



XTO Energy

Lea County, NM (NAD-27)

Bootstrap Bill State

#4H

Wellbore #1

Plan: PERMIT

Standard Planning Report

14 March, 2019

HOBBS OCD

MAY 06 2019

RECEIVED



Project: Lea County, NM (NAD-27)
Site: Bootstrap Bill State
Well: #4H
Wellbore: Wellbore #1
Design: PERMIT

PROJECT DETAILS: Lea County, NM (NAD-27)
Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level

WELL DETAILS: #4H

Rig Name:
RKB = 17' @ 3718.00usf
Ground Level: 3701.00
Northing 588693.50
Easting 760173.60
Latitude 32.610083
Longitude -103.488420

DESIGN TARGET DETAILS

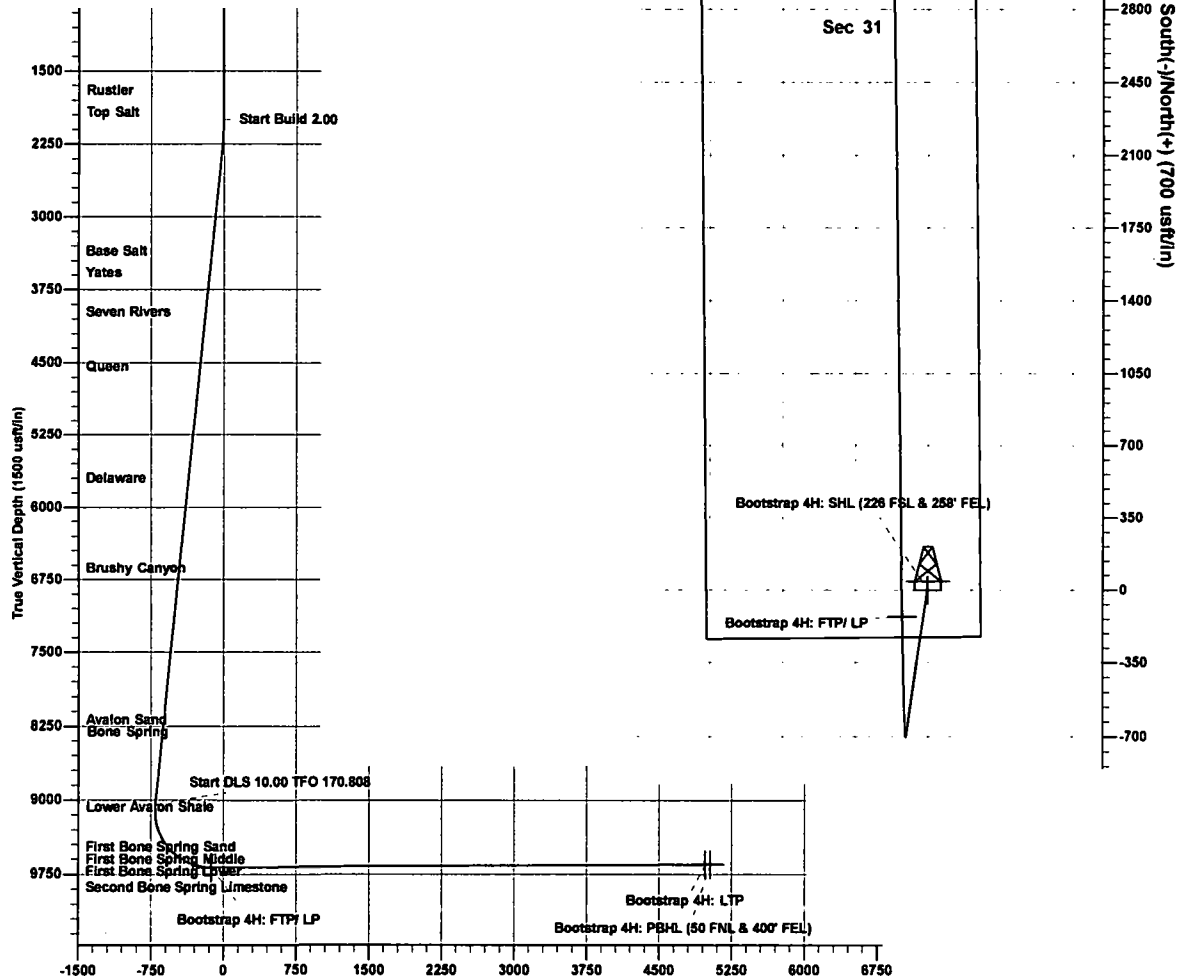
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Bootstrap 4H: SHL (226 FSL & 258' FEL)	0.00	0.00	0.00	588693.50	760173.60	32.610083	-103.488420	Point
Bootstrap 4H: PBHL (50 FNL & 400' FEL)	9650.00	5027.50	-191.30	591721.00	759982.30	32.623905	-103.488911	Point
Bootstrap 4H: LTP	9650.29	4977.50	-190.60	591671.00	759983.00	32.623768	-103.488910	Point
Bootstrap 4H: FTP/LP	9680.00	-127.50	-121.10	588566.00	760052.50	32.609735	-103.488817	Point

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dieg	TFace	VSecl
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00
2	2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	0.000	0.00
3	2292.89	5.88	188.38	2292.38	-14.80	-2.17	2.00	188.358	-14.77
4	9085.38	5.88	188.38	9049.40	-700.88	-102.88	0.00	0.000	-698.21
5	10046.55	80.33	359.22	9680.00	-127.50	-121.10	10.00	170.808	-125.84
6	15152.11	90.33	359.22	9650.29	4977.50	-190.62	0.00	0.000	4979.83
7	15202.11	80.33	359.22	9650.00	5027.50	-181.30	0.00	0.000	5028.84

FORMATION TOP DETAILS

TVDPATH	Formation
1874.00	Rustler
2002.00	Top Salt
3431.00	Base Salt
3652.00	Yates
4054.00	Seven Rivers
4816.00	Queen
5776.00	Delaware
6710.00	Brushy Canyon
8128.00	Bone Spring
8264.00	Avalon Sand
9242.00	Lower Avalon Shale
9591.00	First Bone Spring Sand
9650.00	TD
9680.00	Landing Point



Vertical Section at 359.22° (1500 usf/in)

The customer should only rely on this document after independently verifying all paths, targets, coordinates, lease and hard lines represented. Any decisions made or wells drilled utilizing this or any other information supplied by Prototype are at the sole risk and responsibility of the user.

Plan: PERMIT (#4H/Wellbore #1)

Created By: Matthew May Date: 9.15, March 14 2019

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 Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

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

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
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 30-025-	² Pool Code	³ Pool Name
⁴ Property Code	⁵ Property Name BOOTSTRAP BILL STATE	
⁷ OGRID No. 005380	⁸ Operator Name XTO ENERGY, INC.	⁶ Well Number 4H ⁹ Elevation 3,701'

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
P	31	19 S	35 E		226	SOUTH	258	EAST	LEA

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
A	31	19 S	35 E		50	NORTH	400	EAST	LEA

¹² Dedicated Acres	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.

SURFACE LOCATION
NAD 27 NME
Y= 586,693.5
X= 760,173.8
LAT.= 32.610083°N
LONG.= 103.488420°W

LAST TAKE POINT
NAD 27 NME
Y= 591,671.0
X= 759,983.0
LAT.= 32.623768°N
LONG.= 103.488910°W

FIRST TAKE POINT
NAD 27 NME
Y= 586,566.0
X= 760,052.5
LAT.= 32.609735°N
LONG.= 103.488816°W

BOTTOM HOLE LOCATION
NAD 27 NME
Y= 591,721.0
X= 759,982.3
LAT.= 32.623905°N
LONG.= 103.488911°W

CORNER COORDINATES TABLE
NAD 27 NME

A - Y= 586,457.3 N, X= 759,111.0 E
B - Y= 589,108.8 N, X= 759,086.5 E
C - Y= 591,764.7 N, X= 759,082.0 E
D - Y= 586,469.5 N, X= 760,433.5 E
E - Y= 589,121.5 N, X= 760,407.7 E
F - Y= 591,773.6 N, X= 760,381.8 E

CORNER COORDINATES TABLE
NAD 83 NME

A - Y= 586,519.1 N, X= 800,291.8 E
B - Y= 589,170.7 N, X= 800,267.2 E
C - Y= 591,826.7 N, X= 800,242.6 E
D - Y= 586,531.3 N, X= 801,614.3 E
E - Y= 589,183.4 N, X= 801,588.4 E
F - Y= 591,835.5 N, X= 801,562.4 E

SURFACE LOCATION
NAD 83 NME
Y= 586,755.3
X= 801,354.4
LAT.= 32.610203°N
LONG.= 103.488910°W

LAST TAKE POINT
NAD 83 NME
Y= 591,732.9
X= 801,163.6
LAT.= 32.623888°N
LONG.= 103.489401°W

FIRST TAKE POINT
NAD 83 NME
Y= 586,627.8
X= 801,233.3
LAT.= 32.609855°N
LONG.= 103.489306°W

BOTTOM HOLE LOCATION
NAD 83 NME
Y= 591,782.9
X= 801,162.9
LAT.= 32.624025°N
LONG.= 103.489402°W

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.

Signature _____ Date _____

Printed Name _____

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.

3-6-2019
Date of Survey _____

Signature and Seal of Professional Surveyor: _____

PRELIMINARY, THIS DOCUMENT SHALL NOT BE RECORDED FOR ANY PURPOSE AND SHALL NOT BE USED OR VIEWED OR RELIED UPON AS A FINAL SURVEY DOCUMENT

MARK DILLON HARP 23786
Certificate Number _____ AI 2018112727



Database: EDM 5000.1 Single User Db
 Company: XTO Energy
 Project: Lea County, NM (NAD-27)
 Site: Bootstrap Bill State
 Well: #4H
 Wellbore: Wellbore #1
 Design: PERMIT

Local Co-ordinate Reference: Well #4H
 TVD Reference: RKB = 17' @ 3718.00usft
 MD Reference: RKB = 17' @ 3718.00usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

Project	Lea County, NM (NAD-27)		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site		Bootstrap Bill State				
Site Position:		Northing:	586,672.80 usft	Latitude:	32.610110	
From:	Map	Easting:	756,310.40 usft	Longitude:	-103.500965	
Position Uncertainty:		0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.449 °

Well	#4H					
Well Position	+N/-S	20.70 usft	Northing:	586,693.50 usft	Latitude:	32.610083
	+E/-W	3,863.20 usft	Easting:	760,173.60 usft	Longitude:	-103.488420
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	3,701.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	3/14/2019	6.754	60.405	47,994

Design	PERMIT			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	359.22

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.000	
2,292.89	5.86	188.36	2,292.38	-14.80	-2.17	2.00	2.00	0.00	188.359	
9,085.38	5.86	188.36	9,049.40	-700.68	-102.96	0.00	0.00	0.00	0.000	
10,046.55	90.33	359.22	9,680.00	-127.50	-121.10	10.00	8.79	17.78	170.808	Bootstrap 4H: FTP/
15,152.11	90.33	359.22	9,650.29	4,977.50	-190.62	0.00	0.00	0.00	0.000	Bootstrap 4H: LTP
15,202.11	90.33	359.22	9,650.00	5,027.50	-191.30	0.00	0.00	0.00	0.000	Bootstrap 4H: PBHI



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 Design: PERMIT

Local Co-ordinate Reference: Well #4H
 TVD Reference: RKB = 17' @ 3718.00usft
 MD Reference: RKB = 17' @ 3718.00usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bootstrap 4H: SHL (226 FSL & 258' FEL)									
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,874.00	0.00	0.00	1,874.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,002.00	0.04	188.36	2,002.00	0.00	0.00	0.00	2.00	2.00	0.00
Top Salt									
2,100.00	2.00	188.36	2,099.98	-1.73	-0.25	-1.72	2.00	2.00	0.00
2,200.00	4.00	188.36	2,199.84	-6.90	-1.01	-6.89	2.00	2.00	0.00
2,292.89	5.86	188.36	2,292.38	-14.80	-2.17	-14.77	2.00	2.00	0.00
2,300.00	5.86	188.36	2,299.45	-15.52	-2.28	-15.49	0.00	0.00	0.00
2,400.00	5.86	188.36	2,398.93	-25.62	-3.76	-25.56	0.00	0.00	0.00
2,500.00	5.86	188.36	2,498.41	-35.71	-5.25	-35.64	0.00	0.00	0.00
2,600.00	5.86	188.36	2,597.89	-45.81	-6.73	-45.72	0.00	0.00	0.00
2,700.00	5.86	188.36	2,697.36	-55.91	-8.22	-55.79	0.00	0.00	0.00
2,800.00	5.86	188.36	2,796.84	-66.01	-9.70	-65.87	0.00	0.00	0.00
2,900.00	5.86	188.36	2,896.32	-76.10	-11.18	-75.94	0.00	0.00	0.00
3,000.00	5.86	188.36	2,995.80	-86.20	-12.67	-86.02	0.00	0.00	0.00
3,100.00	5.86	188.36	3,095.28	-96.30	-14.15	-96.10	0.00	0.00	0.00
3,200.00	5.86	188.36	3,194.75	-106.40	-15.63	-106.17	0.00	0.00	0.00
3,300.00	5.86	188.36	3,294.23	-116.49	-17.12	-116.25	0.00	0.00	0.00
3,400.00	5.86	188.36	3,393.71	-126.59	-18.60	-126.33	0.00	0.00	0.00
3,437.49	5.86	188.36	3,431.00	-130.38	-19.16	-130.10	0.00	0.00	0.00
Base Salt									
3,500.00	5.86	188.36	3,493.19	-136.69	-20.08	-136.40	0.00	0.00	0.00
3,600.00	5.86	188.36	3,592.66	-146.79	-21.57	-146.48	0.00	0.00	0.00
3,659.65	5.86	188.36	3,652.00	-152.81	-22.45	-152.49	0.00	0.00	0.00
Yates									
3,700.00	5.86	188.36	3,692.14	-156.89	-23.05	-156.56	0.00	0.00	0.00
3,800.00	5.86	188.36	3,791.62	-166.98	-24.54	-166.63	0.00	0.00	0.00
3,900.00	5.86	188.36	3,891.10	-177.08	-26.02	-176.71	0.00	0.00	0.00
4,000.00	5.86	188.36	3,990.58	-187.18	-27.50	-186.79	0.00	0.00	0.00
4,063.76	5.86	188.36	4,054.00	-193.62	-28.45	-193.21	0.00	0.00	0.00
Seven Rivers									



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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)
4,100.00	5.86	188.36	4,090.05	-197.28	-28.99	-196.86	0.00	0.00	0.00
4,200.00	5.86	188.36	4,189.53	-207.37	-30.47	-206.94	0.00	0.00	0.00
4,300.00	5.86	188.36	4,289.01	-217.47	-31.95	-217.02	0.00	0.00	0.00
4,400.00	5.86	188.36	4,388.49	-227.57	-33.44	-227.09	0.00	0.00	0.00
4,500.00	5.86	188.36	4,487.96	-237.67	-34.92	-237.17	0.00	0.00	0.00
4,600.00	5.86	188.36	4,587.44	-247.76	-36.41	-247.25	0.00	0.00	0.00
4,628.71	5.86	188.36	4,616.00	-250.66	-36.83	-250.14	0.00	0.00	0.00
Queen									
4,700.00	5.86	188.36	4,686.92	-257.86	-37.89	-257.32	0.00	0.00	0.00
4,800.00	5.86	188.36	4,786.40	-267.96	-39.37	-267.40	0.00	0.00	0.00
4,900.00	5.86	188.36	4,885.88	-278.06	-40.86	-277.47	0.00	0.00	0.00
5,000.00	5.86	188.36	4,985.35	-288.15	-42.34	-287.55	0.00	0.00	0.00
5,100.00	5.86	188.36	5,084.83	-298.25	-43.82	-297.63	0.00	0.00	0.00
5,200.00	5.86	188.36	5,184.31	-308.35	-45.31	-307.70	0.00	0.00	0.00
5,300.00	5.86	188.36	5,283.79	-318.45	-46.79	-317.78	0.00	0.00	0.00
5,400.00	5.86	188.36	5,383.27	-328.54	-48.28	-327.86	0.00	0.00	0.00
5,500.00	5.86	188.36	5,482.74	-338.64	-49.76	-337.93	0.00	0.00	0.00
5,600.00	5.86	188.36	5,582.22	-348.74	-51.24	-348.01	0.00	0.00	0.00
5,700.00	5.86	188.36	5,681.70	-358.84	-52.73	-358.09	0.00	0.00	0.00
5,794.80	5.86	188.36	5,776.00	-368.41	-54.13	-367.64	0.00	0.00	0.00
Delaware									
5,800.00	5.86	188.36	5,781.18	-368.94	-54.21	-368.16	0.00	0.00	0.00
5,900.00	5.86	188.36	5,880.65	-379.03	-55.69	-378.24	0.00	0.00	0.00
6,000.00	5.86	188.36	5,980.13	-389.13	-57.18	-388.32	0.00	0.00	0.00
6,100.00	5.86	188.36	6,079.61	-399.23	-58.66	-398.39	0.00	0.00	0.00
6,200.00	5.86	188.36	6,179.09	-409.33	-60.15	-408.47	0.00	0.00	0.00
6,300.00	5.86	188.36	6,278.57	-419.42	-61.63	-418.55	0.00	0.00	0.00
6,400.00	5.86	188.36	6,378.04	-429.52	-63.11	-428.62	0.00	0.00	0.00
6,500.00	5.86	188.36	6,477.52	-439.62	-64.60	-438.70	0.00	0.00	0.00
6,600.00	5.86	188.36	6,577.00	-449.72	-66.08	-448.78	0.00	0.00	0.00
6,700.00	5.86	188.36	6,676.48	-459.81	-67.56	-458.85	0.00	0.00	0.00
6,733.70	5.86	188.36	6,710.00	-463.22	-68.06	-462.25	0.00	0.00	0.00
Brushy Canyon									
6,800.00	5.86	188.36	6,775.95	-469.91	-69.05	-468.93	0.00	0.00	0.00
6,900.00	5.86	188.36	6,875.43	-480.01	-70.53	-479.00	0.00	0.00	0.00
7,000.00	5.86	188.36	6,974.91	-490.11	-72.02	-489.08	0.00	0.00	0.00
7,100.00	5.86	188.36	7,074.39	-500.20	-73.50	-499.16	0.00	0.00	0.00
7,200.00	5.86	188.36	7,173.87	-510.30	-74.98	-509.23	0.00	0.00	0.00
7,300.00	5.86	188.36	7,273.34	-520.40	-76.47	-519.31	0.00	0.00	0.00
7,400.00	5.86	188.36	7,372.82	-530.50	-77.95	-529.39	0.00	0.00	0.00
7,500.00	5.86	188.36	7,472.30	-540.60	-79.43	-539.46	0.00	0.00	0.00
7,600.00	5.86	188.36	7,571.78	-550.69	-80.92	-549.54	0.00	0.00	0.00
7,700.00	5.86	188.36	7,671.26	-560.79	-82.40	-559.62	0.00	0.00	0.00
7,800.00	5.86	188.36	7,770.73	-570.89	-83.89	-569.69	0.00	0.00	0.00
7,900.00	5.86	188.36	7,870.21	-580.99	-85.37	-579.77	0.00	0.00	0.00
8,000.00	5.86	188.36	7,969.69	-591.08	-86.85	-589.85	0.00	0.00	0.00
8,100.00	5.86	188.36	8,069.17	-601.18	-88.34	-599.92	0.00	0.00	0.00
8,159.14	5.86	188.36	8,128.00	-607.15	-89.21	-605.88	0.00	0.00	0.00
Bone Spring									
8,200.00	5.86	188.36	8,168.64	-611.28	-89.82	-610.00	0.00	0.00	0.00
8,295.86	5.86	188.36	8,264.00	-620.96	-91.24	-619.66	0.00	0.00	0.00
Avalon Sand									
8,300.00	5.86	188.36	8,268.12	-621.38	-91.30	-620.08	0.00	0.00	0.00



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 Well: #4H
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 Design: PERMIT

Local Co-ordinate Reference: Well #4H
 TVD Reference: RKB = 17' @ 3718.00usft
 MD Reference: RKB = 17' @ 3718.00usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

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)
8,400.00	5.86	188.36	8,367.60	-631.47	-92.79	-630.15	0.00	0.00	0.00
8,500.00	5.86	188.36	8,467.08	-641.57	-94.27	-640.23	0.00	0.00	0.00
8,600.00	5.86	188.36	8,566.56	-651.67	-95.76	-650.31	0.00	0.00	0.00
8,700.00	5.86	188.36	8,666.03	-661.77	-97.24	-660.38	0.00	0.00	0.00
8,800.00	5.86	188.36	8,765.51	-671.86	-98.72	-670.46	0.00	0.00	0.00
8,900.00	5.86	188.36	8,864.99	-681.96	-100.21	-680.53	0.00	0.00	0.00
9,000.00	5.86	188.36	8,964.47	-692.06	-101.69	-690.61	0.00	0.00	0.00
9,085.38	5.86	188.36	9,049.40	-700.68	-102.96	-699.21	0.00	0.00	0.00
9,100.00	4.42	191.39	9,063.96	-701.97	-103.18	-700.50	10.00	-9.83	20.73
9,150.00	1.15	305.22	9,113.91	-703.57	-103.97	-702.09	10.00	-6.53	227.65
9,200.00	5.75	349.90	9,163.81	-700.81	-104.82	-699.32	10.00	9.20	89.37
9,250.00	10.72	354.27	9,213.28	-693.71	-105.72	-692.21	10.00	9.93	8.74
9,279.38	13.65	355.36	9,242.00	-687.54	-106.28	-686.03	10.00	9.97	3.71
Lower Avalon Shale									
9,300.00	15.71	355.89	9,261.95	-682.33	-106.67	-680.81	10.00	9.98	2.55
9,350.00	20.70	356.74	9,309.43	-666.75	-107.66	-665.22	10.00	9.99	1.70
9,400.00	25.69	357.27	9,355.37	-647.08	-108.68	-645.55	10.00	9.99	1.06
9,450.00	30.69	357.64	9,399.43	-623.49	-109.72	-621.94	10.00	9.99	0.74
9,500.00	35.69	357.91	9,441.26	-596.15	-110.78	-594.59	10.00	10.00	0.55
9,550.00	40.69	358.13	9,480.54	-565.27	-111.84	-563.69	10.00	10.00	0.43
9,600.00	45.69	358.30	9,516.99	-531.07	-112.91	-529.49	10.00	10.00	0.35
9,650.00	50.68	358.45	9,550.31	-493.84	-113.96	-492.24	10.00	10.00	0.29
9,700.00	55.68	358.58	9,580.26	-453.83	-115.00	-452.23	10.00	10.00	0.25
9,719.53	57.64	358.62	9,591.00	-437.52	-115.40	-435.91	10.00	10.00	0.23
First Bone Spring Sand									
9,750.00	60.68	358.69	9,606.62	-411.37	-116.01	-409.76	10.00	10.00	0.22
9,800.00	65.68	358.79	9,629.17	-366.78	-116.99	-365.15	10.00	10.00	0.20
9,850.00	70.68	358.89	9,647.74	-320.38	-117.93	-318.75	10.00	10.00	0.19
9,856.94	71.38	358.90	9,650.00	-313.82	-118.06	-312.18	10.00	10.00	0.18
TD									
9,900.00	75.68	358.98	9,662.21	-272.54	-118.82	-270.90	10.00	10.00	0.18
9,950.00	80.68	359.06	9,672.45	-223.63	-119.66	-221.98	10.00	10.00	0.17
10,000.00	85.68	359.14	9,678.38	-174.00	-120.44	-172.35	10.00	10.00	0.17
10,046.55	90.33	359.22	9,680.00	-127.50	-121.10	-125.84	10.00	10.00	0.16
Landing Point - Bootstrap 4H: FTP/ LP									
10,100.00	90.33	359.22	9,679.69	-74.05	-121.83	-72.39	0.00	0.00	0.00
10,200.00	90.33	359.22	9,679.11	25.94	-123.19	27.61	0.00	0.00	0.00
10,300.00	90.33	359.22	9,678.53	125.92	-124.55	127.61	0.00	0.00	0.00
10,400.00	90.33	359.22	9,677.94	225.91	-125.91	227.61	0.00	0.00	0.00
10,500.00	90.33	359.22	9,677.36	325.90	-127.27	327.61	0.00	0.00	0.00
10,600.00	90.33	359.22	9,676.78	425.89	-128.64	427.60	0.00	0.00	0.00
10,700.00	90.33	359.22	9,676.20	525.88	-130.00	527.60	0.00	0.00	0.00
10,800.00	90.33	359.22	9,675.62	625.87	-131.36	627.60	0.00	0.00	0.00
10,900.00	90.33	359.22	9,675.03	725.86	-132.72	727.60	0.00	0.00	0.00
11,000.00	90.33	359.22	9,674.45	825.85	-134.08	827.60	0.00	0.00	0.00
11,100.00	90.33	359.22	9,673.87	925.84	-135.44	927.60	0.00	0.00	0.00
11,200.00	90.33	359.22	9,673.29	1,025.83	-136.81	1,027.59	0.00	0.00	0.00
11,300.00	90.33	359.22	9,672.71	1,125.82	-138.17	1,127.59	0.00	0.00	0.00
11,400.00	90.33	359.22	9,672.12	1,225.80	-139.53	1,227.59	0.00	0.00	0.00
11,500.00	90.33	359.22	9,671.54	1,325.79	-140.89	1,327.59	0.00	0.00	0.00
11,600.00	90.33	359.22	9,670.96	1,425.78	-142.25	1,427.59	0.00	0.00	0.00
11,700.00	90.33	359.22	9,670.38	1,525.77	-143.61	1,527.58	0.00	0.00	0.00
11,800.00	90.33	359.22	9,669.80	1,625.76	-144.98	1,627.58	0.00	0.00	0.00
11,900.00	90.33	359.22	9,669.22	1,725.75	-146.34	1,727.58	0.00	0.00	0.00



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Planning Report

Database: EDM 5000.1 Single User Db
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Site: Bootstrap Bill State
Well: #4H
Wellbore: Wellbore #1
Design: PERMIT

Local Co-ordinate Reference: Well #4H
TVD Reference: RKB = 17' @ 3718.00usft
MD Reference: RKB = 17' @ 3718.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

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)
12,000.00	90.33	359.22	9,668.63	1,825.74	-147.70	1,827.58	0.00	0.00	0.00
12,100.00	90.33	359.22	9,668.05	1,925.73	-149.06	1,927.58	0.00	0.00	0.00
12,200.00	90.33	359.22	9,667.47	2,025.72	-150.42	2,027.58	0.00	0.00	0.00
12,300.00	90.33	359.22	9,666.89	2,125.71	-151.78	2,127.57	0.00	0.00	0.00
12,400.00	90.33	359.22	9,666.31	2,225.69	-153.15	2,227.57	0.00	0.00	0.00
12,500.00	90.33	359.22	9,665.72	2,325.68	-154.51	2,327.57	0.00	0.00	0.00
12,600.00	90.33	359.22	9,665.14	2,425.67	-155.87	2,427.57	0.00	0.00	0.00
12,700.00	90.33	359.22	9,664.56	2,525.66	-157.23	2,527.57	0.00	0.00	0.00
12,800.00	90.33	359.22	9,663.98	2,625.65	-158.59	2,627.57	0.00	0.00	0.00
12,900.00	90.33	359.22	9,663.40	2,725.64	-159.95	2,727.56	0.00	0.00	0.00
13,000.00	90.33	359.22	9,662.81	2,825.63	-161.32	2,827.56	0.00	0.00	0.00
13,100.00	90.33	359.22	9,662.23	2,925.62	-162.68	2,927.56	0.00	0.00	0.00
13,200.00	90.33	359.22	9,661.65	3,025.61	-164.04	3,027.56	0.00	0.00	0.00
13,300.00	90.33	359.22	9,661.07	3,125.60	-165.40	3,127.56	0.00	0.00	0.00
13,400.00	90.33	359.22	9,660.49	3,225.58	-166.76	3,227.56	0.00	0.00	0.00
13,500.00	90.33	359.22	9,659.90	3,325.57	-168.12	3,327.55	0.00	0.00	0.00
13,600.00	90.33	359.22	9,659.32	3,425.56	-169.49	3,427.55	0.00	0.00	0.00
13,700.00	90.33	359.22	9,658.74	3,525.55	-170.85	3,527.55	0.00	0.00	0.00
13,800.00	90.33	359.22	9,658.16	3,625.54	-172.21	3,627.55	0.00	0.00	0.00
13,900.00	90.33	359.22	9,657.58	3,725.53	-173.57	3,727.55	0.00	0.00	0.00
14,000.00	90.33	359.22	9,657.00	3,825.52	-174.93	3,827.55	0.00	0.00	0.00
14,100.00	90.33	359.22	9,656.41	3,925.51	-176.29	3,927.54	0.00	0.00	0.00
14,200.00	90.33	359.22	9,655.83	4,025.50	-177.65	4,027.54	0.00	0.00	0.00
14,300.00	90.33	359.22	9,655.25	4,125.49	-179.02	4,127.54	0.00	0.00	0.00
14,400.00	90.33	359.22	9,654.67	4,225.48	-180.38	4,227.54	0.00	0.00	0.00
14,500.00	90.33	359.22	9,654.09	4,325.46	-181.74	4,327.54	0.00	0.00	0.00
14,600.00	90.33	359.22	9,653.50	4,425.45	-183.10	4,427.54	0.00	0.00	0.00
14,700.00	90.33	359.22	9,652.92	4,525.44	-184.46	4,527.53	0.00	0.00	0.00
14,800.00	90.33	359.22	9,652.34	4,625.43	-185.82	4,627.53	0.00	0.00	0.00
14,900.00	90.33	359.22	9,651.76	4,725.42	-187.19	4,727.53	0.00	0.00	0.00
15,000.00	90.33	359.22	9,651.18	4,825.41	-188.55	4,827.53	0.00	0.00	0.00
15,100.00	90.33	359.22	9,650.59	4,925.40	-189.91	4,927.53	0.00	0.00	0.00
15,152.11	90.33	359.22	9,650.29	4,977.50	-190.62	4,979.63	0.00	0.00	0.00
Bootstrap 4H: LTP									
15,202.11	90.33	359.22	9,650.00	5,027.50	-191.30	5,029.64	0.00	0.00	0.00
Bootstrap 4H: PBHL (50 FNL & 400' FEL)									



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Survey Calculation Method: Minimum Curvature

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Bootstrap 4H: SHL (2: - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	586,693.50	760,173.60	32.610083	-103.488420
Bootstrap 4H: PBHL (- plan hits target center - Point	0.00	0.00	9,650.00	5,027.50	-191.30	591,721.00	759,982.30	32.623905	-103.488912
Bootstrap 4H: LTP - plan misses target center by 0.02usft at 15152.11usft MD (9650.29 TVD, 4977.50 N, -190.62 E) - Point	0.00	0.00	9,650.29	4,977.50	-190.60	591,671.00	759,983.00	32.623768	-103.488911
Bootstrap 4H: FTP/ LI - plan hits target center - Point	0.00	0.00	9,680.00	-127.50	-121.10	586,566.00	760,052.50	32.609735	-103.488817

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,874.00	1,874.00	Rustler			
2,002.00	2,002.00	Top Salt			
3,437.49	3,431.00	Base Salt			
3,659.65	3,652.00	Yates			
4,063.76	4,054.00	Seven Rivers			
4,628.71	4,616.00	Queen			
5,794.80	5,776.00	Delaware			
6,733.70	6,710.00	Brushy Canyon			
8,159.14	8,128.00	Bone Spring			
8,295.86	8,264.00	Avalon Sand			
9,279.38	9,242.00	Lower Avalon Shale			
9,719.53	9,591.00	First Bone Spring Sand			
9,856.94	9,650.00	TD			
10,046.55	9,680.00	Landing Point			