

RECEIVED: 1/16/2019	REVIEWER: MAm	TYPE: DHC	APP NO: DmAm 19016 37760
---------------------	---------------	-----------	--------------------------

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: Hilcorp Energy Company **OGRID Number:** 372171
Well Name: Huerfano Unit 179E **API:** 30-045-26672
Pool: Huerfano Pictured Cliffs **Pool Code:** 78840

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.

Christine Brock
 Print or Type Name

Christine Brock
 Signature

1/16/2019
 Date

505-324-5155
 Phone Number

cbrock@hilcorp.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

APPLICATION FOR DOWNHOLE COMMINGLING

Operator Hilcorp Energy Company Address 382 Road 100, Aztec NM 87410
Huerfano Unit 179E UL K (NESW) - Sec. 14, T26N, R10W San Juan
Lease Well No. Unit Letter-Section-Township-Range County
OGRID No. 372171 Property Code 318578 API No. 30-045-26672 Lease Type: ☒ Federal ☐ State ☐ Fee

DATA ELEMENT	UPPER ZONE	INTERMEDIATE ZONE	LOWER ZONE
Pool Name	HUERFANO PICTURED CLIFFS (GAS)		BASIN DAKOTA (PRORATED GAS)
Pool Code	78840		71599
Top and Bottom of Pay Section (Perforated or Open-Hole Interval)	2160' - 2201' - Estimated		6632' - 6786'
Method of Production (Flowing or Artificial Lift)	NEW ZONE		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)	735 psi		879 psi
Oil Gravity or Gas BTU (Degree API or Gas BTU)	BTU 1100		BTU 1100
Producing, Shut-In or New Zone	NEW ZONE		PRODUCING
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: 10/31/2018 Rates: 729 MCF - GAS 13 BBL - OIL 9 BBL - WATER } month
Fixed Allocation Percentage (Note: If allocation is based upon something other than current or past production, supporting data or explanation will be required.)	Oil Gas Will be supplied upon completion	Oil Gas Will be supplied upon completion	Oil Gas Will be supplied upon completion

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: _____

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 Christine Brock TITLE Operation/Regulatory Tech DATE 1/16/2019

TYPE OR PRINT NAME Christine Brock TELEPHONE NO. (505) 324-5155

E-MAIL ADDRESS cbrock@hilcorp.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 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 258234

WELL LOCATION AND ACREAGE DEDICATION PLAT

1. API Number 30-045-26672	2. Pool Code 78840	3. Pool Name HUERFANO PICTURED CLIFFS (GAS)
4. Property Code 318578	5. Property Name HUERFANO UNIT	6. Well No. 179E
7. OGRID No. 372171	8. Operator Name HILCORP ENERGY COMPANY	9. Elevation 6632

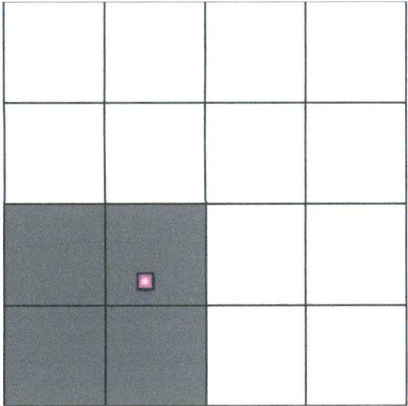
10. Surface Location

UL - Lot K	Section 14	Township 26N	Range 10W	Lot Idn	Feet From 1660	N/S Line S	Feet From 1830	E/W Line W	County SAN JUAN
---------------	---------------	-----------------	--------------	---------	-------------------	---------------	-------------------	---------------	--------------------

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 160.00 SW/4	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 style="text-align: center;">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: <i>Lehustini Brock</i> Title: Operation/Regulatory Tech - Sr. Date: 10/5/2018</p> <hr/> <p style="text-align: center;">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: Fred B. Kerr Jr. Date of Survey: 9/5/1985 Certificate Number: 3950</p>
---	---

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.

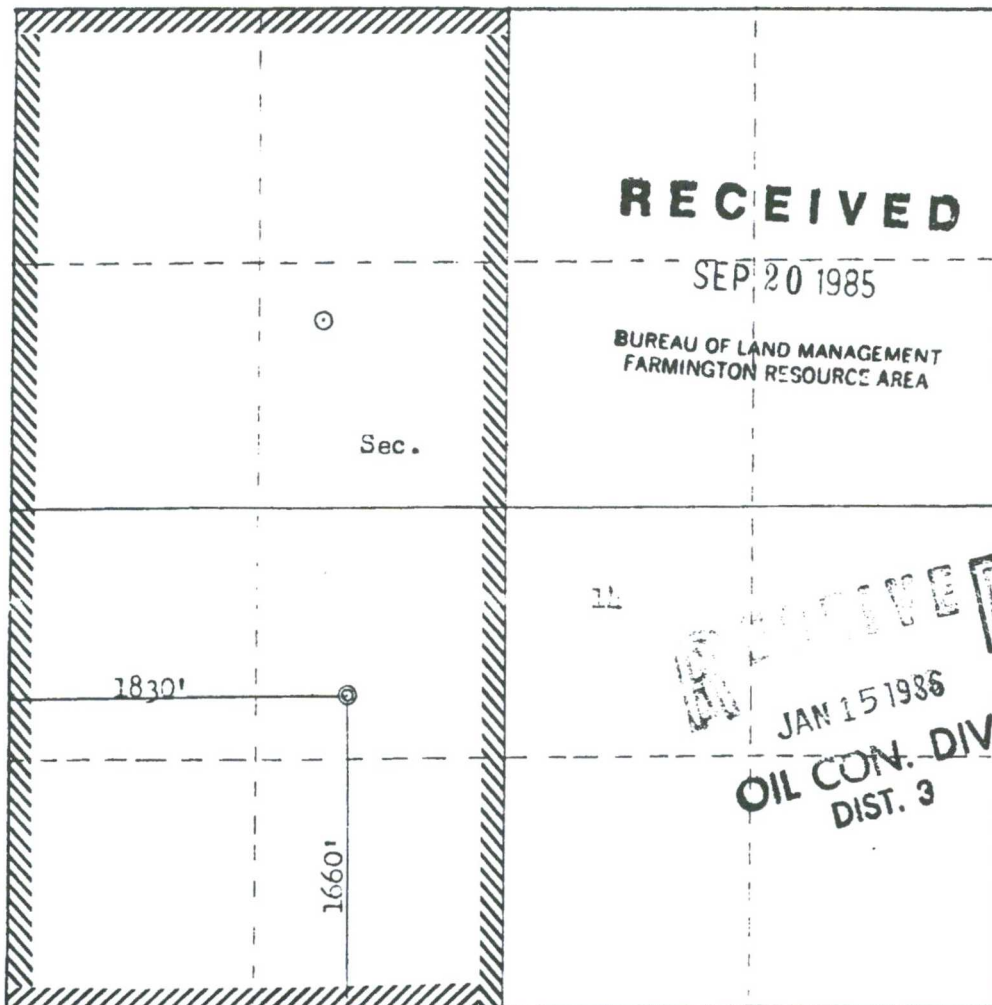
Operator EL PASO NATURAL GAS COMPANY			Lease HUERFANO UNIT (SF 079617)		Well No. 179E
Unit Letter K	Section 14	Township 26N	Range 10W	County San Juan	
Actual Footage Location of Well: 1660 feet from the South line and 1830 feet from the West line					
Ground Level Elev. 6632	Producing Formation Dakota		Pool Basin		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.



Scale: 1"=1000'

CERTIFICATION

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

Peggy Look

Name
Drilling Clerk

Position
El Paso Natural Gas

Company
4-19-85

Date

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 knowledge and belief.

RECEIVED
JAN 15 1986
OIL CON. DIV.
DIST. 3

Date Surveyed

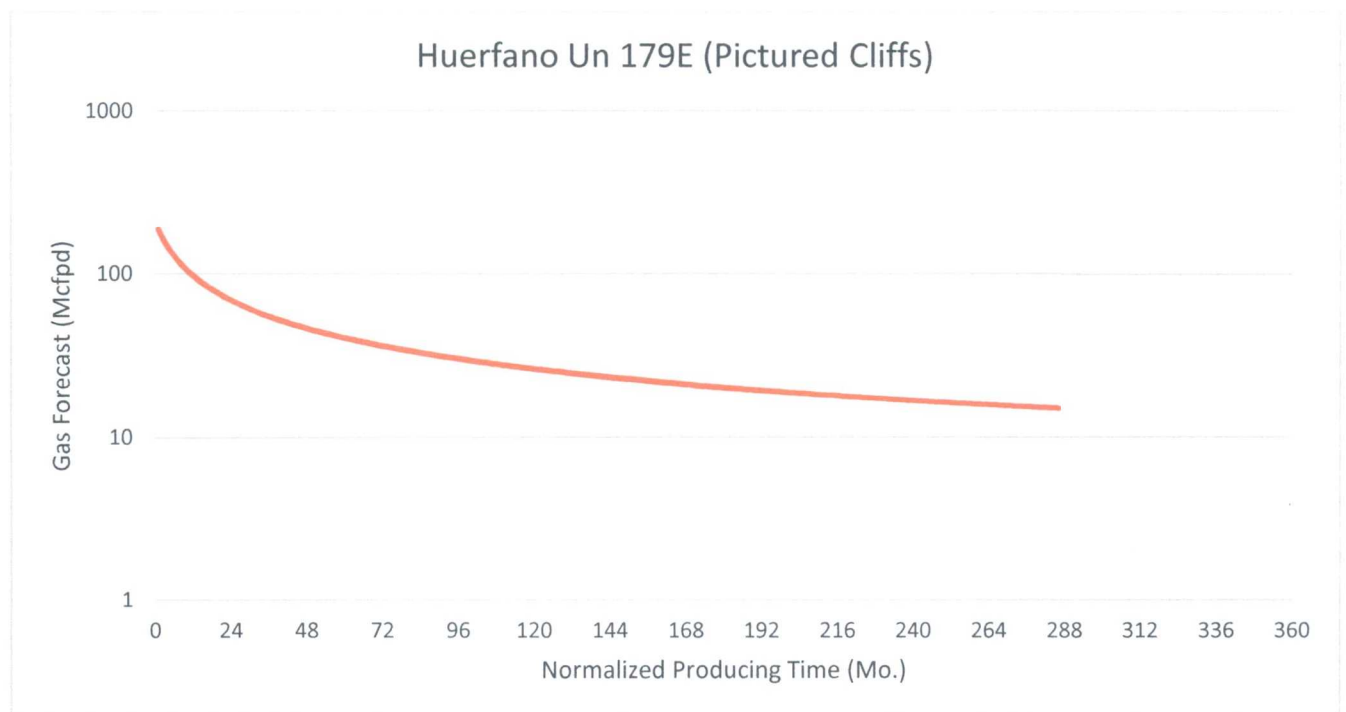
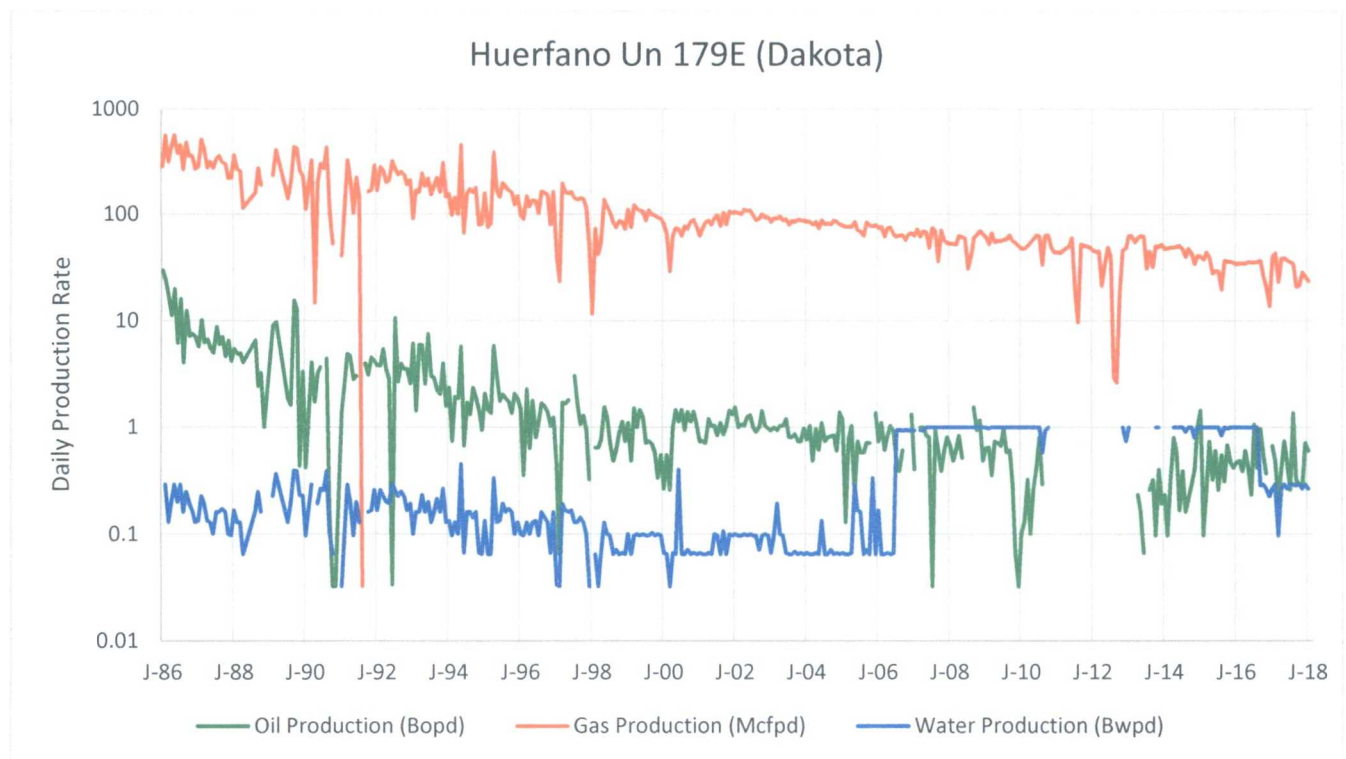
September 5, 1985

Registered Professional Engineer and Land Surveyor

Fred B. Kerr Jr.
Fred B. Kerr Jr.

Certification No.

3350



The forecast for Pictured Cliffs production has been generated using a type curve of PC gas production in the surrounding production trend.

Huerfano Unit 179E – Production Allocation Method

Production for the downhole commingle will be allocated using the subtraction method in agreement with the BLM. The base formation is the Dakota and the added formation to be commingled is the Pictured Cliffs. The subtraction method applies an average monthly production forecast to the base formations using historic production. All production from this well exceeding the forecast will be allocated to the new formation. 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. Oil production will be allocated based on average formation yields from offset wells. All documentation will be submitted to the Aztec NMOCD office.



December 21, 2018

Subject well: Huerfano Unit 179E
API # 30-045-26672
San Juan County, New Mexico

On October 17, 2018 Hilcorp sent notice to all interest owners in the subject wells of plans to downhole commingle existing pay from the Basin Dakota formation with potential pay from the Huerfano Pictured Cliffs formation as required by Subsection C of 19.15.12.11 New Mexico Administrative Code. Hilcorp will be resubmitting the Downhole Commingling Application with revised bottom hole pressures. We have enclosed a copy of the revised Commingling Application for your review. No action is required by you unless you object our commingling proposal.

If you do object, you will need to send notice to Hilcorp Energy Company, Attn: San Juan Basin Land Manager, 1111 Travis, Houston, TX 77002 within twenty (20) days from the date of this letter. Again, if you do not object to Hilcorp's downhole commingling plans, you ***do not need*** to sign or return any paperwork.

This letter represents a good faith effort to adhere with applicable notification requirements. However, if your ownership interest in the Subject Well has recently changed (i.e., new burdens created or you have sold or transferred your interest) please contact Hilcorp immediately to update your file.

Hilcorp appreciates this opportunity to enhance production from the Subject Well and we are thankful for your support.

Regards,

Christine Brock

Operations/Regulatory Technician
Hilcorp Energy Company
505-324-5155

Encl.

Certified Number	Sender	Recipient	Date Mailed	Delivery Status
92148969009997901768652903	Brenda Guzman	, ALICE JANE WEBB, 3525 TURTLE CREEK BLVD #19A, DALLAS, TX, 75219-5514 Code: Huerfano Unit 179E DHC	12/21/2018	Signature Pending
92148969009997901768652910	Brenda Guzman	, BALLARD EXPLORATION COMPANY, ROYALTY FOR DISTRIBUTION 1021 MAIN ST STE 2310, HOUSTON, TX, 77002-6506 Code: Huerfano Unit 179E DHC	12/21/2018	Signature Pending
92148969009997901768652927	Brenda Guzman	, BCB LAND and ENERGY LLC, 4002 111TH ST, LUBBOCK, TX, 79423 Code: Huerfano Unit 179E DHC	12/21/2018	Signature Pending
92148969009997901768652934	Brenda Guzman	, BENSON-MONTIN-GREER DRILLING CORP, 4900 COLLEGE BLVD, FARMINGTON, NM, 87402 Code: Huerfano Unit 179E DHC	12/21/2018	Signature Pending
92148969009997901768652941	Brenda Guzman	, BETTY T JOHNSTON MARITAL TRUST, BETTY T JOHNSTON, TOM N AUNE, PATRICIA E AUNE, CO-TRUSTEES 17347 VI, HOUSTON, TX, 77040 Code: Huerfano Unit 179E DHC	12/21/2018	Signature Pending
92148969009997901768652958	Brenda Guzman	, CHASE OIL CORPORATION, P O BOX 1767, ARTESIA, NM, 88211-1767 Code: Huerfano Unit 179E DHC	12/21/2018	Signature Pending
92148969009997901768652965	Brenda Guzman	, CROSS TIMBERS ENERGY LLC, 400 W 7TH STREET, FT WORTH, TX, 76102 Code: Huerfano Unit 179E DHC	12/21/2018	Signature Pending
92148969009997901768652972	Brenda Guzman	, DANIEL K GORHAM IRREV TRUST, 11 20 2012 DANIEL K GORHAM TRUSTEE 5600 WYOMING BLVD NE STE 260, ALBUQUERQUE, NM, 87109- 3390 Code: Huerfano Unit 179E DHC	12/21/2018	Signature Pending
92148969009997901768652989	Brenda Guzman	, DAVID MCLANE FAMILY PARTNERSHIP LTD, PO BOX 12125, DALLAS, TX, 75225-2125 Code: Huerfano Unit 179E DHC	12/21/2018	Signature Pending
92148969009997901768652996	Brenda Guzman	, ELEANOR WETMORE TR FBO W B LANGMORE, JOHN LANGMORE SUCC TRUSTEE 501 N INTERSTATE 35 STE 116, AUSTIN, TX, 78702 Code: Huerfano Unit 179E DHC	12/21/2018	Signature Pending
92148969009997901768653009	Brenda Guzman	, ELIZABETH TURNER CALLOWAY, ROBERT WILBURN GUARDIAN PO BOX 191767, DALLAS, TX, 75219-8506 Code: Huerfano Unit 179E DHC	12/21/2018	Signature Pending
92148969009997901768653016	Brenda Guzman	, EULA MAY JOHNSTON TRUST 661, BANK OF AMERICA N A PO BOX 840738, DALLAS, TX, 75284-0738 Code: Huerfano Unit 179E DHC	12/21/2018	Signature Pending
92148969009997901768653023	Brenda Guzman	, EVKO DEVELOPMENT COMPANY , A PARTNERSHIP C/O LESLIE WIENER, 10 STARBOARD COURT, MILL VALLEY, CA, 94941 Code: Huerfano Unit 179E DHC	12/21/2018	Signature Pending
92148969009997901768653030	Brenda Guzman	, FREDERICK EUGENE TURNER, 4925 GREENVILLE AVE #852, DALLAS, TX, 75206 Code: Huerfano Unit 179E DHC	12/21/2018	Signature Pending
92148969009997901768653047	Brenda Guzman	, FREDERICK EUGENE TURNER, JGT ESTATE OIL AND GAS INVESTMENTS, 4925 GREENVILLE AVE #852, DALLAS, TX, 75206- 4079 Code: Huerfano Unit 179E DHC	12/21/2018	Signature Pending
92148969009997901768653054	Brenda Guzman	, GEORGIA PETTIE HOUSTON, 4805 76TH ST, LUBBOCK, TX, 79424 Code: Huerfano Unit 179E DHC	12/21/2018	Signature Pending
92148969009997901768653061	Brenda Guzman	, GRAYFORE PARTNERS LP, PO BOX 98670, LUBBOCK, TX, 79499-8670 Code: Huerfano Unit 179E DHC	12/21/2018	Signature Pending
92148969009997901768653078	Brenda Guzman	, HAROLD GREEN, PO BOX 1367, TAHOKA, TX, 79373 Code: Huerfano Unit 179E DHC	12/21/2018	Signature Pending
92148969009997901768653085	Brenda Guzman	, J GLENN TURNER JR, 4809 COLE AVE SUITE 212, DALLAS, TX, 75205 Code: Huerfano Unit 179E DHC	12/21/2018	Signature Pending
92148969009997901768653092	Brenda Guzman	, JANE LOLAX, 202 BERLIN ST, MONTEPELIER, VT, 05602-3701 Code: Huerfano Unit 179E DHC	12/21/2018	Signature Pending
92148969009997901768653108	Brenda Guzman	, JOHN LEE TURNER, 525 GILMER ST #108, SULPHUR SPRINGS, TX, 75482 Code: Huerfano Unit 179E DHC	12/21/2018	Signature Pending
92148969009997901768653115	Brenda Guzman	, JOHN SCOTT WESTEFELD, 4831 SOUTHCHASE CT, IOWA CITY, IA, 52245 Code: Huerfano Unit 179E DHC	12/21/2018	Signature Pending
92148969009997901768653122	Brenda Guzman	, JOHNNIE PETTIE JR, PO BOX 92, SLATON, TX, 79364 Code: Huerfano Unit 179E DHC	12/21/2018	Signature Pending
92148969009997901768653139	Brenda Guzman	, JUDY WINDLE, 1258 PINECREST AVE, CHARLOTTE, NC, 28205 Code: Huerfano Unit 179E DHC	12/21/2018	Signature Pending

92148969009997901768653146	Brenda Guzman	, KATHLEEN SHORT, 16 SCOUTICUT NECK RD, FAIRHAVEN, MA, 02719 Code: Huerfano Unit 179E DHC	12/21/2018	Signature Pending
92148969009997901768653153	Brenda Guzman	, KELLY MINERALS INTERESTS JV, 2709 WOLFF DR, ARLINGTON, TX, 76015-1020 Code: Huerfano Unit 179E DHC	12/21/2018	Signature Pending
92148969009997901768653160	Brenda Guzman	, LA PLATA GATHERING SYSTEM INC, 4925 GREENVILLE AVE #852, DALLAS, TX, 75206- 4079 Code: Huerfano Unit 179E DHC	12/21/2018	Signature Pending
92148969009997901768653177	Brenda Guzman	, LANGDON D HARRISON REVOC TRUST B, JACQUELINE M HARRISON SUCC TRUSTEE PO DRAWER 2188, ROSWELL, NM, 88202 Code: Huerfano Unit 179E DHC	12/21/2018	Signature Pending
92148969009997901768653184	Brenda Guzman	, LILLY REVOC TRUST AGMT, 11 13 2006 FRANKLIN P LILLY TTEE 1322 RIVER FOREST DR, ROUND ROCK, TX, 78665-5602 Code: Huerfano Unit 179E DHC	12/21/2018	Signature Pending
92148969009997901768653191	Brenda Guzman	MACDONALD HALBERSTADT REVOCABLE , FAMILY TRUST DTD 2/21/02 ROBIN C MACDONALD TRUSTEE, 1310 VIA CHRISTINA, VISTA, CA, 92084 Code: Huerfano Unit 179E DHC	12/21/2018	Signature Pending
92148969009997901768653207	Brenda Guzman	, MARK L GORHAM, DBA LORELEI INVESTMENTS LLC 5600 WYOMING BLVD NE STE 260, ALBUQUERQUE, NM, 87109 Code: Huerfano Unit 179E DHC	12/21/2018	Signature Pending
92148969009997901768653214	Brenda Guzman	, MARY FRANCES TURNER TRUST 6743, PO BOX 99084, FORT WORTH, TX, 76199-0084 Code: Huerfano Unit 179E DHC	12/21/2018	Signature Pending
92148969009997901768653221	Brenda Guzman	, MARYAN KLINGER TRUST, ROBERT KLINGER SUCC TRUSTEE 1788 MONTY CT, STOCKTON, CA, 95207 Code: Huerfano Unit 179E DHC	12/21/2018	Signature Pending
92148969009997901768653238	Brenda Guzman	, MCCONNELL LTD CO, C/O JOHN BREED CPA 3430 FLORIDA NE, ALBUQUERQUE, NM, 87110- 2120 Code: Huerfano Unit 179E DHC	12/21/2018	Signature Pending
92148969009997901768653245	Brenda Guzman	, MICHAEL R DIMOND, and GLENDA K DIMOND 4900 COLLEGE BLVD, FARMINGTON, NM, 87401 Code: Huerfano Unit 179E DHC	12/21/2018	Signature Pending
92148969009997901768653252	Brenda Guzman	, OFFICE OF NATURAL RESOURCES REVENUE, LAKEWOOD ACCTG CENT ONSHORE P O BOX 25627, DENVER, CO, 80225-0627 Code: Huerfano Unit 179E DHC	12/21/2018	Signature Pending
92148969009997901768653269	Brenda Guzman	, PRODUCTION GATHERING CO LP, 8150 N CENTRAL EXPWY STE 1475, DALLAS, TX, 75206 Code: Huerfano Unit 179E DHC	12/21/2018	Signature Pending
92148969009997901768653276	Brenda Guzman	, ROBERT H GORHAM II, DBA RHG PROPERTIES ONE LLC PO BOX 451, ALBUQUERQUE, NM, 87103 Code: Huerfano Unit 179E DHC	12/21/2018	Signature Pending
92148969009997901768653283	Brenda Guzman	ROGERS GIBBARD TRUST , ORVILLE C ROGERS SUSAN EVELAND and ELAINE GIBBARD HOWE TTEES, PO BOX 624, SULPHUR, OK, 73086-0624 Code: Huerfano Unit 179E DHC	12/21/2018	Signature Pending
92148969009997901768653290	Brenda Guzman	, SANDSTONE PROPERTIES LLC, 40 FIRST PLAZA SUITE 601, ALBUQUERQUE, NM, 87102 Code: Huerfano Unit 179E DHC	12/21/2018	Signature Pending
92148969009997901768653306	Brenda Guzman	, SUNLAND REFINING CORP, 9302 GARFIELD AVE, SOUTH GATE, CA, 90280 Code: Huerfano Unit 179E DHC	12/21/2018	Signature Pending
92148969009997901768653313	Brenda Guzman	, THOMAS H YATES JR, PO BOX 791910, SAN ANTONIO, TX, 78279-1910 Code: Huerfano Unit 179E DHC	12/21/2018	Signature Pending
92148969009997901768653320	Brenda Guzman	, TIMOTHY W GORHAM, DBA T GORHAM PROPERTIES LLC 5600 WYOMING BLVD NE STE 260, ALBUQUERQUE, NM, 87109 Code: Huerfano Unit 179E DHC	12/21/2018	Signature Pending
92148969009997901768653337	Brenda Guzman	, V A JOHNSTON LTD, PO BOX 303247, AUSTIN, TX, 78703 Code: Huerfano Unit 179E DHC	12/21/2018	Signature Pending
92148969009997901768653344	Brenda Guzman	, VIRGINIA GIPSON, 13131 W JENKINS, ODESSA, TX, 79764-9451 Code: Huerfano Unit 179E DHC	12/21/2018	Signature Pending
92148969009997901768653351	Brenda Guzman	, WILLIAM J GREEN ESTATE, MELISSA GREEN ELLIOT INDIV EXEC PO BOX 164476, FORT WORTH, TX, 76161 Code: Huerfano Unit 179E DHC	12/21/2018	Signature Pending
92148969009997901768653368	Brenda Guzman	, ZZZ KELLY and TRUST LLC, LOUISIANA LTD LIABCO 535 ONEONTA ST, SHREVEPORT, LA, 71106-1619 Code: Huerfano Unit 179E DHC	12/21/2018	Signature Pending

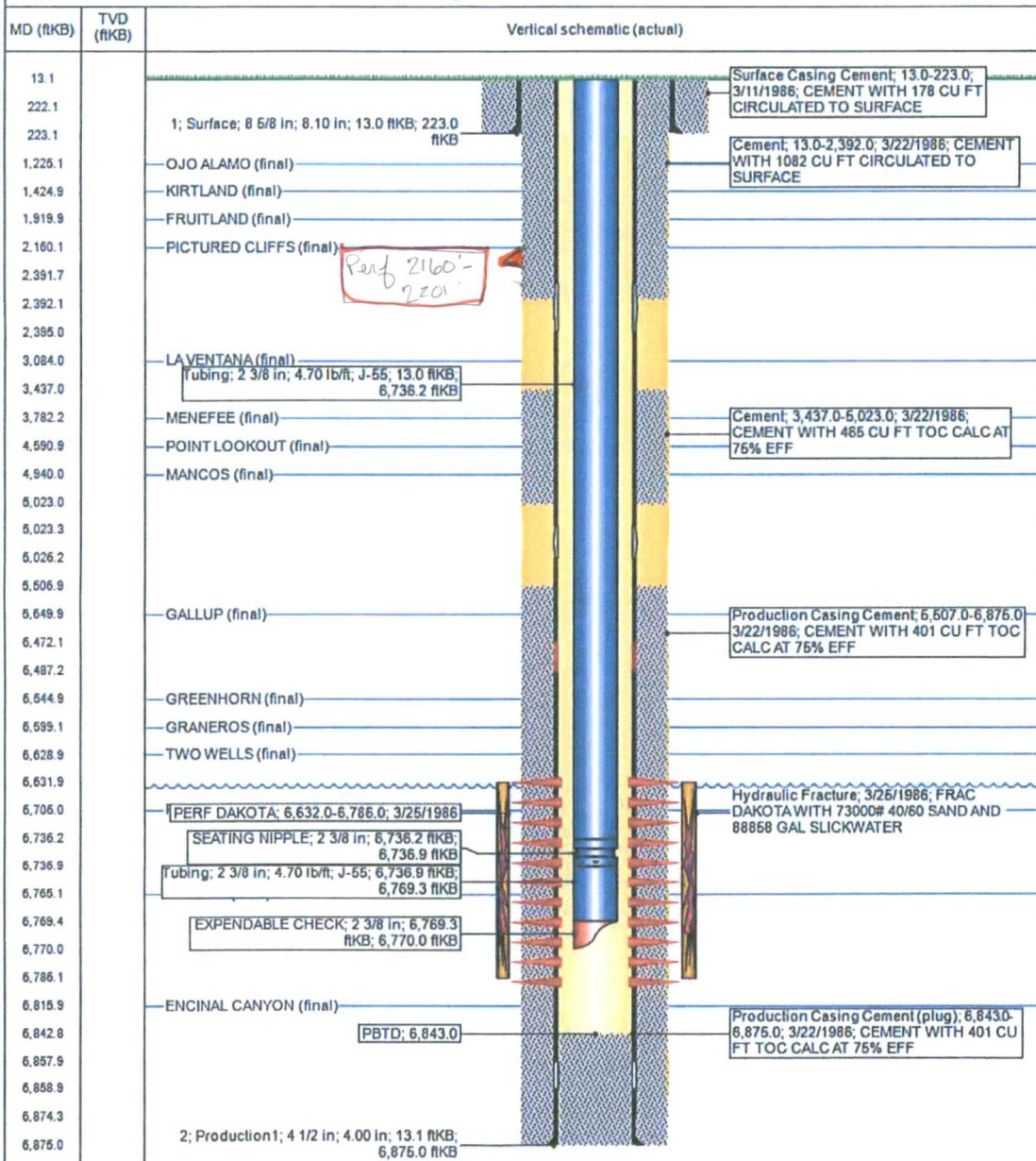


Current Schematic
Proposed

Well Name: HUERFANO UNIT #179E

API / UWI	Surface Legal Location	Field Name	License No.	State/Province	Well Configuration Type
3004526572	014-026N-010W-K	BASIN DAKOTA (PRORATED GAS)		NEW MEXICO	VERTICAL
Ground Elevation (ft)	Original KB RT Elevation (ft)	KS-5 Ground Distance (ft)	KS-Casing Flange Distance (ft)	KS-Tubing Hanger Distance (ft)	
6,632.00	6,645.00	13.00			

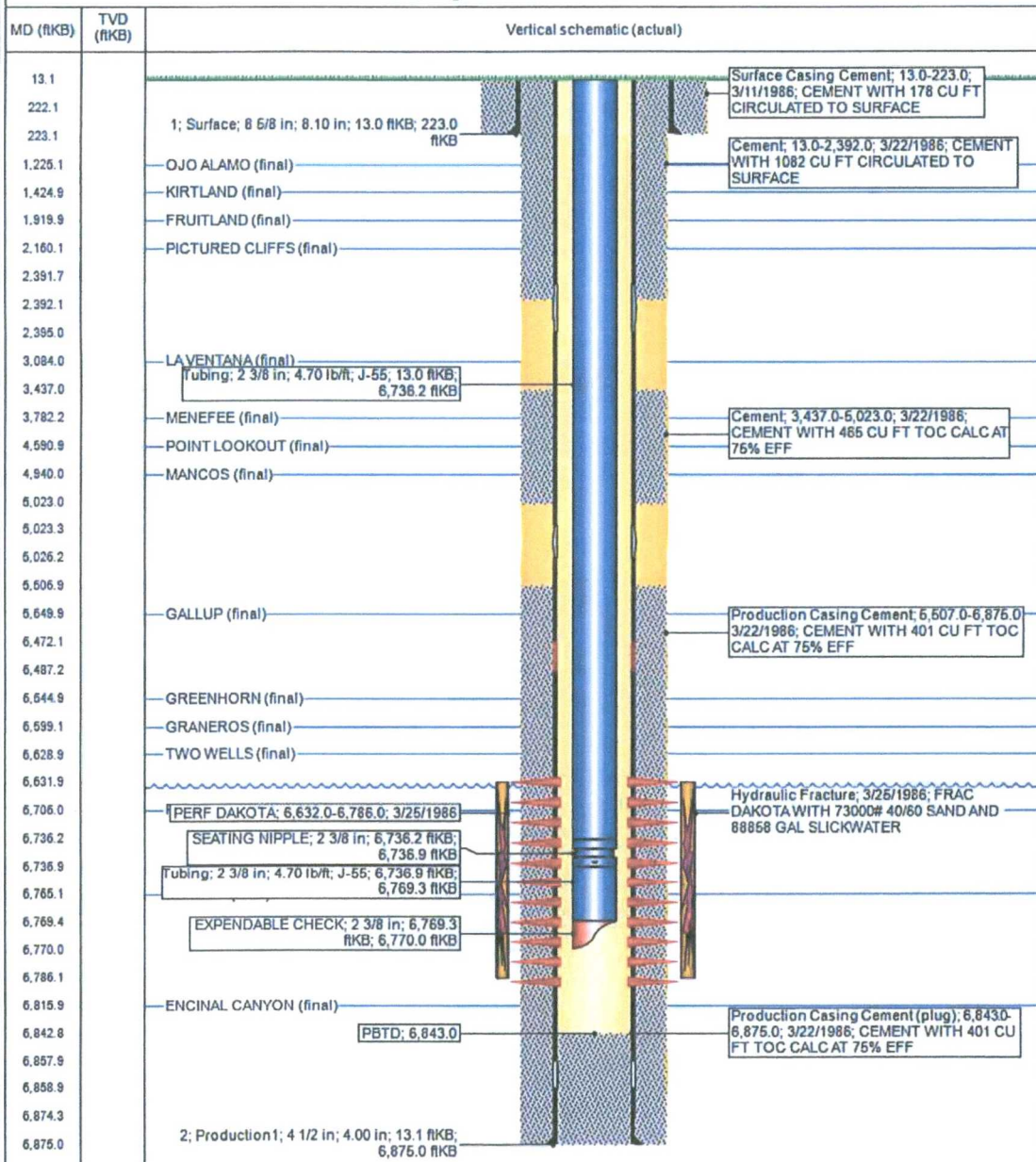
VERTICAL, Original Hole, 10/4/2018 9:35:50 AM



Well Name: HUERFANO UNIT #179E

API / UWI 3004526672	Surface Legal Location 014-026N-010W-K	Field Name BASIN DAKOTA (PRORATED GAS)	License No.	State/Province NEW MEXICO	Well Configuration Type VERTICAL
Ground Elevation (ft) 6,632.00	Original KB RT Elevation (ft) 6,645.00	KB- Ground Distance (ft) 13.00	KB- Casing Flange Distance (ft)	KB- Tubing hanger Distance (ft)	

VERTICAL, Original Hole, 10/4/2018 9:35:50 AM



From: James Osborn <josborn@hilcorp.com>
Sent: Friday, January 18, 2019 10:28 AM
To: Jones, William V, EMNRD
Cc: McMillan, Michael, EMNRD; Cheryl Weston
Subject: [EXT] RE: [EXTERNAL] RE: C-107A Updates - Huerfano 179E, etc.

Will,

Apologies for the slow responses as I've been in and out of the office this week. Below is more information broadly about how and why we got the bottomhole pressures that we did. I'm only in the office for a portion of the day but I'd like to discuss more over the phone with yourself and Mr. McMillan, as needed. We are open to revisiting how we are getting pressures but based on our observations, attempting to complete the wells as duals prevents us from being able to economically recover these gas reserves due to increased costs and poorer production in the new zone adds, as well as existing completions (lack of artificial lift).

Prior to obtaining fluid levels and pressures, the wells were shut-in for 12 hours and monitored periodically to ensure it was relatively stable. The length of time was chosen to minimize the shut-in period and provide a representation of what the shut-in bottomhole pressure would be, not estimate the static reservoir pressure, which based upon PTA work from other Dakota wells in the basin requires shut-in periods on the order of years, primarily due to low permeability, total compressibility, and lack of structural/stratigraphic boundaries. Back of the envelope radius of investigation calculations assuming radial flow indicate between 5 and 7 years given the low density of producing wells. As well, we have some multi-week build-ups in the Dakota in other parts of the basin that indicate even longer times, up to 25 years to boundary-dominated flow. The shut-in pressure thus is expected to be lower than the actual, stabilized reservoir pressure but estimating that pressure would be practically infeasible. In terms of rate transient analytical models, these wells do not have surface RTUs so we do not have historical surface pressure data to incorporate into an analytical model. As well, the wells are on plunger lift so any model would rely on backside fluid levels and casing pressure to estimate bottomhole pressure (for wells with RTUs installed).

With regard to the Pictured Cliffs, in 2018 we added Pictured Cliffs completions in 27 wells and tested them to evaluate the overall performance. Since the horizon had been largely dismissed for the last 10-15 years, the wells were tested isolated from the existing completions. Among those projects, 23 were on artificial lift within the first 30 days. What we have observed is that the even when the initial pressures don't indicate substantial depletion, the tight gas nature depletes the near fracture region quick enough that the wells are unable produce unaided. Given the combination of low permeability and low pressure in the both the Dakota and Pictured Cliffs, I do not believe cross-flow is an issue when producing and the amount of shut-in time required for the PC to cross-flow into the Dakota would necessitate a plugback. In a few areas we have attempted to compare the dual completions to commingled wells to evaluate the total impact on well performance and anecdotally the duals perform worse but due to data inconsistency resulting from different commingled zones it is difficult to have firm statistically rigorous comparisons. As well, most of the duals we have come across were historical duals that were converted to commingles after the zones went offline.

I'd like to discuss more if possible as a large contingent of our projects would ultimately require a downhole commingle so we will have applications on an ongoing basis and I need to understand what data you need to make decisions, as well as have an idea of what applications won't be approved so I can catch them during scoping and save ya'll time.

Thank you,

James Osborn
Hilcorp Energy Company
San Juan South – Reservoir Engineer

Office: (832) 839-4578
Cell: (832) 257-9490
josborn@hilcorp.com

From: Cheryl Weston
Sent: Wednesday, January 16, 2019 1:13 PM
To: James Osborn <josborn@hilcorp.com>; Virgil Chavez <vchavez@hilcorp.com>; Daniel Donovan <ddonovan@hilcorp.com>
Cc: Christine Brock <cbrock@hilcorp.com>; Kandis Roland <kroland@hilcorp.com>
Subject: FW: [EXTERNAL] RE: C-107A Updates - Huerfano 179E, etc.

James,

See Will Jones' message below.

Thanks,
Cheryl

From: Jones, William V, EMNRD [<mailto:WilliamV.Jones@state.nm.us>]
Sent: Wednesday, January 16, 2019 12:10 PM
To: Cheryl Weston <cweston@hilcorp.com>
Cc: McMillan, Michael, EMNRD <Michael.McMillan@state.nm.us>
Subject: [EXTERNAL] RE: C-107A Updates - Huerfano 179E, etc.

Hello Cheryl,
Thanks for this information,
You have several other Hilcorp folks copied on your email, and I don't remember who your reservoir engineer is that knows about these wells,
So can you relay this message?

Can you ask/and include a statement from the reservoir engineer with these new/revised applications as to how long the existing well-completion(s) was shutin and why that shutin time length was chosen.
Ultimately, a question is, how close are these shutin pressures to the actual, stabilized reservoir pressures? And how does your perm/porosity support this determination?
I once had an analytical, iterative spreadsheet solution that you could plug in some reservoir numbers and it would give you the decline plot and you could compare with actual production decline and thereby back into some good numbers for the reservoir.

And I realize you have several intervals open here, and some water loading, but maybe some more reservoir engineering discussion.

Regards,
Will

From: McMillan, Michael, EMNRD
Sent: Wednesday, January 16, 2019 10:45 AM
To: Jones, William V, EMNRD <WilliamV.Jones@state.nm.us>
Subject: FW: C-107A Updates - Huerfano 179E, etc.

McMillan, Michael, EMNRD

From: Cheryl Weston <cweston@hilcorp.com>
Sent: Wednesday, January 16, 2019 10:44 AM
To: McMillan, Michael, EMNRD
Cc: Daniel Donovan; Virgil Chavez; James Osborn; Christine Brock; Kandis Roland
Subject: [EXT] C-107A Updates - Huerfano 179E, etc.

Mike,

Per your request, here are the data points for the C-107A's that were rejected in November. Please forward this information to Will Jones.

Well Name	API	Existing Completion Zones (Perfs)	SITP / SICP (psia)	Casing Fluid Level (ft)
Huerfano NP 218	300452073900	Gallup (6366-6522')	352 / 352	5,142'
Huerfano 179E	300452667200	Dakota (6632-6786')	203 / 203	6,764'
Huerfano 125E	300452627700	Dakota (6516-6644')	215 / 215	6,414'
Huerfano 165E	300452666900	Dakota (6473-6596')	226 / 226	6,374'
State AD Com 26E	300452374400	Chacra (2834-2954') Gallup (5410-5778') Dakota (6281-6456')	138 / 130	6,081'
Huerfano 169	300452005200	Dakota (6526-6652')	205 / 205	6,525'

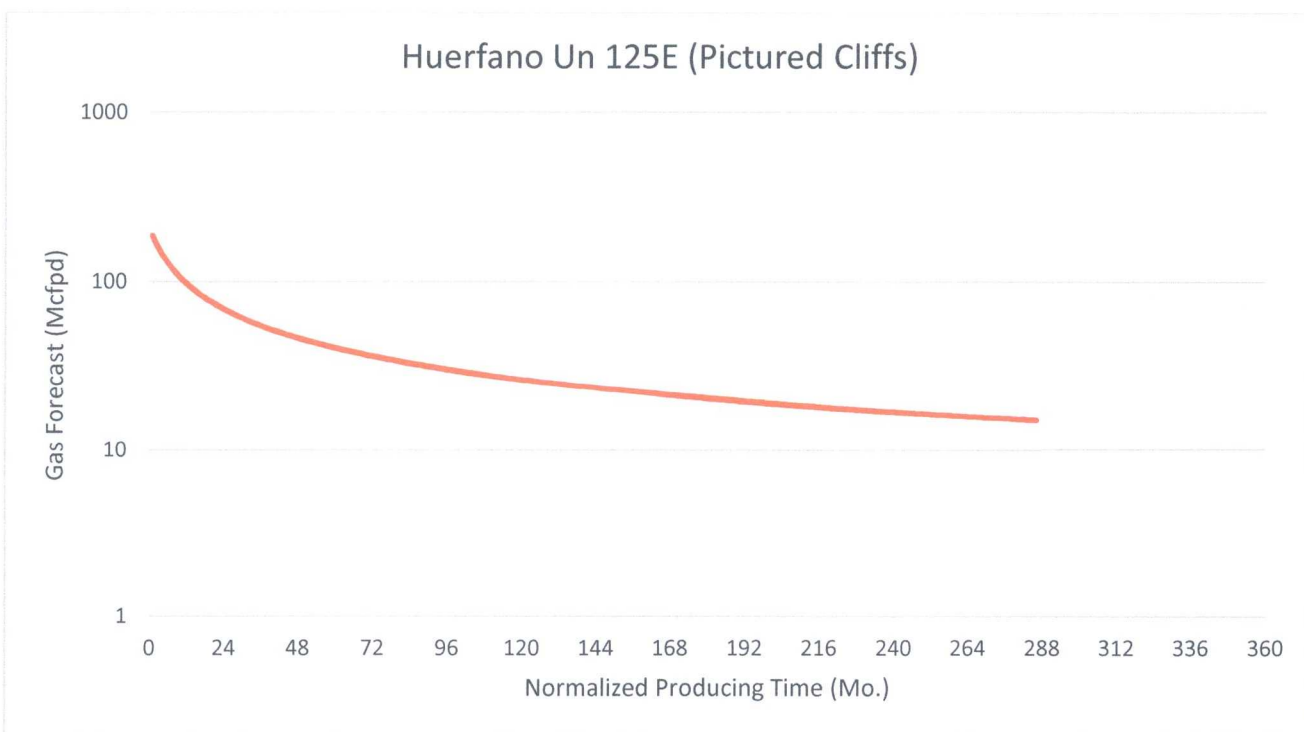
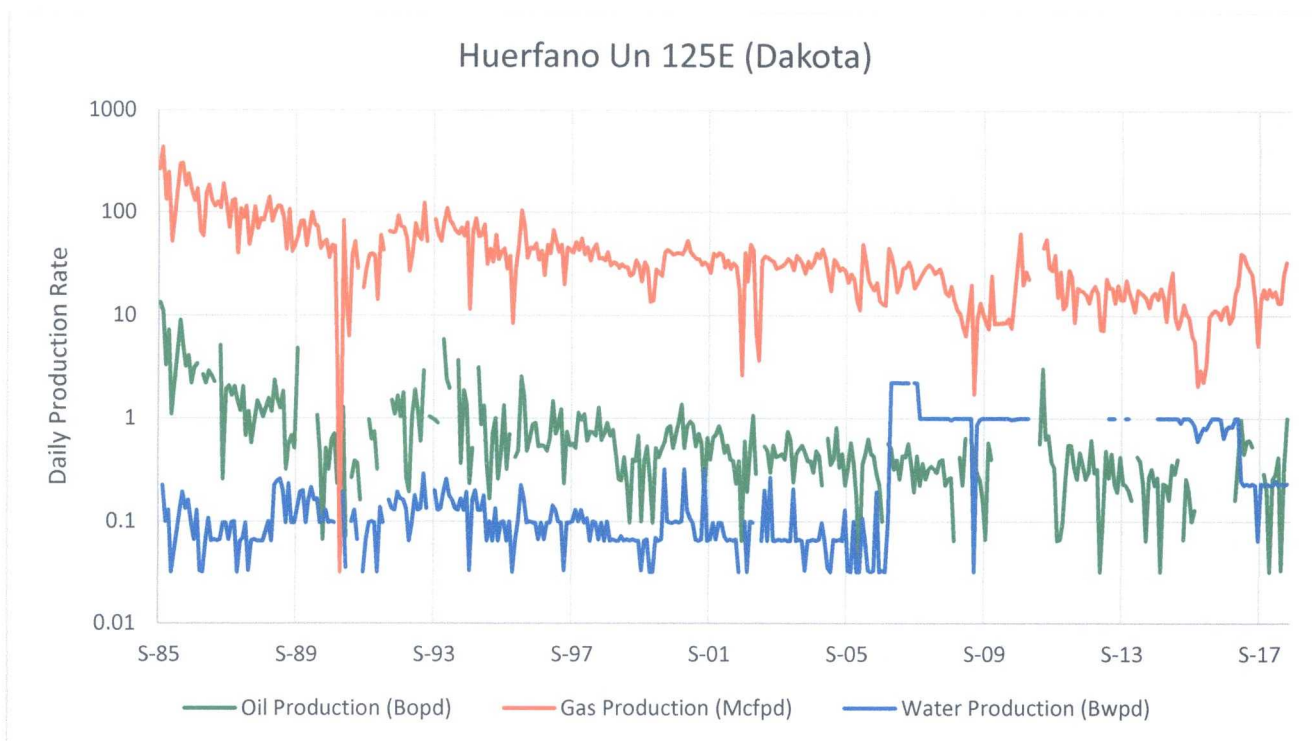
Hilcorp will be re-submitting the C-107A's for downhole commingle approvals in the next day or so.

Thank you,

Cheryl Weston
San Juan South Regulatory
505-564-0779
cweston@hilcorp.com



Production Summary Report					
API: 30-045-26672					
HUERFANO UNIT #179E					
Year	Pool	Oil(BBLS)	Gas(MCF)	Water(BBLS)	Days P/1
5/1/2018	71599] BASIN DAKOTA (PRORATED GAS)	22	802	9	31
6/1/2018	71599] BASIN DAKOTA (PRORATED GAS)	18	712	8	30
7/1/2018	71599] BASIN DAKOTA (PRORATED GAS)	0	645	9	31
8/1/2018	71599] BASIN DAKOTA (PRORATED GAS)	2	726	9	31
9/1/2018	71599] BASIN DAKOTA (PRORATED GAS)	9	703	8	30
10/1/2018	71599] BASIN DAKOTA (PRORATED GAS)	13	729	9	31
Cum		21006	1302454		



The forecast for Pictured Cliffs production has been generated using a type curve of PC gas production in the surrounding production trend.

Huerfano Unit 125E – Production Allocation Method

Production for the downhole commingle will be allocated using the subtraction method in agreement with the BLM. The base formation is the Dakota and the added formation to be commingled is the Pictured Cliffs. The subtraction method applies an average monthly production forecast to the base formations using historic production. All production from this well exceeding the forecast will be allocated to the new formation. 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. Oil production will be allocated based on average formation yields from offset wells. All documentation will be submitted to the Aztec NMOCD office.



December 28, 2018

Subject well: Huerfano Unit 125E
API # 30-045-26277
San Juan County, New Mexico

On October 17, 2018 Hilcorp sent notice to all interest owners in the subject wells of plans to downhole commingle existing pay from the Basin Dakota formation with potential pay from the Huerfano Pictured Cliffs formation as required by Subsection C of 19.15.12.11 New Mexico Administrative Code. Hilcorp will be resubmitting the Downhole Commingling Application with revised bottom hole pressures. We have enclosed a copy of the revised Commingling Application for your review. No action is required by you unless you object our commingling proposal.

If you do object, you will need to send notice to Hilcorp Energy Company, Attn: San Juan Basin Land Manager, 1111 Travis, Houston, TX 77002 within twenty (20) days from the date of this letter. Again, if you do not object to Hilcorp's downhole commingling plans, you **do not need** to sign or return any paperwork.

This letter represents a good faith effort to adhere with applicable notification requirements. However, if your ownership interest in the Subject Well has recently changed (i.e., new burdens created or you have sold or transferred your interest) please contact Hilcorp immediately to update your file.

Hilcorp appreciates this opportunity to enhance production from the Subject Well and we are thankful for your support.

Regards,

Christine Brock

Operations/Regulatory Technician
Hilcorp Energy Company
505-324-5155

Encl.

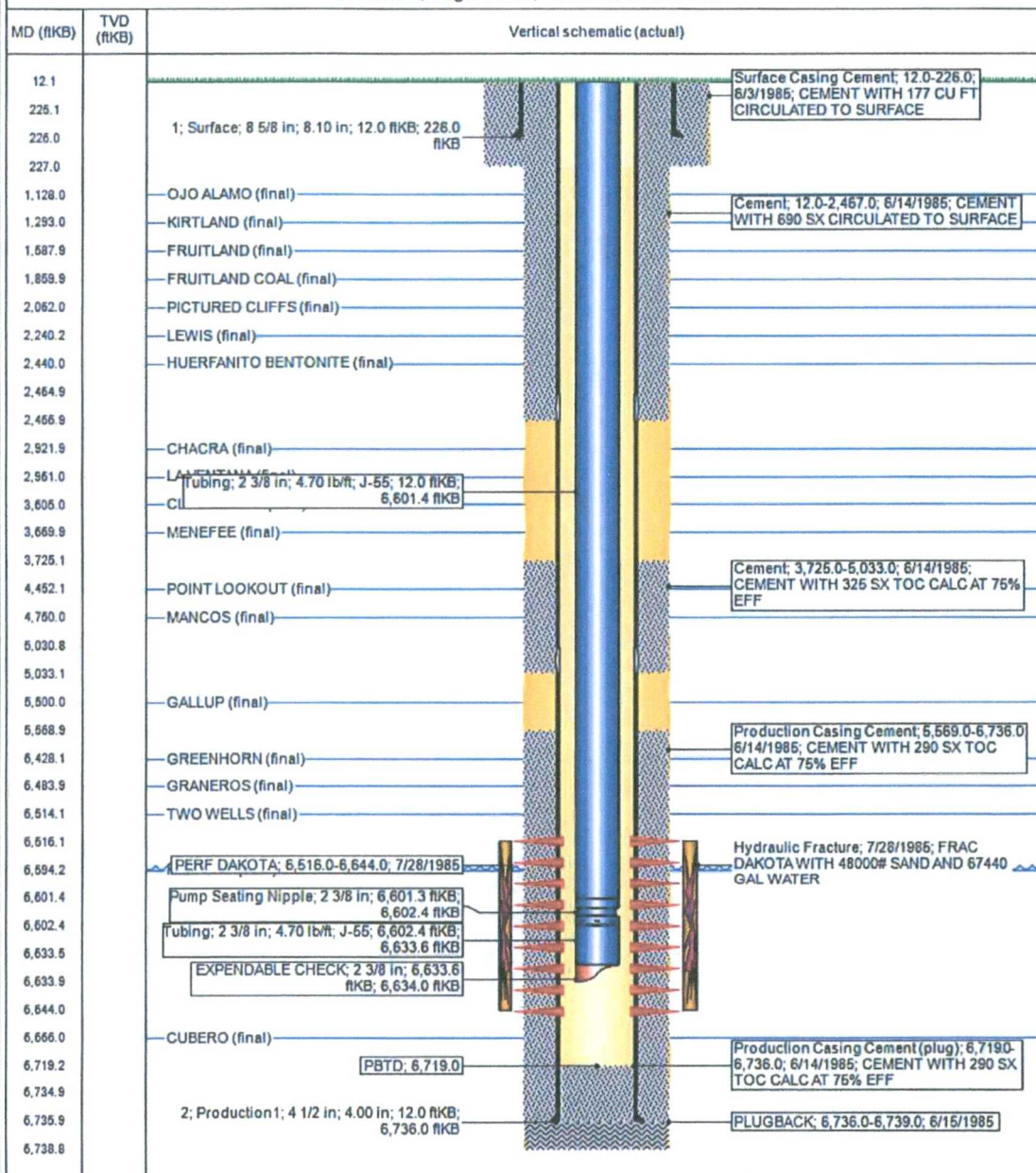
Certified Number	Sender	Recipient	Date Mailed	Delivery Status
92148969009997901768952126	Brenda Guzman	, ALICE JANE WEBB, 3525 TURTLE CREEK BLVD #19A, DALLAS, TX, 75219-5514 Code: Huerfano Unit 125E and 165E DHC	12/28/2018	Signature Pending
92148969009997901768952133	Brenda Guzman	, BALLARD EXPLORATION COMPANY, ROYALTY FOR DISTRIBUTION 1021 MAIN ST STE 2310, HOUSTON, TX, 77002-6506 Code: Huerfano Unit 125E and 165E DHC	12/28/2018	Signature Pending
92148969009997901768952140	Brenda Guzman	, BCB LAND and ENERGY LLC, 4002 111TH ST, LUBBOCK, TX, 79423 Code: Huerfano Unit 125E and 165E DHC	12/28/2018	Signature Pending
92148969009997901768952157	Brenda Guzman	, BENSON-MONTIN-GREER DRILLING CORP, 4900 COLLEGE BLVD, FARMINGTON, NM, 87402 Code: Huerfano Unit 125E and 165E DHC	12/28/2018	Signature Pending
92148969009997901768952164	Brenda Guzman	BETTY T JOHNSTON MARITAL TRUST , BETTY T JOHNSTON, TOM N AUNE, PATRICIA E AUNE, CO-TRUSTEES, 17347 VILLAGE GREEN DR STE #101, HOUSTON, TX, 77040 Code: Huerfano Unit 125E and 165E DHC	12/28/2018	Signature Pending
92148969009997901768952171	Brenda Guzman	, CHASE OIL CORPORATION, P O BOX 1767, ARTESIA, NM, 88211-1767 Code: Huerfano Unit 125E and 165E DHC	12/28/2018	Signature Pending
92148969009997901768952188	Brenda Guzman	SHANNAN WHITTEN, CROSS TIMBERS ENERGY LLC c/o MORNINGSTAR PARTNERS LLC, 400 W 7TH STREET, FT WORTH, TX, 76102 Code: Huerfano Unit 125E and 165E DHC	12/28/2018	Signature Pending
92148969009997901768952195	Brenda Guzman	, DANIEL K GORHAM IRREV TRUST, 11 20 2012 DANIEL K GORHAM TRUSTEE 5600 WYOMING BLVD NE STE 260, ALBUQUERQUE, NM, 87109- 3390 Code: Huerfano Unit 125E and 165E DHC	12/28/2018	Signature Pending
92148969009997901768952201	Brenda Guzman	, DAVID MCLANE FAMILY PARTNERSHIP LTD, PO BOX 12125, DALLAS, TX, 75225-2125 Code: Huerfano Unit 125E and 165E DHC	12/28/2018	Signature Pending
92148969009997901768952218	Brenda Guzman	, ELEANOR WETMORE TR FBO W B LANGMORE, JOHN LANGMORE SUCC TRUSTEE 501 N INTERSTATE 35 STE 116, AUSTIN, TX, 78702 Code: Huerfano Unit 125E and 165E DHC	12/28/2018	Signature Pending
92148969009997901768952225	Brenda Guzman	, ELIZABETH TURNER CALLOWAY, ROBERT WILBURN GUARDIAN PO BOX 191767, DALLAS, TX, 75219-8506 Code: Huerfano Unit 125E and 165E DHC	12/28/2018	Signature Pending
92148969009997901768952232	Brenda Guzman	, EULA MAY JOHNSTON TRUST 661, BANK OF AMERICA N A PO BOX 840738, DALLAS, TX, 75284-0738 Code: Huerfano Unit 125E and 165E DHC	12/28/2018	Signature Pending
92148969009997901768952249	Brenda Guzman	, FREDERICK EUGENE TURNER, 4925 GREENVILLE AVE #852, DALLAS, TX, 75206 Code: Huerfano Unit 125E and 165E DHC	12/28/2018	Signature Pending
92148969009997901768952256	Brenda Guzman	FREDERICK EUGENE TURNER , JGT ESTATE OIL AND GAS INVESTMENTS, 4925 GREENVILLE AVE #852, DALLAS, TX, 75206- 4079 Code: Huerfano Unit 125E and 165E DHC	12/28/2018	Signature Pending
92148969009997901768952263	Brenda Guzman	, GEORGIA PETTIE HOUSTON, 4805 76TH ST, LUBBOCK, TX, 79424 Code: Huerfano Unit 125E and 165E DHC	12/28/2018	Signature Pending
92148969009997901768952270	Brenda Guzman	, GRAYFORE PARTNERS LP, PO BOX 98670, LUBBOCK, TX, 79499-8670 Code: Huerfano Unit 125E and 165E DHC	12/28/2018	Signature Pending
92148969009997901768952287	Brenda Guzman	, HAROLD GREEN, PO BOX 1367, TAHOKA, TX, 79373 Code: Huerfano Unit 125E and 165E DHC	12/28/2018	Signature Pending
92148969009997901768952294	Brenda Guzman	, J GLENN TURNER JR, 4809 COLE AVE SUITE 212, DALLAS, TX, 75205 Code: Huerfano Unit 125E and 165E DHC	12/28/2018	Signature Pending
92148969009997901768952300	Brenda Guzman	, JANE LOLAX, 202 BERLIN ST, MONTPELIER, VT, 05602-3701 Code: Huerfano Unit 125E and 165E DHC	12/28/2018	Signature Pending
92148969009997901768952317	Brenda Guzman	, JOHN LEE TURNER, 525 GILMER ST #108, SULPHUR SPRINGS, TX, 75482 Code: Huerfano Unit 125E and 165E DHC	12/28/2018	Signature Pending
92148969009997901768952324	Brenda Guzman	, JOHN SCOTT WESTEFELD, 4831 SOUTHCHASE CT, IOWA CITY, IA, 52245 Code: Huerfano Unit 125E and 165E DHC	12/28/2018	Signature Pending
92148969009997901768952331	Brenda Guzman	, JOHNNIE PETTIE JR, PO BOX 92, SLATON, TX, 79364 Code: Huerfano Unit 125E and 165E DHC	12/28/2018	Signature Pending
92148969009997901768952348	Brenda Guzman	, JUDY WINDLE, 1258 PINECREST AVE, CHARLOTTE, NC, 28205 Code: Huerfano Unit 125E and 165E DHC	12/28/2018	Signature Pending
92148969009997901768952355	Brenda Guzman	, KATHLEEN SHORT, 16 SCONTICUT NECK RD, FAIRHAVEN, MA, 02719	12/28/2018	

		Code: Huerfano Unit 125E and 165E DHC		Signature Pending
92148969009997901768952362	Brenda Guzman	, KELLY MINERALS INTERESTS JV, 2709 WOLFF DR, ARLINGTON, TX, 76015-1020 Code: Huerfano Unit 125E and 165E DHC	12/28/2018	Signature Pending
92148969009997901768952379	Brenda Guzman	, LA PLATA GATHERING SYSTEM INC, 4925 GREENVILLE AVE #852, DALLAS, TX, 75206-4079 Code: Huerfano Unit 125E and 165E DHC	12/28/2018	Signature Pending
92148969009997901768952386	Brenda Guzman	, LANGDON D HARRISON REVOC TRUST B JACQUELINE M HARRISON SUCC TRUSTEE, PO DRAWER 2188, ROSWELL, NM, 88202 Code: Huerfano Unit 125E and 165E DHC	12/28/2018	Signature Pending
92148969009997901768952393	Brenda Guzman	, LILLY REVOC TRUST AGMT 11 13 2006 FRANKLIN P LILLY TTEE, 1322 RIVER FOREST DR, ROUND ROCK, TX, 78665-5602 Code: Huerfano Unit 125E and 165E DHC	12/28/2018	Signature Pending
92148969009997901768952409	Brenda Guzman	, MACDONALD HALBERSTADT REVOCABLE , FAMILY TRUST DTD 2/21/02 ROBIN C MACDONALD TRUSTEE, 1310 VIA CHRISTINA, VISTA, CA, 92084 Code: Huerfano Unit 125E and 165E DHC	12/28/2018	Signature Pending
92148969009997901768952416	Brenda Guzman	, MARK L GORHAM, DBA LORELEI INVESTMENTS LLC 5600 WYOMING BLVD NE STE 260, ALBUQUERQUE, NM, 87109 Code: Huerfano Unit 125E and 165E DHC	12/28/2018	Signature Pending
92148969009997901768952423	Brenda Guzman	, MARY FRANCES TURNER TRUST 6743, PO BOX 99084, FORT WORTH, TX, 76199-0084 Code: Huerfano Unit 125E and 165E DHC	12/28/2018	Signature Pending
92148969009997901768952430	Brenda Guzman	, MARYAN KLINGER TRUST, ROBERT KLINGER SUCC TRUSTEE 1788 MONTY CT, STOCKTON, CA, 95207 Code: Huerfano Unit 125E and 165E DHC	12/28/2018	Signature Pending
92148969009997901768952447	Brenda Guzman	, MCCONNELL LTD CO, C/O JOHN BREED CPA 3430 FLORIDA NE, ALBUQUERQUE, NM, 87110-2120 Code: Huerfano Unit 125E and 165E DHC	12/28/2018	Signature Pending
92148969009997901768952454	Brenda Guzman	, MICHAEL R DIMOND, and GLENDA K DIMOND 4900 COLLEGE BLVD, FARMINGTON, NM, 87401 Code: Huerfano Unit 125E and 165E DHC	12/28/2018	Signature Pending
92148969009997901768952461	Brenda Guzman	, OFFICE OF NATURAL RESOURCES REVENUE, LAKEWOOD ACCTG CENT ONSHORE P O BOX 25627, DENVER, CO, 80225-0627 Code: Huerfano Unit 125E and 165E DHC	12/28/2018	Signature Pending
92148969009997901768952478	Brenda Guzman	, PRODUCTION GATHERING CO LP, 8150 N CENTRAL EXPWY STE 1475, DALLAS, TX, 75206 Code: Huerfano Unit 125E and 165E DHC	12/28/2018	Signature Pending
92148969009997901768952485	Brenda Guzman	, ROBERT H GORHAM II, DBA RHG PROPERTIES ONE LLC PO BOX 451, ALBUQUERQUE, NM, 87103 Code: Huerfano Unit 125E and 165E DHC	12/28/2018	Signature Pending
92148969009997901768952492	Brenda Guzman	, ROGERS GIBBARD TRUST , ORVILLE C ROGERS SUSAN EVELAND and ELAINE GIBBARD HOWE TTEES, PO BOX 624, SULPHUR, OK, 73086-0624 Code: Huerfano Unit 125E and 165E DHC	12/28/2018	Signature Pending
92148969009997901768952508	Brenda Guzman	, SANDSTONE PROPERTIES LLC, 40 FIRST PLAZA SUITE 601, ALBUQUERQUE, NM, 87102 Code: Huerfano Unit 125E and 165E DHC	12/28/2018	Signature Pending
92148969009997901768952515	Brenda Guzman	, SUNLAND REFINING CORP, 9302 GARFIELD AVE, SOUTH GATE, CA, 90280 Code: Huerfano Unit 125E and 165E DHC	12/28/2018	Signature Pending
92148969009997901768952522	Brenda Guzman	, THOMAS H YATES JR, PO BOX 791910, SAN ANTONIO, TX, 78279-1910 Code: Huerfano Unit 125E and 165E DHC	12/28/2018	Signature Pending
92148969009997901768952539	Brenda Guzman	, TIMOTHY W GORHAM, DBA T GORHAM PROPERTIES LLC 5600 WYOMING BLVD NE STE 260, ALBUQUERQUE, NM, 87109 Code: Huerfano Unit 125E and 165E DHC	12/28/2018	Signature Pending
92148969009997901768952546	Brenda Guzman	, V A JOHNSTON LTD, PO BOX 303247, AUSTIN, TX, 78703 Code: Huerfano Unit 125E and 165E DHC	12/28/2018	Signature Pending
92148969009997901768952553	Brenda Guzman	, VIRGINIA GIPSON, 13131 W JENKINS, ODESSA, TX, 79764-9451 Code: Huerfano Unit 125E and 165E DHC	12/28/2018	Signature Pending
92148969009997901768952560	Brenda Guzman	, WILLIAM J GREEN ESTATE, MELISSA GREEN ELLIOT INDIV EXEC PO BOX 164476, FORT WORTH, TX, 76161 Code: Huerfano Unit 125E and 165E DHC	12/28/2018	Signature Pending
92148969009997901768952577	Brenda Guzman	, ZZZ KELLY and TRUST LLC, LOUISIANA LTD LIABCO 535 ONEONTA ST, SHREVEPORT, LA, 71106-1619 Code: Huerfano Unit 125E and 165E DHC	12/28/2018	Signature Pending
92148969009997901768952669	Brenda Guzman	, SHANNAN WHITTEN, CROSS TIMBERS ENERGY LLC c/o MORNINGSTAR PARTNERS LLC, 400 W 7TH STREET, FT WORTH, TX, 76102 Code: Huerfano Unit 125E and 165E DHC	12/28/2018	Signature Pending

Well Name: HUERFANO UNIT #125E

API / UWI 3004526277	Surface Legal Location 030-026N-009W-L	Field Name BASIN DAKOTA (PRIORATED GAS)	License No.	State/Province NEW MEXICO	Well Configuration Type VERTICAL
Ground Elevation (ft) 6,580.00	Original KBRT Elevation (ft) 6,592.00	KB-Ground Distance (ft) 12.00	KB-Casing Flange Distance (ft)	KB-Tubing Hanger Distance (ft)	

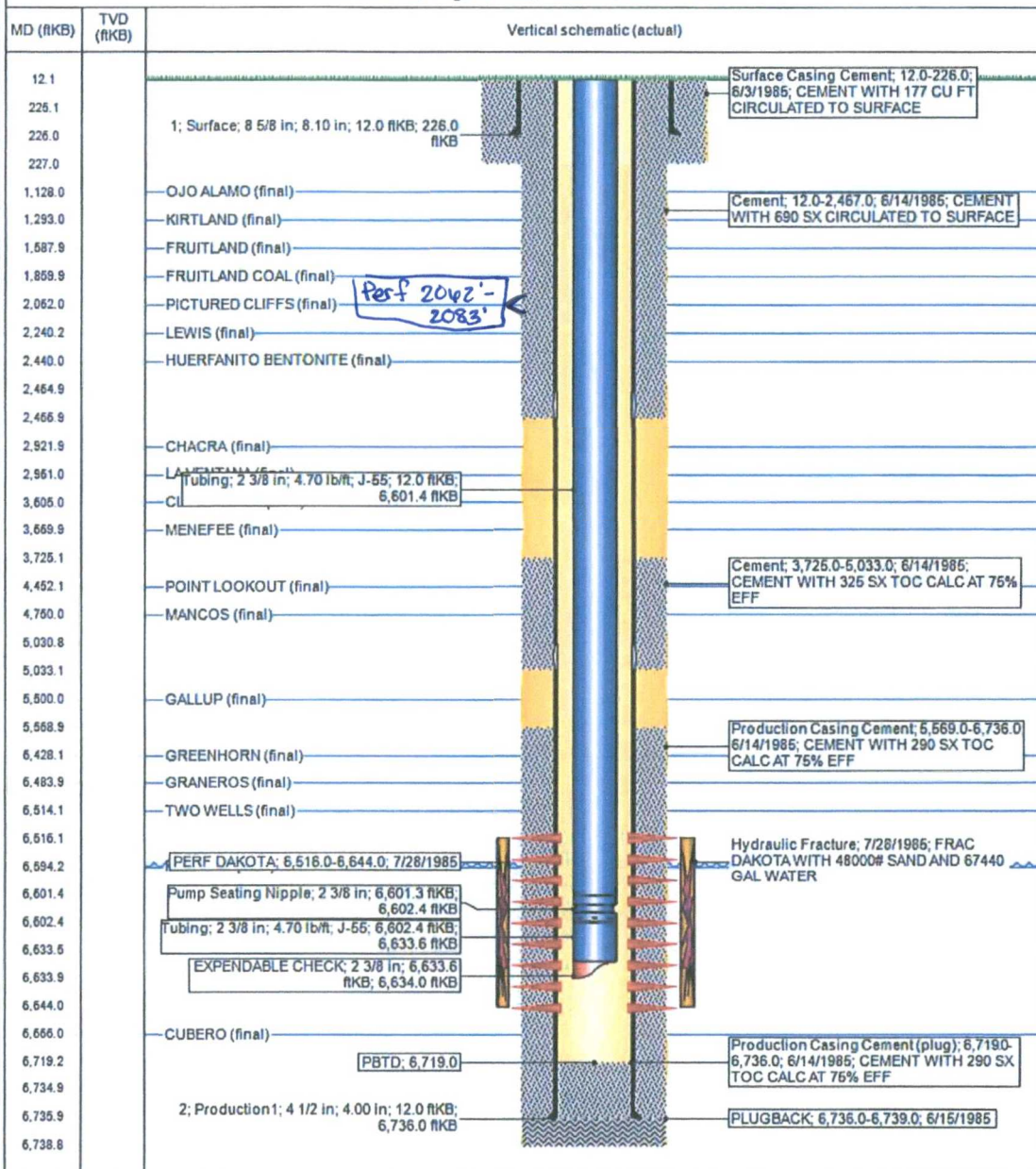
VERTICAL, Original Hole, 10/4/2018 6:20:22 AM



Well Name: HUERFANO UNIT #125E

API / UWI 3004526277	Surface Legal Location 030-026N-009W-L	Field Name BASIN DAKOTA (PRORATED GAS)	License No.	State/Province NEW MEXICO	Well Configuration Type VERTICAL
Ground Elevation (ft) 6,580.00	Original KBRT Elevation (ft) 6,592.00	KS-Grnd Distance (ft) 12.00	KS-Casing Flange Distance (ft)	KS-Tubing Hanger Distance (ft)	

VERTICAL, Original Hole, 10/4/2018 6:20:22 AM



McMillan, Michael, EMNRD

From: Cheryl Weston <cweston@hilcorp.com>
Sent: Wednesday, January 16, 2019 10:44 AM
To: McMillan, Michael, EMNRD
Cc: Daniel Donovan; Virgil Chavez; James Osborn; Christine Brock; Kandis Roland
Subject: [EXT] C-107A Updates - Huerfano 179E, etc.

Mike,

Per your request, here are the data points for the C-107A's that were rejected in November. Please forward this information to Will Jones.

Well Name	API	Existing Completion Zones (Perfs)	SITP / SICP (psia)	Casing Fluid Level (ft)
Huerfano NP 218	300452073900	Gallup (6366-6522')	352 / 352	5,142'
Huerfano 179E	300452667200	Dakota (6632-6786')	203 / 203	6,764'
Huerfano 125E	300452627700	Dakota (6516-6644')	215 / 215	6,414'
Huerfano 165E	300452666900	Dakota (6473-6596')	226 / 226	6,374'
State AD Com 26E	300452374400	Chacra (2834-2954') Gallup (5410-5778') Dakota (6281-6456')	138 / 130	6,081'
Huerfano 169	300452005200	Dakota (6526-6652')	205 / 205	6,525'

Hilcorp will be re-submitting the C-107A's for downhole commingle approvals in the next day or so.

Thank you,

Cheryl Weston
San Juan South Regulatory
505-564-0779
cweston@hilcorp.com



Production Summary Report					
API: 30-045-26277					
HUERFANO UNIT #125E					
Year	Pool	Oil(BBLS)	Gas(MCF)	Water(BBLS)	Days P/I
5/1/2018	[71599] BASIN DAKOTA (PRORATED GAS)	11	778	7	31
6/1/2018	[71599] BASIN DAKOTA (PRORATED GAS)	30	986	7	30
7/1/2018	[71599] BASIN DAKOTA (PRORATED GAS)	0	716	7	31
8/1/2018	[71599] BASIN DAKOTA (PRORATED GAS)	16	683	7	31
9/1/2018	[71599] BASIN DAKOTA (PRORATED GAS)	15	714	7	30
10/1/2018	[71599] BASIN DAKOTA (PRORATED GAS)	14	826	7	31
Cum		9056	505859		

Production Summary Report					
API: 30-045-26739					
HUERFANO UNIT NP #218					
Year	Pool	Oil(BBLS)	Gas(MCF)	Water(BBLS)	Days P/I
5/1/2018	[26980] GALLEGOS GALLUP (ASSOCIATED)	0	0	0	31
6/1/2018	[26980] GALLEGOS GALLUP (ASSOCIATED)	34	447	0	30
7/1/2018	[26980] GALLEGOS GALLUP (ASSOCIATED)	0	397	0	31
8/1/2018	[26980] GALLEGOS GALLUP (ASSOCIATED)	22	350	0	31
9/1/2018	[26980] GALLEGOS GALLUP (ASSOCIATED)	7	264	0	30
10/1/2018	[26980] GALLEGOS GALLUP (ASSOCIATED)	10	417	0	31
Cum		1578	127104		

Production Summary Report					
API: 30-045-26669					
HUERFANO UNIT #165E					
Year	Pool	Oil(BBLS)	Gas(MCF)	Water(BBLS)	Days P/I
5/1/2018	[71599] BASIN DAKOTA (PRORATED GAS)	15	543	8	31
6/1/2018	[71599] BASIN DAKOTA (PRORATED GAS)	21	565	7	30
7/1/2018	[71599] BASIN DAKOTA (PRORATED GAS)	0	567	8	31
8/1/2018	[71599] BASIN DAKOTA (PRORATED GAS)	10	575	8	31
9/1/2018	[71599] BASIN DAKOTA (PRORATED GAS)	15	493	7	30
10/1/2018	[71599] BASIN DAKOTA (PRORATED GAS)	11	567	8	31
Cum		11491	616301		

Production Summary Report					
API: 30-045-20052					
HUERFANO UNIT #169					
Year	Pool	Oil(BBLS)	Gas(MCF)	Water(BBLS)	Days P/I
5/1/2018	[71599] BASIN DAKOTA (PRORATED GAS)	15	1014	6	31
6/1/2018	[71599] BASIN DAKOTA (PRORATED GAS)	17	985	5	30
7/1/2018	[71599] BASIN DAKOTA (PRORATED GAS)	0	1031	6	31
8/1/2018	[71599] BASIN DAKOTA (PRORATED GAS)	9	951	6	31
9/1/2018	[71599] BASIN DAKOTA (PRORATED GAS)	12	918	5	30
10/1/2018	[71599] BASIN DAKOTA (PRORATED GAS)	15	962	6	31
Cum		47405	4285130		

From: James Osborn <josborn@hilcorp.com>
Sent: Friday, January 18, 2019 10:28 AM
To: Jones, William V, EMNRD
Cc: McMillan, Michael, EMNRD; Cheryl Weston
Subject: [EXT] RE: [EXTERNAL] RE: C-107A Updates - Huerfano 179E, etc.

Will,

Apologies for the slow responses as I've been in and out of the office this week. Below is more information broadly about how and why we got the bottomhole pressures that we did. I'm only in the office for a portion of the day but I'd like to discuss more over the phone with yourself and Mr. McMillan, as needed. We are open to revisiting how we are getting pressures but based on our observations, attempting to complete the wells as duals prevents us from being able to economically recover these gas reserves due to increased costs and poorer production in the new zone adds, as well as existing completions (lack of artificial lift).

Prior to obtaining fluid levels and pressures, the wells were shut-in for 12 hours and monitored periodically to ensure it was relatively stable. The length of time was chosen to minimize the shut-in period and provide a representation of what the shut-in bottomhole pressure would be, not estimate the static reservoir pressure, which based upon PTA work from other Dakota wells in the basin requires shut-in periods on the order of years, primarily due to low permeability, total compressibility, and lack of structural/stratigraphic boundaries. Back of the envelope radius of investigation calculations assuming radial flow indicate between 5 and 7 years given the low density of producing wells. As well, we have some multi-week build-ups in the Dakota in other parts of the basin that indicate even longer times, up to 25 years to boundary-dominated flow. The shut-in pressure thus is expected to be lower than the actual, stabilized reservoir pressure but estimating that pressure would be practically infeasible. In terms of rate transient analytical models, these wells do not have surface RTUs so we do not have historical surface pressure data to incorporate into an analytical model. As well, the wells are on plunger lift so any model would rely on backside fluid levels and casing pressure to estimate bottomhole pressure (for wells with RTUs installed).

With regard to the Pictured Cliffs, in 2018 we added Pictured Cliffs completions in 27 wells and tested them to evaluate the overall performance. Since the horizon had been largely dismissed for the last 10-15 years, the wells were tested isolated from the existing completions. Among those projects, 23 were on artificial lift within the first 30 days. What we have observed is that the even when the initial pressures don't indicate substantial depletion, the tight gas nature depletes the near fracture region quick enough that the wells are unable produce unaided. Given the combination of low permeability and low pressure in the both the Dakota and Pictured Cliffs, I do not believe cross-flow is an issue when producing and the amount of shut-in time required for the PC to cross-flow into the Dakota would necessitate a plugback. In a few areas we have attempted to compare the dual completions to commingled wells to evaluate the total impact on well performance and anecdotally the duals perform worse but due to data inconsistency resulting from different commingled zones it is difficult to have firm statistically rigorous comparisons. As well, most of the duals we have come across were historical duals that were converted to commingles after the zones went offline.

I'd like to discuss more if possible as a large contingent of our projects would ultimately require a downhole commingle so we will have applications on an ongoing basis and I need to understand what data you need to make decisions, as well as have an idea of what applications won't be approved so I can catch them during scoping and save ya'll time.

Thank you,

James Osborn
Hilcorp Energy Company
San Juan South – Reservoir Engineer

Office: (832) 839-4578
Cell: (832) 257-9490
josborn@hilcorp.com

From: Cheryl Weston
Sent: Wednesday, January 16, 2019 1:13 PM
To: James Osborn <josborn@hilcorp.com>; Virgil Chavez <vchavez@hilcorp.com>; Daniel Donovan <ddonovan@hilcorp.com>
Cc: Christine Brock <cbrock@hilcorp.com>; Kandis Roland <kroland@hilcorp.com>
Subject: FW: [EXTERNAL] RE: C-107A Updates - Huerfano 179E, etc.

James,

See Will Jones' message below.

Thanks,
Cheryl

From: Jones, William V, EMNRD [<mailto:WilliamV.Jones@state.nm.us>]
Sent: Wednesday, January 16, 2019 12:10 PM
To: Cheryl Weston <cweston@hilcorp.com>
Cc: McMillan, Michael, EMNRD <Michael.McMillan@state.nm.us>
Subject: [EXTERNAL] RE: C-107A Updates - Huerfano 179E, etc.

Hello Cheryl,
Thanks for this information,
You have several other Hilcorp folks copied on your email, and I don't remember who your reservoir engineer is that knows about these wells,
So can you relay this message?

Can you ask/and include a statement from the reservoir engineer with these new/revised applications as to how long the existing well-completion(s) was shutin and why that shutin time length was chosen.
Ultimately, a question is, how close are these shutin pressures to the actual, stabilized reservoir pressures? And how does your perm/porosity support this determination?
I once had an analytical, iterative spreadsheet solution that you could plug in some reservoir numbers and it would give you the decline plot and you could compare with actual production decline and thereby back into some good numbers for the reservoir.

And I realize you have several intervals open here, and some water loading, but maybe some more reservoir engineering discussion.

Regards,
Will

From: McMillan, Michael, EMNRD
Sent: Wednesday, January 16, 2019 10:45 AM
To: Jones, William V, EMNRD <WilliamV.Jones@state.nm.us>
Subject: FW: C-107A Updates - Huerfano 179E, etc.