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-101
August 1, 2011

Permit 258808

NMOCD
OCT 19 2018
DISTRICT III

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

1. Operator Name and Address HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002		2. OGRID Number 372171 3. API Number 30-045-35899
4. Property Code 322773	5. Property Name STATE ~~Strat Test 600~~ Strat Test 600	6. Well No. 001

7. Surface Location

UL - Lot	Section	Township	Range	Lot Idn	Feet From	N/S Line	Feet From	E/W Line	County
G	36	32N	13W		1815	N	2216	E	SAN JUAN

8. Proposed Bottom Hole Location

UL - Lot	Section	Township	Range	Lot Idn	Feet From	N/S Line	Feet From	E/W Line	County
	0				0	N	0	E	

9. Pool Information

Additional Well Information

11. Work Type New Well	12. Well Type ~~GAS~~ Misc	13. Cable/Rotary	14. Lease Type State	15. Ground Level Elevation 5819
16. Multiple N	17. Proposed Depth 8000	18. Formation Entrada Formation	19. Contractor	20. Spud Date
Depth to Ground water		Distance from nearest fresh water well		Distance to nearest surface water

ICP

☒ **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
Surf	17.5	13.375	54.5	340	503	0
Int1	12.25	9.625	40	5000	1166	0
Liner1	8.75	7	26	8000	520	

Casing/Cement Program: Additional Comments

This is a stratographic test well that we will be testing through the Entrada

22. Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
Double Ram	3000	3000	SCHAFFER

23. I hereby certify that the information given above is true and complete to the best of my knowledge and belief. **I further certify I have complied with 19.15.14.9 (A) NMAC ☐ and/or 19.15.14.9 (B) NMAC ☐, if applicable.** Signature: Amanda Walker	**OIL CONSERVATION DIVISION** Charlie Perrin 10-29-2018
Printed Name: Amanda Walker	Approved By:
Title: Operations / Regulatory Technician - Sr.	Title: SUPERVISOR DISTRICT #3
Email Address: mwalker@hilcorp.com	Approved Date: 10-29-18 Expiration Date: 10-29-20
Date: 10/18/2018 Phone: 505-324-5122	Conditions of Approval Attached

SEE ATTACHED NMOCD CONDITIONS OF APPROVAL

District I
1625 N. French Drive, Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First Street, Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Drive, Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department

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

Form C-102
Revised August 1, 2011

Submit one copy to
Appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number	2 Pool Code	3 Pool Name
30-045-35899		NA

4 Property Code	5 Property Name	6 Well Number
322773	STATE Strat Test 600	1

7 OGRID No.	8 Operator Name	9 Elevation
372171	HILCORP ENERGY COMPANY	5819'

10 Surface Location

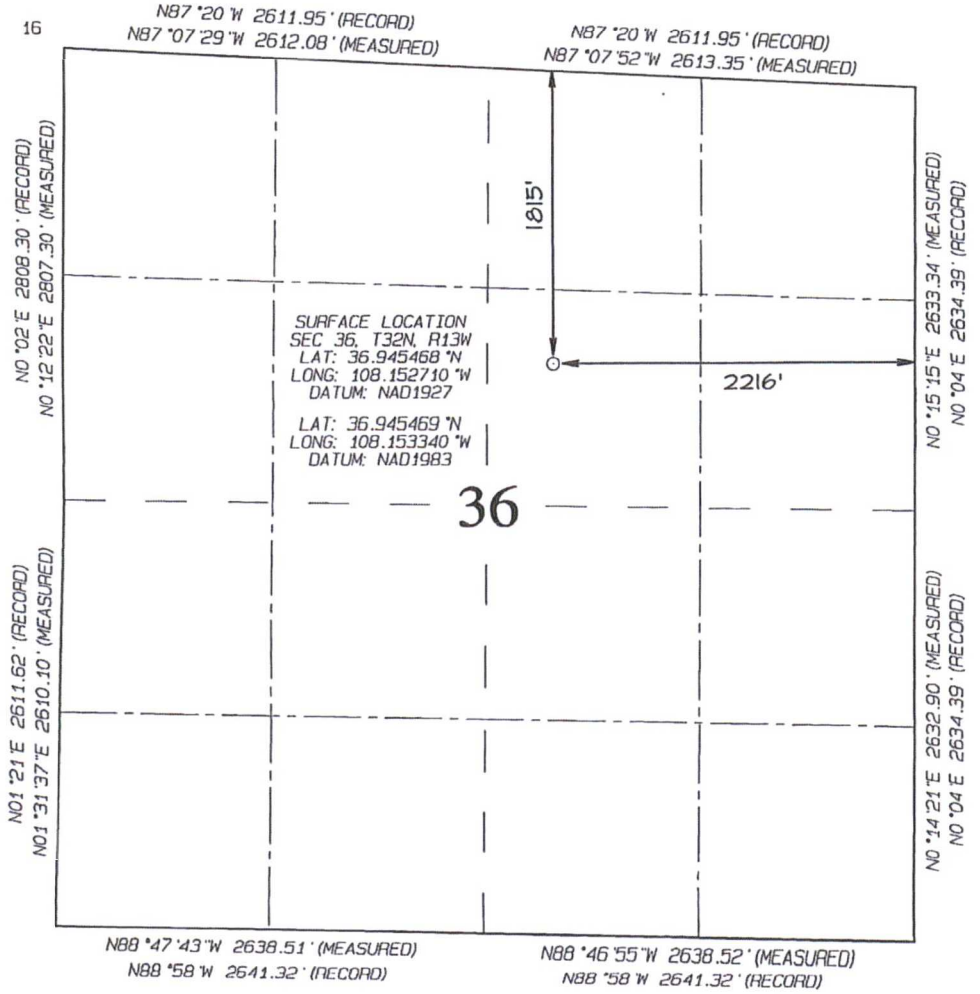
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
G	36	32N	13W		1815	NORTH	2216	EAST	SAN JUAN

11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

12 Dedicated Acres	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



17 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 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.

dWalker — 10/18/18
Signature — Date

Amanda Walker
Printed Name

mwalker@hilcorp.com
E-mail Address

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.

Date Revised: OCTOBER 17, 2018
Date of Survey: JULY 19, 2018

Signature and Seal of Professional Surveyor

JASON C. EDWARDS
NEW MEXICO
15269
REGISTERED PROFESSIONAL SURVEYOR

JASON C. EDWARDS
Certificate Number 15269

Hilcorp Energy Company

Technical Plan

1. Location

STATE COM 600 #1
SHL: 1815' FNL, 2216' FEL -- T 32N, R 13W, Sec 36
BHL: 1815' FNL, 2216' FEL -- T 32N, R 13W, Sec 36
GL: 5819'

2. Geological Markers

Anticipated formation tops with comments of any possible water, gas, or oil shows are indicated below:

Formation	Depth (MD/TVD)	Remarks
San Jose	Surface	Wet
Ojo Alamo	725'	Wet
Kirtland	860'	Wet
Fruitland	1298'	Possible Gas/Water
Pictured Cliffs	2055'	Wet
Lewis Shale	2088'	
Massive Cliffhouse	3669'	Possible Gas/Water
Menefee	3931'	Possible Gas/Water
Point Lookout	4509'	Possible Gas/Water
Mancos	4973'	Oil/Gas
Greenhorn	6578'	Possible Gas/Water
Dakota	6748'	Possible Gas/Water
Morrison	7050'	Possible Gas/Water
Entrada	7850'	Possible Gas/Water
TD	8000'	

3. Pressure Control Equipment

See Attached BOPE & Choke Manifold Schematic for a diagram of pressure control equipment.

- BOPE will be nippled up on top of wellhead after surface casing is set and cemented.
- Pressure control configuration will be designed to meet and exceed 3M standards.
- All equipment will have 3M pressure ratings.
- A rotating head will be rigged up on top of annular as seen in attached diagram.

4. Casing & Cement Program

A) The proposed casing program is outlined below:

Proposed Casing				
Casing	**Hole Size**	**Casing Size**	**Weight/Grade**	**Depth**
Surface	17-1/2"	13-3/8"	54.5#, J-55, BTC, New	0' - 340' (MD)
Intermediate	12-1/4"	9-5/8"	40.0#, P-110 IC, LTC, New	0' - 5000' (MD)
Production	8-3/4"	7"	26.0#, P-110, Hyd 513, New	0' – TD (MD)

The production casing will be run from total MD to surface. If the 8-3/4" hole is not drilled to total MD, the production casing setting depth and length will be adjusted accordingly.

B) The proposed cement program is shown below:

Cement Program						
Interval	**Depth (MD)**	**Sacks**	**Slurry**	**Excess**	**Volume**	**Planned Cement Top**
Surface	340'	503	Lead Cmt: Premium Cement 2% CaCl, 0.125 lb/sk Poley E flake 1.175 ft^3/sk -- 5.14 gal/sk, 15.8 ppg	100%	590 ft^3	Surface
Intermediate	4000'	838	Lead Cmt: Halcem Sytem 0.3% HR-5, 0.125 lb/sk Poly E flake, 1.974 ft^3/sk -- 10.28 gal/sk, 12.3 ppg	30%	1654 ft^3	Surface
	5000'	328	Tail Cmt: Varicem Cement 0.1% HR-5, 0.125 lb/sk Poly E flake, 1.295 ft^3/sk -- 5.69 gal/sk, 13.5 ppg	30%	424 ft^3	4000'
Production	8000'	520	Tail Cmt: Bondcem 0.3% Super CBL, 0.1% HR -601, 6.08 gal/sk FW. 13.3 ppg, 1.356 ft^3/sk	15%	709 ft^3	4000'

Actual cement volumes will be determined and may be adjusted onsite based on well conditions. For the intermediate hole, a 2-stage cement job may be performed if hole conditions indicate during operations. Stage tool will be placed appropriately as conditions indicate.

C) The proposed centralizer program is shown below:

Centralizer Program	
Interval	**Centralizers**
Surface	1 per joint on bottom 3 joints
Intermediate	1 above intermediate shoe joint with collar clamp 1 every 3rd joint to surface
Production	1 every 3rd joint in vertical section of production interval

To allow adequate time for cement to achieve a minimum of 500 psi compressive strength, a minimum of 8 hours wait on cement time for each hole section will be observed. The wellhead will not be installed, casing will not be tested, and the prior casing shoe will not be drilled out until adequate wait on cement time is achieved.

5. Drilling Fluids

A) The proposed drilling fluid program is outlined below:

Mud Program					
Interval	**Mud Type**	**Weight (ppg)**	**Fluid Loss (cc)**	**Invert Ratio (Diesel/Brine)**	**Depth (MD)**
Surface	Water / Gel System	8.3 - 9.2	NC		0-340'
Intermediate	LSND / Gel system	8.4 - 9	<6		340 – 5000'
Production	LSND / Gel system	10 - 12	6-8		5000 – 8000'

LCM may be added to the mud system if hole conditions indicate.

✓ B) Closed loop equipment will be utilized for solids control. Cuttings from surface, intermediate, and production hole will be hauled to an approved disposal site.

6. Abnormal Pressures & Hazards

- No over-pressured intervals expected.
- There is some offset Fruitland Coal, Mesa Verde, and Picture Cliffs production within the area which could result in these respective formations being under pressured.
- No hydrogen sulfide gas is expected based on nearby well production.

7. Testing, Logging, Coring

- Mud Logs: Mud loggers will be rigged up from intermediate casing shoe to production hole TD.
- Surveys: Surveys will be completed as needed to ensure hole direction. This well is not planned as a directional well
- Core: Whole Core and Sidewall Cores planned in Mancos Formation
- Logs: Triple Combo, Dipole Sonic, and image log planned in the Production hole below 5000' intermediate casing shoe
- Cased Hole Logs: A Temp Survey or CBL will be ran on the intermediate hole if cement is not circulated to surface during intermediate cement job.

8. Completion

a) Pressure Test

- Pressure test 7" production casing for 30 minutes. Chart and record test data.

b) Perforating

- Production interval will be perforated utilizing wireline, perforating guns, and GR/CCL for depth correlation

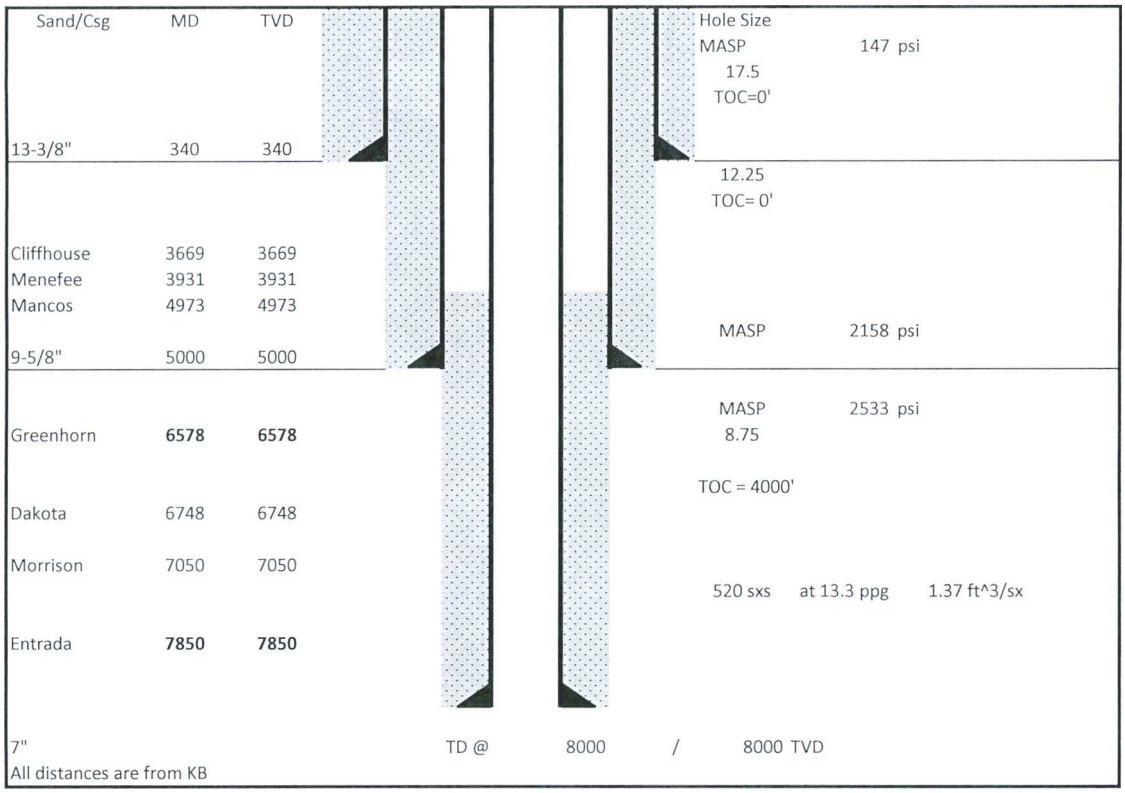
c) Stimulation

- If deemed necessary, a fracture stimulation may be pumped to increase production capacity of the perforated interval. Stimulation would be completed with approximately 250,000 pounds of proppant in 1,500 bbls of water. Stimulation volumes are subject to change based on real-time operational conditions

d) Running Tubing

- Production tubing will be run and landed above the production perforated interval

State Com 600 #1 Wellbore Schematic

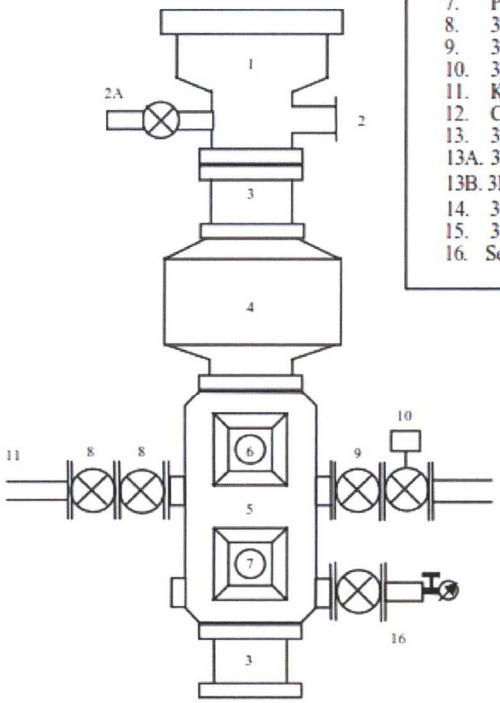


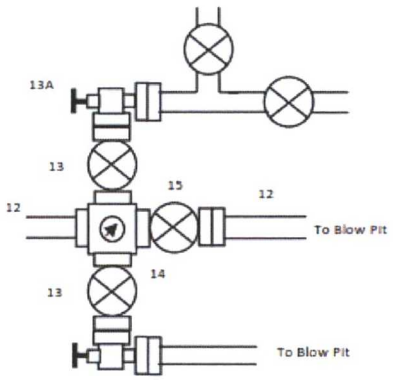
	Size	Wt	Depth	Grade	Cxn		Design Factors		
							Collapse	Burst	Tension
						Rating	1130	2740	514000
Surface	13.375	54.5	400	J55	BTC	SF	5.72	13.46	4.22
						Rating	3470.00	7910.00	988000.00
Int	9.625	40.0	5000	P110	BTC	SF	1.40	3.20	3.29
					Hyd	Rating	6230	9960	548000
Prod	7.000	26.0	8000	P110	513	SF	1.43	2.33	1.78

					Displacement BPF	
Csg	$/ft	ID	Drift	Capacity (bpf)	Closed end	Open end
Surface		12.615	12.46	0.1546	0.1738	0.0192
Int		8.835	8.679	0.0758	0.0900	0.0142
Prod		4.778	4.653	0.0222	0.0476	0.0254

BOPE & Choke Manifold Schematic

1. Rotating Head
2. Flow line
2A. Fill up line and valve
3. Spacer Spools (as needed)
4. 11" 3M Annular Preventer
5. 11" 3M Double Ram Preventer
6. Blind Rams
7. Pipe Rams
8. 3M Gate Valves (2")
9. 3M Gate Valve (3")
10. 3M HCR Valve (3")
11. Kill Line Connection
12. Choke Line (3" Hardline or Co-Flex)
13. 3M Valve (2")
13A. 3M Adjustable Choke (2")
13B. 3M Adjustable or Fixed Choke (2")
14. 3M Studded Cross & Manifold gauge
15. 3M Panic Line Valve (3")
16. Secondary outlet with valve, bull plug, needle valve, and pressure gauge





Directions from the Intersection of State Hwy 516 & State Hwy 574

in Aztec, NM to Hilcorp Energy Company State Com 600 #1 Wellpad & Frac Pad

1815' FNL & 2216' FEL, Section 36, T32N, R13W, N.M.P.M., San Juan County, NM

Latitude: 36.945469°N Longitude: 108.153340°W Datum: NAD1983

From the intersection of State Hwy 516 & State Hwy 574 in Aztec, NM, travel northerly on State Hwy 574 for 11.6 miles to Mile Marker 2.4;

Go Right (Northerly) exiting State Hwy 574 onto existing roadway for 0.3 mile to fork in roadway;

Go Right (Northerly) which is straight on existing roadway for 0.2 mile to fork in roadway;

Go Left (Northerly) which is straight on existing roadway for 0.7 mile to fork in roadway;

Go Left (Westerly) on existing roadway for 255' to fork in roadway;

Go Right (Northerly) on existing roadway for 0.2 mile to gate on fence-line proceed through gate for an additional 50' to staked Hilcorp State Com 600 #1 Wellpad & Frac Pad.

State of New Mexico
Energy, Minerals and Natural Resources Department

New Mexico Oil Conservation Division Conditions of Approval
C-101 Application for Permit to Drill

Operator Signature Date: 10-18-2018
Operator: Hilcorp Energy Company
Well: State Strat Test 600 #1
San Juan County; API# 30-045-35899
UL G Section 36, Township 32N, Range 13W, 1815' FNL 2216' FEL

Conditions of Approval: (See the below checked and handwritten conditions)

- ✓ Notify Aztec OCD 24hrs prior to casing & cement.
- o Hold C-104 for directional survey & "As Drilled" Plat
- o Hold C-104 for NSL, NSP, DHC
- ✓ Contact the following to determine sampling and/or testing requirements.

  Contact Mr. Ron Broadhead, Principal Senior Petroleum Geologist
  & Adjunct faculty, Earth and Environmental Sciences Department
  New Mexico Bureau of Geology & Mineral Resources
  New Mexico Tech, 801 Leroy Place, Socorro NM 87801-4796
  (575) 835-5202 ph , (575) 835-6333 fax
  Ron.Broadhead@nmt.edu

- o Spacing rule violation. Operator must follow up with change of status notification on other well to be shut in or abandoned
- o Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string
- o Submit Gas Capture Plan form prior to spudding or initiating recompletion operations
- ✓ Regarding Hydraulic Fracturing, review EPA Underground Injection Control Guidance 84
- ✓ Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system.
- ✓ Well-bore communication is regulated under 19.15.29 NMAC. This requires well-bore Communication to be reported in accordance with 19.15.29.8.