

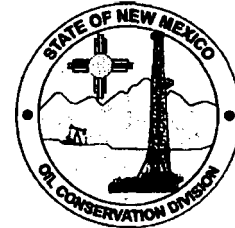
State of New Mexico
Energy, Minerals and Natural Resources Department

Michelle Lujan Grisham
Governor

Sarah Cottrell Propst
Cabinet Secretary

Todd E. Leahy, JD, PhD
Deputy Secretary

Adrienne Sandoval, Division Director
Oil Conservation Division



New Mexico Oil Conservation Division approval and conditions listed below are made in accordance with OCD Rule 19.15.7.11 and are in addition to the actions approved by BLM on the following 3160-5 form.

Operator Signature Date: **Original APD 9/14/2018**
Change of Plans Sundry Date 4/9/2019

WELL INFORMATION:
HILCORP ENERGY COMPANY
30-045-35882 SAN JUAN 32 8 UNIT #254H

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

- ☒ Notify Aztec OCD 24hrs prior to casing & cement.
- ☒ Hold C-104 for directional survey & "As Drilled" Plat
- ☐ Hold C-104 for NSL, NSP, DHC,
- ☐ Spacing rule violation. Operator must follow up with change of status notification on other well to be shut in or abandoned
- ☒ Regarding the use of a pit, closed loop system or below grade tank, the operator must comply with the following as applicable:
 - ☒ A pit requires a complete C-144 be submitted and approved prior to the construction or use of the pit, pursuant to 19.15.17.8.A
 - ☒ A closed loop system requires notification prior to use, pursuant to 19.15.17.9.A
 - ☒ A below grade tank requires a registration be filed prior to the construction or use of the below grade tank, pursuant to 19.15.17.8.C
- ☒ 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
- ☒ Submit Gas Capture Plan form prior to spudding or initiating recompletions 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.

May 23, 2019

Page 2

- ✓ 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.
- ✓ Comply with current regulations at time of spud
Prior to production operator needs to be in compliance with RULE 19.15.5.9



NMOCD Approved by Signature

5/20/19

Date

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED

APR 09 2019

FORM APPROVED
OMB No. 1004-0137
Expires: July 31, 2010

5. Lease Serial No.

NMSF0079380

6. Allottee or Tribe Name

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE - Other instructions on page 2.

1. Type of Well

☐

Oil Well

☒

Gas Well

☐

Other

2. Name of Operator

Hilcorp Energy Company

3a. Address

382 Road 3100, Aztec, NM 87410

3b. Phone No. (include area code)

505-599-3400

7. If Unit of CA/Agreement, Name and/or No.

8. Well Name and No.

San Juan 32-8 Unit 254H

9. API Well No.

30-045-35882

10. Field and Pool or Exploratory Area

Basin Fruitland Coal

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

Surface

Unit F (SE/NW) 1893' FNL & 1684' FWL, Sec. 23, T32N, R08W

Bottomhole

Unit D (NW/NW) 293' FNL & 1079' FWL, Sec. 22, T32N, R08W

11. Country or Parish, State

San Juan

New Mexico

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA

TYPE OF SUBMISSION

TYPE OF ACTION

☒

Notice of Intent

☐

Acidize

☐

Deepen

☐

Production (Start/Resume)

☐

Water Shut-Off

☐

Subsequent Report

☐

Alter Casing

☐

Fracture Treat

☐

Reclamation

☐

Well Integrity

☐

Final Abandonment Notice

☐

Casing Repair

☐

New Construction

☐

Recomplete

☒

Other

Revised

Change Plans

☐

Plug and Abandon

☐

Temporarily Abandon

Convert to Injection

☐

Plug Back

☐

Water Disposal

C102 & Drilling Plans

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 must be filed once Testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.)

Hilcorp Energy Company would like to change the drilling plans for the subject well. The well will be no longer have a pilot hole. The revised C102 and drilling plans are attached.

NMOC

APR 22 2019

DISTRICT III

CONDITIONS OF APPROVAL
Adhere to previously issued stipulations.

14. I hereby certify that the foregoing is true and correct. Name (Printed/Typed)

Priscilla Shorty

Title Operations/Regulatory Technician - Sr.

Signature

Priscilla Shorty

Date 4/9/2019

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

[Signature]

Title

Petr. Eng

Date

4/18/19

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office

BLM - AFO

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

(Instruction on page 2)

SP NMOC

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

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

¹ API Number 30-045-35882	² Pool Code 71629	³ Pool Name BASIN FRUITLAND COAL
⁴ Property Code 318435	⁵ Property Name SAN JUAN 32-8 UNIT	⁶ Well Number 254H
⁷ GRID No. 372171	⁸ Operator Name HILCORP ENERGY COMPANY	⁹ Elevation 6962'

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
F	23	32N	8W		1893	NORTH	1684	WEST	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
D	22	32N	8W		293	NORTH	1079	WEST	SAN JUAN

¹² Dedicated Acres 960.00	Entire Section 22 W/2 - Section 23	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

BOTTOM HOLE LOCATION

293' FNL 1079' FWL
SEC 22, T32N, R8W
LAT: 36.975644°N
LONG: 107.667231°W
DATUM: NAD1927

LAT: 36.975648°N
LONG: 107.667844°W
DATUM: NAD1983

FIRST TAKE POINT

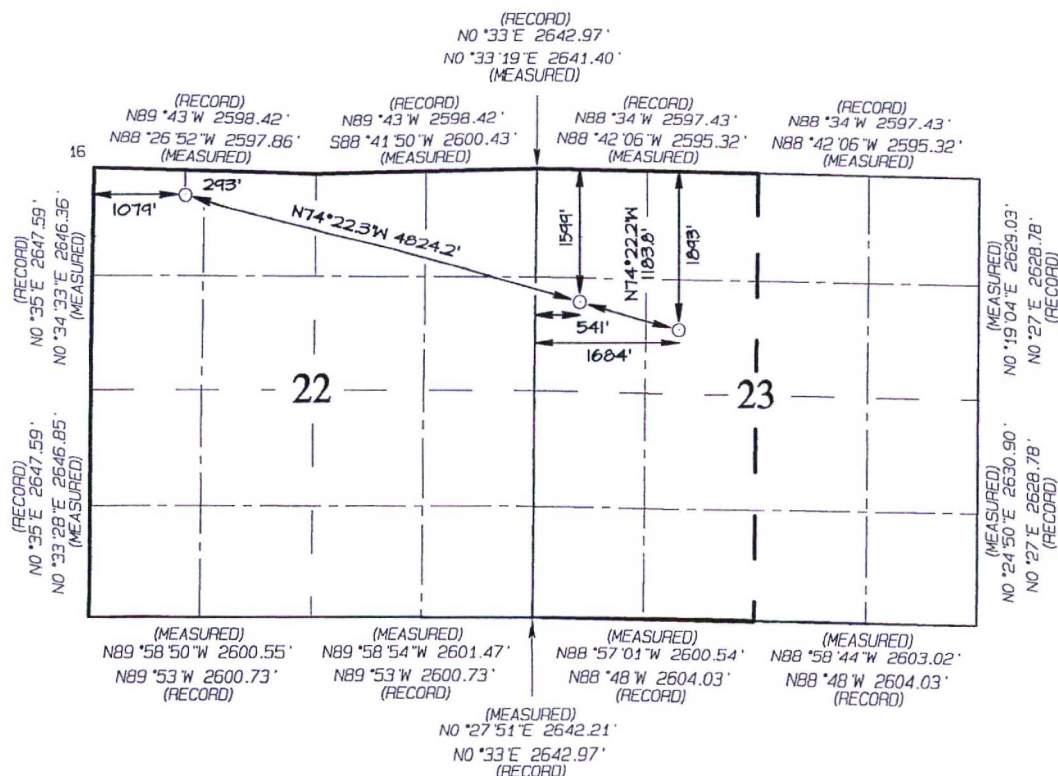
1599' FNL 541' FWL
SEC 23, T32N, R8W
LAT: 36.972051°N
LONG: 107.651335°W
DATUM: NAD1927

LAT: 36.972055°N
LONG: 107.651948°W
DATUM: NAD1983

SURFACE LOCATION

1893' FNL 1684' FWL
SEC 23, T32N, R8W
LAT: 36.971169°N
LONG: 107.647435°W
DATUM: NAD1927

LAT: 36.971173°N
LONG: 107.648047°W
DATUM: NAD1983



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.

Priscilla Shorty 4/9/19
Signature Date

Priscilla Shorty
Printed Name
pshorty@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: APRIL 8, 2019
Date of Survey: JUNE 14, 2018

Signature and Seal of Professional Surveyor



JASON C. EDWARDS
Certificate Number 15269

San Juan Unit 32-8 #254H



Hilcorp Energy Company

Hilcorp Energy Company

Technical Plan

1. Location

San Juan Unit 32-8 #254H

SHL: 1893' FNL, 1684' FWL, Sec 23, T32N, R8W

Lat-1 BHL: 293' FNL, 1079' FWL, Sec 22, T32N, R8W

GL: 6962'

2. Geological Markers

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

Formation	Depth (TVD)	Remarks
Ojo Alamo	2409'	Wet
Kirtland	2444'	Wet
Fruitland	3412'	Possible Gas/Water
Pictured Cliffs	3846'	Wet

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

Susco 16 state 002 was used as the offset for the regional formation tops

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 the minimum 2M standards.
- All equipment will have 3M pressure ratings.
- A rotating head will be rigged up on top of annular as seen in attached diagram.



Hilcorp Energy Company

San Juan Unit 32-8 #254H

4. Casing & Cement Program

A) The proposed casing program is outlined below:

Proposed Casing				
Casing	Hole Size	Casing Size	Weight/Grade	Depth
Surface	12-1/4"	9-5/8"	32.3# H-40	0' - 500' (MD)
Intermediate	8-3/4"	7"	23# L-80	0' - 4,224.36' (MD)
Prod Liner (predrilled)	6-1/4"	4-1/2"	11.6# J-55/L-80	4,224.36' - 9,049.96' (MD)

The intermediate hole section will be drilled to target depth, then fully cased and cemented with 7" casing.

First Take Point is:

Lat1 - 4,224.36' MD / 3,635' TVD.

If the 6-1/4" hole is not drilled to total MD, the production liner setting depth and length will be adjusted accordingly.

The 7" casing shoe will be set inside the setback boundary line.



Hilcorp Energy Company

San Juan Unit 32-8 #254H

B) The proposed cement program is shown below:

Cement Program						
Interval	Depth (MD)	Sacks	Slurry	Excess	Volume	Planned Cement Top
Surface	500'	265	Lead Cmt: 2% Calcium Chloride, pellet 0.1250 lbm/sk Poly-E-Flake 1.18 ft ³ / sk - 5.24 gal/sk 15.8 ppg	100%	313 ft ³	Surface
Intermediate	4,224.36'	451.5	Lead Cmt: Varicem Cement 0.3% Super CBL 0.3 % FE-2 5 lbm/sk Kol-Seal 0.125 lbm/sk Poly-E-Flake 2.11 ft ³ / sk - 11.25 gal/sk 12.9 ppg	50%	952 ft ³	Surface
Production		N/A	N/A – Open hole with pre-drilled liner	N/A	N/A	N/A

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	10' above shoe joint with collar clamp On top of 2nd, 4th, 6th, 8th, 10th joints 1 every 4th joint to Ojo Alamo 1 every joint through Ojo Alamo 1 Turbolizer will be placed mid-way into Ojo Alamo 1 every 4th joint from top of Ojo Alamo to surface shoe 1 inside surface casing
Production	N/A

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



Hilcorp Energy Company

San Juan Unit 32-8 #254H

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)
Surface	Air / Water Gel System	Air 8.3 - 9.2	NC
Intermediate	LSND / Gel System	8.4 - 9.5	6 - 16
Production	LSND Brine (if needed)*	8.5 - 10	4 - 14

In the production hole, Brine will be utilized only if a weighting agent is needed to raise MW (for either well control or wellbore stability purposes).

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 = 1500 psi.
- Maximum anticipated surface pressure = 1,300 psi
- There is some offset Fruitland Coal and Mesa Verde 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. Intermediate Hole Section

- The intermediate hole section will be drilled through the target Fruitland coal seam.
- GR will be run in the BHA and will be used in conjunction with mud logger data to determine the exact TVD depth of the target coal seam.
- 7" casing will be run completely through the interval, and cemented to surface.



Hilcorp Energy Company

San Juan Unit 32-8 #254H

8. Testing, Logging, Coring

Testing, Logging, Coring Procedure		
Evaluation Method	Start Depth	End depth
Mud Logs	Fruitland Coal Top	TD
MWD Directional Surveys	KOP	TD
LWD GR	7" window	TD
Triple Combo	8-3/4" hole section	
Temp Survey	If needed on intermediate casing	

9. 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.

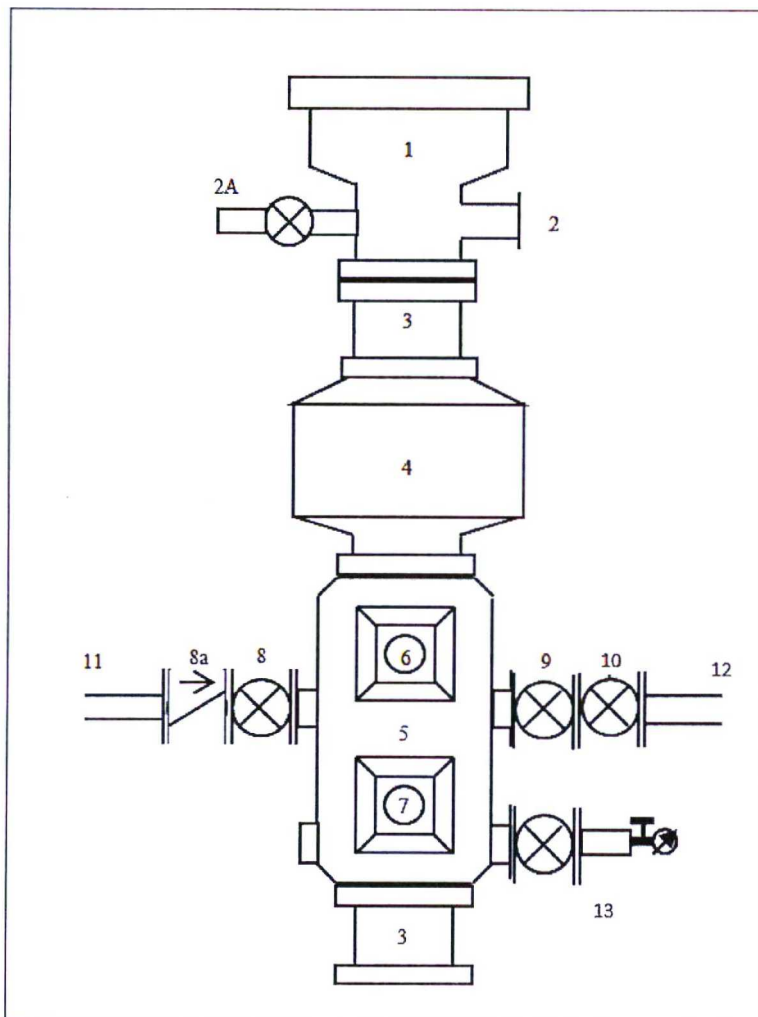


Hilcorp Energy Company

San Juan Unit 32-8 #254H

BOPE Schematic – Aztec 777

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 Valve (2")
- 8a. Check valve
9. 3M Manual Gate Valve (3")
10. 3M Manual Gate Valve (3")
11. Kill Line Connection, 2" hard line
12. Choke Line (3" Co-Flex)
13. Secondary outlet with valve, bull plug, needle valve, and pressure gauge





Hilcorp Energy Company

San Juan County, NM (NAD27)

.T32N - R08W SEC 23

San Juan 32-8 Unit 254H

Original Hole

Plan: Rev3

Standard Planning Report - Geographic

01 April, 2019



Well: San Juan 32-8 Unit 254H	Field: San Juan County, NM (NAD27)	Site: .T32N - R08W SEC 23	Rig: TBD	Plan: Rev3
Borehole: Original Hole VSec: 285.63deg	Plan Date: 04-01-2019 Grid Conv: 0.11	Datum: US State Plane 1927 Zone: New Mexico West 3003	KB: 6977ft GL: 6962.00ft	Latitude: 36.971169 Northing: 2172826.45
			Longitude: -107.647435 Easting: 554305.66	Model: IGRF2015 DIP: 63.53°
				Date: 14-May-19 FS: 49970
				DEC: 9.05° North Ref: Grid

Critical Points

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	2224.36	0.00	0.00	2224.36	0.00	0.00	0.00	0.00	0.00	KOP, Build 4"/100 DLS
3	4224.36	80.00	285.63	3635.00	318.89	-1139.90	4.00	285.63	1183.66	Build 3.5"/100 DLS
4	4330.08	83.68	285.63	3650.00	347.08	-1240.66	3.48	0.00	1288.30	Top of Coal
5	4511.92	90.01	285.63	3660.00	395.97	-1415.42	3.48	0.01	1469.76	Landing Tgt
6	9049.96	90.01	285.63	3659.00	1618.55	-5785.67	0.00	-88.48	6007.80	PBHL/TD

Target Details

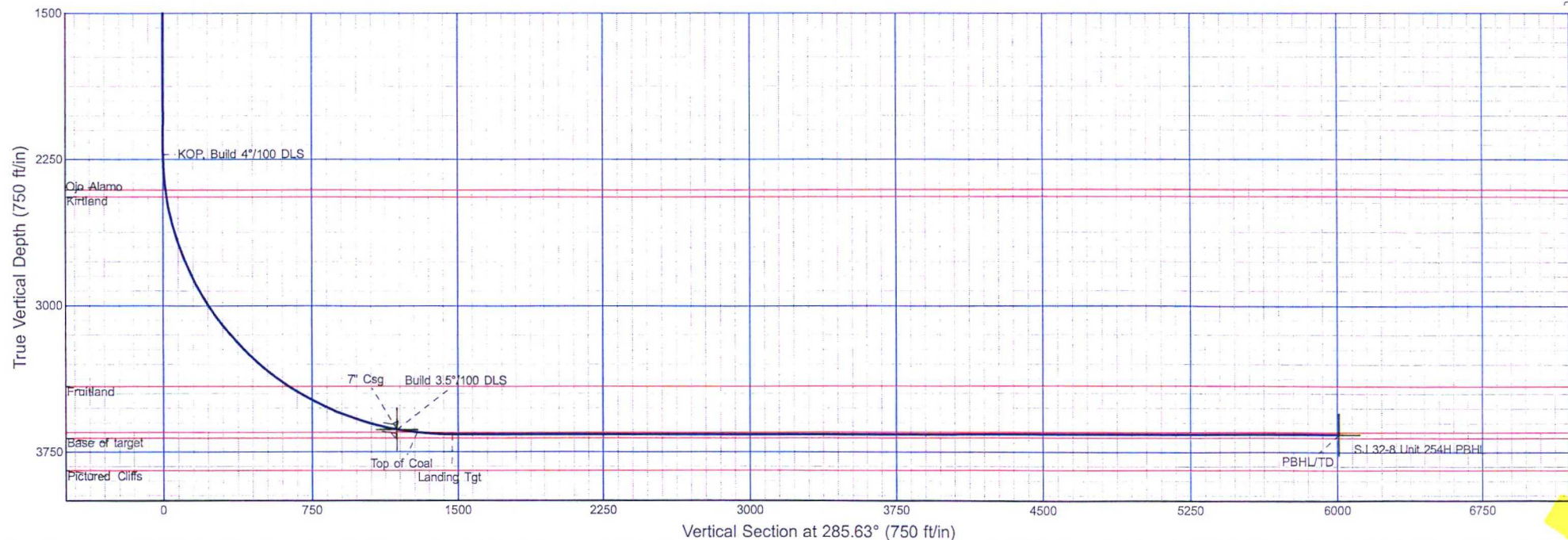
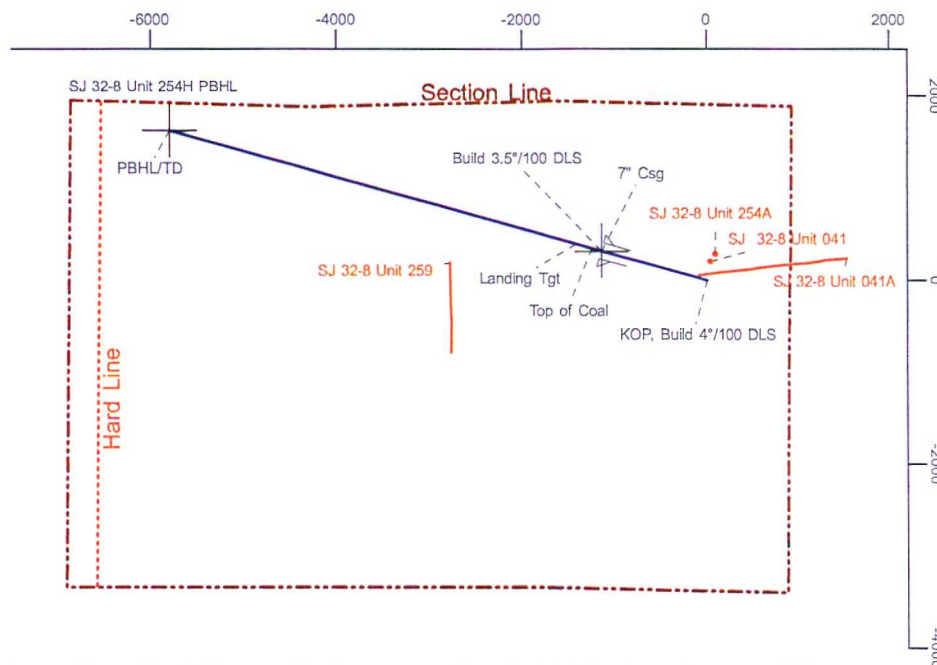
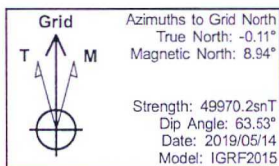
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
SJ 32-8 Unit 254H ICP	3635.00	318.89	-1139.90	2173145.34	553165.76	36.972051	-107.651335
SJ 32-8 Unit 254H PBHL	3659.00	1618.55	-5785.67	2174445.00	548520.00	36.975644	-107.667231

Casing Details

TVD	MD	Name	Size
3635.00	4224.36	7" Csg	7.000

Formation Top Details

TVDPath	MDPath	Formation
2409.00	2409.52	Ojo Alamo
2444.00	2444.87	Kirtland
3412.00	3624.59	Fruitland
3650.00	4330.08	Top of Coal



Vertical Section at 285.63° (750 ft/in)

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well San Juan 32-8 Unit 254H
Company:	Hilcorp Energy Company	TVD Reference:	KB @ 6977.00ft (TBD)
Project:	San Juan County, NM (NAD27)	MD Reference:	KB @ 6977.00ft (TBD)
Site:	.T32N - R08W SEC 23	North Reference:	Grid
Well:	San Juan 32-8 Unit 254H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	Rev3		

Project	San Juan County, 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		.T32N - R08W SEC 23			
Site Position:		Northing:	2,172,826.45 usft	Latitude:	36.971169
From:	Map	Easting:	554,305.66 usft	Longitude:	-107.647435
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.11 °

Well	San Juan 32-8 Unit 254H					
Well Position	+N/-S	0.00 ft	Northing:	2,172,826.45 usft	Latitude:	36.971169
	+E/-W	0.00 ft	Easting:	554,305.66 usft	Longitude:	-107.647435
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	6,962.00 ft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	2019/05/14	9.05	63.53	49,970

Design	Rev3			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	285.63

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,224.36	0.00	0.00	2,224.36	0.00	0.00	0.00	0.00	0.00	0.00	
4,224.36	80.00	285.63	3,635.00	318.89	-1,139.90	4.00	4.00	0.00	285.63	SJ 32-8 Unit 254H PE
4,330.08	83.68	285.63	3,650.00	347.08	-1,240.66	3.48	3.48	0.00	0.00	
4,511.92	90.01	285.63	3,660.00	395.97	-1,415.42	3.48	3.48	0.00	0.01	
9,049.96	90.01	285.63	3,659.00	1,618.55	-5,785.67	0.00	0.00	0.00	-88.48	SJ 32-8 Unit 254H PE

Database: EDM 5000.1 Single User Db
 Company: Hilcorp Energy Company
 Project: San Juan County, NM (NAD27)
 Site: T32N - R08W SEC 23
 Well: San Juan 32-8 Unit 254H
 Wellbore: Original Hole
 Design: Rev3

Local Co-ordinate Reference: Well San Juan 32-8 Unit 254H
 TVD Reference: KB @ 6977.00ft (TBD)
 MD Reference: KB @ 6977.00ft (TBD)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	2,172,826.45	554,305.66	36.971169	-107.647435
100.00	0.00	0.00	100.00	0.00	0.00	2,172,826.45	554,305.66	36.971169	-107.647435
200.00	0.00	0.00	200.00	0.00	0.00	2,172,826.45	554,305.66	36.971169	-107.647435
300.00	0.00	0.00	300.00	0.00	0.00	2,172,826.45	554,305.66	36.971169	-107.647435
400.00	0.00	0.00	400.00	0.00	0.00	2,172,826.45	554,305.66	36.971169	-107.647435
500.00	0.00	0.00	500.00	0.00	0.00	2,172,826.45	554,305.66	36.971169	-107.647435
600.00	0.00	0.00	600.00	0.00	0.00	2,172,826.45	554,305.66	36.971169	-107.647435
700.00	0.00	0.00	700.00	0.00	0.00	2,172,826.45	554,305.66	36.971169	-107.647435
800.00	0.00	0.00	800.00	0.00	0.00	2,172,826.45	554,305.66	36.971169	-107.647435
900.00	0.00	0.00	900.00	0.00	0.00	2,172,826.45	554,305.66	36.971169	-107.647435
1,000.00	0.00	0.00	1,000.00	0.00	0.00	2,172,826.45	554,305.66	36.971169	-107.647435
1,100.00	0.00	0.00	1,100.00	0.00	0.00	2,172,826.45	554,305.66	36.971169	-107.647435
1,200.00	0.00	0.00	1,200.00	0.00	0.00	2,172,826.45	554,305.66	36.971169	-107.647435
1,300.00	0.00	0.00	1,300.00	0.00	0.00	2,172,826.45	554,305.66	36.971169	-107.647435
1,400.00	0.00	0.00	1,400.00	0.00	0.00	2,172,826.45	554,305.66	36.971169	-107.647435
1,500.00	0.00	0.00	1,500.00	0.00	0.00	2,172,826.45	554,305.66	36.971169	-107.647435
1,600.00	0.00	0.00	1,600.00	0.00	0.00	2,172,826.45	554,305.66	36.971169	-107.647435
1,700.00	0.00	0.00	1,700.00	0.00	0.00	2,172,826.45	554,305.66	36.971169	-107.647435
1,800.00	0.00	0.00	1,800.00	0.00	0.00	2,172,826.45	554,305.66	36.971169	-107.647435
1,900.00	0.00	0.00	1,900.00	0.00	0.00	2,172,826.45	554,305.66	36.971169	-107.647435
2,000.00	0.00	0.00	2,000.00	0.00	0.00	2,172,826.45	554,305.66	36.971169	-107.647435
2,100.00	0.00	0.00	2,100.00	0.00	0.00	2,172,826.45	554,305.66	36.971169	-107.647435
2,200.00	0.00	0.00	2,200.00	0.00	0.00	2,172,826.45	554,305.66	36.971169	-107.647435
2,224.36	0.00	0.00	2,224.36	0.00	0.00	2,172,826.45	554,305.66	36.971169	-107.647435
KOP, Build 4"/100 DLS									
2,300.00	3.03	285.63	2,299.96	0.54	-1.92	2,172,826.99	554,303.74	36.971171	-107.647442
2,400.00	7.03	285.63	2,399.56	2.90	-10.36	2,172,829.35	554,295.31	36.971177	-107.647471
2,409.52	7.41	285.63	2,409.00	3.22	-11.51	2,172,829.67	554,294.16	36.971178	-107.647475
Ojo Alamo									
2,444.87	8.82	285.63	2,444.00	4.56	-16.31	2,172,831.01	554,289.35	36.971182	-107.647491
Kirtland									
2,500.00	11.03	285.63	2,498.30	7.12	-25.46	2,172,833.57	554,280.20	36.971189	-107.647522
2,600.00	15.03	285.63	2,595.71	13.19	-47.16	2,172,839.64	554,258.50	36.971206	-107.647597
2,700.00	19.03	285.63	2,691.31	21.08	-75.35	2,172,847.53	554,230.31	36.971227	-107.647693
2,800.00	23.03	285.63	2,784.63	30.74	-109.90	2,172,857.19	554,195.76	36.971254	-107.647811
2,900.00	27.03	285.63	2,875.22	42.14	-150.63	2,172,868.59	554,155.03	36.971286	-107.647951
3,000.00	31.03	285.63	2,962.65	55.21	-197.35	2,172,881.66	554,108.32	36.971322	-107.648110
3,100.00	35.03	285.63	3,046.47	69.89	-249.82	2,172,896.34	554,055.84	36.971362	-107.648290
3,200.00	39.03	285.63	3,126.29	86.11	-307.80	2,172,912.56	553,997.86	36.971407	-107.648488
3,300.00	43.03	285.63	3,201.72	103.79	-371.00	2,172,930.24	553,934.66	36.971456	-107.648705
3,400.00	47.03	285.63	3,272.38	122.84	-439.11	2,172,949.29	553,866.55	36.971509	-107.648938
3,500.00	51.03	285.63	3,337.94	143.18	-511.81	2,172,969.63	553,793.86	36.971565	-107.649186
3,600.00	55.03	285.63	3,398.08	164.70	-588.73	2,172,991.15	553,716.94	36.971625	-107.649449
3,624.59	56.01	285.63	3,412.00	170.16	-608.25	2,172,996.61	553,697.42	36.971640	-107.649516
Fruitland									
3,700.00	59.03	285.63	3,452.49	187.29	-669.50	2,173,013.74	553,636.16	36.971687	-107.649726
3,800.00	63.03	285.63	3,500.92	210.86	-753.73	2,173,037.31	553,551.93	36.971752	-107.650014
3,900.00	67.03	285.63	3,543.14	235.27	-841.01	2,173,061.72	553,464.65	36.971820	-107.650313
4,000.00	71.03	285.63	3,578.93	260.43	-930.92	2,173,086.87	553,374.75	36.971889	-107.650620
4,100.00	75.03	285.63	3,608.11	286.19	-1,023.00	2,173,112.64	553,282.66	36.971961	-107.650935
4,200.00	79.03	285.63	3,630.56	312.43	-1,116.83	2,173,138.88	553,188.84	36.972033	-107.651256
4,224.36	80.00	285.63	3,635.00	318.89	-1,139.90	2,173,145.34	553,165.77	36.972051	-107.651335
Build 3.5"/100 DLS - 7" Csg									
4,300.00	82.63	285.63	3,646.41	339.03	-1,211.90	2,173,165.48	553,093.77	36.972107	-107.651582

Database: EDM 5000.1 Single User Db
 Company: Hilcorp Energy Company
 Project: San Juan County, NM (NAD27)
 Site: T32N - R08W SEC 23
 Well: San Juan 32-8 Unit 254H
 Wellbore: Original Hole
 Design: Rev3

Local Co-ordinate Reference: Well San Juan 32-8 Unit 254H
 TVD Reference: KB @ 6977.00ft (TBD)
 MD Reference: KB @ 6977.00ft (TBD)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
4,330.08	83.68	285.63	3,650.00	347.08	-1,240.66	2,173,173.53	553,065.01	36.972129	-107.651680
Top of Coal									
4,400.00	86.11	285.63	3,656.22	365.84	-1,307.72	2,173,192.29	552,997.94	36.972181	-107.651909
4,500.00	89.60	285.63	3,659.96	392.76	-1,403.94	2,173,219.21	552,901.72	36.972255	-107.652239
4,511.92	90.01	285.63	3,660.00	395.97	-1,415.42	2,173,222.42	552,890.25	36.972264	-107.652278
Landing Tgt									
4,600.00	90.01	285.63	3,659.98	419.70	-1,500.24	2,173,246.15	552,805.42	36.972330	-107.652568
4,700.00	90.01	285.63	3,659.96	446.64	-1,596.55	2,173,273.09	552,709.12	36.972404	-107.652898
4,800.00	90.01	285.63	3,659.94	473.58	-1,692.85	2,173,300.03	552,612.82	36.972479	-107.653227
4,900.00	90.01	285.63	3,659.91	500.53	-1,789.15	2,173,326.97	552,516.52	36.972553	-107.653557
5,000.00	90.01	285.63	3,659.89	527.47	-1,885.45	2,173,353.92	552,420.21	36.972628	-107.653886
5,100.00	90.01	285.63	3,659.87	554.41	-1,981.75	2,173,380.86	552,323.91	36.972702	-107.654216
5,200.00	90.01	285.63	3,659.85	581.35	-2,078.06	2,173,407.80	552,227.61	36.972777	-107.654545
5,300.00	90.01	285.63	3,659.83	608.29	-2,174.36	2,173,434.74	552,131.31	36.972851	-107.654875
5,400.00	90.01	285.63	3,659.80	635.24	-2,270.66	2,173,461.68	552,035.01	36.972926	-107.655204
5,500.00	90.01	285.63	3,659.78	662.18	-2,366.96	2,173,488.63	551,938.70	36.973000	-107.655534
5,600.00	90.01	285.63	3,659.76	689.12	-2,463.27	2,173,515.57	551,842.40	36.973075	-107.655863
5,700.00	90.01	285.63	3,659.74	716.06	-2,559.57	2,173,542.51	551,746.10	36.973149	-107.656193
5,800.00	90.01	285.63	3,659.72	743.00	-2,655.87	2,173,569.45	551,649.80	36.973224	-107.656522
5,900.00	90.01	285.63	3,659.69	769.94	-2,752.17	2,173,596.39	551,553.50	36.973298	-107.656852
6,000.00	90.01	285.63	3,659.67	796.88	-2,848.48	2,173,623.33	551,457.19	36.973373	-107.657181
6,100.00	90.01	285.63	3,659.65	823.83	-2,944.78	2,173,650.27	551,360.89	36.973447	-107.657511
6,200.00	90.01	285.63	3,659.63	850.77	-3,041.08	2,173,677.22	551,264.59	36.973522	-107.657840
6,300.00	90.01	285.63	3,659.61	877.71	-3,137.38	2,173,704.16	551,168.29	36.973596	-107.658170
6,400.00	90.01	285.63	3,659.58	904.65	-3,233.69	2,173,731.10	551,071.98	36.973671	-107.658499
6,500.00	90.01	285.63	3,659.56	931.59	-3,329.99	2,173,758.04	550,975.68	36.973745	-107.658829
6,600.00	90.01	285.63	3,659.54	958.53	-3,426.29	2,173,784.98	550,879.38	36.973820	-107.659158
6,700.00	90.01	285.63	3,659.52	985.47	-3,522.59	2,173,811.92	550,783.08	36.973894	-107.659488
6,800.00	90.01	285.63	3,659.50	1,012.41	-3,618.90	2,173,838.86	550,686.77	36.973969	-107.659817
6,900.00	90.01	285.63	3,659.47	1,039.35	-3,715.20	2,173,865.80	550,590.47	36.974043	-107.660147
7,000.00	90.01	285.63	3,659.45	1,066.29	-3,811.50	2,173,892.74	550,494.17	36.974118	-107.660476
7,100.00	90.01	285.63	3,659.43	1,093.23	-3,907.80	2,173,919.68	550,397.87	36.974192	-107.660806
7,200.00	90.01	285.63	3,659.41	1,120.18	-4,004.11	2,173,946.62	550,301.56	36.974267	-107.661135
7,300.00	90.01	285.63	3,659.39	1,147.12	-4,100.41	2,173,973.56	550,205.26	36.974341	-107.661465
7,400.00	90.01	285.63	3,659.36	1,174.06	-4,196.71	2,174,000.50	550,108.96	36.974416	-107.661794
7,500.00	90.01	285.63	3,659.34	1,201.00	-4,293.02	2,174,027.44	550,012.66	36.974490	-107.662124
7,600.00	90.01	285.63	3,659.32	1,227.94	-4,389.32	2,174,054.38	549,916.35	36.974565	-107.662453
7,700.00	90.01	285.63	3,659.30	1,254.88	-4,485.62	2,174,081.32	549,820.05	36.974639	-107.662783
7,800.00	90.01	285.63	3,659.28	1,281.82	-4,581.92	2,174,108.26	549,723.75	36.974713	-107.663112
7,900.00	90.01	285.63	3,659.25	1,308.76	-4,678.23	2,174,135.20	549,627.45	36.974788	-107.663442
8,000.00	90.01	285.63	3,659.23	1,335.70	-4,774.53	2,174,162.14	549,531.14	36.974862	-107.663771
8,100.00	90.01	285.63	3,659.21	1,362.64	-4,870.83	2,174,189.08	549,434.84	36.974937	-107.664101
8,200.00	90.01	285.63	3,659.19	1,389.58	-4,967.13	2,174,216.02	549,338.54	36.975011	-107.664430
8,300.00	90.01	285.63	3,659.17	1,416.52	-5,063.44	2,174,242.96	549,242.24	36.975086	-107.664760
8,400.00	90.01	285.63	3,659.14	1,443.46	-5,159.74	2,174,269.90	549,145.93	36.975160	-107.665089
8,500.00	90.01	285.63	3,659.12	1,470.40	-5,256.04	2,174,296.84	549,049.63	36.975235	-107.665419
8,600.00	90.01	285.63	3,659.10	1,497.34	-5,352.35	2,174,323.78	548,953.33	36.975309	-107.665748
8,700.00	90.01	285.63	3,659.08	1,524.27	-5,448.65	2,174,350.72	548,857.02	36.975384	-107.666078
8,800.00	90.01	285.63	3,659.06	1,551.21	-5,544.95	2,174,377.66	548,760.72	36.975458	-107.666407
8,900.00	90.01	285.63	3,659.03	1,578.15	-5,641.26	2,174,404.60	548,664.42	36.975533	-107.666737
9,000.00	90.01	285.63	3,659.01	1,605.09	-5,737.56	2,174,431.54	548,568.12	36.975607	-107.667066
9,049.96	90.01	285.63	3,659.00	1,618.55	-5,785.67	2,174,445.00	548,520.00	36.975644	-107.667231
PBHL/TD									

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well San Juan 32-8 Unit 254H
Company:	Hilcorp Energy Company	TVD Reference:	KB @ 6977.00ft (TBD)
Project:	San Juan County, NM (NAD27)	MD Reference:	KB @ 6977.00ft (TBD)
Site:	.T32N - R08W SEC 23	North Reference:	Grid
Well:	San Juan 32-8 Unit 254H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	Rev3		

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SJ 32-8 Unit 254H ICP - plan hits target center - Point	0.00	0.00	3,635.00	318.89	-1,139.90	2,173,145.34	553,165.77	36.972051	-107.651335
SJ 32-8 Unit 254H PBHL - plan hits target center - Point	0.00	0.00	3,659.00	1,618.55	-5,785.67	2,174,445.00	548,520.00	36.975644	-107.667231

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
4,224.36	3,635.00	7" Csg	7.000	8.750

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,409.52	2,409.00	Ojo Alamo			
2,444.87	2,444.00	Kirtland			
3,624.59	3,412.00	Fruitland			
4,330.08	3,650.00	Top of Coal		0.00	

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
2,224.36	2,224.36	0.00	0.00	KOP, Build 4"/100 DLS
4,224.36	3,635.00	318.89	-1,139.90	Build 3.5"/100 DLS
4,330.08	3,650.00	347.08	-1,240.66	Top of Coal
4,511.92	3,660.00	395.97	-1,415.42	Landing Tgt
9,049.96	3,659.00	1,618.55	-5,785.67	PBHL/TD



Hilcorp Energy Company

San Juan County, NM (NAD27)

.T32N - R08W SEC 23

San Juan 32-8 Unit 254H

Original Hole

Rev3

Anticollision Summary Report

01 April, 2019



Company:	Hilcorp Energy Company	Local Co-ordinate Reference:	Well San Juan 32-8 Unit 254H
Project:	San Juan County, NM (NAD27)	TVD Reference:	KB @ 6977.00ft (TBD)
Reference Site:	.T32N - R08W SEC 23	MD Reference:	KB @ 6977.00ft (TBD)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	San Juan 32-8 Unit 254H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	EDM 5000.1 Single User Db
Reference Design:	Rev3	Offset TVD Reference:	Offset Datum

Reference	Rev3
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria
Interpolation Method:	MD Interval 100.00ft
Depth Range:	Unlimited
Results Limited by:	Maximum center-center distance of 1,105.00 ft
Warning Levels Evaluated at:	2.00 Sigma
Error Model:	ISWISA
Scan Method:	Closest Approach 3D
Error Surface:	Combined Covariances
Casing Method:	Added to Error Values

Survey Tool Program	Date	2019/04/01
From (ft)	To (ft)	Survey (Wellbore)
0.00	9,049.92	Rev3 (Original Hole)
		Tool Name
		MWD
		Description
		MWD - Standard

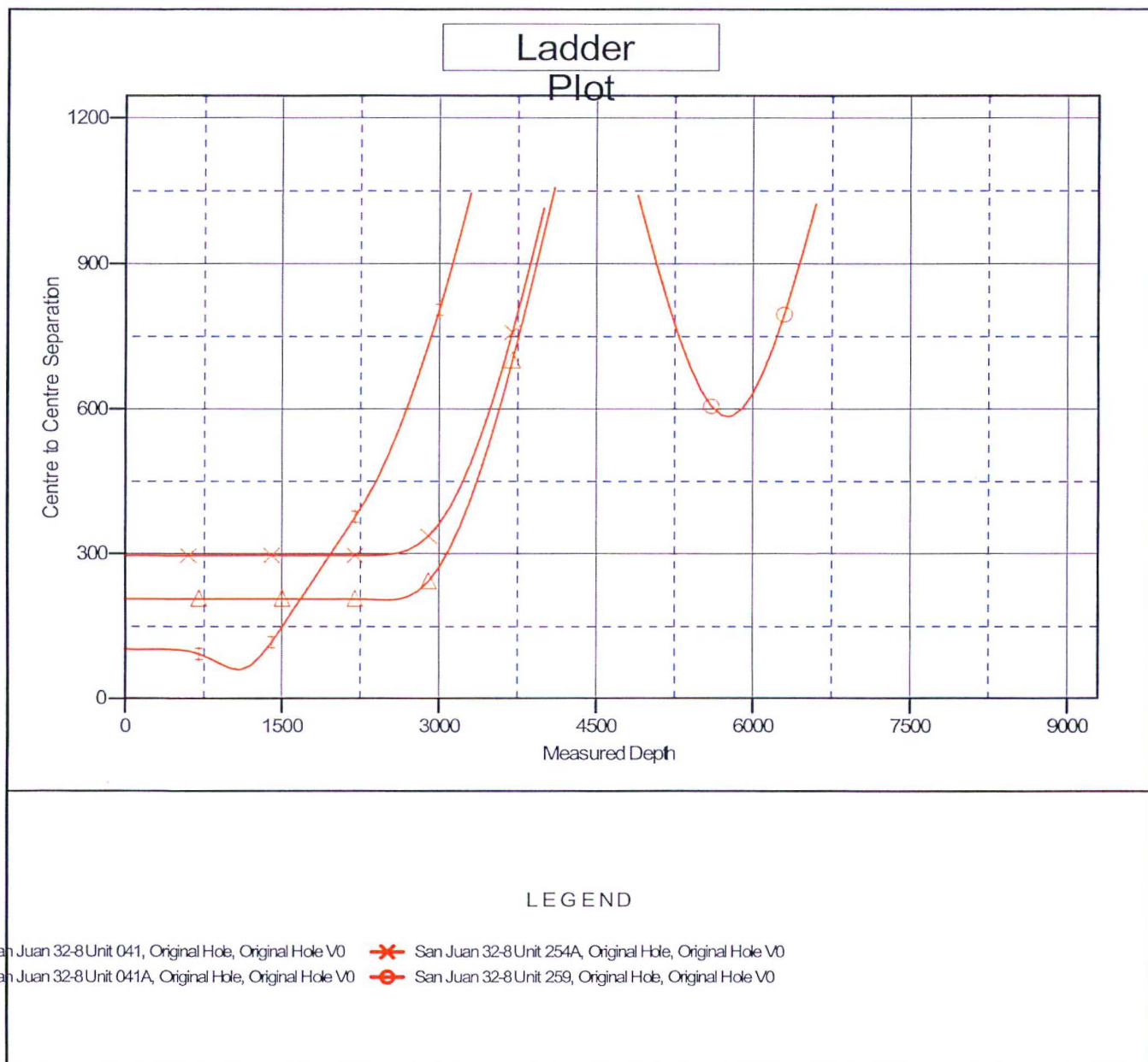
Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
.T32N - R08W SEC 23						
San Juan 32-8 Unit 041 - Original Hole - Original Hole	2,499.35	2,498.81	204.42	176.51	7.323	CC
San Juan 32-8 Unit 041 - Original Hole - Original Hole	2,600.00	2,596.77	205.70	176.12	6.954	ES
San Juan 32-8 Unit 041 - Original Hole - Original Hole	2,700.00	2,692.29	211.03	179.81	6.760	SF
San Juan 32-8 Unit 041A - Original Hole - Original Hole	1,084.24	1,075.39	61.70	57.71	15.478	CC, ES
San Juan 32-8 Unit 041A - Original Hole - Original Hole	1,100.00	1,090.56	61.84	57.78	15.217	SF
San Juan 32-8 Unit 254A - Original Hole - Original Hole	414.99	413.02	295.76	288.81	42.563	CC
San Juan 32-8 Unit 254A - Original Hole - Original Hole	2,500.00	2,496.42	297.72	236.91	4.896	Warning, ES
San Juan 32-8 Unit 254A - Original Hole - Original Hole	2,800.00	2,782.76	318.57	250.11	4.654	Warning, SF
T32N - R08W SEC 22						
San Juan 32-8 Unit 259 - Original Hole - Original Hole	5,760.17	3,760.10	584.56	511.84	8.038	CC, ES
San Juan 32-8 Unit 259 - Original Hole - Original Hole	5,800.00	3,760.43	585.92	512.32	7.961	SF

Company: Hilcorp Energy Company
Project: San Juan County, NM (NAD27)
Reference Site: .T32N - R08W SEC 23
Site Error: 0.00 ft
Reference Well: San Juan 32-8 Unit 254H
Well Error: 0.00 ft
Reference Wellbore: Original Hole
Reference Design: Rev3

Local Co-ordinate Reference: Well San Juan 32-8 Unit 254H
TVD Reference: KB @ 6977.00ft (TBD)
MD Reference: KB @ 6977.00ft (TBD)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.1 Single User Db
Offset TVD Reference: Offset Datum

Reference Depths are relative to KB @ 6977.00ft (TBD)
 Offset Depths are relative to Offset Datum
 Central Meridian is -107.833334

Coordinates are relative to: San Juan 32-8 Unit 254H
 Coordinate System is US State Plane 1927 (Exact solution), New Mexico West 30
 Grid Convergence at Surface is: 0.11°

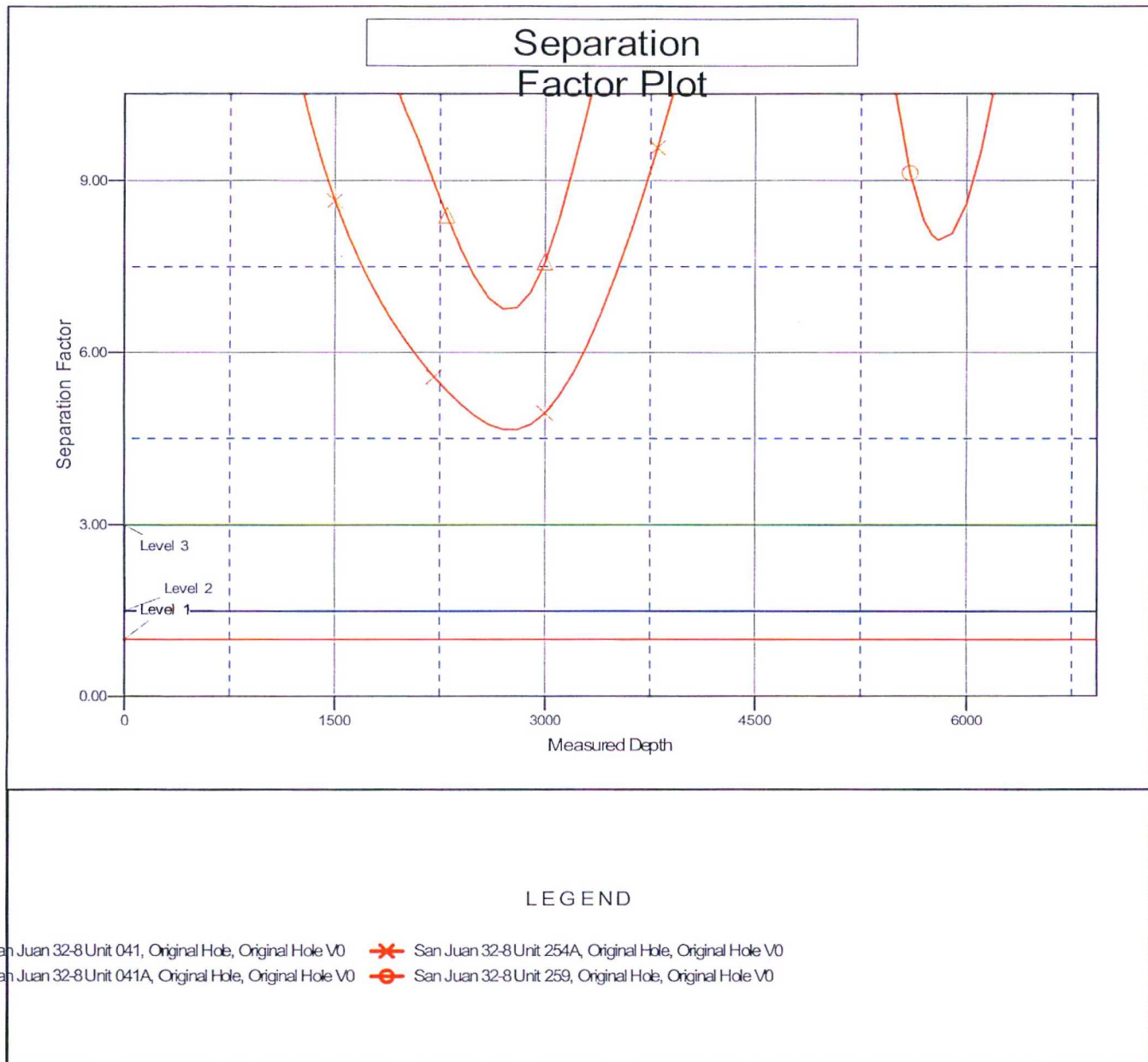


Company: Hilcorp Energy Company
Project: San Juan County, NM (NAD27)
Reference Site: .T32N - R08W SEC 23
Site Error: 0.00 ft
Reference Well: San Juan 32-8 Unit 254H
Well Error: 0.00 ft
Reference Wellbore: Original Hole
Reference Design: Rev3

Local Co-ordinate Reference: Well San Juan 32-8 Unit 254H
TVD Reference: KB @ 6977.00ft (TBD)
MD Reference: KB @ 6977.00ft (TBD)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.1 Single User Db
Offset TVD Reference: Offset Datum

Reference Depths are relative to KB @ 6977.00ft (TBD)
Offset Depths are relative to Offset Datum
Central Meridian is -107.833334

Coordinates are relative to: San Juan 32-8 Unit 254H
Coordinate System is US State Plane 1927 (Exact solution), New Mexico West 30
Grid Convergence at Surface is: 0.11°

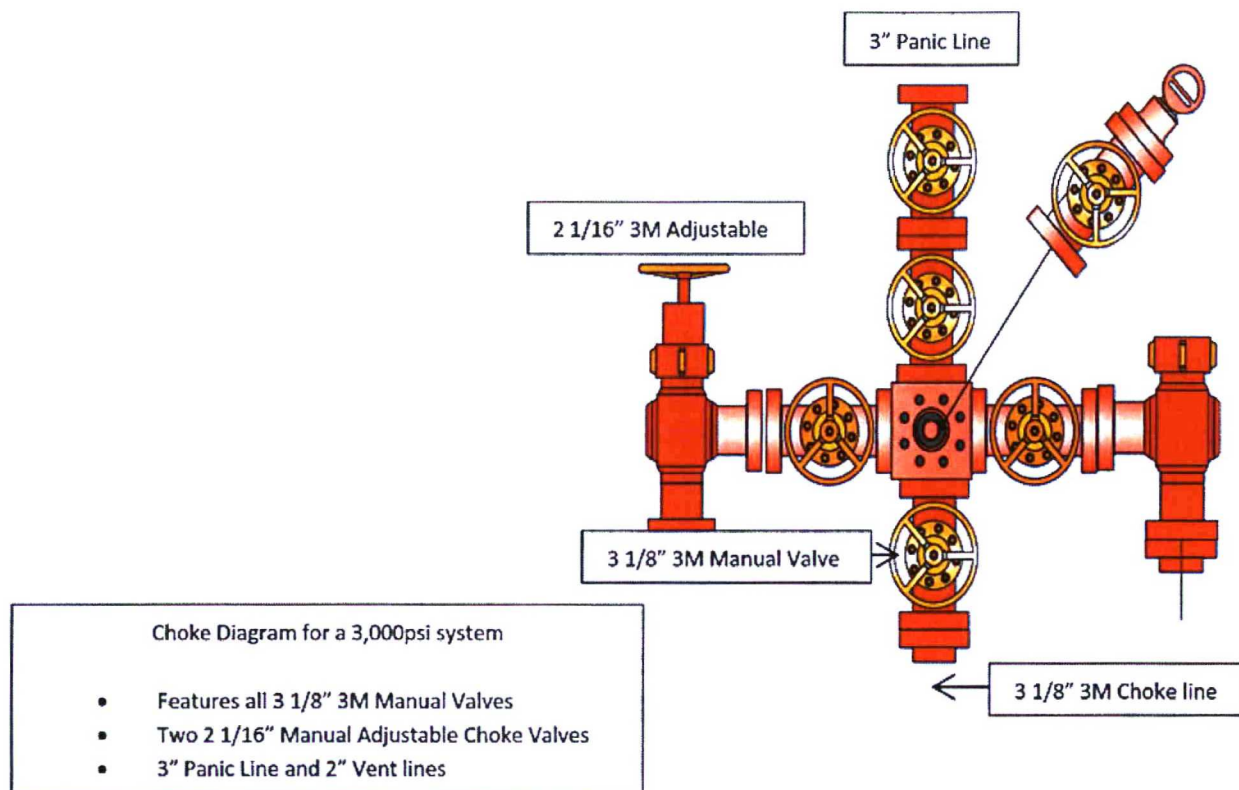




Hilcorp Energy Company

San Juan Unit 32-8 #254H

Choke Manifold Schematic – Aztec 777



Directions from the Intersection of US Hwy 550 & State Hwy 173

in Aztec, NM to Hilcorp Energy Company San Juan 32-8 Unit #254H

1893' FNL & 1684' FWL, Section 23, T32N, R8W, N.M.P.M., San Juan County, NM

Latitude: 36.971173°N Longitude: 107.648047°W Datum: NAD1983

From the intersection of US Hwy 550 & State Hwy 173 in Aztec, NM, travel Easterly on State Hwy 173 for 1.0 mile to fork in roadway;

Go Left (Easterly) remaining on State Hwy 173 for 17.0 miles to Tee-intersection;

Go Left (North-Easterly) exiting State Hwy 173 onto State Hwy 511 for 19.7 miles to existing roadway on right-hand side of State Hwy 511 @ Mile Marker 27.8;

Go Right (South-easterly) exiting State Hwy 511 onto existing roadway for 0.1 mile to existing Hilcorp San Juan 32-8 Unit #41A well location, with the Hilcorp San Juan 32-8 Unit #254H staked offset #41A wellhead.