

Devon

# SURVEY REPORT

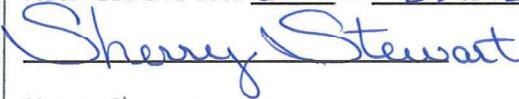
Chincoteague 8-5 Fed State Com 521H

Cactus 167

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



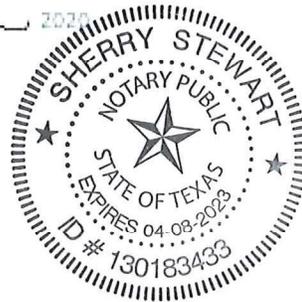
Notarized this data 6th of January, 2020



Notary Signature

County of Midland

State of Texas





**Scientific Drilling**

## **Devon Energy**

**Lea County, NM (NAD83 NME)  
Chincoteague 8-5 Fed Com  
#521H**

**OH**

**Survey: SDI Survey #1**

## **Standard Survey Report**

**19 December, 2019**



**Scientific Drilling**

[www.scientificdrilling.com](http://www.scientificdrilling.com)



<b>Company:</b>	Devon Energy	<b>Local Co-ordinate Reference:</b>	Well #521H
<b>Project:</b>	Lea County, NM (NAD83 NME)	<b>TVD Reference:</b>	KB=24' @ 3464.00usft (Cactus 167)
<b>Site:</b>	Chincoteague 8-5 Fed Com	<b>MD Reference:</b>	KB=24' @ 3464.00usft (Cactus 167)
<b>Well:</b>	#521H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	Midland

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

<b>Site</b>	Chincoteague 8-5 Fed Com				
<b>Site Position:</b>		<b>Northing:</b>	417,469.39 usft	<b>Latitude:</b>	32° 8' 46.075 N
<b>From:</b>	Map	<b>Easting:</b>	736,452.27 usft	<b>Longitude:</b>	103° 42' 10.477 W
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	13-3/16 "	<b>Grid Convergence:</b>	0.34 °

<b>Well</b>	#521H					
<b>Well Position</b>	<b>+N/-S</b>	0.00 usft	<b>Northing:</b>	417,469.39 usft	<b>Latitude:</b>	32° 8' 46.075 N
	<b>+E/-W</b>	0.00 usft	<b>Easting:</b>	736,452.27 usft	<b>Longitude:</b>	103° 42' 10.477 W
<b>Position Uncertainty</b>		0.00 usft	<b>Wellhead Elevation:</b>	0.00 usft	<b>Ground Level:</b>	3,440.00 usft

<b>Wellbore</b>	OH				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	HDGM	11/7/2019	6.63	59.75	47,781.90000000

<b>Design</b>	OH				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (bearing)</b>	
	0.00	0.00	0.00	359.58	

<b>Survey Program</b>	<b>Date</b>	12/6/2019			
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
111.00	15,468.00	SDI Survey #1 (OH)	MWD+HDGM	OWSG MWD + HDGM	

<b>Survey</b>										
<b>Measured Depth (usft)</b>	<b>Inclination (°)</b>	<b>Azimuth (bearing)</b>	<b>Vertical Depth (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Vertical Section (usft)</b>	<b>Dogleg Rate (°/100usft)</b>	<b>Build Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</b>	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
111.00	0.48	102.04	111.00	-0.10	0.45	-0.10	0.43	0.43	0.00	0.00
201.00	0.48	238.78	201.00	-0.37	0.50	-0.37	0.99	0.00	151.93	
291.00	0.70	231.74	290.99	-0.91	-0.25	-0.90	0.26	0.24	-7.82	
382.00	0.65	241.10	381.99	-1.50	-1.14	-1.49	0.13	-0.05	10.29	
473.00	0.87	245.19	472.98	-2.04	-2.22	-2.02	0.25	0.24	4.49	
565.00	0.97	263.40	564.97	-2.42	-3.63	-2.40	0.33	0.11	19.79	
655.00	1.04	253.38	654.95	-2.74	-5.17	-2.71	0.21	0.08	-11.13	
744.00	1.16	267.15	743.94	-3.02	-6.84	-2.97	0.33	0.13	15.47	
772.00	1.02	266.90	771.93	-3.05	-7.37	-2.99	0.50	-0.50	-0.89	

<b>Company:</b>	Devon Energy	<b>Local Co-ordinate Reference:</b>	Well #521H
<b>Project:</b>	Lea County, NM (NAD83 NME)	<b>TVD Reference:</b>	KB=24' @ 3464.00usft (Cactus 167)
<b>Site:</b>	Chincoteague 8-5 Fed Com	<b>MD Reference:</b>	KB=24' @ 3464.00usft (Cactus 167)
<b>Well:</b>	#521H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	Midland

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)	
884.00	0.93	286.17	883.92	-2.85	-9.24	-2.78	0.30	-0.08	17.21	
975.00	1.00	290.25	974.90	-2.37	-10.70	-2.29	0.11	0.08	4.48	
1,065.00	1.01	280.81	1,064.89	-1.95	-12.21	-1.86	0.18	0.01	-10.49	
1,156.00	1.09	277.50	1,155.87	-1.68	-13.86	-1.58	0.11	0.09	-3.64	
1,247.00	1.10	274.95	1,246.86	-1.49	-15.59	-1.38	0.05	0.01	-2.80	
1,339.00	1.21	274.93	1,338.84	-1.34	-17.43	-1.21	0.12	0.12	-0.02	
1,431.00	0.74	248.82	1,430.83	-1.47	-18.96	-1.33	0.69	-0.51	-28.38	
1,523.00	0.77	205.69	1,522.82	-2.24	-19.78	-2.09	0.60	0.03	-46.88	
1,613.00	0.88	198.92	1,612.81	-3.44	-20.26	-3.29	0.16	0.12	-7.52	
1,709.00	0.81	196.16	1,708.80	-4.79	-20.69	-4.63	0.08	-0.07	-2.88	
1,804.00	0.77	196.21	1,803.79	-6.04	-21.06	-5.89	0.04	-0.04	0.05	
1,899.00	0.48	176.05	1,898.78	-7.05	-21.21	-6.90	0.38	-0.31	-21.22	
1,995.00	1.14	181.14	1,994.77	-8.41	-21.20	-8.25	0.69	0.69	5.30	
2,090.00	2.30	185.21	2,089.73	-11.25	-21.39	-11.10	1.23	1.22	4.28	
2,185.00	4.13	193.30	2,184.58	-16.48	-22.35	-16.32	1.98	1.93	8.52	
2,281.00	4.95	193.62	2,280.27	-23.87	-24.12	-23.69	0.85	0.85	0.33	
2,376.00	6.35	196.26	2,374.81	-32.90	-26.56	-32.70	1.50	1.47	2.78	
2,471.00	8.45	199.76	2,469.01	-44.51	-30.39	-44.29	2.26	2.21	3.68	
2,566.00	10.26	204.18	2,562.75	-58.80	-36.21	-58.53	2.05	1.91	4.65	
2,661.00	10.47	204.55	2,656.20	-74.37	-43.27	-74.05	0.23	0.22	0.39	
2,755.00	10.60	205.62	2,748.61	-89.93	-50.55	-89.56	0.25	0.14	1.14	
2,850.00	10.99	206.76	2,841.93	-105.90	-58.41	-105.47	0.47	0.41	1.20	
2,945.00	10.59	205.12	2,935.25	-121.89	-66.19	-121.40	0.53	-0.42	-1.73	
3,041.00	10.95	207.66	3,029.56	-137.95	-74.17	-137.40	0.62	0.38	2.65	
3,136.00	11.15	209.39	3,122.80	-153.95	-82.87	-153.33	0.41	0.21	1.82	
3,230.00	11.19	209.76	3,215.02	-169.78	-91.85	-169.11	0.09	0.04	0.39	
3,326.00	10.68	209.33	3,309.28	-185.62	-100.83	-184.88	0.54	-0.53	-0.45	
3,422.00	10.18	211.01	3,403.69	-200.65	-109.56	-199.84	0.61	-0.52	1.75	
3,517.00	10.47	207.44	3,497.15	-215.51	-117.87	-214.64	0.74	0.31	-3.76	
3,612.00	9.99	207.86	3,590.64	-230.45	-125.69	-229.53	0.51	-0.51	0.44	
3,707.00	10.92	207.44	3,684.06	-245.72	-133.69	-244.74	0.98	0.98	-0.44	
3,802.00	10.50	203.36	3,777.41	-261.66	-141.27	-260.61	0.91	-0.44	-4.29	
3,898.00	10.43	201.66	3,871.81	-277.76	-147.95	-276.67	0.33	-0.07	-1.77	
3,993.00	9.80	201.81	3,965.34	-293.26	-154.12	-292.12	0.66	-0.66	0.16	
4,089.00	10.63	199.41	4,059.81	-309.20	-160.10	-308.02	0.97	0.86	-2.50	
4,184.00	10.98	197.20	4,153.13	-326.11	-165.69	-324.88	0.57	0.37	-2.33	
4,279.00	11.47	194.23	4,246.31	-343.90	-170.69	-342.64	0.80	0.52	-3.13	
4,374.00	11.05	202.19	4,339.49	-361.49	-176.45	-360.19	1.69	-0.44	8.38	
4,469.00	10.46	201.68	4,432.82	-377.93	-183.07	-376.58	0.63	-0.62	-0.54	
4,565.00	9.97	201.35	4,527.30	-393.77	-189.32	-392.37	0.51	-0.51	-0.34	
4,623.00	9.92	201.89	4,584.43	-403.08	-193.01	-401.66	0.18	-0.09	0.93	
4,739.00	10.42	212.89	4,698.62	-421.17	-202.43	-419.67	1.73	0.43	9.48	
4,834.00	10.63	214.16	4,792.02	-435.63	-212.01	-434.07	0.33	0.22	1.34	
4,929.00	10.17	212.06	4,885.46	-449.99	-221.39	-448.35	0.63	-0.48	-2.21	

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<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	Midland

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)	
5,025.00	11.15	216.98	4,979.80	-464.59	-231.47	-462.88	1.39	1.02	5.13	
5,120.00	13.32	217.28	5,072.64	-480.64	-243.62	-478.84	2.29	2.28	0.32	
5,215.00	14.26	211.50	5,164.90	-499.32	-256.37	-497.43	1.75	0.99	-6.08	
5,309.00	14.11	210.89	5,256.04	-519.02	-268.30	-517.04	0.23	-0.16	-0.65	
5,405.00	13.14	208.40	5,349.34	-538.67	-279.50	-536.60	1.18	-1.01	-2.59	
5,500.00	12.09	208.35	5,442.04	-556.92	-289.36	-554.78	1.11	-1.11	-0.05	
5,596.00	11.67	205.21	5,535.99	-574.55	-298.27	-572.35	0.80	-0.44	-3.27	
5,691.00	10.74	202.12	5,629.17	-591.45	-305.69	-589.19	1.16	-0.98	-3.25	
5,786.00	10.23	203.21	5,722.59	-607.40	-312.35	-605.09	0.58	-0.54	1.15	
5,882.00	10.16	203.41	5,817.07	-623.00	-319.07	-620.65	0.08	-0.07	0.21	
5,977.00	10.29	208.40	5,910.56	-638.16	-326.44	-635.75	0.94	0.14	5.25	
6,072.00	11.68	212.88	6,003.82	-653.70	-335.70	-651.22	1.72	1.46	4.72	
6,168.00	10.96	215.14	6,097.96	-669.32	-346.22	-666.77	0.88	-0.75	2.35	
6,262.00	9.90	213.22	6,190.40	-683.39	-355.79	-680.76	1.19	-1.13	-2.04	
6,357.00	9.57	214.06	6,284.03	-696.76	-364.69	-694.07	0.38	-0.35	0.88	
6,452.00	9.19	210.08	6,377.76	-709.87	-372.92	-707.12	0.79	-0.40	-4.19	
6,546.00	11.97	211.12	6,470.16	-724.71	-381.72	-721.90	2.96	2.96	1.11	
6,641.00	11.92	212.59	6,563.10	-741.41	-392.09	-738.52	0.32	-0.05	1.55	
6,736.00	11.77	213.46	6,656.08	-757.76	-402.72	-754.79	0.25	-0.16	0.92	
6,830.00	11.46	203.13	6,748.16	-774.35	-411.68	-771.31	2.23	-0.33	-10.99	
6,926.00	11.53	197.08	6,842.24	-792.29	-418.24	-789.21	1.26	0.07	-6.30	
7,021.00	11.07	197.26	6,935.40	-810.08	-423.74	-806.95	0.49	-0.48	0.19	
7,117.00	10.24	197.18	7,029.74	-827.03	-428.99	-823.87	0.86	-0.86	-0.08	
7,212.00	9.58	197.95	7,123.32	-842.62	-433.92	-839.42	0.71	-0.69	0.81	
7,308.00	8.87	197.93	7,218.08	-857.26	-438.66	-854.02	0.74	-0.74	-0.02	
7,403.00	9.50	202.58	7,311.87	-871.47	-443.93	-868.19	1.02	0.66	4.89	
7,496.00	9.70	205.59	7,403.56	-885.62	-450.26	-882.30	0.58	0.22	3.24	
7,591.00	9.23	205.91	7,497.27	-899.69	-457.04	-896.32	0.50	-0.49	0.34	
7,686.00	8.45	205.93	7,591.14	-912.82	-463.43	-909.40	0.82	-0.82	0.02	
7,781.00	8.08	205.22	7,685.15	-925.14	-469.32	-921.68	0.40	-0.39	-0.75	
7,876.00	7.96	202.95	7,779.22	-937.24	-474.73	-933.73	0.36	-0.13	-2.39	
7,971.00	7.51	202.55	7,873.36	-949.03	-479.68	-945.49	0.48	-0.47	-0.42	
8,065.00	5.85	197.76	7,966.72	-959.27	-483.49	-955.70	1.86	-1.77	-5.10	
8,160.00	3.09	234.99	8,061.44	-965.35	-487.07	-961.75	4.07	-2.91	39.19	
8,256.00	1.09	230.67	8,157.37	-967.41	-489.90	-963.79	2.09	-2.08	-4.50	
8,351.00	0.72	218.51	8,252.36	-968.45	-490.97	-964.83	0.44	-0.39	-12.80	
8,446.00	0.70	210.72	8,347.35	-969.42	-491.63	-965.79	0.10	-0.02	-8.20	
8,509.00	0.82	337.84	8,410.35	-969.33	-492.00	-965.70	2.16	0.19	201.78	
8,603.00	10.23	358.47	8,503.81	-960.34	-492.48	-956.71	10.07	10.01	21.95	
8,650.00	16.18	354.14	8,549.55	-949.65	-493.26	-946.01	12.82	12.66	-9.21	
8,699.00	22.08	355.63	8,595.82	-933.66	-494.66	-930.01	12.08	12.04	3.04	
8,746.00	27.88	358.78	8,638.41	-913.85	-495.57	-910.19	12.66	12.34	6.70	
8,794.00	33.11	2.02	8,679.76	-889.51	-495.34	-885.85	11.42	10.90	6.75	

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<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	Midland

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)	
8,841.00	38.34	2.88	8,717.90	-862.10	-494.16	-858.45	11.18	11.13	1.83	
8,889.00	43.90	0.85	8,754.05	-830.56	-493.16	-826.93	11.91	11.58	-4.23	
8,936.00	48.35	358.61	8,786.62	-796.70	-493.35	-793.06	10.07	9.47	-4.77	
8,985.00	51.72	358.33	8,818.09	-759.16	-494.35	-755.52	6.89	6.88	-0.57	
9,032.00	55.82	358.26	8,845.86	-721.27	-495.48	-717.62	8.72	8.72	-0.15	
9,080.00	60.18	358.37	8,871.29	-680.59	-496.68	-676.93	9.09	9.08	0.23	
9,127.00	63.22	358.58	8,893.57	-639.23	-497.78	-635.56	6.48	6.47	0.45	
9,174.00	66.71	359.44	8,913.45	-596.66	-498.51	-592.99	7.61	7.43	1.83	
9,222.00	69.27	0.48	8,931.44	-552.16	-498.53	-548.49	5.70	5.33	2.17	
9,270.00	71.29	1.49	8,947.64	-506.99	-497.76	-503.32	4.65	4.21	2.10	
9,318.00	74.58	1.76	8,961.72	-461.12	-496.45	-457.47	6.88	6.85	0.56	
9,365.00	76.76	0.95	8,973.35	-415.60	-495.38	-411.96	4.93	4.64	-1.72	
9,396.88	79.81	0.94	8,979.83	-384.40	-494.86	-380.76	9.55	9.55	-0.02	
<b>FTP[Chin#521H]</b>										
9,412.00	81.25	0.94	8,982.32	-369.48	-494.62	-365.85	9.55	9.55	-0.02	
9,460.00	83.55	0.82	8,988.66	-321.91	-493.89	-318.29	4.80	4.79	-0.25	
9,555.00	89.33	0.38	8,994.56	-227.14	-492.90	-223.52	6.10	6.08	-0.46	
9,650.00	91.14	0.21	8,994.17	-132.15	-492.41	-128.54	1.91	1.91	-0.18	
9,745.00	89.77	358.51	8,993.42	-37.16	-493.47	-33.55	2.30	-1.44	-1.79	
9,840.00	90.44	357.72	8,993.24	57.78	-496.59	61.42	1.09	0.71	-0.83	
9,935.00	88.93	359.04	8,993.76	152.74	-499.28	156.39	2.11	-1.59	1.39	
10,031.00	88.49	357.75	8,995.93	248.67	-501.97	252.35	1.42	-0.46	-1.34	
10,125.00	89.09	356.00	8,997.91	342.51	-507.09	346.22	1.97	0.64	-1.86	
10,218.00	88.39	357.38	8,999.96	435.33	-512.46	439.07	1.66	-0.75	1.48	
10,314.00	88.69	359.02	9,002.40	531.25	-515.47	535.01	1.74	0.31	1.71	
10,409.00	89.83	358.04	9,003.63	626.21	-517.91	629.99	1.58	1.20	-1.03	
10,504.00	90.20	0.94	9,003.60	721.19	-518.75	724.97	3.08	0.39	3.05	
10,600.00	91.34	0.59	9,002.31	817.17	-517.47	820.94	1.24	1.19	-0.36	
10,694.00	89.19	0.74	9,001.88	911.16	-516.38	914.92	2.29	-2.29	0.16	
10,790.00	89.09	0.64	9,003.32	1,007.14	-515.23	1,010.89	0.15	-0.10	-0.10	
10,885.00	90.50	0.03	9,003.66	1,102.14	-514.67	1,105.88	1.62	1.48	-0.64	
10,980.00	88.99	0.99	9,004.08	1,197.13	-513.82	1,200.86	1.88	-1.59	1.01	
11,097.00	89.46	0.52	9,005.67	1,314.11	-512.28	1,317.83	0.57	0.40	-0.40	
11,192.00	87.51	3.55	9,008.18	1,409.00	-508.91	1,412.69	3.79	-2.05	3.19	
11,287.00	86.61	3.84	9,013.05	1,503.67	-502.80	1,507.32	1.00	-0.95	0.31	
11,382.00	86.68	4.20	9,018.61	1,598.28	-496.15	1,601.87	0.39	0.07	0.38	
11,476.00	88.46	2.63	9,022.60	1,692.02	-490.56	1,695.57	2.52	1.89	-1.67	
11,510.48	88.37	2.37	9,023.55	1,726.46	-489.05	1,730.00	0.79	-0.25	-0.75	
<b>Ap1[Chin#521H]</b>										
11,572.00	88.22	1.91	9,025.38	1,787.90	-486.76	1,791.42	0.79	-0.25	-0.75	
11,667.00	88.93	359.40	9,027.74	1,882.86	-485.67	1,886.37	2.74	0.75	-2.64	
11,763.00	89.19	359.20	9,029.31	1,978.84	-486.84	1,982.36	0.34	0.27	-0.21	
11,857.00	89.06	359.34	9,030.75	2,072.82	-488.04	2,076.34	0.20	-0.14	0.15	
11,952.00	89.09	359.26	9,032.28	2,167.80	-489.20	2,171.33	0.09	0.03	-0.08	

<b>Company:</b>	Devon Energy	<b>Local Co-ordinate Reference:</b>	Well #521H
<b>Project:</b>	Lea County, NM (NAD83 NME)	<b>TVD Reference:</b>	KB=24' @ 3464.00usft (Cactus 167)
<b>Site:</b>	Chincoteague 8-5 Fed Com	<b>MD Reference:</b>	KB=24' @ 3464.00usft (Cactus 167)
<b>Well:</b>	#521H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	Midland

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)	
12,047.00	89.26	359.15	9,033.65	2,262.78	-490.52	2,266.32	0.21	0.18	-0.12	
12,142.00	89.33	358.89	9,034.82	2,357.76	-492.14	2,361.31	0.28	0.07	-0.27	
12,237.00	89.29	358.45	9,035.96	2,452.73	-494.35	2,456.29	0.47	-0.04	-0.46	
12,331.00	89.60	358.68	9,036.87	2,546.69	-496.70	2,550.27	0.41	0.33	0.24	
12,427.00	89.60	358.36	9,037.54	2,642.66	-499.18	2,646.25	0.33	0.00	-0.33	
12,522.00	89.63	358.06	9,038.18	2,737.61	-502.15	2,741.22	0.32	0.03	-0.32	
12,616.00	89.73	357.62	9,038.71	2,831.54	-505.69	2,835.17	0.48	0.11	-0.47	
12,712.00	89.66	357.74	9,039.22	2,927.46	-509.58	2,931.12	0.14	-0.07	0.13	
12,807.00	89.06	357.74	9,040.28	3,022.38	-513.32	3,026.06	0.63	-0.63	0.00	
12,902.00	88.42	357.26	9,042.37	3,117.27	-517.47	3,120.98	0.84	-0.67	-0.51	
12,998.00	87.72	356.76	9,045.60	3,213.08	-522.47	3,216.83	0.90	-0.73	-0.52	
13,093.00	87.62	358.03	9,049.46	3,307.90	-526.79	3,311.68	1.34	-0.11	1.34	
13,188.00	89.56	359.67	9,051.80	3,402.85	-528.69	3,406.63	2.67	2.04	1.73	
13,284.00	89.50	359.71	9,052.59	3,498.84	-529.21	3,502.63	0.08	-0.06	0.04	
13,379.00	91.58	0.79	9,051.69	3,593.83	-528.80	3,597.61	2.47	2.19	1.14	
13,474.00	91.58	0.29	9,049.07	3,688.79	-527.90	3,692.56	0.53	0.00	-0.53	
13,512.48	91.62	0.34	9,048.00	3,727.26	-527.69	3,731.02	0.17	0.11	0.14	
<b>Ap2[Chin#521H]</b>										
13,569.00	91.68	0.42	9,046.37	3,783.75	-527.31	3,787.52	0.17	0.11	0.14	
13,663.00	91.58	0.82	9,043.70	3,877.71	-526.30	3,881.46	0.44	-0.11	0.43	
13,758.00	91.41	0.91	9,041.22	3,972.66	-524.86	3,976.41	0.20	-0.18	0.09	
13,852.00	93.09	0.23	9,037.53	4,066.58	-523.93	4,070.31	1.93	1.79	-0.72	
13,948.00	93.22	0.04	9,032.25	4,162.44	-523.70	4,166.16	0.24	0.14	-0.20	
14,043.00	93.43	0.25	9,026.74	4,257.28	-523.46	4,261.00	0.31	0.22	0.22	
14,138.00	91.61	0.01	9,022.56	4,352.18	-523.25	4,355.90	1.93	-1.92	-0.25	
14,233.00	90.70	359.69	9,020.64	4,447.16	-523.50	4,450.88	1.02	-0.96	-0.34	
14,329.00	91.21	359.91	9,019.04	4,543.15	-523.83	4,546.86	0.58	0.53	0.23	
14,424.00	90.81	359.64	9,017.37	4,638.13	-524.20	4,641.85	0.51	-0.42	-0.28	
14,520.00	91.07	359.48	9,015.80	4,734.11	-524.94	4,737.84	0.32	0.27	-0.17	
14,614.00	90.80	358.84	9,014.26	4,828.09	-526.32	4,831.82	0.74	-0.29	-0.68	
14,710.00	91.47	358.56	9,012.36	4,924.05	-528.50	4,927.79	0.76	0.70	-0.29	
14,805.00	92.52	358.93	9,009.05	5,018.97	-530.58	5,022.72	1.17	1.11	0.39	
14,901.00	93.69	358.96	9,003.85	5,114.81	-532.34	5,118.57	1.22	1.22	0.03	
14,996.00	91.84	0.26	8,999.27	5,209.69	-532.99	5,213.45	2.38	-1.95	1.37	
15,091.00	91.65	0.36	8,996.38	5,304.64	-532.47	5,308.40	0.23	-0.20	0.11	
15,187.00	92.32	359.74	8,993.05	5,400.58	-532.39	5,404.34	0.95	0.70	-0.65	
15,283.00	91.68	357.18	8,989.70	5,496.48	-534.97	5,500.26	2.75	-0.67	-2.67	
15,378.00	90.34	354.41	8,988.03	5,591.20	-541.93	5,595.02	3.24	-1.41	-2.92	
15,473.00	90.84	354.90	8,987.05	5,685.78	-550.78	5,689.67	0.74	0.53	0.52	
15,568.00	91.78	358.07	8,984.88	5,780.56	-556.60	5,784.49	3.48	0.99	3.34	
15,663.00	91.18	359.59	8,982.42	5,875.51	-558.54	5,879.45	1.72	-0.63	1.60	
15,759.00	91.07	1.47	8,980.54	5,971.48	-557.65	5,975.41	1.96	-0.11	1.96	
15,815.36	91.27	1.52	8,979.38	6,027.81	-556.18	6,031.73	0.37	0.36	0.09	

<b>Company:</b>	Devon Energy	<b>Local Co-ordinate Reference:</b>	Well #521H
<b>Project:</b>	Lea County, NM (NAD83 NME)	<b>TVD Reference:</b>	KB=24' @ 3464.00usft (Cactus 167)
<b>Site:</b>	Chincoteague 8-5 Fed Com	<b>MD Reference:</b>	KB=24' @ 3464.00usft (Cactus 167)
<b>Well:</b>	#521H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	Midland

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)	
<b>Ap3[Chin#521H]</b>										
15,854.00	91.41	1.56	8,978.48	6,066.43	-555.14	6,070.33	0.37	0.36	0.09	
15,949.00	91.14	2.12	8,976.37	6,161.35	-552.09	6,165.24	0.65	-0.28	0.59	
16,044.00	90.54	1.28	8,974.97	6,256.30	-549.28	6,260.16	1.09	-0.63	-0.88	
16,115.07	90.36	1.15	8,974.42	6,327.35	-547.77	6,331.20	0.31	-0.25	-0.18	
<b>Ap4[Chin#521H]</b>										
16,139.00	90.30	1.11	8,974.28	6,351.28	-547.29	6,355.12	0.31	-0.25	-0.18	
16,234.00	90.54	1.41	8,973.58	6,446.25	-545.21	6,450.08	0.40	0.25	0.32	
16,329.00	90.03	0.50	8,973.11	6,541.24	-543.62	6,545.05	1.10	-0.54	-0.96	
16,424.00	89.83	0.65	8,973.22	6,636.23	-542.67	6,640.03	0.26	-0.21	0.16	
16,519.00	90.03	0.32	8,973.34	6,731.23	-541.86	6,735.02	0.41	0.21	-0.35	
16,614.00	89.70	0.03	8,973.56	6,826.23	-541.57	6,830.01	0.46	-0.35	-0.31	
16,709.00	90.07	0.48	8,973.76	6,921.23	-541.15	6,925.01	0.61	0.39	0.47	
16,804.00	90.54	0.63	8,973.25	7,016.22	-540.23	7,019.99	0.52	0.49	0.16	
16,898.00	90.97	0.72	8,972.01	7,110.20	-539.12	7,113.96	0.47	0.46	0.10	
16,994.00	91.34	0.85	8,970.08	7,206.18	-537.81	7,209.92	0.41	0.39	0.14	
17,034.00	91.48	0.82	8,969.09	7,246.16	-537.23	7,249.90	0.36	0.35	-0.08	
<b>FINAL MWD Survey ( 17034.00' MD )</b>										
17,099.00	91.48	0.82	8,967.41	7,311.13	-536.30	7,314.87	0.00	0.00	0.00	
<b>FINAL Proj. to Bit ( 17099.00' MD ) - BHL[Chin#521H] - LTP[Chin#521H]</b>										

Survey Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
17,034.00	8,969.09	7,246.16	-537.23	FINAL MWD Survey ( 17034.00' MD )	
17,099.00	8,967.41	7,311.13	-536.30	FINAL Proj. to Bit ( 17099.00' MD )	

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_