

HOBBS OCD

FEB 19 2020

Devon

Jayhawk 6-7 Fed 11H

Cactus 167

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

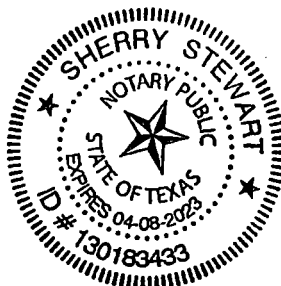
Notarized this data 9th of January

Sherry Stewart

Notary Signature

County of Midland

State of Texas



Scientific Drilling

The

In Wellbore Placement

Devon Energy

Lea County, NM (NAD83 NME)

Jayhawk 6-7 Fed

11H

OH

Survey: SDI Survey #1

Standard Survey Report

28 May, 2019



Scientific Drilling

www.scientificdrilling.com

Scientific Drilling, Intl

Survey Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well 11H
Project:	Lea County, NM (NAD83 NME)	TVD Reference:	KB = 26' @ 3341.00usft (H&P 466)
Site:	Jayhawk 6-7 Fed	MD Reference:	KB = 26' @ 3341.00usft (H&P 466)
Well:	11H	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	Jayhawk 6-7 Fed				
Site Position:		Northing:	393,256.09 usft	Latitude:	32° 4' 42.584 N
From:	Map	Easting:	794,914.09 usft	Longitude:	103° 30' 52.657 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.43 °

Well	11H					
Well Position	+N/-S	0.00 usft	Northing:	393,256.09 usft	Latitude:	32° 4' 42.584 N
	+E/-W	0.00 usft	Easting:	794,914.09 usft	Longitude:	103° 30' 52.657 W
Position Uncertainty	0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	3,315.00 usft	

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	4/16/2019	6.63	59.70	47,745

Design	OH				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (bearing)	
	0.00	0.00	0.00	175.27	

Survey Program	Date	5/28/2019		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
178.00	23,010.00	SDI Survey #1 (OH)	MWD+HDGM	OWSG MWD + HDGM

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)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.26	37.08	100.00	0.18	0.14	-0.17	0.26	0.26	0.00
200.00	0.56	44.30	200.00	0.72	0.56	-0.67	0.30	0.30	7.22
300.00	0.89	54.36	299.99	1.54	1.64	-1.40	0.36	0.33	10.06
400.00	0.89	57.30	399.98	2.46	2.88	-2.22	0.05	0.00	2.93
500.00	0.90	63.57	499.96	3.19	4.30	-2.83	0.10	0.01	6.28
600.00	0.89	69.13	599.95	3.86	5.69	-3.38	0.09	-0.02	5.56
700.00	0.60	76.69	699.94	4.26	7.04	-3.66	0.30	-0.28	7.56
800.00	0.69	88.33	799.94	4.38	8.02	-3.71	0.16	0.09	11.64
900.00	0.42	102.04	899.93	4.27	9.11	-3.50	0.30	-0.27	13.71

Scientific Drilling, Intl

Survey Report

Company: Devon Energy
Project: Lea County, NM (NAD83 NME)
Site: Jayhawk 6-7 Fed
Well: 11H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well 11H
TVD Reference: KB = 26' @ 3341.00usft (H&P 466)
MD Reference: KB = 26' @ 3341.00usft (H&P 466)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
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)
1,000.00	0.10	105.83	999.93	4.15	9.46	-3.36	0.32	-0.32	3.78
1,100.00	0.05	188.78	1,099.93	4.15	9.59	-3.34	0.11	-0.05	82.95
1,200.00	0.52	162.85	1,199.93	3.77	9.54	-2.97	0.47	0.47	-25.93
1,300.00	0.79	165.20	1,299.92	2.53	10.03	-1.69	0.27	0.27	2.35
1,400.00	0.60	192.80	1,399.91	1.30	10.10	-0.47	0.38	-0.19	27.60
1,500.00	0.75	191.98	1,499.91	0.25	9.78	0.56	0.16	0.16	-0.82
1,600.00	0.43	183.46	1,599.90	-0.88	9.61	1.67	0.33	-0.32	-8.52
1,700.00	0.44	190.25	1,699.90	-1.57	9.54	2.35	0.05	0.01	6.79
1,800.00	0.63	156.14	1,799.89	-2.45	9.66	3.23	0.36	0.19	-34.12
1,900.00	0.71	170.12	1,899.88	-3.56	10.00	4.37	0.18	0.08	13.98
2,000.00	0.59	158.26	1,999.88	-4.64	10.34	5.48	0.18	-0.12	-11.86
2,100.00	0.56	192.44	2,099.87	-5.57	10.34	6.40	0.34	-0.03	34.18
2,200.00	0.82	168.06	2,199.87	-6.78	10.47	7.62	0.39	0.26	-24.38
2,300.00	0.86	183.77	2,299.86	-8.24	10.54	9.08	0.23	0.04	15.71
2,400.00	0.82	183.76	2,399.84	-9.71	10.39	10.54	0.04	-0.04	-0.01
2,500.00	0.76	170.62	2,499.84	-11.07	10.47	11.90	0.19	-0.06	-13.14
2,600.00	0.57	155.39	2,599.83	-12.27	10.78	13.11	0.26	-0.19	-15.23
2,700.00	0.49	124.58	2,699.82	-12.85	11.32	13.74	0.29	-0.08	-30.81
2,800.00	0.52	128.99	2,799.82	-13.37	12.11	14.32	0.05	0.03	4.41
2,900.00	1.61	91.10	2,899.81	-13.81	13.35	14.86	1.24	1.09	-37.90
3,000.00	4.32	79.38	2,999.67	-13.23	18.32	14.69	2.76	2.71	-11.72
3,100.00	6.35	77.77	3,099.21	-11.25	27.66	13.49	2.04	2.03	-1.61
3,200.00	8.50	77.88	3,198.38	-8.54	40.17	11.83	2.15	2.15	0.11
3,300.00	9.88	78.61	3,297.07	-5.25	55.96	9.85	1.39	1.38	0.73
3,400.00	10.69	72.42	3,395.46	-0.89	73.28	6.93	1.37	0.81	-6.19
3,500.00	11.03	70.23	3,493.67	5.20	91.14	2.34	0.53	0.34	-2.20
3,600.00	11.36	71.81	3,591.76	11.52	109.51	-2.45	0.45	0.33	1.58
3,700.00	11.12	72.89	3,689.83	17.43	128.13	-6.80	0.32	-0.24	1.08
3,800.00	10.49	72.67	3,788.07	22.91	145.99	-10.79	0.63	-0.63	-0.22
3,900.00	10.24	70.94	3,886.43	28.60	163.09	-15.06	0.40	-0.25	-1.73
4,000.00	9.94	70.05	3,984.90	34.29	179.56	-19.37	0.34	-0.30	-0.89
4,100.00	10.01	67.39	4,083.38	40.73	195.69	-24.46	0.46	0.06	-2.66
4,200.00	9.70	67.68	4,181.89	47.31	211.60	-29.71	0.31	-0.31	0.29
4,300.00	8.91	66.85	4,280.56	53.50	226.61	-34.64	0.80	-0.79	-0.82
4,400.00	8.67	67.12	4,379.44	59.52	240.31	-39.50	0.25	-0.24	0.26
4,500.00	9.48	71.25	4,478.20	65.14	254.92	-43.89	1.04	0.82	4.14
4,600.00	10.62	77.96	4,576.67	69.86	271.69	-47.21	1.63	1.14	6.71
4,700.00	11.43	76.18	4,674.80	73.66	290.55	-49.45	0.87	0.80	-1.78
4,800.00	11.62	75.59	4,772.76	78.84	309.96	-53.01	0.23	0.20	-0.59
4,900.00	11.06	71.05	4,870.79	84.25	328.97	-56.84	1.06	-0.57	-4.55
5,000.00	10.61	69.47	4,969.01	90.73	346.58	-61.84	0.53	-0.44	-1.58
5,100.00	9.35	69.96	5,067.48	96.78	362.90	-66.53	1.27	-1.26	0.49
5,200.00	9.37	63.59	5,166.16	103.11	377.78	-71.61	1.03	0.02	-6.36
5,300.00	10.97	55.75	5,264.58	112.18	392.95	-79.40	2.12	1.61	-7.84

Scientific Drilling, Intl

Survey Report

Company: Devon Energy
Project: Lea County, NM (NAD83 NME)
Site: Jayhawk 6-7 Fed
Well: 11H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well 11H
TVD Reference: KB = 26' @ 3341.00usft (H&P 466)
MD Reference: KB = 26' @ 3341.00usft (H&P 466)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
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)
5,400.00	11.46	55.02	5,362.66	123.26	409.03	-89.11	0.51	0.49	-0.73
5,500.00	11.24	53.49	5,460.70	134.75	424.99	-99.25	0.37	-0.22	-1.53
5,600.00	11.16	52.01	5,558.80	146.49	440.43	-109.68	0.30	-0.08	-1.48
5,700.00	11.11	50.78	5,656.90	158.61	455.58	-120.50	0.24	-0.06	-1.23
5,800.00	10.84	49.44	5,755.09	170.73	470.15	-131.38	0.37	-0.27	-1.34
5,900.00	10.67	47.95	5,853.32	183.15	484.20	-142.60	0.33	-0.17	-1.49
6,000.00	10.56	47.86	5,951.63	195.44	497.73	-153.73	0.11	-0.11	-0.09
6,100.00	10.93	48.49	6,049.89	207.84	511.58	-164.95	0.39	0.37	0.63
6,200.00	11.92	50.48	6,147.94	220.66	526.44	-176.50	1.06	0.99	1.99
6,300.00	12.96	56.48	6,245.57	233.70	543.70	-188.07	1.66	1.04	6.01
6,400.00	13.66	65.77	6,342.88	244.89	563.83	-197.57	2.25	0.70	9.29
6,500.00	13.59	72.49	6,440.02	253.20	586.05	-204.02	1.58	-0.07	6.72
6,600.00	13.18	74.34	6,537.30	259.67	608.30	-208.62	0.59	-0.41	1.85
6,700.00	13.27	73.70	6,634.66	265.91	630.24	-213.03	0.17	0.09	-0.64
6,800.00	13.31	72.47	6,731.98	272.59	652.24	-217.88	0.29	0.04	-1.23
6,900.00	13.00	71.76	6,829.36	279.58	673.90	-223.06	0.34	-0.30	-0.71
7,000.00	13.14	70.06	6,926.76	287.00	695.29	-228.68	0.41	0.14	-1.70
7,100.00	12.93	69.04	7,024.17	294.90	716.45	-234.82	0.32	-0.22	-1.02
7,200.00	12.48	68.63	7,121.74	302.81	736.92	-241.02	0.46	-0.45	-0.41
7,300.00	12.25	69.61	7,219.41	310.68	756.87	-247.21	0.31	-0.23	0.98
7,400.00	11.96	73.78	7,317.19	317.02	776.82	-251.88	0.92	-0.29	4.17
7,500.00	11.50	73.88	7,415.07	322.77	796.48	-255.99	0.47	-0.47	0.10
7,600.00	10.05	74.16	7,513.26	327.92	814.69	-259.83	1.45	-1.45	0.28
7,700.00	8.08	73.83	7,612.02	332.28	829.78	-262.72	1.97	-1.97	-0.33
7,800.00	6.61	76.54	7,711.21	335.65	841.96	-265.08	1.51	-1.47	2.71
7,900.00	5.03	82.81	7,810.68	337.55	852.07	-266.14	1.71	-1.59	6.27
8,000.00	3.78	90.31	7,910.39	338.00	859.55	-265.97	1.37	-1.25	7.50
8,100.00	3.31	91.64	8,010.21	337.79	865.61	-265.26	0.47	-0.46	1.33
8,200.00	2.28	101.79	8,110.08	337.40	870.61	-264.46	1.14	-1.03	10.15
8,300.00	1.97	155.93	8,210.02	335.55	873.28	-262.40	1.95	-0.31	54.15
8,400.00	2.24	177.72	8,309.95	331.91	873.98	-258.71	0.84	0.27	21.78
8,500.00	2.01	179.94	8,409.88	328.17	874.03	-254.98	0.24	-0.23	2.22
8,600.00	2.12	171.01	8,509.82	324.59	874.36	-251.39	0.34	0.11	-8.93
8,700.00	2.18	186.61	8,609.75	320.86	874.37	-247.67	0.59	0.06	15.60
8,800.00	2.10	186.30	8,709.68	317.13	873.95	-243.99	0.09	-0.09	-0.31
8,900.00	1.91	184.96	8,809.62	313.67	873.60	-240.57	0.19	-0.18	-1.34
9,000.00	1.86	185.02	8,909.56	310.40	873.35	-237.33	0.05	-0.05	0.06
9,100.00	1.81	190.49	9,009.51	307.19	872.94	-234.16	0.18	-0.05	5.47
9,200.00	1.67	190.38	9,109.47	304.26	872.26	-231.30	0.14	-0.14	-0.11
9,300.00	1.59	186.72	9,209.43	301.41	871.98	-228.48	0.13	-0.08	-3.66
9,400.00	1.56	191.38	9,309.39	298.76	871.48	-225.87	0.13	-0.03	4.66
9,500.00	1.53	186.83	9,409.35	296.07	871.02	-223.24	0.13	-0.03	-4.55
9,600.00	1.14	181.52	9,509.32	293.64	870.85	-220.83	0.41	-0.39	-5.31

Scientific Drilling, Intl

Survey Report

Company: Devon Energy
 Project: Lea County, NM (NAD83 NME)
 Site: Jayhawk 6-7 Fed
 Well: 11H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well 11H
 TVD Reference: KB = 26' @ 3341.00usft (H&P 466)
 MD Reference: KB = 26' @ 3341.00usft (H&P 466)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 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)
9,700.00	0.93	171.49	9,609.31	291.94	870.93	-219.13	0.28	-0.21	-10.04
9,800.00	0.85	152.44	9,709.30	290.45	871.38	-217.61	0.31	-0.08	-19.05
9,900.00	0.55	127.70	9,809.29	289.46	872.15	-216.56	0.42	-0.30	-24.74
10,000.00	0.61	116.37	9,909.28	288.99	872.98	-216.02	0.13	0.06	-11.33
10,100.00	0.80	123.33	10,009.28	288.39	874.04	-215.33	0.21	0.19	6.96
10,200.00	0.89	151.72	10,109.26	287.32	875.00	-214.19	0.42	0.09	28.39
10,300.00	0.97	168.76	10,209.25	285.82	875.54	-212.65	0.29	0.08	17.04
10,400.00	1.34	184.34	10,309.23	283.80	875.66	-210.62	0.48	0.36	15.58
10,500.00	1.49	208.03	10,409.20	281.33	874.90	-208.23	0.60	0.15	23.68
10,600.00	1.10	254.59	10,509.17	279.89	873.43	-206.91	1.08	-0.39	46.57
10,700.00	1.62	283.09	10,609.14	280.29	871.06	-207.50	0.84	0.52	28.50
10,800.00	1.62	270.62	10,709.10	280.49	868.15	-207.95	0.35	0.00	-12.47
10,900.00	1.39	273.31	10,809.07	280.58	865.60	-208.25	0.24	-0.22	2.69
11,000.00	1.69	272.02	10,909.04	280.74	863.06	-208.62	0.30	0.30	-1.29
11,100.00	2.05	269.62	11,008.98	280.76	859.68	-208.92	0.37	0.36	-2.40
11,200.00	2.33	279.91	11,108.91	280.94	855.94	-209.40	0.48	0.28	10.29
11,300.00	3.08	314.55	11,208.80	282.86	851.89	-211.65	1.76	0.75	34.64
11,400.00	3.57	332.03	11,308.62	287.82	848.47	-216.88	1.12	0.49	17.49
11,500.00	3.50	345.39	11,408.43	293.56	846.20	-222.79	0.82	-0.07	13.35
11,600.00	3.29	350.21	11,508.25	299.39	845.03	-228.69	0.35	-0.21	4.82
11,700.00	3.07	346.90	11,608.10	304.84	843.97	-234.20	0.28	-0.22	-3.31
11,800.00	2.88	336.70	11,707.96	309.76	842.39	-239.24	0.56	-0.19	-10.19
11,900.00	2.76	335.07	11,807.84	314.26	840.36	-243.90	0.14	-0.12	-1.63
12,000.00	2.27	329.74	11,907.74	318.29	838.51	-248.06	0.55	-0.50	-5.33
12,100.00	2.81	268.45	12,007.66	319.93	835.06	-249.99	2.63	0.55	-61.29
12,200.00	9.60	244.08	12,107.07	316.43	825.52	-247.28	7.13	6.79	-24.37
12,300.00	18.59	233.45	12,203.95	303.94	804.67	-236.55	9.32	8.99	-10.63
12,400.00	24.81	213.10	12,296.87	276.60	780.27	-211.32	9.68	6.22	-20.35
12,500.00	29.27	201.86	12,385.78	235.63	760.12	-172.15	6.77	4.46	-11.24
12,600.00	34.62	197.80	12,470.57	185.80	742.31	-123.95	5.76	5.35	-4.06
12,700.00	39.39	196.41	12,550.76	128.54	725.42	-68.28	4.84	4.76	-1.39
12,800.00	44.69	199.54	12,624.53	64.59	703.95	-6.33	5.70	5.30	3.13
12,900.00	55.18	192.52	12,690.51	-7.02	682.13	63.24	11.77	10.49	-7.02
13,000.00	73.15	183.78	12,734.67	-95.32	669.81	150.23	19.60	17.98	-8.74
13,100.00	85.82	177.18	12,749.33	-193.92	670.03	248.51	14.22	12.67	-6.60
13,200.00	87.74	174.42	12,755.05	-293.46	677.48	348.33	3.36	1.92	-2.76
13,300.00	90.33	172.77	12,756.91	-392.77	688.96	448.25	3.08	2.59	-1.66
13,400.00	90.88	172.01	12,754.87	-491.86	702.25	548.09	0.94	0.55	-0.76
13,500.00	90.61	171.38	12,754.00	-590.81	716.70	647.89	0.69	-0.27	-0.63
13,600.00	90.95	172.12	12,752.57	-689.70	731.47	747.67	0.81	0.34	0.74
13,700.00	90.32	170.82	12,751.26	-788.68	745.63	847.48	1.44	-0.63	-1.30
13,800.00	90.12	173.06	12,751.02	-887.54	760.57	947.24	2.25	-0.20	2.24
13,900.00	89.84	173.63	12,751.01	-986.92	771.72	1,047.19	0.65	-0.29	0.58

Scientific Drilling, Intl

Survey Report

Company: Devon Energy
 Project: Lea County, NM (NAD83 NME)
 Site: Jayhawk 6-7 Fed
 Well: 11H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well 11H
 TVD Reference: KB = 26' @ 3341.00usft (H&P 466)
 MD Reference: KB = 26' @ 3341.00usft (H&P 466)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 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)
14,000.00	89.45	173.44	12,751.62	-1,086.28	782.96	1,147.15	0.43	-0.39	-0.19
14,100.00	88.74	173.70	12,753.21	-1,185.64	794.19	1,247.09	0.76	-0.71	0.26
14,200.00	90.25	175.20	12,754.02	-1,285.17	803.73	1,347.07	2.13	1.51	1.50
14,300.00	90.66	175.00	12,753.38	-1,384.76	812.71	1,447.06	0.45	0.41	-0.20
14,400.00	92.18	177.92	12,750.81	-1,484.56	818.33	1,546.98	3.30	1.53	2.92
14,500.00	92.25	177.85	12,746.37	-1,584.38	822.35	1,646.79	0.10	0.07	-0.07
14,600.00	90.39	178.93	12,744.52	-1,684.32	824.92	1,746.60	2.15	-1.86	1.08
14,700.00	89.95	178.41	12,744.08	-1,784.30	826.87	1,846.40	0.68	-0.44	-0.51
14,800.00	88.42	176.77	12,745.18	-1,884.19	831.10	1,946.31	2.24	-1.52	-1.65
14,900.00	88.31	177.02	12,749.07	-1,983.92	837.34	2,046.21	0.27	-0.11	0.25
15,000.00	90.12	179.66	12,750.21	-2,083.85	840.41	2,146.06	3.20	1.81	2.64
15,100.00	90.65	181.77	12,749.25	-2,183.83	838.83	2,245.56	2.18	0.53	2.11
15,200.00	90.66	181.39	12,748.11	-2,283.77	835.51	2,344.89	0.38	0.01	-0.38
15,300.00	90.62	180.74	12,746.98	-2,383.75	833.83	2,444.39	0.65	-0.04	-0.65
15,400.00	89.63	179.63	12,746.58	-2,483.74	833.35	2,544.00	1.49	-0.99	-1.11
15,500.00	89.37	181.27	12,747.62	-2,583.73	833.03	2,643.62	1.66	-0.26	1.64
15,600.00	88.65	180.62	12,749.28	-2,683.70	831.07	2,743.09	0.97	-0.72	-0.65
15,700.00	89.45	176.18	12,751.04	-2,783.62	833.65	2,842.88	4.52	0.80	-4.45
15,800.00	90.96	175.68	12,750.67	-2,883.35	840.89	2,942.87	1.59	1.51	-0.49
15,900.00	91.94	177.33	12,748.04	-2,983.14	846.83	3,042.81	1.91	0.97	1.65
16,000.00	92.08	178.02	12,744.75	-3,082.97	851.48	3,142.69	0.71	0.14	0.70
16,100.00	93.55	181.93	12,739.70	-3,182.81	850.77	3,242.13	4.17	1.47	3.91
16,200.00	93.44	182.45	12,733.06	-3,282.53	847.31	3,341.22	0.53	-0.12	0.52
16,300.00	90.35	183.35	12,729.37	-3,382.29	841.58	3,440.17	3.21	-3.09	0.90
16,400.00	87.60	182.83	12,732.05	-3,482.12	836.67	3,539.25	2.80	-2.75	-0.52
16,500.00	87.74	184.10	12,736.26	-3,581.86	830.81	3,638.17	1.27	0.15	1.26
16,600.00	87.49	182.44	12,740.09	-3,681.52	823.64	3,736.90	1.67	-0.25	-1.66
16,700.00	88.65	179.70	12,745.25	-3,781.37	822.68	3,836.33	2.87	-0.84	-2.74
16,800.00	87.99	179.00	12,750.63	-3,881.21	823.87	3,935.93	1.51	1.33	-0.70
16,900.00	90.49	181.72	12,751.92	-3,981.18	824.20	4,035.59	3.70	2.50	2.72
17,000.00	90.97	183.06	12,750.17	-4,081.04	819.30	4,134.70	1.43	0.48	1.34
17,100.00	91.08	182.54	12,748.45	-4,180.90	814.28	4,233.81	0.53	0.11	-0.52
17,200.00	90.69	180.14	12,746.83	-4,280.85	811.70	4,333.20	2.43	-0.39	-2.40
17,300.00	90.45	179.34	12,745.86	-4,380.84	812.31	4,432.90	0.83	-0.24	-0.80
17,400.00	89.70	178.11	12,745.72	-4,480.81	814.55	4,532.72	1.44	-0.75	-1.23
17,500.00	89.72	179.01	12,746.22	-4,580.78	816.95	4,632.55	0.90	0.02	0.90
17,600.00	89.47	178.26	12,746.88	-4,680.74	819.53	4,732.38	0.79	-0.25	-0.75
17,700.00	88.79	179.13	12,748.42	-4,780.71	821.69	4,832.18	1.10	-0.68	0.87
17,800.00	88.52	179.64	12,750.94	-4,880.67	822.94	4,931.90	0.57	-0.27	0.51
17,900.00	88.65	180.67	12,753.17	-4,980.64	822.47	5,031.50	1.04	0.14	1.03
18,000.00	87.55	180.16	12,756.30	-5,080.58	821.34	5,131.01	1.21	-1.10	-0.51
18,100.00	88.19	179.77	12,761.19	-5,180.45	822.13	5,230.61	0.74	0.63	-0.39
18,200.00	91.29	180.66	12,761.26	-5,280.44	821.40	5,330.19	3.23	3.10	0.89
18,300.00	92.71	181.94	12,757.47	-5,380.35	819.65	5,429.61	1.91	1.42	1.28

Scientific Drilling, Intl

Survey Report

Company: Devon Energy
 Project: Lea County, NM (NAD83 NME)
 Site: Jayhawk 6-7 Fed
 Well: 11H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well 11H
 TVD Reference: KB = 26' @ 3341.00usft (H&P 466)
 MD Reference: KB = 26' @ 3341.00usft (H&P 466)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 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)
18,400.00	92.73	182.45	12,752.46	-5,480.12	815.14	5,528.67	0.51	0.01	0.51
18,500.00	92.08	181.41	12,748.22	-5,579.97	811.70	5,627.90	1.23	-0.65	-1.05
18,600.00	90.81	179.39	12,745.55	-5,679.92	810.77	5,727.43	2.39	-1.27	-2.02
18,700.00	90.36	178.41	12,744.74	-5,779.89	812.97	5,827.24	1.07	-0.45	-0.97
18,800.00	90.69	179.26	12,743.90	-5,879.86	815.20	5,927.06	0.91	0.34	0.85
18,900.00	91.05	180.78	12,742.37	-5,979.84	815.19	6,026.70	1.56	0.36	1.52
19,000.00	90.64	182.69	12,740.86	-6,079.78	812.18	6,126.05	1.95	-0.41	1.91
19,100.00	90.05	182.80	12,740.33	-6,179.66	807.25	6,225.18	0.60	-0.59	0.11
19,200.00	90.68	180.41	12,739.56	-6,279.61	804.59	6,324.57	2.48	0.63	-2.40
19,300.00	89.87	179.65	12,739.05	-6,379.61	804.60	6,424.23	1.11	-0.81	-0.76
19,400.00	88.96	179.28	12,740.07	-6,479.60	805.54	6,523.96	0.98	-0.91	-0.37
19,500.00	88.39	178.72	12,742.58	-6,579.55	807.17	6,623.70	0.80	-0.57	-0.56
19,600.00	88.33	177.61	12,745.26	-6,679.47	810.32	6,723.54	1.11	-0.06	-1.11
19,700.00	88.56	177.27	12,748.45	-6,779.29	815.26	6,823.43	0.41	0.23	-0.34
19,800.00	89.16	177.98	12,749.97	-6,879.20	819.26	6,923.33	0.93	0.60	0.71
19,900.00	88.36	177.78	12,752.06	-6,979.11	822.73	7,023.19	0.83	-0.80	-0.20
20,000.00	87.66	179.19	12,755.65	-7,078.99	826.20	7,123.01	1.58	-0.70	1.42
20,100.00	86.78	179.93	12,760.37	-7,178.87	826.18	7,222.55	1.15	-0.88	0.74
20,200.00	88.75	179.22	12,765.15	-7,278.75	826.91	7,322.14	2.10	1.97	-0.71
20,300.00	88.90	177.14	12,766.41	-7,378.69	829.76	7,421.98	2.09	0.15	-2.08
20,400.00	90.30	176.59	12,767.58	-7,478.51	835.62	7,521.94	1.50	1.40	-0.54
20,500.00	90.55	177.00	12,766.58	-7,578.34	841.26	7,621.90	0.48	0.25	0.41
20,600.00	89.87	174.77	12,766.16	-7,678.09	848.20	7,721.89	2.34	-0.68	-2.24
20,700.00	91.52	176.92	12,765.08	-7,777.80	855.66	7,821.87	2.72	1.65	2.16
20,800.00	95.16	181.06	12,759.04	-7,877.56	857.21	7,921.42	5.50	3.64	4.13
20,900.00	95.18	181.59	12,749.91	-7,977.12	854.92	8,020.44	0.53	0.02	0.53
21,000.00	94.02	182.11	12,741.75	-8,076.73	851.65	8,119.45	1.27	-1.16	0.52
21,100.00	92.21	182.50	12,736.42	-8,176.50	847.76	8,218.56	1.85	-1.81	0.39
21,200.00	90.93	183.05	12,733.68	-8,276.33	842.66	8,317.63	1.39	-1.28	0.55
21,300.00	90.18	181.89	12,732.99	-8,376.22	837.98	8,416.79	1.38	-0.75	-1.16
21,400.00	90.18	179.72	12,732.59	-8,476.20	836.68	8,516.33	2.17	0.00	-2.17
21,500.00	89.23	178.37	12,732.76	-8,576.18	838.60	8,616.12	1.65	-0.95	-1.35
21,600.00	89.30	178.21	12,734.80	-8,676.11	841.83	8,715.98	0.18	0.07	-0.16
21,700.00	89.83	178.87	12,735.12	-8,776.07	844.49	8,815.82	0.84	0.52	0.66
21,800.00	90.08	180.66	12,735.39	-8,876.06	845.20	8,915.53	1.81	0.26	1.79
21,900.00	91.13	182.07	12,734.45	-8,976.02	842.58	9,014.93	1.76	1.04	1.41
22,000.00	91.39	181.76	12,732.04	-9,075.92	838.96	9,114.19	0.40	0.26	-0.30
22,100.00	91.53	181.85	12,729.52	-9,175.85	835.93	9,213.53	0.16	0.14	0.09
22,200.00	89.40	180.58	12,728.45	-9,275.80	833.63	9,312.96	2.48	-2.12	-1.28
22,300.00	90.38	182.66	12,728.85	-9,375.76	831.03	9,412.36	2.30	0.97	2.09
22,400.00	88.79	182.53	12,729.62	-9,475.65	826.47	9,511.53	1.59	-1.59	-0.13
22,500.00	89.37	182.75	12,731.12	-9,575.53	821.85	9,610.69	0.62	0.58	0.23
22,600.00	88.63	182.92	12,732.81	-9,675.39	816.92	9,709.81	0.75	-0.73	0.16

Scientific Drilling, Intl

Survey Report

Company: Devon Energy
Project: Lea County, NM (NAD83 NME)
Site: Jayhawk 6-7 Fed
Well: 11H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well 11H
TVD Reference: KB = 26' @ 3341.00usft (H&P 466)
MD Reference: KB = 26' @ 3341.00usft (H&P 466)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
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)
22,700.00	87.41	183.01	12,736.22	-9,775.20	811.65	9,808.83	1.22	-1.22	0.09
22,800.00	86.15	182.93	12,741.92	-9,874.91	806.69	9,907.80	1.26	-1.26	-0.08
22,900.00	85.09	183.24	12,749.46	-9,974.46	801.06	10,006.55	1.11	-1.06	0.31
22,954.00	84.36	182.90	12,754.43	-10,028.16	798.18	10,059.82	1.50	-1.36	-0.63
FINAL MWD Survey (22954.00' MD)									
23,000.00	84.36	182.90	12,758.95	-10,073.87	795.86	10,105.19	0.00	0.00	0.00
BHL[JHawk11H]									

Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
22,954.00	12,754.43	-10,028.16	798.18	FINAL MWD Survey (22954.00' MD)
23,010.00	12,759.93	-10,083.81	795.36	FINAL Proj. to Bit (23010.00' MD)

Checked By: _____ Approved By: _____ Date: _____