



NM OIL CONSERVATION
ARTESIA DISTRICT

JUL 14 2017

RECEIVED

Mack Energy

Chaves County

Sec 23 T15S R28E

Klondike State Com #1H

30-005-64295

Wellbore #1

Plan: Plan #2

Standard Planning Report

30 May, 2017





Integrity Directional Services, LLC
Planning Report



Database: EDM 5000.1 Multi User Db
Company: Mack Energy
Project: Chaves County
Site: Sec 23 T15S R28E
Well: Klondike State Com #1H
Wellbore: Wellbore #1
Design: Plan #2

Local Co-ordinate Reference: Well Klondike State Com #1H
TVD Reference: Well @ 3597.00ft
MD Reference: Well @ 3597.00ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

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

Site	Sec 23 T15S R28E		
Site Position:		Northing:	726,224.2800 usft
From:	Map	Easting:	612,464.1300 usft
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "
		Latitude:	32.9961778
		Longitude:	-104.1013407
		Grid Convergence:	0.13 °

Well	Klondike State Com #1H		
Well Position	+N/-S	0.00 ft	Northing: 726,224.2800 usft
	+E/-W	0.00 ft	Easting: 612,464.1300 usft
Position Uncertainty	0.00 ft	Wellhead Elevation:	0.00 ft
		Latitude:	32.9961778
		Longitude:	-104.1013407
		Ground Level:	3,579.50 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	5/30/2017	7.47	60.70	48,357

Design	Plan #2			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.00	0.00	0.00	179.73

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	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	0.00	
2,314.05	0.00	0.00	2,314.05	0.00	0.00	0.00	0.00	0.00	0.00	
3,210.96	89.69	179.73	2,887.00	-569.87	2.72	10.00	10.00	20.04	179.73	
11,005.67	89.69	179.73	2,929.00	-8,364.37	39.91	0.00	0.00	0.00	0.00	PBHL Klondike State



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Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	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
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
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,314.05	0.00	0.00	2,314.05	0.00	0.00	0.00	0.00	0.00	0.00
KOP BLD 10°/100'									
2,350.00	3.59	179.73	2,349.98	-1.13	0.01	1.13	10.00	10.00	0.00
2,400.00	8.59	179.73	2,399.68	-6.43	0.03	6.43	10.00	10.00	0.00
2,450.00	13.59	179.73	2,448.73	-16.05	0.08	16.05	10.00	10.00	0.00
2,500.00	18.59	179.73	2,496.75	-29.91	0.14	29.91	10.00	10.00	0.00
2,550.00	23.59	179.73	2,543.39	-47.90	0.23	47.90	10.00	10.00	0.00
2,600.00	28.59	179.73	2,588.28	-69.89	0.33	69.89	10.00	10.00	0.00
2,650.00	33.59	179.73	2,631.08	-95.70	0.46	95.70	10.00	10.00	0.00
2,700.00	38.59	179.73	2,671.47	-125.15	0.60	125.15	10.00	10.00	0.00
2,750.00	43.59	179.73	2,709.14	-158.00	0.75	158.00	10.00	10.00	0.00
2,800.00	48.59	179.73	2,743.80	-194.01	0.93	194.02	10.00	10.00	0.00
2,850.00	53.59	179.73	2,775.19	-232.91	1.11	232.91	10.00	10.00	0.00
2,900.00	58.59	179.73	2,803.07	-274.40	1.31	274.40	10.00	10.00	0.00
2,950.00	63.59	179.73	2,827.23	-318.15	1.52	318.16	10.00	10.00	0.00
3,000.00	68.59	179.73	2,847.49	-363.85	1.74	363.85	10.00	10.00	0.00
3,050.00	73.59	179.73	2,863.68	-411.13	1.96	411.14	10.00	10.00	0.00
3,100.00	78.59	179.73	2,875.70	-459.65	2.19	459.66	10.00	10.00	0.00
3,150.00	83.59	179.73	2,883.43	-509.03	2.43	509.04	10.00	10.00	0.00
3,200.00	88.59	179.73	2,886.84	-558.90	2.67	558.91	10.00	10.00	0.00
3,210.96	89.69	179.73	2,887.00	-569.87	2.72	569.87	10.00	10.00	0.00
EOB HLD 89.69° Inc.									
3,300.00	89.69	179.73	2,887.48	-658.90	3.14	658.91	0.00	0.00	0.00
3,400.00	89.69	179.73	2,888.02	-758.90	3.62	758.90	0.00	0.00	0.00
3,500.00	89.69	179.73	2,888.56	-858.89	4.10	858.90	0.00	0.00	0.00
3,600.00	89.69	179.73	2,889.10	-958.89	4.58	958.90	0.00	0.00	0.00
3,700.00	89.69	179.73	2,889.64	-1,058.89	5.05	1,058.90	0.00	0.00	0.00
3,800.00	89.69	179.73	2,890.17	-1,158.89	5.53	1,158.90	0.00	0.00	0.00
3,900.00	89.69	179.73	2,890.71	-1,258.88	6.01	1,258.90	0.00	0.00	0.00
4,000.00	89.69	179.73	2,891.25	-1,358.88	6.48	1,358.90	0.00	0.00	0.00



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Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,100.00	89.69	179.73	2,891.79	-1,458.88	6.96	1,458.89	0.00	0.00	0.00
4,200.00	89.69	179.73	2,892.33	-1,558.88	7.44	1,558.89	0.00	0.00	0.00
4,300.00	89.69	179.73	2,892.87	-1,658.87	7.92	1,658.89	0.00	0.00	0.00
4,400.00	89.69	179.73	2,893.41	-1,758.87	8.39	1,758.89	0.00	0.00	0.00
4,500.00	89.69	179.73	2,893.95	-1,858.87	8.87	1,858.89	0.00	0.00	0.00
4,600.00	89.69	179.73	2,894.49	-1,958.86	9.35	1,958.89	0.00	0.00	0.00
4,700.00	89.69	179.73	2,895.02	-2,058.86	9.82	2,058.89	0.00	0.00	0.00
4,800.00	89.69	179.73	2,895.56	-2,158.86	10.30	2,158.88	0.00	0.00	0.00
4,900.00	89.69	179.73	2,896.10	-2,258.86	10.78	2,258.88	0.00	0.00	0.00
5,000.00	89.69	179.73	2,896.64	-2,358.85	11.26	2,358.88	0.00	0.00	0.00
5,100.00	89.69	179.73	2,897.18	-2,458.85	11.73	2,458.88	0.00	0.00	0.00
5,200.00	89.69	179.73	2,897.72	-2,558.85	12.21	2,558.88	0.00	0.00	0.00
5,300.00	89.69	179.73	2,898.26	-2,658.85	12.69	2,658.88	0.00	0.00	0.00
5,400.00	89.69	179.73	2,898.80	-2,758.84	13.16	2,758.88	0.00	0.00	0.00
5,500.00	89.69	179.73	2,899.33	-2,858.84	13.64	2,858.87	0.00	0.00	0.00
5,600.00	89.69	179.73	2,899.87	-2,958.84	14.12	2,958.87	0.00	0.00	0.00
5,700.00	89.69	179.73	2,900.41	-3,058.84	14.60	3,058.87	0.00	0.00	0.00
5,800.00	89.69	179.73	2,900.95	-3,158.83	15.07	3,158.87	0.00	0.00	0.00
5,900.00	89.69	179.73	2,901.49	-3,258.83	15.55	3,258.87	0.00	0.00	0.00
6,000.00	89.69	179.73	2,902.03	-3,358.83	16.03	3,358.87	0.00	0.00	0.00
6,100.00	89.69	179.73	2,902.57	-3,458.83	16.50	3,458.87	0.00	0.00	0.00
6,200.00	89.69	179.73	2,903.11	-3,558.82	16.98	3,558.86	0.00	0.00	0.00
6,300.00	89.69	179.73	2,903.65	-3,658.82	17.46	3,658.86	0.00	0.00	0.00
6,400.00	89.69	179.73	2,904.18	-3,758.82	17.93	3,758.86	0.00	0.00	0.00
6,500.00	89.69	179.73	2,904.72	-3,858.82	18.41	3,858.86	0.00	0.00	0.00
6,600.00	89.69	179.73	2,905.26	-3,958.81	18.89	3,958.86	0.00	0.00	0.00
6,700.00	89.69	179.73	2,905.80	-4,058.81	19.37	4,058.86	0.00	0.00	0.00
6,800.00	89.69	179.73	2,906.34	-4,158.81	19.84	4,158.86	0.00	0.00	0.00
6,900.00	89.69	179.73	2,906.88	-4,258.81	20.32	4,258.85	0.00	0.00	0.00
7,000.00	89.69	179.73	2,907.42	-4,358.80	20.80	4,358.85	0.00	0.00	0.00
7,100.00	89.69	179.73	2,907.96	-4,458.80	21.27	4,458.85	0.00	0.00	0.00
7,200.00	89.69	179.73	2,908.49	-4,558.80	21.75	4,558.85	0.00	0.00	0.00
7,300.00	89.69	179.73	2,909.03	-4,658.79	22.23	4,658.85	0.00	0.00	0.00
7,400.00	89.69	179.73	2,909.57	-4,758.79	22.71	4,758.85	0.00	0.00	0.00
7,500.00	89.69	179.73	2,910.11	-4,858.79	23.18	4,858.85	0.00	0.00	0.00
7,600.00	89.69	179.73	2,910.65	-4,958.79	23.66	4,958.84	0.00	0.00	0.00
7,700.00	89.69	179.73	2,911.19	-5,058.78	24.14	5,058.84	0.00	0.00	0.00
7,800.00	89.69	179.73	2,911.73	-5,158.78	24.61	5,158.84	0.00	0.00	0.00
7,900.00	89.69	179.73	2,912.27	-5,258.78	25.09	5,258.84	0.00	0.00	0.00
8,000.00	89.69	179.73	2,912.80	-5,358.78	25.57	5,358.84	0.00	0.00	0.00
8,100.00	89.69	179.73	2,913.34	-5,458.77	26.05	5,458.84	0.00	0.00	0.00
8,200.00	89.69	179.73	2,913.88	-5,558.77	26.52	5,558.83	0.00	0.00	0.00
8,300.00	89.69	179.73	2,914.42	-5,658.77	27.00	5,658.83	0.00	0.00	0.00
8,400.00	89.69	179.73	2,914.96	-5,758.77	27.48	5,758.83	0.00	0.00	0.00
8,500.00	89.69	179.73	2,915.50	-5,858.76	27.95	5,858.83	0.00	0.00	0.00
8,600.00	89.69	179.73	2,916.04	-5,958.76	28.43	5,958.83	0.00	0.00	0.00
8,700.00	89.69	179.73	2,916.58	-6,058.76	28.91	6,058.83	0.00	0.00	0.00
8,800.00	89.69	179.73	2,917.12	-6,158.76	29.39	6,158.83	0.00	0.00	0.00
8,900.00	89.69	179.73	2,917.65	-6,258.75	29.86	6,258.82	0.00	0.00	0.00
9,000.00	89.69	179.73	2,918.19	-6,358.75	30.34	6,358.82	0.00	0.00	0.00
9,100.00	89.69	179.73	2,918.73	-6,458.75	30.82	6,458.82	0.00	0.00	0.00
9,200.00	89.69	179.73	2,919.27	-6,558.75	31.29	6,558.82	0.00	0.00	0.00
9,300.00	89.69	179.73	2,919.81	-6,658.74	31.77	6,658.82	0.00	0.00	0.00
9,400.00	89.69	179.73	2,920.35	-6,758.74	32.25	6,758.82	0.00	0.00	0.00



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North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,500.00	89.69	179.73	2,920.89	-6,858.74	32.73	6,858.82	0.00	0.00	0.00
9,600.00	89.69	179.73	2,921.43	-6,958.74	33.20	6,958.81	0.00	0.00	0.00
9,700.00	89.69	179.73	2,921.96	-7,058.73	33.68	7,058.81	0.00	0.00	0.00
9,800.00	89.69	179.73	2,922.50	-7,158.73	34.16	7,158.81	0.00	0.00	0.00
9,900.00	89.69	179.73	2,923.04	-7,258.73	34.63	7,258.81	0.00	0.00	0.00
10,000.00	89.69	179.73	2,923.58	-7,358.73	35.11	7,358.81	0.00	0.00	0.00
10,100.00	89.69	179.73	2,924.12	-7,458.72	35.59	7,458.81	0.00	0.00	0.00
10,200.00	89.69	179.73	2,924.66	-7,558.72	36.07	7,558.81	0.00	0.00	0.00
10,300.00	89.69	179.73	2,925.20	-7,658.72	36.54	7,658.80	0.00	0.00	0.00
10,400.00	89.69	179.73	2,925.74	-7,758.71	37.02	7,758.80	0.00	0.00	0.00
10,500.00	89.69	179.73	2,926.28	-7,858.71	37.50	7,858.80	0.00	0.00	0.00
10,600.00	89.69	179.73	2,926.81	-7,958.71	37.97	7,958.80	0.00	0.00	0.00
10,700.00	89.69	179.73	2,927.35	-8,058.71	38.45	8,058.80	0.00	0.00	0.00
10,800.00	89.69	179.73	2,927.89	-8,158.70	38.93	8,158.80	0.00	0.00	0.00
10,900.00	89.69	179.73	2,928.43	-8,258.70	39.41	8,258.80	0.00	0.00	0.00
11,005.67	89.69	179.73	2,929.00	-8,364.37	39.91	8,364.46	0.00	0.00	0.00

TD at 11005.67 - PBHL Klondike State Com #1H

Design Targets

Target Name

- hit/miss target

- Shape

Dip Angle (°)

Dip Dir. (°)

TVD (ft)

+N/-S (ft)

+E/-W (ft)

Northing (usft)

Easting (usft)

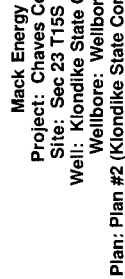
Latitude

Longitude

PBHL Klondike State C 0.00 0.00 2,929.00 -8,364.37 39.91 717,859.9300 612,504.0400 32.9731878 -104.1012707
 - plan hits target center
 - Point

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
2,314.05	2,314.05	0.00	0.00	KOP BLD 10°/100'
3,210.96	2,887.00	-569.87	2.72	EOB HLD 89.69° Inc.
11,005.67	2,929.00	-8,364.37	39.91	TD at 11005.67



PROJECT DETAILS: Chaves County
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone
System Datum: Mean Sea Level
Local North: Grid

WELL DETAILS: Klondike State Com #1H

Ground Elevation:: 3579.50			
RKB Elevation: Well @ 3597.00ft			
Rig Name:			
Northing	Easting	Latitude	Longitude
726224.2800	612464.1300	32.9961778	-104.1013408

Please note that the lateral follows the 2310' HardLine FEL and that the PBHL on the plat is 60' past the Hard Line of 2310' FNL Sec 35 for Rat Hole

DESIGN YANKEET DETAILS			
Name	TVO	+N_S	+E_W
mpk, kundwa, same, can, PM	2925	6564.37	53.91
240° is target center			

Section Details									
MD	Inc	Azi	TVD	+N-S	+E-W	Dip	TF-Sc	V-Sc	Annotation
2314.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	KOP D.LD 10°10'N
2314.05	0.00	0.00	2314.05	0.00	0.00	0.00	0.00	568	EOL
1105.67	89.68	72.73	2820.00	3264.57	38.51	0.00	0.00	8354.46	T.D. 11095.67

