

CASE NO. 21071

**APPLICATION OF TAP ROCK RESOURCES, LLC FOR COMPULSORY POOLING,
LEA COUNTY, NEW MEXICO**

EXHIBITS

- A. Application and Proposed Ad
- B. Landman's Affidavit
- C. Geologist's Affidavit
- D. Affidavit of Notice
- E. Affidavit of Publication
- F. Pooling Checklist

**STATE OF NEW MEXICO
DEPARTMENT OF ENERGY, MINERALS AND NATURAL RESOURCES
OIL CONSERVATION DIVISION**

**APPLICATION OF TAP ROCK RESOURCES,
LLC FOR COMPULSORY POOLING, LEA
COUNTY, NEW MEXICO.**

Case No. 21071

APPLICATION

Tap Rock Resources, LLC applies for an order pooling all uncommitted mineral interests in the Wolfcamp formation underlying a (proximity tract) horizontal spacing unit comprised of the E/2W/2 and the W/2E/2 of Section 11, Township 24 South, Range 34 East, NMPM, Lea County, New Mexico, and in support thereof, states:

1. Applicant is a working interest owner in the E/2W/2 and the W/2E/2 of Section 11, and has the right to drill a well or wells thereon.
2. Applicant proposes to drill the Mandelbaum Fee Well Nos. 132H, 136H, 137H, 203H, 207H, 212H, 216H, and 217H to a depth sufficient to test the Wolfcamp formation, and dedicate the E/2W/2 and the W/2E/2 of Section 11 to the wells
3. Applicant has in good faith sought to obtain voluntary joinder of all other mineral interest owners in the E/2W/2 and the W/2E/2 of Section 11.
4. Although applicant attempted to obtain to obtain voluntary agreements from all mineral interest owners to participate in the drilling of the wells or to otherwise commit their interests to the wells, certain interest owners have failed or refused to join in dedicating their interests. Therefore, applicant seeks an order pooling all mineral interest owners in the Wolfcamp formation underlying the E/2W/2 and the W/2E/2 of Section 11, pursuant to NMSA 1978 §70-2-17.

EXHIBIT

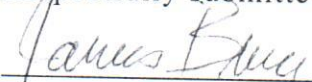
A

5. The pooling of mineral interests in the Wolfcamp formation underlying the E/2W/2 and the W/2E/2 of Section 11 will avoid the drilling of unnecessary wells, prevent waste, and protect correlative rights.

WHEREFORE, applicant requests that, after notice and hearing, the Division enter its order:

- A. Pooling all uncommitted mineral interests in Wolfcamp formation underlying the E/2W/2 and the W/2E/2 of Section 11;
- B. Designating Tap Rock Operating, LLC as operator of the wells;
- C. Considering the cost of drilling and completing the wells, and allocating the costs thereof among the wells' working interest owners;
- D. Approving actual operating charges and costs charged for supervision, together with a provision adjusting the rates pursuant to the COPAS accounting procedure; and
- E. Setting a 200% charge for the risk assumed by applicant in drilling and completing the wells in the event a working interest owner elects not to participate in the wells.

Respectfully submitted,


James Bruce
Post Office Box 1056
Santa Fe, New Mexico 87504
(505) 982-2043

jamesbruc@aol.com

Attorney for Tap Rock Resources, LLC

PROPOSED ADVERTISEMENT

Case No. _____:

Application of Tap Rock Resources, LLC for a compulsory pooling, Lea County, New Mexico.

Tap Rock Resources, LLC seeks an order pooling all mineral interests in the Wolfcamp formation underlying a (proximity tract) horizontal spacing unit comprised of the E/2W/2 and the W/2E/2 of Section 11, Township 24 South, Range 34 East, NMPM, Lea County, New Mexico. The unit will be dedicated to the Mandelbaum Fee Well Nos. 132H, 136H, 137H, 203H, 207H, 212H, 216H, and 217H. Also to be considered will be the cost of drilling and completing the wells and the allocation of the cost thereof, as well as actual operating costs and charges for supervision, designation of Tap Rock Operating, LLC as operator of the wells, and a 200% charge for the risk involved in drilling and completing the wells. The unit is located approximately 24 miles west-northwest of Jal, New Mexico.

**STATE OF NEW MEXICO
DEPARTMENT OF ENERGY, MINERALS AND NATURAL RESOURCES
OIL CONSERVATION DIVISION**

**APPLICATION OF TAP ROCK OPERATING, LLC
FOR A STANDARD HORIZONTAL SPACING
AND PRORATION UNIT AND COMPULSORY POOLING,
LEA COUNTY, NEW MEXICO**

Case Nos. 21071

AFFIDAVIT OF ERICA HIXSON

I, being duly sworn on oath, state the following:

1. I am over the age of eighteen years and have the capacity to execute this Affidavit, which is based on my personal knowledge.
2. I am employed as a Landman with Tap Rock Operating, LLC ("Tap Rock"), and I am familiar with the subject application and the lands involved.
3. This affidavit is submitted in connection with the filing by Tap Rock of the above-referenced compulsory pooling applications pursuant to 19.15.4.12.A(1) NMAC.
4. I have previously testified before the New Mexico Oil Conservation Division as an expert witness in petroleum land matters. My credentials as a petroleum landman have been accepted by the Division and made a matter of record.
5. The purpose of this application is to force pool working interest owners into the horizontal spacing unit ("HSU") described below, and in the wells to be drilled in the units.
6. No opposition is expected. Marathon Oil Permian, LLC ("MRO") and COG Operating LLC ("COG") were contacted regarding the proposed well. Tap Rock continues to work toward a voluntary agreement with both COG and MRO.
7. Tap Rock seeks an order pooling all mineral interests in the Antelope Ridge; Wolfcamp Pool (Pool Code 2220) underlying the W/2E/2 & E/2W/2 of Section 11, Township 24

South, Range 34 East, NMPM, Lea County, New Mexico. The proposed 320-acre spacing unit will be dedicated to the Mandelbaum #132H, #136H, #137H, #203H, #207H, #212H, #216H, and #217H, as the defining wells for the units.

1. A proposed C-102 for each well is attached as **Exhibit 1**. The wells will develop the Antelope Ridge; Wolfcamp Pool (Pool Code 2220), which is an oil pool.

2. The proposed surface hole, bottom hole, and first take point for each well can be found in the attached **Exhibit 1**. The proposed total vertical depth for each well can be found in the attached **Exhibit 5**.

3. A tract map containing the composition of the HSU is attached hereto as **Exhibit 2** and shows that the HSU is comprised of one large fee tract.

4. The parties being pooled and the nature of their interest are found in **Exhibit 4** attached hereto. **Exhibit 4** also includes information regarding working interest owners and overriding royalty interest owners.

5. There are no depth severances in the Wolfcamp formation in the proposed HSU.

6. I have conducted a diligent search of the public records in Lea County, New Mexico, where the wells will be located, and conducted phone directory and computer searches to obtain contact information for parties entitled to notification. I mailed all parties well proposals, including an Authorization for Expenditure ("AFE").

7. Tap Rock has made a good faith effort to obtain voluntary joinder of the working interest owners in the proposed wells.

8. **Exhibit 5** is a sample proposal letter and the AFE for each of the proposed wells. The estimated cost of each of the wells set forth in the AFE is fair, reasonable, and comparable to the costs of other wells of similar depths and lengths drilled in this area of New Mexico.

9. Tap Rock requests overhead and administrative rates of \$7000/month for drilling a well and \$700/month for a producing well. These rates are fair and comparable to the rates charged by other operators for wells of this type in this area of southeastern New Mexico. Tap Rock requests that these rates be adjusted periodically as provided in the COPAS Accounting Procedure.

10. Tap Rock requests the maximum cost, plus 200% risk charge be assessed against non-consenting working interest owners.

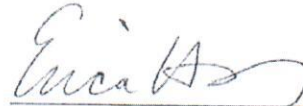
11. Tap Rock requests that it be designated operator of the wells.

12. The Exhibits to this Affidavit were prepared by me, or compiled from Tap Rock's company business records.

13. The granting of this Application is in the interests of conservation, the prevention of waste, and the protection of correlative rights.

14. The foregoing is correct and complete to the best of my knowledge and belief.

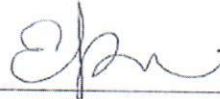
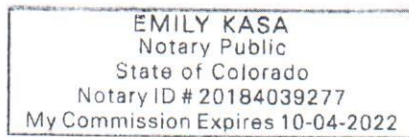
FURTHER AFFIANT SAYETH NAUGHT



Erica Hixson

STATE OF COLORADO)
)ss
COUNTY OF JEFFERSON)

Subscribed to and sworn before me this 25th day of January, 2020.



Notary Public

My Commission expires 10-4-2022.

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

FORM C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office
☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number		² Pool Code 2220	³ Pool Name Antelope Ridge; Wolfcamp Pool
⁴ Property Code	⁵ Property Name MANDELBAUM FEE		⁶ Well Number 137H
⁷ GRID No.	⁸ Operator Name TAP ROCK OPERATING, LLC.		⁹ Elevation 3503'

¹⁰Surface Location

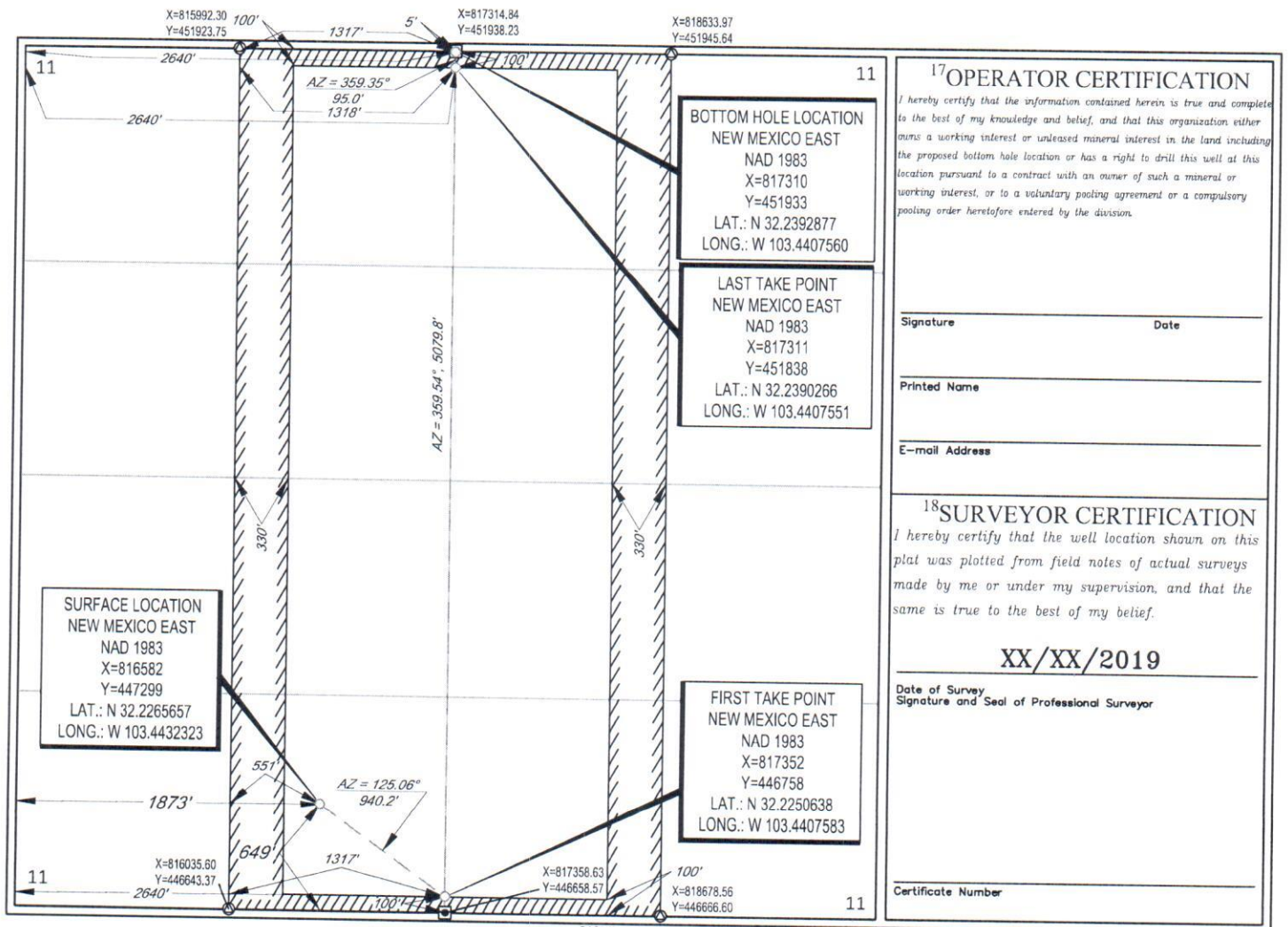
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	11	24-S	34-E	-	649'	SOUTH	1873'	WEST	LEA

¹¹Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	11	24-S	34-E	-	5'	NORTH	2640'	WEST	LEA

¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.



District I
1625 N. French Dr., Hobbs, NM 88240
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WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number		² Pool Code 2220	³ Pool Name Antelope Ridge; Wolfcamp Pool
⁴ Property Code	⁵ Property Name MANDELBAUM FEE		⁶ Well Number 203H
⁷ OGRID No. #372043	⁸ Operator Name TAP ROCK OPERATING, LLC.		⁹ Elevation 3486'

¹⁰Surface Location

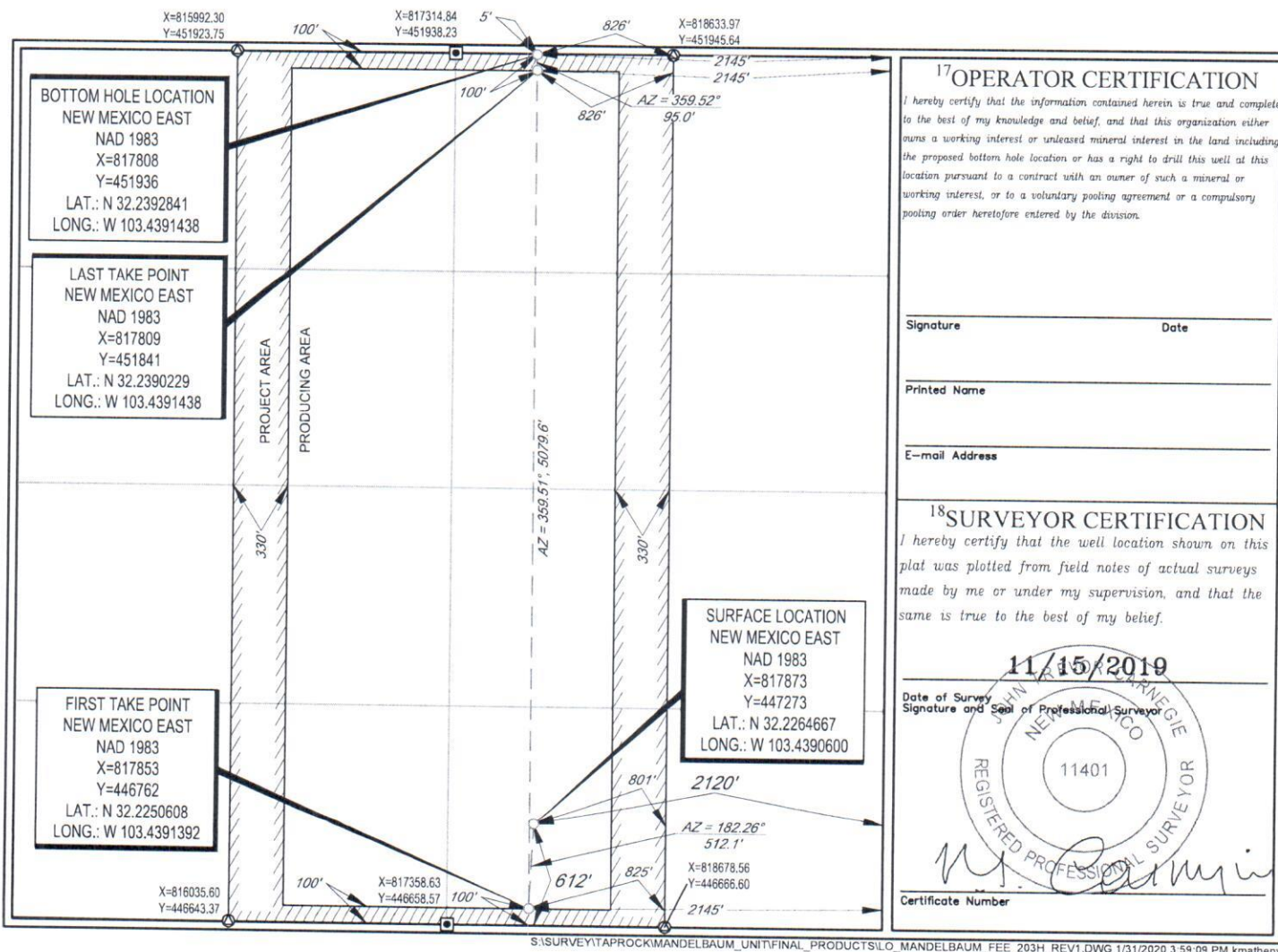
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
0	11	24-S	34-E	-	612'	SOUTH	2120'	EAST	LEA

¹¹Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	11	24-S	34-E	-	5'	NORTH	2145'	EAST	LEA

¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number	² Pool Code 2220	³ Pool Name Antelope Ridge; Wolfcamp Pool
⁴ Property Code	⁵ Property Name MANDELBAUM FEE	⁶ Well Number 216H
⁷ OGRID No. #372043	⁸ Operator Name TAP ROCK OPERATING, LLC.	⁹ Elevation 3484'

¹⁰Surface Location

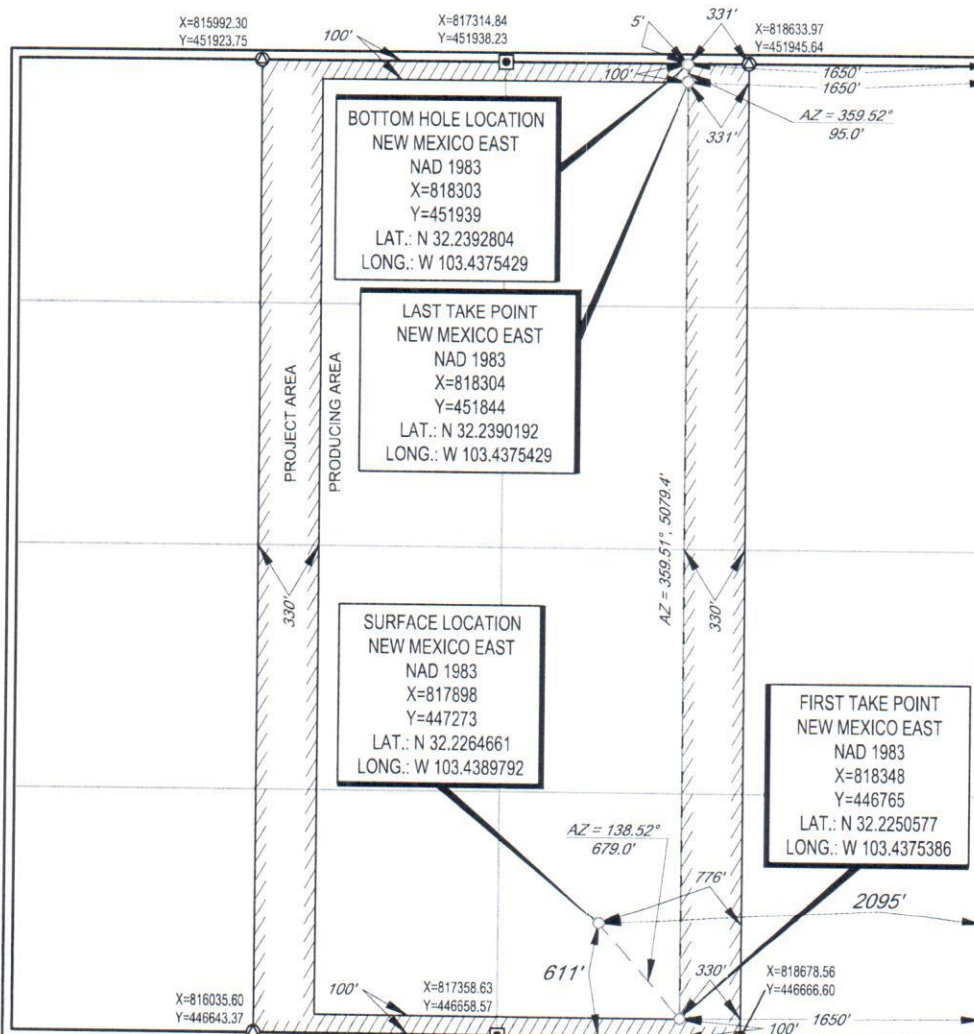
UL or lot no. 0	Section 11	Township 24-S	Range 34-E	Lot Idn -	Feet from the 611'	North/South line SOUTH	Feet from the 2095'	East/West line EAST	County LEA
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¹¹Bottom Hole Location If Different From Surface

UL or lot no. B	Section 11	Township 24-S	Range 34-E	Lot Idn -	Feet from the 5'	North/South line NORTH	Feet from the 1650'	East/West line EAST	County LEA
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¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.



¹⁷OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature _____ Date _____

Printed Name _____

E-mail Address _____

¹⁸SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true to the best of my belief.

Date of Survey 11/15/2019
Signature _____ Seal of Professional Surveyor

11401
REGISTERED PROFESSIONAL SURVEYOR

Certificate Number _____

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WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number	² Pool Code 2220	³ Pool Name Antelope Ridge; Wolfcamp Pool
⁴ Property Code	⁵ Property Name MANDELBAUM FEE	⁶ Well Number 217H
⁷ GRID No.	⁸ Operator Name TAP ROCK OPERATING, LLC.	⁹ Elevation 3483'

¹⁰Surface Location

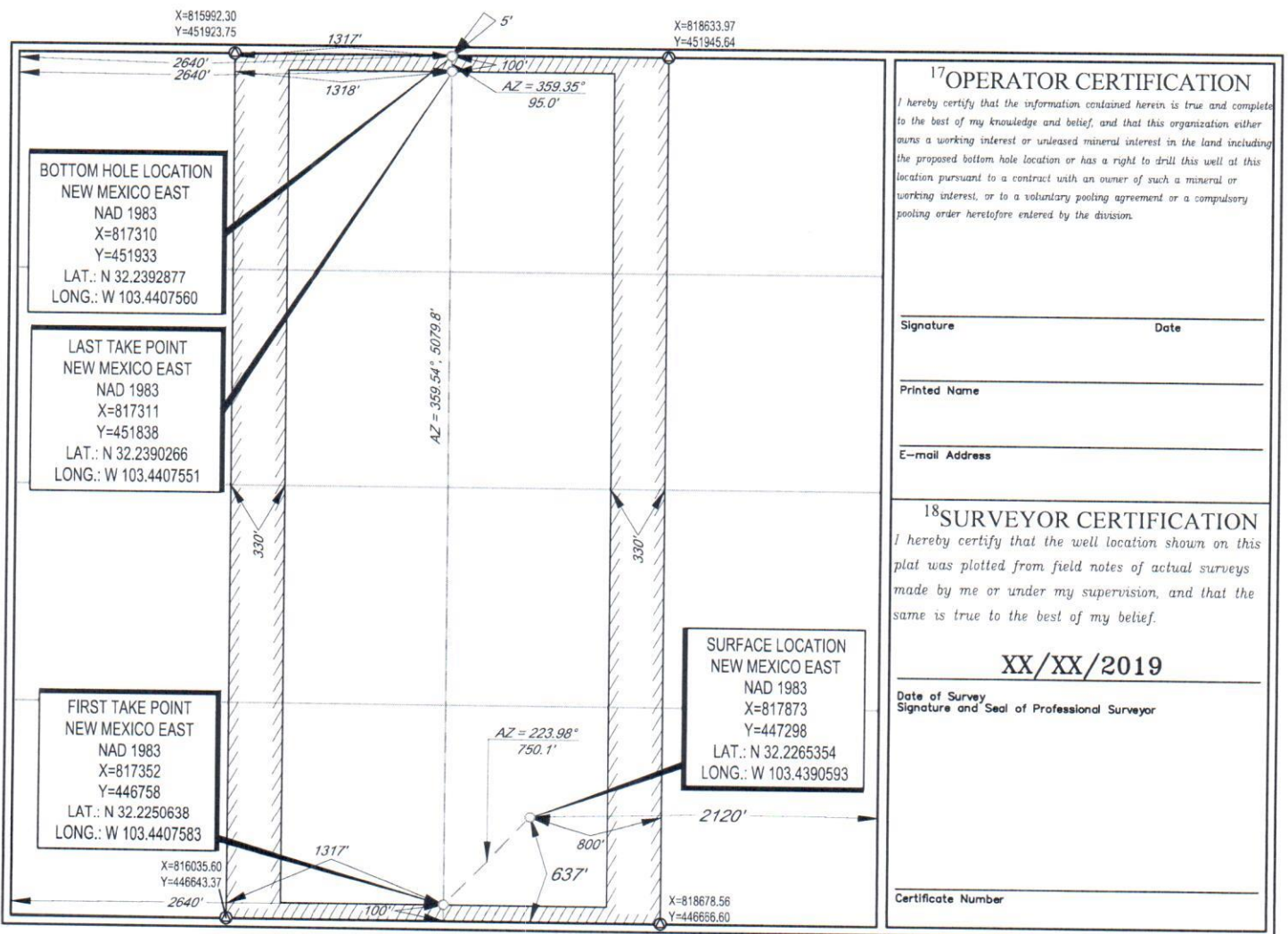
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
O	11	24-S	34-E	-	637'	SOUTH	2120'	EAST	LEA

¹¹Bottom Hole Location If Different From Surface

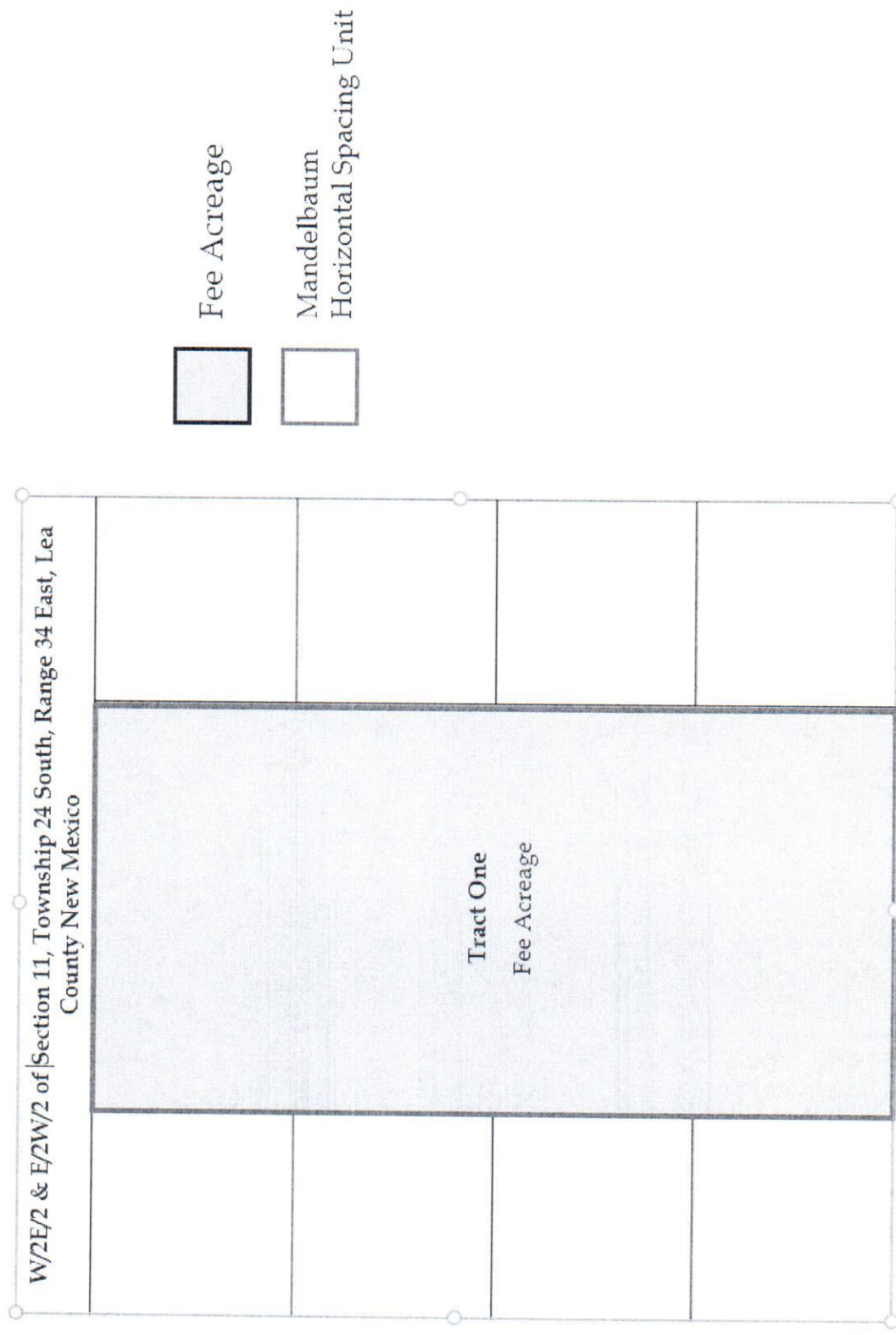
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	11	24-S	34-E	-	5'	NORTH	2640'	WEST	LEA

¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.



Tract Map



Mandelbaum 132H, 136H, 137H, 203H, 207H, 212H, 216H, & 217H

Exhibit 2
Case No. 21071

Tract List



Tract #	Legal	Mineral Ownership Type	Lease Number	Owners
1	W/2E/2 and E/2W/2 of Section 11, T24S R34E	Fee	N/A	GAJH 1989 Limited Partnership c/o UMC Petroleum Corporation Energen Resources Corporation COG Operating LLC Franklin Mountain Energy II, LLC Marathon Oil Permian, LLC Crown Oil Partners VI, LLC; and, Crump Energy Partners III, LLC

*final interest subject to division order title verification

Mandelbaum 132H, 136H, 137H, 203H, 207H, 212H,
216H, & 217H

Unit Interest Breakdown*



Entity	Interest Type	Approximate Percentage
Tap Rock Resources, LLC	Working Interest	10.156250%
COG Operating LLC	Uncommitted Working Interest	61.328125%
Marathon Oil Permian, LLC	Uncommitted Working Interest	17.394212%
Energen Resources Corporation	Unleased Mineral Interest	3.456038%
Crown Oil Partners VI, LLC; and, Crump Energy Partners III, LLC	Uncommitted Working Interest	3.128311%
GAJH 1989 Limited Partnership c/o UMC Petroleum Corporation	Unleased Mineral Interest	2.896439%
Franklin Mountain Energy II, LLC	Uncommitted Working Interest	1.640625%

Overriding Royalty Interest

Stryker Energy, LLC

*final interest subject to division order title verification

Mandelbaum 132H, 136H, 137H, 203H, 207H, 212H,
216H, & 217H



October 4, 2019

Via Certified Mail

COG Operating LLC
One Concho Center
600 W. Illinois Ave.
Midland, Texas 79701

EX. B-5

**Re: Mandelbaum Well Proposals
Township 24 South, Range 34 East, Section 11
Lea County, New Mexico (the "Wells")**

Tap Rock Operating, LLC (TRO), as Operator, hereby proposes to drill the following Wells by pad drilling to prevent waste and protect correlative rights. Accordingly, enclosed are AFEs dated September 30, 2019 for the following:

Well Name	Surface Hole Location (SHL)	Bottom Hole Location (BHL)	Formation	TVD	MD
Mandelbaum #122H	SE/4SW/4 Section 11	NE/4NW/4 Section 11	2 nd Bone Spring	11,000'	16,410'
Mandelbaum #123H	SW/4SE/4 Section 11	NW/4NE/4 Section 11	Bone Spring	11,000'	16,410'
Mandelbaum #132H	SE/4SW/4 Section 11	NE/4NW/4 Section 11	Wolfcamp A	11,860'	17,270'
Mandelbaum #136H	SW/4SE/4 Section 11	NW/4NE/4 Section 11	Wolfcamp A	11,860'	17,270'
Mandelbaum #137H	SE/4SW/4 Section 11	NE/4NW/4 Section 11	Wolfcamp A	11,860'	17,270'
Mandelbaum #142H	SE/4SW/4 Section 11	NE/4NW/4 Section 11	1 st Bone Spring	10,370'	15,780'
Mandelbaum #143H	SW/4SE/4 Section 11	NW/4NE/4 Section 11	1 st Bone Spring	10,350'	15,780'
Mandelbaum #192H	SE/4SW/4 Section 11	NE/4NW/4 Section 11	2 nd Bone Spring	10,600'	16,010'
Mandelbaum #193H	SW/4SE/4 Section 11	NW/4NE/4 Section 11	2 nd Bone Spring	10,600'	16,010'
Mandelbaum #203H	SW/4SE/4 Section 11	NW/4NE/4 Section 11	Wolfcamp A	11,970'	17,380'
Mandelbaum #207H	SE/4SW/4 Section 11	NE/4NW/4 Section 11	Wolfcamp A	11,970'	17,380'
Mandelbaum #212H	SE/4SW/4 Section 11	NE/4NW/4 Section 11	Wolfcamp A	12,180'	17,590'
Mandelbaum #216H	SW/4SE/4 Section 11	NW/4NE/4 Section 11	Wolfcamp A	12,180'	17,590'
Mandelbaum #217H	SE/4SW/4 Section 11	NE/4NW/4 Section 11	Wolfcamp A	12,180'	17,590'

The proposed locations and drilling plans described above are subject to change depending on surface or subsurface issues that may be encountered. TRO will advise you of any such



modifications. A separate AFE for facility costs is forthcoming. Your election to participate in the drilling and completion of the proposed wells will also be considered an election to participate in the construction of the production facility.

In the event you elect to participate in the proposed Wells, please execute the enclosed AFEs and return to me within 30 days. TRO is proposing to drill these wells under the terms of the AAPL Form 610-1989 Operating Agreement which will be provided after an election to participate is received. This Operating Agreement covers the E2W2 and W2E2 of Section 11, Township 24 South, Range 34 East, Lea County, New Mexico.

If you do not wish to participate in the Operation, TRO would like to offer the following terms:

- 3 year primary term, Term Assignment
- Royalty equal to the difference between existing burdens and 20%
- \$7,500 per net acre bonus consideration

The Term Assignment offer is subject to the approval of TRO's board and verification of title.

Additionally, TRO is open to discuss possible trades or other deal structures related to your interest in the proposed Wells. If an agreement cannot be reached within 30 days of the date of this letter, TRO will apply to the New Mexico Oil Conservation Division for compulsory pooling of your interest into a spacing unit for the proposed Wells to allow TRO to move forward with planning and drilling the Wells.

Should you have any questions regarding the above, please contact the undersigned.

Sincerely,

TAP ROCK OPERATING, LLC

Erica Hixson

Erica Hixson

Landman

Office: 720-460-3316

ehixson@taprk.com



COG Operating LLC hereby elects to:

_____ participate in the Mandelbaum #122H

_____ non-consent the Mandelbaum #122H

_____ participate in the Mandelbaum #123H

_____ non-consent the Mandelbaum #123H

_____ participate in the Mandelbaum #132H

_____ non-consent the Mandelbaum #132H

_____ participate in the Mandelbaum #136H

_____ non-consent the Mandelbaum #136H

_____ participate in the Mandelbaum #137H

_____ non-consent the Mandelbaum #137H

_____ participate in the Mandelbaum #142H

_____ non-consent the Mandelbaum #142H

_____ participate in the Mandelbaum #143H

_____ non-consent the Mandelbaum #143H

_____ participate in the Mandelbaum #192H

_____ non-consent the Mandelbaum #192H

_____ participate in the Mandelbaum #193H

_____ non-consent the Mandelbaum #193H

_____ participate in the Mandelbaum #203H

_____ non-consent the Mandelbaum #203H

_____ participate in the Mandelbaum #207H

_____ non-consent the Mandelbaum #207H

_____ participate in the Mandelbaum #212H

_____ non-consent the Mandelbaum #212H

_____ participate in the Mandelbaum #216H

_____ non-consent the Mandelbaum #216H

_____ participate in the Mandelbaum #217H

_____ non-consent the Mandelbaum #217H

By: _____

Name: _____

Title: _____

Date: _____

TAP ROCK OPERATING, LLC
602 Park Point Dr, Golden, Colorado 80401
Authorization For Expenditure

Name: Mandelbaum 132H
AFE #: 0
County: Lea
State: NM

Date: September 30, 2019
MD/TVD: 17270 / 11860
Lateral Length: 4960
Geologic Target: Wolfcamp A

Well Description:

Drill, complete, and equip a horizontal Wolfcamp A well with a 4960 foot lateral.

INTANGIBLE DRILLING COSTS

COST CODES	DESCRIPTION	AMOUNT
1 1	Land - Legal	10,000
1 2	Land - Regulatory	5,000
1 3	Land - Surface Damages	20,000
1 4	Land - Survey	10,000
1 5	Location/Pit Construction	140,000
1 6	Remedial Dirtwork	0
1 7	Reserve/Frac Pit Closing	0
1 8	Drilling - Contractor	637,712
1 9	Mob/Rig Up - Contractor/Trucking	123,250
1 10	Cementing Services	0
1 11	Cementing Equipment	0
1 12	Bits/Drill Out Assemblies	0
1 13	Fluid Circulation Equipment/Services	109,887
1 14	Fluids/Chemicals	163,680
1 15	WBM Cuttings/Wastewater Disposal	133,920
1 16	OBM Cuttings/Chemical Disposal	49,600
1 17	Fuel/Power	152,776
1 18	Water	0
1 19	Directional Drilling	268,329
1 20	Mud Logging	26,722
1 21	Open/Cased/Production Hole Logs	0
1 22	Coring	0
1 23	Geologic Supervision	0
1 24	Engineering Supervision	0
1 25	Consultant Supervision	137,498
1 26	Freight/Transportation	20,000
1 27	Labor	0
1 28	Supplies - Surface	2,500
1 29	Supplies - Living Quarters	1,000
1 30	Rentals - Surface	68,999
1 31	Rentals - Living Quarters	35,138
1 32	Rentals - Downhole	0
1 33	Rentals - Pipe & Handling Tools	0
1 34	Rentals - Frac Stack	0
1 35	Rentals - Frac Tanks	0
1 36	Coil Tubing Unit/Workover Rig	0
1 37	Wireline/Slickline/Perforating	0
1 38	Temporary Packers/Plugs	0
1 39	High Pressure Pump Truck	0
1 40	Stimulation	0
1 41	Rentals - Pressure Control	0
1 42	Flowback Services	0
1 43	Water Transfer Services	0
1 44	Flowback Water Trucking & Disposal	0
1 45	Permanent Equipment Installation	0
1 46	Pipeline Tapping Services	0
1 47	Plugging & Abandonment	0
1 53	Overhead	12,778
1 54	Insurance	31,086
1 55	Contingency	107,994

TOTAL INTANGIBLE DRILLING COSTS: \$2,267,869

INTANGIBLE COMPLETION COSTS

COST CODES	DESCRIPTION	AMOUNT
2 1	Land - Legal	0
2 2	Land - Regulatory	0
2 3	Land - Surface Damages	0
2 4	Land - Survey	0
2 5	Location/Pit Construction	0
2 6	Remedial Dirtwork	0
2 7	Reserve/Frac Pit Closing	0
2 8	Drilling - Contractor	0
2 9	Mob/Rig Up - Contractor/Trucking	0
2 10	Cementing Services	0
2 11	Cementing Equipment	0
2 12	Bits/Drill Out Assemblies	55,516
2 13	Fluid Circulation Equipment/Services	0
2 14	Fluids/Chemicals	39,832
2 15	WBM Cuttings/Wastewater Disposal	0
2 16	OBM Cuttings/Chemical Disposal	0
2 17	Fuel/Power	325,000
2 18	Water	497,457
2 19	Directional Drilling	0
2 20	Mud Logging	0
2 21	Open/Cased/Production Hole Logs	10,550
2 22	Coring	0
2 23	Geologic Supervision	0
2 24	Engineering Supervision	0
2 25	Consultant Supervision	100,000
2 26	Freight/Transportation	4,110
2 27	Labor	15,940
2 28	Supplies - Surface	4,110
2 29	Supplies - Living Quarters	4,110
2 30	Rentals - Surface	35,670
2 31	Rentals - Living Quarters	28,690
2 32	Rentals - Downhole	0
2 33	Rentals - Pipe & Handling Tools	0
2 34	Rentals - Frac Stack	115,270
2 35	Rentals - Frac Tanks	89,500
2 36	Coil Tubing Unit/Workover Rig	107,857
2 37	Wireline/Slickline/Perforating	257,550
2 38	Temporary Packers/Plugs	37,500
2 39	High Pressure Pump Truck	102,200
2 40	Stimulation	1,258,294
2 41	Rentals - Pressure Control	0
2 42	Flowback Services	96,875
2 43	Water Transfer Services	105,875
2 44	Flowback Water Trucking & Disposal	135,772
2 45	Permanent Equipment Installation	0
2 46	Pipeline Tapping Services	0
2 47	Plugging & Abandonment	0
2 53	Overhead	22,155
2 54	Insurance	0
2 55	Contingency	282,069

TOTAL INTANGIBLE COMPLETION COSTS: \$3,731,901

INTANGIBLE PRODUCTION COSTS

COST CODES	DESCRIPTION	AMOUNT
3 1	Land - Legal	0
3 2	Land - Regulatory	0
3 3	Land - Surface Damages	0
3 4	Land - Survey	0
3 5	Location/Pit Construction	5,000
3 6	Remedial Dirtwork	0
3 7	Reserve/Frac Pit Closing	0
3 8	Drilling - Contractor	0
3 9	Mob/Rig Up - Contractor/Trucking	0
3 10	Cementing Services	0
3 11	Cementing Equipment	0
3 12	Bits/Drill Out Assemblies	0
3 13	Fluid Circulation Equipment/Services	0
3 14	Fluids/Chemicals	0
3 15	WBM Cuttings/Wastewater Disposal	0
3 16	OBM Cuttings/Chemical Disposal	0
3 17	Fuel/Power	0
3 18	Water	0
3 19	Directional Drilling	0
3 20	Mud Logging	0
3 21	Open/Cased/Production Hole Logs	0
3 22	Coring	0
3 23	Geologic Supervision	0
3 24	Engineering Supervision	0
3 25	Consultant Supervision	20,000
3 26	Freight/Transportation	10,000
3 27	Labor	85,000
3 28	Supplies - Surface	0
3 29	Supplies - Living Quarters	0
3 30	Rentals - Surface	0
3 31	Rentals - Living Quarters	0
3 32	Rentals - Downhole	0
3 33	Rentals - Pipe & Handling Tools	0
3 34	Rentals - Frac Stack	0
3 35	Rentals - Frac Tanks	0
3 36	Coil Tubing Unit/Workover Rig	70,000
3 37	Wireline/Slickline/Perforating	0
3 38	Temporary Packers/Plugs	0
3 39	High Pressure Pump Truck	0
3 40	Stimulation	0
3 41	Rentals - Pressure Control	0
3 42	Flowback Services	0
3 43	Water Transfer Services	0
3 44	Flowback Water Trucking & Disposal	0
3 45	Permanent Equipment Installation	0
3 46	Pipeline Tapping Services	0
3 47	Plugging & Abandonment	0
3 53	Overhead	5,000
3 54	Insurance	0
3 55	Contingency	19,500

TOTAL INTANGIBLE PRODUCTION COSTS: \$214,500

TANGIBLE DRILLING COSTS

COST CODES	DESCRIPTION	AMOUNT
4 60	Conductor Casing	0
4 61	Surface Casing	42,599
4 62	1st Intermediate Casing	153,263
4 63	2nd Intermediate Casing	329,275
4 64	Production Casing	321,995
4 65	Tubing	0
4 66	Wellhead	0
4 67	Permanent Packers/Hangers/Plugs	0
4 68	Tanks	0
4 69	Production Vessels	0
4 70	Compressors	0
4 71	Surface Flowlines	0
4 72	Gathering Lines	0
4 73	Valves & Controllers	0
4 74	Artificial Lift Equipment	0
4 75	Instrumentation & Measurement	0
4 76	Electrical Grounding/Safety Equipment	0
4 77	Permanent Equipment Installation	0
4 80	Other - Surface	0
4 81	Other - Downhole	0

TOTAL TANGIBLE DRILLING COSTS: \$847,131

TOTAL DRILLING COSTS: \$3,115,000

TANGIBLE COMPLETION COSTS

COST CODES	DESCRIPTION	AMOUNT
5 60	Conductor Casing	0
5 61	Surface Casing	0
5 62	1st Intermediate Casing	0
5 63	2nd Intermediate Casing	0
5 64	Production Casing	22,500
5 65	Tubing	0
5 66	Wellhead	40,000
5 67	Permanent Packers/Hangers/Plugs	0
5 68	Tanks	0
5 69	Production Vessels	0
5 70	Compressors	0
5 71	Surface Flowlines	0
5 72	Gathering Lines	0
5 73	Valves & Controllers	0
5 74	Artificial Lift Equipment	0
5 75	Instrumentation & Measurement	0
5 76	Electrical Grounding/Safety Equipment	0
5 77	Permanent Equipment Installation	0
5 80	Other - Surface	0
5 81	Other - Downhole	0

TOTAL TANGIBLE COMPLETION COSTS: \$62,500

TOTAL COMPLETION COSTS: \$3,794,401

TANGIBLE PRODUCTION COSTS

COST CODES	DESCRIPTION	AMOUNT
6 60	Conductor Casing	0
6 61	Surface Casing	0
6 62	1st Intermediate Casing	0
6 63	2nd Intermediate Casing	0
6 64	Production Casing	0
6 65	Tubing	60,000
6 66	Wellhead	43,500
6 67	Permanent Packers/Hangers/Plugs	5,000
6 68	Tanks	0
6 69	Production Vessels	82,000
6 70	Compressors	0
6 71	Surface Flowlines	50,000
6 72	Gathering Lines	10,000
6 73	Valves & Controllers	0
6 74	Artificial Lift Equipment	35,000
6 75	Instrumentation & Measurement	0
6 76	Electrical Grounding/Safety Equipment	0
6 77	Permanent Equipment Installation	0
6 80	Other - Surface	0
6 81	Other - Downhole	0

TOTAL TANGIBLE PRODUCTION COSTS: \$285,500

TOTAL PRODUCTION COSTS: \$500,000

TOTAL WELL COST: \$7,409,401

TAP ROCK OPERATING, LLC
602 Park Point Dr, Golden, Colorado 80401
Authorization For Expenditure

Name: Mandelbaum 136H
AFE #: 0
County: Lea
State: NM

Date: September 30, 2019
MD/TVD: 17270 / 11860
Lateral Length: 4960
Geologic Target: Wolfcamp A

Well Description: Drill, complete, and equip a horizontal Wolfcamp A well with a 4960 foot lateral.

INTANGIBLE DRILLING COSTS

COST CODES	DESCRIPTION	AMOUNT
1 1	Land - Legal	10,000
1 2	Land - Regulatory	5,000
1 3	Land - Surface Damages	20,000
1 4	Land - Survey	10,000
1 5	Location/Pit Construction	140,000
1 6	Remedial Dirtwork	0
1 7	Reserve/Frac Pit Closing	0
1 8	Drilling - Contractor	637,712
1 9	Mob/Rig Up - Contractor/Trucking	123,250
1 10	Cementing Services	0
1 11	Cementing Equipment	0
1 12	Bits/Drill Out Assemblies	0
1 13	Fluid Circulation Equipment/Services	109,887
1 14	Fluids/Chemicals	163,680
1 15	WBM Cuttings/Wastewater Disposal	133,920
1 16	OBM Cuttings/Chemical Disposal	49,600
1 17	Fuel/Power	152,776
1 18	Water	0
1 19	Directional Drilling	268,329
1 20	Mud Logging	26,722
1 21	Open/Cased/Production Hole Logs	0
1 22	Coring	0
1 23	Geologic Supervision	0
1 24	Engineering Supervision	0
1 25	Consultant Supervision	137,498
1 26	Freight/Transportation	20,000
1 27	Labor	0
1 28	Supplies - Surface	2,500
1 29	Supplies - Living Quarters	1,000
1 30	Rentals - Surface	68,999
1 31	Rentals - Living Quarters	35,138
1 32	Rentals - Downhole	0
1 33	Rentals - Pipe & Handling Tools	0
1 34	Rentals - Frac Stack	0
1 35	Rentals - Frac Tanks	0
1 36	Coil Tubing Unit/Workover Rig	0
1 37	Wireline/Slickline/Perforating	0
1 38	Temporary Packers/Plugs	0
1 39	High Pressure Pump Truck	0
1 40	Stimulation	0
1 41	Rentals - Pressure Control	0
1 42	Flowback Services	0
1 43	Water Transfer Services	0
1 44	Flowback Water Trucking & Disposal	0
1 45	Permanent Equipment Installation	0
1 46	Pipeline Tapping Services	0
1 47	Plugging & Abandonment	0
1 53	Overhead	12,778
1 54	Insurance	31,086
1 55	Contingency	107,994

TOTAL INTANGIBLE DRILLING COSTS: \$2,267,869

INTANGIBLE COMPLETION COSTS

COST CODES	DESCRIPTION	AMOUNT
2 1	Land - Legal	0
2 2	Land - Regulatory	0
2 3	Land - Surface Damages	0
2 4	Land - Survey	0
2 5	Location/Pit Construction	0
2 6	Remedial Dirtwork	0
2 7	Reserve/Frac Pit Closing	0
2 8	Drilling - Contractor	0
2 9	Mob/Rig Up - Contractor/Trucking	0
2 10	Cementing Services	0
2 11	Cementing Equipment	0
2 12	Bits/Drill Out Assemblies	55,516
2 13	Fluid Circulation Equipment/Services	0
2 14	Fluids/Chemicals	39,832
2 15	WBM Cuttings/Wastewater Disposal	0
2 16	OBM Cuttings/Chemical Disposal	0
2 17	Fuel/Power	325,000
2 18	Water	497,457
2 19	Directional Drilling	0
2 20	Mud Logging	0
2 21	Open/Cased/Production Hole Logs	10,550
2 22	Coring	0
2 23	Geologic Supervision	0
2 24	Engineering Supervision	0
2 25	Consultant Supervision	100,000
2 26	Freight/Transportation	4,110
2 27	Labor	15,940
2 28	Supplies - Surface	4,110
2 29	Supplies - Living Quarters	4,110
2 30	Rentals - Surface	35,670
2 31	Rentals - Living Quarters	28,690
2 32	Rentals - Downhole	0
2 33	Rentals - Pipe & Handling Tools	0
2 34	Rentals - Frac Stack	115,270
2 35	Rentals - Frac Tanks	89,500
2 36	Coil Tubing Unit/Workover Rig	107,857
2 37	Wireline/Slickline/Perforating	257,550
2 38	Temporary Packers/Plugs	37,500
2 39	High Pressure Pump Truck	102,200
2 40	Stimulation	1,258,294
2 41	Rentals - Pressure Control	0
2 42	Flowback Services	96,875
2 43	Water Transfer Services	105,875
2 44	Flowback Water Trucking & Disposal	135,772
2 45	Permanent Equipment Installation	0
2 46	Pipeline Tapping Services	0
2 47	Plugging & Abandonment	0
2 53	Overhead	22,155
2 54	Insurance	0
2 55	Contingency	282,069

TOTAL INTANGIBLE COMPLETION COSTS: \$3,731,901

INTANGIBLE PRODUCTION COSTS

COST CODES	DESCRIPTION	AMOUNT
3 1	Land - Legal	0
3 2	Land - Regulatory	0
3 3	Land - Surface Damages	0
3 4	Land - Survey	0
3 5	Location/Pit Construction	5,000
3 6	Remedial Dirtwork	0
3 7	Reserve/Frac Pit Closing	0
3 8	Drilling - Contractor	0
3 9	Mob/Rig Up - Contractor/Trucking	0
3 10	Cementing Services	0
3 11	Cementing Equipment	0
3 12	Bits/Drill Out Assemblies	0
3 13	Fluid Circulation Equipment/Services	0
3 14	Fluids/Chemicals	0
3 15	WBM Cuttings/Wastewater Disposal	0
3 16	OBM Cuttings/Chemical Disposal	0
3 17	Fuel/Power	0
3 18	Water	0
3 19	Directional Drilling	0
3 20	Mud Logging	0
3 21	Open/Cased/Production Hole Logs	0
3 22	Coring	0
3 23	Geologic Supervision	0
3 24	Engineering Supervision	0
3 25	Consultant Supervision	20,000
3 26	Freight/Transportation	10,000
3 27	Labor	85,000
3 28	Supplies - Surface	0
3 29	Supplies - Living Quarters	0
3 30	Rentals - Surface	0
3 31	Rentals - Living Quarters	0
3 32	Rentals - Downhole	0
3 33	Rentals - Pipe & Handling Tools	0
3 34	Rentals - Frac Stack	0
3 35	Rentals - Frac Tanks	0
3 36	Coil Tubing Unit/Workover Rig	70,000
3 37	Wireline/Slickline/Perforating	0
3 38	Temporary Packers/Plugs	0
3 39	High Pressure Pump Truck	0
3 40	Stimulation	0
3 41	Rentals - Pressure Control	0
3 42	Flowback Services	0
3 43	Water Transfer Services	0
3 44	Flowback Water Trucking & Disposal	0
3 45	Permanent Equipment Installation	0
3 46	Pipeline Tapping Services	0
3 47	Plugging & Abandonment	0
3 53	Overhead	5,000
3 54	Insurance	0
3 55	Contingency	19,500

TOTAL INTANGIBLE PRODUCTION COSTS: \$214,500

TANGIBLE DRILLING COSTS

COST CODES	DESCRIPTION	AMOUNT
4 60	Conductor Casing	0
4 61	Surface Casing	42,599
4 62	1st Intermediate Casing	153,263
4 63	2nd Intermediate Casing	329,275
4 64	Production Casing	321,995
4 65	Tubing	0
4 66	Wellhead	0
4 67	Permanent Packers/Hangers/Plugs	0
4 68	Tanks	0
4 69	Production Vessels	0
4 70	Compressors	0
4 71	Surface Flowlines	0
4 72	Gathering Lines	0
4 73	Valves & Controllers	0
4 74	Artificial Lift Equipment	0
4 75	Instrumentation & Measurement	0
4 76	Electrical Grounding/Safety Equipment	0
4 77	Permanent Equipment Installation	0
4 80	Other - Surface	0
4 81	Other - Downhole	0

TOTAL TANGIBLE DRILLING COSTS: \$847,131

TOTAL DRILLING COSTS: \$3,115,000

TANGIBLE COMPLETION COSTS

COST CODES	DESCRIPTION	AMOUNT
5 60	Conductor Casing	0
5 61	Surface Casing	0
5 62	1st Intermediate Casing	0
5 63	2nd Intermediate Casing	0
5 64	Production Casing	22,500
5 65	Tubing	0
5 66	Wellhead	40,000
5 67	Permanent Packers/Hangers/Plugs	0
5 68	Tanks	0
5 69	Production Vessels	0
5 70	Compressors	0
5 71	Surface Flowlines	0
5 72	Gathering Lines	0
5 73	Valves & Controllers	0
5 74	Artificial Lift Equipment	0
5 75	Instrumentation & Measurement	0
5 76	Electrical Grounding/Safety Equipment	0
5 77	Permanent Equipment Installation	0
5 80	Other - Surface	0
5 81	Other - Downhole	0

TOTAL TANGIBLE COMPLETION COSTS: \$62,500

TOTAL COMPLETION COSTS: \$3,794,401

TANGIBLE PRODUCTION COSTS

COST CODES	DESCRIPTION	AMOUNT
6 60	Conductor Casing	0
6 61	Surface Casing	0
6 62	1st Intermediate Casing	0
6 63	2nd Intermediate Casing	0
6 64	Production Casing	0
6 65	Tubing	60,000
6 66	Wellhead	43,500
6 67	Permanent Packers/Hangers/Plugs	5,000
6 68	Tanks	0
6 69	Production Vessels	82,000
6 70	Compressors	0
6 71	Surface Flowlines	50,000
6 72	Gathering Lines	10,000
6 73	Valves & Controllers	0
6 74	Artificial Lift Equipment	35,000
6 75	Instrumentation & Measurement	0
6 76	Electrical Grounding/Safety Equipment	0
6 77	Permanent Equipment Installation	0
6 80	Other - Surface	0
6 81	Other - Downhole	0

TOTAL TANGIBLE PRODUCTION COSTS: \$285,500

TOTAL PRODUCTION COSTS: \$500,000

TOTAL WELL COST: \$7,409,401

TAP ROCK OPERATING, LLC
602 Park Point Dr, Golden, Colorado 80401
Authorization For Expenditure

Name: Mandelbaum 137H
AFE #: 0
County: Lea
State: NM

Date: September 30, 2019
MD/TVD: 17270 / 11860
Lateral Length: 4960
Geologic Target: Wolfcamp A

Well Description: Drill, complete, and equip a horizontal Wolfcamp A well with a 4960 foot lateral.

INTANGIBLE DRILLING COSTS

COST CODES	DESCRIPTION	AMOUNT
1 1	Land - Legal	10,000
1 2	Land - Regulatory	5,000
1 3	Land - Surface Damages	20,000
1 4	Land - Survey	10,000
1 5	Location/Pit Construction	140,000
1 6	Remedial Dirtwork	0
1 7	Reserve/Frac Pit Closing	0
1 8	Drilling - Contractor	637,712
1 9	Mob/Rig Up - Contractor/Trucking	123,250
1 10	Cementing Services	0
1 11	Cementing Equipment	0
1 12	Bits/Drill Out Assemblies	0
1 13	Fluid Circulation Equipment/Services	109,887
1 14	Fluids/Chemicals	163,680
1 15	WBM Cuttings/Wastewater Disposal	133,920
1 16	OBM Cuttings/Chemical Disposal	49,600
1 17	Fuel/Power	152,776
1 18	Water	0
1 19	Directional Drilling	268,329
1 20	Mud Logging	26,722
1 21	Open/Cased/Production Hole Logs	0
1 22	Coring	0
1 23	Geologic Supervision	0
1 24	Engineering Supervision	0
1 25	Consultant Supervision	137,498
1 26	Freight/Transportation	20,000
1 27	Labor	0
1 28	Supplies - Surface	2,500
1 29	Supplies - Living Quarters	1,000
1 30	Rentals - Surface	68,999
1 31	Rentals - Living Quarters	35,138
1 32	Rentals - Downhole	0
1 33	Rentals - Pipe & Handling Tools	0
1 34	Rentals - Frac Stack	0
1 35	Rentals - Frac Tanks	0
1 36	Coil Tubing Unit/Workover Rig	0
1 37	Wireline/Slickline/Perforating	0
1 38	Temporary Packers/Plugs	0
1 39	High Pressure Pump Truck	0
1 40	Stimulation	0
1 41	Rentals - Pressure Control	0
1 42	Flowback Services	0
1 43	Water Transfer Services	0
1 44	Flowback Water Trucking & Disposal	0
1 45	Permanent Equipment Installation	0
1 46	Pipeline Tapping Services	0
1 47	Plugging & Abandonment	0
1 53	Overhead	12,778
1 54	Insurance	31,086
1 55	Contingency	107,994

TOTAL INTANGIBLE DRILLING COSTS: \$2,267,869

INTANGIBLE COMPLETION COSTS

COST CODES	DESCRIPTION	AMOUNT
2 1	Land - Legal	0
2 2	Land - Regulatory	0
2 3	Land - Surface Damages	0
2 4	Land - Survey	0
2 5	Location/Pit Construction	0
2 6	Remedial Dirtwork	0
2 7	Reserve/Frac Pit Closing	0
2 8	Drilling - Contractor	0
2 9	Mob/Rig Up - Contractor/Trucking	0
2 10	Cementing Services	0
2 11	Cementing Equipment	0
2 12	Bits/Drill Out Assemblies	55,516
2 13	Fluid Circulation Equipment/Services	0
2 14	Fluids/Chemicals	39,832
2 15	WBM Cuttings/Wastewater Disposal	0
2 16	OBM Cuttings/Chemical Disposal	0
2 17	Fuel/Power	325,000
2 18	Water	497,457
2 19	Directional Drilling	0
2 20	Mud Logging	0
2 21	Open/Cased/Production Hole Logs	10,550
2 22	Coring	0
2 23	Geologic Supervision	0
2 24	Engineering Supervision	0
2 25	Consultant Supervision	100,000
2 26	Freight/Transportation	4,110
2 27	Labor	15,940
2 28	Supplies - Surface	4,110
2 29	Supplies - Living Quarters	4,110
2 30	Rentals - Surface	35,670
2 31	Rentals - Living Quarters	28,690
2 32	Rentals - Downhole	0
2 33	Rentals - Pipe & Handling Tools	0
2 34	Rentals - Frac Stack	115,270
2 35	Rentals - Frac Tanks	89,500
2 36	Coil Tubing Unit/Workover Rig	107,857
2 37	Wireline/Slickline/Perforating	257,550
2 38	Temporary Packers/Plugs	37,500
2 39	High Pressure Pump Truck	102,200
2 40	Stimulation	1,258,294
2 41	Rentals - Pressure Control	0
2 42	Flowback Services	96,875
2 43	Water Transfer Services	105,875
2 44	Flowback Water Trucking & Disposal	135,772
2 45	Permanent Equipment Installation	0
2 46	Pipeline Tapping Services	0
2 47	Plugging & Abandonment	0
2 53	Overhead	22,155
2 54	Insurance	0
2 55	Contingency	282,069

TOTAL INTANGIBLE COMPLETION COSTS: \$3,731,901

INTANGIBLE PRODUCTION COSTS

COST CODES	DESCRIPTION	AMOUNT
3 1	Land - Legal	0
3 2	Land - Regulatory	0
3 3	Land - Surface Damages	0
3 4	Land - Survey	0
3 5	Location/Pit Construction	5,000
3 6	Remedial Dirtwork	0
3 7	Reserve/Frac Pit Closing	0
3 8	Drilling - Contractor	0
3 9	Mob/Rig Up - Contractor/Trucking	0
3 10	Cementing Services	0
3 11	Cementing Equipment	0
3 12	Bits/Drill Out Assemblies	0
3 13	Fluid Circulation Equipment/Services	0
3 14	Fluids/Chemicals	0
3 15	WBM Cuttings/Wastewater Disposal	0
3 16	OBM Cuttings/Chemical Disposal	0
3 17	Fuel/Power	0
3 18	Water	0
3 19	Directional Drilling	0
3 20	Mud Logging	0
3 21	Open/Cased/Production Hole Logs	0
3 22	Coring	0
3 23	Geologic Supervision	0
3 24	Engineering Supervision	0
3 25	Consultant Supervision	20,000
3 26	Freight/Transportation	10,000
3 27	Labor	85,000
3 28	Supplies - Surface	0
3 29	Supplies - Living Quarters	0
3 30	Rentals - Surface	0
3 31	Rentals - Living Quarters	0
3 32	Rentals - Downhole	0
3 33	Rentals - Pipe & Handling Tools	0
3 34	Rentals - Frac Stack	0
3 35	Rentals - Frac Tanks	0
3 36	Coil Tubing Unit/Workover Rig	70,000
3 37	Wireline/Slickline/Perforating	0
3 38	Temporary Packers/Plugs	0
3 39	High Pressure Pump Truck	0
3 40	Stimulation	0
3 41	Rentals - Pressure Control	0
3 42	Flowback Services	0
3 43	Water Transfer Services	0
3 44	Flowback Water Trucking & Disposal	0
3 45	Permanent Equipment Installation	0
3 46	Pipeline Tapping Services	0
3 47	Plugging & Abandonment	0
3 53	Overhead	5,000
3 54	Insurance	0
3 55	Contingency	19,500

TOTAL INTANGIBLE PRODUCTION COSTS: \$214,500

TANGIBLE DRILLING COSTS

COST CODES	DESCRIPTION	AMOUNT
4 60	Conductor Casing	0
4 61	Surface Casing	42,599
4 62	1st Intermediate Casing	153,263
4 63	2nd Intermediate Casing	329,275
4 64	Production Casing	321,995
4 65	Tubing	0
4 66	Wellhead	0
4 67	Permanent Packers/Hangers/Plugs	0
4 68	Tanks	0
4 69	Production Vessels	0
4 70	Compressors	0
4 71	Surface Flowlines	0
4 72	Gathering Lines	0
4 73	Valves & Controllers	0
4 74	Artificial Lift Equipment	0
4 75	Instrumentation & Measurement	0
4 76	Electrical Grounding/Safety Equipment	0
4 77	Permanent Equipment Installation	0
4 80	Other - Surface	0
4 81	Other - Downhole	0

TOTAL TANGIBLE DRILLING COSTS: \$847,131

TOTAL DRILLING COSTS: \$3,115,000

TANGIBLE COMPLETION COSTS

COST CODES	DESCRIPTION	AMOUNT
5 60	Conductor Casing	0
5 61	Surface Casing	0
5 62	1st Intermediate Casing	0
5 63	2nd Intermediate Casing	0
5 64	Production Casing	22,500
5 65	Tubing	0
5 66	Wellhead	40,000
5 67	Permanent Packers/Hangers/Plugs	0
5 68	Tanks	0
5 69	Production Vessels	0
5 70	Compressors	0
5 71	Surface Flowlines	0
5 72	Gathering Lines	0
5 73	Valves & Controllers	0
5 74	Artificial Lift Equipment	0
5 75	Instrumentation & Measurement	0
5 76	Electrical Grounding/Safety Equipment	0
5 77	Permanent Equipment Installation	0
5 80	Other - Surface	0
5 81	Other - Downhole	0

TOTAL TANGIBLE COMPLETION COSTS: \$62,500

TOTAL COMPLETION COSTS: \$3,794,401

TANGIBLE PRODUCTION COSTS

COST CODES	DESCRIPTION	AMOUNT
6 60	Conductor Casing	0
6 61	Surface Casing	0
6 62	1st Intermediate Casing	0
6 63	2nd Intermediate Casing	0
6 64	Production Casing	0
6 65	Tubing	60,000
6 66	Wellhead	43,500
6 67	Permanent Packers/Hangers/Plugs	5,000
6 68	Tanks	0
6 69	Production Vessels	82,000
6 70	Compressors	0
6 71	Surface Flowlines	50,000
6 72	Gathering Lines	10,000
6 73	Valves & Controllers	0
6 74	Artificial Lift Equipment	35,000
6 75	Instrumentation & Measurement	0
6 76	Electrical Grounding/Safety Equipment	0
6 77	Permanent Equipment Installation	0
6 80	Other - Surface	0
6 81	Other - Downhole	0

TOTAL TANGIBLE PRODUCTION COSTS: \$285,500

TOTAL PRODUCTION COSTS: \$500,000

TOTAL WELL COST: \$7,409,401

TAP ROCK OPERATING, LLC
602 Park Point Dr, Golden, Colorado 80401
Authorization For Expenditure

Name: Mandelbaum 203H
AFE #: 0
County: Lea
State: NM

Date: September 30, 2019
MD/TVD: 17380 / 11970
Lateral Length: 4960
Geologic Target: Wolfcamp A

Well Description: Drill, complete, and equip a horizontal Wolfcamp A well with a 4960 foot lateral.

INTANGIBLE DRILLING COSTS		
COST CODES	DESCRIPTION	AMOUNT
1 1	Land - Legal	10,000
1 2	Land - Regulatory	5,000
1 3	Land - Surface Damages	20,000
1 4	Land - Survey	10,000
1 5	Location/Pit Construction	140,000
1 6	Remedial Dirtwork	0
1 7	Reserve/Frac Pit Closing	0
1 8	Drilling - Contractor	635,199
1 9	Mob/Rig Up - Contractor/Trucking	123,250
1 10	Cementing Services	0
1 11	Cementing Equipment	0
1 12	Bits/Drill Out Assemblies	0
1 13	Fluid Circulation Equipment/Services	109,457
1 14	Fluids/Chemicals	163,680
1 15	WBM Cuttings/Wastewater Disposal	133,920
1 16	OBM Cuttings/Chemical Disposal	49,600
1 17	Fuel/Power	152,276
1 18	Water	0
1 19	Directional Drilling	267,280
1 20	Mud Logging	26,592
1 21	Open/Cased/Production Hole Logs	0
1 22	Coring	0
1 23	Geologic Supervision	0
1 24	Engineering Supervision	0
1 25	Consultant Supervision	137,048
1 26	Freight/Transportation	20,000
1 27	Labor	0
1 28	Supplies - Surface	2,500
1 29	Supplies - Living Quarters	1,000
1 30	Rentals - Surface	68,729
1 31	Rentals - Living Quarters	35,023
1 32	Rentals - Downhole	0
1 33	Rentals - Pipe & Handling Tools	0
1 34	Rentals - Frac Stack	0
1 35	Rentals - Frac Tanks	0
1 36	Coil Tubing Unit/Workover Rig	0
1 37	Wireline/Slickline/Perforating	0
1 38	Temporary Packers/Plugs	0
1 39	High Pressure Pump Truck	0
1 40	Stimulation	0
1 41	Rentals - Pressure Control	0
1 42	Flowback Services	0
1 43	Water Transfer Services	0
1 44	Flowback Water Trucking & Disposal	0
1 45	Permanent Equipment Installation	0
1 46	Pipeline Tapping Services	0
1 47	Plugging & Abandonment	0
1 53	Overhead	12,728
1 54	Insurance	31,284
1 55	Contingency	107,728
TOTAL INTANGIBLE DRILLING COSTS:		\$2,262,294

INTANGIBLE COMPLETION COSTS		
COST CODES	DESCRIPTION	AMOUNT
2 1	Land - Legal	
2 2	Land - Regulatory	
2 3	Land - Surface Damages	
2 4	Land - Survey	
2 5	Location/Pit Construction	
2 6	Remedial Dirtwork	
2 7	Reserve/Frac Pit Closing	
2 8	Drilling - Contractor	
2 9	Mob/Rig Up - Contractor/Trucking	
2 10	Cementing Services	
2 11	Cementing Equipment	
2 12	Bits/Drill Out Assemblies	55,516
2 13	Fluid Circulation Equipment/Services	
2 14	Fluids/Chemicals	39,832
2 15	WBM Cuttings/Wastewater Disposal	
2 16	OBM Cuttings/Chemical Disposal	
2 17	Fuel/Power	325,000
2 18	Water	497,457
2 19	Directional Drilling	
2 20	Mud Logging	
2 21	Open/Cased/Production Hole Logs	10,550
2 22	Coring	
2 23	Geologic Supervision	
2 24	Engineering Supervision	
2 25	Consultant Supervision	100,000
2 26	Freight/Transportation	4,110
2 27	Labor	15,940
2 28	Supplies - Surface	4,110
2 29	Supplies - Living Quarters	4,110
2 30	Rentals - Surface	35,670
2 31	Rentals - Living Quarters	28,690
2 32	Rentals - Downhole	0
2 33	Rentals - Pipe & Handling Tools	0
2 34	Rentals - Frac Stack	115,270
2 35	Rentals - Frac Tanks	89,500
2 36	Coil Tubing Unit/Workover Rig	107,857
2 37	Wireline/Slickline/Perforating	257,550
2 38	Temporary Packers/Plugs	37,500
2 39	High Pressure Pump Truck	102,200
2 40	Stimulation	1,258,294
2 41	Rentals - Pressure Control	
2 42	Flowback Services	96,875
2 43	Water Transfer Services	105,875
2 44	Flowback Water Trucking & Disposal	135,772
2 45	Permanent Equipment Installation	
2 46	Pipeline Tapping Services	
2 47	Plugging & Abandonment	
2 53	Overhead	22,155
2 54	Insurance	
2 55	Contingency	282,069
TOTAL INTANGIBLE COMPLETION COSTS:		\$3,731,901

INTANGIBLE PRODUCTION COSTS		
COST CODES	DESCRIPTION	AMOUNT
3 1	Land - Legal	
3 2	Land - Regulatory	
3 3	Land - Surface Damages	
3 4	Land - Survey	
3 5	Location/Pit Construction	5,000
3 6	Remedial Dirtwork	
3 7	Reserve/Frac Pit Closing	
3 8	Drilling - Contractor	
3 9	Mob/Rig Up - Contractor/Trucking	
3 10	Cementing Services	
3 11	Cementing Equipment	
3 12	Bits/Drill Out Assemblies	
3 13	Fluid Circulation Equipment/Services	
3 14	Fluids/Chemicals	
3 15	WBM Cuttings/Wastewater Disposal	
3 16	OBM Cuttings/Chemical Disposal	
3 17	Fuel/Power	
3 18	Water	
3 19	Directional Drilling	
3 20	Mud Logging	
3 21	Open/Cased/Production Hole Logs	
3 22	Coring	
3 23	Geologic Supervision	
3 24	Engineering Supervision	
3 25	Consultant Supervision	20,000
3 26	Freight/Transportation	10,000
3 27	Labor	85,000
3 28	Supplies - Surface	
3 29	Supplies - Living Quarters	
3 30	Rentals - Surface	
3 31	Rentals - Living Quarters	
3 32	Rentals - Downhole	
3 33	Rentals - Pipe & Handling Tools	
3 34	Rentals - Frac Stack	
3 35	Rentals - Frac Tanks	
3 36	Coil Tubing Unit/Workover Rig	70,000
3 37	Wireline/Slickline/Perforating	
3 38	Temporary Packers/Plugs	
3 39	High Pressure Pump Truck	
3 40	Stimulation	
3 41	Rentals - Pressure Control	
3 42	Flowback Services	
3 43	Water Transfer Services	
3 44	Flowback Water Trucking & Disposal	
3 45	Permanent Equipment Installation	
3 46	Pipeline Tapping Services	
3 47	Plugging & Abandonment	
3 53	Overhead	5,000
3 54	Insurance	
3 55	Contingency	19,500
TOTAL INTANGIBLE PRODUCTION COSTS:		\$214,500

TANGIBLE DRILLING COSTS		
COST CODES	DESCRIPTION	AMOUNT
4 60	Conductor Casing	0
4 61	Surface Casing	42,599
4 62	1st Intermediate Casing	153,263
4 63	2nd Intermediate Casing	332,787
4 64	Production Casing	324,057
4 65	Tubing	
4 66	Wellhead	0
4 67	Permanent Packers/Hangers/Plugs	
4 68	Tanks	
4 69	Production Vessels	
4 70	Compressors	
4 71	Surface Flowlines	
4 72	Gathering Lines	
4 73	Valves & Controllers	
4 74	Artificial Lift Equipment	
4 75	Instrumentation & Measurement	
4 76	Electrical Grounding/Safety Equipment	
4 77	Permanent Equipment Installation	
4 80	Other - Surface	
4 81	Other - Downhole	
TOTAL TANGIBLE DRILLING COSTS:		\$852,706
TOTAL DRILLING COSTS:		\$3,115,000

TANGIBLE COMPLETION COSTS		
COST CODES	DESCRIPTION	AMOUNT
5 60	Conductor Casing	
5 61	Surface Casing	
5 62	1st Intermediate Casing	
5 63	2nd Intermediate Casing	
5 64	Production Casing	22,500
5 65	Tubing	
5 66	Wellhead	40,000
5 67	Permanent Packers/Hangers/Plugs	
5 68	Tanks	
5 69	Production Vessels	
5 70	Compressors	
5 71	Surface Flowlines	
5 72	Gathering Lines	
5 73	Valves & Controllers	
5 74	Artificial Lift Equipment	
5 75	Instrumentation & Measurement	
5 76	Electrical Grounding/Safety Equipment	
5 77	Permanent Equipment Installation	
5 80	Other - Surface	
5 81	Other - Downhole	
TOTAL TANGIBLE COMPLETION COSTS:		\$62,500
TOTAL COMPLETION COSTS:		\$3,794,401

TANGIBLE PRODUCTION COSTS		
COST CODES	DESCRIPTION	AMOUNT
6 60	Conductor Casing	
6 61	Surface Casing	
6 62	1st Intermediate Casing	
6 63	2nd Intermediate Casing	
6 64	Production Casing	
6 65	Tubing	60,000
6 66	Wellhead	43,500
6 67	Permanent Packers/Hangers/Plugs	5,000
6 68	Tanks	
6 69	Production Vessels	82,000
6 70	Compressors	
6 71	Surface Flowlines	50,000
6 72	Gathering Lines	10,000
6 73	Valves & Controllers	
6 74	Artificial Lift Equipment	35,000
6 75	Instrumentation & Measurement	
6 76	Electrical Grounding/Safety Equipment	
6 77	Permanent Equipment Installation	
6 80	Other - Surface	
6 81	Other - Downhole	
TOTAL TANGIBLE PRODUCTION COSTS:		\$285,500
TOTAL PRODUCTION COSTS:		\$500,000

TOTAL WELL COST: \$7,409,401

TAP ROCK OPERATING, LLC
602 Park Point Dr, Golden, Colorado 80401
Authorization For Expenditure

Name: Mandelbaum 207H
AFE #: 0
County: Lea
State: NM

Date: September 30, 2019
MD/TVD: 17380 / 11970
Lateral Length: 4960
Geologic Target: Wolfcamp A

Well Description: Drill, complete, and equip a horizontal Wolfcamp A well with a 4960 foot lateral.

INTANGIBLE DRILLING COSTS

COST CODES	DESCRIPTION	AMOUNT
1 1	Land - Legal	10,000
1 2	Land - Regulatory	5,000
1 3	Land - Surface Damages	20,000
1 4	Land - Survey	10,000
1 5	Location/Pit Construction	140,000
1 6	Remedial Dirtwork	0
1 7	Reserve/Frac Pit Closing	0
1 8	Drilling - Contractor	635,199
1 9	Mob/Rig Up - Contractor/Trucking	123,250
1 10	Cementing Services	0
1 11	Cementing Equipment	0
1 12	Bits/Drill Out Assemblies	0
1 13	Fluid Circulation Equipment/Services	109,457
1 14	Fluids/Chemicals	163,680
1 15	WBM Cuttings/Wastewater Disposal	133,920
1 16	OBM Cuttings/Chemical Disposal	49,600
1 17	Fuel/Power	152,276
1 18	Water	0
1 19	Directional Drilling	267,280
1 20	Mud Logging	26,592
1 21	Open/Cased/Production Hole Logs	0
1 22	Coring	0
1 23	Geologic Supervision	0
1 24	Engineering Supervision	0
1 25	Consultant Supervision	137,048
1 26	Freight/Transportation	20,000
1 27	Labor	0
1 28	Supplies - Surface	2,500
1 29	Supplies - Living Quarters	1,000
1 30	Rentals - Surface	68,729
1 31	Rentals - Living Quarters	35,023
1 32	Rentals - Downhole	0
1 33	Rentals - Pipe & Handling Tools	0
1 34	Rentals - Frac Stack	0
1 35	Rentals - Frac Tanks	0
1 36	Coil Tubing Unit/Workover Rig	0
1 37	Wireline/Slickline/Perforating	0
1 38	Temporary Packers/Plugs	0
1 39	High Pressure Pump Truck	0
1 40	Stimulation	0
1 41	Rentals - Pressure Control	0
1 42	Flowback Services	0
1 43	Water Transfer Services	0
1 44	Flowback Water Trucking & Disposal	0
1 45	Permanent Equipment Installation	0
1 46	Pipeline Tapping Services	0
1 47	Plugging & Abandonment	0
1 53	Overhead	12,728
1 54	Insurance	31,284
1 55	Contingency	107,728

TOTAL INTANGIBLE DRILLING COSTS: \$2,262,294

INTANGIBLE COMPLETION COSTS

COST CODES	DESCRIPTION	AMOUNT
2 1	Land - Legal	0
2 2	Land - Regulatory	0
2 3	Land - Surface Damages	0
2 4	Land - Survey	0
2 5	Location/Pit Construction	0
2 6	Remedial Dirtwork	0
2 7	Reserve/Frac Pit Closing	0
2 8	Drilling - Contractor	0
2 9	Mob/Rig Up - Contractor/Trucking	0
2 10	Cementing Services	0
2 11	Cementing Equipment	0
2 12	Bits/Drill Out Assemblies	55,516
2 13	Fluid Circulation Equipment/Services	0
2 14	Fluids/Chemicals	39,832
2 15	WBM Cuttings/Wastewater Disposal	0
2 16	OBM Cuttings/Chemical Disposal	0
2 17	Fuel/Power	325,000
2 18	Water	497,457
2 19	Directional Drilling	0
2 20	Mud Logging	0
2 21	Open/Cased/Production Hole Logs	10,550
2 22	Coring	0
2 23	Geologic Supervision	0
2 24	Engineering Supervision	0
2 25	Consultant Supervision	100,000
2 26	Freight/Transportation	4,110
2 27	Labor	15,940
2 28	Supplies - Surface	4,110
2 29	Supplies - Living Quarters	4,110
2 30	Rentals - Surface	35,670
2 31	Rentals - Living Quarters	28,690
2 32	Rentals - Downhole	0
2 33	Rentals - Pipe & Handling Tools	0
2 34	Rentals - Frac Stack	115,270
2 35	Rentals - Frac Tanks	89,500
2 36	Coil Tubing Unit/Workover Rig	107,857
2 37	Wireline/Slickline/Perforating	257,550
2 38	Temporary Packers/Plugs	37,500
2 39	High Pressure Pump Truck	102,200
2 40	Stimulation	1,258,294
2 41	Rentals - Pressure Control	0
2 42	Flowback Services	96,875
2 43	Water Transfer Services	105,875
2 44	Flowback Water Trucking & Disposal	135,772
2 45	Permanent Equipment Installation	0
2 46	Pipeline Tapping Services	0
2 47	Plugging & Abandonment	0
2 53	Overhead	22,155
2 54	Insurance	0
2 55	Contingency	282,069

TOTAL INTANGIBLE COMPLETION COSTS: \$3,731,901

INTANGIBLE PRODUCTION COSTS

COST CODES	DESCRIPTION	AMOUNT
3 1	Land - Legal	0
3 2	Land - Regulatory	0
3 3	Land - Surface Damages	0
3 4	Land - Survey	0
3 5	Location/Pit Construction	5,000
3 6	Remedial Dirtwork	0
3 7	Reserve/Frac Pit Closing	0
3 8	Drilling - Contractor	0
3 9	Mob/Rig Up - Contractor/Trucking	0
3 10	Cementing Services	0
3 11	Cementing Equipment	0
3 12	Bits/Drill Out Assemblies	0
3 13	Fluid Circulation Equipment/Services	0
3 14	Fluids/Chemicals	0
3 15	WBM Cuttings/Wastewater Disposal	0
3 16	OBM Cuttings/Chemical Disposal	0
3 17	Fuel/Power	0
3 18	Water	0
3 19	Directional Drilling	0
3 20	Mud Logging	0
3 21	Open/Cased/Production Hole Logs	0
3 22	Coring	0
3 23	Geologic Supervision	0
3 24	Engineering Supervision	0
3 25	Consultant Supervision	20,000
3 26	Freight/Transportation	10,000
3 27	Labor	85,000
3 28	Supplies - Surface	0
3 29	Supplies - Living Quarters	0
3 30	Rentals - Surface	0
3 31	Rentals - Living Quarters	0
3 32	Rentals - Downhole	0
3 33	Rentals - Pipe & Handling Tools	0
3 34	Rentals - Frac Stack	0
3 35	Rentals - Frac Tanks	0
3 36	Coil Tubing Unit/Workover Rig	70,000
3 37	Wireline/Slickline/Perforating	0
3 38	Temporary Packers/Plugs	0
3 39	High Pressure Pump Truck	0
3 40	Stimulation	0
3 41	Rentals - Pressure Control	0
3 42	Flowback Services	0
3 43	Water Transfer Services	0
3 44	Flowback Water Trucking & Disposal	0
3 45	Permanent Equipment Installation	0
3 46	Pipeline Tapping Services	0
3 47	Plugging & Abandonment	0
3 53	Overhead	5,000
3 54	Insurance	0
3 55	Contingency	19,500

TOTAL INTANGIBLE PRODUCTION COSTS: \$214,500

TANGIBLE DRILLING COSTS

COST CODES	DESCRIPTION	AMOUNT
4 60	Conductor Casing	0
4 61	Surface Casing	42,599
4 62	1st Intermediate Casing	153,263
4 63	2nd Intermediate Casing	332,787
4 64	Production Casing	324,057
4 65	Tubing	0
4 66	Wellhead	0
4 67	Permanent Packers/Hangers/Plugs	0
4 68	Tanks	0
4 69	Production Vessels	0
4 70	Compressors	0
4 71	Surface Flowlines	0
4 72	Gathering Lines	0
4 73	Valves & Controllers	0
4 74	Artificial Lift Equipment	0
4 75	Instrumentation & Measurement	0
4 76	Electrical Grounding/Safety Equipment	0
4 77	Permanent Equipment Installation	0
4 80	Other - Surface	0
4 81	Other - Downhole	0

TOTAL TANGIBLE DRILLING COSTS: \$852,706

TOTAL DRILLING COSTS: \$3,115,000

TANGIBLE COMPLETION COSTS

COST CODES	DESCRIPTION	AMOUNT
5 60	Conductor Casing	0
5 61	Surface Casing	0
5 62	1st Intermediate Casing	0
5 63	2nd Intermediate Casing	0
5 64	Production Casing	22,500
5 65	Tubing	0
5 66	Wellhead	40,000
5 67	Permanent Packers/Hangers/Plugs	0
5 68	Tanks	0
5 69	Production Vessels	0
5 70	Compressors	0
5 71	Surface Flowlines	0
5 72	Gathering Lines	0
5 73	Valves & Controllers	0
5 74	Artificial Lift Equipment	0
5 75	Instrumentation & Measurement	0
5 76	Electrical Grounding/Safety Equipment	0
5 77	Permanent Equipment Installation	0
5 80	Other - Surface	0
5 81	Other - Downhole	0

TOTAL TANGIBLE COMPLETION COSTS: \$62,500

TOTAL COMPLETION COSTS: \$3,794,401

TANGIBLE PRODUCTION COSTS

COST CODES	DESCRIPTION	AMOUNT
6 60	Conductor Casing	0
6 61	Surface Casing	0
6 62	1st Intermediate Casing	0
6 63	2nd Intermediate Casing	0
6 64	Production Casing	0
6 65	Tubing	60,000
6 66	Wellhead	43,500
6 67	Permanent Packers/Hangers/Plugs	5,000
6 68	Tanks	0
6 69	Production Vessels	82,000
6 70	Compressors	0
6 71	Surface Flowlines	50,000
6 72	Gathering Lines	10,000
6 73	Valves & Controllers	0
6 74	Artificial Lift Equipment	35,000
6 75	Instrumentation & Measurement	0
6 76	Electrical Grounding/Safety Equipment	0
6 77	Permanent Equipment Installation	0
6 80	Other - Surface	0
6 81	Other - Downhole	0

TOTAL TANGIBLE PRODUCTION COSTS: \$285,500

TOTAL PRODUCTION COSTS: \$500,000

TOTAL WELL COST: \$7,409,401

TAP ROCK OPERATING, LLC
602 Park Point Dr, Golden, Colorado 80401
Authorization For Expenditure

Name: Mandelbaum 212H
AFE #: 0
County: Lea
State: NM

Date: September 30, 2019
MD/TVD: 17590 / 12180
Lateral Length: 4960
Geologic Target: Wolfcamp A

Well Description: Drill, complete, and equip a horizontal Wolfcamp A well with a 4960 foot lateral.

INTANGIBLE DRILLING COSTS		
COST CODES	DESCRIPTION	AMOUNT
1 1	Land - Legal	10,000
1 2	Land - Regulatory	5,000
1 3	Land - Surface Damages	20,000
1 4	Land - Survey	10,000
1 5	Location/Pit Construction	140,000
1 6	Remedial Dirtwork	0
1 7	Reserve/Frac Pit Closing	0
1 8	Drilling - Contractor	630,400
1 9	Mob/Rig Up - Contractor/Trucking	123,250
1 10	Cementing Services	0
1 11	Cementing Equipment	0
1 12	Bits/Drill Out Assemblies	0
1 13	Fluid Circulation Equipment/Services	108,637
1 14	Fluids/Chemicals	163,680
1 15	WBM Cuttings/Wastewater Disposal	133,920
1 16	OBM Cuttings/Chemical Disposal	49,600
1 17	Fuel/Power	151,322
1 18	Water	0
1 19	Directional Drilling	265,276
1 20	Mud Logging	26,344
1 21	Open/Cased/Production Hole Logs	0
1 22	Coring	0
1 23	Geologic Supervision	0
1 24	Engineering Supervision	0
1 25	Consultant Supervision	136,190
1 26	Freight/Transportation	20,000
1 27	Labor	0
1 28	Supplies - Surface	2,500
1 29	Supplies - Living Quarters	1,000
1 30	Rentals - Surface	68,214
1 31	Rentals - Living Quarters	34,804
1 32	Rentals - Downhole	0
1 33	Rentals - Pipe & Handling Tools	0
1 34	Rentals - Frac Stack	0
1 35	Rentals - Frac Tanks	0
1 36	Coil Tubing Unit/Workover Rig	0
1 37	Wireline/Slickline/Perforating	0
1 38	Temporary Packers/Plugs	0
1 39	High Pressure Pump Truck	0
1 40	Stimulation	0
1 41	Rentals - Pressure Control	0
1 42	Flowback Services	0
1 43	Water Transfer Services	0
1 44	Flowback Water Trucking & Disposal	0
1 45	Permanent Equipment Installation	0
1 46	Pipeline Tapping Services	0
1 47	Plugging & Abandonment	0
1 53	Overhead	12,632
1 54	Insurance	31,662
1 55	Contingency	107,222

TOTAL INTANGIBLE DRILLING COSTS: \$2,251,652

INTANGIBLE COMPLETION COSTS		
COST CODES	DESCRIPTION	AMOUNT
2 1	Land - Legal	
2 2	Land - Regulatory	
2 3	Land - Surface Damages	
2 4	Land - Survey	
2 5	Location/Pit Construction	
2 6	Remedial Dirtwork	
2 7	Reserve/Frac Pit Closing	
2 8	Drilling - Contractor	
2 9	Mob/Rig Up - Contractor/Trucking	
2 10	Cementing Services	
2 11	Cementing Equipment	
2 12	Bits/Drill Out Assemblies	55,516
2 13	Fluid Circulation Equipment/Services	
2 14	Fluids/Chemicals	39,832
2 15	WBM Cuttings/Wastewater Disposal	
2 16	OBM Cuttings/Chemical Disposal	
2 17	Fuel/Power	325,000
2 18	Water	497,457
2 19	Directional Drilling	
2 20	Mud Logging	
2 21	Open/Cased/Production Hole Logs	10,550
2 22	Coring	
2 23	Geologic Supervision	
2 24	Engineering Supervision	
2 25	Consultant Supervision	100,000
2 26	Freight/Transportation	4,110
2 27	Labor	15,940
2 28	Supplies - Surface	4,110
2 29	Supplies - Living Quarters	4,110
2 30	Rentals - Surface	35,670
2 31	Rentals - Living Quarters	28,690
2 32	Rentals - Downhole	0
2 33	Rentals - Pipe & Handling Tools	0
2 34	Rentals - Frac Stack	115,270
2 35	Rentals - Frac Tanks	89,500
2 36	Coil Tubing Unit/Workover Rig	107,857
2 37	Wireline/Slickline/Perforating	257,550
2 38	Temporary Packers/Plugs	37,500
2 39	High Pressure Pump Truck	102,200
2 40	Stimulation	1,258,294
2 41	Rentals - Pressure Control	
2 42	Flowback Services	96,875
2 43	Water Transfer Services	105,875
2 44	Flowback Water Trucking & Disposal	135,772
2 45	Permanent Equipment Installation	
2 46	Pipeline Tapping Services	
2 47	Plugging & Abandonment	
2 53	Overhead	22,155
2 54	Insurance	
2 55	Contingency	282,069

TOTAL INTANGIBLE COMPLETION COSTS: \$3,731,901

INTANGIBLE PRODUCTION COSTS		
COST CODES	DESCRIPTION	AMOUNT
3 1	Land - Legal	
3 2	Land - Regulatory	
3 3	Land - Surface Damages	
3 4	Land - Survey	
3 5	Location/Pit Construction	5,000
3 6	Remedial Dirtwork	
3 7	Reserve/Frac Pit Closing	
3 8	Drilling - Contractor	
3 9	Mob/Rig Up - Contractor/Trucking	
3 10	Cementing Services	
3 11	Cementing Equipment	
3 12	Bits/Drill Out Assemblies	
3 13	Fluid Circulation Equipment/Services	
3 14	Fluids/Chemicals	
3 15	WBM Cuttings/Wastewater Disposal	
3 16	OBM Cuttings/Chemical Disposal	
3 17	Fuel/Power	
3 18	Water	
3 19	Directional Drilling	
3 20	Mud Logging	
3 21	Open/Cased/Production Hole Logs	
3 22	Coring	
3 23	Geologic Supervision	
3 24	Engineering Supervision	
3 25	Consultant Supervision	20,000
3 26	Freight/Transportation	10,000
3 27	Labor	85,000
3 28	Supplies - Surface	
3 29	Supplies - Living Quarters	
3 30	Rentals - Surface	
3 31	Rentals - Living Quarters	
3 32	Rentals - Downhole	
3 33	Rentals - Pipe & Handling Tools	
3 34	Rentals - Frac Stack	
3 35	Rentals - Frac Tanks	
3 36	Coil Tubing Unit/Workover Rig	70,000
3 37	Wireline/Slickline/Perforating	
3 38	Temporary Packers/Plugs	
3 39	High Pressure Pump Truck	
3 40	Stimulation	
3 41	Rentals - Pressure Control	
3 42	Flowback Services	
3 43	Water Transfer Services	
3 44	Flowback Water Trucking & Disposal	
3 45	Permanent Equipment Installation	
3 46	Pipeline Tapping Services	
3 47	Plugging & Abandonment	
3 53	Overhead	5,000
3 54	Insurance	
3 55	Contingency	19,500

TOTAL INTANGIBLE PRODUCTION COSTS: \$214,500

TANGIBLE DRILLING COSTS		
COST CODES	DESCRIPTION	AMOUNT
4 60	Conductor Casing	0
4 61	Surface Casing	42,599
4 62	1st Intermediate Casing	153,263
4 63	2nd Intermediate Casing	339,492
4 64	Production Casing	327,995
4 65	Tubing	
4 66	Wellhead	0
4 67	Permanent Packers/Hangers/Plugs	
4 68	Tanks	
4 69	Production Vessels	
4 70	Compressors	
4 71	Surface Flowlines	
4 72	Gathering Lines	
4 73	Valves & Controllers	
4 74	Artificial Lift Equipment	
4 75	Instrumentation & Measurement	
4 76	Electrical Grounding/Safety Equipment	
4 77	Permanent Equipment Installation	
4 80	Other - Surface	
4 81	Other - Downhole	

TOTAL TANGIBLE DRILLING COSTS: \$863,348

TOTAL DRILLING COSTS: \$3,115,000

TANGIBLE COMPLETION COSTS		
COST CODES	DESCRIPTION	AMOUNT
5 60	Conductor Casing	
5 61	Surface Casing	
5 62	1st Intermediate Casing	
5 63	2nd Intermediate Casing	
5 64	Production Casing	22,500
5 65	Tubing	
5 66	Wellhead	40,000
5 67	Permanent Packers/Hangers/Plugs	
5 68	Tanks	
5 69	Production Vessels	
5 70	Compressors	
5 71	Surface Flowlines	
5 72	Gathering Lines	
5 73	Valves & Controllers	
5 74	Artificial Lift Equipment	
5 75	Instrumentation & Measurement	
5 76	Electrical Grounding/Safety Equipment	
5 77	Permanent Equipment Installation	
5 80	Other - Surface	
5 81	Other - Downhole	

TOTAL TANGIBLE COMPLETION COSTS: \$62,500

TOTAL COMPLETION COSTS: \$3,794,401

TANGIBLE PRODUCTION COSTS		
COST CODES	DESCRIPTION	AMOUNT
6 60	Conductor Casing	
6 61	Surface Casing	
6 62	1st Intermediate Casing	
6 63	2nd Intermediate Casing	
6 64	Production Casing	
6 65	Tubing	60,000
6 66	Wellhead	43,500
6 67	Permanent Packers/Hangers/Plugs	5,000
6 68	Tanks	
6 69	Production Vessels	82,000
6 70	Compressors	
6 71	Surface Flowlines	50,000
6 72	Gathering Lines	10,000
6 73	Valves & Controllers	
6 74	Artificial Lift Equipment	35,000
6 75	Instrumentation & Measurement	
6 76	Electrical Grounding/Safety Equipment	
6 77	Permanent Equipment Installation	
6 80	Other - Surface	
6 81	Other - Downhole	

TOTAL TANGIBLE PRODUCTION COSTS: \$285,500

TOTAL PRODUCTION COSTS: \$500,000

TOTAL WELL COST: \$7,409,401

TAP ROCK OPERATING, LLC
602 Park Point Dr, Golden, Colorado 80401
Authorization For Expenditure

Name: Mandelbaum 216H
AFE #: 0
County: Lea
State: NM

Date: September 30, 2019
MD/TVD: 17590 / 12180
Lateral Length: 4960
Geologic Target: Wolfcamp A

Well Description: Drill, complete, and equip a horizontal Wolfcamp A well with a 4960 foot lateral.

INTANGIBLE DRILLING COSTS

COST CODES	DESCRIPTION	AMOUNT
1 1	Land - Legal	10,000
1 2	Land - Regulatory	5,000
1 3	Land - Surface Damages	20,000
1 4	Land - Survey	10,000
1 5	Location/Pit Construction	140,000
1 6	Remedial Dirtwork	0
1 7	Reserve/Frac Pit Closing	0
1 8	Drilling - Contractor	630,400
1 9	Mob/Rig Up - Contractor/Trucking	123,250
1 10	Cementing Services	0
1 11	Cementing Equipment	0
1 12	Bits/Drill Out Assemblies	0
1 13	Fluid Circulation Equipment/Services	108,637
1 14	Fluids/Chemicals	163,680
1 15	WBM Cuttings/Wastewater Disposal	133,920
1 16	OBM Cuttings/Chemical Disposal	49,600
1 17	Fuel/Power	151,322
1 18	Water	0
1 19	Directional Drilling	265,276
1 20	Mud Logging	26,344
1 21	Open/Cased/Production Hole Logs	0
1 22	Coring	0
1 23	Geologic Supervision	0
1 24	Engineering Supervision	0
1 25	Consultant Supervision	136,190
1 26	Freight/Transportation	20,000
1 27	Labor	0
1 28	Supplies - Surface	2,500
1 29	Supplies - Living Quarters	1,000
1 30	Rentals - Surface	68,214
1 31	Rentals - Living Quarters	34,804
1 32	Rentals - Downhole	0
1 33	Rentals - Pipe & Handling Tools	0
1 34	Rentals - Frac Stack	0
1 35	Rentals - Frac Tanks	0
1 36	Coil Tubing Unit/Workover Rig	0
1 37	Wireline/Slickline/Perforating	0
1 38	Temporary Packers/Plugs	0
1 39	High Pressure Pump Truck	0
1 40	Stimulation	0
1 41	Rentals - Pressure Control	0
1 42	Flowback Services	0
1 43	Water Transfer Services	0
1 44	Flowback Water Trucking & Disposal	0
1 45	Permanent Equipment Installation	0
1 46	Pipeline Tapping Services	0
1 47	Plugging & Abandonment	0
1 53	Overhead	12,632
1 54	Insurance	31,662
1 55	Contingency	107,222

TOTAL INTANGIBLE DRILLING COSTS: \$2,251,652

INTANGIBLE COMPLETION COSTS

COST CODES	DESCRIPTION	AMOUNT
2 1	Land - Legal	0
2 2	Land - Regulatory	0
2 3	Land - Surface Damages	0
2 4	Land - Survey	0
2 5	Location/Pit Construction	0
2 6	Remedial Dirtwork	0
2 7	Reserve/Frac Pit Closing	0
2 8	Drilling - Contractor	0
2 9	Mob/Rig Up - Contractor/Trucking	0
2 10	Cementing Services	0
2 11	Cementing Equipment	0
2 12	Bits/Drill Out Assemblies	55,516
2 13	Fluid Circulation Equipment/Services	0
2 14	Fluids/Chemicals	39,832
2 15	WBM Cuttings/Wastewater Disposal	0
2 16	OBM Cuttings/Chemical Disposal	0
2 17	Fuel/Power	325,000
2 18	Water	497,457
2 19	Directional Drilling	0
2 20	Mud Logging	0
2 21	Open/Cased/Production Hole Logs	10,550
2 22	Coring	0
2 23	Geologic Supervision	0
2 24	Engineering Supervision	0
2 25	Consultant Supervision	100,000
2 26	Freight/Transportation	4,110
2 27	Labor	15,940
2 28	Supplies - Surface	4,110
2 29	Supplies - Living Quarters	4,110
2 30	Rentals - Surface	35,670
2 31	Rentals - Living Quarters	28,690
2 32	Rentals - Downhole	0
2 33	Rentals - Pipe & Handling Tools	0
2 34	Rentals - Frac Stack	115,270
2 35	Rentals - Frac Tanks	89,500
2 36	Coil Tubing Unit/Workover Rig	107,857
2 37	Wireline/Slickline/Perforating	257,550
2 38	Temporary Packers/Plugs	37,500
2 39	High Pressure Pump Truck	102,200
2 40	Stimulation	1,258,294
2 41	Rentals - Pressure Control	0
2 42	Flowback Services	96,875
2 43	Water Transfer Services	105,875
2 44	Flowback Water Trucking & Disposal	135,772
2 45	Permanent Equipment Installation	0
2 46	Pipeline Tapping Services	0
2 47	Plugging & Abandonment	0
2 53	Overhead	22,155
2 54	Insurance	0
2 55	Contingency	282,069

TOTAL INTANGIBLE COMPLETION COSTS: \$3,731,901

INTANGIBLE PRODUCTION COSTS

COST CODES	DESCRIPTION	AMOUNT
3 1	Land - Legal	0
3 2	Land - Regulatory	0
3 3	Land - Surface Damages	0
3 4	Land - Survey	0
3 5	Location/Pit Construction	5,000
3 6	Remedial Dirtwork	0
3 7	Reserve/Frac Pit Closing	0
3 8	Drilling - Contractor	0
3 9	Mob/Rig Up - Contractor/Trucking	0
3 10	Cementing Services	0
3 11	Cementing Equipment	0
3 12	Bits/Drill Out Assemblies	0
3 13	Fluid Circulation Equipment/Services	0
3 14	Fluids/Chemicals	0
3 15	WBM Cuttings/Wastewater Disposal	0
3 16	OBM Cuttings/Chemical Disposal	0
3 17	Fuel/Power	0
3 18	Water	0
3 19	Directional Drilling	0
3 20	Mud Logging	0
3 21	Open/Cased/Production Hole Logs	0
3 22	Coring	0
3 23	Geologic Supervision	0
3 24	Engineering Supervision	0
3 25	Consultant Supervision	20,000
3 26	Freight/Transportation	10,000
3 27	Labor	85,000
3 28	Supplies - Surface	0
3 29	Supplies - Living Quarters	0
3 30	Rentals - Surface	0
3 31	Rentals - Living Quarters	0
3 32	Rentals - Downhole	0
3 33	Rentals - Pipe & Handling Tools	0
3 34	Rentals - Frac Stack	0
3 35	Rentals - Frac Tanks	0
3 36	Coil Tubing Unit/Workover Rig	70,000
3 37	Wireline/Slickline/Perforating	0
3 38	Temporary Packers/Plugs	0
3 39	High Pressure Pump Truck	0
3 40	Stimulation	0
3 41	Rentals - Pressure Control	0
3 42	Flowback Services	0
3 43	Water Transfer Services	0
3 44	Flowback Water Trucking & Disposal	0
3 45	Permanent Equipment Installation	0
3 46	Pipeline Tapping Services	0
3 47	Plugging & Abandonment	0
3 53	Overhead	5,000
3 54	Insurance	0
3 55	Contingency	19,500

TOTAL INTANGIBLE PRODUCTION COSTS: \$214,500

TANGIBLE DRILLING COSTS

COST CODES	DESCRIPTION	AMOUNT
4 60	Conductor Casing	0
4 61	Surface Casing	42,599
4 62	1st Intermediate Casing	153,263
4 63	2nd Intermediate Casing	339,492
4 64	Production Casing	327,995
4 65	Tubing	0
4 66	Wellhead	0
4 67	Permanent Packers/Hangers/Plugs	0
4 68	Tanks	0
4 69	Production Vessels	0
4 70	Compressors	0
4 71	Surface Flowlines	0
4 72	Gathering Lines	0
4 73	Valves & Controllers	0
4 74	Artificial Lift Equipment	0
4 75	Instrumentation & Measurement	0
4 76	Electrical Grounding/Safety Equipment	0
4 77	Permanent Equipment Installation	0
4 80	Other - Surface	0
4 81	Other - Downhole	0

TOTAL TANGIBLE DRILLING COSTS: \$863,348

TOTAL DRILLING COSTS: \$3,115,000

TANGIBLE COMPLETION COSTS

COST CODES	DESCRIPTION	AMOUNT
5 60	Conductor Casing	0
5 61	Surface Casing	0
5 62	1st Intermediate Casing	0
5 63	2nd Intermediate Casing	0
5 64	Production Casing	22,500
5 65	Tubing	0
5 66	Wellhead	40,000
5 67	Permanent Packers/Hangers/Plugs	0
5 68	Tanks	0
5 69	Production Vessels	0
5 70	Compressors	0
5 71	Surface Flowlines	0
5 72	Gathering Lines	0
5 73	Valves & Controllers	0
5 74	Artificial Lift Equipment	0
5 75	Instrumentation & Measurement	0
5 76	Electrical Grounding/Safety Equipment	0
5 77	Permanent Equipment Installation	0
5 80	Other - Surface	0
5 81	Other - Downhole	0

TOTAL TANGIBLE COMPLETION COSTS: \$62,500

TOTAL COMPLETION COSTS: \$3,794,401

TANGIBLE PRODUCTION COSTS

COST CODES	DESCRIPTION	AMOUNT
6 60	Conductor Casing	0
6 61	Surface Casing	0
6 62	1st Intermediate Casing	0
6 63	2nd Intermediate Casing	0
6 64	Production Casing	0
6 65	Tubing	60,000
6 66	Wellhead	43,500
6 67	Permanent Packers/Hangers/Plugs	5,000
6 68	Tanks	0
6 69	Production Vessels	82,000
6 70	Compressors	0
6 71	Surface Flowlines	50,000
6 72	Gathering Lines	10,000
6 73	Valves & Controllers	0
6 74	Artificial Lift Equipment	35,000
6 75	Instrumentation & Measurement	0
6 76	Electrical Grounding/Safety Equipment	0
6 77	Permanent Equipment Installation	0
6 80	Other - Surface	0
6 81	Other - Downhole	0

TOTAL TANGIBLE PRODUCTION COSTS: \$285,500

TOTAL PRODUCTION COSTS: \$500,000

TOTAL WELL COST: \$7,409,401

TAP ROCK OPERATING, LLC
602 Park Point Dr, Golden, Colorado 80401
Authorization For Expenditure

Name: Mandelbaum 217H
AFE #: 0
County: Lea
State: NM

Date: September 30, 2019
MD/TVD: 17590 / 12180
Lateral Length: 4960
Geologic Target: Wolfcamp A

Well Description: Drill, complete, and equip a horizontal Wolfcamp A well with a 4960 foot lateral.

INTANGIBLE DRILLING COSTS

COST CODES	DESCRIPTION	AMOUNT
1 1	Land - Legal	10,000
1 2	Land - Regulatory	5,000
1 3	Land - Surface Damages	20,000
1 4	Land - Survey	10,000
1 5	Location/Pit Construction	140,000
1 6	Remedial Dirtwork	0
1 7	Reserve/Frac Pit Closing	0
1 8	Drilling - Contractor	630,400
1 9	Mob/Rig Up - Contractor/Trucking	123,250
1 10	Cementing Services	0
1 11	Cementing Equipment	0
1 12	Bits/Drill Out Assemblies	0
1 13	Fluid Circulation Equipment/Services	108,637
1 14	Fluids/Chemicals	163,680
1 15	WBM Cuttings/Wastewater Disposal	133,920
1 16	OBM Cuttings/Chemical Disposal	49,600
1 17	Fuel/Power	151,322
1 18	Water	0
1 19	Directional Drilling	265,276
1 20	Mud Logging	26,344
1 21	Open/Cased/Production Hole Logs	0
1 22	Coring	0
1 23	Geologic Supervision	0
1 24	Engineering Supervision	0
1 25	Consultant Supervision	136,190
1 26	Freight/Transportation	20,000
1 27	Labor	0
1 28	Supplies - Surface	2,500
1 29	Supplies - Living Quarters	1,000
1 30	Rentals - Surface	68,214
1 31	Rentals - Living Quarters	34,804
1 32	Rentals - Downhole	0
1 33	Rentals - Pipe & Handling Tools	0
1 34	Rentals - Frac Stack	0
1 35	Rentals - Frac Tanks	0
1 36	Coil Tubing Unit/Workover Rig	0
1 37	Wireline/Slickline/Perforating	0
1 38	Temporary Packers/Plugs	0
1 39	High Pressure Pump Truck	0
1 40	Stimulation	0
1 41	Rentals - Pressure Control	0
1 42	Flowback Services	0
1 43	Water Transfer Services	0
1 44	Flowback Water Trucking & Disposal	0
1 45	Permanent Equipment Installation	0
1 46	Pipeline Tapping Services	0
1 47	Plugging & Abandonment	0
1 53	Overhead	12,632
1 54	Insurance	31,662
1 55	Contingency	107,222

TOTAL INTANGIBLE DRILLING COSTS: \$2,251,652

INTANGIBLE COMPLETION COSTS

COST CODES	DESCRIPTION	AMOUNT
2 1	Land - Legal	0
2 2	Land - Regulatory	0
2 3	Land - Surface Damages	0
2 4	Land - Survey	0
2 5	Location/Pit Construction	0
2 6	Remedial Dirtwork	0
2 7	Reserve/Frac Pit Closing	0
2 8	Drilling - Contractor	0
2 9	Mob/Rig Up - Contractor/Trucking	0
2 10	Cementing Services	0
2 11	Cementing Equipment	0
2 12	Bits/Drill Out Assemblies	55,516
2 13	Fluid Circulation Equipment/Services	0
2 14	Fluids/Chemicals	39,832
2 15	WBM Cuttings/Wastewater Disposal	0
2 16	OBM Cuttings/Chemical Disposal	0
2 17	Fuel/Power	325,000
2 18	Water	497,457
2 19	Directional Drilling	0
2 20	Mud Logging	0
2 21	Open/Cased/Production Hole Logs	10,550
2 22	Coring	0
2 23	Geologic Supervision	0
2 24	Engineering Supervision	0
2 25	Consultant Supervision	100,000
2 26	Freight/Transportation	4,110
2 27	Labor	15,940
2 28	Supplies - Surface	4,110
2 29	Supplies - Living Quarters	4,110
2 30	Rentals - Surface	35,670
2 31	Rentals - Living Quarters	28,690
2 32	Rentals - Downhole	0
2 33	Rentals - Pipe & Handling Tools	0
2 34	Rentals - Frac Stack	115,270
2 35	Rentals - Frac Tanks	89,500
2 36	Coil Tubing Unit/Workover Rig	107,857
2 37	Wireline/Slickline/Perforating	257,550
2 38	Temporary Packers/Plugs	37,500
2 39	High Pressure Pump Truck	102,200
2 40	Stimulation	1,258,294
2 41	Rentals - Pressure Control	0
2 42	Flowback Services	96,875
2 43	Water Transfer Services	105,875
2 44	Flowback Water Trucking & Disposal	135,772
2 45	Permanent Equipment Installation	0
2 46	Pipeline Tapping Services	0
2 47	Plugging & Abandonment	0
2 53	Overhead	22,155
2 54	Insurance	0
2 55	Contingency	282,069

TOTAL INTANGIBLE COMPLETION COSTS: \$3,731,901

INTANGIBLE PRODUCTION COSTS

COST CODES	DESCRIPTION	AMOUNT
3 1	Land - Legal	0
3 2	Land - Regulatory	0
3 3	Land - Surface Damages	0
3 4	Land - Survey	0
3 5	Location/Pit Construction	5,000
3 6	Remedial Dirtwork	0
3 7	Reserve/Frac Pit Closing	0
3 8	Drilling - Contractor	0
3 9	Mob/Rig Up - Contractor/Trucking	0
3 10	Cementing Services	0
3 11	Cementing Equipment	0
3 12	Bits/Drill Out Assemblies	0
3 13	Fluid Circulation Equipment/Services	0
3 14	Fluids/Chemicals	0
3 15	WBM Cuttings/Wastewater Disposal	0
3 16	OBM Cuttings/Chemical Disposal	0
3 17	Fuel/Power	0
3 18	Water	0
3 19	Directional Drilling	0
3 20	Mud Logging	0
3 21	Open/Cased/Production Hole Logs	0
3 22	Coring	0
3 23	Geologic Supervision	0
3 24	Engineering Supervision	0
3 25	Consultant Supervision	20,000
3 26	Freight/Transportation	10,000
3 27	Labor	85,000
3 28	Supplies - Surface	0
3 29	Supplies - Living Quarters	0
3 30	Rentals - Surface	0
3 31	Rentals - Living Quarters	0
3 32	Rentals - Downhole	0
3 33	Rentals - Pipe & Handling Tools	0
3 34	Rentals - Frac Stack	0
3 35	Rentals - Frac Tanks	0
3 36	Coil Tubing Unit/Workover Rig	70,000
3 37	Wireline/Slickline/Perforating	0
3 38	Temporary Packers/Plugs	0
3 39	High Pressure Pump Truck	0
3 40	Stimulation	0
3 41	Rentals - Pressure Control	0
3 42	Flowback Services	0
3 43	Water Transfer Services	0
3 44	Flowback Water Trucking & Disposal	0
3 45	Permanent Equipment Installation	0
3 46	Pipeline Tapping Services	0
3 47	Plugging & Abandonment	0
3 53	Overhead	5,000
3 54	Insurance	0
3 55	Contingency	19,500

TOTAL INTANGIBLE PRODUCTION COSTS: \$214,500

TANGIBLE DRILLING COSTS

COST CODES	DESCRIPTION	AMOUNT
4 60	Conductor Casing	0
4 61	Surface Casing	42,599
4 62	1st Intermediate Casing	153,263
4 63	2nd Intermediate Casing	339,492
4 64	Production Casing	327,995
4 65	Tubing	0
4 66	Wellhead	0
4 67	Permanent Packers/Hangers/Plugs	0
4 68	Tanks	0
4 69	Production Vessels	0
4 70	Compressors	0
4 71	Surface Flowlines	0
4 72	Gathering Lines	0
4 73	Valves & Controllers	0
4 74	Artificial Lift Equipment	0
4 75	Instrumentation & Measurement	0
4 76	Electrical Grounding/Safety Equipment	0
4 77	Permanent Equipment Installation	0
4 80	Other - Surface	0
4 81	Other - Downhole	0

TOTAL TANGIBLE DRILLING COSTS: \$863,348

TOTAL DRILLING COSTS: \$3,115,000

TANGIBLE COMPLETION COSTS

COST CODES	DESCRIPTION	AMOUNT
5 60	Conductor Casing	0
5 61	Surface Casing	0
5 62	1st Intermediate Casing	0
5 63	2nd Intermediate Casing	0
5 64	Production Casing	22,500
5 65	Tubing	0
5 66	Wellhead	40,000
5 67	Permanent Packers/Hangers/Plugs	0
5 68	Tanks	0
5 69	Production Vessels	0
5 70	Compressors	0
5 71	Surface Flowlines	0
5 72	Gathering Lines	0
5 73	Valves & Controllers	0
5 74	Artificial Lift Equipment	0
5 75	Instrumentation & Measurement	0
5 76	Electrical Grounding/Safety Equipment	0
5 77	Permanent Equipment Installation	0
5 80	Other - Surface	0
5 81	Other - Downhole	0

TOTAL TANGIBLE COMPLETION COSTS: \$62,500

TOTAL COMPLETION COSTS: \$3,794,401

TANGIBLE PRODUCTION COSTS

COST CODES	DESCRIPTION	AMOUNT
6 60	Conductor Casing	0
6 61	Surface Casing	0
6 62	1st Intermediate Casing	0
6 63	2nd Intermediate Casing	0
6 64	Production Casing	0
6 65	Tubing	60,000
6 66	Wellhead	43,500
6 67	Permanent Packers/Hangers/Plugs	5,000
6 68	Tanks	0
6 69	Production Vessels	82,000
6 70	Compressors	0
6 71	Surface Flowlines	50,000
6 72	Gathering Lines	10,000
6 73	Valves & Controllers	0
6 74	Artificial Lift Equipment	35,000
6 75	Instrumentation & Measurement	0
6 76	Electrical Grounding/Safety Equipment	0
6 77	Permanent Equipment Installation	0
6 80	Other - Surface	0
6 81	Other - Downhole	0

TOTAL TANGIBLE PRODUCTION COSTS: \$285,500

TOTAL PRODUCTION COSTS: \$500,000

TOTAL WELL COST: \$7,409,401

Summary of Communication



Party	Communication
GAJH 1989 Limited Partnership c/o UMC Petroleum Corporation / Devon	<p>10/4/19 - Sent well proposals</p> <p>10/30/19 - Tap Rock Emails Devon to advise title shows GAJH is c/o Devon, various title research is done to confirm</p> <p>1/14/19 - Tap Rock sends JOA.</p> <p>1/15/19 to Present - Parties work towards voluntary joinder or leasing interest.</p> <p>10/4/19 - Sent well proposals</p> <p>1/22/20 - Energen advise they've traded to COG</p> <p>1/28/20 - Tap Rock still shows some of the interest was not assigned to COG, and is still in Energen entity. Energen researching now.</p>
Energen Resources Corporation	
COG Operating LLC	<p>10/4/19 - Sent well proposals</p> <p>11/25/19 - COG requests JOA, Tap Rock provides</p> <p>1/28/20 to Present - Parties work towards voluntary joinder or trade</p>
Franklin Mountain Energy II, LLC	<p>10/4/19 - Sent well proposals</p> <p>1/14/20 - Franklin Mountain requests JOA, Tap Rock provides</p> <p>10/4/19 - Sent well proposals</p> <p>11/11/19 to Present - Parties work towards voluntary joinder or trade, which has been agreed to in principle.</p>
Marathon Oil Permian, LLC Crown Oil Partners VI, LLC; and, Crump Energy Partners III, LLC	<p>10/4/19 - Sent well proposals</p> <p>10/16/19 - Crown/Crump asks about drilling plans, Tap Rock answers</p> <p>1/27 to Present - Parties work towards voluntary joinder or acquisition</p>

EX. B-6

**STATE OF NEW MEXICO
DEPARTMENT OF ENERGY, MINERALS AND NATURAL RESOURCES
OIL CONSERVATION DIVISION**

**APPLICATION OF TAP ROCK OPERATING, LLC
FOR A STANDARD HORIZONTAL SPACING
AND PRORATION UNIT AND COMPULSORY POOLING,
LEA COUNTY, NEW MEXICO**

Case No. 21071

AFFIDAVIT OF EMILY LANGE

I, being duly sworn on oath, state the following:

1. I am over the age of 18, and I have personal knowledge of the matters stated herein.
2. I am employed as a petroleum geologist for Tap Rock Operating, LLC ("Tap Rock"), and I am familiar with the subject applications and the geology involved.
3. This affidavit is submitted in connection with the filing by Tap Rock of the above-referenced compulsory pooling applications pursuant to 19.15.4.12.A(1) NMAC.
4. I have previously testified before the New Mexico Oil Conservation Division as an expert witness in petroleum geology matters. My credentials as a petroleum geologist have been accepted by the Division and made a matter of record.
 - a. I hold a Bachelor's degree in Geology from the University of Southern California, which I completed in 2012. I am currently working towards a Master's degree in Geology at Southern Methodist University.
 - b. I have been employed as a petroleum geologist since 2013. I have worked in New Mexico since 2015.

EXHIBIT

C

5. **Exhibit 8** is a Project Locator Map depicting the location of the Horizontal Spacing Unit ("HSU") within the Delaware Basin. Within Section 11 of 24S 34E, are the Mandelbaum Fee 132H, 136H, 137H, 203H, 207H, 212H, 216H, & 217H wells (the "Wells").

6. **Exhibit 9** is a Gun Barrel Diagram showing the planned Wolfcamp horizontal spacing for the Wells. This diagram shows the projected development of the eight Wolfcamp Wells, all spaced 990' away from the nearest well in the same zone. A nearby type log has been included (for log descriptions, see Exhibit 11 below) to show approximate depths and reservoir quality of the selected landing zones.

7. **Exhibit 10** is a Wolfcamp A Structure Map. This map shows the location of the Mandelbaum HSU outlined by the red box. The surface/bottom hole locations of the Mandelbaum Wells are shown, zoomed in, to the right. The map is the top of the Wolfcamp A formation in sub-sea vertical depth. The contour intervals are 25 feet each. There is a monoclinical dip down to the south. The orientation of the Mandelbaum Wells will each be approximately along dip. There are no horizontal wells in the direct vicinity that have targeted similar intervals. However, horizontal wells shown on the map are all Wolfcamp producers. The vertical wells controlling the structure map have the sub-sea vertical depth posted in pink. The subsequent cross-section from A-A' is also identified to locate our closest control on the reservoir properties for the Mandelbaum Wells. I do not observe any faulting, pinch-outs, or other geologic impediments or hazards to developing this targeted interval with a horizontal well.

8. **Exhibit 11** is a Wolfcamp Stratigraphic Cross Section (flattened on the Wolfcamp A surface). Wells 1 & 4 (moving left to right) have a triple combo log. Wells 2 & 3 show only gamma ray and/or resistivity and are utilized here to show correlation of our target intervals across the Mandelbaum HSU. Track 1 has a gamma ray log with interpreted color fill for lithology and

scaled from 0 to 200 api units and a caliper log scaled from 0 to 16. For gamma ray, the blue colors indicate carbonate, yellow to orange are sandstone/siltstones, and the darker browns are shale facies. For caliper, higher values indicate irregularities in hole diameter. Track 2 has the deep resistivity log, scaled from 0.2 ohmm to 2000 ohmm. The blue shading cutoff is at 50 ohmm or less to help identify the more siliciclastic rocks. Track 3 is the porosity track and contains the red neutron porosity curve and the blue density porosity curve, both scaled from 30% to -10%. The pink shading on the neutron porosity curve highlights anything greater than 15% to identify zones with increased clay content. The green shading on the density porosity curve highlights anything greater than 10% porosity. This cutoff indicates the best rock properties for reservoir evaluation. The cross-section identifies the key tops used to evaluate reservoirs and landing targets for the Mandelbaum Wells. Simplified wellbores for the Mandelbaum Wells are on the cross-section showing the landing target intervals in the green shaded box. The targeted reservoir has a constant thickness of approximately 600' and exhibits constant reservoir facies throughout the HSU.

9. **Exhibit 12** is an Isopach Map of the Gross Wolfcamp interval. This map shows the location of the Mandelbaum HSU outlined by the red box. The surface/bottom hole locations of the Mandelbaum Wells are shown, zoomed in, to the right. The anticipated gross thickness of the interval is 600 feet throughout the HSU. The contour intervals are 10'. There are no horizontal wells that have targeted this interval in the direct vicinity, and all the horizontals shown on the map are landed in the Wolfcamp formation. The location of the previous cross-section from A-A' is also shown on this map.

10. Based on my geologic study of the area, I conclude the following:

- a. The horizontal spacing and proration unit is justified from a geologic standpoint.

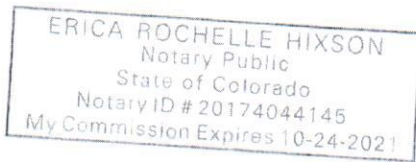
- b. There are no structural impediments or faulting that will interfere with horizontal development.
 - c. Each quarter-quarter section in the unit will contribute more or less equally to production.
 - d. The preferred well orientation in this area is south-north. This is because the inferred orientation of the maximum horizontal stress is roughly northwest-southeast.
11. **Exhibit 13** shows a Simplified Wellbore Diagram for each of the Wells in the HSU and demonstrate that the first and last take points for each well will be standard.
12. The Exhibits to this Affidavit were prepared by me, or compiled from Tap Rock's company business records.
13. The granting of this Application is in the interests of conservation and the prevention of waste.
14. The foregoing is correct and complete to the best of my knowledge and belief.

FURTHER AFFIANT SAYETH NAUGHT

Emily Lange
EMILY LANGE

STATE OF COLORADO)
)ss
COUNTY OF JEFFERSON)

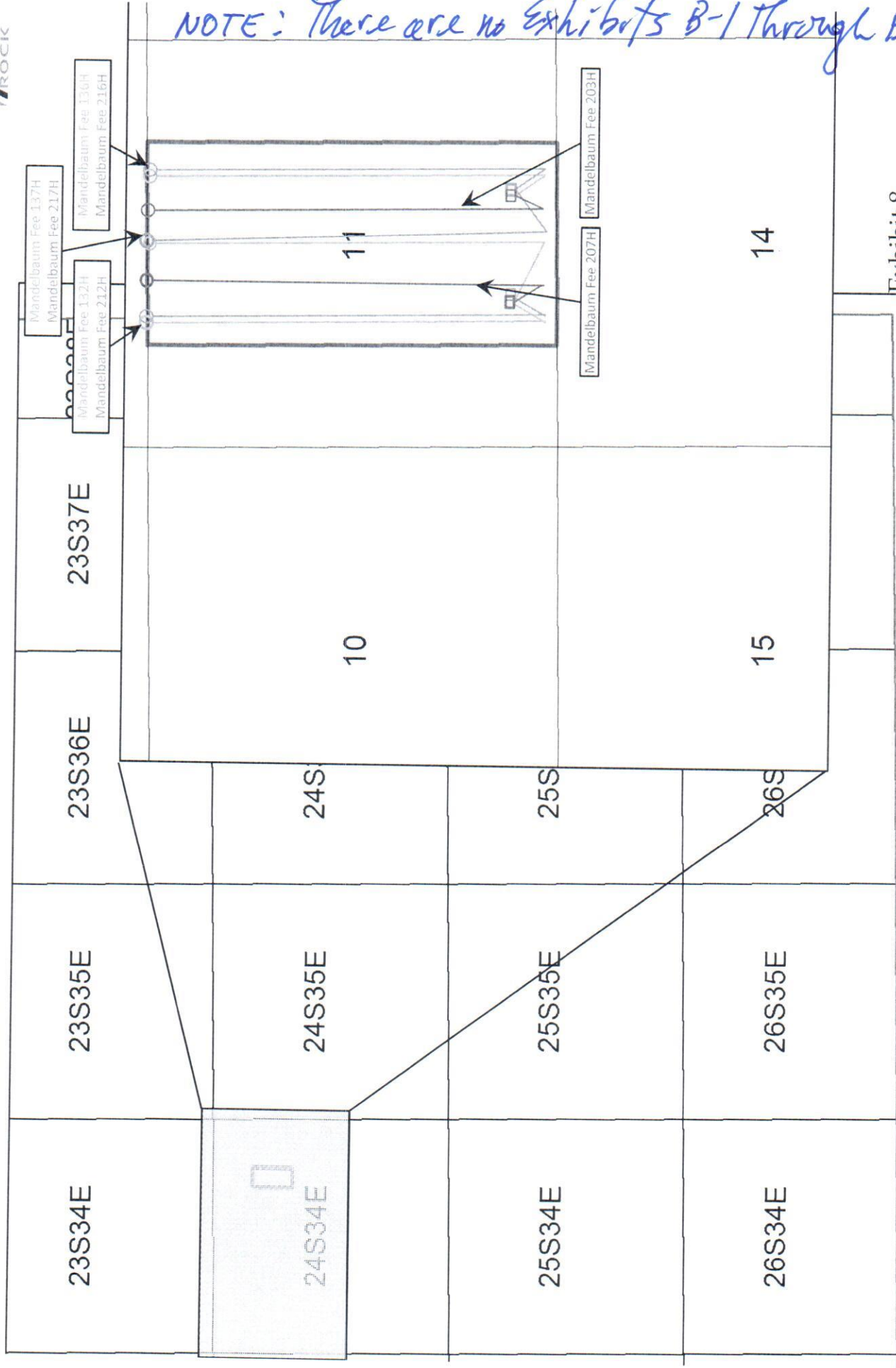
Subscribed to and sworn before me this 31st day of January, 2020.



Erica Hixson
Notary Public

My Commission expires 10-24-2021.

Project Locator Map - 132H, 136H, 137H, 203H, 207H, 212H, 216H, 217H



NOTE: There are no Exhibits B-1 Through B-7

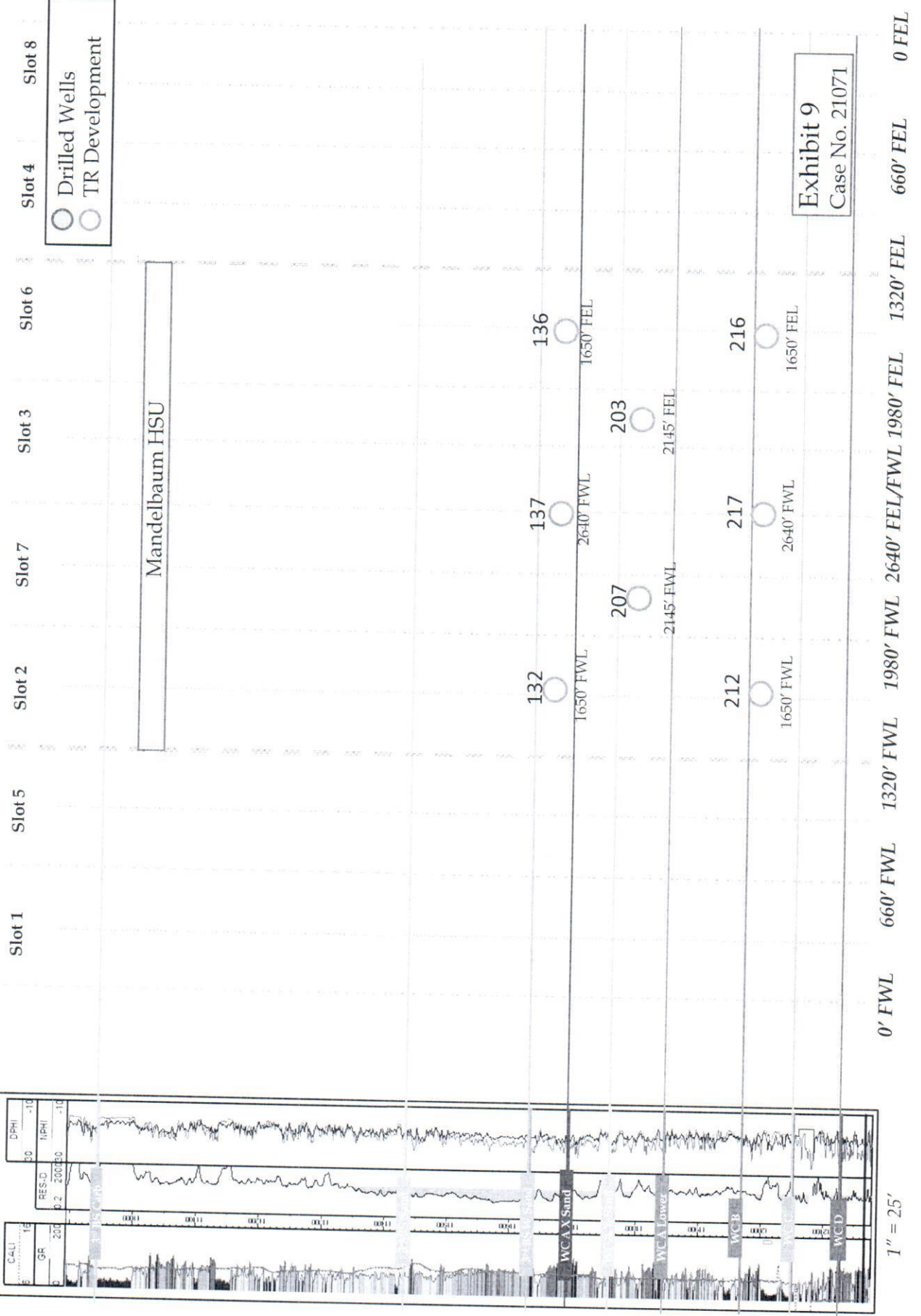
Gun Barrel - Wolfcamp Target Zone Development



OXY USA INC
FALCON FEDERAL

Mandelbaum Unit (E/2 Sec 11)

Mandelbaum Unit (W/2 Sec 11)



Subsea Structure Map (Wolfcamp A)



Map Legend

- SHL Tap Rock – Horizontal Locator
- BHL
- Spacing Unit

C.I. = 25'

All HZ wells shown are Wolfcamp Producers

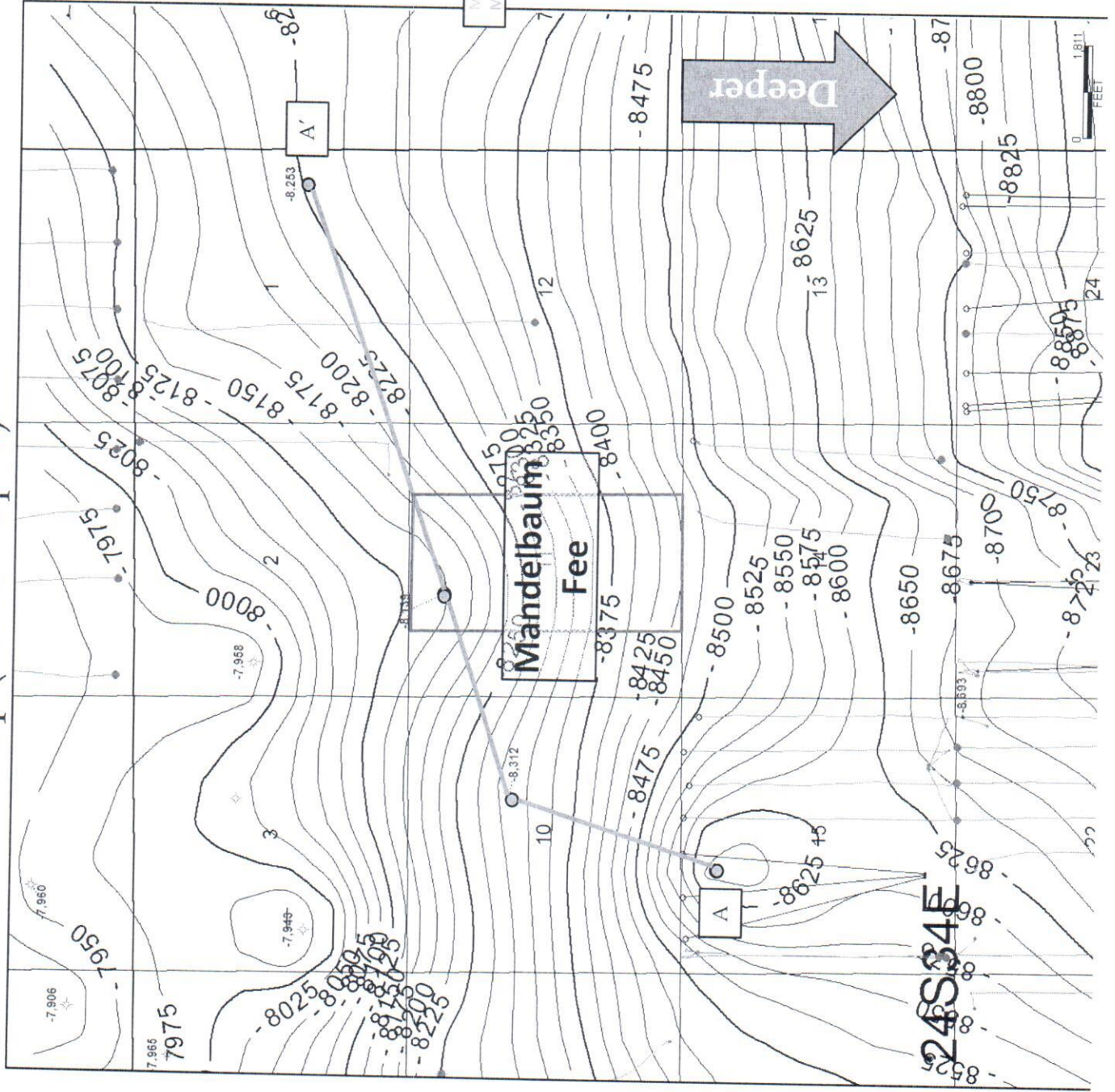
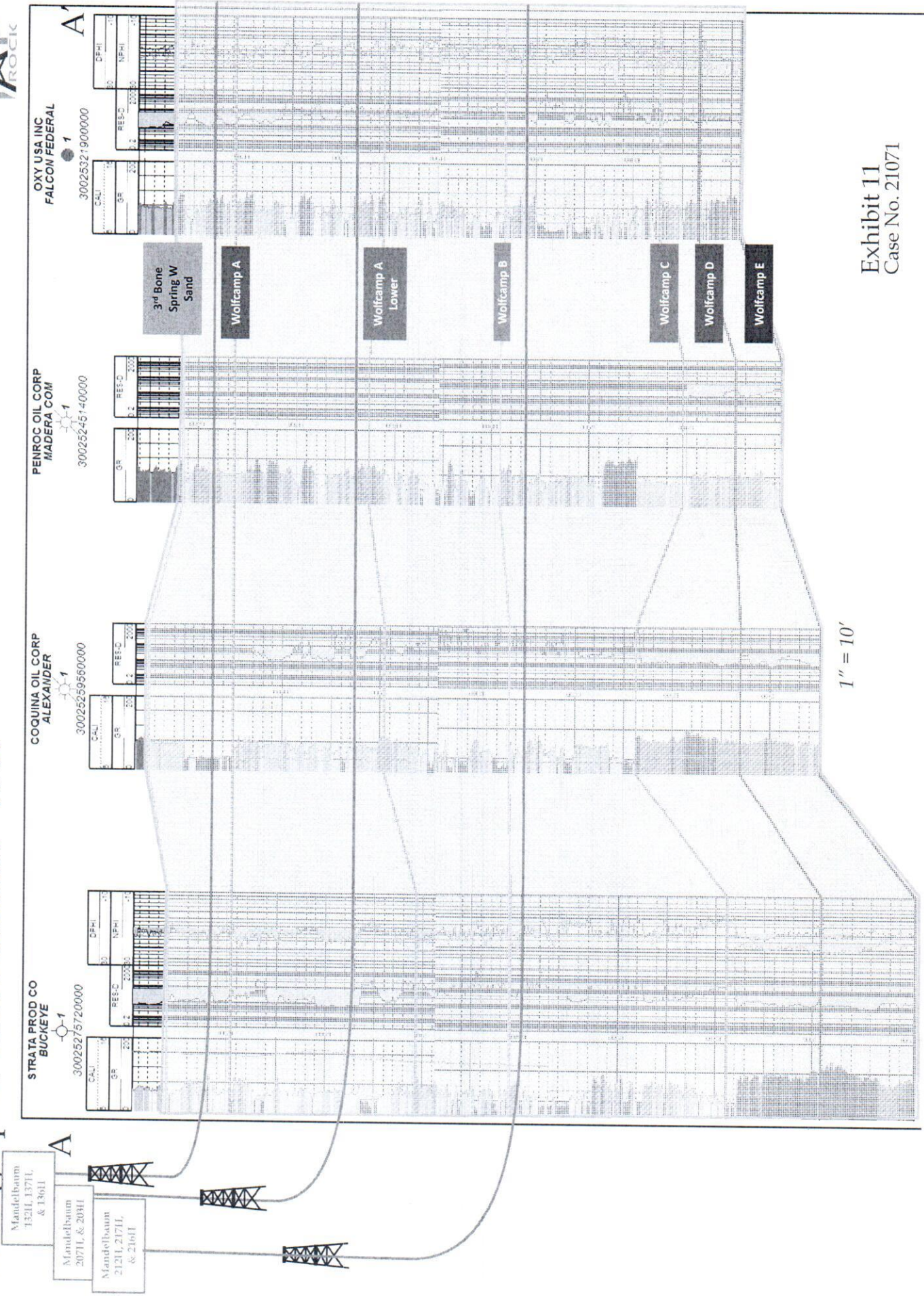


Exhibit 10
Case No. 21071

Stratigraphic Cross-Section - A-A'



Isopach Map (Gross Wolfcamp Interval)

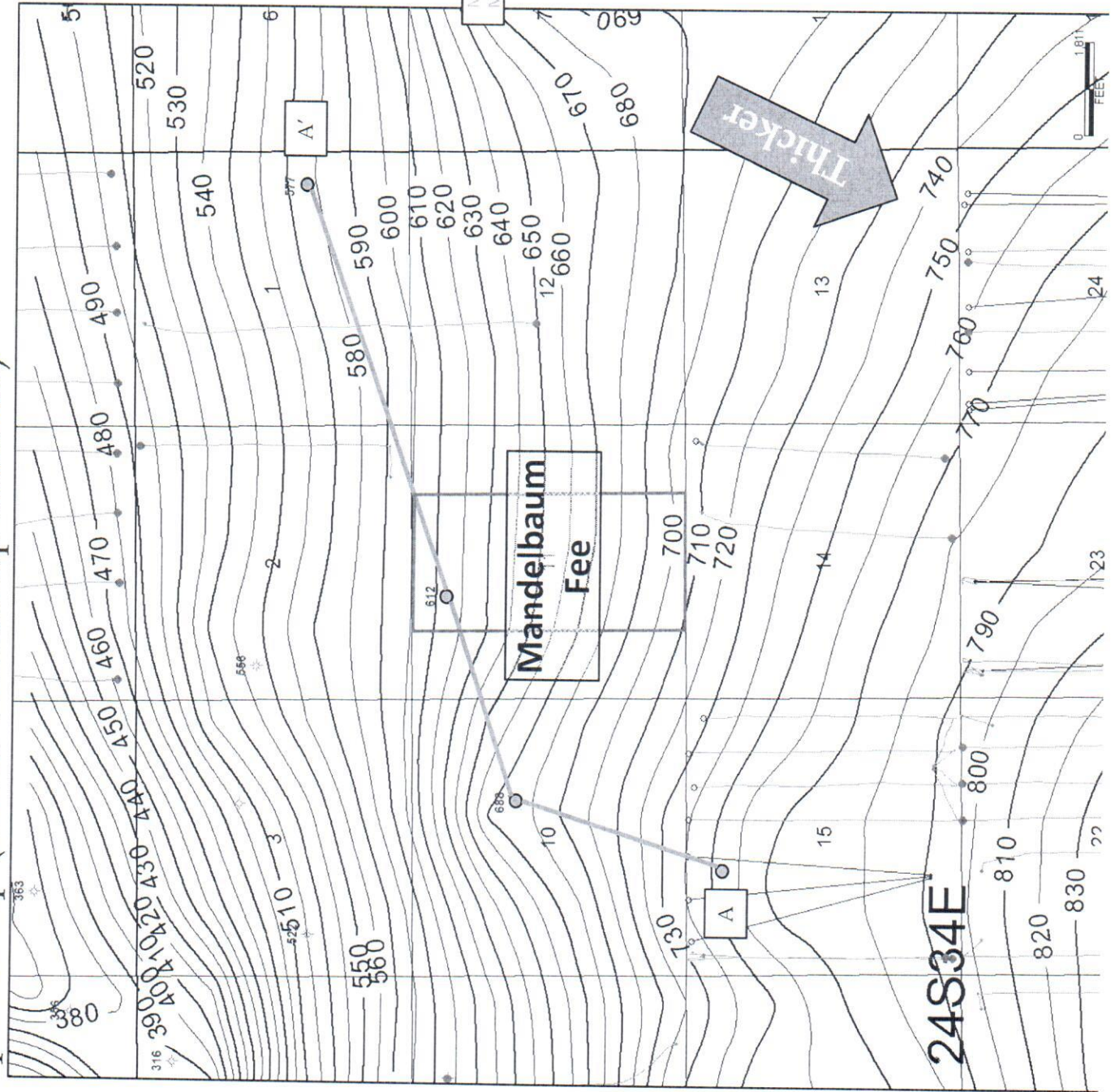


Map Legend

- SHL Tap Rock – Horizontal Locator
- BHL
- Spacing Unit

C.I. = 10'

All HZ wells shown are Wolfcamp Producers



Mandelbaum Fee 137H
Mandelbaum Fee 217H

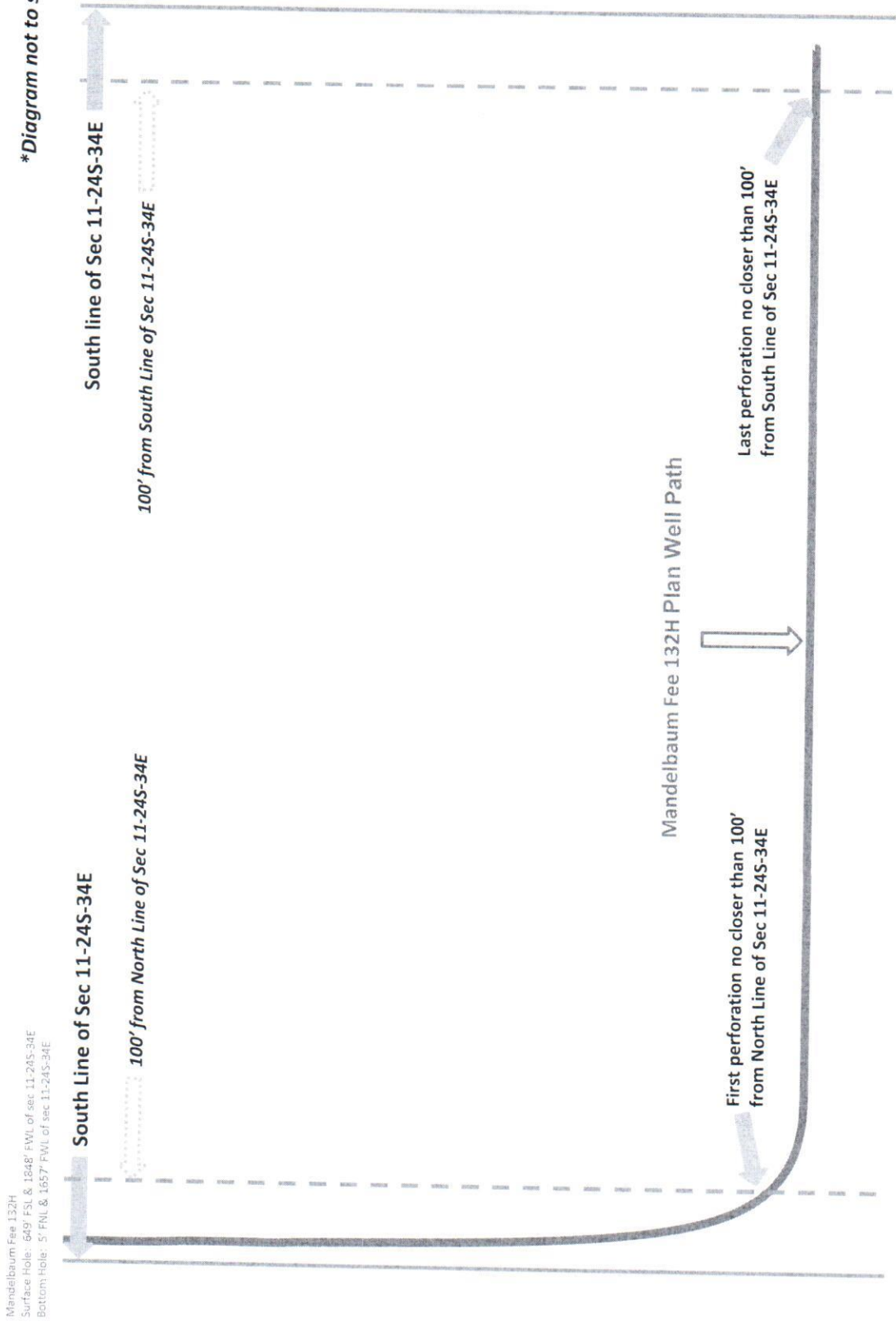
Mandelbaum Fee 132H
Mandelbaum Fee 212H

Mandelbaum Fee 136H
Mandelbaum Fee 216H

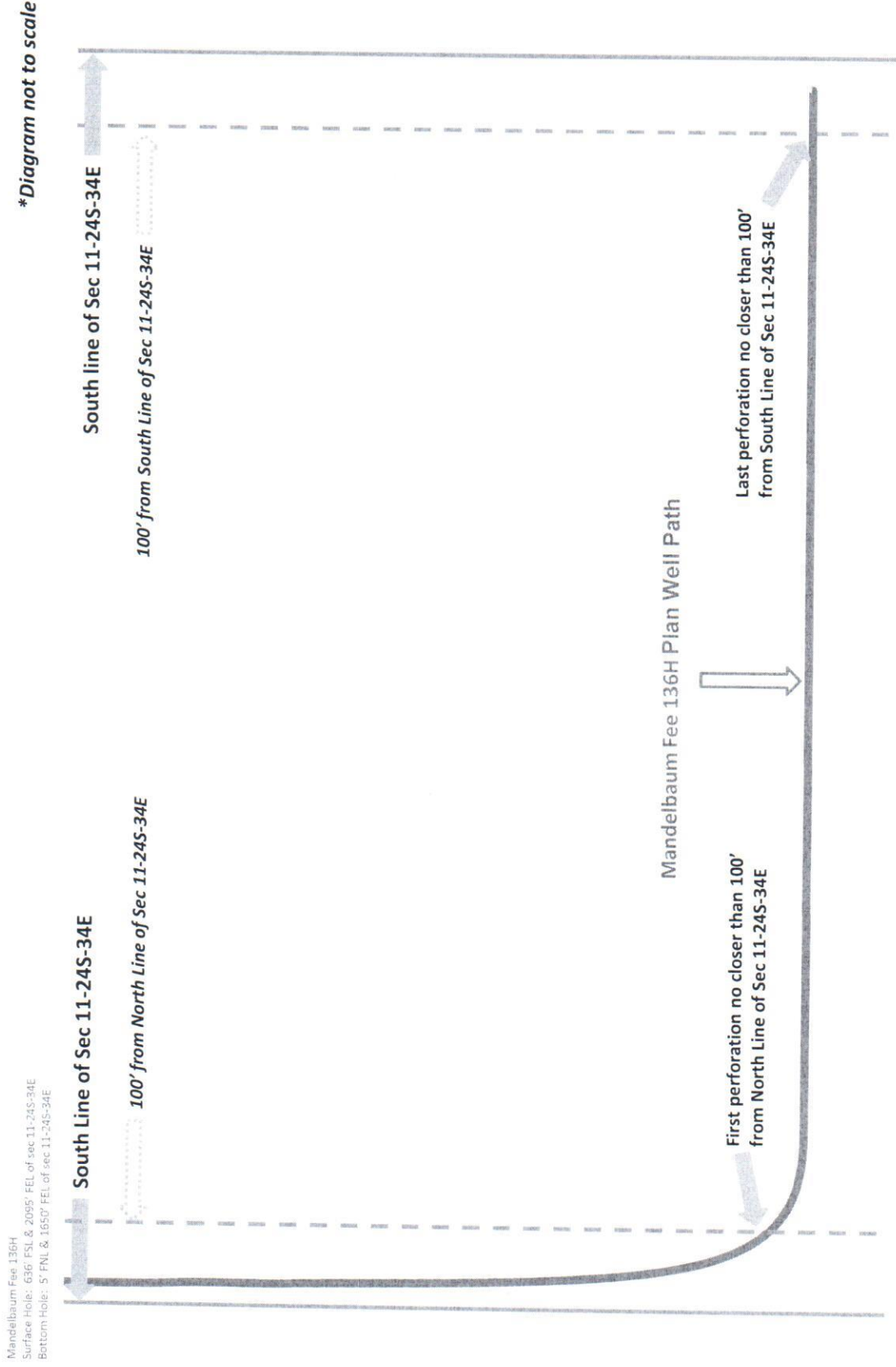
Mandelbaum Fee 207H
Mandelbaum Fee 203H

Exhibit 12
Case No. 21071

Mandelbaum Fee 132H (1 mile S-N Lateral)



Mandelbaum Fee 136H (1 mile S-N Lateral)



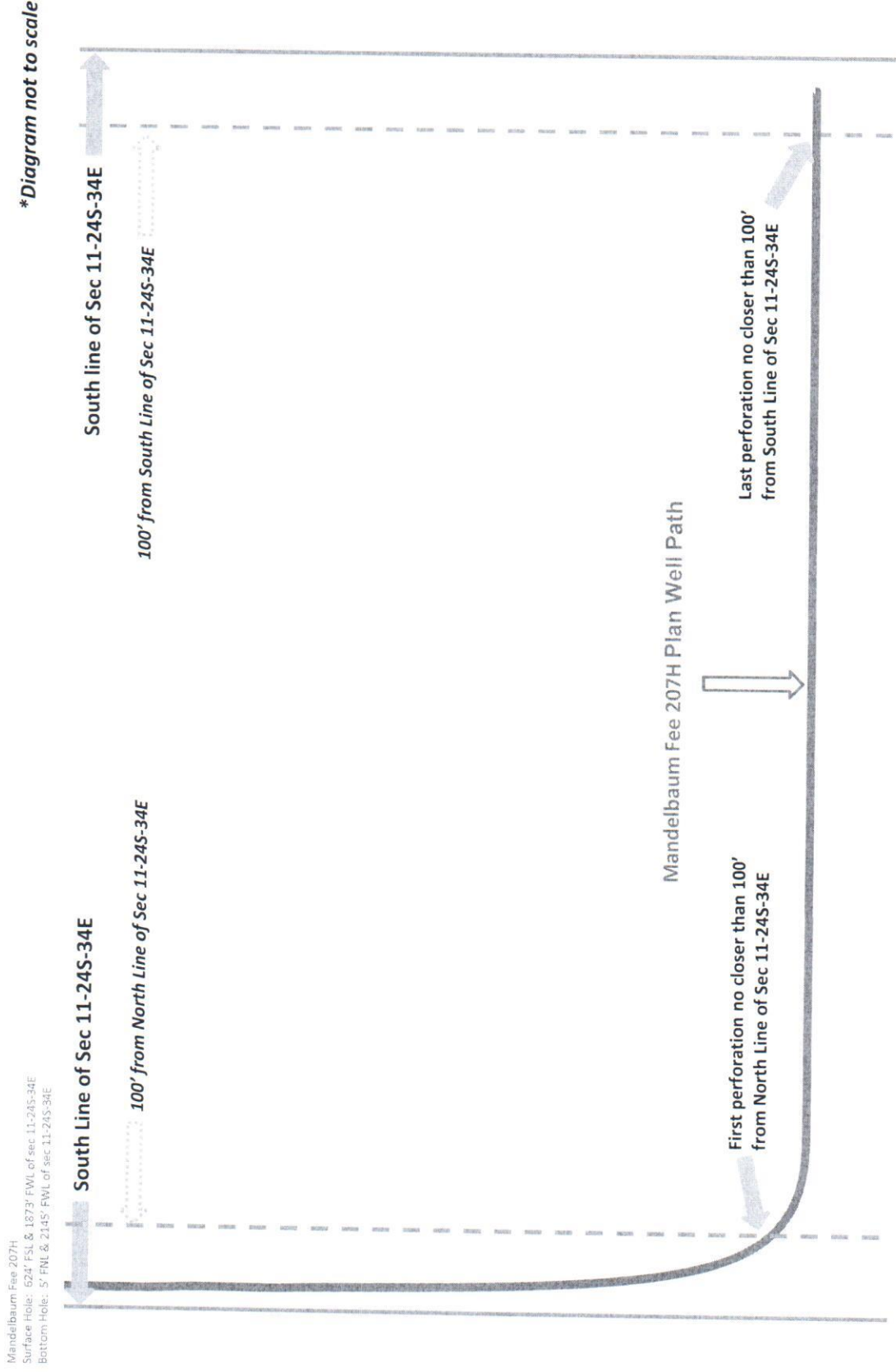
TAP ROCK



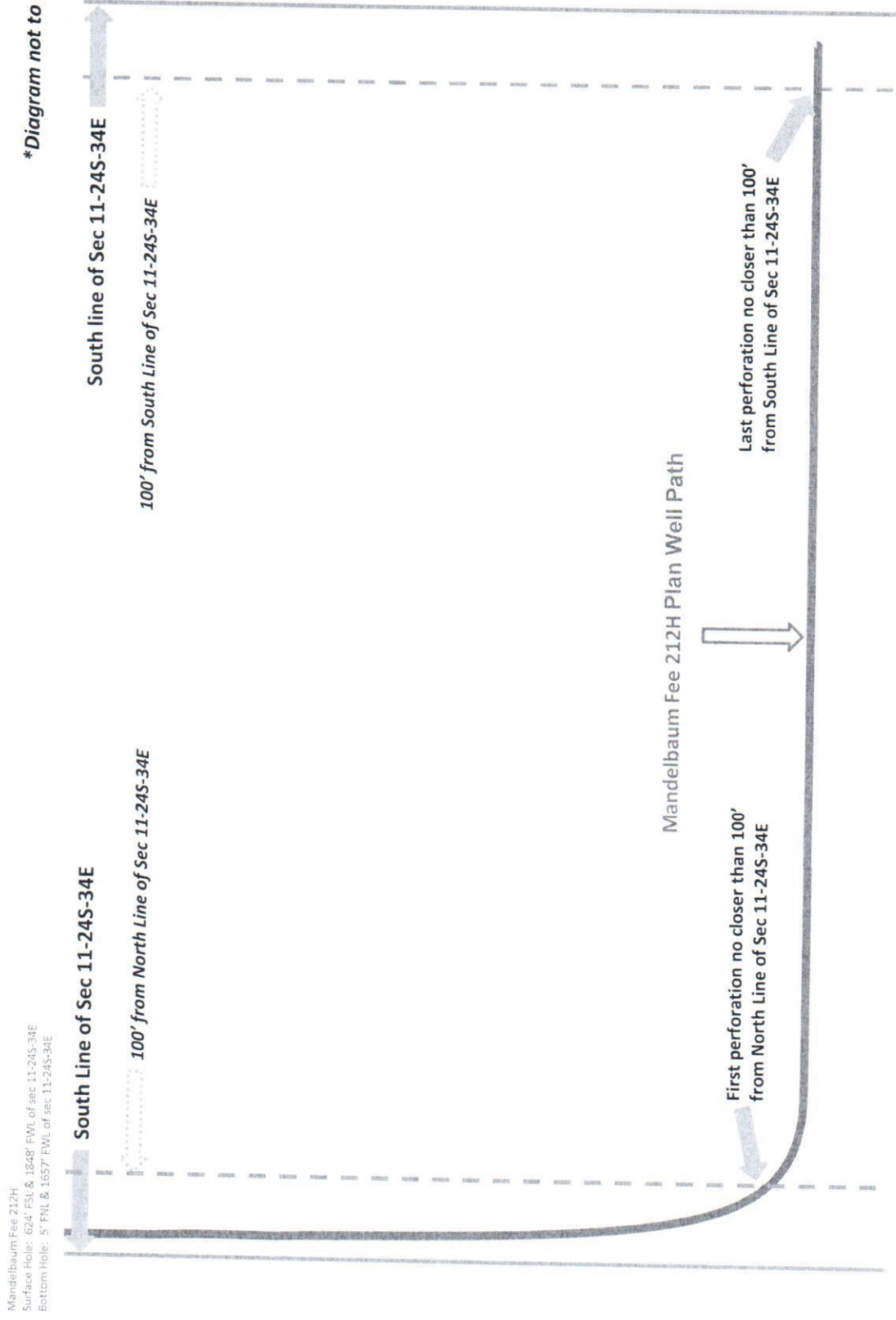
TAP ROCK



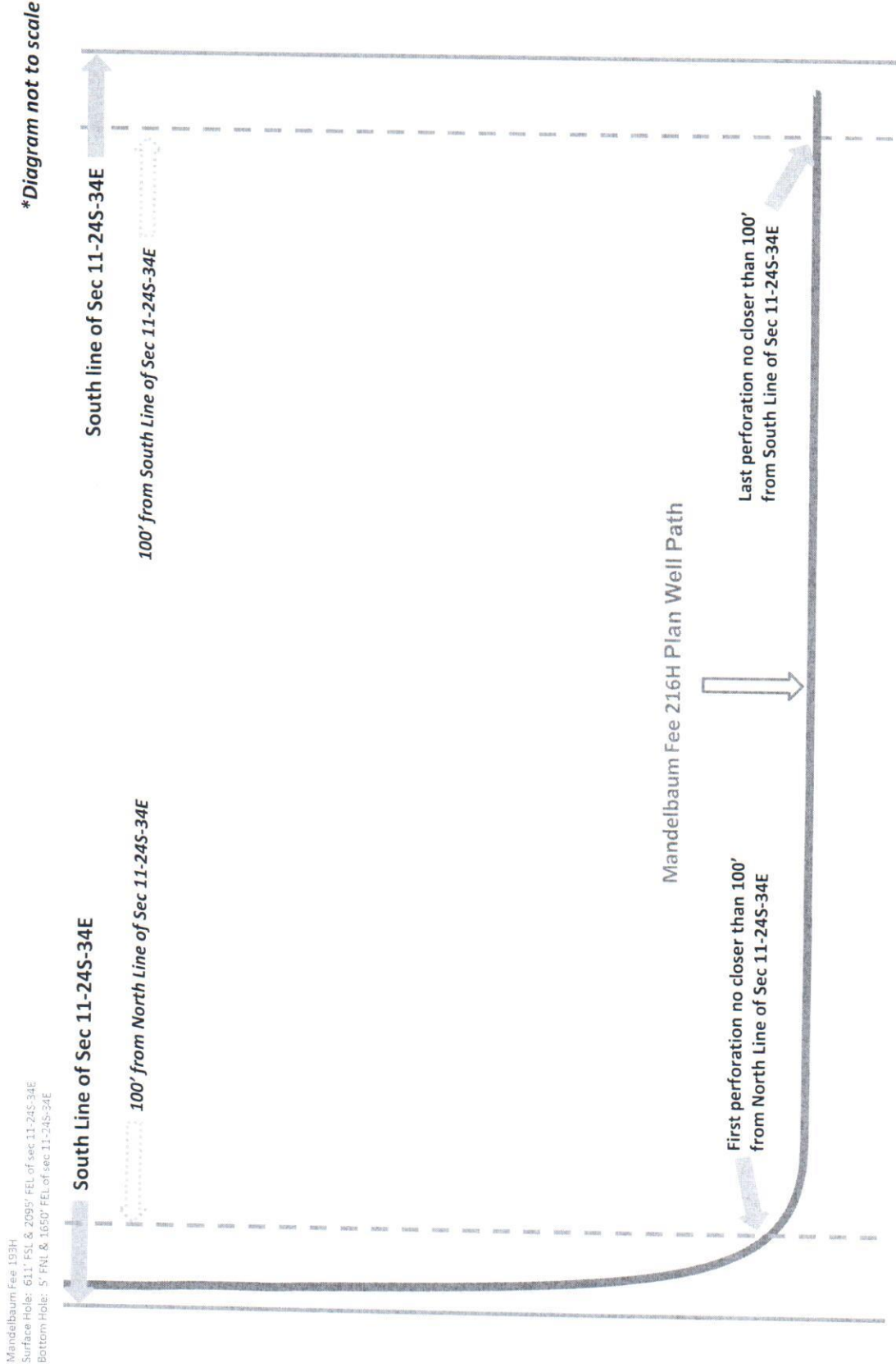
Mandelbaum Fee 207H (1 mile S-N Lateral)



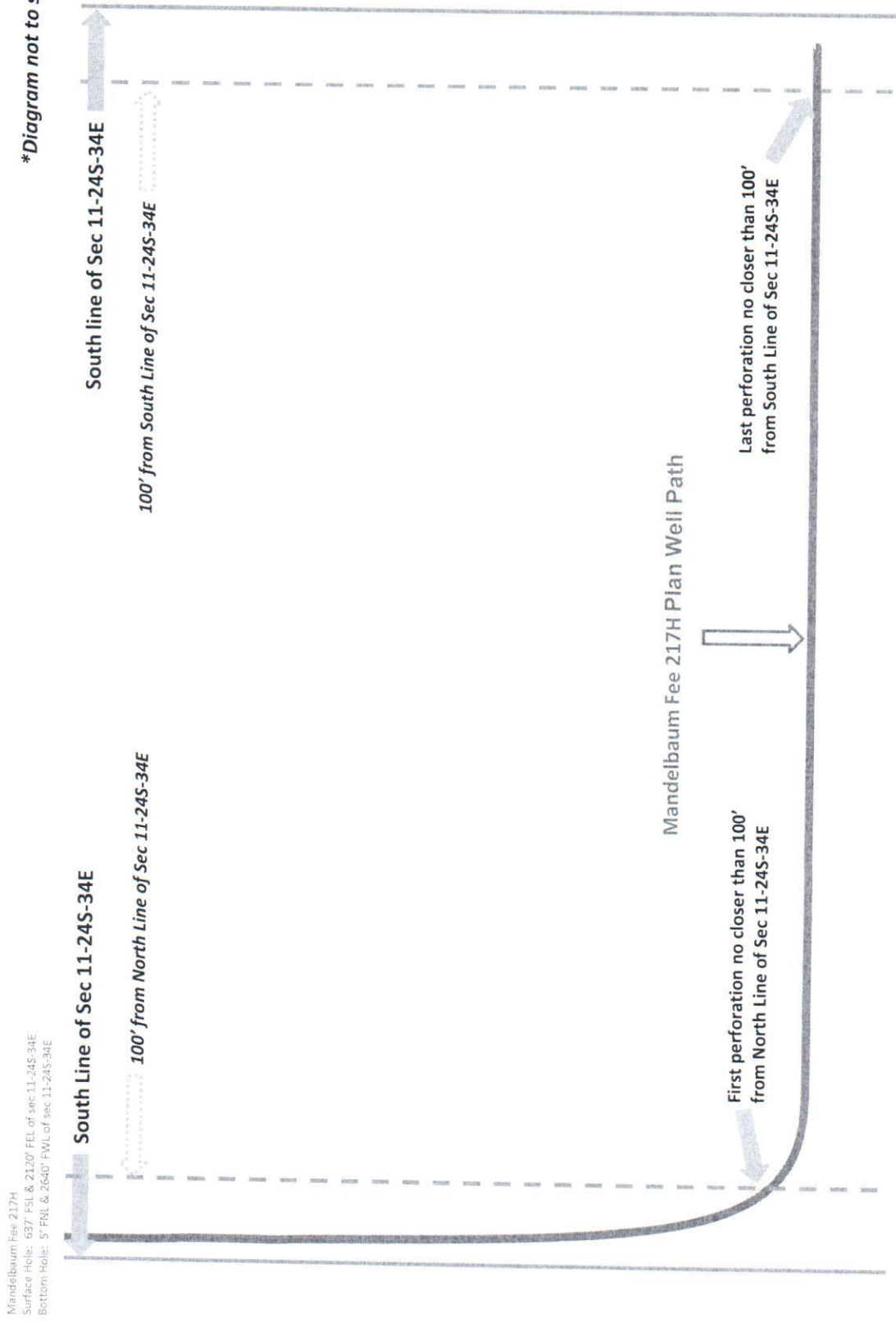
Mandelbaum Fee 212H (1 mile S-N Lateral)



Mandelbaum Fee 216H (1 mile S-N Lateral)



Mandelbaum Fee 217H (1 mile S-N Lateral)



STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

APPLICATION OF TAP ROCK RESOURCES,
LLC FOR COMPULSORY POOLING, LEA
COUNTY, NEW MEXICO.

Case No. _____

SELF-AFFIRMED STATEMENT OF NOTICE

COUNTY OF SANTA FE)
) ss.
STATE OF NEW MEXICO)

James Bruce deposes and states:

1. I am over the age of 18, and have personal knowledge of the matters stated herein.
2. I am an attorney for Tap Rock Resources, LLC.
3. Tap Rock Resources, LLC has conducted a good faith, diligent effort to find the names and correct addresses of the interest owners entitled to receive notice of the application filed herein.
4. Notice of the application was provided to the interest owners, at their last known addresses, by certified mail. Copies of the notice letter and certified return receipts are attached hereto as Attachment A.
5. Applicant has complied with the notice provisions of Division Rules.
6. I understand that this Self-Affirmed Statement will be used as written testimony in this case. I affirm that my testimony in paragraphs 1 through 5 above is true and correct and is made under penalty of perjury under the laws of the State of New Mexico. My testimony is made as of the date handwritten next to my signature below.

Date:

Apr. 14, 2020

James Bruce
James Bruce

EXHIBIT

D

JAMES BRUCE
ATTORNEY AT LAW

POST OFFICE BOX 1056
SANTA FE, NEW MEXICO 87504

369 MONTEZUMA, NO. 213
SANTA FE, NEW MEXICO 87501

(505) 982-2043 (Phone)
(505) 660-6612 (Cell)
(505) 982-2151 (Fax)

jamesbruc@aol.com

January 30, 2020

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

To: Persons on Exhibit A

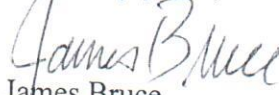
Ladies and gentlemen:

Enclosed is an application for compulsory pooling, filed with the New Mexico Oil Conservation Division by Tap Rock Resources, LLC, regarding Wolfcamp wells in the E/2W/2 and W/2E/2 of Section 11, Township 24 South, Range 34 East, NMPM, Lea County, New Mexico.

This case is scheduled for hearing at 8:15 a.m. on Thursday, February 20, 2020, in Porter Hall at the Division's offices at 1220 South St. Francis Drive, Santa Fe, New Mexico 87505. You are not required to attend this hearing, but as an interest owner that may be affected by this application, you may appear and present testimony. Failure to appear at that time and become a party of record will preclude you from contesting this matter at a later date.

A party appearing in a Division case is required by Division Rules to file a Pre-Hearing Statement no later than Wednesday, February 13, 2020. This statement must be filed with the Division's Santa Fe office at the above address, and should include: The names of the party and its attorney; a concise statement of the case; the names of the witnesses the party will call to testify at the hearing; the approximate time the party will need to present its case; and identification of any procedural matters that need to be resolved prior to the hearing. The Pre-Hearing Statement must also be provided to the undersigned.

Very truly yours,


James Bruce

Attorney for Tap Rock Resources, LLC

ATTACHMENT

A

EXHIBIT A

Working Interest Parties

GAJH 1989 Limited Partnership
410 Seventeenth Street, Suite No. 1400
Denver, CO 80202

Marathon Oil Permian LLC
5555 San Felipe Street
Houston, TX 77056

Energen Resources Corporation
605 Richard Arrington, Jr. Boulevard North
Birmingham, AL 35203

Franklin Mountain Energy II, LLC
123 W. Mills Street Suite 600
El Paso, Texas 79901

Crown Oil Partners VI, LLC
Crump Energy Partners III, LLC
P.O. Box 50820
Midland, TX 79710

COG Operating LLC
600 W. Illinois Ave
Midland, Texas 79701

Overriding Royalty Party

Stryker Energy, LLC
P.O. Box 53448
Houston,, Texas 77052

SENDER: COMPLETE THIS SECTION

■ Complete items 1, 2, and 3.
■ Print your name and address on the reverse so that we can return the card to you.
■ Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Energen Resources Corporation
605 Richard Arrington, Jr. Boulevard North
Birmingham, AL 35203

2. Article Number (Transfer from carrier label)

7019 1640 0000 1700 9115

PS Form 3811, July 2015 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature ☒ X *Hilda Arrington* ☐ Agent ☐ Addressee

B. Received by (Printed Name) C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes ☐ No
If YES, enter delivery address below:

3. Service Type

☐ Adult Signature ☐ Priority Mail Express®
☐ Adult Signature Restricted Delivery ☐ Registered Mail™
☒ Certified Mail® ☐ Return Receipt for Merchandise
☐ Collect on Delivery ☐ Signature Confirmation™
☐ Collect on Delivery Restricted Delivery ☐ Signature Confirmation Restricted Delivery

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☐ Return Receipt (electronic) \$

☐ Certified Mail Restricted Delivery \$

☐ Adult Signature Required \$

☐ Adult Signature Restricted Delivery \$

Postage \$

Total Postage and Fees \$

Sent To *Energen Resources Corporation*

Street and Apt. No. *605 Richard Arrington, Jr. Boulevard North*

City, State, ZIP+4 *Birmingham, AL 35203*

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

8206 0020 1700 0000 0497 6702

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☐ Return Receipt (electronic) \$

☐ Certified Mail Restricted Delivery \$

☐ Adult Signature Required \$

☐ Adult Signature Restricted Delivery \$

Postage \$

Total Postage and Fees \$

Sent To *Stryker Energy, LLC*

Street and Apt. No. *P.O. Box 53448*

City, State, ZIP+4 *Houston, Texas 77052*

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Stryker Energy, LLC
P.O. Box 53448
Houston, Texas 77052



9590 9402 4582 8278 6081 38

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A. Signature ☒ X *Brad Rivers* ☐ Agent ☐ Addressee

B. Received by (Printed Name) C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes ☐ No
If YES, enter delivery address below:

Brad Rivers

3. Service Type

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☐ Adult Signature Restricted Delivery ☐ Registered Mail™
☐ Certified Mail® ☐ Return Receipt for Merchandise
☐ Collect on Delivery ☐ Signature Confirmation™
☐ Collect on Delivery Restricted Delivery ☐ Signature Confirmation Restricted Delivery

Domestic Return Receipt



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1. Article Addressed to:

Marathon Oil Permian LLC
5555 San Felipe Street
Houston, TX 77056



9590 9402 4582 8278 6062 64

2. Article Number (Transfer from service label)

7019 1640 0000 1700 9122

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TR Ma

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- A. Signature ☒ Agent ☐ Addressee
- B. Received by (Printed Name) T. Ocampo C. Date of Delivery 2/4/20
- D. Is delivery address different from item 1? ☐ Yes ☐ No
If YES, enter delivery address below:

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 - ☐ Adult Signature Restricted Delivery
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☐ Adult Signature Restricted Delivery \$
Postage \$
Total Postage and Fees \$

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5555 San Felipe Street
Houston, TX 77056
Street and Apt.
City, State, ZIP+4®

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1. Article Addressed to:

Crown Oil Partners VI, LLC
Crump Energy Partners III, LLC
P.O. Box 50820
Midland, TX 79710



9590 9402 4582 8278 6062 88

2. Article Number (Transfer from service label)

7019 1640 0000 1700

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☐ Adult Signature Restricted Delivery \$
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P.O. Box 50820
Midland, TX 79710
Street and Apt.
City, State, ZIP+4®

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COMPLETE THIS SECTION ON DELIVERY

- A. Signature ☒ Agent ☐ Addressee
- B. Received by (Printed Name) Crump Energy Partners III, LLC C. Date of Delivery 2-4-20
- D. Is delivery address different from item 1? ☐ Yes ☐ No
If YES, enter delivery address below:

3. Service Type
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 - ☐ Adult Signature Restricted Delivery
 - ☒ Certified Mail®
 - ☐ Certified Mail Restricted Delivery
 - ☐ Collect on Delivery
 - ☐ Collect on Delivery Restricted Delivery
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 - ☐ Signature Confirmation™
 - ☐ Signature Confirmation Restricted Delivery

9092

(over \$500)

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1. Article Addressed to:

COG Operating LLC
600 W. Illinois Ave
Midland, Texas 79701



9590 9402 4582 8278 6059 39

2. Article Number (Numbered 1-9999)

7019 1640 0000 1700 9085

PS Form 3811, July 2015 PSN 7530-02-000-9053

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- A. Signature ☒ Agent ☐ Addressee
- B. Received by (Printed Name) Jennifer Whitley C. Date of Delivery 2/4/20
- D. Is delivery address different from item 1? ☐ Yes ☐ No
If YES, enter delivery address below:

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- ☐ Adult Signature
 - ☐ Adult Signature Restricted Delivery
 - ☐ Certified Mail®
 - ☐ Certified Mail Restricted Delivery
 - ☐ Collect on Delivery
 - ☐ Priority Mail Express®
 - ☐ Registered Mail™
 - ☐ Registered Mail Restricted Delivery
 - ☐ Return Receipt for Merchandise
 - ☐ Signature Confirmation™
 - ☐ Signature Confirmation Restricted Delivery

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☐ Return Receipt (electronic) \$

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☐ Adult Signature Restricted Delivery \$

Postage \$

Total Postage and Fees \$

Sent To Franklin Mountain Energy II, LLC

Street and Apt. No. 123 W. Mills Street Suite 600

City, State, ZIP+4® El Paso, Texas 79901

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☐ Adult Signature Required \$

☐ Adult Signature Restricted Delivery \$

Postage \$

Total Postage and Fees \$

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Street and Apt. No. or P.O. Box 600 W. Illinois Ave

City, State, ZIP+4® Midland, Texas 79701

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Track Another Package +**Tracking Number:** 70191640000017009108

Remove X

Your item was **delivered** to an individual at the address at 11:51 am on February 3, 2020 in EL PASO, TX 79901.

✓ Delivered

February 3, 2020 at 11:51 am
Delivered, Left with Individual
EL PASO, TX 79901

Feedback

Tracking History**Product Information****See Less ^****Can't find what you're looking for?**

Go to our FAQs section to find answers to your tracking questions.

FAQs

James Bruce
P.O. Box 1056
Santa Fe, New Mexico 87504

02/10/2020

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OF THE RETURN ADDRESS, FOLD AT DOTTED LINE

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7019 1640 0000 1700 9139

\$6.90⁰
US POSTAGE
FIRST-CLASS
071V000607931
87501
000119650

GAJH 1989 Limited Partnership
410 Seventeenth Street, Suite No. 1400
Denver, CO 80202

9400921968038410

80202344279027
6750451050



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☐ Certified Mail Restricted Delivery \$

☐ Adult Signature Required \$

☐ Adult Signature Restricted Delivery \$

Postage

Total Postage and

Sent To

Street and Apt. No. or PO Box No.

City, State, ZIP+4®

GAJH 1989 Limited Partnership
410 Seventeenth Street, Suite No. 1400
Denver, CO 80202

Postmark
Here

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

JAMES BRUCE
ATTORNEY AT LAW

POST OFFICE BOX 1056
SANTA FE, NEW MEXICO 87504

369 MONTEZUMA, NO. 213
SANTA FE, NEW MEXICO 87501

(505) 982-2043 (Phone)
(505) 660-6612 (Cell)
(505) 982-2151 (Fax)

jamesbruce@aol.com

February 27, 2020

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

To: Persons on Exhibit A

Ladies and gentlemen:

Enclosed is an application for compulsory pooling, filed with the New Mexico Oil Conservation Division by Tap Rock Resources, LLC, regarding Wolfcamp wells in the E/2W/2 and W/2E/2 of Section 11, Township 24 South, Range 34 East, NMPM, Lea County, New Mexico.

This case is scheduled for hearing at 8:15 a.m. on Thursday, March 19, 2020, in Porter Hall at the Division's offices at 1220 South St. Francis Drive, Santa Fe, New Mexico 87505. You are not required to attend this hearing, but as an interest owner that may be affected by this application, you may appear and present testimony. Failure to appear at that time and become a party of record will preclude you from contesting this matter at a later date.

A party appearing in a Division case is required by Division Rules to file a Pre-Hearing Statement no later than Thursday, March 12, 2020. This statement must be filed with the Division's Santa Fe office at the above address, and should include: The names of the party and its attorney; a concise statement of the case; the names of the witnesses the party will call to testify at the hearing; the approximate time the party will need to present its case; and identification of any procedural matters that need to be resolved prior to the hearing. The Pre-Hearing Statement must also be provided to the undersigned.

Very truly yours,


James Bruce

Attorney for Tap Rock Resources, LLC

ATTACHMENT

A

EXHIBIT A

GAJH 1989 Limited Partnership
c/o Devon Energy Production Company, L.P.
333 West Sheridan
Oklahoma City, Oklahoma 73102

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

GAIH 1989 Limited Partnership
c/o Devon Energy Production Company, L.P.
333 West Sheridan
Oklahoma City, Oklahoma 73102



9590 9402 5751 0003 4190 45

2. Article Number:

7019 2970 0000 7593 5635

PS Form 3811, July 2015 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature

☒ Agent ☐ Addressee

[Signature]
Received by (Printed Name)

C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes ☐ No

If YES, enter delivery address below:

☐ No

3. Service Type

- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☒ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

Restricted Delivery

(over \$500)

TR - Man - w/c Domestic Return Receipt

U.S. Postal Service™

CERTIFIED MAIL® RECEIPT

Domestic Mail Only

For delivery information, visit our website at www.usps.com®

OFFICIAL USE

Certified Mail Fee	\$3.55
Extra Sags, Cds & Fees (check box, add fee to total)	\$2.95
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00
Postage	\$0.00
Total Postage	\$6.50

GAIH 1989 Limited Partnership
c/o Devon Energy Production Company, L.P.
333 West Sheridan
Oklahoma City, Oklahoma 73102

PS Form 3800, April 2015 PSN 7530-02-000-6047 See Reverse for Instructions

Affidavit of Publication

STATE OF NEW MEXICO
COUNTY OF LEA

I, Todd Bailey, Editor of the Hobbs News-Sun, a newspaper published at Hobbs, New Mexico, solemnly swear that the clipping attached hereto was published in the regular and entire issue of said newspaper, and not a supplement thereof for a period of 1 issue(s).

Beginning with the issue dated
January 26, 2020
and ending with the issue dated
January 26, 2020.



Editor

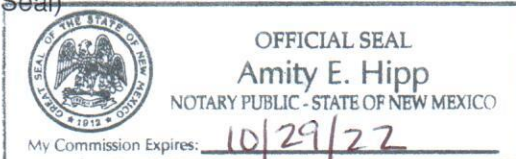
Sworn and subscribed to before me this
26th day of January 2020.



Circulation Clerk

My commission expires
October 29, 2022

(Seal)



This newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Laws of 1937 and payment of fees for said

LEGAL

LEGAL

LEGAL NOTICE JANUARY 26, 2020

To: Marathon Oil Permian LLC, Energen Resources Corporation, Franklin Mountain Energy II LLC, Crown Oil Partners VI LLC, Crump Energy Partners III LLC, COG Operating LLC, and Devon Energy Production Company LP, or your successors or assigns: Tap Rock Resources, LLC seeks an order pooling all mineral interests in the Wolfcamp formation underlying a (proximity tract) horizontal spacing unit comprised of the E/2W/2 and the W/2E/2 of Section 11, Township 24 South, Range 34 East, NMPM, Lea County, New Mexico. The unit will be dedicated to the Mandelbaum Fee Well Nos. 132H, 136H, 137H, 203H, 207H, 212H, 216H, and 217H. Also to be considered will be the cost of drilling and completing the wells and the allocation of the cost thereof, as well as actual operating costs and charges for supervision, designation of Tap Rock Operating, LLC as operator of the wells, and a 200% charge for the risk involved in drilling and completing the wells. The application is scheduled to be heard at 8:15 a.m. on Thursday, February 6, 2020 at the Division's offices at 1220 South St. Francis Drive, Santa Fe, New Mexico 87505. As an interest owner to the well unit you have the right to enter an appearance and participate in the case. Failure to appear will preclude you from contesting this matter at a later date. The attorney for applicant is James Bruce, P.O. Box 1056, Santa Fe, New Mexico 87504. The unit is located approximately 16-1/2 miles northwest of Jal, New Mexico.
#35111

01101711

00238692

JAMES BRUCE
JAMES BRUCE, ATTORNEY AT LAW
P.O. BOX 1056
SANTA FE, NM 87504

EXHIBIT

E

COMPULSORY POOLING APPLICATION CHECKLIST

ALL INFORMATION IN THE APPLICATION MUST BE SUPPORTED BY SIGNED AFFIDAVITS

Case:	21071
Date	April 16, 2020
Applicant	Tap Rock Resources, LLC
Designated Operator & OGRID (affiliation if applicable)	Tap Rock Operating, LLC/OGRID No. 372043 The operator is the operating entity for applicant
Applicant's Counsel:	James Bruce
Case Title:	Application of Tap Rock Resources, LLC for Compulsory Pooling, Lea County, New Mexico
Entries of Appearance/Intervenors:	Marathon Oil Permian LLC/Jennifer Bradfute COG Operating LLC/Ocean Munds-Dry <i>et al.</i>
Well Family	Mandelbaum Fee Wells
Formation/Pool	
Formation Name(s) or Vertical Extent:	Wolfcamp formation
Primary Product (Oil or Gas):	Oil
Pooling this vertical extent:	Entire Wolfcamp formation
Pool Name and Pool Code:	Antelope Ridge; Wolfcamp/2220
Well Location Setback Rules:	Statewide rules and current horizontal well rules
Spacing Unit Size:	Quarter-quarter Section/40 acre
Spacing Unit	
Type (Horizontal/Vertical)	Horizontal
Size (Acres)	320 acres
Building Blocks:	40 acres
Orientation:	South-North
Description: TRS/County	E/2W/2 and W/2E/2 §11-24S-34E, NMPM, Lea County
Standard Horizontal Well Spacing Unit (Y/N), If No, describe	Yes
Other Situations	
Depth Severance: Y/N. If yes, description	No
Proximity Tracts: If yes, description	No
Proximity Defining Well: if yes, description	Mandelbaum Fee Well No. 137H
Applicant's Ownership in Each Tract	Exhibit B-3
Well(s)	
Name & API (if assigned), surface and bottom hole location, footages, completion target, orientation, completion status (standard or non- standard)	<div> Mandelbaum Fee Well No. 132H API No. 30-025-PENDING SHL: 649 FSL & 1848 FWL §11 BHL: 5 FNL & 1657 FWL §11 FTP: 100 FSL & 1657 FWL §11 LTP: 100 FNL & 1657 FWL §11 Formation: Wolfcamp/TVD 11860 feet/MD 17270 feet Completion location expected to be standard </div> <div> EXHIBIT F </div>

Mandelbaum Fee Well No. 136H
API No. 30-025-PENDING
SHL: 636 FSL & 2095 FEL §11
BHL: 5 FNL & 1650 FEL §11
FTP: 100 FSL & 1650 FEL §11
LTP: 100 FNL & 1650 FEL §11
Formation: Wolfcamp/TVD 11860 feet/MD 17270 feet
Completion location expected to be standard

Mandelbaum Fee Well No. 137H
API No. 30-015-PENDING
SHL: 649 FSL & 1873 FWL §11
BHL: 5 FNL & 2640 FWL §11
FTP: 100 FSL & 2640 FWL §11
LTP: 100 FNL & 2640 FWL §11
Formation: Wolfcamp/TVD 11860 feet/MD 17270 feet
Completion location expected to be standard

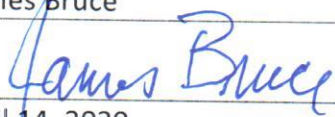
Mandelbaum Fee Well No. 203H
API No. 30-025-PENDING
SHL: 612 FSL & 2120 FEL §11
BHL: 5 FNL & 2145 FEL §11
FTP: 100 FSL & 2145 FEL §11
LTP: 100 FNL & 2145 FEL §11
Formation: Wolfcamp/TVD 11970 feet/MD 17380 feet
Completion location expected to be standard

Mandelbaum Fee Well No. 207H
API No. 30-015-PENDING
SHL: 624 FSL & 1873 FWL §11
BHL: 5 FNL & 2145 FWL §11
FTP: 100 FSL & 2145 FWL §11
LTP: 100 FNL & 2145 FWL §11
Formation: Wolfcamp/TVD 11970 feet/MD 17380 feet
Completion location expected to be standard

Mandelbaum Fee Well No. 212H
API No. 30-015-PENDING
SHL: 624 FSL & 1848 FWL §11
BHL: 5 FNL & 1657 FWL §11
FTP: 100 FSL & 1657 FWL §11
LTP: 100 FNL & 1657 FWL §11
Formation: Wolfcamp/TVD 12180 feet/MD 17590 feet
Completion location expected to be standard

Mandelbaum Fee Well No. 216H
API No. 30-025-PENDING
SHL: 611 FSL & 2095 FEL §11
BHL: 5 FNL & 1650 FEL §11
FTP: 100 FSL & 1650 FEL §11
LTP: 100 FNL & 1650 FEL §11

	Formation: Wolfcamp/TVD 12180 feet/MD 17590 feet Completion location expected to be standard Mandelbaum Fee Well No. 217H API No. 30-025-PENDING SHL: 637 FSL & 2640 FWL §11 BHL: 5 FNL & 2640 FWL §11 FTP: 100 FSL & 2640 FWL §11 LTP: 100 FNL & 2640 FWL §11 Formation: Wolfcamp/TVD 12180 feet/MD 17590 feet
Horizontal Well First and Last Take Points	See above
Completion Target (Formation, TVD and MD)	See Above
AFE Capex and Operating Costs	
Drilling Supervision/Month \$	\$7000
Production Supervision/Month \$	\$700
Justification for Supervision Costs	Exhibit B page 3
Requested Risk Charge	Cost + 200%/Exhibit B page 3
Notice of Hearing	
Proposed Notice of Hearing	Exhibit A
Proof of Mailed Notice of Hearing (20 days before hearing)	Exhibit D
Proof of Published Notice of Hearing (10 days before hearing)	Exhibit E
Ownership Determination	
Land Ownership Schematic of the Spacing Unit	Exhibit B-2
Tract List (including lease numbers and owners)	Exhibits B-3 and B-4
Pooled Parties (including ownership type)	Exhibit B-4
Unlocatable Parties to be Pooled	
Ownership Depth Severance (including percentage above & below)	None
Joinder	
Sample Copy of Proposal Letter	Exhibit B-5
List of Interest Owners (i.e. Exhibit A of JOA)	Exhibit B-3
Chronology of Contact with Non-Joined Working Interests	Exhibit B-6
Overhead Rates In Proposal Letter	
Cost Estimate to Drill and Complete	Exhibit B-5
Cost Estimate to Equip Well	Exhibit B-5
Cost Estimate for Production Facilities	Exhibit B-5
Geology	
Summary (including special considerations)	Exhibit C
Spacing Unit Schematic	Exhibit C-8

Gunbarrel/Lateral Trajectory Schematic	Exhibit C-9
Well Orientation (with rationale)	Standup/Exhibit C
Target Formation	Wolfcamp
HSU Cross Section	Exhibit C-11
Depth Severance Discussion	Not Applicable
Forms, Figures and Tables	
C-102	Exhibit B-1
Tracts	Exhibit B-2
Summary of Interests, Unit Recapitulation (Tracts)	Exhibit B-4
General Location Map (including basin)	Exhibit C-8
Well Bore Location Map	Exhibit C-9
Structure Contour Map - Subsea Depth	Exhibit C-10
Cross Section Location Map (including wells)	Exhibit C-11
Cross Section (including Landing Zone)	Exhibit C-11
Additional Information	
CERTIFICATION: I hereby certify that the information provided in this checklist is complete and accurate.	
Printed Name (Attorney or Party Representative):	James Bruce
Signed Name (Attorney or Party Representative):	
Date:	April 14, 2020