

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

EMNRD-OCD ARTESIA
REC'D:05/12/2020

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 30-015-45604	² Pool Code 98220	³ Pool Name PURPLE SAGE WOLFCAMP
⁴ Property Code 323132	⁵ Property Name MONEY GRAHAM 26S29E3229	⁶ Well Number 234H
⁷ OGRID No. 372043	⁸ Operator Name TAP ROCK OPERATING, LLC.	⁹ Elevation 2866'

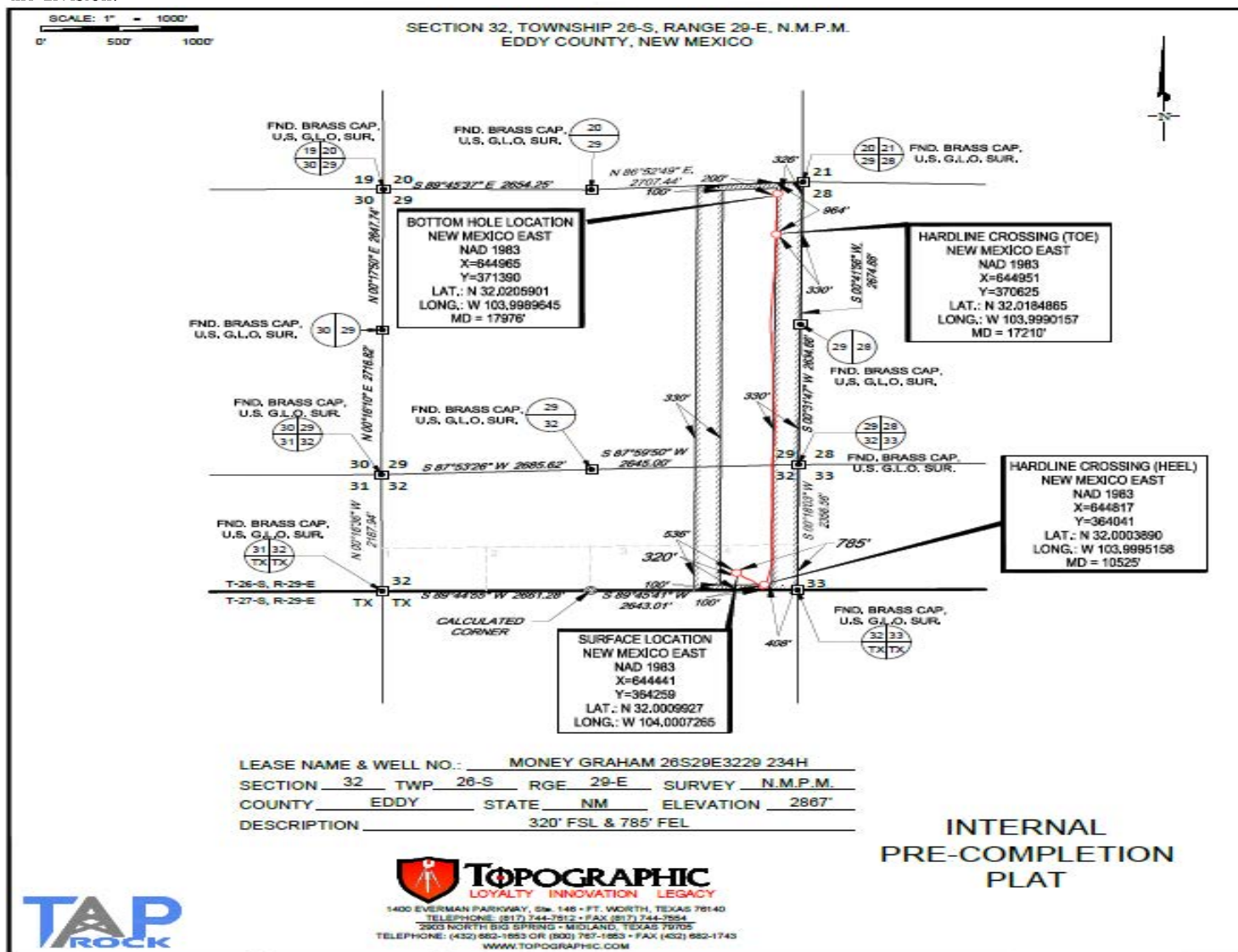
¹⁰Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
4	32	26-S	29-E	-	320'	SOUTH	785'	EAST	EDDY

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	29	26-S	29-E	-	200'	NORTH	337'	EAST	EDDY

¹² Dedicated Acres 445.60	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.





Tap Rock Resources, LLC

**Eddy County, NM (NAD 83 NME)
(Money Graham) Sec-32_T-26-S_R-29-E
Money Graham 26S29E3229 #234H
API# 30-015-45604
OWB**

Design: AWB

Standard Survey Report

15 February, 2019





Operator: TapRock Resources LLC
Well Name: Money Graham #234H
County: Eddy
State: New Mexico
Rig Name: H&P 422
API Number: 30-015-45604

Intrepid Directional Drilling Specialists certifies that the surveys performed on the above referenced well are true and correct MWD surveys, data provided as follows:

Surveyor: Intrepid Directional Drilling Specialists
Survey Depths: 26.5' MD – 17,945' MD
Projection to Bit: 17,977' MD
Dates Performed: 01/29/2019 – 02/17/2019
Type of Survey: MWD

Sincerely,

A handwritten signature in blue ink, appearing to read "Jim", with a stylized flourish at the end.

James Burleson
Vice President of MWD Operations
Intrepid Directional Drilling Specialists



Company:	Tap Rock Resources, LLC	Local Co-ordinate Reference:	Well Money Graham 26S29E3229 #234H
Project:	Eddy County, NM (NAD 83 NME)	TVD Reference:	KB @ 2892.5usft (H&P 422)
Site:	(Money Graham) Sec-32_T-26-S_R-29-E	MD Reference:	KB @ 2892.5usft (H&P 422)
Well:	Money Graham 26S29E3229 #234H	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	(Money Graham) Sec-32_T-26-S_R-29-E		
Site Position:		Northing:	364,259.00 usft
From:	Map	Easting:	644,466.00 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 0' 3.571 N
		Longitude:	104° 0' 2.323 W
		Grid Convergence:	0.18 °

Well	Money Graham 26S29E3229 #234H		
Well Position	+N/-S	0.0 usft	Northing: 364,259.00 usft
	+E/-W	0.0 usft	Easting: 644,441.00 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Latitude:	32° 0' 3.571 N
		Longitude:	104° 0' 2.613 W
		Ground Level:	2,866.0 usft

Wellbore	OWB				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	01/25/19	6.96	59.77	47,599.35302490

Design	AWB				
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	0.53	

Survey Program	Date	02/15/19			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
26.5	479.5	VES Gyro (OWB)	GYRO-NS	OWSG Gyrocompass Gyro	
606.0	17,977.0	Intrepid MWD (OWB)	MWD	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	
26.5	0.00	0.00	26.5	0.0	0.0	0.0	0.00	0.00	0.00	
56.5	1.07	16.43	56.5	0.3	0.1	0.3	3.57	3.57	0.00	
86.5	1.07	24.96	86.5	0.8	0.3	0.8	0.53	0.00	28.43	
116.5	1.52	38.30	116.5	1.4	0.6	1.4	1.80	1.50	44.47	
146.5	1.38	21.66	146.5	2.0	1.0	2.0	1.47	-0.47	-55.47	
176.5	1.13	16.23	176.5	2.6	1.2	2.6	0.92	-0.83	-18.10	
206.5	1.36	8.65	206.5	3.3	1.4	3.3	0.94	0.77	-25.27	
236.5	1.13	12.06	236.5	3.9	1.5	3.9	0.81	-0.77	11.37	
266.5	1.24	12.71	266.4	4.5	1.6	4.5	0.37	0.37	2.17	

Company:	Tap Rock Resources, LLC	Local Co-ordinate Reference:	Well Money Graham 26S29E3229 #234H
Project:	Eddy County, NM (NAD 83 NME)	TVD Reference:	KB @ 2892.5usft (H&P 422)
Site:	(Money Graham) Sec-32_T-26-S_R-29-E	MD Reference:	KB @ 2892.5usft (H&P 422)
Well:	Money Graham 26S29E3229 #234H	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)
296.5	1.10	16.25	296.4	5.1	1.8	5.1	0.52	-0.47	11.80
326.5	1.08	9.81	326.4	5.7	1.9	5.7	0.41	-0.07	-21.47
356.5	0.98	8.17	356.4	6.2	2.0	6.2	0.35	-0.33	-5.47
386.5	0.95	7.28	386.4	6.7	2.1	6.7	0.11	-0.10	-2.97
416.5	0.92	4.43	416.4	7.2	2.1	7.2	0.18	-0.10	-9.50
446.5	1.11	1.72	446.4	7.7	2.1	7.7	0.65	0.63	-9.03
479.5	0.86	349.69	479.4	8.3	2.1	8.3	0.98	-0.76	-36.45
Tie to VES Gyro									
497.1	0.96	352.43	497.0	8.5	2.1	8.6	0.60	0.55	15.56
Rustler Anhydrite									
606.0	1.58	1.69	605.9	10.9	2.0	11.0	0.60	0.57	8.50
672.1	0.87	62.52	672.0	12.1	2.5	12.1	2.09	-1.08	91.99
Top Salt									
786.0	2.59	129.05	785.8	10.9	5.2	10.9	2.09	1.51	58.43
966.0	8.70	138.19	964.9	-1.9	17.5	-1.7	3.42	3.39	5.08
1,145.0	10.37	135.10	1,141.4	-23.4	37.9	-23.0	0.98	0.93	-1.73
1,327.0	7.47	132.83	1,321.2	-43.0	58.1	-42.5	1.60	-1.59	-1.25
1,515.0	6.11	133.97	1,507.8	-58.3	74.3	-57.6	0.73	-0.72	0.61
1,705.0	7.87	126.50	1,696.4	-73.0	92.0	-72.2	1.04	0.93	-3.93
1,893.0	5.98	130.28	1,883.1	-87.0	109.8	-86.0	1.03	-1.01	2.01
2,082.0	8.44	116.65	2,070.6	-99.6	129.7	-98.4	1.58	1.30	-7.21
2,271.0	8.92	121.14	2,257.4	-113.4	154.7	-112.0	0.44	0.25	2.38
2,397.2	9.13	120.66	2,382.0	-123.6	171.6	-122.0	0.17	0.16	-0.38
Base Salt									
2,460.0	9.23	120.43	2,444.0	-128.7	180.3	-127.0	0.17	0.16	-0.37
2,649.0	9.27	125.00	2,630.6	-145.1	205.8	-143.2	0.39	0.02	2.42
2,737.0	9.10	131.42	2,717.4	-153.7	216.8	-151.7	1.18	-0.19	7.30
2,741.6	9.07	131.46	2,722.0	-154.2	217.4	-152.2	0.67	-0.66	0.77
Delaware Mountain Gp									
2,823.0	8.53	132.12	2,802.4	-162.5	226.7	-160.4	0.67	-0.66	0.82
2,858.0	8.49	133.08	2,837.0	-166.0	230.5	-163.9	0.42	-0.11	2.74
Bell Canyon - Lamar									
2,898.4	8.45	134.20	2,877.0	-170.1	234.8	-167.9	0.42	-0.10	2.77
Ramsey Sand									
3,012.0	8.35	137.40	2,989.4	-182.0	246.4	-179.7	0.42	-0.09	2.82
3,202.0	8.00	140.56	3,177.5	-202.4	264.1	-199.9	0.30	-0.18	1.66
3,390.0	7.34	141.79	3,363.8	-221.9	279.8	-219.3	0.36	-0.35	0.65
3,579.0	6.68	145.75	3,551.4	-240.5	293.5	-237.8	0.43	-0.35	2.10
3,768.0	5.76	144.08	3,739.2	-257.3	305.2	-254.4	0.50	-0.49	-0.88
3,881.3	5.31	145.42	3,852.0	-266.2	311.6	-263.3	0.41	-0.40	1.18
Cherry Canyon									
3,957.0	5.01	146.45	3,927.4	-271.8	315.4	-268.9	0.41	-0.40	1.36
4,145.0	4.62	147.06	4,114.7	-285.0	324.0	-282.0	0.21	-0.21	0.32
4,334.0	2.86	130.80	4,303.3	-294.5	331.7	-291.4	1.08	-0.93	-8.60

Company:	Tap Rock Resources, LLC	Local Co-ordinate Reference:	Well Money Graham 26S29E3229 #234H
Project:	Eddy County, NM (NAD 83 NME)	TVD Reference:	KB @ 2892.5usft (H&P 422)
Site:	(Money Graham) Sec-32_T-26-S_R-29-E	MD Reference:	KB @ 2892.5usft (H&P 422)
Well:	Money Graham 26S29E3229 #234H	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)
4,523.0	0.92	42.47	4,492.3	-296.4	336.3	-293.3	1.58	-1.03	-46.74
4,712.0	0.75	79.65	4,681.2	-295.1	338.6	-292.0	0.29	-0.09	19.67
4,867.8	0.53	80.24	4,837.0	-294.8	340.3	-291.6	0.14	-0.14	0.38
Brushy Canyon									
4,901.0	0.48	80.44	4,870.2	-294.8	340.6	-291.6	0.14	-0.14	0.59
5,090.0	0.48	180.73	5,059.2	-295.4	341.3	-292.2	0.39	0.00	53.06
5,280.0	0.79	0.90	5,249.2	-294.9	341.3	-291.7	0.67	0.16	-94.65
5,469.0	0.48	214.39	5,438.2	-294.2	340.9	-291.1	0.65	-0.16	-77.52
5,658.0	0.13	227.31	5,627.2	-295.0	340.3	-291.9	0.19	-0.19	6.84
5,847.0	0.79	178.62	5,816.2	-296.5	340.2	-293.3	0.38	0.35	-25.76
6,036.0	1.01	169.21	6,005.2	-299.4	340.5	-296.3	0.14	0.12	-4.98
6,225.0	1.01	44.67	6,194.2	-299.9	342.0	-296.7	0.95	0.00	-65.89
6,414.0	0.97	38.87	6,383.1	-297.5	344.2	-294.3	0.06	-0.02	-3.07
6,512.9	0.61	108.07	6,482.0	-297.0	345.2	-293.8	0.96	-0.36	69.99
Bone Spring Lime									
6,602.9	1.19	152.04	6,572.0	-297.9	346.1	-294.7	0.96	0.64	48.85
Upper Avalon									
6,603.0	1.19	152.07	6,572.1	-297.9	346.1	-294.7	0.96	0.83	22.74
6,791.0	1.49	323.99	6,760.1	-297.7	345.6	-294.5	1.42	0.16	91.45
6,980.0	1.89	288.57	6,949.0	-294.7	341.2	-291.5	0.58	0.21	-18.74
6,998.0	1.99	288.11	6,967.0	-294.5	340.6	-291.4	0.59	0.58	-2.58
Middle Avalon									
7,169.0	2.99	285.32	7,137.8	-292.4	333.5	-289.3	0.59	0.58	-1.63
7,183.2	2.97	287.03	7,152.0	-292.2	332.8	-289.1	0.64	-0.12	12.06
Lower Avalon									
7,358.0	2.99	308.61	7,326.6	-288.0	324.9	-285.0	0.64	0.01	12.34
7,408.5	2.33	315.86	7,377.0	-286.5	323.1	-283.5	1.46	-1.31	14.37
1st Bone Spring Sand									
7,548.0	1.19	17.07	7,516.5	-283.1	321.6	-280.1	1.46	-0.82	43.86
7,673.5	0.86	341.16	7,642.0	-280.9	321.7	-277.9	0.56	-0.26	-28.60
2nd Bone Spring Carb									
7,736.0	0.88	317.92	7,704.5	-280.1	321.2	-277.1	0.56	0.03	-37.21
7,925.0	0.97	211.22	7,893.4	-280.4	319.4	-277.4	0.79	0.05	-56.46
7,943.6	0.86	202.11	7,912.0	-280.7	319.3	-277.7	0.98	-0.58	-49.07
2nd Bone Spring Sand									
8,114.0	1.41	111.29	8,082.4	-282.6	320.7	-279.6	0.98	0.32	-53.29
8,303.0	1.05	151.37	8,271.4	-285.0	323.7	-282.0	0.48	-0.19	21.21
8,492.0	1.23	166.93	8,460.3	-288.5	325.0	-285.5	0.19	0.10	8.23
8,523.7	1.23	165.29	8,492.0	-289.1	325.2	-286.1	0.11	0.01	-5.18
3rd Bone Spring Carb									
8,680.0	1.27	157.43	8,648.3	-292.4	326.3	-289.3	0.11	0.02	-5.03
8,869.0	0.70	131.77	8,837.3	-295.1	327.9	-292.0	0.37	-0.30	-13.58
9,058.0	0.79	166.58	9,026.3	-297.1	329.1	-294.1	0.24	0.05	18.42
9,193.8	0.93	186.68	9,162.0	-299.1	329.2	-296.1	0.24	0.10	14.81

Company:	Tap Rock Resources, LLC	Local Co-ordinate Reference:	Well Money Graham 26S29E3229 #234H
Project:	Eddy County, NM (NAD 83 NME)	TVD Reference:	KB @ 2892.5usft (H&P 422)
Site:	(Money Graham) Sec-32_T-26-S_R-29-E	MD Reference:	KB @ 2892.5usft (H&P 422)
Well:	Money Graham 26S29E3229 #234H	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)
3rd Bone Spring Sand									
9,248.0	1.01	192.85	9,216.2	-300.0	329.0	-297.0	0.24	0.15	11.37
9,437.0	1.14	123.16	9,405.2	-302.7	330.2	-299.6	0.65	0.07	-36.87
9,503.8	1.25	123.59	9,472.0	-303.4	331.4	-300.4	0.16	0.16	0.64
3rd BS W Sand									
9,593.8	1.40	124.06	9,562.0	-304.6	333.1	-301.5	0.16	0.16	0.53
Wolfcamp A X Sand									
9,626.0	1.45	124.21	9,594.2	-305.0	333.8	-301.9	0.16	0.16	0.45
9,693.9	1.43	126.52	9,662.0	-306.0	335.2	-302.9	0.09	-0.02	3.40
Wolfcamp A Y Sand									
9,808.9	1.41	130.54	9,777.0	-307.8	337.4	-304.7	0.09	-0.02	3.50
Wolfcamp A Lower									
9,814.0	1.41	130.72	9,782.1	-307.9	337.5	-304.8	0.09	-0.02	3.55
10,003.0	0.18	109.18	9,971.1	-309.5	339.5	-306.4	0.66	-0.65	-11.40
10,048.9	0.15	180.78	10,017.0	-309.6	339.6	-306.4	0.42	-0.07	155.91
Wolfcamp B									
10,061.0	0.18	195.23	10,029.1	-309.6	339.6	-306.5	0.42	0.25	119.65
10,194.0	0.20	263.30	10,162.1	-309.9	339.3	-306.7	0.16	0.02	51.18
10,289.0	6.30	11.40	10,256.9	-304.8	340.2	-301.6	6.70	6.42	113.79
10,336.0	13.60	18.70	10,303.1	-297.0	342.5	-293.8	15.73	15.53	15.53
10,383.0	18.50	22.60	10,348.3	-284.9	347.1	-281.6	10.67	10.43	8.30
10,430.0	27.00	24.60	10,391.6	-268.2	354.4	-265.0	18.16	18.09	4.26
10,477.0	34.60	24.60	10,432.0	-246.4	364.4	-243.0	16.17	16.17	0.00
10,524.0	41.80	21.00	10,468.9	-219.6	375.6	-216.1	16.03	15.32	-7.66
10,571.0	45.40	15.10	10,502.9	-188.8	385.6	-185.2	11.55	7.66	-12.55
10,598.7	47.33	13.24	10,522.0	-169.4	390.5	-165.8	8.52	6.98	-6.74
Wolfcamp C									
10,618.0	48.70	12.00	10,534.9	-155.3	393.6	-151.7	8.52	7.07	-6.39
10,665.0	52.70	11.50	10,564.7	-119.7	401.0	-116.0	8.55	8.51	-1.06
10,712.0	53.80	11.40	10,592.8	-82.8	408.5	-79.1	2.35	2.34	-0.21
10,759.0	56.10	10.60	10,619.8	-45.1	415.9	-41.2	5.09	4.89	-1.70
10,806.0	60.70	10.10	10,644.4	-5.7	423.0	-1.8	9.83	9.79	-1.06
10,826.5	61.55	10.53	10,654.3	12.0	426.3	15.9	4.55	4.16	2.11
FTP @ 10826.5'MD, 330'FNL & 358.5'FEL									
10,854.0	62.70	11.10	10,667.2	35.8	430.8	39.8	4.55	4.17	2.07
10,901.0	64.90	10.50	10,687.9	77.3	438.7	81.3	4.82	4.68	-1.28
10,949.0	66.90	10.70	10,707.5	120.3	446.8	124.5	4.18	4.17	0.42
10,996.0	71.00	8.40	10,724.4	163.6	454.0	167.8	9.85	8.72	-4.89
11,043.0	72.20	5.00	10,739.3	207.9	459.2	212.1	7.32	2.55	-7.23
11,090.0	74.90	1.30	10,752.6	252.9	461.7	257.1	9.49	5.74	-7.87
11,137.0	78.90	359.40	10,763.2	298.6	462.0	302.9	9.38	8.51	-4.04
11,211.0	86.40	359.20	10,772.7	372.0	461.1	376.2	10.14	10.14	-0.27
11,273.0	86.20	358.80	10,776.7	433.8	460.0	438.1	0.72	-0.32	-0.65
11,367.0	88.00	359.70	10,781.4	527.7	458.8	531.9	2.14	1.91	0.96
11,461.0	88.70	359.80	10,784.1	621.6	458.4	625.9	0.75	0.74	0.11

Company:	Tap Rock Resources, LLC	Local Co-ordinate Reference:	Well Money Graham 26S29E3229 #234H
Project:	Eddy County, NM (NAD 83 NME)	TVD Reference:	KB @ 2892.5usft (H&P 422)
Site:	(Money Graham) Sec-32_T-26-S_R-29-E	MD Reference:	KB @ 2892.5usft (H&P 422)
Well:	Money Graham 26S29E3229 #234H	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)
11,555.0	88.40	0.10	10,786.5	715.6	458.3	719.8	0.45	-0.32	0.32
11,648.0	89.50	0.30	10,788.2	808.6	458.6	812.8	1.20	1.18	0.22
11,743.0	87.60	359.80	10,790.6	903.6	458.7	907.8	2.07	-2.00	-0.53
11,836.0	90.40	0.90	10,792.3	996.5	459.3	1,000.7	3.23	3.01	1.18
11,931.0	92.50	1.40	10,789.8	1,091.5	461.2	1,095.7	2.27	2.21	0.53
12,026.0	91.60	0.40	10,786.4	1,186.4	462.7	1,190.6	1.42	-0.95	-1.05
12,120.0	89.10	359.10	10,785.9	1,280.4	462.2	1,284.6	3.00	-2.66	-1.38
12,214.0	90.90	358.70	10,785.9	1,374.4	460.4	1,378.6	1.96	1.91	-0.43
12,309.0	93.70	359.90	10,782.1	1,469.3	459.3	1,473.5	3.21	2.95	1.26
12,402.0	93.10	1.30	10,776.5	1,562.1	460.2	1,566.3	1.64	-0.65	1.51
12,495.0	90.00	0.80	10,774.0	1,655.0	462.0	1,659.2	3.38	-3.33	-0.54
12,589.0	89.00	0.00	10,774.9	1,749.0	462.6	1,753.2	1.36	-1.06	-0.85
12,684.0	88.70	0.80	10,776.8	1,844.0	463.3	1,848.2	0.90	-0.32	0.84
12,778.0	87.80	0.30	10,779.6	1,938.0	464.2	1,942.2	1.10	-0.96	-0.53
12,872.0	88.10	0.90	10,783.0	2,031.9	465.2	2,036.1	0.71	0.32	0.64
12,965.0	88.10	2.70	10,786.1	2,124.8	468.1	2,129.0	1.93	0.00	1.94
13,060.0	88.70	3.50	10,788.7	2,219.6	473.2	2,223.9	1.05	0.63	0.84
13,154.0	89.80	3.50	10,790.0	2,313.4	478.9	2,317.8	1.17	1.17	0.00
13,248.0	88.60	2.40	10,791.3	2,407.3	483.8	2,411.7	1.73	-1.28	-1.17
13,342.0	88.10	1.80	10,794.0	2,501.2	487.2	2,505.6	0.83	-0.53	-0.64
13,437.0	87.80	1.10	10,797.4	2,596.1	489.6	2,600.5	0.80	-0.32	-0.74
13,531.0	87.00	0.50	10,801.6	2,690.0	490.9	2,694.4	1.06	-0.85	-0.64
13,625.0	88.50	359.50	10,805.3	2,783.9	490.9	2,788.3	1.92	1.60	-1.06
13,718.0	91.60	359.70	10,805.2	2,876.9	490.3	2,881.3	3.34	3.33	0.22
13,812.0	92.10	358.60	10,802.2	2,970.8	488.9	2,975.2	1.28	0.53	-1.17
13,905.0	93.30	358.70	10,797.8	3,063.7	486.7	3,068.1	1.29	1.29	0.11
13,999.0	92.70	358.50	10,792.9	3,157.6	484.4	3,161.9	0.67	-0.64	-0.21
14,093.0	90.60	359.10	10,790.2	3,251.5	482.5	3,255.8	2.32	-2.23	0.64
14,188.0	87.40	359.00	10,791.9	3,346.4	480.9	3,350.8	3.37	-3.37	-0.11
14,281.0	86.20	357.30	10,797.1	3,439.3	477.9	3,443.5	2.24	-1.29	-1.83
14,375.0	89.10	357.90	10,800.9	3,533.1	473.9	3,537.3	3.15	3.09	0.64
14,468.0	90.80	0.20	10,801.0	3,626.1	472.4	3,630.3	3.08	1.83	2.47
14,562.0	89.30	358.40	10,800.9	3,720.0	471.3	3,724.2	2.49	-1.60	-1.91
14,656.0	90.60	0.50	10,801.0	3,814.0	470.4	3,818.2	2.63	1.38	2.23
14,750.0	89.60	358.40	10,800.8	3,908.0	469.5	3,912.2	2.47	-1.06	-2.23
14,843.0	88.90	357.50	10,802.0	4,001.0	466.1	4,005.1	1.23	-0.75	-0.97
14,938.0	90.30	357.90	10,802.7	4,095.9	462.3	4,100.0	1.53	1.47	0.42
15,032.0	90.70	357.40	10,801.9	4,189.8	458.5	4,193.8	0.68	0.43	-0.53
15,125.0	89.70	356.60	10,801.6	4,282.7	453.6	4,286.7	1.38	-1.08	-0.86
15,220.0	90.60	357.00	10,801.3	4,377.5	448.3	4,381.5	1.04	0.95	0.42
15,313.0	90.00	357.00	10,800.8	4,470.4	443.4	4,474.3	0.65	-0.65	0.00
15,407.0	90.20	357.60	10,800.7	4,564.3	439.0	4,568.1	0.67	0.21	0.64
15,501.0	90.30	0.50	10,800.3	4,658.2	437.4	4,662.1	3.09	0.11	3.09

Company:	Tap Rock Resources, LLC	Local Co-ordinate Reference:	Well Money Graham 26S29E3229 #234H
Project:	Eddy County, NM (NAD 83 NME)	TVD Reference:	KB @ 2892.5usft (H&P 422)
Site:	(Money Graham) Sec-32_T-26-S_R-29-E	MD Reference:	KB @ 2892.5usft (H&P 422)
Well:	Money Graham 26S29E3229 #234H	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)
15,595.0	89.90	1.90	10,800.1	4,752.2	439.4	4,756.1	1.55	-0.43	1.49
15,689.0	92.00	4.00	10,798.5	4,846.1	444.2	4,850.0	3.16	2.23	2.23
15,783.0	89.20	2.40	10,797.5	4,939.9	449.5	4,943.9	3.43	-2.98	-1.70
15,877.0	88.90	2.50	10,799.1	5,033.8	453.5	5,037.8	0.34	-0.32	0.11
15,971.0	90.00	3.90	10,800.0	5,127.7	458.8	5,131.7	1.89	1.17	1.49
16,064.0	88.90	2.70	10,800.9	5,220.5	464.1	5,224.6	1.75	-1.18	-1.29
16,158.0	90.80	4.00	10,801.1	5,314.3	469.6	5,318.4	2.45	2.02	1.38
16,252.0	91.30	3.70	10,799.4	5,408.1	475.9	5,412.3	0.62	0.53	-0.32
16,346.0	90.80	3.10	10,797.7	5,501.9	481.5	5,506.1	0.83	-0.53	-0.64
16,440.0	91.30	3.10	10,796.0	5,595.8	486.6	5,600.0	0.53	0.53	0.00
16,534.0	90.80	3.20	10,794.3	5,689.6	491.7	5,693.9	0.54	-0.53	0.11
16,627.0	89.20	3.50	10,794.3	5,782.4	497.2	5,786.8	1.75	-1.72	0.32
16,722.0	84.80	0.80	10,799.2	5,877.2	500.7	5,881.6	5.43	-4.63	-2.84
16,817.0	84.40	0.00	10,808.2	5,971.8	501.4	5,976.2	0.94	-0.42	-0.84
16,911.0	87.10	0.90	10,815.1	6,065.5	502.1	6,069.9	3.03	2.87	0.96
17,005.0	88.20	359.40	10,819.0	6,159.4	502.4	6,163.8	1.98	1.17	-1.60
17,099.0	91.60	3.80	10,819.2	6,253.4	505.0	6,257.8	5.91	3.62	4.68
17,193.0	89.60	2.10	10,818.2	6,347.2	509.8	6,351.7	2.79	-2.13	-1.81
17,287.0	91.10	3.30	10,817.6	6,441.1	514.3	6,445.6	2.04	1.60	1.28
17,382.0	90.50	1.70	10,816.3	6,536.0	518.4	6,540.5	1.80	-0.63	-1.68
17,476.0	88.50	0.50	10,817.1	6,630.0	520.2	6,634.5	2.48	-2.13	-1.28
17,570.0	88.60	0.30	10,819.5	6,724.0	520.9	6,728.5	0.24	0.11	-0.21
17,664.0	88.00	0.30	10,822.3	6,817.9	521.4	6,822.4	0.64	-0.64	0.00
17,758.0	89.90	3.00	10,824.0	6,911.8	524.1	6,916.4	3.51	2.02	2.87
17,847.3	88.47	359.49	10,825.2	7,001.1	526.0	7,005.7	4.25	-1.60	-3.94
LTP @ 17847.3'MD, 330'FNL & 322.9'FEL									
17,852.0	88.40	359.30	10,825.4	7,005.8	525.9	7,010.4	4.25	-1.59	-3.94
17,945.0	87.70	359.10	10,828.5	7,098.7	524.6	7,103.3	0.78	-0.75	-0.22
LAST SVY									
17,977.0	87.70	359.10	10,829.8	7,130.7	524.1	7,135.2	0.00	0.00	0.00
Projection to TD @ 17977'MD, 200.5'FNL & 326'FEL									

Company:	Tap Rock Resources, LLC	Local Co-ordinate Reference:	Well Money Graham 26S29E3229 #234H
Project:	Eddy County, NM (NAD 83 NME)	TVD Reference:	KB @ 2892.5usft (H&P 422)
Site:	(Money Graham) Sec-32_T-26-S_R-29-E	MD Reference:	KB @ 2892.5usft (H&P 422)
Well:	Money Graham 26S29E3229 #234H	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	Latitude	Longitude
- Shape	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
FTP (Money Graham	0.00	0.00	10,780.0	12.0	447.0	364,271.00	644,888.00	32° 0' 3.677 N	103° 59' 57.421 W
- actual wellpath misses target center by 111.9usft at 10885.5usft MD (10681.3 TVD, 63.5 N, 436.1 E)									
- Point									
PBHL (Money Graham	0.42	0.53	10,830.0	7,130.0	513.0	371,389.00	644,954.00	32° 1' 14.116 N	103° 59' 56.399 W
- actual wellpath misses target center by 11.2usft at 17976.5usft MD (10829.8 TVD, 7130.2 N, 524.2 E)									
- Rectangle (sides W60.0 H7,118.3 D30.0)									
LTP (Money Graham :	0.00	0.00	10,830.0	7,000.0	511.0	371,259.00	644,952.00	32° 1' 12.829 N	103° 59' 56.427 W
- actual wellpath misses target center by 15.8usft at 17845.9usft MD (10825.2 TVD, 6999.7 N, 526.0 E)									
- Point									

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
497.1	497.0	Rustler Anhydrite			
672.1	672.0	Top Salt			
2,397.2	2,382.0	Base Salt			
2,741.6	2,722.0	Delaware Mountain Gp			
2,858.0	2,837.0	Bell Canyon			
2,858.0	2,837.0	Lamar			
2,898.4	2,877.0	Ramsey Sand			
3,881.3	3,852.0	Cherry Canyon			
4,867.8	4,837.0	Brushy Canyon			
6,512.9	6,482.0	Bone Spring Lime			
6,602.9	6,572.0	Upper Avalon			
6,998.0	6,967.0	Middle Avalon			
7,183.2	7,152.0	Lower Avalon			
7,408.5	7,377.0	1st Bone Spring Sand			
7,673.5	7,642.0	2nd Bone Spring Carb			
7,943.6	7,912.0	2nd Bone Spring Sand			
8,523.7	8,492.0	3rd Bone Spring Carb			
9,193.8	9,162.0	3rd Bone Spring Sand			
9,503.8	9,472.0	3rd BS W Sand			
9,593.8	9,562.0	Wolfcamp A X Sand			
9,693.9	9,662.0	Wolfcamp A Y Sand			
9,808.9	9,777.0	Wolfcamp A Lower			
10,048.9	10,017.0	Wolfcamp B			
10,598.7	10,522.0	Wolfcamp C			



Company:	Tap Rock Resources, LLC	Local Co-ordinate Reference:	Well Money Graham 26S29E3229 #234H
Project:	Eddy County, NM (NAD 83 NME)	TVD Reference:	KB @ 2892.5usft (H&P 422)
Site:	(Money Graham) Sec-32_T-26-S_R-29-E	MD Reference:	KB @ 2892.5usft (H&P 422)
Well:	Money Graham 26S29E3229 #234H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWB	Database:	EDM 5000.15 Single User Db

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
479.5	479.4	8.3	2.1	Tie to VES Gyro
10,826.5	10,654.3	12.0	426.3	FTP @ 10826.5'MD, 330'FNL & 358.5'FEL
17,847.3	10,825.2	7,001.1	526.0	LTP @ 17847.3'MD, 330'FNL & 322.9'FEL
17,945.0	10,828.5	7,098.7	524.6	LAST SVY
17,977.0	10,829.8	7,130.7	524.1	Projection to TD @ 17977'MD, 200.5'FNL & 326'FEL

Checked By: _____ Approved By: _____ Date: _____



Operator: TapRock Resources LLC
Well Name: Money Graham #234H
County: Eddy
State: New Mexico
Rig Name: H&P 422
API Number: 30-015-45604

Intrepid Directional Drilling Specialists certifies that the surveys performed on the above referenced well are true and correct MWD surveys, data provided as follows:

Surveyor: Intrepid Directional Drilling Specialists
Survey Depths: 26.5' MD – 17,977' MD
Projection to Bit: 18,061' MD
Dates Performed: 01/29/2019 – 02/17/2019
Type of Survey: MWD

Sincerely,

A handwritten signature in blue ink, appearing to read "Jim", with a stylized flourish at the end.

James Burleson
Vice President of MWD Operations
Intrepid Directional Drilling Specialists





Tap Rock Resources, LLC

**Eddy County, NM (NAD 83 NME)
(Money Graham) Sec-32_T-26-S_R-29-E
Money Graham 26S29E3229 #234H
API# 30-015-45604
OWB**

Design: AWB

Standard Survey Report

15 February, 2019



Company:	Tap Rock Resources, LLC	Local Co-ordinate Reference:	Well Money Graham 26S29E3229 #234H
Project:	Eddy County, NM (NAD 83 NME)	TVD Reference:	KB @ 2892.5usft (H&P 422)
Site:	(Money Graham) Sec-32_T-26-S_R-29-E	MD Reference:	KB @ 2892.5usft (H&P 422)
Well:	Money Graham 26S29E3229 #234H	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	(Money Graham) Sec-32_T-26-S_R-29-E		
Site Position:		Northing:	364,259.00 usft
From:	Map	Easting:	644,466.00 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 0' 3.571 N
		Longitude:	104° 0' 2.323 W
		Grid Convergence:	0.18 °

Well	Money Graham 26S29E3229 #234H		
Well Position	+N/-S	0.0 usft	Northing: 364,259.00 usft
	+E/-W	0.0 usft	Easting: 644,441.00 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Latitude:	32° 0' 3.571 N
		Longitude:	104° 0' 2.613 W
		Ground Level:	2,866.0 usft

Wellbore	OWB				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	01/25/19	6.96	59.77	47,599.35302490

Design	AWB				
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	0.53	

Survey Program	Date	02/15/19			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
26.5	479.5	VES Gyro (OWB)	GYRO-NS	OWSG Gyrocompass Gyro	
606.0	17,977.0	Intrepid MWD (OWB)	MWD	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	
26.5	0.00	0.00	26.5	0.0	0.0	0.0	0.00	0.00	0.00	
56.5	1.07	16.43	56.5	0.3	0.1	0.3	3.57	3.57	0.00	
86.5	1.07	24.96	86.5	0.8	0.3	0.8	0.53	0.00	28.43	
116.5	1.52	38.30	116.5	1.4	0.6	1.4	1.80	1.50	44.47	
146.5	1.38	21.66	146.5	2.0	1.0	2.0	1.47	-0.47	-55.47	
176.5	1.13	16.23	176.5	2.6	1.2	2.6	0.92	-0.83	-18.10	
206.5	1.36	8.65	206.5	3.3	1.4	3.3	0.94	0.77	-25.27	
236.5	1.13	12.06	236.5	3.9	1.5	3.9	0.81	-0.77	11.37	
266.5	1.24	12.71	266.4	4.5	1.6	4.5	0.37	0.37	2.17	

Company:	Tap Rock Resources, LLC	Local Co-ordinate Reference:	Well Money Graham 26S29E3229 #234H
Project:	Eddy County, NM (NAD 83 NME)	TVD Reference:	KB @ 2892.5usft (H&P 422)
Site:	(Money Graham) Sec-32_T-26-S_R-29-E	MD Reference:	KB @ 2892.5usft (H&P 422)
Well:	Money Graham 26S29E3229 #234H	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)
296.5	1.10	16.25	296.4	5.1	1.8	5.1	0.52	-0.47	11.80
326.5	1.08	9.81	326.4	5.7	1.9	5.7	0.41	-0.07	-21.47
356.5	0.98	8.17	356.4	6.2	2.0	6.2	0.35	-0.33	-5.47
386.5	0.95	7.28	386.4	6.7	2.1	6.7	0.11	-0.10	-2.97
416.5	0.92	4.43	416.4	7.2	2.1	7.2	0.18	-0.10	-9.50
446.5	1.11	1.72	446.4	7.7	2.1	7.7	0.65	0.63	-9.03
479.5	0.86	349.69	479.4	8.3	2.1	8.3	0.98	-0.76	-36.45
Tie to VES Gyro									
497.1	0.96	352.43	497.0	8.5	2.1	8.6	0.60	0.55	15.56
Rustler Anhydrite									
606.0	1.58	1.69	605.9	10.9	2.0	11.0	0.60	0.57	8.50
672.1	0.87	62.52	672.0	12.1	2.5	12.1	2.09	-1.08	91.99
Top Salt									
786.0	2.59	129.05	785.8	10.9	5.2	10.9	2.09	1.51	58.43
966.0	8.70	138.19	964.9	-1.9	17.5	-1.7	3.42	3.39	5.08
1,145.0	10.37	135.10	1,141.4	-23.4	37.9	-23.0	0.98	0.93	-1.73
1,327.0	7.47	132.83	1,321.2	-43.0	58.1	-42.5	1.60	-1.59	-1.25
1,515.0	6.11	133.97	1,507.8	-58.3	74.3	-57.6	0.73	-0.72	0.61
1,705.0	7.87	126.50	1,696.4	-73.0	92.0	-72.2	1.04	0.93	-3.93
1,893.0	5.98	130.28	1,883.1	-87.0	109.8	-86.0	1.03	-1.01	2.01
2,082.0	8.44	116.65	2,070.6	-99.6	129.7	-98.4	1.58	1.30	-7.21
2,271.0	8.92	121.14	2,257.4	-113.4	154.7	-112.0	0.44	0.25	2.38
2,397.2	9.13	120.66	2,382.0	-123.6	171.6	-122.0	0.17	0.16	-0.38
Base Salt									
2,460.0	9.23	120.43	2,444.0	-128.7	180.3	-127.0	0.17	0.16	-0.37
2,649.0	9.27	125.00	2,630.6	-145.1	205.8	-143.2	0.39	0.02	2.42
2,737.0	9.10	131.42	2,717.4	-153.7	216.8	-151.7	1.18	-0.19	7.30
2,741.6	9.07	131.46	2,722.0	-154.2	217.4	-152.2	0.67	-0.66	0.77
Delaware Mountain Gp									
2,823.0	8.53	132.12	2,802.4	-162.5	226.7	-160.4	0.67	-0.66	0.82
2,858.0	8.49	133.08	2,837.0	-166.0	230.5	-163.9	0.42	-0.11	2.74
Bell Canyon - Lamar									
2,898.4	8.45	134.20	2,877.0	-170.1	234.8	-167.9	0.42	-0.10	2.77
Ramsey Sand									
3,012.0	8.35	137.40	2,989.4	-182.0	246.4	-179.7	0.42	-0.09	2.82
3,202.0	8.00	140.56	3,177.5	-202.4	264.1	-199.9	0.30	-0.18	1.66
3,390.0	7.34	141.79	3,363.8	-221.9	279.8	-219.3	0.36	-0.35	0.65
3,579.0	6.68	145.75	3,551.4	-240.5	293.5	-237.8	0.43	-0.35	2.10
3,768.0	5.76	144.08	3,739.2	-257.3	305.2	-254.4	0.50	-0.49	-0.88
3,881.3	5.31	145.42	3,852.0	-266.2	311.6	-263.3	0.41	-0.40	1.18
Cherry Canyon									
3,957.0	5.01	146.45	3,927.4	-271.8	315.4	-268.9	0.41	-0.40	1.36
4,145.0	4.62	147.06	4,114.7	-285.0	324.0	-282.0	0.21	-0.21	0.32
4,334.0	2.86	130.80	4,303.3	-294.5	331.7	-291.4	1.08	-0.93	-8.60

Company:	Tap Rock Resources, LLC	Local Co-ordinate Reference:	Well Money Graham 26S29E3229 #234H
Project:	Eddy County, NM (NAD 83 NME)	TVD Reference:	KB @ 2892.5usft (H&P 422)
Site:	(Money Graham) Sec-32_T-26-S_R-29-E	MD Reference:	KB @ 2892.5usft (H&P 422)
Well:	Money Graham 26S29E3229 #234H	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)
4,523.0	0.92	42.47	4,492.3	-296.4	336.3	-293.3	1.58	-1.03	-46.74
4,712.0	0.75	79.65	4,681.2	-295.1	338.6	-292.0	0.29	-0.09	19.67
4,867.8	0.53	80.24	4,837.0	-294.8	340.3	-291.6	0.14	-0.14	0.38
Brushy Canyon									
4,901.0	0.48	80.44	4,870.2	-294.8	340.6	-291.6	0.14	-0.14	0.59
5,090.0	0.48	180.73	5,059.2	-295.4	341.3	-292.2	0.39	0.00	53.06
5,280.0	0.79	0.90	5,249.2	-294.9	341.3	-291.7	0.67	0.16	-94.65
5,469.0	0.48	214.39	5,438.2	-294.2	340.9	-291.1	0.65	-0.16	-77.52
5,658.0	0.13	227.31	5,627.2	-295.0	340.3	-291.9	0.19	-0.19	6.84
5,847.0	0.79	178.62	5,816.2	-296.5	340.2	-293.3	0.38	0.35	-25.76
6,036.0	1.01	169.21	6,005.2	-299.4	340.5	-296.3	0.14	0.12	-4.98
6,225.0	1.01	44.67	6,194.2	-299.9	342.0	-296.7	0.95	0.00	-65.89
6,414.0	0.97	38.87	6,383.1	-297.5	344.2	-294.3	0.06	-0.02	-3.07
6,512.9	0.61	108.07	6,482.0	-297.0	345.2	-293.8	0.96	-0.36	69.99
Bone Spring Lime									
6,602.9	1.19	152.04	6,572.0	-297.9	346.1	-294.7	0.96	0.64	48.85
Upper Avalon									
6,603.0	1.19	152.07	6,572.1	-297.9	346.1	-294.7	0.96	0.83	22.74
6,791.0	1.49	323.99	6,760.1	-297.7	345.6	-294.5	1.42	0.16	91.45
6,980.0	1.89	288.57	6,949.0	-294.7	341.2	-291.5	0.58	0.21	-18.74
6,998.0	1.99	288.11	6,967.0	-294.5	340.6	-291.4	0.59	0.58	-2.58
Middle Avalon									
7,169.0	2.99	285.32	7,137.8	-292.4	333.5	-289.3	0.59	0.58	-1.63
7,183.2	2.97	287.03	7,152.0	-292.2	332.8	-289.1	0.64	-0.12	12.06
Lower Avalon									
7,358.0	2.99	308.61	7,326.6	-288.0	324.9	-285.0	0.64	0.01	12.34
7,408.5	2.33	315.86	7,377.0	-286.5	323.1	-283.5	1.46	-1.31	14.37
1st Bone Spring Sand									
7,548.0	1.19	17.07	7,516.5	-283.1	321.6	-280.1	1.46	-0.82	43.86
7,673.5	0.86	341.16	7,642.0	-280.9	321.7	-277.9	0.56	-0.26	-28.60
2nd Bone Spring Carb									
7,736.0	0.88	317.92	7,704.5	-280.1	321.2	-277.1	0.56	0.03	-37.21
7,925.0	0.97	211.22	7,893.4	-280.4	319.4	-277.4	0.79	0.05	-56.46
7,943.6	0.86	202.11	7,912.0	-280.7	319.3	-277.7	0.98	-0.58	-49.07
2nd Bone Spring Sand									
8,114.0	1.41	111.29	8,082.4	-282.6	320.7	-279.6	0.98	0.32	-53.29
8,303.0	1.05	151.37	8,271.4	-285.0	323.7	-282.0	0.48	-0.19	21.21
8,492.0	1.23	166.93	8,460.3	-288.5	325.0	-285.5	0.19	0.10	8.23
8,523.7	1.23	165.29	8,492.0	-289.1	325.2	-286.1	0.11	0.01	-5.18
3rd Bone Spring Carb									
8,680.0	1.27	157.43	8,648.3	-292.4	326.3	-289.3	0.11	0.02	-5.03
8,869.0	0.70	131.77	8,837.3	-295.1	327.9	-292.0	0.37	-0.30	-13.58
9,058.0	0.79	166.58	9,026.3	-297.1	329.1	-294.1	0.24	0.05	18.42
9,193.8	0.93	186.68	9,162.0	-299.1	329.2	-296.1	0.24	0.10	14.81

Company:	Tap Rock Resources, LLC	Local Co-ordinate Reference:	Well Money Graham 26S29E3229 #234H
Project:	Eddy County, NM (NAD 83 NME)	TVD Reference:	KB @ 2892.5usft (H&P 422)
Site:	(Money Graham) Sec-32_T-26-S_R-29-E	MD Reference:	KB @ 2892.5usft (H&P 422)
Well:	Money Graham 26S29E3229 #234H	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)
3rd Bone Spring Sand									
9,248.0	1.01	192.85	9,216.2	-300.0	329.0	-297.0	0.24	0.15	11.37
9,437.0	1.14	123.16	9,405.2	-302.7	330.2	-299.6	0.65	0.07	-36.87
9,503.8	1.25	123.59	9,472.0	-303.4	331.4	-300.4	0.16	0.16	0.64
3rd BS W Sand									
9,593.8	1.40	124.06	9,562.0	-304.6	333.1	-301.5	0.16	0.16	0.53
Wolfcamp A X Sand									
9,626.0	1.45	124.21	9,594.2	-305.0	333.8	-301.9	0.16	0.16	0.45
9,693.9	1.43	126.52	9,662.0	-306.0	335.2	-302.9	0.09	-0.02	3.40
Wolfcamp A Y Sand									
9,808.9	1.41	130.54	9,777.0	-307.8	337.4	-304.7	0.09	-0.02	3.50
Wolfcamp A Lower									
9,814.0	1.41	130.72	9,782.1	-307.9	337.5	-304.8	0.09	-0.02	3.55
10,003.0	0.18	109.18	9,971.1	-309.5	339.5	-306.4	0.66	-0.65	-11.40
10,048.9	0.15	180.78	10,017.0	-309.6	339.6	-306.4	0.42	-0.07	155.91
Wolfcamp B									
10,061.0	0.18	195.23	10,029.1	-309.6	339.6	-306.5	0.42	0.25	119.65
10,194.0	0.20	263.30	10,162.1	-309.9	339.3	-306.7	0.16	0.02	51.18
10,289.0	6.30	11.40	10,256.9	-304.8	340.2	-301.6	6.70	6.42	113.79
10,336.0	13.60	18.70	10,303.1	-297.0	342.5	-293.8	15.73	15.53	15.53
10,383.0	18.50	22.60	10,348.3	-284.9	347.1	-281.6	10.67	10.43	8.30
10,430.0	27.00	24.60	10,391.6	-268.2	354.4	-265.0	18.16	18.09	4.26
10,477.0	34.60	24.60	10,432.0	-246.4	364.4	-243.0	16.17	16.17	0.00
10,524.0	41.80	21.00	10,468.9	-219.6	375.6	-216.1	16.03	15.32	-7.66
10,571.0	45.40	15.10	10,502.9	-188.8	385.6	-185.2	11.55	7.66	-12.55
10,598.7	47.33	13.24	10,522.0	-169.4	390.5	-165.8	8.52	6.98	-6.74
Wolfcamp C									
10,618.0	48.70	12.00	10,534.9	-155.3	393.6	-151.7	8.52	7.07	-6.39
10,665.0	52.70	11.50	10,564.7	-119.7	401.0	-116.0	8.55	8.51	-1.06
10,712.0	53.80	11.40	10,592.8	-82.8	408.5	-79.1	2.35	2.34	-0.21
10,759.0	56.10	10.60	10,619.8	-45.1	415.9	-41.2	5.09	4.89	-1.70
10,806.0	60.70	10.10	10,644.4	-5.7	423.0	-1.8	9.83	9.79	-1.06
10,826.5	61.55	10.53	10,654.3	12.0	426.3	15.9	4.55	4.16	2.11
FTP @ 10826.5'MD, 330'FNL & 358.5'FEL									
10,854.0	62.70	11.10	10,667.2	35.8	430.8	39.8	4.55	4.17	2.07
10,901.0	64.90	10.50	10,687.9	77.3	438.7	81.3	4.82	4.68	-1.28
10,949.0	66.90	10.70	10,707.5	120.3	446.8	124.5	4.18	4.17	0.42
10,996.0	71.00	8.40	10,724.4	163.6	454.0	167.8	9.85	8.72	-4.89
11,043.0	72.20	5.00	10,739.3	207.9	459.2	212.1	7.32	2.55	-7.23
11,090.0	74.90	1.30	10,752.6	252.9	461.7	257.1	9.49	5.74	-7.87
11,137.0	78.90	359.40	10,763.2	298.6	462.0	302.9	9.38	8.51	-4.04
11,211.0	86.40	359.20	10,772.7	372.0	461.1	376.2	10.14	10.14	-0.27
11,273.0	86.20	358.80	10,776.7	433.8	460.0	438.1	0.72	-0.32	-0.65
11,367.0	88.00	359.70	10,781.4	527.7	458.8	531.9	2.14	1.91	0.96
11,461.0	88.70	359.80	10,784.1	621.6	458.4	625.9	0.75	0.74	0.11

Company:	Tap Rock Resources, LLC	Local Co-ordinate Reference:	Well Money Graham 26S29E3229 #234H
Project:	Eddy County, NM (NAD 83 NME)	TVD Reference:	KB @ 2892.5usft (H&P 422)
Site:	(Money Graham) Sec-32_T-26-S_R-29-E	MD Reference:	KB @ 2892.5usft (H&P 422)
Well:	Money Graham 26S29E3229 #234H	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)
11,555.0	88.40	0.10	10,786.5	715.6	458.3	719.8	0.45	-0.32	0.32
11,648.0	89.50	0.30	10,788.2	808.6	458.6	812.8	1.20	1.18	0.22
11,743.0	87.60	359.80	10,790.6	903.6	458.7	907.8	2.07	-2.00	-0.53
11,836.0	90.40	0.90	10,792.3	996.5	459.3	1,000.7	3.23	3.01	1.18
11,931.0	92.50	1.40	10,789.8	1,091.5	461.2	1,095.7	2.27	2.21	0.53
12,026.0	91.60	0.40	10,786.4	1,186.4	462.7	1,190.6	1.42	-0.95	-1.05
12,120.0	89.10	359.10	10,785.9	1,280.4	462.2	1,284.6	3.00	-2.66	-1.38
12,214.0	90.90	358.70	10,785.9	1,374.4	460.4	1,378.6	1.96	1.91	-0.43
12,309.0	93.70	359.90	10,782.1	1,469.3	459.3	1,473.5	3.21	2.95	1.26
12,402.0	93.10	1.30	10,776.5	1,562.1	460.2	1,566.3	1.64	-0.65	1.51
12,495.0	90.00	0.80	10,774.0	1,655.0	462.0	1,659.2	3.38	-3.33	-0.54
12,589.0	89.00	0.00	10,774.9	1,749.0	462.6	1,753.2	1.36	-1.06	-0.85
12,684.0	88.70	0.80	10,776.8	1,844.0	463.3	1,848.2	0.90	-0.32	0.84
12,778.0	87.80	0.30	10,779.6	1,938.0	464.2	1,942.2	1.10	-0.96	-0.53
12,872.0	88.10	0.90	10,783.0	2,031.9	465.2	2,036.1	0.71	0.32	0.64
12,965.0	88.10	2.70	10,786.1	2,124.8	468.1	2,129.0	1.93	0.00	1.94
13,060.0	88.70	3.50	10,788.7	2,219.6	473.2	2,223.9	1.05	0.63	0.84
13,154.0	89.80	3.50	10,790.0	2,313.4	478.9	2,317.8	1.17	1.17	0.00
13,248.0	88.60	2.40	10,791.3	2,407.3	483.8	2,411.7	1.73	-1.28	-1.17
13,342.0	88.10	1.80	10,794.0	2,501.2	487.2	2,505.6	0.83	-0.53	-0.64
13,437.0	87.80	1.10	10,797.4	2,596.1	489.6	2,600.5	0.80	-0.32	-0.74
13,531.0	87.00	0.50	10,801.6	2,690.0	490.9	2,694.4	1.06	-0.85	-0.64
13,625.0	88.50	359.50	10,805.3	2,783.9	490.9	2,788.3	1.92	1.60	-1.06
13,718.0	91.60	359.70	10,805.2	2,876.9	490.3	2,881.3	3.34	3.33	0.22
13,812.0	92.10	358.60	10,802.2	2,970.8	488.9	2,975.2	1.28	0.53	-1.17
13,905.0	93.30	358.70	10,797.8	3,063.7	486.7	3,068.1	1.29	1.29	0.11
13,999.0	92.70	358.50	10,792.9	3,157.6	484.4	3,161.9	0.67	-0.64	-0.21
14,093.0	90.60	359.10	10,790.2	3,251.5	482.5	3,255.8	2.32	-2.23	0.64
14,188.0	87.40	359.00	10,791.9	3,346.4	480.9	3,350.8	3.37	-3.37	-0.11
14,281.0	86.20	357.30	10,797.1	3,439.3	477.9	3,443.5	2.24	-1.29	-1.83
14,375.0	89.10	357.90	10,800.9	3,533.1	473.9	3,537.3	3.15	3.09	0.64
14,468.0	90.80	0.20	10,801.0	3,626.1	472.4	3,630.3	3.08	1.83	2.47
14,562.0	89.30	358.40	10,800.9	3,720.0	471.3	3,724.2	2.49	-1.60	-1.91
14,656.0	90.60	0.50	10,801.0	3,814.0	470.4	3,818.2	2.63	1.38	2.23
14,750.0	89.60	358.40	10,800.8	3,908.0	469.5	3,912.2	2.47	-1.06	-2.23
14,843.0	88.90	357.50	10,802.0	4,001.0	466.1	4,005.1	1.23	-0.75	-0.97
14,938.0	90.30	357.90	10,802.7	4,095.9	462.3	4,100.0	1.53	1.47	0.42
15,032.0	90.70	357.40	10,801.9	4,189.8	458.5	4,193.8	0.68	0.43	-0.53
15,125.0	89.70	356.60	10,801.6	4,282.7	453.6	4,286.7	1.38	-1.08	-0.86
15,220.0	90.60	357.00	10,801.3	4,377.5	448.3	4,381.5	1.04	0.95	0.42
15,313.0	90.00	357.00	10,800.8	4,470.4	443.4	4,474.3	0.65	-0.65	0.00
15,407.0	90.20	357.60	10,800.7	4,564.3	439.0	4,568.1	0.67	0.21	0.64
15,501.0	90.30	0.50	10,800.3	4,658.2	437.4	4,662.1	3.09	0.11	3.09

Company:	Tap Rock Resources, LLC	Local Co-ordinate Reference:	Well Money Graham 26S29E3229 #234H
Project:	Eddy County, NM (NAD 83 NME)	TVD Reference:	KB @ 2892.5usft (H&P 422)
Site:	(Money Graham) Sec-32_T-26-S_R-29-E	MD Reference:	KB @ 2892.5usft (H&P 422)
Well:	Money Graham 26S29E3229 #234H	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)
15,595.0	89.90	1.90	10,800.1	4,752.2	439.4	4,756.1	1.55	-0.43	1.49
15,689.0	92.00	4.00	10,798.5	4,846.1	444.2	4,850.0	3.16	2.23	2.23
15,783.0	89.20	2.40	10,797.5	4,939.9	449.5	4,943.9	3.43	-2.98	-1.70
15,877.0	88.90	2.50	10,799.1	5,033.8	453.5	5,037.8	0.34	-0.32	0.11
15,971.0	90.00	3.90	10,800.0	5,127.7	458.8	5,131.7	1.89	1.17	1.49
16,064.0	88.90	2.70	10,800.9	5,220.5	464.1	5,224.6	1.75	-1.18	-1.29
16,158.0	90.80	4.00	10,801.1	5,314.3	469.6	5,318.4	2.45	2.02	1.38
16,252.0	91.30	3.70	10,799.4	5,408.1	475.9	5,412.3	0.62	0.53	-0.32
16,346.0	90.80	3.10	10,797.7	5,501.9	481.5	5,506.1	0.83	-0.53	-0.64
16,440.0	91.30	3.10	10,796.0	5,595.8	486.6	5,600.0	0.53	0.53	0.00
16,534.0	90.80	3.20	10,794.3	5,689.6	491.7	5,693.9	0.54	-0.53	0.11
16,627.0	89.20	3.50	10,794.3	5,782.4	497.2	5,786.8	1.75	-1.72	0.32
16,722.0	84.80	0.80	10,799.2	5,877.2	500.7	5,881.6	5.43	-4.63	-2.84
16,817.0	84.40	0.00	10,808.2	5,971.8	501.4	5,976.2	0.94	-0.42	-0.84
16,911.0	87.10	0.90	10,815.1	6,065.5	502.1	6,069.9	3.03	2.87	0.96
17,005.0	88.20	359.40	10,819.0	6,159.4	502.4	6,163.8	1.98	1.17	-1.60
17,099.0	91.60	3.80	10,819.2	6,253.4	505.0	6,257.8	5.91	3.62	4.68
17,193.0	89.60	2.10	10,818.2	6,347.2	509.8	6,351.7	2.79	-2.13	-1.81
17,287.0	91.10	3.30	10,817.6	6,441.1	514.3	6,445.6	2.04	1.60	1.28
17,382.0	90.50	1.70	10,816.3	6,536.0	518.4	6,540.5	1.80	-0.63	-1.68
17,476.0	88.50	0.50	10,817.1	6,630.0	520.2	6,634.5	2.48	-2.13	-1.28
17,570.0	88.60	0.30	10,819.5	6,724.0	520.9	6,728.5	0.24	0.11	-0.21
17,664.0	88.00	0.30	10,822.3	6,817.9	521.4	6,822.4	0.64	-0.64	0.00
17,758.0	89.90	3.00	10,824.0	6,911.8	524.1	6,916.4	3.51	2.02	2.87
17,847.3	88.47	359.49	10,825.2	7,001.1	526.0	7,005.7	4.25	-1.60	-3.94
LTP @ 17847.3'MD, 330'FNL & 322.9'FEL									
17,852.0	88.40	359.30	10,825.4	7,005.8	525.9	7,010.4	4.25	-1.59	-3.94
17,945.0	87.70	359.10	10,828.5	7,098.7	524.6	7,103.3	0.78	-0.75	-0.22
LAST SVY									
17,977.0	87.70	359.10	10,829.8	7,130.7	524.1	7,135.2	0.00	0.00	0.00
Projection to TD @ 18061'MD, 200.5'FNL & 337'FEL									

Company:	Tap Rock Resources, LLC	Local Co-ordinate Reference:	Well Money Graham 26S29E3229 #234H
Project:	Eddy County, NM (NAD 83 NME)	TVD Reference:	KB @ 2892.5usft (H&P 422)
Site:	(Money Graham) Sec-32_T-26-S_R-29-E	MD Reference:	KB @ 2892.5usft (H&P 422)
Well:	Money Graham 26S29E3229 #234H	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 - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
FTP (Money Graham - actual wellpath misses target center by 111.9usft at 10885.5usft MD (10681.3 TVD, 63.5 N, 436.1 E) - Point	0.00	0.00	10,780.0	12.0	447.0	364,271.00	644,888.00	32° 0' 3.677 N	103° 59' 57.421 W
PBHL (Money Graham - actual wellpath misses target center by 11.2usft at 17976.5usft MD (10829.8 TVD, 7130.2 N, 524.2 E) - Rectangle (sides W60.0 H7,118.3 D30.0)	0.42	0.53	10,830.0	7,130.0	513.0	371,389.00	644,954.00	32° 1' 14.116 N	103° 59' 56.399 W
LTP (Money Graham : - actual wellpath misses target center by 15.8usft at 17845.9usft MD (10825.2 TVD, 6999.7 N, 526.0 E) - Point	0.00	0.00	10,830.0	7,000.0	511.0	371,259.00	644,952.00	32° 1' 12.829 N	103° 59' 56.427 W

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
497.1	497.0	Rustler Anhydrite			
672.1	672.0	Top Salt			
2,397.2	2,382.0	Base Salt			
2,741.6	2,722.0	Delaware Mountain Gp			
2,858.0	2,837.0	Bell Canyon			
2,858.0	2,837.0	Lamar			
2,898.4	2,877.0	Ramsey Sand			
3,881.3	3,852.0	Cherry Canyon			
4,867.8	4,837.0	Brushy Canyon			
6,512.9	6,482.0	Bone Spring Lime			
6,602.9	6,572.0	Upper Avalon			
6,998.0	6,967.0	Middle Avalon			
7,183.2	7,152.0	Lower Avalon			
7,408.5	7,377.0	1st Bone Spring Sand			
7,673.5	7,642.0	2nd Bone Spring Carb			
7,943.6	7,912.0	2nd Bone Spring Sand			
8,523.7	8,492.0	3rd Bone Spring Carb			
9,193.8	9,162.0	3rd Bone Spring Sand			
9,503.8	9,472.0	3rd BS W Sand			
9,593.8	9,562.0	Wolfcamp A X Sand			
9,693.9	9,662.0	Wolfcamp A Y Sand			
9,808.9	9,777.0	Wolfcamp A Lower			
10,048.9	10,017.0	Wolfcamp B			
10,598.7	10,522.0	Wolfcamp C			



Company:	Tap Rock Resources, LLC	Local Co-ordinate Reference:	Well Money Graham 26S29E3229 #234H
Project:	Eddy County, NM (NAD 83 NME)	TVD Reference:	KB @ 2892.5usft (H&P 422)
Site:	(Money Graham) Sec-32_T-26-S_R-29-E	MD Reference:	KB @ 2892.5usft (H&P 422)
Well:	Money Graham 26S29E3229 #234H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWB	Database:	EDM 5000.15 Single User Db

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
479.5	479.4	8.3	2.1	Tie to VES Gyro
10,826.5	10,654.3	12.0	426.3	FTP @ 10826.5'MD, 330'FNL & 358.5'FEL
17,847.3	10,825.2	7,001.1	526.0	LTP @ 17847.3'MD, 330'FNL & 322.9'FEL
17,945.0	10,828.5	7,098.7	524.6	
17,977.0	10,829.8	7,130.7	524.1	LAST SVY
18061.0	10,833.8	7,215.2	522.2	Projection to TD @ 18061'MD, 200'FNL & 337'FEL

Checked By: _____ Approved By: _____ Date: _____