

**Before the Oil Conservation Division
Examiner Hearing September 20, 2018**

Case No. 16414

*Duda Bides Federal 22-28-19 WXY 5H, Duda Bides Federal 22-28-19 WA 6H,
and Duda Bides Federal 22-28-19 WXY 10H*



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

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

CASE NO. 16414

AFFIDAVIT OF CHASE RICE

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

Chase Rice, being duly sworn, deposes and states:

1. I am a landman for Marathon Oil Permian LLC ("Marathon"), and have personal knowledge of the matters stated herein. I have been qualified by the Division as an expert petroleum landman.

2. Pursuant to NMAC 19.15.4.12.A(1), the following information is submitted in support of the above referenced compulsory pooling application:

(a) The purpose of this application is to force pool working interest owners into the Wolfcamp horizontal spacing unit described below, and in wells to be drilled in the unit.

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

(c) A plat outlining the unit being pooled is attached hereto as Exhibit A along with the working interests and percent of such interests being pooled. This exhibit also includes



the ownership of each separate tract in the proposed unit and the proposed well's location within the unit. Marathon seeks an order approving a 320-acre, more or less, spacing and proration unit in the Wolfcamp formation comprised of the N/2 of Section 19, Township 22 South, Range 28 East, NMPM, Eddy County, New Mexico. Applicant further seeking pooling of all mineral interests in the Wolfcamp formation underlying the spacing and proration unit. The unit will be dedicated to the Duda Bides Federal 22-28-19 WXY 5H, Duda Bides Federal 22-28-19 WA 6H, and Duda Bides Federal 22-28-19 WXY 10H wells. These wells are horizontal wells. Plats which show the surface location and first and last take points for each well are attached hereto as Exhibit B.

(d) There are no depth severances within the Wolfcamp formation underlying the proposed unit.

(e) The proposed TVD for the wells is approximately 9,347 feet (Duda Bides Federal 22-28-19 WXY 5H), approximately 9,488 feet (Duda Bides Federal 22-28-19 WA 6H), and approximately 9,327 feet (Duda Bides Federal 22-28-19 WXY 10H). The wells will develop the Purple Sage Wolfcamp Gas Pool (Pool Code 98220), which is designated as a gas pool. The completed laterals will comply with the setback requirements for this pool.

(f) The parties being pooled, their last known address, and the nature of their interests are set forth in Exhibit C.

(g) I have conducted a diligent search of the public records in the county where the well is located, searched phone directories and conducted computer searched to locate contact information for parties entitled to notification.

(h) There are no un-locatable interest owners or returned mailings.

(i) Exhibit D contains a summary of contact or attempted contacts with the interest owners, together with copies of the proposal letters sent to interest owners.

(j) Marathon has made a good faith effort to obtain voluntary joinder of the work interest owners in the proposed well.

(k) There are overriding royalty interests in the acreage at issue and they have been notified of this application. Marathon seeks to pool these interests in the unit.

(l) Exhibit E is the well proposal letters and Authorization for Expenditure for the proposed well. The estimated cost of the well 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.

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

(n) Marathon requests the maximum cost plus 200% risk charge be assessed against non-consenting working interest owners.

(o) Marathon requests that it be designated operator of the well.

3. The attachments to this affidavit were prepared by me, or compiled from company business records.

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

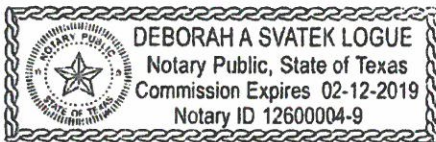
5. The granting of this application is in the interests of conservation and the prevention of waste.


Chase Rice

SUBSCRIBED AND SWORN to before me this ^{19th} ~~20th~~ day of September, 2018 by Chase Rice.


Notary Public

My commission expires: 02-12-2019



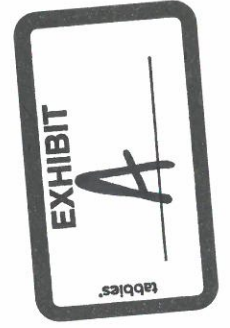
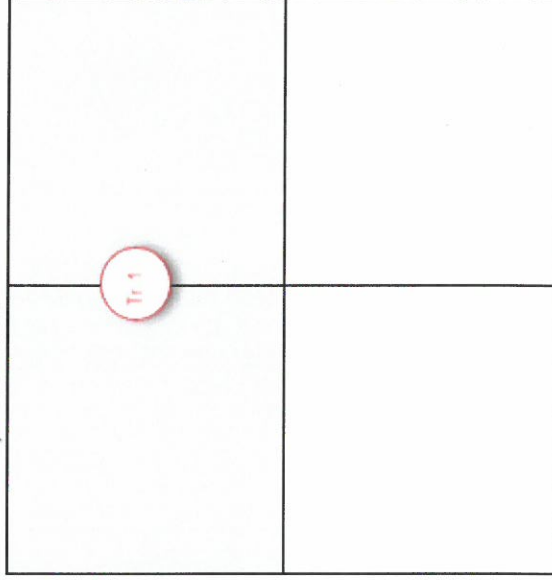
Lease Tract Map

Duda Bides Federal 22-28-19 WXY 5H, Duda Bides Federal 22-28-19 WA 6H, and
Duda Bides Federal 22-28-19 WXY 10H
N/2 of Section 19, T22S-R28E- 320 acres

Tract 1: BLM Lease 415461

N/2 of Section 19, T22S-R28E

Section 19, T22S-R28E



Summary of Interests

**Duda Bides Federal 22-28-19 WXY 5H, Duda Bides Federal 22-28-19 WA 6H, and
Duda Bides Federal 22-28-19 WXY 10H
N/2 of Section 19, T22S-R28E- 320 acres**

Committed Working Interest:
Marathon Oil Permian LLC

33.333300%
33.333300%

Uncommitted Working Interest:
Occidental Permian Ltd.
Thru Line LP

66.666700%
49.623200%
17.043500%

Unleased Mineral Interest:

0.0000000%

Total:

100.00%



District I
1625 N. French Dr., Hobbs, NM 88240
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District II
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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
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Santa Fe, NM 87505

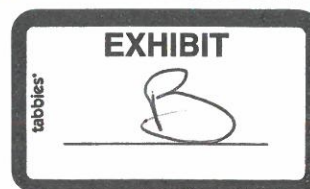
Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office
☐ AMENDED REPORT

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 DUDA BIDES 22 28 19 WXY F						⁶ Well Number 5H	
⁷ OGRID No. 372098		⁸ Operator Name MARATHON OIL PERMIAN LLC						⁹ Elevation 9079'	
¹⁰ Surface Location									
UL or lot no. H	Section 19	Township 22S	Range 28E	Lot Idn	Feet from the 1390	North/South line NORTH	Feet from the 210	East/West line EAST	County EDDY
¹¹ Bottom Hole Location If Different From Surface									
UL or lot no. D	Section 19	Township 22S	Range 28E	Lot Idn	Feet from the 330	North/South line NORTH	Feet from the 330	East/West line WEST	County EDDY
¹² Dedicated Acres 302.7		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.

LAST TAKE POINT/BOTTOM HOLE LOCATION 330' FNL 330' FWL, SECTION 19 NAD 83, SPCS NM EAST X:603035.54' / Y:503706.11' LAT:32.38459859N / LON:-104.13346110W NAD 27, SPCS NM EAST X:561853.77' / Y:503646.29' LAT:32.38447917N / LON:-104.13296120W		FIRST TAKE POINT 330' FNL 330' FEL, SECTION 19 NAD 83, SPCS NM EAST X:607343.90' / Y:503645.04' LAT:32.38440780N / LON:-104.11950456W NAD 27, SPCS NM EAST X:566162.07' / Y:503585.17' LAT:32.38428819N / LON:-104.11900514W		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 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.	
CORNER COORDINATES NAD 83, SPCS NM EAST A - X: 602706.27' / Y: 504047.35' B - X: 607663.02' / Y: 503976.21' C - X: 607751.66' / Y: 501322.52' D - X: 602700.50' / Y: 501359.13'		CORNER COORDINATES NAD 27, SPCS NM EAST A - X: 561524.51' / Y: 503987.53' B - X: 566481.20' / Y: 503916.33' C - X: 566569.78' / Y: 501262.71' D - X: 561518.68' / Y: 501299.37'		Signature _____ Date _____ Printed Name _____ E-mail Address _____	
LAST TAKE/ BHL SECTION 13 SECTION 20 330'		FIRST TAKE SECTION 18 SECTION 19 330'		KOP SECTION 17 SECTION 20 100' 330'	
T-22-S-R-27-E T-22-S-R-28-E		PI		SHL 210' 1261'	
KICK OFF POINT 330' FNL 100' FEL, SECTION 19 NAD 83, SPCS NM EAST X:607574.00' / Y:503645.88' LAT:32.38440886N / LON:-104.11875914W NAD 27, SPCS NM EAST X:566392.17' / Y:503586.01' LAT:32.38428923N / LON:-104.11825975W		SURFACE HOLE LOCATION 1390' FNL 210' FEL, SECTION 19 NAD 83, SPCS NM EAST X:607499.35' / Y:502585.60' LAT:32.38149476N / LON:-104.11900784W NAD 27, SPCS NM EAST X:566317.50' / Y:502525.76' LAT:32.38137512N / LON:-104.11850854W		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.	
SHEET 1 OF 3 JOB No. R3956_001 REV 0 BM 09/18/2018		SECTION 19 SECTION 30		SECTION 20 SECTION 29	
				Date of Survey _____ Signature and Seal of Professional Surveyor: _____ Certificate Number _____	



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State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
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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 DUDA BIDES 22 28 19 WA F						⁶ Well Number 6H	
⁷ OGRID No. 372098		⁸ Operator Name MARATHON OIL PERMIAN LLC						⁹ Elevation 3080'	
¹⁰ Surface Location									
UL or lot no. H	Section 19	Township 22S	Range 28E	Lot Idn	Feet from the 1360	North/South line NORTH	Feet from the 210	East/West line EAST	County EDDY
¹¹ Bottom Hole Location If Different From Surface									
UL or lot no. D	Section 19	Township 22S	Range 28E	Lot Idn	Feet from the 1325	North/South line NORTH	Feet from the 330	East/West line WEST	County EDDY
¹² Dedicated Acres 302.7		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.

LAST TAKE POINT/BOTTOM HOLE LOCATION 1325' FNL 330' FWL, SECTION 19 NAD 83, SPCS NM EAST X:603033.40' / Y:502709.69' LAT:32.38185961N / LON:-104.13347406W NAD 27, SPCS NM EAST X:561851.61' / Y:502649.89' LAT:32.38174017N / LON:-104.13297425W		FIRST TAKE POINT 1312' FNL 330' FEL, SECTION 19 NAD 83, SPCS NM EAST X:607376.70' / Y:502662.93' LAT:32.38170798N / LON:-104.11940465W NAD 27, SPCS NM EAST X:566194.85' / Y:502603.08' LAT:32.38158835N / LON:-104.11890533W		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.	
CORNER COORDINATES NAD 83, SPCS NM EAST A - X: 602706.27' / Y: 504047.35' B - X: 607663.02' / Y: 503976.21' C - X: 607751.66' / Y: 501322.52' D - X: 602700.50' / Y: 501359.13'		CORNER COORDINATES NAD 27, SPCS NM EAST A - X: 561524.51' / Y: 503987.53' B - X: 566481.20' / Y: 503916.33' C - X: 566569.78' / Y: 501262.71' D - X: 561518.68' / Y: 501299.37'		Signature _____ Date _____ Printed Name _____ E-mail Address _____	
SECTION 13 SECTION 24 LAST TAKE/BHL 330'		SECTION 18 SECTION 19 SHL FIRST TAKE		SECTION 17 SECTION 20 100' 330' 210'	
KICK OFF POINT 1316' FNL 100' FEL, SECTION 19 NAD 83, SPCS NM EAST X:607606.91' / Y:502660.45' LAT:32.38169990N / LON:-104.11865892W NAD 27, SPCS NM EAST X:566425.06' / Y:502600.60' LAT:32.38158026N / LON:-104.11815962W		SURFACE HOLE LOCATION 1360' FNL 210' FEL, SECTION 19 NAD 83, SPCS NM EAST X:607498.35' / Y:502615.59' LAT:32.38157721N / LON:-104.11901089W NAD 27, SPCS NM EAST X:566316.50' / Y:502555.75' LAT:32.38145757N / LON:-104.11851158W		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.	
SECTION 25 SHEET 1 OF 3 JOB No. R3956_003 REV 0 BM 09/18/2018		SECTION 30		SECTION 29 Date of Survey _____ Signature and Seal of Professional Surveyor: _____ Certificate Number _____	

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⁴ Property Code		⁵ Property Name DUDA BIDES 22 28 19 WXY F				⁶ Well Number 10H			
⁷ OGRID No. 372098		⁸ Operator Name MARATHON OIL PERMIAN LLC				⁹ Elevation 3080'			
¹⁰ Surface Location									
UL or lot no. H	Section 19	Township 22S	Range 28E	Lot Idn	Feet from the 1330	North/South line NORTH	Feet from the 210	East/West line EAST	County EDDY
¹¹ Bottom Hole Location If Different From Surface									
UL or lot no. E	Section 19	Township 22S	Range 28E	Lot Idn	Feet from the 2348	North/South line NORTH	Feet from the 330	East/West line WEST	County EDDY
¹² Dedicated Acres 302.7		¹³ Joint or Infill		¹⁴ Consolidation Code		¹⁵ Order No.			

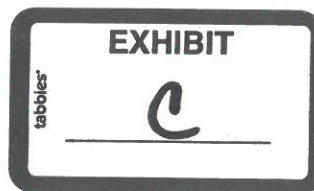
No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

LAST TAKE POINT/BOTTOM HOLE LOCATION 2348' FNL 330' FWL, SECTION 19 NAD 83, SPCS NM EAST X:603031.21' / Y:501686.74' LAT:32.37904773N / LON:-104.13348736W NAD 27, SPCS NM EAST X:561849.39' / Y:501626.97' LAT:32.37892827N / LON:-104.13298764W		FIRST TAKE POINT 2320' FNL 330' FEL, SECTION 19 NAD 83, SPCS NM EAST X:607410.37' / Y:501655.01' LAT:32.37893721N / LON:-104.11930212W NAD 27, SPCS NM EAST X:566228.50' / Y:501595.19' LAT:32.37881756N / LON:-104.11880289W		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 Signature _____ Date _____ Printed Name _____ E-mail Address _____	
CORNER COORDINATES NAD 83, SPCS NM EAST A - X: 602706.27' / Y: 504047.35' B - X: 607663.02' / Y: 503976.21' C - X: 607751.66' / Y: 501322.52' D - X: 602700.50' / Y: 501359.13'		CORNER COORDINATES NAD 27, SPCS NM EAST A - X: 561524.51' / Y: 503987.53' B - X: 566481.20' / Y: 503918.33' C - X: 566569.78' / Y: 501262.71' D - X: 561518.68' / Y: 501299.37'		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. Date of Survey _____ Signature and Seal of Professional Surveyor: _____ Certificate Number _____	
KICK OFF POINT 2323' FNL 100' FEL, SECTION 19 NAD 83, SPCS NM EAST X:607640.55' / Y:501653.34' LAT:32.37893135N / LON:-104.11855649W NAD 27, SPCS NM EAST X:566458.68' / Y:501593.52' LAT:32.37881169N / LON:-104.11805729W		SURFACE HOLE LOCATION 1330' FNL 210' FEL, SECTION 19 NAD 83, SPCS NM EAST X:607497.35' / Y:502645.59' LAT:32.38165967N / LON:-104.11901394W NAD 27, SPCS NM EAST X:566315.50' / Y:502585.75' LAT:32.38154003N / LON:-104.11851463W			

SHEET 1 OF 3
JOB No. R3956_004
REV 0 BM 09/18/2018

Exhibit C - Pooled Parties and Addresses

OWNER(S)	TYPE
Occidental Permian Ltd. 5 East Greenway Plaza #10 Houston, TX 77046	WI
Thru Line LP 201 Main Street, Suite 2700 Fort Worth, TX 76102	WI
Hilltop National Bank, as Successor Trustee of the Dorothy R. Brown Trust Casper, WY 82602	ORRI
Hilltop National Bank, as Successor Trustee of the William H. Brown Mineral Trust Casper, WY 82602	ORRI
Key Production Company, Inc 1700 Lincoln Street, Suite 2050 Denver, CO 80203	ORRI
Occidental Permian Ltd. 5 East Greenway Plaza #10 Houston, TX 77046	ORRI



Summary of Attempted Contacts

- Marathon sent well proposal letters on June 26, 2018.
- Marathon then contacted parties to see if they would participate in the well and/or execute a joint operating agreement.
- Marathon conducted updated record searches and internet searches for contact information for parties it seeks to pool.
- Marathon continued to attempt to contact the parties who had not executed an agreement.
- Marathon filed an application to force pool parties who had not entered in to an agreement.
- Marathon sent notices of the force pooling application to the addresses of record.
- Marathon then also published notice in a newspaper of general circulation in the county where the wells will be located.



Steven Martinez
Land Agent for Marathon Oil Permian LLC



T-O Land & Minerals, Inc., Agent
25465 Scenic Loop Rd.
San Antonio, Texas 78255
Telephone: (210) 826-3000
Email: smartinez@t-oland.com

June 26, 2018

VIA CERTIFIED MAIL RETURN RECEIPT REQUESTED
7018 0040 0000 3767 8476

Thru Line O&G NM L.L.C.
C/O XTO Energy, Inc.
810 Houston St.
Fort Worth, Texas 76102

Re: Duda Bides Federal 5H, 6H, 7H & 10H Well Proposals
N/2 and E/2 E/2 of Section 19, Township 22 South, Range 28 East
Eddy County, New Mexico

Dear Thru Line O&G NM L.L.C.:

Marathon Oil Permian LLC ("Marathon") proposes the drilling of the following wells located in the N/2 and E/2 E/2 of Section 19, 22S-28E, Eddy County, New Mexico, all to be drilled from one surface pad location.

Well Name	SHL	BHL	Proration Unit	Target TVD	Est. MD
Duda Bides Federal 22-28-19 WXY 5H	~210' FEL & ~1390' FNL	330' FWL & 330' FNL	N/2 of Sec. 19	9,347'	14,262'
Duda Bides Federal 22-28-19 TBC 7H	~210' FEL & ~1300' FNL	330' FEL & 330' FSL	E/2 E/2 of Sec. 19	8,483'	13,410'
Duda Bides Federal 22-28-19 WA 6H	~210' FEL & ~1360' FNL	330' FWL & 1330' FNL	N/2 of Sec. 19	9,488'	14,359'
Duda Bides Federal 22-28-19 WXY 10H	~210' FEL & ~1330' FNL	330' FWL & 2310' FNL	N/2 of Sec. 19	9,327'	14,252'

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, and if you are interested in participating, a form of this JOA will be sent to you following this proposal. The JOA will have the following general provisions:

- 100%/300%/300% non-consent penalty
- \$7,000/\$700 drilling and producing rates
- Contract area of Section 19, 22S-28E, covering all depths

Our title records indicate that you own 0.170435 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.

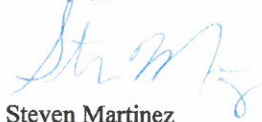
If you do not wish to participate, Marathon proposes to acquire your interest via term assignment at the following terms:

-
-
-

This term assignment offer terminates on July 26, 2018 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 via the phone number or email address listed above.

Sincerely,



Steven Martinez

Land Agent for Marathon Oil Permian, LLC

_____ Thru Line O&G NM L.L.C. elects to participate in the drilling, completing, and equipping of the Duda Bides Federal 22-28-19 WXY 5H.

_____ Thru Line O&G NM L.L.C. elects NOT to participate in the drilling, completing, and equipping of the Duda Bides Federal 22-28-19 WXY 5H.

_____ Thru Line O&G NM L.L.C. elects to participate in the drilling, completing, and equipping of the Duda Bides Federal 22-28-19 WA 6H.

_____ Thru Line O&G NM L.L.C. elects NOT to participate in the drilling, completing, and equipping of the Duda Bides Federal 22-28-19 WA 6H.

_____ Thru Line O&G NM L.L.C. elects to participate in the drilling, completing, and equipping of the Duda Bides Federal 22-28-19 TBC 7H.

_____ Thru Line O&G NM L.L.C. elects NOT to participate in the drilling, completing, and equipping of the Duda Bides Federal 22-28-19 TBC 7H.

_____ Thru Line O&G NM L.L.C. elects to participate in the drilling, completing, and equipping of the Duda Bides Federal 22-28-19 WXY 10H.

_____ Thru Line O&G NM L.L.C. elects NOT to participate in the drilling, completing, and equipping of the Duda Bides Federal 22-28-19 WXY 10H.

Thru Line O&G NM L.L.C.

By: _____

Print Name: _____

Title: _____

Summary of Attempted Contacts

- Marathon sent well proposal letters on June 26, 2018.
- Marathon then contacted parties to see if they would participate in the well and/or execute a joint operating agreement.
- Marathon conducted updated record searches and internet searches for contact information for parties it seeks to pool.
- Marathon continued to attempt to contact the parties who had not executed an agreement.
- Marathon filed an application to force pool parties who had not entered in to an agreement.
- Marathon sent notices of the force pooling application to the addresses of record.
- Marathon then also published notice in a newspaper of general circulation in the county where the wells will be located.

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

DATE 6/12/2018
DRILLING & LOCATION PREPARED BY MATTHEW RUGAARD
COMPLETION PREPARED BY JOSH SHANNON
FACILITIES PREPARED BY MATT HENSCHEN
ARTIFICIAL LIFT PREPARED BY BILLY MOORE

Asset Team	PERMIAN			
Field	PURPLE SAGE;WOLI	FORMATION: WOLFCAMP	WILDCAT	EXPLORATION
Lease/Facility	DUDA BIDES FEDERAL 22-28-19 WXY 5H		DEVELOPMENT	RECOMPLETION
Location	EDDY COUNTY		X EXPLOITATION	WORKOVER
Prospect	MALAGA			

Est Total Depth	14,262	Est Drilling Days	18	Est Completion Days	5.5
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LOCATION COST - INTANGIBLE

GL CODE	DESCRIPTION	ESTIMATED COST
7001270	Location and Access	37,500
7001250	Land Broker Fees and Services	31,250
TOTAL LOCATION COST - INTANGIBLE		68,750

DRILLING COST - TANGIBLE

7012050	Conductor Pipe	28,000
7012050	Surface Casing	15,000
7012050	Intermediate Casing 1	61,000
7012050	Intermediate Casing 2	207,000
7012050	Production Casing	71,000
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		516,000

DRILLING COST - INTANGIBLE

7019200	Drilling Rig Mob/Demob	33,750
7019220	Drilling Rig - day work/footage	450,000
7019040	Directional Drilling Services	148,000
7019020	Cement and Cementing Service Surface	15,000
7019020	Cement and Cementing Service Intermediate 1	25,000
7019020	Cement and Cementing Service Intermediate 2	40,000
7019020	Cement and Cementing Service Production	45,000
7019140	Mud Fluids & Services	62,000
7012310	Solids Control equipment	32,000
7012020	Bits	70,000
7019010	Casing Crew and Services	30,000
7016350	Fuel (Rig)	55,000
7019140	Fuel (Mud)	18,000
7001460	Water (non potable)	25,000
7019000	Well Logging Services	-
7019150	Mud Logging+geosteering	14,000
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
7001440	Vacuum Trucks	10,000
7000030	Contract Labor - general	30,000
7018150	Rental Tools and Equipment (surface rentals)	72,000
7018150	Rig Equipment and Misc.	9,000
7001110	Telecommunications Services	5,000
7001120	Consulting Services	84,600
7001400	Safety and Environmental	28,800
7018120	Rental Buildings (trailers)	14,400
7019310	Coring (sidewalls & analysis)	-
7011010	8% Contingency & Taxes	125,073
TOTAL DRILLING - INTANGIBLE		\$1,566,623

TOTAL DRILLING COST	\$2,082,623
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COMPLETION - TANGIBLE

7012580	Tubing	50,000
7012040	Tubing Accessories (nipple, wireline entry)	5,000
7012550	Wellhead Equip	5,000
7012560	Packers - Completion Equipment	40,000
TOTAL COMPLETION - TANGIBLE		\$100,000

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16414

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

DATE 6/12/2018

Asset Team PERMIAN
 Field PURPLE SAGE;WOLI FORMATION: WOLFCAMP
 Lease/Facility DUDA BIDES FEDERAL 22-28-19 WXY 5H

COMPLETION - INTANGIBLE

GL CODE	DESCRIPTION	ESTIMATED COST
7001270	Location and Access (dress location after rig move, set anchors)	5,000
7019220	Drilling Rig During Completion	60,000
7019140	Mud Fluids & Services	-
7019030	Coiled Tubing Services (3 runs)	120,000
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)	105,000
7019320	Fracturing Services	2,030,000
7019330	Perforating	175,000
7019360	Wireline Services	10,000
7001460	Water Hauling & Disposal (frac fluids)	250,000
7016180	Freight - Truck (haul pipe; drlg & compl)	10,000
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	25,000
7001110	Telecommunications Services	90,000
7001400	Safety and Environmental	-
7001120	Consulting Services	40,000
7018150	Zipper Manifold	110,000
7019300	Frack Stack Rentals	40,000
7016190	Freight (Transportation Services)	-
7018150	Equipment Rental (w/o operator, frac tanks, lightplants)	65,000
7018120	Rental Buildings (trailers)	15,000
7000030	Contract Labor - Pumping (pump-down pumps)	60,000
7011010	8% Contingency & Taxes	232,400
TOTAL COMPLETION - INTANGIBLE		\$3,442,400

TOTAL COMPLETION COST

\$3,542,400

SURFACE EQUIPMENT - TANGIBLE

7012350	Misc. Piping, Fittings & Valves	85,794
7006640	Company Labor & Burden	-
7000030	Contract Labor - General	67,540
7001110	Telecommunication equip (Telemetry)	-
7012410	Line Pipe & Accessories	26,786
7012270	Miscellaneous Materials (containment system)	43,227
7008060	SCADA	-
7016180	Freight - truck	-
7001190	Contract Engineering	29,116
7012290	Metering and Instrumentation	235,914
7012290	I&E Materials	-
7012200	Gas Treating	-
7012200	Dehydration	-
7012010	Compressor	-
7012350	Power	-
7012610	Vapor Recovery Unit	-
7012440	Separator & other pressure vessels	85,919
7012500	Tanks	144,894
7012100	Heater Treater	17,330
7012640	Flare & Accessories	11,646
7000010	Electrical Labor	29,116
7000010	Mechanical Labor	-
7012480	Rod Pumping unit & Pad	-
7012180	Pumping Unit Engine	-
7012350	Electrical Power (electrical cooperative construction costs)	23,293
TOTAL SURFACE EQUIPMENT - TANGIBLE		\$800,575

TOTAL SURFACE EQUIPMENT COST

\$ 800,575

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)	-
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	-
7011010	8% Contingency & Taxes	-
TOTAL ARTIFICIAL LIFT		79,000

TOTAL ARTIFICIAL LIFT COST

\$ 79,000

SUMMARY OF ESTIMATED DRILLING WELL COSTS

TOTAL COST

TOTAL LOCATION COST

\$ 68,750

TOTAL DRILLING COST

\$ 2,082,623

TOTAL COMPLETIONS COST

\$ 3,542,400

TOTAL SURFACE EQUIPMENT COST

\$ 800,575

TOTAL ARTIFICIAL LIFT COST

\$ 79,000

GRAND TOTAL COST

\$6,573,348

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

DATE 6/12/2018
DRILLING & LOCATION PREPARED BY MATTHEW RUGAARD
COMPLETION PREPARED BY JOSH SHANNON
FACILITIES PREPARED BY MATT HENSCHEN
ARTIFICIAL LIFT PREPARED BY BILLY MOORE

Asset Team	PERMIAN		
Field	PURPLE SAGE/WOL	FORMATION: WOLFCAMP	WILDCAT
Lease/Facility	DUDA BIDES FEDERAL 22-28-19 WA 6H		DEVELOPMENT
Location	EDDY COUNTY		X EXPLOITATION
Prospect	MALAGA		WORKOVER

Est Total Depth	14,359	Est Drilling Days	18	Est Completion Days	5.5
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LOCATION COST - INTANGIBLE

GL CODE	DESCRIPTION	ESTIMATED COST
7001270	Location and Access	37,500
7001250	Land Broker Fees and Services	31,250
TOTAL LOCATION COST - INTANGIBLE		68,750

DRILLING COST - TANGIBLE

7012050	Conductor Pipe	28,000
7012050	Surface Casing	15,000
7012050	Intermediate Casing 1	55,000
7012050	Intermediate Casing 2	207,000
7012050	Production Casing	71,000
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		510,000

DRILLING COST - INTANGIBLE

7019200	Drilling Rig Mob/Demob	33,750
7019220	Drilling Rig - day work/footage	450,000
7019040	Directional Drilling Services	148,000
7019020	Cement and Cementing Service	15,000
7019020	Cement and Cementing Service	25,000
7019020	Cement and Cementing Service	40,000
7019020	Cement and Cementing Service	45,000
7019140	Mud Fluids & Services	62,000
7012310	Solids Control equipment	32,000
7012020	Bits	70,000
7019010	Casing Crew and Services	30,000
7016350	Fuel (Rig)	55,000
7019140	Fuel (Mud)	18,000
7001460	Water (non potable)	25,000
7019000	Well Logging Services	-
7019150	Mud Logging+geosteering	14,000
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
7001440	Vacuum Trucks	10,000
7000030	Contract Labor - general	30,000
7018150	Rental Tools and Equipment (surface rentals)	72,000
7018150	Rig Equipment and Misc.	9,000
7001110	Telecommunications Services	5,000
7001120	Consulting Services	84,600
7001400	Safety and Environmental	28,800
7018120	Rental Buildings (trailers)	14,400
7019310	Coring (sidewalls & analysis)	-
7011010	8% Contingency & Taxes	124,713
TOTAL DRILLING - INTANGIBLE		\$1,566,263

TOTAL DRILLING COST	\$2,076,263
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COMPLETION - TANGIBLE

7012580	Tubing	50,000
7012040	Tubing Accessories (nipple, wireline entry)	5,000
7012550	Wellhead Equip	5,000
7012560	Packers - Completion Equipment	40,000
TOTAL COMPLETION - TANGIBLE		\$100,000

Asset Team PERMIAN
 Field PURPLE SAGE;WOL FORMATION: WOLFCAMP
 Lease/Facility DUDA BIDES FEDERAL 22-28-19 WA 6H

COMPLETION - INTANGIBLE

GL CODE	DESCRIPTION	ESTIMATED COST
7001270	Location and Access (dress location after rig move, set anchors)	5,000
7019220	Drilling Rig During Completion	60,000
7019140	Mud Fluids & Services	-
7019030	Coiled Tubing Services (3 runs)	120,000
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)	105,000
7019320	Fracturing Services	2,030,000
7019330	Perforating	175,000
7019360	Wireline Services	10,000
7001460	Water Hauling & Disposal (frac fluids)	250,000
7016180	Freight - Truck (haul pipe; drlg & compl)	10,000
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	25,000
7001110	Telecommunications Services	90,000
7001400	Safety and Environmental	-
7001120	Consulting Services	40,000
7018150	Zipper Manifold	110,000
7019300	Frack Stack Rentals	40,000
7016190	Freight (Transportation Services)	-
7018150	Equipment Rental (w/o operator, frac tanks, lightplants)	65,000
7018120	Rental Buildings (trailers)	15,000
7000030	Contract Labor - Pumping (pump-down pumps)	60,000
7011010	8% Contingency & Taxes	232,400
TOTAL COMPLETION - INTANGIBLE		\$3,442,400

TOTAL COMPLETION COST

\$3,542,400

SURFACE EQUIPMENT - TANGIBLE

7012350	Misc. Piping, Fittings & Valves	85,794
7006640	Company Labor & Burden	-
7000030	Contract Labor - General	67,540
7001110	Telecommunication equip (Telemetry)	-
7012410	Line Pipe & Accessories	26,786
7012270	Miscellaneous Materials (containment system)	43,227
7008060	SCADA	-
7016180	Freight - truck	-
7001190	Contract Engineering	29,116
7012290	Metering and Instrumentation	235,914
7012290	I&E Materials	-
7012200	Gas Treating	-
7012200	Dehydration	-
7012010	Compressor	-
7012350	Power	-
7012610	Vapor Recovery Unit	-
7012440	Separator & other pressure vessels	85,919
7012500	Tanks	144,894
7012100	Heater Treater	17,330
7012640	Flare & Accessories	11,646
7000010	Electrical Labor	29,116
7000010	Mechanical Labor	-
7012480	Rod Pumping unit & Pad	-
7012180	Pumping Unit Engine	-
7012350	Electrical Power (electrical cooperative construction costs)	23,293
TOTAL SURFACE EQUIPMENT - TANGIBLE		\$800,575

TOTAL SURFACE EQUIPMENT COST

\$ 800,575

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)	-
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	-
7011010	8% Contingency & Taxes	-
TOTAL ARTIFICIAL LIFT		79,000

TOTAL ARTIFICIAL LIFT COST

\$ 79,000

SUMMARY OF ESTIMATED DRILLING WELL COSTS

TOTAL COST

TOTAL LOCATION COST	\$ 68,750
TOTAL DRILLING COST	\$ 2,076,263
TOTAL COMPLETIONS COST	\$ 3,542,400

TOTAL SURFACE EQUIPMENT COST
TOTAL ARTIFICIAL LIFT COST
GRAND TOTAL COST

\$	800,575
\$	79,000
	<u>\$6,566,988</u>

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

DATE 6/12/2018
DRILLING & LOCATION PREPARED BY MATTHEW RUGAARD
COMPLETION PREPARED BY JOSH SHANNON
FACILITIES PREPARED BY MATT HENSCHEN
ARTIFICIAL LIFT PREPARED BY BILLY MOORE

Asset Team	PERMIAN		
Field	PURPLE SAGE;WOLI	FORMATION: WOLFCAMP	WILDCAT
Lease/Facility	DUDA BIDES FEDERAL 22-28-19 WXY 10H		DEVELOPMENT
Location	EDDY COUNTY		X EXPLOITATION
Prospect	MALAGA		WORKOVER

Est Total Depth	14,252	Est Drilling Days	18	Est Completion Days	5.5
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LOCATION COST - INTANGIBLE

GL CODE	DESCRIPTION	ESTIMATED COST
7001270	Location and Access	37,500
7001250	Land Broker Fees and Services	31,250
TOTAL LOCATION COST - INTANGIBLE		68,750

DRILLING COST - TANGIBLE

7012050	Conductor Pipe	28,000
7012050	Surface Casing	16,000
7012050	Intermediate Casing 1	61,000
7012050	Intermediate Casing 2	207,000
7012050	Production Casing	71,000
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		517,000

DRILLING COST - INTANGIBLE

7019200	Drilling Rig Mob/Demob	33,750
7019220	Drilling Rig - day work/footage	450,000
7019040	Directional Drilling Services	148,000
7019020	Cement and Cementing Service Surface	15,000
7019020	Cement and Cementing Service Intermediate 1	25,000
7019020	Cement and Cementing Service Intermediate 2	40,000
7019020	Cement and Cementing Service Production	45,000
7019140	Mud Fluids & Services	62,000
7012310	Solids Control equipment	32,000
7012020	Bits	70,000
7019010	Casing Crew and Services	30,000
7016350	Fuel (Rig)	55,000
7019140	Fuel (Mud)	18,000
7001460	Water (non potable)	25,000
7019000	Well Logging Services	-
7019150	Mud Logging+geosteering	14,000
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
7001440	Vacuum Trucks	10,000
7000030	Contract Labor - general	30,000
7018150	Rental Tools and Equipment (surface rentals)	72,000
7018150	Rig Equipment and Misc.	9,000
7001110	Telecommunications Services	5,000
7001120	Consulting Services	84,600
7001400	Safety and Environmental	28,800
7018120	Rental Buildings (trailers)	14,400
7019310	Coring (sidewalls & analysis)	-
7011010	8% Contingency & Taxes	125,133

TOTAL DRILLING - INTANGIBLE	\$1,566,683
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TOTAL DRILLING COST	\$2,083,683
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COMPLETION - TANGIBLE

7012580	Tubing	50,000
7012040	Tubing Accessories (nipple, wireline entry)	5,000
7012550	Wellhead Equip	5,000
7012560	Packers - Completion Equipment	40,000
TOTAL COMPLETION - TANGIBLE		\$100,000

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

DATE 6/12/2018

Asset Team PERMIAN
 Field PURPLE SAGE;WOL FORMATION: WOLFCAMP
 Lease/Facility DUDA BIDES FEDERAL 22-28-19 WXY 10H

COMPLETION - INTANGIBLE

GL CODE	DESCRIPTION	ESTIMATED COST
7001270	Location and Access (dress location after rig move, set anchors)	5,000
7019220	Drilling Rig During Completion	60,000
7019140	Mud Fluids & Services	-
7019030	Coiled Tubing Services (3 runs)	120,000
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)	105,000
7019320	Fracturing Services	2,030,000
7019330	Perforating	175,000
7019360	Wireline Services	10,000
7001460	Water Hauling & Disposal (frac fluids)	250,000
7016180	Freight - Truck (haul pipe; drlg & compl)	10,000
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	25,000
7001110	Telecommunications Services	90,000
7001400	Safety and Environmental	-
7001120	Consulting Services	40,000
7018150	Zipper Manifold	110,000
7019300	Frack Stack Rentals	40,000
7016190	Freight (Transportation Services)	-
7018150	Equipment Rental (w/o operator, frac tanks, lightplants)	65,000
7018120	Rental Buildings (trailers)	15,000
7000030	Contract Labor - Pumping (pump-down pumps)	60,000
7011010	8% Contingency & Taxes	232,400
TOTAL COMPLETION - INTANGIBLE		\$3,442,400

TOTAL COMPLETION COST \$3,542,400

SURFACE EQUIPMENT - TANGIBLE

7012350	Misc. Piping, Fittings & Valves	85,794
7006640	Company Labor & Burden	-
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7012410	Line Pipe & Accessories	26,786
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7008060	SCADA	-
7016180	Freight - truck	-
7001190	Contract Engineering	29,116
7012290	Metering and Instrumentation	235,914
7012290	I&E Materials	-
7012200	Gas Treating	-
7012200	Dehydration	-
7012010	Compressor	-
7012350	Power	-
7012610	Vapor Recovery Unit	-
7012440	Separator & other pressure vessels	85,919
7012500	Tanks	144,894
7012100	Heater Treater	17,330
7012640	Flare & Accessories	11,646
7000010	Electrical Labor	29,116
7000010	Mechanical Labor	-
7012480	Rod Pumping unit & Pad	-
7012180	Pumping Unit Engine	-
7012350	Electrical Power (electrical cooperative construction costs)	23,293
TOTAL SURFACE EQUIPMENT - TANGIBLE		\$800,575

TOTAL SURFACE EQUIPMENT COST \$ 800,575

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)	-
7019350	Well Services-Well/Wellhead Services	20,000
7012270	Materials & Supplies-Tangible	13,000
7012550	Surface Wellhead Equipment	5,500
7012390	Plg 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	\$ 68,750
TOTAL DRILLING COST	\$ 2,083,683
TOTAL COMPLETIONS COST	\$ 3,542,400

TOTAL COST

TOTAL SURFACE EQUIPMENT COST

\$ 800,575

TOTAL ARTIFICIAL LIFT COST

\$ 79,000

GRAND TOTAL COST

\$6,574,408

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

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

CASE NO. 16414

AFFIDAVIT OF TUCKER KEREN

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

Tucker Keren, being duly sworn, deposes and states:


1. I am over the age of 18, and have person knowledge of the matters stated herein. I have been qualified by the Division as an expert petroleum geologist.
2. I am a geologist for Marathon Oil Permian LLC ("Marathon") and I have conducted a geologic study in connection with the above-captioned application.
3. I am familiar with the geological matters involved in this case.
4. The following geological exhibits are attached hereto:
 - a. Exhibit A is a structure map on the top of the Wolfcamp formation. It shows that the structure dips gently to the east. It also shows producing Wolfcamp wells in the vicinity of the proposed Duda Bides Federal 22-28-19 WXY 5H, Duda Bides Federal 22-28-19 WA 6H, and Duda Bides Federal 22-28-19 WXY 10H wells, and a line of cross-section.



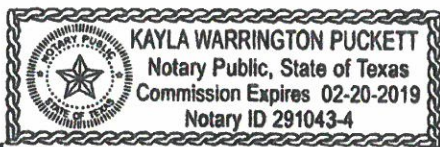
- b. Exhibit A shows that the Wolfcamp formation is uniform across the proposed well unit.
 - c. Exhibit B is a stratigraphic cross section showing the targeted zones in the Wolfcamp formation. The well logs on the cross-section give a representative sample of the Wolfcamp formation in the area. The target zone for the wells is the Wolfcamp Y sand and the Wolfcamp A, and these zones are continuous across the well unit, given that the logs in the middle and right wells on this exhibit are deemed most representative of the spacing unit.
 - d. Exhibit C is Gross Interval Isochore map which shows the Wolfcamp to Wolfcamp B zone and uses a 20' contour interval. This map shows the zone encompassing both the Wolfcamp Y Sand and Wolfcamp A targets is approximately 330' in the spacing unit and is consistent over the length of 1-mile laterals. Overall, thickness variation in this area is only on the order of a few feet and does not significantly change in the primary producing zones.
5. I conclude from the maps that:
- a. The horizontal spacing and proration unit is justified from a geologic standpoint.
 - b. There are no structural impediments or faulting that will interfere with horizontal development.
 - c. Each quarter quarter section in the unit will contribute more or less equally to production.
6. The preferred well orientation in this area is east-west. This is because: a) narrow north-south channels likely do not play a significant role in Wolfcamp deposition; b) regional present-day stress maps suggest SHmax is approaching north-south in this area; and c)

other Wolfcamp lateral wells in the area have been drilled east-west (e.g. Section 36-22S-27E)

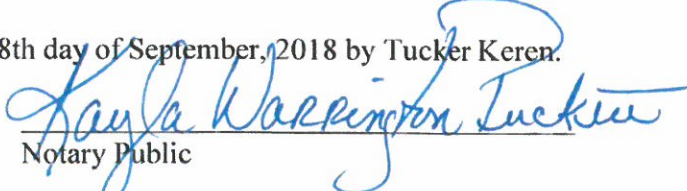
7. The producing interval for the well will be orthodox and will comply with the Division's set back requirements.
8. Marathon has requested that it be allowed 365 days after the first well is drilled to complete the wells in this application. This is needed because Marathon currently has one completions crew dedicated to operations in New Mexico.


Tucker Keren

SUBSCRIBED AND SWORN to before me this 18th day of September, 2018 by Tucker Keren.

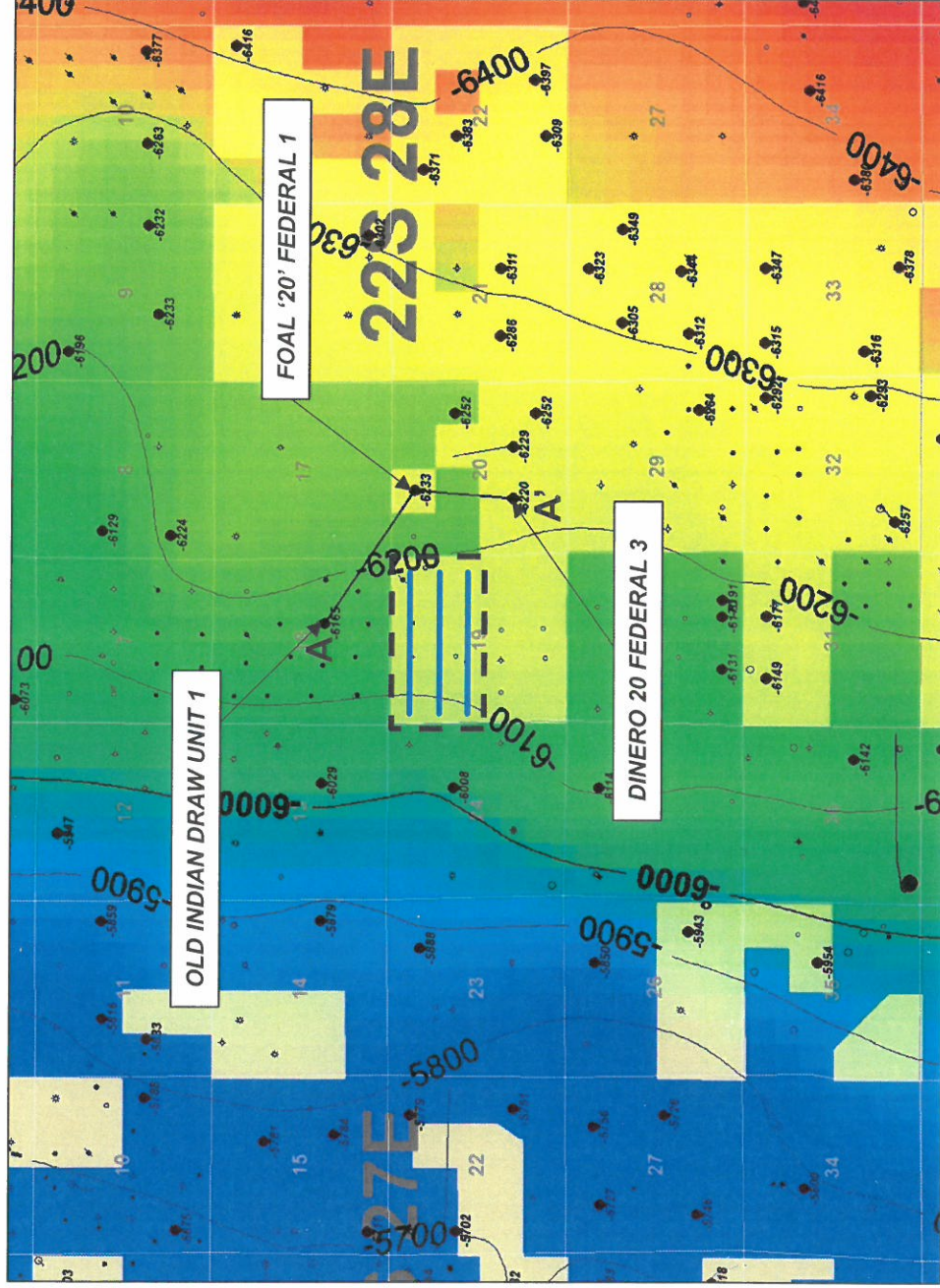


My commission expires: _____


Notary Public

Duda Bides Federal 22-28-19

Structure Map – Top of Wolfcamp Subsea



Map Legend



MRO – Proposed HZ Wellbore



Wolfcamp HZ Producing Well



MRO Acreage

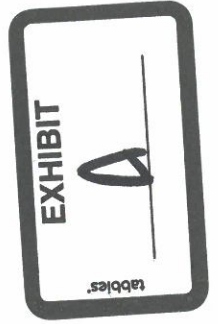


HZ Spacing Unit

C.I. = 100'

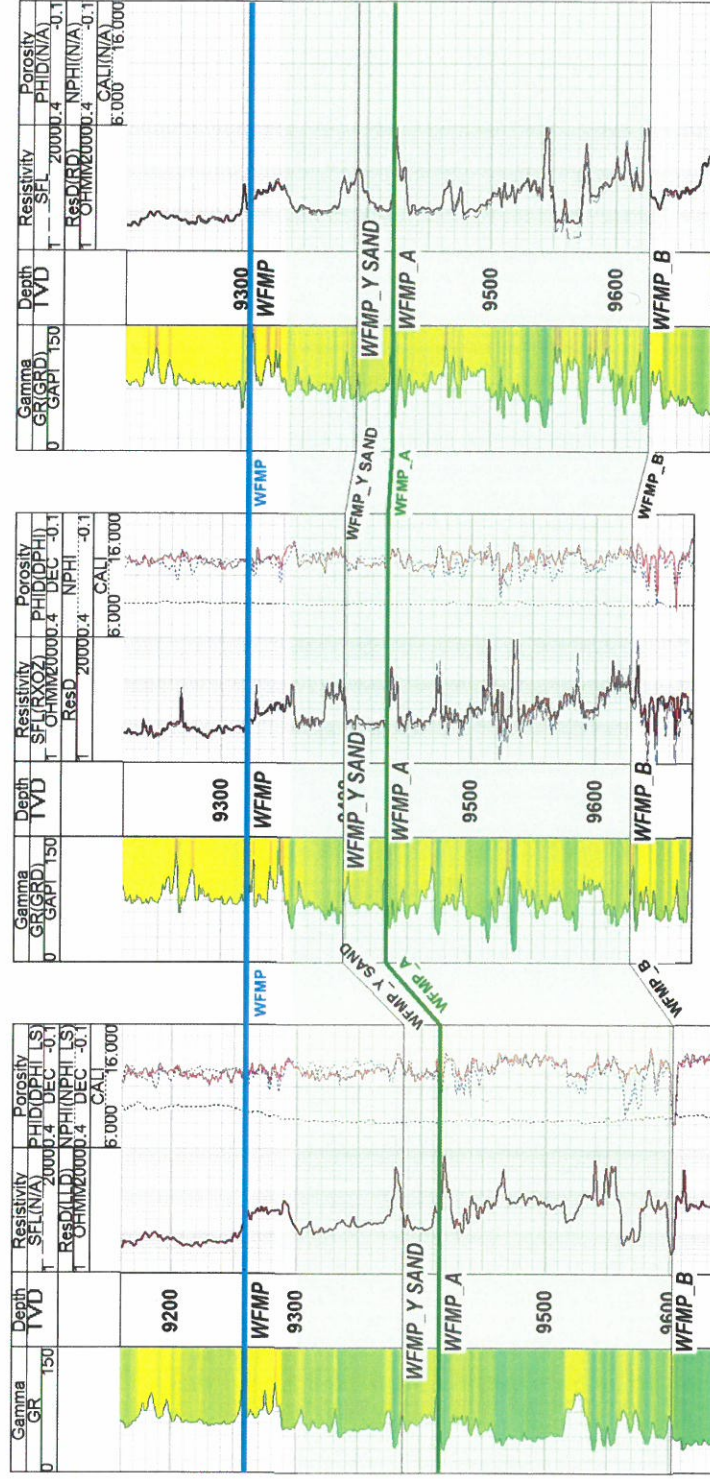
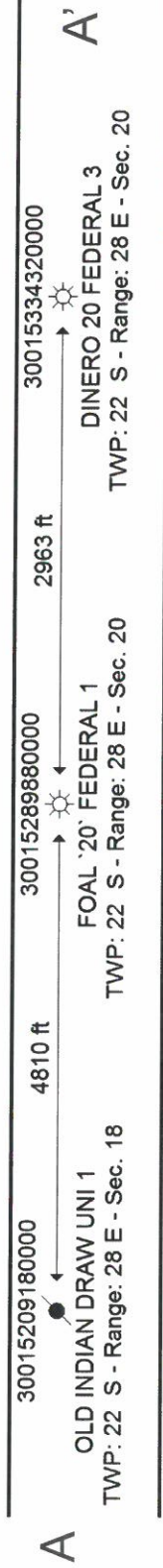


1 mile

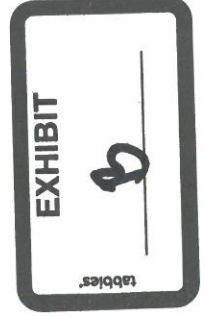


Duda Bides Federal 22-28-19

Stratigraphic Cross Section (Top Wolfcamp Datum)

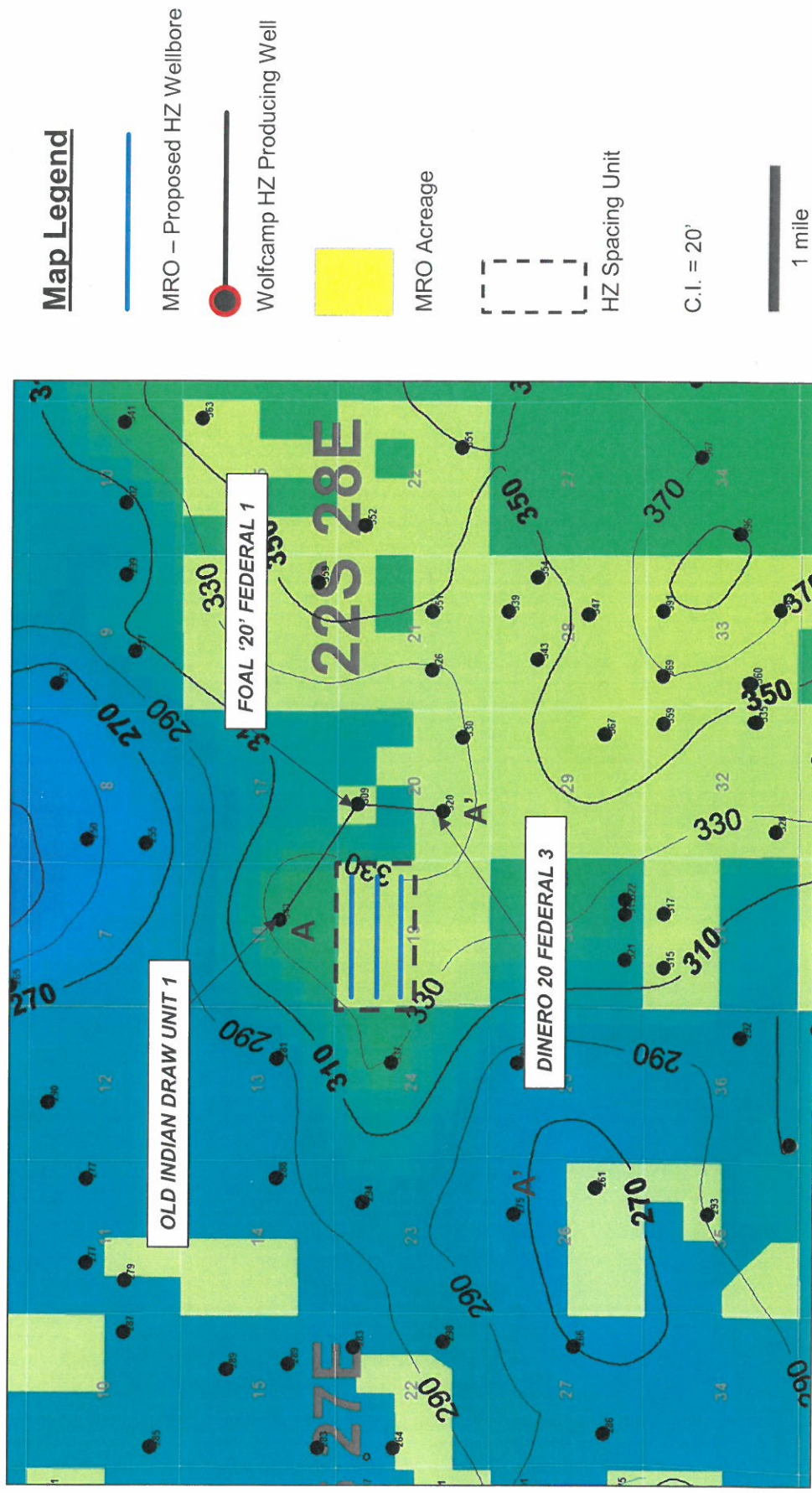


Type Log for Duda Bides



Duda Bides Federal 22-28-19

Gross Interval Isochore – Wolfcamp to Wolfcamp B (20' Contours)



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

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

CASE NO. 16414

AFFIDAVIT

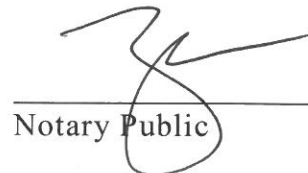
STATE OF NEW MEXICO)
) ss.
COUNTY OF BERNALILLO)

Jennifer L. Bradfute, attorney in fact and authorized representative of Marathon Oil Permian LLC ("Marathon"), the Applicant herein, being first duly sworn, upon oath, states that the above-referenced Application was provided under the notice letter and that proof of receipt is attached hereto. Marathon has conducted a good faith, diligent effort to find the names and correct addresses for the interest owners entitled to receive notice of the application filed herein.



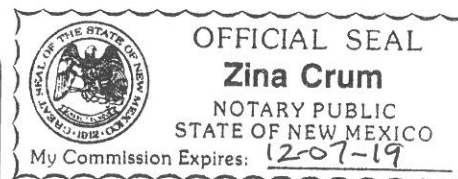
Jennifer L. Bradfute

SUBSCRIBED AND SWORN to before me this 19th day of September, 2018 by
Jennifer L. Bradfute.



Notary Public

My commission expires: 12-07-2019



Zina Crum
Modrall Sperling
500 4th Street NW
Suite 1000
Albuquerque NM 87102



Firm Mailing Book ID: 150129

Line	Article Number	Name, Street & P.O. Address	Postage	Fee	R.R.Fee	Reference	Rest.Del.Fee Contents
1	9314 8699 0430 0050 2585 23	Chevron 6301 Deauville Blvd., Midland TX 79706	\$1.21	\$3.45	\$1.50	81363-0168	\$0.00 Notice
2	9314 8699 0430 0050 2585 30	Chisholm Trail Ventures, LP 201 Main Street, Suite 2700 Ft. Worth TX 76102	\$1.21	\$3.45	\$1.50	81363-0168	\$0.00 Notice
3	9314 8699 0430 0050 2585 47	Devon 333 West Sheridan Ave., Oklahoma City OK 73102	\$1.21	\$3.45	\$1.50	81363-0168	\$0.00 Notice
4	9314 8699 0430 0050 2585 54	Hilltop National Bank, as Successor Trustee of the Dorothy R. Brown Trust 300 Country Club Road Casper WY 82609	\$1.21	\$3.45	\$1.50	81363-0168	\$0.00 Notice
5	9314 8699 0430 0050 2585 61	Hilltop National Bank, as Successor Trustee of the William H. Brown Mineral Trust 300 Country Club Road Casper WY 82609	\$1.21	\$3.45	\$1.50	81363-0168	\$0.00 Notice
6	9314 8699 0430 0050 2585 78	Key Production Company, Inc 1700 Lincoln Street, Suite 2050 Denver CO 80203	\$1.21	\$3.45	\$1.50	81363-0168	\$0.00 Notice
7	9314 8699 0430 0050 2585 85	Keystone Group 201 Main Street, Suite 2700 Ft. Worth TX 76102	\$1.21	\$3.45	\$1.50	81363-0168	\$0.00 Notice
8	9314 8699 0430 0050 2585 92	LMBI, LP 201 Main Street, Suite 2700 Ft. Worth TX 76102	\$1.21	\$3.45	\$1.50	81363-0168	\$0.00 Notice
9	9314 8699 0430 0050 2586 08	Mewbourne Oil Company 500 West Texas Ave., Suite 1020 Midland TX 79701	\$1.21	\$3.45	\$1.50	81363-0168	\$0.00 Notice
10	9314 8699 0430 0050 2586 15	Occidental Permian Ltd. 5 East Greenway Plaza #10 Houston TX 77046	\$1.21	\$3.45	\$1.50	81363-0168	\$0.00 Notice
11	9314 8699 0430 0050 2586 22	SRBI, LP 201 Main Street, Suite 2700 Ft. Worth TX 76102	\$1.21	\$3.45	\$1.50	81363-0168	\$0.00 Notice
12	9314 8699 0430 0050 2586 39	Sundown Energy, LP. Knoll Trail Plaza 16400 Dallas Parkway, Suite 100 Dallas TX 75248	\$1.21	\$3.45	\$1.50	81363-0168	\$0.00 Notice
13	9314 8699 0430 0050 2586 46	Thru Line LP 201 Main Street, Suite 2700 Ft. Worth TX 76102	\$1.21	\$3.45	\$1.50	81363-0168	\$0.00 Notice
Totals:			\$15.73	\$44.85	\$19.50	Grand Total:	\$80.08

List Number of Pieces
Listed by Sender

Total Number of Pieces
Received at Post Office

Postmaster:
Name of receiving employee

Dated:

Transaction Report Details - CertifiedPro.net

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Certified Mail Article Number	Date Created	Name 1	Name 2	Address	City	State	Zip	Postage	Certified Mailing Status	Service Options	Mail Delivery Date
9314869904300050258646	2018-08-31 10:24 AM	Thru Line LP		201 Main Street, Suite 2700	Ft. Worth	TX	76102	1.21	Delivered	Return Receipt - Electronic	09-04-2018
9314869904300050258639	2018-08-31 10:24 AM	Sundown Energy, LP.	Knoll Trail Plaza	16400 Dallas Parkway, Suite 100	Dallas	TX	75248	1.21	Delivered	Return Receipt - Electronic	09-04-2018
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9314869904300050258608	2018-08-31 10:24 AM	Mewbourne Oil Company		500 West Texas Ave, Suite 1020	Midland	TX	79701	1.21	Delivered	Return Receipt - Electronic	09-05-2018
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9314869904300050258578	2018-08-31 10:24 AM	Key Production Company, Inc		1700 Lincoln Street, Suite 2050	Denver	CO	80203	1.21	Delivered	Return Receipt - Electronic	09-04-2018
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9314869904300050258530	2018-08-31 10:24 AM	Chisholm Trail Ventures, LP		201 Main Street, Suite 2700	Ft. Worth	TX	76102	1.21	Delivered	Return Receipt - Electronic	09-04-2018
9314869904300050258523	2018-08-31 10:24 AM	Chevron		6301 Deauville Blvd.,	Midland	TX	79706	1.21	Delivered	Return Receipt - Electronic	09-05-2018

