30	78.30	6,972.34	119.54	124.51	465.88	482.24	75.04	456,245.51	655,029.88
7,088.00	4.80	70.70	7,067.04	121.50	126.54	473.12	489.75	75.03	456,247.54	655,037.12
7,182.00	3.90	70.60	7,160.77	123.79	128.91	479.85	496.86	74.96	456,249.91	655,043.85
7,276.00	3.30	63.00	7,254.59	126.02	131.20	485.28	502.70	74.87	456,252.20	655,049.28
7,371.00	3.80	80.70	7,349.41	127.71	132.95	490.82	508.51	74.84	456,253.95	655,054.82
7,465.00	6.00	75.80	7,443.06	129.34	134.66	498.66	516.52	74.89	456,255.66	655,062.66
7,560.00	6.80	77.30	7,537.47	131.68	137.11	508.96	527.10	74.92	456,258.11	655,072.96
7,654.00	6.30	77.10	7,630.85	133.95	139.48	519.41	537.82	74.97	456,260.48	655,083.41
7,748.00	4.40	69.60	7,724.44	136.27	141.89	527.82	546.56	74.95	456,262.89	655,091.82
7,843.00	4.50	70.80	7,819.15	138.69	144.39	534.76	553.91	74.89	456,265.39	655,098.76
7,937.00	6.20	72.20	7,912.74	141.36	147.15	543.07	562.66	74.84	456,268.15	655,107.07
8,031.00	6.90	71.70	8,006.13	144.58	150.48	553.27	573.37	74.78	456,271.48	655,117.27
8,126.00	6.40	69.20	8,100.49	148.14	154.15	563.63	584.33	74.70	456,275.15	655,127.63
8,220.00	6.70	74.50	8,193.87	151.36	157.48	573.82	595.03	74.65	456,278.48	655,137.82
8,314.00	5.80	80.90	8,287.32	153.47	159.69	583.79	605.24	74.70	456,280.69	655,147.79
8,409.00	4.80	92.00	8,381.91	154.00	160.31	592.50	613.81	74.86	456,281.31	655,156.50



ProDirectional Survey Report



Company: Tap Rock Operating, LLC
Project: Eddy County, NM (NAD 83)
Site: Cypress 34
Well: 234H
Wellbore: OH
Design: OH 127'-16065' PTB 16122'

Local Co-ordinate Reference: Well 234H
TVD Reference: Well @ 3119.50usft (GL: 3093' + KB: 26.5)
MD Reference: Well @ 3119.50usft (GL: 3093' + KB: 26.5)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: WellPlanner1

Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	Northing (usft)	Easting (usft)	
8,503.00	3.40	101.70	8,475.67	153.22	159.61	599.16	620.06	75.08	456,280.61	655,163.16	
8,598.00	2.90	93.80	8,570.53	152.44	158.88	604.32	624.86	75.27	456,279.88	655,168.32	
8,693.00	3.50	93.50	8,665.38	152.04	158.54	609.61	629.89	75.42	456,279.54	655,173.61	
8,787.00	2.80	105.50	8,759.24	151.20	157.76	614.69	634.61	75.61	456,278.76	655,178.69	
8,882.00	2.50	101.90	8,854.13	150.11	156.71	618.95	638.48	75.79	456,277.71	655,182.95	
8,977.00	2.20	103.40	8,949.05	149.22	155.86	622.75	641.96	75.95	456,276.86	655,186.75	
9,071.00	1.80	116.60	9,043.00	148.11	154.78	625.83	644.68	76.11	456,275.78	655,189.83	
9,166.00	1.30	143.10	9,137.96	146.56	153.25	627.81	646.24	76.28	456,274.25	655,191.81	
9,260.00	2.30	188.40	9,231.92	143.83	150.53	628.17	645.96	76.52	456,271.53	655,192.17	
9,355.00	2.70	200.10	9,326.83	139.86	146.54	627.13	644.02	76.85	456,267.54	655,191.13	
9,449.00	2.20	175.90	9,420.75	135.99	142.66	626.49	642.53	77.17	456,263.66	655,190.49	
9,544.00	2.30	201.00	9,515.68	132.39	139.07	625.94	641.20	77.47	456,260.07	655,189.94	
9,639.00	2.70	216.60	9,610.59	128.84	135.49	623.92	638.47	77.75	456,256.49	655,187.92	
9,733.00	1.40	201.40	9,704.52	126.01	132.64	622.19	636.17	77.97	456,253.64	655,186.19	
9,828.00	1.40	168.40	9,799.50	123.80	130.43	622.00	635.52	78.16	456,251.43	655,186.00	
9,923.00	2.00	196.40	9,894.46	121.07	127.70	621.76	634.74	78.39	456,248.70	655,185.76	
10,017.00	2.00	209.00	9,988.40	118.08	124.69	620.50	632.91	78.64	456,245.69	655,184.50	
10,112.00	2.10	205.20	10,083.34	115.07	121.67	618.96	630.80	78.88	456,242.67	655,182.96	
10,206.00	2.20	206.80	10,177.27	111.92	118.50	617.41	628.68	79.14	456,239.50	655,181.41	
10,300.00	2.30	206.20	10,271.20	108.63	115.19	615.76	626.45	79.40	456,236.19	655,179.76	
10,371.00	2.20	204.60	10,342.15	106.13	112.68	614.57	624.81	79.61	456,233.68	655,178.57	
10,468.00	2.20	194.10	10,439.07	102.64	109.18	613.34	622.98	79.91	456,230.18	655,177.34	
10,562.00	1.30	353.10	10,533.06	101.96	108.49	612.77	622.30	79.96	456,229.49	655,176.77	
10,656.00	10.80	6.30	10,626.43	111.78	118.32	613.61	624.92	79.09	456,239.32	655,177.61	
10,749.00	17.60	5.30	10,716.53	134.44	141.01	615.87	631.81	77.10	456,262.01	655,179.87	
10,840.00	18.10	15.80	10,803.17	161.70	168.32	620.99	643.40	74.83	456,289.32	655,184.99	
10,934.00	33.80	11.00	10,887.44	201.57	208.29	630.01	663.55	71.71	456,329.29	655,194.01	



ProDirectional
Survey Report



Company:	Tap Rock Operating, LLC	Local Co-ordinate Reference:	Well 234H
Project:	Eddy County, NM (NAD 83)	TVD Reference:	Well @ 3119.50usft (GL: 3093' + KB: 26.5)
Site:	Cypress 34	MD Reference:	Well @ 3119.50usft (GL: 3093' + KB: 26.5)
Well:	234H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH 127'-16065' PTB 16122'	Database:	WellPlanner1

Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	Northing (usft)	Easting (usft)	
11,028.00	45.20	1.50	10,959.92	260.76	267.54	635.90	689.89	67.18	456,388.54	655,199.90	
11,121.00	61.50	356.00	11,015.28	335.06	341.83	633.90	720.19	61.66	456,462.83	655,197.90	
11,168.00	72.30	354.70	11,033.69	378.12	384.85	630.38	738.57	58.60	456,505.85	655,194.38	
11,216.00	75.80	353.20	11,046.88	424.05	430.74	625.51	759.47	55.45	456,551.74	655,189.51	
11,261.00	77.20	352.80	11,057.38	467.54	474.17	620.18	780.67	52.60	456,595.17	655,184.18	
11,309.00	83.70	353.60	11,065.34	514.57	521.14	614.58	805.79	49.70	456,642.14	655,178.58	
11,365.00	85.80	353.70	11,070.47	570.05	576.56	608.41	838.21	46.54	456,697.56	655,172.41	
11,405.00	88.30	356.70	11,072.52	609.88	616.36	605.07	863.72	44.47	456,737.36	655,169.07	
11,499.00	89.30	358.30	11,074.49	703.81	710.25	600.97	930.39	40.24	456,831.25	655,164.97	
11,593.00	89.70	358.60	11,075.31	797.79	804.21	598.43	1,002.43	36.65	456,925.21	655,162.43	
11,688.00	91.50	359.00	11,074.32	892.78	899.18	596.44	1,079.01	33.56	457,020.18	655,160.44	
11,782.00	91.60	0.50	11,071.78	986.74	993.14	596.03	1,158.27	30.97	457,114.14	655,160.03	
11,877.00	92.00	1.10	11,068.79	1,081.66	1,088.08	597.36	1,241.27	28.77	457,209.08	655,161.36	
11,971.00	91.10	0.30	11,066.25	1,175.60	1,182.04	598.50	1,324.92	26.85	457,303.04	655,162.50	
12,065.00	87.70	359.60	11,067.23	1,269.58	1,276.02	598.42	1,409.38	25.13	457,397.02	655,162.42	
12,158.00	89.30	0.30	11,069.67	1,362.54	1,368.99	598.34	1,494.03	23.61	457,489.99	655,162.34	
12,252.00	89.80	1.40	11,070.41	1,456.50	1,462.97	599.74	1,581.13	22.29	457,583.97	655,163.74	
12,347.00	92.20	2.50	11,068.75	1,551.38	1,557.89	602.97	1,670.51	21.16	457,678.89	655,166.97	
12,441.00	92.20	3.20	11,065.14	1,645.14	1,651.71	607.64	1,759.93	20.20	457,772.71	655,171.64	
12,534.00	92.80	3.70	11,061.08	1,737.82	1,744.45	613.23	1,849.09	19.37	457,865.45	655,177.23	
12,628.00	94.10	4.90	11,055.43	1,831.30	1,838.01	620.26	1,939.85	18.65	457,959.01	655,184.26	
12,723.00	93.40	4.10	11,049.21	1,925.72	1,932.51	627.70	2,031.90	17.99	458,053.51	655,191.70	
12,816.00	93.90	3.80	11,043.29	2,018.24	2,025.10	634.09	2,122.06	17.39	458,146.10	655,198.09	
12,911.00	93.20	4.50	11,037.41	2,112.73	2,119.67	640.96	2,214.46	16.82	458,240.67	655,204.96	
13,005.00	90.20	3.50	11,034.62	2,206.37	2,213.39	647.51	2,306.16	16.31	458,334.39	655,211.51	
13,099.00	89.00	359.60	11,035.28	2,300.28	2,307.33	650.05	2,397.16	15.73	458,428.33	655,214.05	
13,193.00	89.90	359.50	11,036.18	2,394.28	2,401.33	649.31	2,487.56	15.13	458,522.33	655,213.31	



ProDirectional
Survey Report



Company:	Tap Rock Operating, LLC	Local Co-ordinate Reference:	Well 234H
Project:	Eddy County, NM (NAD 83)	TVD Reference:	Well @ 3119.50usft (GL: 3093' + KB: 26.5)
Site:	Cypress 34	MD Reference:	Well @ 3119.50usft (GL: 3093' + KB: 26.5)
Well:	234H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH 127'-16065' PTB 16122'	Database:	WellPlanner1

Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	Northing (usft)	Easting (usft)	
13,287.00	90.80	0.40	11,035.61	2,488.27	2,495.32	649.23	2,578.40	14.58	458,616.32	655,213.23	
13,381.00	91.00	358.90	11,034.13	2,582.25	2,589.31	648.66	2,669.32	14.06	458,710.31	655,212.66	
13,474.00	90.90	358.10	11,032.59	2,675.23	2,682.26	646.22	2,759.01	13.55	458,803.26	655,210.22	
13,569.00	90.50	358.00	11,031.43	2,770.19	2,777.20	642.99	2,850.66	13.04	458,898.20	655,206.99	
13,663.00	88.80	358.80	11,032.00	2,864.17	2,871.16	640.36	2,941.70	12.57	458,992.16	655,204.36	
13,758.00	88.90	358.30	11,033.91	2,959.15	2,966.11	637.96	3,033.94	12.14	459,087.11	655,201.96	
13,780.00	88.40	358.40	11,034.43	2,981.14	2,988.09	637.33	3,055.30	12.04	459,109.09	655,201.33	
13,874.00	90.60	359.60	11,035.25	3,075.12	3,082.06	635.69	3,146.94	11.65	459,203.06	655,199.69	
13,968.00	91.50	0.50	11,033.52	3,169.10	3,176.05	635.77	3,239.05	11.32	459,297.05	655,199.77	
14,063.00	88.60	0.30	11,033.44	3,264.07	3,271.03	636.43	3,332.37	11.01	459,392.03	655,200.43	
14,157.00	88.10	1.60	11,036.15	3,358.00	3,364.98	637.99	3,424.93	10.74	459,485.98	655,201.99	
14,251.00	88.00	359.40	11,039.35	3,451.92	3,458.92	638.81	3,517.41	10.46	459,579.92	655,202.81	
14,345.00	90.10	358.30	11,040.91	3,545.90	3,552.88	636.92	3,609.52	10.16	459,673.88	655,200.92	
14,439.00	89.30	356.90	11,041.40	3,639.85	3,646.79	632.99	3,701.32	9.85	459,767.79	655,196.99	
14,533.00	90.60	355.70	11,041.48	3,733.70	3,740.59	626.92	3,792.76	9.51	459,861.59	655,190.92	
14,627.00	88.50	355.50	11,042.22	3,827.49	3,834.31	619.71	3,884.06	9.18	459,955.31	655,183.71	
14,721.00	89.60	355.80	11,043.78	3,921.28	3,928.02	612.58	3,975.50	8.86	460,049.02	655,176.58	
14,815.00	92.60	357.50	11,041.97	4,015.14	4,021.83	607.09	4,067.39	8.58	460,142.83	655,171.09	
14,909.00	87.90	356.40	11,041.56	4,109.02	4,115.67	602.09	4,159.47	8.32	460,236.67	655,166.09	
15,004.00	89.10	356.00	11,044.05	4,203.84	4,210.42	595.80	4,252.37	8.05	460,331.42	655,159.80	
15,098.00	92.80	355.70	11,042.49	4,297.63	4,304.15	589.00	4,344.26	7.79	460,425.15	655,153.00	
15,192.00	91.50	356.40	11,038.96	4,391.40	4,397.86	582.53	4,436.27	7.55	460,518.86	655,146.53	
15,286.00	91.70	0.10	11,036.34	4,485.33	4,491.76	579.66	4,529.01	7.35	460,612.76	655,143.66	
15,380.00	88.70	0.70	11,036.01	4,579.31	4,585.74	580.31	4,622.32	7.21	460,706.74	655,144.31	
15,474.00	92.00	1.70	11,035.44	4,673.24	4,679.71	582.28	4,715.79	7.09	460,800.71	655,146.28	
15,568.00	89.90	1.80	11,033.88	4,767.15	4,773.65	585.15	4,809.38	6.99	460,894.65	655,149.15	
15,662.00	88.60	2.50	11,035.11	4,861.03	4,867.57	588.68	4,903.04	6.90	460,988.57	655,152.68	



ProDirectional Survey Report



Company:	Tap Rock Operating, LLC	Local Co-ordinate Reference:	Well 234H
Project:	Eddy County, NM (NAD 83)	TVD Reference:	Well @ 3119.50usft (GL: 3093' + KB: 26.5)
Site:	Cypress 34	MD Reference:	Well @ 3119.50usft (GL: 3093' + KB: 26.5)
Well:	234H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH 127'-16065' PTB 16122'	Database:	WellPlanner1

Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	Northing (usft)	Easting (usft)	
15,756.00	93.50	3.90	11,033.39	4,954.77	4,961.38	593.92	4,996.80	6.83	461,082.38	655,157.92	
15,850.00	90.00	2.10	11,030.52	5,048.52	5,055.19	598.84	5,090.53	6.76	461,176.19	655,162.84	
15,944.00	91.10	2.80	11,029.61	5,142.38	5,149.09	602.85	5,184.26	6.68	461,270.09	655,166.85	
16,039.00	88.10	359.70	11,030.28	5,237.31	5,244.05	604.93	5,278.82	6.58	461,365.05	655,168.93	
16,065.00	89.30	359.50	11,030.87	5,263.30	5,270.04	604.74	5,304.62	6.55	461,391.04	655,168.74	
Final Survey, 16065.00' MD, 11030.87' TVD											
16,122.00	89.30	359.50	11,031.56	5,320.30	5,327.03	604.25	5,361.19	6.47	461,448.03	655,168.25	
Final PTB: 16122.00 MD, 11031.56 TVD											

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
127.00	127.00	0.17	0.14	Pro MWD First Survey: 127' MD
16,065.00	11,030.87	5,270.04	604.74	Final Survey, 16065.00' MD, 11030.87' TVD
16,122.00	11,031.56	5,327.03	604.25	Final PTB: 16122.00 MD, 11031.56 TVD