

OPERATOR
WELL/LEASE
COUNTY

COG Operating LLC
Flyswatter State 3H
Eddy

15-42764

STATE OF NEW MEXICO
DEVIATION REPORT

130	1.30	5,000	0.80	9739	1.60
224	1.40	5,284	1.30	9834	1.90
343	2.70	5,569	1.20	9928	1.80
378	3.00	5,666	1.20	10212	1.60
468	3.40	5,761	1.40	10306	1.40
560	3.00	5,855	1.40	10401	1.40
654	3.50	5,950	1.80	10496	1.40
749	5.30	6,045	1.90	10600	1.60
750	5.60	6,144	1.80	10695	1.60
849	4.80	6,240	1.60	10788	1.60
944	3.90	6,430	1.10	10870	1.40
1,039	2.50	6,711	1.10		
1,134	1.40	6,806	1.10		
1,326	2.30	6,901	1.10		
1,416	1.10	6,996	1.20		
1,511	1.20	7,091	1.10		
1,606	2.10	7,186	1.10		
1,701	1.80	7,285	1.20		
1,796	1.80	7,380	1.60		
1,893	2.10	7,475	1.60		
1,972	2.60	7,570	1.80		
2,055	2.60	7,665	1.10		
2,625	1.90	7,950	1.40		
2,719	1.70	8,031	1.90		
2,814	1.70	8,130	1.60		
2,909	1.90	8,225	1.20		
3,004	1.50	8,415	1.20		
3,099	1.40	8,510	0.90		
3,193	1.30	8,699	1.10		
3,287	1.20	8,791	0.70		
3,476	1.40	8,887	0.30		
3,670	1.30	9,079	0.70		
3,859	1.30	9,170	1.20		
4,050	1.40	9,266	1.60		
4,241	1.50	9,360	1.20		
4,430	0.90	9,456	1.40		
4,620	0.70	9,551	1.40		
4,810	0.60	9,645	1.10		

NM OIL CONSERVATION

ARTESIA DISTRICT

FEB 26 2016

RECEIVED

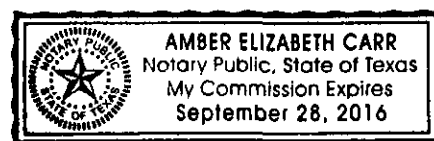
STATE OF TEXAS

COUNTY OF MIDLAND

BY: Dora Garcia

The foregoing instrument was acknowledged before me on
by Dora Garcia on behalf of Patterson-UTI Drilling Company LLC.

Amber Elizabeth Carr
Notary Public for Midland County, Texas
My Commission Expires:





January 9, 2015

Concho Resources, Inc.
One Concho Center
600 W. Illinois Avenue
Midland, Texas 79701

NM OIL CONSERVATION
ARTESIA DISTRICT

FEB 26 2016

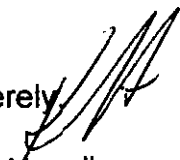
RECEIVED

Attn: Kanicia Castillo

RE: Flyswatter State 3H

Please find enclosed a copy of the survey from 0.00' to 10,820.00' ran on the above referenced well.

Sincerely,

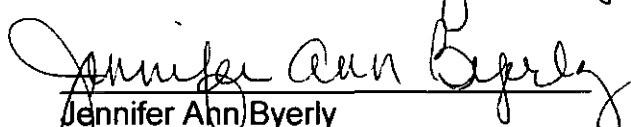

Keith Havelka
Operations

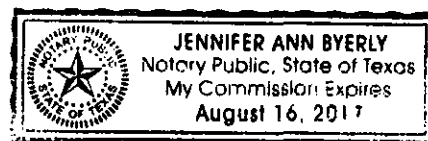
STATE OF TEXAS §

§

COUNTY OF NUECES §

This instrument was acknowledged before me on the 9 day of January,
A.D., 2015, by Keith Havelka.


Jennifer Ann Byerly
Notary Public, State of Texas





Company: Concho

Lease/Well: Flyswatter State/3H

Location: S31 T23S R27E

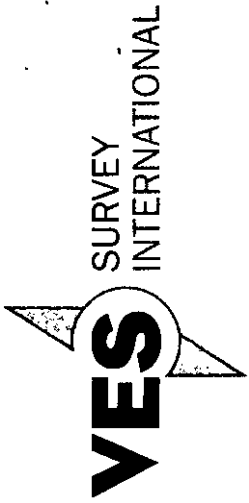
Rig Name: Patterson 79

State/County: New Mexico/Eddy

Latitude: 32.25, Longitude: -104.23

GRID North is 0.05 Degrees East of True North

VS-Azi: 252.00 Degrees



Depth Reference : RKB = 22 Feet

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: gyro survey.ut

Minimum Curvature Method

Report Date/Time: 1/9/2015 / 10:48

VES Survey International
Midland, TX
432-563-5444

Surveyor: Andrew Askew
Flyswatter State 3H / API 30-015-42764

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	****
100.00	0.85	38.06	100.00	0.59	0.46	-0.62	0.75	38.06	0.85
200.00	0.62	48.65	199.99	1.53	1.33	-1.74	2.03	40.88	0.27
300.00	1.95	47.59	299.96	3.04	2.99	-3.78	4.26	44.54	1.33
400.00	2.96	44.50	399.87	6.02	6.05	-7.62	8.54	45.13	1.02
500.00	3.61	47.31	499.70	10.00	10.18	-12.77	14.27	45.50	0.67
600.00	4.12	51.74	599.48	14.36	15.31	-19.00	20.99	46.83	0.59
700.00	4.73	55.45	699.18	18.92	21.52	-26.32	28.66	48.68	0.68
800.00	5.09	62.95	798.81	23.27	28.87	-34.65	37.08	51.12	0.73
900.00	4.23	68.23	898.48	26.66	36.24	-42.71	44.99	53.66	0.96
1000.00	2.89	86.46	998.29	28.18	42.18	-48.82	50.73	56.25	1.74
1100.00	1.75	122.58	1098.21	27.51	45.98	-52.23	53.59	59.11	1.80
1200.00	1.60	155.18	1198.17	25.42	47.86	-53.37	54.19	62.02	0.95
1300.00	1.96	154.22	1298.12	22.62	49.18	-53.77	54.14	65.30	0.36
1400.00	1.40	144.94	1398.08	20.09	50.63	-54.36	54.47	68.36	0.62
1500.00	1.18	121.10	1498.05	18.55	52.21	-55.39	55.41	70.44	0.58
1600.00	1.87	105.30	1598.02	17.59	54.67	-57.43	57.43	72.16	0.80
1700.00	1.87	135.99	1697.97	15.99	57.37	-59.51	59.56	74.43	0.99
1800.00	1.58	235.17	1797.94	14.03	57.37	-58.90	59.07	76.26	2.63

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
1900.00	1.95	288.24	1897.90	13.78	54.63	-56.21	56.34	75.85	1.61
2000.00	2.41	299.76	1997.83	15.35	51.19	-53.43	53.44	73.30	0.64
2100.00	2.24	303.86	2097.74	17.49	47.74	-50.80	50.84	69.88	0.24
2200.00	2.40	304.17	2197.66	19.76	44.38	-48.31	48.58	66.00	0.16
2300.00	2.39	299.55	2297.57	21.96	40.83	-45.62	46.36	61.73	0.19
2400.00	2.07	294.56	2397.50	23.74	37.38	-42.88	44.28	57.58	0.37
2500.00	1.72	310.34	2497.44	25.46	34.59	-40.76	42.95	53.64	0.63
2600.00	1.83	306.62	2597.40	27.39	32.16	-39.05	42.24	49.58	0.16
2700.00	1.80	292.64	2697.35	28.95	29.43	-36.93	41.28	45.48	0.44
2800.00	1.70	295.93	2797.30	30.20	26.65	-34.68	40.27	41.43	0.14
2900.00	1.65	292.40	2897.26	31.39	23.98	-32.51	39.51	37.38	0.11
3000.00	1.32	286.43	2997.22	32.27	21.55	-30.46	38.80	33.73	0.37
3100.00	1.29	278.17	3097.20	32.75	19.33	-28.50	38.03	30.54	0.19
3200.00	1.25	275.41	3197.17	33.02	17.13	-26.49	37.20	27.42	0.08
3300.00	1.21	273.52	3297.15	33.19	14.99	-24.51	36.41	24.31	0.05
3400.00	1.18	279.12	3397.13	33.41	12.92	-22.61	35.82	21.14	0.12
3500.00	1.24	272.81	3497.11	33.63	10.82	-20.69	35.33	17.84	0.14
3600.00	1.15	266.03	3597.08	33.61	8.75	-18.70	34.73	14.58	0.17
3700.00	1.12	265.07	3697.06	33.46	6.77	-16.77	34.14	11.43	0.03
3800.00	1.19	260.01	3797.04	33.19	4.76	-14.79	33.53	8.17	0.12
3900.00	1.06	257.02	3897.02	32.80	2.83	-12.83	32.93	4.94	0.14
4000.00	1.24	237.59	3997.00	32.02	1.02	-10.86	32.03	1.82	0.42
4100.00	1.34	222.75	4096.98	30.58	-0.69	-8.79	30.59	358.71	0.35
4200.00	0.96	237.96	4196.96	29.27	-2.20	-6.95	29.35	355.70	0.48
4300.00	1.03	236.28	4296.94	28.32	-3.66	-5.27	28.56	352.63	0.07
4400.00	0.85	216.33	4396.93	27.23	-4.85	-3.80	27.65	349.89	0.37
4500.00	0.74	202.48	4496.92	26.03	-5.54	-2.77	26.61	347.98	0.22
4600.00	0.69	209.68	4596.91	24.91	-6.09	-1.91	25.64	346.27	0.10
4700.00	0.42	214.99	4696.91	24.08	-6.60	-1.17	24.97	344.68	0.27
4800.00	0.54	202.61	4796.91	23.34	-6.99	-0.56	24.37	343.33	0.15
4900.00	0.48	187.37	4896.90	22.49	-7.22	-0.08	23.62	342.19	0.15
5000.00	0.54	186.76	4996.90	21.60	-7.33	0.30	22.81	341.25	0.06
5100.00	0.70	188.62	5096.89	20.53	-7.48	0.77	21.85	339.98	0.16
5200.00	0.83	184.63	5196.88	19.20	-7.63	1.32	20.66	338.33	0.14
5300.00	1.18	178.14	5296.87	17.46	-7.66	1.89	19.06	336.32	0.37
5400.00	1.28	177.39	5396.84	15.31	-7.57	2.47	17.08	333.69	0.10
5500.00	0.76	180.33	5496.83	13.54	-7.53	2.97	15.49	330.93	0.52
5600.00	1.03	215.60	5596.82	12.15	-8.05	3.90	14.58	326.47	0.60
5700.00	1.32	241.42	5696.80	10.87	-9.59	5.76	14.49	318.60	0.60

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
5800.00	1.23	234.66	5796.77	9.70	-11.47	7.91	15.02	310.21	0.18
5900.00	1.73	253.37	5896.74	8.65	-13.79	10.44	16.28	302.10	0.69
6000.00	1.75	254.84	5996.69	7.82	-16.70	13.47	18.44	295.09	0.05
6100.00	1.64	239.47	6096.65	6.69	-19.41	16.39	20.53	289.03	0.46
6200.00	1.24	254.94	6196.62	5.68	-21.69	18.87	22.42	284.68	0.56
6300.00	1.00	235.31	6296.60	4.90	-23.46	20.79	23.96	281.81	0.45
6400.00	1.20	243.85	6396.58	3.94	-25.12	22.67	25.42	278.92	0.26
6500.00	0.79	230.21	6496.57	3.04	-26.58	24.34	26.76	276.53	0.47
6600.00	1.23	245.18	6596.55	2.15	-28.09	26.05	28.17	274.38	0.51
6700.00	1.12	248.87	6696.53	1.35	-29.97	28.09	30.00	272.58	0.13
6800.00	1.04	246.23	6796.51	0.63	-31.71	29.96	31.71	271.14	0.10
6900.00	0.92	249.38	6896.50	-0.01	-33.28	31.66	33.28	269.98	0.13
7000.00	1.17	243.63	6996.48	-0.75	-34.95	33.47	34.96	268.77	0.28
7100.00	1.13	235.77	7096.46	-1.76	-36.68	35.42	36.72	267.26	0.16
7200.00	1.30	245.05	7196.44	-2.79	-38.52	37.49	38.62	265.86	0.26
7300.00	1.18	247.35	7296.41	-3.66	-40.49	39.64	40.66	264.84	0.13
7400.00	1.32	244.40	7396.39	-4.55	-42.48	41.81	42.72	263.88	0.16
7500.00	1.36	245.52	7496.36	-5.54	-44.60	44.13	44.94	262.92	0.05
7600.00	1.42	246.54	7596.33	-6.53	-46.82	46.54	47.27	262.06	0.07
7700.00	0.99	247.80	7696.31	-7.35	-48.76	48.64	49.31	261.43	0.43
7800.00	0.88	207.02	7796.30	-8.36	-49.90	50.05	50.60	260.49	0.66
7900.00	1.30	167.78	7896.28	-10.15	-50.01	50.70	51.03	258.53	0.83
8000.00	1.83	172.12	7996.24	-12.84	-49.55	51.10	51.19	255.48	0.54
8100.00	1.38	141.03	8096.21	-15.35	-48.58	50.95	50.95	252.46	0.96
8200.00	1.13	117.18	8196.18	-16.74	-46.95	49.82	49.84	250.38	0.57
8300.00	1.14	108.18	8296.16	-17.50	-45.12	48.32	48.40	248.81	0.18
8400.00	1.25	134.41	8396.14	-18.57	-43.40	47.01	47.21	246.83	0.55
8500.00	0.92	102.09	8496.13	-19.51	-41.84	45.82	46.16	245.00	0.69
8600.00	1.11	117.53	8596.11	-20.12	-40.19	44.44	44.95	243.40	0.34
8700.00	0.68	89.14	8696.10	-20.56	-38.74	43.19	43.86	242.04	0.61
8800.00	0.40	86.22	8796.09	-20.53	-37.80	42.29	43.01	241.49	0.28
8900.00	0.25	66.41	8896.09	-20.42	-37.25	41.74	42.48	241.27	0.18
9000.00	0.28	146.83	8996.09	-20.54	-36.91	41.45	42.24	240.91	0.35
9100.00	0.76	216.15	9096.09	-21.28	-37.17	41.93	42.83	240.21	0.71
9200.00	1.17	211.75	9196.07	-22.68	-38.10	43.24	44.34	239.23	0.42
9300.00	1.35	223.59	9296.05	-24.40	-39.45	45.06	46.39	238.26	0.32
9400.00	1.34	226.42	9396.02	-26.07	-41.11	47.15	48.68	237.62	0.07
9500.00	1.36	222.21	9495.99	-27.75	-42.76	49.24	50.98	237.01	0.10
9600.00	1.38	220.26	9595.97	-29.55	-44.33	51.29	53.28	236.31	0.05

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
9700.00	1.11	233.74	9695.94	-31.04	-45.89	53.24	55.41	235.92	0.39
9800.00	1.85	260.26	9795.91	-31.89	-48.27	55.76	57.85	236.55	0.99
9900.00	1.44	264.78	9895.87	-32.28	-51.11	58.58	60.45	237.72	0.43
10000.00	1.40	268.17	9995.84	-32.43	-53.58	60.98	62.63	238.82	0.09
10100.00	1.48	266.97	10095.80	-32.54	-56.10	63.41	64.85	239.88	0.08
10200.00	1.81	241.70	10195.76	-33.36	-58.78	66.21	67.58	240.43	0.79
10300.00	1.81	231.57	10295.72	-35.09	-61.41	69.24	70.72	240.26	0.32
10400.00	1.59	245.00	10395.67	-36.65	-63.90	72.10	73.67	240.16	0.45
10500.00	1.78	224.13	10495.63	-38.36	-66.24	74.85	76.55	239.93	0.64
10600.00	1.92	239.26	10595.58	-40.33	-68.76	77.86	79.72	239.61	0.50
10700.00	1.92	234.19	10695.52	-42.16	-71.56	81.09	83.06	239.49	0.17
10820.00	1.59	236.47	10815.46	-44.26	-74.58	84.61	86.72	239.31	0.28

109220
TD



VES Survey International
Midland, TX
432-563-5444
Surveyor: Andrew Askew
Flyswatter State 3H / API 30-015-42764

