



June 24, 2015

30-025-4248u

Devon Energy Production Co., L. P.
333 West Sheridan Ave
Oklahoma City, Oklahoma 73102-5010

Attn: Megan Moravec

Re: **Thistle Unit 072H**

Please find enclosed a copy of the survey from 0' to 10,392.14' ran on the above referenced well.

If I can be of any further service please do not hesitate to call me at 800-606-4976.

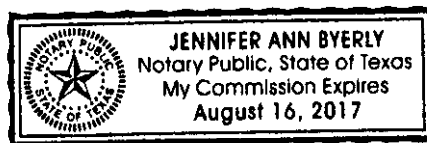
Sincerely,

Keith Havelka
Operations

STATE OF TEXAS §
 §
COUNTY OF NUECES §

This instrument was acknowledged before me on the 24 day of June, A.D., 2015, by Keith Havelka.

Jennifer Ann Byerly
Notary Public, State of Texas

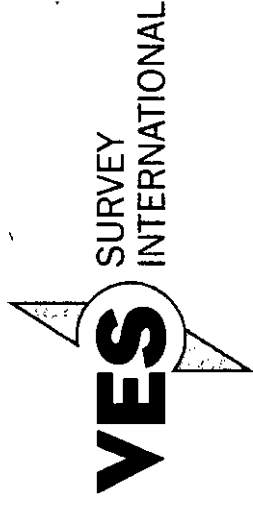


OCT 07 2015

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Company: Devon Energy
Well: Thistle Unit No 72H



Rig Name: Cactus 126
State/County: New Mexico/Lea
VS-Azi: 0.00 Degrees
Latitude: 32.26900, Longitude: -103.56000
Grid Convergence Applied = -0.41 degs (NAD 27)
Grid North = True North -0.41 degs

Depth Reference : RKB= 25 Feet

DRILLOG MS GYRO SURVEY CALCULATIONS

Filename: msgyro_run01-01-de_01.ut
Minimum Curvature Method
Report Date/Time: 6/24/2015 / 16:03

VES Survey International
Henderson, CO 80640
303-853-4976

Surveyor: Sean Bratt
Thistle Unit No 072H / API 30-025-42486

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	****
62.21	0.38	302.65	62.21	0.11	-0.17	0.11	0.21	302.65	0.61
156.98	0.50	291.20	156.98	0.43	-0.82	0.43	0.93	297.55	0.16
251.75	0.46	274.00	251.74	0.61	-1.60	0.61	1.71	290.84	0.16
346.52	0.51	268.63	346.51	0.62	-2.40	0.62	2.48	284.60	0.07
441.29	0.51	240.15	441.28	0.41	-3.18	0.41	3.20	277.28	0.26
536.06	0.43	225.07	536.04	-0.05	-3.79	-0.05	3.79	269.19	0.15
630.83	0.42	203.18	630.81	-0.63	-4.18	-0.63	4.23	261.49	0.17
725.60	0.32	249.67	725.58	-1.04	-4.57	-1.04	4.69	257.19	0.32
820.37	0.13	223.41	820.35	-1.21	-4.90	-1.21	5.05	256.09	0.22
915.14	0.21	198.24	915.12	-1.46	-5.03	-1.46	5.23	253.84	0.11
1009.91	0.41	156.16	1009.89	-1.93	-4.94	-1.93	5.31	248.69	0.31
1104.68	0.43	133.16	1104.65	-2.48	-4.55	-2.48	5.18	241.42	0.18
1199.45	0.56	125.74	1199.42	-2.99	-3.92	-2.99	4.93	232.68	0.15
1294.22	0.37	133.74	1294.19	-3.47	-3.32	-3.47	4.81	223.76	0.21
1388.99	0.42	135.70	1388.96	-3.93	-2.86	-3.93	4.86	216.01	0.05
1483.76	0.57	132.74	1483.72	-4.50	-2.27	-4.50	5.04	206.78	0.15

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/S FT	+E/W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
1578.53	0.45	129.39	1578.49	-5.06	-1.64	-5.06	5.31	197.93	0.12
1673.30	0.28	118.50	1673.26	-5.41	-1.14	-5.41	5.53	191.90	0.19
1768.07	0.25	128.19	1768.02	-5.65	-0.77	-5.65	5.70	187.80	0.06
1862.64	0.37	146.61	1862.79	-6.03	-0.44	-6.03	6.04	184.22	0.16
1957.61	0.38	151.20	1957.56	-6.56	-0.12	-6.56	6.56	181.09	0.03
2052.38	0.11	120.22	2052.33	-6.88	0.11	-6.88	6.88	179.10	0.30
2147.15	0.15	142.73	2147.10	-7.03	0.27	-7.03	7.03	177.84	0.06
2241.92	0.08	67.44	2241.87	-7.10	0.40	-7.10	7.11	176.76	0.16
2336.69	0.03	319.86	2336.64	-7.05	0.45	-7.05	7.07	176.37	0.10
2431.46	0.14	324.94	2431.41	-6.94	0.36	-6.94	6.95	177.00	0.11
2526.23	0.32	319.86	2526.18	-6.64	0.13	-6.64	6.64	178.90	0.19
2621.00	0.30	315.23	2620.95	-6.26	-0.22	-6.26	6.27	182.01	0.03
2715.77	0.23	302.90	2715.72	-5.98	-0.56	-5.98	6.00	185.35	0.10
2810.54	0.20	272.97	2810.49	-5.87	-0.88	-5.87	5.93	188.57	0.12
2905.31	0.24	317.72	2905.26	-5.71	-1.18	-5.71	5.83	191.66	0.18
3000.08	0.31	323.08	3000.02	-5.36	-1.47	-5.36	5.56	195.29	0.08
3094.85	0.24	349.35	3094.79	-4.96	-1.66	-4.96	5.23	198.48	0.15
3189.62	0.14	323.65	3189.56	-4.67	-1.76	-4.67	4.99	200.71	0.14
3284.39	0.11	252.65	3284.33	-4.60	-1.92	-4.60	4.98	202.65	0.16
3379.16	0.14	9.13	3379.10	-4.51	-1.98	-4.51	4.93	203.76	0.22
3473.93	0.28	13.94	3473.87	-4.17	-1.91	-4.17	4.58	204.62	0.15
3568.70	0.22	40.50	3568.64	-3.80	-1.74	-3.80	4.18	204.55	0.14
3663.47	0.33	354.84	3663.41	-3.39	-1.65	-3.39	3.77	205.88	0.25
3758.24	0.49	0.87	3758.18	-2.71	-1.66	-2.71	3.18	211.51	0.17
3853.01	0.69	338.46	3852.94	-1.78	-1.87	-1.78	2.58	226.40	0.32
3947.78	0.20	344.56	3947.71	-1.08	-2.12	-1.08	2.38	242.94	0.52
4042.55	0.10	3.40	4042.48	-0.84	-2.16	-0.84	2.32	248.86	0.12
4137.32	0.31	3.33	4137.25	-0.49	-2.14	-0.49	2.20	257.09	0.22
4232.09	0.34	23.68	4232.02	0.03	-2.01	0.03	2.01	270.77	0.13
4326.86	0.42	32.68	4326.78	0.58	-1.71	0.58	1.81	288.56	0.10
4421.63	0.50	91.03	4421.55	0.86	-1.11	0.86	1.41	307.58	0.48
4516.40	1.14	104.50	4516.31	0.61	0.21	0.61	0.65	19.19	0.70
4611.17	1.51	95.12	4611.06	0.27	2.37	0.27	2.39	83.61	0.45
4705.94	1.81	100.73	4705.79	-0.12	5.09	-0.12	5.09	91.40	0.35
4800.71	2.16	108.63	4800.50	-0.97	8.25	-0.97	8.31	96.73	0.47
4895.48	2.77	106.94	4895.18	-2.21	12.14	-2.21	12.34	100.33	0.64
4990.25	3.27	106.24	4989.82	-3.63	16.92	-3.63	17.30	102.12	0.53
5085.02	3.39	108.58	5084.43	-5.28	22.16	-5.28	22.78	103.40	0.19
5179.79	3.15	105.52	5179.05	-6.87	27.33	-6.87	28.18	104.11	0.31

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N-S FT	+E-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
5274.56	2.98	104.67	5273.68	-8.19	32.22	-8.19	33.24	104.26	0.19
5369.33	2.95	107.33	5368.32	-9.54	36.93	-9.54	38.14	104.49	0.15
5464.10	2.88	115.24	5462.97	-11.28	41.40	-11.28	42.91	105.24	0.43
5558.87	2.90	108.12	5557.62	-13.04	45.84	-13.04	47.66	105.88	0.38
5653.64	2.86	104.69	5652.27	-14.39	50.41	-14.39	52.42	105.93	0.19
5748.41	2.94	95.54	5746.92	-15.22	55.12	-15.22	57.18	105.44	0.50
5843.18	3.00	110.52	5841.56	-16.33	59.87	-16.33	62.05	105.26	0.82
5937.95	2.96	107.50	5936.21	-17.94	64.53	-17.94	66.98	105.53	0.17
6032.72	2.84	99.10	6030.85	-19.04	69.19	-19.04	71.76	105.39	0.47
6127.49	2.81	97.66	6125.51	-19.73	73.81	-19.73	76.40	104.96	0.08
6222.26	2.76	102.45	6220.17	-20.53	78.34	-20.53	80.98	104.68	0.25
6317.03	2.66	107.36	6314.83	-21.67	82.66	-21.67	85.45	104.69	0.27
6411.80	2.62	102.95	6409.50	-22.82	86.87	-22.82	89.82	104.72	0.22
6506.57	2.65	103.32	6504.17	-23.81	91.12	-23.81	94.18	104.64	0.04
6601.34	2.61	101.66	6598.84	-24.75	95.36	-24.75	98.52	104.55	0.09
6696.11	2.56	102.37	6693.52	-25.64	99.54	-25.64	102.78	104.44	0.06
6790.88	2.55	105.20	6788.19	-26.64	103.63	-26.64	107.00	104.42	0.13
6885.65	2.54	105.77	6882.87	-27.77	107.69	-27.77	111.22	104.46	0.03
6980.42	2.25	112.00	6977.55	-29.04	111.45	-29.04	115.17	104.60	0.41
7075.19	2.11	114.68	7072.26	-30.46	114.76	-30.46	118.73	104.87	0.19
7169.96	2.07	108.43	7166.96	-31.73	117.97	-31.73	122.16	105.06	0.24
7264.73	1.99	106.24	7261.67	-32.73	121.17	-32.73	125.51	105.12	0.11
7359.50	1.84	101.00	7356.39	-33.48	124.25	-33.48	128.68	105.08	0.24
7454.27	1.79	98.22	7451.11	-33.99	127.21	-33.99	131.67	104.96	0.11
7549.04	1.89	98.42	7545.83	-34.43	130.22	-34.43	134.69	104.81	0.11
7643.81	2.10	97.50	7640.55	-34.88	133.49	-34.88	137.97	104.64	0.23
7738.58	2.16	102.80	7735.25	-35.51	136.95	-35.51	141.48	104.53	0.22
7833.35	2.16	102.12	7829.95	-36.28	140.44	-36.28	145.05	104.48	0.03
7928.12	2.31	103.04	7924.65	-37.08	144.05	-37.08	148.74	104.44	0.16
8022.89	2.35	103.56	8019.34	-37.97	147.79	-37.97	152.59	104.41	0.05
8117.66	2.28	111.74	8114.04	-39.12	151.43	-39.12	156.40	104.48	0.36
8212.43	2.38	105.34	8208.73	-40.34	155.08	-40.34	160.24	104.58	0.30
8307.20	2.37	103.67	8303.42	-41.32	158.88	-41.32	164.17	104.58	0.07
8401.97	2.13	111.38	8398.11	-42.43	162.42	-42.43	167.87	104.64	0.41
8496.74	2.01	111.55	8492.82	-43.68	165.61	-43.68	171.27	104.77	0.12
8591.51	1.97	104.71	8587.53	-44.70	168.74	-44.70	174.56	104.84	0.25
8686.28	1.93	113.79	8682.25	-45.76	171.78	-45.76	177.77	104.92	0.33
8781.05	1.78	127.30	8776.97	-47.30	174.42	-47.30	180.72	105.17	0.49
8875.82	1.52	121.45	8871.70	-48.85	176.66	-48.85	183.29	105.46	0.33

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
8970.59	1.57	120.76	8966.44	-50.17	178.85	-50.17	185.76	105.67	0.05
9065.36	1.35	119.77	9061.18	-51.39	180.93	-51.39	188.09	105.86	0.23
9160.13	1.05	136.77	9155.93	-52.57	182.49	-52.57	189.91	106.07	0.49
9254.90	0.92	137.72	9250.68	-53.76	183.59	-53.76	191.30	106.32	0.14
9349.67	0.56	148.72	9345.44	-54.72	184.34	-54.72	192.29	106.53	0.40
9444.44	0.41	185.30	9440.21	-55.45	184.55	-55.45	192.71	106.72	0.36
9539.21	0.37	198.97	9534.98	-56.08	184.42	-56.08	192.76	106.91	0.11
9633.98	0.51	209.38	9629.75	-56.74	184.11	-56.74	192.66	107.13	0.17
9728.75	0.69	202.55	9724.51	-57.64	183.69	-57.64	192.52	107.42	0.20
9823.52	0.43	223.27	9819.28	-58.42	183.23	-58.42	192.32	107.68	0.34
9918.29	0.51	242.94	9914.04	-58.87	182.61	-58.87	191.87	107.87	0.19
10013.06	0.86	225.33	10008.81	-59.56	181.73	-59.56	191.24	108.14	0.43
10107.83	0.65	214.40	10103.57	-60.50	180.92	-60.50	190.77	108.49	0.26
10202.60	0.75	246.29	10198.33	-61.20	180.05	-61.20	190.17	108.77	0.42
10297.37	1.08	258.80	10293.09	-61.62	178.60	-61.62	188.93	109.04	0.41
10392.14	1.10	276.01	10387.84	-61.70	176.82	-61.70	187.28	109.24	0.34



VES Survey International
Henderson, CO 80640
303-853-4976
Surveyor: Sean Bratt
Thistle Unit No 072H / API 30-025-42486

