

NM OIL CONSERVATION
NM OIL CONSERVATION
ARTESIA DISTRICT

NOV 16 2018

RECEIVED



PERCUSSION
PETROLEUM
LLC

Percussion Petroleum, LLC

Eddy County, NM
Ross Ranch 22 Unit
#12H
OH

30-015-45450

Plan: Plan #2

Standard Plan With Toolface

02 November, 2018





Wellbenders
Standard Plan With Toolface



Company: Percussion Petroleum, LLC
Project: Eddy County, NM
Site: Ross Ranch 22 Unit
Well: #12H
Wellbore: OH
Design: Plan #2

Local Co-ordinate Reference: Well #12H
TVD Reference: RKB = 17' @ 3488.00usft (Silver Oak 1)
MD Reference: RKB = 17' @ 3488.00usft (Silver Oak 1)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: WBSDS_SQL_2

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

System Datum: Mean Sea Level

Site: Ross Ranch 22 Unit
Site Position: Map
From: Map
Position Uncertainty: 0.00 usft

Northing: 595,580.00 usft
Easting: 496,397.90 usft
Slot Radius: 13.200 in
Latitude: 32.637213
Longitude: -104.478324
Grid Convergence: -0.079 "

Well: #12H

Well Position: +N-S 0.00 usft
+E-W 0.00 usft
Position Uncertainty: 0.00 usft

Northing: 595,505.00 usft
Easting: 496,547.80 usft
Wellhead Elevation: usft
Latitude: 32.637008
Longitude: -104.478837
Ground Level: 3,471.00 usft

Wellbore: OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	9/14/2018	7.270	60.279	47,958.28012715

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)	Direction (°)
	0.00	0.00	0.00	0.06

Survey Tool Program: Date 11/2/2018

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	9,344.30	Plan #2 (OH)	MWD+IGRF	OWSG MWD + IGRF or WMM



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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 (°)
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	360.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	360.000
600.00	2.00	62.45	599.98	0.81	1.55	0.81	2.00	2.00	0.00	62.447
700.00	4.00	62.45	699.84	3.23	6.19	3.23	2.00	2.00	0.00	0.000
761.71	5.23	62.45	761.35	5.53	10.59	5.54	2.00	2.00	0.00	0.000
800.00	5.23	62.45	799.48	7.14	13.69	7.16	0.00	0.00	0.00	0.000
900.00	5.23	62.45	899.06	11.36	21.78	11.38	0.00	0.00	0.00	0.000
1,000.00	5.23	62.45	998.64	15.58	29.86	15.61	0.00	0.00	0.00	0.000
1,100.00	5.23	62.45	1,098.23	19.80	37.95	19.84	0.00	0.00	0.00	0.000
1,200.00	5.23	62.45	1,197.81	24.02	46.04	24.07	0.00	0.00	0.00	0.000
1,300.00	5.23	62.45	1,297.39	28.24	54.13	28.30	0.00	0.00	0.00	0.000
1,400.00	5.23	62.45	1,396.97	32.46	62.22	32.53	0.00	0.00	0.00	0.000
1,500.00	5.23	62.45	1,496.56	36.68	70.30	36.75	0.00	0.00	0.00	0.000
1,600.00	5.23	62.45	1,596.14	40.90	78.39	40.98	0.00	0.00	0.00	0.000
1,700.00	5.23	62.45	1,695.72	45.12	86.48	45.21	0.00	0.00	0.00	0.000
1,800.00	5.23	62.45	1,795.31	49.34	94.57	49.44	0.00	0.00	0.00	0.000
1,900.00	5.23	62.45	1,894.89	53.56	102.66	53.67	0.00	0.00	0.00	0.000
2,000.00	5.23	62.45	1,994.47	57.78	110.74	57.90	0.00	0.00	0.00	0.000
2,100.00	5.23	62.45	2,094.06	62.00	118.83	62.12	0.00	0.00	0.00	0.000
2,200.00	5.23	62.45	2,193.64	66.22	126.92	66.35	0.00	0.00	0.00	0.000
2,300.00	5.23	62.45	2,293.22	70.44	135.01	70.58	0.00	0.00	0.00	0.000
2,400.00	5.23	62.45	2,392.80	74.66	143.10	74.81	0.00	0.00	0.00	0.000
2,500.00	5.23	62.45	2,492.39	78.88	151.19	79.04	0.00	0.00	0.00	0.000



Wellbenders
Standard Plan With Toolface



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Project: Eddy County, NM
Site: Roca Ranch 22 Unit
Well: #12H
Wellbore: OH
Design: Plan #2

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:
Well #12H
RXB = 17 @ 3488.00uoft (Silver Oak 1)
RXB = 17 @ 3488.00uoft (Silver Oak 1)
Grid
Minimum Curvature
WBDS_SQL_2

Planned Survey												
MD (uoft)	Inc (°)	Azl (azimuth) (°)	TVD (uoft)	N/S (uoft)	E/W (uoft)	V. Sec (uoft)	Dleg (°100ft)	Build (°100ft)	Turn (°100ft)	TFace (°)		
2,800.00	5.23	62.45	2,591.97	83.10	159.27	83.27	0.00	0.00	0.00	0.000	0.000	0.000
2,700.00	5.23	62.45	2,691.55	87.32	167.36	87.49	0.00	0.00	0.00	0.000	0.000	0.000
2,800.00	5.23	62.45	2,791.14	91.54	175.45	91.72	0.00	0.00	0.00	0.000	0.000	0.000
2,800.00	5.23	62.45	2,890.72	95.76	183.54	95.95	0.00	0.00	0.00	0.000	0.000	0.000
2,988.63	5.23	62.45	2,978.98	99.50	190.71	99.70	0.00	0.00	0.00	0.000	0.000	0.000
3,000.00	5.60	52.19	2,980.30	100.09	191.82	100.29	10.00	5.02	-90.18	-65.135		
3,050.00	9.59	26.84	3,039.85	105.36	195.50	105.57	10.00	7.57	-50.69	-54.924		
3,100.00	14.15	16.64	3,088.77	114.94	199.13	115.15	10.00	9.11	-20.40	-29.766		
3,150.00	18.93	11.42	3,136.69	128.75	202.49	128.96	10.00	9.56	-10.44	-19.793		
3,200.00	23.79	8.26	3,183.25	146.69	205.55	146.91	10.00	9.73	-6.32	-14.764		
3,250.00	28.71	6.13	3,228.08	168.63	208.28	168.85	10.00	9.82	-4.27	-11.838		
3,300.00	33.64	4.67	3,270.85	194.39	210.67	194.61	10.00	9.87	-3.11	-9.823		
3,350.00	38.59	3.38	3,311.23	223.76	212.69	224.00	10.00	9.90	-2.39	-8.593		
3,400.00	43.55	2.42	3,348.91	256.58	214.34	256.80	10.00	9.92	-1.92	-7.625		
3,414.59	45.00	2.17	3,359.35	266.76	214.75	266.98	10.00	9.93	-1.70	-6.900		
3,500.00	45.00	2.17	3,419.75	327.11	217.03	327.33	0.00	0.00	0.00	0.000	0.000	0.000
3,600.00	45.00	2.17	3,480.46	397.77	219.70	398.00	0.00	0.00	0.00	0.000	0.000	0.000
3,614.59	45.00	2.17	3,500.77	408.08	220.08	408.31	0.00	0.00	0.00	0.000	0.000	0.000
3,650.00	48.54	2.17	3,525.02	433.85	221.07	434.08	10.00	10.00	0.00	0.000	0.000	0.000
3,700.00	53.54	2.17	3,556.45	472.69	222.54	472.93	10.00	10.00	0.00	0.000	0.000	0.000
3,750.00	58.54	2.17	3,584.37	514.12	224.11	514.36	10.00	10.00	0.00	0.000	0.000	0.000
3,800.00	63.54	2.17	3,608.56	557.83	225.76	558.06	10.00	10.00	0.00	0.000	0.000	0.000
3,850.00	68.54	2.17	3,628.87	603.47	227.49	603.71	10.00	10.00	0.00	0.000	0.000	0.000
3,900.00	73.54	2.17	3,645.11	650.71	228.28	650.95	10.00	10.00	0.00	0.000	0.000	0.000
3,950.00	78.54	2.17	3,657.17	699.18	231.11	699.43	10.00	10.00	0.00	0.000	0.000	0.000
4,000.00	83.54	2.17	3,664.95	748.52	232.98	748.77	10.00	10.00	0.00	0.000	0.000	0.000
4,050.00	88.54	2.17	3,668.40	798.35	234.87	798.60	10.00	10.00	0.00	0.000	0.000	0.000



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Design: Plan #2

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

Well #12H
RKB = 17' @ 3488.00uati (Silver Oak 1)
RKB = 17' @ 3488.00uati (Silver Oak 1)
Grid
Minimum Curvature
WBDS_SQI.2

MD (uati)	Inc (°)	Azi (°)	TVD (uati)	N/S (uati)	EW (uati)	V. Sec (uati)	DLeg (°100ft)	Buile (°100ft)	Turn (°100ft)	TFace (°)
4,090.59	92.60	2.17	3,668.00	839.90	236.40	839.15	10.00	10.00	0.00	0.000
4,100.00	92.60	2.17	3,667.57	848.30	236.76	848.54	0.00	0.00	0.00	0.000
4,200.00	92.60	2.17	3,663.04	848.12	240.53	848.37	0.00	0.00	0.00	0.000
4,300.00	92.60	2.17	3,658.50	1,047.65	244.31	1,048.20	0.00	0.00	0.00	0.000
4,400.00	92.60	2.17	3,653.96	1,147.77	248.09	1,148.03	0.00	0.00	0.00	0.000
4,500.00	92.60	2.17	3,649.43	1,247.60	251.87	1,247.86	0.00	0.00	0.00	0.000
4,600.00	92.60	2.17	3,644.89	1,347.42	255.65	1,347.69	0.00	0.00	0.00	0.000
4,700.00	92.60	2.17	3,640.36	1,447.25	259.43	1,447.52	0.00	0.00	0.00	0.000
4,800.00	92.60	2.17	3,635.82	1,547.07	263.20	1,547.35	0.00	0.00	0.00	0.000
4,900.00	92.60	2.17	3,631.28	1,646.90	266.98	1,647.18	0.00	0.00	0.00	0.000
5,000.00	92.60	2.17	3,626.75	1,746.73	270.76	1,747.01	0.00	0.00	0.00	0.000
5,100.00	92.60	2.17	3,622.21	1,846.55	274.54	1,846.84	0.00	0.00	0.00	0.000
5,200.00	92.60	2.17	3,617.67	1,946.38	278.32	1,946.67	0.00	0.00	0.00	0.000
5,300.00	92.60	2.17	3,613.14	2,046.20	282.09	2,046.50	0.00	0.00	0.00	0.000
5,400.00	92.60	2.17	3,608.60	2,146.03	285.87	2,146.33	0.00	0.00	0.00	0.000
5,500.00	92.60	2.17	3,604.06	2,245.85	289.65	2,246.16	0.00	0.00	0.00	0.000
5,600.00	92.60	2.17	3,599.53	2,345.68	293.43	2,345.98	0.00	0.00	0.00	0.000
5,700.00	92.60	2.17	3,594.99	2,445.51	297.21	2,445.82	0.00	0.00	0.00	0.000
5,800.00	92.60	2.17	3,590.46	2,545.33	300.99	2,545.64	0.00	0.00	0.00	0.000
5,859.59	92.60	2.17	3,587.75	2,604.81	303.24	2,605.13	0.00	0.00	0.00	0.000
5,900.00	92.10	1.53	3,586.10	2,645.17	304.54	2,645.48	2.00	-1.24	-1.57	-128.353
6,000.00	90.86	359.97	3,583.52	2,745.12	305.85	2,745.44	2.00	-1.24	-1.57	-128.379
6,066.86	90.00	356.89	3,583.00	2,813.98	305.16	2,814.30	2.00	-1.24	-1.57	-128.419
6,100.00	90.00	356.89	3,583.00	2,845.11	304.55	2,845.43	0.00	0.00	0.00	0.000
6,200.00	90.00	356.89	3,583.00	2,945.09	302.61	2,945.41	0.00	0.00	0.00	0.000
6,300.00	90.00	356.89	3,583.00	3,045.07	300.67	3,045.39	0.00	0.00	0.00	0.000
6,400.00	90.00	356.89	3,583.00	3,145.06	298.72	3,145.37	0.00	0.00	0.00	0.000



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Wellbore: OH
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TVD Reference: RKB = 17' @ 3488.00usft (Silver Oak 1)
MD Reference: RKB = 17' @ 3488.00usft (Silver Oak 1)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: WBD5_SQL_2

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLog (°/100ft)	Bulld (°/100ft)	Turn (°/100ft)	TFace (°)
6,500.00	90.00	358.89	3,583.00	3,245.04	296.78	3,245.35	0.00	0.00	0.00	0.000
6,600.00	90.00	358.89	3,583.00	3,345.02	294.84	3,345.32	0.00	0.00	0.00	0.000
6,700.00	90.00	358.89	3,583.00	3,445.00	292.89	3,445.30	0.00	0.00	0.00	0.000
6,800.00	90.00	358.89	3,583.00	3,544.98	290.95	3,545.28	0.00	0.00	0.00	0.000
6,900.00	90.00	358.89	3,583.00	3,644.96	289.01	3,645.26	0.00	0.00	0.00	0.000
7,000.00	90.00	358.89	3,583.00	3,744.94	287.06	3,745.24	0.00	0.00	0.00	0.000
7,100.00	90.00	358.89	3,583.00	3,844.92	285.12	3,845.22	0.00	0.00	0.00	0.000
7,200.00	90.00	358.89	3,583.00	3,944.90	283.17	3,945.20	0.00	0.00	0.00	0.000
7,300.00	90.00	358.89	3,583.00	4,044.89	281.23	4,045.18	0.00	0.00	0.00	0.000
7,400.00	90.00	358.89	3,583.00	4,144.87	279.29	4,145.16	0.00	0.00	0.00	0.000
7,500.00	90.00	358.89	3,583.00	4,244.85	277.34	4,245.14	0.00	0.00	0.00	0.000
7,600.00	90.00	358.89	3,583.00	4,344.83	275.40	4,345.11	0.00	0.00	0.00	0.000
7,700.00	90.00	358.89	3,583.00	4,444.81	273.46	4,445.09	0.00	0.00	0.00	0.000
7,800.00	90.00	358.89	3,583.00	4,544.79	271.51	4,545.07	0.00	0.00	0.00	0.000
7,900.00	90.00	358.89	3,583.00	4,644.77	269.57	4,645.05	0.00	0.00	0.00	0.000
8,000.00	90.00	358.89	3,583.00	4,744.75	267.63	4,745.03	0.00	0.00	0.00	0.000
8,100.00	90.00	358.89	3,583.00	4,844.73	265.68	4,845.01	0.00	0.00	0.00	0.000
8,200.00	90.00	358.89	3,583.00	4,944.72	263.74	4,944.99	0.00	0.00	0.00	0.000
8,300.00	90.00	358.89	3,583.00	5,044.70	261.80	5,044.97	0.00	0.00	0.00	0.000
8,400.00	90.00	358.89	3,583.00	5,144.68	259.85	5,144.95	0.00	0.00	0.00	0.000
8,500.00	90.00	358.89	3,583.00	5,244.66	257.91	5,244.93	0.00	0.00	0.00	0.000
8,600.00	90.00	358.89	3,583.00	5,344.64	255.97	5,344.90	0.00	0.00	0.00	0.000
8,700.00	90.00	358.89	3,583.00	5,444.62	254.02	5,444.88	0.00	0.00	0.00	0.000
8,800.00	90.00	358.89	3,583.00	5,544.60	252.08	5,544.86	0.00	0.00	0.00	0.000
8,900.00	90.00	358.89	3,583.00	5,644.58	250.14	5,644.84	0.00	0.00	0.00	0.000
9,000.00	90.00	358.89	3,583.00	5,744.56	248.19	5,744.82	0.00	0.00	0.00	0.000
9,100.00	90.00	358.89	3,583.00	5,844.55	246.25	5,844.80	0.00	0.00	0.00	0.000



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9,200.00	90.00	358.89	3,583.00	5,944.53	244.30	5,944.78	0.00	0.00	0.00	0.000
9,300.00	90.00	358.89	3,583.00	6,044.51	242.36	6,044.76	0.00	0.00	0.00	0.000
9,344.30	90.00	358.89	3,583.00	6,088.80	241.50	6,089.05	0.00	0.00	0.00	0.000

Checked By: _____ Approved By: _____ Date: _____