



PERCUSSION
PETROLEUM
LLC

NM OIL CONSERVATION
ARTESIA DISTRICT

AUG 11 2017

RECEIVED

Percussion Petroleum, LLC

**Eddy County, NM
Goodman 22
2H**

OH

Plan: Plan #3

Standard Planning Report

04 August, 2017

WELLBENDERS
DIRECTIONAL SERVICES LLC





Company: Percussion Petroleum, LLC
Project: Eddy County, NM
Site: Goodman 22
Well: 2H
Wellbore: OH
Rig: NA
Design: Plan #3 / 8:39, August 04 2017



PROJECT DETAILS: Eddy County, NM
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Elevation: GRS 1980
Zone: New Mexico Eastern Zone
System Datum: Mean Sea Level

TOTAL CORRECTION

Magnetic North is 7.47° East of Grid North (Magnetic Convergence)

WELL DETAILS: 2H

RKB=25' @ 3497.00usft (NA)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	600762.20	487877.70	32.651463	-104.474538

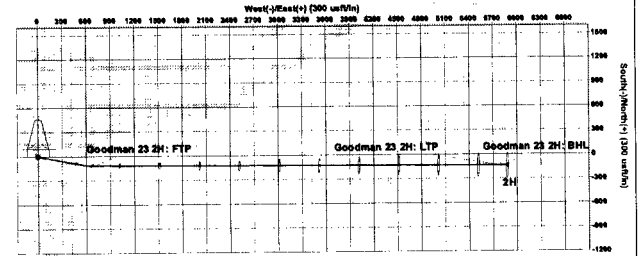
SECTION DETAILS

Sec	MD	Inc	Asl	TVD	+N/-S	+E/-W	Diag	Vsct
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	2246.79	0.00	0.00	2246.79	0.00	0.00	0.00	0.00
3	3128.28	88.15	190.33	2819.45	-99.45	565.45	10.00	565.88
4	3168.28	88.15	190.33	3020.74	-104.62	584.73	0.00	585.25
5	3268.10	88.15	90.25	2824.90	-115.90	685.00	10.00	685.50
6	8384.71	88.15	90.25	2089.00	-137.90	6797.90	0.00	6798.45
7	8484.75	88.15	90.25	2091.58	-138.14	6877.99	0.00	6878.45



Azimuths to Grid North
True North: 0.08°
Magnetic North: 7.47°

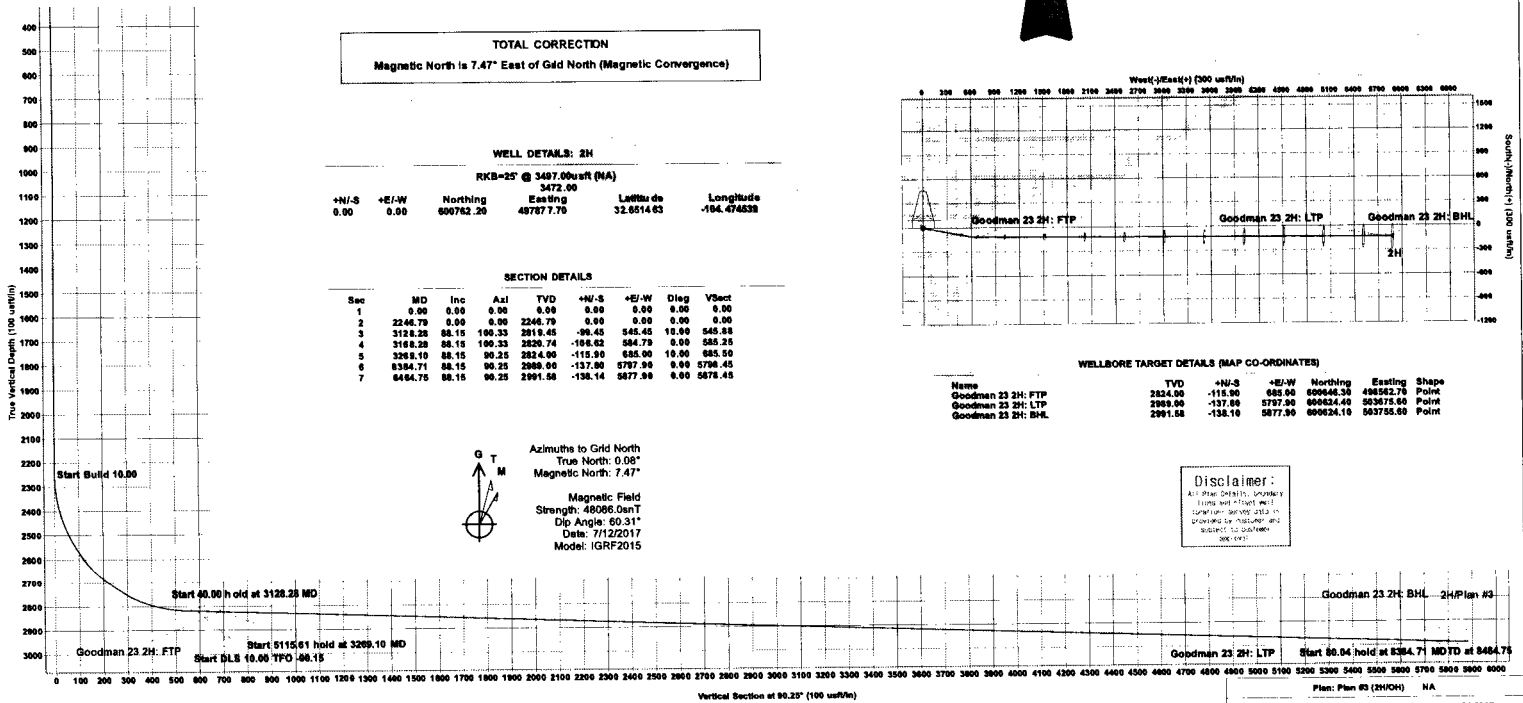
Magnetic Field
Strength: 48066.0nT
Dip Angle: 60.31°
Date: 7/12/2017
Model: IGRF2015



WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
Goodman 23 2H: FTP	2824.00	-115.90	685.50	600646.30	486582.75	Point
Goodman 23 2H: LTP	2969.00	-137.90	5787.90	600634.40	593675.60	Point
Goodman 23 2H: BHL	2991.58	-138.10	5877.99	600624.10	593755.60	Point

Disclaimer:
All plan details, including
tools and related well
information, are provided as
information only and
subject to change.
2017-10-17



Plan: Plan #3 (2H/PH) NA
Created By: Daniel Benn Date: 8:39, August 04 2017



Wellbenders Planning Report



Database:	WBDS_SQL_2	Local Co-ordinate Reference:	Well 2H
Company:	Percussion Petroleum, LLC	TVD Reference:	RKB=25' @ 3497.00usft (NA)
Project:	Eddy County, NM	MD Reference:	RKB=25' @ 3497.00usft (NA)
Site:	Goodman 22	North Reference:	Grid
Well:	2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #3		

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		Goodman 22			
Site Position:		Northing:	601,029.41 usft	Latitude:	32.652199
From:	Lat/Long	Easting:	498,211.10 usft	Longitude:	-104.473457
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence:	-0.08

Well	2H					
Well Position	+N/-S	-267.21 usft	Northing:	600,762.20 usft	Latitude:	32.651463
	+E/-W	-333.40 usft	Easting:	497,877.70 usft	Longitude:	-104.474539
Position Uncertainty	0.00 usft		Wellhead Elevation:		Ground Level:	3,472.00 usft

Wellbore:	OH
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	7/12/2017	7.39	60.31	48,086.01588493

Design:	Plan #3
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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	90.25

Plan Survey Tool Program			Date	8/4/2017
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	8,464.75 Plan #3 (OH)	MWD+IGRF	
			OWSG MWD + IGRF or WM	

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,246.79	0.00	0.00	2,246.79	0.00	0.00	0.00	0.00	0.00	0.00	
3,128.28	88.15	100.33	2,819.45	-99.45	545.45	10.00	10.00	0.00	100.33	
3,168.28	88.15	100.33	2,820.74	-106.62	584.79	0.00	0.00	0.00	0.00	
3,269.10	88.15	90.25	2,824.00	-115.90	685.00	10.00	0.00	-10.01	-90.15	Goodman 23 2H: F
8,384.71	88.15	90.25	2,989.00	-137.80	5,797.90	0.00	0.00	0.00	0.00	Goodman 23 2H: L
8,464.75	88.15	90.25	2,991.58	-138.14	5,877.90	0.00	0.00	0.00	0.00	Goodman 23 2H: B



Wellbenders Planning Report



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Wellbore: OH
Design: Plan #3

Local Co-ordinate Reference: Well 2H
TVD Reference: RKB=25' @ 3497.00usft (NA)
MD Reference: RKB=25' @ 3497.00usft (NA)
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 (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
1,900.00	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
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,246.79	0.00	0.00	2,246.79	0.00	0.00	0.00	0.00	0.00	0.00
2,250.00	0.32	100.33	2,250.00	0.00	0.01	0.01	10.00	10.00	0.00
2,300.00	5.32	100.33	2,299.92	-0.44	2.43	2.43	10.00	10.00	0.00
2,350.00	10.32	100.33	2,349.44	-1.66	9.12	9.13	10.00	10.00	0.00
2,400.00	15.32	100.33	2,398.18	-3.65	20.03	20.05	10.00	10.00	0.00
2,450.00	20.32	100.33	2,445.77	-6.40	35.08	35.11	10.00	10.00	0.00
2,500.00	25.32	100.33	2,491.84	-9.87	54.15	54.20	10.00	10.00	0.00
2,550.00	30.32	100.33	2,536.04	-14.06	77.10	77.16	10.00	10.00	0.00
2,600.00	35.32	100.33	2,578.05	-18.92	103.76	103.84	10.00	10.00	0.00
2,650.00	40.32	100.33	2,617.53	-24.42	133.91	134.01	10.00	10.00	0.00
2,700.00	45.32	100.33	2,654.20	-30.51	167.33	167.46	10.00	10.00	0.00
2,750.00	50.32	100.33	2,687.76	-37.15	203.77	203.93	10.00	10.00	0.00
2,800.00	55.32	100.33	2,717.96	-44.30	242.95	243.14	10.00	10.00	0.00
2,850.00	60.32	100.33	2,744.58	-51.89	284.57	284.80	10.00	10.00	0.00
2,900.00	65.32	100.33	2,767.41	-59.86	328.32	328.57	10.00	10.00	0.00
2,950.00	70.32	100.33	2,786.28	-68.16	373.85	374.15	10.00	10.00	0.00
3,000.00	75.32	100.33	2,801.05	-76.73	420.83	421.16	10.00	10.00	0.00
3,050.00	80.32	100.33	2,811.59	-85.49	468.90	469.27	10.00	10.00	0.00
3,100.00	85.32	100.33	2,817.84	-94.39	517.69	518.09	10.00	10.00	0.00
3,128.28	88.15	100.33	2,819.45	-99.45	545.45	545.88	10.00	10.00	0.00
3,168.28	88.15	100.33	2,820.74	-106.62	584.79	585.25	0.00	0.00	0.00
3,200.00	88.14	97.16	2,821.76	-111.44	616.12	616.60	10.00	-0.02	-10.01
3,250.00	88.15	92.16	2,823.38	-115.50	665.91	666.41	10.00	0.01	-10.01
3,269.10	88.15	90.25	2,824.00	-115.90	685.00	685.50	10.00	0.03	-10.01
3,300.00	88.15	90.25	2,825.00	-116.03	715.88	716.38	0.00	0.00	0.00
3,400.00	88.15	90.25	2,828.22	-116.46	815.83	816.33	0.00	0.00	0.00
3,500.00	88.15	90.25	2,831.45	-116.89	915.78	916.28	0.00	0.00	0.00
3,600.00	88.15	90.25	2,834.67	-117.32	1,015.72	1,016.23	0.00	0.00	0.00
3,700.00	88.15	90.25	2,837.90	-117.74	1,115.67	1,116.17	0.00	0.00	0.00
3,800.00	88.15	90.25	2,841.12	-118.17	1,215.62	1,216.12	0.00	0.00	0.00
3,900.00	88.15	90.25	2,844.35	-118.60	1,315.56	1,316.07	0.00	0.00	0.00



Wellbenders Planning Report



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Company: Percussion Petroleum, LLC
Project: Eddy County, NM
Site: Goodman 22
Well: 2H
Wellbore: OH
Design: Plan #3

Local Co-ordinate Reference: Well 2H
TVD Reference: RKB=25' @ 3497.00usft (NA)
MD Reference: RKB=25' @ 3497.00usft (NA)
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 (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,000.00	88.15	90.25	2,847.57	-119.03	1,415.51	1,416.02	0.00	0.00	0.00
4,100.00	88.15	90.25	2,850.80	-119.46	1,515.46	1,515.97	0.00	0.00	0.00
4,200.00	88.15	90.25	2,854.03	-119.89	1,615.41	1,615.91	0.00	0.00	0.00
4,300.00	88.15	90.25	2,857.25	-120.31	1,715.35	1,715.86	0.00	0.00	0.00
4,400.00	88.15	90.25	2,860.48	-120.74	1,815.30	1,815.81	0.00	0.00	0.00
4,500.00	88.15	90.25	2,863.70	-121.17	1,915.25	1,915.76	0.00	0.00	0.00
4,600.00	88.15	90.25	2,866.93	-121.60	2,015.19	2,015.71	0.00	0.00	0.00
4,700.00	88.15	90.25	2,870.15	-122.03	2,115.14	2,115.65	0.00	0.00	0.00
4,800.00	88.15	90.25	2,873.38	-122.45	2,215.09	2,215.60	0.00	0.00	0.00
4,900.00	88.15	90.25	2,876.60	-122.88	2,315.04	2,315.55	0.00	0.00	0.00
5,000.00	88.15	90.25	2,879.83	-123.31	2,414.98	2,415.50	0.00	0.00	0.00
5,100.00	88.15	90.25	2,883.05	-123.74	2,514.93	2,515.45	0.00	0.00	0.00
5,200.00	88.15	90.25	2,886.28	-124.17	2,614.88	2,615.39	0.00	0.00	0.00
5,300.00	88.15	90.25	2,889.51	-124.59	2,714.82	2,715.34	0.00	0.00	0.00
5,400.00	88.15	90.25	2,892.73	-125.02	2,814.77	2,815.29	0.00	0.00	0.00
5,500.00	88.15	90.25	2,895.96	-125.45	2,914.72	2,915.24	0.00	0.00	0.00
5,600.00	88.15	90.25	2,899.18	-125.88	3,014.66	3,015.19	0.00	0.00	0.00
5,700.00	88.15	90.25	2,902.41	-126.31	3,114.61	3,115.13	0.00	0.00	0.00
5,800.00	88.15	90.25	2,905.63	-126.73	3,214.56	3,215.08	0.00	0.00	0.00
5,900.00	88.15	90.25	2,908.86	-127.16	3,314.51	3,315.03	0.00	0.00	0.00
6,000.00	88.15	90.25	2,912.08	-127.59	3,414.45	3,414.98	0.00	0.00	0.00
6,100.00	88.15	90.25	2,915.31	-128.02	3,514.40	3,514.93	0.00	0.00	0.00
6,200.00	88.15	90.25	2,918.53	-128.45	3,614.35	3,614.87	0.00	0.00	0.00
6,300.00	88.15	90.25	2,921.76	-128.88	3,714.29	3,714.82	0.00	0.00	0.00
6,400.00	88.15	90.25	2,924.98	-129.30	3,814.24	3,814.77	0.00	0.00	0.00
6,500.00	88.15	90.25	2,928.21	-129.73	3,914.19	3,914.72	0.00	0.00	0.00
6,600.00	88.15	90.25	2,931.44	-130.16	4,014.14	4,014.66	0.00	0.00	0.00
6,700.00	88.15	90.25	2,934.66	-130.59	4,114.08	4,114.61	0.00	0.00	0.00
6,800.00	88.15	90.25	2,937.89	-131.02	4,214.03	4,214.56	0.00	0.00	0.00
6,900.00	88.15	90.25	2,941.11	-131.44	4,313.98	4,314.51	0.00	0.00	0.00
7,000.00	88.15	90.25	2,944.34	-131.87	4,413.92	4,414.46	0.00	0.00	0.00
7,100.00	88.15	90.25	2,947.56	-132.30	4,513.87	4,514.40	0.00	0.00	0.00
7,200.00	88.15	90.25	2,950.79	-132.73	4,613.82	4,614.35	0.00	0.00	0.00
7,300.00	88.15	90.25	2,954.01	-133.16	4,713.76	4,714.30	0.00	0.00	0.00
7,400.00	88.15	90.25	2,957.24	-133.58	4,813.71	4,814.25	0.00	0.00	0.00
7,500.00	88.15	90.25	2,960.46	-134.01	4,913.66	4,914.20	0.00	0.00	0.00
7,600.00	88.15	90.25	2,963.69	-134.44	5,013.61	5,014.14	0.00	0.00	0.00
7,700.00	88.15	90.25	2,966.92	-134.87	5,113.55	5,114.09	0.00	0.00	0.00
7,800.00	88.15	90.25	2,970.14	-135.30	5,213.50	5,214.04	0.00	0.00	0.00
7,900.00	88.15	90.25	2,973.37	-135.72	5,313.45	5,313.99	0.00	0.00	0.00
8,000.00	88.15	90.25	2,976.59	-136.15	5,413.39	5,413.94	0.00	0.00	0.00
8,100.00	88.15	90.25	2,979.82	-136.58	5,513.34	5,513.88	0.00	0.00	0.00
8,200.00	88.15	90.25	2,983.04	-137.01	5,613.29	5,613.83	0.00	0.00	0.00
8,300.00	88.15	90.25	2,986.27	-137.44	5,713.24	5,713.78	0.00	0.00	0.00
8,384.71	88.15	90.25	2,989.00	-137.80	5,797.90	5,798.45	0.00	0.00	0.00
8,400.00	88.15	90.25	2,989.49	-137.87	5,813.18	5,813.73	0.00	0.00	0.00
8,464.75	88.15	90.25	2,991.58	-138.14	5,877.90	5,878.45	0.00	0.00	0.00



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TVD Reference: RKB=25' @ 3497.00usft (NA)
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North Reference: Grid
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
Goodman 23 2H: FTP - plan hits target center - Point	0.00	0.00	2,824.00	-115.90	685.00	600,646.30	498,562.70	32.651147	-104.472313
Goodman 23 2H: LTP - plan hits target center - Point	0.00	0.00	2,989.00	-137.80	5,797.90	600,624.40	503,675.60	32.651104	-104.455701
Goodman 23 2H: BHL - plan misses target center by 0.04usft at 8464.75usft MD (2991.58 TVD, -138.14 N, 5877.90 E) - Point	0.00	0.00	2,991.58	-138.10	5,877.90	600,624.10	503,755.60	32.651104	-104.455441