Received by OCD: 10/15/2019 12:45:05 PM

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

APPLICATION OF HILCORP ENERGY COMPANY FOR DOWNHOLE COMMINGLING IN ITS SHEETS 004E WELL, SAN JUAN COUNTY, NEW MEXICO.

CASE NO.	
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#### APPLICATION

Hilcorp Energy Company, ("Hilcorp") (OGRID No. 372171), through its undersigned counsel, hereby files this application with the Oil Conservation Division for approval to downhole commingle production from the Basin-Dakota Gas Pool (Pool Code 71599) with production from the Basin-Fruitland Coal Gas Pool (Pool Code 71629) within the wellbore of its **Sheets 004E Well** (API 30-045-33892). In support of this application, Hilcorp states:

- 1. Hilcorp is the operator of the **Sheets 004E Well** (API 30-045-33892), which is at a standard location 1,525 feet from the south line and 815 feet from the west line (Unit L) in Section 28, Township 31 North, Range 9 West, NMPM, San Juan County, New Mexico. The Sheets 004E Well is currently dedicated to a 318-acre, more or less, standard spacing unit within the Basin-Dakota Pool comprised of the S/2 of said Section 28.
- 2. Hilcorp proposes to re-complete the well within the Fruitland formation and simultaneously dedicate it to a standard 318-acre spacing unit in the Basin-Fruitland Coal Gas Pool (Pool Code 71629) comprised of the S/2 of said Section 28.
- 3. The ownership of the mineral estate is identical between the existing spacing unit within the Basin-Dakota Pool and the proposed Basin-Fruitland Coal Gas spacing unit.

Accordingly, notification of this application and hearing is not required. See 19.15.4.12(A)(6) NMAC.

- 4. Applicant filed an application on Form C-107-A seeking administrative approval to downhole commingle. *See* **Exhibit A**, attached. The Division informed Hilcorp that the application must be heard before a Division Examiner at a hearing pursuant to 19.15.12.11(C)(1)(d) NMAC.
- 5. In accordance with Division regulation 19.15.12.11 NMAC, Hilcorp will establish at hearing the following criteria necessary for approval:
  - a. the fluids from each pool proposed for downhole commingling are compatible and combining the fluids will not damage the pools;
  - b. downhole commingling will not jeopardize the efficiency of present or future secondary recovery operations in the pools to be commingled;
  - c. downhole commingling will not result in shut-in or flowing wellbore pressures in excess of any commingled pool's fracture parting pressure;
  - d. downhole commingling will not result in the permanent loss of reserves due to cross-flow in the well bore;
  - e. 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;
  - f. downhole commingling will not reduce the value of the total remaining production; and
  - g. correlative rights will not be violated;

- 6. Applicant proposes that gas production from the commingled pools be allocated using a subtraction method to be proposed at the hearing in this matter, and that production of condensate be allocated to the Dakota formation.
- 7. Approval is in the best interest of conservation, the prevention of waste, and the protection of correlative rights.

WHEREFORE, Hilcorp Energy Company requests that this application be set before an Examiner of the Oil Conservation Division on November 14, 2019, and, after notice and hearing as required by law, that the Division enter an order granting this Application.

Respectfully submitted,

HOLLAND WHART LLF

By

Michael H. Feldewert
Adam G. Rankin
Julia Broggi
Kaitlyn A. Luck
Post Office Box 2208
Santa Fe, NM 87504
505-998-4421
505-983-6043 Facsimile
mfeldewert@hollandhart.com
agrankin@hollandhart.com
jbroggi@hollandhart.com
kaluck@hollandhart.com

ATTORNEYS FOR HILCORP ENERGY COMPANY

Case No.

Application of Hilcorp Energy Company for Downhole Commingling in its Sheets 004E Well, San Juan County, New Mexico. Pursuant to 19.15.12.11 NMAC, applicant seeks an order authorizing it to downhole commingle production from the Basin-Dakota Gas Pool (Pool Code 71599) with production from the Basin-Fruitland Coal Gas Pool (Pool Code 71629) within the wellbore of its Sheets 004E Well (API 30-045-33892) which is at a standard location 1,525 feet from the south line and 815 feet from the west line (Unit L) in Section 28, Township 31 North, Range 9 West, NMPM, San Juan County, New Mexico. The Sheets 004E Well is currently dedicated to a standard 318-acre, more or less, spacing unit within the Basin-Dakota Pool comprised of the S/2 of said Section 28. Hilcorp proposes to re-complete the well within the Fruitland formation and simultaneously dedicate it to a standard 318-acre, more or less, spacing unit in the Basin-Fruitland Coal Gas Pool (Pool Code 71629) comprised of the S/2 of said Section 28. Said area is approximately 12 miles northeast, of Aztec, NM.

				,
RECEIVED:	REVIEWER:	TYPE:	APP NO:	
		O OIL CONSERVA al & Engineering ancis Drive, Santo	ATION DIVISION Bureau –	
	ADMINISTRA	ATIVE APPLICATION	ON CHECKLIST	
THIS C	CHECKLIST IS MANDATORY FOR ALL REGULATIONS WHICH REG	ADMINISTRATIVE APPLICAT QUIRE PROCESSING AT THE D		= -
pplicant: Hilcor				D Number: <u>372171</u>
ell Name: Sheets			API: 30	-045-33892
ool: Basin Fruitland	Coal / Basin Dakota		Pool C	Code: 71629 / 71599
		INDICATED BELOV		HE TYPE OF APPLICATION
A. Location	CATION: Check those w — Spacing Unit — Simulto USL NSP (PRO	aneous Dedi <u>c</u> ation	P (PRORATION UNIT)	D
[1] Com [II] Inject  2) NOTIFICATION  A. Offset  B. Royalt  C. Applic  D. Notific  E. Notific	ne only for [1] or [1] mingling – Storage – Me DHC	C PC OI e Increase – Enhai D IPI EC nose which apply. ers ners, revenue owr d notice nt approval by SLC	nced Oil Recover  OR PPR  ners	FOR OCD ONLY  Notice Complete Application Content Complete
G. For all	of the above, proof of tice required  I: I hereby certify that the	,		
administrative understand the	approval is <b>accurate</b> and the submitted to the Divis	nd <b>complete</b> to th en on this applicat	e best of my kno	wledge. I also
No	te: Statement must be complete	ed by an individual with n	nanagerial and/or supe	rvisory capacity.
			8/8/2019	
Thomas Jacques			Date	
rint or Type Name	1		832.839.4582	
11	) / /		Phone Number	

tjacques@hilcorp.com e-mail Address District I 1625 N. French Drive, Hobbs, NM 88240

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

than current or past production, supporting date or

explanation will be required.)

#### State of New Mexico Energy, Minerals and Natural Resources Department

Oil Conservation Division 1220 South St. Francis Dr.

Form C-107A Revised August 1, 2011

APPLICATION TYPE Single Well

Will be supplied upon

completion

#### District III 1000 Rio Brazos Road, Azaec, NM 87410 Santa Fe, New Mexico 87505 Establish Pre-Approved Pools EXISTING WELLBORE District IV APPLICATION FOR DOWNHOLE COMMINGLING X Yes No 1220 S St Francis Dr., Santa Fe, NM 87505 Hilcorp Energy Company 382 Road 3100, Aztec, NM 87410 Sheets #004E L 28 31N 09W San Juan Lease Unit Letter-Section-Township-Range County OGRID No. 372171 Property Code 318729 API No. 3004533892 Lease Type: X\_Federal \_ \_State \_\_\_\_Fee DATA ELEMENT **UPPER ZONE** INTERMEDIATE ZONE LOWER ZONE BASIN FRUITLAND COAL BASIN DAKOTA Pool Name 71629 71599 Pool Code 2828'-3017' 7370'-7522' Top and Bottom of Pay Section (Perforated or Open-Hole Interval) New Zone Plunger Lift Method of Production (Flowing or Artificial Lift) 150 psi 200 psi 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) Oil Gravity or Gas BTU (Degree API or Gas BTU) 1000 BTU 1000 BTU Producing, Shut-In or New Zone Producing New Zone Date and Oil/Gas/Water Rates of Last Production. Date: N/A Date: Date: 5/2019 (Note: For new zones with no production history. applicant shall be required to attach production estimates and supporting data.) Rates: Rates: Rates: 0 BO, 1197 MCF, 45 BW Fixed Allocation Percentage (Note: If allocation is based upon something other Oil Gas Gas Oil Oil Gas

#### ADDITIONAL DATA

Are all working, royalty and overriding royalty interests identical in all commingled zones? If not, have all working, royalty and overriding royalty interest owners been notified by certified mail?	YesX Yes	No
Are all produced fluids from all commingled zones compatible with each other?	YesX_	No
Will commingling decrease the value of production?	Yes	_ NoX
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?	YesX_	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

Will be supplied upon

completion

I hereby certify that the information above is true and complete to the best of my knowledge and belief.  SIGNATURE TITLE Operations/Regulatory Technician - Sr. DATE 8/8/2019								
SIGNATURE TUSU	la Shorty	TITLE Operations/Regulatory Technician - Sr. DATE	8/8/2019					
TYPE OR PRINT NAME	Priscilla Shorty	TELEPHONE NO. (505) 324-5188						

OBTRICK 1 1625 N. French Dr., Hobbs, MM, 49240

State of New Mexico Energy, Minerals & Natural Resources Department

DISTRICT II 1301 W. Grand Ave., Artesia, H.M. 88210

OIL CONSERVATION DIVISION 1220 South St. Francis Dr. Sonta Fe, NM 87505 Revised October 12, 2005 Submit to Appropriate District Office

State Lease — 4 Copies Fee Lease — 3 Copies

DISTRICT (II 1000 Rio Orazos Rd., Azlec, N.M. 87410

DISTRICT IV 1220 South St. Francis Dr., Santa Fe, NM 87505

DK 318.200ac. S2

WELL LOCATION AND ACREAGE DEDICATION PLAT

'API 30-04	Number 3	3898	7	<sup>7</sup> Pool Code 15 <b>99</b>	Basin Dakota						
<sup>1</sup> Property Co <b>7504</b>					Property I SHEET			• Well Number 4E			
OCRID No.  *Operator Name  BURLINGTON RESOURCES OIL & GAS COMPANY LP								*Elevation 6187			
					10 Surface	Location					
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County		
L	28	31-N	9-W	2	1525	SOUTH	815	WEST	SAN JUAN		
			" Bott	om Hole	Location	If Different Fr	om Surface				
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County		
L					1		}		1		
Oedicated Acres		<sup>13</sup> Joint or Infill			14 Consolidation Code		13 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

	OR A NON-STANDARD UNIT HAS	BEEN APPROVED E	THE DIVISION
16			OPERATOR CERTIFICATION  I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unfoosed inhered interest in the land including the proposed bottom hote location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a computary pooling arter heretalore entered by the division.
LOT 1 39.10 FD. 3 1/4" BC. 1966 B.L.M.	28		Signoture Date Philana Thompson Printed Name Regulatory Analyst
2631.62° (M) 2631.62° (M) 02.01°22" E 02.07° E	USA SF-080376-A  LAT: 36.86604* N. (NAD 83) LONG: 107.79194* W. (NAD 83)		18 SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.  JUNE Date of poor the supervision of the same is true and correct to the best of my belief.
FD. 3 1/4" BC. 1966 B.L.M.	LAT: 36'51.9627' N. (NAD 27) LONG: 107'47.5164' W. (NAO 27)  LOT 3 39.39  S 89'35'48" W 2619.53' (M)  1966 B.L.M.	LOT 4 39.43	Certificate Number

District I

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

District II

811 S. First St., Arlesia, NM 88210 Phone:(575) 748-1283 Fax:(575) 748-9720 **District III** 

1000 Rio Brazos Rd., Azlec, 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

Oil Conservation Division 1220 S. St Francis Dr. Santa Fe, NM 87505 Form C-102 August 1, 2011

Permit 270019

A/EI	1.1	<b>OCATION</b>	AND	ACREAGE DE	DICATION PLAT
VVEL		OCA HOR	MINU	AUREAGE DE	

1. API Number 30-045-33892	2. Pool Code 71629	3, Pool Name BASIN FRUITLAND COAL (GAS)
4. Property Code	5, Property Name	6. Well No.
318729	SHEETS	004E
7, OGRID No.	8, Operator Name	9. Elevation
372171	HILCORP ENERGY COMPANY	6187

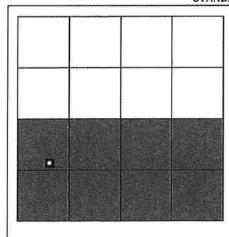
10, Surface Location

ſ	UL - Lot	Т	Section	Township		Range	Lot Idi	1	Feet From	N/S Line	Feet From	E/W Line	County	
		L.	2		31N	09)	V.	2	152	5) s	815	W	SAN JUAI	1

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 318,02		13. Joint or Infi	H	14. Consolida	lion Code	1. N	15. Order No.	

#### NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



#### **OPERATOR CERTIFICATION**

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or 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.

E-Signed By: Priscilla Shorty

Title:

Operations Regulatory Tech - Sr.

Date:

07/18/2019

#### SURVEYOR CERTIFICATION

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

Surveyed By:

John Vukonich

Date of Survey:

6/17/2006

Certificate Number:

14831

#### **Discussion of Pressures**

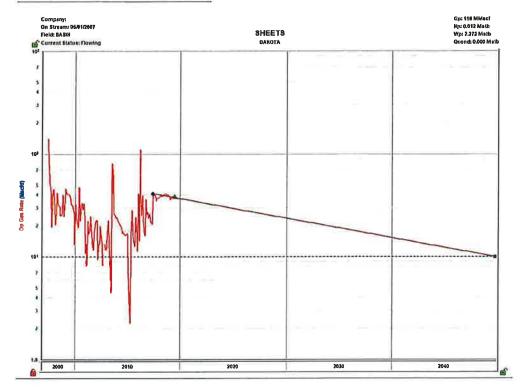
Reservoir	Bottom Hole Pressure		
Basin Fruitland Coal	150 psi		
Basin Dakota	200 psi		

The pressure provided is the near wellbore shut in bottom hole pressure of the Basin Dakota. The near wellbore shut in bottom hole pressure is much lower than the far field stabilized reservoir pressure calculated with moving domain material balance due to the low permeability of the reservoirs. Based on pressure transient analysis performed in the San Juan Basin, it would take 7-25 years for shut in bottom hole pressures to build up to the calculated far-field reservoir pressure. Our observation is that even for areas of high static reservoir pressure, the low permeability of the reservoir rock results in rapid depletion of the near-fracture region quickly enough that the wells are unable produce without the aid of a plunger. Given low permeability and low wellbore flowing pressure in the Basin Dakota and Basin Fruitland Coal, loss of reserves due to cross-flow is not an issue during producing or shut-in periods. Given the low shut-in bottom hole pressures, commingling the Basin Dakota and Basin Fruitland Coal in this well will not result in shut-in or flowing wellbore pressures in excess of any commingled pool's fracture parting pressure.

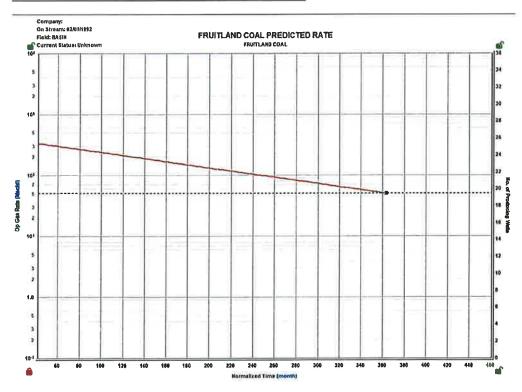
John Brown

Hilcorp San Juan Reservoir Engineer

#### **Sheets #4E Basin Dakota Forecast**



#### **Sheets #4E Predicted Basin Fruitland Coal Forecast**



The Sheets #4E predicted Basin Fruitland Coal rate is based on type well and volumetric analysis of offset Basin Fruitland Coal producers. The reservoir fluids of the commingled completions are compatible.

JUSTIFICATION OF ALLOCATION: Hilcorp requests that production for the downhole commingle be allocated using the subtraction method. The base formations is the Basin Dakota and the added formation to be commingled is the Basin Fruitland Coal. The subtraction method applies an average monthly production forecast to the base formation(s) using historic production. All production from this well exceeding the forecast will be allocated to the new formation(s). A fixed percentage based allocation will be submitted after the fourth year of production. See attached documents for production forecast. The Basin Fruitland Coal will not produce oil. All oil produced will be allocated to the Basin Dakota.

## **Historical Production**

### Basin Dakota

The second secon			
	Oil (BBLS)	Gas (MCF)	Water (BBLS)
Dec-18	0	1181	45
Jan-19	0	1118	45
Feb-19	0	1034	41
Mar-19	0	11 <del>9</del> 2	45
Apr-19	0	1152	43
May-19	0	1197	45



August 8, 2019

New Mexico Oil Conservation Division 1220 South St. Francis Drive Santa Fe, NM 87505 Attn: Michael McMillan

Re:

C-107-A (Downhole Commingle)

Sheets 004E

API: 30-045-33892

T31N-R9W-Section 28, Unit Letter: L

San Juan County, NM

Mr. McMillan:

Concerning Hilcorp Energy Company's C-107-A application to downhole commingle production in the subject well, this letter serves to confirm the following:

- All working, royalty and overriding royalty interests are identical between the Basin Dakota (71599) and Basin Fruitland Coal (71629) in the spacing unit dedicated to these formations; being the S/2 (318.02 acres) of Township 31 North, Range 9 West, Section 28. Therefore, no notice to interest owners is required.
- The spacing unit is comprised of a federal lease. Therefore, pursuant to Subsection C.(1) of 19.15.12.11 NMAC, a copy of the C-107-A has been sent to the BLM as of the date of this letter.

If you have any questions or concerns regarding this matter, please do not hesitate to contact me at the email or number provided below.

Regards,

Hilcorp Energy Company

Robert T. Carlson

Landman

(832) 839-4596

rearlson@hilcorp.com

Form 3160-5 (June 2015)

## UNITED STATES DEPARTMENT OF THE INTERIOR

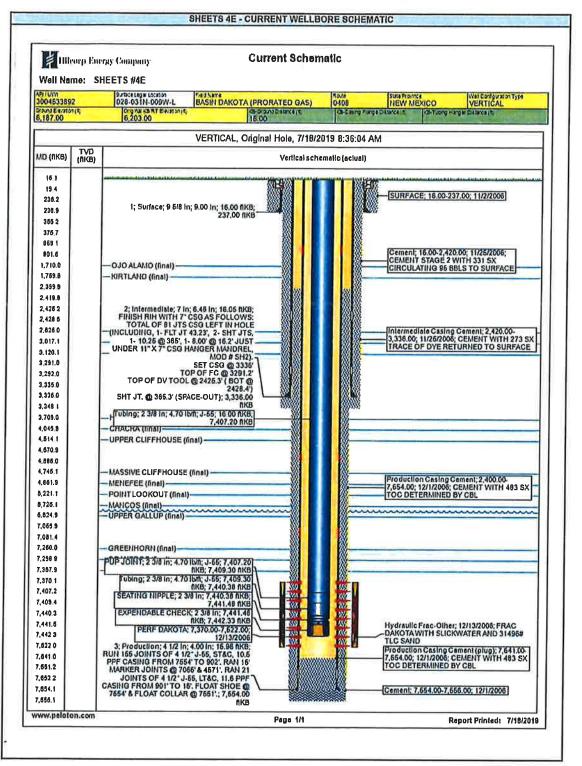
FORM APPROVED OMB NO. 1004-0137 Expires: January 31, 201

DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.				Expires: January 31, 2018  5. Lease Serial No. NMSF080376A  6. If Indian, Allottee or Tribe Name							
						SUBMIT IN TRIPLICATE - Other instructions on page 2				7. If Unit or CA/Agreement, Name and/or No.	
						1. Type of Well ☐ Other ☐ Other				8. Well Name and No. SHEETS 4E	
Name of Operator Contact: PRISCILLA SHORTY HILCORP ENERGY COMPANY E-Mail: pshorty@hilcorp.com				9. API Well No. 30-045-33892							
38. Address 382 ROAD 3100 AZTEC, NM 87410	Phone No. (include area code): 505-324-5188	10. Field and Pool or Exploratory Area BASIN DAKOTA									
4. Location of Well (Footage, Sec., 7	1591	11. County or Parish, State									
Sec 28 T31N R09W Mer NMF			SAN JUAN COUNTY, NM								
12. CHECK THE A	PPROPRIATE BOX(ES) TO I	NDICATE NATURE O	F NOTICE, R	EPORT, OR OTH	IER DATA						
TYPE OF SUBMISSION	TYPE OF ACTION										
Notice of Intent	☐ Acidize	☐ Deepen	☐ Production	n (Start/Resume)	☐ Water Shut-Off						
_	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation		■ Well Integrity						
☐ Subsequent Report	☐ Casing Repair	■ New Construction	Recomplete		☐ Other						
☐ Final Abandonment Notice	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon								
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal								
determined that the site is ready for f Hilcorp Energy Company requ downhole commingle with the diagram, plat, and gas capture commingling. A closed loop sy surface disturbing activities.	true and correct. Electronic Submission #47447 For HILCORP ENERG	the subject well in the Frached is the procedure, the filed and approved prilamation will be performed a verified by the BLM Well Y COMPANY, sent to the	uitland Coal a wellbore or to d after	ystem							
Name (Printed/Typed) PRISCILL	Title OPERA	HONS REGU	LATORY TECH								
Signature (Electronic S	ubmission)	Date 07/22/20	07/22/2019								
C	THIS SPACE FOR FI	EDERAL OR STATE O	OFFICE USE								
Approved By		Title			Date						
Conditions of approval, if any, are attached ertify that the applicant holds legal or equ phich would entitle the applicant to condu											
Sile 10 II C C Cartier 1001 and Title 43	1000 1 1 1010 1- 1	C		to an indicate and an							

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.



# HILCORP ENERGY COMPANY SHEETS 4E FRUITLAND COAL RECOMPLETION SUNDRY





# HILCORP ENERGY COMPANY SHEETS 4E FRUITLAND COAL RECOMPLETION SUNDRY

