



5D Survey Report

Devon Energy

Field Name: *Lea Co, NM Nad 83 NMEZ*
Site Name: *Billiken 6 Federal 1,2H Pad*
Well Name: *Billiken 6 Federal 2H*
Survey: *Wft Svys*

31 August 2015

HOBBS OCD
SEP 19 2017
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Billiken 6 Federal 2H

Field Name:	Map Units: US ft		Company Name: Devon Energy		
Lea Co, NM Nad 83 NMEZ	Vertical Reference Datum (VRD): Mean Sea Level				
	Projected Coordinate System: NAD83 / New Mexico East (ftUS)				
	Comment:				
Site:		Units: US ft	North Reference: Grid	Convergence Angle: 0.49	
Billiken 6 Federal 1,2H Pad		Elevation above MSL: 3269.00 US ft			
		Comment:			
Slot:					
Billiken 6 Federal 2H		Slot TVD Reference: Ground Elevation			
		Elevation above MSL: 3264.00US ft			
		Comment:			
Well:					
Billiken 6 Federal 2H		Type: Main well		UWI:	
		File Number:	Comment:		
		Closure Distance: 4726.89US ft		Closure Azimuth: 7.40°	
		Vertical Section: Position of Origin (Relative to Slot centre)			
		+N/-S: 0.00US ft		+E/-W: 0.00US ft	Az: 2.82°

Drill floor: Survey Name: Wft Svys

Rig Height (Kelly Bushing): Elevation above MSL: 30.00us ft 3294.00us ft **Inclination:** 0.00° **Azimuth:** 0.00°

Survey Name: Wft Svys

Date: 24/Aug/2015 **Survey Tool:** MWD **Comment:** **Company:**

Magnetic Model:

Model Name: BGGM **Date:** 30/Jul/2015 **Field Strength:** 48159.0nT **Declination:** 7.16° **Dip:** 60.03°

Tie Point:

MD: 8435.00 US ft **Inclination:** 0.70° **Azimuth:** 250.83° **TVD:** 8434.35 US ft **North Offset:** 29.74 US ft **East Offset:** 54.00 US ft

Wellpath created using minimum curvature.

Survey Points: (Relative to Slot centre)(TVD relative to Kelly Bushing)

MD (US ft)	Incl (°)	Az (°)	TVD (US ft)	N Offset (US ft)	E Offset (US ft)	TS (US ft)	TS (1000s ft)	North (US ft)	East (US ft)	Comment
8574.00	0.59	6.55	8573.35	30.17	53.28	32.75	0.00	388945.39	827170.34	First Wft Svy

5D Survey Report

Survey Points: (Relative to Slot centre)(TVD relative to Kelly Bushing)												
TP (US ft)	Inc (ft)	Az (US ft)	TVD (US ft)	Roller (US ft)	Forward (US ft)	VS (US ft)	PIS to Slot US ft	Rolling (US ft)	Facing (US ft)	Connect		
8606.00	3.52	27.09	8605.33	31.21	53.75	33.81	9.30	388946.43	827170.81			
8638.00	7.01	25.21	8637.19	33.85	55.03	36.52	10.92	388949.07	827172.09			
8669.00	10.29	35.63	8667.83	37.81	57.45	40.59	11.68	388953.03	827174.51			
8701.00	14.11	39.35	8699.10	43.15	61.59	46.13	12.18	388958.37	827178.65			
8732.00	17.34	41.76	8728.94	49.52	67.06	52.76	10.63	388964.74	827184.12			
8764.00	21.39	42.04	8759.12	57.42	74.15	61.00	12.66	388972.64	827191.21			
8795.00	26.18	42.63	8787.48	66.65	82.57	70.64	15.47	388981.87	827199.63			
8827.00	30.35	44.01	8815.66	77.67	92.97	82.15	13.19	388992.89	827210.03			
8858.00	34.61	43.29	8841.80	89.71	104.46	94.74	13.80	389004.93	827221.52			
8890.00	39.02	40.80	8867.42	103.96	117.28	109.61	14.55	389019.18	827234.34			
8922.00	42.79	41.89	8891.60	119.68	131.12	125.99	11.99	389034.90	827248.18			
8953.00	46.02	41.52	8913.74	135.88	145.55	142.87	10.45	389051.10	827262.61			
8985.00	48.67	41.30	8935.42	153.53	161.12	161.27	8.30	389068.75	827278.18			
9017.00	52.15	39.87	8955.82	172.26	177.15	180.76	11.41	389087.48	827294.21			
9048.00	55.36	39.71	8974.14	191.47	193.15	200.74	10.36	389106.69	827310.21			
9080.00	58.99	39.21	8991.48	212.23	210.23	222.31	11.42	389127.45	827327.29			
9111.00	62.51	39.50	9006.63	233.13	227.38	244.04	11.38	389148.35	827344.44			
9143.00	63.81	41.06	9021.08	254.91	245.84	266.70	5.95	389170.13	827362.90			
9175.00	64.96	41.93	9034.91	276.53	264.96	289.23	4.35	389191.75	827382.02			
9206.00	66.73	40.70	9047.60	297.77	283.63	311.36	6.76	389212.99	827400.69			
9237.50	68.18	38.83	9059.68	320.13	302.24	334.62	7.15	389235.35	827419.30			
9238.00	68.20	38.80	9059.86	320.50	302.53	334.99	7.15	389235.72	827419.59			
9269.00	72.08	36.20	9070.39	343.62	320.27	358.97	14.79	389258.84	827437.33			
9301.00	75.64	32.65	9079.29	368.98	337.63	385.14	15.40	389284.20	827454.69			
9332.00	79.24	29.87	9086.03	394.84	353.32	411.74	14.54	389310.06	827470.38			
9364.00	82.64	25.24	9091.07	422.84	367.93	440.43	17.80	389338.06	827484.99			
9396.00	84.96	21.20	9094.53	452.07	380.47	470.24	14.49	389367.29	827497.53			
9427.00	87.13	17.20	9096.67	481.27	390.63	499.91	14.65	389396.49	827507.69			
9446.00	88.04	14.44	9097.47	499.53	395.81	518.40	15.28	389414.75	827512.87			
9478.00	90.63	10.06	9097.84	530.79	402.59	549.96	15.90	389446.01	827519.65			
9509.00	91.19	7.55	9097.35	561.42	407.34	580.78	8.29	389476.64	827524.40			
9541.00	91.33	5.99	9096.64	593.19	411.11	612.70	4.89	389508.41	827528.17			
9636.00	88.67	1.02	9096.64	687.97	416.92	707.65	5.93	389603.19	827533.98			
9731.00	89.16	359.74	9098.44	782.95	417.54	802.55	1.44	389698.17	827534.60			
9825.00	89.65	358.52	9099.42	876.93	416.12	896.34	1.40	389792.15	827533.18			
9920.00	88.95	358.73	9100.58	971.90	413.84	991.08	0.77	389887.12	827530.90			
10015.00	88.04	358.70	9103.08	1066.84	411.71	1085.80	0.96	389982.06	827528.77			
10110.00	89.23	358.20	9105.34	1161.78	409.14	1180.50	1.36	390077.00	827526.20			
10205.00	90.07	358.54	9105.92	1256.74	406.44	1275.21	0.95	390171.96	827523.50			
10299.00	90.28	358.36	9105.63	1350.70	403.89	1368.94	0.29	390265.92	827520.95			
10394.00	89.30	359.73	9105.98	1445.68	402.31	1463.73	1.77	390360.90	827519.37			
10489.00	88.74	1.97	9107.60	1540.65	403.72	1558.65	2.43	390455.87	827520.78			
10584.00	88.32	1.27	9110.04	1635.58	406.41	1653.60	0.86	390550.80	827523.47			
10679.00	88.32	1.06	9112.83	1730.52	408.34	1748.52	0.22	390645.74	827525.40			
10774.00	89.23	0.63	9114.86	1825.49	409.74	1843.44	1.06	390740.71	827526.80			
10869.00	88.32	2.76	9116.89	1920.42	412.55	1938.39	2.44	390835.64	827529.61			
10963.00	88.74	3.86	9119.30	2014.23	417.97	2032.35	1.25	390929.45	827535.03			
11058.00	88.18	6.19	9121.85	2108.82	426.29	2127.24	2.52	391024.04	827533.35			
11153.00	89.37	6.68	9123.89	2203.20	436.93	2222.03	1.35	391118.42	827553.99			
11248.00	89.79	6.67	9124.58	2297.56	447.98	2316.81	0.44	391212.78	827565.04			
11343.00	90.56	5.82	9124.29	2391.99	458.31	2411.64	1.21	391307.21	827575.37			
11438.00	90.56	4.96	9123.36	2486.56	467.23	2506.54	0.91	391401.78	827584.29			
11532.00	91.33	3.91	9121.81	2580.27	474.50	2600.49	1.39	391495.49	827591.56			
11627.00	90.00	4.63	9120.71	2674.99	481.57	2695.45	1.59	391590.21	827598.63			
11722.00	89.09	4.70	9121.46	2769.68	489.30	2790.39	0.96	391684.90	827606.36			
11817.00	87.69	3.59	9124.13	2864.39	496.16	2885.33	1.88	391779.61	827613.22			
11912.00	87.55	3.17	9128.08	2959.14	501.76	2980.24	0.47	391874.36	827618.82			
12007.00	88.04	3.62	9131.73	3053.90	507.38	3075.17	0.70	391969.12	827624.44			

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Survey Points: (Relative to Slot centre)(TVD relative to Kelly Bushing)										
HD (US ft.)	Inc (°)	Az (°)	TVD (US ft.)	N.Offset (US ft.)	E.Offset (US ft.)	VS (US ft.)	DLS (1000US ft.)	Northing (US ft.)	Easting (US ft.)	Comment
12102.00	88.53	3.75	9134.58	3148.66	513.48	3170.11	0.53	392063.88	827630.54	
12196.00	90.07	4.50	9135.73	3242.41	520.24	3264.08	1.82	392157.63	827637.30	
12291.00	90.28	4.29	9135.43	3337.13	527.52	3359.04	0.31	392252.35	827644.58	
12386.00	90.07	4.83	9135.14	3431.83	535.08	3454.00	0.61	392347.05	827652.14	
12481.00	90.28	3.25	9134.85	3526.59	541.77	3548.97	1.68	392441.81	827658.83	
12576.00	90.56	3.56	9134.16	3621.42	547.41	3643.96	0.44	392536.64	827664.47	
12671.00	91.05	3.83	9132.82	3716.21	553.53	3738.94	0.59	392631.43	827670.59	
12766.00	90.70	3.62	9131.37	3811.00	559.71	3833.92	0.43	392726.22	827676.77	
12861.00	89.51	2.45	9131.20	3905.86	564.73	3928.92	1.76	392821.08	827681.79	
12956.00	89.02	1.95	9132.42	4000.78	568.38	4023.90	0.74	392916.00	827685.44	
13050.00	90.77	3.32	9132.59	4094.68	572.70	4117.89	2.36	393009.90	827689.76	
13145.00	90.91	3.50	9131.20	4189.50	578.35	4212.88	0.24	393104.72	827695.41	
13240.00	90.98	3.73	9129.63	4284.30	584.34	4307.86	0.25	393199.52	827701.40	
13335.00	91.05	3.80	9127.95	4379.08	590.58	4402.83	0.10	393294.30	827707.64	
13430.00	89.86	3.60	9127.19	4473.87	596.71	4497.81	1.27	393389.09	827713.77	
13524.00	89.09	2.96	9128.05	4567.71	602.09	4591.81	1.07	393482.93	827719.15	
13571.00	89.20	3.32	9128.76	4614.64	604.66	4638.80	0.80	393529.86	827721.72	Last Wft Svy
13644.00	89.20	3.32	9129.77	4687.51	608.89	4711.79	0.00	393602.73	827725.95	Proj. To Bit





