

**Before the Oil Conservation Division
Examiner Hearing November 14, 2019**

Case No. 20864

*Valkyrie 12 WA Federal Com 7H, Valkyrie 12 WXY Federal Com 9H,
Valkyrie 12 WA Federal Com 11H, Valkyrie 12 WD Federal Com 8H,
Valkyrie 12 WD Federal Com 10H, Valkyrie 12 WD Federal Com 12H*



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

**APPLICATION OF MARATHON OIL PERMIAN LLC FOR COMPUSLORY
POOLING, EDDY COUNTY, NEW MEXICO.**

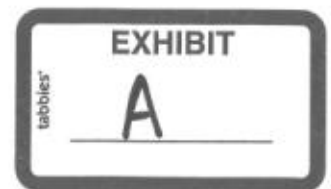
**CASE NO. 20864
(Valkyrie Wolfcamp)**

AFFIDAVIT

STATE OF TEXAS)
) ss.
COUNTY OF MIDLAND)

Chase Rice, being duly sworn, deposes and states:

1. I am over the age of 18, I am a landman for Marathon Oil Permian LLC and have personal knowledge of the matters stated herein. I have previously testified before the Oil Conservation Division ("Division") and my credentials as an expert petroleum landman were accepted by the Division as a matter of record.
2. My area of responsibility at Marathon includes the area of Eddy County in New Mexico.
3. I am familiar with the application filed by Marathon in this case.
4. I am familiar with the status of the lands that are subject to the application.
5. I submit the following information pursuant to NMAC 19.15.4.12.A(1) in support of the above referenced compulsory pooling application.
6. The purpose of the application is to force pool working interest owners into the horizontal spacing unit described below, and in the wells to be drilled in the unit.



7. No opposition is expected because the interest owners being pooled have been contacted regarding the proposed wells, but have failed or refused to voluntarily commit their interests in the wells.

8. In Case No. 20864, Marathon seeks an order from the Division pooling all uncommitted mineral interests within a Wolfcamp horizontal spacing unit underlying the S/2 of Section 12, Township 23 South, Range 28 East and Section 7 of Township 23 South, Range 29 East, NMPM, Eddy County, New Mexico. This spacing unit will be dedicated to the **Valkyrie 12 WA Federal Com 7H, Valkyrie 12 WXY Federal Com 9H, Valkyrie 12 WA Federal Com 11H, Valkyrie 12 WD Federal Com 8H, Valkyrie 12 WD Federal Com 10H, Valkyrie 12 WD Federal Com 12H**, to be horizontally drilled. The producing area for these wells will be unorthodox.

9. The Application is attached hereto as **Exhibit 1**.

10. Attached as **Exhibit 2** are proposed C-102s for the wells.

11. The C-102s identify the proposed surface hole locations, first take point, and bottom hole locations. The C-102s also identify the pool and pool code.

12. The wells will develop the Purple Sage Wolfcamp, Gas pool, pool code, 98220.

13. The Purple Sage; Wolfcamp (Gas) pool is a gas pool with 320-acre building blocks.

14. The Purple Sage Wolfcamp pool is governed by special pool rules, which require setbacks at least 330 feet from a unit boundary.

15. The locations of the wells will be unorthodox. Marathon will be submitting separate administrative applications for approval of the non-standard locations for these wells.

16. The lease tract maps outlining the unit being pooled is included behind **Tab 3**. The parties being pooled and the percent of their interests is also included as part of Exhibit 3.

17. There are no depth severances within the proposed spacing unit.
18. I have conducted a diligent search of the public records in the county where the wells are located, and conducted phone directory and computer searches to locate contact information for parties entitled to notification, and mailed all parties well proposals, including an Authorization for Expenditure.
19. Marathon has made a good faith effort to obtain voluntary joinder of the working interest owners in the proposed wells.
20. Marathon seeks to pool overriding royalty interest owners, and they were provided notice of this hearing.
21. **Exhibit 4** is the well proposal letter that I sent to all working-interest owners.
22. The proposal letter identifies the proposed surface hole and bottom hole locations and approximate TVD.
23. **Exhibit 5** contains the Authorization for Expenditure for the proposed wells. The estimated cost of the wells set forth therein is fair and reasonable, and is comparable to the costs of other wells of similar depths and length drilled in this area of New Mexico.
24. Marathon requests overhead and administrative rates of \$7000.00/month for drilling a well and \$700.00/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. Marathon requests that these rates be adjusted periodically as provided in the COPAS Accounting Procedure.
25. Marathon requests the maximum cost plus 200% risk charge be assessed against non-consenting working interest owners.
26. Marathon requests that it be designated operator of the wells.

27. Marathon requests that it be allowed a period of one (1) year between when the wells are drilled and when the first well is completed under the order.

28. The parties Marathon is seeking to pool were notified of this hearing.

29. **Exhibit 6** is an affidavit of notice prepared by counsel for Marathon that shows the parties who were notified of this hearing, the status of whether they received notice, and an affidavit of publication from the Carlsbad Argus newspaper, showing that notice of this hearing was published on October 31, 2019.

30. The attachments to this affidavit were prepared by me, or compiled from company business records, or were prepared at my direction.

31. I attest that the information provided herein is correct and complete to the best of my knowledge and belief.

32. The granting of this application is in the interests of conservation and the prevention of waste.

[Signature page follows]

Chase Rice

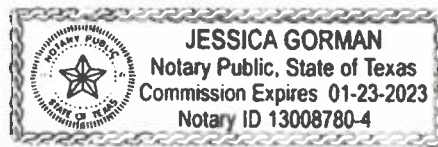
Chase Rice

SUBSCRIBED AND SWORN to before me this 12th day of November, 2019 by Chase Rice on behalf of Marathon Oil Permian LLC.

Jessica Gorman

Notary Public

My commission expires: 1/23/2023



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

**APPLICATION OF MARATHON
OIL PERMIAN LLC FOR COMPULSORY
POOLING, EDDY COUNTY, NEW MEXICO.**

CASE NO. 20864

APPLICATION

Marathon Oil Permian LLC ("Marathon"), OGRID Number 372098, through its undersigned attorneys, hereby makes an application to the Oil Conservation Division pursuant to the provisions of NMSA (1978), Section 70-2-17, for an order pooling all uncommitted mineral interests within a Wolfcamp horizontal spacing unit underlying the S/2 of Section 12, Township 23 South, Range 28 East and Section 7 of Township 23 South, Range 29 East, NMPM, Eddy County, New Mexico. In support of this application, Marathon states as follows:

1. Marathon is an interest owner in the subject lands and has a right to drill a well thereon.
2. Marathon seeks to dedicate the S/2 of Section 12, Township 23 South, Range 28 East and Section 7 of Township 23 South, Range 29 East, NMPM, Eddy County, New Mexico to form a 640-acre, more or less, spacing unit.
3. Marathon plans to drill the **Valkyrie 12 WA Federal Com 7H, Valkyrie 12 WXY Federal Com 9H, Valkyrie 12 WA Federal Com 11H, Valkyrie 12 WD Federal Com 8H, Valkyrie 12 WD Federal Com 10H, Valkyrie 12 WD Federal Com 12H** wells to a depth sufficient to test the Wolfcamp formation. These wells will be horizontally drilled.



4. These wells will be located within the Purple Sage Wolfcamp Gas Pool, which is subject to special pool rules that establish 330 foot setback requirements.

5. These wells do not comply with the Division's setback requirements for this pool. Marathon will apply for administrative approval of the non-standard well locations separately.

6. The completed interval for **Valkyrie 12 WXY Federal Com 9H** well is less than 330 feet from the adjoining tracts and the Division's rules allow for the inclusion of proximity tracts within the proposed spacing unit for the wells.

7. Marathon sought, but has been unable to obtain, a voluntary agreement from all interest owners in the Wolfcamp formation underlying the proposed spacing unit to participate in the drilling of the wells or to otherwise commit their interests to the wells.

8. The pooling of all interests in the Wolfcamp formation underlying the proposed unit will prevent the drilling of unnecessary wells, prevent waste and protect correlative rights.

9. Marathon further requests that it be allowed one (1) year between the time the wells are drilled and completion of the first well under the order issued by the Division.

WHEREFORE, Marathon requests this application be set for hearing before an Examiner of the Oil Conservation Division on November 14, 2019, and after notice and hearing as required by law, the Division enter its order:

A. Pooling all mineral interests in the Wolfcamp formation underlying a horizontal spacing unit within S/2 of Section 12, Township 23 South, Range 28 East and Section 7 of Township 23 South, Range 29 East, NMPM, Eddy County, New Mexico;

B. Designating Marathon as operator of this unit and the wells to be drilled thereon;

C. Authorizing Marathon to recover its costs of drilling, equipping and completing these wells;

D. Approving actual operating charges and costs charged for supervision, together with a provision adjusting the rates pursuant to the COPAS accounting procedure;

E. Setting a 200% charge for the risk involved in drilling and completing the wells in the event a working interest owner elects not to participate in the wells.

F. Allowing a time period of one (1) year between when the wells are drilled and when the first well is completed under the order.

Respectfully submitted,

MODRALL, SPERLING, ROEHL, HARRIS
& SISK, P.A.

By: Deana M. Bennett
Deana M. Bennett
Nicole T. Russell
Post Office Box 2168
500 Fourth Street NW, Suite 1000
Albuquerque, New Mexico 87103-2168
Telephone: 505.848.1800
Attorneys for Applicant

CASE NO. _____: Application of Marathon Oil Permian LLC for compulsory pooling, Eddy County, New Mexico. Applicant seeks an order from the Division pooling all uncommitted mineral interests within a Wolfcamp horizontal spacing unit underlying the S/2 of Section 12, Township 23 South, Range 28 East and Section 7 of Township 23 South, Range 29 East, NMPM, Eddy County, New Mexico. This spacing unit will be dedicated to the **Valkyrie 12 WA Federal Com 7H, Valkyrie 12 WXY Federal Com 9H, Valkyrie 12 WA Federal Com 11H, Valkyrie 12 WD Federal Com 8H, Valkyrie 12 WD Federal Com 10H, Valkyrie 12 WD Federal Com 12H**, to be horizontally drilled. The producing area for these wells will be unorthodox. Also to be considered will be the cost of drilling and completing said wells, the allocation of these costs as well as the actual operating costs and charges for supervision, designation of Marathon as operator of the wells, and a 200% charge for risk involved in drilling said wells, and allowing a one year period between when the wells are drilled and when the first well is completed. Said area is located approximately 4 miles Northeast of Loving, New Mexico.

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	³ Pool Name
	98220	PURPLE SAGE; WOLFCAMP (GAS)
⁴ Property Code	⁵ Property Name	⁶ Well Number
	VALKYRIE 12 WA FEDERAL COM	7H
⁷ OGRID No.	⁸ Operator Name	⁹ Elevation
372098	MARATHON OIL PERMIAN LLC	2994'

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	12	23S	28E		1745	SOUTH	541	WEST	EDDY

¹¹ Bottom 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
I	7	23S	29E		2178	SOUTH	100	EAST	EDDY

¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
634.72			

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.

<p>SURFACE HOLE LOCATION 1745' FSL 541' FWL, SECTION 12 NAD 83, SPCS NM EAST X: 629573.00' / Y: 479413.00' LAT: 32.31769943N / LON: 104.04799652W NAD 27, SPCS NM EAST X: 588390.00' / Y: 479354.00' LAT: 32.31750107N / LON: 104.04699707W</p>	<p>KICK OFF POINT / FIRST TAKE POINT 2178' FSL 100' FWL, SECTION 12 NAD 83, SPCS NM EAST X: 629135.00' / Y: 479845.00' LAT: 32.31880188N / LON: 104.04900360W NAD 27, SPCS NM EAST X: 587953.00' / Y: 479786.00' LAT: 32.31869888N / LON: 104.04900360W</p>	<p>" OPERATOR 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 released 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</p> <p>Signature _____ Date _____</p> <p>Printed Name _____</p> <p>E-mail Address _____</p>	
			<p>"SURVEYOR 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 and correct to the best of my belief.</p> <p>Date of Survey _____</p> <p>Signature and Seal of Professional Surveyor: _____</p>
<p>LAST TAKE POINT/BOTTOM HOLE LOCATION 2178' FSL 100' FWL, SECTION 7 NAD 83, SPCS NM EAST X: 639414.00' / Y: 479705.00' LAT: 32.31840134N / LON: 104.01599884W NAD 27, SPCS NM EAST X: 598231.00' / Y: 479846.00' LAT: 32.31829834N / LON: 104.01499939W</p> <p>SHEET 1 OF 3 JOB No. R4000_004_E REV 0 JCS 11/13/2019</p>	<p>CORNER COORDINATES NAD 83, SPCS NM EAST A - X: 629038.85' / Y: 480296.05' B - X: 634415.36' / Y: 480343.15' C - X: 639494.87' / Y: 480182.85' D - X: 639603.08' / Y: 477520.38' E - X: 634411.08' / Y: 477678.47' F - X: 629017.97' / Y: 477667.04'</p>	<p>CORNER COORDINATES NAD 27, SPCS NM EAST A - X: 587858.17' / Y: 480236.50' B - X: 593232.60' / Y: 480283.54' C - X: 598312.03' / Y: 480103.18' D - X: 588420.17' / Y: 477460.76' E - X: 593228.22' / Y: 477618.92' F - X: 587835.22' / Y: 477607.56'</p>	

Distances/areas relative to NAD 83 Combined Scale Factor: 0.999774 Convergence: 00°08'50.61001"



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 98220	³ Pool Name PURPLE SAGE; WOLFCAMP (GAS)
⁴ Property Code	⁵ Property Name VALKYRIE 12 WXY FEDERAL COM	⁶ Well Number 9H
⁷ OGRID No. 372098	⁸ Operator Name MARATHON OIL PERMIAN LLC	⁹ Elevation 2993'

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	12	23S	28E		1704	SOUTH	533	WEST	EDDY

¹¹ Bottom 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
P	7	23S	29E		1254	SOUTH	100	EAST	EDDY

¹² Dedicated Acres 634.72	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
---	-------------------------------	----------------------------------	-------------------------

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

<p>SURFACE HOLE LOCATION 1704' FSL 533' FWL, SECTION 12 NAD 83, SPCS NM EAST X: 629565.00' / Y: 479372.00' LAT: 32.31750107N / LON: 104.04798652W NAD 27, SPCS NM EAST X: 588382.00' / Y: 479313.00' LAT: 32.31740189N / LON: 104.04698707W</p>	<p>KICK OFF POINT / FIRST TAKE POINT 1254' FSL 100' FWL, SECTION 12 NAD 83, SPCS NM EAST X: 629128.00' / Y: 478921.00' LAT: 32.31629944N / LON: 104.04900360W NAD 27, SPCS NM EAST X: 587945.00' / Y: 478862.00' LAT: 32.31620026N / LON: 104.04900360W</p>	<p>" OPERATOR 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 released 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.</p> <p>Signature _____ Date _____</p> <p>Printed Name _____</p> <p>E-mail Address _____</p>
		<p>"SURVEYOR 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 and correct to the best of my belief.</p> <p>Date of Survey _____</p> <p>Signature and Seal of Professional Surveyor: _____</p>
<p>LAST TAKE POINT/BOTTOM HOLE LOCATION 1254' FSL 100' FWL, SECTION 7 NAD 83, SPCS NM EAST X: 639451.00' / Y: 478780.00' LAT: 32.31579971N / LON: 104.01599884W NAD 27, SPCS NM EAST X: 598269.00' / Y: 478720.00' LAT: 32.31570053N / LON: 104.01499939W</p>	<p>CORNER COORDINATES NAD 83, SPCS NM EAST A - X: 629038.85' / Y: 480296.05' B - X: 634415.36' / Y: 480343.15' C - X: 639494.87' / Y: 480162.85' D - X: 639603.08' / Y: 477520.38' E - X: 634411.06' / Y: 477678.47' F - X: 629017.97' / Y: 477667.04'</p> <p>CORNER COORDINATES NAD 27, SPCS NM EAST A - X: 587856.17' / Y: 480236.50' B - X: 593232.80' / Y: 480283.54' C - X: 598312.03' / Y: 480103.18' D - X: 598420.17' / Y: 477480.76' E - X: 593228.22' / Y: 477618.92' F - X: 587835.22' / Y: 477607.56'</p>	<p>PRELIMINARY</p> <p>THIS DOCUMENT IS NOT TO BE USED FOR ANY ACTION, BIDDING, RECORDATION, AND SALE OF THE BASIS FOR THE ISSUANCE OF A PERMIT.</p> <p>Certificate Number _____</p>

Distances/areas relative to NAD 83 Combined Scale Factor: 0.999774 Convergence: 00°08'50.61001"

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) 748-0720
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	³ Pool Name
	98220	PURPLE SAGE; WOLFCAMP (GAS)
⁴ Property Code	⁵ Property Name	⁶ Well Number
	VALKYRIE 12 WA FEDERAL COM	11H
⁷ OGRID No.	⁸ Operator Name	⁹ Elevation
372098	MARATHON OIL PERMIAN LLC	2993'

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	12	23S	28E		1623	SOUTH	526	WEST	EDDY

¹¹ Bottom 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
P	7	23S	29E		330	SOUTH	100	EAST	EDDY

¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
634.72			

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.

<p>SURFACE HOLE LOCATION 1623' FSL 526' FWL, SECTION 12 NAD 83, SPCS NM EAST X:629557.00' / Y:479291.00' LAT:32.31729889N / LON:104.04798652W NAD 27, SPCS NM EAST X:588374.00' / Y:479232.00' LAT:32.31719971N / LON:104.04699707W</p>		<p>KICK OFF POINT / FIRST TAKE POINT 330' FSL 100' FWL, SECTION 12 NAD 83, SPCS NM EAST X:629121.00' / Y:477997.00' LAT:32.31380081N / LON:104.04900360W NAD 27, SPCS NM EAST X:587938.00' / Y:477938.00' LAT:32.31359863N / LON:104.04800360W</p>		<p>17 OPERATOR 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.</p> <p>Signature _____ Date _____</p> <p>Printed Name _____</p> <p>E-mail Address _____</p>
<p>LAST TAKE POINT/BOTTOM HOLE LOCATION 330' FSL 100' FWL, SECTION 7 NAD 83, SPCS NM EAST X:639489.00' / Y:477854.00' LAT:32.31330109N / LON:104.01599884W NAD 27, SPCS NM EAST X:598306.00' / Y:477794.00' LAT:32.31320190N / LON:104.01499839W</p>		<p>18 SURVEYOR 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 and correct to the best of my belief.</p> <p>Date of Survey _____</p> <p>Signature and Seal of Professional Surveyor _____</p> <p>Certificate Number _____</p>		

PRELIMINARY
THIS DOCUMENT IS NOT TO BE USED FOR
CONVEYANCE, BIDDING, RECORDATION,
OR SALE OF THE LAND FOR THE
ISSUANCE OF A PERMIT

CORNER COORDINATES
NAD 83, SPCS NM EAST
A - X: 629038.65' / Y: 480296.05'
B - X: 634415.36' / Y: 480343.15'
C - X: 639484.87' / Y: 480162.85'
D - X: 639803.08' / Y: 477520.38'
E - X: 634411.06' / Y: 477678.47'
F - X: 629017.97' / Y: 477667.04'

CORNER COORDINATES
NAD 27, SPCS NM EAST
A - X: 587856.17' / Y: 480236.50'
B - X: 593232.60' / Y: 480283.54'
C - X: 598312.03' / Y: 480103.18'
D - X: 598420.17' / Y: 477460.76'
E - X: 593228.22' / Y: 477618.92'
F - X: 587835.22' / Y: 477607.56'

SHL
526'
100'
N89°52'43"E ~ 5291.00'
S88°15'27"E ~ 5080.10'

PI
330'
1623'

LAST TAKE/ BHL
100'
330'

SECTION 2
SECTION 1
SECTION 6
SECTION 5
SECTION 11
SECTION 12
SECTION 7
SECTION 8
SECTION 13
SECTION 18
SECTION 17

23S R28E
23S R29E

SHL
PI
LAST TAKE/ BHL

526'
100'
330'
1623'

KOP/ FIRST TAKE

SHEET 1 OF 3
JOB NO. R4000_002_C
REV 0 JCS 11/13/2019

Distances/areas relative to NAD 83 Combined Scale Factor: 0.999774 Convergence: 00°08'50.61001"

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 98220	³ Pool Name PURPLE SAGE; WOLFCAMP (GAS)
⁴ Property Code	⁵ Property Name VALKYRIE 12 WD FEDERAL COM	⁶ Well Number 8H
⁷ OGRID No. 372098	⁸ Operator Name MARATHON OIL PERMIAN LLC	⁹ Elevation 2992'

*** Surface Location**

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	12	23S	28E		1720	SOUTH	471	WEST	EDDY

**** Bottom 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
I	7	23S	29E		2178	SOUTH	100	EAST	EDDY

¹² Dedicated Acres 634.72	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
---	-------------------------------	----------------------------------	-------------------------

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

<p>SURFACE HOLE LOCATION 1720' FSL 471' FWL, SECTION 12 NAD 83, SPCS NM EAST X:629503.00' / Y:479388.00' LAT:32.31760025N / LON:104.04799652W NAD 27, SPCS NM EAST X:588320.00' / Y:479329.00' LAT:32.31750107N / LON:104.04699707W</p>		<p>KICK OFF / FIRST TAKE POINT 2178' FSL 100' FWL, SECTION 12 NAD 83, SPCS NM EAST X:629135.00' / Y:479845.00' LAT:32.31880188N / LON:104.04900380W NAD 27, SPCS NM EAST X:587953.00' / Y:479786.00' LAT:32.31889888N / LON:104.04900360W</p>		<p>** OPERATOR 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.</p> <p>Signature _____ Date _____</p> <p>Printed Name _____</p> <p>E-mail Address _____</p>
<p>LAST TAKE POINT/BOTTOM HOLE LOCATION 2178' FSL 100' FEL, SECTION 7 NAD 83, SPCS NM EAST X:639414.00' / Y:479705.00' LAT:32.31840134N / LON:104.01599884W NAD 27, SPCS NM EAST X:598231.00' / Y:479646.00' LAT:32.31828834N / LON:104.01499839W</p>		<p>CORNER COORDINATES NAD 83, SPCS NM EAST A - X: 629038.85' / Y: 480296.05' B - X: 634415.36' / Y: 480343.15' C - X: 639494.87' / Y: 480162.85' D - X: 639603.08' / Y: 477520.38' E - X: 634411.06' / Y: 477678.47' F - X: 629017.97' / Y: 477667.04'</p>		<p>** SURVEYOR 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 and correct to the best of my belief.</p> <p>Date of Survey _____</p> <p>Signature and Seal of Professional Surveyor: _____</p> <p>PRELIMINARY THIS PLAT IS NOT TO BE USED FOR FINANCE, SALE OR THE GIVING OF A PERMIT UNTIL IT IS APPROVED BY THE DIVISION.</p> <p>Certificate Number _____</p>
<p>CORNER COORDINATES NAD 27, SPCS NM EAST A - X: 587856.17' / Y: 480236.50' B - X: 603232.60' / Y: 480283.54' C - X: 598312.03' / Y: 480103.18' D - X: 598420.17' / Y: 477460.78' E - X: 593228.22' / Y: 477618.92' F - X: 587835.22' / Y: 477607.56'</p>				

Distances/areas relative to NAD 83 Combined Scale Factor: 0.999774 Convergence: 00°08'50.61001"

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	³ Pool Name
	98221	PURPLE SAGE; WOLFCAMP (GAS)
⁴ Property Code	⁵ Property Name	⁶ Well Number
	VALKYRIE 12 WD FEDERAL COM	10H
⁷ OGRID No.	⁸ Operator Name	⁹ Elevation
372098	MARATHON OIL PERMIAN LLC	2992'

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	12	23S	28E		1685	SOUTH	463	WEST	EDDY

¹¹ Bottom 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
P	7	23S	29E		1254	SOUTH	100	EAST	EDDY

¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
634.72			

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.

<p>SURFACE HOLE LOCATION 1685' FSL 463' FWL, SECTION 12 NAD 83, SPCS NM EAST X:629494.00' / Y:479353.00' LAT:32.31750107N / LON:104.04799852W NAD 27, SPCS NM EAST X:588312.00' / Y:479294.00' LAT:32.31740189N / LON:104.04699707W</p>		<p>KICK OFF / FIRST TAKE POINT 1254' FSL 100' FWL, SECTION 12 NAD 83, SPCS NM EAST X:629128.00' / Y:478921.00' LAT:32.31829944N / LON:104.04900360W NAD 27, SPCS NM EAST X:587945.00' / Y:478862.00' LAT:32.31820026N / LON:104.04900360W</p>		<p>17 OPERATOR 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.</p> <p>Signature _____ Date _____</p> <p>Printed Name _____</p> <p>E-mail Address _____</p>
<p>SECTION 2 SECTION 1 SECTION 6 SECTION 5</p> <p>SECTION 11 SECTION 12 SECTION 7 SECTION 8</p>		<p>"SURVEYOR 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 and correct to the best of my belief.</p> <p>Date of Survey _____</p> <p>Signature and Seal of Professional Surveyor: _____</p> <p>Certificate Number _____</p>		
<p>SECTION 14 SECTION 13 SECTION 18</p> <p>SECTION 17</p>				
<p>LAST TAKE POINT/BOTTOM HOLE LOCATION 1254' FSL 100' FWL, SECTION 7 NAD 83, SPCS NM EAST X:639451.00' / Y:478180.00' LAT:32.31579971N / LON:104.01599884W NAD 27, SPCS NM EAST X:598269.00' / Y:476720.00' LAT:32.31570053N / LON:104.01499939W</p> <p>CORNER COORDINATES NAD 83, SPCS NM EAST A - X: 629038.85' / Y: 480296.05' B - X: 634415.35' / Y: 480343.15' C - X: 639494.87' / Y: 480162.85' D - X: 639603.08' / Y: 477520.38' E - X: 634411.06' / Y: 477678.47' F - X: 629017.97' / Y: 477667.04'</p> <p>CORNER COORDINATES NAD 27, SPCS NM EAST A - X: 587856.17' / Y: 480236.50' B - X: 593232.60' / Y: 480283.54' C - X: 598312.03' / Y: 480103.18' D - X: 598420.17' / Y: 477460.76' E - X: 593228.22' / Y: 477618.92' F - X: 587835.22' / Y: 477607.56'</p>				

SHEET 1 OF 3
JOB No. R4000_004_B
REV 0 JCS 11/13/2019

Distances/areas relative to NAD 83 Combined Scale Factor: 0.999774 Convergence: 00°08'50.61001"

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	³ Pool Name
	98220	PURPLE SAGE; WOLFCAMP (GAS)
⁴ Property Code	⁵ Property Name	
	VALKYRIE 12 WD FEDERAL COM	
⁷ OGRID No.	⁸ Operator Name	⁶ Well Number
372098	MARATHON OIL PERMIAN LLC	12H
		⁹ Elevation
		2992'

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	12	23S	28E		1657	SOUTH	460	WEST	EDDY

¹¹ Bottom 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
P	7	23S	29E		330	SOUTH	100	EAST	EDDY

¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
634.72			

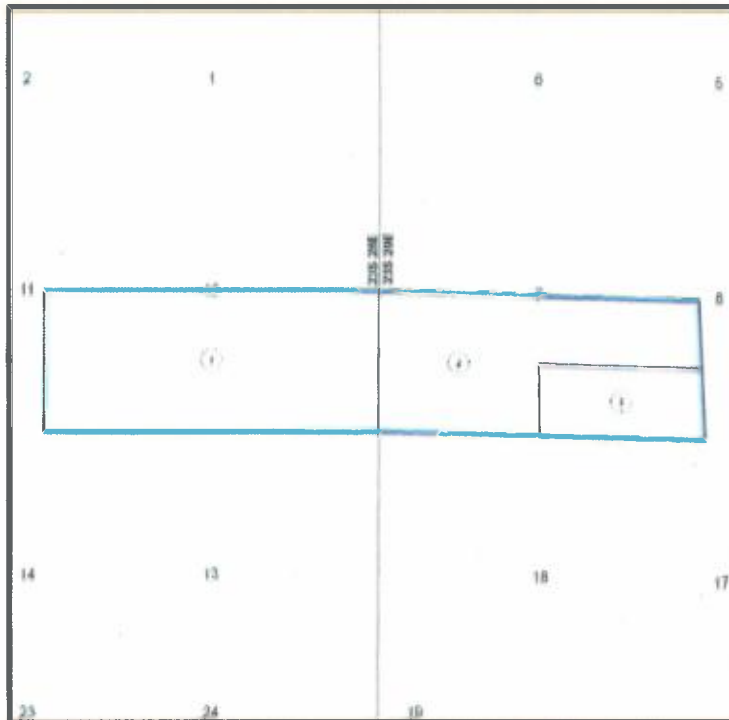
No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

<p>SURFACE HOLE LOCATION 1657' FSL 460' FWL, SECTION 12 NAD 83, SPCS NM EAST X:629491.00' / Y:479325.00' LAT:32.31740189N / LON:104.04799852W NAD 27, SPCS NM EAST X:588308.00' / Y:479266.00' LAT:32.31729889N / LON:104.04699707W</p>	<p>KICK OFF POINT / FIRST TAKE POINT 330' FSL 100' FWL, SECTION 12 NAD 83, SPCS NM EAST X:629121.00' / Y:477997.00' LAT:32.31380081N / LON:104.04900360W NAD 27, SPCS NM EAST X:587938.00' / Y:477938.00' LAT:32.31359883N / LON:104.04900360W</p>	<p>17 OPERATOR 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.</p> <p>Signature _____ Date _____</p> <p>Printed Name _____</p> <p>E-mail Address _____</p>
<p>LAST TAKE POINT/BOTTOM HOLE LOCATION 330' FSL 100' FWL, SECTION 7 NAD 83, SPCS NM EAST X:639489.00' / Y:477854.00' LAT:32.31330109N / LON:104.01599884W NAD 27, SPCS NM EAST X:598306.00' / Y:477794.00' LAT:32.31320190N / LON:104.01499939W</p>	<p>CORNER COORDINATES NAD 83, SPCS NM EAST A - X: 629038.85' / Y: 460296.05' B - X: 634415.36' / Y: 480343.15' C - X: 638484.67' / Y: 480162.85' D - X: 639603.08' / Y: 477520.38' E - X: 634411.06' / Y: 477676.47' F - X: 629017.97' / Y: 477667.04'</p>	<p>18 SURVEYOR 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 and correct to the best of my belief.</p> <p>Date of Survey _____</p> <p>Signature and Seal of Professional Surveyor _____</p> <p>Certificate Number _____</p>

Distances/areas relative to NAD 83 Combined Scale Factor: 0.999774 Convergence: 00°08'50.61001"

Lease Tract Map

Valkyrie 12 WA Federal Com 7H, Valkyrie 12 WXY Federal Com 9H, Valkyrie 12 WA Federal Com 11H,
Valkyrie 12 WD Federal Com 8H, Valkyrie 12 WD Federal Com 10H, Valkyrie 12 WD Federal Com 12H
S/2 of Sections 12 T23S-R28E & 7 T23S-R29E – 634.72 acres



- Tract 1: Federal NMNM-032636
- Tract 2: Federal NMNM-090527
- Tract 3: Fee



Summary of Interests

Valkyrie 12 WA Federal Com 7H, Valkyrie 12 WXY Federal Com 9H, Valkyrie 12 WA Federal Com 11H,
Valkyrie 12 WD Federal Com 8H, Valkyrie 12 WD Federal Com 10H, Valkyrie 12 WD Federal Com 12H
S/2 of Sections 12 T23S-R28E & 7 T23S-R29E – 634.72 acres

Committed Working Interest:
Marathon Oil Permian LLC

58.293421%
58.293421%

Uncommitted Working Interest:
Occidental Permian LP
Devon Energy Production Company
Tap Rock Resources, LLC
WPX Energy Permian LLC
Ray Westall Operating, Inc.

41.706579%
12.603983%
9.245021%
8.933073%
6.301991%
4.622511%



Chase Rice
Staff Land Professional



Marathon Oil Permian LLC
5555 San Felipe Street
Houston, Texas 77056
Telephone: 713-296-3055
Fax: 713-513-4006
cfrice@marathonoil.com

July 12, 2019

VIA CERTIFIED MAIL RETURN RECEIPT REQUESTED
7019 0700 0000 8791 1589

Chevron USA, Inc.
6301 Deauville Blvd.
Midland, TX 79706

Re: Valkyrie 12 Federal Com 1H, 2H, 3H, 4H, 5H, 6H, 7H, 8H, 9H, 10H, 11H, 12H, 13H, 14H & 15H
Well Proposals
Section 12, Township 23 South, Range 28 East and Section 7, Township 23 South, Range 29 East
Eddy County, New Mexico

Dear Chevron USA, Inc.:

Marathon Oil Permian LLC ("Marathon") proposes the drilling of the following wells located in Section 12, 23S-28E and Section 7, 23S-29E, Eddy County, New Mexico, all to be drilled from four surface pad locations.

Pad	Well Name	SHL	BHL	Proration Unit	Target TVD	Est. MD
1	Valkyrie 12 WXY Federal Com 1H	1067' FWL & 1237' FNL of Sec. 12	100' FEL & 330' FNL of Sec. 7	N2 of Secs. 7 & 12	9,676'	20,184'
1	Valkyrie 12 WA Federal Com 3H	1062' FWL & 1271' FNL of Sec. 12	100' FEL & 1254' FNL of Sec. 7	N2 of Secs. 7 & 12	9,866'	20,344'
1	Valkyrie 12 SB Federal Com 13H	1056' FWL & 1296' FNL of Sec. 12	100' FEL & 1980' FNL of Sec. 7	S2N2 of Secs. 7 & 12	8,255'	18,782'
1	Valkyrie 12 WXY Federal Com 5H	1051' FWL & 1324' FNL of Sec. 12	100' FEL & 2178' FNL of Sec. 7	N2 of Secs. 7 & 12	9,676'	20,206'
2	Valkyrie 12 WA Federal Com 7H	541' FWL & 1745' FSL of Sec. 12	100' FEL & 2178' FSL of Sec. 7	S2 of Secs. 7 & 12	9,866'	20,356'
2	Valkyrie 12 SB Federal Com 14H	537' FWL & 1712' FSL of Sec. 12	100' FEL & 1980' FSL of Sec. 7	N2S2 of Secs. 7 & 12	8,255'	18,750'
2	Valkyrie 12 WXY Federal Com 9H	533' FWL & 1704' FSL of Sec. 12	100' FEL & 1254' FSL of Sec. 7	S2 of Secs. 7 & 12	9,676'	20,202'
2	Valkyrie 12 SB Federal Com 15H	529' FWL & 1650' FSL of Sec. 12	100' FEL & 660' FSL of Sec. 7	S2S2 of Secs. 7 & 12	8,255'	18,858'
2	Valkyrie 12 WA Federal Com 11H	526' FWL & 1623' FSL of Sec. 12	100' FEL & 330' FSL of Sec. 7	S2 of Secs. 7 & 12	9,866'	20,502'
3	Valkyrie 12 WD Federal Com 2H	963' FWL & 1233' FNL of Sec. 12	100' FEL & 330' FNL of Sec. 7	N2 of Secs. 7 & 12	10,357'	20,849'
3	Valkyrie 12 WD Federal Com 4H	957' FWL & 1263' FNL of Sec. 12	100' FEL & 1254' FNL of Sec. 7	N2 of Secs. 7 & 12	10,547'	21,013'
3	Valkyrie 12 WD Federal Com 6H	953' FWL & 1293' FNL of Sec. 12	100' FEL & 2178' FNL of Sec. 7	N2 of Secs. 7 & 12	10,357'	20,876'
4	Valkyrie 12 WD Federal Com 8H	471' FWL & 1720' FSL of Sec. 20	100' FEL & 2178' FSL of Sec. 7	S2 of Secs. 7 & 12	10,547'	21,034'
4	Valkyrie 12 WD Federal Com 10H	463' FWL & 1685' FSL of Sec. 20	100' FEL & 1254' FSL of Sec. 7	S2 of Secs. 7 & 12	10,357'	20,880'
4	Valkyrie 12 WD Federal Com 12H	460' FWL & 1657' FSL of Sec. 20	100' FEL & 330' FSL of Sec. 7	S2 of Secs. 7 & 12	10,547'	21,179'



These proposed locations and target depths are subject to change depending on any surface or subsurface concerns encountered. The AFEs represent an estimate of the costs that will be incurred to drill and complete the wells, but those electing to participate in the wells are responsible for their proportionate share of the actual costs incurred.

Marathon proposes drilling the wells under the terms of the 1989 AAPL JOA. Enclosed is a draft of the JOA covering the contract area. The JOA has the following general provisions:

- 100%/300%/300% non-consent penalty
- \$7,000/\$700 drilling and producing rates
- Contract area of All of Section 12, 23S-28E and All of Section 7, 23S-29E, covering all depths

If your election is to participate in the drilling and completion of the wells, please sign and return a copy of this letter along with the enclosed AFE within thirty (30) days of receipt of this proposal.

If you do not wish to participate, Marathon proposes to acquire your interest via term assignment at the following terms:

-
-
-

This term assignment offer terminates on August 12, 2019 and is subject to due diligence and title verification satisfactory to Marathon.

Should you have any questions regarding this or other matters, please do not hesitate to contact me at the above listed phone number or email.

Sincerely,



Chase Rice
Marathon Oil Permian LLC

Valkyrie 12 Federal Com 1H, 2H, 3H, 4H, 5H, 6H, 7H, 8H, 9H, 10H, 11H, 12H, 13H, 14H & 15H

_____ Chevron USA, Inc. elects to participate in the drilling, completing, and equipping of the Valkyrie 12 WXY Federal Com 1H.

_____ Chevron USA, Inc. elects NOT to participate in the drilling, completing, and equipping of the Valkyrie 12 WXY Federal Com 1H.

_____ Chevron USA, Inc. elects to participate in the drilling, completing, and equipping of the Valkyrie 12 WD Federal Com 2H.

_____ Chevron USA, Inc. elects NOT to participate in the drilling, completing, and equipping of the Valkyrie 12 WD Federal Com 2H.

_____ Chevron USA, Inc. elects to participate in the drilling, completing, and equipping of the Valkyrie 12 WA Federal Com 3H.

_____ Chevron USA, Inc. elects NOT to participate in the drilling, completing, and equipping of the Valkyrie 12 WA Federal Com 3H.

_____ Chevron USA, Inc. elects to participate in the drilling, completing, and equipping of the Valkyrie 12 WD Federal Com 4H.

_____ Chevron USA, Inc. elects NOT to participate in the drilling, completing, and equipping of the Valkyrie 12 WD Federal Com 4H.

_____ Chevron USA, Inc. elects to participate in the drilling, completing, and equipping of the Valkyrie 12 WXY Federal Com 5H.

_____ Chevron USA, Inc. elects NOT to participate in the drilling, completing, and equipping of the Valkyrie 12 WXY Federal Com 5H.

_____ Chevron USA, Inc. elects to participate in the drilling, completing, and equipping of the Valkyrie 12 WD Federal Com 6H.

_____ Chevron USA, Inc. elects NOT to participate in the drilling, completing, and equipping of the Valkyrie 12 WD Federal Com 6H.

_____ Chevron USA, Inc. elects to participate in the drilling, completing, and equipping of the Valkyrie 12 WA Federal Com 7H.

_____ Chevron USA, Inc. elects NOT to participate in the drilling, completing, and equipping of the Valkyrie 12 WA Federal Com 7H.

_____ Chevron USA, Inc. elects to participate in the drilling, completing, and equipping of the Valkyrie 12 WD Federal Com 8H.

_____ Chevron USA, Inc. elects NOT to participate in the drilling, completing, and equipping of the Valkyrie 12 WD Federal Com 8H.

_____ Chevron USA, Inc. elects to participate in the drilling, completing, and equipping of the Valkyrie 12 WXY Federal Com 9H.

_____ Chevron USA, Inc. elects NOT to participate in the drilling, completing, and equipping of the Valkyrie 12 WXY Federal Com 9H.

_____ Chevron USA, Inc. elects to participate in the drilling, completing, and equipping of the Valkyrie 12 WD Federal Com 10H.

_____ Chevron USA, Inc. elects NOT to participate in the drilling, completing, and equipping of the Valkyrie 12 WD Federal Com 10H.

_____ Chevron USA, Inc. elects to participate in the drilling, completing, and equipping of the Valkyrie 12 WA Federal Com 11H.

_____ Chevron USA, Inc. elects NOT to participate in the drilling, completing, and equipping of the Valkyrie 12 WA Federal Com 11H.

_____ Chevron USA, Inc. elects to participate in the drilling, completing, and equipping of the Valkyrie 12 WD Federal Com 12H.

_____ Chevron USA, Inc. elects NOT to participate in the drilling, completing, and equipping of the Valkyrie 12 WD Federal Com 12H.

_____ Chevron USA, Inc. elects to participate in the drilling, completing, and equipping of the Valkyrie 12 SB Federal Com 13H.

_____ Chevron USA, Inc. elects NOT to participate in the drilling, completing, and equipping of the Valkyrie 12 SB Federal Com 13H.

_____ Chevron USA, Inc. elects to participate in the drilling, completing, and equipping of the Valkyrie 12 SB Federal Com 14H.

_____ Chevron USA, Inc. elects NOT to participate in the drilling, completing, and equipping of the Valkyrie 12 SB Federal Com 14H.

_____ Chevron USA, Inc. elects to participate in the drilling, completing, and equipping of the Valkyrie 12 SB Federal Com 15H.

_____ Chevron USA, Inc. elects NOT to participate in the drilling, completing, and equipping of the Valkyrie 12 SB Federal Com 15H.

Chevron USA, Inc.

By: _____

Print Name: _____

Title: _____

Date: _____

MARATHON OIL PERMIAN LLC
 AUTHORITY FOR EXPENDITURE
 DETAIL OF ESTIMATED WELL COSTS

DATE 7/11/2019
 DRILLING & LOCATION PREPARED BY MATTHEW RUGAARD
 COMPLETION PREPARED BY JOSH SHANNON
 FACILITIES PREPARED BY BRIAN LIPSCOMB
 ARTIFICIAL LIFT PREPARED BY BRIAN LIPSCOMB

Asset Team	PERMIAN		
Field	PURPLE SAGE; WOI	FORMATION: WOLFCAMP A	WILDCAT
Lease/Facility	VALKYRIE 12 WA FEDERAL COM 7H		DEVELOPMENT
Location	EDDY COUNTY		X EXPLOITATION
Prospect	MALAGA		

Est Total Depth	20,356	Est Drilling Days		Est Completion Days	11
-----------------	--------	-------------------	--	---------------------	----

LOCATION COST - INTANGIBLE

GL CODE	DESCRIPTION	ESTIMATED COST
7001270	Location and Access	40,200
7001250	Land Broker Fees and Services	27,000
TOTAL LOCATION COST - INTANGIBLE		67,200

DRILLING COST - TANGIBLE

7012050	Conductor Pipe	28,000
7012050	Surface Casing	19,000
7012050	Intermediate Casing 1	66,000
7012050	Intermediate Casing 2	253,000
7012050	Production Casing	142,000
7012050	Orig Liner Hanger, Tieback Eq & Csg Accessories	55,000
7012550	Drilling Wellhead Equipment	50,000
7012040	Casing & Tubing Access	24,000
7012270	Miscellaneous MRO Materials	5,000
TOTAL DRILLING - TANGIBLE		642,000

DRILLING COST - INTANGIBLE

7019200	Drilling Rig Mob/Demob	26,000
7019220	Drilling Rig - day work/footage	598,900
7019040	Directional Drilling Services	201,000
7019020	Cement and Cementing Service Surface	15,000
7019020	Cement and Cementing Service Intermediate 1	25,000
7019020	Cement and Cementing Service Intermediate 2	35,000
7019020	Cement and Cementing Service Production	60,000
7019140	Mud Fluids & Services	66,500
7012310	Solids Control equipment	41,000
7012020	Bits	72,000
7019010	Casing Crew and Services	30,000
7016350	Fuel (Rig)	70,000
7019140	Fuel (Mud)	30,000
7001460	Water (non potable)	25,000
7012350	Water (potable)	5,000
7019000	Well Logging Services	-
7019150	Mud Logging/geosteering	19,000
7019250	Stabilizers, Hole Openers, Underreamers (DH rentals)	15,000
7019110	Casing Inspection/cleaning	15,000
7019110	Drill pipe/collar inspection services	10,000
7016180	Freight - truck	25,000
7001460	Water hauling and disposal (includes soil farming)	60,000
7001360	Contract Services - Disposal/Non-Hazardous Waste	80,000
7001440	Vacuum Trucks	10,000
7000030	Contract Labor - general	30,000
7000030	Contract Labor - Operations	3,000
7001200	Contract Services - Facilities	10,000
7019300	Well Services - Well Control Services	21,300
7019350	Well Services - Well/Wellhead Services	10,000
7018150	Rental Tools and Equipment (surface rentals)	90,400
7018150	Rig Equipment and Misc.	11,300
7001110	Telecommunications Services	5,000
7001120	Consulting Services	106,220
7001400	Safety and Environmental	36,160
7018120	Rental Buildings (trailers)	18,080
7019310	Coring (sidewalls & analysis)	-
7011010	7% Contingency & Taxes	176,257
TOTAL DRILLING - INTANGIBLE		\$2,052,217

TOTAL DRILLING COST

\$2,694,217

COMPLETION - TANGIBLE

7012580	Tubing	-
7012040	Tubing Accessories (nipple, wireline entry)	-
7012550	Wellhead Equip	15,000
7012560	Packers - Completion Equipment	-
TOTAL COMPLETION - TANGIBLE		\$15,000



Asset Team PERMIAN
 Field PURPLE SAGE; WOI FORMATION: WOLF CAMP A
 Lease/Facility VALKYRIE 12 WA FEDERAL COM 7H

COMPLETION - INTANGIBLE

GL CODE	DESCRIPTION	ESTIMATED COST
7001270	Location and Access (dress location after rig move, set anchors)	10,000
7019230	Drilling Rig During Completion	-
7019140	Mud Fluids & Services	-
7019030	Coiled Tubing Services (3 runs)	350,000
7019240	Snubbing Services	-
7019270	Pulling/Swab Units	-
7016350	Fuel (from drlg)	-
7019010	Casing Crew and Services	-
7019020	Cement and Cementing Services	-
7019080	Well Testing Services (flow hand & equip)	470,000
7019320	Fracturing Services	3,174,815
7019330	Perforating	300,000
7019360	Wireline Services	15,000
7001460	Water Hauling & Disposal (frac fluids)	354,000
7016180	Freight - Truck (haul pipe; drlg & compl)	20,000
7018150	BOP Rental & Testing	-
7018150	Rental Tools and Equipment (incl drlg; lightplant,hydra-walk)	-
7018150	CT Downhole Rental Equipment (ie. BIT, BHA)	-
7000030	Contract Labor - general	60,000
7001110	Telecommunications Services	100,000
7001400	Safety and Environmental	-
7001120	Consulting Services	100,000
7018150	Zipper Manifold	220,000
7019300	Frack Stack Rentals	85,000
7016190	Freight (Transportation Services)	-
7018150	Equipment Rental (w/o operator, frac tanks, lightplants)	100,000
7018120	Rental Buildings (trailers)	35,000
7000030	Contract Labor - Pumping (pump-down pumps)	60,000
7011010	8% Contingency & Taxes	385,185
TOTAL COMPLETION - INTANGIBLE		\$5,839,000

TOTAL COMPLETION COST \$5,854,000

SURFACE EQUIPMENT - TANGIBLE

7012350	Misc. Piping, Fittings & Valves	16,247
7006640	Company Labor & Burden	-
7000030	Contract Labor - General	57,416
7001110	Telecommunication equip (Telemetry)	-
7012410	Line Pipe & Accessories	-
7012270	Miscellaneous Materials (containment system)	31,387
7008060	SCADA	-
7016180	Freight - truck	-
7001190	Contract Engineering	5,998
7012290	Metering and Instrumentation	4,659
7012290	I&E Materials	105,908
7012200	Gas Treating	-
7012200	Dehydration	-
7012010	Compressor	-
7012350	Power	-
7012610	Vapor Recovery Unit	-
7012440	Separator & other pressure vessels	306,305
7012500	Tanks	235,346
7012100	Heater Treater	-
7012640	Flare & Accessories	18,634
7000010	Electrical Labor	9,608
7000010	Mechanical Labor	-
7012480	Rod Pumping unit & Pad	-
7012180	Pumping Unit Engine	-
7012350	Electrical Power (electrical cooperative construction costs)	-
TOTAL SURFACE EQUIPMENT - TANGIBLE		\$791,507

TOTAL SURFACE EQUIPMENT COST \$ 791,507

ARTIFICIAL LIFT

7006640	Company Labor	45,000
7012180	Gas Lift Equipment	15,000
7012480	Rod Pumping, Sucker Rods & Rod Pump	6,250
7012140	Elect Sub Pumps (ESP)	17,500
7019350	Well Services-Well/Wellhead Services	6,000
7012270	Materials & Supplies-Tangible	6,000
7012550	Surface Wellhead Equipment	5,000
7012390	Pig Launchers/Receivers & Rel Equip	6,250
7011010	8% Contingency & Taxes	3,000
TOTAL ARTIFICIAL LIFT		110,000

TOTAL ARTIFICIAL LIFT COST \$ 110,000

SUMMARY OF ESTIMATED DRILLING WELL COSTS

	TOTAL COST
TOTAL LOCATION COST	\$ 67,200
TOTAL DRILLING COST	\$ 2,694,217
TOTAL COMPLETIONS COST	\$ 5,854,000
TOTAL SURFACE EQUIPMENT COST	\$ 791,507
TOTAL ARTIFICIAL LIFT COST	\$ 110,000
GRAND TOTAL COST	\$9,516,924

Participant's Approval

Name of Company: _____
 Signature: _____
 Title: _____ Date: _____

MARATHON OIL PERMIAN LLC
 AUTHORITY FOR EXPENDITURE
 DETAIL OF ESTIMATED WELL COSTS

DATE 7/11/2019
 DRILLING & LOCATION PREPARED BY MATTHEW RUGAARD
 COMPLETION PREPARED BY JOSH SHANNON
 FACILITIES PREPARED BY BRIAN LIPSCOMB
 ARTIFICIAL LIFT PREPARED BY BRIAN LIPSCOMB

Asset Team	PERMIAN			
Field	PURPLE SAGE; WOI	FORMATION: WOLFCAMP XY	WILDCAT	EXPLORATION
Lease/Facility	VALKYRIE 12 WXY FEDERAL COM 9H		DEVELOPMENT	RECOMPLETION
Location	EDDY COUNTY		X EXPLOITATION	WORKOVER
Prospect	MALAGA			

Est Total Depth 20,202 Est Drilling Days _____ Est Completion Days 11

LOCATION COST - INTANGIBLE

GL CODE	DESCRIPTION	ESTIMATED COST
7001270	Location and Access	40,200
7001250	Land Broker Fees and Services	27,000
TOTAL LOCATION COST - INTANGIBLE		67,200

DRILLING COST - TANGIBLE

7012050	Conductor Pipe	28,000
7012050	Surface Casing	19,000
7012050	Intermediate Casing 1	66,000
7012050	Intermediate Casing 2	253,000
7012050	Production Casing	142,000
7012050	Drig Liner Hanger, Tieback Eq & Csg Accessories	55,000
7012550	Drilling Wellhead Equipment	50,000
7012040	Casing & Tubing Access	24,000
7012270	Miscellaneous MRO Materials	5,000
TOTAL DRILLING - TANGIBLE		642,000

DRILLING COST - INTANGIBLE

7019200	Drilling Rig Mob/Demob	26,000
7019220	Drilling Rig - day work/footage	598,900
7019040	Directional Drilling Services	201,000
7019020	Cement and Cementing Service Surface	15,000
7019020	Cement and Cementing Service Intermediate 1	25,000
7019020	Cement and Cementing Service Intermediate 2	35,000
7019020	Cement and Cementing Service Production	60,000
7019140	Mud Fluids & Services	66,600
7012310	Solids Control equipment	41,000
7012020	Bits	72,000
7019010	Casing Crew and Services	30,000
7016350	Fuel (Rig)	70,000
7019140	Fuel (Mud)	30,000
7001460	Water (non potable)	25,000
7012350	Water (potable)	5,000
7019000	Well Logging Services	
7019150	Mud Logging-geosteering	19,000
7019250	Stabilizers, Hole Openers, Underreamers (DH rentals)	15,000
7019110	Casing inspection/cleaning	15,000
7019110	Drill pipe/collar inspection services	10,000
7016180	Freight - truck	25,000
7001460	Water hauling and disposal (includes soil farming)	60,000
7001160	Contract Services - Disposal/Non-Hazardous Waste	80,000
7001440	Vacuum Trucks	10,000
7000030	Contract Labor - general	30,000
7000030	Contract Labor - Operations	3,000
7001200	Contract Services - Facilities	10,000
7019300	Well Services - Well Control Services	21,300
7019350	Well Services - Well/Wellhead Services	10,000
7018150	Rental Tools and Equipment (surface rentals)	90,400
7018150	Rig Equipment and Misc.	11,300
7001110	Telecommunications Services	5,000
7001120	Consulting Services	106,220
7001400	Safety and Environmental	16,160
7018120	Rental Buildings (trailers)	18,080
7019310	Coring (sidewalls & analysis)	-
7011010	7% Contingency & Taxes	176,257
TOTAL DRILLING - INTANGIBLE		\$2,052,217

TOTAL DRILLING COST

\$2,694,217

COMPLETION - TANGIBLE

7012580	Tubing	-
7012040	Tubing Accessories (nipple, wireline entry)	-
7012550	Wellhead Equip	15,000
7012560	Packers - Completion Equipment	-
TOTAL COMPLETION - TANGIBLE		\$15,000

Asset Team PERMIAN
 Field PURPLE SAGE; WOI FORMATION: WOLFCAMP XY
 Lease/Facility VALKYRIE 12 WXY FEDERAL COM 9H

COMPLETION - INTANGIBLE

GL CODE	DESCRIPTION	ESTIMATED COST
7001270	Location and Access (dress location after rig move, set anchors)	10,000
7019220	Drilling Rig During Completion	-
7019140	Mud Fluids & Services	-
7019030	Coiled Tubing Services (3 runs)	350,000
7019240	Snubbing Services	-
7019270	Pulling/Swab Units	-
7016350	Fuel (from drlg)	-
7019010	Casing Crew and Services	-
7019020	Cement and Cementing Services	-
7019080	Well Testing Services (flow hand & equip)	470,000
7019320	Fracturing Services	3,174,815
7019330	Perforating	300,000
7019360	Wireline Services	15,000
7001460	Water Hauling & Disposal (frac fluids)	354,000
7016180	Freight - Truck (haul pipe; drlg & compl)	20,000
7018150	BOP Rental & Testing	-
7018150	Rental Tools and Equipment (incl drlg; lightplant,hydra-walk)	-
7018150	CT Downhole Rental Equipment (ie. BIL BHA)	-
7000030	Contract Labor - general	60,000
7001110	Telecommunications Services	100,000
7001400	Safety and Environmental	-
7001120	Consulting Services	100,000
7018150	Zipper Manifold	220,000
7019300	Frack Stack Rentals	85,000
7016190	Freight (Transportation Services)	-
7018150	Equipment Rental (w/o operator, frac tanks, lightplants)	100,000
7018120	Rental Buildings (trailers)	35,000
7000030	Contract Labor - Pumping (pump-down pumps)	60,000
7011010	8% Contingency & Taxes	385,185
TOTAL COMPLETION - INTANGIBLE		\$5,839,000

TOTAL COMPLETION COST

\$5,854,000

SURFACE EQUIPMENT - TANGIBLE

7012350	Misc. Piping, Fittings & Valves	16,247
7006640	Company Labor & Burden	-
7000030	Contract Labor - General	57,416
7001110	Telecommunication equip (Telemetry)	-
7012410	Line Pipe & Accessories	-
7012270	Miscellaneous Materials (containment system)	31,387
7008060	SCADA	-
7016180	Freight - truck	-
7001190	Contract Engineering	5,998
7012290	Metering and Instrumentation	4,659
7012390	IBE Materials	105,908
7012200	Gas Treating	-
7012200	Dehydration	-
7012010	Compressor	-
7012350	Power	-
7012610	Vapor Recovery Unit	-
7012440	Separator & other pressure vessels	106,305
7012500	Tanks	235,146
7012100	Heater Treater	-
7012640	Flare & Accessories	18,634
7000010	Electrical Labor	9,608
7000010	Mechanical Labor	-
7012480	Rod Pumping unit & Pad	-
7012180	Pumping Unit Engine	-
7012350	Electrical Power (electrical cooperative construction costs)	-
TOTAL SURFACE EQUIPMENT - TANGIBLE		\$791,507

TOTAL SURFACE EQUIPMENT COST

\$ 791,507

ARTIFICIAL LIFT

7006640	Company Labor	45,000
7012180	Gas Lift Equipment	15,000
7012480	Rod Pumping, Sucker Rods & Rod Pump	6,250
7012140	Elect Sub Pumps (ESP)	17,500
7019350	Well Services-Well/Wellhead Services	6,000
7012270	Materials & Supplies-Tangible	6,000
7012550	Surface Wellhead Equipment	5,000
7012390	Pig Launchers/Receivers & Rel Equip	6,250
7011010	8% Contingency & Taxes	3,000
TOTAL ARTIFICIAL LIFT		110,000

TOTAL ARTIFICIAL LIFT COST

\$ 110,000

SUMMARY OF ESTIMATED DRILLING WELL COSTS

TOTAL LOCATION COST	\$ 67,200
TOTAL DRILLING COST	\$ 2,694,217
TOTAL COMPLETIONS COST	\$ 5,854,000
TOTAL SURFACE EQUIPMENT COST	\$ 791,507
TOTAL ARTIFICIAL LIFT COST	\$ 110,000
GRAND TOTAL COST	\$9,516,924

Participant's Approval

Name of Company: _____
 Signature: _____
 Title: _____ Date: _____

MARATHON OIL PERMIAN LLC
 AUTHORITY FOR EXPENDITURE
 DETAIL OF ESTIMATED WELL COSTS

DATE 7/11/2019
 DRILLING & LOCATION PREPARED BY MATTHEW RUGAARD
 COMPLETION PREPARED BY JOSH SHANNON
 FACILITIES PREPARED BY BRIAN LIPSCOMB
 ARTIFICIAL LIFT PREPARED BY BRIAN LIPSCOMB

Asset Team	PERMIAN			
Field	PURPLE SAGE; WOI	FORMATION: WOLFCAMP A	WILDCAT	EXPLORATION
Lease/Facility	VALKYRIE 12 WA FEDERAL COM 11H		DEVELOPMENT	RECOMPLETION
Location	EDDY COUNTY		X EXPLOITATION	WORKOVER
Prospect	MALAGA			

Est Total Depth 20 502 Est Drilling Days _____ Est Completion Days 11

LOCATION COST - INTANGIBLE

GL CODE	DESCRIPTION	ESTIMATED COST
7001270	Location and Access	40,200
7001250	Land Broker Fees and Services	27,000
TOTAL LOCATION COST - INTANGIBLE		67,200

DRILLING COST - TANGIBLE

7012050	Conductor Pipe	28,000
7012050	Surface Casing	19,000
7012050	Intermediate Casing 1	66,000
7012050	Intermediate Casing 2	253,000
7012050	Production Casing	143,000
7012050	Drly Liner Hanger, Tieback Eq & Csg Accessories	55,000
7012550	Drilling Wellhead Equipment	50,000
7012040	Casing & Tubing Access	24,000
7012270	Miscellaneous MRO Materials	5,000
TOTAL DRILLING - TANGIBLE		643,000

DRILLING COST - INTANGIBLE

7019200	Drilling Rig Mob/Demob	26,000
7019220	Drilling Rig - day work/footage	598,900
7019040	Directional Drilling Services	201,000
7019020	Cement and Cementing Service Surface	15,000
7019020	Cement and Cementing Service Intermediate 1	25,000
7019020	Cement and Cementing Service Intermediate 2	35,000
7019020	Cement and Cementing Service Production	60,000
7019140	Mud Fluids & Services	66,600
7012310	Solids Control equipment	41,000
7012020	Bits	72,000
7019010	Casing Crew and Services	30,000
7016350	Fuel (Rig)	70,000
7019140	Fuel (Mud)	30,000
7001460	Water (non potable)	25,000
7012350	Water (potable)	5,000
7019000	Well Logging Services	-
7019150	Mud Logging/geosteering	19,000
7019250	Stabilizers, Hole Openers, Underreamers (DH rentals)	15,000
7019110	Casing Inspection/cleaning	15,000
7019110	Drill pipe/collar inspection services	10,000
7016180	Freight - truck	25,000
7001460	Water hauling and disposal (includes soil farming)	60,000
7001160	Contract Services - Disposal/Non-Hazardous Waste	80,000
7001440	Vacuum Trucks	10,000
7000030	Contract Labor - general	30,000
7000030	Contract Labor - Operations	3,000
7001200	Contract Services - Facilities	10,000
7019300	Well Services - Well Control Services	21,300
7019350	Well Services - Well/Wellhead Services	10,000
7018150	Rental Tools and Equipment (surface rentals)	90,400
7018150	Rlg Equipment and Misc.	11,300
7001110	Telecommunications Services	5,000
7001120	Consulting Services	106,220
7001400	Safety and Environmental	36,160
7018120	Rental Buildings (trailers)	18,080
7019310	Coring (sidewalls & analysis)	-
7011010	7% Contingency & Taxes	176,327
TOTAL DRILLING - INTANGIBLE		\$2,052,287

TOTAL DRILLING COST

\$2,695,287

COMPLETION - TANGIBLE

7012580	Tubing	-
7012040	Tubing Accessories (nipple, wireline entry)	-
7012550	Wellhead Equip	15,000
7012560	Packers - Completion Equipment	-
TOTAL COMPLETION - TANGIBLE		\$15,000

MARATHON OIL PERMIAN LLC
 AUTHORITY FOR EXPENDITURE
 DETAIL OF ESTIMATED WELL COSTS

DATE 7/11/2019

Asset Team PERMIAN
 Field PURPLE SAGE; WOI FORMATION: WOLFCAMP A
 Lease/Facility VALKYRIE 12 WA FEDERAL COM 11H

COMPLETION - INTANGIBLE

GL CODE	DESCRIPTION	ESTIMATED COST
7001270	Location and Access (dress location after rig move, set anchors)	10,000
7019220	Drilling Rig During Completion	-
7019140	Mud Fluids & Services	-
7019030	Coiled Tubing Services (3 runs)	350,000
7019240	Snubbing Services	-
7019270	Pulling/Swab Units	-
7016350	Fuel (from drlg)	-
7019010	Casing Crew and Services	-
7019020	Cement and Cementing Services	-
7019080	Well Testing Services (flow hand & equip)	470,000
7019320	Fracturing Services	3,174,815
7019330	Perforating	300,000
7019360	Wireline Services	15,000
7001460	Water Hauling & Disposal (frac fluids)	354,000
7016180	Freight - Truck (haul pipe; drlg & compl)	20,000
7018150	BOP Rental & Testing	-
7018150	Rental Tools and Equipment (incl drlg; lightplant;hydra-walk)	-
7018150	CT Downhole Rental Equipment (ie. BH, BHA)	-
7000030	Contract Labor - general	60,000
7001110	Telecommunications Services	100,000
7001400	Safety and Environmental	-
7001120	Consulting Services	100,000
7018150	Zipper Manifold	220,000
7019300	Frack Stack Rentals	85,000
7016190	Freight (Transportation Services)	-
7018150	Equipment Rental (w/o operator, frac tanks, lightplants)	100,000
7018120	Rental Buildings (trailers)	15,000
7000030	Contract Labor - Pumping (pump-down pumps)	60,000
7011010	8% Contingency & Taxes	385,185
TOTAL COMPLETION - INTANGIBLE		\$5,839,000

TOTAL COMPLETION COST

\$5,854,000

SURFACE EQUIPMENT - TANGIBLE

7012350	Misc. Piping, Fittings & Valves	16,247
7006640	Company Labor & Burden	-
7000030	Contract Labor - General	57,416
7001110	Telecommunication equip (Telemetry)	-
7012410	Line Pipe & Accessories	-
7012270	Miscellaneous Materials (containment system)	31,387
7008060	SCADA	-
7016180	Freight - truck	-
7001190	Contract Engineering	5,998
7012290	Metering and Instrumentation	4,659
7012290	I&E Materials	105,908
7012200	Gas Treating	-
7012200	Dehydration	-
7012010	Compressor	-
7012350	Power	-
7012610	Vapor Recovery Unit	-
7012440	Separator & other pressure vessels	306,305
7012500	Tanks	235,346
7012100	Heater Treater	-
7012640	Flare & Accessories	18,634
7000010	Electrical Labor	9,608
7000010	Mechanical Labor	-
7012480	Rod Pumping unit & Pad	-
7012180	Pumping Unit Engine	-
7012350	Electrical Power (electrical cooperative construction costs)	-
TOTAL SURFACE EQUIPMENT - TANGIBLE		\$791,507

TOTAL SURFACE EQUIPMENT COST

\$ 791,507

ARTIFICIAL LIFT

7006640	Company Labor	45,000
7012180	Gas Lift Equipment	15,000
7012480	Rod Pumping, Sucker Rods & Rod Pump	6,250
7012140	Elect Sub Pumps (ESP)	17,500
7019350	Well Services-Well/Wellhead Services	6,000
7012270	Materials & Supplies-Tangible	6,000
7012550	Surface Wellhead Equipment	5,000
7012390	Plg Launchers/Receivers & Rel Equip	6,250
7011010	8% Contingency & Taxes	3,000
TOTAL ARTIFICIAL LIFT		110,000

TOTAL ARTIFICIAL LIFT COST

\$ 110,000

SUMMARY OF ESTIMATED DRILLING WELL COSTS

TOTAL LOCATION COST	\$ 67,200
TOTAL DRILLING COST	\$ 2,695,287
TOTAL COMPLETIONS COST	\$ 5,854,000
TOTAL SURFACE EQUIPMENT COST	\$ 791,507
TOTAL ARTIFICIAL LIFT COST	\$ 110,000
GRAND TOTAL COST	\$9,517,994

Participant's Approval

Name of Company: _____
 Signature: _____
 Title: _____ Date: _____

MARATHON OIL PERMIAN LLC
AUTHORITY FOR EXPENDITURE
DETAIL OF ESTIMATED WELL COSTS

DATE 7/11/2019
DRILLING & LOCATION PREPARED BY MATTHEW RUGAARD
COMPLETION PREPARED BY JOSH SHANNON
FACILITIES PREPARED BY BRIAN LIPSCOMB
ARTIFICIAL LIFT PREPARED BY BRIAN LIPSCOMB

Asset Team	PERMIAN			
Field	PURPLE SAGE; WOI	FORMATION: WOLFCAMP D	WILDCAT	EXPLORATION
Lease/Facility	VALKYRIE 12 WD FEDERAL COM 8H		DEVELOPMENT	RECOMPLETION
Location	EDDY COUNTY		X EXPLOITATION	WORKOVER
Prospect	MALAGA			
Est Total Depth	21,034	Est Drilling Days		Est Completion Days 11

LOCATION COST - INTANGIBLE

GL CODE	DESCRIPTION	ESTIMATED COST
7001270	Location and Access	67,000
7001250	Land Broker Fees and Services	45,000
TOTAL LOCATION COST - INTANGIBLE		112,000

DRILLING COST - TANGIBLE

7012050	Conductor Pipe	28,000
7012050	Surface Casing	19,000
7012050	Intermediate Casing 1	66,000
7012050	Intermediate Casing 2	253,000
7012050	Production Casing	193,100
7012050	Rig Liner Hanger, Tieback Eq & Csg Accessories	55,000
7012550	Drilling Wellhead Equipment	50,000
7012040	Casing & Tubing Access	24,000
7012270	Miscellaneous MRO Materials	5,000
TOTAL DRILLING - TANGIBLE		693,100

DRILLING COST - INTANGIBLE

7019200	Drilling Rig Mob/Demob	43,333
7019220	Drilling Rig - day work/footage	746,100
7019040	Directional Drilling Services	248,000
7019020	Cement and Cementing Service Surface	15,000
7019020	Cement and Cementing Service Intermediate 1	25,000
7019020	Cement and Cementing Service Intermediate 2	35,000
7019020	Cement and Cementing Service Production	60,000
7019140	Mud Fluids & Services	71,300
7012310	Solids Control equipment	49,000
7012020	Bits	72,000
7019010	Casing Crew and Services	30,000
7016350	Fuel (Rig)	85,000
7019140	Fuel (Mud)	30,000
7001460	Water (non potable)	25,000
7012350	Water (potable)	5,000
7019000	Well Logging Services	-
7019150	Mud Logging-geosteering	23,000
7019250	Stabilizers, Hole Openers, Underreamers (DH rentals)	15,000
7019110	Casing Inspection/cleaning	15,000
7019110	Drill pipe/collar inspection services	10,000
7016180	Freight - truck	25,000
7001460	Water hauling and disposal (includes soil farming)	60,000
7001160	Contract Services - Disposal/Non-Hazardous Waste	80,000
7001440	Vacuum Trucks	10,000
7000030	Contract Labor - general	30,000
7000030	Contract Labor - Operations	3,000
7001200	Contract Services - Facilities	10,000
7019300	Well Services - Well Control Services	23,817
7019350	Well Services - Well/Wellhead Services	10,000
7018150	Rental Tools and Equipment (surface rentals)	110,533
7018150	Rig Equipment and Misc.	13,817
7001110	Telecommunications Services	5,000
7001120	Consulting Services	129,877
7001400	Safety and Environmental	44,213
7018120	Rental Buildings (trailers)	22,107
7019310	Coring (sidewalls & analysis)	-
7011010	7% Contingency & Taxes	201,124
TOTAL DRILLING - INTANGIBLE		\$2,381,220

TOTAL DRILLING COST

\$3,074,320

COMPLETION - TANGIBLE

7012580	Tubing	-
7012040	Tubing Accessories (nipple, wireline entry)	-
7012550	Wellhead Equip	15,000
7012560	Packers - Completion Equipment	-
TOTAL COMPLETION - TANGIBLE		\$15,000

MARATHON OIL PERMIAN LLC
AUTHORITY FOR EXPENDITURE
DETAIL OF ESTIMATED WELL COSTS

DATE 7/11/2019

Asset Team PERMIAN
Field PURPLE SAGE; WOI FORMATION: WOLFCAMP D
Lease/Facility VALKYRIE 12 WD FEDERAL COM BH

COMPLETION - INTANGIBLE

GL CODE	DESCRIPTION	ESTIMATED COST
7001270	Location and Access (dress location after rig move, set anchors)	10,000
7019220	Drilling Rig During Completion	-
7019140	Mud Fluids & Services	-
7019030	Coiled Tubing Services (3 runs)	350,000
7019240	Snubbing Services	-
7019270	Pulling/Swab Units	-
7016350	Fuel (from drig)	-
7019010	Casing Crew and Services	-
7019020	Cement and Cementing Services	-
7019080	Well Testing Services (flow hand & equip)	470,000
7019320	Fracturing Services	1,684,100
7019330	Perforating	300,000
7019360	Wireline Services	15,000
7001460	Water Hauling & Disposal (frac fluids)	271,000
7016180	Freight - Truck (haul pipe; drig & compl)	20,000
7018150	BOP Rental & Testing	-
7018150	Rental Tools and Equipment (incl drig; lightplant, hydra-walk)	-
7018150	CT Downhole Rental Equipment (ie. BH, BHA)	-
7000030	Contract Labor - general	60,000
7001110	Telecommunications Services	100,000
7001400	Safety and Environmental	-
7001120	Consulting Services	100,000
7018150	Zipper Manifold	220,000
7019300	Frack Stack Rentals	85,000
7016190	Freight (Transportation Services)	-
7018150	Equipment Rental (w/o operator, frac tanks, lightplants)	100,000
7018120	Rental Buildings (trailers)	35,000
7000030	Contract Labor - Pumping (pump-down pumps)	60,000
7011010	8% Contingency & Taxes	425,900
TOTAL COMPLETION - INTANGIBLE		\$6,306,000

TOTAL COMPLETION COST \$6,321,000

SURFACE EQUIPMENT - TANGIBLE

7012350	Misc. Piping, Fittings & Valves	18,576
7006640	Company Labor & Burden	-
7000030	Contract Labor - General	70,817
7001110	Telecommunication equip (Telemetry)	-
7012410	Line Pipe & Accessories	-
7012270	Miscellaneous Materials (containment system)	43,281
7008060	SCADA	-
7016180	Freight - truck	-
7001190	Contract Engineering	9,375
7012290	Metering and Instrumentation	7,764
7012290	I&E Materials	114,060
7012200	Gas Treating	-
7012200	Dehydration	-
7013010	Compressor	-
7012350	Power	-
7012610	Vapor Recovery Unit	-
7012440	Separator & other pressure vessels	323,837
7012500	Tanks	235,346
7012100	Heater Treater	-
7012640	Flare & Accessories	31,057
7000010	Electrical Labor	11,937
7000010	Mechanical Labor	-
7012480	Rod Pumping unit & Pad	-
7012180	Pumping Unit Engine	-
7012350	Electrical Power (electrical cooperative construction costs)	-
TOTAL SURFACE EQUIPMENT - TANGIBLE		\$866,051

TOTAL SURFACE EQUIPMENT COST \$ 866,051

ARTIFICIAL LIFT

7006640	Company Labor	45,000
7012180	Gas Lift Equipment	15,000
7012480	Rod Pumping, Sucker Rods & Rod Pump	6,250
7012140	Elect Sub Pumps (ESP)	17,500
7019350	Well Services-Well/Wellhead Services	6,000
7012270	Materials & Supplies-Tangible	6,000
7012550	Surface Wellhead Equipment	5,000
7012390	Pig Launchers/Receivers & Rel Equip	6,250
7011010	8% Contingency & Taxes	3,000
TOTAL ARTIFICIAL LIFT		110,000

TOTAL ARTIFICIAL LIFT COST \$ 110,000

SUMMARY OF ESTIMATED DRILLING WELL COSTS

	TOTAL COST
TOTAL LOCATION COST	\$ 112,000
TOTAL DRILLING COST	\$ 3,074,320
TOTAL COMPLETIONS COST	\$ 6,321,000
TOTAL SURFACE EQUIPMENT COST	\$ 866,051
TOTAL ARTIFICIAL LIFT COST	\$ 110,000
GRAND TOTAL COST	\$10,483,372

Participant's Approval

Name of Company: _____
Signature: _____
Title: _____ Date: _____

MARATHON OIL PERMIAN LLC
 AUTHORITY FOR EXPENDITURE
 DETAIL OF ESTIMATED WELL COSTS

DATE 7/11/2019
 DRILLING & LOCATION PREPARED BY MATTHEW RUGAARD
 COMPLETION PREPARED BY JOSH SHANNON
 FACILITIES PREPARED BY BRIAN LIPSCOMB
 ARTIFICIAL LIFT PREPARED BY BRIAN LIPSCOMB

Asset Team	PERMIAN			
Field	PURPLE SAGE; WOI	FORMATION: WOLFCAMP D	WILDCAT	EXPLORATION
Lease/Facility	VALKYRIE 12 WD FEDERAL COM 10H		DEVELOPMENT	RECOMPLETION
Location	EDDY COUNTY		X EXPLOITATION	WORKOVER
Prospect	MALAGA			
Est Total Depth	20,880	Est Drilling Days		Est Completion Days 11

LOCATION COST - INTANGIBLE

GL CODE	DESCRIPTION	ESTIMATED COST
7001270	Location and Access	67,000
7001250	Land Broker Fees and Services	45,000
TOTAL LOCATION COST - INTANGIBLE		112,000

DRILLING COST - TANGIBLE

7012050	Conductor Pipe	28,000
7012050	Surface Casing	19,000
7012050	Intermediate Casing 1	66,000
7012050	Intermediate Casing 2	253,000
7012050	Production Casing	193,290
7012050	Drig Liner Hanger, Tieback Eq & Csg Accessories	55,000
7012550	Drilling Wellhead Equipment	50,000
7012040	Casing & Tubing Access	24,000
7012270	Miscellaneous MRO Materials	5,000
TOTAL DRILLING - TANGIBLE		693,290

DRILLING COST - INTANGIBLE

7019200	Drilling Rig Mob/Demob	43,333
7019220	Drilling Rig - day work/footage	746,100
7019040	Directional Drilling Services	248,000
7019020	Cement and Cementing Service Surface	15,000
7019020	Cement and Cementing Service Intermediate 1	25,000
7019020	Cement and Cementing Service Intermediate 2	35,000
7019020	Cement and Cementing Service Production	60,000
7019140	Mud Fluids & Services	71,300
7012310	Solids Control equipment	49,000
7012020	Bits	72,000
7019010	Casing Crew and Services	30,000
7016350	Fuel (Rig)	85,000
7019140	Fuel (Mud)	30,000
7001460	Water (non-potable)	25,000
7012350	Water (potable)	5,000
7019000	Well Logging Services	-
7019150	Mud Logging/geosteering	23,000
7019250	Stabilizers, Hole Openers, Underreamers (DH rentals)	15,000
7018110	Casing inspection/cleaning	15,000
7019110	Drill pipe/collar inspection services	10,000
7016180	Freight - truck	25,000
7001460	Water hauling and disposal (includes soil farming)	60,000
7001160	Contract Services - Disposal/Non-Hazardous Waste	80,000
7001440	Vacuum Trucks	10,000
7000030	Contract Labor - general	30,000
7000030	Contract Labor - Operations	3,000
7001200	Contract Services - Facilities	10,000
7019300	Well Services - Well Control Services	23,817
7019350	Well Services - Well/Wellhead Services	10,000
7018150	Rental Tools and Equipment (surface rentals)	110,533
7018150	Rig Equipment and Misc.	13,817
7001110	Telecommunications Services	5,000
7001120	Consulting Services	129,877
7001400	Safety and Environmental	44,213
7018120	Rental Buildings (trailers)	22,107
7019310	Coring (sidewalls & analysis)	-
7011010	7% Contingency & Taxes	201,137
TOTAL DRILLING - INTANGIBLE		52,381,234

TOTAL DRILLING COST

\$3,074,524

COMPLETION - TANGIBLE

7012580	Tubing	-
7012040	Tubing Accessories (nipple, wireline entry)	-
7012550	Wellhead Equip	15,000
7012560	Packers - Completion Equipment	-
TOTAL COMPLETION - TANGIBLE		\$15,000

MARATHON OIL PERMIAN LLC
AUTHORITY FOR EXPENDITURE
DETAIL OF ESTIMATED WELL COSTS

DATE 7/11/2019

Asset Team PERMIAN
Field PURPLE SAGE; WOI FORMATION: WOLFCAMP O
Lease/Facility VALKYRIE 12 WD FEDERAL COM 10H

COMPLETION - INTANGIBLE

GL CODE	DESCRIPTION	ESTIMATED COST
7001270	Location and Access (dress location after rig move, set anchors)	10,000
7019220	Drilling Rig During Completion	-
7019140	Mud Fluids & Services	-
7019030	Coiled Tubing Services (3 runs)	350,000
7019240	Snubbing Services	-
7019270	Pulling/Swab Units	-
7016350	Fuel (from drlg)	-
7019010	Casing Crew and Services	-
7019020	Cement and Cementing Services	-
7019080	Well Testing Services (flow hand & equip)	470,000
7019320	Fracturing Services	3,684,100
7019330	Perforating	300,000
7019360	Wireline Services	15,000
7001460	Water Hauling & Disposal (frac fluids)	271,000
7016180	Freight - Truck (haul pipe; drlg & compl)	20,000
7018150	BOP Rental & Testing	-
7018150	Rental Tools and Equipment (incl drlg; lightplant, hydra-walk)	-
7018150	CT Downhole Rental Equipment (ie. BH, BHA)	-
7000030	Contract Labor - general	60,000
7001110	Telecommunications Services	100,000
7001400	Safety and Environmental	-
7001120	Consulting Services	100,000
7018150	Zipper Manifold	220,000
7019300	Frack Stack Rentals	85,000
7016190	Freight (Transportation Services)	-
7018150	Equipment Rental (w/o operator, frac tanks, lightplants)	100,000
7018120	Rental Buildings (trailers)	35,000
7000030	Contract Labor - Pumping (pump-down pumps)	60,000
7011010	8% Contingency & Taxes	425,900
TOTAL COMPLETION - INTANGIBLE		\$6,306,000

TOTAL COMPLETION COST \$6,321,000

SURFACE EQUIPMENT - TANGIBLE

7012350	Misc. Piping, Fittings & Valves	18,576
7006640	Company Labor & Burden	-
7000030	Contract Labor - General	70,817
7001110	Telecommunication equip (Telemetry)	-
7012410	Line Pipe & Accessories	-
7012270	Miscellaneous Materials (containment system)	43,281
7008060	SCADA	-
7016180	Freight - truck	-
7001190	Contract Engineering	9,375
7012290	Metering and Instrumentation	7,764
7012290	J&E Materials	114,060
7012200	Gas Treating	-
7012200	Dehydration	-
7012010	Compressor	-
7012350	Power	-
7012610	Vapor Recovery Unit	-
7012440	Separator & other pressure vessels	323,837
7012500	Tanks	235,346
7012100	Heater Treater	-
7012640	Flare & Accessories	31,057
7000010	Electrical Labor	11,937
7000010	Mechanical Labor	-
7012480	Rod Pumping unit & Pad	-
7012180	Pumping Unit Engine	-
7012350	Electrical Power (electrical cooperative construction costs)	-
TOTAL SURFACE EQUIPMENT - TANGIBLE		\$866,051

TOTAL SURFACE EQUIPMENT COST \$ 866,051

ARTIFICIAL LIFT

7006640	Company Labor	45,000
7012180	Gas Lift Equipment	15,000
7012480	Rod Pumping, Sucker Rods & Rod Pump	6,250
7012140	Elect Sub Pumps (ESP)	17,500
7019350	Well Services-Well/Wellhead Services	6,000
7012270	Materials & Supplies-Tangible	6,000
7012550	Surface Wellhead Equipment	5,000
7012390	Pig Launchers/Receivers & Rel Equip	6,250
7011010	8% Contingency & Taxes	3,000
TOTAL ARTIFICIAL LIFT		110,000

TOTAL ARTIFICIAL LIFT COST \$ 110,000

SUMMARY OF ESTIMATED DRILLING WELL COSTS

	TOTAL COST
TOTAL LOCATION COST	\$ 112,000
TOTAL DRILLING COST	\$ 3,074,524
TOTAL COMPLETIONS COST	\$ 6,321,000
TOTAL SURFACE EQUIPMENT COST	\$ 866,051
TOTAL ARTIFICIAL LIFT COST	\$ 110,000
GRAND TOTAL COST	\$10,483,575

Participant's Approval

Name of Company: _____
Signature: _____
Title: _____ Date: _____

MARATHON OIL PERMIAN LLC
 AUTHORITY FOR EXPENDITURE
 DETAIL OF ESTIMATED WELL COSTS

DATE 7/11/2019
 DRILLING & LOCATION PREPARED BY MATTHEW RUGAARD
 COMPLETION PREPARED BY JOSH SHANNON
 FACILITIES PREPARED BY BRIAN LIPSCOMB
 ARTIFICIAL LIFT PREPARED BY BRIAN LIPSCOMB

Asset Team	PERMIAN		
Field	PURPLE SAGE; WOI	FORMATION: WOLFCAMP D	
Lease/Facility	VALKYRIE 12 WD FEDERAL COM 12H		WILDCAT
Location	EDDY COUNTY		DEVELOPMENT
Prospect	MALAGA		X EXPLOITATION
			EXPLORATION
			RECOMPLETION
			WORKOVER

Est Total Depth	<u>21,176</u>	Est Drilling Days		Est Completion Days	<u>11</u>
-----------------	---------------	-------------------	--	---------------------	-----------

LOCATION COST - INTANGIBLE

GL CODE	DESCRIPTION	ESTIMATED COST
7001270	Location and Access	67,000
7001250	Land Broker Fees and Services	45,000
TOTAL LOCATION COST - INTANGIBLE		112,000

DRILLING COST - TANGIBLE

7012050	Conductor Pipe	28,000
7012050	Surface Casing	19,000
7012050	Intermediate Casing 1	66,000
7012050	Intermediate Casing 2	253,000
7012050	Production Casing	194,465
7012050	Orig Liner Hanger, Tieback Eq & Csg Accessories	55,000
7012550	Drilling Wellhead Equipment	50,000
7012040	Casing & Tubing Access	24,000
7012270	Miscellaneous MRO Materials	5,000
TOTAL DRILLING - TANGIBLE		694,465

DRILLING COST - INTANGIBLE

7019200	Drilling Rig Mob/Demob	43,333
7019220	Drilling Rig - day work/footage	746,100
7019040	Directional Drilling Services	248,000
7019020	Cement and Cementing Service Surface	15,000
7019020	Cement and Cementing Service Intermediate 1	25,000
7019020	Cement and Cementing Service Intermediate 2	35,000
7019020	Cement and Cementing Service Production	60,000
7019140	Mud Fluids & Services	71,300
7012310	Solids Control equipment	49,000
7012020	Bits	72,000
7019010	Casing Crew and Services	30,000
7016350	Fuel (Rig)	85,000
7019140	Fuel (Mud)	30,000
7001460	Water (non potable)	25,000
7012350	Water (potable)	5,000
7019000	Well Logging Services	-
7019150	Mud Logging-geosteering	23,000
7019250	Stabilizers, Hole Openers, Underreamers (DH rentals)	15,000
7019110	Casing Inspection/cleaning	15,000
7019110	Drill pipe/collar inspection services	10,000
7016180	Freight - truck	25,000
7001460	Water hauling and disposal (includes soil farming)	60,000
7001160	Contract Services - Disposal/Non-Hazardous Waste	80,000
7001440	Vacuum Trucks	10,000
7000030	Contract Labor - general	30,000
7000030	Contract Labor - Operations	3,000
7001200	Contract Services - Facilities	10,000
7019300	Well Services - Well Control Services	23,817
7019350	Well Services - Well/Wellhead Services	10,000
7018150	Rental Tools and Equipment (surface rentals)	110,533
7018150	Rig Equipment and Misc.	13,817
7001110	Telecommunications Services	5,000
7001120	Consulting Services	129,877
7001400	Safety and Environmental	44,213
7018120	Rental Buildings (trailers)	22,107
7019310	Coring (sidewalls & analysis)	-
7011010	7% Contingency & Taxes	201,219
TOTAL DRILLING - INTANGIBLE		\$2,381,316

TOTAL DRILLING COST

\$3,075,781

COMPLETION - TANGIBLE

7012580	Tubing	-
7012040	Tubing Accessories (nipple, wireline entry)	-
7012550	Wellhead Equip	15,000
7012560	Packers - Completion Equipment	-
TOTAL COMPLETION - TANGIBLE		\$15,000

Asset Team PERMIAN
 Field PURPLE SAGE; WOI FORMATION: WOLF CAMP D
 Lease/Facility VALKYRIE 12 WD FEDERAL COM 12H

COMPLETION - INTANGIBLE

GL CODE	DESCRIPTION	ESTIMATED COST
7001270	Location and Access (dress location after rig move, set anchors)	10,000
7019220	Drilling Rig During Completion	-
7019140	Mud Fluids & Services	-
7019030	Coiled Tubing Services (3 runs)	350,000
7019240	Snubbing Services	-
7019270	Pulling/Swab Units	-
7016350	Fuel (from drlg)	-
7019010	Casing Crew and Services	-
7019020	Cement and Cementing Services	-
7019080	Well Testing Services (flow hand & equip)	470,000
7019320	Fracturing Services	3,684,100
7019330	Perforating	300,000
7019360	Wireline Services	15,000
7001460	Water Hauling & Disposal (frac fluids)	273,000
7016180	Freight - Truck (haul pipe; drlg & compl)	20,000
7018150	BOP Rental & Testing	-
7018150	Rental Tools and Equipment (incl drlg; lightplant, hydra-walk)	-
7018150	CT Downhole Rental Equipment (ie. Bit, BHA)	-
7000030	Contract Labor - general	60,000
7001110	Telecommunications Services	100,000
7001400	Safety and Environmental	-
7001120	Consulting Services	100,000
7018150	Zipper Manifold	220,000
7019300	Frack Stack Rentals	85,000
7016190	Freight (Transportation Services)	-
7018150	Equipment Rental (w/o operator, frac tanks, lightplants)	100,000
7018120	Rental Buildings (trailers)	35,000
7000030	Contract Labor - Pumping (pump-down pumps)	60,000
7011010	8% Contingency & Taxes	425,900
TOTAL COMPLETION - INTANGIBLE		\$6,306,000

TOTAL COMPLETION COST

\$6,321,000

SURFACE EQUIPMENT - TANGIBLE

7012350	Misc. Piping, Fittings & Valves	18,576
7006640	Company Labor & Burden	-
7000030	Contract Labor - General	70,817
7001110	Telecommunication equip (Telemetry)	-
7012410	Line Pipe & Accessories	-
7012270	Miscellaneous Materials (containment system)	43,281
7008060	SCADA	-
7016180	Freight - truck	-
7001190	Contract Engineering	9,375
7012290	Metering and Instrumentation	7,764
7012290	I&E Materials	114,060
7012200	Gas Treating	-
7012200	Dehydration	-
7012010	Compressor	-
7012350	Power	-
7012610	Vapor Recovery Unit	-
7012440	Separator & other pressure vessels	323,837
7012500	Tanks	235,346
7012100	Heater Treater	-
7012640	Flare & Accessories	31,057
7000010	Electrical Labor	11,937
7000010	Mechanical Labor	-
7012480	Rod Pumping unit & Pad	-
7012180	Pumping Unit Engine	-
7012350	Electrical Power (electrical cooperative construction costs)	-
TOTAL SURFACE EQUIPMENT - TANGIBLE		\$866,051

TOTAL SURFACE EQUIPMENT COST

\$ 866,051

ARTIFICIAL LIFT

7006640	Company Labor	45,000
7012180	Gas Lift Equipment	15,000
7012480	Rod Pumping, Sucker Rods & Rod Pump	6,250
7012140	Elect Sub Pumps (ESP)	17,500
7019350	Well Services-Well/Wellhead Services	6,000
7012270	Materials & Supplies-Tangible	6,000
7012550	Surface Wellhead Equipment	5,000
7012390	Pig Launchers/Receivers & Rel Equip	6,250
7011010	8% Contingency & Taxes	3,000
TOTAL ARTIFICIAL LIFT		110,000

TOTAL ARTIFICIAL LIFT COST

\$ 110,000

SUMMARY OF ESTIMATED DRILLING WELL COSTS

TOTAL LOCATION COST	\$ 112,000
TOTAL DRILLING COST	\$ 3,075,781
TOTAL COMPLETIONS COST	\$ 6,321,000
TOTAL SURFACE EQUIPMENT COST	\$ 866,051
TOTAL ARTIFICIAL LIFT COST	\$ 110,000
GRAND TOTAL COST	\$10,484,832

Participant's Approval

Name of Company: _____
 Signature: _____
 Title: _____ Date: _____

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

**APPLICATION OF MARATHON OIL PERMIAN LLC
FOR COMPUSLORY POOLING, EDDY COUNTY, NEW MEXICO.**

CASE NOS. 20864, 20867, 20868

AFFIDAVIT

STATE OF NEW MEXICO)
) ss.
COUNTY OF BERNALILLO)

Deana M. Bennett, attorney in fact and authorized representative of Marathon Oil Permian LLC, the Applicant herein, being first duly sworn, upon oath, states that the above-referenced Applications were sent under a notice letter attached hereto and that proof of receipt is attached hereto.



Deana M. Bennett

SUBSCRIBED AND SWORN to before me this 12 day of November, 2019 by Deana M. Bennett.



Notary Public

My commission expires: 02-27-21





MODRALL SPERLING

L A W Y E R S

October 24, 2019

VIA CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Deana M. Bennett
505.848.1834
Deana.Bennett@modrall.com

Nicole T. Russell
505.848.1807
Nicole.Russell@modrall.com

**Re: APPLICATION OF MARATHON OIL PERMIAN LLC FOR
COMPULSORY POOLING, EDDY COUNTY, NEW MEXICO.**

CASE NO. 20864

**APPLICATION OF MARATHON OIL PERMIAN LLC FOR
COMPULSORY POOLING, EDDY COUNTY, NEW MEXICO.**

CASE NO. 20868

TO: AFFECTED PARTIES

This letter is to advise you that Marathon Oil Permian LLC ("Marathon") has filed the above-listed applications.

In Case No. 20864, Marathon seeks an order from the Division pooling all uncommitted mineral interests within a Wolfcamp horizontal spacing unit underlying the S/2 of Section 12, Township 23 South, Range 28 East and Section 7 of Township 23 South, Range 29 East, NMPM, Eddy County, New Mexico. This spacing unit will be dedicated to the Valkyrie 12 WA Federal Com 7H, Valkyrie 12 WXY Federal Com 9H, Valkyrie 12 WA Federal Com 11H, Valkyrie 12 WD Federal Com 8H, Valkyrie 12 WD Federal Com 10H, Valkyrie 12 WD Federal Com 12H, to be horizontally drilled. The producing area for these wells will be unorthodox. Also to be considered will be the cost of drilling and completing said wells, the allocation of these costs as well as the actual operating costs and charges for supervision, designation of Marathon as operator of the wells, and a 200% charge for risk involved in drilling said wells, and allowing a one year period between when the wells are drilled and when the first well is completed.

In Case No. 20868, Marathon seeks an order from the Division pooling all uncommitted mineral interests within a Bone Spring horizontal spacing unit underlying the S/2 S/2 of Section 12 of Township 23 South, Range 28 East; and Section 7 of Township 23 South, Range 29 East, NMPM, Eddy County, New Mexico. This spacing unit will be dedicated to the Valkyrie 12 SB Federal Com 15H well, to be horizontally drilled. The producing area for this well will

Modrall Sperling
Roehl Harris & Sisk P.A.
500 Fourth Street NW
Suite 1000
Albuquerque,
New Mexico 87102

PO Box 2168
Albuquerque,
New Mexico 87103-2168

Tel: 505.848.1800
www.modrall.com

be orthodox. Also to be considered will be the cost of drilling and completing said well, the allocation of these costs as well as the actual operating costs and charges for supervision, designation of Marathon as operator of the well, and a 200% charge for risk involved in drilling said well, and allowing a one year period between when the well is drilled and when the well is completed.

These cases have been set for hearing before a Division Examiner on November 14, 2019, starting at 8:15 a.m. The hearing will be held in Porter Hall in the Oil Conservation Division's Santa Fe Office located at 1220 South Saint Francis Drive, Santa Fe, New Mexico 87505. As a party who may be affected by these applications, we are notifying you of your right to appear at the hearing and participate in the cases, including the right to present evidence either in support of or in opposition to the applications. Failure to appear at the hearing may preclude you from any involvement in the cases at a later date.

You are further notified that if you desire to appear in these cases, then you are requested to file a Pre-Hearing Statement with the Division at least four business days in advance of a scheduled hearing before the Division or the Commission, but in no event later than 5:00 p.m. mountain time, on the Thursday preceding the scheduled hearing date, with a copy delivered to the undersigned.

Sincerely,



Deana M. Bennett

Nicole T. Russell

Attorneys for Applicant



MODRALL SPERLING

L A W Y E R S

October 24, 2019

VIA CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Deana M. Bennett
505.848.1834
Deana.Bennett@modrall.com

Nicole T. Russell
505.848.1807
Nicole.Russell@modrall.com

**Re: APPLICATION OF MARATHON OIL PERMIAN LLC FOR
COMPULSORY POOLING, EDDY COUNTY, NEW MEXICO.**

CASE NO. 20864

**APPLICATION OF MARATHON OIL PERMIAN LLC FOR
COMPULSORY POOLING, EDDY COUNTY, NEW MEXICO.**

CASE NO. 20867

**APPLICATION OF MARATHON OIL PERMIAN LLC FOR
COMPULSORY POOLING, EDDY COUNTY, NEW MEXICO.**

CASE NO. 20868

TO: AFFECTED PARTIES

This letter is to advise you that Marathon Oil Permian LLC ("Marathon") has filed the above-listed applications.

In Case No. 20864, Marathon seeks an order from the Division pooling all uncommitted mineral interests within a Wolfcamp horizontal spacing unit underlying the S/2 of Section 12, Township 23 South, Range 28 East and Section 7 of Township 23 South, Range 29 East, NMPM, Eddy County, New Mexico. This spacing unit will be dedicated to the Valkyrie 12 WA Federal Com 7H, Valkyrie 12 WXY Federal Com 9H, Valkyrie 12 WA Federal Com 11H, Valkyrie 12 WD Federal Com 8H, Valkyrie 12 WD Federal Com 10H, Valkyrie 12 WD Federal Com 12H, to be horizontally drilled. The producing area for these wells will be unorthodox. Also to be considered will be the cost of drilling and completing said wells, the allocation of these costs as well as the actual operating costs and charges for supervision, designation of Marathon as operator of the wells, and a 200% charge for risk involved in drilling said wells, and allowing a one year period between when the wells are drilled and when the first well is completed.

In Case No. 20867, Marathon seeks an order from the Division pooling all uncommitted mineral interests within a Bone Spring horizontal spacing unit

Modrall Sperling
Roehl Harris & Sisk P.A.

500 Fourth Street NW
Suite 1000
Albuquerque,
New Mexico 87102

PO Box 2168
Albuquerque,
New Mexico 87103-2168

Tel: 505.848.1800
www.modrall.com

underlying the N/2 S/2 of Section 12 of Township 23 South, Range 28 East; and Section 7 of Township 23 South, Range 29 East, NMPM, Eddy County, New Mexico. This spacing unit will be dedicated to the Valkyrie 12 SB Federal Com 14H well, to be horizontally drilled. The producing area for this well will be orthodox. Also to be considered will be the cost of drilling and completing said well, the allocation of these costs as well as the actual operating costs and charges for supervision, designation of Marathon as operator of the well, and a 200% charge for risk involved in drilling said well, and allowing a one year period between when the well is drilled and when the well is completed..

In Case No. 20868, Marathon seeks an order from the Division pooling all uncommitted mineral interests within a Bone Spring horizontal spacing unit underlying the S/2 S/2 of Section 12 of Township 23 South, Range 28 East; and Section 7 of Township 23 South, Range 29 East, NMPM, Eddy County, New Mexico. This spacing unit will be dedicated to the Valkyrie 12 SB Federal Com 15H well, to be horizontally drilled. The producing area for this well will be orthodox. Also to be considered will be the cost of drilling and completing said well, the allocation of these costs as well as the actual operating costs and charges for supervision, designation of Marathon as operator of the well, and a 200% charge for risk involved in drilling said well, and allowing a one year period between when the well is drilled and when the well is completed.

These cases have been set for hearing before a Division Examiner on November 14, 2019, starting at 8:15 a.m. The hearing will be held in Porter Hall in the Oil Conservation Division's Santa Fe Office located at 1220 South Saint Francis Drive, Santa Fe, New Mexico 87505. As a party who may be affected by these applications, we are notifying you of your right to appear at the hearing and participate in the cases, including the right to present evidence either in support of or in opposition to the applications. Failure to appear at the hearing may preclude you from any involvement in the cases at a later date.

You are further notified that if you desire to appear in these cases, then you are requested to file a Pre-Hearing Statement with the Division at least four business days in advance of a scheduled hearing before the Division or the Commission, but in no event later than 5:00 p.m. mountain time, on the Thursday preceding the scheduled hearing date, with a copy delivered to the undersigned.

Sincerely,



Deana M. Bennett

Nicole T. Russell

Attorneys for Applicant

Val. 20864

**S/2 of Section 12, Township 23 South, Range 28 East, NMPM
& S/2 of Section 7, Township 23 South, Range 29 East, NMPM
Eddy County, New Mexico
Wolfcamp Formations**

Type	Interest Owner
WI	Tap Rock Resources, LLC 602 Park Point Dr. Golden, CO 80401
WI	Occidental Permian LP 5 Greenway Plaza, Suite 110 Houston, Texas 77046-0521
WI	Devon Energy Production Company 333 W. Sheridan Ave. Oklahoma City, OK
WI	WPX Energy Permian LLC 3500 One Williams Center Tulsa, OK 74172
WI	Ray Westall Operating, Inc. 132447 Lovington Highway Loco Hills, NM 88255
ORRI	Winston Resources, Inc. 1520 W. Canal St. Littleton, CO 80120
ORRI	McMullen Minerals, LLC 2821 West 7th Street, Suite 515 Fort Worth, TX 76107
ORRI	Pegasus Resources, LLC P.O. Box 470698 Fort Worth, TX 76147
ORRI	Terri L. Simpson 14437 Rios Canyon Road El Cajon, CA
ORRI	John D. Hamiga P.O. Box 14144 San Francisco, CA
ORRI	Charmar, LLC 4815 Vista Del Oso Court NE Albuquerque, NM 87109
ORRI	Kenneth Jay Reynolds 300 North Marienfield, Suite 320 Midland, TX 79701

ORRI	Charles Randall Hicks 1500 West Third Roswell, NM 88201
ORRI	Vikki L. Hicks Smith 1213 Saint St. NE Albuquerque, NM 87112
ORRI	Tap Rock Minerals LP 602 Park Point Drive, Suite 200 Golden, CO 80401
ORRI	Colins & Ware, Inc. 303 W Wall #2200 Midland, TX 79701
ORRI	Curtis A. Anderson and Edna I. Anderson, Joint Tenants with rights of survivorship 9314 Cherry Brook Lane Frisco, TX 75083

Val. 20868

S2 S2 of Section 12, Township 23 South, Range 28 East, NMPM
& S2 S2 of Section 7, Township 23 South, Range 29 East, NMPM
Eddy County, New Mexico
Bone Spring Formations

Type	Interest Owner
WI	Tap Rock Resources, LLC 602 Park Point Dr. Golden, CO 80401
WI	Occidental Permian LP 5 Greenway Plaza, Suite 110 Houston, Texas 77046-0521
WI	Devon Energy Production Company 333 W. Sheridan Ave. Oklahoma City, OK
WI	WPX Energy Permian LLC 3500 One Williams Center Tulsa, OK 74172
WI	Ray Westall Operating, Inc. 132447 Lovington Highway Loco Hills, NM 88255
ORRI	Winston Resources, Inc. 1520 W. Canal St. Littleton, CO 80120
ORRI	McMullen Minerals, LLC 2821 West 7th Street, Suite 515 Fort Worth, TX 76107
ORRI	Pegasus Resources, LLC P.O. Box 470698 Fort Worth, TX 76147
ORRI	Terri L. Simpson 14437 Rios Canyon Road El Cajon, CA
ORRI	John D. Hamiga P.O. Box 14144 San Francisco, CA
ORRI	Charmar, LLC 4815 Vista Del Oso Court NE Albuquerque, NM 87109
ORRI	Kenneth Jay Reynolds 300 North Marienfield, Suite 320 Midland, TX 79701

ORRI	Charles Randall Hicks 1500 West Third Roswell, NM 88201
ORRI	Vikki L. Hicks Smith 1213 Saint St. NE Albuquerque, NM 87112
ORRI	Tap Rock Minerals LP 602 Park Point Drive, Suite 200 Golden, CO 80401
ORRI	Colins & Ware, Inc. 303 W Wall #2200 Midland, TX 79701
ORRI	Curtis A. Anderson and Edna I. Anderson, Joint Tenants with rights of survivorship 9314 Cherry Brook Lane Frisco, TX 75083

Val. 20867

N2 S2 of Section 12, Township 23 South, Range 28 East, NMPM
& N2 S2 of Section 7, Township 23 South, Range 29 East, NMPM
Eddy County, New Mexico
Bone Spring Formations

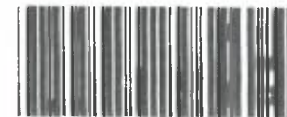
Type	Interest Owner
WI	Tap Rock Resources, LLC 602 Park Point Dr. Golden, CO 80401
WI	Devon Energy Production Company 333 W. Sheridan Ave. Oklahoma City, OK
WI	WPX Energy Permian LLC 3500 One Williams Center Tulsa, OK 74172
WI	Ray Westall Operating, Inc. 132447 Lovington Highway Loco Hills, NM 88255
ORRI	Winston Resources, Inc. 1520 W. Canal St. Littleton, CO 80120
ORRI	McMullen Minerals, LLC 2821 West 7th Street, Suite 515 Fort Worth, TX 76107
ORRI	Pegasus Resources, LLC P.O. Box 470698 Fort Worth, TX 76147
ORRI	Terri L. Simpson 14437 Rios Canyon Road El Cajon, CA
ORRI	John D. Hamiga P.O. Box 14144 San Francisco, CA
ORRI	Charmar, LLC 4815 Vista Del Oso Court NE Albuquerque, NM 87109
ORRI	Kenneth Jay Reynolds 300 North Marienfield, Suite 320 Midland, TX 79701
ORRI	Charles Randall Hicks 1500 West Third Roswell, NM 88201

ORRI	Vikki L. Hicks Smith 1213 Saint St. NE Albuquerque, NM 87112
ORRI	Tap Rock Minerals LP 602 Park Point Drive, Suite 200 Golden, CO 80401
ORRI	Colins & Ware, Inc. 303 W Wall #2200 Midland, TX 79701
ORRI	Curtis A. Anderson and Edna I. Anderson, Joint Tenants with rights of survivorship 9314 Cherry Brook Lane Frisco, TX 75083

Karlene Schuman
Modrall Sperling Roehl Harris & Sisk P.A.
500 Fourth Street, Suite 1000
Albuquerque NM 87102

PS Form 3877

Type of Mailing: CERTIFIED MAIL
10/24/2019



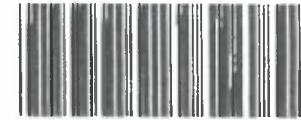
Firm Mailing Book ID: 177846

Line	USPS Article Number	Name, Street, City, State, Zip	Postage	Service Fee	RR Fee	Rest.Del.Fee	Reference Contents
1	9314 8699 0430 0064 8899 73	Tap Rock Resources LLC 602 Park Point Dr. Golden CO 80401	\$1.30	\$3.50	\$1.60	\$0.00	81363-205(64&68) Notice
2	9314 8699 0430 0064 8899 80	Occidental Permian LP 5 Greenway Plaza, Suite 110 Houston TX 77046	\$1.30	\$3.50	\$1.60	\$0.00	81363-205(64&68) Notice
3	9314 8699 0430 0064 8899 97	Devon Energy Production Company 333 W. Sheridan Ave. Oklahoma City OK 73102	\$1.30	\$3.50	\$1.60	\$0.00	81363-205(64&68) Notice
4	9314 8699 0430 0064 8900 09	WPX Energy Permian LLC 3500 One Williams Center Tulsa OK 74172	\$1.30	\$3.50	\$1.60	\$0.00	81363-205(64&68) Notice
5	9314 8699 0430 0064 8900 16	Ray Westall Operating, Inc. 132447 Lovington Highway Loco Hills NM 88255	\$1.30	\$3.50	\$1.60	\$0.00	81363-205(64&68) Notice
6	9314 8699 0430 0064 8900 23	Winston Resources, Inc. 1520 W. Canal St. Littleton CO 80120	\$1.30	\$3.50	\$1.60	\$0.00	81363-205(64&68) Notice
7	9314 8699 0430 0064 8900 30	McMullen Minerals LLC 2821 West 7th Street, Suite 515 Fort Worth TX 76147	\$1.30	\$3.50	\$1.60	\$0.00	81363-205(64&68) Notice
8	9314 8699 0430 0064 8900 47	Pegasus Resources LLC PO Box 470698 Fort Worth TX 76147	\$1.30	\$3.50	\$1.60	\$0.00	81363-205(64&68) Notice
9	9314 8699 0430 0064 8900 54	Terri L. Simpson 14437 Rios Canyon Rd. El Cajon CA 92021	\$1.30	\$3.50	\$1.60	\$0.00	81363-205(64&68) Notice
10	9314 8699 0430 0064 8900 61	John D. Hamiga PO Box 14144 San Francisco CA 94120	\$1.30	\$3.50	\$1.60	\$0.00	81363-205(64&68) Notice
11	9314 8699 0430 0064 8900 78	Charmar, LLC 4815 Vista Del Oso Court NE Albuquerque NM 87109	\$1.30	\$3.50	\$1.60	\$0.00	81363-205(64&68) Notice
12	9314 8699 0430 0064 8900 85	Kenneth Jay Reynolds 300 North Marienfeld, Suite 320 Midland TX 79701	\$1.30	\$3.50	\$1.60	\$0.00	81363-205(64&68) Notice
13	9314 8699 0430 0064 8900 92	Charles Randall Hicks 1500 West Third Roswell NM 88201	\$1.30	\$3.50	\$1.60	\$0.00	81363-205(64&68) Notice
14	9314 8699 0430 0064 8901 08	Vikki L. Hicks Smith 1213 Saint St. NE Albuquerque NM 87112	\$1.30	\$3.50	\$1.60	\$0.00	81363-205(64&68) Notice
15	9314 8699 0430 0064 8901 15	Tap Rock Minerals LP 602 Park Point Dr., Suite 200 Golden CO 80401	\$1.30	\$3.50	\$1.60	\$0.00	81363-205(64&68) Notice

Karlene Schuman
Modrall Sperling Roehl Harris & Sisk P.A.
500 Fourth Street, Suite 1000
Albuquerque NM 87102

PS Form 3877

Type of Mailing: CERTIFIED MAIL
10/24/2019



Firm Mailing Book ID: 177846

Line	USPS Article Number	Name, Street, City, State, Zip	Postage	Service Fee	RR Fee	Rest.Del.Fee	Reference Contents
16	9314 8699 0430 0064 8901 22	Colins & Ware, Inc. 303 W. Wall #2200 Midland TX 79701	\$1.30	\$3.50	\$1.60	\$0.00	81363-205(64&68) Notice
17	9314 8699 0430 0064 8901 39	Curtis A. Anderson & Edna I. Anderson Joint Tenants with rights of survivorship 9314 Cherry Brook Lane Frisco TX 75083	\$1.30	\$3.50	\$1.60	\$0.00	81363-205(64&68) Notice
Totals:			\$22.10	\$59.50	\$27.20	\$0.00	
Grand Total:						\$108.80	

List Number of Pieces Listed by Sender	Total Number of Pieces Received at Post Office	Postmaster: Name of receiving employee	Dated:
---	---	---	--------

17



9

42

Transaction Report Details - CertifiedPro.net

Firm Mail Book ID= 177846

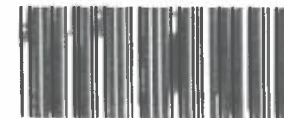
Generated: 11/12/2019 7:46:25 A

USPS Article Number	Reference	Date Created	Name 1	Name 2	City	State	ZIP	Mailing Status	Service Options	Mail Delivery Date
9314869904300064890139	20864, 67, 68 Val	2019-10-24 1:27 PM	Curtis A. Anderson & Edna I. Anderson Joint	Tenants with rights of survivorship	Frisco	TX	75083	Delivered	Return Receipt - Electronic, Certified Mail	10-30-2019
9314869904300064890122	20864, 67, 68 Val	2019-10-24 1:27 PM	Colins & Ware, Inc.		Midland	TX	79701	Delivered	Return Receipt - Electronic, Certified Mail	10-28-2019
9314869904300064890115	20864, 67, 68 Val	2019-10-24 1:27 PM	Tap Rock Minerals LP		Golden	CO	80401	Delivered	Return Receipt - Electronic, Certified Mail	10-28-2019
9314869904300064890108	20864, 67, 68 Val	2019-10-24 1:27 PM	Vikki L. Hicks Smith		Albuquerque	NM	87112	To be Returned	Return Receipt - Electronic, Certified Mail	
9314869904300064890092	20864, 67, 68 Val	2019-10-24 1:27 PM	Charles Randall Hicks		Roswell	NM	88201	Undelivered	Return Receipt - Electronic, Certified Mail	
9314869904300064890085	20864, 67, 68 Val	2019-10-24 1:27 PM	Kenneth Jay Reynolds		Midland	TX	79701	Mailed	Return Receipt - Electronic, Certified Mail	
9314869904300064890078	20864, 67, 68 Val	2019-10-24 1:27 PM	Charmar, LLC		Albuquerque	NM	87109	Undelivered	Return Receipt - Electronic, Certified Mail	
9314869904300064890061	20864, 67, 68 Val	2019-10-24 1:27 PM	John D. Hamiga		San Francisco	CA	94120	To be Returned	Return Receipt - Electronic, Certified Mail	
9314869904300064890054	20864, 67, 68 Val	2019-10-24 1:27 PM	Terri L. Simpson		El Cajon	CA	92021	Undelivered	Return Receipt - Electronic, Certified Mail	
9314869904300064890047	20864, 67, 68 Val	2019-10-24 1:27 PM	Pegasus Resources LLC		Fort Worth	TX	76147	Delivered	Return Receipt - Electronic, Certified Mail	10-28-2019
9314869904300064890030	20864, 67, 68 Val	2019-10-24 1:27 PM	McMullen Minerals LLC		Fort Worth	TX	76147	Undelivered	Return Receipt - Electronic, Certified Mail	
9314869904300064890023	20864, 67, 68 Val	2019-10-24 1:27 PM	Winston Resources, Inc.		Littleton	CO	80120	Mailed	Return Receipt - Electronic, Certified Mail	
9314869904300064890016	20864, 67, 68 Val	2019-10-24 1:27 PM	Ray Westall Operating, Inc.		Loco Hills	NM	88255	Undelivered	Return Receipt - Electronic, Certified Mail	
9314869904300064890009	20864, 67, 68 Val	2019-10-24 1:27 PM	WPX Energy Permian LLC		Tulsa	OK	74172	Delivered	Return Receipt - Electronic, Certified Mail	10-28-2019
9314869904300064889997	20864, 67, 68 Val	2019-10-24 1:27 PM	Devon Energy Production Company		Oklahoma City	OK	73102	Delivered	Return Receipt - Electronic, Certified Mail	10-28-2019
9314869904300064889980	20864, 67, 68 Val	2019-10-24 1:27 PM	Occidental Permian LP		Houston	TX	77046	Undelivered	Return Receipt - Electronic, Certified Mail	
9314869904300064889973	20864, 67, 68 Val	2019-10-24 1:27 PM	Tap Rock Resources LLC		Golden	CO	80401	Delivered	Return Receipt - Electronic, Certified Mail	10-28-2019

Karlene Schuman
 Modrall Sperling Roehl Harris & Sisk P.A.
 500 Fourth Street, Suite 1000
 Albuquerque NM 87102

PS Form 3877

Type of Mailing: CERTIFIED MAIL
 10/24/2019



Firm Mailing Book ID: 177849

Line	USPS Article Number	Name, Street, City, State, Zip	Postage	Service Fee	RR Fee	Rest.Del.Fee	Reference Contents
1	9314 8699 0430 0064 8915 18	BTA Oil Producers LLC 104 S. Pecos St. Midland TX 79701	\$1.30	\$3.50	\$1.60	\$0.00	81363-205(65&66) Notice
2	9314 8699 0430 0064 8915 25	Chevron USA, Inc. 6301 Deauville Blvd. Midland TX 79706	\$1.30	\$3.50	\$1.60	\$0.00	81363-205(65&66) Notice
3	9314 8699 0430 0064 8915 32	OXY Y-1 Company 5 Greenway Plaza, Suite 110 Houston TX 77046	\$1.30	\$3.50	\$1.60	\$0.00	81363-205(65&66) Notice
4	9314 8699 0430 0064 8915 49	Devon Energy Production Company 333 W. Sheridan Ave. Oklahoma City OK 73102	\$1.30	\$3.50	\$1.60	\$0.00	81363-205(65&66) Notice
5	9314 8699 0430 0064 8915 56	Westall Oil & Gas, LLC PO Box 4 Loco Hills NM 88255	\$1.30	\$3.50	\$1.60	\$0.00	81363-205(65&66) Notice
6	9314 8699 0430 0064 8915 63	Tap Rock Resources, LLC 602 Park Point Dr. Golden CO 80401	\$1.30	\$3.50	\$1.60	\$0.00	81363-205(65&66) Notice
Totals:			\$7.80	\$21.00	\$9.60	\$0.00	
Grand Total:						\$38.40	

List Number of Pieces
Listed by Sender

Total Number of Pieces
Received at Post Office

Postmaster:
Name of receiving employee

Dated:

6

44

Transaction Report Details - CertifiedPro.net

Firm Mail Book ID= 177849

Generated: 11/12/2019 7:56:02 AM

TX	Account Number	Date Create	Reference Number	Company	City	State	Zip	Mailing Status	Service Options	Mail Delivery Date
9314869904300064891563		2019-10-24 1:53 PM	81363-205(65&66)	Tap Rock Resources, LLC	Golden	CO	80401	Delivered	Return Receipt - Electronic, Certified Mail	10-
9314869904300064891556		2019-10-24 1:53 PM	81363-205(65&66)	Westall Oil & Gas, LLC	Loco Hills	NM	88255	Undelivered	Return Receipt - Electronic, Certified Mail	
9314869904300064891549		2019-10-24 1:53 PM	81363-205(65&66)	Devon Energy Production Company	Oklahoma City	OK	73102	Delivered	Return Receipt - Electronic, Certified Mail	10-28-2019
9314869904300064891532		2019-10-24 1:53 PM	81363-205(65&66)	OXY Y-1 Company	Houston	TX	77046	Undelivered	Return Receipt - Electronic, Certified Mail	
9314869904300064891525		2019-10-24 1:53 PM	81363-205(65&66)	Chevron USA, Inc.	Midland	TX	79706	Undelivered	Return Receipt - Electronic, Certified Mail	
9314869904300064891518		2019-10-24 1:53 PM	81363-205(65&66)	BTA Oil Producers LLC	Midland	TX	79701	Delivered	Return Receipt - Electronic, Certified Mail	10-29-2019



MODRALL SPERLING

L A W Y E R S

October 29, 2019

VIA FEDEX OVERNIGHT

**Re: APPLICATION OF MARATHON OIL PERMIAN LLC FOR
COMPULSORY POOLING, EDDY COUNTY, NEW MEXICO.**

**CASE NOS. 20883-20885
(RIPLEY)**

**APPLICATION OF MARATHON OIL PERMIAN LLC FOR
COMPULSORY POOLING, EDDY COUNTY, NEW MEXICO.**

**CASE NOS. 20864-20868
(VALKYRIE)**

TO: AFFECTED PARTIES

This letter is to advise you that Marathon Oil Permian LLC ("Marathon") has filed the above-listed applications.

Ripley Applications:

In Case No. 20883, Marathon seeks an order from the Division pooling all uncommitted mineral interests within a Bone Spring horizontal spacing unit underlying the W/2 E/2 of Section 35, Township 24 South, Range 28 East, NMPM, Eddy County, New Mexico. This spacing unit will be dedicated to the Ripley 35 SB Fed Com 6H well, to be horizontally drilled. The producing area for this well will be orthodox. Also to be considered will be the cost of drilling and completing said well, the allocation of these costs as well as the actual operating costs and charges for supervision, designation of Marathon as operator of the well, and a 200% charge for risk involved in drilling said well, and allowing a one year period between when the well is drilled and when the well is completed.

In Case No. 20884, Marathon seeks an order from the Division pooling all uncommitted mineral interests within a Bone Spring horizontal spacing unit underlying the E/2 E/2 of Section 35, Township 24 South, Range 28 East, NMPM, Eddy County, New Mexico. This spacing unit will be dedicated to the Ripley 35 SB Fed Com 11H well, to be horizontally drilled. The producing area for this well will be orthodox. Also to be considered will be the cost of drilling and completing said well, the allocation of these costs as well as the

Deana M. Bennett
505.848.1834
dmb@modrall.com

Lance D. Hough
505.848.1826
ldh@modrall.com

Modrall Sperling
Roehl Harris & Sisk P.A.
500 Fourth Street NW
Suite 1000
Albuquerque,
New Mexico 87102

PO Box 2168
Albuquerque,
New Mexico 87103-2168

Tel: 505.848.1800
www.modrall.com

actual operating costs and charges for supervision, designation of Marathon as operator of the well, and a 200% charge for risk involved in drilling said well, and allowing a one year period between when the well is drilled and when the well is completed..

In Case No. 20885, Marathon seeks an order from the Division pooling all uncommitted mineral interests within a Wolfcamp horizontal spacing unit underlying the E/2 of Section 35, Township 24 South, Range 28 East, NMPM, Eddy County, New Mexico. This spacing unit will be dedicated to the Ripley 35 WXY Fed Com 5H, Ripley 35 WA Fed Com 4H, Ripley 35 WXY Fed Com 3H, Ripley 35 WA Fed Com 9H, Ripley 35 WD Fed Com 2H, Ripley 35 WD Fed Com 7H and Ripley 35 WD Fed Com 8H wells, to be horizontally drilled. The producing area for these wells will be unorthodox. Also to be considered will be the cost of drilling and completing said wells, the allocation of these costs as well as the actual operating costs and charges for supervision, designation of Marathon as operator of the wells, and a 200% charge for risk involved in drilling said wells, and allowing a one year period between when the wells are drilled and when the first well is completed.

Valkyrie Applications:

In Case No. 20864, Marathon seeks an order from the Division pooling all uncommitted mineral interests within a Wolfcamp horizontal spacing unit underlying the S/2 of Section 12, Township 23 South, Range 28 East and Section 7 of Township 23 South, Range 29 East, NMPM, Eddy County, New Mexico. This spacing unit will be dedicated to the Valkyrie 12 WA Federal Com 7H, Valkyrie 12 WXY Federal Com 9H, Valkyrie 12 WA Federal Com 11H, Valkyrie 12 WD Federal Com 8H, Valkyrie 12 WD Federal Com 10H, Valkyrie 12 WD Federal Com 12H, to be horizontally drilled. The producing area for these wells will be unorthodox. Also to be considered will be the cost of drilling and completing said wells, the allocation of these costs as well as the actual operating costs and charges for supervision, designation of Marathon as operator of the wells, and a 200% charge for risk involved in drilling said wells, and allowing a one year period between when the wells are drilled and when the first well is completed.

In Case No. 20865, Marathon seeks an order from the Division pooling all uncommitted mineral interests within a Bone Spring horizontal spacing unit underlying the S/2 N/2 of Section 12 of Township 23 South, Range 28 East; and Section 7 of Township 23 South, Range 29 East, NMPM, Eddy County, New Mexico. This spacing unit will be dedicated to the Valkyrie 12 SB Federal Com 13H well, to be horizontally drilled. The producing area for this well will be orthodox. Also to be considered will be the cost of drilling and completing said well, the allocation of these costs as well as the actual operating costs and

charges for supervision, designation of Marathon as operator of the well, and a 200% charge for risk involved in drilling said well, and allowing a one year period between when the well is drilled and when the well is completed.

In Case No. 20866, Marathon seeks an order from the Division pooling all uncommitted mineral interests within a Wolfcamp horizontal spacing unit underlying the N/2 of Section 12, Township 23 South, Range 28 East and Section 7 of Township 23 South, Range 29 East, NMPM, Eddy County, New Mexico. This spacing unit will be dedicated to the Valkyrie 12 WXY Federal Com 1H, Valkyrie 12 WA Federal Com 3H, Valkyrie 12 WXY Federal Com 5H, Valkyrie 12 WD Federal Com 2H, Valkyrie 12 WD Federal Com 4H, Valkyrie 12 WD Federal Com 6H wells, to be horizontally drilled. The producing area for these wells will be unorthodox. Also to be considered will be the cost of drilling and completing said wells, the allocation of these costs as well as the actual operating costs and charges for supervision, designation of Marathon as operator of the wells, and a 200% charge for risk involved in drilling said wells, and allowing a one year period between when the wells are drilled and when the first well is completed.

In Case No. 20867, Marathon seeks an order from the Division pooling all uncommitted mineral interests within a Bone Spring horizontal spacing unit underlying the N/2 S/2 of Section 12 of Township 23 South, Range 28 East; and Section 7 of Township 23 South, Range 29 East, NMPM, Eddy County, New Mexico. This spacing unit will be dedicated to the Valkyrie 12 SB Federal Com 14H well, to be horizontally drilled. The producing area for this well will be orthodox. Also to be considered will be the cost of drilling and completing said well, the allocation of these costs as well as the actual operating costs and charges for supervision, designation of Marathon as operator of the well, and a 200% charge for risk involved in drilling said well, and allowing a one year period between when the well is drilled and when the well is completed.

In Case No. 20868, Marathon seeks an order from the Division pooling all uncommitted mineral interests within a Bone Spring horizontal spacing unit underlying the S/2 S/2 of Section 12 of Township 23 South, Range 28 East; and Section 7 of Township 23 South, Range 29 East, NMPM, Eddy County, New Mexico. This spacing unit will be dedicated to the Valkyrie 12 SB Federal Com 15H well, to be horizontally drilled. The producing area for this well will be orthodox. Also to be considered will be the cost of drilling and completing said well, the allocation of these costs as well as the actual operating costs and charges for supervision, designation of Marathon as operator of the well, and a 200% charge for risk involved in drilling said well, and allowing a one year period between when the well is drilled and when the well is completed.

These cases have been set for hearing before a Division Examiner on November 14, 2019, starting at 8:15 a.m. The hearing will be held in Porter Hall in the Oil Conservation Division's Santa Fe Office located at 1220 South Saint Francis Drive, Santa Fe, New Mexico 87505. As a party who may be affected by these applications, we are notifying you of your right to appear at the hearing and participate in the cases, including the right to present evidence either in support of or in opposition to the applications. Failure to appear at the hearing may preclude you from any involvement in the cases at a later date.

You are further notified that if you desire to appear in these cases, then you are requested to file a Pre-Hearing Statement with the Division at least four business days in advance of a scheduled hearing before the Division or the Commission, but in no event later than 5:00 p.m. mountain time, on the Thursday preceding the scheduled hearing date, with a copy delivered to the undersigned.

Sincerely,

A handwritten signature in cursive script that reads "Deana M. Bennett".

Deana M. Bennett
Lance D. Hough
Attorneys for Applicant

Carlsbad Current Argus.

PART OF THE USA TODAY NETWORK

Affidavit of Publication

Ad # 0003873633

MODRALL SPERLING
POBOX 2168

ALBUQUERQUE, NM 87103

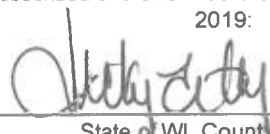
I, a legal clerk of the **Carlsbad Current Argus**, a newspaper published daily at the City of Carlsbad, in said county of Eddy, state of New Mexico and of general paid circulation in said county; that the same is a duly qualified newspaper under the laws of the State wherein legal notices and advertisements may be published; that the printed notice attached hereto was published in the regular and entire edition of said newspaper and not in supplement thereof on the date as follows, to wit:

October 31, 2019



Legal Clerk

Subscribed and sworn before me this October 31,
2019:



State of WI, County of Brown
NOTARY PUBLIC



My commission expires



Ad # 0003873633

PO #: 20864, 20865, 20866, 20867, 20868

of Affidavits: 1

CASE NO. 20864: Notice to all affected parties, as well as the heirs and devisees of Bureau of Land Management, Tap Rock Resources LLC, Occidental Permian LP, Devon Energy Production Company, WPX Energy Permian LLC, Ray Westall Operating Inc., Winston Resources Inc., McMullen Minerals LLC, Pegasus Resources LLC, Terri L. Simpson, John D. Hamiga, Charmar LLC, Kenneth Jay Reynolds, Charles Randal Hicks, Vikki L. Hicks Smith, Tap Rock Minerals LP, Collins & Ware Inc., Curtis A Anderson and Edna I Anderson Joint Tenants with rights of survivorship, of Marathon Oil Permian LLC's application for compulsory pooling, Eddy County, New Mexico. The State of New Mexico, through its Oil Conservation Division, hereby gives notice that the Division will conduct a public hearing at 8:15 a.m. on November 14, 2019, to consider this application. Applicant seeks an order from the Division pooling all uncommitted mineral interests within a Wolfcamp horizontal spacing unit underlying the S/2 of Section 12, Township 23 South, Range 28 East and Section 7 of Township 23 South, Range 29 East, NMPM, Eddy County, New Mexico. This spacing unit will be dedicated to the Valkyrie 12 WA Federal Com 7H, Valkyrie 12 WXY Federal Com 9H, Valkyrie 12 WA Federal Com 11H, Valkyrie 12 WD Federal Com 8H, Valkyrie 12 WD Federal Com 10H, Valkyrie 12 WD Federal Com 12H, to be horizontally drilled. The producing area for these wells will be unorthodox. Also to be considered will be the cost of drilling and completing said wells, the allocation of these costs as well as the actual operating costs and charges for supervision, designation of Marathon as operator of the wells, and a 200% charge for risk involved in drilling said wells, and allowing a one year period between when the wells are drilled and when the first well is completed. Said area is located approximately 4 miles Northeast of Loving, New Mexico.

CASE NO. 20865: Notice to all affected parties, as well as the heirs and devisees of Bureau of Land Management, BTA Oil Producers LLC, Chevron USA Inc., OXY Y-1 Company, Devon Energy Production Company, Westall Oil & Gas LLC, Tap Rock Resources LLC, of Marathon Oil Permian LLC's application for compulsory pooling, Eddy County, New Mexico. The State of New Mexico, through its Oil Conservation Division, hereby gives notice that the Division will conduct a public hearing at 8:15 a.m. on November 14, 2019, to consider this application. Applicant seeks an order from the Division pooling all uncommitted mineral interests within a Bone Spring horizontal spacing unit underlying the S/2 N/2 of Section 12 of Township 23 South, Range 28 East; and Section 7 of Township 23 South, Range 29 East, NMPM, Eddy County, New Mexico. This spacing unit will be dedicated to the Valkyrie 12 SB Federal Com 13H well, to be horizontally drilled. The producing area for this well will be orthodox. Also to be considered will be the cost of drilling and completing said well, the allocation of these costs as well as the actual operating costs and charges for supervision, designation of Marathon as operator of the well, and a 200% charge for risk involved in drilling said well, and allowing a one year period between when the well is drilled and when the well is completed. Said area is located approximately 4 miles Northeast of Loving, New Mexico.

CASE NO. 20866: Notice to all affected parties, as well as the heirs and devisees of Bureau of Land Management, BTA Oil Producers LLC, Chevron USA Inc., OXY Y-1 Company, Devon Energy Production Company, Westall Oil & Gas LLC, Tap Rock Resources LLC, of Marathon Oil Permian LLC's application for compulsory pooling, Eddy County, New Mexico. The State of New Mexico, through its Oil Conservation Division, hereby gives notice that the Division will conduct a public hearing at 8:15 a.m. on November 14, 2019, to consider this application. Applicant seeks an order from the Division pooling all uncommitted mineral interests within a Wolfcamp horizontal spacing unit underlying the N/2 of Sec-

tion 12, Township 23 South, Range 28 East and Section 7 of Township 23 South, Range 29 East, NMPM, Eddy County, New Mexico. This spacing unit will be dedicated to the Valkyrie 12 WXY Federal Com 1H, Valkyrie 12 WA Federal Com 3H, Valkyrie 12 WXY Federal Com 5H, Valkyrie 12 WD Federal Com 2H, Valkyrie 12 WD Federal Com 4H, Valkyrie 12 WD Federal Com 6H wells, to be horizontally drilled. The producing area for these wells will be unorthodox. Also to be considered will be the cost of drilling and completing said wells, the allocation of these costs as well as the actual operating costs and charges for supervision, designation of Marathon as operator of the wells, and a 200% charge for risk involved in drilling said wells, and allowing a one year period between when the wells are drilled and when the first well is completed. Said area is located approximately 4 miles Northeast of Loving, New Mexico.:

CASE NO. 20867 Notice to all affected parties, as well as the heirs and devisees of Bureau of Land Management, Tap Rock Resources LLC, Devon Energy Production Company, WPX Energy Permian LLC, Ray Westall Operating Inc., Winston Resources Inc., McMullen Minerals LLC, Pegasus Resources LLC, Terri L. Simpson, John D. Hamiga, Charmar LLC, Kenneth Jay Reynolds, Charles Randal Hicks, Vikki L. Hicks Smith, Tap Rock Minerals LP, Collins & Ware Inc., Curtis A Anderson and Edna I Anderson Joint Tenants with rights of survivorship, of Marathon Oil Permian LLC's application for compulsory pooling, Eddy County, New Mexico. The State of New Mexico, through its Oil Conservation Division, hereby gives notice that the Division will conduct a public hearing at 8:15 a.m. on November 14, 2019, to consider this application. Applicant seeks an order from the Division pooling all uncommitted mineral interests within a Bone Spring horizontal spacing unit underlying the N/2 S/2 of Section 12 of Township 23 South, Range 28 East; and Section 7 of Township 23 South, Range 29 East, NMPM, Eddy County, New Mexico. This spacing unit will be dedicated to the Valkyrie 12 SB Federal Com 14H well, to be horizontally drilled. The producing area for this well will be orthodox. Also to be considered will be the cost of drilling and completing said well, the allocation of these costs as well as the actual operating costs and charges for supervision, designation of Marathon as operator of the well, and a 200% charge for risk involved in drilling said well, and allowing a one year period between when the well is drilled and when the well is completed. Said area is located approximately 4 miles Northeast of Loving, New Mexico.

CASE NO. 20868: Notice to all affected parties, as well as the heirs and devisees of Bureau of Land Management, Tap Rock Resources LLC, Occidental Permian LP, Devon Energy Production Company, WPX Energy Permian LLC, Ray Westall Operating Inc., Winston Resources Inc., McMullen Minerals LLC, Pegasus Resources LLC, Terri L. Simpson, John D. Hamiga, Charmar LLC, Kenneth Jay Reynolds, Charles Randal Hicks, Vikki L. Hicks Smith, Tap Rock Minerals LP, Collins & Ware Inc., Curtis A Anderson and Edna I Anderson Joint Tenants with rights of survivorship, of Marathon Oil Permian LLC's application for compulsory pooling, Eddy County, New Mexico. The State of New Mexico, through its Oil Conservation Division, hereby gives notice that the Division will conduct a public hearing at 8:15 a.m. on November 14, 2019, to consider this application. Applicant seeks an order from the Division pooling all uncommitted mineral interests within a Bone Spring horizontal spacing unit underlying the S/2 S/2 of Section 12 of Township 23 South, Range 28 East; and Section 7 of Township 23 South, Range 29 East, NMPM, Eddy County, New Mexico. This spacing unit will be dedicated to the Valkyrie 12 SB Federal Com 15H well, to be horizontally drilled. The producing area for this well will be orthodox. Also to be considered will be the cost of drilling and completing said well, the allocation of these costs as well as

the actual operating costs and charges for supervision, designation of Marathon as operator of the well, and a 200% charge for risk involved in drilling said well, and allowing a one year period between when the well is drilled and when the well is completed. Said area is located approximately 4 miles Northeast of Loving, New Mexico.

October 31, 2019

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

APPLICATION OF MARATHON OIL PERMIAN LLC FOR COMPUSLORY
POOLING, EDDY COUNTY, NEW MEXICO.

CASE NO. 20864
(Valkyrie Wolfcamp)

AFFIDAVIT

STATE OF TEXAS)
) ss.
COUNTY OF MIDLAND)

Rebecca Horne, being duly sworn, deposes and states:

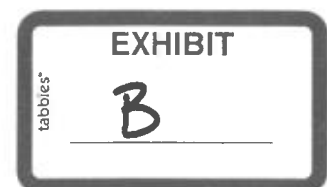
1. I am over the age of 18, I am a geologist for Marathon Oil Permian LLC, and have personal knowledge of the matters stated herein. I have previously testified before the Oil Conservation Division ("Division") and my credentials as an expert petroleum geologist were accepted by the Division as a matter of record.

2. My area of responsibility at Marathon includes the area of Eddy County in New Mexico.

3. I am familiar with the application filed by Marathon in this case.

4. **Exhibit 7** is a locator map showing the approximate location of the proposed wells in relation to the Capitan Reef.

5. **Exhibit 8** is a wellbore schematic showing the Valkyrie development plan, including the S/2 wells, which are the subject of these applications and Case Nos. 20867 and 20868, and the N/2 wells, which are the subject of Case Nos. 20865 and 20866.



6. The exhibits behind **Tab 9** are the geology study I prepared for the Valkyrie 12 WA Federal Com 7H, Valkyrie 12 WXY Federal Com 9H, and Valkyrie 12 WA Federal Com 11H, which are upper Wolfcamp wells.

7. **Exhibit 9-A** is structure map of the top of the Wolfcamp, and is the structure map for the upper Wolfcamp wells. The proposed project area is identified by a black-dashed box, and the proposed wells are identified by purple and red lines. The contour interval used this exhibit is 25 feet. This exhibit shows that the structure dips to the East.

8. **Exhibit 9-B** is the reference map for the wells I chose for the cross-section. The slide identifies three wells in the vicinity of the proposed upper Wolfcamp wells, shown by a line of cross-section running from A to A'.

9. **Exhibit 9-C** is a stratigraphic cross section hung on the top of the Wolfcamp. The well logs on the cross-section give a representative sample of the upper Wolfcamp formation in the area. The target zone is identified by the words "Producing Zone" and the shaded area across the cross section, along with a red arrow. The producing zones are the Wolfcamp XY and the Wolfcamp A.

10. In my opinion, the gross interval thickness decreases slightly from west to east.

11. **Exhibit 9-D** is a Gross Interval Isochore of the Wolfcamp to Wolfcamp B. This slide shows that the gross interval thickness decreases slightly from west to east.

12. The exhibits behind **Tab 10** are the geology study I prepared for the Valkyrie 12 WD Federal Com 8H, Valkyrie 12 WD Federal Com 10H, Valkyrie 12 WD Federal Com 12H, which are the lower Wolfcamp wells.

13. **Exhibit 10-A** is structure map of the top of the Wolfcamp C2, and is the structure map for the lower Wolfcamp wells. The proposed project area is identified by a black-dashed box,

and the proposed wells are identified green lines. The contour interval used this exhibit is 25 feet. This exhibit shows that the structure dips to the east.

14. **Exhibit 10-B** is the reference map for the wells I chose for the cross-section. The slide identifies three wells in the vicinity of the proposed lower Wolfcamp wells, shown by a line of cross-section running from A to A'.

15. **Exhibit 10-C** is a stratigraphic cross section hung on the top of the Wolfcamp C2. The well logs on the cross-section give a representative sample of the lower Wolfcamp formation in the area. The target zone is identified by the words "Producing Zone" and the shaded area across the cross section, along with a red arrow. The producing zones are the Wolfcamp C2 and the Wolfcamp D2.

16. In my opinion, the gross interval thickness of each of the formations is relatively consistent from west to east.

17. **Exhibit 10-D** is a Gross Interval Isochore of the Wolfcamp C2 to Wolfcamp D3. This slide shows that the gross interval thickness of each of the formations is relatively consistent from west to east.

18. I conclude from the maps that:

- a. The horizontal spacing 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 proposed unit will contribute more or less equally to production.

19. **Exhibit 11** provides an overview of the stress orientation in the area based on the 2018 Snee-Zoback paper.

20. The preferred well orientation in this area is either north/south or east/west. This is because the S_{Hmax} is at approximately 45 degrees in mid-Eddy County. Marathon is proposing east/west orientation to maximize the lateral length given Marathon's acreage.

21. Exhibits 7-11 were prepared by my or under my supervision or compiled from company business records.

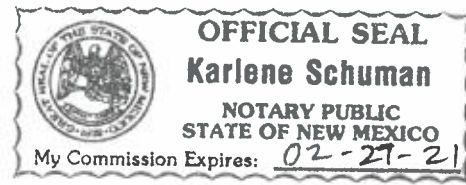
22. In my opinion, the granting of Marathon's application is in the interests of conservation and the prevention of waste.

Rebecca Horne
Rebecca Horne

SUBSCRIBED AND SWORN to before me this 13 day of Nov, 2019 by Rebecca Horne, on behalf of Marathon Oil Permian LLC.

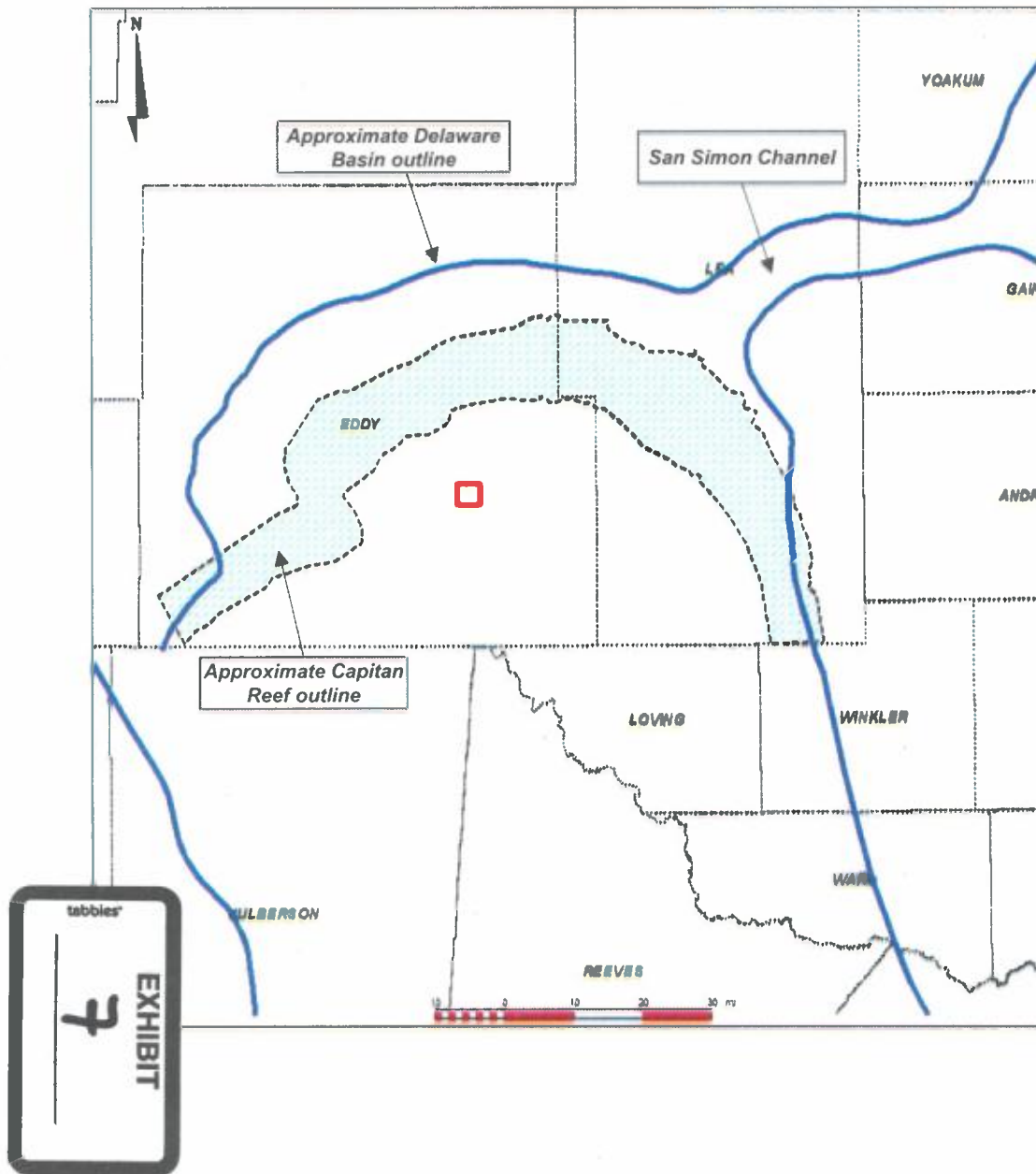
Karlene Schuman
Notary Public

My commission expires: 02-27-21



Valkyrie 12 Federal Com Unit

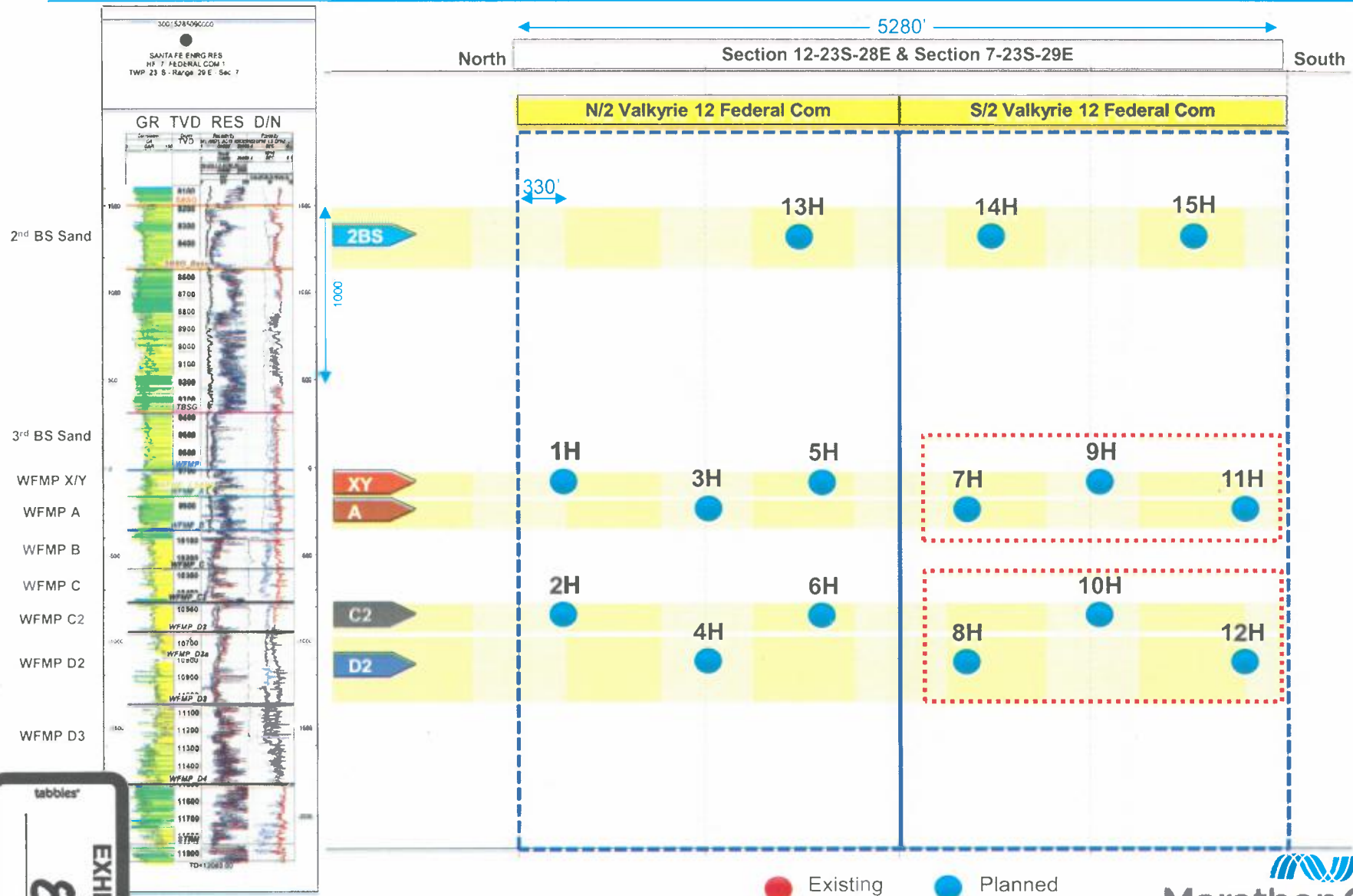
Locator Map



- Approximate location of proposed Valkyrie 12 Federal Com well locations shown with red box
- Located basinward of the Capitan Reef
- Mid Eddy county

Valkyrie 12 Federal Com Unit

Wellbore Schematic



Structure Map for Upper Wolfcamp Wells – Top of Wolfcamp (TVDSS)



Project Area

WFMP A

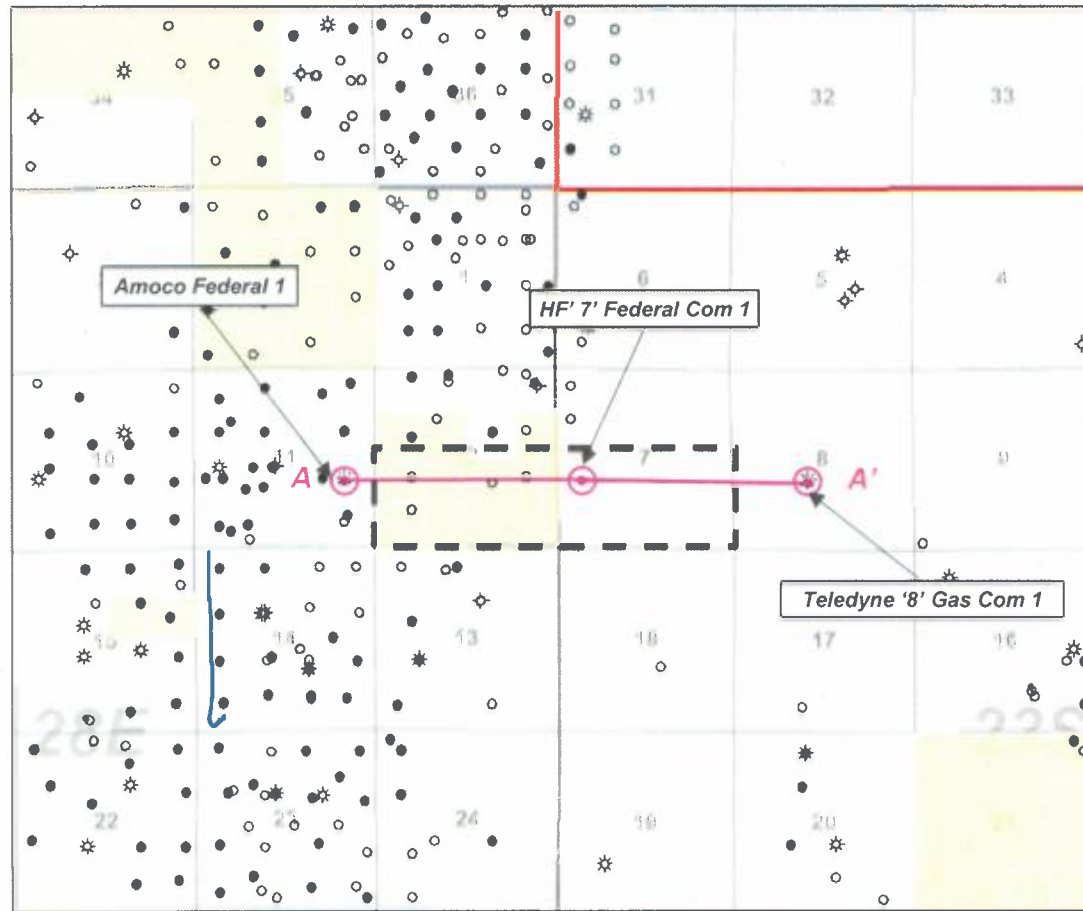
- 1 Valkyrie 12 WA Federal Com 7H
- 2 Valkyrie 12 WXY Federal Com 9H
- 3 Valkyrie 12 WA Federal Com 11H

1 mile



Valkyrie 12 Federal Com Unit

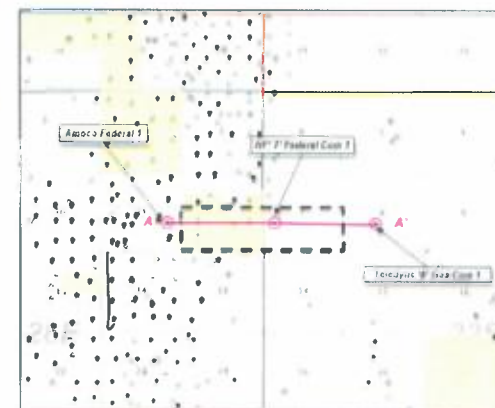
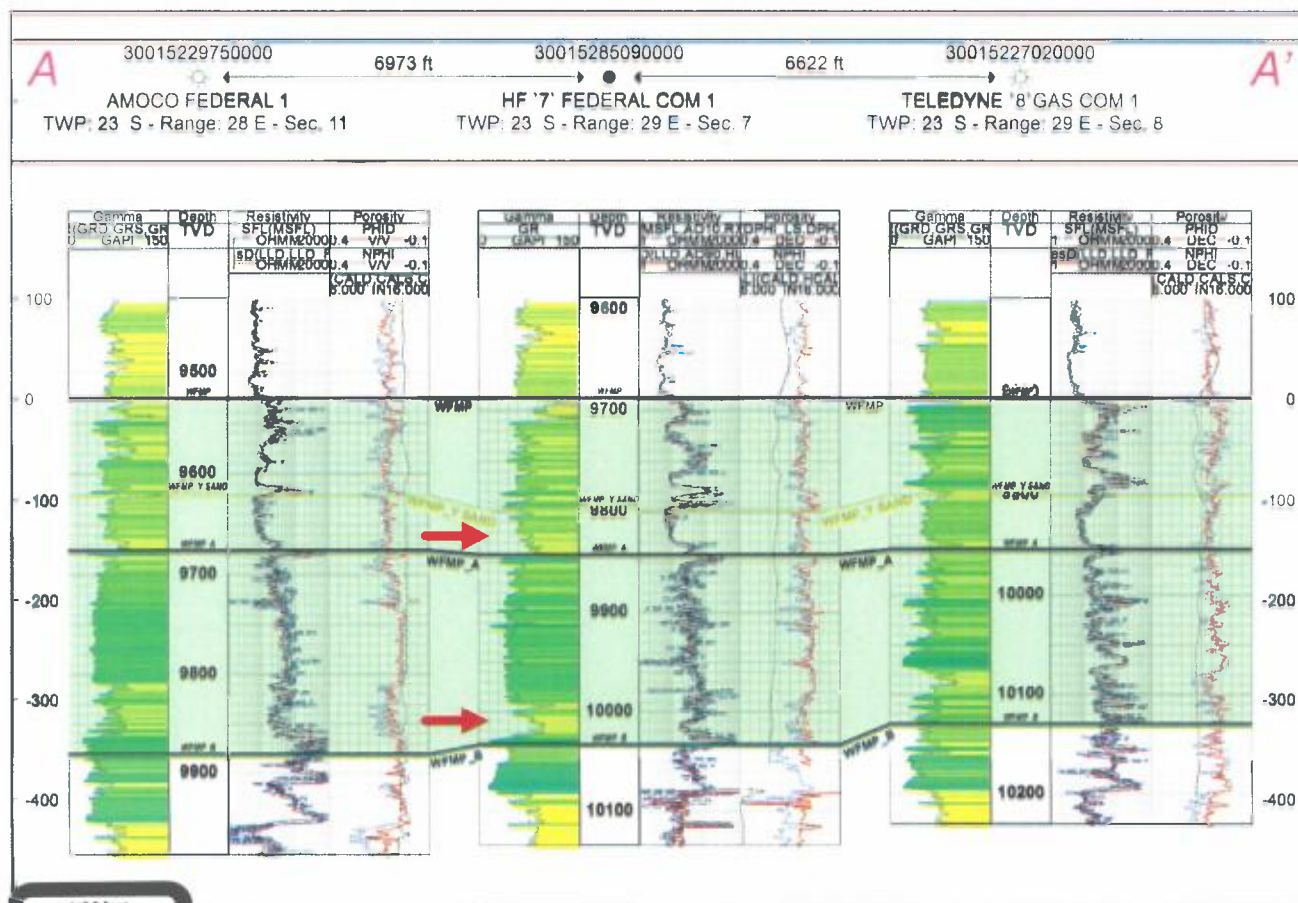
Reference Map for Cross Section – Upper Wolfcamp Wells



Map Legend



Stratigraphic Cross Section (Top Wolfcamp Datum)



Gross interval thickness
decreases slightly from
west to east

Producing Zone –
Wolfcamp XY & WFMP A

Valkyrie 12 Federal Com Unit

Gross Interval Isochore – Wolfcamp to Wolfcamp B



Map Legend

MRO Acreage Project Area

WFMP XY
WFMP A
MRO – Horizontal
Location

- 1 Valkyrie 12 WA Federal Com 7H
- 2 Valkyrie 12 WXY Federal Com 9H
- 3 Valkyrie 12 WA Federal Com 11H

C.I. = 25'

1 mile

Structure Map for Lower Wolfcamp Wells – Top of Wolfcamp C2 (TVDSS)



MRO Acreage

Project Area

WFMP D

MRO – Horizontal
Location

4 Valkyrie 12 WD Federal Com 8H

5 Valkyrie 12 WD Federal Com 10H

6 Valkyrie 12 WD Federal Com 12H

C.I. = 25'

1 mile

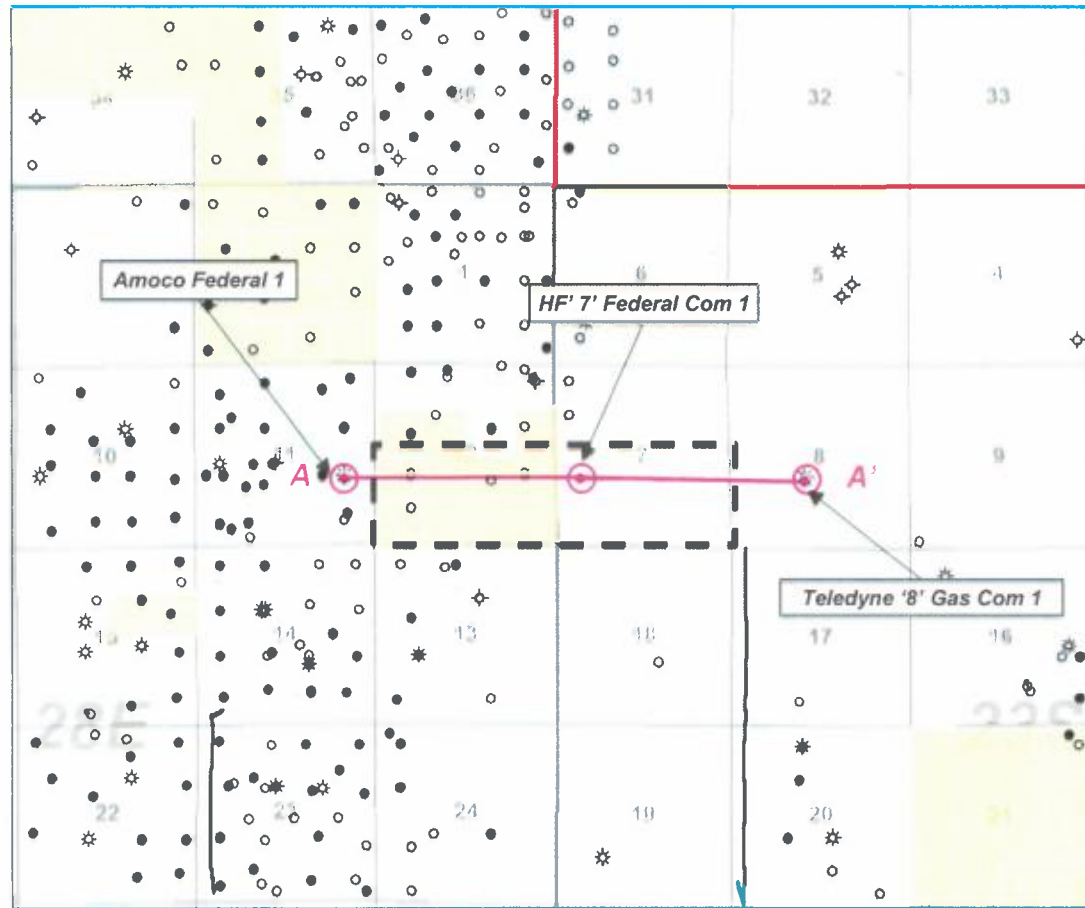
**tables***

EXHIBIT

10-4

Valkyrie 12 Federal Com Unit

Reference Map for Cross Section – Lower Wolfcamp Wells



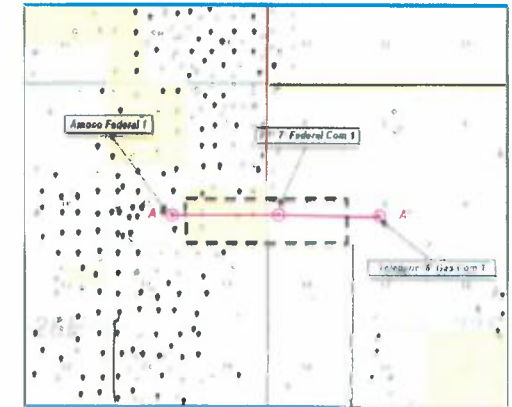
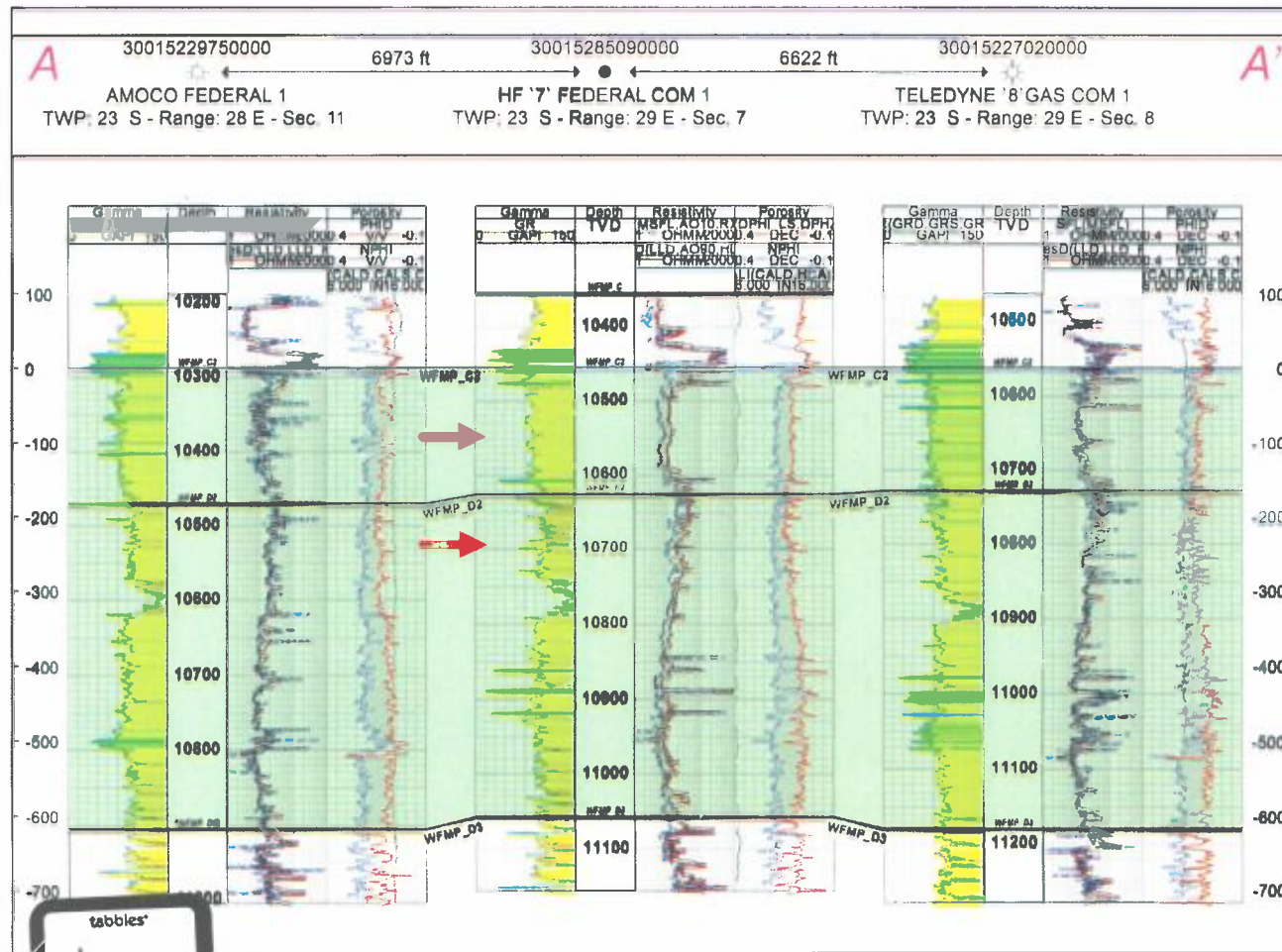
Map Legend



1 mile

Valkyrie 12 Federal Com Unit

Stratigraphic Cross Section (Top Wolfcamp C2 Datum)

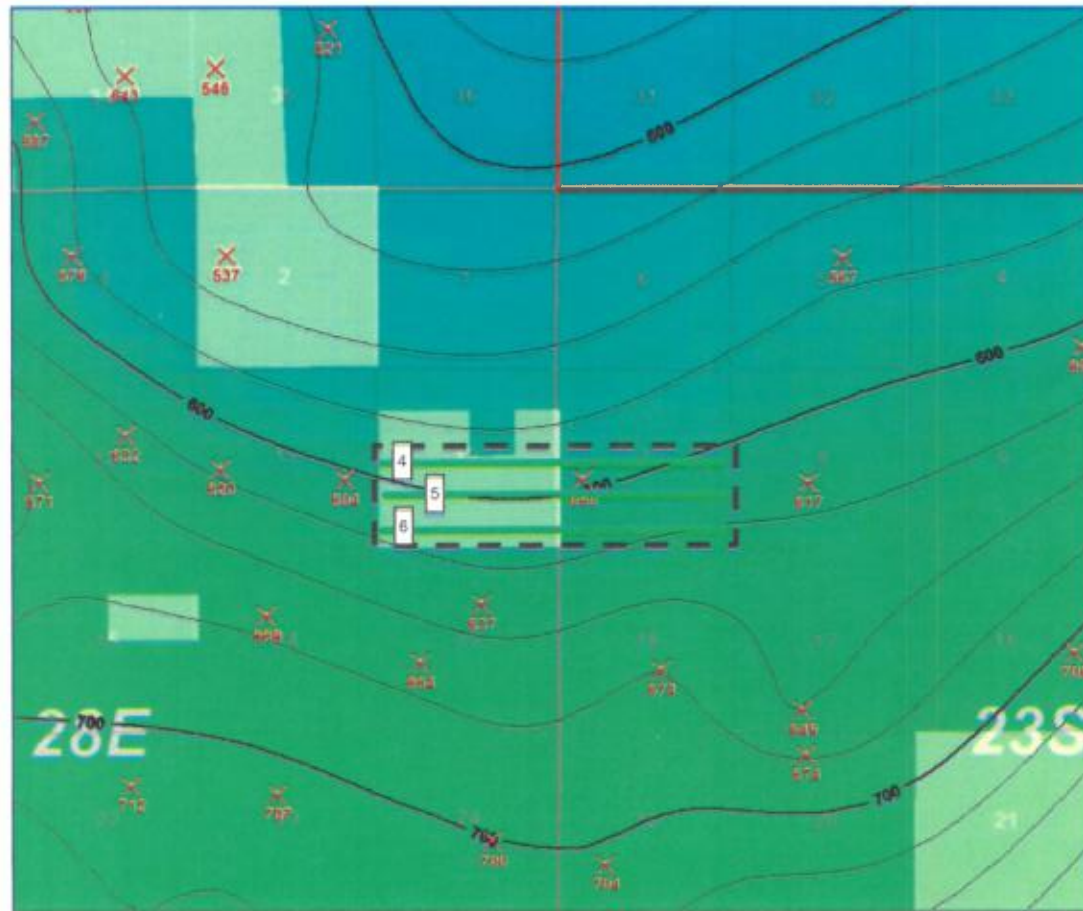


Gross interval thickness
relatively consistent
from west to east

**Producing Zone –
Wolfcamp C2 & D2**


Valkyrie 12 Federal Com Unit

Gross Interval Isochore – Wolfcamp C2 to Wolfcamp D3



Map Legend

 MRO Acreage
 Project Area

 WFMP D
 MRO – Horizontal Location

- 4 Valkyrie 12 WD Federal Com 8H
- 5 Valkyrie 12 WD Federal Com 10H
- 6 Valkyrie 12 WD Federal Com 12H

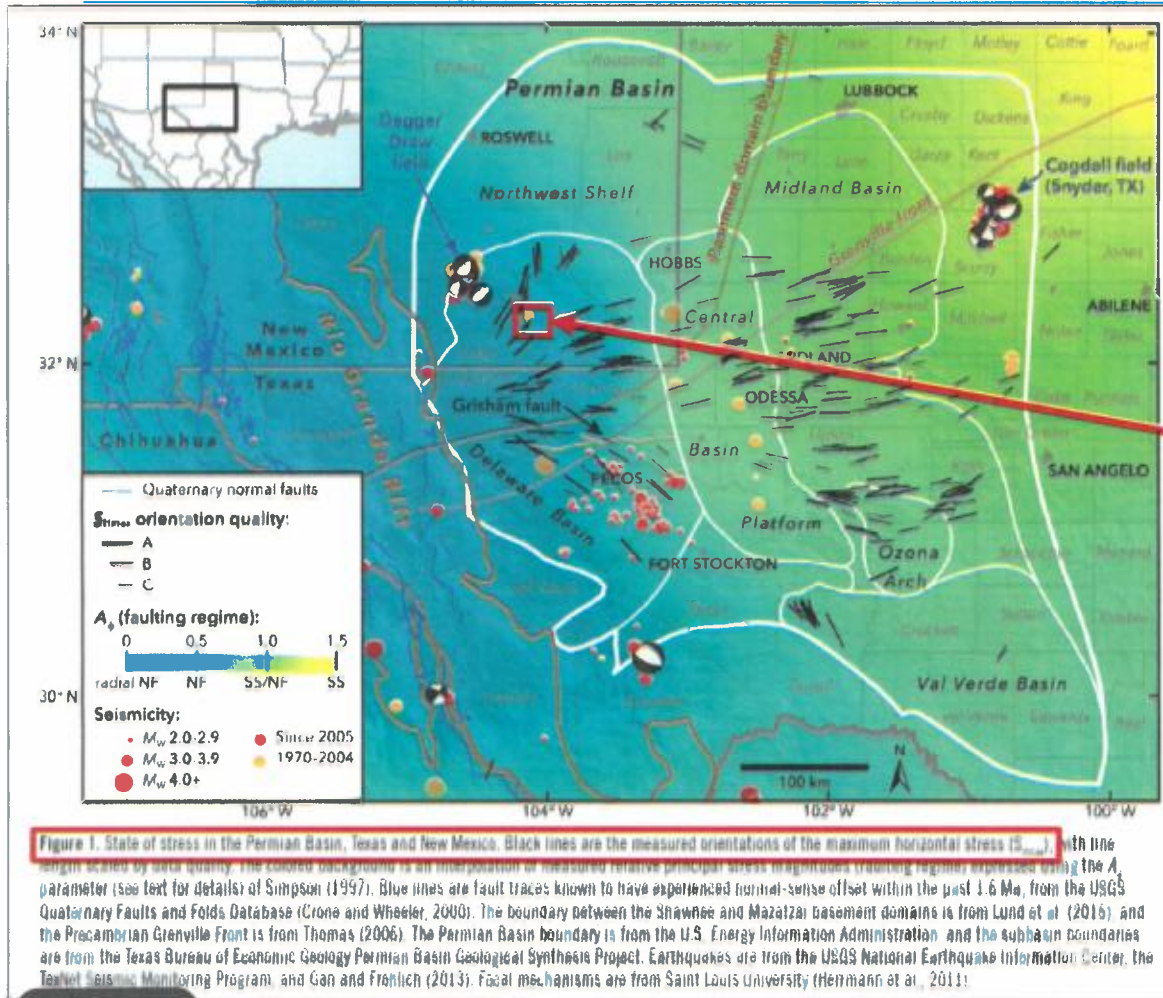


C.I. = 25'

1 mile

Valkyrie 12 Federal Com Unit

Preferred Well Orientation - SHmax



Preferred well orientation E/W to maximize lateral length with respect to Marathon's acreage.

As outlined in Snee & Zoback (2018), SH_{max} is at approximately 45 degrees in mid Eddy county. Therefore, hydraulic fractures will propagate out at ~45 degrees. Production is expected to be the same for wells oriented either N/S or E/W.

Source:

& M.D. Zoback, 2018, State of stress in the Permian Basin, Texas and Mexico: Implications for induced seismicity: The Leading Edge, 810-819, <https://doi.org/10.1190/tle37020810.1>.