

Devon

Jayhawk 6-7 Fed 14H

Cactus 167

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

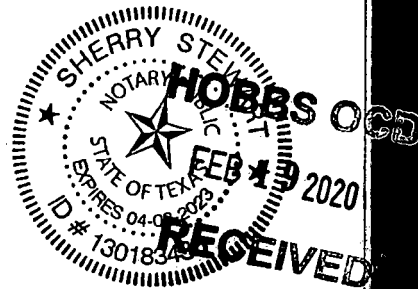
Notarized this data 9/1 of January

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

14H

OH

Survey: SDI Survey #1

Standard Survey Report

26 June, 2019



www.scientificdrilling.com

Scientific Drilling, Intl

Survey Report

Company: Devon Energy
 Project: Lea County, NM (NAD83 NME)
 Site: Jayhawk 6-7 Fed
 Well: 14H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well 14H
 TVD Reference: KB = 26' @ 3341.00usft (HP 466)
 MD Reference: KB = 26' @ 3341.00usft (HP 466)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 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
From:	Map	Easting:	794,914.09 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 4' 42.584 N
		Longitude:	103° 30' 52.657 W
		Grid Convergence:	0.43 °

Well	14H		
Well Position	+N-S	0.00 usft	Northing:
	+E-W	0.00 usft	Easting:
Position Uncertainty	0.00 usft	Wellhead Elevation:	0.00 usft
		Latitude:	32° 4' 42.584 N
		Longitude:	103° 30' 53.005 W
		Ground Level:	3,315.00 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
			(°)
	HDGM	4/26/2019	6.63
			Dip Angle
			(°)
			59.70
			Field Strength
			(nT)
			47,742

Design	OH		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
Vertical Section:	Depth From (TVD)	+N-S	Tie On Depth:
	(usft)	(usft)	(usft)
	0.00	0.00	0.00
			Direction
			(bearing)
			182.46

Survey Program	Date 6/26/2019		
From	To	Survey (Wellbore)	Tool Name
(usft)	(usft)		
178.00	23,085.00	SDI Survey #1 (OH)	MWD+HDGM
			Description
			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	0.67	252.83	100.00	-0.17	-0.56	0.20	0.67	0.67	0.00
200.00	1.25	252.74	199.98	-0.68	-2.21	0.78	0.58	0.58	-0.09
300.00	1.37	251.34	299.95	-1.41	-4.49	1.60	0.12	0.11	-1.41
400.00	1.19	248.42	399.93	-2.17	-6.53	2.45	0.19	-0.17	-2.91
500.00	1.11	253.03	499.91	-2.89	-8.43	3.25	0.13	-0.09	4.60
600.00	1.01	255.70	599.89	-3.32	-10.21	3.75	0.11	-0.10	2.67
700.00	1.06	239.03	699.88	-3.94	-11.85	4.44	0.30	0.05	-16.67
800.00	1.06	230.05	799.86	-5.08	-13.36	5.65	0.17	0.00	-8.98
900.00	0.96	220.61	899.84	-6.25	-14.60	6.87	0.19	-0.10	-9.44

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 Design: OH

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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	0.82	221.79	999.83	-7.58	-15.58	8.24	0.13	-0.13	1.18
1,100.00	0.81	237.82	1,099.82	-8.27	-16.63	8.98	0.23	-0.01	16.03
1,200.00	0.86	223.53	1,199.81	-9.28	-17.87	10.04	0.21	0.04	-14.29
1,300.00	1.14	217.31	1,299.80	-10.51	-18.82	11.31	0.31	0.29	-6.22
1,400.00	0.97	214.71	1,399.78	-12.17	-20.07	13.02	0.18	-0.17	-2.60
1,500.00	1.00	188.45	1,499.76	-13.60	-20.68	14.47	0.45	0.02	-26.26
1,600.00	0.62	186.37	1,599.75	-15.13	-20.80	16.01	0.38	-0.38	-2.08
1,700.00	0.71	202.73	1,699.75	-16.15	-21.08	17.05	0.21	0.09	16.36
1,800.00	0.52	182.38	1,799.74	-17.20	-21.38	18.10	0.29	-0.19	-20.35
1,900.00	0.98	190.62	1,899.73	-18.47	-21.54	19.38	0.47	0.46	8.24
2,000.00	0.90	191.50	1,999.72	-20.08	-21.85	21.00	0.09	-0.08	0.88
2,100.00	0.82	195.85	2,099.71	-21.54	-22.19	22.48	0.10	-0.08	4.34
2,200.00	0.79	209.82	2,199.70	-22.74	-22.69	23.69	0.20	-0.03	13.98
2,300.00	1.00	225.88	2,299.68	-24.24	-23.73	25.24	0.32	0.21	16.06
2,400.00	0.78	297.07	2,399.67	-24.31	-24.96	25.36	1.05	-0.21	71.18
2,500.00	0.77	305.80	2,499.66	-23.56	-26.13	24.66	0.12	-0.01	8.74
2,600.00	0.61	306.51	2,599.65	-22.83	-27.11	23.98	0.16	-0.16	0.71
2,700.00	1.35	342.64	2,699.65	-21.88	-27.87	23.05	0.93	0.74	36.13
2,800.00	3.69	352.30	2,799.55	-17.67	-28.60	18.89	2.37	2.34	9.66
2,900.00	6.07	350.84	2,899.17	-9.16	-29.77	10.43	2.38	2.38	-1.46
3,000.00	8.33	350.43	2,998.38	3.17	-31.90	-1.80	2.25	2.25	-0.41
3,100.00	9.19	351.63	3,097.15	18.58	-34.35	-17.09	0.88	0.87	1.20
3,200.00	9.30	357.14	3,195.85	34.57	-36.06	-32.99	0.89	0.11	5.52
3,300.00	9.45	1.51	3,294.51	50.85	-36.19	-49.25	0.73	0.14	4.37
3,400.00	9.69	6.22	3,393.12	67.42	-35.08	-65.85	0.82	0.24	4.71
3,500.00	7.93	3.59	3,491.92	82.79	-33.65	-81.27	1.81	-1.76	-2.63
3,600.00	7.97	8.19	3,590.98	98.53	-32.21	-95.06	0.64	0.04	4.60
3,700.00	7.68	7.08	3,690.04	109.97	-30.40	-108.56	0.33	-0.29	-1.10
3,800.00	7.90	6.58	3,789.10	123.56	-28.84	-122.21	0.23	0.22	-0.51
3,900.00	7.36	8.12	3,888.22	136.63	-27.04	-135.34	0.58	-0.54	1.54
4,000.00	7.28	3.41	3,987.41	149.29	-25.64	-148.05	0.61	-0.08	-4.71
4,100.00	7.02	358.31	4,086.62	161.85	-25.71	-160.60	0.69	-0.26	-5.10
4,200.00	6.43	359.92	4,185.93	173.49	-25.85	-172.22	0.62	-0.59	1.61
4,300.00	5.97	359.73	4,285.35	184.33	-25.84	-183.04	0.46	-0.46	-0.19
4,400.00	6.48	351.25	4,384.81	194.66	-26.36	-193.35	1.05	0.51	-8.48
4,500.00	7.15	345.35	4,484.05	206.62	-29.18	-205.18	0.97	0.67	-5.90
4,600.00	6.30	348.26	4,583.33	218.18	-32.05	-216.60	0.92	-0.85	2.90
4,700.00	6.31	341.39	4,682.77	228.49	-34.44	-226.80	0.75	0.01	-6.87
4,800.00	6.89	333.44	4,782.10	239.09	-39.00	-237.19	1.08	0.58	-7.95
4,900.00	6.82	332.78	4,881.37	249.78	-44.57	-247.63	0.10	-0.07	-0.66
5,000.00	8.28	330.16	4,980.54	261.12	-50.69	-258.70	1.50	1.46	-2.61
5,100.00	8.27	330.56	5,079.47	273.76	-57.93	-271.02	0.06	-0.01	0.40
5,200.00	7.35	327.44	5,178.54	285.45	-64.90	-282.40	1.01	-0.92	-3.12
5,300.00	8.12	324.82	5,277.62	296.63	-72.43	-293.24	0.85	0.77	-2.62

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Wellbore: OH
Design: OH

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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	8.44	323.44	5,376.57	308.35	-80.93	-304.58	0.37	0.31	-1.38
5,500.00	8.06	322.60	5,475.53	319.85	-89.53	-315.71	0.39	-0.37	-0.84
5,600.00	7.69	320.09	5,574.60	330.49	-98.08	-325.96	0.51	-0.37	-2.51
5,700.00	7.54	319.26	5,673.71	340.59	-106.71	-335.69	0.19	-0.15	-0.83
5,800.00	7.15	320.10	5,772.88	350.35	-115.04	-345.08	0.40	-0.39	0.85
5,900.00	5.81	322.61	5,872.19	359.47	-122.39	-353.88	1.38	-1.35	2.50
6,000.00	2.86	330.68	5,971.88	365.82	-126.80	-360.03	3.00	-2.94	8.07
6,100.00	0.81	0.93	6,071.84	368.36	-127.59	-362.54	2.20	-2.05	30.26
6,200.00	0.49	27.57	6,171.83	369.25	-127.29	-363.44	0.44	-0.33	26.64
6,300.00	0.64	11.57	6,271.83	370.12	-126.94	-364.32	0.21	0.15	-16.00
6,400.00	0.52	7.56	6,371.82	371.22	-126.80	-365.43	0.13	-0.12	-4.00
6,500.00	0.41	337.22	6,471.82	371.96	-126.83	-366.16	0.26	-0.11	-30.34
6,600.00	0.83	347.46	6,571.82	372.91	-127.17	-367.10	0.44	0.43	10.24
6,700.00	0.65	348.99	6,671.81	374.27	-127.44	-368.44	0.18	-0.18	1.52
6,800.00	0.82	347.06	6,771.80	375.50	-127.70	-369.66	0.17	0.17	-1.93
6,900.00	0.47	349.62	6,871.79	376.64	-127.93	-370.79	0.35	-0.35	2.56
7,000.00	0.73	204.06	6,971.79	376.38	-128.27	-370.52	1.15	0.25	-145.56
7,100.00	0.75	211.99	7,071.78	375.28	-128.92	-369.39	0.10	0.02	7.94
7,200.00	0.77	190.71	7,171.77	373.97	-129.39	-368.07	0.28	0.02	-21.28
7,300.00	0.47	175.54	7,271.77	372.98	-129.44	-367.07	0.34	-0.30	-15.17
7,400.00	0.59	179.37	7,371.76	372.08	-129.40	-366.17	0.12	0.11	3.83
7,500.00	0.65	192.56	7,471.75	370.94	-129.45	-365.03	0.16	0.07	13.19
7,600.00	0.62	218.10	7,571.75	369.97	-129.97	-364.04	0.28	-0.03	25.54
7,700.00	0.51	215.58	7,671.74	369.20	-130.64	-363.24	0.12	-0.11	-2.53
7,800.00	0.57	189.88	7,771.74	368.42	-130.96	-362.45	0.25	0.08	-25.70
7,900.00	0.51	202.17	7,871.73	367.38	-131.13	-361.40	0.13	-0.07	12.30
8,000.00	0.46	213.59	7,971.73	366.72	-131.57	-360.72	0.11	-0.05	11.41
8,100.00	0.65	208.70	8,071.73	365.91	-132.03	-359.90	0.20	0.19	-6.89
8,200.00	0.59	223.26	8,171.72	364.95	-132.63	-358.91	0.19	-0.06	16.56
8,300.00	0.40	217.20	8,271.72	364.32	-133.24	-358.26	0.19	-0.19	-6.07
8,400.00	0.41	257.40	8,371.71	363.95	-133.76	-357.86	0.28	0.01	40.20
8,500.00	0.36	243.52	8,471.71	363.75	-134.41	-357.63	0.10	-0.05	-13.88
8,600.00	0.50	220.65	8,571.71	363.27	-134.97	-357.13	0.22	0.14	-22.87
8,700.00	0.53	217.42	8,671.70	362.56	-135.55	-356.40	0.04	0.03	-3.23
8,800.00	0.51	208.26	8,771.70	361.86	-136.01	-355.68	0.08	-0.02	-9.17
8,900.00	0.79	201.73	8,871.69	360.71	-136.53	-354.51	0.28	0.27	-6.53
9,000.00	0.51	198.47	8,971.69	359.70	-136.87	-353.49	0.27	-0.27	-3.26
9,100.00	0.53	209.74	9,071.68	358.87	-137.24	-352.64	0.10	0.02	11.27
9,200.00	0.59	210.71	9,171.68	358.07	-137.77	-351.82	0.06	0.06	0.98
9,300.00	0.77	209.12	9,271.67	357.03	-138.30	-350.76	0.18	0.18	-1.59
9,400.00	0.86	214.20	9,371.66	355.78	-139.10	-349.47	0.11	0.09	5.08
9,500.00	0.62	210.80	9,471.65	354.65	-139.85	-348.31	0.24	-0.24	-3.41
9,600.00	0.49	180.50	9,571.65	353.84	-140.14	-347.49	0.32	-0.13	-30.30

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9,700.00	0.62	148.36	9,671.64	352.94	-139.86	-346.61	0.33	0.13	-32.14
9,800.00	0.61	135.13	9,771.64	352.09	-139.15	-345.78	0.14	-0.01	-13.23
9,900.00	0.61	123.16	9,871.63	351.42	-138.34	-345.15	0.13	0.01	-11.97
10,000.00	0.72	154.61	9,971.62	350.62	-137.58	-344.38	0.37	0.10	31.45
10,100.00	0.47	166.38	10,071.62	349.61	-137.23	-343.39	0.27	-0.24	11.77
10,200.00	0.62	220.63	10,171.62	348.80	-137.47	-342.57	0.51	0.15	54.26
10,300.00	0.80	262.56	10,271.61	348.34	-138.50	-342.06	0.53	0.18	41.93
10,400.00	1.34	259.29	10,371.59	348.01	-140.41	-341.65	0.55	0.55	-3.28
10,500.00	1.24	267.80	10,471.56	347.65	-142.61	-341.20	0.22	-0.11	8.52
10,600.00	1.63	291.93	10,571.54	348.23	-144.90	-341.68	0.72	0.40	24.13
10,700.00	2.05	292.61	10,671.48	349.49	-148.12	-342.80	0.42	0.42	0.68
10,800.00	1.72	292.70	10,771.42	350.85	-151.02	-344.03	0.33	-0.33	0.09
10,900.00	1.76	289.85	10,871.38	351.77	-153.86	-344.83	0.10	0.04	-2.85
11,000.00	1.74	298.88	10,971.33	353.10	-156.71	-346.04	0.28	-0.02	9.03
11,100.00	1.68	305.65	11,071.29	354.65	-159.16	-347.48	0.21	-0.06	6.77
11,200.00	1.64	303.42	11,171.24	356.40	-161.54	-349.12	0.08	-0.04	-2.23
11,300.00	1.52	311.09	11,271.21	357.94	-163.80	-350.57	0.24	-0.12	7.67
11,400.00	1.98	313.25	11,371.16	359.98	-165.90	-352.52	0.46	0.46	2.15
11,500.00	2.49	317.71	11,471.09	362.75	-168.69	-355.16	0.53	0.51	4.46
11,600.00	3.29	318.26	11,570.96	366.48	-171.99	-358.75	0.80	0.80	0.55
11,700.00	4.11	313.97	11,670.75	371.13	-176.46	-363.20	0.87	0.83	-4.29
11,800.00	4.80	310.92	11,770.45	376.37	-182.21	-368.18	0.73	0.69	-3.06
11,900.00	4.52	315.25	11,870.12	381.91	-188.16	-373.47	0.45	-0.28	4.34
12,000.00	4.13	318.18	11,969.83	387.49	-193.35	-378.82	0.45	-0.39	2.93
12,100.00	2.54	307.10	12,069.64	391.73	-197.56	-382.87	1.71	-1.59	-11.08
12,200.00	1.97	205.58	12,169.59	391.70	-200.19	-382.74	3.51	-0.57	-101.52
12,300.00	5.77	174.86	12,269.37	385.37	-200.42	-376.39	4.20	3.80	-30.72
12,400.00	13.23	174.82	12,368.11	369.95	-199.19	-361.04	7.46	7.46	-0.04
12,500.00	30.59	168.54	12,460.81	333.97	-193.76	-325.33	17.49	17.36	-6.28
12,600.00	38.24	167.75	12,542.87	278.04	-182.51	-269.94	7.87	7.65	-0.79
12,700.00	48.44	178.03	12,615.94	210.75	-173.05	-203.11	12.38	10.20	10.28
12,800.00	55.90	170.36	12,676.72	131.83	-165.84	-124.58	9.60	7.46	-7.67
12,900.00	60.43	171.12	12,728.66	47.96	-149.76	-41.48	4.58	4.53	0.77
13,000.00	65.19	173.59	12,776.21	-39.32	-139.10	45.26	5.24	4.76	2.47
13,100.00	78.23	175.50	12,806.90	-133.75	-129.46	139.19	13.16	13.04	1.90
13,200.00	86.24	177.73	12,818.90	-232.79	-124.23	237.92	8.31	8.01	2.23
13,300.00	88.16	178.71	12,822.91	-332.65	-120.92	337.54	2.16	1.93	0.99
13,400.00	89.27	179.03	12,825.66	-432.60	-119.42	437.33	1.15	1.10	0.32
13,466.80	89.84	178.72	12,826.18	-499.38	-118.11	504.00	0.97	0.86	-0.46
FTP(JHawk14H)									
13,500.00	90.13	178.57	12,825.71	-532.57	-117.26	537.12	0.97	0.86	-0.46
13,600.00	91.77	178.82	12,824.58	-632.53	-114.81	636.88	1.66	1.64	0.25
13,700.00	92.31	178.65	12,820.53	-732.43	-112.78	736.60	0.57	0.54	-0.18
13,800.00	91.20	180.20	12,817.29	-832.36	-111.38	836.38	1.91	-1.11	1.56

Scientific Drilling, Intl

Survey Report

Company: Devon Energy
 Project: Lea County, NM (NAD83 NME)
 Site: Jayhawk 6-7 Fed
 Well: 14H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well 14H
 TVD Reference: KB = 26' @ 3341.00usft (HP 466)
 MD Reference: KB = 26' @ 3341.00usft (HP 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)
13,900.00	88.16	174.29	12,817.60	-932.22	-107.77	935.99	6.65	-3.04	-5.91
14,000.00	88.67	174.52	12,820.74	-1,031.62	-97.29	1,034.85	0.56	0.51	0.23
14,100.00	89.04	177.47	12,822.72	-1,131.34	-90.25	1,134.17	2.97	0.37	2.95
14,200.00	90.18	178.22	12,823.27	-1,231.27	-86.56	1,233.85	1.37	1.14	0.75
14,300.00	89.38	178.11	12,823.68	-1,331.21	-83.13	1,333.55	0.81	-0.80	-0.11
14,400.00	88.97	180.00	12,825.25	-1,431.17	-81.45	1,433.35	1.94	-0.41	1.89
14,500.00	88.95	181.28	12,826.73	-1,531.15	-83.13	1,533.30	1.28	-0.02	1.28
14,600.00	87.33	180.17	12,829.95	-1,631.08	-84.21	1,633.20	1.97	-1.63	-1.11
14,700.00	87.66	180.87	12,835.48	-1,730.93	-84.50	1,732.96	0.78	0.33	0.70
14,800.00	89.02	182.37	12,837.02	-1,830.85	-87.91	1,832.93	2.03	1.36	1.51
14,900.00	88.75	182.02	12,839.90	-1,930.72	-91.87	1,932.89	0.44	-0.27	-0.35
15,000.00	88.90	181.10	12,841.21	-2,030.67	-94.71	2,032.87	0.94	0.14	-0.92
15,100.00	89.42	181.48	12,843.37	-2,130.63	-96.41	2,132.81	0.64	0.52	0.38
15,200.00	91.33	182.55	12,842.74	-2,230.56	-100.04	2,232.80	2.19	1.91	1.07
15,300.00	91.74	182.21	12,839.66	-2,330.41	-104.51	2,332.75	0.53	0.41	-0.34
15,400.00	91.16	181.68	12,837.06	-2,430.32	-107.84	2,432.71	0.79	-0.58	-0.54
15,500.00	90.93	181.77	12,835.31	-2,530.26	-110.77	2,532.69	0.25	-0.23	0.09
15,600.00	91.28	182.39	12,833.43	-2,630.18	-114.35	2,632.67	0.71	0.35	0.62
15,700.00	87.45	180.32	12,834.28	-2,730.12	-116.89	2,732.62	4.35	-3.83	-2.07
15,800.00	87.76	180.17	12,838.49	-2,830.03	-117.27	2,832.45	0.35	0.31	-0.16
15,900.00	87.87	180.77	12,842.39	-2,929.95	-118.11	2,932.32	0.61	0.11	0.60
16,000.00	89.34	181.03	12,844.89	-3,029.90	-119.68	3,032.25	1.49	1.47	0.27
16,100.00	90.93	181.18	12,844.42	-3,129.88	-121.64	3,132.21	1.60	1.59	0.15
16,200.00	90.82	181.06	12,842.64	-3,229.84	-123.68	3,232.17	0.16	-0.11	-0.12
16,300.00	90.78	181.29	12,841.94	-3,329.82	-125.33	3,332.13	0.23	-0.04	0.23
16,400.00	91.97	182.10	12,838.87	-3,429.71	-128.76	3,432.08	1.44	1.19	0.81
16,500.00	91.16	181.70	12,836.15	-3,529.62	-131.96	3,532.03	0.90	-0.81	-0.39
16,600.00	89.85	180.72	12,835.03	-3,629.58	-134.46	3,632.01	1.64	-1.31	-0.98
16,700.00	90.67	180.24	12,835.61	-3,729.58	-134.76	3,731.92	0.95	0.82	-0.48
16,800.00	92.25	180.32	12,832.58	-3,829.53	-135.45	3,831.81	1.58	1.58	0.08
16,900.00	92.88	180.45	12,828.09	-3,929.42	-136.00	3,931.64	0.64	0.63	0.13
17,000.00	91.19	182.00	12,823.98	-4,029.31	-137.84	4,031.51	2.29	-1.69	1.55
17,100.00	90.71	183.51	12,822.73	-4,129.18	-142.74	4,131.50	1.58	-0.48	1.51
17,192.02	89.62	185.44	12,822.47	-4,229.91	-149.92	4,223.45	2.42	-1.19	2.10
T1[JHawk14H]									
17,200.00	89.52	185.61	12,822.33	-4,228.86	-150.58	4,231.43	2.42	-1.19	2.10
17,300.00	89.40	188.23	12,823.40	-4,328.12	-162.59	4,331.11	2.62	-0.12	2.62
17,400.00	88.64	191.56	12,825.07	-4,426.61	-179.78	4,430.24	3.42	-0.76	3.33
17,500.00	86.93	190.42	12,829.02	-4,524.67	-198.95	4,529.04	2.06	-1.71	-1.14
17,600.00	86.78	187.11	12,834.58	-4,623.33	-214.17	4,628.26	3.31	-0.15	-3.31
17,700.00	87.31	184.48	12,839.67	-4,722.73	-223.73	4,727.98	2.67	0.53	-2.62
17,800.00	87.26	184.86	12,844.27	-4,822.27	-232.08	4,827.79	0.38	-0.06	0.38
17,900.00	87.23	184.77	12,849.48	-4,921.81	-240.14	4,927.59	0.10	-0.02	-0.10

Scientific Drilling, Intl Survey Report

Company: Devon Energy
Project: Lea County, NM (NAD83 NME)
Site: Jayhawk 6-7 Fed
Well: 14H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well 14H
TVD Reference: KB = 26' @ 3341.00usft (HP 466)
MD Reference: KB = 26' @ 3341.00usft (HP 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)
18,000.00	89.13	185.56	12,852.84	-5,021.33	-249.35	5,027.40	2.05	1.89	0.80
18,100.00	90.54	185.55	12,852.57	-5,120.85	-259.08	5,127.25	1.42	1.42	-0.01
18,200.00	91.10	185.68	12,851.46	-5,220.37	-268.75	5,227.10	0.57	0.56	0.13
18,300.00	92.75	186.24	12,848.24	-5,319.78	-279.07	5,326.86	1.74	1.65	0.56
18,400.00	93.15	186.85	12,842.53	-5,418.96	-290.49	5,426.44	0.72	0.40	0.60
18,500.00	91.13	186.67	12,838.40	-5,518.15	-302.47	5,526.05	2.03	-2.02	-0.18
18,600.00	89.60	186.15	12,838.08	-5,617.52	-313.61	5,625.81	1.61	-1.53	-0.52
18,700.00	89.28	186.07	12,839.20	-5,716.96	-324.16	5,725.61	0.33	-0.32	-0.08
18,800.00	88.91	185.23	12,840.74	-5,816.45	-334.14	5,825.43	0.92	-0.36	-0.84
18,900.00	88.92	186.18	12,842.67	-5,915.95	-343.85	5,925.27	0.96	0.01	0.96
19,000.00	87.94	185.22	12,845.34	-6,015.41	-353.92	6,025.06	1.37	-0.98	-0.96
19,100.00	87.01	186.19	12,849.89	-6,114.81	-363.81	6,124.80	1.34	-0.93	0.97
19,200.00	89.90	187.29	12,852.34	-6,214.07	-375.62	6,224.47	3.10	2.90	1.10
19,300.00	89.52	186.94	12,852.77	-6,313.27	-388.24	6,324.12	0.52	-0.39	-0.35
19,400.00	88.73	184.70	12,854.42	-6,412.72	-398.43	6,423.92	2.37	-0.79	-2.23
19,476.22	89.77	183.57	12,855.42	-6,488.74	-403.93	6,500.11	2.02	1.36	-1.49
T2[JHawk14H]									
19,500.00	90.09	183.22	12,856.41	-6,512.50	-404.68	6,523.88	2.02	1.36	-1.49
19,600.00	93.41	184.06	12,852.10	-6,612.17	-411.28	6,623.74	3.43	3.32	0.85
19,700.00	92.69	184.17	12,847.02	-6,711.79	-418.34	6,723.57	0.73	-0.72	0.11
19,800.00	92.44	183.85	12,842.41	-6,811.41	-425.70	6,823.41	0.41	-0.26	-0.32
19,900.00	91.57	182.82	12,838.81	-6,911.18	-431.40	6,923.34	1.35	-0.87	-1.03
20,000.00	91.89	182.65	12,836.35	-7,011.05	-435.94	7,023.31	0.36	0.32	-0.17
20,100.00	91.72	182.94	12,832.62	-7,110.86	-440.82	7,123.23	0.33	-0.17	0.28
20,200.00	90.79	182.74	12,830.54	-7,210.70	-445.91	7,223.21	0.95	-0.93	-0.20
20,300.00	90.12	182.31	12,829.77	-7,310.60	-450.32	7,323.20	0.79	-0.66	-0.43
20,400.00	89.72	181.72	12,829.96	-7,410.54	-453.87	7,423.20	0.72	-0.40	-0.59
20,500.00	89.78	181.43	12,830.45	-7,510.50	-456.55	7,523.19	0.30	0.06	-0.29
20,600.00	88.45	180.43	12,831.84	-7,610.47	-458.25	7,623.14	1.66	-1.33	-1.00
20,700.00	86.86	180.35	12,835.93	-7,710.38	-458.87	7,722.98	1.60	-1.60	-0.08
20,800.00	88.05	179.92	12,840.40	-7,810.28	-459.12	7,822.80	1.27	1.20	-0.43
20,900.00	89.46	179.48	12,842.67	-7,910.25	-458.39	7,922.64	1.47	1.40	-0.44
21,000.00	91.31	180.61	12,841.57	-8,010.24	-458.80	8,022.55	2.17	1.85	1.13
21,100.00	90.50	179.86	12,840.12	-8,110.22	-458.94	8,122.46	1.10	-0.81	-0.75
21,200.00	90.65	180.63	12,839.33	-8,210.22	-459.24	8,222.37	0.78	0.15	0.77
21,300.00	91.37	181.88	12,837.43	-8,310.17	-461.44	8,322.33	1.45	0.73	1.26
21,400.00	90.55	181.60	12,835.17	-8,410.07	-465.28	8,422.30	0.87	-0.82	-0.28
21,500.00	88.79	179.95	12,836.11	-8,510.06	-466.16	8,522.23	2.42	-1.76	-1.65
21,600.00	89.60	178.80	12,838.21	-8,610.03	-465.37	8,622.07	1.41	0.81	-1.15
21,700.00	90.66	177.89	12,837.48	-8,709.97	-462.11	8,721.78	1.39	1.06	-0.90
21,800.00	90.31	177.30	12,836.51	-8,809.88	-458.06	8,821.43	0.69	-0.34	-0.59
21,900.00	89.51	176.64	12,836.60	-8,909.74	-452.71	8,920.96	1.04	-0.81	-0.66
22,000.00	90.07	177.11	12,837.32	-9,009.57	-447.02	9,020.46	0.73	0.56	0.47
22,100.00	91.15	178.16	12,836.26	-9,109.47	-442.86	9,120.09	1.51	1.08	1.05

Scientific Drilling, Intl

Survey Report

Company: Devon Energy
 Project: Lea County, NM (NAD83 NME)
 Site: Jayhawk 6-7 Fed
 Well: 14H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well 14H
 TVD Reference: KB = 26' @ 3341.00usft (HP 466)
 MD Reference: KB = 26' @ 3341.00usft (HP 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)
22,200.00	91.67	179.00	12,833.72	-9,209.41	-440.42	9,219.83	0.99	0.52	0.84
22,300.00	89.85	178.46	12,832.22	-9,309.37	-438.31	9,319.61	1.90	-1.82	-0.54
22,400.00	91.38	179.01	12,831.24	-9,409.34	-436.07	9,419.39	1.63	1.53	0.55
22,500.00	91.20	178.61	12,828.88	-9,509.29	-434.13	9,519.16	0.44	-0.18	-0.40
22,600.00	89.80	176.44	12,828.22	-9,609.17	-429.54	9,618.76	2.58	-1.41	-2.17
22,700.00	90.49	177.02	12,828.08	-9,709.00	-423.58	9,718.23	0.91	0.70	0.58
22,800.00	91.36	178.72	12,826.12	-9,808.91	-420.15	9,817.90	1.91	0.87	1.70
22,900.00	90.80	178.91	12,824.32	-9,908.88	-418.24	9,917.70	0.59	-0.56	0.19
23,000.00	89.78	178.19	12,823.35	-10,008.84	-415.88	10,017.47	1.25	-1.02	-0.72
BHL.New[JHawk14H]									

Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N-S (usft)	+E-W (usft)	
23,032.00	12,823.70	-10,040.82	-414.76	FINAL MWD Survey (23032.00' MD)
23,085.00	12,824.63	-10,093.77	-412.71	FINAL Proj. to Bit (23085.00' MD)

Checked By: _____ Approved By: _____ Date: _____