



HOBBS OCD

AUG 24 2015

RECEIVED

May 1, 2015

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

Attn: Megan Moravec

Re: **Cobber 21 Federal 001H**

Please find enclosed a copy of the survey from 0' to 3789' 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.

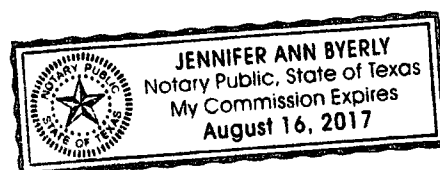
Sincerely,

Keith Havelka
Operations

STATE OF TEXAS §
 §
COUNTY OF NUECES §

This instrument was acknowledged before me on the 1 day of May, A.D., 2015, by Keith Havelka.

Jennifer Ann Byerly
Notary Public, State of Texas



SEP 09 2015



Company: Devon Energy
Lease/Well: Cobber 21 Federal/001H

Rig Name: Cactus 167
State/County: New Mexico/Lea
VS-Azi: 0.00 Degrees

Latitude: 32.02169, Longitude: -103.46628
Grid Convergence Applied = -0.46 degs
Grid North = True North -0.46 degs



Depth Reference : RKB= 23.6

DRILLOG MS GYRO SURVEY CALCULATIONS

Filename: msgyro_run01-01-de_01.ut

Minimum Curvature Method

Report Date/Time: 5/1/2015 / 14:01

VES Survey International

Ft. Worth, Texas

817-741-3610

Surveyor: Gregg Wilson

Cobber 21 Federal 001H / API 30-025-42311

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	****
76.20	0.40	211.84	76.20	-0.23	-0.14	-0.23	0.27	211.84	0.53
169.02	0.39	185.54	169.02	-0.82	-0.34	-0.82	0.89	202.84	0.19
261.84	0.19	278.25	261.84	-1.10	-0.53	-1.10	1.23	205.62	0.47
354.66	0.32	246.19	354.66	-1.19	-0.92	-1.19	1.50	217.81	0.20
447.48	0.45	356.83	447.47	-0.93	-1.17	-0.93	1.50	231.68	0.68
540.30	0.46	353.14	540.29	-0.19	-1.24	-0.19	1.25	261.08	0.04
633.12	0.95	322.22	633.10	0.78	-1.75	0.78	1.92	294.11	0.65
725.94	0.97	335.51	725.91	2.11	-2.55	2.11	3.31	309.57	0.24
818.76	0.49	358.31	818.72	3.22	-2.89	3.22	4.33	318.11	0.60
911.58	0.56	321.27	911.54	3.97	-3.18	3.97	5.09	321.28	0.36
1004.40	0.73	306.27	1004.35	4.67	-3.94	4.67	6.11	319.84	0.26
1097.22	0.75	289.04	1097.17	5.22	-5.00	5.22	7.23	316.26	0.24
1190.04	0.73	303.41	1189.98	5.74	-6.06	5.74	8.35	313.45	0.20
1282.86	0.66	305.29	1282.79	6.37	-6.99	6.37	9.46	312.37	0.08
1375.68	0.52	298.95	1375.61	6.88	-7.79	6.88	10.40	311.47	0.16
1468.50	0.41	303.82	1468.42	7.27	-8.43	7.27	11.13	310.78	0.13

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
1561.32	0.19	277.01	1561.24	7.47	-8.85	7.47	11.58	310.17	0.27
1654.14	0.19	193.96	1654.06	7.34	-9.04	7.34	11.64	309.10	0.27
1746.96	0.42	151.13	1746.88	6.90	-8.91	6.90	11.27	307.76	0.33
1839.78	0.44	126.29	1839.70	6.39	-8.46	6.39	10.60	307.08	0.20
1932.60	0.59	159.71	1932.52	5.73	-8.00	5.73	9.84	305.60	0.36
2025.42	0.68	158.53	2025.33	4.77	-7.64	4.77	9.00	301.98	0.09
2118.24	1.08	125.65	2118.14	3.75	-6.72	3.75	7.70	299.13	0.68
2211.06	1.39	123.20	2210.94	2.62	-5.07	2.62	5.71	297.34	0.33
2303.88	1.74	95.03	2303.72	1.88	-2.73	1.88	3.31	304.64	0.90
2396.70	2.65	95.96	2396.47	1.54	0.82	1.54	1.74	28.02	0.98
2489.52	3.39	95.85	2489.16	1.03	5.69	1.03	5.78	79.71	0.80
2582.34	4.19	91.63	2581.78	0.66	11.81	0.66	11.83	86.82	0.91
2675.16	4.45	88.16	2674.34	0.67	18.80	0.67	18.81	87.94	0.39
2767.98	4.13	85.91	2766.90	1.03	25.73	1.03	25.75	87.71	0.38
2860.80	4.20	85.20	2859.47	1.55	32.46	1.55	32.49	87.26	0.10
2953.62	4.68	82.48	2952.01	2.33	39.60	2.33	39.67	86.63	0.56
3046.44	4.53	83.05	3044.53	3.27	47.00	3.27	47.11	86.02	0.18
3139.26	4.61	84.57	3137.06	4.07	54.34	4.07	54.49	85.72	0.16
3232.08	4.76	85.08	3229.57	4.75	61.89	4.75	62.07	85.61	0.18
3324.90	4.81	81.31	3322.06	5.67	69.58	5.67	69.81	85.34	0.34
3417.72	4.58	75.35	3414.57	7.20	77.02	7.20	77.35	84.66	0.58
3510.54	4.74	79.26	3507.09	8.85	84.38	8.85	84.84	84.01	0.38
3603.36	4.64	78.17	3599.60	10.34	91.82	10.34	92.40	83.58	0.14
3696.18	5.41	77.29	3692.06	12.07	99.77	12.07	100.50	83.10	0.83
3789.00	5.95	73.61	3784.42	14.39	108.66	14.39	109.61	82.46	0.70



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