

RECEIVED: <u>11/15/2018</u>	REVIEWER: <u>MAm</u>	TYPE: <u>DHC</u>	APP NO: <u>DMAM1238 58146</u>
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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: <u>Breitburn Operating LP</u>	OGRID Number: <u>370080</u>
Well Name: <u>ENCORE M STATE #23</u>	API: <u>30-025-44966</u>
Pool: <u>BLINBRY; TUBB; DRINKARD; WANTZ; ABO</u>	Pool Code: <u>6660; 60240; 19190; 62700</u>

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

DHC-4876

- 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-436a 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
<input type="checkbox"/> Notice Complete
<input type="checkbox"/> 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.

Deborah Marberry

Print or Type Name

Signature

11/12/18
Date

713-452-2883
Phone Number

deborah.marberry@mavresources.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

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

Form C-107A
Revised August 1, 2011

APPLICATION TYPE
 Single Well
 Establish Pre-Approved Pools
EXISTING WELLBORE
 Yes No

PMAMI 4318 58146

DH 4876

APPLICATION FOR DOWNHOLE COMMINGLING

BREITBURN OPERATING LP 1111 BAGBY ST. SUITE 1600 ATTN:REGULATORY HOUSTON, TX 77002

Operator Address
ENCORE M STATE 23 A, SEC.29, T22S, R37E

Lease Well No. Unit Letter-Section-Township-Range County

OGRID No. 370080 Property Code 314022 API No. 30-025-44966 Lease Type: Federal State Fee

DATA ELEMENT	UPPER ZONE	INTERMEDIATE ZONE	LOWER ZONE
Pool Name	Blinebry Oil & Gas (oil)	Tubb Oil & Gas (Oil)	Drinkard
Pool Code	6660	60240	19190
Top and Bottom of Pay Section (Perforated or Open-Hole Interval)	5565' - 5775'	6150' - 6170'	6604' - 6624'
Method of Production (Flowing or Artificial Lift)	Artificial lift	Artificial lift	Artificial lift
Bottomhole Pressure (Note: Pressure data will not be required if the bottom perforation in the lower zone is within 150% of the depth of the top perforation in the upper zone)	2340 psi	2590 psi	2780 psi
Oil Gravity or Gas BTU (Degree API or Gas BTU)	38* API 1342 BTU	38* API 1342 BTU	38* API 1342 BTU
Producing, Shut-In or New Zone	NEW	NEW	NEW
Date and Oil/Gas/Water Rates of Last Production. (Note: For new zones with no production history, applicant shall be required to attach production estimates and supporting data.)	Date: 11/11/18 Rates: 148/257/342	Date: 3/20/16 Rates: 17/101/27	Date: 11/7/18 Rates: 155/266/326
Fixed Allocation Percentage (Note: If allocation is based upon something other than current or past production, supporting data or explanation will be required.)	Oil 25 % Gas 25 %	Oil 25 % Gas 25 %	Oil 25 % Gas 25 %

ADDITIONAL DATA

Are all working, royalty and overriding royalty interests identical in all commingled zones? Yes No
 If not, have all working, royalty and overriding royalty interest owners been notified by certified mail? Yes No
 Are all produced fluids from all commingled zones compatible with each other? Yes No
 Will commingling decrease the value of production? Yes No
 If this well is on, or communitized with, state or federal lands, has either the Commissioner of Public Lands or the United States Bureau of Land Management been notified in writing of this application? Yes No

NMOCD Reference Case No. applicable to this well: 4781-0

Attachments:

- C-102 for each zone to be commingled showing its spacing unit and acreage dedication.
- Production curve for each zone for at least one year. (If not available, attach explanation.)
- For zones with no production history, estimated production rates and supporting data.
- Data to support allocation method or formula.
- Notification list of working, royalty and overriding royalty interests for uncommon interest cases.
- Any additional statements, data or documents required to support commingling.

PRE-APPROVED POOLS

If application is to establish Pre-Approved Pools, the following additional information will be required:

- List of other orders approving downhole commingling within the proposed Pre-Approved Pools
- List of all operators within the proposed Pre-Approved Pools
- Proof that all operators within the proposed Pre-Approved Pools were provided notice of this application.
- Bottomhole pressure data.

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

SIGNATURE Deborah Marberry Sr. Regulatory Analyst DATE 11/12/18
 TYPE OR PRINT NAME Deborah Marberry TELEPHONE NO. (713) 452-2883
 E-MAIL ADDRESS deborah.marberry@breitburn.com

District I
1625 N. French Drive, Hobbs, NM 88240

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-107A
Revised August 1, 2011

District II
811 S. First St., Artesia, NM 88210

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

APPLICATION TYPE
 Single Well
 Establish Pre-Approved Pools
EXISTING WELLBORE
 Yes No

District III
1000 Rio Brazos Road, Artec, NM 87410

District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

APPLICATION FOR DOWNHOLE COMMINGLING

BREITBURN OPERATING LP 1111 BAGBY ST. SUITE 1600 ATTN:REGULATORY HOUSTON, TX 77002

Operator ENCORE M STATE 23 Address A SEC.29, T22S, R37E LEA
Lease Well No. Unit Letter-Section-Township-Range County
OGRID No. 370080 Property Code 314022 API No. 30-025-44966 Lease Type: Federal State Fee

DATA ELEMENT	UPPER ZONE	INTERMEDIATE ZONE	LOWER ZONE
Pool Name			WANTZ; ABO
Pool Code			62700
Top and Bottom of Pay Section (Perforated or Open-Hole Interval)			6764'-6784'
Method of Production (Flowing or Artificial Lift)			Artificial Lift
Bottomhole Pressure (Note: Pressure data will not be required if the bottom perforation in the lower zone is within 150% of the depth of the top perforation in the upper zone)			2840 psi
Oil Gravity or Gas BTU (Degree API or Gas BTU)			38* API 1342 BTU
Producing, Shut-In or New Zone			NEW
Date and Oil/Gas/Water Rates of Last Production. (Note: For new zones with no production history, applicant shall be required to attach production estimates and supporting data.)	Date: Rates:	Date: Rates:	Date: 3/23/16 Rates: 20/134/48
Fixed Allocation Percentage (Note: If allocation is based upon something other than current or past production, supporting data or explanation will be required.)	Oil 25 % Gas 25 %	Oil 25 % Gas 25 %	Oil 25 % Gas 25 %

ADDITIONAL DATA

Are all working, royalty and overriding royalty interests identical in all commingled zones? Yes No
If not, have all working, royalty and overriding royalty interest owners been notified by certified mail? Yes No
Are all produced fluids from all commingled zones compatible with each other? Yes No
Will commingling decrease the value of production? Yes No
If this well is on, or communitized with, state or federal lands, has either the Commissioner of Public Lands or the United States Bureau of Land Management been notified in writing of this application? Yes No
NMOCD Reference Case No. applicable to this well: 4781-0

Attachments:

- C-102 for each zone to be commingled showing its spacing unit and acreage dedication.
- Production curve for each zone for at least one year. (If not available, attach explanation.)
- For zones with no production history, estimated production rates and supporting data.
- Data to support allocation method or formula.
- Notification list of working, royalty and overriding royalty interests for uncommon interest cases.
- Any additional statements, data or documents required to support commingling.

PRE-APPROVED POOLS

If application is to establish Pre-Approved Pools, the following additional information will be required:

- List of other orders approving downhole commingling within the proposed Pre-Approved Pools
- List of all operators within the proposed Pre-Approved Pools
- Proof that all operators within the proposed Pre-Approved Pools were provided notice of this application.
- Bottomhole pressure data.

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

SIGNATURE Deborah Marberry TITLE Sr. Regulatory Analyst DATE 10/01/18
TYPE OR PRINT NAME Deborah Marberry TELEPHONE NO. (713) 452-2883
E-MAIL ADDRESS deborah.marberry@breitburn.com

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 30-025-44966		² Pool Code 62700		³ Pool Name Wantz; Abo	
⁴ Property Code 314022		⁵ Property Name Encore M State			⁶ Well Number 23
⁷ OGHD No. 370080		⁸ Operator Name Breitburn Operating LP			⁹ Elevation 3359'

¹⁰Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	29	22 S	37 E		660'	North	660'	East	Lea

¹¹Bottom 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

¹² Dedicated Acres	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.

¹⁷OPERATOR 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.

Deborah Marberry 11/8/18
 Signature Date

Deborah Marberry
 Printed Name

deborah.marberry@breitburn.com
 E-mail Address

¹⁸SURVEYOR 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.

5-4-2018
 Date of Survey

Signature and Seal of Professional Surveyor

10324
 Certificate Number

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
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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 30-025-44966	² Pool Code 6660	³ Pool Name Blinebry Oil & Gas (Oil)
⁴ Property Code 314022	⁵ Property Name Encore M State	⁶ Well Number 23
⁷ GRID No. 370080	⁸ Operator Name Breitburn Operating LP	⁹ Elevation 3359

¹⁰Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	29	22 S	37 E		660'	North	660'	East	Lea

¹¹Bottom 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

¹² Dedicated Acres	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.

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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.

Deborah Marberry 11/8/18
 Signature Date

Deborah Marberry
 Printed Name

deborah.marberry@breitburn.com
 E-mail Address

¹⁸SURVEYOR 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.

5-4-2018
 Date of Survey

Michael L. Stanford
 Signature and Seal of Professional Surveyor

10324
 Certificate Number

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

DISTRICT II
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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 30-025-44966	² Pool Code 60240	³ Pool Name Tubb Oil & Gas (Oil)
⁴ Property Code 314022	⁵ Property Name Encore M State	⁶ Well Number 23
⁷ OGED No. 370080	⁸ Operator Name Breitburn Operating LP	⁹ Elevation 3359'

¹⁰Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	29	22 S	37 E		660'	North	660'	East	Lea

¹¹Bottom 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

¹² Dedicated Acres	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.

Sec. 29

Encore M State Lease

¹⁷OPERATOR 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.

Deborah Marberry 11/8/18
Signature Date

Deborah Marberry
Printed Name

deborah.marberry@breitburn.com
E-mail Address

¹⁸SURVEYOR 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.

5-4-2018
Date of Survey

Michael L. Stanford
Signature and Seal of Professional Surveyor

10324
Certificate Number

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

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DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
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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 30-025-44966	² Pool Code 19190	³ Pool Name Drinkard
⁴ Property Code 314022	⁵ Property Name Encore M State	⁶ Well Number 23
⁷ OGRD No. 370080	⁸ Operator Name Breitburn Operating LP	⁹ Elevation 3359'

¹⁰Surface Location

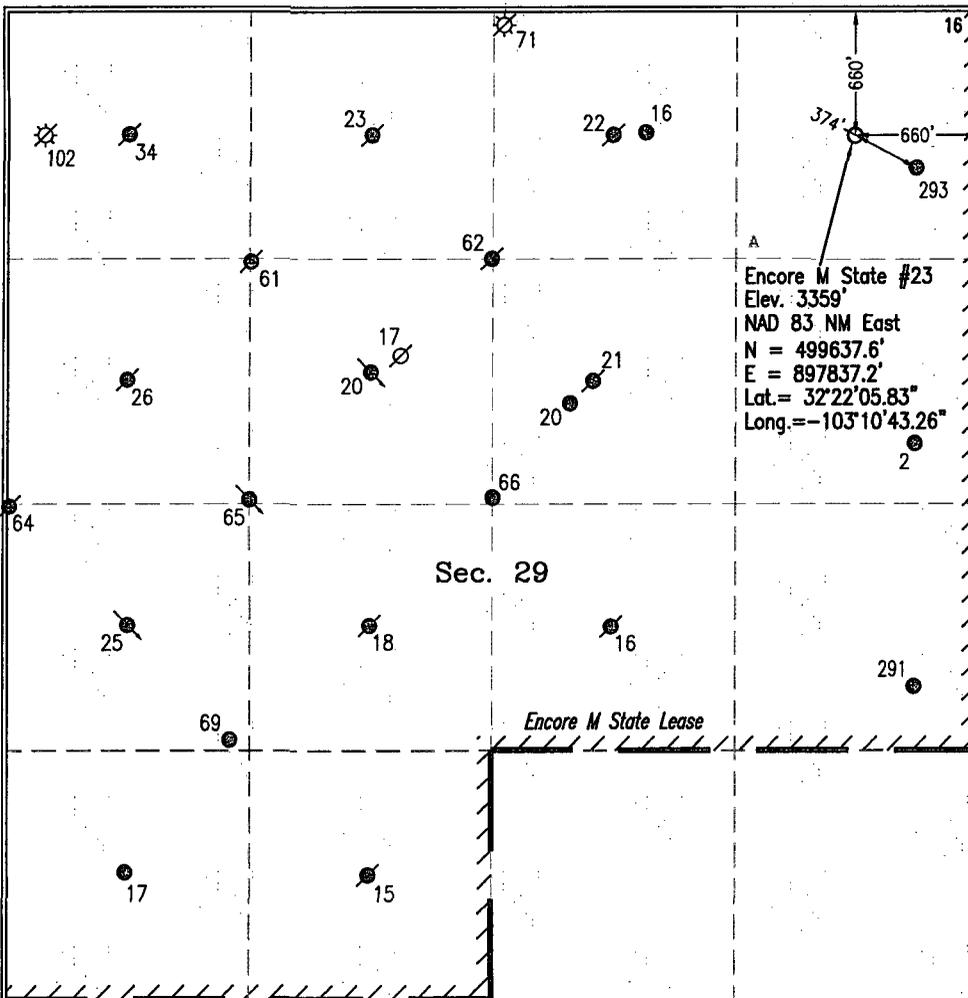
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	29	22 S	37 E		660'	North	660'	East	Lea

¹¹Bottom 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

¹² Dedicated Acres	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.

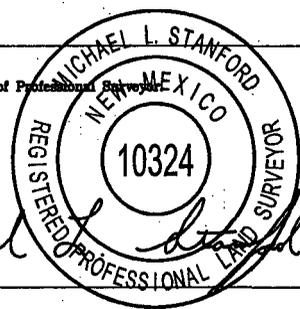


¹⁷OPERATOR CERTIFICATION
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to 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: *Deborah Marberry* Date: 11/8/18
Printed Name: Deborah Marberry
E-mail Address: deborah.marberry@breitburn.com

¹⁸SURVEYOR 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: 5-4-2018
Signature and Seal of Professional Surveyor: *Michael L. Stanford*
Certificate Number: 10324





Breitburn Operating LP
(a wholly owned subsidiary of
Maverick Natural Resources, LLC)
1111 Bagby Street • Suite 1600
Houston • Texas • 77002
713-437-8000

October 31, 2018

SENT VIA EMAIL

Mr. Michael McMillan
Oil Conservation Division
New Mexico Department of Energy,
Minerals and Natural Resources
1220 South Saint Francis Drive
Santa Fe, New Mexico 87505

Re: Request to add Encore M 22 and Encore M 23 to Commingle Order PLC-436-a: Application of Breitburn Operating LP for administrative approval to surface commingle oil and gas production from the Encore M 21 Fee Lease located in Section 21, T22S-R37E, Lea Co., NM and New Mexico State Lease B-934 in T22S-R37E, Lea Co., NM

Dear Mr. McMillan,

This letter is to clarify ownership in the Encore M 22 and Encore M 23 on New Mexico State Lease B-934 and include both wells in the application for the above surface commingle.

The ownership is consistent and identical in the Encore M 22 and Encore M 23 for all of the pools (zones) to be surface commingled: Blinebry Oil and Gas (Oil) (6660); Tubb Oil and Gas (Oil) (60240); Drinkard (19190); Wantz;Abo (62700).

Please contact me at 713-437-8063 or scott.hartman@mavresources.com if you have any questions or if you'd like any additional information. Thank you for your assistance in this matter.

Sincerely,

Scott Hartman, RPL
Senior Landman

McMillan, Michael, EMNRD

From: McMillan, Michael, EMNRD
Sent: Tuesday, December 4, 2018 2:01 PM
To: 'Deborah Marberry'
Subject: RE: Encore M State #23

Yes-with the caveat that you will submit updated allocation percentages after the production log has been ran

From: Deborah Marberry <deborah.marberry@mavresources.com>
Sent: Tuesday, December 4, 2018 1:20 PM
To: McMillan, Michael, EMNRD <Michael.McMillan@state.nm.us>
Subject: [EXT] RE: Encore M State #23

Good Afternoon Michael: Based on a conversation with Alex our plan is to submit a new allocation after the well completes and the Weatherford analysis is received. One issue we will have is the length of time that it will take for the well to disburse the frac treatments in order for us to get a true test. So, is it possible to keep our initial 25% across the board allocation for our completion report to be submitted on time then revise our numbers based off of the analysis?

Thank you so much for your time and patience.

From: McMillan, Michael, EMNRD [<mailto:Michael.McMillan@state.nm.us>]
Sent: Monday, December 03, 2018 3:40 PM
To: Deborah Marberry <deborah.marberry@mavresources.com>
Subject: [EXTERNAL]: RE: Encore M State #23

Then do you plan to go back to the Division with the final allocation percentages?

From: Deborah Marberry <deborah.marberry@mavresources.com>
Sent: Monday, December 3, 2018 2:38 PM
To: McMillan, Michael, EMNRD <Michael.McMillan@state.nm.us>
Subject: [EXT] RE: Encore M State #23

Michael: I am so sorry for the lateness of this response. Our engineer has been traveling a lot. Below is the response:

We are currently working on gathering individual zones flow contributions for allocation purposes through some selective completion projects as well as gathering oil samples to utilize Weatherford's oil fingerprinting technology to help with understanding downhole commingled-flow effects. At this time, I think the most appropriate allocations would be to simply divide the production to be coming equally from the 4 targeted formations.

From: McMillan, Michael, EMNRD [<mailto:Michael.McMillan@state.nm.us>]
Sent: Thursday, November 15, 2018 1:45 PM
To: Deborah Marberry <deborah.marberry@mavresources.com>
Subject: [EXTERNAL]: RE: Encore M State #23

I need a statement from an engineer on how you will determine the allocation percentages.

Mike

From: Deborah Marberry <deborah.marberry@mavresources.com>
Sent: Thursday, November 15, 2018 7:13 AM
To: McMillan, Michael, EMNRD <Michael.McMillan@state.nm.us>
Subject: [EXT] Encore M State #23

Good Morning Michael: I am so sorry. Attached is the Application Checklist and the Landman Statement for the above well. Let me know if I need to send originals. I am headed to morning meetings I will call you later to discuss.

Thank you for your time.

Deborah Marberry
Sr. Regulatory Analyst
Maverick Natural Resources
1111 Bagby Street, Suite 1600
Houston, TX 77002
713-452-2883 office
deborah.marberry@mavresources.com

Effective immediately, my email address has changed. Please update your address book accordingly.

Effective immediately, my email address has changed. Please update your address book accordingly.

Effective immediately, my email address has changed. Please update your address book accordingly.

McMillan, Michael, EMNRD

From: Deborah Marberry <deborah.marberry@mavresources.com>
Sent: Friday, December 7, 2018 6:27 AM
To: McMillan, Michael, EMNRD
Subject: [EXT] FW: Encore M State #23 - DHC Property Code 314022
Attachments: McCaffrey 2011 -SPE-144618.pdf; McCaffrey et al 2012.pdf; McCaffrey et al OTC 2017.pdf; Jensen et al 2016 SPE-180445-MS final.pdf; Allocation Webinar 9-15.pdf; Dead Oil Sample Collection Instructions.docx

Good Morning Michael: We are requesting on keeping our allocations for the above referenced well on a 25% allocation across the board as previously used in the Encore M State #19 (30-025-42779). As in the #19 well the interest ownership between the zones to be commingled is common throughout.

Once the frac fluids have been disbursed from the well the oil samples from each pool will be analyzed by Weatherford Laboratories. Attached are the instructions for sampling and abstracts from SPE, OTC, etc. After the sampling results are obtained we will submit updated allocation percentages.

Thank you so much for your time.

Debbi Marberry
713-452-2883

From: Alex McCammon
Sent: Thursday, December 06, 2018 10:34 AM
To: Deborah Marberry <deborah.marberry@mavresources.com>
Subject: RE: Encore M State #23

The oil allocations will be based on their individual hydrocarbon signatures and the ratio of that production to the entire sample. This technology has been proven to be quite accurate and is probably more representative of oil production as opposed to fluid flow percentages (spinner/production survey).

Attached is some information on the process.

Thanks,
Alex McCammon

Effective immediately, my email address has changed. Please update your address book accordingly.