

RECEIVED: Y23/24K	REVIEWER: MAM	TYPE:	APP NO: PMAM1812353139
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ABOVE THIS TABLE FOR OCD DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION
 - Geological & Engineering Bureau -
 1220 South St. Francis Drive, Santa Fe, NM 87505

**ADMINISTRATIVE APPLICATION CHECKLIST**

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

Applicant: Marathon Oil Permian LLC **OGRID Number:** 372098
Well Name: Cass 16 State 2H **API:** 30-015-42733
Pool: Purple Sage Wolfcamp **Pool Code:** 98220
Forch and Ranch, Blue Spring 24660

SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED BELOW

- 1) **TYPE OF APPLICATION:** Check those which apply for [A]
 A. Location - Spacing Unit - Simultaneous Dedication
☐ NSL ☐ NSP (PROJECT AREA) ☐ NSP (PRORATION UNIT) ☐ SD

B. Check one only for [I] or [II]

[I] Commingling - Storage - Measurement

☐ DHC ☐ CTB ☐ PLC ☒ PC ☐ OLS ☐ OLM

[II] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery

☐ WFX ☐ PMX ☐ SWD ☐ IPI ☐ EOR ☐ PPR

- 2) **NOTIFICATION REQUIRED TO:** Check those which apply.

- A. ☐ Offset operators or lease holders
 B. ☒ Royalty, overriding royalty owners, revenue owners
 C. ☐ Application requires published notice
 D. ☒ Notification and/or concurrent approval by SLO
 E. ☐ Notification and/or concurrent approval by BLM
 F. ☐ Surface owner
 G. ☒ For all of the above, proof of notification or publication is attached, and/or,
 H. ☐ No notice required

FOR OCD ONLY

- ☐ Notice Complete
☐ Application Content Complete

- 3) **CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

Jennifer Van Curen

Print or Type Name

Jennifer Van Curen
 Signature

12/04/2017

Date

713-296-2500

Phone Number

jvancuren@marathonoil.com

e-mail Address

District I
1625 N. French Drive, Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St Francis Dr, Santa Fe, NM
87505

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-107-B
Revised August 1, 2011

OIL CONSERVATION DIVISION
1220 S. St Francis Drive
Santa Fe, New Mexico 87505

Submit the original
application to the Santa Fe
office with one copy to the
appropriate District Office.

APPLICATION FOR SURFACE COMMINGLING (DIVERSE OWNERSHIP)

OPERATOR NAME: Marathon Oil Permian LLC
OPERATOR ADDRESS: 5555 San Felipe St, Houston, TX 77057
APPLICATION TYPE:

☒ Pool Commingling ☐ Lease Commingling ☐ Pool and Lease Commingling ☐ Off-Lease Storage and Measurement (Only if not Surface Commingled)

LEASE TYPE: ☐ Fee ☒ State ☐ Federal

Is this an Amendment to existing Order? ☐ Yes ☒ No If "Yes", please include the appropriate Order No. _____
Have the Bureau of Land Management (BLM) and State Land office (SLO) been notified in writing of the proposed commingling
☒ Yes ☐ No

(A) POOL COMMINGLING

Please attach sheets with the following information

(1) Pool Names and Codes	Gravities / BTU of Non-Commingled Production	Calculated Gravities / BTU of Commingled Production		Calculated Value of Commingled Production	Volumes
Purple Sage Wolfcamp 98220 3H	46.10 / 1332	45.46 / 1357	45304/4830	807/1707	807/1707
Forehand Ranch; Bone Spring 24660 2H	46.64 / 1379		71754/2000	176114/300	879/2153
Forehand Ranch; Bone Spring 24660 4H	43.65 / 1361		21530/2500	13330	526/859

- (2) Are any wells producing at top allowables? ☐ Yes ☒ No
(3) Has all interest owners been notified by certified mail of the proposed commingling? ☒ Yes ☐ No
(4) Measurement type: ☒ Metering ☐ Other (Specify)
(5) Will commingling decrease the value of production? ☐ Yes ☒ No If "yes", describe why commingling should be approved

(B) LEASE COMMINGLING

Please attach sheets with the following information

- (1) Pool Name and Code.
(2) Is all production from same source of supply? ☐ Yes ☐ No
(3) Has all interest owners been notified by certified mail of the proposed commingling? ☐ Yes ☐ No
(4) Measurement type: ☐ Metering ☐ Other (Specify)

(C) POOL and LEASE COMMINGLING

Please attach sheets with the following information

- (1) Complete Sections A and E.

(D) OFF-LEASE STORAGE and MEASUREMENT

Please attached sheets with the following information

- (1) Is all production from same source of supply? ☐ Yes ☒ No
(2) Include proof of notice to all interest owners.

(E) ADDITIONAL INFORMATION (for all application types)

Please attach sheets with the following information

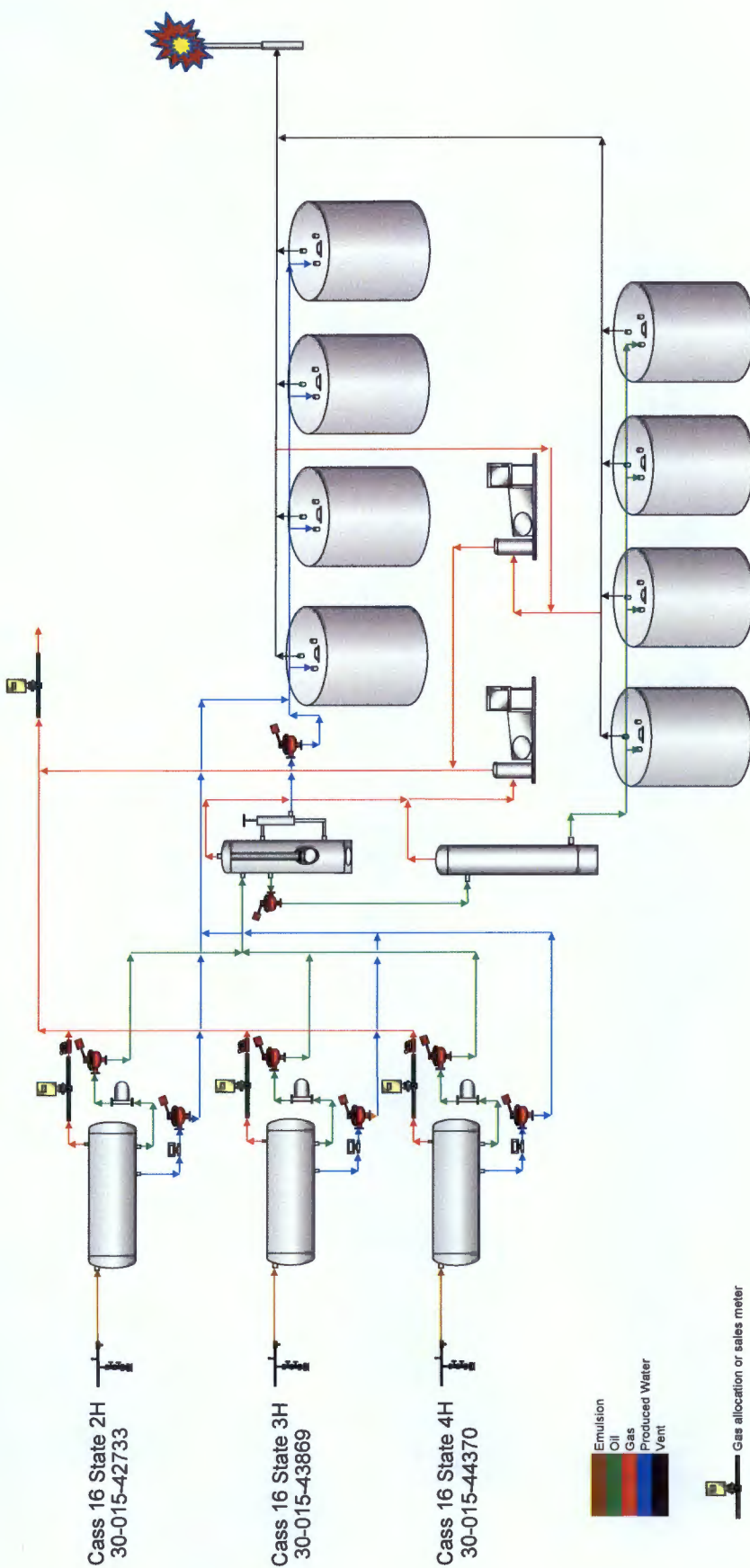
- (1) A schematic diagram of facility, including legal location.
(2) A plat with lease boundaries showing all well and facility locations. Include lease numbers if Federal or State lands are involved.
(3) Lease Names, Lease and Well Numbers, and API Numbers.

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE: Jennifer Van Curen TITLE: Sr. Regulatory Compliance DATE: 12/4/17

TYPE OR PRINT NAME: Jennifer Van Curen TELEPHONE NO.: 713-296-2500

E-MAIL ADDRESS: jvancuren@marathonoil.com



Cass 16 State 2H
30-015-42733

Cass 16 State 3H
30-015-43869

Cass 16 State 4H
30-015-44370



Cass 16 State Facility
H-16-T23S-R27E
1649' FNL & 315' FEL

TB

4H
PSWC

2H
PSWC

Cypress Hill
BS

1H
FRWC

2H PSWC

Cass 2H
facility

104°12'16"553"W, 32°11'27.41"N
3H PSWC

4H
BS

VB 2092

LO 0428

16

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

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

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 03-015-42733	² Pool Code 98220	³ Pool Name PURPLE SAGE; WOLFCAMP (GAS)
⁴ Property Code 313797	⁵ Property Name CASS 16 STATE	⁶ Well Number 2H
⁷ OGRID No. 372098	⁸ Operator Name MARATHON OIL PERMIAN, LLC	⁹ Elevation 3164

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	17	T23S	R27E		1649'	NORTH	315'	EAST	EDDY

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	16	T23S	R27E		964'	NORTH	241'	EAST	EDDY

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

¹⁶				¹⁷ OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. Signature: <i>James VanCuren</i> Date: <i>12/8/17</i> Printed Name: <i>James VanCuren</i> E-mail Address: <i>vanincuren@marathonoil.com</i>	
¹⁸ SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. Signature and Seal of Professional Surveyor: <i>[Signature]</i>				PRELIMINARY THIS DOCUMENT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING, RECORDATION, SALE OR THE BASIS FOR THE ISSUANCE OF A PERMIT. Certificate Number	
SURFACE HOLE LOCATION 1649' FNL 315' FEL NAD 83, SPCS NM EAST X581110.14' / Y475666.20' LAT:32.30761377N / LON:104.20459795W NAD 27, SPCS NM EAST X539928.05' / Y475607.36' LAT:32.30749487N / LON:104.20409787W		LAST TAKE POINT 13,991 MEASURED DEPTH IN FEET NAD 83, SPCS NM EAST X586379.50' / Y476508.61' LAT:32.30991088N / LON:104.18753849W NAD 27, SPCS NM EAST X545197.35' / Y476449.69' LAT:32.30979175N / LON:104.18703899W			
FIRST TAKE POINT 9,299 MEASURED DEPTH IN FEET NAD 83, SPCS NM EAST X581753.61' / Y476326.93' LAT:32.30942788N / LON:104.20251257W NAD 27, SPCS NM EAST X540571.52' / Y476268.07' LAT:32.30930896N / LON:104.20201252W		BOTTOM HOLE LOCATION 14,080 MEASURED DEPTH IN FEET NAD 83, SPCS NM EAST X586468.39' / Y476513.88' LAT:32.30992505N / LON:104.18725076W NAD 27, SPCS NM EAST X545286.24' / Y476454.96' LAT:32.30980591N / LON:104.18675127W			
CORNER COORDINATES NAD 83, SPCS NM EAST A - Y: 477316.50' / X: 581420.97' B - Y: 477486.36' / X: 586707.24' C - Y: 474772.99' / X: 586713.52' D - Y: 474661.31' / X: 581428.04'		CORNER COORDINATES NAD 27, SPCS NM EAST A - Y: 477257.62' / X: 540238.91' B - Y: 477427.41' / X: 545525.10' C - Y: 474714.11' / X: 545531.33' D - Y: 474602.50' / X: 540245.92'		T23S-R26E T23S-R27E	

NOTE; ALL DEMINSIONS IN U.S. FEET

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

NOTE; ALL DEMINSIONS IN U.S. FEET

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
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State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-05-44370	² Pool Code	³ Pool Name BONE SPRINGS
⁴ Property Code	⁵ Property Name CASS 16 STATE	⁶ Well Number 4H
⁷ OGRID No. 372098	⁸ Operator Name MARATHON OIL PERMIAN, LLC	⁹ Elevation 3160

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	16	T23S	R27E		2018'	NORTH	256'	WEST	EDDY

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	16	T23S	R27E		2100'	NORTH	330'	EAST	EDDY

¹² Dedicated Acres 160	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

¹⁶ 		¹⁷ OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or undivided mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. Signature: <i>[Signature]</i> Date: <i>[Date]</i> Printed Name: <i>[Name]</i> E-mail Address: <i>[Email]</i>
SURFACE HOLE LOCATION 2018' FNL 256' FVL NAD 83, SPCS NM EAST X:581682.64' / Y:475306.18' LAT:32.30662221N / LON:104.20274630W NAD 27, SPCS NM EAST X:540500.53' / Y:475247.35' LAT:32.30650328N / LON:104.20224632W		¹⁸ SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. Date of Survey: <i>[Date]</i> Signature and Seal of Professional Surveyor: <i>[Signature]</i> PRELIMINARY THIS DOCUMENT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING, RECORDATION, SALE OR THE BASIS FOR THE ISSUANCE OF A PERMIT.
FIRST TAKE POINT 7,177' MEASURED DEPTH IN FEET NAD 83, SPCS NM EAST X:581756.48' / Y:475249.97' LAT:32.30646745N / LON:104.20250754W NAD 27, SPCS NM EAST X:540574.37' / Y:475191.14' LAT:32.30634851N / LON:104.20200758W		
LAST TAKE POINT/BOTTOM HOLE LOCATION 11,830 MEASURED DEPTH IN FEET NAD 83, SPCS NM EAST X:586381.92' / Y:475374.83' LAT:32.30679428N / LON:104.18753566W NAD 27, SPCS NM EAST X:545199.75' / Y:475315.94' LAT:32.30667513N / LON:104.18703625W		
SECTION 17 SECTION 20 CORNER COORDINATES NAD 83, SPCS NM EAST A - Y: 475988.90' / X: 581424.51' B - Y: 476129.67' / X: 586710.38' C - Y: 474772.99' / X: 586713.52' D - Y: 474661.31' / X: 581428.04'	SECTION 16 SECTION 21 CORNER COORDINATES NAD 27, SPCS NM EAST A - Y: 475930.05' / X: 540242.42' B - Y: 476070.75' / X: 545528.22' C - Y: 474714.11' / X: 545531.33' D - Y: 474602.50' / X: 540245.92'	SECTION 15 SECTION 22 T23S-R26E T23S-R27E

NOTE: ALL DIMENSIONS IN U.S. FEET

I have confirmed that the working, royalty and overriding royalty interests are identical for the Cass 16 State 2H, 3H and 4H wells located in the N/2 of Section 16, T23S-R27E, Eddy County.

Should you have any questions or need further details please let me know.

Thank you

A handwritten signature in black ink, appearing to be 'MT' or similar initials, written in a cursive style.

Matt S. Tate, CPL
Land Professional – Permian Basin

Marathon Oil Company
5555 San Felipe Street
Houston, TX 77056
Telephone 713.296.2164 Mobile 832.499.2029
Fax 713.235.8033
matthewstate@marathonoil.com

Date	Oil	Gas	Days
Oct Cum	2,356.	5,482.	13
Nov Cum	13,045.	32,995.	30
Dec Cum	5,411.	17,824.	31
Jan Cum	4,768.	2,133.	22

November 16, 2017

FESCO, Ltd.
105 Medical Dr. - Ozona, Texas 76943

For: Marathon Oil Permian, LLC
5555 San Felipe Street
Houston, Texas 77056

Sample: Cass 16 State No. 2H
Meter Run Gas
Sampled @ 76 psig & 98 °F

Date Sampled: 11/13/17 @ 12:18 CDT

Job Number: 70829.011

CHROMATOGRAPH EXTENDED ANALYSIS - GPA 2286

COMPONENT	MOL%	GPM
Nitrogen	0.974	
Carbon Dioxide	0.073	
Methane	74.292	
Ethane	13.731	3.666
Propane	6.658	1.831
Isobutane	0.824	0.269
n-Butane	1.940	0.611
2-2 Dimethylpropane	0.000	0.000
Isopentane	0.415	0.152
n-Pentane	0.469	0.170
Hexanes	0.260	0.107
Heptanes Plus	<u>0.364</u>	<u>0.150</u>
Totals	100.000	6.956

Computed Real Characteristics Of Heptanes Plus:

Specific Gravity ----- 3.407 (Air=1)
Molecular Weight ----- 98.29
Gross Heating Value ----- 5088 BTU/CF

Computed Real Characteristics Of Total Sample:

Specific Gravity ----- 0.767 (Air=1)
Compressibility (Z) ----- 0.9959
Molecular Weight ----- 22.11
Gross Heating Value
Dry Basis ----- 1318 BTU/CF
Saturated Basis ----- 1296 BTU/CF

Base Conditions: 14.650 PSI & 60 Deg F

Sampled By: (Marathon) I. Castro
Analyst: RJ
Processor: RJ
Cylinder ID: T-3442

Certified: FESCO, Ltd. - Ozona, Texas

Tom Anderson 325-392-3773

CHROMATOGRAPH EXTENDED ANALYSIS - GPA 2286
TOTAL REPORT

COMPONENT	MOL %	GPM	WT %
Nitrogen	0.974		1.234
Carbon Dioxide	0.073		0.145
Methane	74.292		53.894
Ethane	13.731	3.666	18.671
Propane	6.658	1.831	13.276
Isobutane	0.824	0.269	2.166
n-Butane	1.940	0.611	5.099
2,2 Dimethylpropane	0.000	0.000	0.000
Isopentane	0.415	0.152	1.354
n-Pentane	0.469	0.170	1.530
2,2 Dimethylbutane	0.004	0.002	0.016
Cyclopentane	0.000	0.000	0.000
2,3 Dimethylbutane	0.027	0.011	0.105
2 Methylpentane	0.079	0.033	0.308
3 Methylpentane	0.042	0.017	0.164
n-Hexane	0.108	0.044	0.421
Methylcyclopentane	0.049	0.017	0.186
Benzene	0.008	0.002	0.028
Cyclohexane	0.057	0.019	0.217
2-Methylhexane	0.014	0.006	0.063
3-Methylhexane	0.016	0.007	0.073
2,2,4 Trimethylpentane	0.000	0.000	0.000
Other C7's	0.042	0.018	0.188
n-Heptane	0.034	0.016	0.154
Methylcyclohexane	0.049	0.020	0.218
Toluene	0.010	0.003	0.042
Other C8's	0.040	0.019	0.199
n-Octane	0.012	0.006	0.062
Ethylbenzene	0.001	0.000	0.005
M & P Xylenes	0.005	0.002	0.024
O-Xylene	0.001	0.000	0.005
Other C9's	0.016	0.008	0.091
n-Nonane	0.003	0.002	0.017
Other C10's	0.005	0.003	0.032
n-Decane	0.001	0.001	0.006
Undecanes (11)	<u>0.001</u>	<u>0.001</u>	<u>0.007</u>
Totals	100.000	6.956	100.000

Computed Real Characteristics Of Total Sample:

Specific Gravity -----	0.767	(Air=1)
Compressibility (Z) -----	0.9959	
Molecular Weight -----	22.11	
Gross Heating Value		
Dry Basis -----	1318	BTU/CF
Saturated Basis -----	1296	BTU/CF

FESCO, Ltd.
105 Medical Dr. - Ozona, Texas 76943

For: Marathon Oil Permian, LLC
 5555 San Felipe Street
 Houston, Texas 77056

Sample: Cass 16 State No. 3H
 Meter Run Gas
 Sampled @ 68.2 psig & 106.9 °F

Date Sampled: 10/26/17 @ 11:45 CDT

Job Number: 70726.011

CHROMATOGRAPH EXTENDED ANALYSIS - GPA 2286

COMPONENT	MOL%	GPM
Nitrogen	1.024	
Carbon Dioxide	0.111	
Methane	73.792	
Ethane	13.614	3.635
Propane	6.731	1.852
Isobutane	0.889	0.290
n-Butane	2.049	0.645
2-2 Dimethylpropane	0.013	0.005
Isopentane	0.472	0.172
n-Pentane	0.536	0.194
Hexanes	0.326	0.134
Heptanes Plus	<u>0.443</u>	<u>0.184</u>
Totals	100.000	7.112

Computed Real Characteristics Of Heptanes Plus:

Specific Gravity ----- 3.413 (Air=1)
 Molecular Weight ----- 98.45
 Gross Heating Value ----- 5106 BTU/CF

Computed Real Characteristics Of Total Sample:

Specific Gravity ----- 0.776 (Air=1)
 Compressibility (Z) ----- 0.9958
 Molecular Weight ----- 22.40
 Gross Heating Value
 Dry Basis ----- 1332 BTU/CF
 Saturated Basis ----- 1309 BTU/CF

Base Conditions: 14.650 PSI & 60 Deg F

Sampled By: (Marathon) I. Castro
 Analyst: RJ
 Processor: BMc
 Cylinder ID: T-2148

Certified: FESCO, Ltd. - Ozona, Texas

Tom Anderson 325-392-3773

**CHROMATOGRAPH EXTENDED ANALYSIS - GPA 2286
TOTAL REPORT**

COMPONENT	MOL %	GPM	WT %
Nitrogen	1.024		1.281
Carbon Dioxide	0.111		0.218
Methane	73.792		52.855
Ethane	13.614	3.635	18.278
Propane	6.731	1.852	13.252
Isobutane	0.889	0.290	2.307
n-Butane	2.049	0.645	5.317
2,2 Dimethylpropane	0.013	0.005	0.042
Isopentane	0.472	0.172	1.521
n-Pentane	0.536	0.194	1.727
2,2 Dimethylbutane	0.005	0.002	0.019
Cyclopentane	0.001	0.000	0.003
2,3 Dimethylbutane	0.031	0.013	0.119
2 Methylpentane	0.100	0.041	0.385
3 Methylpentane	0.054	0.022	0.208
n-Hexane	0.135	0.055	0.519
Methylcyclopentane	0.059	0.020	0.222
Benzene	0.009	0.003	0.031
Cyclohexane	0.065	0.022	0.244
2-Methylhexane	0.018	0.008	0.081
3-Methylhexane	0.020	0.009	0.089
2,2,4 Trimethylpentane	0.000	0.000	0.000
Other C7's	0.054	0.023	0.239
n-Heptane	0.044	0.020	0.197
Methylcyclohexane	0.059	0.024	0.259
Toluene	0.011	0.004	0.045
Other C8's	0.052	0.024	0.256
n-Octane	0.015	0.008	0.077
Ethylbenzene	0.001	0.000	0.005
M & P Xylenes	0.005	0.002	0.024
O-Xylene	0.001	0.000	0.005
Other C9's	0.019	0.010	0.107
n-Nonane	0.004	0.002	0.023
Other C10's	0.005	0.003	0.032
n-Decane	0.001	0.001	0.006
Undecanes (11)	<u>0.001</u>	<u>0.001</u>	<u>0.007</u>
Totals	100.000	7.112	100.000

Computed Real Characteristics Of Total Sample:

Specific Gravity -----	0.776	(Air=1)
Compressibility (Z) -----	0.9958	
Molecular Weight -----	22.40	
Gross Heating Value		
Dry Basis -----	1332	BTU/CF
Saturated Basis -----	1309	BTU/CF

October 27, 2017

FESCO, Ltd.
105 Medical Dr. - Ozona, Texas 76943

For: Marathon Oil Permian, LLC
5555 San Felipe Street
Houston, Texas 77056

Sample: Cass 16 State No. 4H
Spot Sample Gas
Sampled @ 38 psig & 103 °F

Date Sampled: 10/26/17 @ 12:03 CDT

Job Number: 70726.021

CHROMATOGRAPH EXTENDED ANALYSIS - GPA 2286

COMPONENT	MOL%	GPM
Nitrogen	4.520	
Carbon Dioxide	1.174	
Methane	67.210	
Ethane	11.905	3.182
Propane	7.256	1.998
Isobutane	1.173	0.384
n-Butane	2.917	0.919
2-2 Dimethylpropane	0.012	0.005
Isopentane	0.825	0.302
n-Pentane	0.924	0.335
Hexanes	0.636	0.262
Heptanes Plus	<u>1.448</u>	<u>0.560</u>
Totals	100.000	7.945

Computed Real Characteristics Of Heptanes Plus:

Specific Gravity ----- 3.296 (Air=1)
Molecular Weight ----- 94.97
Gross Heating Value ----- 4811 BTU/CF

Computed Real Characteristics Of Total Sample:

Specific Gravity ----- 0.865 (Air=1)
Compressibility (Z) ----- 0.9950
Molecular Weight ----- 24.92
Gross Heating Value
Dry Basis ----- 1379 BTU/CF
Saturated Basis ----- 1355 BTU/CF

Base Conditions: 14.650 PSI & 60 Deg F

Sampled By: (Marathon) I. Castro
Analyst: RJ
Processor: BMc
Cylinder ID: T-4612

Certified: FESCO, Ltd. - Ozona, Texas

Tom Anderson 325-392-3773

CHROMATOGRAPH EXTENDED ANALYSIS - GPA 2286
TOTAL REPORT

COMPONENT	MOL %	GPM	WT %
Nitrogen	4.520		5.082
Carbon Dioxide	1.174		2.074
Methane	67.210		43.273
Ethane	11.905	3.182	14.368
Propane	7.256	1.998	12.842
Isobutane	1.173	0.384	2.736
n-Butane	2.917	0.919	6.805
2,2 Dimethylpropane	0.012	0.005	0.035
Isopentane	0.825	0.302	2.389
n-Pentane	0.924	0.335	2.676
2,2 Dimethylbutane	0.010	0.004	0.035
Cyclopentane	0.000	0.000	0.000
2,3 Dimethylbutane	0.066	0.027	0.228
2 Methylpentane	0.192	0.080	0.664
3 Methylpentane	0.104	0.042	0.360
n-Hexane	0.264	0.108	0.913
Methylcyclopentane	0.125	0.043	0.422
Benzene	0.221	0.062	0.693
Cyclohexane	0.245	0.083	0.827
2-Methylhexane	0.038	0.018	0.153
3-Methylhexane	0.041	0.019	0.165
2,2,4 Trimethylpentane	0.000	0.000	0.000
Other C7's	0.099	0.043	0.394
n-Heptane	0.092	0.042	0.370
Methylcyclohexane	0.173	0.069	0.682
Toluene	0.137	0.046	0.507
Other C8's	0.108	0.050	0.478
n-Octane	0.036	0.018	0.165
Ethylbenzene	0.007	0.003	0.030
M & P Xylenes	0.026	0.010	0.111
O-Xylene	0.006	0.002	0.026
Other C9's	0.052	0.026	0.263
n-Nonane	0.010	0.006	0.051
Other C10's	0.022	0.013	0.125
n-Decane	0.004	0.002	0.023
Undecanes (11)	<u>0.006</u>	<u>0.004</u>	<u>0.035</u>
Totals	100.000	7.945	100.000

Computed Real Characteristics Of Total Sample:

Specific Gravity -----	0.865	(Air=1)
Compressibility (Z) -----	0.9950	
Molecular Weight -----	24.92	
Gross Heating Value		
Dry Basis -----	1379	BTU/CF
Saturated Basis -----	1355	BTU/CF

Matt S. Tate, CPL
Land Professional
Permian Basin

RECEIVED OGD



Marathon Oil Company
5555 San Felipe
Houston, TX 77056
Telephone 713.296.2164
Cell 281.904.1697
Fax 713.235.8033
matthewstate@marathonoil.com

2018 JAN 23 P 2:47

January 8, 2018

DELIVERED VIA:
Certified Mail

91 7199 9991 7037 7614 7992

Rubicon Oil & Gas II, LP
508 West Wall Avenue, Suite 500
Midland, TX 79701

Re: Marathon Oil Permian LLC Application For Surface Commingling (Diverse Ownership)
Cass 16 State 2H, 3H and 4H Wells
N/2 of Section 16, T23S-R27E
Eddy County, New Mexico

Gentlemen,

Marathon Oil Permian LLC ("Marathon") has filed the attached application with the New Mexico Oil Conservation Division ("Division") for administrative approval to surface lease commingle production according to the provisions of NMAC 19.15.12.10.C from the Purple Sage; Wolfcamp (Gas) Pool (98220) and the Bone Spring formation from existing and future wells located in the N/2 of Section 16, T23S-R27E, Eddy County, New Mexico, to the Cass 16 State Facility located in the NW/4 of Section 16, T23S-R27E, Eddy County, New Mexico.

Currently the Cass 16 State 2H and 3H are producing from the Wolfcamp (Gas) Pool (98220) and the Cass 16 State 4H is producing from the Bone Spring formation.

As an overriding royalty owner in these wells, Marathon is required to notify you of this application. Should you have an objection you must file it in writing with the Division within 20 days from the date the Division receives Marathon's application.

Should you have any questions please do not hesitate to contact me at 713-296-2164 or by email at matthewstate@marathonoil.com.

Sincerely,

A handwritten signature of Matt S. Tate in dark ink.

Matt S. Tate, CPL
Permian Basin

Marathon Oil Permian LLC Application For Surface Commingling
Cass 16 State Facility

RECEIVED:	REVIEWER:	TYPE:	APP NO:
-----------	-----------	-------	---------

ABOVE THIS TABLE FOR OCD DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION
 - Geological & Engineering Bureau -
 1220 South St. Francis Drive, Santa Fe, NM 87505

**ADMINISTRATIVE APPLICATION CHECKLIST**

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND
 REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

Applicant: Marathon Oil Permian LLC **OGRID Number:** 372098
Well Name: Cass 16 State 2H **API:** 30-015-42733
Pool: Purple Sage Wolfcamp **Pool Code:** 98220

**SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION
 INDICATED BELOW**

1) TYPE OF APPLICATION: Check those which apply for [A]

A. Location - Spacing Unit - Simultaneous Dedication

☐ NSL☐ NSP (PROJECT AREA)☐ NSP (PRORATION UNIT)☐ SD

B. Check one only for [I] or [II]

[I] Commingling - Storage - Measurement

☐ DHC☐ CTB☐ PLC☒ PC☐ OLS☐ OLM

[II] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery

☐ WFX☐ PMX☐ SWD☐ IPI☐ EOR☐ PPR**2) NOTIFICATION REQUIRED TO:** Check those which apply.A. ☐ Offset operators or lease holdersB. ☒ Royalty, overriding royalty owners, revenue ownersC. ☐ Application requires published noticeD. ☒ Notification and/or concurrent approval by SLOE. ☐ Notification and/or concurrent approval by BLMF. ☐ Surface ownerG. ☒ For all of the above, proof of notification or publication is attached, and/or,H. ☐ No notice required**FOR OCD ONLY**☐

Notice Complete

☐Application
Content
Complete

- 3) CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

Jennifer Van Curen

Print or Type Name

Jennifer Van Curen
 Signature

12/04/2017

Date

713-296-2500

Phone Number

jvancuren@marathonoil.com

e-mail Address

District I
1625 N. French Drive, Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St Francis Dr, Santa Fe, NM
87505

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-107-B
Revised August 1, 2011

OIL CONSERVATION DIVISION
1220 S. St Francis Drive
Santa Fe, New Mexico 87505

Submit the original
application to the Santa Fe
office with one copy to the
appropriate District Office.

APPLICATION FOR SURFACE COMMINGLING (DIVERSE OWNERSHIP)

OPERATOR NAME: Marathon Oil Permian LLC
OPERATOR ADDRESS: 5555 San Felipe St, Houston, TX 77057
APPLICATION TYPE:

☒ Pool Commingling ☐ Lease Commingling ☐ Pool and Lease Commingling ☐ Off-Lease Storage and Measurement (Only if not Surface Commingled)

LEASE TYPE: ☐ Fee ☒ State ☐ Federal

Is this an Amendment to existing Order? ☐ Yes ☒ No If "Yes", please include the appropriate Order No. _____
Have the Bureau of Land Management (BLM) and State Land office (SLO) been notified in writing of the proposed commingling
☒ Yes ☐ No

(A) POOL COMMINGLING

Please attach sheets with the following information

(1) Pool Names and Codes	Gravities / BTU of Non-Commingled Production	Calculated Gravities / BTU of Commingled Production		Calculated Value of Commingled Production	Volumes
Purple Sage Wolfcamp 98220 3H	46.10 / 1332	45.46 / 1357	45.304/4830	did	807/1707
Forehand Ranch; Bone Spring 24660 2H	46.64 / 1379		47.154/2000	176.114/300	874/253
Forehand Ranch; Bone Spring 24660 4H	43.65 / 1361		21.530/2500	13330	526/859

- (2) Are any wells producing at top allowables? ☐ Yes ☒ No
(3) Has all interest owners been notified by certified mail of the proposed commingling? ☒ Yes ☐ No.
(4) Measurement type: ☒ Metering ☐ Other (Specify)
(5) Will commingling decrease the value of production? ☐ Yes ☒ No If "yes", describe why commingling should be approved

(B) LEASE COMMINGLING

Please attach sheets with the following information

- (1) Pool Name and Code
(2) Is all production from same source of supply? ☐ Yes ☐ No
(3) Has all interest owners been notified by certified mail of the proposed commingling? ☐ Yes ☐ No
(4) Measurement type: ☐ Metering ☐ Other (Specify)

(C) POOL and LEASE COMMINGLING

Please attach sheets with the following information

- (1) Complete Sections A and B

(D) OFF-LEASE STORAGE and MEASUREMENT

Please attach sheets with the following information

- (1) Is all production from same source of supply? ☐ Yes ☒ No
(2) Include proof of notice to all interest owners

(E) ADDITIONAL INFORMATION (for all application types)

Please attach sheets with the following information

- (1) A schematic diagram of facility, including legal location.
(2) A plat with lease boundaries showing all well and facility locations. Include lease numbers if Federal or State lands are involved.
(3) Lease Names, Lease and Well Numbers, and API Numbers.

I hereby certify that the information above is true and complete to the best of my knowledge and belief

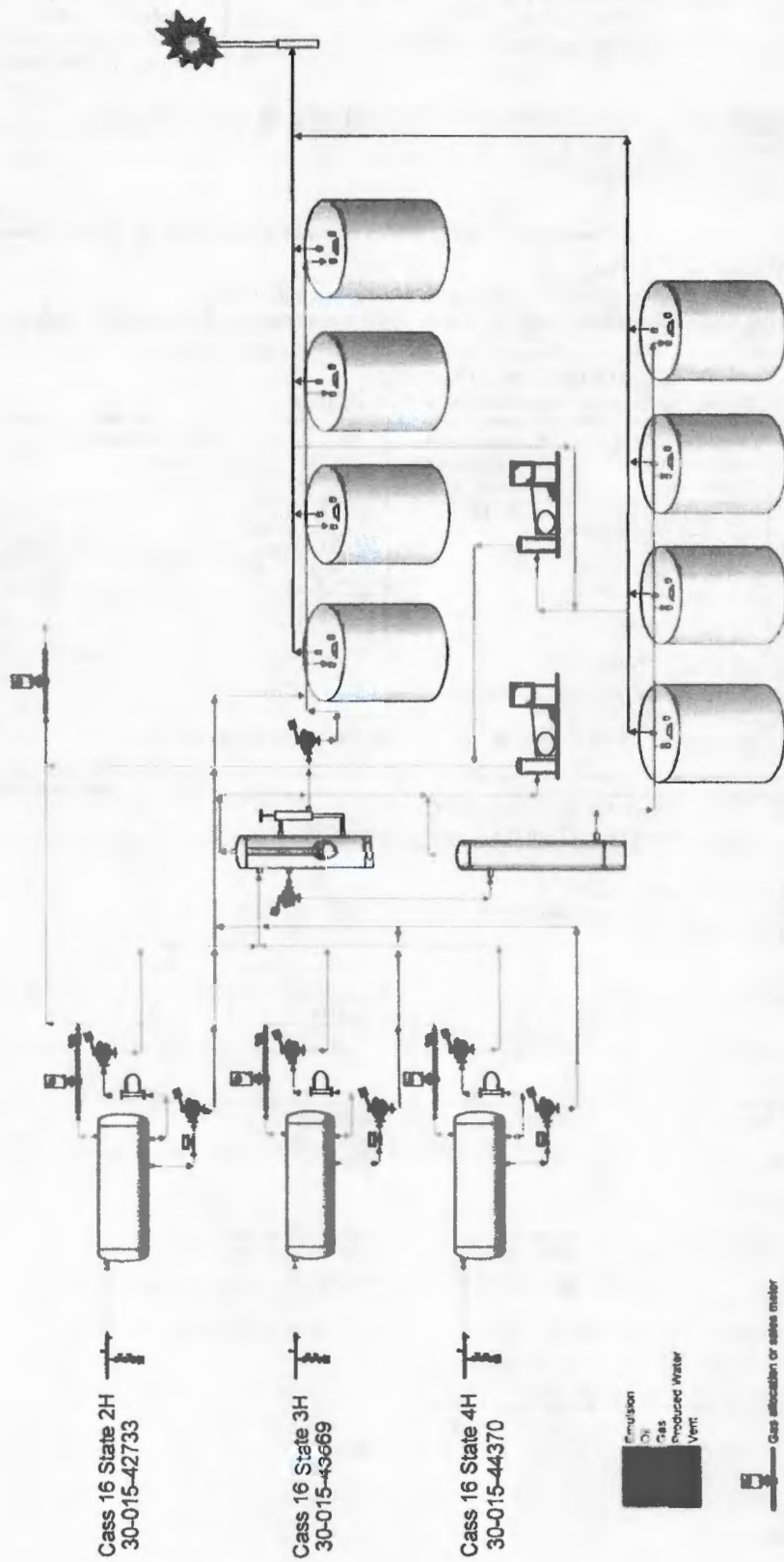
SIGNATURE: Jennifer Van Curen TITLE: Sr. Regulatory Compliance

DATE: 12/4/17

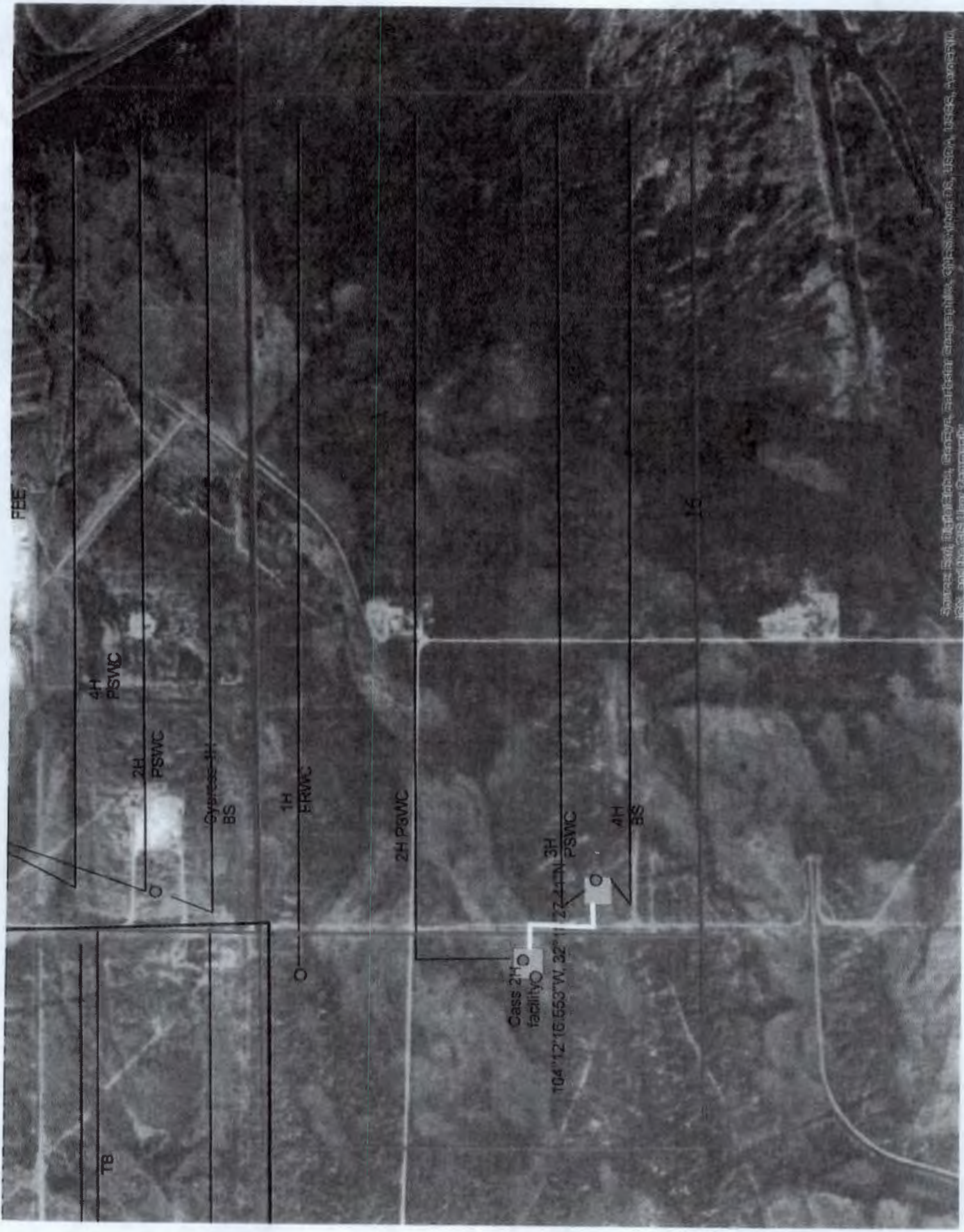
TYPE OR PRINT NAME: Jennifer Van Curen

TELEPHONE NO.: 713-296-2500

E-MAIL ADDRESS: jvancuren@marathonoil.com



Cass 16 State Facility
H-16-T23S-R27E
1649' FNL & 315' FEL



NOTE: ALL DIMENSIONS IN U.S. FEET

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) 748-1281 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015 213809	² Pool Code 76780	³ Pool Name PURPLE SAGE; WOLFCAMP (GAS)
⁴ Property Code	⁵ Property Name CASS 16 STATE	⁶ Well Number 3H
⁷ OGRID No. 160825	⁸ Operator Name B.C. OPERATING, INC.	⁹ Elevation 3160

" Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	16	T23S	R27E		1988'	NORTH	256'	WEST	EDDY

" Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	16	T23S	R27E		1989'	NORTH	341'	EAST	EDDY

¹² Dedicated Acres 320.00	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
--	-------------------------------	----------------------------------	-------------------------

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

" OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or undivided mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order hereby entered by the division. Signature: <i>[Signature]</i> Date: <i>12/8/12</i> Printed Name: <i>Timothy Van Curen</i> E-mail Address: <i>[Signature]</i>		"SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. Date of Survey: <i>12/8/12</i> Signature and Seal of Professional Surveyor: <i>[Signature]</i> PRELIMINARY THIS DOCUMENT IS NOT TO BE USED FOR CONVEYANCE, SALE OR THE BASIS FOR THE ISSUANCE OF A PERMIT FOR THE Certificate Number	
SECTION 8 SECTION 9 SECTION 10 SECTION 17 SECTION 16 SECTION 15 PRODUCING AREA FIRST TAKE POINT LAST TAKE POINT/BHL MEASURED DEPTH - 9,304' MEASURED DEPTH - 13,777' SURFACE HOLE LOCATION 1988' TNL 256' FVL NAD 83, SPCS NM EAST X58169264' / Y47533618' LAT32.30670467N / LON104.20274618W NAD 27, SPCS NM EAST X54050053' / Y47527739' LAT32.30658574N / LON104.20224620W FIRST TAKE POINT 9,127 MEASURED DEPTH IN FEET NAD 83, SPCS NM EAST X58175615' / Y47537274' LAT32.30680493N / LON104.20250812W NAD 27, SPCS NM EAST X54057404' / Y47531390' LAT32.30668692N / LON104.20200815W LAST TAKE POINT/BOTTOM HOLE LOCATION 13,777 MEASURED DEPTH IN FEET NAD 83, SPCS NM EAST X58637050' / Y47540515' LAT32.30709757N / LON104.18757005W NAD 27, SPCS NM EAST X54518873' / Y47542625' LAT32.30697842N / LON104.18707143W CORNER COORDINATES NAD 83, SPCS NM EAST A - Y: 477316.50' / X: 581420.97' B - Y: 477486.36' / X: 586707.24' C - Y: 474772.99' / X: 586713.52' D - Y: 474661.31' / X: 581428.04' CORNER COORDINATES NAD 27, SPCS NM EAST A - Y: 477257.62' / X: 540230.91' B - Y: 477427.41' / X: 545525.10' C - Y: 474714.11' / X: 545531.33' D - Y: 474602.50' / X: 540245.92' SECTION 17 SECTION 16 SECTION 15 SECTION 20 SECTION 21 SECTION 22 T23S-R26E T23S-R27E			

NOTE: ALL DEMINIONS IN U.S. FEET

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

NOTE: ALL DIMENSIONS IN U.S. FEET

November 18, 2017

FESCO, Ltd.
105 Medical Dr. - Ozona, Texas 76943

For: Marathon Oil Permian, LLC
5555 San Felipe Street
Houston, Texas 77058

Sample: Cass 16 State No. 2H
Meter Run Gas
Sampled @ 76 psig & 98 °F

Date Sampled: 11/13/17 @ 12:18 CDT Job Number: 70829.011

CHROMATOGRAPH EXTENDED ANALYSIS - GPA 2286

COMPONENT	MOL%	GPM
Nitrogen	0.974	
Carbon Dioxide	0.073	
Methane	74.292	
Ethane	13.731	3.666
Propane	6.858	1.831
Isobutane	0.824	0.269
n-Butane	1.940	0.611
2-2 Dimethylpropane	0.000	0.000
Isopentane	0.415	0.152
n-Pentane	0.469	0.170
Hexanes	0.260	0.107
Heptanes Plus	<u>0.364</u>	<u>0.150</u>
Totals	100.000	6.956

Computed Real Characteristics Of Heptanes Plus:

Specific Gravity ----- 3.407 (Air=1)
Molecular Weight ----- 98.29
Gross Heating Value ----- 5088 BTU/CF

Computed Real Characteristics Of Total Sample:

Specific Gravity ----- 0.767 (Air=1)
Compressibility (Z) ----- 0.9959
Molecular Weight ----- 22.11
Gross Heating Value
Dry Basis ----- 1318 BTU/CF
Saturated Basis ----- 1296 BTU/CF

Base Conditions: 14.650 PSI & 60 Deg F

Sampled By: (Marathon) I. Castro
Analyst: RJ
Processor: RJ
Cylinder ID: T-3442

Certified: FESCO, Ltd. - Ozona, Texas

Tom Anderson 325-392-3773

October 27, 2017

FESCO, Ltd.
105 Medical Dr. - Ozona, Texas 76943

For: Marathon Oil Permian, LLC
5555 San Felipe Street
Houston, Texas 77058

Sample: Cass 16 State No. 3H
Meter Run Gas
Sampled @ 68.2 psig & 106.9 °F

Date Sampled: 10/26/17 @ 11:45 CDT

Job Number: 70728.011

CHROMATOGRAPH EXTENDED ANALYSIS - GPA 2286

COMPONENT	MOL%	GPM
Nitrogen	1.024	
Carbon Dioxide	0.111	
Methane	73.792	
Ethane	13.614	3.635
Propane	6.731	1.852
Isobutane	0.889	0.290
n-Butane	2.049	0.645
2-2 Dimethylpropane	0.013	0.005
Isopentane	0.472	0.172
n-Pentane	0.536	0.194
Hexanes	0.326	0.134
Heptanes Plus	<u>0.443</u>	<u>0.184</u>
Totals	100.000	7.112

Computed Real Characteristics Of Heptanes Plus:

Specific Gravity -----	3.413	(Air=1)
Molecular Weight -----	98.45	
Gross Heating Value -----	5106	BTU/CF

Computed Real Characteristics Of Total Sample:

Specific Gravity -----	0.776	(Air=1)
Compressibility (Z) -----	0.9958	
Molecular Weight -----	22.40	
Gross Heating Value		
Dry Basis -----	1332	BTU/CF
Saturated Basis -----	1309	BTU/CF

Base Conditions: 14.650 PSI & 60 Deg F

Sampled By: (Marathon) I. Castro
Analyst: RJ
Processor: BMc
Cylinder ID: T-2148

Certified: FESCO, Ltd. - Ozona, Texas

Tom Anderson 325-392-3773

October 27, 2017

FESCO, Ltd.
105 Medical Dr. - Ozone, Texas 76943

For: Marathon Oil Permian, LLC
5555 San Felipe Street
Houston, Texas 77056

Sample: Cass 16 State No. 4H
Spot Sample Gas
Sampled @ 38 psig & 103 °F

Date Sampled: 10/26/17 @ 12:03 CDT

Job Number: 70726.021

CHROMATOGRAPH EXTENDED ANALYSIS - GPA 2286

COMPONENT	MOL%	GPM
Nitrogen	4.520	
Carbon Dioxide	1.174	
Methane	67.210	
Ethane	11.905	3.182
Propane	7.256	1.998
Isobutane	1.173	0.384
n-Butane	2.917	0.919
2-2 Dimethylpropane	0.012	0.005
Isopentane	0.825	0.302
n-Pentane	0.924	0.335
Hexanes	0.636	0.262
Heptanes Plus	<u>1.448</u>	<u>0.560</u>
Totals	100.000	7.945

Computed Real Characteristics Of Heptanes Plus:

Specific Gravity ----- 3.296 (Air=1)
Molecular Weight ----- 94.97
Gross Heating Value ----- 4811 BTU/CF

Computed Real Characteristics Of Total Sample:

Specific Gravity ----- 0.865 (Air=1)
Compressibility (Z) ----- 0.9950
Molecular Weight ----- 24.92
Gross Heating Value
Dry Basis ----- 1379 BTU/CF
Saturated Basis ----- 1355 BTU/CF

Base Conditions: 14.650 PSI & 60 Deg F

Sampled By: (Marathon) I. Castro

Certified: FESCO, Ltd. - Ozone, Texas

Analyst: RJ

Processor: BMC

Cylinder ID: T-4812

Tom Anderson 325-392-3773

Matt S. Tate, CPL
Land Professional
Permian Basin

RECEIVED OOD

2018 JAN 23 P 2:47



Marathon Oil Company
5555 San Felipe
Houston, TX 77056
Telephone 713.296.2164
Cell 281.904.1697
Fax 713.235.8033
mattthewstate@marathonoil.com

January 8, 2018

DELIVERED VIA:

Certified Mail

91 71999991 7037 7614 8005

Michael D. Hayes and Kathryn A. Hayes,
Co-Trustees of the Hayes Revocable Trust
3608 Meadowridge Lane
Midland, TX 79707

Re: Marathon Oil Permian LLC Application For Surface Commingling (Diverse Ownership)
Cass 16 State 2H, 3H and 4H Wells
N/2 of Section 16, T23S-R27E
Eddy County, New Mexico

Gentlemen,

Marathon Oil Permian LLC ("Marathon") has filed the attached application with the New Mexico Oil Conservation Division ("Division") for administrative approval to surface lease commingle production according to the provisions of NMAC 19.15.12.10.C from the Purple Sage; Wolfcamp (Gas) Pool (98220) and the Bone Spring formation from existing and future wells located in the N/2 of Section 16, T23S-R27E, Eddy County, New Mexico, to the Cass 16 State Facility located in the NW/4 of Section 16, T23S-R27E, Eddy County, New Mexico.

Currently the Cass 16 State 2H and 3H are producing from the Wolfcamp (Gas) Pool (98220) and the Cass 16 State 4H is producing from the Bone Spring formation.

As an overriding royalty owner in these wells, Marathon is required to notify you of this application. Should you have an objection you must file it in writing with the Division within 20 days from the date the Division receives Marathon's application.

Should you have any questions please do not hesitate to contact me at 713-296-2164 or by email at mattthewstate@marathonoil.com.

Sincerely,

A handwritten signature in dark ink, appearing to be 'MT' or 'Matt S. Tate'.

Matt S. Tate, CPL
Permian Basin

Marathon Oil Permian LLC Application For Surface Commingling (Diverse Ownership)
Cass 16 State 2H, 3H and 4H Wells

RECEIVED:	REVIEWER:	TYPE:	APP NO:
-----------	-----------	-------	---------

ABOVE THIS LINE FOR OCD DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION
 - Geological & Engineering Bureau -
 1220 South St. Francis Drive, Santa Fe, NM 87505

**ADMINISTRATIVE APPLICATION CHECKLIST**

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND
 REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

Applicant: Marathon Oil Permian LLC**OGRID Number:** 372098**Well Name:** Cass 16 State 2H**API:** 30-015-42733**Pool:** Purple Sage Wolfcamp**Pool Code:** 98220

**SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION
 INDICATED BELOW**

1) TYPE OF APPLICATION: Check those which apply for [A]

A. Location - Spacing Unit - Simultaneous Dedication

☐ NSL☐ NSP (PROJECT AREA)☐ NSP (PRORATION UNIT)☐ SD

B. Check one only for [I] or [II]

[I] Commingling - Storage - Measurement

☐ DHC☐ CTB☐ PLC☒ PC☐ OLS☐ OLM

[II] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery

☐ WFX☐ PMX☐ SWD☐ IPI☐ EOR☐ PPR**2) NOTIFICATION REQUIRED TO:** Check those which apply.A. ☐ Offset operators or lease holdersB. ☒ Royalty, overriding royalty owners, revenue ownersC. ☐ Application requires published noticeD. ☒ Notification and/or concurrent approval by SLOE. ☐ Notification and/or concurrent approval by BLMF. ☐ Surface ownerG. ☒ For all of the above, proof of notification or publication is attached, and/or,H. ☐ No notice required**FOR OCD ONLY**☐

Notice Complete

☐Application
Content
Complete

- 3) CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

Jennifer Van Curen

Print or Type Name

Jennifer Van Curen
 Signature

12/04/2017

Date

713-296-2500

Phone Number

jvancuren@marathonoil.com

e-mail Address

District I
1625 N. French Drive, Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St Francis Dr, Santa Fe, NM
87505

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-107-B
Revised August 1, 2011

OIL CONSERVATION DIVISION
1220 S. St Francis Drive
Santa Fe, New Mexico 87505

Submit the original
application to the Santa Fe
office with one copy to the
appropriate District Office.

APPLICATION FOR SURFACE COMMINGLING (DIVERSE OWNERSHIP)

OPERATOR NAME: Marathon Oil Permian LLC
OPERATOR ADDRESS: 5555 San Felipe St, Houston, TX 77057
APPLICATION TYPE:

☒ Pool Commingling ☐ Lease Commingling ☐ Pool and Lease Commingling ☐ Off-Lease Storage and Measurement (Only if not Surface Commingling)
LEASE TYPE: ☐ Fee ☒ State ☐ Federal

Is this an Amendment to existing Order? ☐ Yes ☒ No If "Yes", please include the appropriate Order No.
Have the Bureau of Land Management (BLM) and State Land office (SLO) been notified in writing of the proposed commingling
☒ Yes ☐ No

(A) POOL COMMINGLING
Please attach sheets with the following information

(1) Pool Names and Codes	Gravities / BTU of Non-Commingled Production	Calculated Gravities / BTU of Commingled Production		Calculated Value of Commingled Production	Volumes
Purple Sage Wolfcamp 98220 3H	46.10 / 1332	45.46 / 1357	45.30 / 1330	0.0	807 / 1707
Forehand Ranch, Bone Spring 24660 2H	46.64 / 1379		77 / 154 / 200	176.14 / year	878 / 2253
Forehand Ranch Bone Spring 24660 4H	43.65 / 1361		21.53 / 2.52	13330	524 / 857

- (2) Are any wells producing at top allowables? ☐ Yes ☒ No
(3) Has all interest owners been notified by certified mail of the proposed commingling? ☒ Yes ☐ No
(4) Measurement type ☒ Metering ☐ Other (Specify)
(5) Will commingling decrease the value of production? ☐ Yes ☒ No If "yes", describe why commingling should be approved

(B) LEASE COMMINGLING
Please attach sheets with the following information

- (1) Pool Name and Code
(2) Is all production from same source of supply? ☐ Yes ☐ No
(3) Has all interest owners been notified by certified mail of the proposed commingling? ☐ Yes ☐ No
(4) Measurement type ☐ Metering ☐ Other (Specify)

(C) POOL and LEASE COMMINGLING
Please attach sheets with the following information

- (1) Complete Sections A and B

(D) OFF-LEASE STORAGE and MEASUREMENT
Please attach sheets with the following information

- (1) Is all production from same source of supply? ☐ Yes ☒ No
(2) Include proof of notice to all interest owners

(E) ADDITIONAL INFORMATION (for all application types)
Please attach sheets with the following information

- (1) A schematic diagram of facility, including legal location
(2) A plat with lease boundaries showing all well and facility locations. Include lease numbers if Federal or State lands are involved
(3) Lease Names, Lease and Well Numbers, and API Numbers

I hereby certify that the information above is true and complete to the best of my knowledge and belief

SIGNATURE

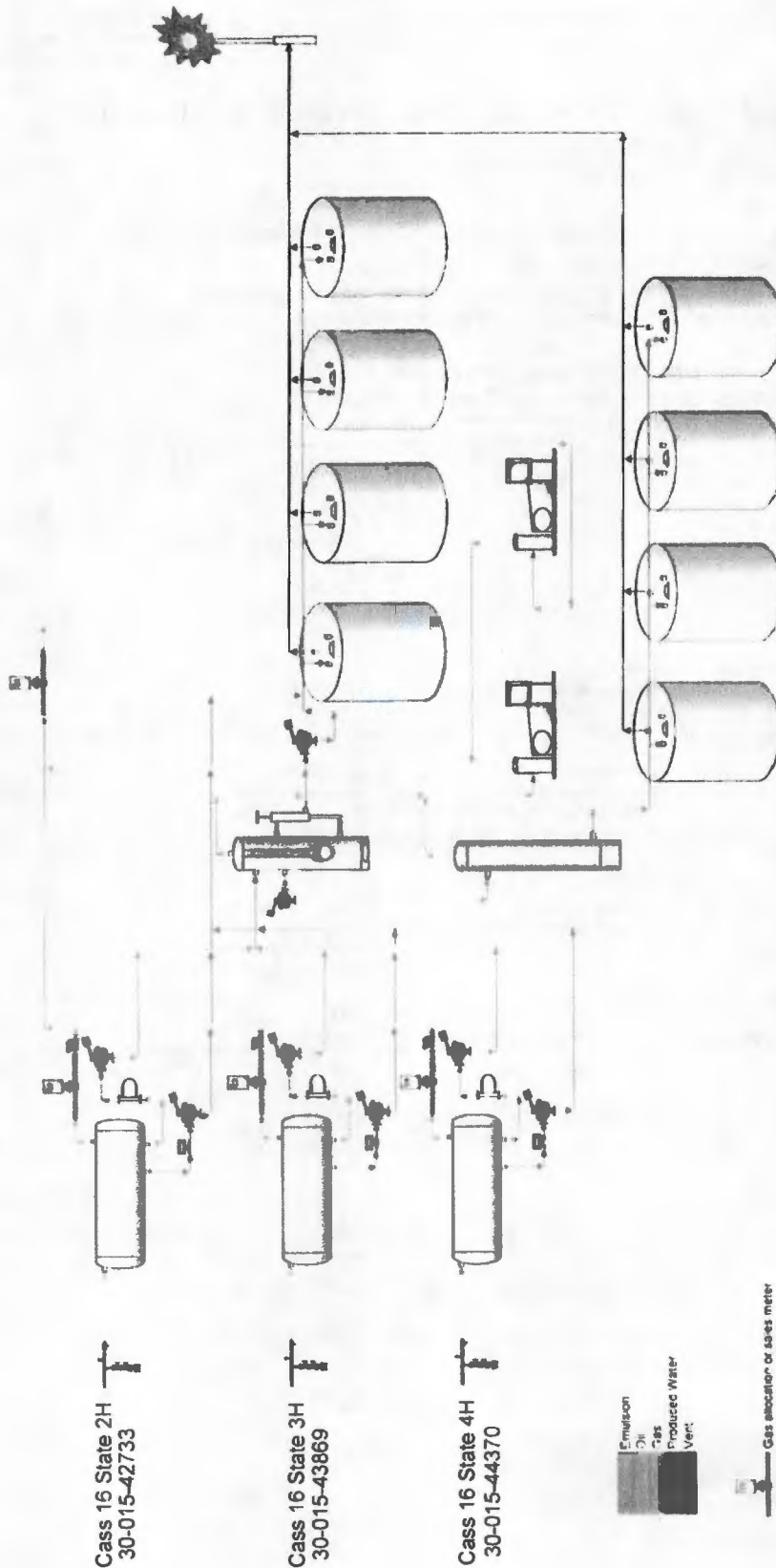
TITLE: Sr Regulatory Compliance

DATE: 12/4/17

TYPE OR PRINT NAME: Jennifer Van Curen

TELEPHONE NO: 713-296-2500

E-MAIL ADDRESS: jvanuren@marathonoil.com



Cass 16 State Facility
H-16-T23S-R27E
1649' FNL & 315' FEL

Emission
Gas
Produced Water
Vent

- Gas allocation or sales meter
- Coriolis meter
- Mag meter
- Dump valve
- Back pressure valve

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District III
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Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
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Phone: (505) 476-3460 Fax: (505) 476-3462

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

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 03-015-42733	² Pool Code 98220	³ Pool Name PURPLE SAGE; WOLFCAMP (GAS)
⁴ Property Code 313797	⁵ Property Name CASS 16 STATE	⁶ Well Number 2H
⁷ OGRID No. 372098	⁸ Operator Name MARATHON OIL PERMIAN, LLC	⁹ Elevation 3164

¹⁰ Surface Location

U.L. or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	17	T23S	R27E		1649'	NORTH	315'	EAST	EDDY

¹¹ Bottom Hole Location If Different From Surface

U.L. or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	16	T23S	R27E		964'	NORTH	241'	EAST	EDDY

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

SECTION 8 SECTION 17 330' 1649' 315' SHL		SECTION 9 SECTION 16 330' 646' MEASURED DEPTH = 9,730' FIRST TAKE POINT PRODUCING AREA LAST TAKE POINT BHL 330' 241'		SECTION 10 SECTION 15 330' 241'	
SURFACE HOLE LOCATION 1649' FM. 315' EEL NAD 83, SPCS NM EAST X:581118.14' / Y:475666.20' LAT:32.30761377N / LON:104.20459795W NAD 27, SPCS NM EAST X:539928.05' / Y:475687.36' LAT:32.30749487N / LON:104.20409787W		LAST TAKE POINT 13,991 MEASURED DEPTH IN FEET NAD 83, SPCS NM EAST X:586379.50' / Y:476508.61' LAT:32.30991088N / LON:104.18753849W NAD 27, SPCS NM EAST X:543197.35' / Y:476449.65' LAT:32.30979173N / LON:104.18703899W		BOTTOM HOLE LOCATION 14,080 MEASURED DEPTH IN FEET NAD 83, SPCS NM EAST X:586468.39' / Y:476513.88' LAT:32.30992383N / LON:104.18725076W NAD 27, SPCS NM EAST X:545286.24' / Y:476454.96' LAT:32.30988591N / LON:104.186753127V	
FIRST TAKE POINT 9,299 MEASURED DEPTH IN FEET NAD 83, SPCS NM EAST X:581753.61' / Y:476326.93' LAT:32.30942708N / LON:104.20251257W NAD 27, SPCS NM EAST X:540571.52' / Y:476268.07' LAT:32.30930896N / LON:104.20202525W		CORNER COORDINATES NAD 83, SPCS NM EAST A - Y: 477316.50' / X: 581420.97' B - Y: 477486.36' / X: 586787.24' C - Y: 474772.99' / X: 586713.52' D - Y: 474661.31' / X: 581428.04'		CORNER COORDINATES NAD 27, SPCS NM EAST A - Y: 477257.62' / X: 548238.91' B - Y: 477427.41' / X: 545925.10' C - Y: 474741.11' / X: 545311.23' D - Y: 474682.50' / X: 548245.92'	
SECTION 17 SECTION 20		SECTION 16 SECTION 21		SECTION 15 SECTION 22	

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

Signature: *[Signature]* Date: 12/8/17
Printed Name: *[Signature]*
Mail Address: *[Signature]*

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

Date of Survey: *[Signature]*
Signature and Seal of Professional Surveyor: *[Signature]*
THIS DOCUMENT IS NOT VALID FOR CONSTRUCTION OF A BIDDING RECORDATION ON THE BASIS FOR THE ISSUANCE OF A PERMIT.

Certificate Number

NOTE: ALL DIMENSIONS IN U.S. FEET

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Santa Fe, NM 87505

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Revised August 1, 2011
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☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015-43809		² Pool Code 76780	³ Pool Name PURPLE SAGE; WOLFCAMP (GAS)
⁴ Property Code	⁵ Property Name CASS 16 STATE		⁶ Well Number 3H
⁷ OGRID No. 160825	⁸ Operator Name B.C. OPERATING, INC.		⁹ Elevation 3160

¹⁰ Surface Location

U/L or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	16	T23S	R27E		1988'	NORTH	256'	WEST	EDDY

¹¹ Bottom Hole Location If Different From Surface

U/L or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	16	T23S	R27E		1989'	NORTH	341'	EAST	EDDY

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

¹⁶ SECTION 8 SECTION 17 SECTION 9 SECTION 16 SECTION 10 SECTION 15 SECTION 17 SECTION 20 SECTION 16 SECTION 21 SECTION 15 SECTION 22 PRODUCING AREA FIRST TAKE POINT LAST TAKE POINT/BHL MEASURED DEPTH 9,304' MEASURED DEPTH 13,777' CORNER COORDINATES NAD 83, SPCS NM EAST A - Y: 477316.50' / X: 591426.97' B - Y: 477486.36' / X: 586787.24' C - Y: 474772.99' / X: 586713.52' D - Y: 474661.31' / X: 591426.94' CORNER COORDINATES NAD 83, SPCS NM EAST A - Y: 477257.62' / X: 540238.91' B - Y: 477487.41' / X: 545325.18' C - Y: 474714.11' / X: 545331.33' D - Y: 474682.50' / X: 540245.92'		¹⁷ OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or released mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. Signature: <i>[Signature]</i> Date: 12/8/11 Printed Name: <i>[Name]</i> Email Address: <i>[Address]</i> ¹⁸ SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. Date of Survey: <i>[Date]</i> Signature: <i>[Signature]</i> PRELIMINARY THIS PLAT IS NOT TO BE USED FOR LOCATION, BIDDING, RECORDATION, SALE OR THE BASIS FOR THE ISSUANCE OF A PERMIT. Certificate Number
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NOTE: ALL DIMENSIONS IN U.S. FEET

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☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015-44370		² Pool Code	³ Pool Name BONE SPRINGS
⁴ Property Code	⁵ Property Name CASS 16 STATE		⁶ Well Number 4H
⁷ OGRID No. 372098	⁸ Operator Name MARATHON OIL PERMIAN, LLC		⁹ Elevation 3160

" Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	16	T23S	R27E		2018'	NORTH	256'	WEST	EDDY

" Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	16	T23S	R27E		2100'	NORTH	330'	EAST	EDDY

¹⁰ Dedicated Acres	¹¹ Joint or Infill	¹² Consolidation Code	¹³ Order No.
160			

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

SECTION 8 SECTION 17 2018' 2076' 330' 256' A D 330' 243' 330' 330' SECTION 16 SECTION 9 SECTION 10 SECTION 15 B C 330' SECTION 17 SECTION 20 SECTION 21 SECTION 22 T23S-R27E T23S-R27E		" OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or undivided mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. <i>[Signature]</i> Date: <i>12/20/11</i> <i>[Signature]</i> <i>[Signature]</i> " SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. Date of Survey: <i>12/20/11</i> Signature: <i>[Signature]</i> PRELIMINARY THIS PLAT IS NOT TO BE USED FOR RECORDING, RECORDATION, SALE OR THE BASIS FOR THE ISSUANCE OF A PERMIT. Certificate Number
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NOTE: ALL DIMENSIONS IN U.S. FEET

November 18, 2017

FESCO, Ltd.
105 Medical Dr. - Ozona, Texas 76943

For: Marathon Oil Permian, LLC
5555 San Felipe Street
Houston, Texas 77056

Sample: Cass 16 State No. 2H
Meter Run Gas
Sampled @ 76 psig & 98 °F

Date Sampled: 11/13/17 @ 12:18 CDT

Job Number: 70829.011

CHROMATOGRAPH EXTENDED ANALYSIS - GPA 2286

COMPONENT	MOL%	GPM
Nitrogen	0.974	
Carbon Dioxide	0.073	
Methane	74.292	
Ethane	13.731	3.666
Propane	6.658	1.831
Isobutane	0.824	0.269
n-Butane	1.940	0.611
2-2 Dimethylpropane	0.000	0.000
Isopentane	0.415	0.152
n-Pentane	0.469	0.170
Hexanes	0.260	0.107
Heptanes Plus	<u>0.364</u>	<u>0.150</u>
Totals	100.000	6.956

Computed Real Characteristics Of Heptanes Plus:

Specific Gravity ----- 3.407 (Air=1)
Molecular Weight ----- 98.29
Gross Heating Value ----- 5088 BTU/CF

Computed Real Characteristics Of Total Sample:

Specific Gravity ----- 0.767 (Air=1)
Compressibility (Z) ----- 0.9959
Molecular Weight ----- 22.11
Gross Heating Value
Dry Basis ----- 1318 BTU/CF
Saturated Basis ----- 1296 BTU/CF

Base Conditions: 14.650 PSI & 60 Deg F

Sampled By: (Marathon) I. Castro
Analyst: RJ
Processor: RJ
Cylinder ID: T-3442

Certified: FESCO, Ltd. - Ozona, Texas

Tom Anderson 325-392-3773

October 27, 2017

FESCO, Ltd.
105 Medical Dr. - Ozona, Texas 76943

For: Marathon Oil Permian, LLC
5555 San Felipe Street
Houston, Texas 77056

Sample: Cass 16 State No. 3H
Meter Run Gas
Sampled @ 68.2 psig & 106.9 °F

Date Sampled: 10/26/17 @ 11:45 CDT

Job Number: 70726.011

CHROMATOGRAPH EXTENDED ANALYSIS - GPA 2286

COMPONENT	MOL%	GPM
Nitrogen	1.024	
Carbon Dioxide	0.111	
Methane	73.792	
Ethane	13.614	3.635
Propane	6.731	1.852
Isobutane	0.889	0.290
n-Butane	2.049	0.645
2-2 Dimethylpropane	0.013	0.005
Isopentane	0.472	0.172
n-Pentane	0.536	0.194
Hexanes	0.326	0.134
Heptanes Plus	<u>0.443</u>	<u>0.184</u>
Totals	100.000	7.112

Computed Real Characteristics Of Heptanes Plus:

Specific Gravity ----- 3.413 (Air=1)
Molecular Weight ----- 98.45
Gross Heating Value ----- 5106 BTU/CF

Computed Real Characteristics Of Total Sample:

Specific Gravity ----- 0.776 (Air=1)
Compressibility (Z) ----- 0.9958
Molecular Weight ----- 22.40
Gross Heating Value
Dry Basis ----- 1332 BTU/CF
Saturated Basis ----- 1309 BTU/CF

Base Conditions: 14.650 PSI & 60 Deg F

Sampled By: (Marathon) I. Castro
Analyst: RJ
Processor: BMc
Cylinder ID: T-2148

Certified: FESCO, Ltd. - (Ozona, Texas

Tom Anderson 325-392-3773

October 27, 2017

FESCO, Ltd.
105 Medical Dr. - Ozona, Texas 76943

For: Marathon Oil Permian, LLC
5555 San Felipe Street
Houston, Texas 77056

Sample: Cass 16 State No. 4H
Spot Sample Gas
Sampled @ 38 psig & 103 °F

Date Sampled: 10/26/17 @ 12:03 CDT

Job Number: 70726.021

CHROMATOGRAPH EXTENDED ANALYSIS - GPA 2286

COMPONENT	MOL%	GPM
Nitrogen	4.520	
Carbon Dioxide	1.174	
Methane	67.210	
Ethane	11.905	3.182
Propane	7.256	1.998
Isobutane	1.173	0.384
n-Butane	2.917	0.919
2-2 Dimethylpropane	0.012	0.005
Isopentane	0.825	0.302
n-Pentane	0.924	0.335
Hexanes	0.636	0.262
Heptanes Plus	<u>1.448</u>	<u>0.560</u>
Totals	100.000	7.945

Computed Real Characteristics Of Heptanes Plus:

Specific Gravity ----- 3.296 (Air=1)
Molecular Weight ----- 94.97
Gross Heating Value ----- 4811 BTU/CF

Computed Real Characteristics Of Total Sample:

Specific Gravity ----- 0.865 (Air=1)
Compressibility (Z) ----- 0.9950
Molecular Weight ----- 24.92
Gross Heating Value
Dry Basis ----- 1379 BTU/CF
Saturated Basis ----- 1355 BTU/CF

Base Conditions: 14.650 PSI & 60 Deg F

Sampled By: (Marathon) I. Castro
Analyst: RJ
Processor: BMC
Cylinder ID: T-4812

Certified: FESCO, Ltd - Ozona, Texas

Tom Anderson 325-392-3773

The central tank battery is located on the Cass 16 State 2H well location in Sec 17, T23S, R27E. The production from each well will flow through its own three phase metering separator with a Micro Motion Coriolis Meter to meter the oil, Mag meter to meter the water, and an orifice meter to meter the gas. VRU gas will be allocated back to each well utilizing a percentage of each wells monthly oil production. After the water is measured with the Mag meter, it is combined with the water for the other wells and with any water knockout from the heater treater and sent to the water tanks. The water tanks have guided wave radar level transmitters which can detect oil/water interfaces. If an interface is seen the operator will use the recycle pump to pump this interface and any oil to the heater treater for further processing.

The Cass 16 State CTB will have four oil tanks that these three wells will utilize and they have a common Enterprise CDP, (Central Delivery Point) **(Number provided upon receipt)** which is located on site. Oil, gas, and water volumes from each well producing to this battery will be determined by using individual metering allocation separator. Oil sold through a common sales line for tanks (information provided upon receipt).

Oil production will be allocated on a daily basis based on the Coriolis Test meter located downstream of the metering test separator and daily tank gauges and truck LACT. The Coriolis meters will be proven, as per API & NMOCD specifications, when installed, once per month for the first 3 months (to establish a consistent repeatability factor), and then quarterly thereafter, the factor obtained will be used to allocate the production volumes. Gas production will be allocated on a daily basis utilizing the gas test meters for each well. The gas production from the wells and the gas test meters will commingle and flow to an allocation meter and then to the Enterprise CDP sales meter, **(number provided upon receipt)** these meters will be calibrated on a regular basis per API & NMOCD specifications. The OCD will be notified of any future changes in the facilities.

Process and Flow Descriptions:

The flow of produced fluids is shown in detail on the enclosed Cass 16 State CTB Process Flow Diagrams along with a description of each vessel. The commingling of this production is the most effective, economic means of producing the reserves and will not result in reduced royalty or improper measurement of production. The proposed commingling will reduce the surface facility footprint and overall emissions.