

HOBBS OCD

MAR 28 2019

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Devon Energy

**Lea County, NM (NAD83 NME)
Alley Cat 17-20 Fed Com
216H**

OH

Survey: SDI Survey #1

Standard Survey Report

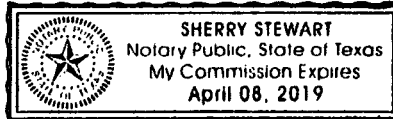
05 October, 2018

This survey is correct to the best of my knowledge and is supported by actual field data.

Notarized this date 25th of March, 2019.

Sherry Stewart

Notary Signature
County of Midland
State of Texas



www.scientificdrilling.com

Scientific Drilling, Intl Survey Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well 216H
Project:	Lea County, NM (NAD83 NME)	TVD Reference:	KB = 32' @ 3639.00usft (Nabors X04)
Site:	Alley Cat 17-20 Fed Com	MD Reference:	KB = 32' @ 3639.00usft (Nabors X04)
Well:	216H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Midland District

Project	Lea County, NM (NAD83 NME)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone	Using geodetic scale factor	

Site	Alley Cat 17-20 Fed Com		
Site Position:		Northing:	478,360.18 usft
From:	Map	Easting:	738,690.91 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 18' 48.485 N
		Longitude:	103° 41' 40.228 W
		Grid Convergence:	0.34 °

Well	216H		
Well Position	+N-S	0.00 usft	Northing: 478,360.18 usft
	+E-W	0.00 usft	Easting: 738,690.91 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	0.00 usft
		Latitude:	32° 18' 48.485 N
		Longitude:	103° 41' 40.228 W
		Ground Level:	3,607.00 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
	HDGM	8/1/2018	(°)
			6.87
			Dip Angle (°)
			60.07
			Field Strength (nT)
			48,071

Design	OH		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N-S	+E-W
	(usft)	(usft)	(usft)
	0.00	0.00	0.00
			Direction
			(bearing)
			181.07

Survey Program	Date 10/5/2018		
From	To	Survey (Wellbore)	Tool Name
(usft)	(usft)		
139.00	21,324.00	SDI Survey #1 (OH)	MWD+HDGM
			Description
			OWSG MWD + HDGM

Survey										
Measured	Inclination	Azimuth	Vertical	+N-S	+E-W	Vertical	Dogleg	Build	Turn	
Depth	(°)	(bearing)	Depth	(usft)	(usft)	Section	Rate	Rate	Rate	
(usft)			(usft)			(usft)	(°/100usft)	(°/100usft)	(°/100usft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
139.00	0.48	65.88	139.00	0.24	0.53	-0.25	0.35	0.35	0.00	
229.00	0.71	57.29	228.99	0.69	1.34	-0.72	0.27	0.26	-9.54	
331.00	0.62	54.81	330.99	1.35	2.33	-1.40	0.09	-0.09	-2.43	
426.00	0.50	56.06	425.98	1.88	3.09	-1.94	0.13	-0.13	1.32	
519.00	0.50	70.51	518.98	2.24	3.81	-2.31	0.14	0.00	15.54	
612.00	0.53	59.10	611.97	2.60	4.56	-2.68	0.11	0.03	-12.27	
703.00	0.51	70.16	702.97	2.95	5.30	-3.05	0.11	-0.02	12.15	
783.00	0.40	83.65	782.97	3.10	5.92	-3.21	0.19	-0.14	16.86	
875.00	0.38	58.90	874.97	3.30	6.50	-3.42	0.18	-0.02	-26.90	

Scientific Drilling, Intl

Survey Report

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Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Midland District

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
19,973.00	89.43	179.84	10,500.07	-9,793.57	-235.03	9,796.25	1.78	-1.43	1.06
20,068.00	89.97	180.10	10,500.56	-9,888.57	-234.98	9,891.23	0.63	0.57	0.27
20,161.00	90.37	179.58	10,500.29	-9,981.56	-234.72	9,984.21	0.71	0.43	-0.56
20,256.00	88.62	180.25	10,501.13	-10,076.56	-234.57	10,079.18	1.97	-1.84	0.71
20,350.00	88.42	180.27	10,503.55	-10,170.52	-235.00	10,173.14	0.21	-0.21	0.02
20,445.00	88.86	179.73	10,505.81	-10,265.50	-235.00	10,268.10	0.73	0.46	-0.57
20,539.00	89.13	179.57	10,507.46	-10,359.48	-234.43	10,362.05	0.33	0.29	-0.17
20,634.00	89.40	179.21	10,508.68	-10,454.47	-233.42	10,457.00	0.47	0.28	-0.38
20,728.00	89.26	178.96	10,509.78	-10,548.45	-231.91	10,550.94	0.30	-0.15	-0.27
20,821.00	89.56	178.84	10,510.73	-10,641.43	-230.13	10,643.87	0.35	0.32	-0.13
20,916.00	89.26	178.99	10,511.71	-10,736.40	-228.33	10,738.80	0.35	-0.32	0.16
21,015.72	89.33	178.34	10,512.94	-10,836.09	-226.01	10,838.42	0.65	0.07	-0.65
BHL Plat[AC]216H]									
21,016.00	89.33	178.34	10,512.94	-10,836.37	-226.00	10,838.70	0.65	0.07	-0.65
21,111.00	89.63	178.44	10,513.80	-10,931.33	-223.33	10,933.59	0.33	0.32	0.11
21,206.00	90.13	178.43	10,514.00	-11,026.29	-220.74	11,028.49	0.53	0.53	-0.01
21,257.00	90.50	178.26	10,513.72	-11,077.27	-219.26	11,079.43	0.80	0.73	-0.33
FINAL MWD Survey (21257.00' MD)									
21,324.00	90.50	178.26	10,513.14	-11,144.24	-217.23	11,146.35	0.00	0.00	0.00
FINAL Proj. to Bit (21324.00' MD) - BHL.Final[AC]216H]									

Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
21,257.00	10,513.72	-3,283.76	-310.42	FINAL MWD Survey (21257.00' MD)
21,324.00	10,513.14	-11,077.27	-219.26	FINAL Proj. to Bit (21324.00' MD)

Checked By: _____ Approved By: _____ Date: _____