

PATRIOT DRILLING, LLC

HOBBS OCD

NOV 30 2016

RECEIVED

OPERATOR:
WELL/LEASE:
COUNTY:

COG Operating, LLC
Queso State 8H
Lea Co., New Mexico
Sec. 26, T 23S, R 32E

**STATE OF NEW MEXICO
DEVIATION REPORT**

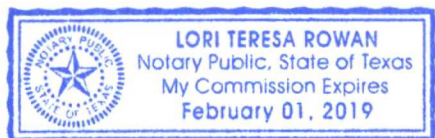
<u>Depth</u>	<u>Deviation</u>	<u>Depth</u>	<u>Deviation</u>
626	1	4,516	1 3/4
935	1	4,986	1
1,393	3/4	5,442	1
1,676	3/4	6,010	3/4
2,055	3/4	6,579	1/2
2,433	1	7,149	1/2
2,811	1 1/4	7,528	3/4
3,000	1 1/2	8,093	1/2
3,569	1 3/4	8,472	1/4
4,138	1 1/2		

Patriot Drilling, LLC

M. Leroy Peterson, Executive Vice-President

The foregoing instrument was acknowledged before me on this 5th day of July 2016 by M. Leroy Peterson, Executive Vice-President of Patriot Drilling, LLC.

My Commission Expires: 02/01/2019



Lori T. Rowan
Notary Public for Ector Co., Texas

June 30, 2016

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

HOBBS OCD
NOV 30 2016
RECEIVED

Attn: Kanicia Castillo

RE: **Queso State No. 008H**

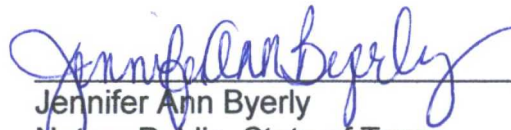
Please find enclosed a copy of the survey from 0' to 8799' ran on the above referenced well.

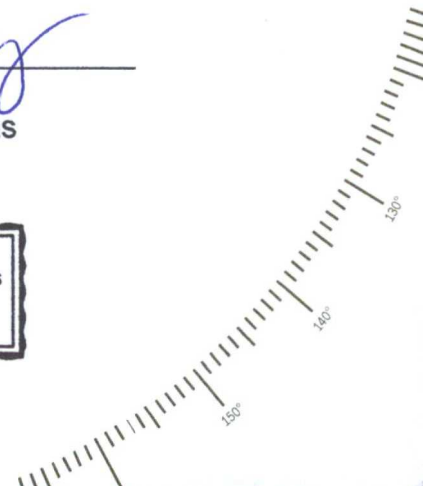
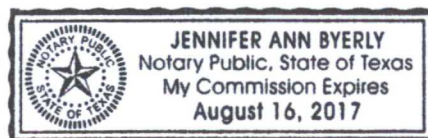
Sincerely,

Keith Havelka
Operations

STATE OF TEXAS §
 §
COUNTY OF NUECES §

This instrument was acknowledged before me on the 30th day of June, A.D., 2016, by Keith Havelka.


Jennifer Ann Byerly
Notary Public, State of Texas





Company: COG Operating
Lease/Well: Queso State No./008H

Rig Name: Patriot 2
State/County: New Mexico/Lea
VS-Azi: 0.00 Degrees
Latitude: 32.25494, Longitude: -103.62379
Grid North = True North -0.38 degs (NAD 27)
Grid Correction Applied = -0.38 degs



Depth Reference : RKB = 20 Foot

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: queso state 8h_gyro survey.ut
Minimum Curvature Method
Report Date/Time: 6/30/2016 / 14:16

VES Survey International
Midland Tx
(432) 563-5444

Surveyor: Gene Heiss
Queso State No. 008H / API 30-025-43141

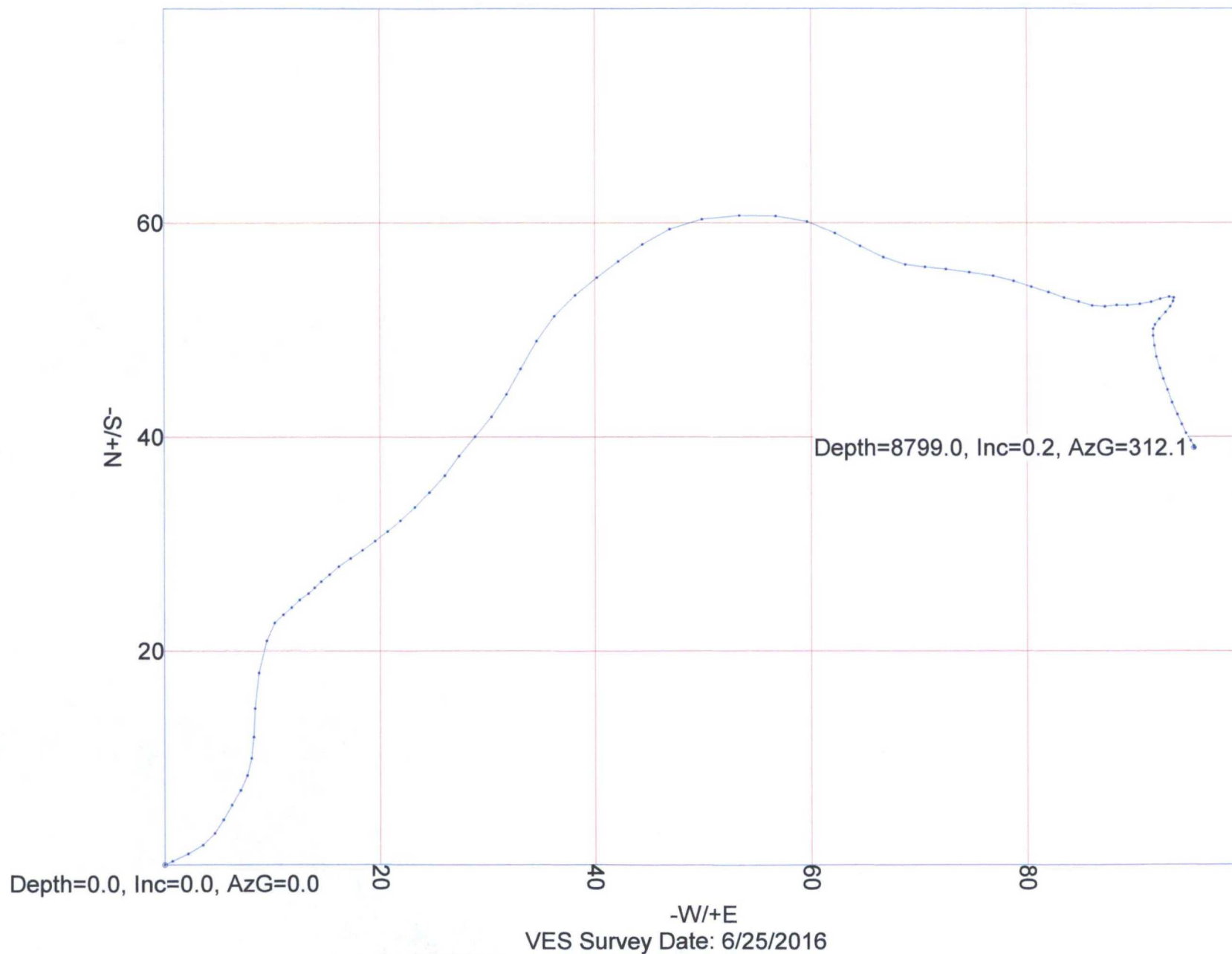
Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	****
100.00	0.88	64.22	100.00	0.34	0.69	0.34	0.77	64.22	0.88
200.00	0.93	64.96	199.98	1.01	2.12	1.01	2.35	64.47	0.04
300.00	0.89	51.87	299.97	1.83	3.46	1.83	3.92	62.10	0.21
400.00	0.88	38.07	399.96	2.92	4.55	2.92	5.40	57.31	0.21
500.00	0.86	26.13	499.95	4.20	5.35	4.20	6.80	51.90	0.18
600.00	0.94	31.47	599.94	5.57	6.11	5.57	8.27	47.65	0.12
700.00	0.88	28.82	699.92	6.94	6.91	6.94	9.80	44.86	0.07
800.00	0.85	19.15	799.91	8.32	7.52	8.32	11.22	42.12	0.15
900.00	1.05	9.21	899.90	9.93	7.92	9.93	12.70	38.56	0.26
1000.00	1.25	3.19	999.88	11.92	8.12	11.92	14.43	34.27	0.23
1100.00	1.83	2.62	1099.84	14.61	8.26	14.61	16.78	29.47	0.59
1200.00	2.03	9.79	1199.78	17.95	8.63	17.95	19.92	25.68	0.31
1300.00	1.51	18.89	1299.74	20.95	9.36	20.95	22.95	24.08	0.59
1400.00	0.64	36.33	1399.72	22.65	10.12	22.65	24.81	24.07	0.92
1500.00	0.65	58.25	1499.71	23.40	10.94	23.40	25.83	25.05	0.25
1600.00	0.53	34.77	1599.71	24.08	11.69	24.08	26.77	25.88	0.27

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
1700.00	0.69	56.04	1699.70	24.80	12.45	24.80	27.76	26.66	0.28
1800.00	0.46	51.05	1799.70	25.40	13.27	25.40	28.65	27.59	0.24
1900.00	0.45	44.39	1899.69	25.93	13.86	25.93	29.40	28.12	0.05
2000.00	0.53	49.38	1999.69	26.51	14.48	26.51	30.21	28.65	0.09
2100.00	0.63	49.43	2099.68	27.17	15.25	27.17	31.15	29.30	0.10
2200.00	0.70	50.78	2199.68	27.91	16.13	27.91	32.24	30.04	0.07
2300.00	0.81	57.23	2299.67	28.67	17.20	28.67	33.44	30.96	0.14
2400.00	0.78	54.79	2399.66	29.45	18.35	29.45	34.70	31.93	0.05
2500.00	0.88	53.37	2499.65	30.30	19.52	30.30	36.04	32.79	0.10
2600.00	0.81	52.38	2599.64	31.18	20.69	31.18	37.42	33.57	0.07
2700.00	1.00	49.09	2699.62	32.19	21.91	32.19	38.94	34.24	0.20
2800.00	1.08	45.63	2799.61	33.42	23.24	33.42	40.70	34.82	0.10
2900.00	1.21	46.39	2899.59	34.81	24.68	34.81	42.67	35.34	0.13
3000.00	1.23	36.93	2999.57	36.39	26.09	36.39	44.78	35.64	0.20
3100.00	1.36	35.08	3099.54	38.21	27.41	38.21	47.03	35.66	0.14
3200.00	1.33	43.38	3199.51	40.02	28.89	40.02	49.36	35.82	0.20
3300.00	1.44	36.04	3299.48	41.88	30.42	41.88	51.76	36.00	0.21
3400.00	1.45	30.90	3399.45	43.98	31.81	43.98	54.28	35.88	0.13
3500.00	1.68	27.19	3499.42	46.37	33.13	46.37	56.99	35.55	0.25
3600.00	1.74	32.45	3599.37	48.95	34.61	48.95	59.95	35.26	0.17
3700.00	1.55	38.55	3699.33	51.28	36.27	51.28	62.81	35.27	0.26
3800.00	1.61	50.69	3799.29	53.23	38.20	53.23	65.52	35.66	0.34
3900.00	1.38	50.63	3899.26	54.89	40.22	54.89	68.04	36.23	0.23
4000.00	1.46	53.68	3999.23	56.40	42.17	56.40	70.43	36.79	0.11
4100.00	1.68	56.21	4099.19	57.97	44.41	57.97	73.03	37.46	0.23
4200.00	1.66	64.60	4199.15	59.41	46.94	59.41	75.71	38.31	0.24
4300.00	1.94	79.81	4299.10	60.33	49.91	60.33	78.30	39.60	0.55
4400.00	2.05	88.60	4399.04	60.67	53.37	60.67	80.80	41.34	0.33
4500.00	1.82	93.64	4498.98	60.61	56.75	60.61	83.03	43.11	0.29
4600.00	1.58	106.53	4598.94	60.12	59.66	60.12	84.69	44.78	0.45
4700.00	1.63	118.88	4698.90	59.04	62.22	59.04	85.77	46.50	0.35
4800.00	1.38	115.41	4798.86	57.84	64.55	57.84	86.67	48.14	0.26
4900.00	1.39	115.65	4898.83	56.79	66.74	56.79	87.63	49.60	0.01
5000.00	1.09	100.03	4998.81	56.10	68.77	56.10	88.75	50.79	0.45
5100.00	1.02	94.50	5098.79	55.87	70.59	55.87	90.02	51.64	0.12
5200.00	1.22	97.39	5198.78	55.66	72.52	55.66	91.42	52.49	0.21
5300.00	1.28	98.04	5298.75	55.37	74.68	55.37	92.97	53.45	0.07
5400.00	1.28	98.92	5398.73	55.04	76.89	55.04	94.56	54.40	0.02
5500.00	0.98	111.47	5498.71	54.56	78.78	54.56	95.83	55.30	0.38

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
5600.00	0.97	105.70	5598.69	54.01	80.39	54.01	96.85	56.10	0.10
5700.00	0.96	109.63	5698.68	53.51	81.99	53.51	97.91	56.87	0.07
5800.00	0.79	110.31	5798.67	52.98	83.43	52.98	98.83	57.58	0.17
5900.00	0.82	100.21	5898.66	52.62	84.78	52.62	99.78	58.17	0.14
6000.00	0.67	113.11	5998.65	52.26	86.02	52.26	100.65	58.72	0.22
6100.00	0.75	77.44	6098.64	52.17	87.20	52.17	101.61	59.11	0.44
6200.00	0.53	93.22	6198.64	52.29	88.29	52.29	102.62	59.36	0.28
6300.00	0.60	88.76	6298.63	52.28	89.27	52.28	103.45	59.65	0.09
6400.00	0.75	79.73	6398.62	52.40	90.44	52.40	104.52	59.91	0.18
6500.00	0.45	79.52	6498.62	52.59	91.46	52.59	105.51	60.10	0.30
6600.00	0.58	65.20	6598.61	52.87	92.31	52.87	106.38	60.20	0.18
6700.00	0.44	90.53	6698.61	53.08	93.14	53.08	107.20	60.32	0.26
6800.00	0.12	155.22	6798.61	52.98	93.57	52.98	107.53	60.48	0.40
6900.00	0.30	206.93	6898.61	52.66	93.49	52.66	107.30	60.61	0.24
7000.00	0.33	210.15	6998.61	52.18	93.23	52.18	106.84	60.77	0.04
7100.00	0.47	222.77	7098.60	51.62	92.80	51.62	106.19	60.91	0.17
7200.00	0.50	223.81	7198.60	51.00	92.22	51.00	105.38	61.06	0.03
7300.00	0.27	201.20	7298.60	50.46	91.83	50.46	104.78	61.21	0.28
7400.00	0.24	205.58	7398.60	50.06	91.65	50.06	104.43	61.36	0.04
7500.00	0.51	169.07	7498.60	49.44	91.65	49.44	104.13	61.66	0.35
7600.00	0.57	175.95	7598.59	48.51	91.77	48.51	103.80	62.14	0.09
7700.00	0.64	165.48	7698.59	47.47	91.94	47.47	103.47	62.69	0.13
7800.00	0.64	160.77	7798.58	46.40	92.27	46.40	103.28	63.30	0.05
7900.00	0.55	163.13	7898.57	45.42	92.59	45.42	103.13	63.87	0.09
8000.00	0.70	157.37	7998.57	44.39	92.96	44.39	103.02	64.47	0.15
8100.00	0.75	162.42	8098.56	43.21	93.39	43.21	102.91	65.17	0.08
8200.00	0.65	151.30	8198.55	42.09	93.86	42.09	102.87	65.85	0.17
8300.00	0.51	162.67	8298.55	41.17	94.27	41.17	102.87	66.41	0.18
8400.00	0.55	147.27	8398.54	40.35	94.66	40.35	102.90	66.91	0.15
8500.00	0.42	147.63	8498.54	39.64	95.11	39.64	103.04	67.38	0.13
8600.00	0.21	150.73	8598.54	39.17	95.40	39.17	103.13	67.68	0.21
8700.00	0.08	167.92	8698.54	38.94	95.50	38.94	103.13	67.82	0.13
8799.00	0.16	312.15	8797.54	38.96	95.41	38.96	103.06	67.79	0.24



VES Survey International
Midland Tx
(432) 563-5444
Surveyor: Gene Heiss
Queso State No. 008H / API 30-025-43141





I Gene Heiss certify that I am employed by VES Survey International. That I did on the day(s) of 06/25/16 through 06/25/16 conduct or supervise the taking of a Rate Gyro survey from a depth of 0.00 feet to a depth of 8,799.00 feet; that the data is true, correct, complete and within the limitations of the tool as set forth by Vaughn Energy Services, that I am authorized and qualified to make this report; that this survey was conducted at the request of Concho for the Queso State Well # 8H API # 30-025-43141 in Lea County / Parish New Mexico; and that I have reviewed this report and find that it conforms to the principles and procedures as set forth by VES Survey International.

A handwritten signature in blue ink, appearing to read "Gene Heiss", is written over a horizontal line.

Gene Heiss
Service Technician
VES Survey International