

NM OIL CONSERVATION
ARTESIA DISTRICT

NOV 16 2018

RECEIVED



PERCUSSION
PETROLEUM
LLC

Percussion Petroleum, LLC

Eddy County, NM
Ross Ranch 22 Unit
#10H
OH

30-015-45447

Plan: Plan #2

Standard Plan With Toolface

02 November, 2018





Company: Percussion Petroleum, LLC
Project: Eddy County, NM
Site: Ross Ranch 22 Unit
Well: #10H
Wellbore: OH
Rig: Silver Oak #1
Design: Plan #2 / E-48, November 02 2018



TOTAL CORRECTION
To convert a Magnetic Direction to a Grid Direction, Add 7.349°

WELL DETAILS: #10H

R2B = 17° @ 1429 Mouth (Silver Oak #1)

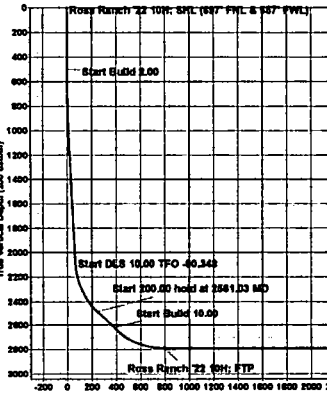
	WOB	WOB	WOB	WOB	WOB	WOB	WOB
	WOB	WOB	WOB	WOB	WOB	WOB	WOB

SECTION DETAILS

Sec	WOB	WOB	WOB	WOB	WOB	WOB	WOB
1	WOB	WOB	WOB	WOB	WOB	WOB	WOB
2	WOB	WOB	WOB	WOB	WOB	WOB	WOB
3	WOB	WOB	WOB	WOB	WOB	WOB	WOB
4	WOB	WOB	WOB	WOB	WOB	WOB	WOB
5	WOB	WOB	WOB	WOB	WOB	WOB	WOB
6	WOB	WOB	WOB	WOB	WOB	WOB	WOB
7	WOB	WOB	WOB	WOB	WOB	WOB	WOB
8	WOB	WOB	WOB	WOB	WOB	WOB	WOB

DESIGN TARGET DETAILS

Name	TVD	WOB	WOB	WOB	WOB	WOB	WOB
Ross Ranch 22 10H: SBL (87° FNL & 87° FNL)	WOB	WOB	WOB	WOB	WOB	WOB	WOB
Ross Ranch 22 10H: FTL	WOB	WOB	WOB	WOB	WOB	WOB	WOB
Ross Ranch 22 10H: LTP	WOB	WOB	WOB	WOB	WOB	WOB	WOB
Ross Ranch 22 10H: PBL (87° FNL & 87° FNL)	WOB	WOB	WOB	WOB	WOB	WOB	WOB

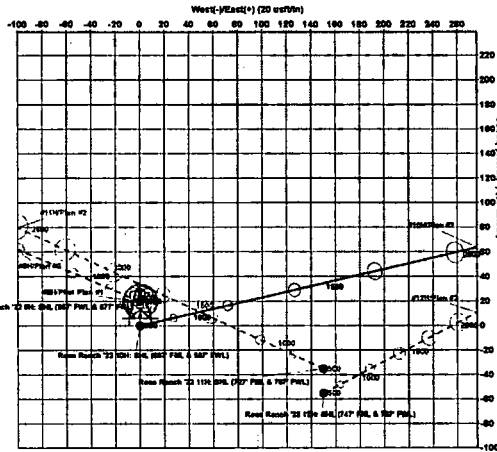


Vertical Section at 0.00° (200 units)

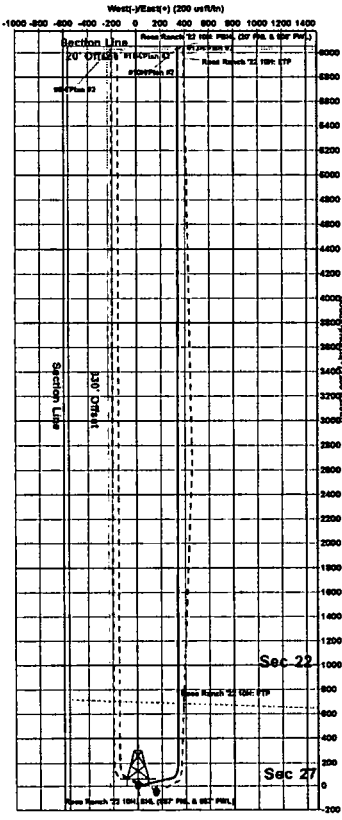
PROJECT DETAILS Eddy County, NM
Geographic System: US State Plane 1983
Datum: North American Datum 1983
Elevation: 5000 Feet
Zone: 10N
System Datum: Mean Sea Level



Approximate to Grid North
True North: 0.00°
Magnetic North: 7.35°
Magnetic Field
Strength: 1.17 Gauss
Dip Angle: 60.23°
Date: 11/02/2018
Model: IGRF2015



Disclaimer:
This document is a preliminary design and is not to be used for construction purposes without the approval of the design engineer. The design engineer is not responsible for any errors or omissions in this document.



Plan: Plan #2 (P10H/OH) Silver Oak #1
Created By: Matthew May Date: E-48, November 02 2018



Wellbenders
Standard Plan With Toolface



Company: Percussion Petroleum, LLC
Project: Eddy County, NM
Site: Ross Ranch 22 Unit
Well: #10H
Wellbore: OH
Design: Plan #2

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:

Well #10H
RKB = 17' @ 3489.00usft (Silver Oak #1)
RKB = 17' @ 3489.00usft (Silver Oak #1)
Grid
Minimum Curvature
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	Ross Ranch 22 Unit		
Site Position:		Northing:	595,580.00 usft
From:	Map	Easting:	496,397.90 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in
		Latitude:	32.637213
		Longitude:	-104.479324
		Grid Convergence:	-0.079 °

Well	#10H		
Well Position	+N-S	0.00 usft	Northing:
	+E-W	0.00 usft	Easting:
Position Uncertainty	0.00 usft		Wellhead Elevation:
			Latitude:
			Longitude:
			Ground Level:

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
	IGRF2015	9/14/2018	(°)
			Dip Angle
			(°)
			Field Strength
			(nT)

Design	Plan #2		
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
			(°)

Survey Tool Program	Date 11/2/2018		
From	To	Survey (Wellbore)	Tool Name
(usft)	(usft)		Description
0.00	8,458.93	Plan #2 (OH)	MWD+IGRF
			OWSG MWD + IGRF or WMM



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MD Reference: RKB = 17' @ 3489.00usft (Silver Oak #1)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
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	0.000
100.00	0.00	0.00	100.00	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	0.000
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
600.00	2.00	77.05	599.98	0.39	1.70	0.39	2.00	2.00	0.00	77.054
700.00	4.00	77.05	699.84	1.56	6.80	1.57	2.00	2.00	0.00	0.000
800.00	6.00	77.05	799.45	3.52	15.29	3.53	2.00	2.00	0.00	0.000
900.00	8.00	77.05	898.70	6.25	27.17	6.27	2.00	2.00	0.00	0.000
1,000.00	10.00	77.05	997.47	9.75	42.42	9.80	2.00	2.00	0.00	0.000
1,100.00	12.00	77.05	1,095.62	14.03	61.01	14.09	2.00	2.00	0.00	0.000
1,150.52	13.01	77.05	1,144.95	16.48	71.67	16.55	2.00	2.00	0.00	0.000
1,200.00	13.01	77.05	1,193.15	18.97	82.53	19.06	0.00	0.00	0.00	0.000
1,300.00	13.01	77.05	1,290.59	24.02	104.47	24.12	0.00	0.00	0.00	0.000
1,400.00	13.01	77.05	1,388.02	29.06	126.41	29.19	0.00	0.00	0.00	0.000
1,500.00	13.01	77.05	1,485.45	34.10	148.35	34.26	0.00	0.00	0.00	0.000
1,600.00	13.01	77.05	1,582.89	39.15	170.29	39.32	0.00	0.00	0.00	0.000
1,700.00	13.01	77.05	1,680.32	44.19	192.23	44.39	0.00	0.00	0.00	0.000
1,800.00	13.01	77.05	1,777.75	49.23	214.17	49.46	0.00	0.00	0.00	0.000
1,900.00	13.01	77.05	1,875.18	54.28	236.11	54.52	0.00	0.00	0.00	0.000
2,000.00	13.01	77.05	1,972.62	59.32	258.05	59.59	0.00	0.00	0.00	0.000
2,100.00	13.01	77.05	2,070.05	64.36	279.99	64.66	0.00	0.00	0.00	0.000
2,125.53	13.01	77.05	2,094.92	65.65	285.59	65.95	0.00	0.00	0.00	0.000
2,150.00	13.22	66.29	2,118.76	67.39	290.84	67.70	10.00	0.86	-43.97	-90.348
2,200.00	14.82	46.83	2,167.29	74.10	300.78	74.42	10.00	3.40	-38.93	-79.885
2,250.00	17.88	32.45	2,215.27	84.99	309.60	85.31	10.00	5.91	-28.75	-60.972



Wellbenders
Standard Plan With Toolface



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North Reference: Grid
Survey Calculation Method: Minimum Curvature
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 (°)
2,300.00	21.58	22.44	2,262.34	99.97	317.23	100.30	10.00	7.41	-20.02	-47.171
2,350.00	25.71	15.38	2,308.14	118.94	323.62	119.28	10.00	8.26	-14.13	-37.743
2,400.00	30.09	10.20	2,352.32	141.74	328.72	142.09	10.00	8.76	-10.35	-31.265
2,450.00	34.82	6.25	2,394.56	168.21	332.49	168.56	10.00	9.07	-7.90	-26.686
2,500.00	39.25	3.12	2,434.52	198.14	334.90	198.49	10.00	9.27	-6.26	-23.345
2,550.00	43.96	0.56	2,471.90	231.31	335.93	231.68	10.00	9.41	-5.12	-20.842
2,561.03	45.00	0.06	2,479.76	239.04	335.97	239.39	10.00	9.47	-4.59	-18.926
2,600.00	45.00	0.06	2,507.32	266.60	336.00	266.95	0.00	0.00	0.00	0.000
2,700.00	45.00	0.06	2,578.03	337.31	336.06	337.66	0.00	0.00	0.00	0.000
2,761.03	45.00	0.06	2,621.18	380.46	336.11	380.81	0.00	0.00	0.00	0.000
2,800.00	48.90	0.06	2,647.78	408.93	336.13	409.28	10.00	10.00	0.00	0.000
2,850.00	53.90	0.06	2,678.97	447.99	336.17	448.35	10.00	10.00	0.00	0.000
2,900.00	58.90	0.06	2,706.63	489.63	336.21	489.98	10.00	10.00	0.00	0.000
2,950.00	63.90	0.06	2,730.58	533.51	336.26	533.86	10.00	10.00	0.00	0.000
3,000.00	68.90	0.06	2,750.58	579.31	336.30	579.66	10.00	10.00	0.00	0.000
3,050.00	73.90	0.06	2,766.52	626.69	336.35	627.04	10.00	10.00	0.00	0.000
3,100.00	78.90	0.06	2,778.28	675.27	336.39	675.62	10.00	10.00	0.00	0.000
3,150.00	83.90	0.06	2,785.75	724.69	336.44	725.04	10.00	10.00	0.00	0.000
3,200.00	88.90	0.06	2,788.89	774.57	336.49	774.93	10.00	10.00	0.00	0.000
3,211.03	90.00	0.06	2,789.00	785.60	336.50	785.95	10.00	10.00	0.00	0.000
3,300.00	90.00	0.06	2,789.00	874.57	336.59	874.93	0.00	0.00	0.00	0.000
3,400.00	90.00	0.06	2,789.00	974.57	336.68	974.93	0.00	0.00	0.00	0.000
3,500.00	90.00	0.06	2,789.00	1,074.57	336.78	1,074.93	0.00	0.00	0.00	0.000
3,600.00	90.00	0.06	2,789.00	1,174.57	336.88	1,174.93	0.00	0.00	0.00	0.000
3,700.00	90.00	0.06	2,789.00	1,274.57	336.98	1,274.93	0.00	0.00	0.00	0.000
3,800.00	90.00	0.06	2,789.00	1,374.57	337.07	1,374.93	0.00	0.00	0.00	0.000
3,900.00	90.00	0.06	2,789.00	1,474.57	337.17	1,474.93	0.00	0.00	0.00	0.000



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Standard Plan With Toolface



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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 (°)
4,000.00	90.00	0.06	2,789.00	1,574.57	337.27	1,574.93	0.00	0.00	0.00	0.000
4,100.00	90.00	0.06	2,789.00	1,674.57	337.36	1,674.93	0.00	0.00	0.00	0.000
4,200.00	90.00	0.06	2,789.00	1,774.57	337.46	1,774.93	0.00	0.00	0.00	0.000
4,300.00	90.00	0.06	2,789.00	1,874.57	337.56	1,874.93	0.00	0.00	0.00	0.000
4,400.00	90.00	0.06	2,789.00	1,974.57	337.66	1,974.93	0.00	0.00	0.00	0.000
4,500.00	90.00	0.06	2,789.00	2,074.57	337.75	2,074.93	0.00	0.00	0.00	0.000
4,600.00	90.00	0.06	2,789.00	2,174.57	337.85	2,174.93	0.00	0.00	0.00	0.000
4,700.00	90.00	0.06	2,789.00	2,274.57	337.95	2,274.93	0.00	0.00	0.00	0.000
4,800.00	90.00	0.06	2,789.00	2,374.57	338.04	2,374.93	0.00	0.00	0.00	0.000
4,900.00	90.00	0.06	2,789.00	2,474.57	338.14	2,474.93	0.00	0.00	0.00	0.000
5,000.00	90.00	0.06	2,789.00	2,574.57	338.24	2,574.93	0.00	0.00	0.00	0.000
5,100.00	90.00	0.06	2,789.00	2,674.57	338.34	2,674.93	0.00	0.00	0.00	0.000
5,200.00	90.00	0.06	2,789.00	2,774.57	338.43	2,774.93	0.00	0.00	0.00	0.000
5,300.00	90.00	0.06	2,789.00	2,874.57	338.53	2,874.93	0.00	0.00	0.00	0.000
5,400.00	90.00	0.06	2,789.00	2,974.57	338.63	2,974.93	0.00	0.00	0.00	0.000
5,500.00	90.00	0.06	2,789.00	3,074.57	338.72	3,074.93	0.00	0.00	0.00	0.000
5,600.00	90.00	0.06	2,789.00	3,174.57	338.82	3,174.93	0.00	0.00	0.00	0.000
5,700.00	90.00	0.06	2,789.00	3,274.57	338.92	3,274.93	0.00	0.00	0.00	0.000
5,800.00	90.00	0.06	2,789.00	3,374.57	339.02	3,374.93	0.00	0.00	0.00	0.000
5,900.00	90.00	0.06	2,789.00	3,474.57	339.11	3,474.93	0.00	0.00	0.00	0.000
6,000.00	90.00	0.06	2,789.00	3,574.57	339.21	3,574.93	0.00	0.00	0.00	0.000
6,100.00	90.00	0.06	2,789.00	3,674.57	339.31	3,674.93	0.00	0.00	0.00	0.000
6,200.00	90.00	0.06	2,789.00	3,774.57	339.40	3,774.93	0.00	0.00	0.00	0.000
6,300.00	90.00	0.06	2,789.00	3,874.57	339.50	3,874.93	0.00	0.00	0.00	0.000
6,400.00	90.00	0.06	2,789.00	3,974.57	339.60	3,974.93	0.00	0.00	0.00	0.000
6,500.00	90.00	0.06	2,789.00	4,074.57	339.70	4,074.93	0.00	0.00	0.00	0.000
6,600.00	90.00	0.06	2,789.00	4,174.57	339.79	4,174.93	0.00	0.00	0.00	0.000



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6,700.00	90.00	0.06	2,789.00	4,274.57	339.89	4,274.93	0.00	0.00	0.00	0.000
6,800.00	90.00	0.06	2,789.00	4,374.57	339.99	4,374.93	0.00	0.00	0.00	0.000
6,900.00	90.00	0.06	2,789.00	4,474.57	340.09	4,474.93	0.00	0.00	0.00	0.000
7,000.00	90.00	0.06	2,789.00	4,574.57	340.18	4,574.93	0.00	0.00	0.00	0.000
7,100.00	90.00	0.06	2,789.00	4,674.57	340.28	4,674.93	0.00	0.00	0.00	0.000
7,200.00	90.00	0.06	2,789.00	4,774.57	340.38	4,774.93	0.00	0.00	0.00	0.000
7,300.00	90.00	0.06	2,789.00	4,874.57	340.47	4,874.93	0.00	0.00	0.00	0.000
7,400.00	90.00	0.06	2,789.00	4,974.57	340.57	4,974.93	0.00	0.00	0.00	0.000
7,500.00	90.00	0.06	2,789.00	5,074.57	340.67	5,074.93	0.00	0.00	0.00	0.000
7,600.00	90.00	0.06	2,789.00	5,174.57	340.77	5,174.93	0.00	0.00	0.00	0.000
7,700.00	90.00	0.06	2,789.00	5,274.57	340.86	5,274.93	0.00	0.00	0.00	0.000
7,800.00	90.00	0.06	2,789.00	5,374.57	340.96	5,374.93	0.00	0.00	0.00	0.000
7,900.00	90.00	0.06	2,789.00	5,474.57	341.06	5,474.93	0.00	0.00	0.00	0.000
8,000.00	90.00	0.06	2,789.00	5,574.57	341.15	5,574.93	0.00	0.00	0.00	0.000
8,100.00	90.00	0.06	2,789.00	5,674.57	341.25	5,674.93	0.00	0.00	0.00	0.000
8,200.00	90.00	0.06	2,789.00	5,774.57	341.35	5,774.93	0.00	0.00	0.00	0.000
8,300.00	90.00	0.06	2,789.00	5,874.57	341.45	5,874.93	0.00	0.00	0.00	0.000
8,400.00	90.00	0.06	2,789.00	5,974.57	341.54	5,974.93	0.00	0.00	0.00	0.000
8,458.93	90.00	0.06	2,789.00	6,033.50	341.60	6,033.85	0.00	0.00	0.00	0.000

Checked By: _____ Approved By: _____ Date: _____