

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 Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170

District IV

1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

Form C-101
August 1, 2011

Permit 309505

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

| | | |
|---|------------------------------------|-------------------------------|
| 1. Operator Name and Address TAP ROCK OPERATING, LLC 523 Park Point Drive Golden, CO 80401 | | 2. OGRID Number 372043 |
| | | 3. API Number 30-025-49806 |
| 4. Property Code 329919 | 5. Property Name MANDELBAUM FEE | 6. Well No. 126H |

7. Surface Location

| | | | | | | | | | |
|---------------|---------------|-----------------|--------------|--------------|-------------------|---------------|-------------------|---------------|---------------|
| UL - Lot O | Section 11 | Township 24S | Range 34E | Lot Idn O | Feet From 1029 | N/S Line S | Feet From 2462 | E/W Line E | County Lea |
|---------------|---------------|-----------------|--------------|--------------|-------------------|---------------|-------------------|---------------|---------------|

8. Proposed Bottom Hole Location

| | | | | | | | | | |
|---------------|---------------|-----------------|--------------|--------------|----------------|---------------|-------------------|---------------|---------------|
| UL - Lot B | Section 11 | Township 24S | Range 34E | Lot Idn B | Feet From 5 | N/S Line N | Feet From 1980 | E/W Line E | County Lea |
|---------------|---------------|-----------------|--------------|--------------|----------------|---------------|-------------------|---------------|---------------|

9. Pool Information

| | |
|------------------------------|-------|
| RED HILLS;BONE SPRING, NORTH | 96434 |
|------------------------------|-------|

Additional Well Information

| | | | | |
|---------------------------|-----------------------------|--|-------------------------|------------------------------------|
| 11. Work Type New Well | 12. Well Type OIL | 13. Cable/Rotary | 14. Lease Type State | 15. Ground Level Elevation 3487 |
| 16. Multiple N | 17. Proposed Depth 16103 | 18. Formation Bone Spring | 19. Contractor | 20. Spud Date 4/1/2022 |
| Depth to Ground water | | Distance from nearest fresh water well | | Distance to nearest surface water |

☒ We will be using a closed-loop system in lieu of lined pits

21. Proposed Casing and Cement Program

| Type | Hole Size | Casing Size | Casing Weight/ft | Setting Depth | Sacks of Cement | Estimated TOC |
|------|-----------|-------------|------------------|---------------|-----------------|---------------|
| Surf | 17.5 | 13.375 | 54.5 | 1100 | 1125 | 0 |
| Int1 | 12.25 | 9.625 | 40 | 5460 | 1500 | 0 |
| Prod | 6.75 | 5.5 | 20 | 16103 | 1750 | 4400 |

Casing/Cement Program: Additional Comments

| |
|--|
| |
|--|

22. Proposed Blowout Prevention Program

| Type | Working Pressure | Test Pressure | Manufacturer |
|------------|------------------|---------------|--------------|
| Annular | 5000 | 2500 | |
| Double Ram | 10000 | 5000 | |
| Pipe | 10000 | 5000 | |

23. I hereby certify that the information given above is true and complete to the best of my knowledge and belief.
I further certify I have complied with 19.15.14.9 (A) NMAC ☒ and/or 19.15.14.9 (B) NMAC ☒, if applicable.

Signature:

OIL CONSERVATION DIVISION

| | |
|---|---|
| Printed Name: Electronically filed by Christian Combs | Approved By: Paul F Kautz |
| Title: Regulatory Manager | Title: Geologist |
| Email Address: ccombs@taprk.com | Approved Date: 3/1/2022 Expiration Date: 3/1/2024 |
| Date: 2/28/2022 Phone: 720-360-4028 | Conditions of Approval Attached |

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

District Office☐ **AMENDED REPORT**

| | | |
|--|---|--|
| ¹ API Number 30-025-49806 | ² Pool Code 96434 | ³ Pool Name RED HILLS; BONE SPRING, NORTH |
| ⁴ Property Code 329919 | ⁵ Property Name MANDELBAUM FEE | |
| ⁷ OGRID No. #372043 | ⁸ Operator Name TAP ROCK OPERATING, LLC. | ⁶ Well Number 126H |
| | | ⁹ Elevation 3487' |

| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|--------|
| 0 | 11 | 24-S | 34-E | - | 1029' | SOUTH | 2462' | EAST | LEA |

| | | | | | | | | | |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|--------|
| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
| B | 11 | 24-S | 34-E | - | 5' | NORTH | 1980' | EAST | LEA |

| | | | |
|--------------------------------------|-------------------------------|----------------------------------|-------------------------|
| ¹² Dedicated Acres 320 | ¹³ Joint or Infill | ¹⁴ Consolidation Code | ¹⁵ Order No. |
|--------------------------------------|-------------------------------|----------------------------------|-------------------------|

SURFACE LOCATION
NEW MEXICO EAST
NAD 1983
X=817527
Y=447689
LAT.: N 32.2276161
LONG.: W 103.4401661

BOTTOM HOLE LOCATION
NEW MEXICO EAST
NAD 1983
X=817973
Y=451937
LAT.: N 32.2392828
LONG.: W 103.4386102

LAST TAKE POINT
NEW MEXICO EAST
NAD 1983
X=817974
Y=451842
LAT.: N 32.2390217
LONG.: W 103.4386101

FIRST TAKE POINT
NEW MEXICO EAST
NAD 1983
X=818018
Y=446763
LAT.: N 32.2250598
LONG.: W 103.4386057

PRODUCING AREA
PROJECT AREA

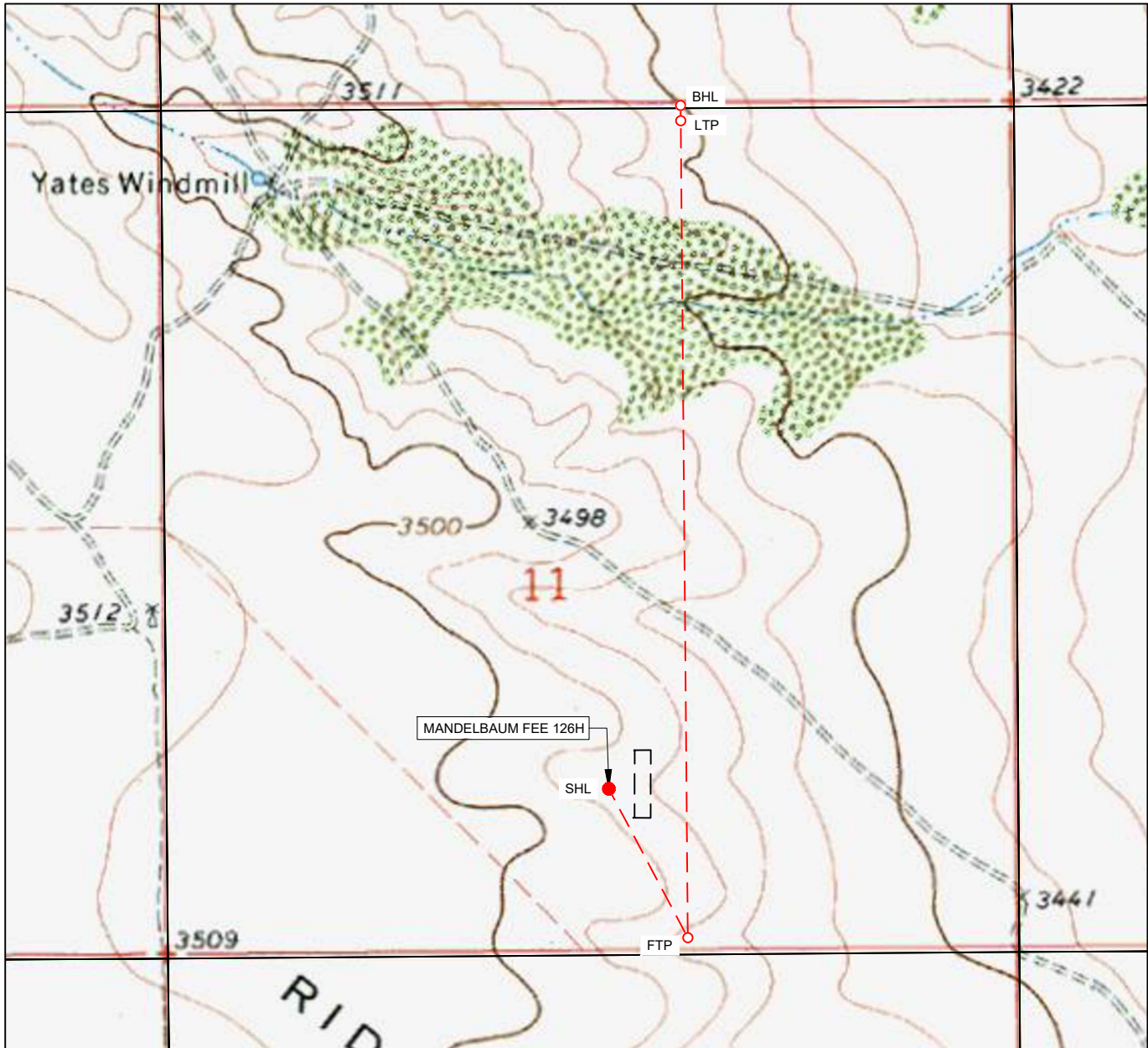
Distances and Bearings:
 - 100', 330', 661', 1980', 2462'
 - AZ = 359.51°, 95.0', 339.51°, 5079.5', 152.10°, 1047.8', 1143', 1029', 660', 1980'
 - 5', 661', 100', 100', 100'

Coordinates:
 - X=815992.30, Y=451923.75
 - X=817314.84, Y=451938.23
 - X=818633.97, Y=451945.64
 - X=816035.60, Y=446643.37
 - X=817358.63, Y=446658.57
 - X=818678.56, Y=446666.60

A circular professional seal for Michael Brown, a Professional Surveyor in the State of New Mexico. The seal features the text "MICHAEL BROWN" at the top, "NEW MEXICO" in the center, and "PROFESSIONAL SURVEYOR" at the bottom. The number "18329" is prominently displayed in the middle. The seal is overlaid with a blue ink signature.

Certificate Number

LOCATION & ELEVATION VERIFICATION MAP



LEASE NAME & WELL NO.: MANDELBAUM FEE 126H

SECTION 11 TWP 24-S RGE 34-E SURVEY N.M.P.M.
 COUNTY LEA STATE NM ELEVATION 3487'
 DESCRIPTION 1029' FSL & 2462' FEL

LATITUDE N 32.2276161 LONGITUDE W 103.4401661



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

THIS EASEMENT/SERVITUDE LOCATION SHOWN HEREON HAS BEEN SURVEYED ON THE GROUND UNDER MY SUPERVISION AND PREPARED ACCORDING TO THE EVIDENCE FOUND AT THE TIME OF SURVEY, AND DATA PROVIDED BY TAP ROCK OPERATING, LLC. THIS CERTIFICATION IS MADE AND LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE. THIS SURVEY IS CERTIFIED FOR THIS TRANSACTION ONLY.

ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREON ARE GRID BASED UPON THE NEW MEXICO COORDINATE SYSTEM OF 1983, EAST ZONE, U.S. SURVEY FEET.



1400 EVERMAN PARKWAY, Ste. 146 • FT. WORTH, TEXAS 76140
 TELEPHONE: (817) 744-7512 • FAX (817) 744-7554
 2903 NORTH BIG SPRING • MIDLAND, TEXAS 79705
 TELEPHONE: (432) 682-1653 OR (800) 767-1653 • FAX (432) 682-1743
 WWW.TOPOGRAPHIC.COM



0' 5000' 10000'

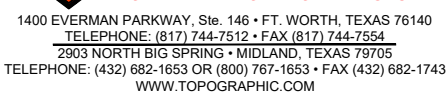
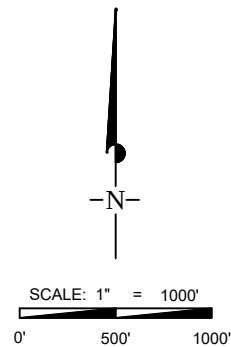
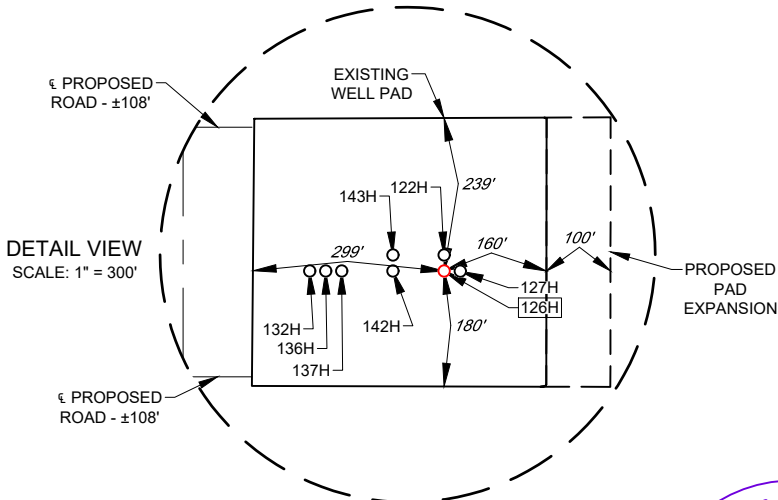
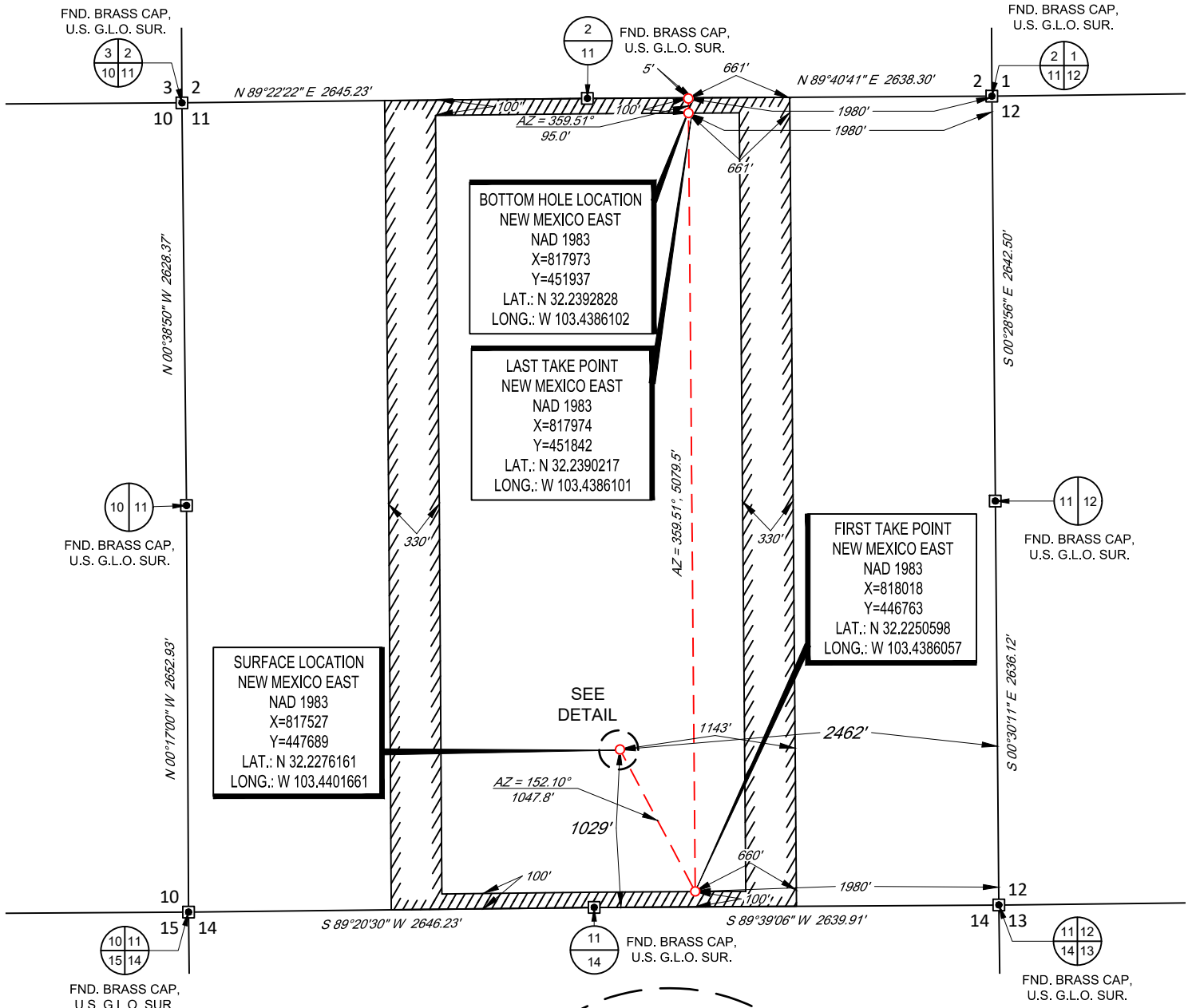




EXHIBIT 2A

SECTION 11, TOWNSHIP 24-S, RANGE 34-E, N.M.P.M.
LEA COUNTY, NEW MEXICO



LEASE NAME & WELL NO.: MANDELBAUM FEE 126H

SECTION 11 TWP 24-S RGE 34-E SURVEY N.M.P.M.

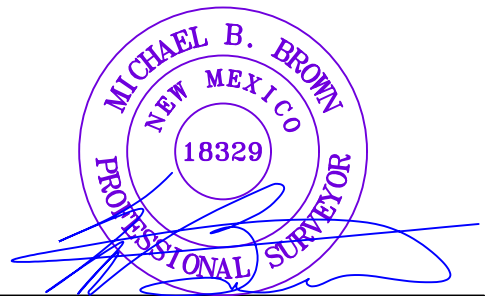
COUNTY LEA STATE NM

DESCRIPTION 1029' FSL & 2462' FEL

DISTANCE & DIRECTION
FROM INT. OF NM-128 & DELAWARE BASIN RD., GO EAST ON NM-128 ±2.6
MILES, THENCE NORTH (LEFT) ON A LEASE RD. ±0.8 MILES, THENCE EAST
(RIGHT) ON A PROPOSED RD. ±1.5 MILES, THENCE NORTH (LEFT) ON A
PROPOSED RD. ±1660 FEET, THENCE EAST (RIGHT) ON A PROPOSED RD.
±108 FEET TO A POINT ±342 FEET SOUTHWEST OF THE LOCATION.

ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREON ARE GRID
BASED UPON THE NEW MEXICO COORDINATE SYSTEM OF 1983, EAST ZONE, U.S. SURVEY
FEET.

THIS EASEMENT/SERVITUDE LOCATION SHOWN HEREON HAS BEEN SURVEYED ON THE GROUND
UNDER MY SUPERVISION AND PREPARED ACCORDING TO THE EVIDENCE FOUND AT THE TIME OF
SURVEY, AND DATA PROVIDED BY TAP ROCK OPERATING, LLC THIS CERTIFICATION IS MADE AND
LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS
NON-TRANSFERABLE. THIS SURVEY IS CERTIFIED FOR THIS TRANSACTION ONLY.



Michael Blake Brown, P.S. No. 18329
February 22, 2022

TOPOGRAPHIC
LOYALTY INNOVATION LEGACY

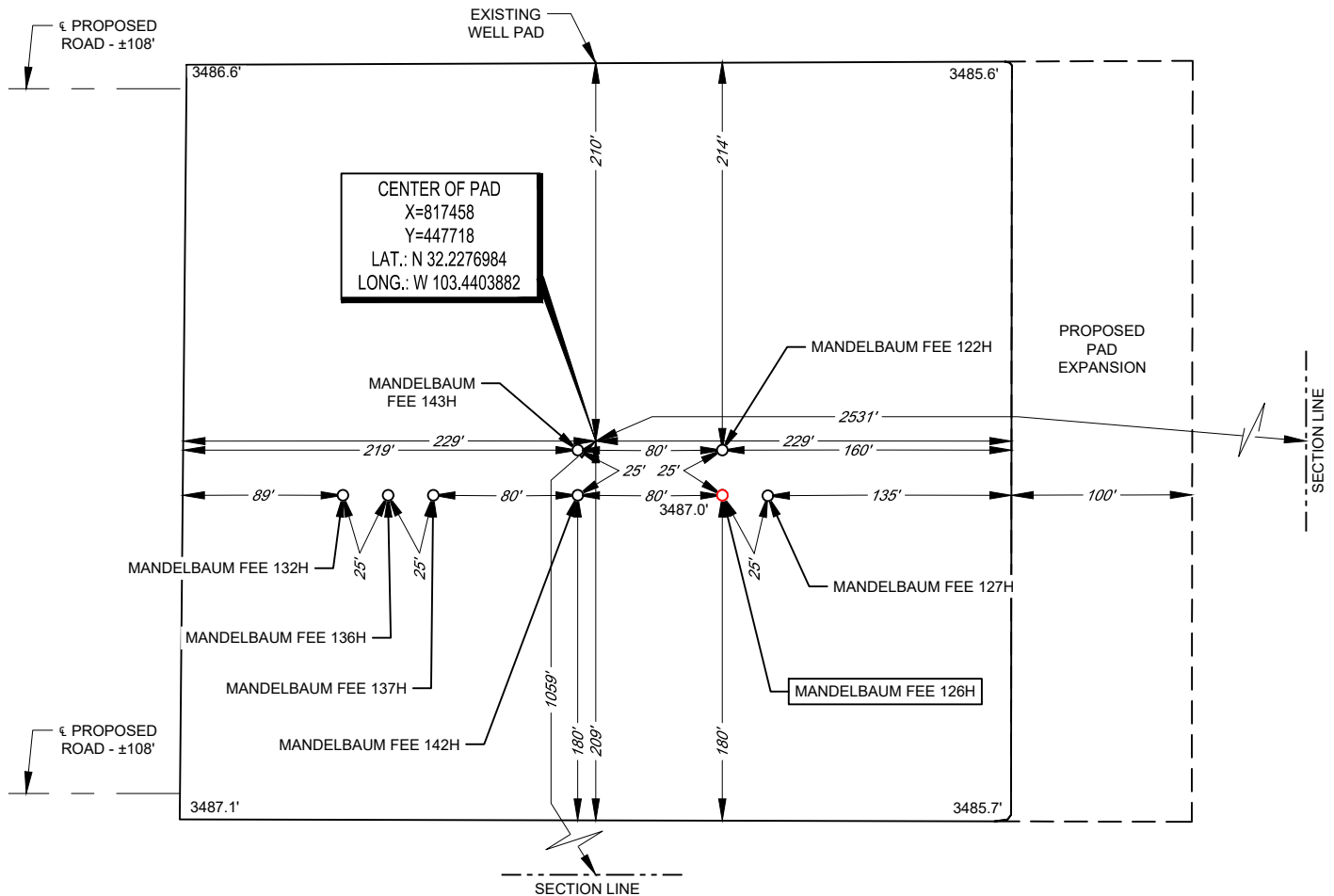
1400 EVERMAN PARKWAY, Ste. 146 • FT. WORTH, TEXAS 76140
TELEPHONE: (817) 744-7512 • FAX (817) 744-7554
2903 NORTH BIG SPRING • MIDLAND, TEXAS 79705
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LEGEND

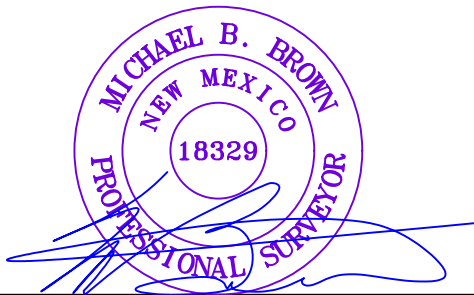
----- SECTION LINE
 --- PROPOSED ROAD

SECTION 11, TOWNSHIP 24-S, RANGE 34-E, N.M.P.M.
 LEA COUNTY, NEW MEXICO



LEASE NAME & WELL NO.: _____ MANDELBAUM FEE 126H
 126H LATITUDE _____ N 32.2276161 _____ 126H LONGITUDE _____ W 103.4401661

CENTER OF PAD IS 1059' FSL & 2531' FEL



Michael Blake Brown, P.S. No. 18329

February 22, 2022

ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREON ARE GRID BASED UPON THE NEW MEXICO COORDINATE SYSTEM OF 1983, EAST ZONE, U.S. SURVEY FEET. ELEVATIONS USED ARE NAVD88, OBTAINED THROUGH AN OPUS SOLUTION.

THIS PROPOSED PAD SITE LOCATION SHOWN HEREON HAS BEEN SURVEYED ON THE GROUND UNDER MY SUPERVISION AND PREPARED ACCORDING TO THE EVIDENCE FOUND AT THE TIME OF SURVEY, AND DATA PROVIDED BY TAP ROCK OPERATING, LLC. ONLY THE DATA SHOWN ABOVE IS BEING CERTIFIED TO, ALL OTHER INFORMATION WAS INTENTIONALLY OMITTED. THIS PLAT IS ONLY INTENDED TO BE USED FOR A PERMIT AND IS NOT A BOUNDARY SURVEY. THIS CERTIFICATION IS MADE AND LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE. THIS SURVEY IS CERTIFIED FOR THIS TRANSACTION ONLY.

ORIGINAL DOCUMENT SIZE: 8.5" X 11"



SCALE: 1" = 100'



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State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

Form APD Conditions

Permit 309505

PERMIT CONDITIONS OF APPROVAL

| | |
|--|-------------------------------|
| Operator Name and Address: TAP ROCK OPERATING, LLC [372043] 523 Park Point Drive Golden, CO 80401 | API Number: 30-025-49806 |
| | Well: MANDELBAUM FEE #126H |

| OCD Reviewer | Condition |
|-----------------|--|
| pkautz | Notify OCD 24 hours prior to casing & cement |
| pkautz | Will require a File As Drilled C-102 and a Directional Survey with the C-104 |
| pkautz | Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string |
| pkautz | Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system |
| pkautz | 1) SURFACE & INTERMEDIATE CASING - Cement must circulate to surface -- 2) PRODUCTION CASING - Cement must tie back into intermediate casing -- |
| pkautz | The Operator is to notify NMOCD by sundry (Form C-103) within ten (10) days of the well being spud |



Tap Rock Resources, LLC

**Lea County, NM (NAD 83 NME)
(Mandelbaum Fee) Sec-11_T-24-S_R-34-E
Mandelbaum Fee #126H**

OWB

Plan: Plan #1

Standard Planning Report

24 February, 2022





Intrepid Planning Report



| | | | |
|------------------|---------------------------------------|-------------------------------------|---------------------------|
| Database: | EDM 5000.15 Single User Db | Local Co-ordinate Reference: | Well Mandelbaum Fee #126H |
| Company: | Tap Rock Resources, LLC | TVD Reference: | KB @ 3513.0usft |
| Project: | Lea County, NM (NAD 83 NME) | MD Reference: | KB @ 3513.0usft |
| Site: | (Mandelbaum Fee) Sec-11_T-24-S_R-34-E | North Reference: | Grid |
| Well: | Mandelbaum Fee #126H | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | OWB | | |
| Design: | Plan #1 | | |

| | | | |
|--------------------|-----------------------------|----------------------|----------------|
| Project | Lea 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 | (Mandelbaum Fee) Sec-11_T-24-S_R-34-E | | |
| Site Position: | | Northing: | 447,689.00 usft |
| From: | Map | Easting: | 817,367.00 usft |
| Position Uncertainty: | 0.0 usft | Slot Radius: | 13-3/16 " |
| | | Latitude: | 32° 13' 39.436 N |
| | | Longitude: | 103° 26' 26.465 W |
| | | Grid Convergence: | 0.48 ° |

| | | | |
|-----------------------------|----------------------|----------------------------|-------------------------------------|
| Well | Mandelbaum Fee #126H | | |
| Well Position | +N/-S | 0.0 usft | Northing: 447,689.00 usft |
| | +E/-W | 160.0 usft | Easting: 817,527.00 usft |
| Position Uncertainty | 0.0 usft | Wellhead Elevation: | Latitude: 32° 13' 39.422 N |
| | | | Longitude: 103° 26' 24.602 W |
| | | | Ground Level: 3,487.0 usft |

| | | | | | |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| Wellbore | OWB | | | | |
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
| | IGRF2015 | 02/24/22 | 6.38 | 60.02 | 47,470.92461621 |

| | | | | |
|--------------------------|--------------------------------|---------------------|----------------------|----------------------|
| Design | Plan #1 | | | |
| Audit Notes: | | | | |
| Version: | Phase: | PLAN | Tie On Depth: | 0.0 |
| Vertical Section: | Depth From (TVD) (usft) | +N/-S (usft) | +E/-W (usft) | Direction (°) |
| | 0.0 | 0.0 | 0.0 | 359.50 |

| | | | | |
|---------------------------------|------------------------|--------------------------|---------------------|----------------|
| Plan Survey Tool Program | Date | 02/24/22 | | |
| Depth From (usft) | Depth To (usft) | Survey (Wellbore) | Tool Name | Remarks |
| 1 | 0.0 | 16,103.6 Plan #1 (OWB) | MWD | |
| | | | OWSG MWD - Standard | |

| | | | | | | | | | | |
|------------------------------|------------------------|--------------------|------------------------------|---------------------|---------------------|--------------------------------|-------------------------------|------------------------------|----------------|-------------------|
| Plan Sections | | | | | | | | | | |
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) | TFO (°) | Target |
| 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 1,200.0 | 0.00 | 0.00 | 1,200.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 2,300.0 | 11.00 | 153.27 | 2,293.3 | -94.0 | 47.4 | 1.00 | 1.00 | 0.00 | 153.27 | |
| 6,923.4 | 11.00 | 153.27 | 6,831.7 | -882.0 | 444.1 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 8,023.4 | 0.00 | 0.00 | 7,925.0 | -976.0 | 491.5 | 1.00 | -1.00 | 0.00 | 180.00 | |
| 10,540.4 | 0.00 | 0.00 | 10,442.0 | -976.0 | 491.5 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 11,481.5 | 94.10 | 359.50 | 11,013.5 | -362.1 | 486.2 | 10.00 | 10.00 | -0.05 | 359.50 | |
| 16,103.6 | 94.10 | 359.50 | 10,682.8 | 4,248.0 | 446.0 | 0.00 | 0.00 | 0.00 | 0.00 | PBHL (Mandelbaun) |



Intrepid Planning Report



| | | | |
|------------------|---------------------------------------|-------------------------------------|---------------------------|
| Database: | EDM 5000.15 Single User Db | Local Co-ordinate Reference: | Well Mandelbaum Fee #126H |
| Company: | Tap Rock Resources, LLC | TVD Reference: | KB @ 3513.0usft |
| Project: | Lea County, NM (NAD 83 NME) | MD Reference: | KB @ 3513.0usft |
| Site: | (Mandelbaum Fee) Sec-11_T-24-S_R-34-E | North Reference: | Grid |
| Well: | Mandelbaum Fee #126H | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | OWB | | |
| Design: | Plan #1 | | |

| Planned Survey | | | | | | | | | |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
| 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 100.0 | 0.00 | 0.00 | 100.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 200.0 | 0.00 | 0.00 | 200.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 300.0 | 0.00 | 0.00 | 300.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 400.0 | 0.00 | 0.00 | 400.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 500.0 | 0.00 | 0.00 | 500.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 600.0 | 0.00 | 0.00 | 600.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 700.0 | 0.00 | 0.00 | 700.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 800.0 | 0.00 | 0.00 | 800.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 900.0 | 0.00 | 0.00 | 900.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 1,000.0 | 0.00 | 0.00 | 1,000.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 1,100.0 | 0.00 | 0.00 | 1,100.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 1,200.0 | 0.00 | 0.00 | 1,200.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 1,300.0 | 1.00 | 153.27 | 1,300.0 | -0.8 | 0.4 | -0.8 | 1.00 | 1.00 | 0.00 |
| 1,400.0 | 2.00 | 153.27 | 1,400.0 | -3.1 | 1.6 | -3.1 | 1.00 | 1.00 | 0.00 |
| 1,500.0 | 3.00 | 153.27 | 1,499.9 | -7.0 | 3.5 | -7.0 | 1.00 | 1.00 | 0.00 |
| 1,600.0 | 4.00 | 153.27 | 1,599.7 | -12.5 | 6.3 | -12.5 | 1.00 | 1.00 | 0.00 |
| 1,700.0 | 5.00 | 153.27 | 1,699.4 | -19.5 | 9.8 | -19.6 | 1.00 | 1.00 | 0.00 |
| 1,800.0 | 6.00 | 153.27 | 1,798.9 | -28.0 | 14.1 | -28.2 | 1.00 | 1.00 | 0.00 |
| 1,900.0 | 7.00 | 153.27 | 1,898.3 | -38.1 | 19.2 | -38.3 | 1.00 | 1.00 | 0.00 |
| 2,000.0 | 8.00 | 153.27 | 1,997.4 | -49.8 | 25.1 | -50.0 | 1.00 | 1.00 | 0.00 |
| 2,100.0 | 9.00 | 153.27 | 2,096.3 | -63.0 | 31.7 | -63.3 | 1.00 | 1.00 | 0.00 |
| 2,200.0 | 10.00 | 153.27 | 2,194.9 | -77.7 | 39.2 | -78.1 | 1.00 | 1.00 | 0.00 |
| 2,300.0 | 11.00 | 153.27 | 2,293.3 | -94.0 | 47.4 | -94.4 | 1.00 | 1.00 | 0.00 |
| 2,400.0 | 11.00 | 153.27 | 2,391.4 | -111.1 | 55.9 | -111.5 | 0.00 | 0.00 | 0.00 |
| 2,500.0 | 11.00 | 153.27 | 2,489.6 | -128.1 | 64.5 | -128.7 | 0.00 | 0.00 | 0.00 |
| 2,600.0 | 11.00 | 153.27 | 2,587.7 | -145.1 | 73.1 | -145.8 | 0.00 | 0.00 | 0.00 |
| 2,700.0 | 11.00 | 153.27 | 2,685.9 | -162.2 | 81.7 | -162.9 | 0.00 | 0.00 | 0.00 |
| 2,800.0 | 11.00 | 153.27 | 2,784.1 | -179.2 | 90.3 | -180.0 | 0.00 | 0.00 | 0.00 |
| 2,900.0 | 11.00 | 153.27 | 2,882.2 | -196.3 | 98.8 | -197.1 | 0.00 | 0.00 | 0.00 |
| 3,000.0 | 11.00 | 153.27 | 2,980.4 | -213.3 | 107.4 | -214.2 | 0.00 | 0.00 | 0.00 |
| 3,100.0 | 11.00 | 153.27 | 3,078.6 | -230.4 | 116.0 | -231.4 | 0.00 | 0.00 | 0.00 |
| 3,200.0 | 11.00 | 153.27 | 3,176.7 | -247.4 | 124.6 | -248.5 | 0.00 | 0.00 | 0.00 |
| 3,300.0 | 11.00 | 153.27 | 3,274.9 | -264.4 | 133.2 | -265.6 | 0.00 | 0.00 | 0.00 |
| 3,400.0 | 11.00 | 153.27 | 3,373.0 | -281.5 | 141.8 | -282.7 | 0.00 | 0.00 | 0.00 |
| 3,500.0 | 11.00 | 153.27 | 3,471.2 | -298.5 | 150.3 | -299.8 | 0.00 | 0.00 | 0.00 |
| 3,600.0 | 11.00 | 153.27 | 3,569.4 | -315.6 | 158.9 | -316.9 | 0.00 | 0.00 | 0.00 |
| 3,700.0 | 11.00 | 153.27 | 3,667.5 | -332.6 | 167.5 | -334.1 | 0.00 | 0.00 | 0.00 |
| 3,800.0 | 11.00 | 153.27 | 3,765.7 | -349.7 | 176.1 | -351.2 | 0.00 | 0.00 | 0.00 |
| 3,900.0 | 11.00 | 153.27 | 3,863.9 | -366.7 | 184.7 | -368.3 | 0.00 | 0.00 | 0.00 |
| 4,000.0 | 11.00 | 153.27 | 3,962.0 | -383.7 | 193.2 | -385.4 | 0.00 | 0.00 | 0.00 |
| 4,100.0 | 11.00 | 153.27 | 4,060.2 | -400.8 | 201.8 | -402.5 | 0.00 | 0.00 | 0.00 |
| 4,200.0 | 11.00 | 153.27 | 4,158.3 | -417.8 | 210.4 | -419.7 | 0.00 | 0.00 | 0.00 |
| 4,300.0 | 11.00 | 153.27 | 4,256.5 | -434.9 | 219.0 | -436.8 | 0.00 | 0.00 | 0.00 |
| 4,400.0 | 11.00 | 153.27 | 4,354.7 | -451.9 | 227.6 | -453.9 | 0.00 | 0.00 | 0.00 |
| 4,500.0 | 11.00 | 153.27 | 4,452.8 | -469.0 | 236.2 | -471.0 | 0.00 | 0.00 | 0.00 |
| 4,600.0 | 11.00 | 153.27 | 4,551.0 | -486.0 | 244.7 | -488.1 | 0.00 | 0.00 | 0.00 |
| 4,700.0 | 11.00 | 153.27 | 4,649.2 | -503.0 | 253.3 | -505.2 | 0.00 | 0.00 | 0.00 |
| 4,800.0 | 11.00 | 153.27 | 4,747.3 | -520.1 | 261.9 | -522.4 | 0.00 | 0.00 | 0.00 |
| 4,900.0 | 11.00 | 153.27 | 4,845.5 | -537.1 | 270.5 | -539.5 | 0.00 | 0.00 | 0.00 |
| 5,000.0 | 11.00 | 153.27 | 4,943.6 | -554.2 | 279.1 | -556.6 | 0.00 | 0.00 | 0.00 |
| 5,100.0 | 11.00 | 153.27 | 5,041.8 | -571.2 | 287.7 | -573.7 | 0.00 | 0.00 | 0.00 |
| 5,200.0 | 11.00 | 153.27 | 5,140.0 | -588.3 | 296.2 | -590.8 | 0.00 | 0.00 | 0.00 |
| 5,300.0 | 11.00 | 153.27 | 5,238.1 | -605.3 | 304.8 | -607.9 | 0.00 | 0.00 | 0.00 |



Intrepid Planning Report



| | | | |
|------------------|---------------------------------------|-------------------------------------|---------------------------|
| Database: | EDM 5000.15 Single User Db | Local Co-ordinate Reference: | Well Mandelbaum Fee #126H |
| Company: | Tap Rock Resources, LLC | TVD Reference: | KB @ 3513.0usft |
| Project: | Lea County, NM (NAD 83 NME) | MD Reference: | KB @ 3513.0usft |
| Site: | (Mandelbaum Fee) Sec-11_T-24-S_R-34-E | North Reference: | Grid |
| Well: | Mandelbaum Fee #126H | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | OWB | | |
| Design: | Plan #1 | | |

| Planned Survey | | | | | | | | | |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
| 5,400.0 | 11.00 | 153.27 | 5,336.3 | -622.3 | 313.4 | -625.1 | 0.00 | 0.00 | 0.00 |
| 5,500.0 | 11.00 | 153.27 | 5,434.5 | -639.4 | 322.0 | -642.2 | 0.00 | 0.00 | 0.00 |
| 5,600.0 | 11.00 | 153.27 | 5,532.6 | -656.4 | 330.6 | -659.3 | 0.00 | 0.00 | 0.00 |
| 5,700.0 | 11.00 | 153.27 | 5,630.8 | -673.5 | 339.2 | -676.4 | 0.00 | 0.00 | 0.00 |
| 5,800.0 | 11.00 | 153.27 | 5,728.9 | -690.5 | 347.7 | -693.5 | 0.00 | 0.00 | 0.00 |
| 5,900.0 | 11.00 | 153.27 | 5,827.1 | -707.6 | 356.3 | -710.6 | 0.00 | 0.00 | 0.00 |
| 6,000.0 | 11.00 | 153.27 | 5,925.3 | -724.6 | 364.9 | -727.8 | 0.00 | 0.00 | 0.00 |
| 6,100.0 | 11.00 | 153.27 | 6,023.4 | -741.6 | 373.5 | -744.9 | 0.00 | 0.00 | 0.00 |
| 6,200.0 | 11.00 | 153.27 | 6,121.6 | -758.7 | 382.1 | -762.0 | 0.00 | 0.00 | 0.00 |
| 6,300.0 | 11.00 | 153.27 | 6,219.8 | -775.7 | 390.6 | -779.1 | 0.00 | 0.00 | 0.00 |
| 6,400.0 | 11.00 | 153.27 | 6,317.9 | -792.8 | 399.2 | -796.2 | 0.00 | 0.00 | 0.00 |
| 6,500.0 | 11.00 | 153.27 | 6,416.1 | -809.8 | 407.8 | -813.3 | 0.00 | 0.00 | 0.00 |
| 6,600.0 | 11.00 | 153.27 | 6,514.2 | -826.9 | 416.4 | -830.5 | 0.00 | 0.00 | 0.00 |
| 6,700.0 | 11.00 | 153.27 | 6,612.4 | -843.9 | 425.0 | -847.6 | 0.00 | 0.00 | 0.00 |
| 6,800.0 | 11.00 | 153.27 | 6,710.6 | -860.9 | 433.6 | -864.7 | 0.00 | 0.00 | 0.00 |
| 6,900.0 | 11.00 | 153.27 | 6,808.7 | -878.0 | 442.1 | -881.8 | 0.00 | 0.00 | 0.00 |
| 6,923.4 | 11.00 | 153.27 | 6,831.7 | -882.0 | 444.1 | -885.8 | 0.00 | 0.00 | 0.00 |
| 7,000.0 | 10.23 | 153.27 | 6,907.0 | -894.6 | 450.5 | -898.5 | 1.00 | -1.00 | 0.00 |
| 7,100.0 | 9.23 | 153.27 | 7,005.5 | -909.7 | 458.1 | -913.6 | 1.00 | -1.00 | 0.00 |
| 7,200.0 | 8.23 | 153.27 | 7,104.4 | -923.2 | 464.9 | -927.3 | 1.00 | -1.00 | 0.00 |
| 7,300.0 | 7.23 | 153.27 | 7,203.5 | -935.3 | 471.0 | -939.3 | 1.00 | -1.00 | 0.00 |
| 7,400.0 | 6.23 | 153.27 | 7,302.8 | -945.7 | 476.3 | -949.9 | 1.00 | -1.00 | 0.00 |
| 7,500.0 | 5.23 | 153.27 | 7,402.3 | -954.7 | 480.8 | -958.8 | 1.00 | -1.00 | 0.00 |
| 7,600.0 | 4.23 | 153.27 | 7,501.9 | -962.0 | 484.5 | -966.2 | 1.00 | -1.00 | 0.00 |
| 7,700.0 | 3.23 | 153.27 | 7,601.7 | -967.8 | 487.4 | -972.1 | 1.00 | -1.00 | 0.00 |
| 7,800.0 | 2.23 | 153.27 | 7,701.6 | -972.1 | 489.5 | -976.3 | 1.00 | -1.00 | 0.00 |
| 7,900.0 | 1.23 | 153.27 | 7,801.6 | -974.8 | 490.9 | -979.1 | 1.00 | -1.00 | 0.00 |
| 8,000.0 | 0.23 | 153.27 | 7,901.6 | -976.0 | 491.5 | -980.2 | 1.00 | -1.00 | 0.00 |
| 8,023.4 | 0.00 | 0.00 | 7,925.0 | -976.0 | 491.5 | -980.3 | 1.00 | -1.00 | 0.00 |
| 8,100.0 | 0.00 | 0.00 | 8,001.6 | -976.0 | 491.5 | -980.3 | 0.00 | 0.00 | 0.00 |
| 8,200.0 | 0.00 | 0.00 | 8,101.6 | -976.0 | 491.5 | -980.3 | 0.00 | 0.00 | 0.00 |
| 8,300.0 | 0.00 | 0.00 | 8,201.6 | -976.0 | 491.5 | -980.3 | 0.00 | 0.00 | 0.00 |
| 8,400.0 | 0.00 | 0.00 | 8,301.6 | -976.0 | 491.5 | -980.3 | 0.00 | 0.00 | 0.00 |
| 8,500.0 | 0.00 | 0.00 | 8,401.6 | -976.0 | 491.5 | -980.3 | 0.00 | 0.00 | 0.00 |
| 8,600.0 | 0.00 | 0.00 | 8,501.6 | -976.0 | 491.5 | -980.3 | 0.00 | 0.00 | 0.00 |
| 8,700.0 | 0.00 | 0.00 | 8,601.6 | -976.0 | 491.5 | -980.3 | 0.00 | 0.00 | 0.00 |
| 8,800.0 | 0.00 | 0.00 | 8,701.6 | -976.0 | 491.5 | -980.3 | 0.00 | 0.00 | 0.00 |
| 8,900.0 | 0.00 | 0.00 | 8,801.6 | -976.0 | 491.5 | -980.3 | 0.00 | 0.00 | 0.00 |
| 9,000.0 | 0.00 | 0.00 | 8,901.6 | -976.0 | 491.5 | -980.3 | 0.00 | 0.00 | 0.00 |
| 9,100.0 | 0.00 | 0.00 | 9,001.6 | -976.0 | 491.5 | -980.3 | 0.00 | 0.00 | 0.00 |
| 9,200.0 | 0.00 | 0.00 | 9,101.6 | -976.0 | 491.5 | -980.3 | 0.00 | 0.00 | 0.00 |
| 9,300.0 | 0.00 | 0.00 | 9,201.6 | -976.0 | 491.5 | -980.3 | 0.00 | 0.00 | 0.00 |
| 9,400.0 | 0.00 | 0.00 | 9,301.6 | -976.0 | 491.5 | -980.3 | 0.00 | 0.00 | 0.00 |
| 9,500.0 | 0.00 | 0.00 | 9,401.6 | -976.0 | 491.5 | -980.3 | 0.00 | 0.00 | 0.00 |
| 9,600.0 | 0.00 | 0.00 | 9,501.6 | -976.0 | 491.5 | -980.3 | 0.00 | 0.00 | 0.00 |
| 9,700.0 | 0.00 | 0.00 | 9,601.6 | -976.0 | 491.5 | -980.3 | 0.00 | 0.00 | 0.00 |
| 9,800.0 | 0.00 | 0.00 | 9,701.6 | -976.0 | 491.5 | -980.3 | 0.00 | 0.00 | 0.00 |
| 9,900.0 | 0.00 | 0.00 | 9,801.6 | -976.0 | 491.5 | -980.3 | 0.00 | 0.00 | 0.00 |
| 10,000.0 | 0.00 | 0.00 | 9,901.6 | -976.0 | 491.5 | -980.3 | 0.00 | 0.00 | 0.00 |
| 10,100.0 | 0.00 | 0.00 | 10,001.6 | -976.0 | 491.5 | -980.3 | 0.00 | 0.00 | 0.00 |
| 10,200.0 | 0.00 | 0.00 | 10,101.6 | -976.0 | 491.5 | -980.3 | 0.00 | 0.00 | 0.00 |
| 10,300.0 | 0.00 | 0.00 | 10,201.6 | -976.0 | 491.5 | -980.3 | 0.00 | 0.00 | 0.00 |
| 10,400.0 | 0.00 | 0.00 | 10,301.6 | -976.0 | 491.5 | -980.3 | 0.00 | 0.00 | 0.00 |
| 10,500.0 | 0.00 | 0.00 | 10,401.6 | -976.0 | 491.5 | -980.3 | 0.00 | 0.00 | 0.00 |



Intrepid Planning Report



| | | | |
|------------------|---------------------------------------|-------------------------------------|---------------------------|
| Database: | EDM 5000.15 Single User Db | Local Co-ordinate Reference: | Well Mandelbaum Fee #126H |
| Company: | Tap Rock Resources, LLC | TVD Reference: | KB @ 3513.0usft |
| Project: | Lea County, NM (NAD 83 NME) | MD Reference: | KB @ 3513.0usft |
| Site: | (Mandelbaum Fee) Sec-11_T-24-S_R-34-E | North Reference: | Grid |
| Well: | Mandelbaum Fee #126H | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | OWB | | |
| Design: | Plan #1 | | |

| Planned Survey | | | | | | | | | |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
| 10,540.4 | 0.00 | 0.00 | 10,442.0 | -976.0 | 491.5 | -980.3 | 0.00 | 0.00 | 0.00 |
| 10,550.0 | 0.96 | 359.50 | 10,451.6 | -975.9 | 491.5 | -980.2 | 10.00 | 10.00 | 0.00 |
| 10,600.0 | 5.96 | 359.50 | 10,501.4 | -972.9 | 491.5 | -977.2 | 10.00 | 10.00 | 0.00 |
| 10,650.0 | 10.96 | 359.50 | 10,550.9 | -965.6 | 491.4 | -969.8 | 10.00 | 10.00 | 0.00 |
| 10,700.0 | 15.96 | 359.50 | 10,599.5 | -953.9 | 491.3 | -958.2 | 10.00 | 10.00 | 0.00 |
| 10,750.0 | 20.96 | 359.50 | 10,646.9 | -938.1 | 491.2 | -942.4 | 10.00 | 10.00 | 0.00 |
| 10,800.0 | 25.96 | 359.50 | 10,692.8 | -918.2 | 491.0 | -922.5 | 10.00 | 10.00 | 0.00 |
| 10,850.0 | 30.96 | 359.50 | 10,736.7 | -894.4 | 490.8 | -898.6 | 10.00 | 10.00 | 0.00 |
| 10,900.0 | 35.96 | 359.50 | 10,778.4 | -866.8 | 490.5 | -871.1 | 10.00 | 10.00 | 0.00 |
| 10,950.0 | 40.96 | 359.50 | 10,817.6 | -835.8 | 490.3 | -840.0 | 10.00 | 10.00 | 0.00 |
| 11,000.0 | 45.96 | 359.50 | 10,853.8 | -801.4 | 490.0 | -805.6 | 10.00 | 10.00 | 0.00 |
| 11,050.0 | 50.96 | 359.50 | 10,887.0 | -764.0 | 489.7 | -768.2 | 10.00 | 10.00 | 0.00 |
| 11,100.0 | 55.96 | 359.50 | 10,916.8 | -723.8 | 489.3 | -728.1 | 10.00 | 10.00 | 0.00 |
| 11,150.0 | 60.96 | 359.50 | 10,942.9 | -681.2 | 488.9 | -685.5 | 10.00 | 10.00 | 0.00 |
| 11,200.0 | 65.96 | 359.50 | 10,965.2 | -636.5 | 488.5 | -640.7 | 10.00 | 10.00 | 0.00 |
| 11,250.0 | 70.96 | 359.50 | 10,983.6 | -590.0 | 488.1 | -594.3 | 10.00 | 10.00 | 0.00 |
| 11,300.0 | 75.96 | 359.50 | 10,997.8 | -542.1 | 487.7 | -546.3 | 10.00 | 10.00 | 0.00 |
| 11,350.0 | 80.96 | 359.50 | 11,007.8 | -493.1 | 487.3 | -497.4 | 10.00 | 10.00 | 0.00 |
| 11,400.0 | 85.96 | 359.50 | 11,013.5 | -443.5 | 486.9 | -447.7 | 10.00 | 10.00 | 0.00 |
| 11,450.0 | 90.96 | 359.50 | 11,014.9 | -393.5 | 486.4 | -397.7 | 10.00 | 10.00 | 0.00 |
| 11,481.5 | 94.10 | 359.50 | 11,013.5 | -362.1 | 486.2 | -366.3 | 10.00 | 10.00 | 0.00 |
| 11,500.0 | 94.10 | 359.50 | 11,012.2 | -343.6 | 486.0 | -347.8 | 0.00 | 0.00 | 0.00 |
| 11,600.0 | 94.10 | 359.50 | 11,005.0 | -243.9 | 485.1 | -248.1 | 0.00 | 0.00 | 0.00 |
| 11,700.0 | 94.10 | 359.50 | 10,997.9 | -144.1 | 484.3 | -148.3 | 0.00 | 0.00 | 0.00 |
| 11,800.0 | 94.10 | 359.50 | 10,990.7 | -44.4 | 483.4 | -48.6 | 0.00 | 0.00 | 0.00 |
| 11,900.0 | 94.10 | 359.50 | 10,983.5 | 55.4 | 482.5 | 51.2 | 0.00 | 0.00 | 0.00 |
| 12,000.0 | 94.10 | 359.50 | 10,976.4 | 155.1 | 481.6 | 150.9 | 0.00 | 0.00 | 0.00 |
| 12,100.0 | 94.10 | 359.50 | 10,969.2 | 254.8 | 480.8 | 250.6 | 0.00 | 0.00 | 0.00 |
| 12,200.0 | 94.10 | 359.50 | 10,962.1 | 354.6 | 479.9 | 350.4 | 0.00 | 0.00 | 0.00 |
| 12,300.0 | 94.10 | 359.50 | 10,954.9 | 454.3 | 479.0 | 450.1 | 0.00 | 0.00 | 0.00 |
| 12,400.0 | 94.10 | 359.50 | 10,947.8 | 554.1 | 478.2 | 549.9 | 0.00 | 0.00 | 0.00 |
| 12,500.0 | 94.10 | 359.50 | 10,940.6 | 653.8 | 477.3 | 649.6 | 0.00 | 0.00 | 0.00 |
| 12,600.0 | 94.10 | 359.50 | 10,933.5 | 753.5 | 476.4 | 749.4 | 0.00 | 0.00 | 0.00 |
| 12,700.0 | 94.10 | 359.50 | 10,926.3 | 853.3 | 475.6 | 849.1 | 0.00 | 0.00 | 0.00 |
| 12,800.0 | 94.10 | 359.50 | 10,919.2 | 953.0 | 474.7 | 948.8 | 0.00 | 0.00 | 0.00 |
| 12,900.0 | 94.10 | 359.50 | 10,912.0 | 1,052.8 | 473.8 | 1,048.6 | 0.00 | 0.00 | 0.00 |
| 13,000.0 | 94.10 | 359.50 | 10,904.8 | 1,152.5 | 473.0 | 1,148.3 | 0.00 | 0.00 | 0.00 |
| 13,100.0 | 94.10 | 359.50 | 10,897.7 | 1,252.2 | 472.1 | 1,248.1 | 0.00 | 0.00 | 0.00 |
| 13,200.0 | 94.10 | 359.50 | 10,890.5 | 1,352.0 | 471.2 | 1,347.8 | 0.00 | 0.00 | 0.00 |
| 13,300.0 | 94.10 | 359.50 | 10,883.4 | 1,451.7 | 470.4 | 1,447.6 | 0.00 | 0.00 | 0.00 |
| 13,400.0 | 94.10 | 359.50 | 10,876.2 | 1,551.5 | 469.5 | 1,547.3 | 0.00 | 0.00 | 0.00 |
| 13,500.0 | 94.10 | 359.50 | 10,869.1 | 1,651.2 | 468.6 | 1,647.1 | 0.00 | 0.00 | 0.00 |
| 13,600.0 | 94.10 | 359.50 | 10,861.9 | 1,750.9 | 467.7 | 1,746.8 | 0.00 | 0.00 | 0.00 |
| 13,700.0 | 94.10 | 359.50 | 10,854.8 | 1,850.7 | 466.9 | 1,846.5 | 0.00 | 0.00 | 0.00 |
| 13,800.0 | 94.10 | 359.50 | 10,847.6 | 1,950.4 | 466.0 | 1,946.3 | 0.00 | 0.00 | 0.00 |
| 13,900.0 | 94.10 | 359.50 | 10,840.5 | 2,050.2 | 465.1 | 2,046.0 | 0.00 | 0.00 | 0.00 |
| 14,000.0 | 94.10 | 359.50 | 10,833.3 | 2,149.9 | 464.3 | 2,145.8 | 0.00 | 0.00 | 0.00 |
| 14,100.0 | 94.10 | 359.50 | 10,826.1 | 2,249.6 | 463.4 | 2,245.5 | 0.00 | 0.00 | 0.00 |
| 14,200.0 | 94.10 | 359.50 | 10,819.0 | 2,349.4 | 462.5 | 2,345.3 | 0.00 | 0.00 | 0.00 |
| 14,300.0 | 94.10 | 359.50 | 10,811.8 | 2,449.1 | 461.7 | 2,445.0 | 0.00 | 0.00 | 0.00 |
| 14,400.0 | 94.10 | 359.50 | 10,804.7 | 2,548.9 | 460.8 | 2,544.7 | 0.00 | 0.00 | 0.00 |
| 14,500.0 | 94.10 | 359.50 | 10,797.5 | 2,648.6 | 459.9 | 2,644.5 | 0.00 | 0.00 | 0.00 |
| 14,600.0 | 94.10 | 359.50 | 10,790.4 | 2,748.3 | 459.1 | 2,744.2 | 0.00 | 0.00 | 0.00 |
| 14,700.0 | 94.10 | 359.50 | 10,783.2 | 2,848.1 | 458.2 | 2,844.0 | 0.00 | 0.00 | 0.00 |



Intrepid Planning Report



Database: EDM 5000.15 Single User Db
Company: Tap Rock Resources, LLC
Project: Lea County, NM (NAD 83 NME)
Site: (Mandelbaum Fee) Sec-11_T-24-S_R-34-E
Well: Mandelbaum Fee #126H
Wellbore: OWB
Design: Plan #1

Local Co-ordinate Reference: Well Mandelbaum Fee #126H
TVD Reference: KB @ 3513.0usft
MD Reference: KB @ 3513.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 14,800.0 | 94.10 | 359.50 | 10,776.1 | 2,947.8 | 457.3 | 2,943.7 | 0.00 | 0.00 | 0.00 |
| 14,900.0 | 94.10 | 359.50 | 10,768.9 | 3,047.6 | 456.5 | 3,043.5 | 0.00 | 0.00 | 0.00 |
| 15,000.0 | 94.10 | 359.50 | 10,761.7 | 3,147.3 | 455.6 | 3,143.2 | 0.00 | 0.00 | 0.00 |
| 15,100.0 | 94.10 | 359.50 | 10,754.6 | 3,247.0 | 454.7 | 3,243.0 | 0.00 | 0.00 | 0.00 |
| 15,200.0 | 94.10 | 359.50 | 10,747.4 | 3,346.8 | 453.8 | 3,342.7 | 0.00 | 0.00 | 0.00 |
| 15,300.0 | 94.10 | 359.50 | 10,740.3 | 3,446.5 | 453.0 | 3,442.4 | 0.00 | 0.00 | 0.00 |
| 15,400.0 | 94.10 | 359.50 | 10,733.1 | 3,546.3 | 452.1 | 3,542.2 | 0.00 | 0.00 | 0.00 |
| 15,500.0 | 94.10 | 359.50 | 10,726.0 | 3,646.0 | 451.2 | 3,641.9 | 0.00 | 0.00 | 0.00 |
| 15,600.0 | 94.10 | 359.50 | 10,718.8 | 3,745.7 | 450.4 | 3,741.7 | 0.00 | 0.00 | 0.00 |
| 15,700.0 | 94.10 | 359.50 | 10,711.7 | 3,845.5 | 449.5 | 3,841.4 | 0.00 | 0.00 | 0.00 |
| 15,800.0 | 94.10 | 359.50 | 10,704.5 | 3,945.2 | 448.6 | 3,941.2 | 0.00 | 0.00 | 0.00 |
| 15,900.0 | 94.10 | 359.50 | 10,697.4 | 4,045.0 | 447.8 | 4,040.9 | 0.00 | 0.00 | 0.00 |
| 16,000.0 | 94.10 | 359.50 | 10,690.2 | 4,144.7 | 446.9 | 4,140.6 | 0.00 | 0.00 | 0.00 |
| 16,103.6 | 94.10 | 359.50 | 10,682.8 | 4,248.0 | 446.0 | 4,243.9 | 0.00 | 0.00 | 0.00 |

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 |
|--|---------------|--------------|------------|--------------|--------------|-----------------|----------------|------------------|-------------------|
| PBHL (Mandelbaum F - plan hits target center - Rectangle (sides W100.0 H5,174.0 D30.0)) | -4.10 | 359.50 | 10,682.8 | 4,248.0 | 446.0 | 451,937.00 | 817,973.00 | 32° 14' 21.419 N | 103° 26' 18.999 W |
| LTP (Mandelbaum Fe - plan misses target center by 11.1usft at 16000.0usft MD (10690.2 TVD, 4144.7 N, 446.9 E) - Point | 0.00 | 0.00 | 10,682.8 | 4,153.0 | 447.0 | 451,842.00 | 817,974.00 | 32° 14' 20.479 N | 103° 26' 18.996 W |
| FTP (Mandelbaum Fe - plan misses target center by 182.4usft at 11000.0usft MD (10853.8 TVD, -801.4 N, 490.0 E) - Point | 0.00 | 0.00 | 10,987.0 | -926.0 | 491.0 | 446,763.00 | 818,018.00 | 32° 13' 30.219 N | 103° 26' 18.976 W |



Intrepid Planning Report



| | | | |
|------------------|---------------------------------------|-------------------------------------|---------------------------|
| Database: | EDM 5000.15 Single User Db | Local Co-ordinate Reference: | Well Mandelbaum Fee #126H |
| Company: | Tap Rock Resources, LLC | TVD Reference: | KB @ 3513.0usft |
| Project: | Lea County, NM (NAD 83 NME) | MD Reference: | KB @ 3513.0usft |
| Site: | (Mandelbaum Fee) Sec-11_T-24-S_R-34-E | North Reference: | Grid |
| Well: | Mandelbaum Fee #126H | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | OWB | | |
| Design: | Plan #1 | | |

Formations

| Measured Depth (usft) | Vertical Depth (usft) | Name | Lithology | Dip (°) | Dip Direction (°) |
|-----------------------|-----------------------|-------------------------|-----------|---------|-------------------|
| 1,015.0 | 1,015.0 | Rustler Anhydrite | | | |
| 2,205.1 | 2,200.0 | Top Salt | | | |
| 5,393.6 | 5,330.0 | Base Salt | | | |
| 5,434.3 | 5,370.0 | Delaware Mountain Gp | | | |
| 5,444.5 | 5,380.0 | Lamar | | | |
| 5,459.8 | 5,395.0 | Bell Canyon | | | |
| 5,520.9 | 5,455.0 | Ramsey Sand | | | |
| 6,504.0 | 6,420.0 | Cherry Canyon | | | |
| 7,788.4 | 7,690.0 | Brushy Canyon | | | |
| 9,263.4 | 9,165.0 | Bone Spring Lime | | | |
| 9,318.4 | 9,220.0 | Upper Avalon | | | |
| 9,533.4 | 9,435.0 | Middle Avalon | | | |
| 9,988.4 | 9,890.0 | Lower Avalon | | | |
| 10,333.4 | 10,235.0 | 1st Bone Spring Sand | | | |
| 10,553.4 | 10,455.0 | 2nd Bone Spring Carb FS | | | |
| 10,895.8 | 10,775.0 | 2nd Bone Spring Sand | | | |

Plan Annotations

| Measured Depth (usft) | Vertical Depth (usft) | Local Coordinates | | Comment |
|-----------------------|-----------------------|-------------------|--------------|---------------------------------|
| | | +N/-S (usft) | +E/-W (usft) | |
| 1,200.0 | 1,200.0 | 0.0 | 0.0 | NUDGE - Build 1.00 |
| 2,300.0 | 2,293.3 | -94.0 | 47.4 | HOLD - 4623.3 at 2300.0 MD |
| 6,923.4 | 6,831.7 | -882.0 | 444.1 | DROP - -1.00 |
| 8,023.4 | 7,925.0 | -976.0 | 491.5 | HOLD - 2517.0 at 8023.4 MD |
| 10,540.4 | 10,442.0 | -976.0 | 491.5 | KOP - DLS 10.00 TFO 359.50 |
| 11,481.5 | 11,013.5 | -362.1 | 486.2 | EOC - 4622.1 hold at 11481.5 MD |
| 16,103.6 | 10,682.8 | 4,248.0 | 446.0 | TD at 16103.6 |

State of New Mexico
Energy, Minerals and Natural Resources Department
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Submit Electronically
Via E-permitting

NATURAL GAS MANAGEMENT PLAN

This Natural Gas Management Plan must be submitted with each Application for Permit to Drill (APD) for a new or recompleted well.

Section 1 – Plan Description

Effective May 25, 2021

I. Operator: _____ Tap Rock Operating LLC _____ **OGRID:** _____ 372043 _____ **Date:** 2/28/2021 _____

II. Type: ☒ Original ☐ Amendment due to ☐ 19.15.27.9.D(6)(a) NMAC ☐ 19.15.27.9.D(6)(b) NMAC ☐ Other.

If Other, please describe: _____

III. Well(s): Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

| Well Name | API | ULSTR | Footages | Anticipated Oil BBL/D | Anticipated Gas MCF/D | Anticipated Produced Water |
|----------------------|-----|--------------------|-------------------|-----------------------|-----------------------|----------------------------|
| Mandelbaum Fee #126H | | Sec 11, T24S R 34E | 1029 FSL, 2462FEL | 710 | 850 | 2800 |
| | | | | | | |

IV. Central Delivery Point Name: Mandelbaum CDP [See 19.15.27.9(D)(1) NMAC]

V. Anticipated Schedule: Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

| Well Name | API | Spud Date | TD Reached Date | Completion Commencement Date | Initial Flow Back Date | First Production Date |
|----------------------|-----|-----------|-----------------|------------------------------|------------------------|-----------------------|
| Mandelbaum Fee #126H | | 3/18/22 | 3/26/22 | 6/19/22 | 6/25/22 | 6/25/22 |
| | | | | | | |

VI. Separation Equipment: ☒ Attach a complete description of how Operator will size separation equipment to optimize gas capture.

VII. Operational Practices: ☒ Attach a complete description of the actions Operator will take to comply with the requirements of Subsection A through F of 19.15.27.8 NMAC.

VIII. Best Management Practices: ☒ Attach a complete description of Operator's best management practices to minimize venting during active and planned maintenance.

Section 2 – Enhanced Plan

EFFECTIVE APRIL 1, 2022

Beginning April 1, 2022, an operator that is not in compliance with its statewide natural gas capture requirement for the applicable reporting area must complete this section.

☒ Operator certifies that it is not required to complete this section because Operator is in compliance with its statewide natural gas capture requirement for the applicable reporting area.

IX. Anticipated Natural Gas Production:

| Well | API | Anticipated Average Natural Gas Rate MCF/D | Anticipated Volume of Natural Gas for the First Year MCF |
|------|-----|--|--|
| | | | |
| | | | |

X. Natural Gas Gathering System (NGGS):

| Operator | System | ULSTR of Tie-in | Anticipated Gathering Start Date | Available Maximum Daily Capacity of System Segment Tie-in |
|----------|--------|-----------------|----------------------------------|---|
| | | | | |
| | | | | |

XI. Map. ☐ Attach an accurate and legible map depicting the location of the well(s), the anticipated pipeline route(s) connecting the production operations to the existing or planned interconnect of the natural gas gathering system(s), and the maximum daily capacity of the segment or portion of the natural gas gathering system(s) to which the well(s) will be connected.

XII. Line Capacity. The natural gas gathering system ☐ will ☐ will not have capacity to gather 100% of the anticipated natural gas production volume from the well prior to the date of first production.

XIII. Line Pressure. Operator ☐ does ☐ does not anticipate that its existing well(s) connected to the same segment, or portion, of the natural gas gathering system(s) described above will continue to meet anticipated increases in line pressure caused by the new well(s).

☐ Attach Operator's plan to manage production in response to the increased line pressure.

XIV. Confidentiality: ☐ Operator asserts confidentiality pursuant to Section 71-2-8 NMSA 1978 for the information provided in Section 2 as provided in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and attaches a full description of the specific information for which confidentiality is asserted and the basis for such assertion.

Section 3 - Certifications

Effective May 25, 2021

Operator certifies that, after reasonable inquiry and based on the available information at the time of submittal:

☒ Operator will be able to connect the well(s) to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system; or

☐ Operator will not be able to connect to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system.

If Operator checks this box, Operator will select one of the following:

Well Shut-In. ☐ Operator will shut-in and not produce the well until it submits the certification required by Paragraph (4) of Subsection D of 19.15.27.9 NMAC; or

Venting and Flaring Plan. ☐ Operator has attached a venting and flaring plan that evaluates and selects one or more of the potential alternative beneficial uses for the natural gas until a natural gas gathering system is available, including:

- (a) power generation on lease;
- (b) power generation for grid;
- (c) compression on lease;
- (d) liquids removal on lease;
- (e) reinjection for underground storage;
- (f) reinjection for temporary storage;
- (g) reinjection for enhanced oil recovery;
- (h) fuel cell production; and
- (i) other alternative beneficial uses approved by the division.

Section 4 - Notices


1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

(a) Operator becomes aware that the natural gas gathering system it planned to connect the well(s) to has become unavailable or will not have capacity to transport one hundred percent of the production from the well(s), no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised venting and flaring plan containing the information specified in Paragraph (5) of Subsection D of 19.15.27.9 NMAC; or

(b) Operator becomes aware that it has, cumulatively for the year, become out of compliance with its baseline natural gas capture rate or natural gas capture requirement, no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised Natural Gas Management Plan for each well it plans to spud during the next 90 days containing the information specified in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and shall file an update for each Natural Gas Management Plan until Operator is back in compliance with its baseline natural gas capture rate or natural gas capture requirement.

2. OCD may deny or conditionally approve an APD if Operator does not make a certification, fails to submit an adequate venting and flaring plan which includes alternative beneficial uses for the anticipated volume of natural gas produced, or if OCD determines that Operator will not have adequate natural gas takeaway capacity at the time a well will be spud.

I certify that, after reasonable inquiry, the statements in and attached to this Natural Gas Management Plan are true and correct to the best of my knowledge and acknowledge that a false statement may be subject to civil and criminal penalties under the Oil and Gas Act.

| |
|--|
| Signature:  |
| Printed Name: Jeff Trlica |
| Title: Regulatory Analyst |
| E-mail Address: jtrlica@taprk.com |
| Date: 2/28/2022 |
| Phone: 720-772-5910 |
| OIL CONSERVATION DIVISION (Only applicable when submitted as a standalone form) |
| Approved By: |
| Title: |
| Approval Date: |
| Conditions of Approval: |

VI. Separation Equipment: Attach a complete description of how Operator will size separation equipment to optimize gas capture:

Each surface facility design includes the following process equipment: 3-phase separators (1 separator per well), a sales gas scrubber, one or two 3-phase heater treaters, a vapor recovery tower (VRT), a VRU compressor, multiple water and oil tanks, as well as flare knockouts (HP & LP), and flares (HP & LP). All process vessels will be sized to separate oil, water, gas based upon typical/historical & predicted well performance. Each process vessel will be fitted with an appropriately sized PSV as per ASME code requirements to mitigate vessel rupture and loss of containment. Additionally, the process vessels will be fitted with pressure transmitters tied to the facility control system which will allow operations to monitor pressures and when necessary, shut-in the facility to avoid vessel over-pressure and the potential vent of natural gas. Natural gas will preferentially be sold to pipeline, and only during upset/emergency conditions will gas be directed to the HP flare system. Flash gas from both the 3-phase heater treater and the VRT will be recompressed using a VRU compressor and this gas will also preferentially be directed to the gas sales pipeline. Oil tanks & water tanks will be fitted with 16 oz thief hatches as well as PVRVs to protect the tanks from rupture/collapse. Additionally, the tank vapor outlets and tank vapor capture system will be sized to keep tank pressures below 12 oz. The tank vapor capture system will include a tank vapor blower & knockout as well as a low-pressure flare and knockout. Tank vapors will preferentially be directed to the VRU and the sales gas pipeline. Only during process upsets/emergency conditions will tank vapors be directed to the LP flare system.

VII. Operational Practices: Attach a complete description of the actions Operator will take to comply with the requirements of Subsection A through F of 19.15.27.8 NMAC. ← See attached reg for requirements.

- During drilling operations- Gas meters will be installed at the shakers and Volume Totalizers will be installed on the pits. In the event that elevated gas levels, or a pit gain are observed, returns will be diverted to a gas buster. Gas coming off the gas buster will be combusted at the flare stack. A 10' or taller flare will be located at least 100' from the SHL.
- During completions operations, including stimulation and frac plug drill out operations, hydrocarbon production to surface is minimized. When gas production does occur, gas will be combusted at a flare stack. A 10' or taller flare will be located at least 100' from the SHL.
- During production operations, all process vessels (separators, heater treaters, VRTs, Tanks) will recompress (where necessary) and route gas outlets into the natural gas gathering pipeline. Gas will preferentially be routed to natural gas gathering pipeline and the flare system will be used only during emergency, malfunction, or if the gas does not meet pipeline specifications. In the event of flaring off-specification gas, operations will pull gas samples twice a week and will also route gas back to pipeline as soon as the gas meets specification. Exceptions to this will include only those qualified exceptions per the regulation 19.15.27.8 Subsection D.

- To comply with state performance standards, separation and storage equipment will be designed to handle the maximum anticipated throughput and pressure to minimize waste and reduce the likelihood of venting gas to atmosphere. Additionally, each storage atmospheric tank (Oil & Water) will be fitted with a level transmitter to facilitate gauging of the tank without opening of the thief hatch. Any gas collected through the tank vent system is expected to be recompressed and routed to sales. However, in the event of an emergency, the tank vapor capture system will be designed to combust the gas using a flare stack fitted with a continuous or automatic ignitor. The flare stack will be properly anchored and will be located a minimum of 100 feet from the well and storage tanks. Operators will conduct weekly AVO inspections. These AVO inspection records will be stored for the required 5-year period and will be made available upon Division request.

VIII. Best Management Practices: Attach a complete description of Operator's best management practices to minimize venting during active and planned maintenance.

- When performing routine or preventive maintenance on a vessel or tank, initially all inlet valves are closed, and the vessel or tank is allowed to depressurize through the normal outlet connections to gas sales and/or liquid tanks. Once the vessel or tank is depressurized to lowest acceptable sales outlet pressure, usually around 20 psig, a temporary low-pressure flowline is connected from the vessel or tank to the Vapor Recovery Unit (VRU) for further pressure reduction. Once depressurized to less than 1-2 psig, the remaining natural gas in the vessel or tank is vented to atmosphere through a controlled pressure relief valve. Once the vessel or tank is depressurized to atmospheric pressure, the vessel or tank can be safely opened, and maintenance performed.