

October 29, 2015

XTO Energy
200 N. Lorraine, Ste 800
Midland, Texas 79707

Attn: Chip Amrock

Re: **Charro Federal No 001H**

Please find enclosed a copy of the survey from 0' to 10,280' ran on the above mentioned well.

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

Sincerely,


Jennifer Byerly
Operations

VES Survey International
P.O. Box 261021, Corpus Christi, Texas 78426
T (361) 767-0602 F (361) 767-0612
www.vessurvey.com

FEB 15 2016

Company: XTO Energy
Lease/Well: Charro Federal No/001H

Rig Name: Noram 25
State/County: New Mexico/Lea
VS-Azi: 0.00 Degrees

Latitude: 32.19618, Longitude: -103.65137
Grid North = True North -0.36 degs (NAD 27)
Grid Correction Applied = -0.36 degs

XTO ENERGY



Depth Reference : RKB = 25 Foot

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: charro federal 1h_gyro survey.ut
Minimum Curvature Method

Report Date/Time: 10/29/2015 / 13:31

VES Survey International
West Texas
(432) 563-5444

Surveyor: Gene Heiss

Charro Federal No 001H / API 30-025-42794

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	0.17	286.53	100.00	0.04	-0.14	0.04	0.15	286.53	0.17
200.00	0.17	185.48	200.00	-0.06	-0.30	-0.06	0.31	258.64	0.26
300.00	0.22	291.42	300.00	-0.14	-0.50	-0.14	0.52	254.65	0.31
400.00	0.43	235.88	400.00	-0.28	-0.99	-0.28	1.03	254.32	0.36
500.00	0.30	293.20	500.00	-0.39	-1.54	-0.39	1.59	255.82	0.37
600.00	0.36	248.06	599.99	-0.41	-2.07	-0.41	2.11	258.90	0.26
700.00	0.64	289.34	699.99	-0.34	-2.90	-0.34	2.92	263.31	0.44
800.00	0.62	251.42	799.99	-0.33	-3.94	-0.33	3.95	265.26	0.41
900.00	0.94	268.03	899.98	-0.53	-5.27	-0.53	5.30	264.28	0.39
1000.00	0.84	237.50	999.96	-0.95	-6.71	-0.95	6.78	261.94	0.48
1100.00	0.79	219.27	1099.95	-1.88	-7.77	-1.88	7.99	256.39	0.26
1200.00	1.21	208.75	1199.94	-3.34	-8.71	-3.34	9.33	249.01	0.46
1300.00	0.97	195.48	1299.92	-5.08	-8.45	-5.08	10.73	241.71	0.35
1400.00	1.08	194.15	1399.90	-6.81	-9.90	-6.81	12.02	235.47	0.11
1500.00	1.13	190.74	1499.89	-8.70	-10.32	-8.70	13.49	229.87	0.09
1600.00	1.22	176.08	1599.87	-10.74	-10.43	-10.74	14.97	224.17	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
1700.00	0.95	189.56	1899.85	-12.62	-10.49	-12.62	16.42	219.74	0.37
1800.00	1.11	187.11	1799.83	-14.41	-10.75	-14.41	17.98	216.74	0.16
1900.00	0.96	171.08	1899.81	-16.20	-10.74	-16.20	19.44	213.55	0.32
2000.00	0.83	178.97	1999.80	-17.75	-10.60	-17.75	20.68	210.84	0.18
2100.00	0.97	167.24	2099.79	-19.30	-10.40	-19.30	21.92	208.31	0.23
2200.00	0.69	179.81	2199.78	-20.73	-10.21	-20.73	23.11	206.22	0.33
2300.00	0.85	168.05	2299.77	-22.06	-10.05	-22.06	24.24	204.50	0.23
2400.00	0.72	136.50	2399.76	-23.24	-9.46	-23.24	25.09	202.16	0.45
2500.00	0.69	133.14	2499.75	-24.11	-8.59	-24.11	25.60	199.60	0.05
2600.00	0.73	162.92	2599.75	-25.14	-7.96	-25.14	26.37	197.57	0.37
2700.00	0.80	123.96	2699.74	-26.14	-7.19	-26.14	27.11	195.38	0.52
2800.00	0.80	148.67	2799.73	-27.13	-6.24	-27.13	27.84	192.96	0.34
2900.00	0.78	129.89	2899.72	-28.17	-5.36	-28.17	28.68	190.76	0.26
3000.00	1.07	114.64	2999.71	-29.00	-3.98	-29.00	29.27	187.82	0.38
3100.00	1.31	100.42	3099.69	-29.59	-2.01	-29.59	29.66	183.89	0.38
3200.00	1.33	96.55	3199.66	-29.91	0.27	-29.91	29.91	179.49	0.12
3300.00	1.39	91.13	3299.63	-30.05	2.64	-30.05	30.16	174.98	0.12
3400.00	1.08	65.08	3399.61	-29.67	4.71	-29.67	30.05	170.99	0.63
3500.00	0.90	59.43	3499.59	-28.88	6.24	-28.88	29.54	167.81	0.21
3600.00	0.96	71.10	3599.58	-28.21	7.70	-28.21	29.24	164.73	0.20
3700.00	0.98	65.21	3699.57	-27.58	9.27	-27.58	29.10	161.43	0.10
3800.00	0.89	63.27	3799.55	-26.88	10.73	-26.88	28.94	158.23	0.10
3900.00	0.63	52.40	3899.54	-26.19	11.86	-26.19	28.75	155.64	0.29
4000.00	0.67	67.48	3999.54	-25.63	12.84	-25.63	28.67	153.38	0.18
4100.00	1.25	72.36	4099.52	-25.07	14.42	-25.07	28.92	150.09	0.58
4200.00	2.06	94.47	4199.48	-24.88	17.25	-24.88	30.28	145.27	1.02
4300.00	2.93	101.78	4299.39	-25.55	21.55	-25.55	33.42	139.85	0.93
4400.00	2.69	113.59	4399.27	-27.01	26.21	-27.01	37.63	135.86	0.63
4500.00	3.00	115.95	4499.14	-29.09	30.71	-29.09	42.30	133.45	0.32
4600.00	3.41	128.11	4598.99	-32.07	35.41	-32.07	47.77	132.17	0.79
4700.00	3.46	130.40	4698.81	-35.87	40.05	-35.87	53.76	131.85	0.15
4800.00	2.79	128.96	4798.66	-39.39	44.21	-39.39	59.21	131.70	0.67
4900.00	2.12	121.88	4898.57	-41.93	47.65	-41.93	63.47	131.35	0.76
5000.00	1.07	93.80	4998.53	-42.96	50.14	-42.96	66.03	130.59	1.28
5100.00	0.34	22.63	5098.52	-42.75	51.19	-42.75	66.69	129.87	1.01
5200.00	0.31	346.50	5198.52	-42.21	51.24	-42.21	66.39	129.49	0.20
5300.00	0.21	308.13	5298.52	-41.84	51.03	-41.84	65.99	129.35	0.20
5400.00	0.21	287.05	5398.52	-41.67	50.71	-41.67	65.64	129.41	0.08
5500.00	0.05	303.16	5498.52	-41.59	50.50	-41.59	65.42	129.48	0.16

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	0.08	351.16	5598.52	-41.50	50.45	-41.50	65.32	129.44	0.06
5700.00	0.02	354.00	5698.52	-41.42	50.44	-41.42	65.26	129.39	0.07
5800.00	0.09	333.13	5798.52	-41.33	50.40	-41.33	65.18	129.36	0.08
5900.00	0.07	329.21	5898.52	-41.21	50.33	-41.21	65.06	129.31	0.02
6000.00	0.13	305.87	5998.52	-41.10	50.21	-41.10	64.89	129.30	0.07
6100.00	0.15	301.48	6098.52	-40.97	50.01	-40.97	64.85	129.32	0.02
6200.00	0.12	279.15	6198.52	-40.88	49.80	-40.88	64.43	129.38	0.06
6300.00	0.21	206.93	6298.52	-41.03	49.61	-41.03	64.38	129.59	0.21
6400.00	0.17	196.98	6398.51	-41.34	49.48	-41.34	64.48	129.88	0.05
6500.00	0.14	165.67	6498.51	-41.60	49.47	-41.60	64.63	130.06	0.09
6600.00	0.10	100.89	6598.51	-41.73	49.58	-41.73	64.80	130.08	0.13
6700.00	0.19	93.41	6698.51	-41.75	49.83	-41.75	65.01	129.96	0.09
6800.00	0.14	13.39	6798.51	-41.64	50.02	-41.64	65.09	129.78	0.22
6900.00	0.14	20.81	6898.51	-41.40	50.10	-41.40	64.99	129.57	0.02
7000.00	0.11	129.23	6998.51	-41.35	50.22	-41.35	65.05	129.47	0.21
7100.00	0.08	125.15	7098.51	-41.45	50.35	-41.45	65.22	129.46	0.03
7200.00	0.13	201.29	7198.51	-41.60	50.37	-41.60	65.33	129.55	0.13
7300.00	0.08	189.41	7298.51	-41.77	50.32	-41.77	65.39	129.69	0.05
7400.00	0.05	224.99	7398.51	-41.86	50.28	-41.86	65.43	129.78	0.05
7500.00	0.11	186.41	7498.51	-42.00	50.24	-42.00	65.48	129.89	0.08
7600.00	0.10	123.29	7598.51	-42.14	50.29	-42.14	65.62	129.96	0.11
7700.00	0.09	156.90	7698.51	-42.26	50.40	-42.26	65.77	129.98	0.05
7800.00	0.14	58.29	7798.51	-42.27	50.53	-42.27	65.88	129.91	0.17
7900.00	0.08	184.97	7898.51	-42.27	50.62	-42.27	65.95	129.86	0.19
8000.00	0.10	85.93	7998.51	-42.33	50.71	-42.33	66.05	129.86	0.14
8100.00	0.15	60.85	8098.51	-42.26	50.91	-42.26	66.17	129.70	0.08
8200.00	0.15	300.41	8198.51	-42.13	50.92	-42.13	66.09	129.61	0.26
8300.00	0.14	347.40	8298.51	-41.95	50.78	-41.95	65.87	129.56	0.11
8400.00	0.16	320.20	8398.51	-41.72	50.66	-41.72	65.63	129.47	0.08
8500.00	0.14	38.82	8498.51	-41.51	50.65	-41.51	65.49	129.34	0.19
8600.00	0.17	44.99	8598.51	-41.32	50.83	-41.32	65.50	129.11	0.03
8700.00	0.13	25.04	8698.51	-41.11	50.98	-41.11	65.49	128.89	0.06
8800.00	0.17	18.07	8798.51	-40.87	51.07	-40.87	65.41	128.67	0.05
8900.00	0.11	355.11	8898.51	-40.64	51.11	-40.64	65.29	128.49	0.09
9000.00	0.12	337.16	8998.51	-40.45	51.06	-40.45	65.14	128.39	0.04
9100.00	0.06	243.11	9098.51	-40.38	50.97	-40.38	65.03	128.39	0.14
9200.00	0.25	174.59	9198.51	-40.62	50.94	-40.62	65.16	128.57	0.24
9300.00	0.15	172.31	9298.51	-40.97	50.98	-40.97	65.40	128.79	0.11
9400.00	0.14	192.27	9398.51	-41.22	50.97	-41.22	65.55	128.96	0.05

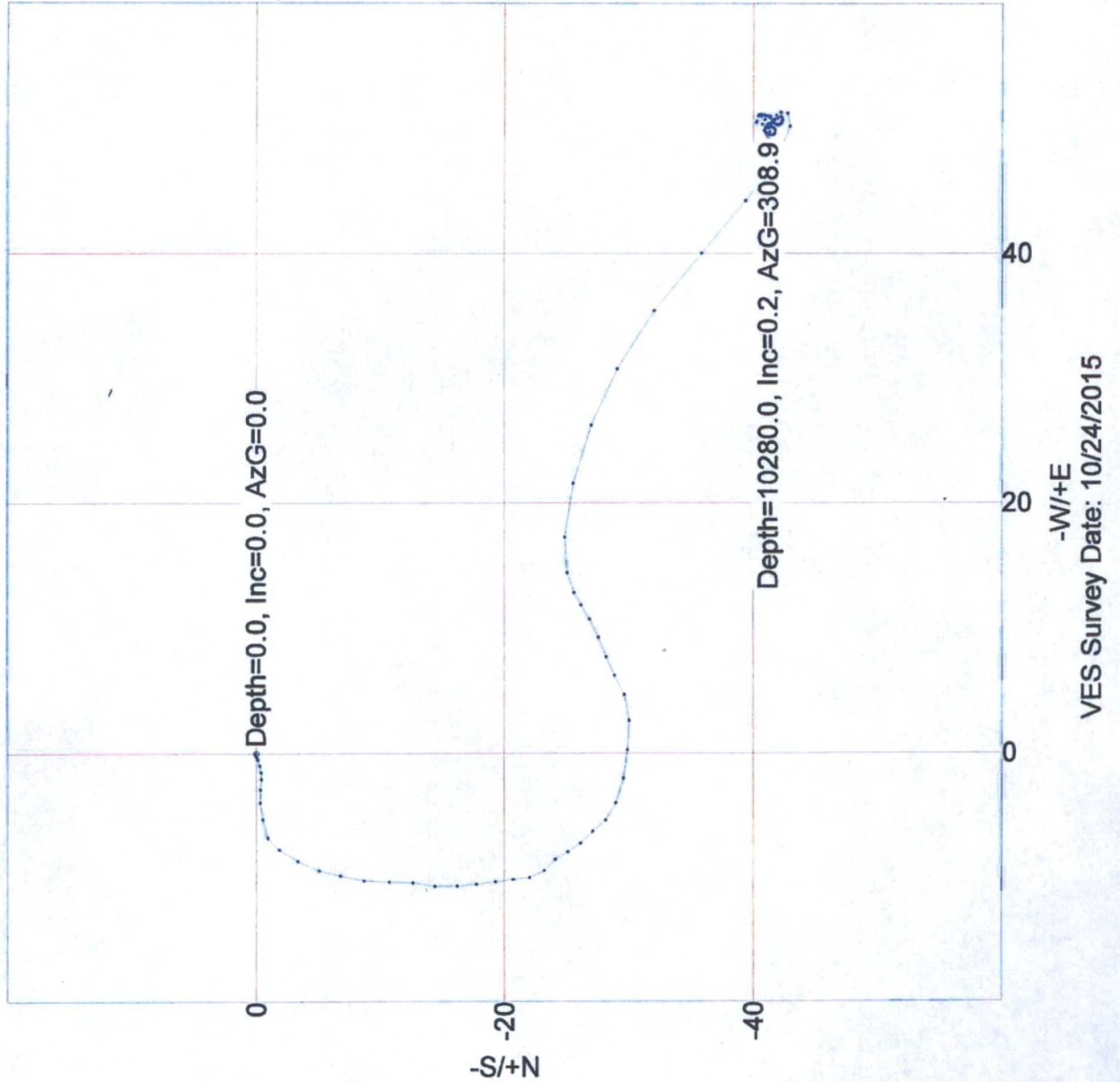
Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
9500.00	0.03	201.85	9498.51	-41.37	50.94	-41.37	65.62	129.08	0.12
9600.00	0.11	296.08	9598.51	-41.35	50.84	-41.35	65.53	129.12	0.11
9700.00	0.44	348.41	9698.51	-40.93	50.68	-40.93	65.14	128.92	0.39
9800.00	0.31	347.30	9798.50	-40.28	50.54	-40.28	64.63	128.56	0.14
9900.00	0.23	194.80	9898.50	-40.22	50.43	-40.22	64.50	128.57	0.52
10000.00	0.38	197.51	9998.50	-40.73	50.28	-40.73	64.71	129.01	0.15
10100.00	0.26	226.34	10098.50	-41.20	50.01	-41.20	64.80	129.48	0.20
10200.00	0.20	281.27	10198.50	-41.33	49.67	-41.33	64.62	129.76	0.22
10280.00	0.20	308.87	10278.50	-41.21	49.42	-41.21	64.35	129.82	0.12

VES Survey International
West Texas
(432) 563-5444
Surveyor: Gene Heiss
Charro Federal No 001H / API 30-025-42794

XTO ENERGY



HOBBS OCD
FEB 12 2016
RECEIVED





I Gene Heiss certify that I am employed by Vaughn Energy Services. That I did on the day(s) of 10/25/15 through 10/25/15 conduct or supervise the taking of a Rate Gyro survey from a depth of 0 feet to a depth of 10280 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 XTO Energy for the Charro Federal No Well # 00 1H API # 30-025-42794 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 Vaughn Energy Services

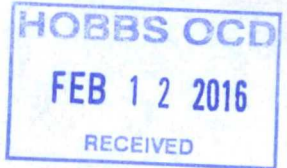
A handwritten signature in blue ink, appearing to read "Gene Heiss", written over a horizontal line.

Gene Heiss
Service Technician
Vaughn Energy Services



NorAm Drilling Company

A GLOBAL RIG COMPANY ASA



Operator: XTO Energy

Well & Lease Number: CHARRO FEDERAL 1H

County: Lea

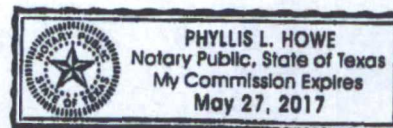
State of New Mexico

Deviation Report Rig#25

Footage	Degree
300	0.22
600	0.36
900	0.94
1200	1.21
1500	1.13
1800	1.11
2100	0.97
2400	0.72
2900	0.78
3400	1.08
3900	0.63
4400	2.69
4900	2.12
5400	0.21
5900	0.07
6400	0.17
6900	0.14
7400	0.05
7900	0.08
8400	0.16
8900	0.11
9400	0.14
9900	0.23
10369	0.70

Completed by: Will Luker

Will Luker, Safety Director
NorAm Drilling Company



Appeared before me on: 12/1/15

Notary Public: Phyllis L. Howe

8400 N. Sam Houston Parkway West • Suite 120 • Houston, TX 77064 USA • Phone: (281) 598-9200 • Fax (281) 598-9220

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