

NM OIL CONSERVATION
ARTESIA DISTRICT

MAR 19 2019

RECEIVED



Percussion Petroleum, LLC

Eddy County, NM

Rose

#5H

OH

30-015-45797

Plan: Plan #1

Standard Plan With Toolface

11 March, 2019



Wellbenders
Standard Plan With Toolface

Company:	Percussion Petroleum, LLC	Local Co-ordinate Reference:	Well #5H
Project:	Eddy County, NM	TVD Reference:	RKB=16' @ 3395.00usft (Akita 20)
Site:	Rose	MD Reference:	RKB=16' @ 3395.00usft (Akita 20)
Well:	#5H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	WBDS_SQL_2

Project	Eddy County, NM		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Rose		
Site Position:		Northing:	611,332.70 usft
From:	Map	Easting:	512,404.20 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in
		Latitude:	32.680563
		Longitude:	-104.427371
		Grid Convergence:	-0.051 °

Well	#5H		
Well Position	+N/-S	0.00 usft	Northing:
	+E/-W	0.00 usft	Easting:
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft
		Latitude:	32.678508
		Longitude:	-104.426449
		Ground Level:	3,379.00 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
	IGRF2015	3/8/2019	7.199
			Dip Angle
			60.320
			Field Strength
			47,937.94030177

Design	Plan #1		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth:
			0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.00	0.00	0.00
			Direction
			270.26

Survey Tool Program	Date 3/11/2019		
From	To	Survey (Wellbore)	Tool Name
(usft)	(usft)		Description
0.00	8,400.05	Plan #1 (OH)	MWD+IGRF
			OWSG MWD + IGRF or WMM



Wellbenders Standard Plan With Toolface

Company:	Percussion Petroleum, LLC	Local Co-ordinate Reference:	Well #5H
Project:	Eddy County, NM	TVD Reference:	RKB=16' @ 3395.00usft (Akita 20)
Site:	Rose	MD Reference:	RKB=16' @ 3395.00usft (Akita 20)
Well:	#5H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	WBDS_SQL_2

Planned Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100ft)	Build (°/100ft)	Turn (°/100ft)	TFace (°)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
Rose 5H: SHL (1408' FNL & 988' FWL)											
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
350.00	3.00	282.64	349.98	0.29	-1.28	1.28	6.00	6.00	0.00	0.00	282.636
400.00	6.00	282.64	399.82	1.14	-5.10	5.11	6.00	6.00	0.00	0.00	0.000
454.34	9.26	282.64	453.67	2.72	-12.14	12.16	6.00	6.00	0.00	0.00	0.000
500.00	9.26	282.64	498.73	4.33	-19.31	19.33	0.00	0.00	0.00	0.00	0.000
600.00	9.26	282.64	597.43	7.85	-35.02	35.05	0.00	0.00	0.00	0.00	0.000
700.00	9.26	282.64	696.13	11.37	-50.72	50.77	0.00	0.00	0.00	0.00	0.000
800.00	9.26	282.64	794.82	14.89	-66.42	66.49	0.00	0.00	0.00	0.00	0.000
900.00	9.26	282.64	893.52	18.41	-82.12	82.21	0.00	0.00	0.00	0.00	0.000
1,000.00	9.26	282.64	992.22	21.93	-97.83	97.92	0.00	0.00	0.00	0.00	0.000
1,100.00	9.26	282.64	1,090.91	25.45	-113.53	113.64	0.00	0.00	0.00	0.00	0.000
1,200.00	9.26	282.64	1,189.61	28.97	-129.23	129.36	0.00	0.00	0.00	0.00	0.000
1,300.00	9.26	282.64	1,288.31	32.49	-144.93	145.08	0.00	0.00	0.00	0.00	0.000
1,400.00	9.26	282.64	1,387.00	36.01	-160.63	160.80	0.00	0.00	0.00	0.00	0.000
1,500.00	9.26	282.64	1,485.70	39.53	-176.34	176.51	0.00	0.00	0.00	0.00	0.000
1,600.00	9.26	282.64	1,584.40	43.05	-192.04	192.23	0.00	0.00	0.00	0.00	0.000
1,700.00	9.26	282.64	1,683.09	46.57	-207.74	207.95	0.00	0.00	0.00	0.00	0.000
1,800.00	9.26	282.64	1,781.79	50.09	-223.44	223.67	0.00	0.00	0.00	0.00	0.000
1,848.67	9.26	282.64	1,829.83	51.80	-231.09	231.32	0.00	0.00	0.00	0.00	0.000
1,850.00	9.34	282.51	1,831.14	51.85	-231.30	231.53	6.00	5.80	-9.53	-14.940	
1,900.00	12.26	278.90	1,880.25	53.55	-240.50	240.74	6.00	5.85	-7.23	-14.816	
1,950.00	15.21	276.66	1,928.81	55.13	-252.27	252.52	6.00	5.91	-4.47	-11.265	
2,000.00	18.18	275.14	1,976.70	56.60	-266.56	266.81	6.00	5.94	-3.04	-9.096	



Wellbenders

Standard Plan With Toolface

Company:	Percussion Petroleum, LLC	Local Co-ordinate Reference:	Well #5H
Project:	Eddy County, NM	TVD Reference:	RKB=16' @ 3395.00usft (Akita 20)
Site:	Rose	MD Reference:	RKB=16' @ 3395.00usft (Akita 20)
Well:	#5H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	WBDS_SQL_2

Planned Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100ft)	Build (°/100ft)	Turn (°/100ft)	TFace (°)	
2,050.00	21.16	274.04	2,023.78	57.93	-283.33	283.59	6.00	5.95	-2.21	-7.640	
2,100.00	24.14	273.20	2,069.92	59.14	-302.55	302.81	6.00	5.96	-1.69	-6.600	
2,150.00	27.13	272.53	2,114.99	60.21	-324.15	324.42	6.00	5.97	-1.33	-5.822	
2,200.00	30.12	271.99	2,158.87	61.15	-348.08	348.36	6.00	5.98	-1.09	-5.220	
2,250.00	33.11	271.53	2,201.45	61.95	-374.28	374.55	6.00	5.98	-0.91	-4.743	
2,300.00	36.10	271.15	2,242.60	62.61	-402.66	402.94	6.00	5.98	-0.77	-4.356	
2,350.00	39.09	270.81	2,282.21	63.13	-433.16	433.44	6.00	5.99	-0.67	-4.038	
2,400.00	42.09	270.52	2,320.18	63.50	-465.68	465.97	6.00	5.99	-0.59	-3.772	
2,448.64	45.00	270.26	2,355.43	63.73	-499.19	499.47	6.00	5.99	-0.53	-3.549	
2,500.00	45.00	270.26	2,391.75	63.89	-535.50	535.79	0.00	0.00	0.00	0.000	
2,600.00	45.00	270.26	2,462.46	64.21	-606.21	606.50	0.00	0.00	0.00	0.000	
2,698.64	45.00	270.26	2,532.21	64.53	-675.96	676.25	0.00	0.00	0.00	0.000	
2,700.00	45.14	270.26	2,533.17	64.54	-676.92	677.21	10.00	10.00	0.00	0.000	
2,750.00	50.14	270.26	2,566.85	64.70	-713.86	714.14	10.00	10.00	0.00	0.000	
2,800.00	55.14	270.26	2,597.18	64.88	-753.58	753.87	10.00	10.00	0.00	0.000	
2,850.00	60.14	270.26	2,623.94	65.08	-795.80	796.09	10.00	10.00	0.00	0.000	
2,900.00	65.14	270.26	2,646.91	65.28	-840.19	840.48	10.00	10.00	0.00	0.000	
2,950.00	70.14	270.26	2,665.93	65.49	-886.42	886.71	10.00	10.00	0.00	0.000	
3,000.00	75.14	270.26	2,680.85	65.71	-934.12	934.41	10.00	10.00	0.00	0.000	
3,050.00	80.14	270.26	2,691.55	65.93	-982.95	983.24	10.00	10.00	0.00	0.000	
3,100.00	85.14	270.26	2,697.96	66.16	-1,032.52	1,032.81	10.00	10.00	0.00	0.000	
3,153.64	90.50	270.26	2,700.00	66.40	-1,086.10	1,086.39	10.00	10.00	0.00	0.000	
Rose 5H: FTP (1331' FNL & 100' FEL)											
3,200.00	90.50	270.26	2,699.60	66.61	-1,132.46	1,132.75	0.00	0.00	0.00	0.000	
3,300.00	90.50	270.26	2,698.72	67.07	-1,232.45	1,232.74	0.00	0.00	0.00	0.000	
3,400.00	90.50	270.26	2,697.85	67.52	-1,332.45	1,332.74	0.00	0.00	0.00	0.000	
3,500.00	90.50	270.26	2,696.98	67.98	-1,432.44	1,432.74	0.00	0.00	0.00	0.000	



Wellbenders Standard Plan With Toolface

Company:	Percussion Petroleum, LLC	Local Co-ordinate Reference:	Well #5H
Project:	Eddy County, NM	TVD Reference:	RKB=16' @ 3395.00usft (Akita 20)
Site:	Rose	MD Reference:	RKB=16' @ 3395.00usft (Akita 20)
Well:	#5H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	WBDS_SQL_2

Planned Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100ft)	Build (°/100ft)	Turn (°/100ft)	TFace (°)	
3,600.00	90.50	270.26	2,696.10	68.43	-1,532.44	1,532.73	0.00	0.00	0.00	0.000	
3,700.00	90.50	270.26	2,695.23	68.89	-1,632.43	1,632.73	0.00	0.00	0.00	0.000	
3,800.00	90.50	270.26	2,694.36	69.34	-1,732.43	1,732.73	0.00	0.00	0.00	0.000	
3,900.00	90.50	270.26	2,693.49	69.80	-1,832.42	1,832.72	0.00	0.00	0.00	0.000	
4,000.00	90.50	270.26	2,692.61	70.26	-1,932.42	1,932.72	0.00	0.00	0.00	0.000	
4,100.00	90.50	270.26	2,691.74	70.71	-2,032.41	2,032.71	0.00	0.00	0.00	0.000	
4,200.00	90.50	270.26	2,690.87	71.17	-2,132.41	2,132.71	0.00	0.00	0.00	0.000	
4,300.00	90.50	270.26	2,690.00	71.62	-2,232.40	2,232.71	0.00	0.00	0.00	0.000	
4,400.00	90.50	270.26	2,689.12	72.08	-2,332.40	2,332.70	0.00	0.00	0.00	0.000	
4,500.00	90.50	270.26	2,688.25	72.53	-2,432.39	2,432.70	0.00	0.00	0.00	0.000	
4,600.00	90.50	270.26	2,687.38	72.99	-2,532.39	2,532.69	0.00	0.00	0.00	0.000	
4,700.00	90.50	270.26	2,686.51	73.45	-2,632.38	2,632.69	0.00	0.00	0.00	0.000	
4,800.00	90.50	270.26	2,685.63	73.90	-2,732.38	2,732.69	0.00	0.00	0.00	0.000	
4,900.00	90.50	270.26	2,684.76	74.36	-2,832.38	2,832.68	0.00	0.00	0.00	0.000	
5,000.00	90.50	270.26	2,683.89	74.81	-2,932.37	2,932.68	0.00	0.00	0.00	0.000	
5,100.00	90.50	270.26	2,683.02	75.27	-3,032.37	3,032.68	0.00	0.00	0.00	0.000	
5,200.00	90.50	270.26	2,682.14	75.72	-3,132.36	3,132.67	0.00	0.00	0.00	0.000	
5,300.00	90.50	270.26	2,681.27	76.18	-3,232.36	3,232.67	0.00	0.00	0.00	0.000	
5,400.00	90.50	270.26	2,680.40	76.63	-3,332.35	3,332.66	0.00	0.00	0.00	0.000	
5,500.00	90.50	270.26	2,679.52	77.09	-3,432.35	3,432.66	0.00	0.00	0.00	0.000	
5,567.34	90.50	270.26	2,678.94	77.40	-3,499.68	3,500.00	0.00	0.00	0.00	0.000	
Rose 5H: LTGT											
5,600.00	91.15	270.26	2,678.47	77.55	-3,532.34	3,532.65	2.00	2.00	0.00	0.000	
5,617.34	91.50	270.26	2,678.06	77.63	-3,549.68	3,549.99	2.00	2.00	0.00	0.000	
5,700.00	91.50	270.26	2,675.90	78.00	-3,632.30	3,632.62	0.00	0.00	0.00	0.000	
5,800.00	91.50	270.26	2,673.28	78.46	-3,732.27	3,732.59	0.00	0.00	0.00	0.000	
5,900.00	91.50	270.26	2,670.66	78.91	-3,832.23	3,832.55	0.00	0.00	0.00	0.000	



Wellbenders

Standard Plan With Toolface

Company:	Percussion Petroleum, LLC	Local Co-ordinate Reference:	Well #5H
Project:	Eddy County, NM	TVD Reference:	RKB=16' @ 3395.00usft (Akita 20)
Site:	Rose	MD Reference:	RKB=16' @ 3395.00usft (Akita 20)
Well:	#5H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	WBDS_SQL_2

Planned Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100ft)	Build (°/100ft)	Turn (°/100ft)	TFace (°)	
6,000.00	91.50	270.26	2,668.05	79.37	-3,932.20	3,932.52	0.00	0.00	0.00	0.000	
6,100.00	91.50	270.26	2,665.43	79.82	-4,032.16	4,032.48	0.00	0.00	0.00	0.000	
6,200.00	91.50	270.26	2,662.81	80.28	-4,132.13	4,132.45	0.00	0.00	0.00	0.000	
6,300.00	91.50	270.26	2,660.19	80.73	-4,232.09	4,232.42	0.00	0.00	0.00	0.000	
6,400.00	91.50	270.26	2,657.58	81.19	-4,332.06	4,332.38	0.00	0.00	0.00	0.000	
6,500.00	91.50	270.26	2,654.96	81.65	-4,432.02	4,432.35	0.00	0.00	0.00	0.000	
6,600.00	91.50	270.26	2,652.34	82.10	-4,531.99	4,532.31	0.00	0.00	0.00	0.000	
6,700.00	91.50	270.26	2,649.72	82.56	-4,631.95	4,632.28	0.00	0.00	0.00	0.000	
6,800.00	91.50	270.26	2,647.11	83.01	-4,731.92	4,732.24	0.00	0.00	0.00	0.000	
6,900.00	91.50	270.26	2,644.49	83.47	-4,831.88	4,832.21	0.00	0.00	0.00	0.000	
7,000.00	91.50	270.26	2,641.87	83.92	-4,931.85	4,932.18	0.00	0.00	0.00	0.000	
7,100.00	91.50	270.26	2,639.25	84.38	-5,031.81	5,032.14	0.00	0.00	0.00	0.000	
7,200.00	91.50	270.26	2,636.63	84.83	-5,131.78	5,132.11	0.00	0.00	0.00	0.000	
7,300.00	91.50	270.26	2,634.02	85.29	-5,231.74	5,232.07	0.00	0.00	0.00	0.000	
7,400.00	91.50	270.26	2,631.40	85.74	-5,331.70	5,332.04	0.00	0.00	0.00	0.000	
7,500.00	91.50	270.26	2,628.78	86.20	-5,431.67	5,432.00	0.00	0.00	0.00	0.000	
7,600.00	91.50	270.26	2,626.16	86.66	-5,531.63	5,531.97	0.00	0.00	0.00	0.000	
7,700.00	91.50	270.26	2,623.55	87.11	-5,631.60	5,631.94	0.00	0.00	0.00	0.000	
7,800.00	91.50	270.26	2,620.93	87.57	-5,731.56	5,731.90	0.00	0.00	0.00	0.000	
7,900.00	91.50	270.26	2,618.31	88.02	-5,831.53	5,831.87	0.00	0.00	0.00	0.000	
8,000.00	91.50	270.26	2,615.69	88.48	-5,931.49	5,931.83	0.00	0.00	0.00	0.000	
8,100.00	91.50	270.26	2,613.07	88.93	-6,031.46	6,031.80	0.00	0.00	0.00	0.000	
8,200.00	91.50	270.26	2,610.46	89.39	-6,131.42	6,131.76	0.00	0.00	0.00	0.000	
8,300.00	91.50	270.26	2,607.84	89.84	-6,231.39	6,231.73	0.00	0.00	0.00	0.000	
Rose 5H: LTP (1336' FNL & 100' FWL)											
8,400.05	91.50	270.26	2,605.22	90.30	-6,331.40	6,331.74	0.00	0.00	0.00	0.000	
Rose 5H: PBHL (1336' FNL & 20' FWL)											



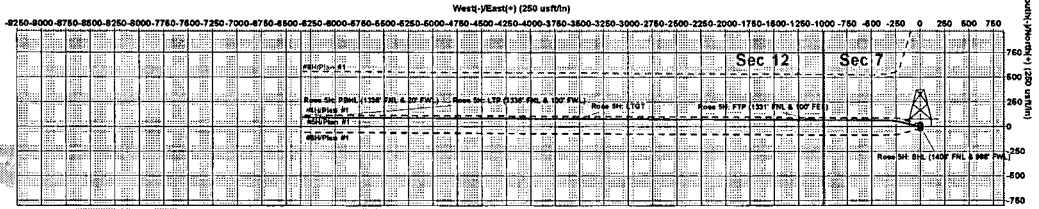
Wellbenders
Standard Plan With Toolface

Company:	Percussion Petroleum, LLC	Local Co-ordinate Reference:	Well #5H
Project:	Eddy County, NM	TVD Reference:	RKB=16' @ 3395.00usft (Akita 20)
Site:	Rose	MD Reference:	RKB=16' @ 3395.00usft (Akita 20)
Well:	#5H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	WBDS_SQL_2

Checked By: _____	Approved By: _____	Date: _____
-------------------	--------------------	-------------



Company: Percussion Petroleum, LLC
Project: Eddy County, NM
Site: Rose
Well: #5H
Wellbore: O/H
Rig: Akita 20
Design: Plan #1 / 13.22, March 11 2019



DESIGN TARGET DETAILS

Name	TVD	+N-S	+E-W	Northing	Easting	Latitude	Longitude
Rose SH: SHL (1400' FNL & 906' FWL)	9.00	0.00	0.00	610544.90	510877.20	32.879508	-104.426449
Rose SH: PSHL (1338' FNL & 20' FWL)	2626.22	90.30	-4331.40	610673.20	506330.80	32.878729	-104.447027
Rose SH: LTP (1338' FNL & 100' FWL)	2607.22	89.80	-4351.40	610674.80	506430.80	32.878729	-104.446787
Rose SH: LTGT	2678.84	77.40	-3489.88	610681.20	505197.52	32.878712	-104.437814
Rose SH: FTP (1337' FNL & 100' FWL)	2780.00	86.40	-1086.10	610681.20	511681.10	32.878689	-104.429889

TOTAL CORRECTION
To convert a Magnetic Direction to a Grid Direction, Add 7.249°

WELL DETAILS: #5H

RIG=15 @ 3295.00m (Akita 20)						
3279.00						
+N-S	+E-W	Northing	Easting	Latitude	Longitude	
0.00	0.00	610544.90	510877.20	32.879508	-104.426449	

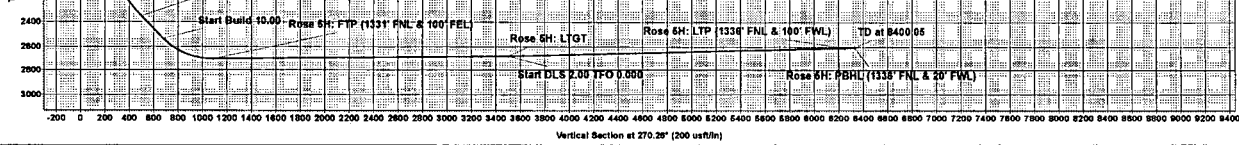
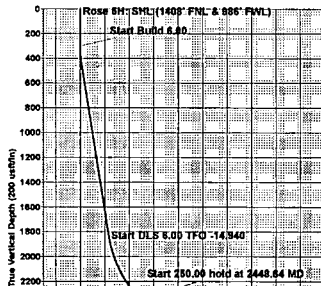
SECTION DETAILS

Sec	WD	Inc	Adj	TVD	+N-S	+E-W	Drop	VSec
1	0.00	0.00	0.00	9.00	0.00	0.00	0.00	0.00
2	300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00
3	454.34	9.26	282.84	453.87	2.72	-12.14	0.00	12.16
4	1548.67	9.16	282.84	1548.83	51.90	-231.09	0.00	231.32
5	2448.84	45.00	270.26	2355.43	83.73	-495.15	0.00	498.47
6	2688.84	45.00	270.26	2552.21	84.83	-475.96	0.00	878.25
7	2715.64	90.50	270.26	2700.00	48.43	-1086.10	10.00	1086.26
8	5567.34	90.50	270.26	2678.94	77.40	-3489.88	0.00	3560.00
9	5937.34	91.50	270.26	2678.98	77.43	-3489.88	2.00	3549.99
10	8408.50	91.50	270.26	2690.22	90.30	-4331.40	0.00	8321.74



Adopting to Grid North
True North: 0.00°
Magnetic North: 7.25°
Magnetic Field
Strength: 0.637 Gauss
On: April 05, 2017
Date: 3/5/2018
Model: ICDT-2013

PROJECT DETAILS: Eddy County, NM
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Elevation: GDS 1986
Zone: New Mexico Eastern Zone
System Datum: Mean Sea Level



Disclaimer:
All data is subject to change without notice.
Customer agrees that the
accuracy of the data is
not guaranteed.

Plan: Plan #1 (RIGUOH) Akita 20

Created By: Derek Stephens Date: 13.22, March 11 2019