

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

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

NM OIL CONSERVATION

ARTESIA DISTRICT

FORM C-102

Revised August 1, 2011

OCT 17 2019 Submit one copy to appropriate

District Office

RECEIVED

☒ AMENDED REPORT
☒ AS DRILLED

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number		² Pool Code		³ Pool Name	
⁴ Property Code		⁵ Property Name PLINY THE ELDER FEE			⁶ Well Number 202H
⁷ GRID No.		⁸ Operator Name TAP ROCK OPERATING, LLC.			⁹ Elevation 3151'

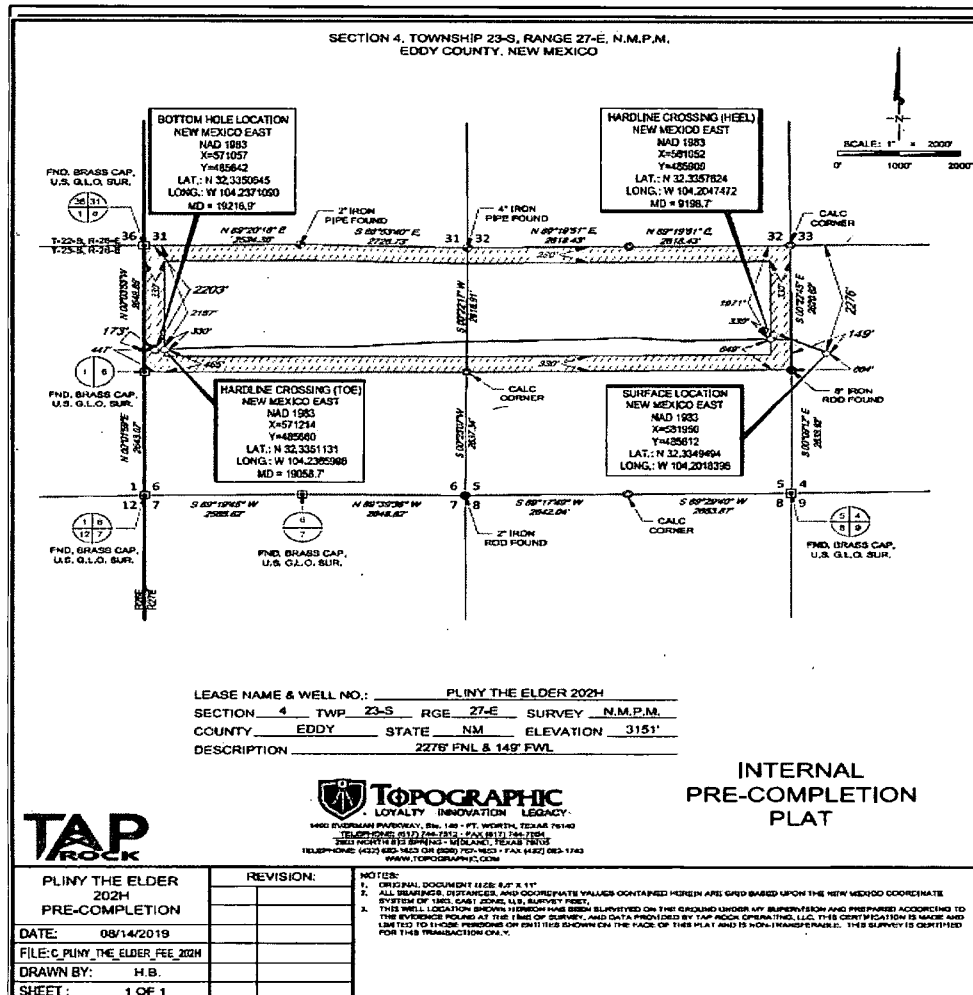
¹⁰Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	4	23-S	27-E	-	2276'	NORTH	566'	WEST	EDDY

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
5	6	23-S	27-E	-	1650'	NORTH	200'	WEST	EDDY

¹² Dedicated Acres 635.02	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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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 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.

Rachel Bierma
Signature Date 01/18/2019

Rachel Bierma
Printed Name
rbierma@taprk.com
E-mail Address

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.

12/12/2018
Date of Survey
Signature and Seal of Professional Surveyor
MICHAEL BROWN
NEW MEXICO
18329
PROFESSIONAL SURVEYOR
Certificate Number



NM OIL CONSERVATION

ARTESIA DISTRICT

OCT 17 2019

RECEIVED

Tap Rock Resources, LLC

Eddy County, NM (NAD 83 NME)

(Pliny The Elder Fee) Sec-4_T-23-S_R-27-E

Pliny The Elder Fee #202H

OWB

Design: AWB

Standard Survey Report

13 August, 2019

INTREPID



Intrepid
Survey Report



Company:	Tap Rock Resources, LLC	Local Co-ordinate Reference:	Well Pliny The Elder Fee #202H
Project:	Eddy County, NM (NAD 83 NME)	TVD Reference:	KB @ 3177.5usft (H&P 245)
Site:	(Pliny The Elder Fee) Sec-4_T-23-S_R-27-E	MD Reference:	KB @ 3177.5usft (H&P 245)
Well:	Pliny The Elder Fee #202H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWB	Database:	EDM 5000.15 Single User Db

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

Site	(Pliny The Elder Fee) Sec-4_T-23-S_R-27-E		
Site Position:	Map	Northing:	485,612.00 usft
From:		Easting:	581,950.00 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 20' 5.822 N
		Longitude:	104° 12' 6.624 W
		Grid Convergence:	0.07 °

Well	Pliny The Elder Fee #202H		
Well Position	+N/-S	0.0 usft	Northing:
	+E/-W	0.0 usft	Easting:
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Latitude:	32° 20' 5.822 N
		Longitude:	104° 12' 6.624 W
		Ground Level:	3,151.0 usft

Wellbore	OWB		
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	2019/07/24	7.03	60.04	47,722.76949530

Design	AWB		
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Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	269.82

Survey Program	Date 2019/08/13		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name
53.1	2,012.0	VES Gyro (OWB)	GYRO-NS
2,196.0	19,218.0	Intrepid MWD (OWB)	MWD
			Description
			OWSG Gyrocompass Gyro
			OWSG MWD - Standard

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
53.1	0.18	351.76	53.1	0.1	0.0	0.0	0.34	0.34	0.00
146.4	0.25	349.08	146.4	0.4	-0.1	0.1	0.08	0.08	-2.87
239.7	0.39	2.87	239.7	0.9	-0.1	0.1	0.17	0.15	14.78
333.0	0.31	84.29	333.0	1.3	0.2	-0.2	0.49	-0.09	87.29
426.2	0.34	137.34	426.2	1.1	0.6	-0.6	0.31	0.03	56.87
519.5	0.76	201.70	519.5	0.3	0.6	-0.6	0.73	0.45	69.00
612.8	1.43	234.58	612.8	-0.9	-0.6	0.6	0.96	0.72	35.25
706.1	1.10	273.62	706.0	-1.5	-2.4	2.5	0.97	-0.35	41.85
799.4	0.69	254.26	799.3	-1.6	-3.9	3.9	0.54	-0.44	-20.75



Intrepid Survey Report



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Site:	(Pliny The Elder Fee) Sec-4_T-23-S_R-27-E	MD Reference:	KB @ 3177.5usft (H&P 245)
Well:	Pliny The Elder Fee #202H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWB	Database:	EDM 5000.15 Single User Db

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)
892.6	0.54	164.68	892.6	-2.2	-4.3	4.3	0.94	-0.16	-96.03
985.9	0.15	115.99	985.9	-2.7	-4.1	4.1	0.49	-0.42	-52.20
1,079.2	0.37	146.10	1,079.1	-3.0	-3.8	3.8	0.27	0.24	32.28
1,172.5	0.79	97.27	1,172.4	-3.3	-3.0	3.0	0.66	0.45	-52.35
1,265.8	1.20	65.75	1,265.7	-3.0	-1.5	1.5	0.72	0.44	-33.79
1,359.0	1.37	54.69	1,358.9	-2.0	0.3	-0.3	0.32	0.18	-11.86
1,452.3	0.73	91.37	1,452.2	-1.3	1.8	-1.8	0.96	-0.69	39.32
1,545.6	0.64	77.42	1,545.5	-1.2	2.9	-2.9	0.20	-0.10	-14.95
1,638.9	1.40	47.86	1,638.7	-0.3	4.3	-4.3	0.97	0.81	-31.69
1,732.2	1.46	82.09	1,732.0	0.6	6.3	-6.3	0.90	0.06	36.70
1,825.4	1.20	113.57	1,825.2	0.4	8.4	-8.4	0.82	-0.28	33.75
1,918.7	0.81	126.83	1,918.5	-0.4	9.8	-9.8	0.48	-0.42	14.22
2,012.0	0.95	153.12	2,011.8	-1.5	10.7	-10.7	0.45	0.15	28.18
2,196.0	1.93	9.51	2,195.8	0.2	11.9	-11.9	1.50	0.53	-78.05
2,289.0	4.88	330.49	2,288.6	5.2	10.2	-10.2	3.86	3.17	-41.96
2,383.0	6.95	328.29	2,382.1	13.5	5.2	-5.3	2.21	2.20	-2.34
2,476.0	9.10	314.58	2,474.2	23.4	-3.0	2.9	3.08	2.31	-14.74
2,569.0	11.08	304.03	2,565.7	33.6	-15.6	15.5	2.90	2.13	-11.34
2,661.0	11.30	291.99	2,656.0	41.9	-31.3	31.2	2.55	0.24	-13.09
2,754.0	12.09	289.62	2,747.1	48.6	-48.9	48.8	0.99	0.85	-2.55
2,847.0	10.55	296.91	2,838.3	55.7	-65.7	65.5	2.26	-1.66	7.84
2,940.0	10.64	295.59	2,929.7	63.3	-81.0	80.8	0.28	0.10	-1.42
3,034.0	10.81	295.15	3,022.0	70.8	-96.8	96.6	0.20	0.18	-0.47
3,128.0	11.12	296.38	3,114.3	78.6	-112.9	112.7	0.41	0.33	1.31
3,221.0	11.38	296.56	3,205.5	86.6	-129.2	128.9	0.28	0.28	0.19
3,315.0	11.52	295.15	3,297.7	94.8	-146.0	145.7	0.33	0.15	-1.50
3,408.0	11.47	290.76	3,388.8	102.0	-163.0	162.7	0.94	-0.05	-4.72
3,502.0	11.69	291.20	3,480.9	108.8	-180.6	180.3	0.25	0.23	0.47
3,596.0	11.91	288.74	3,572.9	115.3	-198.7	198.3	0.58	0.23	-2.62
3,689.0	11.30	297.97	3,664.0	122.7	-215.8	215.4	2.10	-0.66	9.92
3,783.0	11.82	297.88	3,756.1	131.5	-232.5	232.1	0.55	0.55	-0.10
3,876.0	11.56	296.82	3,847.2	140.2	-249.2	248.8	0.36	-0.28	-1.14
3,969.0	11.65	296.82	3,938.3	148.6	-265.9	265.4	0.10	0.10	0.00
4,063.0	10.81	295.77	4,030.5	156.7	-282.3	281.8	0.92	-0.89	-1.12
4,156.0	10.15	289.53	4,121.9	163.2	-297.9	297.4	1.41	-0.71	-6.71
4,250.0	10.46	297.61	4,214.4	170.0	-313.3	312.7	1.57	0.33	8.60
4,343.0	10.37	297.44	4,305.9	177.7	-328.2	327.6	0.10	-0.10	-0.18
4,437.0	9.49	297.53	4,398.5	185.2	-342.5	342.0	0.94	-0.94	0.10
4,529.0	9.76	297.35	4,489.2	192.3	-356.2	355.6	0.30	0.29	-0.20
4,622.0	10.51	297.53	4,580.7	199.9	-370.7	370.1	0.81	0.81	0.19
4,715.0	9.93	296.30	4,672.2	207.3	-385.4	384.8	0.67	-0.62	-1.32
4,809.0	9.45	290.67	4,764.9	213.6	-399.9	399.2	1.13	-0.51	-5.99
4,902.0	9.23	282.94	4,856.7	218.0	-414.3	413.6	1.37	-0.24	-8.31



Intrepid
Survey Report



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Well:	Pliny The Elder Fee #202H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWB	Database:	EDM 5000.15 Single User Db

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)
4,994.0	8.92	284.25	4,947.5	221.4	-428.4	427.7	0.40	-0.34	1.42
5,087.0	8.18	286.01	5,039.5	225.0	-441.8	441.1	0.84	-0.80	1.89
5,181.0	5.93	307.46	5,132.8	229.8	-452.1	451.3	3.65	-2.39	22.82
5,275.0	4.18	322.58	5,226.4	235.5	-458.0	457.3	2.32	-1.86	16.09
5,369.0	3.52	324.25	5,320.2	240.6	-461.8	461.0	0.71	-0.70	1.78
5,463.0	3.52	315.54	5,414.0	245.0	-465.5	464.7	0.57	0.00	-9.27
5,556.0	2.07	287.42	5,506.9	247.5	-469.1	468.3	2.10	-1.56	-30.24
5,650.0	1.41	239.43	5,600.9	247.4	-471.7	470.9	1.64	-0.70	-51.05
5,743.0	1.19	253.76	5,693.9	246.6	-473.6	472.8	0.42	-0.24	15.41
5,836.0	0.97	246.20	5,786.8	246.0	-475.3	474.5	0.28	-0.24	-8.13
5,930.0	1.71	10.39	5,880.8	247.0	-475.7	475.0	2.55	0.79	132.12
6,023.0	2.46	6.70	5,973.8	250.4	-475.3	474.5	0.82	0.81	-3.97
6,117.0	2.37	0.28	6,067.7	254.3	-475.0	474.2	0.30	-0.10	-6.83
6,211.0	2.11	336.99	6,161.6	257.9	-475.7	474.9	1.00	-0.28	-24.78
6,304.0	1.67	350.88	6,254.6	260.8	-476.6	475.7	0.68	-0.47	14.94
6,397.0	1.67	2.48	6,347.5	263.5	-476.7	475.9	0.36	0.00	12.47
6,490.0	1.93	347.71	6,440.5	266.4	-477.0	476.1	0.57	0.28	-15.88
6,583.0	2.02	1.33	6,533.4	269.5	-477.3	476.4	0.51	0.10	14.65
6,676.0	1.58	25.86	6,626.4	272.3	-476.7	475.8	0.94	-0.47	26.38
6,769.0	0.84	14.25	6,719.4	274.1	-476.0	475.1	0.83	-0.80	-12.48
6,862.0	1.23	320.99	6,812.3	275.6	-476.4	475.6	1.07	0.42	-57.27
6,956.0	1.36	334.18	6,906.3	277.4	-477.5	476.7	0.34	0.14	14.03
7,049.0	1.14	354.22	6,999.3	279.3	-478.1	477.2	0.52	-0.24	21.55
7,142.0	0.62	303.94	7,092.3	280.5	-478.6	477.7	0.95	-0.56	-54.06
7,236.0	0.88	298.58	7,186.3	281.1	-479.7	478.8	0.29	0.28	-5.70
7,329.0	1.23	293.92	7,279.3	281.8	-481.2	480.3	0.39	0.38	-5.01
7,423.0	1.36	300.95	7,373.2	282.8	-483.1	482.2	0.22	0.14	7.48
7,517.0	1.01	35.61	7,467.2	284.1	-483.6	482.7	1.87	-0.37	100.70
7,611.0	1.10	37.11	7,561.2	285.5	-482.5	481.6	0.10	0.10	1.60
7,704.0	1.19	85.62	7,654.2	286.3	-481.0	480.1	1.02	0.10	52.16
7,797.0	0.97	128.16	7,747.2	285.8	-479.5	478.6	0.87	-0.24	45.74
7,890.0	1.36	151.54	7,840.2	284.4	-478.3	477.4	0.65	0.42	25.14
7,984.0	1.14	168.06	7,934.1	282.5	-477.6	476.7	0.45	-0.23	17.57
8,078.0	1.27	172.37	8,028.1	280.5	-477.3	476.4	0.17	0.14	4.59
8,172.0	1.63	192.94	8,122.1	278.2	-477.4	476.5	0.67	0.38	21.88
8,300.0	1.41	199.00	8,250.0	274.9	-478.3	477.5	0.21	-0.17	4.73
8,386.0	0.84	212.80	8,336.0	273.4	-479.0	478.2	0.73	-0.66	16.05
8,479.0	1.27	204.01	8,429.0	271.9	-479.8	479.0	0.49	0.46	-9.45
8,526.0	9.93	276.34	8,475.8	271.9	-484.1	483.2	20.47	18.43	153.89
8,573.0	16.40	278.72	8,521.5	273.3	-494.7	493.8	13.81	13.77	5.06
8,620.0	20.57	279.95	8,566.1	275.8	-509.4	508.5	8.91	8.87	2.62
8,666.0	22.51	280.56	8,608.9	278.8	-526.0	525.1	4.25	4.22	1.33
8,713.0	24.53	280.04	8,651.9	282.1	-544.4	543.5	4.32	4.30	-1.11



Intrepid
Survey Report



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Design:	AWB	Database:	EDM 5000.15 Single User Db

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)
8,760.0	27.74	280.30	8,694.1	285.8	-564.8	563.9	6.83	6.83	0.55
8,807.0	33.01	276.34	8,734.7	289.1	-588.3	587.4	11.99	11.21	-8.43
8,853.0	39.38	273.18	8,771.8	291.3	-615.4	614.4	14.43	13.85	-6.87
8,900.0	46.24	271.34	8,806.2	292.6	-647.3	646.3	14.83	14.60	-3.91
8,946.0	50.15	270.10	8,836.9	293.0	-681.5	680.6	8.73	8.50	-2.70
8,993.0	53.49	269.93	8,866.0	293.0	-718.5	717.6	7.11	7.11	-0.36
9,040.0	55.60	269.75	8,893.2	292.9	-756.8	755.8	4.50	4.49	-0.38
9,087.0	60.22	270.37	8,918.2	292.9	-796.6	795.6	9.89	9.83	1.32
9,133.0	64.70	271.07	8,939.4	293.5	-837.3	836.4	9.83	9.74	1.52
9,180.0	69.01	271.25	8,957.9	294.3	-880.5	879.6	9.18	9.17	0.38
9,199.0	70.66	271.07	8,964.5	294.7	-898.4	897.4	8.74	8.69	-0.97
FTP @ 9199'MD, 649.6'FSL & 330'FEL									
9,226.0	73.01	270.81	8,972.9	295.1	-924.0	923.1	8.74	8.70	-0.95
9,273.0	77.63	270.54	8,984.8	295.6	-969.5	968.5	9.85	9.83	-0.57
9,320.0	83.34	269.58	8,992.5	295.7	-1,015.8	1,014.9	12.31	12.15	-2.04
9,412.0	91.65	270.98	8,996.6	296.1	-1,107.6	1,106.7	9.16	9.03	1.52
9,505.0	92.18	269.84	8,993.5	296.8	-1,200.6	1,199.6	1.35	0.57	-1.23
9,599.0	89.41	267.56	8,992.2	294.7	-1,294.5	1,293.6	3.82	-2.95	-2.43
9,692.0	89.98	267.20	8,992.6	290.4	-1,387.4	1,386.5	0.72	0.61	-0.39
9,785.0	91.74	267.12	8,991.3	285.8	-1,480.3	1,479.4	1.89	1.89	-0.09
9,879.0	90.42	266.59	8,989.5	280.7	-1,574.1	1,573.3	1.51	-1.40	-0.56
9,972.0	90.11	266.76	8,989.0	275.3	-1,667.0	1,666.1	0.38	-0.33	0.18
10,065.0	92.22	268.61	8,987.2	271.5	-1,759.9	1,759.0	3.02	2.27	1.99
10,159.0	89.76	268.43	8,985.5	269.1	-1,853.8	1,853.0	2.62	-2.62	-0.19
10,252.0	90.51	266.94	8,985.3	265.3	-1,946.7	1,945.9	1.79	0.81	-1.60
10,346.0	91.03	266.94	8,984.1	260.3	-2,040.6	2,039.8	0.55	0.55	0.00
10,439.0	88.26	267.38	8,984.6	255.7	-2,133.5	2,132.7	3.02	-2.98	0.47
10,533.0	89.76	269.31	8,986.3	253.0	-2,227.4	2,226.6	2.60	1.60	2.05
10,626.0	90.59	272.74	8,986.0	254.6	-2,320.4	2,319.6	3.79	0.89	3.69
10,719.0	90.77	275.64	8,984.9	261.4	-2,413.1	2,412.3	3.12	0.19	3.12
10,812.0	93.27	275.64	8,981.6	270.6	-2,505.6	2,504.7	2.69	2.69	0.00
10,906.0	95.08	276.96	8,974.7	280.9	-2,598.8	2,597.9	2.38	1.93	1.40
10,999.0	92.18	274.32	8,968.9	290.0	-2,691.1	2,690.2	4.21	-3.12	-2.84
11,093.0	92.35	272.57	8,965.1	295.6	-2,784.9	2,783.9	1.87	0.18	-1.86
11,186.0	92.92	272.65	8,960.9	299.9	-2,877.7	2,876.7	0.62	0.61	0.09
11,280.0	94.64	272.92	8,954.7	304.4	-2,971.4	2,970.4	1.85	1.83	0.29
11,374.0	92.92	273.62	8,948.5	309.8	-3,065.0	3,064.0	1.97	-1.83	0.74
11,468.0	93.14	273.27	8,943.5	315.4	-3,158.7	3,157.7	0.44	0.23	-0.37
11,561.0	91.60	271.69	8,939.7	319.4	-3,251.5	3,250.5	2.37	-1.66	-1.70
11,654.0	87.74	267.64	8,940.2	318.9	-3,344.5	3,343.5	6.02	-4.15	-4.35
11,747.0	85.41	265.62	8,945.7	313.4	-3,437.2	3,436.2	3.31	-2.51	-2.17
11,841.0	88.18	265.71	8,951.0	306.3	-3,530.7	3,529.8	2.95	2.95	0.10
11,934.0	88.92	265.27	8,953.4	299.0	-3,623.4	3,622.5	0.93	0.80	-0.47
12,027.0	89.58	267.12	8,954.6	292.8	-3,716.2	3,715.3	2.11	0.71	1.99



Intrepid
Survey Report



Company:	Tap Rock Resources, LLC	Local Co-ordinate Reference:	Well Pliny The Elder Fee #202H
Project:	Eddy County, NM (NAD 83 NME)	TVD Reference:	KB @ 3177.5usft (H&P 245)
Site:	(Pliny The Elder Fee) Sec-4_T-23-S_R-27-E	MD Reference:	KB @ 3177.5usft (H&P 245)
Well:	Pliny The Elder Fee #202H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWB	Database:	EDM 5000.15 Single User Db

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)	
12,121.0	88.97	267.69	8,955.8	288.6	-3,810.1	3,809.2	0.89	-0.65	0.61	
12,215.0	91.38	269.75	8,955.5	286.5	-3,904.1	3,903.1	3.37	2.56	2.19	
12,308.0	89.19	268.08	8,955.0	284.7	-3,997.0	3,996.1	2.96	-2.35	-1.80	
12,402.0	91.82	268.79	8,954.2	282.2	-4,091.0	4,090.1	2.90	2.80	0.76	
12,530.0	91.12	267.64	8,950.9	278.2	-4,218.9	4,218.0	1.05	-0.55	-0.90	
12,624.0	91.43	267.73	8,948.8	274.4	-4,312.8	4,311.9	0.34	0.33	0.10	
12,717.0	90.81	266.85	8,947.0	270.0	-4,405.7	4,404.8	1.16	-0.67	-0.95	
12,810.0	90.68	266.59	8,945.8	264.7	-4,498.5	4,497.6	0.31	-0.14	-0.28	
12,904.0	90.02	268.26	8,945.2	260.4	-4,592.4	4,591.6	1.91	-0.70	1.78	
12,997.0	91.74	269.40	8,943.8	258.5	-4,685.4	4,684.5	2.22	1.85	1.23	
13,091.0	89.54	267.82	8,942.7	256.3	-4,779.3	4,778.5	2.88	-2.34	-1.68	
13,184.0	89.89	268.00	8,943.2	252.9	-4,872.3	4,871.4	0.42	0.38	0.19	
13,278.0	92.62	270.19	8,941.1	251.4	-4,966.2	4,965.4	3.72	2.90	2.33	
13,372.0	94.59	269.23	8,935.2	250.9	-5,060.0	5,059.2	2.33	2.10	-1.02	
13,466.0	94.02	269.14	8,928.2	249.6	-5,153.7	5,152.9	0.61	-0.61	-0.10	
13,559.0	93.32	269.31	8,922.2	248.3	-5,246.5	5,245.7	0.77	-0.75	0.18	
13,652.0	93.98	269.84	8,916.3	247.6	-5,339.3	5,338.5	0.91	0.71	0.57	
13,746.0	92.09	268.70	8,911.3	246.4	-5,433.2	5,432.4	2.35	-2.01	-1.21	
13,839.0	90.02	268.87	8,909.6	244.5	-5,526.2	5,525.4	2.23	-2.23	0.18	
13,933.0	91.47	268.79	8,908.4	242.5	-5,620.1	5,619.3	1.54	1.54	-0.09	
14,026.0	92.00	268.35	8,905.6	240.2	-5,713.1	5,712.3	0.74	0.57	-0.47	
14,120.0	90.59	267.64	8,903.4	236.9	-5,807.0	5,806.2	1.68	-1.50	-0.76	
14,213.0	88.00	266.24	8,904.6	232.0	-5,899.8	5,899.1	3.17	-2.78	-1.51	
14,307.0	87.87	265.36	8,908.0	225.1	-5,993.5	5,992.8	0.95	-0.14	-0.94	
14,400.0	87.38	265.36	8,911.8	217.6	-6,086.1	6,085.4	0.53	-0.53	0.00	
14,494.0	86.77	267.91	8,916.6	212.1	-6,179.8	6,179.1	2.79	-0.65	2.71	
14,587.0	92.84	270.02	8,916.9	210.4	-6,272.8	6,272.1	6.91	6.53	2.27	
14,681.0	91.21	268.70	8,913.6	209.3	-6,366.7	6,366.0	2.23	-1.73	-1.40	
14,774.0	90.68	268.08	8,912.1	206.7	-6,459.6	6,459.0	0.88	-0.57	-0.67	
14,867.0	90.02	266.76	8,911.5	202.5	-6,552.5	6,551.9	1.59	-0.71	-1.42	
14,961.0	91.78	267.12	8,910.0	197.5	-6,646.4	6,645.7	1.91	1.87	0.38	
15,055.0	91.25	266.50	8,907.6	192.3	-6,740.2	6,739.6	0.87	-0.56	-0.66	
15,148.0	91.91	265.71	8,905.0	186.0	-6,833.0	6,832.3	1.11	0.71	-0.85	
15,242.0	92.84	265.71	8,901.1	179.0	-6,926.6	6,926.0	0.99	0.99	0.00	
15,336.0	92.09	265.18	8,897.1	171.5	-7,020.2	7,019.7	0.98	-0.80	-0.56	
15,430.0	92.04	266.76	8,893.7	164.9	-7,113.9	7,113.4	1.68	-0.05	1.68	
15,523.0	91.12	266.24	8,891.1	159.2	-7,206.7	7,206.2	1.14	-0.99	-0.56	
15,617.0	93.01	266.68	8,887.7	153.4	-7,300.5	7,300.0	2.06	2.01	0.47	
15,710.0	92.35	265.89	8,883.4	147.4	-7,393.2	7,392.7	1.11	-0.71	-0.85	
15,804.0	91.12	264.57	8,880.5	139.6	-7,486.8	7,486.3	1.92	-1.31	-1.40	
15,898.0	91.74	265.18	8,878.2	131.2	-7,580.4	7,580.0	0.93	0.66	0.65	
15,991.0	90.99	265.89	8,876.0	124.0	-7,673.1	7,672.7	1.11	-0.81	0.76	
16,084.0	92.22	266.94	8,873.4	118.1	-7,765.9	7,765.5	1.74	1.32	1.13	



Intrepid Survey Report



Company:	Tap Rock Resources, LLC	Local Co-ordinate Reference:	Well Pliny The Elder Fee #202H
Project:	Eddy County, NM (NAD 83 NME)	TVD Reference:	KB @ 3177.5usft (H&P 245)
Site:	(Pliny The Elder Fee) Sec-4_T-23-S_R-27-E	MD Reference:	KB @ 3177.5usft (H&P 245)
Well:	Pliny The Elder Fee #202H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWB	Database:	EDM 5000.15 Single User Db

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)
16,178.0	92.26	270.10	8,869.7	115.7	-7,859.8	7,859.4	3.36	0.04	3.36
16,272.0	91.74	269.23	8,866.4	115.2	-7,953.7	7,953.3	1.08	-0.55	-0.93
16,367.0	92.44	269.31	8,862.9	114.0	-8,048.6	8,048.2	0.74	0.74	0.08
16,461.0	90.42	269.05	8,860.6	112.6	-8,142.6	8,142.2	2.17	-2.15	-0.28
16,555.0	90.42	269.14	8,859.9	111.1	-8,236.6	8,236.2	0.10	0.00	0.10
16,648.0	91.43	271.42	8,858.4	111.6	-8,329.6	8,329.2	2.68	1.09	2.45
16,741.0	90.55	272.65	8,856.8	114.9	-8,422.5	8,422.1	1.63	-0.95	1.32
16,835.0	92.18	272.48	8,854.6	119.1	-8,516.4	8,515.9	1.74	1.73	-0.18
16,928.0	93.58	272.21	8,849.9	122.9	-8,609.2	8,608.7	1.53	1.51	-0.29
17,022.0	93.14	271.77	8,844.4	126.2	-8,702.9	8,702.5	0.66	-0.47	-0.47
17,116.0	91.69	271.34	8,840.4	128.7	-8,796.8	8,796.4	1.61	-1.54	-0.46
17,209.0	92.79	270.54	8,836.8	130.2	-8,889.7	8,889.3	1.46	1.18	-0.86
17,303.0	90.95	269.75	8,833.7	130.5	-8,983.7	8,983.2	2.13	-1.96	-0.84
17,396.0	92.48	270.10	8,830.9	130.3	-9,076.6	9,076.2	1.69	1.65	0.38
17,490.0	92.84	269.40	8,826.6	129.9	-9,170.5	9,170.1	0.84	0.38	-0.74
17,583.0	92.26	268.52	8,822.4	128.2	-9,263.4	9,263.0	1.13	-0.62	-0.95
17,677.0	90.99	268.17	8,819.8	125.5	-9,357.3	9,356.9	1.40	-1.35	-0.37
17,770.0	93.10	268.08	8,816.4	122.5	-9,450.2	9,449.8	2.27	2.27	-0.10
17,864.0	87.96	266.15	8,815.6	117.8	-9,544.1	9,543.6	5.84	-5.47	-2.05
17,957.0	88.57	266.68	8,818.4	111.9	-9,636.8	9,636.4	0.87	0.66	0.57
18,050.0	90.51	268.43	8,819.1	108.0	-9,729.7	9,729.4	2.81	2.09	1.88
18,143.0	92.44	268.96	8,816.7	105.9	-9,822.7	9,822.3	2.15	2.08	0.57
18,236.0	95.78	269.67	8,810.1	104.8	-9,915.4	9,915.0	3.67	3.59	0.76
18,328.0	94.07	268.17	8,802.2	103.0	-10,007.1	10,006.7	2.47	-1.86	-1.63
18,422.0	91.34	266.76	8,797.7	98.9	-10,100.9	10,100.5	3.27	-2.90	-1.50
18,515.0	90.33	265.53	8,796.4	92.6	-10,193.6	10,193.3	1.71	-1.09	-1.32
18,608.0	94.42	266.94	8,792.5	86.5	-10,286.3	10,286.0	4.65	4.40	1.52
18,702.0	91.52	265.53	8,787.7	80.4	-10,380.0	10,379.7	3.43	-3.09	-1.50
18,795.0	92.75	265.09	8,784.2	72.8	-10,472.6	10,472.3	1.40	1.32	-0.47
18,889.0	92.92	264.66	8,779.5	64.4	-10,566.1	10,565.9	0.49	0.18	-0.46
18,982.0	91.82	264.74	8,775.7	55.8	-10,658.6	10,658.4	1.19	-1.18	0.09
19,059.6	91.71	263.95	8,773.3	48.1	-10,735.8	10,735.6	1.03	-0.14	-1.02
LTP @ 19059.6'MD, 464.9'FSL & 330'FWL									
19,076.0	91.69	263.78	8,772.8	46.4	-10,752.1	10,751.9	1.03	-0.14	-1.02
19,133.0	91.12	263.42	8,771.4	40.0	-10,808.8	10,808.6	1.18	-1.00	-0.63
LAST SVY									
19,218.0	91.12	263.42	8,769.8	30.3	-10,893.2	10,893.0	0.00	0.00	0.00
Projection to TD @ 19218'MD, 447.4'FSL & 172.6'FWL									



Intrepid
Survey Report



Company:	Tap Rock Resources, LLC	Local Co-ordinate Reference:	Well Pliny The Elder Fee #202H
Project:	Eddy County, NM (NAD 83 NME)	TVD Reference:	KB @ 3177.5usft (H&P 245)
Site:	(Pliny The Elder Fee) Sec-4_T-23-S_R-27-E	MD Reference:	KB @ 3177.5usft (H&P 245)
Well:	Pliny The Elder Fee #202H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWB	Database:	EDM 5000.15 Single User Db

Design Targets									
Target Name	hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	
- Shape		(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)	Latitude Longitude
LTP (Pliny The Elder I		-2.60	269.82	8,741.0	54.4	-10,735.8	485,666.40	571,214.16	32° 20' 6.474 N 104° 14' 11.759 W
- actual wellpath misses target center by 32.9usft at 19059.9usft MD (8773.3 TVD, 48.1 N, -10736.1 E)									
- Point									
PBHL (Pliny The Elde		-1.50	267.81	8,785.0	49.4	-10,865.4	485,661.45	571,084.64	32° 20' 6.426 N 104° 14' 13.269 W
- actual wellpath misses target center by 21.6usft at 19187.9usft MD (8770.4 TVD, 33.7 N, -10863.3 E)									
- Rectangle (sides W100.0 H1,347.3 D30.0)									
9000'VS (Pliny The EI		0.00	0.00	8,834.0	120.8	-9,000.4	485,732.82	572,949.60	32° 20' 7.115 N 104° 13' 51.530 W
- actual wellpath misses target center by 9.6usft at 17319.7usft MD (8833.4 TVD, 130.4 N, -9000.4 E)									
- Point									
FTP (Pliny The Elder I		0.00	0.00	9,004.0	285.0	-898.0	485,897.00	581,052.00	32° 20' 8.653 N 104° 12' 17.087 W
- actual wellpath misses target center by 38.8usft at 9210.8usft MD (8968.3 TVD, 294.9 N, -909.6 E)									
- Point									

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
9,199.0	8,964.5	294.7	-898.4	FTP @ 9199'MD, 649.6'FSL & 330'FEL
19,059.6	8,773.3	48.1	-10,735.8	LTP @ 19059.6'MD, 464.9'FSL & 330'FWL
19,133.0	8,771.4	40.0	-10,808.8	LAST SVY
19,218.0	8,769.8	30.3	-10,893.2	Projection to TD @ 19218'MD, 447.4'FSL & 172.6'FWL

Checked By: _____ Approved By: _____ Date: _____