



Directional Survey

HOBBS OGD
JAN 10 2020
RECEIVED
DELAWARE BASIN UNRESTRICTED

Well Name: JAYHAWK 6-7 FED 11H

Sub-Division DELAWARE BASIN	Region LEA COUNTY CORE	Field Name RATTLESNAKE DBBU	County LEA	State/Province NM		
Surface Legal Location 6-26S-34E	API/UWI 3002545543	Latitude (°) 32° 4' 42.483" N	Longitude (°) 103° 30' 52.597" W	Orig KB Elevation (ft) 3,341.20	Ground Elev MSL (ft) 3,315.20	KB - GL (ft) 26.00

Wellbore Name OH	Parent Wellbore OH	SAP Well ID	Vertical Section Direction (°) 175.27
---------------------	-----------------------	-------------	--

Kick Offs & Key Depths		
Date 5/7/2019	Type CURVE	Top Depth (ftKB) 12,000.0
Date 5/16/2019	Type CURVE	Top Depth (ftKB) 12,067.2

Actual Deviation Survey COMPOSITE OH, Proposed? No	Definitive? No	Proposed? No	Proposed Deviation Survey COMPOSITE WELL PLAN - OH, Proposed? Yes
---	-------------------	-----------------	--

Deviation Survey					
Date 4/28/2019		Description COMPOSITE OH			
MD Tie In (ftKB) 0.00	TVD Tie In (ftKB) 0.00	Inclination Tie In (°) 0.00	Azimuth Tie In (°) 0.00	NS Tie In (ft) 0.00	EW Tie In (ft) 0.00

Survey Data										
Date	MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	N/S (ft)	E/W (ft)	DLS (°/100ft)	Survey Tool	Survey Company
4/28/2019	178.00	0.46	37.08	178.00	-0.53	0.57	0.43	0.26	MWD	SCIENTIFIC DRILLING
4/28/2019	269.00	0.90	55.93	268.99	-1.16	1.26	1.24	0.54	MWD	SCIENTIFIC DRILLING
4/29/2019	361.00	0.88	51.21	360.98	-1.90	2.11	2.39	0.08	MWD	SCIENTIFIC DRILLING
4/29/2019	453.00	0.93	65.13	452.97	-2.56	2.87	3.62	0.24	MWD	SCIENTIFIC DRILLING
4/29/2019	546.00	0.88	61.96	545.96	-3.10	3.52	4.94	0.08	MWD	SCIENTIFIC DRILLING
4/29/2019	637.00	0.90	73.93	636.95	-3.52	4.05	6.24	0.21	MWD	SCIENTIFIC DRILLING
4/29/2019	729.00	0.47	79.13	728.94	-3.70	4.32	7.30	0.47	MWD	SCIENTIFIC DRILLING
4/29/2019	821.00	0.76	90.01	820.93	-3.69	4.39	8.28	0.34	MWD	SCIENTIFIC DRILLING
4/29/2019	838.00	0.72	98.36	837.93	-3.66	4.37	8.50	0.68	MWD	SCIENTIFIC DRILLING
5/1/2019	964.00	0.12	125.50	963.93	-3.39	4.18	9.39	0.49	MWD	SCIENTIFIC DRILLING
5/1/2019	1,056.00	0.11	70.99	1,055.93	-3.35	4.15	9.56	0.11	MWD	SCIENTIFIC DRILLING
5/1/2019	1,148.00	0.20	220.84	1,147.93	-3.26	4.06	9.53	0.33	MWD	SCIENTIFIC DRILLING
5/1/2019	1,240.00	0.85	154.02	1,239.92	-2.51	3.33	9.73	0.86	MWD	SCIENTIFIC DRILLING
5/1/2019	1,332.00	0.77	171.75	1,331.92	-1.26	2.10	10.12	0.28	MWD	SCIENTIFIC DRILLING
5/1/2019	1,426.00	0.56	203.68	1,425.91	-0.22	1.05	10.02	0.44	MWD	SCIENTIFIC DRILLING
5/1/2019	1,521.00	0.81	189.70	1,520.90	0.83	-0.03	9.72	0.31	MWD	SCIENTIFIC DRILLING
5/1/2019	1,615.00	0.36	180.80	1,614.90	1.77	-0.98	9.61	0.49	MWD	SCIENTIFIC DRILLING
5/1/2019	1,710.00	0.45	191.14	1,709.90	2.43	-1.65	9.53	0.12	MWD	SCIENTIFIC DRILLING
5/1/2019	1,804.00	0.64	155.11	1,803.89	3.28	-2.49	9.68	0.41	MWD	SCIENTIFIC DRILLING
5/1/2019	1,898.00	0.71	170.17	1,897.89	4.35	-3.54	10.00	0.20	MWD	SCIENTIFIC DRILLING
5/1/2019	1,993.00	0.61	155.60	1,992.88	5.41	-4.58	10.31	0.20	MWD	SCIENTIFIC DRILLING
5/1/2019	2,087.00	0.54	198.91	2,086.87	6.29	-5.45	10.37	0.46	MWD	SCIENTIFIC DRILLING
5/1/2019	2,182.00	0.82	164.55	2,181.87	7.37	-6.53	10.41	0.51	MWD	SCIENTIFIC DRILLING
5/1/2019	2,276.00	0.86	182.34	2,275.86	8.73	-7.88	10.56	0.28	MWD	SCIENTIFIC DRILLING
5/2/2019	2,370.00	0.85	188.00	2,369.85	10.11	-9.28	10.43	0.09	MWD	SCIENTIFIC DRILLING
5/2/2019	2,464.00	0.77	173.73	2,463.84	11.42	-10.60	10.40	0.23	MWD	SCIENTIFIC DRILLING
5/2/2019	2,559.00	0.74	165.31	2,558.83	12.66	-11.82	10.63	0.12	MWD	SCIENTIFIC DRILLING
5/2/2019	2,653.00	0.40	131.05	2,652.83	13.49	-12.63	11.03	0.50	MWD	SCIENTIFIC DRILLING
5/2/2019	2,748.00	0.58	120.03	2,747.82	14.01	-13.09	11.70	0.21	MWD	SCIENTIFIC DRILLING
5/2/2019	2,842.00	0.48	137.74	2,841.82	14.59	-13.62	12.37	0.20	MWD	SCIENTIFIC DRILLING
5/2/2019	2,936.00	2.41	85.94	2,935.79	14.92	-13.77	14.61	2.28	MWD	SCIENTIFIC DRILLING
5/2/2019	3,030.00	5.22	77.96	3,029.57	14.40	-12.73	20.77	3.04	MWD	SCIENTIFIC DRILLING
5/2/2019	3,125.00	6.75	77.72	3,124.05	13.12	-10.65	30.45	1.61	MWD	SCIENTIFIC DRILLING
5/2/2019	3,219.00	8.94	77.91	3,217.16	11.46	-7.94	42.99	2.33	MWD	SCIENTIFIC DRILLING
5/2/2019	3,313.00	10.03	78.71	3,309.88	9.59	-4.81	58.16	1.17	MWD	SCIENTIFIC DRILLING
5/2/2019	3,406.00	10.74	72.02	3,401.36	6.68	-0.55	74.34	1.50	MWD	SCIENTIFIC DRILLING
5/2/2019	3,501.00	11.03	70.21	3,494.65	2.29	5.26	91.31	0.47	MWD	SCIENTIFIC DRILLING
5/2/2019	3,595.00	11.37	71.75	3,586.86	-2.22	11.21	108.58	0.48	MWD	SCIENTIFIC DRILLING
5/2/2019	3,690.00	11.19	72.87	3,680.02	-6.39	16.86	126.28	0.30	MWD	SCIENTIFIC DRILLING
5/2/2019	3,784.00	10.52	73.03	3,772.34	-10.16	22.05	143.20	0.71	MWD	SCIENTIFIC DRILLING
5/2/2019	3,878.00	10.34	70.87	3,864.79	-14.08	27.32	159.38	0.46	MWD	SCIENTIFIC DRILLING
5/2/2019	3,973.00	9.91	71.17	3,958.31	-18.19	32.75	175.17	0.46	MWD	SCIENTIFIC DRILLING
5/2/2019	4,067.00	10.04	67.30	4,050.89	-22.69	38.52	190.39	0.73	MWD	SCIENTIFIC DRILLING
5/2/2019	4,162.00	9.94	67.56	4,144.45	-27.74	44.85	205.60	0.12	MWD	SCIENTIFIC DRILLING
5/2/2019	4,256.00	9.34	67.86	4,237.12	-32.49	50.82	220.17	0.64	MWD	SCIENTIFIC DRILLING
5/2/2019	4,351.00	8.42	65.56	4,330.98	-37.14	56.60	233.64	1.04	MWD	SCIENTIFIC DRILLING
5/2/2019	4,445.00	8.90	68.47	4,423.91	-41.57	62.12	246.67	0.69	MWD	SCIENTIFIC DRILLING
5/2/2019	4,540.00	9.92	73.07	4,517.63	-45.42	67.20	261.34	1.33	MWD	SCIENTIFIC DRILLING
5/2/2019	4,634.00	11.05	80.45	4,610.06	-47.89	71.05	277.97	1.86	MWD	SCIENTIFIC DRILLING
5/2/2019	4,729.00	11.61	74.39	4,703.21	-50.46	75.13	296.15	1.38	MWD	SCIENTIFIC DRILLING
5/2/2019	4,823.00	11.63	75.98	4,795.29	-53.77	79.97	314.46	0.34	MWD	SCIENTIFIC DRILLING
5/2/2019	4,917.00	10.94	69.89	4,887.47	-57.67	85.34	332.02	1.46	MWD	SCIENTIFIC DRILLING
5/2/2019	5,011.00	10.57	69.41	4,979.82	-62.39	91.44	348.47	0.40	MWD	SCIENTIFIC DRILLING
5/2/2019	5,105.00	9.28	69.99	5,072.41	-66.74	97.06	363.66	1.38	MWD	SCIENTIFIC DRILLING
5/2/2019	5,199.00	9.35	63.69	5,165.18	-71.55	103.04	377.63	1.09	MWD	SCIENTIFIC DRILLING
5/3/2019	5,293.00	10.93	55.80	5,257.71	-78.74	111.43	391.85	2.23	MWD	SCIENTIFIC DRILLING
5/3/2019	5,388.00	11.49	55.20	5,350.90	-87.91	121.90	407.07	0.60	MWD	SCIENTIFIC DRILLING
5/3/2019	5,482.00	11.27	53.76	5,443.05	-97.41	132.67	422.16	0.38	MWD	SCIENTIFIC DRILLING
5/3/2019	5,576.00	11.14	52.34	5,535.26	-107.14	143.65	436.76	0.32	MWD	SCIENTIFIC DRILLING
5/3/2019	5,670.00	11.23	51.06	5,627.47	-117.23	154.95	451.07	0.28	MWD	SCIENTIFIC DRILLING
5/3/2019	5,765.00	10.84	50.16	5,720.71	-127.56	166.49	465.12	0.45	MWD	SCIENTIFIC DRILLING
5/3/2019	5,860.00	10.84	48.21	5,814.02	-138.09	178.16	478.64	0.39	MWD	SCIENTIFIC DRILLING
5/3/2019	5,954.00	10.44	47.59	5,906.40	-148.62	189.80	491.52	0.44	MWD	SCIENTIFIC DRILLING
5/3/2019	6,049.00	10.69	48.14	5,999.79	-159.20	201.48	504.44	0.28	MWD	SCIENTIFIC DRILLING
5/3/2019	6,143.00	11.14	48.77	6,092.09	-169.86	213.28	517.76	0.50	MWD	SCIENTIFIC DRILLING



Well Name: JAYHAWK 6-7 FED 11H

Sub-Division	Region	Field Name	County	State/Province		
DELAWARE BASIN	LEA COUNTY CORE	RATTLESNAKE DBBU	LEA	NM		
Surface Legal Location	API/UWI	Latitude (°)	Longitude (°)	Orig KB Elevation (ft)	Ground Elev MSL (ft)	KB - GL (ft)
6-26S-34E	3002545543	32° 4' 42.483" N	103° 30' 52.597" W	3,341.20	3,315.20	26.00

Survey Data										
Date	MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	N/S (ft)	E/W (ft)	DLS (°/100ft)	Survey Tool	Survey Company
5/3/2019	6,237.00	12.43	51.47	6,184.11	-180.89	225.57	532.51	1.49	MWD	SCIENTIFIC DRILLING
5/3/2019	6,331.00	13.25	58.80	6,275.76	-191.32	237.45	549.64	1.94	MWD	SCIENTIFIC DRILLING
5/3/2019	6,426.00	13.86	68.28	6,368.13	-199.50	247.31	569.52	2.42	MWD	SCIENTIFIC DRILLING
5/3/2019	6,520.00	13.53	73.65	6,459.46	-205.01	254.57	590.53	1.40	MWD	SCIENTIFIC DRILLING
5/3/2019	6,614.00	13.12	74.46	6,550.93	-209.22	260.52	611.36	0.48	MWD	SCIENTIFIC DRILLING
5/3/2019	6,708.00	13.28	73.63	6,642.45	-213.40	266.42	632.00	0.26	MWD	SCIENTIFIC DRILLING
5/3/2019	6,803.00	13.31	72.43	6,734.90	-218.03	272.80	652.89	0.29	MWD	SCIENTIFIC DRILLING
5/3/2019	6,897.00	13.00	71.81	6,826.43	-222.90	279.37	673.25	0.36	MWD	SCIENTIFIC DRILLING
5/3/2019	6,991.00	13.16	70.16	6,918.00	-228.15	286.30	693.36	0.43	MWD	SCIENTIFIC DRILLING
5/3/2019	7,086.00	13.00	69.09	7,010.53	-233.95	293.78	713.52	0.31	MWD	SCIENTIFIC DRILLING
5/3/2019	7,180.00	12.51	68.77	7,102.21	-239.78	301.24	732.88	0.53	MWD	SCIENTIFIC DRILLING
5/3/2019	7,275.00	12.35	68.10	7,194.98	-245.70	308.76	751.90	0.23	MWD	SCIENTIFIC DRILLING
5/3/2019	7,369.00	12.02	73.89	7,286.87	-250.60	315.22	770.63	1.35	MWD	SCIENTIFIC DRILLING
5/3/2019	7,463.00	11.85	73.56	7,378.84	-254.49	320.67	789.29	0.19	MWD	SCIENTIFIC DRILLING
5/3/2019	7,557.00	10.95	74.41	7,470.98	-258.13	325.80	807.15	0.97	MWD	SCIENTIFIC DRILLING
5/3/2019	7,652.00	8.96	73.79	7,564.55	-261.31	330.29	822.95	2.10	MWD	SCIENTIFIC DRILLING
5/3/2019	7,746.00	7.24	73.87	7,657.61	-263.93	333.98	835.67	1.83	MWD	SCIENTIFIC DRILLING
5/3/2019	7,840.00	6.16	78.86	7,750.96	-265.67	336.60	846.30	1.30	MWD	SCIENTIFIC DRILLING
5/3/2019	7,934.00	4.40	85.94	7,844.56	-266.19	337.83	854.85	1.99	MWD	SCIENTIFIC DRILLING
5/4/2019	8,029.00	3.51	92.71	7,939.33	-265.77	337.95	861.39	1.06	MWD	SCIENTIFIC DRILLING
5/4/2019	8,123.00	3.25	91.26	8,033.17	-265.12	337.76	866.93	0.29	MWD	SCIENTIFIC DRILLING
5/4/2019	8,218.00	2.07	105.63	8,128.07	-264.24	337.24	871.27	1.42	MWD	SCIENTIFIC DRILLING
5/4/2019	8,312.00	2.08	162.37	8,222.02	-261.99	335.15	873.42	2.10	MWD	SCIENTIFIC DRILLING
5/4/2019	8,407.00	2.26	178.83	8,316.95	-258.44	331.64	873.99	0.68	MWD	SCIENTIFIC DRILLING
5/4/2019	8,501.00	2.01	179.95	8,410.88	-254.95	328.14	874.02	0.27	MWD	SCIENTIFIC DRILLING
5/4/2019	8,595.00	2.12	170.12	8,504.82	-251.57	324.77	874.32	0.39	MWD	SCIENTIFIC DRILLING
5/4/2019	8,690.00	2.19	186.62	8,599.76	-248.04	321.24	874.42	0.65	MWD	SCIENTIFIC DRILLING
5/4/2019	8,784.00	2.13	186.49	8,693.69	-244.57	317.72	874.01	0.06	MWD	SCIENTIFIC DRILLING
5/4/2019	8,878.00	1.93	185.28	8,787.63	-241.29	314.41	873.67	0.22	MWD	SCIENTIFIC DRILLING
5/4/2019	8,973.00	1.86	183.84	8,882.58	-238.19	311.28	873.42	0.09	MWD	SCIENTIFIC DRILLING
5/4/2019	9,067.00	1.87	187.92	8,976.53	-235.19	308.24	873.11	0.14	MWD	SCIENTIFIC DRILLING
5/4/2019	9,162.00	1.70	195.81	9,071.48	-232.36	305.34	872.51	0.31	MWD	SCIENTIFIC DRILLING
5/4/2019	9,256.00	1.65	182.12	9,165.44	-229.71	302.65	872.08	0.43	MWD	SCIENTIFIC DRILLING
5/4/2019	9,350.00	1.53	192.37	9,259.41	-227.17	300.07	871.76	0.33	MWD	SCIENTIFIC DRILLING
5/4/2019	9,445.00	1.58	190.52	9,354.37	-224.69	297.55	871.25	0.07	MWD	SCIENTIFIC DRILLING
5/4/2019	9,539.00	1.50	184.08	9,448.34	-222.22	295.04	870.92	0.20	MWD	SCIENTIFIC DRILLING
5/4/2019	9,633.00	0.95	179.34	9,542.32	-220.23	293.04	870.85	0.59	MWD	SCIENTIFIC DRILLING
5/5/2019	9,727.00	0.93	168.26	9,636.30	-218.70	291.51	871.01	0.19	MWD	SCIENTIFIC DRILLING
5/5/2019	9,822.00	0.84	147.22	9,731.29	-217.32	290.17	871.54	0.35	MWD	SCIENTIFIC DRILLING
5/5/2019	9,916.00	0.50	121.09	9,825.29	-216.47	289.38	872.27	0.48	MWD	SCIENTIFIC DRILLING
5/5/2019	10,010.00	0.62	115.92	9,919.28	-215.97	288.95	873.08	0.14	MWD	SCIENTIFIC DRILLING
5/5/2019	10,104.00	0.81	123.58	10,013.27	-215.30	288.36	874.09	0.23	MWD	SCIENTIFIC DRILLING
5/5/2019	10,199.00	0.89	151.72	10,108.26	-214.20	287.34	875.00	0.44	MWD	SCIENTIFIC DRILLING
5/5/2019	10,293.00	0.95	167.46	10,202.25	-212.76	285.93	875.51	0.28	MWD	SCIENTIFIC DRILLING
5/5/2019	10,387.00	1.31	180.60	10,296.23	-210.92	284.10	875.67	0.47	MWD	SCIENTIFIC DRILLING
5/6/2019	10,481.00	1.63	203.43	10,390.20	-208.67	281.80	875.13	0.70	MWD	SCIENTIFIC DRILLING
5/6/2019	10,575.00	1.08	236.55	10,484.18	-207.07	280.08	873.86	0.99	MWD	SCIENTIFIC DRILLING
5/6/2019	10,669.00	1.59	290.09	10,578.16	-207.19	280.04	871.89	1.37	MWD	SCIENTIFIC DRILLING
5/6/2019	10,764.00	1.75	269.87	10,673.12	-207.86	280.49	869.20	0.64	MWD	SCIENTIFIC DRILLING
5/6/2019	10,858.00	1.40	272.14	10,767.08	-208.11	280.53	866.62	0.38	MWD	SCIENTIFIC DRILLING
5/6/2019	10,952.00	1.38	274.48	10,861.05	-208.43	280.66	864.34	0.06	MWD	SCIENTIFIC DRILLING
5/6/2019	11,047.00	2.00	270.15	10,956.01	-208.76	280.75	861.55	0.67	MWD	SCIENTIFIC DRILLING
5/6/2019	11,141.00	2.09	269.23	11,049.95	-209.01	280.74	858.19	0.10	MWD	SCIENTIFIC DRILLING
5/6/2019	11,235.00	2.50	285.18	11,143.88	-209.83	281.25	854.50	0.80	MWD	SCIENTIFIC DRILLING
5/6/2019	11,329.00	3.52	323.49	11,237.76	-212.98	284.11	850.80	2.34	MWD	SCIENTIFIC DRILLING
5/6/2019	11,424.00	3.60	334.85	11,332.57	-218.26	289.15	847.80	0.75	MWD	SCIENTIFIC DRILLING
5/6/2019	11,518.00	3.49	347.95	11,426.39	-223.86	294.62	845.95	0.87	MWD	SCIENTIFIC DRILLING
5/6/2019	11,613.00	3.26	350.59	11,521.23	-229.42	300.11	844.90	0.29	MWD	SCIENTIFIC DRILLING
5/6/2019	11,707.00	3.06	346.58	11,615.09	-234.56	305.19	843.88	0.32	MWD	SCIENTIFIC DRILLING
5/6/2019	11,801.00	2.88	336.59	11,708.96	-239.28	309.80	842.36	0.58	MWD	SCIENTIFIC DRILLING
5/6/2019	11,896.00	2.78	334.99	11,803.85	-243.70	314.07	840.44	0.13	MWD	SCIENTIFIC DRILLING
5/6/2019	11,941.00	2.59	335.95	11,848.80	-245.69	315.99	839.57	0.43	MWD	SCIENTIFIC DRILLING
5/7/2019	11,991.00	2.36	335.14	11,898.75	-247.72	317.96	838.67	0.47	MWD	SCIENTIFIC DRILLING
5/8/2019	12,112.00	3.03	263.93	12,019.64	-249.98	319.88	834.44	2.63	MWD	SCIENTIFIC DRILLING
5/8/2019	12,207.00	10.14	243.61	12,113.97	-246.83	315.89	824.44	7.76	MWD	SCIENTIFIC DRILLING
5/8/2019	12,254.00	14.55	240.49	12,159.87	-242.83	311.14	815.59	9.49	MWD	SCIENTIFIC DRILLING
5/8/2019	12,301.00	18.68	233.33	12,204.90	-236.37	303.74	804.41	9.79	MWD	SCIENTIFIC DRILLING
5/8/2019	12,348.00	21.47	221.90	12,249.06	-226.48	292.83	792.63	10.22	MWD	SCIENTIFIC DRILLING
5/8/2019	12,396.00	24.61	213.80	12,293.24	-212.62	277.98	781.19	9.28	MWD	SCIENTIFIC DRILLING
5/8/2019	12,443.00	27.19	206.25	12,335.52	-195.75	260.21	771.00	8.90	MWD	SCIENTIFIC DRILLING
5/8/2019	12,490.00	28.77	202.33	12,377.03	-176.47	240.12	761.95	5.16	MWD	SCIENTIFIC DRILLING
5/9/2019	12,537.00	31.15	200.25	12,417.75	-155.37	218.24	753.44	5.52	MWD	SCIENTIFIC DRILLING
5/9/2019	12,584.00	34.00	198.32	12,457.35	-132.26	194.36	745.10	6.45	MWD	SCIENTIFIC DRILLING
5/9/2019	12,679.00	37.72	195.44	12,534.34	-80.51	141.11	729.01	4.30	MWD	SCIENTIFIC DRILLING
5/9/2019	12,726.00	41.46	197.52	12,570.55	-52.61	112.40	720.49	8.44	MWD	SCIENTIFIC DRILLING
5/9/2019	12,773.00	43.67	199.86	12,605.17	-23.45	82.30	710.30	5.78	MWD	SCIENTIFIC DRILLING
5/14/2019	12,838.00	46.12	199.12	12,651.21	18.39	39.05	695.00	3.85	MWD	SCIENTIFIC DRILLING



Well Name: JAYHAWK 6-7 FED 11H

Sub-Division DELAWARE BASIN		Region LEA COUNTY CORE		Field Name RATTLESNAKE DBBU		County LEA		State/Province NM		
Surface Legal Location 6-26S-34E		API/UWI 3002545543	Latitude (°) 32° 4' 42.483" N	Longitude (°) 103° 30' 52.597" W		Orig KB Elevation (ft) 3,341.20		Ground Elev MSL (ft) 3,315.20		KB - GL (ft) 26.00

Survey Data										
Date	MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	N/S (ft)	E/W (ft)	DLS (°/100ft)	Survey Tool	Survey Company
5/14/2019	12,932.00	59.97	189.68	12,707.67	89.23	-33.53	676.94	16.75	MWD	SCIENTIFIC DRILLING
5/15/2019	13,026.00	78.24	181.77	12,741.10	175.21	-120.49	668.60	20.95	MWD	SCIENTIFIC DRILLING
5/16/2019	13,063.00	85.19	178.31	12,746.43	211.67	-157.07	668.58	20.94	MWD	SCIENTIFIC DRILLING
5/16/2019	13,158.00	86.81	175.42	12,753.05	306.39	-251.69	673.77	3.48	MWD	SCIENTIFIC DRILLING
5/16/2019	13,252.00	88.89	173.19	12,756.58	400.30	-345.15	683.09	3.24	MWD	SCIENTIFIC DRILLING
5/16/2019	13,346.00	91.71	172.36	12,756.09	494.20	-438.39	694.91	3.13	MWD	SCIENTIFIC DRILLING
5/16/2019	13,440.00	90.27	171.75	12,754.46	588.03	-531.47	707.90	1.66	MWD	SCIENTIFIC DRILLING
5/16/2019	13,535.00	90.81	171.16	12,753.57	682.82	-625.41	722.01	0.84	MWD	SCIENTIFIC DRILLING
5/16/2019	13,628.00	91.01	172.53	12,752.09	775.64	-717.46	735.20	1.49	MWD	SCIENTIFIC DRILLING
5/16/2019	13,723.00	90.10	170.27	12,751.17	870.41	-811.38	749.41	2.56	MWD	SCIENTIFIC DRILLING
5/17/2019	13,817.00	90.13	173.67	12,750.98	964.24	-904.44	762.54	3.62	MWD	SCIENTIFIC DRILLING
5/17/2019	13,911.00	89.80	173.63	12,751.04	1,058.20	-997.86	772.93	0.35	MWD	SCIENTIFIC DRILLING
5/17/2019	14,005.00	89.43	173.43	12,751.67	1,152.16	-1,091.26	783.53	0.45	MWD	SCIENTIFIC DRILLING
5/17/2019	14,099.00	88.72	173.68	12,753.19	1,246.10	-1,184.66	794.08	0.80	MWD	SCIENTIFIC DRILLING
5/17/2019	14,193.00	90.23	175.25	12,754.05	1,340.08	-1,278.21	803.14	2.32	MWD	SCIENTIFIC DRILLING
5/17/2019	14,287.00	90.44	174.52	12,753.50	1,434.08	-1,371.83	811.52	0.81	MWD	SCIENTIFIC DRILLING
5/17/2019	14,382.00	92.01	178.03	12,751.47	1,529.02	-1,466.59	817.69	4.05	MWD	SCIENTIFIC DRILLING
5/17/2019	14,475.00	92.89	177.48	12,747.49	1,621.85	-1,559.43	821.33	1.12	MWD	SCIENTIFIC DRILLING
5/17/2019	14,570.00	90.44	178.88	12,744.73	1,716.68	-1,654.34	824.35	2.97	MWD	SCIENTIFIC DRILLING
5/17/2019	14,664.00	90.27	179.03	12,744.15	1,810.48	-1,748.32	826.06	0.24	MWD	SCIENTIFIC DRILLING
5/17/2019	14,758.00	89.43	177.42	12,744.40	1,904.35	-1,842.27	828.97	1.93	MWD	SCIENTIFIC DRILLING
5/17/2019	14,852.00	87.18	175.96	12,747.18	1,998.27	-1,936.06	834.40	2.85	MWD	SCIENTIFIC DRILLING
5/17/2019	14,946.00	89.40	178.03	12,749.98	2,092.18	-2,029.88	839.32	3.23	MWD	SCIENTIFIC DRILLING
5/17/2019	15,041.00	90.67	180.90	12,749.93	2,186.91	-2,124.86	840.21	3.30	MWD	SCIENTIFIC DRILLING
5/17/2019	15,135.00	90.64	182.29	12,748.85	2,280.33	-2,218.82	837.59	1.48	MWD	SCIENTIFIC DRILLING
5/17/2019	15,229.00	90.67	180.99	12,747.78	2,373.74	-2,312.77	834.90	1.38	MWD	SCIENTIFIC DRILLING
5/17/2019	15,323.00	90.60	180.66	12,746.73	2,467.30	-2,406.76	833.55	0.36	MWD	SCIENTIFIC DRILLING
5/17/2019	15,418.00	89.40	179.39	12,746.73	2,561.96	-2,501.75	833.51	1.84	MWD	SCIENTIFIC DRILLING
5/17/2019	15,512.00	89.36	181.55	12,747.75	2,655.57	-2,595.74	832.74	2.30	MWD	SCIENTIFIC DRILLING
5/17/2019	15,607.00	88.59	180.55	12,749.45	2,750.07	-2,690.71	830.99	1.33	MWD	SCIENTIFIC DRILLING
5/17/2019	15,701.00	89.46	176.13	12,751.05	2,843.89	-2,784.63	833.72	4.79	MWD	SCIENTIFIC DRILLING
5/18/2019	15,795.00	90.91	175.59	12,750.75	2,937.89	-2,878.38	840.50	1.65	MWD	SCIENTIFIC DRILLING
5/18/2019	15,890.00	91.95	177.34	12,748.38	3,032.83	-2,973.17	846.36	2.14	MWD	SCIENTIFIC DRILLING
5/18/2019	15,984.00	91.81	177.22	12,745.29	3,126.72	-3,067.01	850.82	0.20	MWD	SCIENTIFIC DRILLING
5/18/2019	16,078.00	93.39	181.94	12,741.03	3,220.33	-3,160.88	851.51	5.29	MWD	SCIENTIFIC DRILLING
5/18/2019	16,173.00	94.09	181.90	12,734.83	3,314.49	-3,255.62	848.33	0.74	MWD	SCIENTIFIC DRILLING
5/18/2019	16,267.00	91.81	183.82	12,729.99	3,407.53	-3,349.37	843.65	3.17	MWD	SCIENTIFIC DRILLING
5/18/2019	16,361.00	87.65	182.49	12,730.44	3,500.62	-3,443.21	838.47	4.65	MWD	SCIENTIFIC DRILLING
5/18/2019	16,455.00	87.52	183.32	12,734.40	3,593.70	-3,537.00	833.71	0.89	MWD	SCIENTIFIC DRILLING
5/18/2019	16,550.00	87.99	184.96	12,738.12	3,687.49	-3,631.68	826.86	1.79	MWD	SCIENTIFIC DRILLING
5/18/2019	16,645.00	87.05	180.17	12,742.23	3,781.60	-3,726.46	822.61	5.13	MWD	SCIENTIFIC DRILLING
5/18/2019	16,739.00	86.37	179.36	12,747.63	3,875.16	-3,820.31	823.00	1.12	MWD	SCIENTIFIC DRILLING
5/18/2019	16,833.00	88.86	178.80	12,751.54	3,968.86	-3,914.20	824.51	2.71	MWD	SCIENTIFIC DRILLING
5/18/2019	16,928.00	91.17	182.94	12,751.51	4,063.38	-4,009.17	823.06	4.99	MWD	SCIENTIFIC DRILLING
5/18/2019	17,022.00	90.91	183.10	12,749.81	4,156.51	-4,103.02	818.11	0.32	MWD	SCIENTIFIC DRILLING
5/19/2019	17,116.00	91.11	182.43	12,748.15	4,249.69	-4,196.90	813.58	0.74	MWD	SCIENTIFIC DRILLING
5/19/2019	17,210.00	90.64	179.87	12,746.71	4,343.18	-4,290.86	811.69	2.77	MWD	SCIENTIFIC DRILLING
5/19/2019	17,304.00	90.44	179.32	12,745.83	4,436.90	-4,384.85	812.36	0.62	MWD	SCIENTIFIC DRILLING
5/19/2019	17,398.00	89.70	178.09	12,745.71	4,530.73	-4,478.82	814.48	1.53	MWD	SCIENTIFIC DRILLING
5/19/2019	17,493.00	89.73	179.08	12,746.19	4,625.57	-4,573.79	816.83	1.04	MWD	SCIENTIFIC DRILLING
5/19/2019	17,587.00	89.56	178.13	12,746.77	4,719.41	-4,667.76	819.12	1.03	MWD	SCIENTIFIC DRILLING
5/19/2019	17,681.00	88.89	179.09	12,748.04	4,813.24	-4,761.72	821.40	1.25	MWD	SCIENTIFIC DRILLING
5/19/2019	17,776.00	88.39	179.31	12,750.29	4,907.99	-4,856.69	822.72	0.57	MWD	SCIENTIFIC DRILLING
5/19/2019	17,870.00	88.89	180.60	12,752.52	5,001.65	-4,950.66	822.80	1.47	MWD	SCIENTIFIC DRILLING
5/19/2019	17,964.00	88.15	180.81	12,754.95	5,095.19	-5,044.62	821.64	0.82	MWD	SCIENTIFIC DRILLING
5/19/2019	18,059.00	86.58	179.09	12,759.32	5,189.77	-5,139.51	821.72	2.45	MWD	SCIENTIFIC DRILLING
5/19/2019	18,153.00	90.27	180.65	12,761.90	5,283.41	-5,233.46	821.93	4.26	MWD	SCIENTIFIC DRILLING
5/19/2019	18,247.00	92.31	180.67	12,759.79	5,376.97	-5,327.42	820.85	2.17	MWD	SCIENTIFIC DRILLING
5/19/2019	18,341.00	93.02	182.93	12,755.42	5,470.25	-5,421.27	817.90	2.52	MWD	SCIENTIFIC DRILLING
5/19/2019	18,435.00	92.55	182.17	12,750.85	5,563.38	-5,515.06	813.73	0.95	MWD	SCIENTIFIC DRILLING
5/21/2019	18,555.00	91.84	181.02	12,746.25	5,682.56	-5,634.93	810.39	1.13	MWD	SCIENTIFIC DRILLING
5/22/2019	18,622.00	90.47	178.85	12,744.90	5,749.32	-5,701.91	810.46	3.83	MWD	SCIENTIFIC DRILLING
5/22/2019	18,717.00	90.33	178.32	12,744.24	5,844.16	-5,796.88	812.81	0.58	MWD	SCIENTIFIC DRILLING
5/22/2019	18,811.00	90.74	179.39	12,743.36	5,937.97	-5,890.85	814.69	1.22	MWD	SCIENTIFIC DRILLING
5/22/2019	18,905.00	91.07	180.86	12,741.88	6,031.62	-5,984.84	814.48	1.60	MWD	SCIENTIFIC DRILLING
5/22/2019	19,000.00	90.64	182.69	12,740.46	6,125.99	-6,079.78	811.54	1.98	MWD	SCIENTIFIC DRILLING
5/22/2019	19,094.00	90.00	182.96	12,739.93	6,219.17	-6,173.66	806.91	0.74	MWD	SCIENTIFIC DRILLING
5/22/2019	19,189.00	90.77	180.50	12,739.30	6,313.56	-6,268.61	804.04	2.71	MWD	SCIENTIFIC DRILLING
5/22/2019	19,283.00	90.03	179.71	12,738.64	6,407.22	-6,362.60	803.87	1.15	MWD	SCIENTIFIC DRILLING
5/22/2019	19,378.00	89.16	179.36	12,739.31	6,501.95	-6,457.60	804.64	0.99	MWD	SCIENTIFIC DRILLING
5/22/2019	19,472.00	88.32	179.01	12,741.38	6,595.71	-6,551.56	805.98	0.97	MWD	SCIENTIFIC DRILLING
5/22/2019	19,566.00	88.56	178.04	12,743.94	6,689.52	-6,645.50	808.40	1.06	MWD	SCIENTIFIC DRILLING
5/23/2019	19,660.00	87.92	176.86	12,746.82	6,783.41	-6,739.36	812.58	1.43	MWD	SCIENTIFIC DRILLING
5/23/2019	19,755.00	89.43	177.83	12,749.02	6,878.32	-6,834.22	816.97	1.89	MWD	SCIENTIFIC DRILLING
5/23/2019	19,849.00	88.86	178.14	12,750.42	6,972.20	-6,928.16	820.28	0.69	MWD	SCIENTIFIC DRILLING
5/23/2019	19,944.00	87.92	177.46	12,753.09	7,067.07	-7,023.05	823.92	1.22	MWD	SCIENTIFIC DRILLING
5/23/2019	20,038.00	87.48	180.37	12,756.87	7,160.79	-7,116.94	825.70	3.13	MWD	SCIENTIFIC DRILLING



Well Name: JAYHAWK 6-7 FED 11H

Sub-Division DELAWARE BASIN	Region LEA COUNTY CORE	Field Name RATTLESNAKE DBBU	County LEA	State/Province NM		
Surface Legal Location 6-26S-34E	API/UWI 3002545543	Latitude (°) 32° 4' 42.483" N	Longitude (°) 103° 30' 52.597" W	Orig KB Elevation (ft) 3,341.20	Ground Elev MSL (ft) 3,315.20	KB - GL (ft) 26.00

Survey Data										
Date	MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	N/S (ft)	E/W (ft)	DLS (°/100ft)	Survey Tool	Survey Company
5/23/2019	20,133.00	86.41	179.70	12,761.93	7,255.33	-7,211.81	825.64	1.33	MWD	SCIENTIFIC DRILLING
5/23/2019	20,227.00	89.70	179.03	12,765.12	7,349.02	-7,305.73	826.69	3.57	MWD	SCIENTIFIC DRILLING
5/23/2019	20,322.00	88.66	176.57	12,766.48	7,443.91	-7,400.64	830.33	2.81	MWD	SCIENTIFIC DRILLING
5/23/2019	20,416.00	90.64	176.60	12,767.05	7,537.88	-7,494.47	835.93	2.11	MWD	SCIENTIFIC DRILLING
5/23/2019	20,510.00	90.54	177.05	12,766.08	7,631.84	-7,588.32	841.14	0.49	MWD	SCIENTIFIC DRILLING
5/24/2019	20,605.00	89.83	174.64	12,765.78	7,726.83	-7,683.06	848.02	2.64	MWD	SCIENTIFIC DRILLING
5/24/2019	20,699.00	91.48	176.88	12,764.70	7,820.81	-7,776.79	854.97	2.96	MWD	SCIENTIFIC DRILLING
5/24/2019	20,793.00	95.15	181.02	12,759.27	7,914.42	-7,870.58	856.69	5.88	MWD	SCIENTIFIC DRILLING
5/24/2019	20,887.00	95.31	181.51	12,750.70	8,007.52	-7,964.17	854.63	0.55	MWD	SCIENTIFIC DRILLING
5/24/2019	20,981.00	94.40	182.07	12,742.74	8,100.57	-8,057.78	851.70	1.14	MWD	SCIENTIFIC DRILLING
5/24/2019	21,076.00	92.52	182.26	12,737.01	8,194.71	-8,152.54	848.12	1.99	MWD	SCIENTIFIC DRILLING
5/24/2019	21,170.00	91.31	183.19	12,733.87	8,287.86	-8,246.38	843.65	1.62	MWD	SCIENTIFIC DRILLING
5/24/2019	21,264.00	90.13	182.74	12,732.69	8,381.00	-8,340.24	838.79	1.34	MWD	SCIENTIFIC DRILLING
5/24/2019	21,359.00	90.27	180.49	12,732.35	8,475.42	-8,435.20	836.11	2.37	MWD	SCIENTIFIC DRILLING
5/24/2019	21,453.00	90.07	178.72	12,732.08	8,569.14	-8,529.19	836.76	1.89	MWD	SCIENTIFIC DRILLING
5/24/2019	21,547.00	88.39	178.01	12,733.34	8,662.99	-8,623.14	839.44	1.94	MWD	SCIENTIFIC DRILLING
5/25/2019	21,642.00	90.03	178.36	12,734.65	8,757.86	-8,718.08	842.45	1.77	MWD	SCIENTIFIC DRILLING
5/25/2019	21,736.00	89.70	179.18	12,734.87	8,851.68	-8,812.06	844.47	0.94	MWD	SCIENTIFIC DRILLING
5/25/2019	21,831.00	90.27	181.37	12,734.89	8,946.31	-8,907.05	844.01	2.38	MWD	SCIENTIFIC DRILLING
5/25/2019	21,925.00	91.44	182.32	12,733.49	9,039.68	-9,000.99	840.99	1.60	MWD	SCIENTIFIC DRILLING
5/26/2019	22,018.00	91.38	181.63	12,731.20	9,132.02	-9,093.90	837.78	0.74	MWD	SCIENTIFIC DRILLING
5/26/2019	22,113.00	91.55	181.89	12,728.77	9,226.38	-9,188.83	834.87	0.33	MWD	SCIENTIFIC DRILLING
5/26/2019	22,207.00	89.23	180.47	12,728.14	9,319.87	-9,282.80	832.93	2.89	MWD	SCIENTIFIC DRILLING
5/26/2019	22,302.00	90.40	182.71	12,728.44	9,414.28	-9,377.75	830.30	2.66	MWD	SCIENTIFIC DRILLING
5/26/2019	22,396.00	88.76	182.52	12,729.13	9,507.50	-9,471.65	826.01	1.76	MWD	SCIENTIFIC DRILLING
5/26/2019	22,490.00	89.43	182.74	12,730.62	9,600.72	-9,565.54	821.69	0.75	MWD	SCIENTIFIC DRILLING
5/26/2019	22,584.00	88.82	182.88	12,732.05	9,693.89	-9,659.41	817.09	0.67	MWD	SCIENTIFIC DRILLING
5/27/2019	22,678.00	87.72	183.10	12,734.89	9,787.00	-9,753.24	812.19	1.19	MWD	SCIENTIFIC DRILLING
5/27/2019	22,772.00	86.41	182.71	12,739.70	9,880.04	-9,846.99	807.43	1.45	MWD	SCIENTIFIC DRILLING
5/27/2019	22,867.00	85.54	183.45	12,746.37	9,973.92	-9,941.62	802.34	1.20	MWD	SCIENTIFIC DRILLING
5/27/2019	22,954.00	84.36	182.90	12,754.03	10,059.76	-10,028.15	797.54	1.50	MWD	SCIENTIFIC DRILLING
5/28/2019	23,010.00	84.36	182.90	12,759.53	10,115.00	-10,083.81	794.72	0.00	BIT	