

R-14577 ~ R-14578

Before the Oil Conservation Division Examiner Hearing January 25, 2018

Case No. 15906 & 15907

Knife Fight Fee 24 34 26 WXY 3H, Knife Fight Fee 24 34 26 WA 6H, Knife Fight
Fee 24 34 26 WXY 19H, and Knife Fight Fee 24 34 26 TB 7H



Marathon Oil

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

**APPLICATION OF MARATHON
OIL PERMIAN LLC FOR A NON-STANDARD
SPACING AND PRORATION UNIT,
NON-STANDARD LOCATIONS,
AND COMPULSORY POOLING,
LEA COUNTY, NEW MEXICO.**

Case Nos. 15906 and 15907

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

APPLICATION OF MARATHON
OIL PERMIAN LLC FOR A NON-STANDARD
OIL SPACING AND PRORATION UNIT,
NON-STANDARD LOCATIONS,
AND COMPULSORY POOLING,
LEA COUNTY, NEW MEXICO

CASE NO. _____

APPLICATION

Marathon Oil Permian LLC ("Marathon"), OGRID Number 372098, through its undersigned attorneys, hereby files this application with the Oil Conservation Division pursuant to the provisions of N.M. Stat. Ann. § 70-2-17, for an order: (1) creating a non-standard 160-acre spacing a proration unit in the Bone Spring formation, comprised of the E/2 E/2 of Section 26, Township 24 South, Range 34 East, NMPM, Lea County, New Mexico; (2) approving non-standard locations, and (3) pooling all mineral interests in the Bone Spring formation underlying this proposed non-standard spacing and proration unit. In support of this application, Marathon states:

1. Marathon is an interest owner in the subject lands and has a right to drill a well thereon.
2. Marathon plans to drill and complete the **Knife Fight Fee 24 34 26 TB 7H**, which is a horizontal well that will develop the Red Hills Bone Spring, North Pool (Pool Code 96434) underlying the E/2 E/2 of Section 26 to form a non-standard 160-acre oil spacing and proration unit (the "project area").



3. The Knife Fight Fec 24 34 26 WXY 7H well will be drilled from NE/4 NE/4 (Unit A) of Section 26 to a bottom hole location in the SE/4 SE/4 (Unit P) of Section 26. The first and last perforations for the well will be non-standard. The first perforation for this well will be located 150' from the North line and 994' from the East line, and the last perforation for this well will be located 150' from the South line and 988' from the East line. Other than the locations for the first and last perforations for the well, the completed interval for this well will comply with the 330' setbacks required by the Division's rules.

4. The Red Hills Bone Spring, North Pool (Pool Code 96434) is subject to the Division's statewide rule providing for 40 acre spacing units.

5. Marathon plans to develop each 40 acre spacing unit within the project area.

6. Marathon sought, but has been unable to obtain a voluntary agreement from all interest owners in the Red Hills Bone Spring, North formation underlying the proposed project area to participate in the drilling of the wells or to otherwise commit their interests to the wells.

7. The pooling of interests will avoid the drilling of unnecessary wells, will prevent waste, and will protect correlative rights.

8. In order to permit Marathon to obtain its just and fair share of the oil and gas underlying the subject lands, all interests in this non-standard spacing unit should be pooled and Marathon should be designated operator of the proposed horizontal wells and spacing unit.

9. Notice of this application is being given in accordance with Division rules.

WHEREFORE, Marathon requests that this application be set for hearing before an Examiner of the Oil Conservation Division on December 21, 2017, and, after notice and hearing as required by law, the Division enter an order:

- A. Creating a 160-acre non-standard spacing and proration unit in the Bone Spring formation, comprised of the E/2 E/2 of Section 26, Township 24 South, Range 34 East, NMPM, Lea County, New Mexico;
- B. Approving non-standard locations;
- C. Pooling all mineral interests in the non-standard spacing and proration unit;
- D. Designating Marathon Oil Permian LLC operator of this non-standard spacing unit and the horizontal wells to be drilled thereon;
- E. Authorizing Marathon to recover its costs of drilling, equipping and completing the wells;
- F. Approving the actual operating charges and costs of supervision while drilling and after completion, together with a provision adjusting the rates pursuant to the COPAS accounting procedures; and
- G. Imposing a 200% penalty for the risk assumed by Marathon in drilling, completing and equipping the wells against any working interest owner who does not voluntarily participate in the drilling of the well.

Respectfully submitted,

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

By: 

Earl E. DeBrine
Jennifer Bradfute

Zoë E. Lees

P.O. Box 2168

500 Fourth Street NW, Suite 1000

Albuquerque, New Mexico 87103-2168

Telephone: 505.848.1800

Attorneys for Applicant

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

**APPLICATION OF MARATHON
OIL PERMIAN LLC FOR A NON-STANDARD
OIL SPACING AND PRORATION UNIT,
NON-STANDARD LOCATION
AND COMPULSORY POOLING,
LEA COUNTY, NEW MEXICO**

CASE NO. _____

APPLICATION

Marathon Oil Permian LLC ("Marathon"), OGRID Number 372098, through its undersigned attorneys, hereby files this application with the Oil Conservation Division pursuant to the provisions of N.M. Stat. Ann. § 70-2-17, for an order: (1) creating a non-standard 320-acre spacing and proration unit in the Wolfcamp formation, comprised of the E/2 of Section 26, Township 24 South, Range 34 East, NMPM, Lea County, New Mexico; (2) approving non-standard locations; and (3) pooling all mineral interests in the Wolfcamp formation underlying this proposed non-standard spacing and proration unit. In support of this application, Marathon states:

1. Marathon is an interest owner in the subject lands and has a right to drill a well thereon.
2. Marathon proposes to dedicate the above-referenced spacing and proration unit as the project area for three proposed wells: the proposed Knife Fight Fee 24 34 26 WXY 3H, Knife Fight Fee 24 34 26 WA 6H, and Knife Fight Fee 24 34 26 WXY 19H wells, which are horizontal wells that will develop the Antelope Ridge Wolfcamp Pool (Pool Code 2220)



underlying the E/2 of Section 26, Township 24 South, Range 34 East, NMPM, Lea County, New Mexico (the "project area"). The three proposed horizontal wells will be pad drilled.

3. The **Knife Fight Fee 24 34 26 WXY 3H** well will be drilled from a surface location in the NW/4 NE/4 (Unit B) of Section 26 to a bottom hole location in the SW/4 SE/4 (Unit O) of Section 26. The first perforation for this well will be located 150' from the North Line and 2,317' from the East line of Section 26. The last perforation for this well will be located 150' from the South line and 2,302' from the East line.

4. The **Knife Fight Fee 24 34 26 WA 6H** well will be drilled from a surface location in the NE/4 NE/ of Section 26 to a bottom hole location in SW/4 SE/4 of Section 26. The first perforation for this well will be located 150' from the North Line and 1,324' from the East line of Section 26. The last perforation for this well will be located 150' from the South line and 1,318' from the East line.

5. The **Knife Fight Fee 24 34 26 WXY 19H** well will be drilled from NE/4 NE/4 (Unit A) of Section 26 to a bottom hole location in the SE/4 SE/4 (Unit P) of Section 26. The first perforation for this well will be located 150' from the North Line and 330' from the East line of Section 26. The last perforation for this well will be located 150' from the South line and 330' from the East line.

6. Other than the locations for the first and last perforations for each well, the completed interval for the wells will comply with the 330 foot setback requirements established under the statewide rules.

7. The Antelope Ridge Wolfcamp Pool (Pool Code 2220) is subject to the Division's statewide rule providing for 40 acre spacing units.

8. Marathon plans to develop each 40 acre spacing unit within the project area.

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

10. The pooling of interests will avoid the drilling of unnecessary wells, will prevent waste, and will protect correlative rights.

11. In order to permit Marathon to obtain its just and fair share of the oil and gas underlying the subject lands, all interests in this non-standard spacing unit should be pooled and Marathon should be designated operator of the proposed horizontal wells and spacing unit.

12. Notice of this application is being given in accordance with Division rules.

WHEREFORE, Marathon requests that this application be set for hearing before an Examiner of the Oil Conservation Division on December 21, 2017, and, after notice and hearing as required by law, the Division enter an order:

A. Creating a 320-acre non-standard spacing and proration unit in the Wolfcamp formation, comprised of the E/2 of Section 26, Township 24 South, Range 34 East, NMPM, Lea County, New Mexico;

B. Approving non-standard locations for each well;

C. Pooling all mineral interests in the non-standard spacing and proration unit;

D. Designating Marathon Oil Permian LLC operator of this non-standard spacing unit and the horizontal wells to be drilled thereon;

E. Authorizing Marathon to recover its costs of drilling, equipping and completing the wells;

F. Approving the actual operating charges and costs of supervision while drilling and after completion, together with a provision adjusting the rates pursuant to the COPAS accounting procedures; and

G. Imposing a 200% penalty for the risk assumed by Marathon in drilling, completing and equipping the wells against any working interest owner who does not voluntarily participate in the drilling of the well.

Respectfully submitted,

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

By: 

Earl E. DeBrine
Jennifer Bradfute

Zoë E. Lees

P.O. Box 2168

500 Fourth Street NW, Suite 1000

Albuquerque, New Mexico 87103-2168

Telephone: 505.848.1800

Attorneys for Applicant

3	01/19/2018	CAP
REV.	DATE	BY

3	01/19/2018	CAP
REV.	DATE	BY

District I
1625 H French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

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

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number	² Pool Code 2220	³ Pool Name ANTELOPE RIDGE: WOLFCAMP
⁴ Property Code	⁵ Property Name KNIFE FIGHT FEE 24 34 26 WXY	⁶ Well Number 19H
⁷ OGRID No 372098	⁸ Operator Name MARATHON OIL PERMIAN, LLC	⁹ Elevation 3446'

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
A	26	T24S	R34E		271	NORTH	1115	EAST	LEA

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	26	T24S	R34E		150	SOUTH	330	EAST	LEA

¹² Dedicated Acres 320.00	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

SECTION 22	SECTION 23		SECTION 24	SECTION 25
SECTION 27	SECTION 26		SECTION 28	SECTION 29
SECTION 30	SECTION 31		SECTION 32	SECTION 33
SECTION 34	SECTION 35		SECTION 36	SECTION 37

" 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 undivided mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature _____ Date _____

Printed Name _____

E-mail Address _____

"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.

JANUARY 19, 2018

Date of Survey _____

Signature and Seal of Professional Surveyor: LLOYD P. SHORT

Certificate Number _____

3 01/19/2018 CAP
REV. DATE BY

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
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1000 Rio Brazos Road, Aztec, NM 87410
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OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number	² Pool Code 2220	³ Pool Name ANTELOPE RIDGE; WOLFCAMP
⁴ Property Code	⁵ Property Name KNIFE FIGHT FEE 24 34 26 WA	⁶ Well Number 6H
⁷ UGRID No. 372098	⁸ Operator Name MARATHON OIL PERMIAN, LLC	⁹ Elevation 3447'

" Surface Location

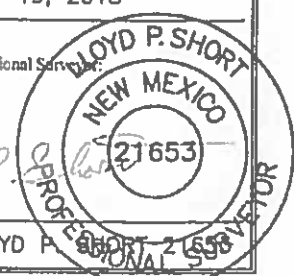
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	26	T24S	R34E		271	NORTH	1175	EAST	LEA

" 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	26	T24S	R34E		150	SOUTH	1316	EAST	LEA

¹⁰ Dedicated Acres 320.00	¹¹ Joint or Infill	¹² Consolidation Code	¹³ Order No.
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No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

<p>SECTION 22 SECTION 23</p> <p>SECTION 27 SECTION 26</p> <p>SURFACE HOLE LOCATION 271' FSL 1175' FEL, SECTION 26 NAD 83, SPCS NM EAST X:818913.35' / Y:435841.15' LAT:32.19502087N / LON:103.43600432W NAD 87, SPCS NM EAST X:777720.07' / Y:435782.47' LAT:32.19409581N / LON:103.43553269W</p> <p>FIRST TAKE POINT 150' FSL 1324' FEL, SECTION 26 NAD 83, SPCS NM EAST X:818763.54' / Y:435958.95' LAT:32.19534808N / LON:103.43648538W NAD 87, SPCS NM EAST X:777578.27' / Y:435900.27' LAT:32.19522303N / LON:103.43601371W</p> <p>LAST TAKE POINT/BOTTOM HOLE LOCATION 150' FSL 1316' FEL, SECTION 26 NAD 83, SPCS NM EAST X:818806.70' / Y:435980.49' LAT:32.18166339N / LON:103.43648007W NAD 87, SPCS NM EAST X:777621.19' / Y:435921.94' LAT:32.18153826N / LON:103.43609222W</p> <p>SECTION 27 SECTION 26</p> <p>SECTION 34 SECTION 35</p> <p>CORNER COORDINATES NAD 83, SPCS NM EAST A - X: 817437.94' / Y: 436105.61' B - X: 820086.51' / Y: 436117.58' C - X: 820123.29' / Y: 436039.41' D - X: 817492.71' / Y: 433821.59'</p>		<p>SECTION 24 SECTION 25</p> <p>SECTION 25 SECTION 26</p> <p>1324' 1175'</p> <p>150' 271'</p> <p>FIRST TAKE</p> <p>SHL</p> <p>330'</p> <p>330'</p> <p>150'</p> <p>1316'</p> <p>SECTION 25 SECTION 26</p> <p>CORNER COORDINATES NAD 87, SPCS NM EAST A - X: 776252.70' / Y: 436046.94' B - X: 778901.21' / Y: 436058.88' C - X: 778937.75' / Y: 430760.85' D - X: 776337.22' / Y: 430763.06'</p>		<p>" OPERATOR CERTIFICATION</p> <p>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 undivided mineral interest in the land including the prepared 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</p> <p>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>JANUARY 19, 2018</p> <p>Date of Survey _____</p> <p>Signature and Seal of Professional Surveyor: </p> <p>Certificate Number LLOYD P. SHORT 21653</p>
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3 01/19/2018 CAP
REV. DATE BY

Exhibit "3" Lease Tract Map
Knife Fight Fee 24 34 26 TB 7H
E/2 E/2 of Section 26, 24S-34E – 160 acres

- Tract 1: Fee Acreage
- Tract 2: Fee Acreage
- Tract 3: Fee Acreage
- Tract 4: Fee Acreage

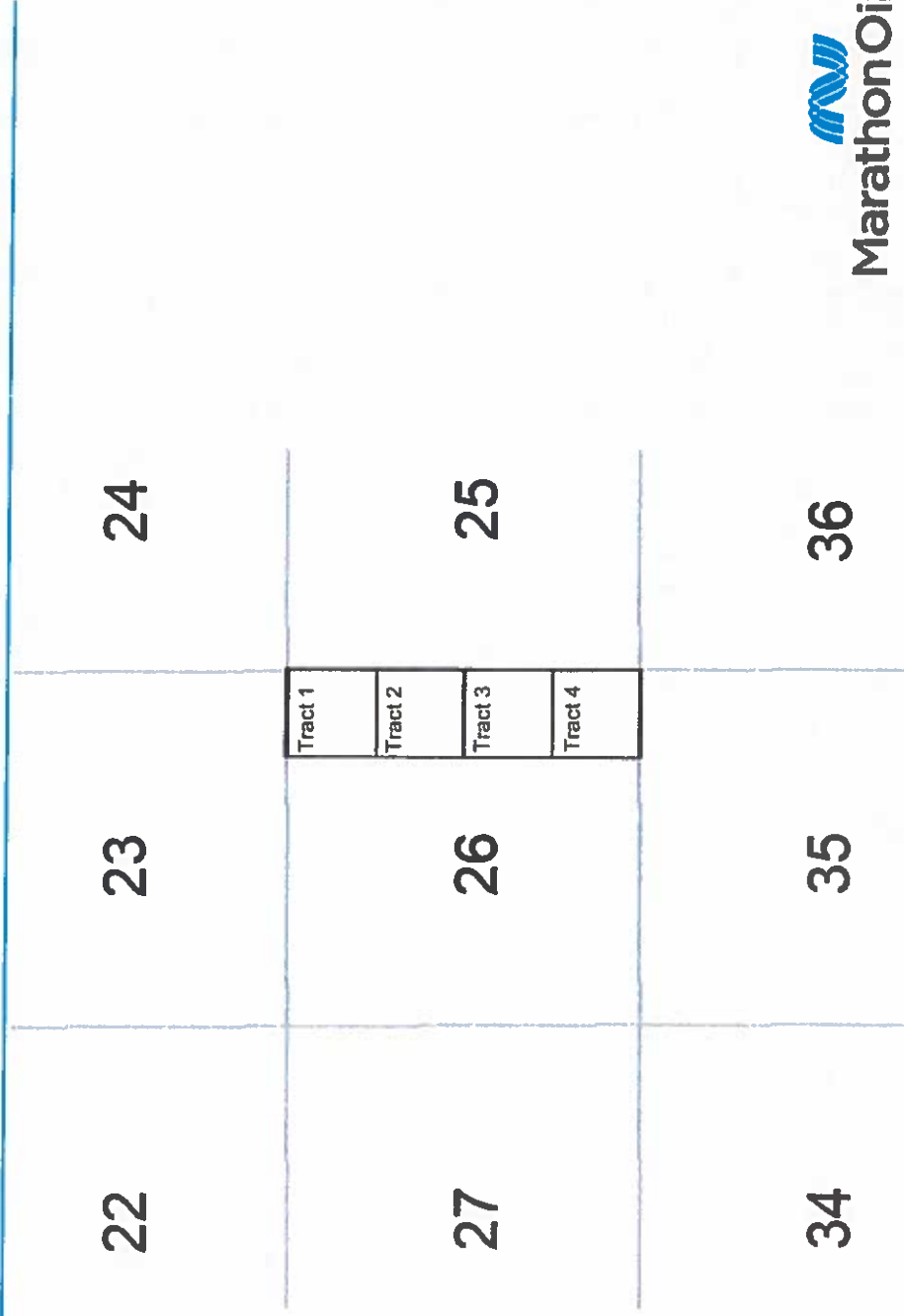


Exhibit "3" Lease Tract Map

Knife Fight Fee 24 34 26 WXY 3H, Knife Fight Fee 24 34 26 WA 6H, and Knife Fight Fee 24 34 26 WXY 19H
E/2 of Section 26, 24S-34E -- 320 acres

- Tract 1: Fee Acreage
- Tract 2: Fee Acreage
- Tract 3: Fee Acreage
- Tract 4: Fee Acreage
- Tract 5: Fee Acreage
- Tract 6: Fee Acreage
- Tract 7: Fee Acreage
- Tract 8: Fee Acreage

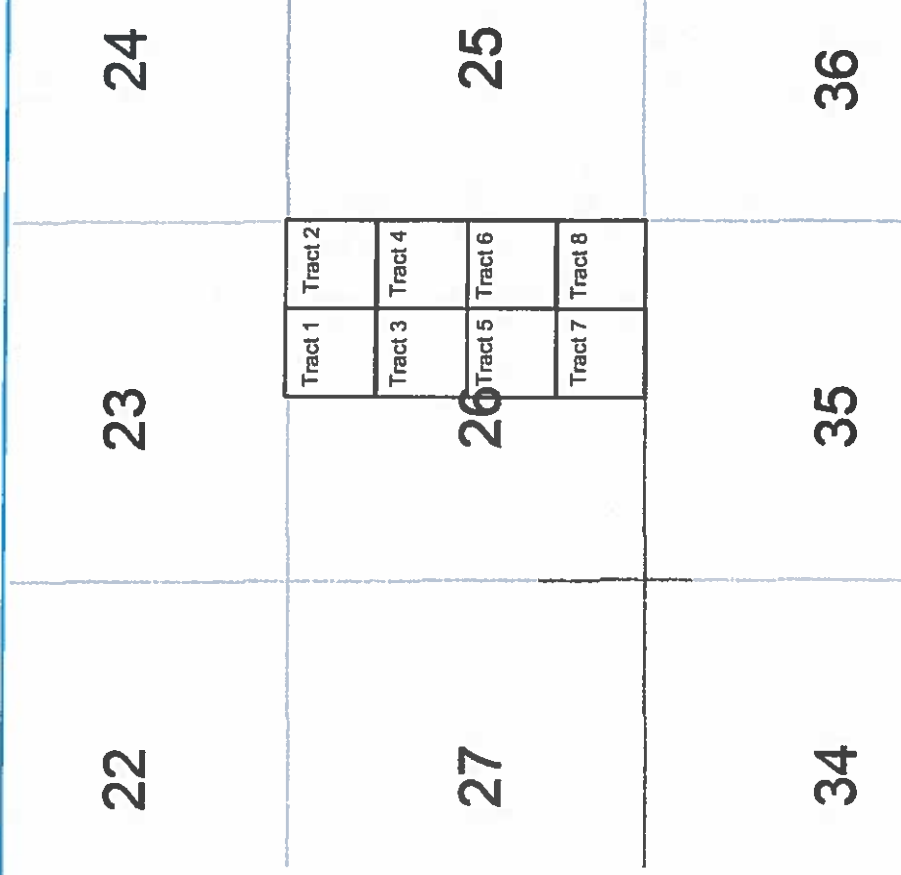


Exhibit "4" Summary of Interests

Knife Fight Fee 24 34 26 WXY 3H, Knife Fight Fee 24 34 26 WA 6H, and Knife Fight Fee 24 34 26 WXY 19H
E/2 Section 26, 24S-34E

Committed Working Interest:

Marathon Oil Permian LLC

60.865625%

Uncommitted Working Interest:

EOG Y Resources, Inc.
MRC Permian Company
Energen Resources Corporation
Legion Petroleum, LLC
Advance Energy Partners

27.412500%

Unleased Mineral Interest:

Roy Light
Bill G. Taylor, Jr.
Kathy J. Smith
Harvey R. Taylor
Marilyn S. Taylor
Carolyn A. Taylor
Curtis Robert Taylor
The Estate of Rita Sumner
Rubert Fred Madera

11.721875%

60.865625%

9.028125%
7.290625%
4.218750%
2.187500%
4.687500%

0.231250%
1.443750%
1.443750%
1.443750%
1.443750%
1.443750%
0.521875%
1.562500%
2.187500%



**Exhibit "4" Summary of Interests
Knife Fight Fee 24 34 26 TB 7H
E/2 E/2 Section 26, 24S-34E**

<u>Committed Working Interest:</u> Marathon Oil Permian LLC	45.068750%	45.068750%
<u>Uncommitted Working Interest:</u> EOG Y Resources, Inc. MRC Permian Company Energen Resources Corporation Advance Energy Partners	18.056250% 14.581250% 6.250000% 3.125000%	42.012500%
<u>Unleased Mineral Interest:</u> Roy Light Bill G. Taylor, Jr. Kathy J. Smith Harvey R. Taylor Marilyn S. Taylor Carolyn A. Taylor Curtis Robert Taylor The Estate of Rita Sumner	0.462963% 1.656250% 1.656250% 1.656250% 1.656250% 1.656250% 1.043750% 3.125000%	12.918750%

Ryan Gyllenband
Land Professional



Marathon Oil Permian LLC
5555 San Felipe Street
Houston, TX 77056
Telephone: 713.296.2453 Mobile: 281.684.7389
Fax: 713.513.4006
mrgyllenband@marathonoil.com

October 17, 2017

VIA CERTIFIED RETURN RECEIPT MAIL

MRC Permian Company
Attn: Nick Weeks
5400 Lyndon B. Johnson Fwy.
Dallas, TX 75240

Re: Knife Fight 3H, 6H, 7H and 19H Well Proposals
Section 26, T24S-R34E
Lea County, New Mexico

Dear MRC Permian Company:

Marathon Oil Permian LLC ("MRO") proposes the drilling of the following wells located in the east half of Section 26, 24S-34E, Lea County, New Mexico all to be drilled from the same surface pad location.

- Knife Fight Fee 24 34 26 WXY 3H with a proposed first take point located 2,310' FEL and 330' FNL of Section 26, 24S-34E, and a proposed last take point located 2,310' FEL and 330' FSL of Section 26, 24S-34E. The well will have a targeted interval located in the Wolfcamp XY Formation (~12,433' TVD) with a productive lateral length of approximately 4,614'. The total estimated drilling and completion cost is \$7,350,667 as shown in the attached AFE.
- Knife Fight Fee 24 34 26 WA 6H with a proposed first take point located 1,320' FEL and 330' FNL of Section 26, 24S-34E, and a proposed last take point located 1,320' FEL and 330' FSL of Section 26, 24S-34E. The well will have a targeted interval located in the Wolfcamp A Formation (~12,552' TVD) with a productive lateral length of approximately 4,616'. The total estimated drilling and completion cost is \$9,441,096, including a pilot hole as shown in the attached AFE.
- Knife Fight Fee 24 34 26 TB 7H with a proposed first take point located 990' FEL and 330' FNL of Section 26, 24S-34E, and a proposed last take point located 990' FEL and 330' FSL of Section 26, 24S-34E. The well will have a targeted interval located in the 3rd Bone Spring Formation (~12,301' TVD) with a productive lateral length of approximately 4,617'. The total estimated drilling and completion cost is \$7,397,073 as shown in the attached AFE.
- Knife Fight Fee 24 34 26 WXY 19H with a proposed first take point located 330' FEL and 330' FNL of Section 26, 24S-34E, and a proposed last take point located 330' FEL and 330' FSL of Section 26, 24S-34E. The well will have a targeted interval located in the Wolfcamp XY Formation (~12,473' TVD) with a productive lateral length of approximately 4,618'. The total estimated drilling and completion cost is \$7,350,667 as shown in the attached AFE.

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.

MRO proposes drilling the well under the terms of the 1989 AAPL JOA and a form of this JOA will be sent to you following this proposal. The JOA will have these general provisions:

- 100%/300%/300% non-consent penalty
- \$7,000/\$700 drilling and producing rates
- Contract area of E/2 Section 26, 24S-34E, covering all depths

Our title records show that you own 7.290625% WI in the proposed unit.



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:

- 3 year lease term
- \$2000 bonus consideration per net mineral acre
- Delivering a 75% NRI, proportionately reduced

This term assignment offer terminates December 15, 2017 and is subject to due diligence and title verification satisfactory to Marathon.

Should you have any questions regarding this or other matters, please don't hesitate to contact me at the above listed numbers.

Sincerely,

Ryan Gyllenband

_____ MRC Permian Company elects to participate in the drilling, completing, and equipping of the Knife Fight Fee 24 34 26 WXY 3H well.

_____ MRC Permian Company elects NOT to participate in the drilling, completing, and equipping of the Knife Fight Fee 24 34 26 WXY 3H well.

_____ MRC Permian Company elects to participate in the drilling, completing, and equipping of the Knife Fight Fee 24 34 26 WA 6H well.

_____ MRC Permian Company elects NOT to participate in the drilling, completing, and equipping of the Knife Fight Fee 24 34 26 WA 6H well.

_____ MRC Permian Company elects to participate in the drilling, completing, and equipping of the Knife Fight Fee 24 34 26 TB 7H well.

_____ MRC Permian Company elects NOT to participate in the drilling, completing, and equipping of the Knife Fight Fee 24 34 26 TB 7H well.

_____ MRC Permian Company elects to participate in the drilling, completing, and equipping of the Knife Fight Fee 24 34 26 WXY 19H well.

_____ MRC Permian Company elects NOT to participate in the drilling, completing, and equipping of the Knife Fight Fee 24 34 26 WXY 19H well.

MRC Permian LKE, Co.

By: _____

Print Name: _____

Title: _____

Date: _____

Ryan Gyllenband
Land Professional



Marathon Oil Permian LLC
5555 San Felipe Street
Houston, TX 77056
Telephone: 713.296.2453 Mobile: 281.684.7389
Fax: 713.513.4006
mrgyllenband@marathonoil.com

October 17, 2017

VIA CERTIFIED RETURN RECEIPT MAIL

Curtis Robert Taylor
507 East Russell
Carlsbad, NM 88220

Re: Knife Fight 3H, 6H, 7H and 19H Well Proposals
Section 26, T24S-R34E
Lea County, New Mexico

Dear Mr. Taylor:

Marathon Oil Permian LLC ("Marathon") shows you with 1.67 unleased net mineral acres in the east half of Section 26, 24S-34E. As an unleased mineral owner, Marathon would like to offer you the opportunity to lease your minerals to Marathon at the below lease terms:

- 3 year lease term with a 2 year option to extend
- \$2000 bonus consideration per net mineral acre
- 20% royalty rate

This offer to lease terminates December 15, 2017 and is subject to due diligence and title verification satisfactory to Marathon. Should you be agreeable to this offer to lease, please sign the lease form included in this proposal in the presence of a notary and return to my attention at the address listed above.

Marathon proposes the drilling of the following wells located in the east half of Section 26, 24S-34E, Lea County, New Mexico all to be drilled from the same surface pad location and should you not elect to lease, Marathon would also like to offer you the opportunity to participate in the drilling of the wells as a working interest owner.

- Knife Fight Fee 24 34 26 WXY 3H with a proposed first take point located 2,310' FEL and 330' FNL of Section 26, 24S-34E, and a proposed last take point located 2,310' FEL and 330' FSL of Section 26, 24S-34E. The well will have a targeted interval located in the Wolfcamp XY Formation (~12,433' TVD) with a productive lateral length of approximately 4,614'. The total estimated drilling and completion cost is \$7,350,667 as shown in the attached AFE.
- Knife Fight Fee 24 34 26 WA 6H with a proposed first take point located 1,320' FEL and 330' FNL of Section 26, 24S-34E, and a proposed last take point located 1,320' FEL and 330' FSL of Section 26, 24S-34E. The well will have a targeted interval located in the Wolfcamp A Formation (~12,552' TVD) with a productive lateral length of approximately 4,616'. The total estimated drilling and completion cost is \$9,441,096, including a pilot hole as shown in the attached AFE.
- Knife Fight Fee 24 34 26 TB 7H with a proposed first take point located 990' FEL and 330' FNL of Section 26, 24S-34E, and a proposed last take point located 990' FEL and 330' FSL of Section 26, 24S-34E. The well will have a targeted interval located in the 3rd Bone Spring Formation (~12,301' TVD) with a productive lateral length of approximately 4,617'. The total estimated drilling and completion cost is \$7,397,073 as shown in the attached AFE.
- Knife Fight Fee 24 34 26 WXY 19H with a proposed first take point located 330' FEL and 330' FNL of Section 26, 24S-34E, and a proposed last take point located 330' FEL and 330' FSL of Section 26, 24S-34E. The well will have a targeted interval located in the Wolfcamp XY Formation (~12,473' TVD) with a productive lateral length of approximately 4,618'. The total estimated drilling and completion cost is \$7,350,667 as shown in the attached AFE.

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.

MRO proposes drilling the well under the terms of the 1989 AAPL JOA and a form of this JOA will be sent to you following this proposal. The JOA will have these general provisions:

- 100%/300%/300% non-consent penalty
- \$7,000/\$700 drilling and producing rates
- Contract area of E/2 Section 26, 24S-34E, covering all depths

Your estimated WI would be 0.52%.

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.

Should you have any questions regarding this or other matters, please don't hesitate to contact me at the above listed numbers.

Sincerely,

Ryan Gyllenband

_____ I elect to participate in the drilling, completing, and equipping of the Knife Fight Fee 24 34 26 WXY 3H well.

_____ I elect NOT to participate in the drilling, completing, and equipping of the Knife Fight Fee 24 34 26 WXY 3H well.

_____ I elect to participate in the drilling, completing, and equipping of the Knife Fight Fee 24 34 26 WA 6H well.

_____ I elect NOT to participate in the drilling, completing, and equipping of the Knife Fight Fee 24 34 26 WA 6H well.

_____ I elect to participate in the drilling, completing, and equipping of the Knife Fight Fee 24 34 26 TB 7H well.

_____ I elect NOT to participate in the drilling, completing, and equipping of the Knife Fight Fee 24 34 26 TB 7H well.

_____ I elect to participate in the drilling, completing, and equipping of the Knife Fight Fee 24 34 26 WXY 19H well.

_____ I elect NOT to participate in the drilling, completing, and equipping of the Knife Fight Fee 24 34 26 WXY 19H well.

Curtis Robert Taylor

Print Name: _____

Date: _____

Marathon Oil

AUTHORITY FOR EXPENDITURE
EXPLORATION & PRODUCTION

Drilling Project #
Pad Project #
DATE: 9/13/2017

Permian Asset Team

Field 0
Lease / Facility KNIFE FIGHT FEE 24 34 28 TB 7H
Operator MARATHON OIL PERMIAN LLC

Location 24, 34, 28 Rig 498
State NEW MEXICO
County/Parish LEA
Estimated Start Date 20-Feb-2018
Estimated Completion Date 22-Mar-2018

Estimated Gross Cost This AFE: \$7,397,073

Project Description & Reason for Expenditure

Drill, Complete, & Equip a Horizontal Well

This well is planned to be drilled and completed with multistage fracturing using plug and perf. The estimated cost of drilling, testing, completing, and equipping the well is \$7,397,073 as detailed in the provided authority for expenditure document. This will include installation of transitional and long term artificial lift systems.

The well will be drilled to a total vertical depth of 12,301' and a total measured depth of 17,300', with an estimated treatable lateral length of 4,617' and will be completed with an estimated 30 stages and approximately 2,500 lbs/ft of proppant.

Prepared By: AG PRADEEP, CAMILO ARIAS, JOSH SHANNON, MATT HENSCHEN, BILLY MOORE, LANE NEAL

Final Approval

[Signature]
Title: Regional Vice President Permian Asset Team

Date: 10/11/2017

Participant's Approval

Name of
Company: _____

Signature: _____

Title: _____ Date: _____

EXHIBIT

6-A

tabbies

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

DATE 9/13/2017
 DRILLING & LOCATION PREPARED BY CAMILLO ARIAS
 COMPLETION PREPARED BY JOSH SHANNON
 FACILITIES & ARTIFICIAL LIFT PREPARED BY MATT HENSCHEN

Asset Team	PERMIAN			
Field	RED HILLS	FORMATION: 3RD BONE SPRINGS	WILDCAT	EXPLORATION
Lease/Facility	KNIFE FIGHT FEE TB 7H		DEVELOPMENT	RECOMPLETION
Location	LEA COUNTY		X EXPLOITATION	WORKOVER
Prospect	RED HILLS			

Est Total Depth	<u>17,300</u>	Est Drilling Days	<u>23.3</u>	Est Completion Days	<u>3.5</u>
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LOCATION COST - INTANGIBLE

GL CODE	DESCRIPTION	ESTIMATED COST
7001370	Location and Access	\$0,000
7001350	Land Broker Fees and Services	\$7,500
TOTAL LOCATION COST - INTANGIBLE		\$7,500

DRILLING COST - TANGIBLE

7012050	Conductor Pipe	30,000
7012050	Surface Casing	36,000
7012050	Intermediate Casing 1	249,000
7012050	Intermediate Casing 2	275,000
7012050	Production Casing	60,000
7012050	Drig Liner Hanger, Tieback Eq & Csg Accessories	65,000
7012550	Drilling Wellhead Equipment	65,000
7012040	Casing & Tubing Access	24,000
7012270	Miscellaneous MRO Materials	-
TOTAL DRILLING - TANGIBLE		704,000

DRILLING COST - INTANGIBLE

7019200	Drilling Rig Mob/Demob	\$7,500
7019220	Drilling Rig - day work/footage	\$65,000
7019040	Directional Drilling Services	195,500
7019020	Cement and Cementing Service	30,000
7019020	Cement and Cementing Service	40,000
7019020	Cement and Cementing Service	50,000
7019020	Cement and Cementing Service	50,000
7019140	Mud Fluids & Services	25,000
7012310	Solids Control equipment	37,200
7012020	Bits	80,000
7019010	Casing Crew and Services	35,000
7016350	Fuel (Rig)	71,610
7019140	Fuel (Mud)	11,000
7001460	Water (non potable)	25,000
7019000	Well Logging Services	-
7019150	Mud Logging/geosteering	18,050
7019250	Stabilizers, Hole Openers, Undergarmers (DH rentals)	15,000
7019120	Casing Inspection/cleaning	8,000
7019110	Drill pipe/collar inspection services	18,000
7016180	Freight - truck	40,000
7003460	Water hauling and disposal (includes soil farming)	120,000
7001440	Vacuum Trucks	20,000
7000030	Contract Labor - general	35,000
7018150	Rental Tools and Equipment (surface rentals)	114,250
7018150	Rig Equipment and Misc	6,975
7001110	Telecommunications Services	10,000
7001120	Consulting Services	80,675
7001400	Safety and Environmental	25,575
7018120	Rental Buildings (trailers)	-
7019310	Coring (sidewalls & analysis)	-
7011010	8% Contingency & Taxes	145,820
TOTAL DRILLING - INTANGIBLE		\$1,872,155

TOTAL DRILLING COST

\$2,576,155

COMPLETION - TANGIBLE

7012580	Tubing	87,500
7012040	Tubing Accessories (nipples, wireline entry)	15,000
7012550	Wellhead Equip	20,000
7012560	Packers - Completion Equipment	\$8,850
TOTAL COMPLETION - TANGIBLE		\$161,350

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

DATE 9/13/2017

Asset Team PERMIAN
 Field RED HILLS FORMATION: 3RD BONE SPRINGS
 Lease/Facility KNIFE FIGHT FEE TR 7H

COMPLETION - INTANGIBLE

GL CODE	DESCRIPTION	ESTIMATED COST
7012270	Location and Access (dress location after rig move, set anchors)	20,000
7012210	Drilling Rig During Completion	21,600
7019140	Mud Fluids & Services	-
7019030	Coiled Tubing Services (3 runs)	90,000
7019240	Snubbing Services	30,000
7019270	Pulling/Swab Units	11,520
7016350	Fuel (from drlg)	-
7019070	Casing Crew and Services	-
7019020	Cement and Cementing Services	-
7019080	Well Testing Services (flow hand & equip)	66,500
7019320	Fracturing Services	2,000,000
7019330	Perforating	132,000
7019360	Wireline Services	-
7001460	Water Hauling & Disposal (frac fluids)	600,000
7016180	Freight - Truck (haul pipe; drlg & compl)	30,000
7018350	BOP Rental & Testing	-
7018150	Rental Tools and Equipment (incl drlg; lightplant,hydra-walk)	-
7018150	CT Downhole Rental Equipment (ie. BH, BHA)	45,000
7000030	Contract Labor - general	20,000
7001110	Telecommunications Services	15,000
7001400	Safety and Environmental	-
7001320	Consulting Services	24,000
7018150	Zipper Manifold	57,600
7019300	Frack Stack Rentals	30,000
7016190	Freight (Transportation Services)	-
7018150	Equipment Rental (w/o operator, frac tanks, lightplants)	80,000
7018120	Rental Buildings (trailers)	40,000
7000030	Contract Labor - Pumping (pump-down pumps)	42,000
7011010	8% Contingency & Taxes	281,126
TOTAL COMPLETION - INTANGIBLE		\$3,636,546

TOTAL COMPLETION COST

\$3,797,896

SURFACE EQUIPMENT - TANGIBLE

7012350	Misc. Piping, Fittings & Valves	82,821
7006640	Company Labor & Burden	-
7000030	Contract Labor - General	66,368
7001110	Telecommunication equip (Telemetry)	-
7012410	Line Pipe & Accessories	25,847
7012270	Miscellaneous Materials (containment system)	41,091
7008060	SCADA	-
7016180	Freight - truck	-
7001190	Contract Engineering	27,792
7012290	Metering and instrumentation	219,430
7012290	IEE Materials	-
7012200	Gas Treating	-
7012200	Dehydration	-
7012010	Compressor	-
7012350	Power	-
7012618	Vapor Recovery Unit	-
7012440	Separator & other pressure vessels	101,137
7012500	Tanks	194,188
7012100	Heater Treater	12,406
7012640	Flare & Accessories	16,673
7000010	Electrical Labor	27,292
7000020	Mechanical Labor	-
7012480	Rod Pumping unit & Pad	-
7012180	Pumping Unit Engine	-
7012350	Electrical Power (electrical cooperative construction costs)	22,234
TOTAL SURFACE EQUIPMENT - TANGIBLE		\$799,782

TOTAL SURFACE EQUIPMENT COST

\$ 799,782

ARTIFICIAL LIFT

7006640	Company Labor	7,500
7012180	Gas Lift Equipment	-
7012480	Rod Pumping, Sucker Rods & Rod Pump	-
7012140	Elect Sub Pumps (ESP)	78,000
7019350	Well Services-Well/Wellhead Services	22,500
7012270	Materials & Supplies-Tangible	33,000
7012550	Surface Wellhead Equipment	8,500
7012390	Pig Launchers/Receivers & Rel Equip	-
7011010	8% Contingency & Taxes	6,240
TOTAL ARTIFICIAL LIFT		135,740

TOTAL ARTIFICIAL LIFT COST

\$ 135,740

SUMMARY OF ESTIMATED DRILLING WELL COSTS

	TOTAL COST
TOTAL LOCATION COST	\$ 87,500
TOTAL DRILLING COST	\$ 2,576,155
TOTAL COMPLETIONS COST	\$ 3,797,896
TOTAL SURFACE EQUIPMENT COST	\$ 799,782
TOTAL ARTIFICIAL LIFT COST	\$ 135,740
GRAND TOTAL COST	\$7,397,073



AUTHORITY FOR EXPENDITURE
EXPLORATION & PRODUCTION

Drilling Project #
Pad Project #
DATE: 9/13/2017

Permian Asset Team
Field 0 Location 24 34 26 Rig 498
Lease / Facility KNIFE FIGHT FEE 24 34 26 WXY 3H State NEW MEXICO
Operator MARATHON OIL PERMIAN LLC County/Parish LEA
Estimated Start Date 14-May-2018
Estimated Completion Date 13-Jun-2018
Estimated Gross Cost This AFE: \$7,350,667

Project Description & Reason for Expenditure: Drill, Complete, & Equip a Horizontal Well
This well is planned to be drilled and completed with multistage fracturing using plug and perf. The estimated cost of drilling, testing, completing, and equipping the well is \$7,350,667 as detailed in the provided authority for expenditure document. This will include installation of transitional and long term artificial lift systems.
The well will be drilled to a total vertical depth of 12,433' and a total measured depth of 18,212', with an estimated treatable lateral length of 4,614' and will be completed with an estimated 30 stages and approximately 2,500 lbs/ft of proppant.

Prepared By: AG PRADEEP, CAMILO ARIAS, JOSH SHANNON, MATT HENSCHEN, BILLY MOORE, LANE NEAL

Final Approval

[Signature] Date: 10/11/2017
Title: Regional Vice President Permian Asset Team

Participant's Approval

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



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

DATE 9/13/2017
DRILLING & LOCATION PREPARED BY CAMILLO ARIAS
COMPLETION PREPARED BY JOSH SHANNON
FACILITIES & ARTIFICIAL LIFT PREPARED BY MATT HENSCHEN

Asset Team PERMIAN
Field RED HILLS FORMATION: WOLF CAMP Y
Lease/Facility KNIFE FIGHT FEE 24 34 26 WXY 3H WILDCAT EXPLORATION
Location LEA COUNTY DEVELOPMENT RECOMPLETION
Prospect RED HILLS EXPLOITATION WORKOVER

Est Total Depth 18,212 Est Drilling Days 23.3 Est Completion Days 5.5

LOCATION COST - INTANGIBLE

GL CODE	DESCRIPTION	ESTIMATED COST
7001270	Location and Access	50,000
7001250	Land Broker Fees and Services	37,500
TOTAL LOCATION COST - INTANGIBLE		87,500

DRILLING COST - TANGIBLE

7012050	Conductor Pipe	30,000
7012050	Surface Casing	25,000
7012050	Intermediate Casing 1	149,000
7012050	Intermediate Casing 2	283,000
7012050	Production Casing	60,000
7012050	Drig Uner Hanger, Tieback Eq & Csg Accessories	65,000
7012550	Drilling Wellhead Equipment	65,000
7012040	Casing & Tubing Access	24,000
7012270	Miscellaneous MRO Materials	-
TOTAL DRILLING - TANGIBLE		712,000

DRILLING COST - INTANGIBLE

7019200	Drilling Rig Mob/Demob	37,500
7019220	Drilling Rig - day work/footage	466,000
7019040	Directional Drilling Services	185,500
7019010	Cement and Cementing Service	30,000
7019020	Cement and Cementing Service	40,000
7019020	Cement and Cementing Service	50,000
7019020	Cement and Cementing Service	50,000
7019140	Mud Fluids & Services	75,000
7012310	Solids Control equipment	37,280
7012020	Bits	80,000
7019010	Casing Crew and Services	35,000
7016150	Fuel (Rig)	71,764
7019140	Fuel (Mud)	11,000
7003460	Water (non potable)	25,000
7019000	Well Logging Services	-
7019150	Mud Logging-geosteering	18,050
7019250	Stabilizers, Hole Openers, Underreamers (OH rentals)	15,000
7019110	Casing Inspection/cleaning	8,000
7019110	Drill pipe/collar inspection services	18,000
7016180	Freight - truck	40,000
7003460	Water hauling and disposal (includes soil farming)	120,000
7003440	Vacuum Trucks	25,000
7000030	Contract Labor - general	15,000
7018150	Rental Tools and Equipment (surface rentals)	116,500
7018150	Rig Equipment and Misc	6,990
7001110	Telecommunications Services	10,000
7001120	Consulting Services	90,870
7001400	Safety and Environmental	25,610
7018120	Rental Buildings (trailers)	-
7019310	Coring (sidewalls & analysts)	-
7011010	8% Contingency & Taxes	146,405
TOTAL DRILLING - INTANGIBLE		11,874,489

TOTAL DRILLING COST

\$2,586,489

COMPLETION - TANGIBLE

7012580	Tubing	87,500
7012040	Tubing Accessories (nipple, wireline entry)	15,000
7012550	Wellhead Equip	20,000
7012560	Packers - Completion Equipment	38,850
TOTAL COMPLETION - TANGIBLE		161,350

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

DATE 9/13/2017

Asset Team PERMIAN
Field RED HILLS FORMATION: WOLF CAMP Y
Lease/Facility KNIFE RIGTH FEE WKY 3H

COMPLETION - INTANGIBLE

GL CODE	DESCRIPTION	ESTIMATED COST
7001270	Location and Access (dress location after rig move, set anchors)	20,000
7019220	Drilling Rig During Completion	21,600
7019140	Mud Fluids & Services	-
7019030	Coiled Tubing Services (3 runs)	80,000
7019240	Snubbing Services	30,000
7019270	Pulling/Swab Units	11,520
7016350	Fuel (from drlg)	-
7019010	Casing Crew and Services	-
7019020	Cement and Cementing Services	-
7019080	Well Testing Services (Flow hand & equip)	66,500
7019320	Fracturing Services	2,000,000
7019330	Perforating	132,000
7019340	Wireline Services	-
7001460	Water Hauling & Disposal (frac fluids)	600,000
7016160	Freight - truck (haul pipe; drlg & comp)	30,000
7018150	BOP Rental & Testing	-
7018150	Rental Tools and Equipment (incl drlg; Bhtplant, hydro-walk)	-
7018150	CT Downhole Rental Equipment (ie. Bt, BHA)	45,000
7000030	Contract Labor - general	20,000
7001110	Telecommunications Services	15,000
7001400	Safety and Environmental	-
7001120	Consulting Services	24,000
7018150	Zipper Manifold	57,600
7019300	Track Stack Rentals	30,000
7016190	Freight (Transportation Services)	-
7018150	Equipment Rental (w/o operator, frac tanks, lightplants)	80,000
7018120	Rental Buildings (trailers)	40,000
7000030	Contract Labor - Pumping (pump-down pumps)	42,000
7011010	8% Contingency & Taxes	281,326
TOTAL COMPLETION - INTANGIBLE		\$3,636,546
TOTAL COMPLETION COST		\$3,797,896

SURFACE EQUIPMENT - TANGIBLE

7012350	Misc. Piping, Fittings & Valves	82,821
7006640	Company Labor & Burden	-
7000030	Contract Labor - General	66,368
7001110	Telecommunication equip (Telemetry)	-
7012410	Line Pipe & Accessories	25,847
7012270	Miscellaneous Materials (containment system)	41,091
7008060	SCADA	-
7016180	Freight - truck	-
7001190	Contract Engineering	27,782
7012290	Metering and Instrumentation	239,430
7012290	I&E Materials	-
7012200	Gas Treating	-
7012200	Dehydration	-
7012010	Compressor	-
7012350	Power	-
7012610	Vapor Recovery Unit	-
7012640	Separator & other pressure vessels	-
7012500	Tanks	101,137
7012100	Heater Treater	136,189
7012640	Flare & Accessories	12,406
7000010	Electrical Labor	16,675
7000010	Mechanical Labor	27,792
7012480	Rod Pumping Unit & Pad	-
7012180	Pumping Unit Engine	-
7012350	Electrical Power (electrical cooperative construction costs)	22,234
TOTAL SURFACE EQUIPMENT - TANGIBLE		\$799,782
TOTAL SURFACE EQUIPMENT COST		\$ 799,782

ARTIFICIAL LIFT

7006640	Company Labor	2,500
7012180	Gas Lift Equipment	38,000
7012480	Rod Pumping, Sucker Rods & Rod Pump	-
7012140	Elect Sub Pumps (ESP)	-
7019150	Well Services-Well/Wellhead Services	20,000
7012270	Materials & Supplies-Tangible	19,000
7012550	Surface Wellhead Equipment	5,500
7012390	Pig Launchers/Receivers & Rel Equip	-
7011010	8% Contingency & Taxes	-
TOTAL ARTIFICIAL LIFT		79,000
TOTAL ARTIFICIAL LIFT COST		\$ 79,000

SUMMARY OF ESTIMATED DRILLING WELL COSTS

TOTAL LOCATION COST	\$ 87,500
TOTAL DRILLING COST	\$ 2,586,489
TOTAL COMPLETION COST	\$ 3,797,896
TOTAL SURFACE EQUIPMENT COST	\$ 799,782
TOTAL ARTIFICIAL LIFT COST	\$ 79,000
GRAND TOTAL COST	\$7,350,667



AUTHORITY FOR EXPENDITURE
EXPLORATION & PRODUCTION

Drilling Project #
Pad Project #
DATE: 9/13/2017

Permian Asset Team
Field 0 Location 0 Rig 498
Lease / Facility KNIFE FIGHT FEE 24 34 26 WXY 19H State NEW MEXICO
Operator MARATHON OIL PERMIAN LLC County/Parish LEA
Estimated Start Date 16-Apr-2018
Estimated Completion Date 16-May-2018
Estimated Gross Cost This AFE: \$7,350,667

Project Description & Reason for Expenditure:

Drill, Complete, & Equip a Horizontal Well

This well is planned to be drilled and completed with multistage fracturing using plug and perf. The estimated cost of drilling, testing, completing, and equipping the well is \$7,350,667 as detailed in the provided authority for expenditure document. This will include installation of transitional and long term artificial lift systems.

The well will be drilled to a total vertical depth of 12,473' and a total measured depth of 18,232', with an estimated treatable lateral length of 4,618' and will be completed with an estimated 30 stages and approximately 2,500 lbs/sft of proppant.

Prepared By: AG PRADEEP, CAMILO ARIAS, JOSH SHANNON, MATT HENSCHEN, BILLY MOORE, LANE NEAL

Final Approval


Title: Regional Vice President Permian Asset Team

Date: 10/11/2017

Participant's Approval

Name of
Company _____

Signature: _____

Title _____ Date: _____



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

DATE 9/13/2017
 DRILLING & LOCATION PREPARED BY CAMILO ARIAS
 COMPLETION PREPARED BY JOSH SHANNON
 FACILITIES & ARTIFICIAL LIFT PREPARED BY MATT HENSCHEN

Asset Team	PERMIAN			
Field	RED HILLS	FORMATION: WOLFCAMP V	WILDCAT	EXPLORATION
Lease/Facility	KNIFE FIGHT FEE 24 34 26 WKY 19H		DEVELOPMENT	RECOMPLETION
Location	LEA COUNTY		EXPLOITATION	WORKOVER
Prospect	RED HILLS			

Est Total Depth	<u>18,232</u>	Est Drilling Days	<u>23.3</u>	Est Completion Days	<u>5.5</u>
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LOCATION COST - INTANGIBLE

GL CODE	DESCRIPTION	ESTIMATED COST
7001270	Location and Access	50,000
7001250	Land Broker Fees and Services	37,500
TOTAL LOCATION COST - INTANGIBLE		87,500

DRILLING COST - TANGIBLE

7012050	Conductor Pipe	30,000
7012050	Surface Casing	36,000
7012050	Intermediate Casing 1	149,000
7012050	Intermediate Casing 2	283,000
7012050	Production Casing	60,000
7012050	Drig Uner Hanger, Tieback Eq & Crg Accessories	65,000
7012350	Drilling Wellhead Equipment	63,000
7012040	Casing & Tubing Access	24,000
7012270	Miscellaneous MRO Materials	-
TOTAL DRILLING - TANGIBLE		712,000

DRILLING COST - INTANGIBLE

7019200	Drilling Rig Mob/Demob	37,500
7019220	Drilling Rig - day work/footage	466,000
7019040	Directional Drilling Services	195,500
7019020	Cement and Cementing Service	30,000
7019020	Cement and Cementing Service	40,000
7019020	Cement and Cementing Service	50,000
7019020	Cement and Cementing Service	50,000
7019140	Mud Fluids & Services	75,000
7012310	Solids Control equipment	37,280
7012020	Bits	80,000
7019010	Casing Crew and Services	35,000
7016350	Fuel (Rig)	72,764
7019140	Fuel (Mud)	12,000
7001460	Water (non potable)	25,000
7019000	Well Logging Services	-
7019150	Mud Logging+geosteering	18,050
7019250	Stabilizers, Hole Openers, Underreamers (DH rentals)	15,000
7019110	Casing Inspection/cleaning	8,000
7019110	Drill pipe/collar inspection services	18,000
7016180	Freight - truck	40,000
7001460	Water hauling and disposal (includes soil farming)	120,000
7001440	Vacuum Trucks	20,000
7000030	Contract Labor - general	35,000
7018150	Rental Tools and Equipment (surface rentals)	116,500
7018150	Rig Equipment and Misc.	6,990
7001130	Telecommunications Services	10,000
7001120	Consulting Services	90,870
7001400	Safety and Environmental	25,630
7018120	Rental Buildings (trailers)	-
7019310	Coring (sidewalls & analysis)	-
7012030	8% Contingency & Taxes	146,405
TOTAL DRILLING - INTANGIBLE		\$1,874,489

TOTAL DRILLING COST

\$2,586,489

COMPLETION - TANGIBLE

7012580	Tubing	87,500
7012040	Tubing Accessories (riser, wireline entry)	15,000
7012350	Wellhead Equip	20,000
7012560	Packers - Completion Equipment	38,850
TOTAL COMPLETION - TANGIBLE		\$161,350

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

DATE 9/13/2017

Asset Team PERMIAN
Field RED HILLS FORMATION: WOLFCAMP Y
Lease/Facility KNIFE FIGHT FEE WKY 19H

COMPLETION - INTANGIBLE

GL CODE	DESCRIPTION	ESTIMATED COST
7001270	Location and Access (dress location after rig move, set anchors)	20,000
7019220	Drilling Rig During Completion	21,600
7019140	Mud Fluids & Services	-
7019030	Coiled Tubing Services (3 runs)	90,000
7019340	Snubbing Services	30,000
7019270	Pulling/Swab Units	12,520
7018150	Fuel (from drilg)	-
7019010	Casing Crew and Services	-
7019020	Cement and Cementing Services	-
7019080	Well Testing Services (flow hand & equip)	64,500
7019320	Fracturing Services	2,000,000
7019330	Perforating	132,000
7019360	Wireline Services	-
7001460	Water Hauling & Disposal (frac fluids)	600,000
7016160	Freight - Truck (haul pipe; drilg & compl)	30,000
7018150	BOP Rental & Testing	-
7018150	Rental Tools and Equipment (Incl drilg; lightplant,hydra-walk)	-
7018150	CT Downhole Rental Equipment (ie. Bt, BHA)	45,000
7000030	Contract Labor - general	20,000
7001110	Telecommunications Services	15,000
7001400	Safety and Environmental	-
7001120	Consulting Services	24,000
7018150	Zipper Manifold	57,500
7019300	Frack Stack Rentals	30,000
7016190	Freight (Transportation Services)	-
7018150	Equipment Rental (w/o operator, frac tanks, lightplants)	80,000
7018120	Rental Buildings (trailers)	40,000
7000030	Contract Labor - Pumping (pump-down pumps)	42,000
7012010	8% Contingency & Taxes	282,326
TOTAL COMPLETION - INTANGIBLE		\$3,636,546

TOTAL COMPLETION COST

53,797,896

SURFACE EQUIPMENT - TANGIBLE

7012350	Misc. Piping, Fittings & Valves	82,821
7006640	Company Labor & Burden	-
7000030	Contract Labor - General	66,348
7001110	Telecommunication equip (Telemetry)	-
7012410	Line Pipe & Accessories	25,847
7012270	Miscellaneous Materials (containment system)	41,091
7008060	SCADA	-
7016180	Freight - truck	-
7001190	Contract Engineering	27,792
7012290	Metering and Instrumentation	239,420
7012290	I&E Materials	-
7012200	Gas Treating	-
7012200	Dehydration	-
7012010	Compressor	-
7012350	Power	-
7012610	Vapor Recovery Unit	-
7012440	Separator & other pressure vessels	101,137
7012500	Tanks	136,189
7012100	Heater Treater	12,406
7012640	Flare & Accessories	16,675
7000010	Electrical Labor	27,792
7000010	Mechanical Labor	-
7012480	Rod Pumping unit & Pad	-
7012180	Pumping Unit Engine	-
7012350	Electrical Power (electrical cooperative construction costs)	22,234
TOTAL SURFACE EQUIPMENT - TANGIBLE		\$799,782

TOTAL SURFACE EQUIPMENT COST

\$ 799,782

ARTIFICIAL LIFT

7006640	Company Labor	2,500
7012180	Gas Lift Equipment	18,000
7012480	Rod Pumping, Sucker Rods & Rod Pump	-
7012140	Elect Sub Pumps (ESP)	-
7019350	Well Services-Well/Wellhead Services	20,000
7012270	Materials & Supplies-Tangible	13,000
7012350	Surface Wellhead Equipment	5,500
7012390	Pig Launchers/Receivers & Rel Equip	-
7011010	8% Contingency & Taxes	-
TOTAL ARTIFICIAL LIFT		79,000

TOTAL ARTIFICIAL LIFT COST

\$ 79,000

SUMMARY OF ESTIMATED DRILLING WELL COSTS

TOTAL LOCATION COST	\$ 87,500
TOTAL DRILLING COST	\$ 2,586,489
TOTAL COMPLETIONS COST	\$ 3,797,896
TOTAL SURFACE EQUIPMENT COST	\$ 799,782
TOTAL ARTIFICIAL LIFT COST	\$ 79,000
GRAND TOTAL COST	\$7,350,667



MARATHON OIL PERMIAN LLC
AUTHORITY FOR EXPENDITURE
EXPLORATION & PRODUCTION

Drilling Project #
011/01900
DATE: 7/24/2017

Permian Asset Team
Field 0 Location 0 Rig 480
Lease / Facility KNIFE FIGHT FEE 24 34 26 WA 6H State NEW MEXICO
Operator MARATHON OIL PERMIAN LLC County/Parish EDDY
Estimated Start Date 19-Mar-2018
Estimated Completion Date 3-May-2018
Estimated Gross Cost This AFE \$9,441,096

Project Description & Reason for Expenditure Drill, Complete, & Equip a Horizontal Well

This well is planned to be drilled and completed with multistage fracturing using plug and perf. The estimated cost of drilling, testing, completing, and equipping the well is \$9,441,096 as detailed in the provided authority for expenditure document. This will include installation of transitional and long term artificial lift systems.

The well will be drilled to a total vertical depth of 12,552' and a total measured depth of 18,281', with an estimated treatable lateral length of 4,816' and will be completed with an estimated 30 stages and approximately 2,500 lbs/ft of proppant with Pilot Hole and Casing Tests.

Prepared By LANE NEAL, AG, PRADEEP CAMILO ARIAS, JOSH SHANNON, & BILLY MOORE

Final Approval

[Signature] Date 10/11/2017
Title: Regional Vice President Permian Asset Team

Participant's Approval

Name of
Company: _____

Signature: _____

Title: _____ Date: _____



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

DATE 7/24/2017
DRILLING & LOCATION PREPARED BY CAMILO ARIAS
COMPLETION PREPARED BY JOSH SHANNON
FACILITIES & ARTIFICIAL LIFT PREPARED BY MATT HENSCHEN

Asset Team	PERMIAN					
Field	0		FORMATION: WOLFCAMP A			
Lease/Facility	KNIFE FIGHT FEE 24 34 26 WA 6H				WILDCAT	EXPLORATION
Location	LEA COUNTY				DEVELOPMENT	RECOMPLETION
Prospect	RED HILLS				X EXPLOITATION	WORKOVER
Est Total Depth	18,281		Est Drilling Days	37.8	Est Completion Days	5.5

LOCATION COST - INTANGIBLE

GL CODE	DESCRIPTION	ESTIMATED COST
7001270	Location and Access	50,000
7001250	Land Broker Fees and Services	37,500
TOTAL LOCATION COST - INTANGIBLE		87,500

DRILLING COST - TANGIBLE

7012050	Conductor Pipe	30,000
7012050	Surface Casing	26,089
7012050	Intermediate Casing 1	149,215
7012050	Intermediate Casing 2	273,000
7012050	Production Casing	86,040
7012050	Orig Liner Hanger, Tieback Eq & Csg Accessories	63,000
7012550	Drilling Wellhead Equipment	65,000
7012040	Casing & Tubing Access	24,000
7012270	Miscellaneous MRO Materials	-
TOTAL DRILLING - TANGIBLE		728,343

DRILLING COST - INTANGIBLE

7019200	Drilling Rig Mob/Demob	37,500
7019230	Drilling Rig - day work/footage	756,000
7019040	Directional Drilling Services	282,500
7019020	Cement and Cementing Service	74,000
7019020	Cement and Cementing Service	40,000
7019020	Cement and Cementing Service	50,000
7019020	Cement and Cementing Service	50,000
7019140	Mud Fluids & Services	105,000
7012310	Solids Control equipment	63,380
7012020	Bits	95,000
7019010	Casing Crew and Services	35,000
7016350	Fuel (Rig)	116,424
7019140	Fuel (Mud)	26,000
7001460	Water (not potable)	25,000
7019000	Well Logging Services	460,000
7019150	Mud Logging/geosteering	118,050
7019250	Stabilizers, Mole Openers, Underreamers (DH rentals)	25,000
7019110	Casing inspection/cleaning	8,000
7019110	Drill pipe/collar inspection services	23,000
7016180	Freight - truck	60,000
7001460	Water hauling and disposal (includes soil farming)	145,000
7001440	Vacuum Trucks	20,000
7000030	Contract Labor - general	70,000
7018150	Rental Tools and Equipment (surface rentals)	196,500
7018150	Rig Equipment and Misc.	41,990
7001110	Telecommunications Services	18,500
7001120	Consulting Services	159,020
7001400	Safety and Environmental	41,580
7018120	Rental Buildings (trailers)	-
7019310	Coring (sidewalls & analysis)	\$41,400
7011010	8% Contingency & Taxes	264,731
TOTAL DRILLING - INTANGIBLE		\$1,948,573

TOTAL DRILLING COST

\$4,676,918

COMPLETION - TANGIBLE

7012580	Tubing	87,500
7012040	Tubing Accessories (nipple, wireline entry)	15,000
7012550	Wellhead Equip	20,000
7012560	Packers - Completion Equipment	38,850
TOTAL COMPLETION - TANGIBLE		\$161,350

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

DATE 7/24/2017

Asset Team PERMIAN
Field 0 FORMATION: WOLF CAMP A
Lease/Facility KNIFE FIGHT FEE TO GH

COMPLETION - INTANGIBLE

GL CODE	DESCRIPTION	ESTIMATED COST
7001270	Location and Access (dress location after rig move, set anchors)	20,000
7019220	Drilling Rig During Completion	21,600
7019240	Mud Fluids & Services	-
7019030	Coiled Tubing Services (3 runs)	90,000
7019240	Snubbing Services	30,000
7019270	Pulling/Swab Units	11,520
7016350	Fuel (from drlg)	-
7019010	Casing Crew and Services	-
7019020	Cement and Cementing Services	-
7019080	Well Testing Services (flow hand & equip)	66,500
7019320	Fracturing Services	2,000,000
7019330	Perforating	192,000
7019360	Wireline Services	-
7001460	Water Hauling & Disposal (frac fluids)	-
7016180	Freight - Truck (haul pipe, drlg & compl)	600,000
7018150	BOP Rental & Testing	30,000
7018150	Rental Tools and Equipment (incl drlg, lightplant, hydra-wall)	-
7018150	CT Downhole Rental Equipment (ie. Bit, BHA)	45,000
7000030	Contract Labor - general	20,000
7001110	Telecommunications Services	15,000
7001400	Safety and Environmental	-
7001120	Consulting Services	24,000
7018150	Zipper Manifold	57,600
7019300	Frack Stack Rentals	30,000
7016190	Freight (Transportation Services)	-
7018150	Equipment Rental (w/o operator, frac tanks, lightplants)	80,000
7018120	Rental Buildings (trailers)	40,000
7000030	Contract Labor - Pumping (pump-down pumps)	41,000
7011010	5% Contingency & Taxes	281,326
TOTAL COMPLETION - INTANGIBLE		\$3,836,546
TOTAL COMPLETION COST		\$3,797,896

SURFACE EQUIPMENT - TANGIBLE

7012350	Misc. Piping, Fittings & Valves	87,821
9005027	Company Labor & Burden	-
7000030	Contract Labor - General	64,348
7001110	Telecommunication equip (Telemetry)	-
7012410	Line Pipe & Accessories	25,847
7012270	Miscellaneous Materials (containment system)	41,091
7008060	SCADA	-
7016180	Freight - truck	-
7001190	Contract Engineering	27,782
7012290	Metering and Instrumentation	219,430
7012290	I&E Materials	-
7012200	Gas Treating	-
7012200	Dehydration	-
7012010	Compressor	-
7012150	Power	-
7013616	Vapor Recovery Unit	-
7012440	Separator & other pressure vessels	-
7012500	Tanks	102,137
7012100	Heater Treater	136,189
7012640	Flare & Accessories	12,406
7000010	Electrical Labor	16,675
7000010	Mechanical Labor	27,782
7012480	Rod Pumping unit & Pad	-
7012180	Pumping Unit Engine	-
7012350	Electrical Power (electrical cooperative construction costs)	22,234
TOTAL SURFACE EQUIPMENT - TANGIBLE		\$799,782
TOTAL SURFACE EQUIPMENT COST		\$ 799,782

ARTIFICIAL LIFT

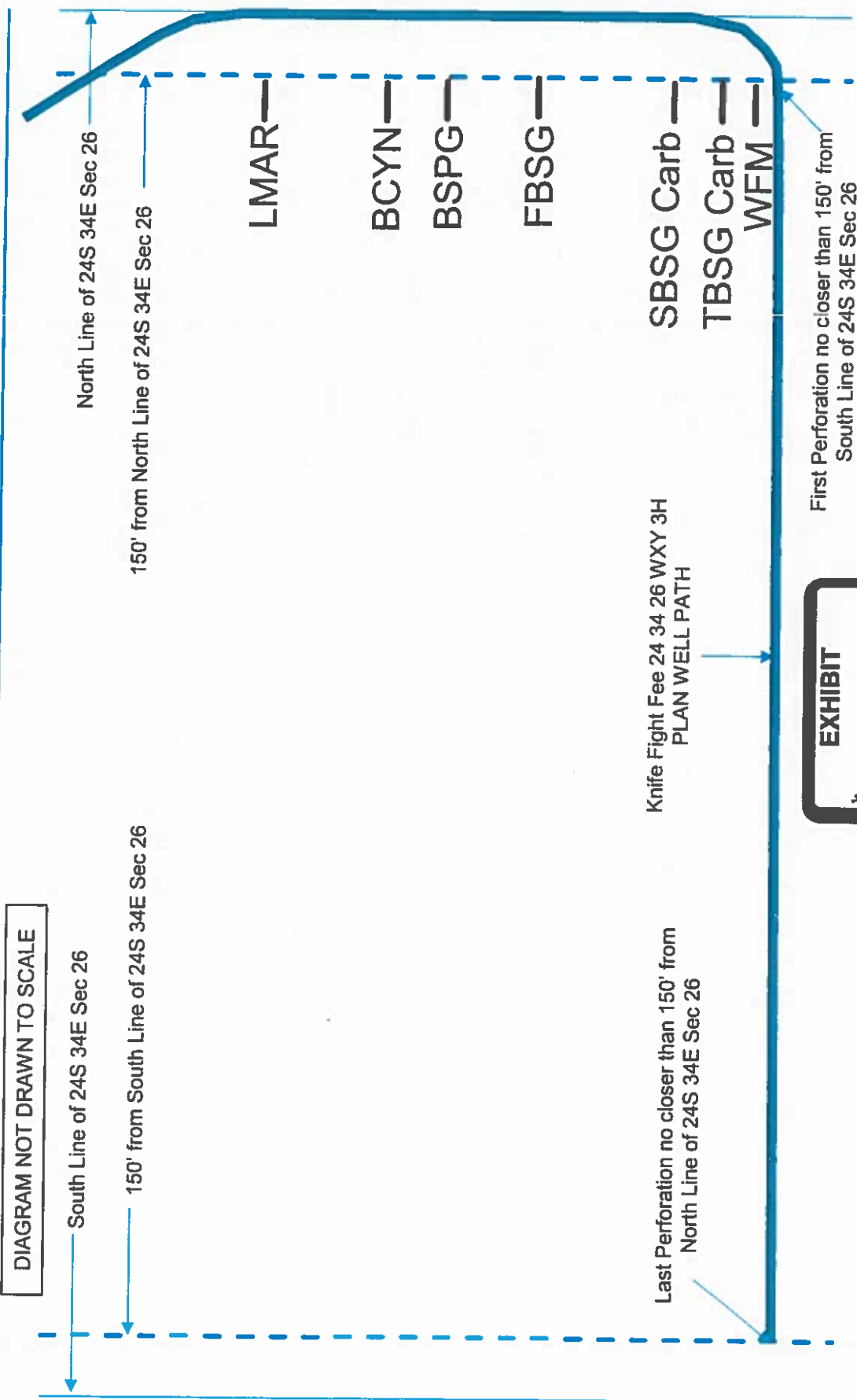
7012180	Company Labor	2,500
7012480	Gas Lift Equipment	38,000
7012140	Rod Pumping, Sucker Rods & Rod Pump	-
7012140	Elect Sub Pumps (ESP)	-
7019350	Well Services-Well/Wellhead Services	20,000
7012270	Materials & Supplies-Tangible	13,000
7012550	Surface Wellhead Equipment	5,500
7012390	Pig Launchers/Receivers & Rel Equip	-
7012010	10% Contingency & Taxes	-
TOTAL ARTIFICIAL LIFT		79,000
TOTAL ARTIFICIAL LIFT COST		\$ 79,000

SUMMARY OF ESTIMATED DRILLING WELL COSTS

TOTAL LOCATION COST	\$ 87,500
TOTAL DRILLING COST	\$ 4,676,918
TOTAL COMPLETION COST	\$ 3,797,896
TOTAL SURFACE EQUIPMENT COST	\$ 799,782
TOTAL ARTIFICIAL LIFT COST	\$ 79,000
GRAND TOTAL COST	\$9,441,096

Knife Fight Fee 24 34 26 WXY 3H

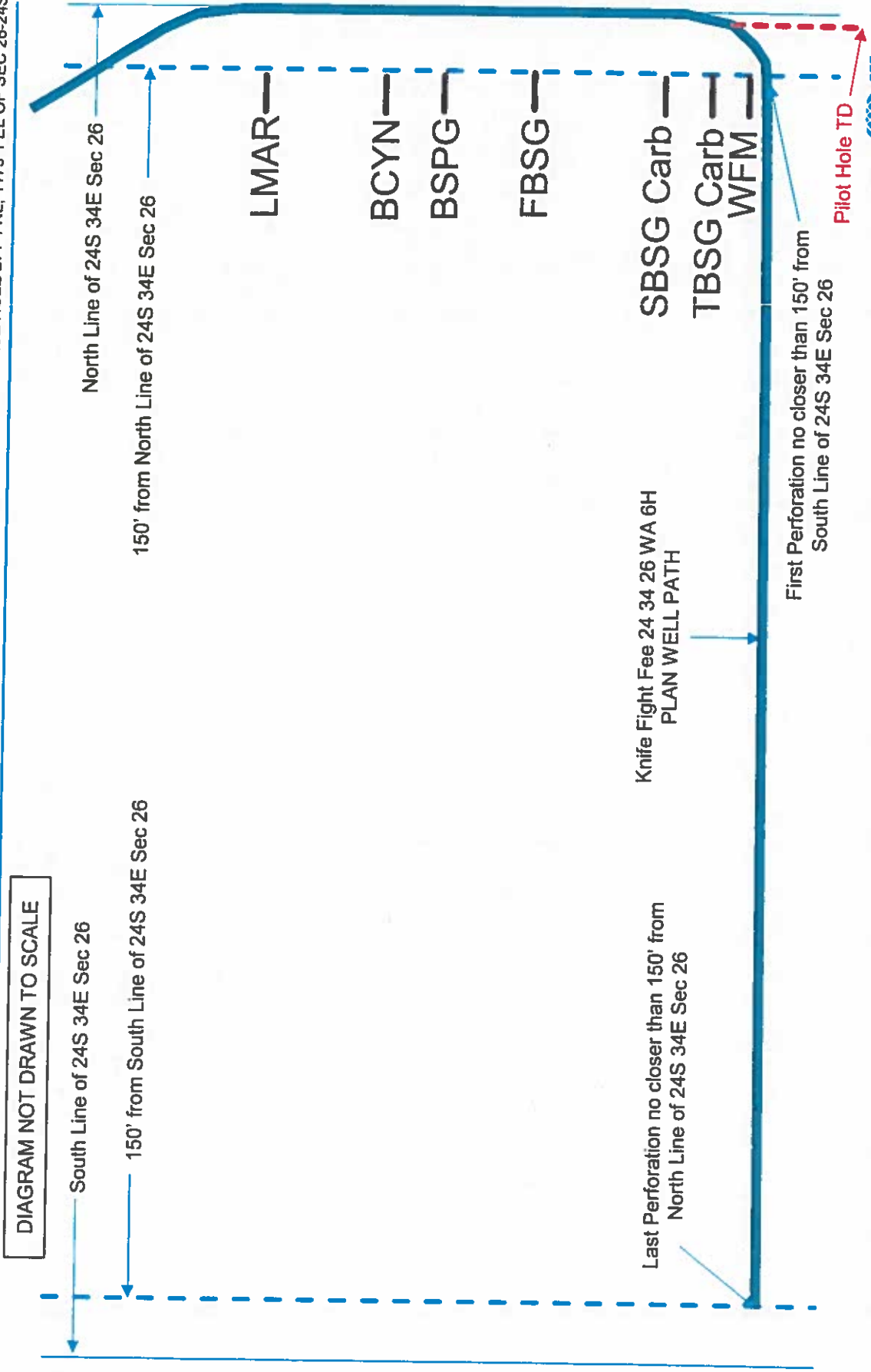
Knife Fight Fee 24 34 26 WXY 3H
SURFACE HOLE 271' FNL, 1205' FEL OF SEC 26-24S-34E



Marathon Oil

Knife Fight Fee 24 34 26 WA 6H

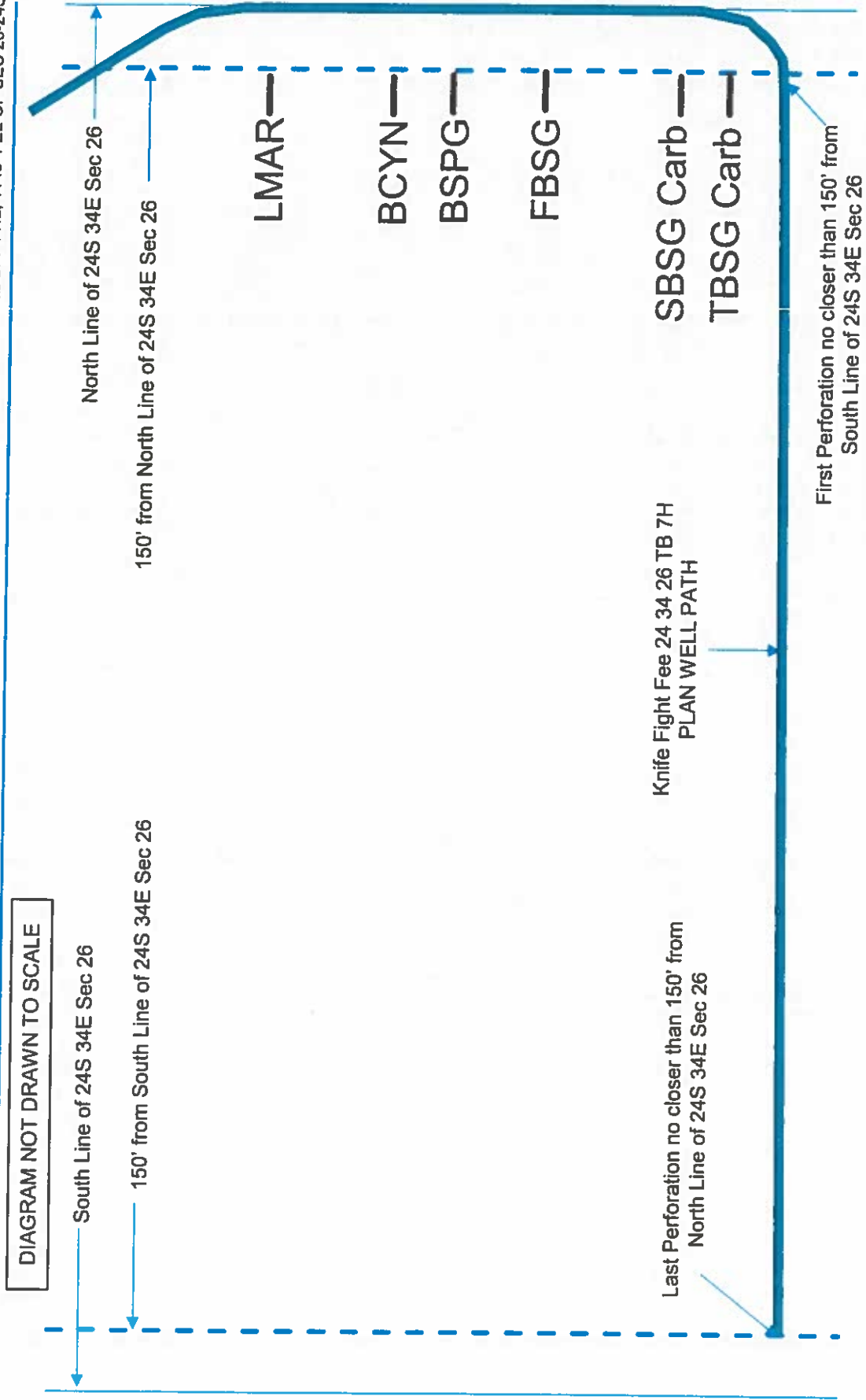
Knife Fight Fee 24 34 26 WA 6H
SURFACE HOLE 271' FNL, 1175' FEL OF SEC 26-24S-34E



Marathon Oil

Knife Fight Fee 24 34 26 TB 7H

Knife Fight Fee 24 34 26 TB 7H
SURFACE HOLE 271' FNL, 1145' FEL OF SEC 26-24S-34E



Marathon Oil

Knife Fight Fee 24 34 26 WXY 19H

Knife Fight Fee 24 34 26 WXY 19H
SURFACE HOLE 271' FNL, 1145' FEL OF SEC 26-24S-34E

DIAGRAM NOT DRAWN TO SCALE

