

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

**APPLICATION FOR DOWNHOLE COMMINGLING
SUBMITTED BY HILCORP ENERGY CO.**

ORDER NO. DHC-5447

ORDER

The Director of the New Mexico Oil Conservation Division (“OCD”), having considered the application and the recommendation of the Engineering Bureau, issues the following Order.

FINDINGS OF FACT

1. Hilcorp Energy Corporation (“Applicant”) submitted a complete application (“Application”) to downhole commingle the pools described in Exhibit A (“the Pools”) within the well bore of the well identified in Exhibit A (“the Well”).
2. Applicant proposed a method to allocate the oil and gas production from the Well to each of the Pools that is satisfactory to the OCD and protective of correlative rights.
3. Applicant has certified that all produced fluids from all the Pools are compatible with each other.
4. Applicant has certified that downhole commingling the Pools will not decrease the value of the oil and gas production.
5. An exception to the notification requirements within 19.15.12.11(C)(1)(b) NMAC was granted by the Division within Order R-13681.
6. Applicant provided notice of the Application to the Bureau of Land Management (“BLM”) or New Mexico State Land Office (“NMSLO”), as applicable.

CONCLUSIONS OF LAW

7. OCD has jurisdiction to issue this Order pursuant to the Oil and Gas Act, NMSA 1978, Sections 70-2-6, 70-2-11, 70-2-12, 70-2-16, 70-2-17, and 19.15.12 NMAC.
8. The downhole commingling of the Pools is common, or Applicant has provided evidence that the fluids are compatible and will not damage the Pools in accordance with 19.15.12.11(A)(1) NMAC.
9. The bottom perforation of the lower zone is within one hundred fifty percent (150%) of the depth of the top perforation in the upper zone or Applicant has provided evidence that the proposed commingling of the Pools shall not result in shut-in or flowing well bore pressure in excess of the commingled pool’s fracture parting pressure in accordance with 19.15.12.11(A)(3) NMAC.

10. Applicant's proposed method of allocation, as modified herein, complies with 19.15.12.11(A)(8) NMAC.
11. By granting the Application with the conditions specified below, this Order prevents waste and protects correlative rights, public health, and the environment.

ORDER

1. Applicant is authorized to downhole commingle the Pools described in Exhibit A within the well bore of the well identified in Exhibit A.
2. This Order supersedes Order DHC-4989.
3. Applicant shall allocate a fixed percentage of the oil production from the Well to each of the Pools until a different plan to allocate oil production is approved by OCD. Of the oil production from the Well:
 - a. forty seven percent (47%) shall be allocated to the Blanco Mese Verde pool (pool ID: 72319);
 - b. fifty one percent (51%) shall be allocated to the Basin Mancos pool (pool ID: 97232); and
 - c. two percent (2.0%) shall be allocated to the Basin Dakota (71599)

Applicant shall allocate gas production to the new pool(s) equal to the total gas production from the Well minus the projected gas production from the current pool(s) until a different plan to allocate gas production is approved by OCD. The new pool(s) are:

- a. the Blanco Mesa Verde pool (pool ID: 72319); and
- b. the Basin Mancos pool (pool ID: 97232).

The current pool(s) are:

- a. the Basin Dakota pool (pool ID: 71599)

Until a different plan to allocate gas production is approved by OCD, of the gas production allocated to the new pools:

- a. seventy percent (71%) shall be allocated to the Blanco Mesa Verde pool (pool ID: 72319); and
- b. twenty nine percent (29%) shall be allocated to the Basin Mancos pool (pool ID: 97232).

Applicant shall calculate the oil and gas production average during the fourth year after the commencement of commingling, which shall be used to establish a fixed percentage of the total oil and gas production that shall be allocated to each of the Pools ("fixed percentage allocation plan"). No later than ninety (90) days after the fourth year, Applicant shall submit a Form C-103 to the OCD Engineering Bureau that includes the fixed percentage allocation plan and all data used to determine it. If Applicant fails to do so, this Order shall terminate on the following day. If OCD denies the fixed percentage allocation plan, this Order shall terminate on the date of such action. If OCD approves the percentage allocation plan with

or without modifications, then the approved percentage allocation plan shall be used to determine oil and gas allocation starting on the date of such action until the Well is plugged and abandoned.

4. If an alteration is made to the Well or a condition within the Well changes which may cause the allocation of production to the Pools as approved within this Order to become inaccurate, then no later than sixty (60) days after that event, Applicant shall submit Form C-103 to the OCD Engineering Bureau describing the event and include a revised allocation plan. If OCD denies the revised allocation plan, this Order shall terminate on the date of such action.
5. If any of the pools being commingled is prorated, or the Well's production has been restricted by an OCD order in any manner, the allocated production from each producing pool in the commingled well bore shall not exceed the top oil or gas allowable rate for a well in that pool or rate restriction applicable to the well.
6. If the Well is deepened, then no later than forty-five (45) days after the Well is deepened, Applicant shall conduct and provide logs to OCD that are sufficient for OCD to determine which pool(s) each new completed interval of the Well will produce from.
7. If the downhole commingling of the Pools reduces the value of the oil and gas production to less than if it had remained segregated, no later than sixty (60) days after the decrease in value has occurred Applicant shall submit a new downhole commingling application to OCD to amend this Order to remove the pool that caused the decrease in value. If Applicant fails to submit a new application, this Order shall terminate on the following day, and if OCD denies the application, this Order shall terminate on the date of such action.
8. If a completed interval of the Well is altered from what is submitted within the Application as identified in Exhibit A, then no later than sixty (60) days after the alteration, Applicant shall submit Form C-103 to the OCD Engineering Bureau detailing the alteration and completed interval.
9. If OCD determines that Applicant has failed to comply with any provision of this Order, OCD may take any action authorized by the Oil and Gas Act or the New Mexico Administrative Code (NMAC).
10. OCD retains jurisdiction of this matter and reserves the right to modify or revoke this Order as it deems necessary.

**STATE OF NEW MEXICO
OIL CONSERVATION DIVISION**



**GERASIMOS RAZATOS
DIRECTOR (ACTING)**

DATE: 2/19/2025

State of New Mexico
Energy, Minerals and Natural Resources Department

Exhibit A

Order: DHC - 5447			
Operator: Hilcorp Energy Company (372171)			
Well Name: San Juan 28 7 Unit Well No. 158			
Well API: 30-039-20381			
Upper Zone	Pool Name:	Blanco - MesaVerde (Prorated Gas)	
	Pool ID:	72319	Current: New: X
	Allocation:	Oil: 47.0%	Gas: 71.0%
		Top: 5,000	Bottom: 6,110
Intermediate Zone	Pool Name:	Basin Mancos	
	Pool ID:	97232	Current: New: X
	Allocation:	Oil: 51.0%	Gas: 29.0%
		Top: 6,110	Bottom: 7,570
Bottom of Interval within 150% of Upper Zone's Top of Interval: NO			
Lower Zone	Pool Name:	Basin Dakota	
	Pool ID:	71599	Current: X New:
	Allocation:	Oil: 2.0%	Gas: Curv
		Top: 7,678	Bottom: 7,884
Bottom of Interval within 150% of Upper Zone's Top of Interval: NO			

Office
District I - (575) 393-6161
1625 N. French Dr., Hobbs, NM 88240
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811 S. First St., Artesia, NM 88210
District III - (505) 334-6178
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District IV - (505) 476-3460
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87505

Energy, Minerals and Natural Resources

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Revised July 18, 2013

WELL API NO. 30-039-20381
5. Indicate Type of Lease STATE <input type="checkbox"/> FEE <input type="checkbox"/>
6. State Oil & Gas Lease No. Federal NMSF079290A
7. Lease Name or Unit Agreement Name SAN JUAN 28-7 UNIT
8. Well Number 158
9. OGRID Number 372171
10. Pool name or Wildcat Basin Mancos / Blanco Mesaverde

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A
DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH
PROPOSALS.)

1. Type of Well: Oil Well ☐ Gas Well ☒ Other2. Name of Operator
Hilcorp Energy Company3. Address of Operator
382 Road 3100, Aztec, NM 87410

4. Well Location

Unit Letter B: 1190 feet from the North line and 1450 feet from the East lineSection 23 Township 028N Range 007W NMPM County RIO ARRIBA11. Elevation (Show whether DR, RKB, RT, GR, etc.)
6711' GL

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐
TEMPORARILY ABANDON ☐ CHANGE PLANS ☐
PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐
DOWNHOLE COMMINGLE ☒
CLOSED-LOOP SYSTEM ☐
OTHER: ☐ RECOMPLETE

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐
COMMENCE DRILLING OPNS. ☐ P AND A ☐
CASING/CEMENT JOB ☐
OTHER: ☐

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

It is intended to recomplete the subject well in the Basin Mancos (pool 97232) and the Blanco Mesaverde (pool 72319) and downhole commingle the existing Basin Dakota (pool 71599) with the Mancos and Mesaverde. The production will be commingled per Oil Conservation Division Order Number R-12984-B. Allocation and methodology will be provided after the well is completed. Commingling will not reduce the value of the production. The Bureau of Land Management has been notified in writing of this application.

Proposed perforations are: MV 5000 - 6110'; MC 6110' - 7570'; DK 7678' - 7884'. **These perforations are in TVD.**

As referred to in Order # R-13681 interest owners were not re-notified.

Spud Date:

Rig Release Date:

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

SIGNATURE Cherylene Weston TITLE Operations/Regulatory Technician Sr. DATE 02/20/2024

Type or print name Cherylene Weston E-mail address: cweston@hilcorp.com PHONE: 713-289-2615
For State Use Only

APPROVED BY: _____ TITLE _____ DATE _____

Conditions of Approval (if any):

District I1625 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 Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170**District IV**1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural
Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

Form C-102
August 1, 2011

Permit 266066

WELL LOCATION AND ACREAGE DEDICATION PLAT

1. API Number 30-039-20381	2. Pool Code 72319	3. Pool Name BLANCO-MESAVERDE (PRORATED GAS)
4. Property Code 318432	5. Property Name SAN JUAN 28 7 UNIT	6. Well No. 158
7. OGRID No. 372171	8. Operator Name HILCORP ENERGY COMPANY	9. Elevation 6711

10. Surface Location

UL - Lot B	Section 23	Township 28N	Range 07W	Lot Idn	Feet From 1190	N/S Line N	Feet From 1450	E/W Line E	County RIO ARRIBA
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11. Bottom Hole Location If Different From Surface

UL - Lot	Section	Township	Range	Lot Idn	Feet From	N/S Line	Feet From	E/W Line	County
12. Dedicated Acres 320.00 E/2	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>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(s) 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>	
	E-Signed By: Cherylene Weston Title: Operation/Regulatory Tech Sr. Date: 4/11/2019	
	SURVEYOR CERTIFICATION <i>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.</i>	
	Surveyed By: David O. Kilven Date of Survey: 4/15/1971 Certificate Number: 1760	

District I
1625 N. French Dr., Hobbs, NM 88240
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State of New Mexico
Energy, Minerals and Natural
Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

Form C-102
August 1, 2011
Permit 358136

WELL LOCATION AND ACREAGE DEDICATION PLAT

1. API Number 30-039-20381	2. Pool Code 97232	3. Pool Name BASIN MANCOS
4. Property Code 318432	5. Property Name SAN JUAN 28 7 UNIT	6. Well No. 158
7. OGRID No. 372171	8. Operator Name HILCORP ENERGY COMPANY	9. Elevation 6711

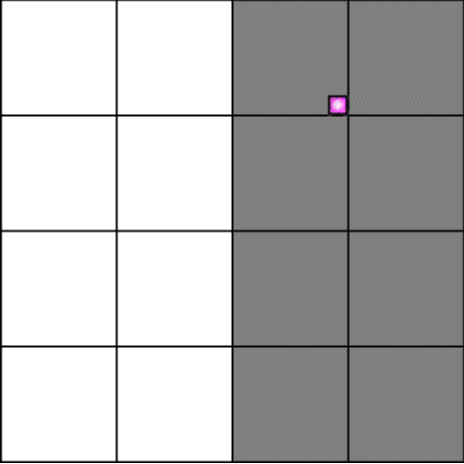
10. Surface Location

UL - Lot B	Section 23	Township 28N	Range 07W	Lot Idn	Feet From 1190	N/S Line N	Feet From 1450	E/W Line E	County RIO ARRIBA
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11. Bottom Hole Location If Different From Surface

UL - Lot	Section	Township	Range	Lot Idn	Feet From	N/S Line	Feet From	E/W Line	County
12. Dedicated Acres 320.00 E/2	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

	<p>OPERATOR CERTIFICATION</p> <p><i>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(s) 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></p> <p>E-Signed By: Cherylene Weston Title: Operation/Regulatory Tech Sr. Date: 1/19/2024</p> <p>SURVEYOR CERTIFICATION</p> <p><i>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.</i></p> <p>Surveyed By: David Kilven Date of Survey: 4/15/1971 Certificate Number: 1760</p>
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NEW MEXICO OIL CONSERVATION COMMISSION
WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102
Supersedes C-128
Effective 1-1-65

All distances must be from the outer boundaries of the Section.

Operator El Paso Natural GAS COMPANY		Lease SAN JUAN 28-7 UNIT (SF-079290-A)		Well No. 158
Unit Letter B	Section 23	Township 28-N	Range 7-W	County RIO ARriba
Actual Footage Location of Well: 1190 feet from the NORTH line and 1450 feet from the EAST line				
Ground Level Elev. 6711	Producing Formation DAKOTA	Pool BASIN DAKOTA	Dedicated Acreage: 320.00 Acres	

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☒ Yes ☐ No If answer is "yes," type of consolidation Unitization

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission. NOTE: THIS PLAT IS REISSUED TO SHOW CHANGE IN DEDICATION. 4-18-78

	<p>CERTIFICATION</p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.</p> <p><i>A. J. Suico</i> Name Drilling Clerk Position El Paso Natural Gas Co. Company April 24, 1978 Date</p>
	<p>RECEIVED</p> <p>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is a true and correct survey to the best of my knowledge and belief.</p> <p>U.S. GEOLOGICAL SURVEY DURANGO, COLORADO</p> <p>Date Surveyed April 15, 1971 Registered Professional Engineer and/or Land Surveyor ORIGINAL SIGNED AND SEALED BY: DAVID O. VILVEN Certificate No. 1760</p>

San Juan 28-7 Unit 158 Allocation

These zones are proposed to be commingled because the application of dual completions impedes the ability to produce the shallow zone without artificial lift and the deeper zones with reduced artificial lift efficiency. All horizons will require artificial lift due to low bottomhole pressure (BHP) and permeability.

The BHPs of all zones, producing and non-producing, were estimated based upon basin wide Moving-Domain Material Balance models that have proven to approximate the pressure in the given reservoirs well in this portion of the basin, in conjunction with shut-in pressure build-ups. These models were constructed incorporating reservoir dynamics and physics, historic production, and observed pressure data. Historic commingling operations have proven reservoir fluids are compatible.

Production Allocation Method – Subtraction

Gas Allocation:

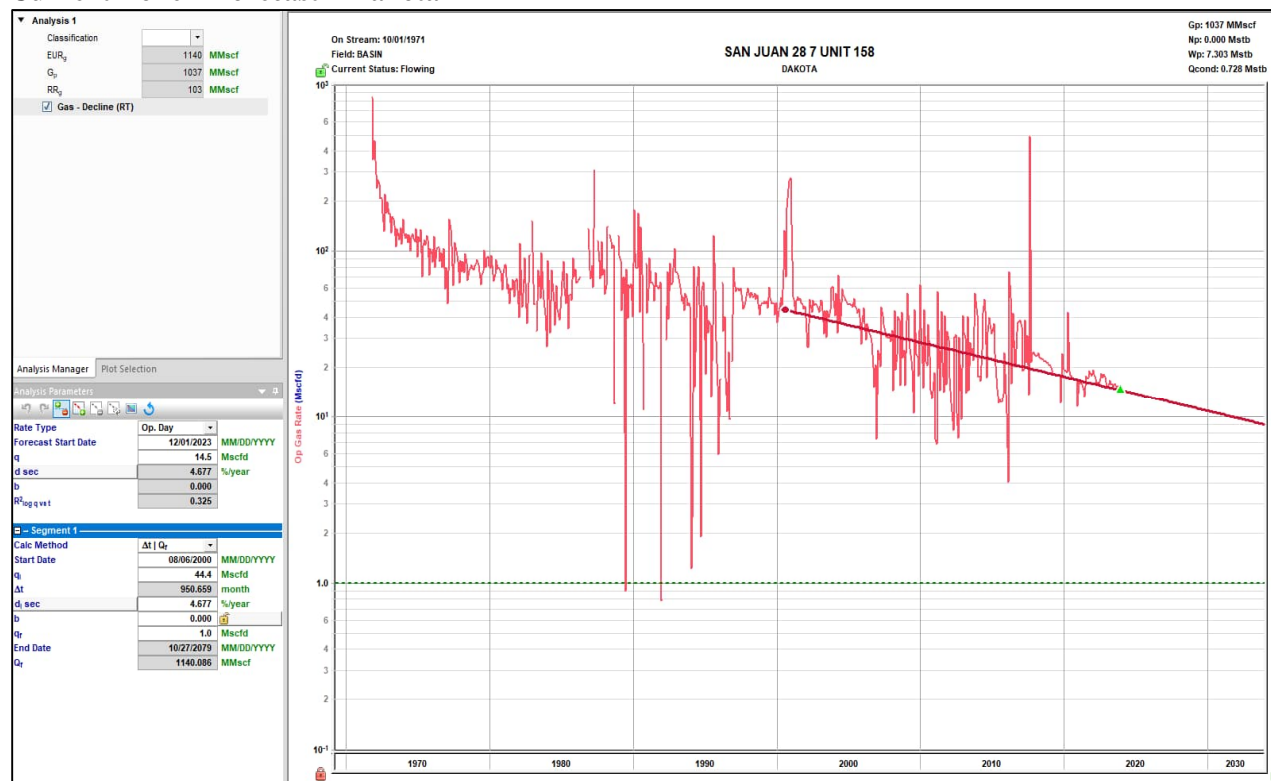
Production for the downhole commingle will be allocated using the subtraction method in agreement with local agencies. The base formation is the Dakota and the added formations to be commingled are the Mancos and Mesaverde. The subtraction method applies an average monthly production forecast to the base formation using historic production. All production from this well exceeding the base formation forecasts will be allocated to the new formations.

New zones will be allocated using a fixed allocation. Forecasted rates for MC/MV are based on offsets type curve. The maps show the standalone offsets that were used for type-curves. The split between MC/MV is based on the ratio of forecasted reserves as shown in the table below.

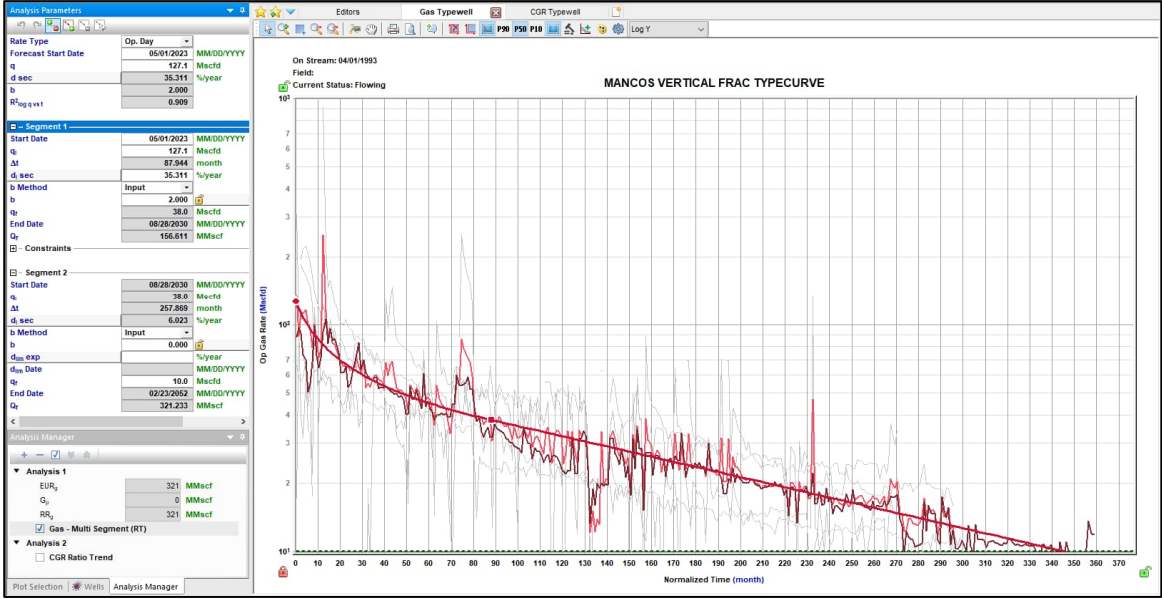
Formation	Remaining Reserves (MMcf)	% Gas Allocation
Mancos	321	29%
Mesaverde	792	71%

After 3 years production will stabilize. A production average will be gathered during the 4th year and will be utilized to create a fixed percentage-based allocation.

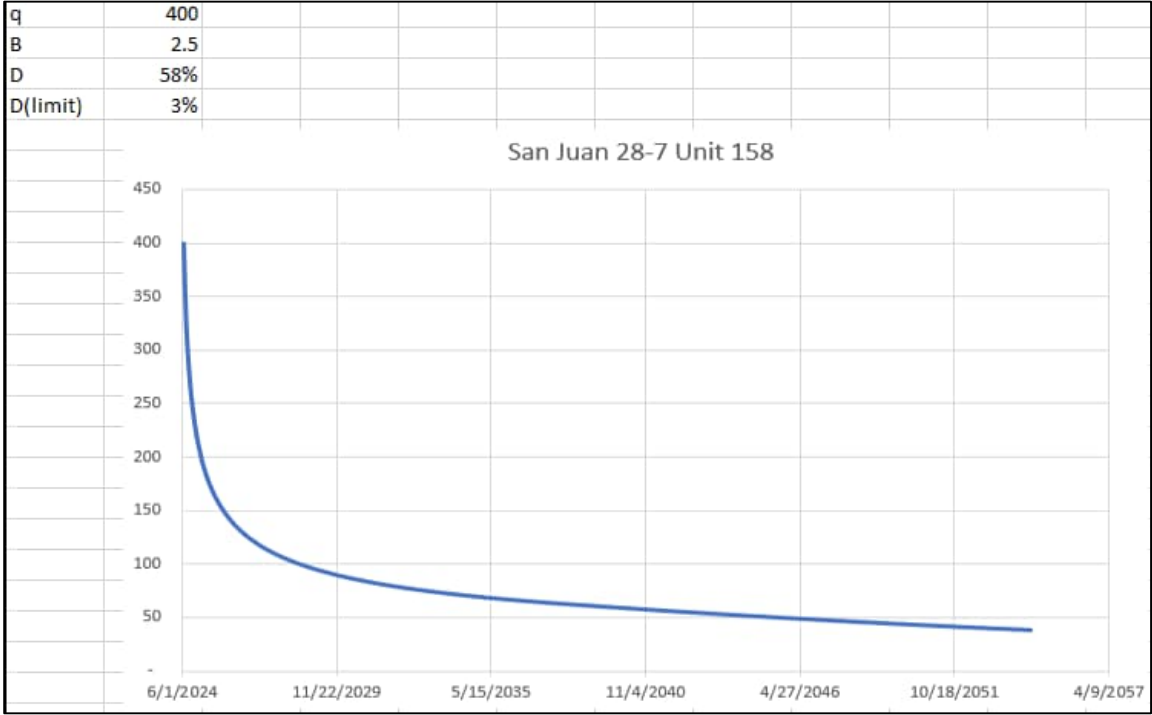
Current Zone 1 Forecast – Dakota



Proposed Zone 1 Forecast - Mancos



Proposed Zone 2 Forecast - Mesaverde



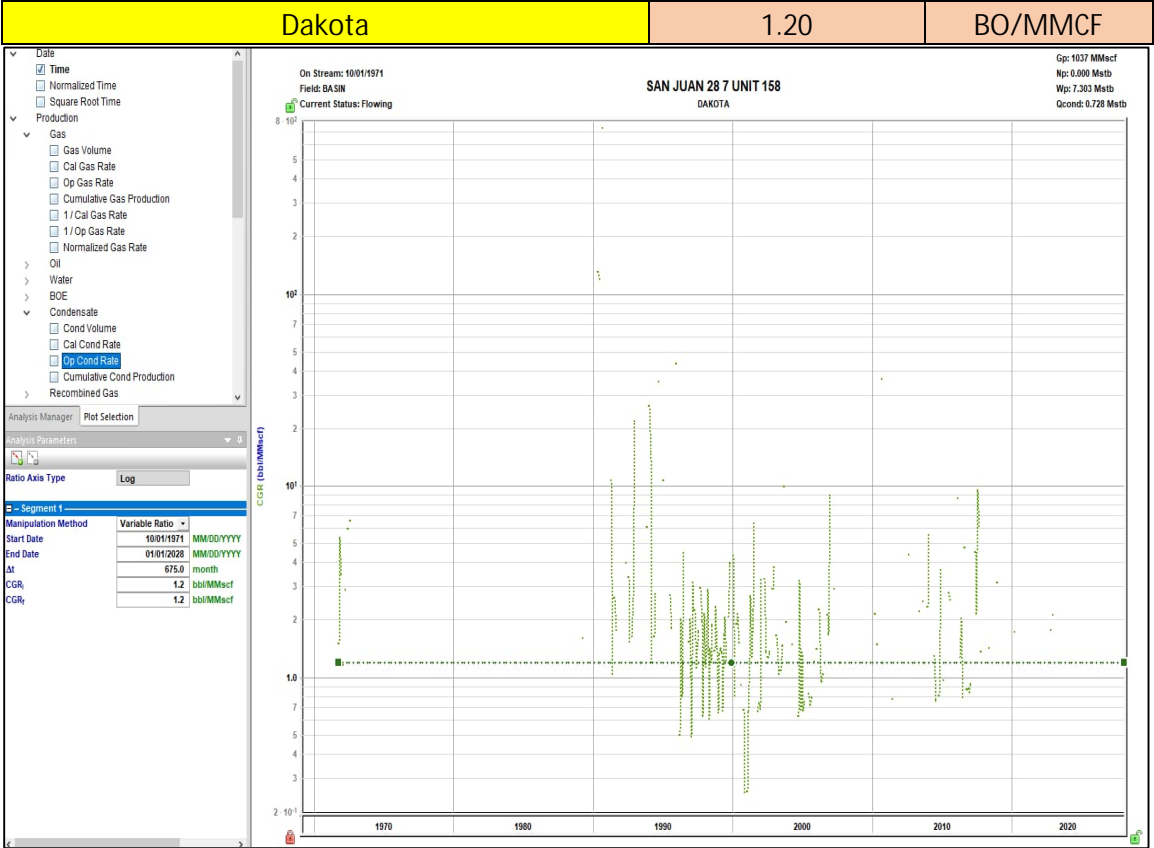
Average initial production curve in geologic region.

Oil Allocation:

Oil production will be allocated based on average formation yields from offset wells and will be a fixed rate for 4 years. After 4 years oil will be reevaluated and adjusted as needed based on average formation yields and new fixed gas allocation.

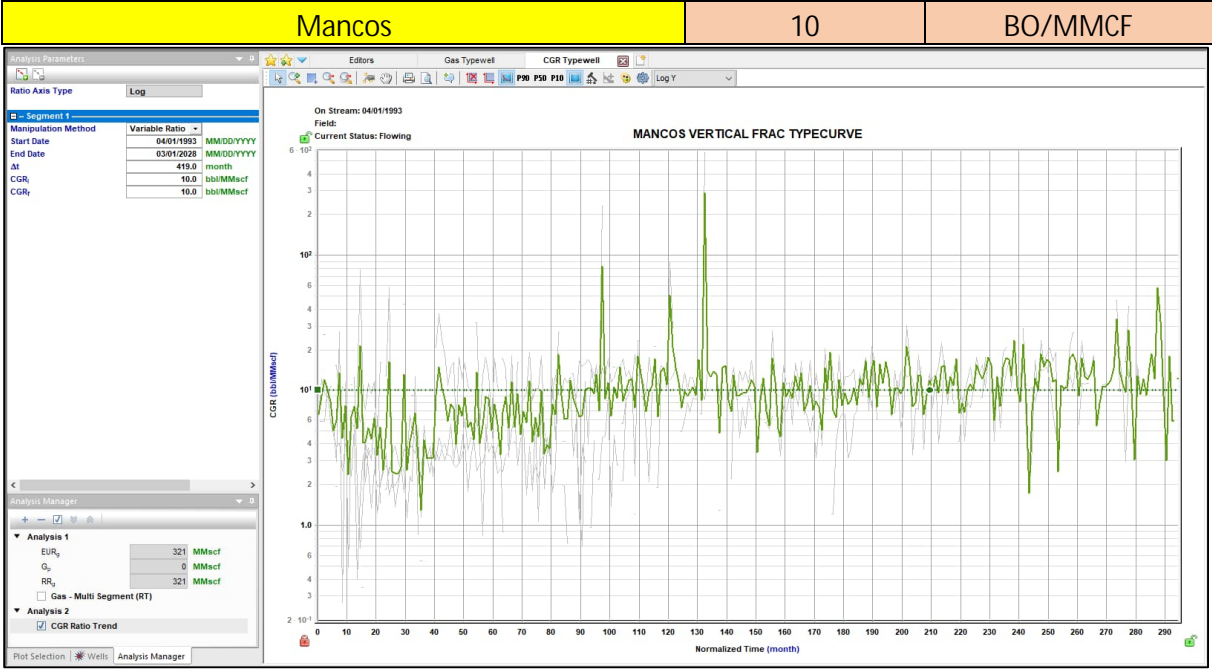
Formation	Yield (bbl/MM)	Remaining Reserves (MMcf)	% Oil Allocation
DK	1.20	103	2%
MC	10.00	321	51%
MV	3.70	792	47%

Current Zone – Dakota Oil Yield Map



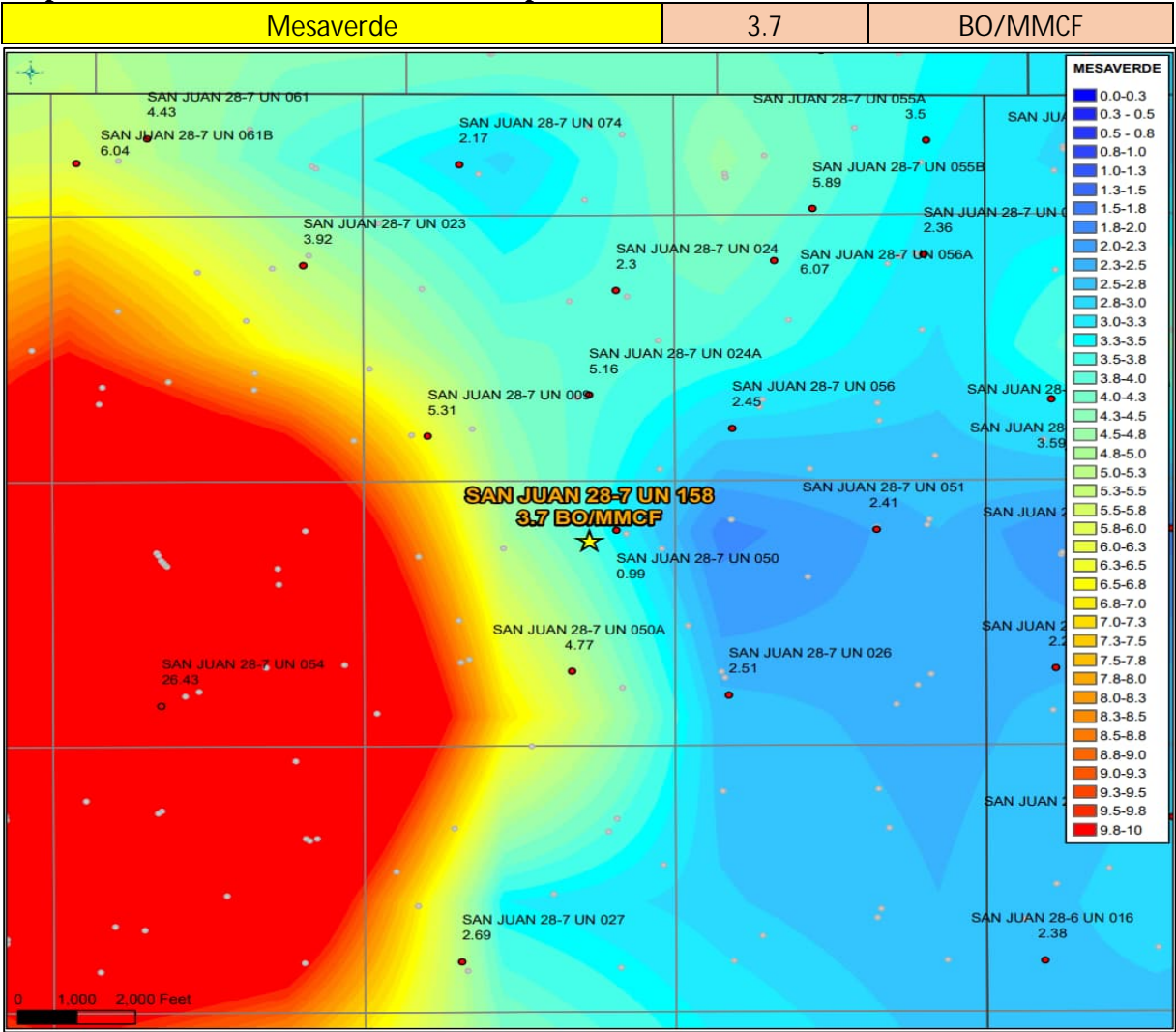
9-Section Area of Standalone Oil Yields. Sampled well to this map.

Proposed Zone 1 – Mancos Oil Yield



Average Oil Yield from Vertical Mancos Type Curve.

Proposed Zone 2 - Mesaverde Oil Yield Map



Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
<https://www.emnrd.nm.gov/ocd/contact-us>

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 325697

CONDITIONS

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 325697
	Action Type: [C-107] Down Hole Commingle (C-107A)

CONDITIONS

Created By	Condition	Condition Date
llowe	None	12/19/2024