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

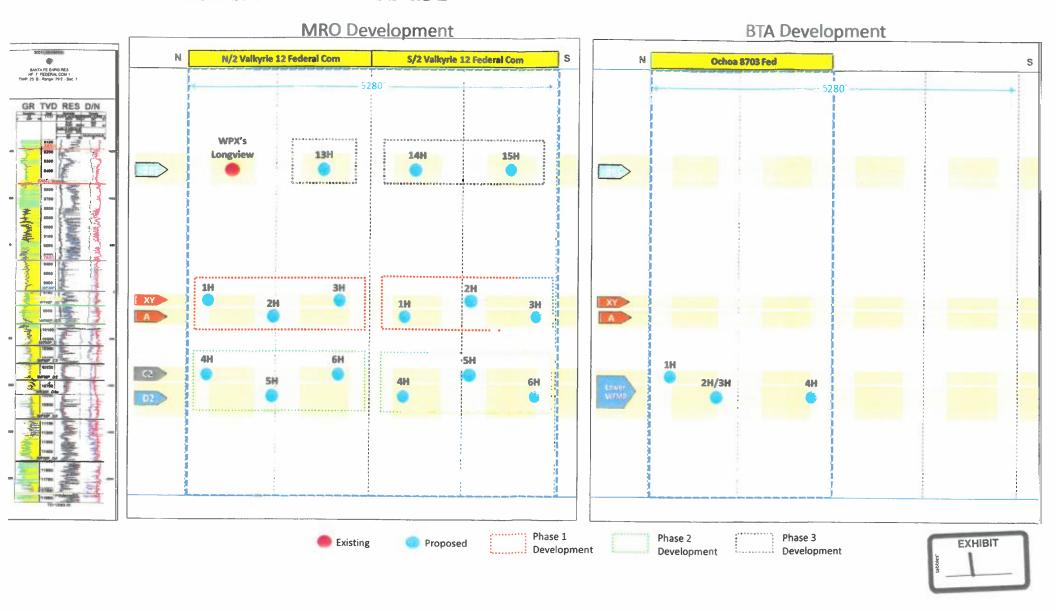
Case No. 20865: Valkyrie 12 SB Federal Com 13H

And

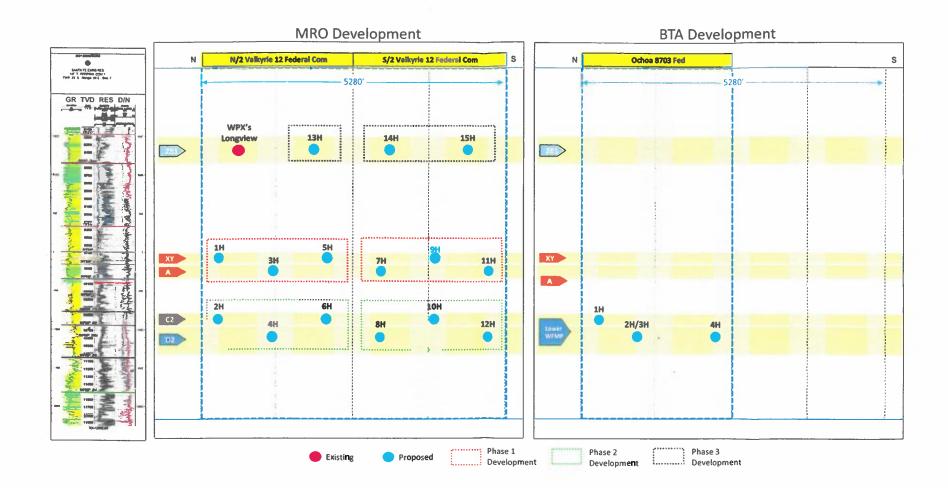
Case No. 20866: Valkyrie 12 WXY Federal Com 1H, Valkyrie 12 WA Federal Com 3H, Valkyrie 12 WXY Federal Com 5H, Valkyrie 12 WD Federal Com 2H, Valkyrie 12 WD Federal Com 6H

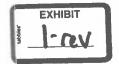


## Section 12-23S-28E & Section 7-23S-29E











Jennifer Wilding NOJV Asset Manager Mid-Continent Business Unit North American Exploration and Production Co., a division of Chevron U.S.A. Inc. 1400 Smith Street, Room 40084 Houston, Texas 77002 Tel 713-372-9950 Jennifer.Wilding@chevron.com

November 13, 2019

New Mexico Oil Conservation Division 1220 South St. Francis Santa Fe, NM 87505

Re:

N/2 of Section 12

Township 23 South, Range 28 East

Eddy County, New Mexico

#### Ladies and Gentlemen:

Chevron U.S.A Inc. ("Chevron") and Marathon Oil Company ("Marathon") are in discussions regarding the assignment of Chevron's leasehold interest in the N/2 of Section 12, T23S, R28E to Marathon. Once final terms are agreed upon, Assignments reflecting this agreement will be filed in the respective county.

Accordingly, Chevron hereby grants Marathon the right to represent its interest and supports the designation of Marathon as operator and its planned development of wells drilled in the above captioned lands.

Should you have any questions regarding the above, please email me at Jennifer.Wilding@Chevron.com or call me at 713-375-9950.

Sincerely,

Jenniter Wilding

NOJV Asset Manager



Brandon Patrick Land Manager Novo Oil & Gas Northern Delaware, LLC 1001 W. Wilshire Blvd., Suite 206 Oklahoma City, Oklahoma 73116 Office: 405-286-4197 bpatrick@novoog.com

November 11, 2019

#### VIA FED EX AND ELECTRONIC MAIL

New Mexico Oil Conservation Division 1220 South St. Francis Santa Fe, New Mexico, 87505

Re: Support for Marathon Oil Permian LLC's Valkyrie cases, Case Numbers 20866 and 20865, located in the N/2 of Section 12-23S-28E and the N/2 of Section 7-23S-29E, Eddy County, New Mexico

#### Ladies and Gentlemen:

Novo Oil & Gas Northern Delaware, LLC ("Novo") respectfully submits this letter in support of Marathon Oil Permian LLC's ("Marathon") "Valkyrie" cases, Case Numbers 20866 and 20865, which are set for hearing on November 14, 2019. Marathon has proposed a two-mile development plan that would traverse Sections 12-23S-28E and 7-23S-29E, Eddy County, New Mexico.

Novo has proposed a two-mile development plan ("Astrodog") being represented by Case Numbers 20916 and 20917, both of which would traverse the N/2 of Section 8-23S-29E and the N/2 of Section 9-23S-29E, Eddy County, New Mexico. Novo's cases are set for hearing on November 14, 2019.

It is Novo's opinion that the Marathon "Valkyrie" and Novo "Astrodog" development plans represent an efficient use of the surface and subsurface in and around the Designated Potash Area as set forth in Order No. 3324 issued by the Department of Interior. Further, Novo supports the designation of Marathon as operator of the spacing units that will be developed by Marathon's Valkyrie wells.

Novo understands that BTA Oil Producers, LLC ("BTA") has expressed concerns with Marathon's Valkyrie development plans. Specifically, BTA has stated that BTA has its own plans to develop the N/2 of Section 7-23S-29E and NW/4 of Section 8-23S-29E. Novo believes that the Valkyrie and Astrodog development plans together represent a more efficient development plan than BTA's plan.

If you have any questions, please contact me using the information at the top of this letter.

Sincerely,

**Brandon Patrick** 

EXHIBIT

3



5 Greenway Plaza, Suite 110, Houston, Texas 77046-0521 P.O. Box 4294, Houston, Texas 77210-4294 Phone 713.366.5330 john\_schneider@oxy.com

November 13, 2019

New Mexico Oil Conservation Division 1220 South St. Francis Santa Fe, NM 87505

Re:

N/2 of Section 7

Township 23 South, Range 29 East

Eddy County, New Mexico

#### Ladies and Gentlemen:

OXY Y-1 Company ("OXY") and Marathon Oil Company ("Marathon") are in discussions regarding the assignment of an undivided interest of OXY's leasehold interest in the N/2 of Section 7 to Marathon. Once final terms are agreed upon, Assignments reflecting this agreement will be filed in the respective county.

Accordingly, OXY hereby grants Marathon the right to represent its interest and supports the designation of Marathon as operator and its planned development of wells drilled in the above captioned lands.

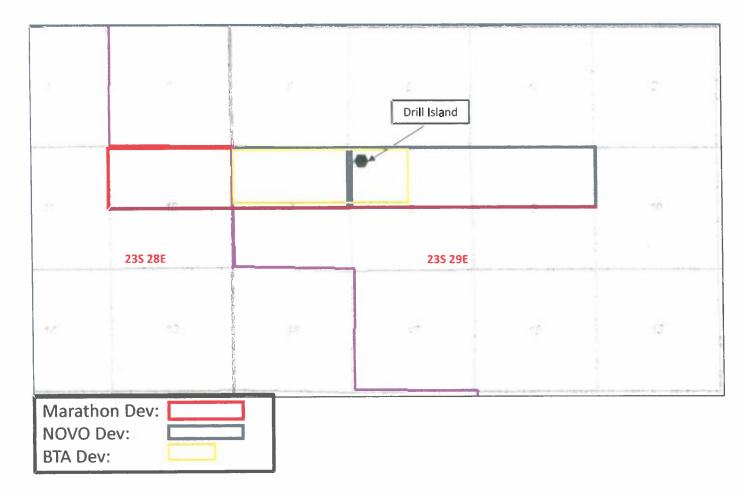
Should you have any questions regarding the above, please email me at john\_schneider@oxy.com or call me at 713-366-5330.

Sincerely,

ame: John Schneider

Title: Land Manager- New Mexico

## **Development Plans**



+



and of other test and a supplemental test

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

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

CASE	NO.	20865	

### **APPLICATION**

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

- 1. Marathon is an interest owner in the subject lands and has a right to drill a well thereon.
- 2. Marathon seeks to dedicate the S/2 N/2 of Section 12 of Township 23 South, Range 28 East; and Section 7 of Township 23 South, Range 29 East, NMPM, Eddy County, New Mexico to form a 320-acre, more or less, spacing unit.
- 3. Marathon plans to drill the Valkyrie 12 SB Federal Com 13H well to a depth sufficient to test the Bone Spring formation. This well will be horizontally drilled and will be drilled at orthodox locations under the Division's rules.



- 4. Marathon sought, but has been unable to obtain, a voluntary agreement from all interest owners in the Bone Spring formation underlying the proposed spacing unit to participate in the drilling of the well or to otherwise commit their interests to the well.
- 5. The pooling of all interests in the Bone Spring formation underlying the proposed unit will prevent the drilling of unnecessary wells, prevent waste and protect correlative rights.
- 6. Marathon further requests that it be allowed one (1) year between the time the well is drilled and completion of the well under the order issued by the Division.

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

- A. Pooling all mineral interests in the Bone Spring formation underlying a horizontal spacing unit within the S/2 N/2 of Section 12 of Township 23 South, Range 28 East; and Section 7 of Township 23 South, Range 29 East, NMPM, Eddy County, New Mexico;
- B. Designating Marathon as operator of this unit and the well to be drilled thereon:
- C. Authorizing Marathon to recover its costs of drilling, equipping and completing the well;
- D. Approving actual operating charges and costs charged for supervision, together with a provision adjusting the rates pursuant to the COPAS accounting procedure;
- E. Setting a 200% charge for the risk involved in drilling and completing the well in the event a working interest owner elects not to participate in the well.
- F. Allowing a time period of one (1) year between when the well is drilled and when it is completed under the order.

Respectfully submitted,

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

Deana M. Bennett

Nicole T. Russell

Post Office Box 2168

500 Fourth Street NW, Suite 1000

Albuquerque, New Mexico 87103-2168

Telephone: 505.848.1800 Attorneys for Applicant CASE NO. \_\_\_\_\_\_: Application of Marathon Oil Permian LLC for compulsory pooling, Eddy County, New Mexico. Applicant seeks an order from the Division pooling all uncommitted mineral interests within a Bone Spring horizontal spacing unit underlying the S/2 N/2 of Section 12 of Township 23 South, Range 28 East; and Section 7 of Township 23 South, Range 29 East, NMPM, Eddy County, New Mexico. This spacing unit will be dedicated to the Valkyrie 12 SB Federal Com 13H well, to be horizontally drilled. The producing area for this well will be orthodox. Also to be considered will be the cost of drilling and completing said well, the allocation of these costs as well as the actual operating costs and charges for supervision, designation of Marathon as operator of the well, and a 200% charge for risk involved in drilling said well, and allowing a one year period between when the well is drilled and when the well is completed. Said area is located approximately 4 miles Northeast of Loving, New Mexico.

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

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

CASE	NO.	20866	

### **APPLICATION**

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

- 1. Marathon is an interest owner in the subject lands and has a right to drill a well thereon.
- 2. Marathon seeks to dedicate the N/2 of Section 12, Township 23 South, Range 28 East and Section 7 of Township 23 South, Range 29 East, NMPM, Eddy County, New Mexico to form a 640-acre, more or less, spacing unit.
- 3. Marathon plans to drill the Valkyrie 12 WXY Federal Com 1H, Valkyrie 12 WA Federal Com 3H, Valkyrie 12 WXY Federal Com 5H, Valkyrie 12 WD Federal Com 2H, Valkyrie 12 WD Federal Com 4H, Valkyrie 12 WD Federal Com 6H wells to a depth sufficient to test the Wolfcamp formation. These wells will be horizontally drilled.



- 4. These wells will be located within the Purple Sage Wolfcamp Gas Pool, which is subject to special pool rules that establish 330 foot setback requirements.
- 5. These wells do not comply with the Division's setback requirements for this pool.

  Marathon will apply for administrative approval of the non-standard well locations separately.
- 6. The completed interval for Valkyrie 12 WA Federal Com 3H well is less than 330 feet from the adjoining tracts and the Division's rules allow for the inclusion of proximity tracts within the proposed spacing unit for the wells.
- 7. Marathon sought, but has been unable to obtain, a voluntary agreement from all interest owners in the Wolfcamp formation underlying the proposed spacing unit to participate in the drilling of the wells or to otherwise commit their interests to the wells.
- 8. The pooling of all interests in the Wolfcamp formation underlying the proposed unit will prevent the drilling of unnecessary wells, prevent waste and protect correlative rights.
- 9. Marathon further requests that it be allowed one (1) year between the time the wells are drilled and completion of the first well under the order issued by the Division.

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

- A. Pooling all mineral interests in the Wolfcamp formation underlying a horizontal spacing unit within N/2 of Section 12, Township 23 South, Range 28 East and Section 7 of Township 23 South, Range 29 East, NMPM, Eddy County, New Mexico;
- B. Designating Marathon as operator of this unit and the wells to be drilled thereon;

- C. Authorizing Marathon to recover its costs of drilling, equipping and completing these wells;
- D. Approving actual operating charges and costs charged for supervision, together with a provision adjusting the rates pursuant to the COPAS accounting procedure;
- E. Setting a 200% charge for the risk involved in drilling and completing the wells in the event a working interest owner elects not to participate in the wells.
- F. Allowing a time period of one (1) year between when the wells are drilled and when the first well is completed under the order.

Respectfully submitted,

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

Bv:

Deana M. Bennett Nicole T. Russell Post Office Box 2168

500 Fourth Street NW, Suite 1000

Albuquerque, New Mexico 87103-2168

Telephone: 505.848.1800
Attorneys for Applicant

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

District I
1625 N French Dr., Hobbs, NM 88240
Phone, (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aziec, 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

12 Dedicated Acres

317.13

API Number

**23S** 

<sup>3</sup> Joint or Infill

29E

Consolidation Code

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

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

☐ AMENDED REPORT

**EDDY** 

## WELL LOCATION AND ACREAGE DEDICATION PLAT

Santa Fe, NM 87505

				15011		TH; BONE S	PRING		
4 Property (	Code				5 Property 1	Name		6	Well Number
	VALKYRIE 12 SB FEDERAL COM								
OGRID :	No.			<sup>7</sup> Elevation					
37209	8	MARATHON OIL PERMIAN LLC 300							
					* Surface I	Location			
UL or lot no.	Section	Township	Range	Lot Ida	Feet from the	North/South line	Feet from the	East/West line	County
E	12	23S	28E		1649	NORTH	1087	WEST	EDDY
			" Bott	om Hole	Location If	Different From	n Surface		
UL or lot no.	Section	Township	Range	Lot Ida	Feet from the	North/South line	Feet from the	East/West line	County

NORTH

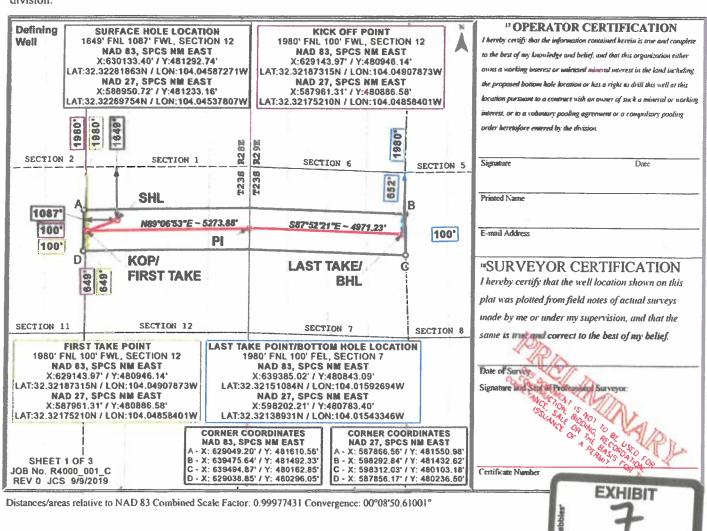
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**EAST** 

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.

1980

15 Order No.



District. 1
1625 N. French Dr., Hobbs, NM \$\$240
Phone: (575) 393-6161 Fax: (575) 393-0720
District. II
811 S. First St., Artesia, NM \$\$210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM \$7410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM \$7505

Phone: (505) 476-3460 Fax: (505) 476-3462

12 Dedicated Acres

634.11

<sup>13</sup> Joint or Infill

Consolidation Code

# 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

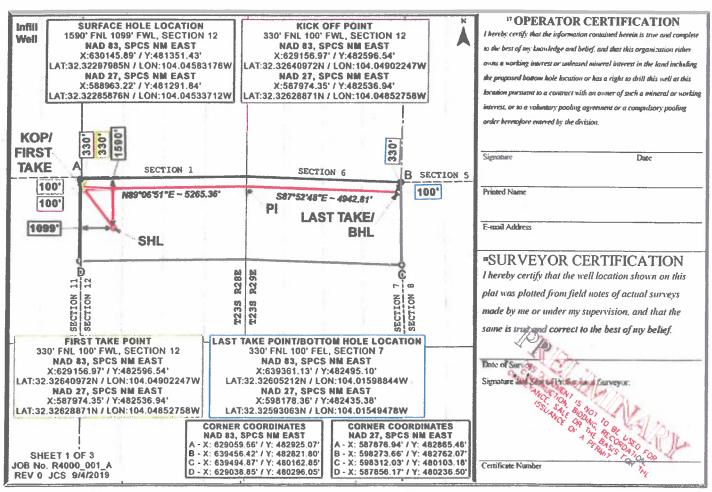
☐ AMENDED REPORT

## WELL LOCATION AND ACREAGE DEDICATION PLAT

1	API Numbe				:	<sup>3</sup> Pool Name				
		98220 PURPLE SAGE; WOLFCA							AP (GA	AS)
4 Property	Code				5 Property	Name		Well Number		
		VALKYRIE 12 WXY FEDERAL COM							1H	
<sup>7</sup> OGRID	No.	<sup>8</sup> Operator Name								<sup>9</sup> Elevation
37209	98	MARATHON OIL PERMIAN LLC							3008'	
UL or lot no.	Section	Township	Range	Lot Ida	Feet from the	North/South line	Feet from the	East	West line	County
E	12	23S	28E		1590	NORTH	1099	WES	ST	EDDY
<u>/</u>	" 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
Α	7	23S	29E		330	NORTH	100	EAS	T	EDDY

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.

S Order No.



# District 1 1625 N. French Dr., Hobbs, NM 88240 Phone, (575) 393-6161 Fax: (575) 393-0720 District II 811 S. First St., Artesia, NM 88210 Phone: (575) 748-1283 Fax: (575) 748-9720 District III 1000 Rio Brazos Road, Aztec, NM 87410 Phone: (505) 334-6178 Fax: (505) 334-6170 District IX

1220 S. St. Francis Dr., Santa Fe, NM 87505 Phone: (505) 476-3460 Fax: (505) 476-3462

634.11

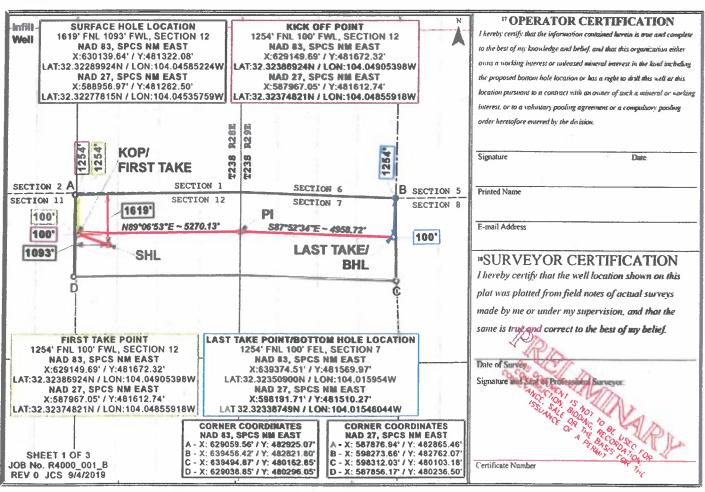
## State of New Mexico Energy, Minerals & Natural Resources Department

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

	API Numbe	r	- 1	<sup>4</sup> Pool Code	1	Pool Name				
				98220		PURPLE SAGE; WOLFCAMP (GAS)				
4 Property	Code				<sup>5</sup> Property P	Name	, v	Well Number		
			1	<b>/ALKYRII</b>	E 12 WA	FEDERAL CO	)M	ŀ	3H	
<sup>7</sup> OGRID	No.				1	Elevation				
3720	98	MARATHON OIL PERMIAN LLC 300							3007'	
				34	Surface I	ocation				
UL or lot no.	Section	Township	Range	Lot Ida	Feet from the	North/South line	Feet from the	East/West line	County	
E	12	23S	28E		1619	NORTH	1093	WEST	EDDY	
			" Bott	tom Hole L	ocation If	Different From	Surface			
UL or lot no.	Section	Township	Range	Lot Ida	Feet from the	North/South line	Feet from the	East/West line	County	
Α	7	23S	29E		1254	NORTH	100	EAST	EDDY	
12 Dedicated Acre	s 13 Joint o	r Infill 11 C	onsolidation Co	nde 15 Order N	io.					



District.1
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District.11
811 S. First St., Artesia, NM 88210
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District.111
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

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

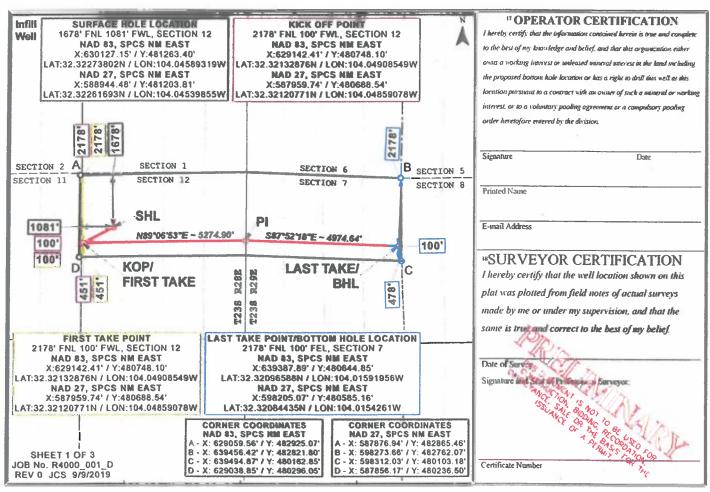
Form C-102
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■ AMENDED REPORT

### WELL LOCATION AND ACREAGE DEDICATION PLAT

	API Numbe	r		LFCAMP (GA	(S)					
4 Property	Code				5 Property ?				<sup>6</sup> Well Number	
				5H						
<sup>7</sup> OGRID	No.	Operator Name							Elevation	
37209	98	MARATHON OIL PERMIAN LLC 3007'							3007'	
					" Surface I	ocation				
UL or lot no.	Section	Township	Range	Let Ide	Feet from the	North/South line	Feet from the	East/West line	County	
Е	12	23S	28E		1678	NORTH	1081	WEST	EDDY	
		_	" Во	ttom Ho	le Location If	Different From	Surface			
UL or lot no.	Section	Township	Range	Lot Ida	Feet from the	North/South line	Feet from the	East/West line	County	
Н	7	23S	29E		2178	NORTH	100	EAST	EDDY	
12 Dedicated Acres	Joint o	nt or Infill 14 Consolidation Code 15 Order No.								
634.11	ļ									

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.



Distances/areas relative to NAD 83 Combined Scale Factor: 0.99977431 Convergence: 00°08'50.61001"

District.1
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District.11
811 S. First St., Artesia, NM 88210
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District.111
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (305) 334-6178 Fax: (505) 334-6170
District.1V
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

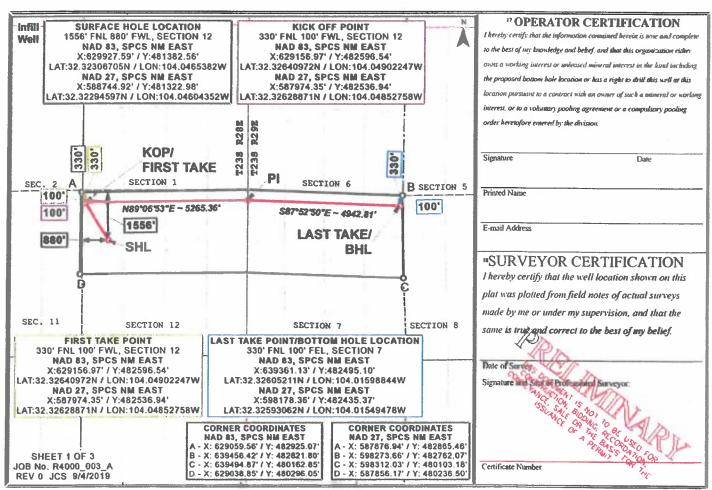
## State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION 1220 South St. Francis Dr. Santa Fe, NM 87505

Form C-102
Revised August 1, 2011
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■ AMENDED REPORT

### WELL LOCATION AND ACREAGE DEDICATION PLAT

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1	API Numbe	r		<sup>2</sup> Pool Cod	le	<sup>3</sup> Pool Name						
				98220		PURPLE SAGE; WOLFCAMP (GAS)				AS)		
4 Property	Code	-		12	5 Property	Name			Well Number			
		VALKYRIE 12 WD FEDERAL COM								2H		
<sup>7</sup> OGRID	No.	<sup>8</sup> Operator Name								Elevation		
37209	98	MARATHON OIL PERMIAN LLC 3008'							3008'			
* Surface Location												
UL or lot no.	Section	Township	Range	Lot Idu	Feet from the	North/South line	Feet from the	East/	Vest line	County		
E	12	23S	28E		1556	NORTH	880	WES	T	EDDY		
			"Bo	ttom Ho	le Location If	Different Fron	n Surface					
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/	Vest line	County		
Α	7	23S	29E		330	NORTH	100	EAS	T	EDDY		
12 Dedicated Acres	13 Joint or	Infill 1	<sup>1</sup> Consolidation	Code 15 Or	rder No.							
634.11												



District.1
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-6720
District.11
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District.111
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District.117
1220 S. St. Francis Dr., Santa Fe, NM 87505

Phone: (505) 476-3460 Fax: (505) 476-3462

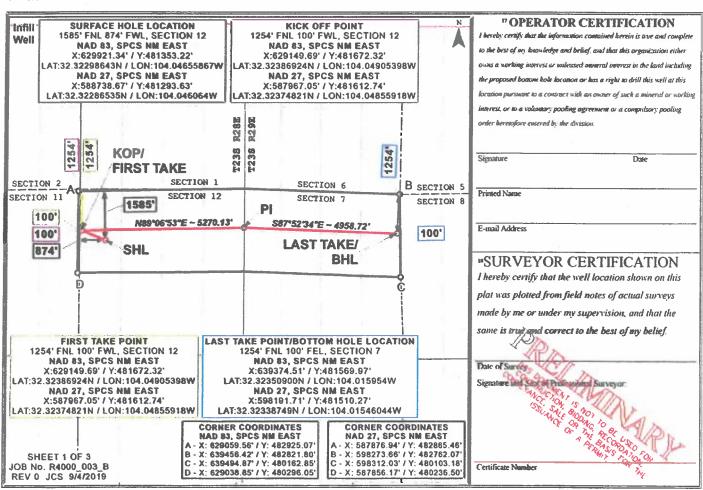
## State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION 1220 South St. Francis Dr. Santa Fe, NM 87505

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

■ AMENDED REPORT

#### WELL LOCATION AND ACREAGE DEDICATION PLAT

1	API Numbe	-								
	Arr Number	· E		<sup>2</sup> Pool C 9822		<sup>3</sup> Pool Name				
				LFCAMP (GA	AS)					
4 Property	Code				5 Proper	ty Name		6.4	<sup>6</sup> Well Number	
				4H						
<sup>7</sup> OGRID	No.	<sup>9</sup> Operator Name								
37209	98	MARATHON OIL PERMIAN LLC 3008'								
		_	·		" Surfac	e Location				
UL or lot no.	Section	Township	Range	Lot I	dn Feet from	he North/South line	Feet from the	East/West line	County	
E	12	23\$	28E		1585	NORTH	874	WEST	EDDY	
			" Bo	ttom H	lole Location	If Different From	n Surface			
UL or lot no.	Section	Township	Range	Lot le	dn Feet from (	he North/South line	Feet from the	East/West line	County	
Α	7	23S	29E		1254	NORTH	100	EAST	EDDY	
Dedicated Acres	s 13 Joint o	r Infilt 14	Consolidation	Code 15	Order No.			·		
634.11										



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
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District. IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

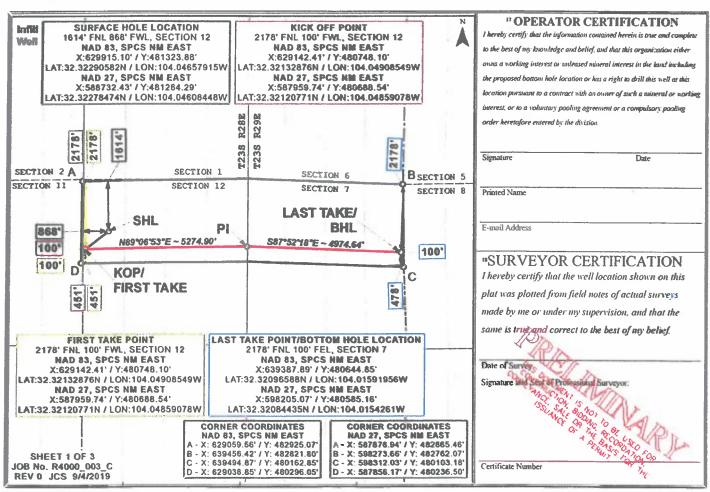
## State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION 1220 South St. Francis Dr. Santa Fe, NM 87505

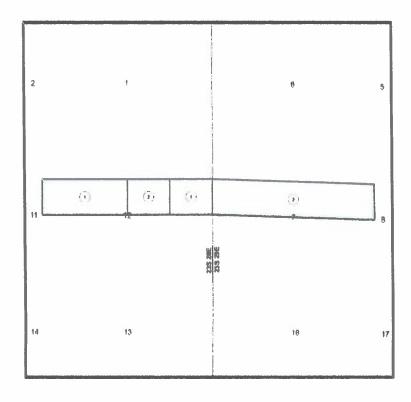
Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

■ AMENDED REPORT

## WELL LOCATION AND ACREAGE DEDICATION PLAT

1	API Numbe	r		<sup>2</sup> Pool Co	de	<sup>3</sup> Pool Name				
				9822	0	PURPLE	PURPLE SAGE; WOLFCAMP (GAS)			
4 Property	Code				5 Property	Name		•	Well Number	
				6H						
<sup>7</sup> OGRID	No.				<sup>5</sup> Elevation					
37209	98	MARATHON OIL PERMIAN LLC 3009'								
					™ Surface	Location				
UL or lot no.	Section	Township	Range	Lot 1d	a Feet from the	North/South line	Feet from the	East/West line	County	
Е	12	23S	28E		1614	NORTH	868	WEST	EDDY	
			" Bo	ttom He	ole Location If	Different Fron	Surface			
UL or lot no.	Section	Township	Range	Lot 1d	n Feet from the	North/South line	Feet from the	East/West line	County	
H	7	23S	29E		2178	NORTH	100	EAST	EDDY	
12 Dedicated Acres	<sup>13</sup> Joint o	r Infill	<sup>14</sup> Consolidation	Code 15 (	Order No.					
634.11										





- Tract 1: Fed NMNM-032636
- Tract 2: Fed NMNM- 032636
- Tract 3: Fed NMNM-103879





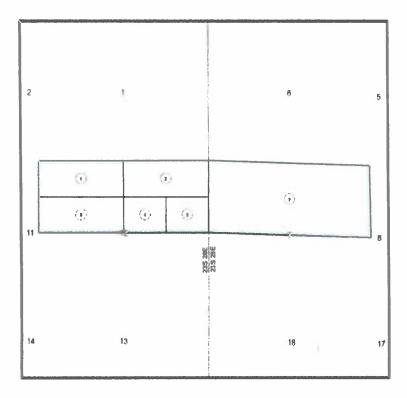
Summary of Interests
Valkyrie 12 SB Federal Com 13H
S/2 of N/2 of Sections 12 T23S-R28E & 7, T23S-R29E – 317.13 acres

Committed Working Interest:	37.839372%
Marathon Oil Permian LLC	37.839372%
Supported Marking Interest	40 5065220/
Supported Working Interest	19. <b>586522%</b>
**OXY Y-1 Company**	13.279960%
**Chevron USA, Inc.**	6.306562%
Total Committed/Supported Working Interest	<u>57.425894%</u>
Uncommitted Working Interest:	
BTA Oil Producers LLC	36.267544%
Devon Energy Production Company	3.153281%
Westall Oil & Gas, LLC	1.576640%
Tap Rock Resources, LLC	1.576640%
**Chevron USA, Inc.**	6.279960%
**OXY Y-1 Company**	13.279960%



' Lease Tract Map

Valkyrie 12 WXY Federal Com 1H, Valkyrie 12 WA Federal Com 3H, Valkyrie 12 WXY Federal Com 5H, Valkyrie 12 WD Federal Com 2H, Valkyrie 12 WD Federal Com 6H N/2 of Sections 12 T23S-R28E & 7, T23S-R29E – 634.11 acres



- Tract 1: Fed NMNM-091078
- Tract 2: Fed NMNM-090527
- Tract 3: Fed NMNM-032636
- Tract 4: Fed NMNM-032636
- Tract 5: Fed NMNM-103879



## " Summary of Interests

Valkyrie 12 WXY Federal Com 1H, Valkyrie 12 WA Federal Com 3H, Valkyrie 12 WXY Federal Com 5H, Valkyrie 12 WD Federal Com 2H, Valkyrie 12 WD Federal Com 6H N/2 of Sections 12 T23S-R28E & 7, T23S-R29E – 634.11 acres

10 02/46/10/

Marathon Oil Permian LLC	18.924161%
**Chevron USA, Inc.** **OXY Y-1 Company**	41.663003% 28.386242% 13.276761%
TOTAL Committed/Supported Working Interest:	60.587164%

### **Uncommitted Working Interest:**

Committed Working Interest:

BTA Oil Producers LLC	36.258808%
Devon Energy Production Company	1.577013%
Westall Oil & Gas, LLC	0.788507%
Tap Rock Resources, LLC	0.788507%
**Chevron USA, Inc.**	28.386242%
**OXY Y-1 Company**	13.276761%





## **Communications Log**

Date	Marathon Communications
2/6/2019	Marathon requests staking
	Marathon initiates brokers to research
2/20/2019	subject tracts
	Initial trade discussions commence
2/28/2019	between Oxy and Marathon
3/11/2019	Marathon counters
3/19/2019	Oxy counters
4/1/2019	Marathon counters
Various	Clarifying requests exchanged
4/17/2019	Oxy counters
	Meeting set up to discuss Chevron trade
6/26/2019	for Section 12
7/9/2019	Section 7 brought into trade discussions
	Meeting to discuss Chevron Trade
7/9/2019	(Section 12 included)
	66 emails regarding proposed trade
Various	exchanged between Marathon and Oxy
	beginning 7/9/2019
	Marathon receives notice of BTA's
7/29/2019	Ochoa wells
9/26/2019	Marathon proposes trade to BTA
10/10/2019	Marathon meets with BTA



Chase Rice Staff Land Professional



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

July 12, 2019

<u>VIA CERTIFIED MAIL RETURN RECEIPT REQUESTED</u> 7019 0700 0000 8791 1589

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

Re:

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

Well Proposals

Section 12, Township 23 South, Range 28 East and Section 7, Township 23 South, Range 29 East

Eddy County, New Mexico

Dear Chevron USA, Inc.:

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

Pad	Well Name	SHL	BHL	Proration Unit	Target TVD	Est. MD
		1067' FWL & 1237'	100' FEL & 330' FNL of			
1	Valkyrie 12 WXY Federal Com 1H	FNL of Sec. 12	Sec. 7	N2 of Secs. 7 & 12	9.676'	20,184
		1062' FWL & 1271'	100' FEL & 1254' FNL			
1	Valkyrie 12 WA Federal Com 3H	FNL of Sec. 12	of Sec. 7	N2 of Secs. 7 & 12	9,866'	20,344
		1056' FWL & 1296'	100' FEL & 1980' FNL			
1	Valkyrie 12 SB Federal Com 13H	FNL of Sec. 12	of Sec. 7	S2N2 of Secs. 7 & 12	8,255'	18,782'
		1051' FWL & 1324'	100' FEL & 2178' FNL			
1	Valkyrie 12 WXY Federal Com 5H	FNL of Sec. 12	of Sec. 7	N2 of Secs. 7 & 12	9,676	20,206
		541' FWL & 1745' FSL	100' FEL & 2178' FSL of			
2	Valkyrie 12 WA Federal Com 7H	of Sec. 12	Sec. 7	S2 of Secs. 7 & 12	9,866'	20,356'
		537' FWL & 1712' FSL	100' FEL & 1980' FSL of	-		
2	Valkyrie 12 SB Federal Com 14H	of Sec. 12	Sec. 7	N2S2 of Secs. 7 & 12	8,255'	18,750'
		533' FWL & 1704' FSL	100' FEL & 1254' FSL of			
2	Valkyrie 12 WXY Federal Com 9H	of Sec. 12	Sec. 7	S2 of Secs. 7 & 12	9,676'	20,202'
		529' FWL & 1650' FSL	100' FEL & 660' FSL of	_		
2	Valkyrie 12 SB Federal Com 15H	of Sec. 12	Sec. 7	S2S2 of Secs. 7 & 12	8,255'	18,858'
		526' FWL & 1623' FSL	100' FEL & 330' FSL of			
2	Valkyrie 12 WA Federal Com 11H	of Sec. 12	Sec. 7	S2 of Secs. 7 & 12	9,866'	20,502'
		963' FWL & 1233' FNL	100' FEL & 330' FNL of			
3	Valkyrie 12 WD Federal Com 2H	of Sec. 12	Sec. 7	N2 of Secs. 7 & 12	10,357	20,849'
	13151	957' FWL & 1263' FNL	100' FEL & 1254' FNL			
3	Valkyrie 12 WD Federal Com 4H	of Sec. 12	of Sec. 7	N2 of Secs. 7 & 12	10,547	21,013'
		953' FWL & 1293' FNL	100' FEL & 2178' FNL			
3	Valkyrie 12 WD Federal Com 6H	of Sec. 12	of Sec. 7	N2 of Secs. 7 & 12	10,357'	20,876'
		471' FWL & 1720' FSL	100' FEL & 2178' FSL of			
4	Valkyrie 12 WD Federal Com 8H	of Sec. 20	Sec. 7	S2 of Secs. 7 & 12	10,547	21,034
		463' FWL & 1685' FSL	100' FEL & 1254' FSL of			
4	Valkyrie 12 WD Federal Com 10H	of Sec. 20	Sec. 7	S2 of Secs. 7 & 12	10,357'	20,880'
		460' FWL & 1657' FSL	100' FEL & 330' FSL of			
4	Valkyrie 12 WD Federal Com 12H	of Sec. 20	Sec. 7	S2 of Secs. 7 & 12	10,547°	21,179'



25

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

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

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

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

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

. ·

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

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

Sincerely,

Chase Rice

Marathon Oil Permian LLC

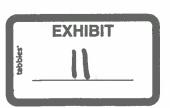
## Valkyrie 12 Federal Com 1H, 2H, 3H, 4H, 5H, 6H, 7H, 8H, 9H, 10H, 11H, 12H, 13H, 14H & 15H

Chevron USA, Inc. elects to participate in the drilling, completing, and equipping of the Valkyrie 12 WXY Federal Com 1H.
Chevron USA, Inc. elects NOT to participate in the drilling, completing, and equipping of the Valkyrie 12 WXY Federal Com 1H.
Chevron USA, Inc. elects to participate in the drilling, completing, and equipping of the Valkyrie 12 WD Federal Com 2H.  Chevron USA, Inc. elects NOT to participate in the drilling, completing, and equipping of the
Valkyrie 12 WD Federal Com 2H.
Chevron USA, Inc. elects to participate in the drilling, completing, and equipping of the Valkyrie 12 WA Federal Com 3H.
Chevron USA, Inc. elects NOT to participate in the drilling, completing, and equipping of the Valkyrie 12 WA Federal Com 3H.
Chevron USA, Inc. elects to participate in the drilling, completing, and equipping of the Valkyrie 12 WD Federal Com 4H.
Chevron USA, Inc. elects NOT to participate in the drilling, completing, and equipping of the Valkyrie 12 WD Federal Com 4H.
Chevron USA, Inc. elects to participate in the drilling, completing, and equipping of the Valkyrie 12 WXY Federal Com 5H.
Chevron USA, Inc. elects NOT to participate in the drilling, completing, and equipping of the Valkyrie 12 WXY Federal Com 5H.
Chevron USA, Inc. elects to participate in the drilling, completing, and equipping of the Valkyrie 12 WD Federal Com 6H.
Chevron USA, Inc. elects NOT to participate in the drilling, completing, and equipping of the Valkyrie 12 WD Federal Com 6H.
Chevron USA, Inc. elects to participate in the drilling, completing, and equipping of the Valkyrie 12 WA Federal Com 7H.
Chevron USA, Inc. elects NOT to participate in the drilling, completing, and equipping of the Valkyrie 12 WA Federal Com 7H.
Chevron USA, Inc. elects to participate in the drilling, completing, and equipping of the Valkyrie 12 WD Federal Com 8H.
Chevron USA, Inc. elects NOT to participate in the drilling, completing, and equipping of the Valkyrie 12 WD Federal Com 8H.
Chevron USA, Inc. elects to participate in the drilling, completing, and equipping of the Valkyrie 12 WXY Federal Com 9H.
Chevron USA, Inc. elects NOT to participate in the drilling, completing, and equipping of the Valkyrie 12 WXY Federal Com 9H.
Chevron USA, Inc. elects to participate in the drilling, completing, and equipping of the Valkyrie 12 WD Federal Com 10H.
Chevron USA, Inc. elects NOT to participate in the drilling, completing, and equipping of the Valkyrie 12 WD Federal Com 10H.

Chevron USA, Inc. elects to participate in the drilling, completing, and equipping of the Valkyrie 12 WA Federal Com 11H.
Chevron USA, Inc. elects NOT to participate in the drilling, completing, and equipping of the Valkyrie 12 WA Federal Com 11H.
Chevron USA, Inc. elects to participate in the drilling, completing, and equipping of the Valkyrie 12 WD Federal Com 12H.
Chevron USA, Inc. elects NOT to participate in the drilling, completing, and equipping of the Valkyrie 12 WD Federal Com 12H.
Chevron USA, Inc. elects to participate in the drilling, completing, and equipping of the Valkyrie 12 SB Federal Com 13H.
Chevron USA, Inc. elects NOT to participate in the drilling, completing, and equipping of the Valkyrie 12 SB Federal Com 13H.
Chevron USA, Inc. elects to participate in the drilling, completing, and equipping of the Valkyrie 12 SB Federal Com 14H.
Chevron USA, Inc. elects NOT to participate in the drilling, completing, and equipping of the Valkyrie 12 SB Federal Com 14H.
Chevron USA, Inc. elects to participate in the drilling, completing, and equipping of the Valkyrie 12 SB Federal Com 15H.
Chevron USA, Inc. elects NOT to participate in the drilling, completing, and equipping of the Valkyrie 12 SB Federal Com 15H.
Chevron USA, Inc.
Ву:
Print Name:
Title:

MARATHON OIL PERMIAN LLC AUTHORITY FOR EXPENDITURE DETAIL OF ESTIMATED WELL COSTS DATE 7/11/2019
DRILLING & LOCATION PREPARED BY MATTHEW RUGAARD
COMPLETION PREPARED BY JOSH SHANNON
FACILITIES PREPARED BY BRIAN LIPSCOMB
ARTIFICIAL LIFT PREPARED BY BRIAN LIPSCOMB

Asset Team	PERMIAN	
Field	CULEBRA BLUFF, SC FORMATION: 2ND BONE SPRINGS WILDCAT	EXPLORATION
Lease/Facility	VALKYRIE 12 SB FEDERAL COM 13H DEVELOPMENT	RECOMPLETION
Location	EDDY COUNTY X EXPLOITATION	WORKOVER
Prospect	MALAGA	
Est Total Depth	18,782 Est Drilling Days Est Completion C	Days 11
LOCATION COST	MYANGRIE	
EUCKTION COST	· INTAROBLE	
GL CODE	DESCRIPTION	ESTIMATED COST
7001270	Location and Access	50,250
7001250	Land Broker Fees and Services	33,750
	TOTAL LOCATION COST - INTANGIBLE	84,000
DRILLING COST -	TANGIRI F	
511121110 0051	TOTAL	
	And the state of t	38.000
7012050	Conductor Pipe Surface Casing	28,000 19,000
7012050	Intermediate Casing 1	66,000
7012050	Intermediate Casing 2	208,000
7012050	Production Casing	141,000
7012050	Drig Uner Hanger, Tieback Eq & Csg Accessories	55,000
7012550		\$0,000
	Drilling Wellhead Equipment	24,000
7012040	Casing & Tubing Access	
7012270	Miscellaneous MRO Materials	5,000
	TOTAL DRILLING - TANGIBLE	\$96,000
DRILLING COST -	INTANGIRIF	
DRILLING COST -	HIRIODEC	
7019200	Drilling Rig Mob/Demob	32,500
7019220	Drilling Rig - day work/footage	489,375
7019040	Directional Drilling Services	155,000
7019020	Cement and Cementing Service Surface	15,000
7019020	Cement and Cementing Service Intermediate 1	25,000
7019020	Cement and Cementing Service Intermediate 2	35,000
7019020	Cement and Cementing Service Production	60,000
7019140	Mud Fluids & Services	62,000
7012310	Solids Control equipment	32,000
7012020	Bits	72,000
7019010	Casing Crew and Services	30,000
7016350	Fuel (Rig)	\$6,000
7019140	Fuel (Mud)	30,000
7001460	Water (non potable)	25,000
7012350	Water (potable)	5,000
7019000	Well Logging Services	- 5,000
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
7001160	Contract Services - Disposal/Non-Hazardous Waste	80,000
7001440	Vacuum Trucks	10,000
7000030	Contract Labor - general	30,000
7000030	Contract Labor - Operations	3,000
7001200	Contract Services - Facilities	10,000
7019300	Well Services - Well Control Services	19,063
7019350	Well Services - Well/Wellhead Services	10,000
7018150	Rental Tools and Equipment (surface rentals)	72,500
7018150	Rig Equipment and Misc.	9,063
7001110	Telecommunications Services	5,000
7001120	Consulting Services	85,188
7001400	Safety and Environmental	29,000
7018120	Rental Buildings (trailers)	14,500
7019310	Coring (sidewalls & analysis)	
7011010	7% Contingency & Taxes	156,533
	TOTAL DRILLING - INTANGIBLE	\$1,796,721
	TOTAL DRILLING COST	\$2,392,721
	TOTAL PRIMARY COST	42,552,721
COMPLETION - TA	NCIDIF	
COMPLETION - TA	MOIDLE	
7012580	Tubing	
7012040	Tubing Accessories (nipple, wireline entry)	
7012550	Wellhead Equip	15,000
7012560	Packers - Completion Equipment	
	TOTAL COMPLETION - TANGIBLE	\$15,000



MARATHON OIL PERM		DATE 7/11/2019
DETAIL OF ESTIMATED		
Asset Team	PERMIAN	
Field	CULEBRA BLUFF, SC FORMATION: 2ND BONE SPRINGS	
Lease/Facility	VALKYRIE 12 5B FEDERAL COM 13H	
COMPLETION - INT.	ANGIBLE	
GL CODE	DESCRIPTION	ESTIMATED COST
7001270 7019220	Location and Access (dress location after rig move, set anchors)  Drilling Rig During Completion	10,000
7019140	Mud Fluids & Services	
7019030 7019240	Colled Tubing Services (3 runs)	350,000
7019270	Snubbing Services Pulling/Swab Units	
7016350	Fuel (from drig)	1
7019010 7019020	Casing Crew and Services Cement and Cementing Services	
7019080	Well Testing Services (flow hand & equip)	470,000
7019320	Fracturing Services	3,174,815
7019330 7019360	Perforating Wireline Services	300,000 15,000
7001460	Water Hauling & Disposal (frac fluids)	355,000
7016180 7018150	Freight - Truck (haul pipe; drig & compl)	20,000
7018150	BOP Rental & Testing  Rental Tools and Equipment { incl drig; lightplant, hydra-walk}	
7018150	CT Downhole Rental Equipment (le. 8H, 8HA)	72
7000030	Contract Labor - general	100,000
7001110	Telecommunications Services Safety and Environmental	
7001120	Consulting Services	100,000
7018150	Tipper Manifold	220,000
7019300 7016190	Frack Stack Rentals Freight (Transportation Services)	85,000
7018150	Equipment Rental ( w/o operator, frac tanks, lightplants)	100,000
7018120 7000030	Rental Buildings (trailers)	35,000
7000030	Contract Labor - Pumping (pump-down pumps)  8% Contingency & Taxes	385,185
	TOTAL COMPLETION - INTANGIBLE	\$5,840,000
	TOTAL COMPLETION COST	\$5,855,000
	101/12 05/11 021/01/05/1	73,033,000
SURFACE EQUIPMEN	VT - TANGIBLE	
7012350	Misc. Piping, Fittings & Valves	17,120
7006640	Company Labor & Burden	
7000030	Contract Labor - General Telecommunication equip (Telemetry)	62,878
7012410	Line Pipe & Accessories	1.4
7012270	Miscellaneous Materials (containment system)	35,847
7008060 7016180	SCADA Freight - truck	
7001190	Contract Engineering	7,264
7012290	Metering and Instrumentation	5,823
7012290	I&E Materials	105,326
7012200	Gas Treating Dehydration	- 14
7012010	Compressor	3/6
7012350	Power	+
7012610 7012440	Vapor Recovery Unit Separator & other pressure vessels	336,771
7012500	Tanks	235,346
7012100	Heater Treater	
7012640 7000010	Flare & Accessories Electrical Labor	23,293
7000010	Mechanical Labor	
7012480	Rod Pumping unit & Pad	
7012180 7012350	Pumping Unit Engine Electrical Power (electrical cooperative construction costs)	
	OTAL SURFACE EQUIPMENT - TANGIBLE	\$840,149
<u></u>		
1	TOTAL SURFACE EQUIPMENT COST	\$ 840,149
A		
ARTIFICIAL LIFT		
7006640	Company Labor	45,000
7012180 7012480	Gas Lift Equipment Rod Pumping, Sucker Rods & Rod Pump	15,000
7012140	Elect Sub Pumps (ESP)	17,500
7019350	Well Services-Well/Wellhead Services	6,000
7012270	Materials & Supplies Tangible Surface Wellhead Equipment	5,000
7012390	Pig Launchers/Receivers & Rel Equip	6,250
7011010	8% Contingency & Taxes	3,000
Т	OTAL ARTIFICIAL LIFT	110,000
-	OTAL ARTIFICIAL LIFT COST	\$ 110,000
	OTAL ARTIFICIAL DET COST	7
	SUMMARY OF ESTIMATED DRILLING WELL COSTS	TOTAL COST
	TOTAL CONTUNE COST	\$ 84,000 \$ 2,392,721
	TOTAL DRILLING COST TOTAL COMPLETIONS COST	\$ 2,392,721 \$ 5,855,000
	TOTAL SURFACE EQUIPMENT COST	\$ 840,149
	TOTAL ARTIFICIAL LIFT COST	\$ 110,000
	GRAND TOTAL COST	\$9,281,870
		V-,-3-,
	Participant's Approval	
Nam		
Comp	any	
Signa	ure:	

MARATHON OIL PERMIAN LLC AUTHORITY FOR EXPENDITURE DETAIL OF ESTIMATED WELL COSTS DATE 7/11/2019
DRILLING & LOCATION PREPARED BY MATTHEW RUGARD
COMPLETION PREPARED BY JOSH SHANNON
FACILITIES PREPARED BY BRIAN LIPSCOMB
ARTIFICIAL LIFT PREPARED BY BRIAN LIPSCOMB

Asset Team	PERMIAN	
Field	PURPLE SAGE; WOI FORMATION: WOLFCAMP XY WILDCAT	EXPLORATION
Lease/Facility	VALKYRIE 12 WXY FEDERAL COM 1H DEVELOPMENT	RECOMPLETION
Location	EDDY COUNTY X EXPLOITATION	WORKOVER
	MALAGA	
Prospect	MALAGA	
Est Total Depth	20,184 Est Drilling Days Est Completion Da	ys 11
LOCATION COST	INTANGIBLE	
TOCK HOW COST	· MIANGOLE	
GL CODE	DESCRIPTION	ESTIMATED COST
7001270	Location and Access	50,250
7001250	Land Broker Fees and Services	33,750
7001130	Carlo di Orici (CC) di la Octobra	33,130
	TOTAL LOCATION COST - INTANGIBLE	84,000
DONLINIC COCK.	TAALPINI P	
DRILLING COST -	TANGIBLE	
7012050	Conductor Pipe	28,000
7012050	Surface Casing	19,000
7012050	Intermediate Casing 1	66,000
7012050	Intermediate Casing 2	253,000
7012050	Production Casing	141,000
7012050	Drig Liner Hanger, Tieback Eq & Csg Accessories	55,000
	and the state of t	
7012550	Drilling Wellhead Equipment	50,000
7012040	Casing & Tubing Access	24,000
7012270	Miscellaneous MRO Materials	5,000
	TOTAL DRILLING - TANGIBLE	641,000
DRILLING COST - I	NTANGIBLE	
7019200	Drilling Rig Mob/Demob	32,500
7019220	Drilling Rig - day work/footage	602,213
7019040	Directional Orbling Services	201,000
7019020	Cement and Cementing Service Surface	15,000
7040030	Cement and Cementing Service Intermediate 1	25,000
7019020		
7019020	Cement and Cementing Service Intermediate 2	35,000
7019020	Cement and Cementing Service Production	60,000
7019140	Mud Fluids & Services	66,600
7012310	Solids Control equipment	41,000
7012020	Bits	72,000
7019010	Carlon Come and Sandar	30,000
	Casing Crew and Services	
7016350	Fuel (Rig)	70,000
7019140	Fuel (Mud)	30,000
7001460	Water (non potable)	25,000
7012350	Water (potable)	5,000
7019000	Well Logging Services	
7019150	Mud Loggingegeosteering	19,000
7019250	Stabilizers, Hole Openers, Underreamers (DH rentals)	15,000
7019110	Casing inspection/cleaning	15,000
7019110	Drill pipe/collar inspection services	10,000
7016180	Freight - truck	25,000
7001450	Water hauling and disposal (includes soil farming)	60,000
7001160	Contract Services - Disposal/Non-Hazardous Waste	80,000
7001440	Vacuum Trucks	10,000
7000030	Contract Labor - general	30,000
7000030		3,000
	Contract Labor - Operations	
7001200	Contract Services - Facilities	10,000
7019300	Well Services - Well Control Services	21,363
7019350	Well Services - Well/Wellhead Services	10,000
7018150	Rental Tools and Equipment (surface rentals)	90,900
7018150	Rig Equipment and Misc.	11,363
7001110	Telecommunications Services	5,000
7001120	Consulting Services	106,808
	February Foundation	
7001400	Safety and Environmental	36,360
7018120	Rental Buildings (trailers)	18,180
7019310	Coring (sidewalls & analysis)	
7011010		176,980
7011010	7% Contingency & Taxes	270,360
	TOTAL DRILLING - INTANGISLE	\$2,064,265
	TOTAL DRILLING COST	\$2,705,265
	TOTAL DRILLING COST	34,703,265
COMPLETION - TAI	#GIBLE	
7012580	Tubing	1.6
7012040		
	Tubing Accessories (nipple, wireline entry)	
7012550	Wellhead Equip	15,000
7012560		
	Packers - Completion Equipment	
	Packers - Completion Equipment	
	Packers - Completion Equipment  TOTAL COMPLETION - TANGIBLE	\$15,000

MARATHON OIL PER		DATE 7/11/2019
DETAIL OF ESTIMAT		
Asset Team	PERMIAN	
Field	PURPLE SAGE; WOI FORMATION: WOLFCAMP XY	
Lease/Facility	VALKYRIE 12 WXY FEDERAL COM 1H	
COLUMN TROM	TALCID: P	
COMPLETION - IN		
GL CODE	DESCRIPTION	ESTIMATED COST
7001270	Location and Access (dress location after rig move, set anchors)	10,000
7019220	Drilling Rig During Completion  Mud Fluids & Services	<del>_</del>
7019030	Colled Tubing Services (3 runs)	350,000
7019240	Snubbing Services	
7019270	Pulling/Swab Units	
7016350	Fuel (from drig)	
7019010	Casing Crew and Services Cement and Cementing Services	
7019020	Well Testing Services (flow hand & equip)	470,000
7019320	Fracturing Services	3,174,815
7019330	Perforating	300,000
7019360	Wireline Services	15,000
7001460 7016180	Water Hauling & Disposal (frac fluids)	354,000
7018150	Freight - Truck (haul pipe; drig & compl) BOP Rental & Testing	20,000
7018150	Rental Tools and Equipment ( Incl drig; lightplant, hydra-walk)	136.1
7018150	CT Downhole Rental Equipment (le. Bit, BHA)	-
7000030	Contract Labor - general	60,000
7001110	Telecommunications Services	100,000
7001400	Safety and Environmental	100,000
7018150	Consulting Services Zipper Manifold	220,000
7019300	Frack Stack Rentals	85,000
7016190	Freight (Transportation Services)	
7018150	Equipment Rental ( w/o operator, frac tanks, lightplants)	100,000
7018120	Rental Buildings (trailers)	35,000
7000030 7011010	Contract Labor - Pumping (pump-down pumps)  8% Contingency & Taxes	60,000 385,185
7011010	an contriguicy a Taxes	385,185
	TOTAL COMPLETION - INTANGIBLE	\$5,839,000
	TOTAL COMPLETION COST	\$5,854,000
SURFACE EQUIPM	ENT - TANGIBLE	
7012350	Misc. Piping, Fittings & Valves	13.120
7006640	Company Labor & Burden	17,120
7000030	Contract Labor - General	62,878
7001110	Telecommunication equip (Telemetry)	
7012410	Line Pipe & Accessories	591
7012270	Miscellaneous Materials (containment system)	35,847
7008060	SCADA	·
7016180	Freight - truck	
7001190 7012290	Contract Engineering Metering and Instrumentation	7,264 5,823
7012290	I&E Materials	105,326
7012200	Gas Treating	
7012200	Dehydration	(+)
7012010	Compressor	
7012350	FOWER	- :
7012610	Vapor Recovery Unit	
7012440 7012500	Separator & other pressure vessels	336,771
7012100	Tanks Heater Treater	235,346
7012640	Flare & Accessories	23,293
7000010	Electrical Labor	10,482
7000010	Mechanical Labor	
7012480	Rod Pumping unit & Pad	
7012180 7012350	Pumping Unit Engine  Electrical Power (electrical cooperative construction costs)	-
/012350	Electrical Power Jeneturical cooperative construction costs)	-
	TOTAL SURFACE EQUIPMENT - TANGIBLE	\$840,149
	TOTAL SURFACE EQUIPMENT COST	\$ 840,149
DESCRIPTION OF THE PROPERTY OF		
RTIFICIAL LIFT		
7006640	Company Labor	45,000
7012180	Gas Lift Equipment	15,000
7012480	Rod Pumping, Sucker Rods & Rod Pump	6,250
7012140	Elect Sub Pumps (ESP) Well Services-Well/Wellhead Services	17,500
7019350	w.ca.pervices-Well-Wellinead belvices	6,000
7012270		
7012270 7012550	Materials & Supplies-Tangible	5,000
		5,000 5,000 6,250
7012550	Materials & Supplies-Tangible Surface Wellhead Equipment	5,000
7012550 7012390 7011010	Materials & Supplies-Tangible Surface Wellhead Equipment Pig Laumchers/Receivers & Rel Equip 8% Contingency & Taxes	5,000 6,250 3,000
7012550 7012390 7011010	Materials & Supplies-Tangible Surface Wellhead Equipment Pig Launchers/Receivers & Rel Equip	5,000 6,250
7012550 7012390 7011010	Materials & Supplies-Tangible Surface Wellhead Equipment Pig Laumchers/Receivers & Rel Equip 8% Contingency & Taxes	5,000 6,250 3,000
7012550 7012390 7011010	Materials & Supplies-Tangible Surface Wellhead Equipment Pig Launchers/Receivers & Rel Equip 8% Contingency & Tazes TOTAL ARTIFICIAL UFT	5,000 6,250 3,000 110,000
7012550 7012390 7011010	Materials & Supplies-Tangible Surface Wellhead Equipment Pig Launchers/Receivers & Reit Equip 8% Contingency & Taxes TOTAL ARTIFICIAL LIFT TOTAL ARTIFICIAL LIFT COST	\$\$
7012550 7012390 7011010	Materials & Supplies-Tangible Surface Wellhead Equipment Pig Launchers/Receivers & Rel Equip 8% Contingency & Tazes TOTAL ARTIFICIAL UFT	5,000 6,250 3,000 110,000
7012550 7012390 7011010	Materials & Supplies-Tangible Surface Wellhead Equipment Pig Launchers/Receivers & Reit Equip 8% Contingency & Taxes TOTAL ARTIFICIAL LIFT TOTAL ARTIFICIAL LIFT COST	\$\$
7012550 7012390 7011010	Materials & Supplies-Tangible Surface Wellhed Equipment Pig Launchers/Receivers & Reit Equip 8% Contingency & Taxes TOTAL ARTIFICIAL LIFT TOTAL ARTIFICIAL LIFT COST  SUMMARY OF ESTIMATED DRILLING WELL COSTS	\$,000 6,250 3,000 110,000 \$ 110,000
7012550 7012390 7011010	Materials & Supplies-Tangible Surface Wellhead Equipment Pig Launchers/Receivers & Reit Equip 8% Contingency & Taxes TOTAL ARTIFICIAL LIFT TOTAL ARTIFICIAL LIFT COST  SUMMARY OF ESTIMATED DRILLING WELL COSTS TOTAL LOCATION COST	\$,000 6,250 3,000 110,000 \$ 110,000 TOTAL COST \$ 84,000
7012550 7012390 7011010	Materials & Supplies-Tangible Surface Wellhead Equipment Pig Launchers/Receivers & Rel Equip  &X Contingency & Taxes  TOTAL ARTIFICIAL LIFT  TOTAL ARTIFICIAL LIFT COST  SUMMARY OF ESTIMATED DRILLING WELL COSTS  TOTAL LOCATION COST TOTAL DRILLING COST	\$ 110,000 TOTAL COST \$ 84,000 \$ 2,705,265
7012550 7012390 7011010	Materials & Supplies-Tangible Surface Wellhead Equipment Pig Launchers/Receivers & Rel Equip 8% Contingency & Taxes  TOTAL ARTIFICIAL LIFT  TOTAL ARTIFICIAL LIFT COST  SUMMARY OF ESTIMATED DRILLING WELL COSTS  TOTAL LOCATION COST TOTAL DRILLING COST TOTAL COMPLETIONS COST	\$,000 \$,250 3,000 110,000 \$ 110,000 TOTAL COST \$ 84,000 \$ 2,705,265 \$ 5,854,000
7012550 7012390 7011010	Materials & Supplies-Tangible Surface Wellhead Equipment Pig Launchers/Receivers & Rei Equip 8% Contingency & Taxes  TOTAL ARTIFICIAL LIFT  TOTAL ARTIFICIAL LIFT COST  SUMMARY OF ESTIMATED DRILLING WELL COSTS  TOTAL LOCATION COST TOTAL DRILLING COST TOTAL COMPLETIONS COST TOTAL SURFACE EQUIPMENT COST TOTAL ARTIFICIAL LIFT COST	\$,000 \$,270 \$,000 \$110,000 \$ 110,000 TOTAL COST \$ 84,000 \$ 2,705,265 \$ 5,854,000 \$ 840,149 \$ 110,000
7012550 7012390 7011010	Materials & Supplies-Tangible Surface Wellhead Equipment Pig Launchers/Receivers & Rei Equip 8% Contingency & Taxes  TOTAL ARTIFICIAL LIFT  TOTAL ARTIFICIAL LIFT COST  SUMMARY OF ESTIMATED DRILLING WELL COSTS  TOTAL LOCATION COST TOTAL DRILLING COST TOTAL COMPLETIONS COST TOTAL SURFACE EQUIPMENT COST	\$,000 \$,250 3,000 110,000 \$ 110,000 TOTAL COST \$ 84,000 \$ 2,705,265 \$ 5,854,000 \$ 840,149
7012550 7012390 7011010	Materials & Supplies-Tangible Surface Wellhead Equipment Pig Launchers/Receivers & Rel Equip  & Contingency & Taxes  TOTAL ARTIFICIAL LIFT  TOTAL ARTIFICIAL LIFT COST  SUMMARY OF ESTIMATED DRILLING WELL COSTS  TOTAL LOCATION COST TOTAL DRILLING COST TOTAL COMPLETIONS COST TOTAL SURFACE EQUIPMENT COST  TOTAL SURFACE EQUIPMENT COST  GRAND TOTAL COST	\$,000 \$,270 \$,000 \$110,000 \$ 110,000 TOTAL COST \$ 84,000 \$ 2,705,265 \$ 5,854,000 \$ 840,149 \$ 110,000
7012550 7012390 7011010	Materials & Supplies-Tangible Surface Wellhead Equipment Pig Launchers/Receivers & Rei Equip 8% Contingency & Taxes  TOTAL ARTIFICIAL LIFT COST  SUMMARY OF ESTIMATED DRILLING WELL COSTS  TOTAL LOCATION COST  TOTAL LOCATION COST  TOTAL DRILLING COST  TOTAL COMPLETIONS COST  TOTAL SURFACE EQUIPMENT COST  TOTAL ARTIFICIAL LIFT COST  GRAND TOTAL COST  Participant's Approval	\$,000 \$,270 \$,000 \$110,000 \$ 110,000 TOTAL COST \$ 84,000 \$ 2,705,265 \$ 5,854,000 \$ 840,149 \$ 110,000
701250 7012390 7011010	Materials & Supplies-Tangible Surface Wellhead Equipment Pig Launchers/Receivers & Rel Equip  8% Contingency & Taxes  TOTAL ARTIFICIAL LIFT COST  SUMMARY OF ESTIMATED DRILLING WELL COSTS  TOTAL LOCATION COST TOTAL DRILLING COST TOTAL ORDILLING COST TOTAL COMPLETIONS COST TOTAL SURFACE EQUIPMENT COST TOTAL ARTIFICIAL LIFT COST  GRAND TOTAL COST  Participant's Approval	\$,000 \$,270 \$,000 \$110,000 \$ 110,000 TOTAL COST \$ 84,000 \$ 2,705,265 \$ 5,854,000 \$ 840,149 \$ 110,000
701250 7012390 7011010 Nai Com,	Materials & Supplies-Tangible Surface Wellhead Equipment Pig Launcher/Receivers & Rei Equip 8% Contingency & Taxes  TOTAL ARTIFICIAL LIFT  TOTAL ARTIFICIAL LIFT COST  SUMMARY OF ESTIMATED DRILLING WELL COSTS  TOTAL LOCATION COST TOTAL DRILLING COST TOTAL ORDILLING COST TOTAL SURFACE EQUIPMENT COST TOTAL SURFACE EQUIPMENT COST TOTAL ARTIFICIAL LIFT COST  GRAND TOTAL COST  Participant's Approval  ne of pany:	\$,000 \$,270 \$,000 \$110,000 \$ 110,000 TOTAL COST \$ 84,000 \$ 2,705,265 \$ 5,854,000 \$ 840,149 \$ 110,000
701250 7012390 7011010 Nai Com,	Materials & Supplies-Tangible Surface Wellhead Equipment Pig Launchers/Receivers & Rel Equip  8% Contingency & Taxes  TOTAL ARTIFICIAL LIFT COST  SUMMARY OF ESTIMATED DRILLING WELL COSTS  TOTAL LOCATION COST TOTAL DRILLING COST TOTAL ORDILLING COST TOTAL COMPLETIONS COST TOTAL SURFACE EQUIPMENT COST TOTAL ARTIFICIAL LIFT COST  GRAND TOTAL COST  Participant's Approval	\$,000 \$,270 \$,000 \$110,000 \$ 110,000 TOTAL COST \$ 84,000 \$ 2,705,265 \$ 5,854,000 \$ 840,149 \$ 110,000

MARATHON OIL PERMIAN LLC AUTHORITY FOR EXPENDITURE DETAIL OF ESTIMATED WELL COSTS DATE 7/11/2019

ORILLING & LOCATION PREPARED BY MATTHEW RUGAARD

COMPLETION PREPARED BY JOSH SHANNON

FACILITIES PREPARED BY BRIAN LIPSCOMB

ARTIFICIAL LIFT PREPARED BY BRIAN LIPSCOMB

Asset Team	PERMIAN	*****
Field	PURPLE SAGE; WOI FORMATION: WOLFCAMP A WILDCAY	EXPLORATION RECOMPLETION
Lease/Facility	VALKYRIE 12 WA FEDERAL COM 3H DEVELOPMENT EDDY COUNTY X EXPLOITATION	WORKOVER
Prospect	EDDY COUNTY X EXPLOITATION MALAGA	
Est Total Depth	20,344 Est Orilling Days Est Completion	Days 11
LOCATION COST -	INTANGIBLE	
		************
GL CODE 7001270	DESCRIPTION Location and Access	ESTIMATED COST
7001270	Land Broker Fees and Services	50,250 33,750
7001250	Land Broker rees and Services	33,730
	TOTAL LOCATION COST - INTANGIBLE	84,000
DRILLING COST - 1	ANGIBLE	
7012050	Conductor Pipe	28,000
7012050	Surface Casing	19,000
7012050	Intermediate Casing 1	66,000
7012050	Intermediate Casing 2	253,000
7012050	Production Casing	141,000
7012050	Drig Liner Hanger, Tieback Eq & Csg Accessories	\$5,000
7012550	Drilling Wellhead Equipment	50,000
7012040	Casing & Tubing Access	24,000
7012270	Miscelianeous MRO Materials	5,000
	TOTAL DRILLING - TANGISLE	641,000
DRILLING COST - II	VTANGIBLE	
7019200	Drilling Rig Mob/Demob	32,500
7019220	Drilling Rig - day work/footage	602,213
7019040	Directional Orilling Services	201,000
7019020	Cement and Cementing Service Surface	15,000
7019020	Cement and Cementing Service Intermediate 1	25,000
7019020	Cement and Cementing Service Intermediate 2	35,000
7019020	Cement and Cementing Service Production	60,000
7019140	Mud Fluids & Services	66,600
7012310	Solids Control equipment	41,000
7012020	Bits .	72,000
7019010	Casing Crew and Services	30,000
7016350	fuel (Rig)	70,000
7019140	Fuel (Mud)	30,000
7001460	Water (non potable)	25,000
7012350	Water (potable)	5,000
7019000	Well Logging Services	
7019150	Mud Logging+geosteering	19,000
7019250	Stabilizers, Hole Openers, Underreamers (DH rentals)	15,000
7019110	Casing Inspection/cleaning	15,000
7019110	Orill pipe/collar inspection services	10,000
7016180	Freight - truck	25,000
7001460	Water hauling and disposal (includes soil farming)	60,000
7001160	Contract Services - Disposal/Non-Hazardous Waste	80,000
7001440	Vacuum Trucks	10,000
7000030	Contract Labor - general	30,000
7000030	Contract Labor - Operations	3,000
7001200	Contract Services - Facilities	10,000
7019300	Well Services - Well Control Services	21,363
7019350	Well Services · Well/Wellhead Services	10,000
7018150	Rental Tools and Equipment (surface rentals)	90,900
7018150	Rig Equipment and Misc.	11,363
7001110	Telecommunications Services	\$,000
7001120	Consulting Services	106,808
7001400	Safety and Environmental	36,360
7018120	Rental Buildings (trailers)	18,180
7019310	Coring (sidewalls & analysis)	-
7011010	7% Contingency & Taxes	176,980
	TOTAL DRILLING - INTANGIBLE	\$2,064,265
	TOTAL DRILLING COST	\$2,705,265
	TOTAL DIMEMINE LUST	42,703,203
CORADICTION TAN	ICIDI 6	
COMPLETION - TAN	TOIDLE	
7012580	Tubing	
7012040	Tubing Accessories (nipple, wireline entry)	14
7012550	Wellhead Equip	15,000
7012560	Packers - Completion Equipment	
. 020000		
	TOTAL COMPLETION - TANGIBLE	\$15,000

MARATHON OIL PERM		DATE 7/11/2019
DETAIL OF ESTIMATED		
Asset Team	PERMIAN	
	PURPLE SAGE; WOI FORMATION: WOLFCAMP A	
Lease/facility	VALKYRIE 12 WA FEDERAL COM 3H	
COMPLETION - INTA	NGIBLE	
GL CODE	DESCRIPTION	ESTIMATED COST
7001270	Location and Access (dress location after rig move, set anchors)	10,000
7019220	Driffing Rig During Completion	14
7019140	Mud Fluids & Services Colled Tubing Services (3 runs)	350,000
7019240	Snubbing Services	
7019270	Pulling/Swab Units	14
7016350 7019010	Fuel (from drig)	
7019020	Casing Crew and Services Cement and Cementing Services	
7019080	Well Testing Services (flow hand & equip)	470,000
7019320	Fracturing Services	3,174,815
7019330 7019360	Perforating Wireline Services	300,000 15,000
7001460	Water Hauling & Disposal (frac fluids)	354,000
7016180	Freight - Truck (haul pipe; drig & compl)	20,000
7018150 7018150	8OP Rental & Testing  Rental Tools and Equipment ( Incl drig; lightplant, hydra-walk)	- 10
7018150	CT Downhole Rental Equipment (le. Bit, BHA)	1/1
7000030	Contract Labor - general	60,000
7001110	Telecommunications Services	100,000
7001400 7001120	Safety and Environmental  Consulting Services	100,000
7018150	Zipper Manifold	220,000
7019300	Frack Stack Rentals	85,000
7016190 7018150	Freight (Transportation Services)  Equipment Rental ( w/o operator, frac tanks, lightplants)	100,000
7018120	Rental Buildings (trailers)	35,000
7000030	Contract Labor - Pumping (pump-down pumps)	60,000
7011010	8% Contingency & Taxes	385,185
1	OTAL COMPLETION - INTANGIBLE	\$5,839,000
1	TOTAL COMPLETION COST	\$5,854,000
SURFACE EQUIPMEN	T - TANGIBLE	
7012350	Misc. Piping, Fittings & Valves	17,120
7006640	Company Labor & Burden	·
7000030	Contract Labor - General Telecommunication equip (Telemetry)	62,878
7012410	Line Pipe & Accessories	
7012270	Miscellaneous Materials (containment system)	35,847
7008060	SCADA	<del></del>
7016180	Freight - truck Contract Engineering	7,264
7012290	Metering and Instrumentation	5,823
7012290	I&E Materials	105,326
7012200	Gas Treating	· · · · · · · · · · · · · · · · · · ·
7012200 7012010	Dehydration Compressor	
7012350	Power	- 1
7012610	Vapor Recovery Unit	(4)
7012440 7012500	Separator & other pressure vessels	336,771
7012300	Tanks Heater Treater	235,346
7012640	Flare & Accessories	23,293
7000010	Electrical Labor	10,482
7000010 7012480	Mechanical Labor Rod Pumping unit & Pad	
7012180	Pumping Unit Engine	- 1
7012350	Electrical Power (electrical cooperative construction costs)	
T	DTAL SURFACE EQUIPMENT - TANGIBLE	\$840,149
Т	OTAL SURFACE EQUIPMENT COST	\$ 840,149
ARTIFICIAL LIFT		
7006640	Company Labor	45,000
7012180	Gas Lift Equipment	15,000
7012480 7012140	Rod Pumping, Sucker Rods & Rod Pump Elect Sub Pumps (ESP)	6,250 17,500
7019350	Well Services-Well/Wellhead Services	6,000
7012270	Materials & Supplies-Tangible	6,000
7012550 7012390	Surface Wellhead Equipment Pig Launchers/Receivers & Rel Equip	5,000 6,250
7011010	8% Contingency & Taxes	3,000
	OTAL ARTIFICIAL LIFT	
	THE BUTTON SIT	110,000
T	OTAL ARTIFICIAL LIFT COST	\$110,000
	SUMMARY OF ESTIMATED DRILLING WELL COSTS	TOTAL COST
	TOTAL LOCATION COST	
	TOTAL LOCATION COST TOTAL DRILLING COST	\$ 84,000 \$ 2,705,265
	TOTAL COMPLETIONS COST	\$ 2,705,265 \$ 5,854,000
	TOTAL COMPLETIONS COST	\$ 840,149
	TOTAL ARTIFICIAL LIFT COST	\$ 110,000
	GRAND TOTAL COST	\$9,593,414
	SIMILO IOIAL COSI	43735744
	Participant's Approval	
Name		
Compa	iny:	
Cinnet	I/O	
Signati	ATA-	

DATE 7/31/2019
DRILLING & LOCATION PREPARED BY MATTHEW RUGARD
COMPLETION PREPARED BY JOSH SKANNON
FACILITIES PREPARED BY BRIAN LIPSCOMB
ARTIFICIAL LIFT PREPARED BY BRIAN LIPSCOMB

Asset Team	PERMIAN	
Field	PURPLE SAGE; WOI FORMATION: WOLFCAMP XY WILDCAT	EXPLORATION
Lease/Facility	VALKYRIE 12 WXY FEDERAL COM SH DEVELOPMENT	RECOMPLETION
Location	EDDY COUNTY X EXPLOITATION	WORKOVER
	MALAGA	
Prospect	MALAGA	
Est Total Depth	20 206 Est Orilling Days Est Completion Da	ys <u>11</u>
LOCATION COST	INTANGISIE	<del>-</del>
LOCATION COST	· INTACCIOLE	
GL CODE	DESCRIPTION	ESTIMATED COST
7001270	Location and Access	50,250
7001250	Land Broker Fees and Services	33,750
	TOTAL LOCATION COST - INTANGIBLE	84,000
	TOTAL LOCATION COST - INTANGUEE	84,000
DRILLING COST -	TANGIBLE	
7012050	Conductor Pipe	28,000
7012050	Surface Casing	19,000
7012050	Intermediate Casing 1	66,000
7012050	Intermediate Casing 2	253,000
7012050	Production Casing	142,000
7012050	Drig Liner Hanger, Tieback Eq & Csg Accessories	55,000
7012550	Drilling Wellhead Equipment	50,000
7012040	Casing & Tubing Access	24,000
7012270	Miscellaneous MRO Materials	5,000
	TOTAL DRILLING - TANGIBLE	642,000
	· · · · · · · · · · · · · · · · · · ·	
DRILLING COST -	INTANGIBLE	
7019200	Drilling Rig Mob/Demob	32,500
7019220	Drilling Rig - day work/footage	602,213
7019040	Directional Orilling Services	201,000
7019020	Coment and Comenting Service Surface	15,000
7019020	Cement and Cementing Service Intermediate 1	25,000
7019020	Coment and Comenting Service Intermediate 2	35,000
7019020	Cement and Cementing Service Production	60,000
7019140	Mud Fluids & Services	66,600
7012310	Solids Control equipment	41,000
7012020	Bits	72,000
7019010	Casing Crew and Services	30,000
7016350	Fuel (Rig)	70,000
7019140	Fuel (Mud)	30,000
7001460	Water (non potable)	25,000
7012350	Water (potable)	5,000
7019000	Well Logging Services	
7019150	Mud Logging+geosteering	19,000
7019250	Stabilizers, Hole Openers, Underreamers (DH rentals)	15,000
7019110	Casing Inspection/cleaning	15,000
7019110	Drill pipe/collar inspection services	10,000
7016180	Freight - truck	25,000
7001460	Water hauling and disposal (includes soil farming)	60,000
7001160	Contract Services - Disposal/Non-Hazardous Waste	80,000
7001440	Vacuum Trucks	10,000
7000030	Contract Labor - general	30,000
7000030	Contract Labor - Operations	3,000
7001200	Contract Services - Facilities	10,000
7019300	Well Services - Well Control Services	21,363
7019350	Well Services - Well/Wellhead Services	10,000
7018150	Rental Tools and Equipment (surface rentals)	90,900
7018150	Rig Equipment and Misc.	11,363
7001110	Telecommunications Services	5,000
7001120	Consulting Services	106,808
7001400	Safety and Environmental	36,360
7018120	Rental Buildings (trailers)	18,180
7019310	Coring (sidewaits & analysis)	
7011010	7% Contingency & Taxes	177,050
	TOTAL CRITICAL INTANCIBIS	63.064.555
	TOTAL DRILLING - INTANGIBLE	\$2,064,335
		40
	TOTAL DRILLING COST	\$2,706,335
COMPLETION - TA	MOIBLE	
7012580	Tubing	(+)
7012040	Tubing Accessories (nipple, wireline entry)	
7012550	Wellhead Equip	15,000
7012560	Packers - Completion Equipment	
	TOTAL COMPLETION - TANGIBLE	\$15,000

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AUTHORITY FOR EXP	AIAN LLC	DATE 7/11/2019
DETAIL OF ESTIMATE		
	PERMIAN	
Asset Yearn Field	PURPLE SAGE; WOI FORMATION: WOLFCAMP XY	
Lease/Facility	VALKYRIE 12 WXY FEDERAL COM SH	
COMPLETION - IN	ANGIBLE	
GL CODE	DESCRIPTION	ESTIMATED COST
7001270	Location and Access (dress location after rig move, set anchors)	10,000
7019220	Drilling Rig During Completion	
7019140	Mud Fluids & Services Colled Tubing Services (3 runs)	350,000
7019240	Snubbing Services	370,000
7019270	Pulling/Swab Units	94
7016350	Fuel (from drig)	
7019010 7019020	Casing Crew and Services	
7019020	Cement and Cementing Services Well Testing Services (flow hand & equip)	470,000
7019320	Fracturing Services	3,174,815
7019330	Perforating	300,000
7019360	Wireline Services	15,000
7001460	Water Hauling & Disposal (frac fluids)	354,000
7016180 7018150	Freight - Truck (haul pipe; drig & compl) BOP Rental & Testing	20,000
7018150	Rental Tools and Equipment [ incl drig; lightplant, hydra-walk]	14.
7018150	CT Downhole Rental Equipment (ie. Bit, BHA)	1.0
7000030	Contract Labor - general	60,000
7001110	Telecommunications Services	100,000
7001400 7001120	Safety and Environmental  Consulting Services	100,000
7018150	Zipper Manifold	220,000
7019300	Frack Stack Rentals	85,000
7016190	Freight (Transportation Services)	
7018150	Equipment Rental ( w/o operator, frac tanks, lightplants)	100,000
7018120 7000030	Rental Buildings (trailers)  Contract Labor - Dumning (numo-down numns)	35,000 60,000
7011010	Contract Labor - Pumping (pump-down pumps) 8% Contingency & Taxes	385,185
	TOTAL COMPLETION - INTANGIBLE	\$5,839,000
	TOTAL COMPLETION COST	\$5,854,000
SURFACE EQUIPME	√T - TANGIBLE	
7012350	Misc. Piping, Fittings & Valves	17,120
7006640	Company Labor & Burden	
7000030	Contract Labor - General	62,878
7001110	Telecommunication equip (Telemetry)	<u>·</u>
7012410 7012270	Line Pipe & Accessories Miscellaneous Materials (containment system)	35,847
7008060	SCADA	33,047
7016180	Freight - truck	19
7001190	Contract Engineering	7,264
7012290	Metering and Instrumentation	5,823
7012290	I&E Materials	105,326
7012200	Gas Treating Dehydration	- 4
7012010	Compressor	- 2
7012350	Power	-
7012610	Vapor Recovery Unit	9
7012440	Separator & other pressure vessels	336,771
7012500	Tanks	235,346
7012100 7012640	Flare & Accessories	23,293
7000010	Electrical Labor	
7000010	Mechanical Labor	10,482
7000010 7012480	Rod Pumping unit & Pad	
7000010 7012480 7012180	Rod Pumping unit & Pad Pumping Unit Engine	
7000010 7012480	Rod Pumping unit & Pad	
7000010 7012480 7012180 7012350	Rod Pumping unit & Pad Pumping Unit Engine	
700010 7012480 7012180 7012350	Rod Pumping unit & Pad Pumping Unit Engine Electrical Power (electrical cooperative construction costs)  TOTAL SURFACE EQUIPMENT - TANGIBLE	10,482 
700010 7012480 7012180 7012350	Rod Pumping unit & Pad  Pumping Unit Engine  Electrical Power (electrical cooperative construction costs)	10,482
7000010 7012480 7012180 7012350	Rod Pumping unit & Pad Pumping Unit Engine Electrical Power (electrical cooperative construction costs)  TOTAL SURFACE EQUIPMENT - TANGIBLE	10,482 
7000010 7012480 7012180 7012350	Rod Pumping unit & Pad Pumping Unit Engine Electrical Power (electrical cooperative construction costs)  TOTAL SURFACE EQUIPMENT - TANGIBLE	10,482 
7000010 7012480 7012180 7012350	Rod Pumping unit & Pad Pumping Unit Engine Electrical Power (electrical cooperative construction costs)  TOTAL SURFACE EQUIPMENT - TANGIBLE	10,482 
7000010 7012480 7012180 7012350  ARTIFICIAL LIFT 7006640 7012180	Rod Pumping unit & Pad Pumping Unit Engine Electrical Power (electrical cooperative construction costs)  IOTAL SURFACE EQUIPMENT - TANGIBLE  FOTAL SURFACE EQUIPMENT COST  Company Labor Gas Lift Equipment	\$840,149 \$ 840,149
7000010 7012480 7012180 7012350 7012350 ARTIFICIAL LIFT 7006640 7012180 7012480	Rod Pumping unit & Pad Pumping Unit Engine Electrical Power [electrical cooperative construction costs]  IOTAL SURFACE EQUIPMENT - TANGIBLE  IOTAL SURFACE EQUIPMENT COST  Company Labor Gas Lift Equipment Rod Pumping, Sucker Rods & Rod Pump	\$840,149 \$ 840,149 45,000 15,000 6,250
7000010 7012480 7012350  ARTIFICIAL LIFT 7006640 7012180 7012480 7012140	Rod Pumping unit & Pad Pumping Unit Engine Electrical Power (electrical cooperative construction costs)  IOTAL SURFACE EQUIPMENT - TANGIBLE  FOTAL SURFACE EQUIPMENT COST  Company Labor Gas Lift Equipment Rod Pumping, Sucker Rods & Rod Pump Elect Sub Pumpis (ESF)	\$840,149 \$ 840,149 \$ 65,000 6,250 17,500
7000010 7012480 7012180 7012350  ARTIFICIAL LIFT 7006640 7012180 7012480 7012140 7012180	Rod Pumping unit & Pad Pumping Unit Engine Electrical Power (electrical cooperative construction costs)  IOTAL SURFACE EQUIPMENT - TAMGIBLE  IOTAL SURFACE EQUIPMENT COST  Company Labor Gas Lift Equipment Rod Pumping, Sucter Rods & Rod Pump Elect Sub Pumps (ESP) Well Services Well (Wellhead Services	\$840,149 \$ 840,149 \$ 15,000 15,000 6,250 17,500 6,000
7000010 7012480 7012350  ARTIFICIAL LIFT 7006640 7012180 7012480 7012140	Rod Pumping Unit Engine  Pumping Unit Engine Electrical Power (electrical cooperative construction costs)  IOTAL SURFACE EQUIPMENT - TANGIBLE  IOTAL SURFACE EQUIPMENT COST   Company Labor  Gas Lift Equipment Rod Pumping, Sucker Rods & Rod Pump  Elect Sub Pumps (ESP)  Well Services-Well Wellhead Services Materials & Supples-Tangible	\$840,149 \$840,149 \$45,000 15,000 6,250 17,500 5,000
7000010 7012480 7012350 7012350 7012350 ARTIFICIAL LIFT 7005640 7012380 7012440 7012350 7012270	Rod Pumping unit & Pad Pumping Unit Engine Electrical Power (electrical cooperative construction costs)  IOTAL SURFACE EQUIPMENT - TAMGIBLE  IOTAL SURFACE EQUIPMENT COST  Company Labor Gas Lift Equipment Rod Pumping, Sucter Rods & Rod Pump Elect Sub Pumps (ESP) Well Services Well (Wellhead Services	\$840,149 \$ 840,149 \$ 15,000 15,000 6,250 17,500 6,000
7000010 7012480 7012180 7012180 7012350  ARTIFICIAL LIFT 700640 7012180 7012480 7012140 7019350 7012270 7012250	Rod Pumping unit & Pad Pumping Unit Engine Electrical Power (electrical cooperative construction costs)  TOTAL SURFACE EQUIPMENT - TANGIBLE  FOTAL SURFACE EQUIPMENT COST   Company Labor  Gas Lift Equipment  Rod Pumping, Sucker Rod: & Rod Pump  Elect Sub Pumps (ESP)  Well Services-Well/Wellhead Services  Materials & Supplies-Tangible  Surface Wellhead Equipment	\$840,149 \$ 840,149 \$ 15,000 15,000 6,250 17,500 5,000 5,000
7000010 7012480 7012180 7012180 7012350  ARTIFICIAL LIFT 7005640 7012180 7012140 7012120 7012120 7012120 701220 701220 701220 7012350 7012350 7012390	Rod Pumping unit & Pad Pumping Unit Engine Electrical Power (electrical cooperative construction costs)  IOTAL SURFACE EQUIPMENT - TANGIBLE  IOTAL SURFACE EQUIPMENT COST  Company Labor Gas Lift Equipment Rod Pumping, Sucker Rods & Rod Pump Elect Sub Pumps (ESP) Well Service: Well (Wellhead Services Misterials & Supplies-Tangible Surface Wellhead Equipment Pig Launchear (Receivers & Rei Equip 8% Contingency & Taxes	\$840,149 \$ 840,149 \$ 840,149 45,000 15,000 6,250 17,500 5,000 5,000 5,000 5,000 6,250 3,000
7000010 7012480 7012180 7012180 7012350  ARTIFICIAL LIFT 7005640 7012180 7012140 7012120 7012120 7012120 701220 701220 701220 7012350 7012350 7012390	Rod Pumping unit & Pad Pumping Unit Engine Electrical Power [electrical cooperative construction costs]  IOTAL SURFACE EQUIPMENT - TANGIBLE  FOTAL SURFACE EQUIPMENT COST   Company Labor Gas Lift Equipment Rod Pumping, Sucter Rod: & Rod Pump Elect Sub Pumps (ESP) Well Services-Well (Wellhead Services Materials & Suppless-Tangible Surface Wellhead Equipment Pig Launchers/Receivers & Rel Equip	\$840,149 \$ 840,149 \$ 0,149 \$ 15,000 15,000 6,250 17,500 5,000 5,000 5,000
7000010 7012480 7012480 7012180 7012350  ARTIFICIAL LIFT 7006640 7012180 7012480 701240 7019350 7012270 7012550 7012390 7011010	Rod Pumping unit & Pad Pumping Unit Engine Electrical Power (electrical cooperative construction costs)  IOTAL SURFACE EQUIPMENT - TANGIBLE  IOTAL SURFACE EQUIPMENT COST  Company Labor Gas Lift Equipment Rod Pumping, Sucker Rods & Rod Pump Elect Sub Pumps (ESP) Well Service: Well (Wellhead Services Misterials & Supplies-Tangible Surface Wellhead Equipment Pig Launchear (Receivers & Rei Equip 8% Contingency & Taxes	\$840,149 \$ 840,149 \$ 0.15,000 15,000 6,250 17,500 5,000 5,000 5,000 5,000 6,250 3,000
7000010 7012480 7012480 7012180 7012350  ARTIFICIAL LIFT 7006640 7012180 7012480 701240 7019350 7012270 7012550 7012390 7011010	Rod Pumping unit & Pad Pumping Unit Engine Electrical Power (electrical cooperative construction costs)  IOTAL SURFACE EQUIPMENT - TANGIBLE  IOTAL SURFACE EQUIPMENT COST  Company Labor Gas Lift Equipment Rod Pumping, Sucker Rods & Rod Pump Elect Sub Pumps (ESP) Well Services Well New Bland Services Misterials & Supplies-Tangible Surface Wellhead Equipment Pig Launchern/Recebert & Rei Equip 8% Contingency & Taxes  OTAL ARTIFICIAL LIFT COST	\$840,149 \$ 840,149 \$ 840,149 45,000 15,000 6,250 17,500 5,000 5,000 6,250 3,000 110,000 \$ 110,000
7000010 7012480 7012480 7012180 7012350  ARTIFICIAL LIFT 7006640 7012180 7012480 701240 7019350 7012270 7012550 7012390 7011010	Rod Pumping unit & Pad Pumping Unit Engine Electrical Power (electrical cooperative construction costs)  IOTAL SURFACE EQUIPMENT - TANGIBLE  TOTAL SURFACE EQUIPMENT COST   Company Labor  Gas Lift Equipment Rod Pumping, Sucker Rods & Rod Pump Elect Sub Pumps (ESF) Well Services-Well/Wellhead Services Materials & Supplies-Tangible Surface Wellhead Equipment Pig Launchters/Receivers & Rei Equip  8% Contingency & Taxes  OTAL ARTIFICIAL LIFT	\$840,149 \$ 840,149 \$ 840,149 45,000 115,000 6,250 1,7,500 5,000 5,000 6,250 3,000 110,000
7000010 7012480 7012480 7012180 7012350  ARTIFICIAL LIFT 7006640 7012180 7012480 701240 7019350 7012270 7012550 7012390 7011010	Rod Pumping unit & Pad Pumping Unit Engine Electrical Power (electrical cooperative construction costs)  IOTAL SURFACE EQUIPMENT - TANGIBLE  FOTAL SURFACE EQUIPMENT COST  Company Labor Gas Lift Equipment Rod Pumping, Suction Rods & Rod Pump Elect Sub Pumps (ESF) Well Services - Well / Wellhead Services Materials & Supples-Tangible Surface Wellhead Equipment Pig Launchen/Receivers & Rei Equip 8% Contingency & Taxes  OTAL ARTIFICIAL LIFT  COTAL ARTIFICIAL LIFT COST	\$840,149 \$ 840,149 \$ 840,149 45,000 15,000 6,250 17,500 5,000 5,000 5,000 6,250 3,000 110,000 \$ 110,000
7000010 7012480 7012480 7012180 7012350  ARTIFICIAL LIFT 7006640 7012180 7012480 701240 7019350 7012270 7012550 7012390 7011010	Rod Pumping unit & Pad Pumping Unit Engine Electrical Power (electrical cooperative construction costs)  IOTAL SURFACE EQUIPMENT - TANGIBLE  IOTAL SURFACE EQUIPMENT COST  Company Labor Gas Lift Equipment Rod Pumping, Sucker Rods & Rod Pump Elect Sub Pumps (ESP) Well Services Well (Nellhead Services Materials & Supplies Tangible Surface Wellkhead Equipment Pig Launcher/Receivers & Rel Equip 8% Contingency & Taxes  OTAL ARTIFICIAL LIFT  OTAL ARTIFICIAL LIFT COST  SUMMARY OF ESTIMATED DRILLING WELL COSTS TOTAL LOCATION COST	\$840,149  \$ 840,149  45,000 15,000 6,250 17,500 6,000 5,000 1,000 110,000  \$ 110,000  TOTAL COST \$ 84,000
7000010 7012480 7012480 7012180 7012350  ARTIFICIAL LIFT 7006640 7012180 7012480 701240 7019350 7012270 7012550 7012390 7011010	Rod Pumping Unit Engine Pumping Unit Engine Electrical Power (electrical cooperative construction costs)  IOTAL SURFACE EQUIPMENT - TANGIBLE  IOTAL SURFACE EQUIPMENT COST  Company Labor Gas Lift Equipment Rod Pumping, Suction Rods & Rod Pump Elect Sub Pumps (ESP) Well Services-Well Wellhead Services Materials & Supples-Tangible Surface Wellhead Equipment Pig Launchers/Receivers & Rel Equip 8% Confidency & Taxes  OTAL ARTIFICIAL LIFT  OTAL ARTIFICIAL LIFT COST  SUMMARY OF ESTIMATED DRILLING WELL COSTS TOTAL LOCATION COST TOTAL DRILLING COST	\$840,149  \$ 840,149  45,000 15,000 6,250 17,500 6,000 5,000 1,000 110,000  \$ 110,000  TOTAL COST \$ 84,000 \$ 2,706,335
7000010 7012480 7012480 7012180 7012350  ARTIFICIAL LIFT 7006640 7012180 7012480 701240 7019350 7012270 7012550 7012390 7011010	Rod Pumping unit & Pad Pumping Unit Engine Electrical Power [electrical cooperative construction costs]  IOTAL SURFACE EQUIPMENT - TANGIBLE  FOTAL SURFACE EQUIPMENT COST  Company Labor Gas Lift Equipment Rod Pumping, Sucker Rods & Rod Pump Elect Sub Pumps (ESP) Well Service-Well / Wellhead Services Materials & Suppless-Tangible Surface-Well /	\$840,149  \$ 840,149  \$ 840,149  45,000  15,000  6,250  17,500  5,000  5,000  1000  \$ 110,000   TOTAL COST  \$ 84,000  \$ 2,706,335  \$ 5,854,000
7000010 7012480 7012480 7012180 7012350  ARTIFICIAL LIFT 7006640 7012180 7012480 701240 7019350 7012270 7012550 7012390 7011010	Red Pumping unit & Pad Pumping Unit Engine Electrical Power (electrical cooperative construction costs)  IOTAL SURFACE EQUIPMENT - TANGIBLE  IOTAL SURFACE EQUIPMENT COST  Company Labor Gas th' Equipment Red Pumping, Sucker Rods & Rod Pump Elect Sub Pumps (ESP) Well Service: Well Wellhead Services Misterials & Supplies: Tangible Surface Wellhead Equipment Pig Launcher/Receiver & Rei Equip 8% Contingency & Taxes  OTAL ARTIFICIAL LIFT  OTAL ARTIFICIAL LIFT COST  SUMMARY OF ESTIMATED DRILLING WELL COSTS TOTAL LOCATION COST TOTAL LOCATION COST TOTAL COMPLETIONS COST TOTAL SURFACE EQUIPMENT COST	\$840,149  \$ 840,149  \$ 840,149  45,000 15,000 5,000 5,000 5,000 110,000  \$ 110,000  TOTAL COST \$ 84,000 \$ 2,706,335 \$ 5,854,000 \$ 840,149
7000010 7012480 7012480 7012180 7012350  ARTIFICIAL LIFT 7006640 7012180 7012480 701240 7019350 7012270 7012550 7012390 7011010	Rod Pumping unit & Pad Pumping Unit Engine Electrical Power (electrical cooperative construction costs)  IOTAL SURFACE EQUIPMENT - TANGIBLE  IOTAL SURFACE EQUIPMENT COST  Company Labor Gas Lift Equipment Rod Pumping, Sucker Rods & Rod Pump Elect Sub Pumps (ESP) Well Senricks Well (Wellhead Senrices Materials & Supplies-Tangible Surface Wellhead Equipment Pig Launchen/Receivers & Rel Equip 8% Contingency & Taxes  OTAL ARTIFICIAL LIFT  OTAL ARTIFICIAL LIFT COST  SUMMARY OF ESTIMATED DRILLING WELL COSTS TOTAL COMPLETIONS COST TOTAL SURFACE EQUIPMENT COST TOTAL SURFACE EQUIPMENT COST TOTAL ARTIFICIAL LIFT COST	\$840,149  \$ 840,149  \$ 840,149  45,000  15,000  5,250  17,500  5,000  5,000  110,000  \$ 110,000   TOTAL COST  \$ 84,000  \$ 2,706,335  \$ 5,854,000  \$ 840,149  \$ 110,000
7000010 7012480 7012480 7012180 7012350  ARTIFICIAL LIFT 7006640 7012180 7012480 701240 7019350 7012270 7012550 7012390 7011010	Red Pumping unit & Pad Pumping Unit Engine Electrical Power (electrical cooperative construction costs)  IOTAL SURFACE EQUIPMENT - TANGIBLE  IOTAL SURFACE EQUIPMENT COST  Company Labor Gas th' Equipment Red Pumping, Sucker Rods & Rod Pump Elect Sub Pumps (ESP) Well Service: Well Wellhead Services Misterials & Supplies: Tangible Surface Wellhead Equipment Pig Launcher/Receiver & Rei Equip 8% Contingency & Taxes  OTAL ARTIFICIAL LIFT  OTAL ARTIFICIAL LIFT COST  SUMMARY OF ESTIMATED DRILLING WELL COSTS TOTAL LOCATION COST TOTAL LOCATION COST TOTAL COMPLETIONS COST TOTAL SURFACE EQUIPMENT COST	\$840,149  \$ 840,149  \$ 840,149  45,000 15,000 5,000 5,000 5,000 110,000  \$ 110,000  TOTAL COST \$ 84,000 \$ 2,706,335 \$ 5,854,000 \$ 840,149
7000010 7012480 7012480 7012180 7012350  ARTIFICIAL LIFT 7006640 7012180 7012480 701240 7019350 7012270 7012550 7012390 7011010	Red Pumping unit & Pad Pumping Unit Engine Electrical Power (electrical cooperative construction costs)  IOTAL SURFACE EQUIPMENT - TANGIBLE  FOTAL SURFACE EQUIPMENT COST  Company Labor Gas Lift Equipment Rod Pumping, Sucker Rods & Rod Pump Elect Sub Pumps (ESP) Well Service-Well (Wellhead Services Materials & Supplest-Tangible Surface-Wellhead Equipment Pig Launchers/Receivers & Rel Equip 8% Contingency & Taxes  OTAL ARTIFICIAL LIFT  OTAL ARTIFICIAL LIFT COST  SUMMARY OF ESTIMATED DRILLING WELL COSTS TOTAL LOCATION COST TOTAL COMPLETIONS COST TOTAL SURFACE EQUIPMENT COST TOTAL SURFACE EQUIPMENT COST TOTAL SURFACE EQUIPMENT COST TOTAL ARTIFICIAL LIFT COST  GRAND TOTAL COST	\$840,149  \$ 840,149  \$ 840,149  45,000  15,000  5,250  17,500  5,000  5,000  110,000  \$ 110,000   TOTAL COST  \$ 84,000  \$ 2,706,335  \$ 5,854,000  \$ 840,149  \$ 110,000
7000010 7012480 7012180 7012180 7012350  ARTIFICIAL LIFT 7006640 7012180 7012480 7012140 7012190 7012270 7012250 7012290 7011010	Red Pumping unit & Pad Pumping Unit Engine Electrical Power (electrical cooperative construction costs)  IOTAL SURFACE EQUIPMENT - TANGIBLE  IOTAL SURFACE EQUIPMENT COST  Company Labor Gas Uht Equipment Red Pumping, Sucker Rods & Rod Pump Elect Sub Pumps (ESP) Well Services: Well Wellhead Services Materials & Supplies-Tangible Surface Wellhead Equipment Pig Launchear/Recebert & Rel Equip 8% Contingency & Taxes  OTAL ARTIFICIAL LIFT  OTAL ARTIFICIAL LIFT COST  SUMMARY OF ESTIMATED DRILLING WELL COSTS TOTAL COMPLETIONS COST TOTAL COMPLETIONS COST TOTAL SURFACE EQUIPMENT COST  TOTAL SURFACE EQUIPMENT COST FORAL ARTIFICIAL LIFT COST  GRAND TOTAL COST Participant's Approval	\$840,149  \$ 840,149  \$ 840,149  45,000  15,000  5,250  17,500  5,000  5,000  110,000  \$ 110,000   TOTAL COST  \$ 84,000  \$ 2,706,335  \$ 5,854,000  \$ 840,149  \$ 110,000
7000010 7012480 7012180 7012180 7012350  ARTIFICIAL LIFT 7005640 7012180 7012480 7012140 7019350 7012120 701250 701250 7012100 7012100 7012100 7012100 701250 701250	Rod Pumping Unit Engine Electrical Power (electrical cooperative construction costs)  OTAL SURFACE EQUIPMENT - TANGIBLE  FOTAL SURFACE EQUIPMENT COST  Company Labor Gas Lift Equipment Rod Pumping, Sucker Rods & Rod Pump Elect Sub Pumps (ESP) Well Services-Well/Nellhead Services Materials & Supples-Tangible Surface Wellhead Equipment Pig Launcher/Receivers & Rel Equip 8% Contingency & Taxes  OTAL ARTIFICIAL LIFT  OTAL ARTIFICIAL LIFT  COTAL LOCATION COST TOTAL LOCATION COST TOTAL COMPLETIONS COST TOTAL SURFACE EQUIPMENT COST  FOR ARTIFICIAL LIFT COST  GRAND TOTAL COST  Participant's Approval  se of	\$840,149  \$ \$45,000  15,000  6,250  17,500  5,000  6,000  5,000  110,000  \$ \$110,000   TOTAL COST  \$ \$84,000  \$ 2,706,335  \$ 5,854,000  \$ 840,149  \$ 110,000
7000010 7012480 7012180 7012180 7012350  ARTIFICIAL LIFT 7006640 7012180 7012480 7012140 7012190 7012270 7012250 7012290 7011010	Rod Pumping Unit Engine Electrical Power (electrical cooperative construction costs)  OTAL SURFACE EQUIPMENT - TANGIBLE  FOTAL SURFACE EQUIPMENT COST  Company Labor Gas Lift Equipment Rod Pumping, Sucker Rods & Rod Pump Elect Sub Pumps (ESP) Well Services-Well/Nellhead Services Materials & Supples-Tangible Surface Wellhead Equipment Pig Launcher/Receivers & Rel Equip 8% Contingency & Taxes  OTAL ARTIFICIAL LIFT  OTAL ARTIFICIAL LIFT  COTAL LOCATION COST TOTAL LOCATION COST TOTAL COMPLETIONS COST TOTAL SURFACE EQUIPMENT COST  FOR ARTIFICIAL LIFT COST  GRAND TOTAL COST  Participant's Approval  se of	\$840,149  \$ \$45,000  15,000  6,250  17,500  5,000  6,000  5,000  110,000  \$ \$110,000   TOTAL COST  \$ \$84,000  \$ 2,706,335  \$ 5,854,000  \$ 840,149  \$ 110,000
7000010 7012480 7012180 7012180 7012350  ARTIFICIAL LIFT 7005640 7012180 7012480 7012140 7019350 7012120 701250 701250 7012100 7012100 7012100 7012100 701250 701250	Red Pumping unit & Pad Pumping Unit Engine Electrical Power (electrical cooperative construction costs)  IOTAL SURFACE EQUIPMENT - TANGIBLE  IOTAL SURFACE EQUIPMENT COST  Company Labor Gas Lift Equipment Red Pumping, Sucker Rods & Rod Pump Elect Sub Pumps (ESP) Well Service: Well Wellhead Services Misterials & Supplies-Tangible Surface Wellhead Equipment Pig Launcher/Recebert & Rei Equip 8% Contingency & Taxes  OTAL ARTIFICIAL LIFT  OTAL ARTIFICIAL LIFT COST  SUMMARY OF ESTIMATED DRILLING WELL COSTS TOTAL COATION COST TOTAL COATION COST TOTAL SURFACE EQUIPMENT COST  TOTAL SURFACE EQUIPMENT COST  GRAND TOTAL COST  Participant's Approval  se of any:	\$840,149  \$ \$45,000  15,000  6,250  17,500  5,000  6,000  5,000  110,000  \$ \$110,000   TOTAL COST  \$ \$84,000  \$ 2,706,335  \$ 5,854,000  \$ 840,149  \$ 110,000

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

Asset Team	PERMIAN	
Field	PURPLE SAGE; WOI FORMATION: WOLFCAMP D WILDCAT	EXPLORATION
Lease/Facility	VALICYRIE 12 WD FEDERAL COM 2H DEVELOPMENT	RECOMPLETION
Location	EDDY COUNTY X EXPLOITATION	WORKOVER
Prospect	MALAGA	_
Est Total Depth		ys_ 11
LOCATION COST -	INTANGIBLE	
GL CODE	DESCRIPTION	ESTIMATED COST
7001270	Location and Access	67,000
7001250	Land Broker Fees and Services	45,000
	TOTAL LOCATION COST - INTANGIBLE	112,000
DOWNING COST. T	ANCIDIA	_
DRILLING COST - T	ANGIBLE	
7012050	Conductor Pipe	28,000
7012050	Surface Casing	19,000
7012050	Intermediate Casing 1	66,000
7012050	Intermediate Casing 2	253,000
7012050	Production Casing	191,840
7012050	Orig Liner Hanger, Tieback Eq & Csg Accessories	55,000
7012550	Drilling Wellhead Equipment	50,000
7012040	Casing & Tubing Access	24,000
7012270	Miscellaneous MRO Materials	5,000
	TOTAL DRILLING - TANGIBLE	691,840
DRILLING COST - IP	ITANGIBLE	
7019200	Driffing Rig Mob/Demob	43,333
7019220	Drilling Rig - day work/footage	746,100
7019040	Oirectional Drilling Services	248,000
7019020	Cement and Cementing Service Surface	15,000
7019020	Cement and Cementing Service Intermediate 1	25,000
7019020	Cement and Cementing Service Intermediate 2	35,000
7019020	Cement and Cementing Service Production	60,000
7019140	Mud Fluids & Services	71,300
7012310	Solids Control equipment	49,000
7012020	Bits	72,000
7019010	Casing Crew and Services	30,000
7016350	Fuel (Rig)	85,000
7019140	Fuel (Mud)	30,000
7001460	Water (non potable)	25,000
7012350	Water (potable)	5,000
7019000	Well Logging Services	
7019150	Mud Logging+geosteering	23,000
7019250	Stabilizers, Hole Openers, Underreamers (OH rentals)	15,000
7019110	Casing inspection/cleaning	15,000
7019110	Drill pipe/coller inspection services	10,000
7016180	Freight - truck	25,000
7001460	Water hauling and disposal (includes soil farming)	60,000
7001160	Contract Services - Disposal/Non-Hazardous Waste	80,000
7001440	Vacuum Trucks	10,000
7000030	Contract Labor - general	30,000
7000030	Contract Labor - Operations	3,000
7001200	Contract Services - Facilities	10,000
7019300	Well Services - Well Control Services	23,817
7019350	Well Services - Well/Wellhead Services	10,000
7018150	Rental Tools and Equipment (surface rentals)	110,533
7018150	Rig Equipment and Misc.	13,817
7001110	Telecommunications Services	5,000
7001120	Consulting Services	129,877
7001400	Safety and Environmental	44,213
7018120	Rental Buildings (trailers)	22,107
7019310	Coring (sidewalts & analysis)	
7011010	7% Contingency & Taxes	201,036
	TOTAL DRILLING - INTANGIBLE	\$2,381,132
		40.000
	TOTAL DRILLING COST	\$3,072,972
COMPLETION - TAN	GIBLE	
2012550	Tubine	
7012580	Tubing Tubing Accessories (nippie, wireline entry)	
7012040	Wellhead Equip	15,000
7012550		15,000
7012560	Packers - Completion Equipment	<del></del>
	TOTAL COMPLETION - TANGIBLE	\$15,000
	The second control of	\$23,000

MARATHON OIL PERMI		DATE 7/11/2019
DETAIL OF ESTIMATED		
	PERMIAN PURPLE SAGE; WO! FORMATION: WOLFCAMP D	
	PURPLE SAGE; WO! FORMATION: WOLFCAMP D VALKYRIE 12 WD FEDERAL COM 2H	
tease/racmty	PACKTRIE 22 WO FEDERAL COM 211	
COMPLETION - INTA	NGIBLE	
GL CODE	DESCRIPTION	ESTIMATED COST
7001270	Location and Access (dress location after rig move, set anchors)	10,000
7019220	Drilling Rig During Completion	20,000
7019140	Mud Fluids & Services	40
7019030	Colled Tubing Services (3 runs)	350,000
7019240	Snubbing Services	
7019270	Pulling/Swab Units	
7016350	Fuel (from drig)	+
7019010	Casing Crew and Services	+
7019020	Cement and Cementing Services	
7019080	Well Testing Services (flow hand & equip)	470,000
7019320 7019330	Fracturing Services Perforating	3,684,100
7019360	Wireline Services	15,000
7001460	Water Hauling & Disposal (frac fluids)	271,000
7016180	Freight - Truck (haul pipe; drig & compl)	20,000
7018150	BOP Rental & Testing	
7018150	Rental Tools and Equipment ( Incl drig; lightplant, hydra-walk)	-
7018150	CT Downhole Rental Equipment (ie. Bit, BHA)	
7000030	Contract Labor - general	60,000
7001110	Telecommunications Services	100,000
7001400	Safety and Environmental	100,000
7018150	Consulting Services Zipper Manifold	220,000
7019300	Frack Stack Rentals	85,000
7016190	Freight (Trensportation Services)	
7018150	Equipment Rental ( w/o operator, frac tanks, lightplants)	100,000
7018120	Rental Buildings (trailers)	35,000
7000030	Contract Labor - Pumping (pump-down pumps)	60,000
7011010	8% Contingency & Taxes	425,900
	OTAL COMPLETION - INTANGIBLE	\$6,306,000
1	JIAL COMPLETION - INTANGIBLE	30,300,000
T	OTAL COMPLETION COST	\$6,321,000
SURFACE EQUIPMEN	7 - TANGIBLE	
7012350	Misc. Piping, Fittings & Valves	18,576
7006640	Company Labor & Burden	
7000030	Contract Labor - General	70,817
7001110	Telecommunication equip (Telemetry)	
7012410	Line Pipe & Accessories	- 1
7012270	Miscellaneous Materials (containment system)	43,281
7008060	SCADA	<del>.</del>
7016180	Freight - truck Contract Engineering	9,375
7012290	Metering and Instrumentation	7,764
7012290	ABE Materials	114,060
7012200	Gas Treating	
7012200	Dehydration	
7012010	Compressor	17
7012350	Power	114
7012610	Vapor Recovery Unit	174
7012440	Separator & other pressure vessels	323,837
7012500	Tanks	235,346
7012100	Heater Treater Flare & Accessories	31,057
7000010	Electrical Labor	11,937
7000010	Mechanical Labor	12,557
7012480	Rod Pumping unit & Pad	174
7012180	Pumping Unit Engine	14
7012350	Electrical Power (electrical cooperative construction costs)	1/4
	TAL CHREACE COLUMNENT - TANGER E	6866.051
10	OTAL SURFACE EQUIPMENT - TANGIBLE	\$866,051
_		
		£ 000 000
11	OTAL SURFACE EQUIPMENT COST	\$866,051
	DTAL SURFACE EQUIPMENT COST	\$ 866,051
	DTAL SURFACE EQUIPMENT COST	\$ 866,051
	OTAL SURFACE EQUIPMENT COST  Company Labor	\$ 866,051
7006640 7012180		
7006640 7012180 7012480	Company Labor Gas Ulft Equipment Rod Pumping, Sucker Rods & Rod Pump	45,000 15,000 6,250
7006640 7012180 7012480 7012140	Company Labor Gas Ufft Equipment Rod Pumping, Sucker Rods & Rod Pump Elect Sub Pumps (ESP)	45,000 15,000 6,250 17,500
7006640 7012180 7012480 7012140 7019350	Company Labor Gas Lift Equipment Rod Pumping, Sucket Rods & Rod Pump Elect Sub Pumps (ESP) Well Services: Well Wellinead Services	45,000 15,000 6,250 17,500 6,000
7006640 7012180 7012480 7012480 7012140 7019350 7012270	Company Labor Gas Unt Equipment Rod Pumping, Sucker Rods & Rod Pump Elect Sub Pumps (ESP) Well Services-Well/Wellhead Services Materials & Supplies-Tangible	45,000 15,000 6,250 17,500 6,000
7006640 7012180 7012480 7012480 7012140 7019350 7012270 7012550	Company Labor Gas Uff Equipment Rod Pumping, Sucker Rods & Rod Pump Elect Sub Pumps (ESP) Weil Services-Weil/Weilhead Services Materials & Supplies-Tangible Surface Weilhead Equipment	45,000 15,000 6,250 17,500 6,000 6,000 5,000
7006640 7012180 7012480 7012440 7019350 7012270 7012550 7012390	Company Labor Gas Lift Equipment Rod Pumping, Sucker Rods & Rod Pump Elect Sub Pumps [ESP] Well Services- Well/Wellhead Services Materials & Supplier-Tangible Surface Wellhead Equipment Pig Launchers/Racevers & Rel Equip	45,000 15,000 6,250 17,500 6,000 6,000 5,000 6,250
ARTIFICIAL LIFT  7006640  7012180  7012180  7012140  7012140  7012150  7012270  7012250  7012390  7011010	Company Labor Gas Lift Equipment Rod Pumping, Sucker Rods & Rod Pump Elect Sub Pumpi (ESP) Well Services-Well/Weilbead Services Materials & Supplier-Tangible Surface Weilbread Equipment Pig Launchers/ Receivers & Rel Equip B% Contingency & Taxes	45,000 15,000 6,250 17,500 6,000 5,000 5,000 6,250 3,000
ARTIFICIAL LIFT  7006640  7012180  7012180  7012140  7012140  7012150  7012270  7012250  7012390  7011010	Company Labor Gas Lift Equipment Rod Pumping, Sucker Rods & Rod Pump Elect Sub Pumps [ESP] Well Services- Well/Wellhead Services Materials & Supplier-Tangible Surface Wellhead Equipment Pig Launchers/Racevers & Rel Equip	45,000 15,000 6,250 17,500 6,000 6,000 5,000 6,250
ARTIFICIAL LIFT 7006640 7012180 7012480 7012140 7019350 7012270 7012550 7012390 7011010	Company Labor Gas Uff Equipment Rod Pumping, Sucker Rods & Rod Pump Elect Sub Pumps (ESP) Well Services- Weal/Weilhead Services Materials & Supplies-Tangible Surface Wellhead Equipment Pig Launchers/Raceivers & Rel Equip 8% Contingency & Taxes  VIAL ARTISICIAL UFT	45,000 15,000 6,250 17,500 6,000 5,000 5,000 6,250 3,000
ARTIFICIAL LIFT 7006640 7012180 7012480 7012140 7019350 7012270 7012550 7012390 7011010	Company Labor Gas Lift Equipment Rod Pumping, Sucker Rods & Rod Pump Elect Sub Pumpi (ESP) Well Services-Well/Weilbead Services Materials & Supplier-Tangible Surface Weilbread Equipment Pig Launchers/ Receivers & Rel Equip B% Contingency & Taxes	45,000 15,000 6,250 17,500 6,000 5,000 5,000 6,250 3,000
ARTIFICIAL LIFT 7006640 7012180 7012480 7012140 7019350 7012270 7012550 7012390 7011010	Company Labor Gas Uff Equipment Rod Pumping, Sucker Rods & Rod Pump Elect Sub Pumps (ESP) Well Services- Weal/Weilhead Services Materials & Supplies-Tangible Surface Wellhead Equipment Pig Launchers/Raceivers & Rel Equip 8% Contingency & Taxes  VIAL ARTISICIAL UFT	45,000 15,000 6,250 17,500 6,000 5,000 5,000 6,250 3,000
ARTIFICIAL LIFT 7006640 7012180 7012480 7012140 7019350 7012270 7012550 7012390 7011010	Company Labor Gas Uff Equipment Rod Pumping, Sucker Rods & Rod Pump Elect Sub Pumps (ESP) Well Services- Weal/Weilhead Services Materials & Supplies-Tangible Surface Wellhead Equipment Pig Launchers/Raceivers & Rel Equip 8% Contingency & Taxes  VIAL ARTISICIAL UFT	45,000 15,000 6,250 17,500 6,000 5,000 5,000 6,250 3,000
ARTIFICIAL LIFT 7006640 7012180 7012480 7012140 7019350 7012270 7012550 7012390 7011010	Company Labor Gas Lift Equipment Rod Pumphing, Sucker Rods & Rod Pump Elect Sub Pumps (ESP) Well Services- Well/Weilbred Services Materials & Supplier-Tangible Surface Well/Weilbred Services Materials & Supplier-Tangible Surface Well-Red Equipment Pig Launchers/Receivers & Rel Equip 8% Contingency & Taxes VTAL ARTIFICIAL LIFT DTAL ARTIFICIAL LIFT COST SUMMARY OF ESTIMATED DRILLING WELL COSTS	45,000 15,000 6,250 17,500 6,000 6,000 5,000 6,250 3,000 110,000 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$
ARTIFICIAL LIFT 7006640 7012180 7012480 7012140 7019350 7012270 7012550 7012390 7011010	Company Labor Gas Uff Equipment Rod Pumphing, Sucker Rods & Rod Pump Elect Sub Pumps (ESP) Well Services-Well/Weilbead Services Materials & Supplier-Tangible Surface Weilbead Equipment Pig Launchers/ Raceivers & Ral Equip B% Contingency & Taxes  OTAL ARTIFICIAL UFT  DTAL ARTIFICIAL LIFT COST  SUMMARY OF ESTIMATED DRILLING WELL COSTS TOTAL LOCATION COST	45,000 15,000 6,250 17,500 6,000 5,000 5,000 6,250 3,000 110,000  \$ 110,000  TOTAL COST \$ 112,000
ARTIFICIAL LIFT 7006640 7012180 7012480 7012140 7019350 7012270 7012550 7012390 7011010	Company Labor Gas Uff Equipment Rod Pumping, Sucker Rods & Rod Pump Elect Sub Pumping (ESP) Well Services-Well/Weilhead Services Materials & Supplies-Tangible Surface Well/Weilhead Equipment Pig Launchers/Receivers & Rel Equip Bis Contingency & Taxes  TOTAL ARTIFICIAL LIFT COST  SUMMARY OF ESTIMATED DRILLING WELL COSTS TOTAL LOCATION COST TOTAL DRILLING COST	45,000 15,000 6,1250 17,500 6,000 6,000 5,000 6,2250 3,000 110,000  TOTAL COST \$ 112,000 \$ 3,072,972
ARTIFICIAL LIFT 7006640 7012180 7012480 7012140 7019350 7012270 7012550 7012390 7011010	Company Labor Gas Lift Equipment Rod Pumping, Sucker Rods & Rod Pump Elect Sub Pumpis (ESP) Weil Services-Weil/Weillnead Services Materials & Supplier-Tangible Surface Weillnead Equipment Pig Launchers/Receivers & Rel Equip B% Contingency & Taxes  UTAL ARTIFICIAL LIFT COST  SUMMARY OF ESTIMATED DRILLING WELL COSTS TOTAL DOCATION COST TOTAL COMPLETIONS COST TOTAL COMPLETIONS COST	45,000 15,000 6,250 17,500 6,000 5,000 6,250 3,000 110,000  TOTAL COST \$ 112,000 \$ 3,072,972 \$ 6,321,000
ARTIFICIAL LIFT 7006640 7012180 7012480 7012140 7019350 7012270 7012550 7012390 7011010	Company Labor Gas Lift Equipment Rod Pumphing, Sucker Rods & Rod Pump Elect Sub Pumps (ESP) Well Services-Well/Weilbead Services Materials & Supplier-Tangible Surface Weilbead Equipment Pig Launchers/Receivers & Rel Equip 8% Contingency & Taxes VTAL ARTIFICIAL LIFT DTAL ARTIFICIAL LIFT  SUMMARY OF ESTIMATED DRILLING WELL COSTS TOTAL LOCATION COST TOTAL LOCATION COST TOTAL COMPLETIONS COST TOTAL CUMPLETIONS COST TOTAL SURFACE EQUIPMENT COST	45,000 15,000 6,250 17,500 6,000 6,000 5,000 6,250 3,000 110,000  **TOTAL COST**  \$ 112,000 \$ 3,072,972 \$ 6,321,000 \$ 866,051
ARTIFICIAL LIFT 7006640 7012180 7012480 7012440 7019350 7012270 7012250 7012390 7011010	Company Labor Gas Lift Equipment Rod Pumping, Sucker Rods & Rod Pump Elect Sub Pumpis (ESP) Weil Services-Weil/Weillnead Services Materials & Supplier-Tangible Surface Weillnead Equipment Pig Launchers/Receivers & Rel Equip B% Contingency & Taxes  UTAL ARTIFICIAL LIFT COST  SUMMARY OF ESTIMATED DRILLING WELL COSTS TOTAL DOCATION COST TOTAL COMPLETIONS COST TOTAL COMPLETIONS COST	45,000 15,000 6,250 17,500 6,000 5,000 6,250 3,000 110,000  TOTAL COST \$ 112,000 \$ 3,072,972 \$ 6,321,000
ARTIFICIAL LIFT 7006640 7012180 7012480 7012440 7019350 7012270 7012250 7012390 7011010	Company Labor Gas Lift Equipment Rod Pumphing, Sucker Rods & Rod Pump Elect Sub Pumps (ESP) Well Services-Well/Weilbead Services Materials & Supplier-Tangible Surface Weilhead Equipment Pig Launchers/Roceivers & Rel Equip B% Contingency & Taxes  UTAL ARTIFICIAL LIFT  OTAL ARTIFICIAL LIFT  SUMMARY OF ESTIMATED DRILLING WELL COSTS  TOTAL LOCATION COST TOTAL LOCATION COST TOTAL COMPLETIONS COST TOTAL SURFACE EQUIPMENT COST TOTAL SURFACE EQUIPMENT COST TOTAL ARTIFICIAL LIFT COST	45,000 15,000 6,250 17,500 6,000 5,000 5,000 110,000  \$ 110,000  TOTAL COST \$ 112,000 \$ 3,072,972 \$ 6,321,000 \$ 866,051 \$ 110,000
ARTIFICIAL LIFT 7006640 7012180 7012480 7012440 7019350 7012270 7012250 7012390 7011010	Company Labor Gas Lift Equipment Rod Pumphing, Sucker Rods & Rod Pump Elect Sub Pumps (ESP) Well Services-Well/Weilbead Services Materials & Supplier-Tangible Surface Weilbead Equipment Pig Launchers/Receivers & Rel Equip 8% Contingency & Taxes VTAL ARTIFICIAL LIFT DTAL ARTIFICIAL LIFT  SUMMARY OF ESTIMATED DRILLING WELL COSTS TOTAL LOCATION COST TOTAL LOCATION COST TOTAL COMPLETIONS COST TOTAL CUMPLETIONS COST TOTAL SURFACE EQUIPMENT COST	45,000 15,000 6,250 17,500 6,000 5,000 5,000 110,000  \$ 110,000  TOTAL COST \$ 112,000 \$ 3,072,972 \$ 6,321,000 \$ 866,051
ARTIFICIAL LIFT 7006640 7012180 7012480 7012440 7019350 7012270 7012250 7012390 7011010	Company Labor Gas Lift Equipment Rod Pumping, Sucker Rods & Rod Pump Elect Sub Pumps (ESP) Well Services - Weal/Weilinead Services Materials & Supplier-Tangible Surface Wellinead Equipment Pig Launchers/Rocervers & Rel Equip B% Contingency & Taxes  UTAL ARTIFICIAL LIFT COST  SUMMARY OF ESTIMATED DRILLING WELL COSTS TOTAL LOCATION COST TOTAL OCATION COST TOTAL OMPLETIONS COST TOTAL SURFACE EQUIPMENT COST TOTAL SURFACE EQUIPMENT COST TOTAL ARTIFICIAL LIFT COST  GRAND TOTAL COST	45,000 15,000 6,250 17,500 6,000 5,000 6,250 3,000 110,000  TOTAL COST \$ 112,000 \$ 3,072,972 \$ 6,321,000 \$ 866,051 \$ 110,000
ARTIFICIAL LIFT  7006640  7012180  7012180  7012140  7019350  7012270  7012250  7012390  7011010  TO	Company Labor  Gas Lift Equipment  Rod Pumping, Sucker Rods & Rod Pump  Elect Sub Pumpis (ESP)  Well Services-Well/Wellined Services  Materials & Supplier-Tengible  Surface Wellined Equipment  Pig Launchers/Receivers & Rel Equip  8% Contingency & Taxes  UTAL ARTIFICIAL LIFT  DTAL ARTIFICIAL LIFT  OTAL ARTIFICIAL LIFT COST  SUMMARY OF ESTIMATED DRILLING WELL COSTS  TOTAL LOCATION COST  TOTAL ORILLING COST  TOTAL COMPLETIONS COST  TOTAL SURFACE EQUIPMENT COST  TOTAL ARTIFICIAL LIFT COST  GRAND TOTAL COST  Participant's Approval	45,000 15,000 6,250 17,500 6,000 5,000 6,250 3,000 110,000  **TOTAL COST** \$ 112,000 \$ 3,072,972 \$ 6,321,000 \$ 866,051 \$ 110,000
ARTIFICIAL LIFT  7006640  7012180  7012480  7012480  7019350  7012270  7012250  7012390  7011010  TO	Company Labor Gas Ufft Equipment Rod Pumping, Sucket Rods & Rod Pump Elect Sub Pumping (ESP) Well Services-Well/Weilhead Services Materials & Supplies-Tangible Surface Well/Weilhead Equipment Pig Leunchers/Receivers & Rel Equip Bis Contingency & Taxes  UTAL ARTIFICIAL LIFT COST  SUMMARY OF ESTIMATED DRILLING WELL COSTS TOTAL LOCATION COST TOTAL LOCATION COST TOTAL COMPLETIONS COST TOTAL COMPLETIONS COST TOTAL SURFACE EQUIPMENT COST TOTAL ARTIFICIAL LIFT COST  GRAND TOTAL COST Participant's Approval	45,000 15,000 6,250 17,500 6,000 5,000 6,250 3,000 110,000  **TOTAL COST** \$ 112,000 \$ 3,072,972 \$ 6,321,000 \$ 866,051 \$ 110,000
ARTIFICIAL LIFT  7006640  7012180  7012180  7012140  7019350  7012270  7012250  7012390  7011010  TO	Company Labor Gas Ufft Equipment Rod Pumping, Sucket Rods & Rod Pump Elect Sub Pumping (ESP) Well Services-Well/Weilhead Services Materials & Supplies-Tangible Surface Well/Weilhead Equipment Pig Leunchers/Receivers & Rel Equip Bis Contingency & Taxes  UTAL ARTIFICIAL LIFT COST  SUMMARY OF ESTIMATED DRILLING WELL COSTS TOTAL LOCATION COST TOTAL LOCATION COST TOTAL COMPLETIONS COST TOTAL COMPLETIONS COST TOTAL SURFACE EQUIPMENT COST TOTAL ARTIFICIAL LIFT COST  GRAND TOTAL COST Participant's Approval	45,000 15,000 6,250 17,500 6,000 5,000 6,250 3,000 110,000  **TOTAL COST** \$ 112,000 \$ 3,072,972 \$ 6,321,000 \$ 866,051 \$ 110,000
ARTIFICIAL LIFT  7006640  7012180  7012480  7012480  7019350  7012270  7012250  7012390  7011010  TO	Company Labor  Gas Lift Equipment  Rod Pumphig, Sucker Rods & Rod Pump  Elect Sub Pumps (ESP)  Well Services-Well/Weilbead Services  Materials & Supplier-Tangible  Surface Weilbead Equipment  Pig Launchers/Receivers & Rel Equip  3% Contingency & Taxes  UTAL ARTIFICIAL LIFT  DITAL ARTIFICIAL LIFT COST  SUMMARY OF ESTIMATED DRILLING WELL COSTS  TOTAL LOCATION COST  TOTAL LOCATION COST  TOTAL ORILLING COST  TOTAL COMPLETIONS COST  TOTAL SURFACE EQUIPMENT COST  TOTAL ARTIFICIAL LIFT COST  GRAND TOTAL COST  Participant's Approval  of	45,000 15,000 6,250 17,500 6,000 5,000 6,250 3,000 110,000  **TOTAL COST** \$ 112,000 \$ 3,072,972 \$ 6,321,000 \$ 866,051 \$ 110,000

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

Asset Team	PERMIAN			
Field	PURPLE SAGE; WOI FORMATION:	WOLFCAMP D	WILDCAT	EXPLORATION
Lease/Facility	VALKYRIE 12 WD FEDERAL COM 4H		DEVELOPMENT	RECOMPLETION
Location	EDDY COUNTY		X EXPLOITATION	WORKOVER
Prospect	MALAGA		_	
Est Total Depth	21,013	rilling Days	Est Completion I	Days 11
LOCATION COST -	INTANGIBLE			
GL CODE	DESC	CRIPTION		ESTIMATED COST
7001270	Location and Access			67,000
7001250	Land Broker Fees and Services			45,000
7071130	and of the state of the second			45,000
				112.000
	TOTAL LOCATION COST - INTANGIBLE			112,000
DRILLING COST - 1	ANGIBLE			
7012050	Conductor Pipe			28,000
7012050	Surface Casing			19,000
7012050	Intermediate Casing 1			66,000
7012050	Intermediate Casing 2			253,000
7012050	Production Casing			191,905
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			
	TOTAL DRILLING - TANGIBLE			691,905
DRILLING COST - II	TANCIDIE			
DKILLING COST - II	IMMOIDLE			
7019200	Drilling Rig Mob/Demob			43,333
7019220	Driffing Rig - day work/footage			746,100
7019040	Directional Drilling Services			248,000
7019020	Cement and Cementing Service	Surface		15,000
7019020	Cement and Cementing Service	Interned		25,000
7019020	Cement and Cementing Service	Intermed		35,000
7019020	Cement and Cementing Service	Producti	lon	50,000
7019140	Mud Fluids & Services			71,300
7012310	Solids Control equipment			49,000
7012020	Bits			72,000
7019010	Casing Crew and Services			30,000
7016350	Fuel (Rig)		· · · · · · · · · · · · · · · · · · ·	85,000
7019140	Fuel (Mud)			30,000
7001460	Water (non potable)			25,000
7012350	Water (potable)			5,000
7019000	Well Logging Services			3,000
7019150	Mud Logging+geosteering			23,000
7019250		t-1		15,000
	Stabilizers, Hole Openers, Underreamers (DH renta	15]		
7019110	Casing Inspection/cleaning			15,000
7019110	Drill pipe/collar inspection services			10,000
7016180	Freight - truck			25,000
7001460	Water hauling and disposal (includes soil farming)			60,000
7001160	Contract Services - Disposal/Non-Hazardous Waste			80,000
7001440	Vacuum Trucks			10,000
7000030	Contract Labor - general			30,000
7000030	Contract Labor - Operations			3,000
7001200	Contract Services - Facilities			10,000
7019300	Well Services - Well Control Services			23,817
7019350	Well Services - Well/Wellhead Services			10,000
7018150	Rental Tools and Equipment (surface rentals)			110,533
7018150	Rig Equipment and Misc.			13,817
7001110	Telecommunications Services			5,000
7001120	Consulting Services			129,877
7001400	Safety and Environmental			44,213
7018120	Rental Buildings (trailers)			22,107
7019310	Coring (sidewalls & analysis)			
7011010	7% Contingency & Yaxes			201,040
1055050	· · · · · · · · · · · · · · · · · · ·			
	TOTAL DRILLING - INTANGIBLE			\$2,381,137
				An:
	TOTAL DRILLING COST			\$3,073,042
COMPLETION - YAN	GIBLE			
COMPLETION - TAN	GIBLE			
7012580	Tubing			-
7012580 7012040	Tubing Tubing Accessories (nipple, wireline entry)			15,000
7012580 7012040 7012550	Tubing Tubing Accessories (nipple, wireline entry) Wellhead Equip			15,000
7012580 7012040	Tubing Tubing Accessories (nipple, wireline entry)			15,000
7012580 7012040 7012550	Tubing Tubing Accessories (nipple, wireline entry) Wellhead Equip			15,000

MARATHON OIL PERM		DATE 7/11/2019
AUTHORITY FOR EXPE		
Asset Team	PERMIAN	
	PURPLE SAGE; WOI FORMATION: WOLFCAMP D	
Lease/Facility	VALITYRIE 12 WD FEDERAL COM 4H	
COMPLETION - INTA		
GL CODE 7001270	DESCRIPTION  Location and Access (dress location after rig move, set anchors)	ESTIMATED COST
7019220	Drilling Rig During Completion	10,000
7019140	Mud Fluids & Services	+
7019030 7019240	Coiled Tubing Services (3 runs) Snubbing Services	350,000
7019270	Pulling/Swab Units	
7016350	Fuel (from drig) Casing Crew and Services	
7019010 7019020	Cement and Cementing Services	
7019080	Well Testing Services (flow hand & equip)	470,000
7019320 7019330	Fracturing Services Perforating	3,684,100
7019360	Wireline Services	15,000
7001460	Water Hauling & Disposal (frac fluids)	271,000
7016180 7018150	Freight - Truck (haul pipe; drig & compt) BOP Rental & Testing	20,000
7018150	Rental Tools and Equipment ( incl drig; lightplant, hydra-walk)	
7018150	CT Downhole Rental Equipment (le. Bit, BHA)	7.6
7000030 7001110	Contract Labor - general Telecommunications Services	60,000
7001120	Safety and Environmental	100,000
7001120	Consulting Services	100,000
7018150	Zipper Manifold	220,000
7019300 7016190	Frack Stack Rentals Freight (Transportation Services)	85,000
7018150	Equipment Rental ( w/o operator, frac tanks, lightplants)	100,000
7018120 7000030	Rental Buildings (trailers)	35,000
7011010	Contract Labor - Pumping (pump-down pumps)  8% Contingency & Taxes	425,900
1	OTAL COMPLETION - INTANGIBLE	\$6,306,000
	TOTAL COMPLETION COST	\$6,321,000
	OTAL COMPLETION COST	30,321,000
SURFACE EQUIPMEN	T - TANGIBLE	
7012350	Misc. Piping, Fittings & Valves	18,576
7006640	Company Labor & Burden	·
7000030 7001110	Contract Labor - General	70,817
7012410	Telecommunication equip (Telemetry) Line Pipe & Accessories	
7012270	Miscellaneous Materials (containment system)	43,281
7008060	SCADA	
7016180 7001190	Freight - truck Contract Engineering	9,375
7012290	Metering and Instrumentation	7,764
7012290	I&E Materials	114,060
7012200	Gas Treating	<u>-</u>
7012200 7012010	Dehydration Compressor	
7012350	Power	174
7012610	Vapor Recovery Unit	114
7012500	Separator & other pressure vessels Tanks	323,837 235,346
7012100	Heater Treater	
7012640	Flare & Accessories	31,057
7000010	Electrical Labor  Mechanical Labor	11,937
7012480	Rod Pumping unit & Pad	
7012180	Pumping Unit Engine	743
7012350	Electrical Power (electrical cooperative construction costs)	- +
Te	DTAL SURFACE EQUIPMENT - TANGIBLE	\$866,051
-	OVAL CUREACE FOUNDAMENT COST	£ 955.0F1
'	OTAL SURFACE EQUIPMENT COST	\$866,051
ARTIFICIAL LIFT		
7006640	Company Labor	45,000
7012180	Gas Lift Equipment	15,000
7012480	Rod Pumping, Sucker Rods & Rod Pump	6,250
7012140 7019350	Elect Sub Pumps (ESP) Well Services-Well/Wellhead Services	17,500 6,000
7012270	Materials & Supplies-Tangible	6,000
7012550	Surface Wellhead Equipment	5,000
7012390 7011010	Pig Launchers/Receivers & Rel Equip 8% Contingency & Taxes	6,250
		3,000
	OTAL ARTIFICIAL LIFT	110,000
T	OTAL ARTIFICIAL LIFT COST	\$ 110,000
	SUMMARY OF ESTIMATED DRILLING WELL COSTS	TOTAL COST
	TOTAL LOCATION COST	\$ 112,000
	TOTAL COMPLETIONS COST	\$ 3,073,042
	TOTAL COMPLETIONS COST  TOTAL SURFACE EQUIPMENT COST	\$ 6,321,000 \$ 866,051
	TOTAL ARTIFICIAL LIFT COST	\$ 110,000
	GRAND TOTAL COST	
	GRAND TOTAL COST	\$10,482,093
	Participant's Approval	
Name	e of	
Compa	iny:	
Signati	re:	
-	Mar. Pate.	

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

Asset Team	PERMIAN	EVELORATION
Field	PURPLE SAGE; WOI FORMATION: WOLFCAMP D WILDCAT	EXPLORATION
Lease/Facility	VALKYRIE 12 WD FEDERAL COM 6H DEVELOPMENT	RECOMPLETION
Location	EDDY COUNTY X EXPLOITATION	WORKOVER
Prospect	MALAGA	
Est Total Depth	20,876 Est Orilling Days Est Completion Days	11
100171011007	ANY ANCIENT	
LOCATION COST -	NTANGBLE	
GL CODE	DESCRIPTION	ESTIMATED COST
7001270	Location and Access	67,000
7001250	Land Broker Fees and Services	45,000
	TOTAL LOCATION COST - INTANGIBLE	112,000
DRILLING COST - TA	ANGIBLE	
7012050	Conductor Pipe	28,000
7012050	Surface Casing	19,000
7012050	Intermediate Casing 1	66,000
7012050	Intermediate Casing 2	253,000
7012050	Production Casing	192,975
7012050	Drig Liner Hanger, Tleback Eq & Csg Accessories	\$5,000
7012550	Drilling Wellhead Equipment	50,000
7012040	Casing & Tubing Access	24,000
7012270	Miscellaneous MRO Materials	5,000
7012270	MISCERATEOUS MICO MATERIAIS	3,000
	TOTAL DRILLING - TANGIBLE	692,975
DRILLING COST - IN	TANGIBLE	
	A No. 20 At 4 (2)	42.222
7019200	Drilling Rig Mob/Demob	43,333
7019220	Drilling Rig - day work/footage	746,100
7019040	Directional Drilling Services	248,000
7019020	Cement and Cementing Service Surface	15,000
7019020	Cement and Cementing Service Intermediate 3	25,000
7019020	Cement and Cementing Service Intermediate 2	35,000
7019020	Cement and Cementing Service Production	60,000
7019140	Mud Fluids & Services	71,300
7012310	Solids Control equipment	49,000
7012020	Bits	72,000
7019010	Casing Crew and Services	30,000
7016350	Fuel (Rig)	85,000
7019140	Fuel (Mud)	30,000
	Water (non potable)	25,000
7001460		
7012350	Water (potable)	5,000
7019000	Well Logging Services	
7019150	Mud Logging+geosteering	23,000
7019250	Stabilizers, Hole Openers, Underreamers (DH rentals)	15,000
7019110	Casing inspection/cleaning	15,000
7019110	Drill pipe/collar inspection services	10,000
7016180		25,000
	Freight - truck	60,000
7001460	Water hauling and disposal (includes soil farming)	
7001160	Contract Services - Disposal/Non-Hazardous Waste	80,000
7001440	Vacuum Trucks	10,000
7000030	Contract Labor - general	30,000
7000030	Contract Labor - Operations	3,000
7001200	Contract Services - Facilities	10,000
7019300	Well Services - Well Control Services	23,817
7019350	Well Services - Well/Wellhead Services	10,000
7018150	Rental Tools and Equipment (surface rentals)	110,533
7018150	Rig Equipment and Misc.	13,817
7001110	Telecommunications Services	5,000
7001120	Consulting Services	129,877
7001400	Safety and Environmental	44,213
7018120	Rental Buildings (trailers)	22,107
7019310	Coring (sidewalls & analysis)	
7011010	7% Contingency & Taxes	201,115
	TOTAL DRILLING - INTANGIBLE	\$2,381,212
	TOTAL DRILLING COST	\$3,074,187
COMPLETION - TAN	GIBLE	
7012580	Tubing	102
7012040	Tubing Accessories (nipple, wireline entry)	
7012550	Wellhead Equip	15,000
7012560	Packers - Completion Equipment	
	TOTAL COMPLETION - TANGIBLE	\$15,000

7/11/2019 MARATHON OIL PERMIAN LLC DATE AUTHORITY FOR EXPENDITURE **DETAIL OF ESTIMATED WELL COSTS** PERMIAN Fleld PURPLE SAGE: WO FORMATION: WOLFCAMP D Lease/Facility VALKYRIE 12 WD FEDERAL COM 6H COMPLETION - INTANGIBLE GL CODE DESCRIPTION ESTIMATED COST 7001270 Location and Access (dress location after rig move, set anchors) 10,000 7019220 **Dritting Rig During Complet** 7019140 Mud Fluids & Services 7019030 Colled Tubing Services (3 runs) 350,000 7019240 Snubbing Services 7019270 Pulling/Swab Units 7016350 Fuel (from drig) **Casing Crew and Services** 7019010 7019020 Cement and Cementing Services Well Testing Services (flow hand & equip) 7019080 7019320 Fracturing Services 3,684,100 7019330 300,000 15,000 Wireline Services 7019360 7001460 Water Hauling & Disposal (frac fluids) Freight - Truck (haul pipe; drig & compl) 271,000 7016180 20,000 7018150 BOP Rental & Testing 7018150 7018150 Rental Yools and Equipment ( incl drig; lightplant, hydra-walk) CT Downhole Rental Equipment (ie. Bit, BHA) 7000030 Contract Labor - general 60,000 7001110 7001400 Telecommunications Services Safety and Environmental 100,000 Consulting Services Zipper Manifold 7001120 100,000 7018150 7019300 220,000 85,000 Frack Stack Rentals Freight (Transportation Services)
Equipment Rental ( w/o operator, frac tanks, lightplants) 7016190 7018150 100,000 7018120 Rental Buildings (trailers) 35,000 7000030 7011010 Contract Labor - Pumping (pump-down pumps) 60,000 8% Contingency & Taxes 425,900 TOTAL COMPLETION - INTANGIBLE \$6,306,000 TOTAL COMPLETION COST \$6,321,000 SURFACE EQUIPMENT - TANGIBLE Misc. Piping, Fittings & Valves Company Labor & Burden Contract Labor - General 7012350 18,576 7000030 70,817 7001110 Telecommunication equip (Telemetry) Miscellaneous Materials (containment system) 43,281 7012270 SCADA Freight - truck 9,375 7001190 Contract Engineering 7012290 7012290 Metering and Instrumentation I&E Materials 7,764 114,060 7012200 Gas Treating 7012200 Dehydration 7012010 Compressor 7012350 Vapor Recovery Unit 7012610 7012440 Separator & other pressure vessels 323,837 Tanks Heater Treater 235,346 7012100 31,057 7012640 Flare & Accessories 11,937 7000010 Mechanical Labor Rod Pumping unit & Pad Pumping Unit Engine 7012480 7012180 Electrical Power (electrical cooperative construction costs) 7012350 TOTAL SURFACE EQUIPMENT - TANGIBLE \$866,051 TOTAL SURFACE EQUIPMENT COST \$ 866,051 ARTIFICIAL LIFT Company Labor 7012180 Gas Lift Equipment 15,000 7012480 7012140 Rod Pumping, Sucker Rods & Rod Pump Elect Sub Pumps (ESP) 6,250 17,500 Well Services-Well/Wellhead Services 7019350 6,000 Materials & Supplies-Tangible Surface Wellhead Equipment 6,000 5,000 7012550 7012390 Pig Launchers/Receivers & Rel Equip 6,250 8% Contingency & Taxes 3,000 7011010 TOTAL ARTIFICIAL LIFT 110,000 TOTAL ARTIFICIAL LIFT COST \$\_ 110,000 SUMMARY OF ESTIMATED DRILLING WELL COSTS TOTAL COST TOTAL LOCATION COST 112,000 **TOTAL DRILLING COST** 3,074,187 TOTAL COMPLETIONS COST 6,321,000 TOTAL SURFACE EQUIPMENT COST 866,051 TOTAL ARTIFICIAL LIFT COST 110,000 **GRAND TOTAL COST** \$10,483,238 Participant's Approval Name of

42

Date: \_

Company: \_
Signature: \_

Title

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

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

CASE NOS. 20865, 20866

AF	FI	D	A	V	I	T

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

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

Deana M. Rennett

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

Notary Public

My commission expires: <u>(2-27-21</u>

OFFICIAL SEAL

HATCHIS Schuman

HOTARY PUBLIC

THATE OF NEW MEXICO

THAT HOPITOS OF THE OFFICE OFFIC





October 24, 2019

## <u>VIA CERTIFIED MAIL</u> RETURN RECEIPT REQUESTED

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

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

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

**CASE NO. 20865** 

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

**CASE NO. 20866** 

TO: AFFECTED PARTIES

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

In Case No. 20865, Marathon seeks an order from the Division pooling all uncommitted mineral interests within a Bone Spring horizontal spacing unit underlying the S/2 N/2 of Section 12 of Township 23 South, Range 28 East; and Section 7 of Township 23 South, Range 29 East, NMPM, Eddy County, New Mexico. This spacing unit will be dedicated to the Valkyrie 12 SB Federal Com 13H well, to be horizontally drilled. The producing area for this well will be orthodox. Also to be considered will be the cost of drilling and completing said well, the allocation of these costs as well as the actual operating costs and charges for supervision, designation of Marathon as operator of the well, and a 200% charge for risk involved in drilling said well, and allowing a one year period between when the well is drilled and when the well is completed.

In Case No. 20866, Marathon seeks an order from the Division pooling all uncommitted mineral interests within a Wolfcamp horizontal spacing unit underlying the N/2 of Section 12, Township 23 South, Range 28 East and Section 7 of Township 23 South, Range 29 East, NMPM, Eddy County, New Mexico. This spacing unit will be dedicated to the Valkyrie 12 WXY Federal Com 1H, Valkyrie 12 WA Federal Com 3H, Valkyrie 12 WXY Federal Com 5H, Valkyrie 12 WD Federal Com 2H, Valkyrie 12 WD Federal Com 4H, Valkyrie 12 WD Federal Com 6H wells, to be horizontally drilled. The

Modrall Sperling Roehl Harris & Sisk P.A.

500 Fourth Street NW Suite 1000 Albuquerque, New Mexico 87102

PO Box 2168 Albuquerque, New Mexico 87103-2168

Tel: 505.848.1800 www.modrall.com producing area for these wells will be unorthodox. Also to be considered will be the cost of drilling and completing said wells, the allocation of these costs as well as the actual operating costs and charges for supervision, designation of Marathon as operator of the wells, and a 200% charge for risk involved in drilling said wells, and allowing a one year period between when the wells are drilled and when the first well is completed.

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

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

Sincerely,

Deana M. Bennett Nicole T. Russell

Attorneys for Applicant

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

Type	Interest Owner
	BTA Oil Producers LLC
	104 S. Pecos St.
WI	Midland, TX 79701
	Chevron USA, Inc.
	6301 Deauville Blvd.
WI	Midland, TX 79706
	OXY Y-1 Company
	5 Greenway Plaza, Suite 110
WI	Houston, TX 77046
	Devon Energy Prduction Company
	333 W. Sheridan Ave.
WI	Oklahoma City, OK
	Westall Oil & Gas, LLC
	P.O. Box 4
WI	Loco Hills, NM 88255
	Tap Rock Resources, LLC
	602 Park Point Dr.
WI	Golden, CO 80401

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

Type	Interest Owner
	BTA Oil Producers LLC
	104 S. Pecos St.
WI	Midland, TX 79701
	Chevron USA, Inc.
	6301 Deauville Blvd.
WI	Midland, TX 79706
	OXY Y-1 Company
	5 Greenway Plaza, Suite 110
WI	Houston, TX 77046
	Devon Energy Prduction Company
	333 W. Sheridan Ave.
WI	Oklahoma City, OK
	Westall Oil & Gas, LLC
	P.O. Box 4
WI	Loco Hills, NM 88255
	Tap Rock Resources, LLC
	602 Park Point Dr.
WI	Golden, CO 80401



October 29, 2019

Deana M. Bennett 505.848.1834 gmb@modrall.com

## **VIA FEDEX OVERNIGHT**

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

Lance D. Hough 505.848.1826 Idh@modrall.com

CASE NOS. 20883-20885 (RIPLEY)

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

CASE NOS. 20864-20868 (VALKYRIE)

TO: AFFECTED PARTIES

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

#### **Ripley Applications:**

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

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

Modrall Sperling Roehl Harris & Sisk P.A.

500 Fourth Street NW Suite 1000 Albuquerque, New Mexico 87102

PO Box 2168 Albuquerque, New Mexico 87103-2168

Tel: 505.848.1800 www.modrall.com actual operating costs and charges for supervision, designation of Marathon as operator of the well, and a 200% charge for risk involved in drilling said well, and allowing a one year period between when the well is drilled and when the well is completed..

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

### Valkyrie Applications:

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

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

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

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

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

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

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

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

Sincerely, Necra H Bennett

Deana M. Bennett Lance D. Hough

Attorneys for Applicant

# Your package has been delivered

Tracking # 776846021896

Ship date:

Tue, 10/29/2019

Karlene Schuman

Albuquerque, NM 87102

US



Delivery date:

Wed, 10/30/2019 9:52

am

**Bureau of Land Management** 

310 Dinosaur Trail

**SANTA FE, NM 87508** 

US



Our records indicate that the following package has been delivered.

Tracking number:

776846021896

Status:

Delivered: 10/30/2019 09:52

AM Signed for By: R DURAN

Reference:

81363.0205 DMB

Signed for by:

R DURAN

**Delivery location:** 

SANTA FE, NM

Delivered to:

Shipping/Receiving

Service type:

FedEx Standard Overnight®

Packaging type:

FedEx® Envelope

Number of pieces:

1

Weight:

0.50 lb.

Special handling/Services:

Deliver Weekday

Standard transit:

10/30/2019 by 4:30 pm

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

#### **PS Form 3877**

# Type of Mailing: CERTIFIED MAIL 10/24/2019



Firm Mailing Book ID: 177849

Line	USPS Article Number	Name, Street, City, State, Zip		Postage	Service Fee	RR Fee	Rest.Del.Fee	Reference Contents
1	9314 8699 0430 0064 8915 18	BTA Oil Producers LLC 104 S. Pecos St. Midland TX 79701		\$1.30	\$3.50	\$1.60	\$0.00	81363-205(65&66) Notice
2	9314 8699 0430 0064 8915 25	Chevron USA, Inc. 6301 Deauville Blvd. Midland TX 79706	2011	\$1.30	\$3.50	\$1.60	\$0.00	81363-205(65&66) Notice
3	9314 8699 0430 0064 8915 32	OXY Y-1 Company 5 Greenway Plaza, Suite 110 Houston TX 77046	CEROUE NA	\$1.30	\$3.50	\$1.60	\$0.00	81363-205(65&66) Notice
4	9314 8699 0430 0064 8915 49	Devon Energy Production Company 333 W. Sheridan Ave. Oklahoma City OK 73102	a	\$1.30	\$3.50	\$1.60	\$0.00	81363-205(65&66) Notice
5	9314 8699 0430 0064 8915 56	Westall Oil & Gas, LLC PO Box 4 Loco Hills NM 88255	(EDS	\$1.30	\$3.50	\$1.60	\$0.00	81363-205(65&66) Notice
6	9314 8699 0430 0064 8915 63	Tap Rock Resources, LLC 602 Park Point Dr. Golden CO 80401		\$1.30	\$3.50	\$1.60	\$0.00	81363-205(65&66) Notice
			Totals:	\$7.80	\$21.00	\$9.60	\$0.00	
					Grand	Total:	\$38.40	

List Number of Pieces Listed by Sender

Total Number of Pieces Received at Post Office Postmaster: Name of receiving employee Dated:



# **USPS Tracking**<sup>®</sup>

FAQs >

## Track Another Package +

Tracking Number: 9314869904300064891563

Remove X

Tap Rock Resources

Your item has been delivered to an agent at 12:56 pm on October 30, 2019 in GOLDEN, CO 80401.

# Delivered

October 30, 2019 at 12:56 pm Delivered, To Agent **GOLDEN, CO 80401** 

Get Updates ✓

Text &	& En	nail U	pdat	tes
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## **Return Receipt Electronic**

## **Tracking History**

October 30, 2019, 12:56 pm

Delivered, To Agent

**GOLDEN. CO 80401** 

Your item has been delivered to an agent at 12:56 pm on October 30, 2019 in GOLDEN, CO 80401.

October 29, 2019, 1:52 am Departed USPS Regional Facility DENVER CO DISTRIBUTION CENTER

October 28, 2019, 11:32 pm Arrived at USPS Regional Destination Facility DENVER CO DISTRIBUTION CENTER

October 28, 2019 In Transit to Next Facility

October 25, 2019, 7:41 am Departed USPS Facility ALBUQUERQUE, NM 87101

October 24, 2019, 9:31 pm Arrived at USPS Facility ALBUQUERQUE, NM 87101

October 24, 2019 Pre-Shipment Info Sent to USPS, USPS Awaiting Item

**Product Information** 

See Less ^

Tracking Number: 9314869904300064891556
Westau Oil - Gas LLC

Your item was delivered at 10:58 am on October 28, 2019 in LOCO HILLS, NM 88255.

**Oblivered** 

October 28, 2019 at 10:58 am Delivered LOCO HILLS, NM 88255

Get Updates ✓

Remove X

# **Text & Email Updates Return Receipt Electronic Tracking History**

October 28, 2019, 10:58 am Delivered LOCO HILLS, NM 88255 Your item was delivered at 10:58 am on October 28, 2019 in LOCO HILLS, NM 88255.

October 28, 2019, 10:33 am Available for Pickup LOCO HILLS, NM 88255

October 28, 2019, 10:22 am Arrived at Unit LOCO HILLS, NM 88255

October 26, 2019, 11:49 pm Departed USPS Regional Facility LUBBOCK TX DISTRIBUTION CENTER

October 26, 2019, 5:27 pm Arrived at USPS Regional Destination Facility LUBBOCK TX DISTRIBUTION CENTER

October 25, 2019, 7:41 am Departed USPS Facility ALBUQUERQUE, NM 87101

October 24, 2019, 9:31 pm Arrived at USPS Destination Facility ALBUQUERQUE, NM 87101

October 24, 2019

Pre-Shipment Info Sent to USPS, USPS Awaiting Item

**Product Information** 

See Less ^

Tracking Number: 9314869904300064891549

Remove X

Devon Energy Production Co

Your item was delivered at 8:29 am on October 28, 2019 in OKLAHOMA CITY, OK 73102.

Delivered

October 28, 2019 at 8:29 am Delivered OKLAHOMA CITY, OK 73102

Get Updates ✓

**Text & Email Updates** 

**Return Receipt Electronic** 

**Tracking History** 

October 28, 2019, 8:29 am

Delivered

OKLAHOMA CITY, OK 73102

Your item was delivered at 8:29 am on October 28, 2019 in OKLAHOMA CITY, OK 73102.

October 28, 2019, 7:22 am

Arrived at Unit

October 28, 2019, 3:45 am Departed USPS Regional Destination Facility OKLAHOMA CITY OK DISTRIBUTION CENTER

October 27, 2019 In Transit to Next Facility

October 26, 2019, 1:58 pm Arrived at USPS Regional Destination Facility OKLAHOMA CITY OK DISTRIBUTION CENTER

October 25, 2019, 7:41 am Departed USPS Facility ALBUQUERQUE, NM 87101

October 24, 2019, 9:31 pm Arrived at USPS Facility ALBUQUERQUE, NM 87101

October 24, 2019 Pre-Shipment Info Sent to USPS, USPS Awaiting Item

**Product Information** 

See Less ^

Your item was delivered at 5:58 am on October 29, 2019 in HOUSTON, TX 77227.

Remove X



October 29, 2019 at 5:58 am Delivered HOUSTON, TX 77227

Get Updates ✓

Text & Email Updates	~
Return Receipt Electronic	~
Tracking History	^

October 29, 2019, 5:58 am

Delivered

HOUSTON, TX 77227

Your item was delivered at 5:58 am on October 29, 2019 in HOUSTON, TX 77227.

October 28, 2019, 10:04 am Out for Delivery HOUSTON, TX 77046

October 28, 2019, 5:49 am Arrived at Unit HOUSTON, TX 77027

October 27, 2019 In Transit to Next Facility

October 25, 2019, 7:41 am Departed USPS Facility ALBUQUERQUE, NM 87101

October 24, 2019, 9:31 pm Arrived at USPS Facility ALBUQUERQUE, NM 87101

October 24, 2019

Pre-Shipment Info Sent to USPS, USPS Awaiting Item

**Product Information** 

#### See Less ^

Tracking Number: 9314869904300064891525 Cherron USA, Inc

Remove X

Your item was delivered to the front desk, reception area, or mail room at 1:57 pm on October 28, 2019 in MIDLAND, TX 79706.



October 28, 2019 at 1:57 pm Delivered, Front Desk/Reception/Mail Room MIDLAND, TX 79706

Get Updates ✓

**Text & Email Updates** 



**Return Receipt Electronic** 



**Tracking History** 



October 28, 2019, 1:57 pm

Delivered, Front Desk/Reception/Mail Room

MIDLAND, TX 79706

Your item was delivered to the front desk, reception area, or mail room at 1:57 pm on October 28, 2019 in MIDLAND, TX 79706.



October 28, 2019

In Transit to Next Facility

October 27, 2019, 1:48 am Departed USPS Regional Destination Facility MIDLAND TX DISTRIBUTION CENTER

October 26, 2019, 8:23 pm Arrived at USPS Regional Destination Facility MIDLAND TX DISTRIBUTION CENTER

October 25, 2019, 7:41 am Departed USPS Facility ALBUQUERQUE, NM 87101

October 24, 2019, 9:31 pm Arrived at USPS Facility ALBUQUERQUE, NM 87101

October 24, 2019 Pre-Shipment Info Sent to USPS, USPS Awaiting Item

**Product Information** 

See Less ^

**Tracking Number:** 9314869904300064891518

BTA Gil Producers LLC

Your item was delivered at 8:33 am on October 29, 2019 in MIDLAND, TX 79701.

Remove X



Get Updates ✓

# **Text & Email Updates Return Receipt Electronic Tracking History**

October 29, 2019, 8:33 am

Delivered

MIDLAND, TX 79701

Your item was delivered at 8:33 am on October 29, 2019 in MIDLAND, TX 79701.

October 27, 2019, 1:50 am Departed USPS Regional Destination Facility MIDLAND TX DISTRIBUTION CENTER

October 26, 2019, 8:23 pm Arrived at USPS Regional Destination Facility MIDLAND TX DISTRIBUTION CENTER

October 25, 2019, 7:41 am Departed USPS Facility ALBUQUERQUE, NM 87101

October 24, 2019, 9:31 pm Arrived at USPS Facility ALBUQUERQUE, NM 87101

October 24, 2019

Pre-Shipment Info Sent to USPS, USPS Awaiting Item

# **Carlsbad Current Argus.**

#### **Affidavit of Publication** Ad # 0003873633

**MODRALL SPERLING POBOX 2168** 

ALBUQUERQUE, NM 87103

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

October 31, 2019

Legal Clerk

Subscribed and sworn before me this October 31,

2019:

State of WI, County of Brown

NOTARY PUBLIC

My commission expires

PO#: 20864, 20865, 20866, 20867, 20868 # of Affidavits 1

NOTAR A

PUBLIC

PUBLI

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

CASE NO. 20865: Notice to all affected parties, as well as the heirs and devisees of Bureau of Land Management, BTA Oil Producers LLC, Chevron USA Inc., OXY Y-1 Company, Devon Energy Production Company, Westall Oil & Gas LLC, Tap Rock Resources LLC, of Marathon Oil Permian LLC's application for compulsory pooling, Eddy County, New Mexico. The State of New Mexico, through its Oil Conservation Division, hereby gives notice that the Division will conduct a public hearing at 8:15 a.m. on November 14, 2019, to consider this application. Applicant seeks an order from the Division pooling all uncommitted mineral interests within a Bone Spring horizontal spacing unit underlying the S/2 N/2 of Section 12 of Township 23 South, Range 28 East; and Section 7 of Township 23 South, Range 29 East, NMPM, Eddy County, New Mexico. This spacing unit will be dedicated to the Valkyrie 12 SB Federal Com 13H well, to be horizontally drilled. The producing area for this well will be orthodox.

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

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

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

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

CASE NO. 20868: Notice to all affected parties, as well as the heirs and devisees of Bureau of Land Management, Tap Rock Resources LLC, Occidental Permian LP, Devon Energy Production Company, WPX Energy Permian LLC, Ray Westall Operating Inc., Winston Resources Inc., McMullen Minerals LLC, Pegasus Resources LLC, Terri L. Simpson, John D. Hamiga, Charmar LLC, Kenneth Jay Reynolds, Charles Randal Hicks, Vikki L. Hicks Smith, Tap Rock Minerals LP, Colins & Ware Inc., Curtis A Anderson and Edna I Anderson Joint Tenants with rights of survivorship, of Marathon Oil Permian LLC's application for compulsory pooling, Eddy County, New Mexico. The State of New Mexico, through its Oil Conservation Division, hereby gives notice that the Division will conduct a public hearing at 8:15 a.m. on November 14, 2019, to consider this application. Applicant seeks an order from the Division pooling all uncommitted mineral interests within a Bone Spring horizontal spacing unit underlying the 5/2 5/2 of Section 12 of Township 23 South, Range 28 East; NMPM, Eddy County, New Mexico. This spacing unit will be dedicated to the Valkyrie 12 SB Federal Com 15H well, to be horizontally drilled. The producing area for this well will be orthodox. Also to be considered will be the cost of drilling and completing said well, the allocation of these costs as well as

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

October 31, 2019

### Rebecca C. Horne

5353 Memorial Dr #3059, Houston, TX 77007 rebecca.c.horne@gmail.com · 704-578-4178

#### PROFESSIONAL EXPERIENCE

#### Marathon Oil Company, Houston, TX

September 2013 – Present

#### > Development Geologist, Permian Subsurface - June 2019-Present

- Responsible for all geology and development plans in Eddy County, NM.
- Plan and execute field wide plan of development as part of an integrated team of geologists and reservoir engineers.
- Prepare staking requests and consult with land, regulatory, drilling, completions,
   facilities, and field operations to progress wells through to drill readiness.
- Develop and maintain area maps, and provided geologic data (e.g. porosities, saturations, thicknesses, etc.) to other teams.
- Evaluate non-operated well proposals and development plans within area of responsibility.
- Work with land professionals on data trades, land acquisitions, and unit reshapes where commercially viable.

#### Development Geologist, Eagle Ford Subsurface - September 2016-June 2019

- Geologist in charge of development for over 60 operated units in Marathon's core acreage in Karnes County, TX.
- Collaborated closely with reservoir engineers to plan and execute field wide plan of development, and maintain evergreen business planning workbooks.
- Initiated multiple data trades and large effort with land department to reshape units to optimize lateral lengths.
- Added over 40 new well locations, while also upgrading hundreds of locations to top tier returns
- Prepared staking requests and consulted with land, regulatory, drilling, completions, facilities, and field operations to progress wells through to drill readiness.
- Developed and maintained area maps, and provided geologic data (e.g. porosities, saturations, thicknesses, etc.) to other teams.
- Evaluated non-operated well proposals and development plans within area of responsibility.
- Maintained knowledge of competitor development and built relationships for knowledge sharing and data trades.
- Trained and mentored two new geology team members.

#### > Operations Geologist, Eagle Ford Subsurface - September 2013-September 2016

- Lead operations geologist for over 100 Eagle Ford and Austin Chalk wells responsible for all operational duties for 1-4 rigs at a time.
- Monitored wells while drilling and utilized geosteering software to ensure well paths were kept within acceptable tolerances – averaged 96% in zone
- Created geologic prognoses, updated geologic maps, and tied in new data to seismic.
- Coordinated vendors for data acquisition (e.g. wireline logging, coring, mudlogging, etc.)
   and supervised on-site activities.
- Provided geosteering support for drilling to mitigate anti-collision risk in tightly spaced well locations.
- Maintained strong communication with drilling and development teams and collaborated on cross-discipline projects.





- Developed process/workflow improvements within operations team.
- Participated in knowledge sharing events with Bakken and Oklahoma operations teams.
- Initiated internal takeover of nighttime geosteering (6pm-6am) from third party vendor to cut costs and improve quality of geosteering 24/7. Provided nighttime geosteering support for all company assets (Eagle Ford, Bakken, Oklahoma).
- Trained and mentored two new team members.

#### Geophysics Intern, Gulf of Mexico Asset Team - Summer 2012

- Evaluated geological potential of down-dip target in actively producing field.
- Interpreted horizons from 3D seismic and Acoustic Impedance volumes across basin.
- Constructed structure, isopach, and various attribute maps of horizon of interest.
- Modeled AVO and fluid substitution to determine fluids present in target area.
- Created an updated conceptual geological model for the basin with recommendations for further work to be done beyond the scope of the internship.

### University of Oklahoma, Norman, OK

August 2011 - May 2013

**Graduate Teaching Assistant** 

- Led two classes each semester of Introductory Geology Lab for geoscience and engineering majors.
- Assisted professors in lecture duties and grading.

#### Virginia Tech, Blacksburg, VA

August 2009 - May 2011

**Undergraduate Research Assistant** 

- Modeled crystal fractionation and replenishment of a magma chamber at the East Pacific Rise.
- Collaborated with research professor at University of Maryland and graduate student at Georgia Tech to incorporate replenishment modeling into hydrothermal system model, which led to a publication in *Oceanography*.

#### **EDUCATION**

#### University of Oklahoma, Norman, OK

December 2013

Master of Science, Geophysics

Thesis: Distribution of magmatism within the crust beneath the Main Ethiopian Rift and adjacent plateaus: Melt bodies, intrusion, and underplating

## Virginia Polytechnic Institute & State University, Blacksburg, VA

May 2011

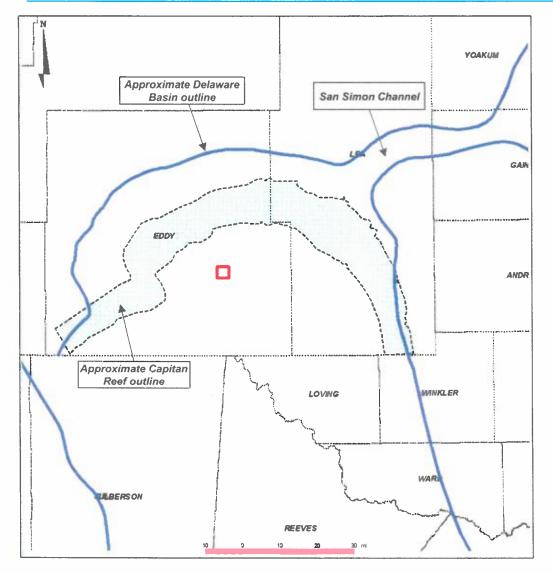
Bachelor of Science, Cum Laude, Geosciences

#### **SOFTWARE SKILLS**

ArcGIS, Geographix, Spotfire, SeisWorks, DecisionSpace, Geoprobe, StarSteer Geosteering, BHL Boresight Geosteering, Hampson-Russell, Petrel, ProMAX, SPW SeisViewer, RAYINVR Code, Tesseral, SAC (Seismic Analysis Code)

# Valkyrie 12 Federal Com Unit

**Locator Map** 



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





Preferred Well Orientation - SHmax



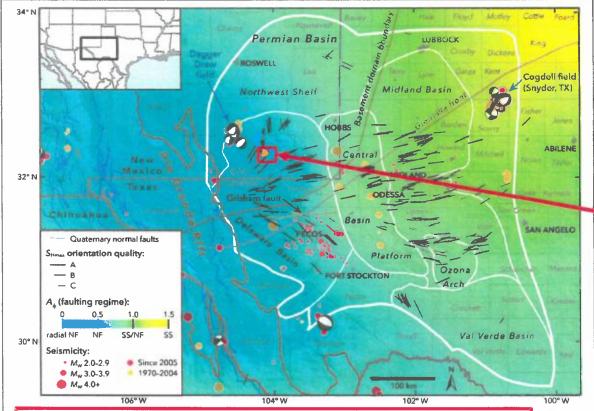


Figure 1. State of stress in the Permian Basin. Texas and New Mexico. Black lines are the measured orientations of the maximum horizontal stress (S....), with line engin scaled by data quality. The colored background is an interpolation of measured relative principal stress magnitudes (raunting regime) expressed using the A<sub>c</sub> parameter (see text for details) of Simpson (1997). Blue lines are fault traces known to have experienced normal-sense offset within the past 1.6 Ma. from the USGS Quaternary Faults and Folds Database (Crone and Wheeler, 2000). The boundary between the Shawnee and Mazatzal basement domains is from Lund et al. (2015), and the Precambrian Genville Front is from Thomas (2006). The Permian Basin boundary is from the U.S. Energy Information, Administration, and the subbasin boundaries are from the Texas Bureau of Economic Geology Permian Basin Geological Synthesis Project. Earthquakes are from the USGS National Earthquake Information Center, the Texhet Seismic Monitoring Program, and Can and Froblich (2013). Focal mechanisms are from Saint Louis University (Hermann et al., 2011).

#### Source:

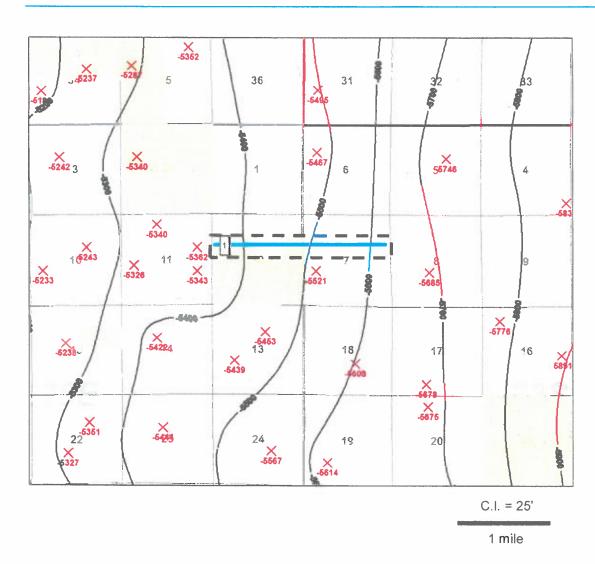
Snee, J.L. & M.D. Zoback, 2018, State of stress in the Permian Basin, Texas and New Mexico: Implications for induced seismicity: The Leading Edge, 810-819, https://doi.org/10.1190/tle37020810.1.

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

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



Structure Map – Base of Second Bone Spring Sand (TVDSS)







MRO – Horizontal Location

SBSG

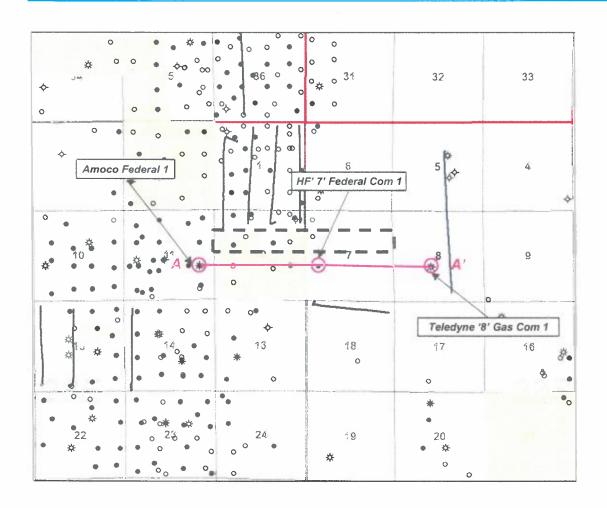
1 Valkyrie 12 SB Federal Com 13H



rappies.



Reference Map for Cross Section - Bone Spring Wells



Map Legend



Producing SBSG Wells

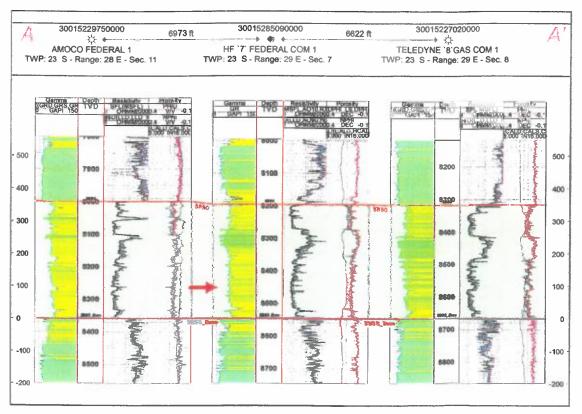


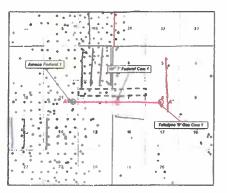
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Stratigraphic Cross Section (Base Second Bone Spring Sand Datum)



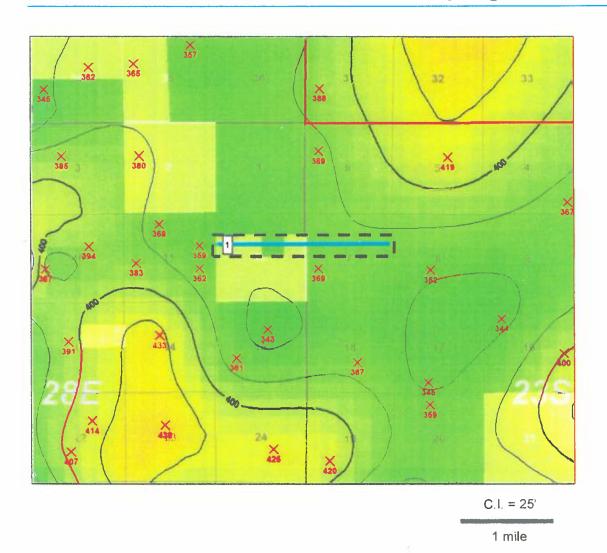


Gross interval thickness relatively consistent from west to east

Producing Zone - Second Bone Spring Sand



Gross Interval Isochore - Second Bone Spring Sand



Map Legend



SBSG

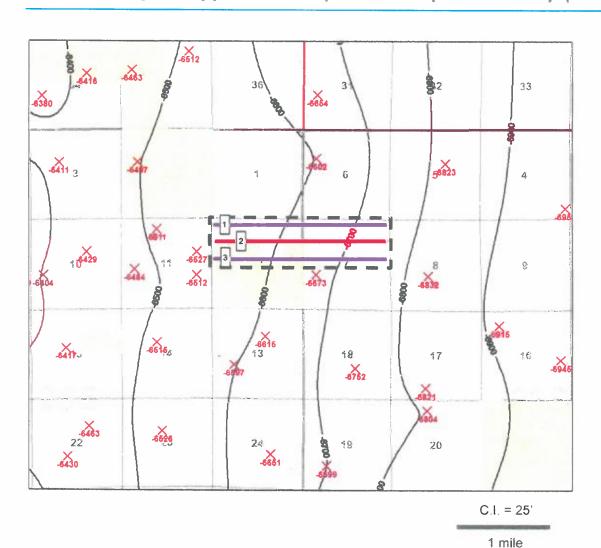
MRO – Horizontal Location







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



#### Map Legend





- 2 Valkyrie 12 WA Federal Com 3H

Valkyrie 12 WXY Federal Com 1H

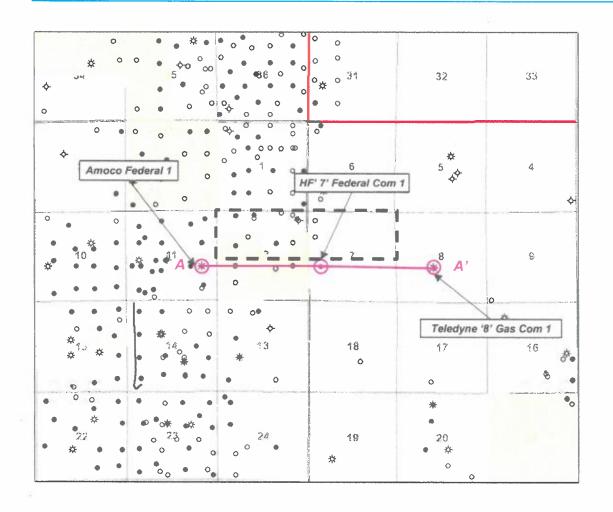
3 Valkyrie 12 WXY Federal Com 5H

4

EXHIBIT



Reference Map for Cross Section - Upper Wolfcamp Wells



1 mile

Map Legend



Producing WFMP XY & A Wells

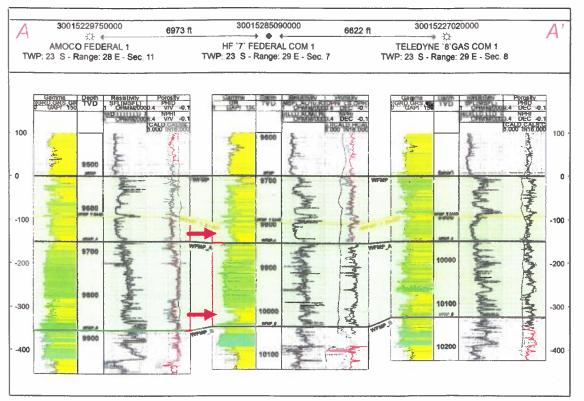


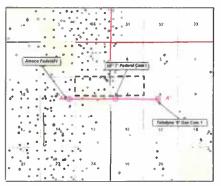
Cross Section Line





Stratigraphic Cross Section (Top Wolfcamp Datum)



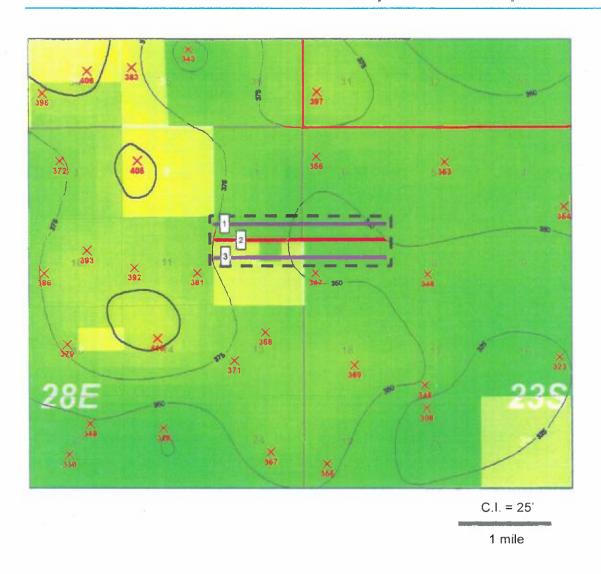


Gross interval thickness decreases slightly from west to east

Producing Zone – Wolfcamp XY & WFMP A



Gross Interval Isochore – Wolfcamp to Wolfcamp B









MRO – Horizontal Location

- 1 Valkyrie 12 WXY Federal Com 1H
- 2 Valkyrie 12 WA Federal Com 3H
- 3 Valkyrie 12 WXY Federal Com 5H

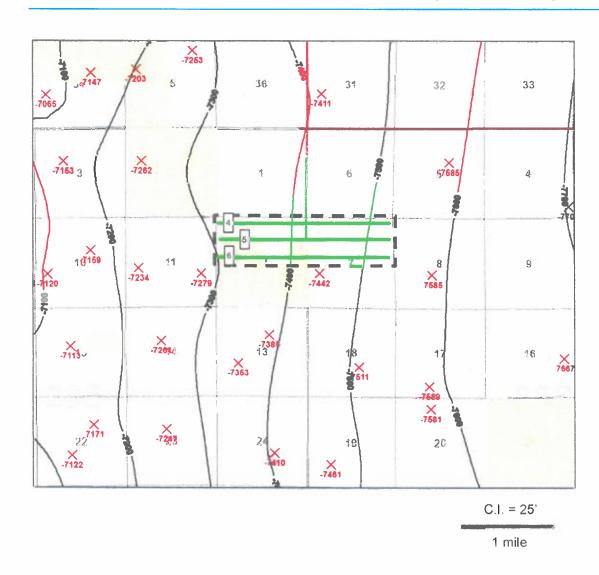




# EXHIBIT ©

## Valkyrie 12 Federal Com Unit

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



#### Map Legend



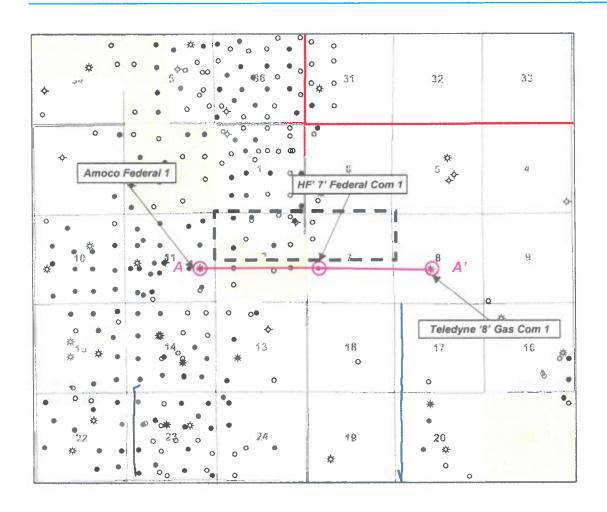


- 4 Valkyrie 12 WD Federal Com 2H
- 5 Valkyrie 12 WD Federal Com 4H
- 6 Valkyrie 12 WD Federal Com 6H





Reference Map for Cross Section - Lower Wolfcamp Wells



Map Legend

MRO Acreage Project Area

Producing WFMP D Wells

0----

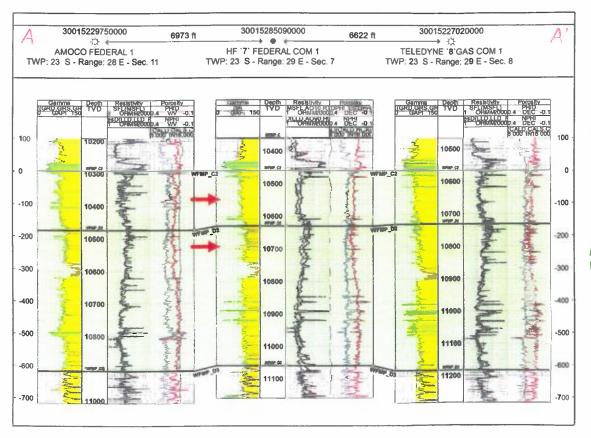
Cross Section Line

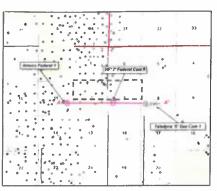
1 mile



200

Stratigraphic Cross Section (Top Wolfcamp C2 Datum)



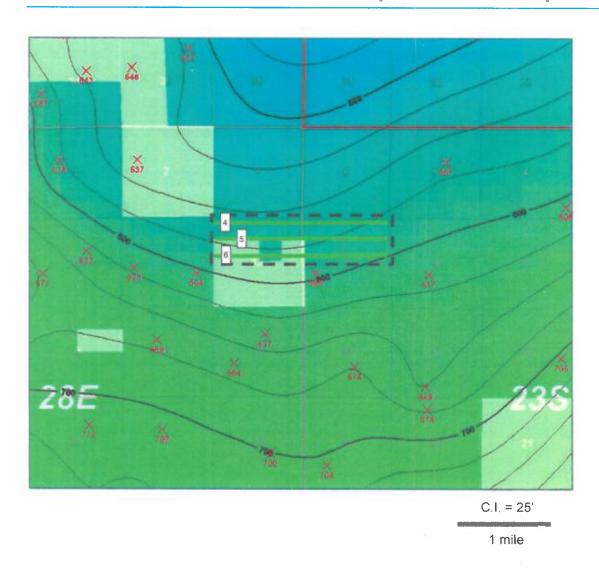


Gross interval thickness relatively consistent from west to east

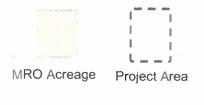
Producing Zone – Wolfcamp C2 & D2



Gross Interval Isochore - Wolfcamp C2 to Wolfcamp D3







WFMP D

MRO – Horizontal Location

- 4 Valkyrie 12 WD Federal Com 2H
- 5 Valkyrie 12 WD Federal Com 4H
- 6 Valkyrie 12 WD Federal Com 6H

82

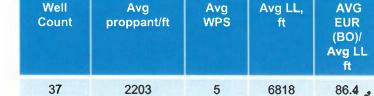


#### **Effects of Lateral Length on Well Performance**

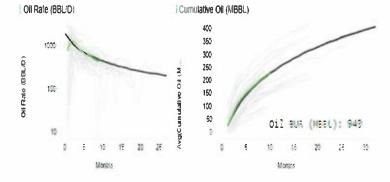
Arps EUR Equation Upper Wolfcamp

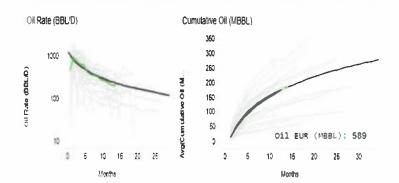
2	Mile	Late	ral	Lenath	1
	IAIIIC	Later	aı	Lendu	u

Well Count	Avg proppant/ft	Avg WPS	Avg LL, ft	AVG EUR (BO)/ Avg LL ft
36°	1992	5	9694	97.9



1.5 Mile Lateral Length





- Longer laterals EURs are higher than shorter laterals
- Avg EUR/ Avg LL in the 2 Mile laterals is 13% greater then 1.5 Mile Laterals



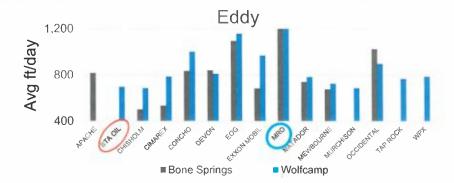


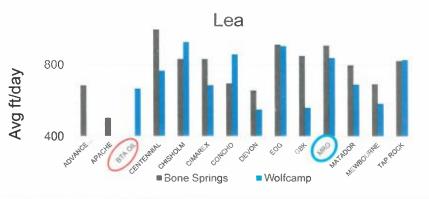
<sup>\*</sup>Source Data: DrillingInfo and IHS

#### **Drilling Performance**

#### Marathon Oil Standout Driller

- · Marathon is premier driller within the N. Delaware basin
  - Correlates with cost effectiveness / efficiency
  - Fastest driller within Eddy County
  - Top quartile performance within Lea County
  - 159 wells spud since 5/30/17
- BTA Oil drilling performance is one of the least efficient in each county
  - Implies higher cost
  - 34 wells spud since 5/30/17





<sup>\*</sup>Source Data: DrillingInfo for Avg Ft/Day & Internal data; Data excludes Operators with < 3 wells NM OCD Well Search

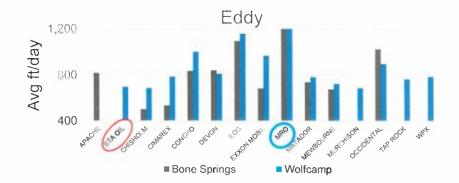


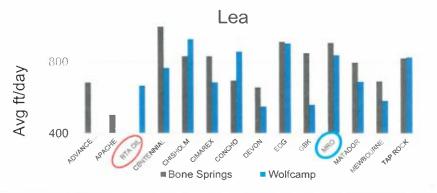


#### **Drilling Performance**

#### Marathon Oil Standout Driller

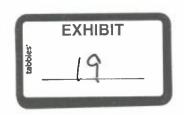
- Marathon is premier driller within the N. Delaware basin
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\*Source Data: DrillingInfo for Avg Ft/Day & Internal data, Data excludes Operators with < 3 wells NM OCD Well Search



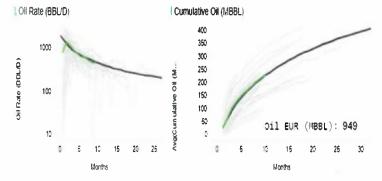


#### **Effects of Lateral Length on Well Performance**

Arps EUR Equation Upper Wolfcamp

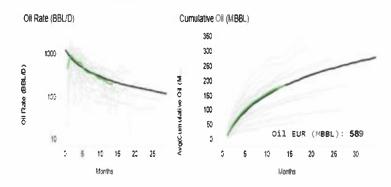
2 Mile Lateral Length

Well Count	Avg proppant/ft	Avg WPS	Avg LL, ft	AVG EUR (BO)/ Avg LL ft
36	1992	5	9694	97.9



1.5 Mile Lateral Length

Well Count	Avg proppant/ft	Avg WPS	Avg LL, ft	AVG EUR (BO)/ Avg LL ft
37	2203	5	6818	86.4



- Longer laterals EURs are higher than shorter laterals
- Avg EUR/ Avg LL in the 2 Mile laterals is 13% greater then 1.5 Mile Laterals