

Submit 1 Copy To Appropriate District Office
District I – (575) 393-6161
1625 N. French Dr., Hobbs, NM 88240
District II – (575) 748-1283
811 S. First St., Artesia, NM 88210
District III – (505) 334-6178
1000 Rio Brazos Rd., Aztec, NM 87410
District IV – (505) 476-3460
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources

Form C-103
Revised July 18, 2013

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

WELL API NO. 30-045-35902
5. Indicate Type of Lease STATE ☒ FEE ☐
6. State Oil & Gas Lease No.
7. Lease Name or Unit Agreement Name State Com 601
8. Well Number 2H
9. OGRID Number 372171
10. Pool name or Wildcat Mancos

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

1. Type of Well: Oil Well ☐ Gas Well ☐ Other ☒

2. Name of Operator
HILCORP ENERGY COMPANY

3. Address of Operator
382 Road 3100, Aztec, NM 87410

4. Well Location

Unit Letter G 1660' feet from the North line and 2208' feet from the East line

Section 36 Township 32N Range 13W NMPM County San Juan

11. Elevation (Show whether DR, RKB, RT, GR, etc.)
5819' GL

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐
TEMPORARILY ABANDON ☐ CHANGE PLANS ☒
PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐
DOWNHOLE COMMINGLE ☐
CLOSED-LOOP SYSTEM ☐
OTHER: ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐
COMMENCE DRILLING OPNS. ☐ P AND A ☐
CASING/CEMENT JOB ☐
OTHER: ☐

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

Hilcorp Energy Company requests to change the surface hole based off the attached updated plat, updated technical plans and updated directional plans.

Notify NMOCD 24 hrs
prior to beginning
operations

NMOCD

NOV 09 2018

DISTRICT III

ADHERE TO PREVIOUS NMOCD
CONDITIONS OF APPROVAL

Spud Date:

Rig Release Date:

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

SIGNATURE Amanda Walker TITLE Operations / Regulatory Technician DATE 11.08.2018

Type or print name Amanda Walker E-mail address: mwalker@hilcorp.com PHONE: 505-324-5122

For State Use Only

Deputy Oil & Gas Inspector,
District #3

APPROVED BY: Branch Smith TITLE AV DATE 11/13/18

Conditions of Approval (if any):

5

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
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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

Form C-102
Revised August 1, 2011

Submit one copy to
Appropriate District Office

OIL CONSERVATION DIVISION

1220 South St. Francis Drive
Santa Fe, NM 87505

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-045-35902	*Pool Code 97232	*Pool Name BASIN MANCOS
*Property Code 322774	*Property Name STATE COM 601	*Well Number 2H
*GRID No. 372171	*Operator Name HILCORP ENERGY COMPANY	*Elevation 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		1660	NORTH	2208	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
I	31	32N	12W		1934	SOUTH	283	EAST	SAN JUAN

¹² Dedicated Acres E/2 - Section 36 T32N R13W 950.20 Entire Section 31 T32N R12W	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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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

A SURFACE LOCATION
1660' FNL 2208' FEL
SEC 36, T32N, R13W
LAT: 36.945893°N
LONG: 108.152681°W
DATUM: NAD1927
LAT: 36.945894°N
LONG: 108.153312°W
DATUM: NAD1983

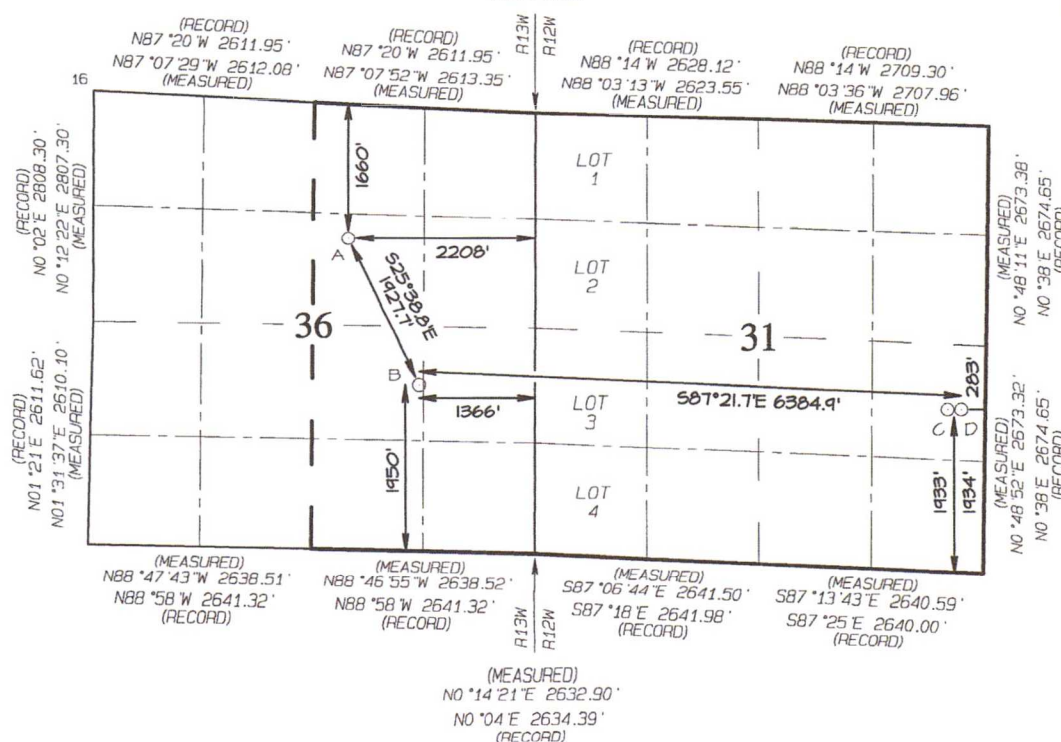
B FIRST TAKE POINT
1950' FSL 1366' FEL
SEC 36, T32N, R13W
LAT: 36.941127°N
LONG: 108.149807°W
DATUM: NAD1927
LAT: 36.941128°N
LONG: 108.150437°W
DATUM: NAD1983

C LAST TAKE POINT
1933' FSL 350' FEL
SEC 31, T32N, R12W
LAT: 36.940384°N
LONG: 108.128210°W
DATUM: NAD1927
LAT: 36.940385°N
LONG: 108.128839°W
DATUM: NAD1983

D BOTTOM-HOLE LOCATION
1934' FSL 283' FEL
SEC 31, T32N, R12W
LAT: 36.940376°N
LONG: 108.127979°W
DATUM: NAD1927
LAT: 36.940377°N
LONG: 108.128608°W
DATUM: NAD1983

A S25°30.8'E 1927.1' B S87°21.7'E 6317.4' C S87°21.7'E 675' D

(RECORD)
NO *04'E 2634.39'
NO *15'15"E 2633.34'
(MEASURED)



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.

Amanda Walker 11/08/2018
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: NOVEMBER 6, 2018
Date of Survey: JULY 19, 2018

Signature and Seal of Professional Surveyor



JASON C. EDWARDS

Certificate Number 15269

Hilcorp Energy Company

Technical Plan

1. Location

STATE COM 601 2H
SHL: 1660' FNL, 2208' FEL -- T 32N, R 13W, Sec 36
BHL: 1934' FSL, 283' FEL -- T 32N, R 12W, Sec 31
GL: 5819'

2. Geological Markers

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

Formation	Depth (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
Mancos Lateral Target	6065'	Oil/Gas

See attached directional plan for anticipated formation tops in measured depth.

3. Pressure Control Equipment

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

- BOPE will be nipped up on top of wellhead after surface casing is set and cemented.
- Pressure control configuration will be designed to meet and exceed 5M standards.
- All equipment will have 5M 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' - 5006' (MD)
Production	8-1/2"	5-1/2"	20.0#, P-110, BTC, New	0' - 13121' (MD)

The production casing will be run from total MD to surface. If the 8-1/2" hole is not drilled to total MD, the production casing setting depth and length will be adjusted accordingly. A toe initiation sliding sleeve will be installed at the toe of the production casing.

B) The proposed cement program is shown below:

Cement Program						
Interval	Depth (MD)	Sacks	Slurry	Excess	Volume	Planned Cement Top
Surface	340'	432	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%	507 ft ³	Surface
Intermediate	4000'	839	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%	1656 ft ³	Surface
	5006'	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%	328 ft ³	4000'
Production	13121'	1791	Tail Cmt: Bondcem 0.3% Super CBL, 0.1% HR -601, 6.08 gal/sk FW. 13.3 ppg, 1.36 ft ³ /sk	10%	2444 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 3 rd joint to surface
Production	1 per joint in horizontal section of production interval 1 every 3 rd 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		0-400'
Intermediate	LSND / Gel system	8.4 - 9	<6		400 – 5006'
Production	Oil Based Mud	10 - 12	6-8	70/30 – 75/25	5006 – TD'

Oil based mud will be an Invert Mud. Base fluid will be diesel. Brine fluid will be CaCl or KCl.

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.
- Estimated Reservoir Pressure = 1575 psi. (Based on a pore pressure gradient of 0.26 psi/ft from layer pressure tests of Mancos formation in offset well)
- 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 KOP to production hole TD.
- MWD: Directional tools from KOP to production hole TD.
- LWD: Gamma Ray will be utilized in production hole for well placement.
- 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. Directional Plan

The planned wellbore directional plan and plot is attached.

The planned directional plan is built off geological targets from offset wells. The production hole will be landed and drilled within target formation horizontally utilizing LWD equipment to help steer the wellbore. On site adjustments will be made to the directional plan as formation and hole indicates.

9. Completion

a) Pressure Test

- Pressure test 5-1/2" production casing to allowable frac pressure. Hold test for 30 minutes. Cycle pressure to activate toe sleeve

b) Stimulation

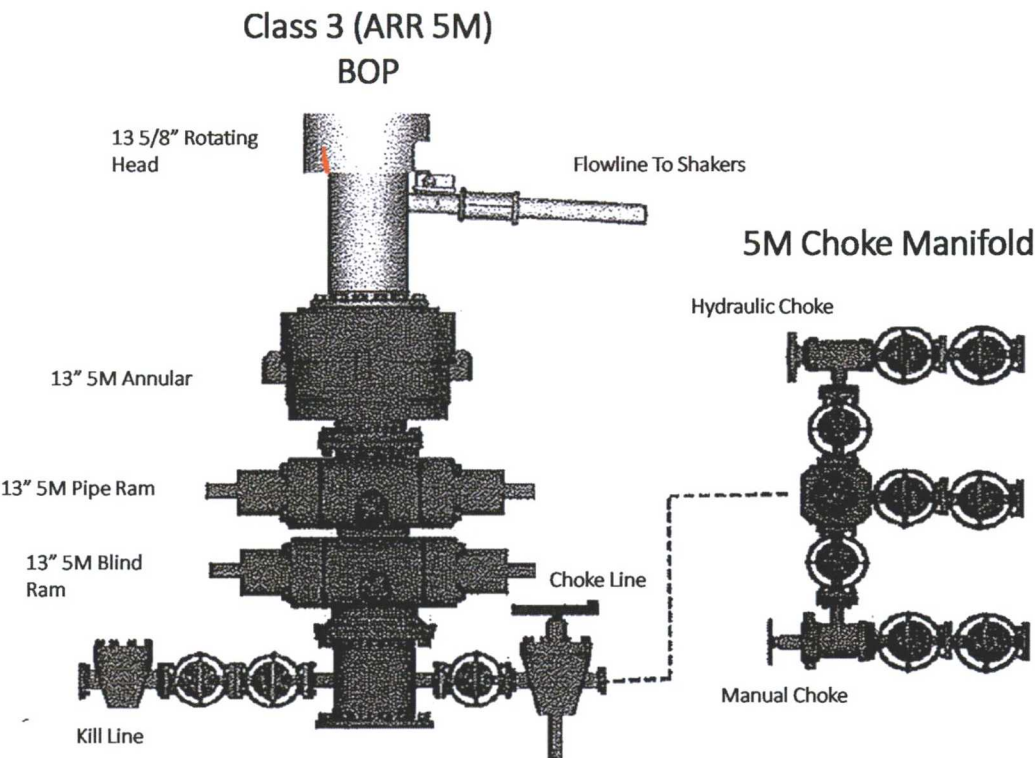
- Stimulate with approximately 10,000,000 pounds of proppant in 200,000 bbls of water; the number of stages and amount of proppant will be adjusted based on real-time pumping conditions during the stimulation
- Stages will be perforated using wireline and isolated using frac plugs
- Plugs will be drilled out and stimulation fluid will be flowed back

c) Running Tubing

- Production tubing will be run and landed at the top of the horizontal section of the well

BOPE & Choke Manifold Schematic

13-5/8" BOPE





Company: Hilcorp Energy Corp.
Project: San Juan, NM NAD27
Site: State Com 601 Pad
Well: State Com 601 2H
Wellbore: OH
Design: Plan #2

PROJECT DETAILS: San Juan, NM NAD27

Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico West 3003
System Datum: Mean Sea Level
Local North: True



Azimuths to True North
Magnetic North: 9.00°

Magnetic Field
Strength: 49888.7snT
Dip Angle: 63.40°
Date: 9/6/2018
Model: HDGM

WELL DETAILS: State Com 601 2H

GL 5819' & RKB 16.5' @ 5835.50usft (PD 829)
+N/-S +E/-W Northing Easting Latitude Longitude
0.00 0.00 2163727.87 406679.45 36.9458930 -108.1526810 B03

Plan: Plan #2 (State Com 601 2H/OH)

Created By: Janie Collins Date: 14:09, November 02 2018

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
State Com 601-2H LP	6065.00	-1735.11	840.06	2161989.95	407513.69	36.9411270	-108.1498065
State Com 601-2H BHL	6099.00	-2007.62	7219.06	2161696.08	413891.74	36.9403759	-108.1279790

SECTION DETAILS

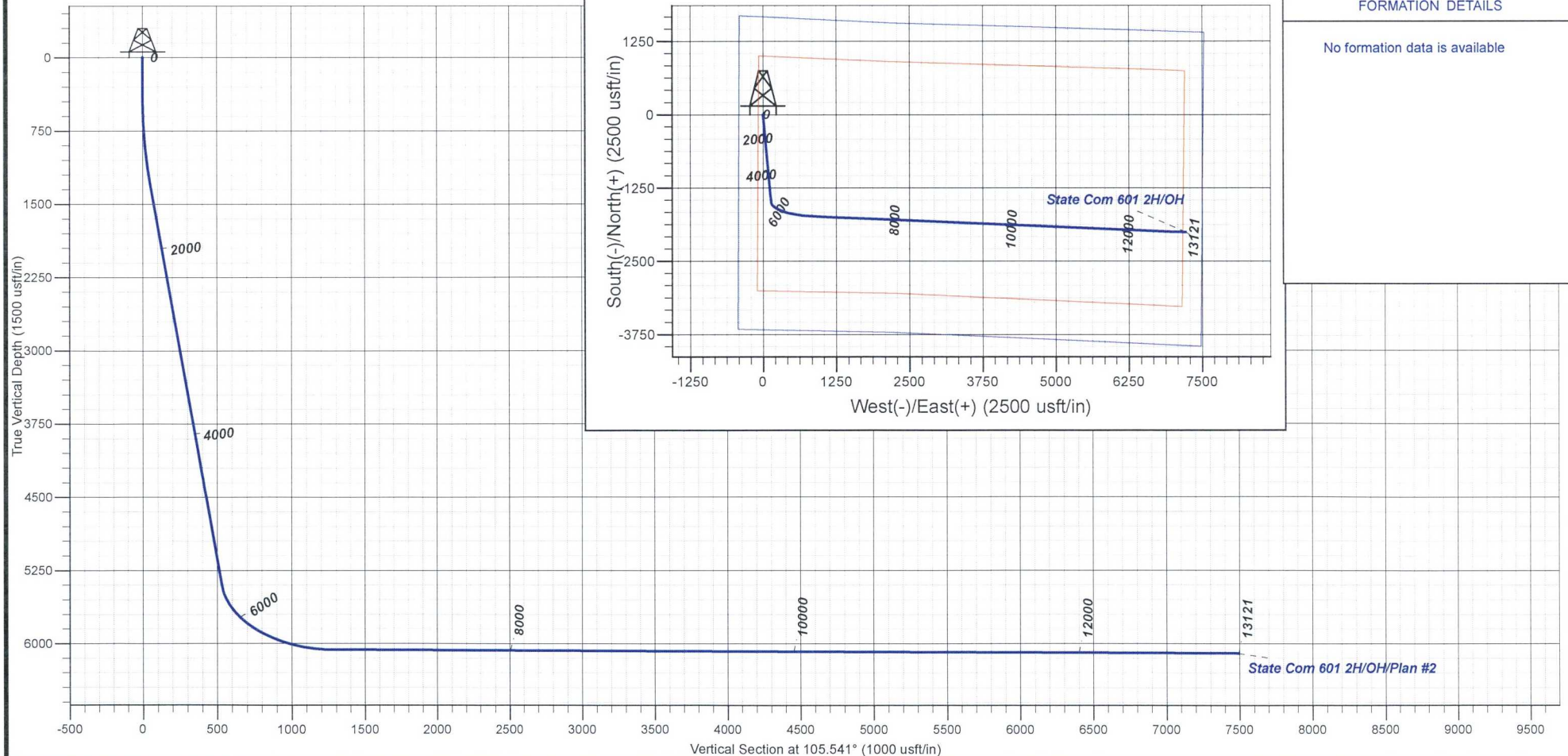
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	
400.00	0.00	0.000	400.00	0.00	0.00	0.00	0.00	0.00	
1311.47	18.23	174.727	1296.17	-143.17	13.21	2.00	174.73	51.09	
5645.22	18.23	174.727	5412.41	-1493.13	137.81	0.00	0.00	532.83	
6736.49	89.69	92.446	6065.00	-1735.11	840.06	8.00	-82.76	1274.24	State Com 601-2H LP
13121.40	89.69	92.446	6099.00	-2007.62	7219.06	0.00	0.00	7493.02	State Com 601-2H BHL

CASING DETAILS

No casing data is available

FORMATION DETAILS

No formation data is available





Hilcorp Energy Corp.

San Juan, NM NAD27

State Com 601 Pad

State Com 601 2H - Slot B03

OH

Plan: Plan #2

Standard Planning Report

02 November, 2018



www.scientificdrilling.com



Scientific Drilling, Intl
Planning Report



Database:	Grand Junction District	Local Co-ordinate Reference:	Well State Com 601 2H - Slot B03
Company:	Hilcorp Energy Corp.	TVD Reference:	GL 5819' & RKB 16.5' @ 5835.50usft (PD 829)
Project:	San Juan, NM NAD27	MD Reference:	GL 5819' & RKB 16.5' @ 5835.50usft (PD 829)
Site:	State Com 601 Pad	North Reference:	True
Well:	State Com 601 2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

Project	San Juan, NM NAD27		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico West 3003		

Site	State Com 601 Pad		
Site Position:		Northing:	2,163,499.73 usft
From:	Lat/Long	Easting:	406,641.28 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in
		Latitude:	36.9452660
		Longitude:	-108.1528090
		Grid Convergence:	-0.19 °

Well	State Com 601 2H - Slot B03		
Well Position	+N/-S	228.27 usft	Northing:
	+E/-W	37.40 usft	Easting:
Position Uncertainty	0.00 usft	Wellhead Elevation:	0.00 usft
		Latitude:	36.9458930
		Longitude:	-108.1526810
		Ground Level:	5,819.00 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination (°)
	HDGM	9/6/2018	9.00
			Dip Angle (°)
			63.40
			Field Strength (nT)
			49,889

Design	Plan #2		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth:
			0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)
	0.00	0.00	0.00
			Direction (°)
			105.541

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
400.00	0.00	0.000	400.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,311.47	18.23	174.727	1,296.17	-143.17	13.21	2.00	2.00	0.00	174.73	
5,645.22	18.23	174.727	5,412.41	-1,493.13	137.81	0.00	0.00	0.00	0.00	
6,736.49	89.69	92.446	6,065.00	-1,735.11	840.06	8.00	6.55	-7.54	-82.76	State Com 601-2H LF
13,121.40	89.69	92.446	6,099.00	-2,007.62	7,219.06	0.00	0.00	0.00	0.00	State Com 601-2H Bf



Scientific Drilling, Intl Planning Report



Database:	Grand Junction District	Local Co-ordinate Reference:	Well State Com 601 2H - Slot B03
Company:	Hilcorp Energy Corp.	TVD Reference:	GL 5819' & RKB 16.5' @ 5835.50usft (PD 829)
Project:	San Juan, NM NAD27	MD Reference:	GL 5819' & RKB 16.5' @ 5835.50usft (PD 829)
Site:	State Com 601 Pad	North Reference:	True
Well:	State Com 601 2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.000	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.000	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.000	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.000	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	2.00	174.727	499.98	-1.74	0.16	0.62	2.00	2.00	0.00
600.00	4.00	174.727	599.84	-6.95	0.64	2.48	2.00	2.00	0.00
700.00	6.00	174.727	699.45	-15.63	1.44	5.58	2.00	2.00	0.00
800.00	8.00	174.727	798.70	-27.76	2.56	9.91	2.00	2.00	0.00
900.00	10.00	174.727	897.47	-43.34	4.00	15.47	2.00	2.00	0.00
1,000.00	12.00	174.727	995.62	-62.34	5.75	22.25	2.00	2.00	0.00
1,100.00	14.00	174.727	1,093.06	-84.74	7.82	30.24	2.00	2.00	0.00
1,200.00	16.00	174.727	1,189.64	-110.51	10.20	39.44	2.00	2.00	0.00
1,300.00	18.00	174.727	1,285.27	-139.62	12.89	49.82	2.00	2.00	0.00
1,311.47	18.23	174.727	1,296.17	-143.17	13.21	51.09	2.00	2.00	0.00
1,400.00	18.23	174.727	1,380.26	-170.75	15.76	60.93	0.00	0.00	0.00
1,500.00	18.23	174.727	1,475.24	-201.90	18.63	72.05	0.00	0.00	0.00
1,600.00	18.23	174.727	1,570.22	-233.05	21.51	83.16	0.00	0.00	0.00
1,700.00	18.23	174.727	1,665.20	-264.20	24.39	94.28	0.00	0.00	0.00
1,800.00	18.23	174.727	1,760.18	-295.35	27.26	105.40	0.00	0.00	0.00
1,900.00	18.23	174.727	1,855.16	-326.50	30.14	116.51	0.00	0.00	0.00
2,000.00	18.23	174.727	1,950.14	-357.65	33.01	127.63	0.00	0.00	0.00
2,100.00	18.23	174.727	2,045.12	-388.80	35.89	138.74	0.00	0.00	0.00
2,200.00	18.23	174.727	2,140.11	-419.95	38.76	149.86	0.00	0.00	0.00
2,300.00	18.23	174.727	2,235.09	-451.10	41.64	160.98	0.00	0.00	0.00
2,400.00	18.23	174.727	2,330.07	-482.25	44.51	172.09	0.00	0.00	0.00
2,500.00	18.23	174.727	2,425.05	-513.40	47.39	183.21	0.00	0.00	0.00
2,600.00	18.23	174.727	2,520.03	-544.55	50.26	194.32	0.00	0.00	0.00
2,700.00	18.23	174.727	2,615.01	-575.70	53.14	205.44	0.00	0.00	0.00
2,800.00	18.23	174.727	2,709.99	-606.85	56.01	216.56	0.00	0.00	0.00
2,900.00	18.23	174.727	2,804.97	-638.00	58.89	227.67	0.00	0.00	0.00
3,000.00	18.23	174.727	2,899.96	-669.14	61.76	238.79	0.00	0.00	0.00
3,100.00	18.23	174.727	2,994.94	-700.29	64.64	249.90	0.00	0.00	0.00
3,200.00	18.23	174.727	3,089.92	-731.44	67.51	261.02	0.00	0.00	0.00
3,300.00	18.23	174.727	3,184.90	-762.59	70.39	272.14	0.00	0.00	0.00
3,400.00	18.23	174.727	3,279.88	-793.74	73.26	283.25	0.00	0.00	0.00
3,500.00	18.23	174.727	3,374.86	-824.89	76.14	294.37	0.00	0.00	0.00
3,600.00	18.23	174.727	3,469.84	-856.04	79.01	305.48	0.00	0.00	0.00
3,700.00	18.23	174.727	3,564.82	-887.19	81.89	316.60	0.00	0.00	0.00
3,800.00	18.23	174.727	3,659.80	-918.34	84.76	327.72	0.00	0.00	0.00
3,900.00	18.23	174.727	3,754.79	-949.49	87.64	338.83	0.00	0.00	0.00
4,000.00	18.23	174.727	3,849.77	-980.64	90.51	349.95	0.00	0.00	0.00
4,100.00	18.23	174.727	3,944.75	-1,011.79	93.39	361.06	0.00	0.00	0.00
4,200.00	18.23	174.727	4,039.73	-1,042.94	96.26	372.18	0.00	0.00	0.00
4,300.00	18.23	174.727	4,134.71	-1,074.09	99.14	383.30	0.00	0.00	0.00
4,400.00	18.23	174.727	4,229.69	-1,105.24	102.01	394.41	0.00	0.00	0.00
4,500.00	18.23	174.727	4,324.67	-1,136.39	104.89	405.53	0.00	0.00	0.00
4,600.00	18.23	174.727	4,419.65	-1,167.54	107.76	416.64	0.00	0.00	0.00
4,700.00	18.23	174.727	4,514.64	-1,198.69	110.64	427.76	0.00	0.00	0.00
4,800.00	18.23	174.727	4,609.62	-1,229.84	113.51	438.88	0.00	0.00	0.00
4,900.00	18.23	174.727	4,704.60	-1,260.99	116.39	449.99	0.00	0.00	0.00
5,000.00	18.23	174.727	4,799.58	-1,292.14	119.26	461.11	0.00	0.00	0.00



Scientific Drilling, Intl Planning Report



Database:	Grand Junction District	Local Co-ordinate Reference:	Well State Com 601 2H - Slot B03
Company:	Hilcorp Energy Corp.	TVD Reference:	GL 5819' & RKB 16.5' @ 5835.50usft (PD 829)
Project:	San Juan, NM NAD27	MD Reference:	GL 5819' & RKB 16.5' @ 5835.50usft (PD 829)
Site:	State Com 601 Pad	North Reference:	True
Well:	State Com 601 2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,100.00	18.23	174.727	4,894.56	-1,323.29	122.14	472.22	0.00	0.00	0.00
5,200.00	18.23	174.727	4,989.54	-1,354.44	125.01	483.34	0.00	0.00	0.00
5,300.00	18.23	174.727	5,084.52	-1,385.59	127.89	494.46	0.00	0.00	0.00
5,400.00	18.23	174.727	5,179.50	-1,416.74	130.76	505.57	0.00	0.00	0.00
5,500.00	18.23	174.727	5,274.48	-1,447.89	133.64	516.69	0.00	0.00	0.00
5,600.00	18.23	174.727	5,369.47	-1,479.04	136.51	527.80	0.00	0.00	0.00
5,645.22	18.23	174.727	5,412.41	-1,493.13	137.81	532.83	0.00	0.00	0.00
5,700.00	19.26	161.441	5,464.31	-1,510.23	141.48	540.94	8.00	1.88	-24.25
5,800.00	23.18	142.016	5,557.63	-1,541.43	158.87	566.06	8.00	3.92	-19.43
5,900.00	28.76	128.836	5,647.57	-1,572.08	189.78	604.05	8.00	5.58	-13.18
6,000.00	35.23	119.884	5,732.38	-1,601.59	233.59	654.17	8.00	6.46	-8.95
6,100.00	42.16	113.479	5,810.42	-1,629.38	289.47	715.45	8.00	6.93	-6.41
6,200.00	49.37	108.615	5,880.16	-1,654.90	356.32	786.69	8.00	7.21	-4.86
6,300.00	56.73	104.712	5,940.24	-1,677.67	432.84	866.51	8.00	7.37	-3.90
6,400.00	64.21	101.423	5,989.50	-1,697.23	517.54	953.36	8.00	7.47	-3.29
6,500.00	71.74	98.528	6,026.98	-1,713.22	608.77	1,045.54	8.00	7.54	-2.90
6,600.00	79.32	95.876	6,051.95	-1,725.31	704.76	1,141.26	8.00	7.58	-2.65
6,700.00	86.92	93.353	6,063.92	-1,733.27	803.64	1,238.66	8.00	7.60	-2.52
6,736.49	89.69	92.446	6,065.00	-1,735.11	840.06	1,274.24	8.00	7.60	-2.49
6,800.00	89.69	92.446	6,065.34	-1,737.82	903.52	1,336.10	0.00	0.00	0.00
6,900.00	89.69	92.446	6,065.87	-1,742.09	1,003.42	1,433.50	0.00	0.00	0.00
7,000.00	89.69	92.446	6,066.40	-1,746.36	1,103.33	1,530.90	0.00	0.00	0.00
7,100.00	89.69	92.446	6,066.94	-1,750.63	1,203.24	1,628.29	0.00	0.00	0.00
7,200.00	89.69	92.446	6,067.47	-1,754.90	1,303.15	1,725.69	0.00	0.00	0.00
7,300.00	89.69	92.446	6,068.00	-1,759.16	1,403.05	1,823.09	0.00	0.00	0.00
7,400.00	89.69	92.446	6,068.53	-1,763.43	1,502.96	1,920.49	0.00	0.00	0.00
7,500.00	89.69	92.446	6,069.07	-1,767.70	1,602.87	2,017.89	0.00	0.00	0.00
7,600.00	89.69	92.446	6,069.60	-1,771.97	1,702.78	2,115.28	0.00	0.00	0.00
7,700.00	89.69	92.446	6,070.13	-1,776.24	1,802.68	2,212.68	0.00	0.00	0.00
7,800.00	89.69	92.446	6,070.66	-1,780.50	1,902.59	2,310.08	0.00	0.00	0.00
7,900.00	89.69	92.446	6,071.20	-1,784.77	2,002.50	2,407.48	0.00	0.00	0.00
8,000.00	89.69	92.446	6,071.73	-1,789.04	2,102.41	2,504.88	0.00	0.00	0.00
8,100.00	89.69	92.446	6,072.26	-1,793.31	2,202.31	2,602.28	0.00	0.00	0.00
8,200.00	89.69	92.446	6,072.79	-1,797.58	2,302.22	2,699.67	0.00	0.00	0.00
8,300.00	89.69	92.446	6,073.33	-1,801.84	2,402.13	2,797.07	0.00	0.00	0.00
8,400.00	89.69	92.446	6,073.86	-1,806.11	2,502.04	2,894.47	0.00	0.00	0.00
8,500.00	89.69	92.446	6,074.39	-1,810.38	2,601.94	2,991.87	0.00	0.00	0.00
8,600.00	89.69	92.446	6,074.92	-1,814.65	2,701.85	3,089.27	0.00	0.00	0.00
8,700.00	89.69	92.446	6,075.46	-1,818.91	2,801.76	3,186.66	0.00	0.00	0.00
8,800.00	89.69	92.446	6,075.99	-1,823.18	2,901.67	3,284.06	0.00	0.00	0.00
8,900.00	89.69	92.446	6,076.52	-1,827.45	3,001.57	3,381.46	0.00	0.00	0.00
9,000.00	89.69	92.446	6,077.05	-1,831.72	3,101.48	3,478.86	0.00	0.00	0.00
9,100.00	89.69	92.446	6,077.59	-1,835.99	3,201.39	3,576.26	0.00	0.00	0.00
9,200.00	89.69	92.446	6,078.12	-1,840.25	3,301.30	3,673.66	0.00	0.00	0.00
9,300.00	89.69	92.446	6,078.65	-1,844.52	3,401.20	3,771.05	0.00	0.00	0.00
9,400.00	89.69	92.446	6,079.18	-1,848.79	3,501.11	3,868.45	0.00	0.00	0.00
9,500.00	89.69	92.446	6,079.72	-1,853.06	3,601.02	3,965.85	0.00	0.00	0.00
9,600.00	89.69	92.446	6,080.25	-1,857.33	3,700.93	4,063.25	0.00	0.00	0.00
9,700.00	89.69	92.446	6,080.78	-1,861.59	3,800.83	4,160.65	0.00	0.00	0.00
9,800.00	89.69	92.446	6,081.31	-1,865.86	3,900.74	4,258.04	0.00	0.00	0.00
9,900.00	89.69	92.446	6,081.85	-1,870.13	4,000.65	4,355.44	0.00	0.00	0.00
10,000.00	89.69	92.446	6,082.38	-1,874.40	4,100.56	4,452.84	0.00	0.00	0.00



Scientific Drilling, Intl Planning Report



Database:	Grand Junction District	Local Co-ordinate Reference:	Well State Com 601 2H - Slot B03
Company:	Hilcorp Energy Corp.	TVD Reference:	GL 5819' & RKB 16.5' @ 5835.50usft (PD 829)
Project:	San Juan, NM NAD27	MD Reference:	GL 5819' & RKB 16.5' @ 5835.50usft (PD 829)
Site:	State Com 601 Pad	North Reference:	True
Well:	State Com 601 2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
10,100.00	89.69	92.446	6,082.91	-1,878.67	4,200.46	4,550.24	0.00	0.00	0.00	
10,200.00	89.69	92.446	6,083.44	-1,882.93	4,300.37	4,647.64	0.00	0.00	0.00	
10,300.00	89.69	92.446	6,083.98	-1,887.20	4,400.28	4,745.03	0.00	0.00	0.00	
10,400.00	89.69	92.446	6,084.51	-1,891.47	4,500.19	4,842.43	0.00	0.00	0.00	
10,500.00	89.69	92.446	6,085.04	-1,895.74	4,600.09	4,939.83	0.00	0.00	0.00	
10,600.00	89.69	92.446	6,085.57	-1,900.00	4,700.00	5,037.23	0.00	0.00	0.00	
10,700.00	89.69	92.446	6,086.11	-1,904.27	4,799.91	5,134.63	0.00	0.00	0.00	
10,800.00	89.69	92.446	6,086.64	-1,908.54	4,899.81	5,232.03	0.00	0.00	0.00	
10,900.00	89.69	92.446	6,087.17	-1,912.81	4,999.72	5,329.42	0.00	0.00	0.00	
11,000.00	89.69	92.446	6,087.70	-1,917.08	5,099.63	5,426.82	0.00	0.00	0.00	
11,100.00	89.69	92.446	6,088.24	-1,921.34	5,199.54	5,524.22	0.00	0.00	0.00	
11,200.00	89.69	92.446	6,088.77	-1,925.61	5,299.44	5,621.62	0.00	0.00	0.00	
11,300.00	89.69	92.446	6,089.30	-1,929.88	5,399.35	5,719.02	0.00	0.00	0.00	
11,400.00	89.69	92.446	6,089.83	-1,934.15	5,499.26	5,816.41	0.00	0.00	0.00	
11,500.00	89.69	92.446	6,090.37	-1,938.42	5,599.17	5,913.81	0.00	0.00	0.00	
11,600.00	89.69	92.446	6,090.90	-1,942.68	5,699.07	6,011.21	0.00	0.00	0.00	
11,700.00	89.69	92.446	6,091.43	-1,946.95	5,798.98	6,108.61	0.00	0.00	0.00	
11,800.00	89.69	92.446	6,091.96	-1,951.22	5,898.89	6,206.01	0.00	0.00	0.00	
11,900.00	89.69	92.446	6,092.50	-1,955.49	5,998.80	6,303.41	0.00	0.00	0.00	
12,000.00	89.69	92.446	6,093.03	-1,959.76	6,098.70	6,400.80	0.00	0.00	0.00	
12,100.00	89.69	92.446	6,093.56	-1,964.02	6,198.61	6,498.20	0.00	0.00	0.00	
12,200.00	89.69	92.446	6,094.09	-1,968.29	6,298.52	6,595.60	0.00	0.00	0.00	
12,300.00	89.69	92.446	6,094.63	-1,972.56	6,398.43	6,693.00	0.00	0.00	0.00	
12,400.00	89.69	92.446	6,095.16	-1,976.83	6,498.33	6,790.40	0.00	0.00	0.00	
12,500.00	89.69	92.446	6,095.69	-1,981.10	6,598.24	6,887.79	0.00	0.00	0.00	
12,600.00	89.69	92.446	6,096.22	-1,985.36	6,698.15	6,985.19	0.00	0.00	0.00	
12,700.00	89.69	92.446	6,096.76	-1,989.63	6,798.06	7,082.59	0.00	0.00	0.00	
12,800.00	89.69	92.446	6,097.29	-1,993.90	6,897.96	7,179.99	0.00	0.00	0.00	
12,900.00	89.69	92.446	6,097.82	-1,998.17	6,997.87	7,277.39	0.00	0.00	0.00	
13,000.00	89.69	92.446	6,098.35	-2,002.43	7,097.78	7,374.79	0.00	0.00	0.00	
13,100.00	89.69	92.446	6,098.89	-2,006.70	7,197.69	7,472.18	0.00	0.00	0.00	
13,121.40	89.69	92.446	6,099.00	-2,007.62	7,219.06	7,493.02	0.00	0.00	0.00	

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
State Com 601-2H LP	0.00	0.000	6,065.00	-1,735.11	840.06	2,161,989.95	407,513.69	36.9411269	-108.1498065
- plan hits target center									
- Point									
State Com 601-2H BHL	0.00	0.000	6,099.00	-2,007.62	7,219.06	2,161,696.08	413,891.74	36.9403759	-108.1279790
- plan hits target center									
- Point									

Directions from the Intersection of State Hwy 516 & State Hwy 574
in Aztec, NM to Hilcorp Energy Company State Com 601 #2H Wellpad & Frac Pad
1660' FNL & 2208' FEL, Section 36, T32N, R13W, N.M.P.M., San Juan County, NM

Latitude: 36.945894°N Longitude: 108.153312°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 601 #2H Wellpad & Frac Pad.