

**BEFORE THE OIL CONSERVATION DIVISION
EXAMINER HEARING APRIL 4, 2019**

CASE No. 20348

HARDIE 5E

SAN JUAN & RIO ARRIBA COUNTIES, NEW MEXICO



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

**APPLICATION OF HILCORP ENERGY
COMPANY FOR AN EXCEPTION TO THE
WELL DENSITY REQUIREMENTS OF THE
SPECIAL RULES AND REGULATIONS FOR
THE BLANCO-MESAVERDE GAS POOL,
SAN JUAN COUNTY, NEW MEXICO.**

CASE NO. 20348

AFFIDAVIT OF BRAD PEARSON IN SUPPORT OF CASE NO. 20348

I, Brad Pearson, being of lawful age and duly sworn, declare as follows:

1. My name is Brad Pearson. I work for Hilcorp Energy Company ("Hilcorp") as a Landman.

2. I have previously testified before the New Mexico Oil Conservation Division as an expert witness in petroleum land matters. My credentials as a petroleum landman have been accepted by the Division and made a matter of record.

3. I am familiar with the application filed by Hilcorp in this case, and I am familiar with the status of the lands in the subject areas.

4. None of the affected parties in this case has indicated opposition, and therefore I do not expect any opposition at the hearing.

5. Hilcorp seeks an exception to the well density requirements of Rule I.B of the Special Rules and Regulations of the Blanco-Mesaverde Gas Pool to permit it to complete and simultaneously produce three Mesaverde gas wells in the same quarter section, for a total of five Mesaverde gas wells within the same standard 320-acre, more or less, spacing and proration unit.

6. The Blanco-Mesaverde Gas Pool is governed by Special Rules and Regulations which provide for 320-acre spacing and proration units on which as many as four wells may be drilled. The Special Rules therefore limit the number of wells in a spacing unit to four and the number of wells in a half section within a spacing unit to two. The Special Rules also provide that well density exceptions can be approved only after notice and hearing.

7. Hilcorp is the operator of a standard 320-acre, more or less, spacing and proration unit in the Blanco-Mesaverde Gas Pool comprised of the E/2 of Section 23, Township 28 North, Range 8 West, San Juan County, New Mexico, in which the following four wells are currently completed and producing:

- a. Hardie E 003 Well (API No. 30-045-07335), Sec. 23, T28N, R8W (Unit B);
- b. Hardie 005M Well (API No. 30-045-33197), Sec. 23, T28N, R8W with a surface location in Unit A and a bottom-hole location in Unit H;
- c. Hardie E 003A Well (API No. 30-045-23926), Sec. 23, T28N, R8W (Unit I); and
- d. Hardie 005 Well (API No. 30-045-20257), Sec. 23, T28N, R8W (Unit O).

8. Hilcorp proposes to simultaneously dedicate and produce the following well within the same standard spacing and proration unit, at the following location:

- a. **Hardie 5E Well** (API No. 30-045-24935), Sec. 23, T28N, R8W (Unit A).

9. This will be the fifth well within the same spacing unit with three wells in the same quarter section, exceeding well density limits imposed by the Special Rules.

10. Hilcorp therefore requests that the Division enter an order granting an exception to the well density requirements of Rule 1.B of the Special Rules and Regulations of the Blanco-Mesaverde Pool to authorize Hilcorp to simultaneously dedicate and produce the **Hardie 5E Well**

(API No. 30-045-24935) within the E/2 of Section 23, Township 28 North, Range 8 West, permitting the total number of wells dedicated and producing within this spacing and proration unit to five, with three wells in the same quarter section.

11. The proposed simultaneous dedication of the **Hardie 5E Well**, which is currently producing in the Dakota formation, within the Blanco-Mesaverde is part of Hilcorp's strategy to use existing wells completed in other zones to economically target development of incremental Mesaverde gas reserves in areas where there is not adequate gas drainage.

12. The Division has pre-approved downhole commingling the Dakota formation with the Blanco-Mesaverde Gas Pool.

13. Pursuant to the Special Rules and Division precedent, Hilcorp provided notice to all Division-designated operators in offsetting 320-acre spacing units. Where Hilcorp is the operator, Hilcorp identified all working interest owners in offsetting spacing units as affected parties requiring notice. In some offsetting spacing units, Hilcorp owns 100% of the working interest, in which case there are no affected parties to notice.

14. **Exhibit A-1** is an overview map identifying the location of the subject Blanco-Mesaverde Gas Pool spacing unit, in the green outline, within the E/2 of Section 23, Township 28 North, Range 8 West, to which the well will be simultaneously dedicated.

15. Exhibit A-1 also identifies the locations of the existing Mesaverde wells as gray circles, as well as the **Hardie 5E Well** as a gray triangle.

16. Exhibit A-1 also depicts the notice area comprised of the offsetting spacing units, which is the area within the red dashed line surrounding the subject spacing unit outlined in green. In this case, Hilcorp is the operator of the offsetting spacing units within the notice area.

17. **Exhibit A-2** identifies the affected parties within the offsetting spacing units who are required to be noticed. I provided a list of all affected parties requiring notice to Holland & Hart LLP. All parties were locatable.

18. To the best of my knowledge, the addresses used to provide notice are valid and correct addresses which have been recently used by Hilcorp and at which mail has been received by the notice parties.

19. Exhibits A-1 and A-2 were prepared by me or under my direction and supervision.

FURTHER AFFIANT SAYETH NAUGHT.

Bradley W. Pearson
Brad Pearson

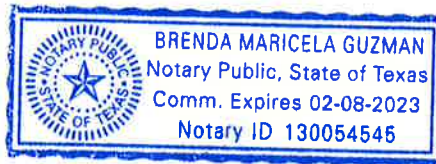
STATE OF TEXAS)
)
COUNTY OF HARRIS)

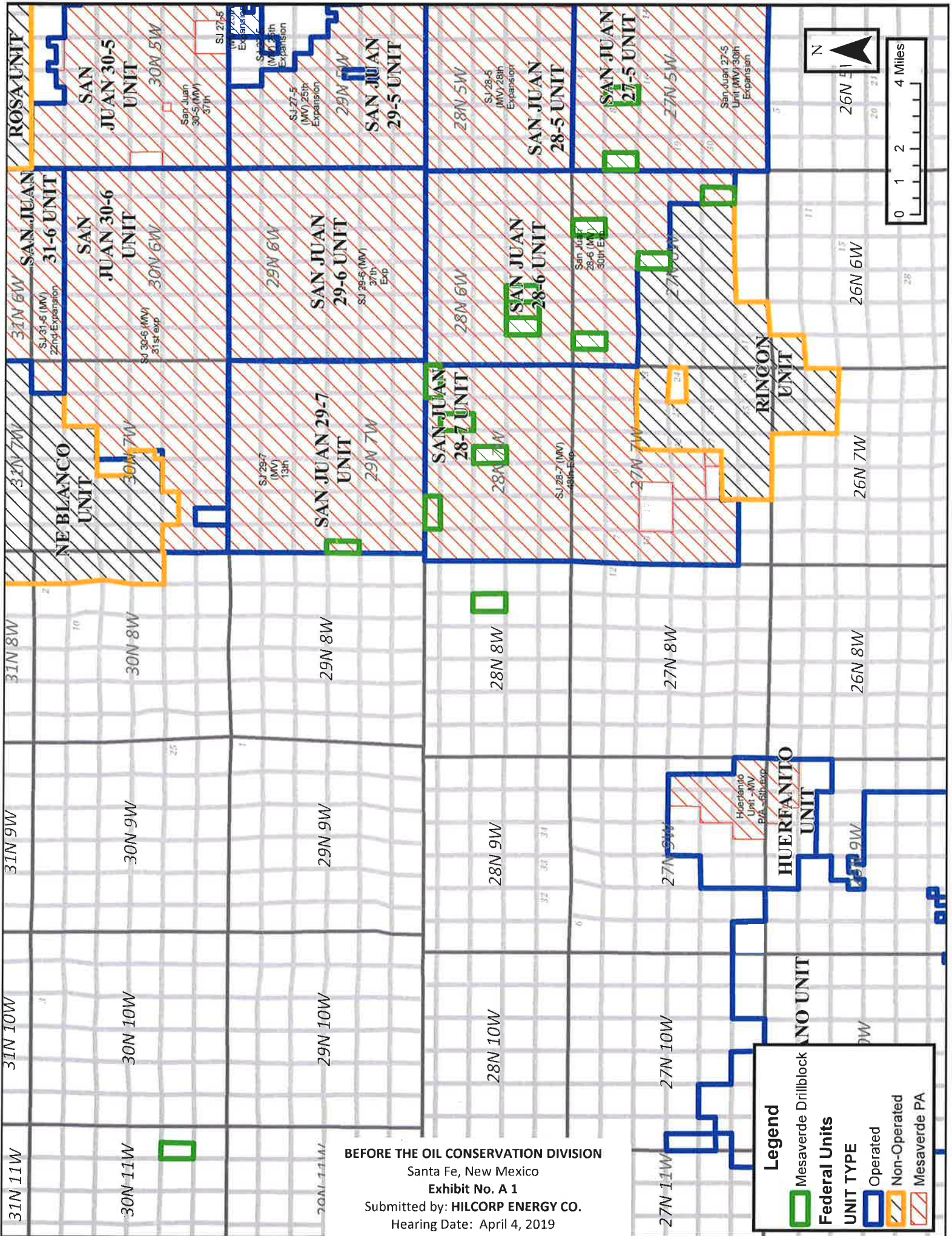
SUBSCRIBED and SWORN to before me this 2nd day of April, 2019 by
Brad Pearson.

[Signature]
NOTARY PUBLIC

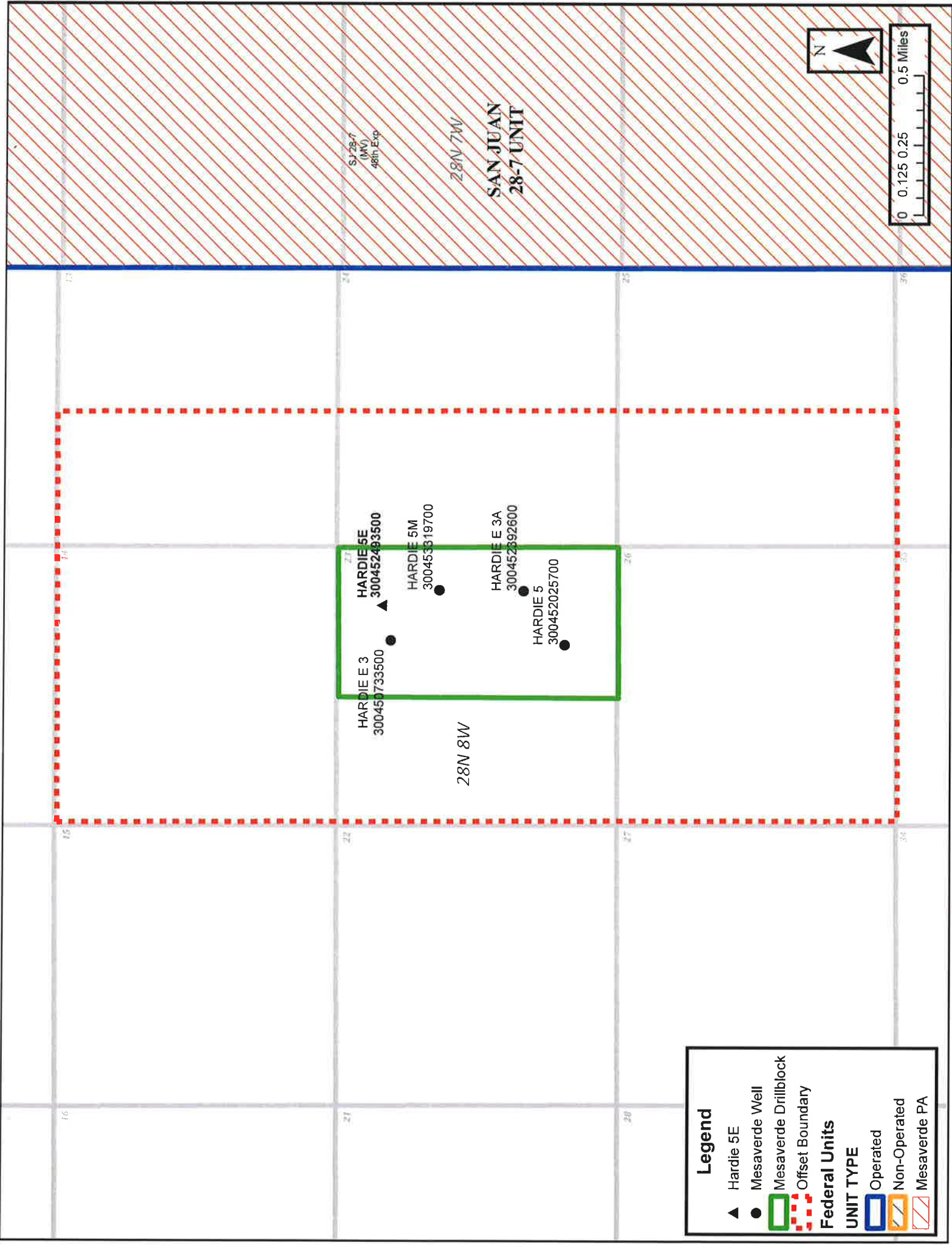
My Commission Expires:

02/08/2023

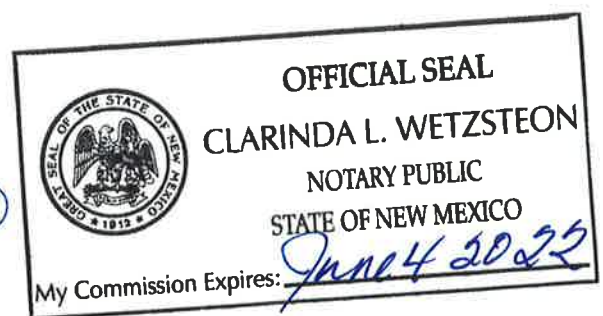




BEFORE THE OIL CONSERVATION DIVISION
 Santa Fe, New Mexico
 Exhibit No. A 1
 Submitted by: **HILCORP ENERGY CO.**
 Hearing Date: April 4, 2019
 Case Nos. 20348



Name	Address	City	State	Zip Code	Remarks	Offset Drillblock
HILCORP ENERGY COMPANY	1111 TRAVIS	HOUSTON	TX	77002	OFFSET OPERATOR	various
BP AMERICA PRODUCTION COMPANY	PO BOX 848103	DALLAS	TX	75284-8103	OFFSET OPERATOR	various





March 15, 2019

VIA CERTIFIED MAIL
CERTIFIED RECEIPT REQUESTED**TO: AFFECTED PARTIES**

Re: Application of Hilcorp Energy Company for an Exception to the Well Density Requirements of the Special Rules and Regulations of the Blanco-Mesaverde Gas Pool, Rio Arriba County, New Mexico.

Ladies & Gentlemen:

This letter is to advise you that Hilcorp Energy Company has filed the enclosed application with the New Mexico Oil Conservation Division. A hearing has been requested before a Division Examiner on April 4, 2019 and the status of the hearing can be monitored through the Division's website at <http://www.emnrd.state.nm.us/ocd/>. Division hearings will commence at 8:15 a.m. in Porter Hall at the Oil Conservation Division's Santa Fe Offices located at 1220 South Saint Francis Drive, Santa Fe, New Mexico 87505. You are not required to attend this hearing, but as an owner of an interest that may be affected by this application, you may appear and present testimony. Failure to appear at that time and become a party of record will preclude you from challenging the matter at a later date.

Parties appearing in cases are required by Division Rule 19.15.4.13.B to file a Pre-hearing Statement four business days in advance of a scheduled hearing. This statement must be filed at the Division's Santa Fe office at the above specified address and should include: the names of the parties and their attorneys; a concise statement of the case; the names of all witnesses the party will call to testify at the hearing; the approximate time the party will need to present its case; and identification of any procedural matters that are to be resolved prior to the hearing.

If you have any questions about this matter, please contact Brad Pearson at (713) 289-2793.

Sincerely,

Adam G. Rankin

ATTORNEY FOR HILCORP ENERGY COMPANY



Shipment Confirmation Acceptance Notice

A. Mailer Action

Note to Mailer: The labels and volume associated to this form online, **must** match the labeled packages being presented to the USPS® employee with this form.

HEC ARDIE 5E WELL
CM# 93904.0003 20190404 DOCKET
NOTICE LIST

Shipment Date: 03/12/2019

Shipped From:

Name: HOLLAND & HART LLP

Address: 110 N GUADALUPE ST # 1

City: SANTA FE

State: NM ZIP+4® 87501

Type of Mail	Volume
Priority Mail Express®	
Priority Mail®	0
First-Class Package Service®	
Returns	
International*	
Other	2
Total	2

*Start time for products with service guarantees will begin when mail arrives at the local Post Office™ and items receive individual processing and acceptance scans.

B. USPS Action

Note to RSS Clerk:

1. Home screen > Mailing/Shipping > More
2. Select Shipment Confirm
3. Scan or enter the barcode/label number from PS Form 5630
4. Confirm the volume count message by selecting Yes or No
5. Select Pay and End Visit to complete transaction

USPS EMPLOYEE: Please scan upon pickup or receipt of mail.
Leave form with customer or in customer's mail receptacle.

USPS SCAN AT ACCEPTANCE



9275 0901 1935 6200 0013 2139 91





Firm Mailing Book For Accountable Mail

Name and Address of Sender		Check type of mail or service		Affix Stamp Here (if issued as an international certificate of mailing or for additional copies of this receipt). Postmark with Date of Receipt.														
USPS Tracking/Article Number		<input type="checkbox"/> Adult Signature Required <input type="checkbox"/> Adult Signature Restricted Delivery <input checked="" type="checkbox"/> Certified Mail <input type="checkbox"/> Certified Mail Restricted Delivery <input type="checkbox"/> Collect on Delivery (COD) <input type="checkbox"/> Insured Mail <input type="checkbox"/> Priority Mail		<input type="checkbox"/> Priority Mail Express <input type="checkbox"/> Registered Mail <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Signature Confirmation <input type="checkbox"/> Signature Confirmation Restricted Delivery		Postage	(Extra Service) Fee	Handling Charge	Actual Value if Registered	Insured Value	Due Sender if COD	ASR Fee	ASRD Fee	RD Fee	RR Fee	SC Fee	SCRD Fee	SH Fee
1.	9214 8901 9403 8380 0018 59	BP AMERICA PRODUCTION COMPANY PO BOX 848103 DALLAS TX 75284				0.65	3.50								1.60			
2.	9214 8901 9403 8380 0018 66	U S BLM Farmington Field Office 6251 College Blvd Suite A FARMINGTON NM 87402				0.65	3.50								1.60			
Total Number of Pieces Listed by Sender 2	Total Number of Pieces Received at Post Office	Postmaster, Per (Name of receiving employee)																

PS Form 3877, April 2015

PSN 7530-02-000-9098

(Page 1 of 1)

Complete in Ink

Privacy Notice: For more information on USPS privacy policies, visit usps.com/privacypolicy

HEC HARDIE 5E POSTAGE STATUS RE

Recipient	Status
BP AMERICA PRODUCTION COMPANY PO BOX 848103 DALLAS TX 75284	Delivered Signature Received
U S BLM Farmington Field Office 6251 College Blvd Suite A FARMINGTON NM 87402	Delivered Signature Received

AFFIDAVIT OF PUBLICATION

Ad No.
0001280265

HOLLAND AND HART
PO BOX 2208

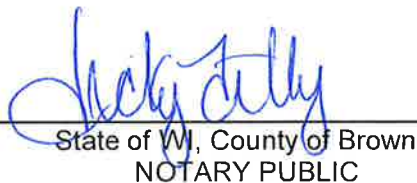
SANTA FE NM 87504

I, being duly sworn say: THE DAILY TIMES, a daily newspaper of general circulation published in English at Farmington, said county and state, and that the hereto attached Legal Notice was published in a regular and entire issue of the said DAILY TIMES, a daily newspaper duly qualified for the purpose within the State of New Mexico for publication and appeared in the internet at The Daily Times web site on the following days(s):

03/18/19


Legal Clerk

Subscribed and sworn before me this
18th of March 2019.


State of WI, County of Brown
NOTARY PUBLIC

9-19-21
My Commission Expires

Ad#:0001280265
P O : Ridge Unit
of Affidavits :0.00



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

The State of New Mexico through its Oil Conservation Division hereby gives notice pursuant to law and the Rules and Regulations of the Division of the following public hearing to be held at 8:15 A.M. on **April 4, 2019**, in the Oil Conservation Division Hearing Room at 1220 South St. Francis, Santa Fe, New Mexico, before an examiner duly appoint for the hearing. If you are an individual with a disability who is in need of a reader, amplifier, qualified sign language interpreter, or any other form of auxiliary aid or service to attend or participate in the hearing, please contact: Florene Davidson at 505-476-3458 or through the New Mexico Relay Network, 1-800-659-1779 by **March 25, 2019**. Public documents, including the agenda and minutes, can be provided in various accessible forms. Please contact Florene Davidson if a summary or other type of accessible form is needed.

STATE OF NEW MEXICO TO:
All named parties and persons
having any right, title, interest
or claim in the following case
and notice to the public.

(NOTE: All land descriptions herein refer to the New Mexico Principal Meridian whether or not so stated.)

To: ALL WORKING INTEREST OWNERS IN THE SUBJECT SPACING UNIT AND OFFSETTING OPERATORS OR LEASED MINERAL INTEREST OWNERS, INCLUDING: BP AMERICA PRODUCTION COMPANY; UNITED STATES BUREAU OF LAND MANAGEMENT, FARMINGTON FIELD OFFICE.

CASE 20348: Application of Hilcorp Energy Company for an Exception to the Well Density Requirements of the Special Rules and Regulations of the Blanco-Mesaverde Gas Pool, San Juan County, New Mexico. Applicant in the above-styled cause seeks an order for an exception to the well density requirements of Rule I.B of the Special Rules and Regulations for the Blanco-Mesaverde Gas Pool (72319), San Juan County, New Mexico, to permit it to complete and simultaneously produce five Mesaverde gas wells in the same standard 320-acre, more or less, spacing and proration unit, with three wells in the same quarter section. Hilcorp further seeks approval for the proposed location of the **Hardie 5E Well** (API No. 30-045-24935) in the Mesaverde formation with a surface location in Unit A of the E/2 of Section 23, Township 28 North, Range 8 West, NMPM, San Juan County, New Mexico, and au-

thorization to simultaneously complete and produce the **Hardie 5E Well** from the Blanco-Mesaverde Gas Pool. Said area is located approximately 28 miles east of Bloomfield, NM.

Legal No. 1280265 published in The Daily Times on March 18, 2019.

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

**APPLICATION OF HILCORP ENERGY
COMPANY FOR AN EXCEPTION TO THE
WELL DENSITY REQUIREMENTS OF THE
SPECIAL RULES AND REGULATIONS FOR
THE BLANCO-MESAVERDE GAS POOL,
SAN JUAN COUNTY, NEW MEXICO.**

CASE NO. 20348

AFFIDAVIT OF TYLER TEYKL IN SUPPORT OF CASE NO. 20348

Tyler Teykl, being of lawful age and duly sworn, declare as follows:

1. My name is Tyler Teykl. I work for Hilcorp Energy Company (“Hilcorp”) as a reservoir engineer.
2. I have not previously testified before the New Mexico Oil Conservation Division as an expert in reservoir engineering. I graduated from Purdue University in 2012 with a Bachelor of Science in chemical engineering and from Harvard University in 2017 with a Master’s in Business Administration. From 2012 to 2015, I worked as a construction engineer for major oil and gas projects and companies in the Middle East, Indonesia, and on the North Slope of Alaska. My responsibilities included overseeing oil and gas infrastructure and development projects in production and processing facilities. In 2017, I started working for Hilcorp as an onshore operations engineer in the Texas Gulf Coast region, managing completions, workovers and facility installation projects. Currently, I am a reservoir engineer for the San Juan Basin. My responsibilities include identifying and executing development projects for new drills and recompletions of overlooked opportunities, and to manage the plan of development within the Mesaverde reservoir. My curriculum vitae is attached as **Exhibit C-1**.

3. I am familiar with the application filed by Hilcorp in this case and have conducted an engineering study of the subject area and of the Blanco-Mesaverde Gas Pool.

4. As with Hilcorp's prior applications for well density exceptions in the Blanco-Mesaverde Gas Pool, I used a decline curve analysis of existing wells to estimate ultimate recoveries for the subject spacing unit under the existing well density. I then compared the estimated ultimate gas recoveries against log-derived volumetric calculations for the original gas in place with the cumulative gas production in the spacing unit. Using this approach, we identified areas, including the subject spacing unit, that have substantial remaining recoverable gas and lower-than-expected gas recoveries where additional well bores or well completions are necessary to adequately drain remaining gas reserves.

5. **Exhibit C-2** contains information relating to the subject spacing unit and the **Hardie 5E Well** (API No. 30-045-24935) in Unit A of the E/2 of Section 23, Township 28 North, Range 8 West, which is the well Hilcorp proposes for simultaneous dedication within the Blanco-Mesaverde Gas Pool in this application. It is currently producing within the Dakota formation. It will be the third Mesaverde completion in the quarter section in the spacing unit. I anticipate that it will help drain the area to the east.

6. **Exhibit C-3** is a basin-wide map reflecting Hilcorp's calculations for original gas in place across the Blanco-Mesaverde Gas Pool. The warmer colors represent areas where there is more original gas in place. The cooler colors indicate areas where there is less original gas in place. The red star indicates the location of the subject well.

7. **Exhibit C-4** is a map depicting the calculated estimated ultimate recovery (EUR) from the Blanco-Mesaverde Gas Pool and drainage radius. The larger radius circles reflect wells

with higher EURs and larger drainage areas. The red star identifies the location of the subject well where there is relatively low EURs and the drainage radii are smaller.

8. **Exhibit C-5** is a map depicting calculated remaining recoverable gas. The cooler colors indicate areas where there is relatively less remaining recoverable gas. The warmer colors reflect areas where there is relatively more remaining recoverable gas. The red star identifies the location of the subject well in an area where we calculate that there is relatively considerable remaining recoverable gas and relatively low EURs under the existing well density.

9. **Exhibit C-6** is a table that supports this volumetric analysis. The first column titled "Volumetric OGIP" reflects the calculated volumetric original gas in place on a quarter section, section, and nine-section area basis around the subject spacing unit. The column titled "Section Equivalent OGIP" shows the estimated gas in place to show that the estimates are consistent across the area. The column titled "CTD/RF%" shows the cumulative gas production to date on a quarter section, section, and nine-section area basis and the calculated recovery factor. The column titled "Remaining GIP" shows the estimated remaining gas in place on a quarter section, section, and nine-section area basis. The last column titled "EUR/RF%" shows the estimated ultimate gas recovery and recovery factor calculated on a quarter section, section, and nine-section area basis.

10. I would expect recovery factors of approximately 70-85% in a gas pool of this type. The low recovery factors in Exhibit C-6 indicate that the area is not being sufficiently drained by the existing wells in the subject spacing unit under the existing well density and that additional well bores, or completions, are necessary to adequately drain the Blanco-Mesaverde Gas Pool in this area.

11. Approval of Hilcorp's application is therefore necessary to drain unrecovered gas reserves that will otherwise be left in place under the existing well density.

12. In my opinion, granting this application will not impair the Blanco-Mesaverde Gas Pool, and will be in the interest of conservation, the prevention of waste and will protect correlative rights.

13. Exhibits C-1 through C-6 were prepared by me or under my direction and supervision.

FURTHER AFFIANT SAYETH NAUGHT.


Tyler Teykl

STATE OF TEXAS)
COUNTY OF HARRIS)

SUBSCRIBED and SWORN to before me this 30th day of April, 2019 by
Tyler Teykl.


NOTARY PUBLIC

My Commission Expires:

02/06/2023



Tyler Teykl

Business Address

1111 Travis Street
Houston, TX 77002

tteykl@hilcorp.com
281.682.8122

Personal Address

8914 Live Oak Grove Lane
Houston, TX 77080

Experience

2019-Present **HILCORP ENERGY COMPANY** **HOUSTON, TX**

Reservoir Engineer

San Juan Basin

- Identify, quantify, and execute oil and gas development and exploitation projects through evaluation of new drill, recomplete, and bypassed pay opportunities.
- Manage plan of development for Mesaverde reservoir. Monitor and optimize well production.

2017-2018

Operations Engineer

Texas Gulf Coast Onshore

- Managed completion, workover, and facilities installation projects within asset area.
- Maximized hydrocarbon production and operating profits through monitoring production, identifying opportunities, and executing operating projects. Oversaw production systems operations including all facilities and flowlines. Planned and implemented artificial lift processes.

summer 2016

MCKINSEY & COMPANY

HOUSTON, TX

Summer Associate

Performed marketing analyses for multinational telecommunications corporation. Developed recommendations to construct an integrated marketing portfolio to maximize return on investment across all consumer businesses.

- Identified \$200 million in potential savings through implementation of standardized allocation and operations.

2013-2015

EXXONMOBIL DEVELOPMENT COMPANY

ANCHORAGE, AK

Construction Engineer

Developed, implemented, and managed multiple construction execution plans for the \$4.3 billion natural gas project of the Point Thomson Unit field on the North Slope of Alaska.

Strategic Planning

- Oversaw integrated project schedule for the completion of infrastructure, pipeline, and logistics projects.
- Managed the allocation of 800 people to direct work activities between prime contractor and 23 subcontractors.
- Executed capital efficient recovery plans on remote site with significant Arctic logistics challenges.

Project Management

- Supervised on-site facilities construction team, provided resolution of technical issues, and interfaced between engineering, business services, and project leadership.
- Coordinated with international teams to prepare integration plan for South Korea and Alaska work scopes.

2012-2013

Construction Engineer

HOUSTON, TX

Drove implementation of construction management planning, processes, and deliverables to Middle East and Southeast Asia for major oil and gas production and processing projects in Qatar, UAE, Iraq, and Indonesia.

Team Leadership

- Led contractor construction team for infrastructure work scopes valued at \$200 million during design and pre-contract award. Engaged in drawing reviews, constructability oversight, subcontract bid process and evaluation, and interface between ExxonMobil and contractor engineering.

Consulting Projects

- Created optimization plan for equipment installation through metric tracking, local contractor engagement, and work flow mapping.
- Conducted independent project assessments and verification activities for four major upstream capital projects with international teams focusing on safety, cost, and schedule performance and generated action plans.

Education

2015-2017

HARVARD BUSINESS SCHOOL

BOSTON, MA

Master of Business Administration.

2008-2012

PURDUE UNIVERSITY

WEST LAFAYETTE, IN

Bachelor of Science degree *with Distinction* in Chemical Engineering.

BEFORE THE OIL CONSERVATION DIVISION

Santa Fe, New Mexico

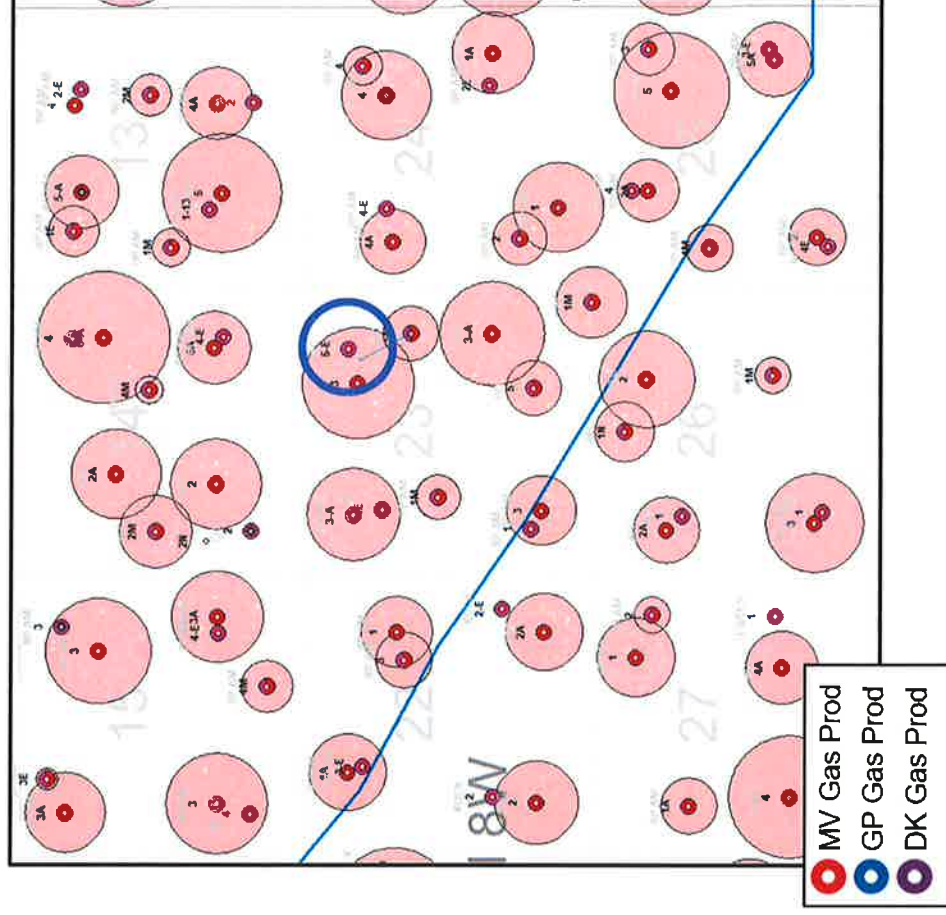
Exhibit No. C1

Submitted by: **HILCORP ENERGY CO.**

Hearing Date: April 4, 2019

Case Nos. 20348

Hardie 5E

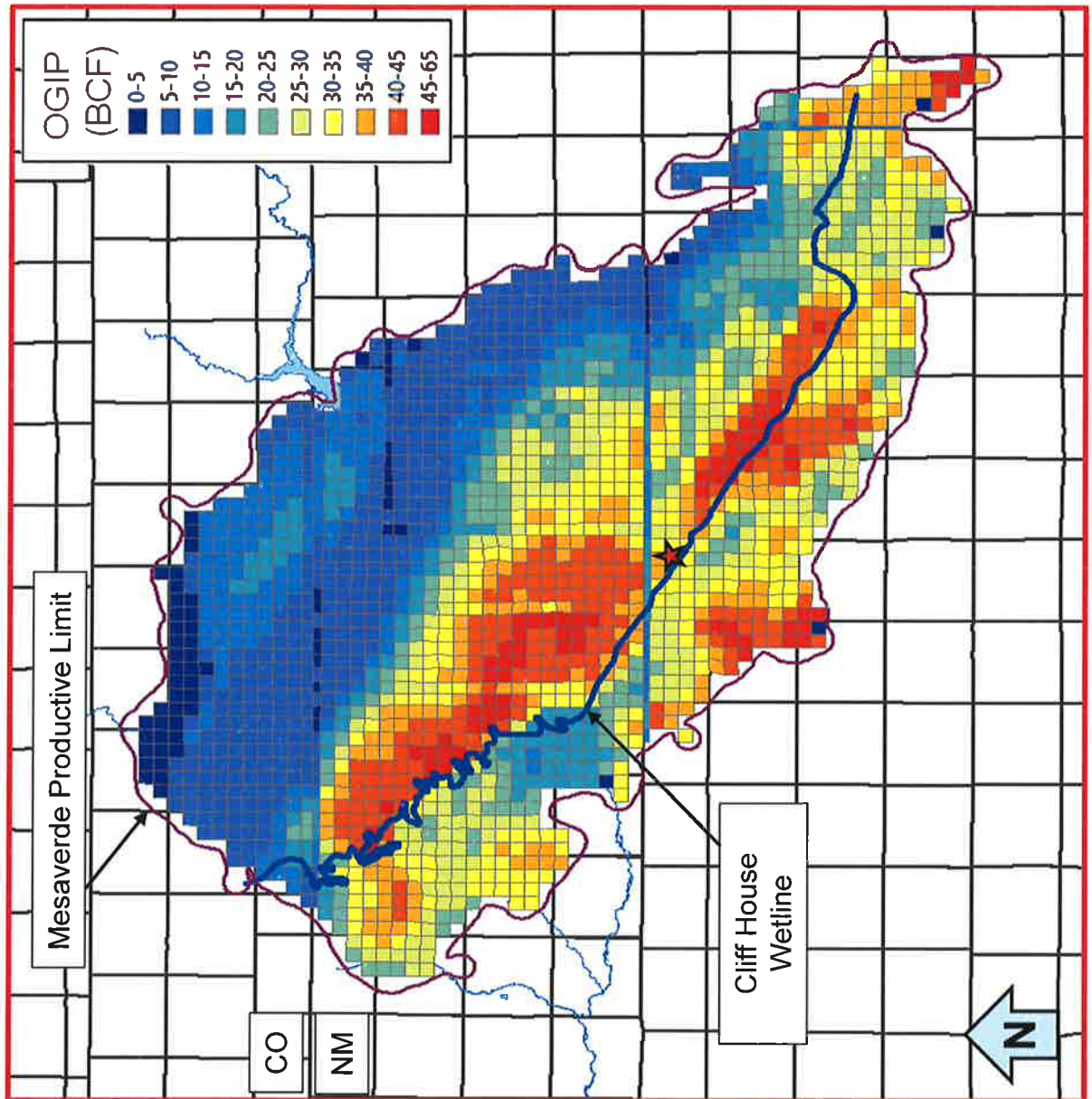


Well Specifics

- NE23 28-8 3004524935 1981 drill
- 3rd MV completion in ¼ section
- 660' from nearest MV producer
- Help drain area to the east
- Complete MV in 3 stages



MV Original Gas In Place



BEFORE THE OIL CONSERVATION DIVISION

Santa Fe, New Mexico

Exhibit No. C3

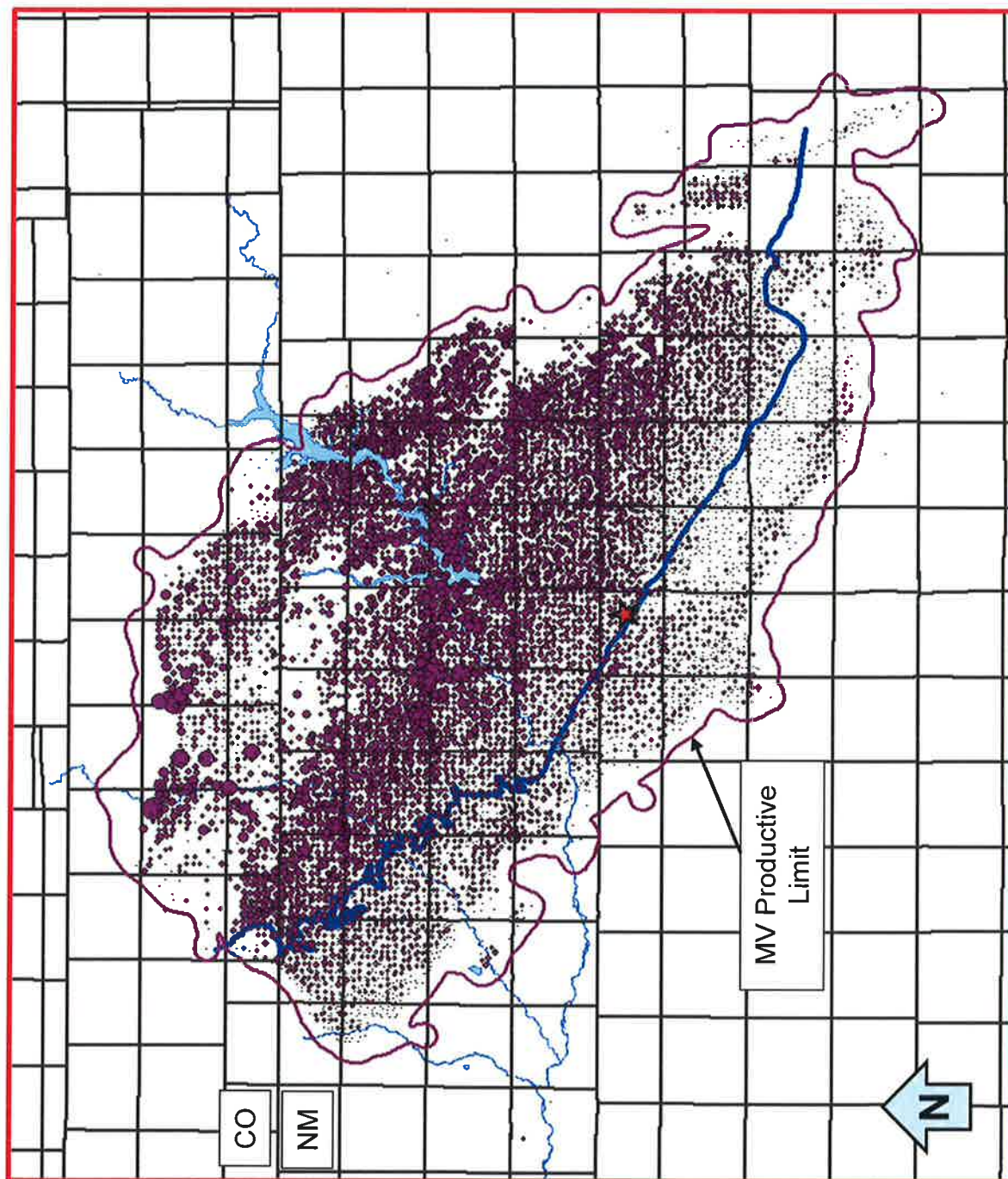
Submitted by: **HILCORP ENERGY CO.**

Hearing Date: April 4, 2019

Case Nos. 20348

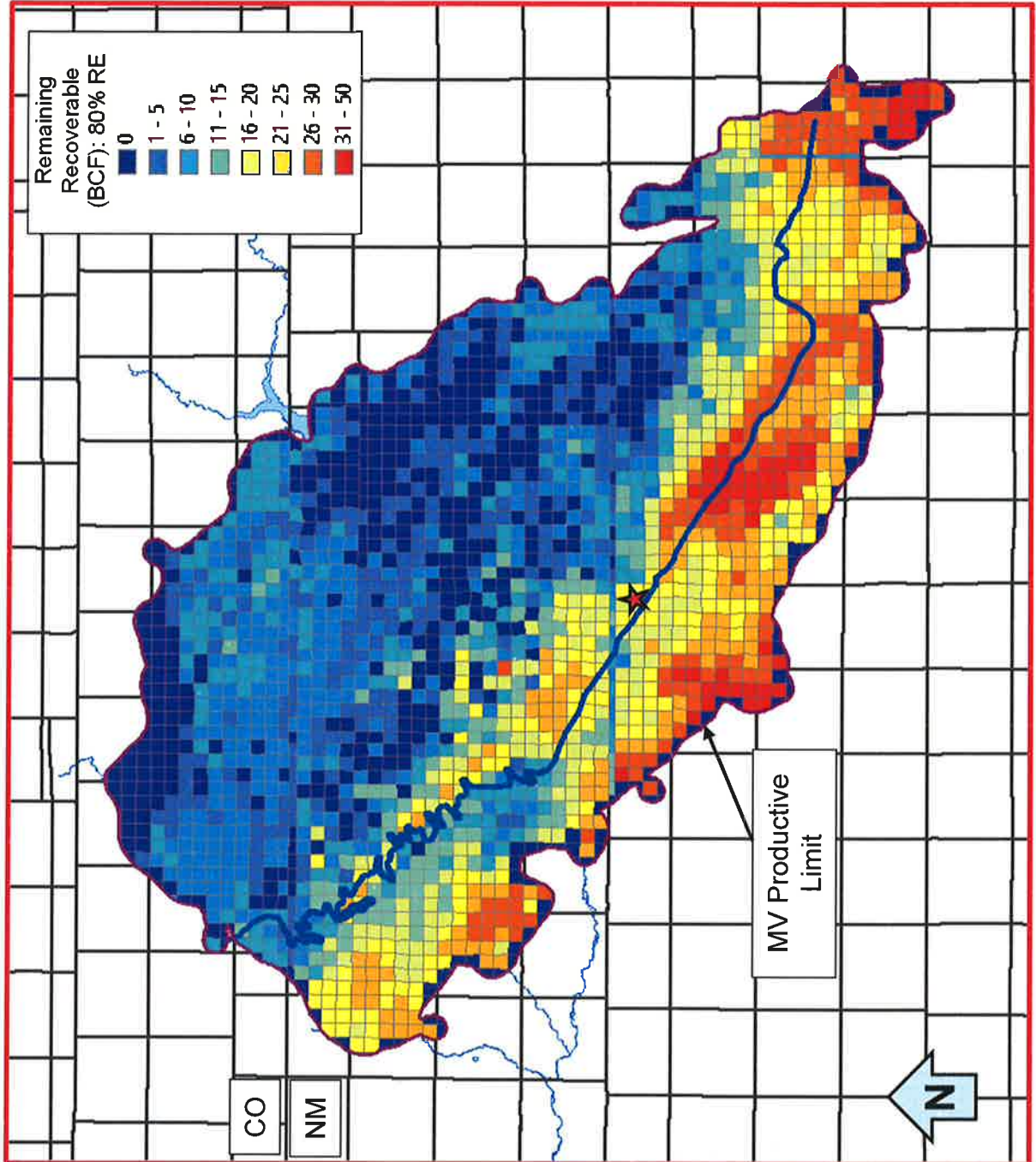


MV EUR and Drainage Radius





MV Remaining Recoverable Gas



Hardie 5E



Reference Area	Volumetric OGIP	Section Equivalent OGIP	CTD / RF%	Remaining GIP	EUR / RF%
Qtr Section	8.65 Bcf	34.6 Bcf	3.44 Bcf / 40%	5.21 Bcf	5.86 Bcf / 68%
Section	32.8 Bcf	32.8 Bcf	10.2 Bcf / 31%	22.7 Bcf	13.4 Bcf / 41%
9 Section	285 Bcf	31.7 Bcf	119 Bcf / 42%	166 Bcf	168 Bcf / 59%

- Remaining Gas in Place in Quarter Section of 5.21 Bcf
- Cumulative Recovery Factor to Date 40% and 31% in the Quarter Section and Section, respectively
- Considerable gas remaining in area with opportunity to recover additional volumes utilizing existing wellbore