

ID NO. 342858

DHC - 5393

RECEIVED: <b>05/10/24</b>	REVIEWER:	TYPE:	APP NO: <b>pLEL2415956932</b>
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ABOVE THIS TABLE FOR OCD DIVISION USE ONLY

**NEW MEXICO OIL CONSERVATION DIVISION**  
 - Geological & Engineering Bureau -  
 1220 South St. Francis Drive, Santa Fe, NM 87505



**ADMINISTRATIVE APPLICATION CHECKLIST**

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

**Applicant:** Hilcorp Energy Company **OGRID Number:** 372171  
**Well Name:** San Juan 29-7 Unit 80A **API:** 30-039-23882  
**Pool:** Basin Fruitland Coal / Blanco Pictured Cliffs / Blanco Mesaverde **Pool Code:** 71629, 72359, 72319

**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

<u>FOR OCD ONLY</u>	
<input type="checkbox"/>	Notice Complete
<input type="checkbox"/>	Application Content Complete

3) **CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

Cherylene Weston

Print or Type Name

Cherylene Weston

Signature

5/23/2024  
Date

713-289-2614  
Phone Number

cweston@hilcorp.com  
e-mail Address

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

State of New Mexico  
Energy, Minerals and Natural Resources Department

Form C-107A  
Revised August 1, 2011

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

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

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

District III  
1000 Rio Brazos Road, Aztec, NM 87410

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

**APPLICATION FOR DOWNHOLE COMMINGLING**

**Hilcorp Energy Company** 382 Road 3100, Aztec, NM 87410

Operator Address

**San Juan 29-7 Unit** **80A** C-9-T29N-R07W Rio Arriba County, NM

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

OGRID No. 372171 Property Code 318713 API No. 30-039-23882 Lease Type:  Federal  State  Fee

DATA ELEMENT	UPPER ZONE	INTERMEDIATE ZONE	LOWER ZONE
Pool Name	<b>Fruitland Coal</b>	<b>Blanco Pictured Cliffs</b>	<b>Blanco Mesaverde</b>
Pool Code	<b>71629</b>	<b>72359</b>	<b>72319</b>
Top and Bottom of Pay Section (Perforated or Open-Hole Interval)	2659' - 2912'	2912' - 3097'	3715' - 5496'
Method of Production (Flowing or Artificial Lift)	Artificial Lift	Artificial Lift	Artificial Lift
Bottomhole Pressure (Note: Pressure data will not be required if the bottom perforation in the lower zone is within 150% of the depth of the top perforation in the upper zone)	446 psi	192 psi	290 psi
Oil Gravity or Gas BTU (Degree API or Gas BTU)	878 BTU	1164 BTU	1217 BTU
Producing, Shut-In or New Zone	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: 2/1/2024 Rates: Oil - 18 bbl Gas - 2,281 mcf Water - 40 bbl
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 % %	Oil Gas % %	Oil Gas % %

**ADDITIONAL DATA**

Are all working, royalty and overriding royalty interests identical in all commingled zones? Yes \_\_\_\_\_ No X  
If not, have all working, royalty and overriding royalty interest owners been notified by certified mail? Yes \_\_\_\_\_ No X

Are all produced fluids from all commingled zones compatible with each other? Yes X No \_\_\_\_\_

Will commingling decrease the value of production? Yes \_\_\_\_\_ No X

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 X No \_\_\_\_\_

NMOCD Reference Case No. applicable to this well: R-10697

**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 Cherylene Weston TITLE Operations/Regulatory Tech-Sr. DATE 5/7/2024

TYPE OR PRINT NAME Cherylene Weston TELEPHONE NO. ( 713 ) 289-2615

E-MAIL ADDRESS cweston@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 359853

**WELL LOCATION AND ACREAGE DEDICATION PLAT**

1. API Number 30-039-23882	2. Pool Code 71629	3. Pool Name BASIN FRUITLAND COAL (GAS)
4. Property Code 318713	5. Property Name SAN JUAN 29 7 UNIT	6. Well No. 080A
7. OGRID No. 372171	8. Operator Name HILCORP ENERGY COMPANY	9. Elevation 6123

**10. Surface Location**

UL - Lot C	Section 9	Township 29N	Range 07W	Lot Idn	Feet From 1190	N/S Line N	Feet From 1810	E/W Line W	County RIO ARRIBA
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**11. Bottom Hole Location If Different From Surface**

UL - Lot	Section	Township	Range	Lot Idn	Feet From	N/S Line	Feet From	E/W Line	County
12. Dedicated Acres 320.00	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><b>OPERATOR CERTIFICATION</b></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: <b>Cherylene Weston</b>                  Title: Operations/Regulatory Tech-Sr.                  Date: 2/15/2024</p>
	<p><b>SURVEYOR CERTIFICATION</b></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: 9/17/1985                  Certificate Number: 3950</p>

**District I**  
 1625 N. French Dr., Hobbs, NM 88240  
 Phone:(575) 393-6161 Fax:(575) 393-0720  
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**1220 S. St Francis Dr.**  
**Santa Fe, NM 87505**

Form C-102  
 August 1, 2011  
 Permit 359853

**WELL LOCATION AND ACREAGE DEDICATION PLAT**

1. API Number 30-039-23882	2. Pool Code 72359	3. Pool Name BLANCO PICTURED CLIFFS (GAS)
4. Property Code 318713	5. Property Name SAN JUAN 29 7 UNIT	6. Well No. 080A
7. OGRID No. 372171	8. Operator Name HILCORP ENERGY COMPANY	9. Elevation 6123

**10. Surface Location**

UL - Lot C	Section 9	Township 29N	Range 07W	Lot Idn	Feet From 1190	N/S Line N	Feet From 1810	E/W Line W	County RIO ARRIBA
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**11. Bottom Hole Location If Different From Surface**

UL - Lot	Section	Township	Range	Lot Idn	Feet From	N/S Line	Feet From	E/W Line	County
12. Dedicated Acres 160.00	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><b>OPERATOR CERTIFICATION</b></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: <b>Cherylene Weston</b>                  Title: Operations/Regulatory Tech-Sr.                  Date: 2/15/2024</p>
	<p><b>SURVEYOR CERTIFICATION</b></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: 9/17/1985                  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.

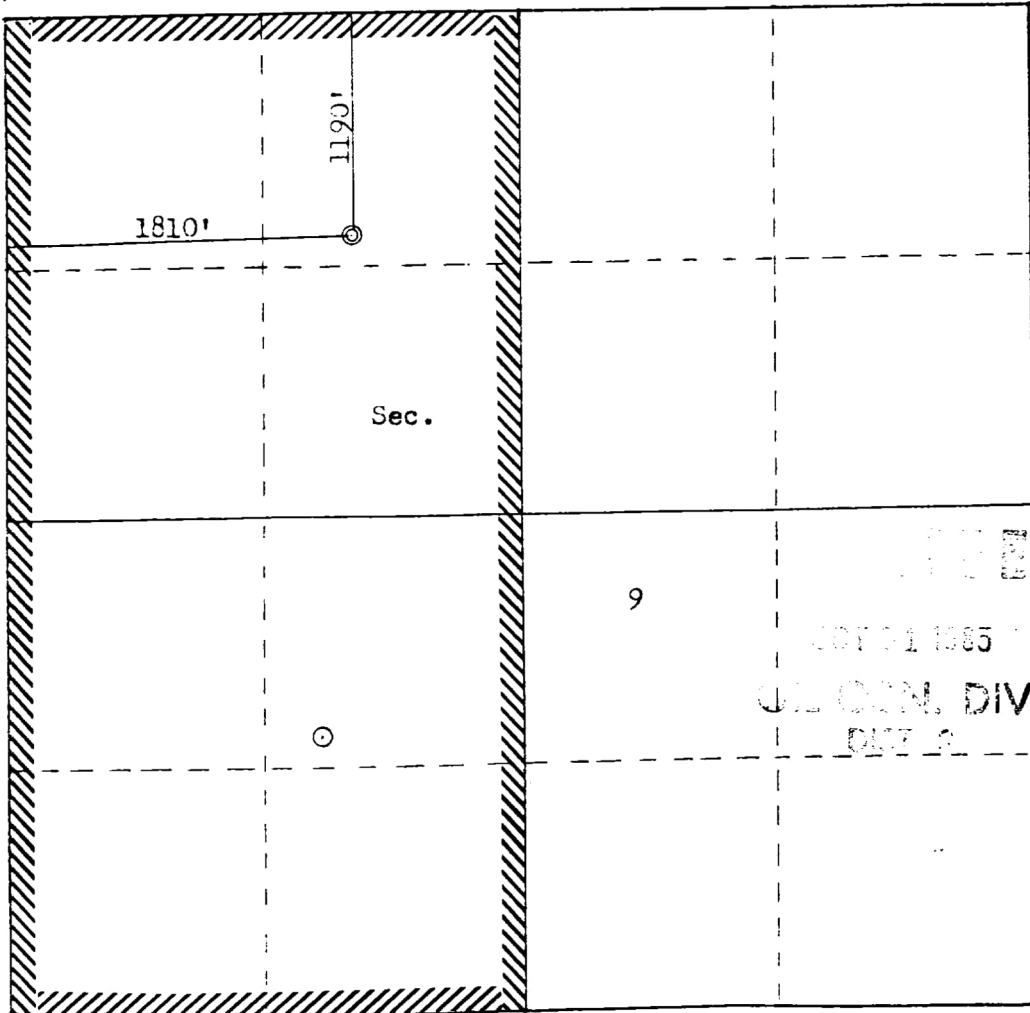
Operator <b>EL PASO NATURAL GAS COMPANY</b>		Lease <b>SAN JUAN 29-7 UNIT (Fee)</b>			Well No. <b>80A</b>
Unit Letter <b>C</b>	Section <b>9</b>	Township <b>29N</b>	Range <b>7W</b>	County <b>Rio Arriba</b>	
Actual Footage Location of Well: <b>1190</b> feet from the <b>North</b> line and <b>1810</b> feet from the <b>West</b> line					
Ground Level Elev. <b>6123</b>	Producing Formation <b>Mesa Verde</b>		Pool <b>Blanco</b>	Dedicated Acreage: <b>320</b> 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 \_\_\_\_\_

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 Doal*  
Name

Position  
Drilling Clerk

Company  
El Paso Natural Gas Company

Date  
9-30-85

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.

Date Surveyed  
September 17, 1985

Registered Professional Engineer and Land Surveyor

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

Certificate No.  
3950

The near wellbore shut-in bottom hole pressures of the above reservoirs are much lower than the calculated far-field stabilized reservoir pressure 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 pressures, the low permeability of the reservoir rock results in rapid depletion of the near-fracture region, quickly enough that the wells are unable to produce without the aid of a plunger. Given low permeabilities and low wellbore flowing pressures in the above reservoirs, loss of reserves due to cross-flow is not an issue during producing or shut-in periods. Given low shut-in bottom hole pressures, commingling the above reservoirs in this well will not result in shut-in or flowing wellbore pressures in excess of any commingled pool's fracture parting pressure. The pressures provided in the C-107A are based on shut-in bottom hole pressures of offset standalone wells which match expected near-wellbore shut-in bottom hole pressures of this proposed commingled completion.

Note: BTU Data taken from standalone completions in the zone of interest within a 2 mile radius of the well.

A farther radius is used if there is not enough data for a proper statistical analysis.



### San Juan 29-7 Unit 80A Production Allocation Method – Subtraction

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

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

#### Gas Allocation:

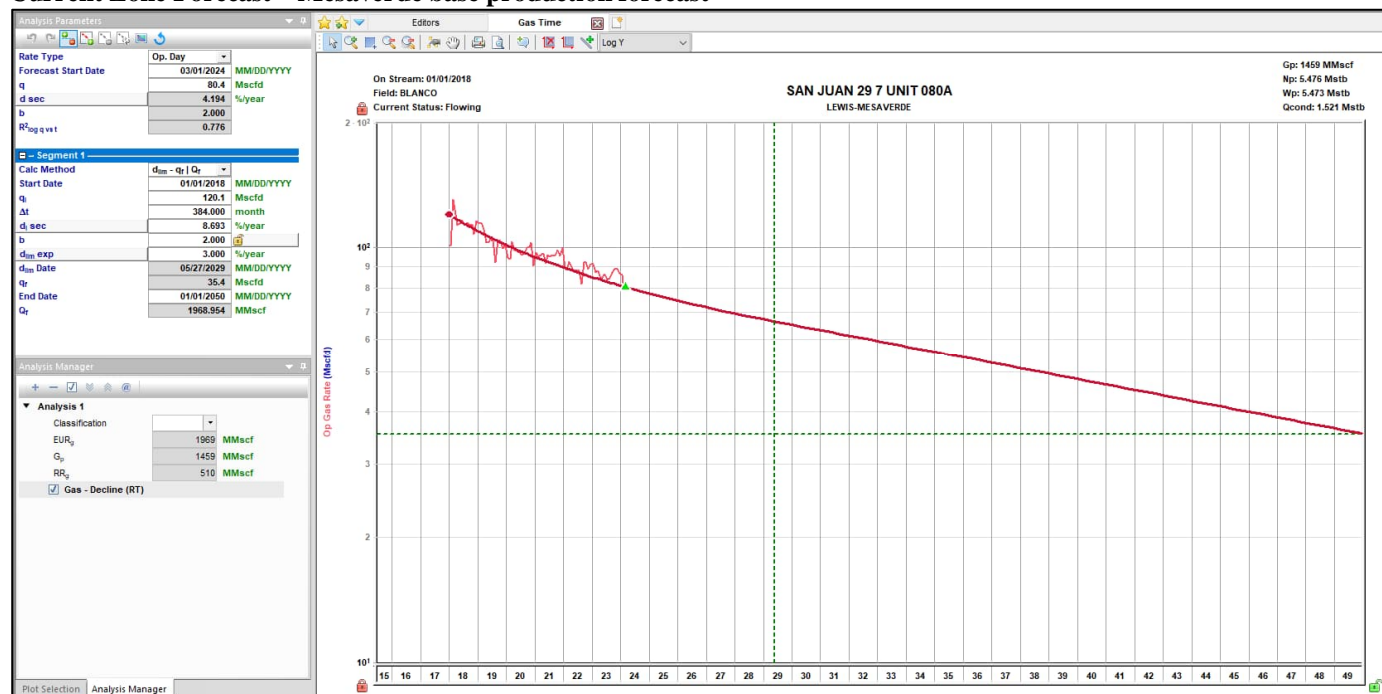
Production for the downhole commingle will be allocated using the subtraction method in agreement with local agencies. The base formation is the Mesaverde and the added formation to be commingled is the Fruitland Coal/Pictured Cliffs. The subtraction method applies an average monthly production forecast to the base formation using historic production. All production from this well exceeding the forecast will be allocated to the new formation.

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

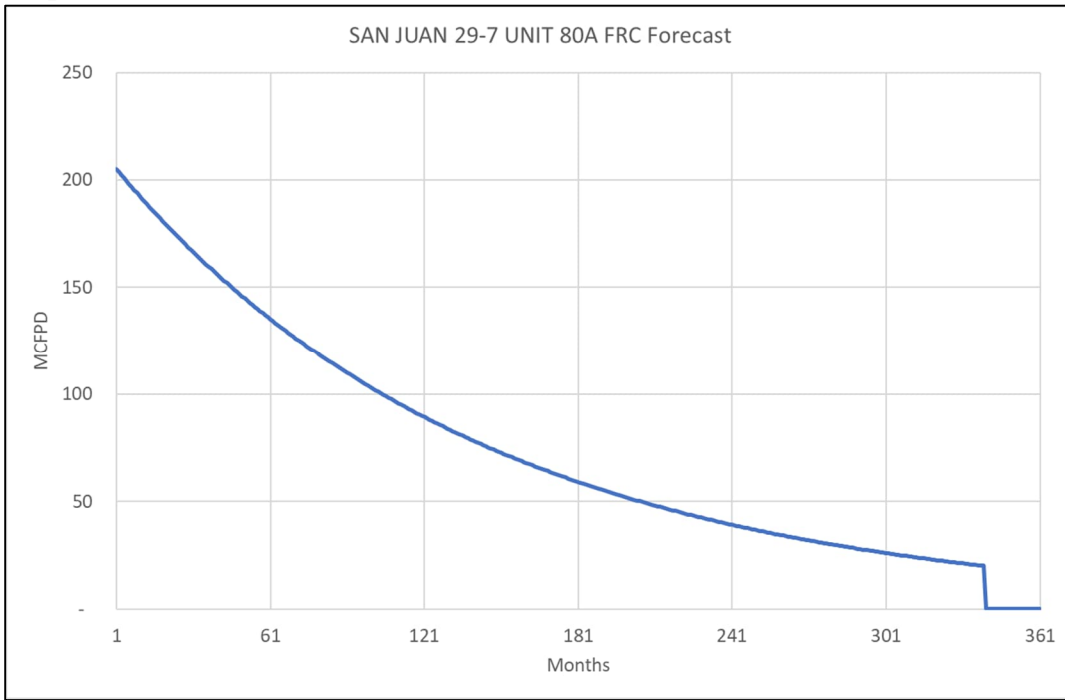
Formation	Remaining Reserves (MMcf)	% Gas Allocation
Fruitland Coal	820	69%
Pictured Cliffs	364	31%

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

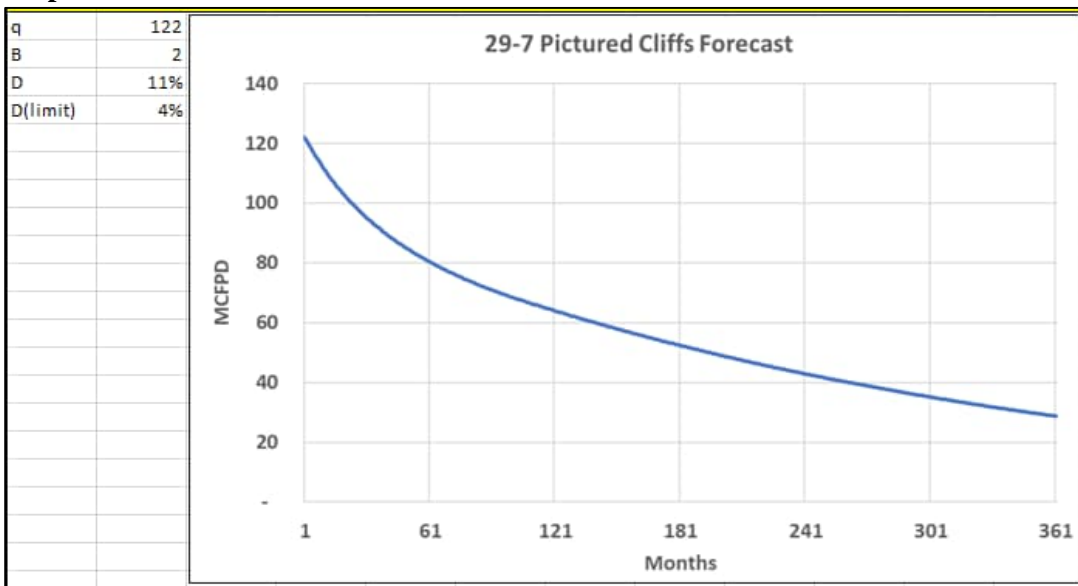
#### Current Zone Forecast – Mesaverde base production forecast



**Proposed Zone 1 Forecast – Fruitland Coal**



**Proposed Zone 2 Forecast – Pictured Cliffs**



**Oil Allocation:**

Oil production will be a fixed allocation of 100% to the Mesaverde based on actual formation yields from the well. The Fruitland Coal and Pictured Cliffs have not historically produced oil in this area.

Formation	Yield (bbl/MM)	Remaining Reserves (MMcf)	% Oil Allocation
MV	1.04	510	100%
FRC	0.00	820	0%
PC	0.00	364	0%
	0.00	0	0%



**Current Zone - Mesaverde Oil Yield**

Current Zone 1 Oil Yield Map			
Mesaverde		1.04	BO/MMCF
Gp	1,459	MMscf	
Qcond	1,521	stb	
Yield	1.04	bo/MM	

Average Oil Yield observed in this well

Shut in pressures were calculated for operated offset standalone wells in each of the zones being commingled in the well in question via the following process:

- 1) Wells were shut in for 24 hours
- 2) Echometer was used to obtain a fluid level
- 3) Shut in BHP was calculated for the proposed commingled completion

List of wells used to calculate BHPs for the Project:		
3003926081	SAN JUAN 29-7 UNIT 44B	MV
3003925498	SAN JUAN 29-7 UNIT 300	FC
3003927484	SAN JUAN 29-7 UNIT 185	PC

I believe each of the reservoirs to be continuous and in a similar state of depletion at this well and at each of the wells from which the pressures are being derived.

Water Compatibility in the San Juan Basin

- The San Juan basin has productive siliciclastic reservoirs (Pictured Cliffs, Blanco Mesaverde, Basin Mancos, Basin Dakota, etc.) and a productive coalbed methane reservoir (Basin Fruitland Coal).
- These siliciclastic and coalbed methane reservoirs are commingled extensively throughout the basin in many different combinations with no observed damage from clay swelling due to differing formation waters.
- The samples below all show fresh water with low TDS.

FRC Offset		PC Offset		MV Offset	
API	3003924186	API	3003925897	API	3003907507
Property	SAN JUAN 30-6 UNIT 409	Property	SAN JUAN 29-7 UNIT 166	Property	SAN JUAN 29-5 UNIT 5X
CationBarium	6.73	CationBarium	0	CationBarium	0
CationBoron		CationBoron		CationBoron	
CationCalcium	18.49	CationCalcium	80	CationCalcium	6.11
CationIron	5.4	CationIron	62.1	CationIron	32.81
CationMagnesium	4.54	CationMagnesium	19.5	CationMagnesium	9.52
CationManganese	0.62	CationManganese	1.98	CationManganese	0.42
CationPhosphorus		CationPhosphorus		CationPhosphorus	
CationPotassium		CationPotassium		CationPotassium	
CationStrontium	4.49	CationStrontium	0	CationStrontium	0.31
CationSodium	686.44	CationSodium	762.8	CationSodium	752.38
CationSilica		CationSilica		CationSilica	
CationZinc		CationZinc		CationZinc	
CationAluminum		CationAluminum		CationAluminum	
CationCopper		CationCopper		CationCopper	
CationLead		CationLead		CationLead	
CationLithium		CationLithium		CationLithium	
CationNickel		CationNickel		CationNickel	
CationCobalt		CationCobalt		CationCobalt	
CationChromium		CationChromium		CationChromium	
CationSilicon		CationSilicon		CationSilicon	
CationMolybdenum		CationMolybdenum		CationMolybdenum	
AnionChloride	91	AnionChloride	1200	AnionChloride	906
AnionCarbonate	0	AnionCarbonate	0	AnionCarbonate	0
AnionBicarbonate		AnionBicarbonate	427	AnionBicarbonate	
AnionBromide		AnionBromide		AnionBromide	
AnionFluoride		AnionFluoride		AnionFluoride	
AnionHydroxyl	0	AnionHydroxyl		AnionHydroxyl	0
AnionNitrate		AnionNitrate		AnionNitrate	
AnionPhosphate		AnionPhosphate		AnionPhosphate	
AnionSulfate	0	AnionSulfate	80	AnionSulfate	0
phField	7.99	phField		phField	6.49
phCalculated		phCalculated	6.83	phCalculated	
TempField	79	TempField		TempField	70.9
TempLab		TempLab		TempLab	
OtherFieldAlkalinity	1698.58	OtherFieldAlkalinity	342.16	OtherFieldAlkalinity	219.96
OtherSpecificGravity	1	OtherSpecificGravity		OtherSpecificGravity	1
OtherTDS	2538	OtherTDS	2435	OtherTDS	2071
OtherCaCO3	64.84	OtherCaCO3		OtherCaCO3	54.31
OtherConductivity	968	OtherConductivity		OtherConductivity	4140
DissolvedCO2	26	DissolvedCO2		DissolvedCO2	142
DissolvedO2		DissolvedO2		DissolvedO2	
DissolvedH2S	0.37	DissolvedH2S	13	DissolvedH2S	1.97
GasPressure	141	GasPressure		GasPressure	150
GasCO2	6	GasCO2	4	GasCO2	1
GasCO2PP	8.46	GasCO2PP		GasCO2PP	1.5
GasH2S	0	GasH2S	0	GasH2S	2.5
GasH2SPP	0	GasH2SPP		GasH2SPP	0
PitzerCaCO3_70	0.72	PitzerCaCO3_70		PitzerCaCO3_70	
PitzerBaSO4_70		PitzerBaSO4_70		PitzerBaSO4_70	
PitzerCaSO4_70		PitzerCaSO4_70		PitzerCaSO4_70	
PitzerSrSO4_70		PitzerSrSO4_70		PitzerSrSO4_70	
PitzerFeCO3_70		PitzerFeCO3_70		PitzerFeCO3_70	
PitzerCaCO3_220	1.06	PitzerCaCO3_220		PitzerCaCO3_220	
PitzerBaSO4_220		PitzerBaSO4_220		PitzerBaSO4_220	
PitzerCaSO4_220		PitzerCaSO4_220		PitzerCaSO4_220	
PitzerSrSO4_220		PitzerSrSO4_220		PitzerSrSO4_220	
PitzerFeCO3_220		PitzerFeCO3_220		PitzerFeCO3_220	

Gas Compatibility in the San Juan Basin

- The San Juan basin has productive siliciclastic reservoirs (Pictured Cliffs, Blanco Mesaverde, Basin Dakota, etc.) and a productive coalbed methane reservoir (Basin Fruitland Coal).
- These siliciclastic and coalbed methane reservoirs are commingled extensively throughout the basin in many different combinations with no observed damage from clay swelling due to differing formation waters or gas composition.
- The samples below all show offset gas analysis variability by formation is low.

FRC Offset		PC Offset		MV Offset	
AssetCode	3003924382	AssetCode	3003927574	AssetCode	3003922027
AssetName	SAN JUAN 28-5 UNIT NP 204	AssetName	SAN JUAN 29-7 UNIT 193	AssetName	NORTHEAST BLANCO UNIT 19A
CO2	0.01	CO2	0.01	CO2	0.01
N2	0	N2	0	N2	0.01
C1	0.83	C1	0.85	C1	0.93
C2	0.09	C2	0.07	C2	0.04
C3	0.04	C3	0.04	C3	0.01
ISOC4	0.01	ISOC4	0.01	ISOC4	0
NC4	0.01	NC4	0.01	NC4	0
ISOC5	0	ISOC5	0	ISOC5	0
NC5	0	NC5	0	NC5	0
NEOC5		NEOC5		NEOC5	
C6		C6		C6	
C6_PLUS	0.01	C6_PLUS	0.01	C6_PLUS	0
C7		C7		C7	
C8		C8		C8	
C9		C9		C9	
C10		C10		C10	
AR		AR		AR	
CO		CO		CO	
H2		H2		H2	
O2		O2		O2	
H20		H20		H20	
H2S	0	H2S	0	H2S	0
HE		HE		HE	
C_O_S		C_O_S		C_O_S	
CH3SH		CH3SH		CH3SH	
C2H5SH		C2H5SH		C2H5SH	
CH2S3_2CH3S		CH2S3_2CH3S		CH2S3_2CH3S	
CH2S		CH2S		CH2S	
C6HV		C6HV		C6HV	
CO2GPM	0	CO2GPM	0	CO2GPM	
N2GPM	0	N2GPM	0	N2GPM	
C1GPM	0	C1GPM	0	C1GPM	
C2GPM	2.34	C2GPM	1.98	C2GPM	
C3GPM	1.05	C3GPM	1.07	C3GPM	
ISOC4GPM	0.25	ISOC4GPM	0.24	ISOC4GPM	
NC4GPM	0.33	NC4GPM	0.32	NC4GPM	
ISOC5GPM	0.15	ISOC5GPM	0.13	ISOC5GPM	
NC5GPM	0.11	NC5GPM	0.09	NC5GPM	
C6_PLUSGPM	0.3	C6_PLUSGPM	0.25	C6_PLUSGPM	

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**District IV**  
1220 S. St. Francis Dr., Santa Fe, NM 87505  
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico

Form C-101  
Revised July 18, 2013

Energy Minerals and Natural Resources

Oil Conservation Division

AMENDED REPORT

1220 South St. Francis Dr.

Santa Fe, NM 87505

**APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE**

<sup>1</sup> Operator Name and Address Hilcorp Energy Company 382 Road 3100 Aztec, NM 87410		<sup>2</sup> OGRID Number 372171
		<sup>3</sup> API Number 30-039-23882
<sup>4</sup> Property Code 318713	<sup>5</sup> Property Name San Juan 29-7 Unit	<sup>6</sup> Well No. 80A

**7. Surface Location**

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
C	9	029N	007W		1190	North	1810	West	Rio Arriba

**8. Proposed Bottom Hole Location**

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County

**9. Pool Information**

Pool Name Basin Fruitland Coal, Blanco Pictured Cliffs	Pool Code 71629, 72359
---	---------------------------

**Additional Well Information**

<sup>11</sup> Work Type Recomplete	<sup>12</sup> Well Type Commingle	<sup>13</sup> Cable/Rotary	<sup>14</sup> Lease Type FEE	<sup>15</sup> Ground Level Elevation 6123' GR
<sup>16</sup> Multiple Commingle	<sup>17</sup> Proposed Depth	<sup>18</sup> Formation Basin FRC, Blanco PC, Blanco MV	<sup>19</sup> Contractor	<sup>20</sup> Spud Date
Depth to Ground water		Distance from nearest fresh water well		Distance to nearest surface water

We will be using a closed-loop system in lieu of lined pits

**21. Proposed Casing and Cement Program**

Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC

**Casing/Cement Program: Additional Comments**

--

**22. Proposed Blowout Prevention Program**

Type	Working Pressure	Test Pressure	Manufacturer

<sup>23</sup> I hereby certify that the information given above is true and complete to the best of my knowledge and belief. <b>I further certify that I have complied with 19.15.14.9 (A) NMAC <input type="checkbox"/> and/or 19.15.14.9 (B) NMAC <input type="checkbox"/> , if applicable.</b> Signature: <b>Cherylene Weston</b>	<b>OIL CONSERVATION DIVISION</b>	
	Approved By:	
Printed name: Cherylene Weston	Title:	
Title: Operations Regulatory Tech Sr.	Approved Date:	Expiration Date:
E-mail Address: cweston@hilcorp.com		
Date: 4/24/2024	Phone: 713-289-2615	Conditions of Approval Attached



**HILCORP ENERGY COMPANY**  
**San Juan 29-7 Unit 80A**  
**RECOMPLETION SUNDRY**

<b>Prepared by:</b>	Matthew Esz
<b>Preparation Date:</b>	February 14, 2024

WELL INFORMATION			
<b>Well Name:</b>	San Juan 29-7 Unit 80A	<b>State:</b>	NM
<b>API #:</b>	3003923882	<b>County:</b>	
<b>Area:</b>	10	<b>Location:</b>	
<b>Route:</b>	1000	<b>Latitude:</b>	
<b>Spud Date:</b>	February 3, 1986	<b>Longitude:</b>	

PROJECT DESCRIPTION
Perforate, fracture, and comingle the Fruitland Coal and Pictured Cliffs with the existing Mesa Verde zone.

CONTACTS			
Title	Name	Office Phone #	Cell Phone #
Engineer	Matthew Esz		770-843-9226
Area Foreman	Ryan Frost		
Lead			
Artificial Lift Tech			
Operator			



**HILCORP ENERGY COMPANY**  
**San Juan 29-7 Unit 80A**  
**RECOMPLETION SUNDRY**

JOB PROCEDURES
<ol style="list-style-type: none"> <li>1. MIRU service rig and associated equipment; test BOP.</li> <li>2. TOOH with <b>2-3/8"</b> tubing set at <b>5,461'</b>.</li> <li>3. Set a <b>4-1/2"</b> plug at +/- <b>3,690'</b> to isolate the <b>Mesa Verde</b>.</li> <li>4. RU Wireline. Run CBL. Record Top of Cement.</li> <li>5. Load the hole and pressure test the casing.</li> <li>6. N/D BOP, N/U frac stack and pressure test frac stack.</li> <li>7. Perforate and frac the <b>Pictured Cliffs</b> from <b>2912'-3097'</b> and <b>Fruitland Coal</b> from <b>2659'-2912'</b>.</li> <li>8. Nipple down frac stack, nipple up BOP and test.</li> <li>9. TIH with a mill and drill out top isolation plug and <b>Fruitland Coal/ Pictured Cliffs</b> frac plugs.</li> <li>10. Clean out to <b>Mesa Verde</b> isolation plug.</li> <li>11. Drill out <b>Mesa Verde</b> isolation plug and cleanout to PBSD of <b>5,576'</b>. TOOH.</li> <li>12. TIH and land production tubing. Get a commingled <b>Fruitland Coal/Pictured Cliffs/Mesa Verde</b> flow rate.</li> </ol>

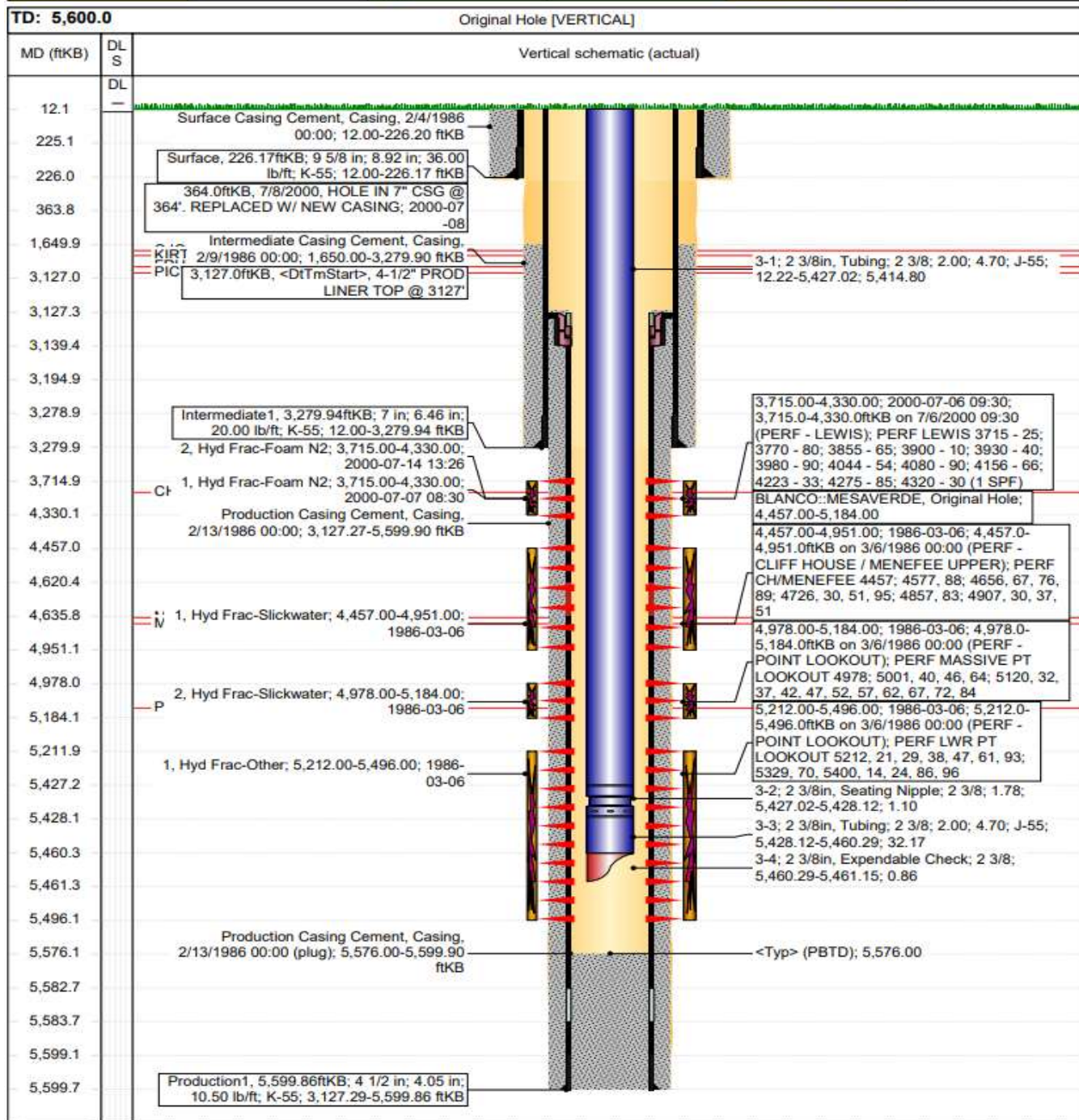


**HILCORP ENERGY COMPANY**  
**San Juan 29-7 Unit 80A**  
**RECOMPLETION SUNDRY**

**San Juan 29-7 Unit 80A - CURRENT WELLBORE SCHEMATIC**

**Well Name: SAN JUAN 29-7 UNIT #80A**

API / UWI 3003923882	Lahee	Area AREA 10	Field Name BLANCO MESAVERDE (PROPRAT)	Route 1000	License No.	State/Province NEW MEXICO
Ground Elevation (ft) 6,118.00	Casing Flange Elevation (ft)	RKB to GL (ft) 12.00	KB-Casing Flange Distance (ft)	Original Spud Date 2/3/1986 00:00	Rig Release Date 3/15/2002 11:45	





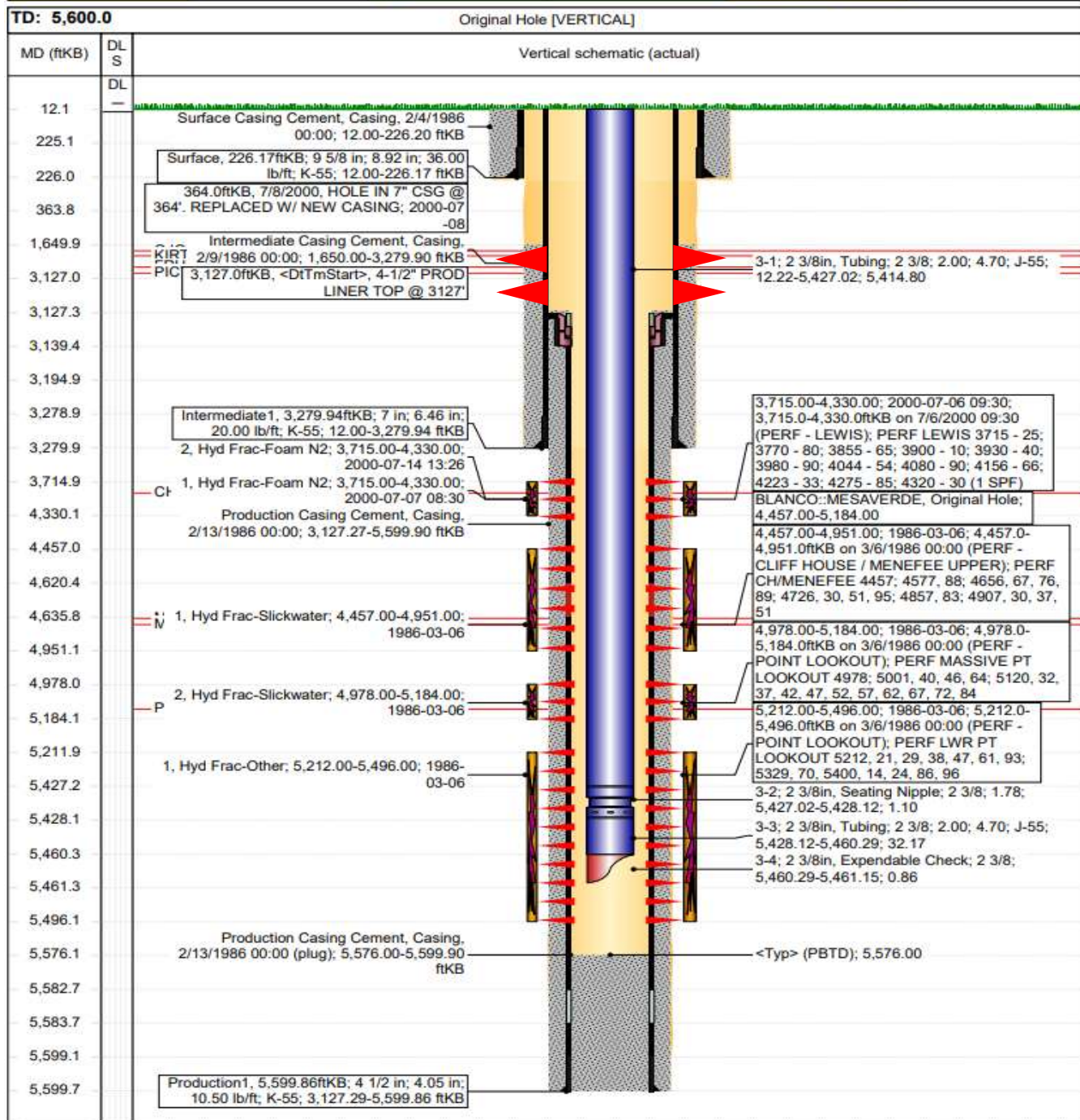


**HILCORP ENERGY COMPANY**  
**San Juan 29-7 Unit 80A**  
**RECOMPLETION SUNDRY**

San Juan 29-7 Unit 80A - Proposed Schematic

Well Name: **SAN JUAN 29-7 UNIT #80A**

API / UWI 3003923882	Lahee	Area AREA 10	Field Name BLANCO MESAVERDE (PRIORAT)	Route 1000	License No.	State/Province NEW MEXICO
Ground Elevation (ft) 6,118.00	Casing Flange Elevation (ft)	RKB to GL (ft) 12.00	KB-Casing Flange Distance (ft)	Original Spud Date 2/3/1986 00:00	Rig Release Date 3/15/2002 11:45	



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 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 359853

**WELL LOCATION AND ACREAGE DEDICATION PLAT**

1. API Number 30-039-23882	2. Pool Code 71629	3. Pool Name BASIN FRUITLAND COAL (GAS)
4. Property Code 318713	5. Property Name SAN JUAN 29 7 UNIT	6. Well No. 080A
7. OGRID No. 372171	8. Operator Name HILCORP ENERGY COMPANY	9. Elevation 6123

**10. Surface Location**

UL - Lot C	Section 9	Township 29N	Range 07W	Lot Idn	Feet From 1190	N/S Line N	Feet From 1810	E/W Line W	County RIO ARRIBA
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**11. Bottom Hole Location If Different From Surface**

UL - Lot	Section	Township	Range	Lot Idn	Feet From	N/S Line	Feet From	E/W Line	County
12. Dedicated Acres 320.00	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><b>OPERATOR CERTIFICATION</b></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: <b>Cherylene Weston</b>                  Title: Operations/Regulatory Tech-Sr.                  Date: 2/15/2024</p>
	<p><b>SURVEYOR CERTIFICATION</b></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: 9/17/1985                  Certificate Number: 3950</p>

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**State of New Mexico**  
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**1220 S. St Francis Dr.**  
**Santa Fe, NM 87505**

Form C-102  
 August 1, 2011  
 Permit 359853

**WELL LOCATION AND ACREAGE DEDICATION PLAT**

1. API Number 30-039-23882	2. Pool Code 72359	3. Pool Name BLANCO PICTURED CLIFFS (GAS)
4. Property Code 318713	5. Property Name SAN JUAN 29 7 UNIT	6. Well No. 080A
7. OGRID No. 372171	8. Operator Name HILCORP ENERGY COMPANY	9. Elevation 6123

**10. Surface Location**

UL - Lot C	Section 9	Township 29N	Range 07W	Lot Idn	Feet From 1190	N/S Line N	Feet From 1810	E/W Line W	County RIO ARRIBA
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**11. Bottom Hole Location If Different From Surface**

UL - Lot	Section	Township	Range	Lot Idn	Feet From	N/S Line	Feet From	E/W Line	County
12. Dedicated Acres 320.00	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><b>OPERATOR CERTIFICATION</b></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: <a href="#">Cherylene Weston</a>                  Title: Operations/Regulatory Tech-Sr.                  Date: 2/15/2024</p>
	<p><b>SURVEYOR CERTIFICATION</b></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: 9/17/1985                  Certificate Number: 3950</p>

State of New Mexico  
 Energy, Minerals and Natural Resources Department

Submit Electronically  
 Via E-permitting

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

## NATURAL GAS MANAGEMENT PLAN

This Natural Gas Management Plan must be submitted with each Application for Permit to Drill (APD) for a new or recompleted well.

### Section 1 – Plan Description Effective May 25, 2021

**I. Operator:** Hilcorp Energy Company **OGRID:** 372171 **Date:** 02 / 15 / 2024

**II. Type:**  Original  Amendment due to  19.15.27.9.D(6)(a) NMAC  19.15.27.9.D(6)(b) NMAC  Other.

If Other, please describe: \_\_\_\_\_

**III. Well(s):** Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
SJ 29-7 Unit 80A	303923882	C-9-29N-07W	1190 FNL & 1810 FWL	0 bbl/d	205 mcf/d	1 bbl/d

**IV. Central Delivery Point Name:** Chaco-Blanco Plant [See 19.15.27.9(D)(1) NMAC]

**V. Anticipated Schedule:** Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production Date
SJ 29-7 Unit 80A	3003923882					<u>2024</u>

**VI. Separation Equipment:**  Attach a complete description of how Operator will size separation equipment to optimize gas capture.

**VII. Operational Practices:**  Attach a complete description of the actions Operator will take to comply with the requirements of Subsection A through F of 19.15.27.8 NMAC.

**VIII. Best Management Practices:**  Attach a complete description of Operator’s best management practices to minimize venting during active and planned maintenance.

**Section 2 – Enhanced Plan**

**EFFECTIVE APRIL 1, 2022**

Beginning April 1, 2022, an operator that is not in compliance with its statewide natural gas capture requirement for the applicable reporting area must complete this section.

Operator certifies that it is not required to complete this section because Operator is in compliance with its statewide natural gas capture requirement for the applicable reporting area.

**IX. Anticipated Natural Gas Production:**

Well	API	Anticipated Average Natural Gas Rate MCF/D	Anticipated Volume of Natural Gas for the First Year MCF

**X. Natural Gas Gathering System (NGGS):**

Operator	System	ULSTR of Tie-in	Anticipated Gathering Start Date	Available Maximum Daily Capacity of System Segment Tie-in

**XI. Map.**  Attach an accurate and legible map depicting the location of the well(s), the anticipated pipeline route(s) connecting the production operations to the existing or planned interconnect of the natural gas gathering system(s), and the maximum daily capacity of the segment or portion of the natural gas gathering system(s) to which the well(s) will be connected.

**XII. Line Capacity.** The natural gas gathering system  will  will not have capacity to gather 100% of the anticipated natural gas production volume from the well prior to the date of first production.

**XIII. Line Pressure.** Operator  does  does not anticipate that its existing well(s) connected to the same segment, or portion, of the natural gas gathering system(s) described above will continue to meet anticipated increases in line pressure caused by the new well(s).

Attach Operator’s plan to manage production in response to the increased line pressure.

**XIV. Confidentiality:**  Operator asserts confidentiality pursuant to Section 71-2-8 NMSA 1978 for the information provided in Section 2 as provided in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and attaches a full description of the specific information for which confidentiality is asserted and the basis for such assertion.



### Section 3 - Certifications

Effective May 25, 2021

Operator certifies that, after reasonable inquiry and based on the available information at the time of submittal:

Operator will be able to connect the well(s) to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system; or

Operator will not be able to connect to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system.

**If Operator checks this box, Operator will select one of the following:**

**Well Shut-In.**  Operator will shut-in and not produce the well until it submits the certification required by Paragraph (4) of Subsection D of 19.15.27.9 NMAC; or

**Venting and Flaring Plan.**  Operator has attached a venting and flaring plan that evaluates and selects one or more of the potential alternative beneficial uses for the natural gas until a natural gas gathering system is available, including:

- (a) power generation on lease;
- (b) power generation for grid;
- (c) compression on lease;
- (d) liquids removal on lease;
- (e) reinjection for underground storage;
- (f) reinjection for temporary storage;
- (g) reinjection for enhanced oil recovery;
- (h) fuel cell production; and
- (i) other alternative beneficial uses approved by the division.

### Section 4 - Notices

1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

(a) Operator becomes aware that the natural gas gathering system it planned to connect the well(s) to has become unavailable or will not have capacity to transport one hundred percent of the production from the well(s), no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised venting and flaring plan containing the information specified in Paragraph (5) of Subsection D of 19.15.27.9 NMAC; or

(b) Operator becomes aware that it has, cumulatively for the year, become out of compliance with its baseline natural gas capture rate or natural gas capture requirement, no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised Natural Gas Management Plan for each well it plans to spud during the next 90 days containing the information specified in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and shall file an update for each Natural Gas Management Plan until Operator is back in compliance with its baseline natural gas capture rate or natural gas capture requirement.

2. OCD may deny or conditionally approve an APD if Operator does not make a certification, fails to submit an adequate venting and flaring plan which includes alternative beneficial uses for the anticipated volume of natural gas produced, or if OCD determines that Operator will not have adequate natural gas takeaway capacity at the time a well will be spud.



I certify that, after reasonable inquiry, the statements in and attached to this Natural Gas Management Plan are true and correct to the best of my knowledge and acknowledge that a false statement may be subject to civil and criminal penalties under the Oil and Gas Act.

Signature:	Cherylene Weston
Printed Name:	Cherylene Weston
Title:	Operations/Regulatory Tech-Sr.
E-mail Address:	cweston@hilcorp.com
Date:	2/15/2024
Phone:	713-289-2615

**OIL CONSERVATION DIVISION**  
**(Only applicable when submitted as a standalone form)**

Approved By:
Title:
Approval Date:
Conditions of Approval:

## VI. Separation Equipment:

Hilcorp Energy Company (HEC or Operator) production facilities include separation equipment designed to efficiently separate gas from liquid phases to optimize gas capture based on projected and estimated volumes from the targeted pool of our recomplete project. HEC will utilize flowback separation equipment and production separation equipment designed and built to industry specifications after the recomplete to optimize gas capture and send gas to sales or flare based on analytical composition. HEC operates facilities that are typically one-well facilities. Production separation equipment is upgraded prior to well being completed, if determined to be undersized or inadequate. This equipment is already on-site and tied into our sales gas lines prior to the recomplete operations.

## VII. Operational Practices:

1. Subsection (A) Venting and Flaring of Natural Gas
  - HEC understands the requirements of NMAC 19.15.27.8 which outlines that the venting and flaring of natural gas during drilling, completion or production operations that constitutes waste as defined in 19.15.2 are prohibited.
2. Subsection (B) Venting and Flaring during drilling operations
  - This gas capture plan isn't for a well being drilled.
3. Subsection (C) Venting and flaring during completion or recompletion
  - Flowlines will be routed for flowback fluids into a completion or storage tank and if feasible under well conditions, flare rather than vent and commence operation of a separator as soon as it is technically feasible for a separator to function.
  - At any point in the well life (completion, production, inactive) an audio, visual and olfactory inspection be performed at prescribed intervals (weekly or monthly) pursuant to Subsection D of 19.15.27.8 NMAC, to confirm that all production equipment is operating properly and there are no leaks or releases.
4. Subsection (D) Venting and flaring during production operations
  - At any point in the well life (completion, production, inactive) an audio, visual and olfactory inspection be performed at prescribed intervals (weekly or monthly) pursuant to Subsection D of 19.15.27.8 NMAC, to confirm that all production equipment is operating properly and there are no leaks or releases.
  - Monitor manual liquid unloading for wells on-site or in close proximity (<30 minutes' drive time), take reasonable actions to achieve a stabilized rate and pressure at the earliest practical time, and take reasonable actions to minimize venting to the maximum extent practicable.
  - HEC will not vent or flare except during the approved activities listed in NMAC 19.15.27.8 (D) 1-4.
5. Subsection (E) Performance standards
  - All tanks and separation equipment are designed for maximum throughput and pressure to minimize waste.
  - If a flare is utilized during production operations it will have a continuous pilot and is located more than 100 feet from any known well or storage tanks.
  - At any point in the well life (completion, production, inactive) an audio, visual and olfactory inspection be performed at prescribed intervals (weekly or monthly) pursuant to Subsection D of 19.15.27.8 NMAC, to confirm that all production equipment is operating properly and there are no leaks or releases.

6. Subsection (F) Measurement or estimation of vented and flared natural gas
  - o Measurement equipment is installed to measure the volume of natural gas flared from process piping.
  - o When measurement isn't practicable, estimation of vented and flared natural gas will be completed as noted in 19.15.27.8 (F) 5-6.

VIII. Best Management Practices:

1. Operator has adequate storage and takeaway capacity for wells it chooses to recomplete as the flowlines at the sites are already in place and tied into a gathering system.
2. Operator will flare rather than vent vessel blowdown gas when technically feasible during active and/or planned maintenance to equipment on-site.
3. Operator combusts natural gas that would otherwise be vented or flared, when technically feasible.
4. Operator will shut in wells in the event of a takeaway disruption, emergency situation, or other operations where venting or flaring may occur due to equipment failures.



May 7, 2024

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

Re: C-107A (Downhole Commingle)  
San Juan 29-7 Unit 80A  
API No. 30-039-23882  
Section 09, T29N, R07W  
Rio Arriba County, NM

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

Interest is diverse between the formations listed below:

- *Fruitland Coal Pool Code: 71629*
- *Blanco Pictured Cliffs Pool Code: 72359*
- *Blanco Mesaverde Pool Code: 72319*

Order No. R-10697 waives the notice requirement and thus no notices will be sent.

The subject well is located within the bounds of a Federal Unit. Therefore, pursuant to Subsection C. (1) of 19.15.12.11 NMAC, written notice has been sent to the Bureau of Land Management as of the date of this letter.

If you have any questions or concerns, please contact the undersigned using the information provided below.

Sincerely,

By: HILCORP ENERGY COMPANY,  
Its General Partner

A handwritten signature in blue ink that reads 'Chuck Creekmore'.

Charles E (Chuck) Creekmore  
Division Landman  
Hilcorp Energy Company  
1111 Travis Street, Houston TX 77002  
PO Box 61229, Houston TX 77208-1229  
Main: 713/209-2400; Direct: 832/839-  
4601 Cell: 505/320-9910; Fax: 713/209-  
2420  
[ccreekmore@hilcorp.com](mailto:ccreekmore@hilcorp.com)

**From:** Cheryl Weston  
**To:** Lowe, Leonard, EMNRD; McClure, Dean, EMNRD  
**Cc:** Mandi Walker  
**Subject:** FW: [EXTERNAL] Well Distance & TDS level difference = WELL:McClanahan 17E  
**Date:** Thursday, July 18, 2024 8:19:55 AM  
**Attachments:** image003.png  
 image004.png  
 image005.png

Leonard:

Please see response below from Hilcorp Reservoir Engineer. Please let us know if you have further questions.

Thank you,  
 Cheryl

**From:** Griffin Selby <Griffin.Selby@hilcorp.com>  
**Sent:** Wednesday, July 17, 2024 5:45 PM  
**To:** Cheryl Weston <cweston@hilcorp.com>; Glory Kamat <Glory.Kamat@hilcorp.com>; Jackson Lancaster <Jackson.Lancaster@hilcorp.com>; Mandi Walker <mwalker@hilcorp.com>  
**Subject:** RE: [EXTERNAL] Well Distance & TDS level difference = WELL:McClanahan 17E

Cheryl,

Distances to wells are listed below.

FORMATION	API	DISTANCE FROM MCCLANAHAN 17E (MILES)
DK OFFSET	3004507289	1.5
MV OFFSET	3004507573	2
CH OFFSET	3004529902	1.3
FC OFFSET	3004534848	1.0

We do not believe the well's production will be harmed by difference in TDS. Let me know if there are any further questions. Thanks.

**From:** Cheryl Weston <cweston@hilcorp.com>  
**Sent:** Tuesday, July 16, 2024 11:19 AM  
**To:** Griffin Selby <Griffin.Selby@hilcorp.com>; Glory Kamat <Glory.Kamat@hilcorp.com>; Jackson Lancaster <Jackson.Lancaster@hilcorp.com>; Mandi Walker <mwalker@hilcorp.com>  
**Subject:** Fwd: [EXTERNAL] Well Distance & TDS level difference = WELL:McClanahan 17E

Griffin,

See Leonard's request below and question on TDS.

Cheryl

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**From:** Lowe, Leonard, EMNRD <Leonard.Lowe@emnr.dnm.gov>  
**Sent:** Tuesday, July 16, 2024 11:16:53 AM  
**To:** Cheryl Weston <cweston@hilcorp.com>  
**Subject:** [EXTERNAL] Well Distance & TDS level difference = WELL:McClanahan 17E

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Ms. Cheryl Weston,

How far away are the wells below, located from the McClanahan 17E well?

Well Name	API
McClanahan 17E	3004523750

DK Offset		MV OFFSET		CH OFFSET		FC OFFSET	
API		API		API		API	
	3004507289		3004507573		3004529902		3004534848

The TDS for the 30-045-07573 well has about 11,300 TDS level difference. Do you believe this will not harm the well's production?

OtherTDS		OtherTDS	18800	OtherTDS	709.98	OtherTDS	14936	OtherTDS	2295.28
----------	--	----------	-------	----------	--------	----------	-------	----------	---------

**Leonard R. Lowe**  
 Engineering Bureau  
 OCD - EMNRD  
 8801 Horizon Blvd NE  
 Albuquerque, N.M. 87113  
 CELL NUMBER: 505-584-8351  
<http://www.emnr.dnm.us/oecd/>

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**From:** [Cheryl Weston](#)  
**To:** [McClure, Dean, EMNRD](#); [Lowe, Leonard, EMNRD](#)  
**Subject:** FW: [EXTERNAL] FW: Action ID: 342858; DHC-5393  
**Date:** Wednesday, July 3, 2024 1:40:45 PM  
**Attachments:** [SJ 28-7 Unit 159M Gas Analysis.pdf](#)  
[SJ 28-7 Unit 159M Water Analysis.pdf](#)

---

Leonard,

Please see the attached water and gas analysis taken from closer wells. Let me know if you have any questions or need anything else.

Thanks,  
Cheryl

---

**From:** Ray Brandhurst <rbrandhurst@hilcorp.com>  
**Sent:** Friday, June 28, 2024 4:01 PM  
**To:** Cheryl Weston <cweston@hilcorp.com>; Marcus Hill <Marcus.Hill@hilcorp.com>  
**Subject:** RE: [EXTERNAL] FW: Action ID: 342858; DHC-5393

Cheryl,

Can you please send the attached water and gas analyses from this spreadsheet. The water makeup and gas content does not materially change between those areas.

Thanks,

Ray Brandhurst, P.E.  
San Juan South Reservoir Engineer  
Hilcorp Energy Company  
713-757-5224 office  
713-476-2843 cell

---

**From:** Lowe, Leonard, EMNRD <[Leonard.Lowe@emnrd.nm.gov](mailto:Leonard.Lowe@emnrd.nm.gov)>  
**Sent:** Thursday, June 27, 2024 4:15 PM  
**To:** Cheryl Weston <[cweston@hilcorp.com](mailto:cweston@hilcorp.com)>  
**Cc:** McClure, Dean, EMNRD <[Dean.McClure@emnrd.nm.gov](mailto:Dean.McClure@emnrd.nm.gov)>  
**Subject:** [EXTERNAL] FW: Action ID: 342858; DHC-5393

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To whom it may concern (c/o Cherylene Weston for Hilcorp Energy Company),

The Division is reviewing the following application:

Action ID	342858
Admin No.	DHC-5393
Applicant	Hilcorp Energy Company (372171)
Title	San Juan 29 7 Unit Well No. 80A
Sub. Date	05/10/2024

Please provide the following additional supplemental documents:

- 

Please provide additional information regarding the following:

- For the water sample from the MV pool, the 30-039-07507 SAN JUAN 29 5 UNIT #005X was selected which is ~ 13 miles from the well of interest. Please provide a water sample from a well nearer to the well of interest or else provide an explanation for why this well was selected.
- For the gas sample from the FLC pool, the 30-039-24382 SAN JUAN 28 5 UNIT NP #204 was selected which is ~ 11.5 miles from the well of interest. Please provide a gas sample from a well nearer to the well of interest or else provide an explanation for why this well was selected.

Additional notes:

- 

All additional supplemental documents and information may be provided via email and should be done by replying to this email. The produced email chain will be uploaded to the file for this application.

Please note that failure to take steps to address each of the requests made in this email within 10 business days of receipt of this email may result in the Division rejecting the application requiring the submittal of a new application by the applicant once it is prepared to address each of the topics raised.

**Leonard R. Lowe**

Engineering Bureau  
 OCD - EMNRD  
 8801 Horizon Blvd NE  
 Albuquerque, N.M. 87113  
 CELL NUMBER: 505-584-8351  
<http://www.emnrd.state.nm.us/ocd/>

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# E-MAIL ATTACHMENT ONE

## Gas Compatibility in the San Juan Basin

- The San Juan basin has productive siliciclastic reservoirs (Pictured Cliffs, Blanco Mesaverde, Basin Dakota, etc.) ar reservoir (Basin Fruitland Coal).
- These siliciclastic and coalbed methane reservoirs are commingled extensively throughout the basin in many differ damage from clay swelling due to differing formation waters or gas composition.
- The samples below all show offset gas analysis varibility by formation is low.

Well Name		API			
SAN JUAN 28-7 UNIT 159M		3003925572			
FRC Offset		PC Offset		MV Offset	
AssetCode	3003924913	AssetCode	3003926445	AssetCode	3003926072
AssetName	SJ 29-7 UNIT 559	AssetName	SJ 28-7 UNIT 272	AssetName	SJ 29-7 UNIT 50B
CO2	0.01	CO2	0.01	CO2	0.01
N2	0	N2	0	N2	0
C1	0.87	C1	0.81	C1	0.81
C2	0.07	C2	0.09	C2	0.1
C3	0.04	C3	0.04	C3	0.04
ISOC4	0.01	ISOC4	0.01	ISOC4	0.01
NC4	0	NC4	0.01	NC4	0.01
ISOC5	0	ISOC5	0.01	ISOC5	0
NC5	0	NC5	0	NC5	0
NEOC5		NEOC5		NEOC5	
C6		C6		C6	
C6_PLUS	0	C6_PLUS	0.01	C6_PLUS	0.01
C7		C7		C7	
C8		C8		C8	
C9		C9		C9	
C10		C10		C10	
AR		AR		AR	
CO		CO		CO	
H2		H2		H2	
O2		O2		O2	
H20		H20		H20	
H2S		H2S		H2S	
HE		HE		HE	
C_O_S		C_O_S		C_O_S	
CH3SH		CH3SH		CH3SH	
C2H5SH		C2H5SH		C2H5SH	
CH2S3_2CH3S		CH2S3_2CH3S		CH2S3_2CH3S	
CH2S		CH2S		CH2S	
C6HV		C6HV		C6HV	
CO2GPM	0	CO2GPM	0	CO2GPM	0
N2GPM	0	N2GPM	0	N2GPM	0
C1GPM	0	C1GPM	0	C1GPM	0
C2GPM	1.85	C2GPM	2.51	C2GPM	2.55
C3GPM	1	C3GPM	1.2	C3GPM	1.16
ISOC4GPM	0.2	ISOC4GPM	0.3	ISOC4GPM	0.26
NC4GPM	0.15	NC4GPM	0.4	NC4GPM	0.38
ISOC5GPM	0.05	ISOC5GPM	0.19	ISOC5GPM	0.16
NC5GPM	0.02	NC5GPM	0.12	NC5GPM	0.12
C6_PLUSGPM	0.04	C6_PLUSGPM	0.31	C6_PLUSGPM	0.36

id a productive coalbed methane

ent combinations with no observed

DK Offset	
AssetCode	3003920373
AssetName	SJ 28-6 UNIT 156
CO2	0.01
N2	0
C1	0.92
C2	0.04
C3	0.01
ISOC4	0
NC4	0
ISOC5	0
NC5	0
NEOC5	
C6	
C6_PLUS	0.01
C7	
C8	
C9	
C10	
AR	
CO	
H2	
O2	
H2O	
H2S	
HE	
C_O_S	
CH3SH	
C2H5SH	
CH2S3_2CH3S	
CH2S	
C6HV	
CO2GPM	0
N2GPM	0
C1GPM	0
C2GPM	1.19
C3GPM	0.27
ISOC4GPM	0.1
NC4GPM	0.08
ISOC5GPM	0.07
NC5GPM	0.03
C6_PLUSGPM	0.27

# E-MAIL ATTACHMENT TWO

**Gas Compatibility in the San Juan Basin**

- The San Juan basin has productive siliciclastic reservoirs (Pictured Cliffs, Blanco Mesaverde, Basin Dakota, etc.) and a productive coalbed methane reservoir (Basin Fruitland Coal).
- These siliciclastic and coalbed methane reservoirs are commingled extensively throughout the basin in many different combinations with no observed damage from clay swelling due to differing formation waters or gas composition.
- The samples below all show offset gas analysis variability by formation is low.

Well Name		API					
SAN JUAN 28-7 UNIT 159M		3003925572					
FRC Offset		PC Offset		MV Offset		DK Offset	
API	3003925112	API	3003925897	API	3003922063	API	3003927006
Property	SJ 28-7 UNIT 403	Property	SJ 29-7 UNIT 166	Property	SJ 28-7 UNIT 44A	Property	SJ 28-7 UNIT 241F
CationBarium	0	CationBarium	0	CationBarium	0	CationBarium	0
CationBoron		CationBoron		CationBoron		CationBoron	
CationCalcium	2.2	CationCalcium	80	CationCalcium	36.8	CationCalcium	10.1
CationIron	5.2	CationIron	62.1	CationIron	10.9	CationIron	12.3
CationMagnesium	0.32	CationMagnesium	19.5	CationMagnesium	0.46	CationMagnesium	6.5
CationManganese	0.1	CationManganese	1.98	CationManganese	0.15	CationManganese	0.1
CationPhosphorus		CationPhosphorus		CationPhosphorus		CationPhosphorus	
CationPotassium		CationPotassium		CationPotassium		CationPotassium	
CationStrontium	0	CationStrontium	0	CationStrontium	0	CationStrontium	0
CationSodium	1164.2	CationSodium	762.8	CationSodium	1510	CationSodium	581.2
CationSilica		CationSilica		CationSilica		CationSilica	
CationZinc		CationZinc		CationZinc		CationZinc	
CationAluminum		CationAluminum		CationAluminum		CationAluminum	
CationCopper		CationCopper		CationCopper		CationCopper	
CationLead		CationLead		CationLead		CationLead	
CationLithium		CationLithium		CationLithium		CationLithium	
CationNickel		CationNickel		CationNickel		CationNickel	
CationCobalt		CationCobalt		CationCobalt		CationCobalt	
CationChromium		CationChromium		CationChromium		CationChromium	
CationSilicon		CationSilicon		CationSilicon		CationSilicon	
CationMolybdenum		CationMolybdenum		CationMolybdenum		CationMolybdenum	
AnionChloride	1700	AnionChloride	1200	AnionChloride	2300	AnionChloride	800
AnionCarbonate	0	AnionCarbonate	0	AnionCarbonate	0	AnionCarbonate	0
AnionBicarbonate	183	AnionBicarbonate	427	AnionBicarbonate	195.2	AnionBicarbonate	244
AnionBromide		AnionBromide		AnionBromide		AnionBromide	
AnionFluoride		AnionFluoride		AnionFluoride		AnionFluoride	
AnionHydroxyl		AnionHydroxyl		AnionHydroxyl		AnionHydroxyl	
AnionNitrate		AnionNitrate		AnionNitrate		AnionNitrate	
AnionPhosphate	925.6	AnionPhosphate		AnionPhosphate	1001.6	AnionPhosphate	24.2
AnionSulfate	10	AnionSulfate	80	AnionSulfate	10	AnionSulfate	10
phField	6.73	phField		phField	6.91	phField	
phCalculated	7.01	phCalculated	6.83	phCalculated	7.43	phCalculated	6.35
TempField		TempField		TempField		TempField	
TempLab		TempLab		TempLab		TempLab	
OtherFieldAlkalinity	7991.88	OtherFieldAlkalinity	342.16	OtherFieldAlkalinity	305.5	OtherFieldAlkalinity	
OtherSpecificGravity	1	OtherSpecificGravity		OtherSpecificGravity	1.01	OtherSpecificGravity	1
OtherTDS	2962	OtherTDS	2435	OtherTDS	3959	OtherTDS	1519
OtherCaCO3	12113.31	OtherCaCO3		OtherCaCO3	6907.59	OtherCaCO3	3110.42
OtherConductivity		OtherConductivity		OtherConductivity		OtherConductivity	
DissolvedCO2	360	DissolvedCO2		DissolvedCO2	410	DissolvedCO2	200
DissolvedO2		DissolvedO2		DissolvedO2		DissolvedO2	
DissolvedH2S	40	DissolvedH2S	13	DissolvedH2S	15	DissolvedH2S	6
GasPressure		GasPressure		GasPressure		GasPressure	
GasCO2	8	GasCO2	4	GasCO2	10	GasCO2	8
GasCO2PP		GasCO2PP		GasCO2PP		GasCO2PP	
GasH2S	0	GasH2S	0	GasH2S	6	GasH2S	0
GasH2SPP		GasH2SPP		GasH2SPP		GasH2SPP	
PitzerCaCO3_70		PitzerCaCO3_70		PitzerCaCO3_70		PitzerCaCO3_70	
PitzerBaSO4_70		PitzerBaSO4_70		PitzerBaSO4_70		PitzerBaSO4_70	
PitzerCaSO4_70		PitzerCaSO4_70		PitzerCaSO4_70		PitzerCaSO4_70	
PitzerSrSO4_70		PitzerSrSO4_70		PitzerSrSO4_70		PitzerSrSO4_70	
PitzerFeCO3_70		PitzerFeCO3_70		PitzerFeCO3_70		PitzerFeCO3_70	
PitzerCaCO3_220		PitzerCaCO3_220		PitzerCaCO3_220		PitzerCaCO3_220	
PitzerBaSO4_220		PitzerBaSO4_220		PitzerBaSO4_220		PitzerBaSO4_220	
PitzerCaSO4_220		PitzerCaSO4_220		PitzerCaSO4_220		PitzerCaSO4_220	
PitzerSrSO4_220		PitzerSrSO4_220		PitzerSrSO4_220		PitzerSrSO4_220	
PitzerFeCO3_220		PitzerFeCO3_220		PitzerFeCO3_220		PitzerFeCO3_220	

**District I**  
 1625 N. French Dr., Hobbs, NM 88240  
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**District II**  
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**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**

CONDITIONS

Action 342858

**CONDITIONS**

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 342858
	Action Type: [C-107] Down Hole Commingle (C-107A)

**CONDITIONS**

Created By	Condition	Condition Date
llowe	None	5/29/2024