



A GYRO TECHNOLOGIES INC. COMPANY

PO Box 261021
Corpus Christi, Texas 78426
(361) 767-0602 • (800) 606-GYRO • Fax (361) 767-0612

30-015-39819

February 24, 2012

Devon Energy Production Company
20 North Broadway
Oklahoma City, OK 73102

Attn: Mark Cooper

Re: **Shaqtus 26 State Com 1**

Please find enclosed a copy of the survey from 0' to 7,294' 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.

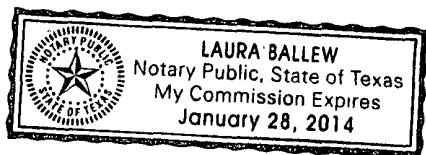
Sincerely,

Keith Havelka
Operations

STATE OF TEXAS §
§
COUNTY OF NUECES §

Rec'd 11/14/12
NMOCB

This instrument was acknowledged before me on the 29th day of February,
A.D., 2012, by Keith Havelka.



Laura Ballew
Laura Ballew
Notary Public, State of Texas



Company: Devon Energy Production Co., LP
 Lease/Well: Shaqtus 26 State Com /1
 Location: S35 T21S R31E
 Rig Name: H&P 223
 State/County: New Mexico/Eddy
 Latitude: 32.44
 GRID North is 0.31 Degrees East of True North
 VS-Azi: 355.01 Degrees



RKB : 25 Feet

DRILLOG MS GYRO SURVEY CALCULATIONS

Filename: shaqtus26st1h-01.ut

Minimum Curvature Method

Report Date/Time: 2/27/2012 / 09:22

Vaughn Energy Services

Gardendale, Texas

432-563-5444

Surveyor: Ray Seago

Shaqtus 26 State Com 1 / API 30-015-39819

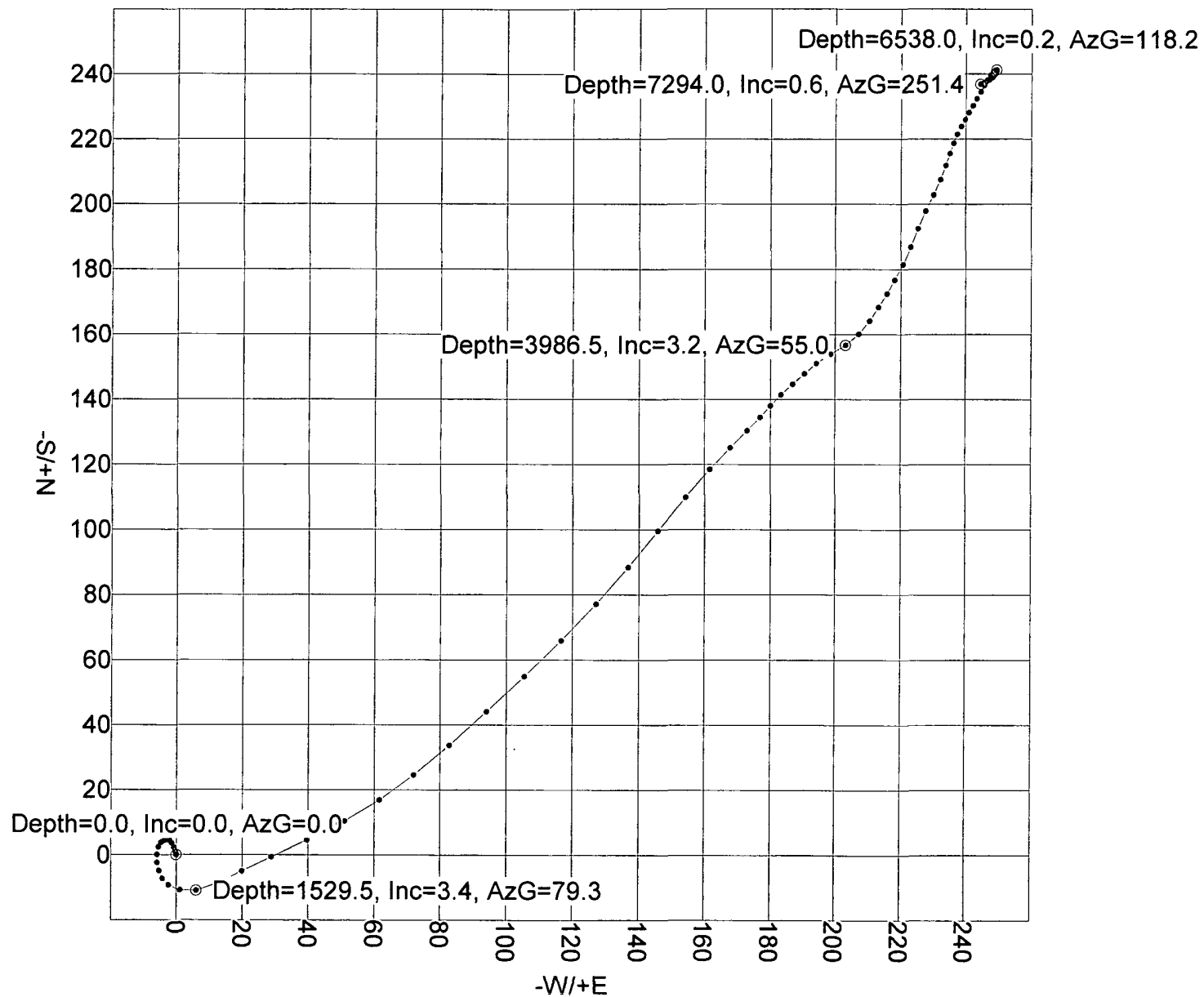
Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	****
112.00	0.38	349.31	112.00	0.36	-0.07	0.37	0.37	349.31	0.34
206.50	0.57	347.36	206.50	1.13	-0.23	1.14	1.15	348.51	0.21
301.00	0.91	330.07	300.99	2.24	-0.71	2.29	2.35	342.49	0.42
395.50	0.93	337.46	395.48	3.59	-1.37	3.70	3.84	339.09	0.13
490.00	0.56	295.94	489.97	4.50	-2.08	4.66	4.96	335.16	0.66
584.50	0.42	265.76	584.47	4.68	-2.84	4.91	5.47	328.71	0.31
679.00	0.67	244.79	678.96	4.42	-3.69	4.72	5.75	320.14	0.34
773.50	0.74	231.14	773.45	3.80	-4.67	4.19	6.02	309.12	0.19
868.00	1.31	196.25	867.94	2.38	-5.45	2.84	5.94	293.56	0.86
962.50	1.62	185.43	962.41	0.01	-5.88	0.52	5.88	270.11	0.44
1057.00	1.37	173.59	1056.88	-2.44	-5.88	-1.92	6.36	247.41	0.42
1151.50	1.69	160.74	1151.34	-4.88	-5.29	-4.40	7.20	227.29	0.49
1246.00	1.55	152.07	1245.81	-7.32	-4.23	-6.93	8.46	210.05	0.30
1340.50	1.86	123.66	1340.27	-9.29	-2.36	-9.05	9.59	194.27	0.94
1435.00	2.81	107.56	1434.69	-10.84	1.12	-10.90	10.90	174.12	1.21
1529.50	3.39	79.30	1529.05	-11.02	6.07	-11.51	12.58	151.15	1.71
1624.00	4.81	63.80	1623.31	-8.75	12.38	-9.79	15.16	125.25	1.89
1718.50	5.37	63.16	1717.44	-5.00	19.88	-6.71	20.50	104.13	0.59

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
1813.00	6.70	64.92	1811.41	-0.67	28.81	-3.18	28.82	91.34	1.42
1907.50	7.93	63.92	1905.14	4.53	39.66	1.06	39.92	83.49	1.31
2002.00	7.57	61.12	1998.78	10.40	50.97	5.93	52.02	78.47	0.55
2096.50	7.49	55.66	2092.47	16.88	61.50	11.47	63.78	74.65	0.76
2191.00	8.33	51.94	2186.07	24.57	71.98	18.22	76.06	71.15	1.04
2285.50	8.99	48.24	2279.49	33.71	82.87	26.37	89.47	67.86	0.91
2380.00	9.56	45.87	2372.75	44.09	94.01	35.75	103.84	64.87	0.73
2474.50	9.59	46.83	2465.94	54.94	105.39	45.57	118.85	62.46	0.17
2569.00	9.55	44.41	2559.12	65.93	116.62	55.54	133.97	60.52	0.43
2663.50	9.16	41.66	2652.36	77.16	127.11	65.81	148.69	58.74	0.63
2758.00	8.84	39.19	2745.70	88.41	136.70	76.18	162.79	57.11	0.53
2852.50	8.59	38.51	2839.11	99.56	145.68	86.51	176.45	55.65	0.29
2947.00	7.69	40.16	2932.66	109.91	154.14	96.08	189.31	54.51	0.98
3041.50	6.17	42.27	3026.47	118.49	161.63	103.98	200.42	53.76	1.63
3136.00	4.89	44.44	3120.52	125.12	167.87	110.05	209.37	53.30	1.37
3230.50	3.93	43.68	3214.74	130.34	172.93	114.81	216.55	52.99	1.01
3325.00	2.96	43.87	3309.07	134.45	176.86	118.55	222.16	52.76	1.03
3419.50	2.82	39.79	3403.45	137.99	180.04	121.81	226.84	52.53	0.26
3514.00	2.85	47.09	3497.84	141.38	183.25	124.90	231.45	52.35	0.38
3608.50	3.04	46.56	3592.21	144.70	186.78	127.90	236.28	52.24	0.20
3703.00	2.82	50.68	3686.59	147.89	190.40	130.77	241.09	52.16	0.32
3797.50	3.14	50.88	3780.96	151.00	194.20	133.53	246.00	52.13	0.34
3892.00	3.30	62.09	3875.31	153.90	198.61	136.04	251.26	52.23	0.69
3986.50	3.19	55.04	3969.66	156.68	203.18	138.42	256.57	52.36	0.44
4081.00	3.27	44.88	4064.01	160.10	207.23	141.47	261.87	52.31	0.61
4175.50	3.08	32.02	4158.37	164.16	210.48	145.23	266.93	52.05	0.78
4270.00	2.99	33.75	4252.73	168.36	213.19	149.18	271.66	51.70	0.13
4364.50	2.88	30.02	4347.11	172.47	215.75	153.05	276.21	51.36	0.24
4459.00	3.01	28.34	4441.49	176.70	218.12	157.06	280.71	50.99	0.16
4553.50	3.44	27.68	4535.84	181.40	220.61	161.52	285.61	50.57	0.46
4648.00	3.77	22.42	4630.15	186.78	223.11	166.66	290.97	50.07	0.50
4742.50	3.58	20.21	4724.46	192.42	225.32	172.09	296.30	49.50	0.26
4837.00	3.49	25.51	4818.78	197.78	227.57	177.24	301.51	49.01	0.36
4931.50	3.28	27.88	4913.11	202.77	230.08	181.99	306.68	48.61	0.27
5026.00	2.97	20.00	5007.47	207.46	232.18	186.48	311.36	48.22	0.56
5120.50	2.59	20.11	5101.86	211.76	233.75	190.63	315.41	47.83	0.40
5215.00	2.15	18.06	5196.28	215.45	235.03	194.19	318.84	47.49	0.47
5309.50	1.91	20.80	5290.72	218.62	236.14	197.25	321.80	47.21	0.28
5404.00	1.74	24.46	5385.17	221.40	237.30	199.92	324.54	46.99	0.22

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
5498.50	1.50	29.52	5479.63	223.78	238.50	202.18	327.05	46.82	0.30
5593.00	1.48	29.94	5574.10	225.91	239.72	204.21	329.40	46.70	0.02
5687.50	1.48	28.88	5668.57	228.04	240.92	206.22	331.73	46.57	0.03
5782.00	1.49	30.37	5763.04	230.17	242.13	208.24	334.08	46.45	0.04
5876.50	1.47	29.41	5857.51	232.29	243.35	210.24	336.41	46.33	0.04
5971.00	1.48	28.86	5951.97	234.41	244.53	212.25	338.73	46.21	0.02
6065.50	1.23	29.64	6046.45	236.36	245.62	214.10	340.87	46.10	0.27
6160.00	1.21	28.60	6140.93	238.12	246.60	215.76	342.80	46.00	0.03
6254.50	1.01	38.57	6235.41	239.64	247.59	217.20	344.58	45.93	0.30
6349.00	0.61	36.82	6329.90	240.70	248.42	218.18	345.90	45.90	0.42
6443.50	0.34	71.44	6424.40	241.19	248.98	218.62	346.65	45.91	0.41
6538.00	0.17	118.19	6518.90	241.21	249.36	218.61	346.94	45.95	0.27
6632.50	0.36	199.73	6613.39	240.87	249.39	218.26	346.71	46.00	0.40
6727.00	0.51	211.77	6707.89	240.22	249.06	217.65	346.03	46.03	0.19
6821.50	0.47	213.13	6802.39	239.54	248.63	217.01	345.25	46.07	0.05
6916.00	0.55	224.05	6896.88	238.90	248.10	216.41	344.42	46.08	0.13
7010.50	0.95	237.72	6991.38	238.15	247.13	215.75	343.20	46.06	0.46
7105.00	0.49	235.60	7085.87	237.51	246.14	215.20	342.04	46.02	0.49
7199.50	0.59	249.78	7180.36	237.11	245.35	214.87	341.20	45.98	0.18
7294.00	0.59	251.40	7274.86	236.79	244.43	214.63	340.32	45.91	0.02



Vaughn Energy Services
Gardendale, Texas
432-563-5444
Surveyor: Ray Seago
Shaqtus 26 State Com 1 / API 30-015-39819



VES Survey Date: 02/16/2012

HALLIBURTON

3950 Interwood South Parkway • Houston, TX 77032

PHONE 281.986.4400 • FAX 281.986.4499

State of New Mexico, Eddy County

I, Daniel Little, certify that I am employed by Halliburton Energy Services, Inc. (AKA Sperry Drilling) and that on the dates of February 17 through February 25, 2012 I did conduct or supervise the taking of a MWD Directional surveys for the well Shaqtus 26 State Com 1H from 7356' MD to 13323' MD. This data is true, correct, complete and within the limitations of the tools as set forth by Halliburton Energy Services, Inc. (AKA Sperry Drilling). I am authorized and qualified to make this report and this survey was conducted at the request of Devon Energy Inc. for the Shaqtus 26 State Com 1H well, API No. 30-015-39819 in Eddy County, New Mexico. I have reviewed this report and find that it conforms to the principles and procedures as set forth by Halliburton Energy Services, Inc. (AKA Sperry Drilling).



Daniel Little
MWD Field Engineer

Devon Energy Inc.
Shaqtus 26 State Com 1H
Eddy County, NM
H&P 223
API# 30-015-39818

February 17, 2012 – February 25, 2012
HD-MJ-0009230280

Sperry Drilling

MWD Survey Report

Submitted by Daniel Little
3950 Interwood South Parkway
Houston, TX 77032
Ph: 281.986.4400

HALLIBURTON

Drilling and Formation
Evaluation

Survey Report for Devon Energy

Rig:	H&P 223
Well Name:	Shaqtus 26 State Com 1H
Field Name:	Lost Tank (Bone Springs)
Country:	U.S.A.
Job Number:	HD-XX-0009230280
Job Start Date:	18-Feb-12
API Number:	30-015-39819

Directional Survey Data

Tie-in

0.00

0.00

0.00

0.00

0.00 N

0.00 E

Measured Depth (ft)	Inclination (deg)	Direction (deg)	Vertical Depth (ft)	Latitude (ft)	Departure (ft)	Vertical Section (ft)	Dogleg (°/100)
112.00	0.38	349.31	112.00	0.36 N	0.07 W	0.37	0.34
206.50	0.57	347.36	206.50	1.13 N	0.23 W	1.15	0.20
301.00	0.91	330.07	300.99	2.24 N	0.71 W	2.29	0.43
395.50	0.93	337.46	395.48	3.60 N	1.38 W	3.71	0.13
490.00	0.56	295.94	489.97	4.51 N	2.08 W	4.67	0.67
584.50	0.42	265.76	584.47	4.69 N	2.85 W	4.92	0.31
679.00	0.67	244.79	678.96	4.43 N	3.69 W	4.73	0.33
773.50	0.74	231.14	773.45	3.81 N	4.67 W	4.20	0.19
868.00	1.31	196.25	867.94	2.39 N	5.44 W	2.85	0.87
962.50	1.62	185.43	962.41	0.02 N	5.87 W	0.53	0.44
1057.00	1.37	173.59	1,056.88	2.43 S	5.87 W	-1.91	0.42
1151.50	1.69	160.74	1,151.34	4.87 S	5.29 W	-4.39	0.49
1246.00	1.55	152.07	1,245.81	7.32 S	4.23 W	-6.92	0.30
1340.50	1.86	123.66	1,340.27	9.29 S	2.35 W	-9.05	0.94
1435.00	2.81	107.56	1,434.69	10.84 S	1.13 E	-10.90	1.21
1529.50	3.39	79.30	1,529.05	11.02 S	6.09 E	-11.51	1.71
1624.00	4.81	63.80	1,623.31	8.76 S	12.39 E	-9.80	1.89
1718.50	5.37	63.16	1,717.44	5.01 S	19.89 E	-6.72	0.60
1813.00	6.70	64.92	1,811.41	0.68 S	28.83 E	-3.18	1.42
1907.50	7.93	63.92	1,905.14	4.53 N	39.67 E	1.06	1.31
2002.00	7.57	61.12	1,998.78	10.40 N	50.98 E	5.92	0.55
2096.50	7.49	55.66	2,092.47	16.88 N	61.52 E	11.46	0.76
2191.00	8.33	51.94	2,186.07	24.57 N	71.99 E	18.22	1.04
2285.50	8.99	48.24	2,279.49	33.71 N	82.89 E	26.37	0.91
2380.00	9.56	45.87	2,372.75	44.09 N	94.03 E	35.75	0.73
2474.50	9.59	46.83	2,465.94	54.94 N	105.40 E	45.57	0.17
2569.00	9.55	44.41	2,559.12	65.93 N	116.63 E	55.53	0.43
2663.50	9.16	41.66	2,652.37	77.15 N	127.12 E	65.80	0.63
2758.00	8.84	39.19	2,745.70	88.40 N	136.70 E	76.17	0.53
2852.50	8.59	38.51	2,839.11	99.55 N	145.69 E	86.50	0.29
2947.00	7.69	40.16	2,932.66	109.90 N	154.16 E	96.07	0.98
3041.50	6.17	42.27	3,026.47	118.49 N	161.65 E	103.98	1.63
3136.00	4.89	44.44	3,120.52	125.12 N	167.89 E	110.05	1.37
3230.50	3.93	43.68	3,214.74	130.34 N	172.95 E	114.81	1.02
3325.00	2.96	43.87	3,309.07	134.44 N	176.87 E	118.55	1.03
3419.50	2.82	39.79	3,403.45	137.99 N	180.05 E	121.80	0.26
3514.00	2.85	47.09	3,497.84	141.37 N	183.26 E	124.90	0.38
3608.50	3.04	46.56	3,592.21	144.70 N	186.80 E	127.90	0.20
3703.00	2.82	50.68	3,686.59	147.89 N	190.42 E	130.77	0.32
3797.50	3.14	50.88	3,780.96	151.00 N	194.22 E	133.53	0.34
3892.00	3.30	62.09	3,875.31	153.91 N	198.64 E	136.04	0.69
3986.50	3.19	55.04	3,969.66	156.69 N	203.19 E	138.42	0.44

Directional Survey Data

Measured Depth (ft)	Inclination (deg)	Direction (deg)	Vertical Depth (ft)	Latitude (ft)	Departure (ft)	Vertical Section (ft)	Dogleg (°/100')
4081.00	3.27	44.88	4,064.01	160.10 N	207.25 E	141.47	0.61
4175.50	3.08	32.02	4,158.37	164.16 N	210.50 E	145.23	0.78
4270.00	2.99	33.75	4,252.73	168.37 N	213.21 E	149.18	0.14
4364.50	2.88	30.02	4,347.11	172.47 N	215.77 E	153.05	0.23
4459.00	3.01	28.34	4,441.49	176.71 N	218.14 E	157.07	0.17
4553.50	3.44	27.68	4,535.84	181.40 N	220.63 E	161.53	0.46
4648.00	3.77	22.42	4,630.15	186.79 N	223.13 E	166.67	0.49
4742.50	3.58	20.21	4,724.45	192.43 N	225.34 E	172.10	0.25
4837.00	3.49	25.51	4,818.77	197.79 N	227.60 E	177.25	0.36
4931.50	3.28	27.88	4,913.11	202.78 N	230.10 E	181.99	0.27
5026.00	2.97	20.00	5,007.47	207.47 N	232.20 E	186.48	0.56
5120.50	2.59	20.11	5,101.86	211.77 N	233.77 E	190.64	0.40
5215.00	2.15	18.06	5,196.28	215.46 N	235.06 E	194.20	0.47
5309.50	1.91	20.80	5,290.72	218.62 N	236.16 E	197.25	0.27
5404.00	1.74	24.46	5,385.17	221.40 N	237.32 E	199.92	0.22
5498.50	1.50	29.52	5,479.63	223.78 N	238.52 E	202.19	0.30
5593.00	1.48	29.94	5,574.10	225.92 N	239.74 E	204.21	0.02
5687.50	1.48	28.88	5,668.57	228.04 N	240.94 E	206.22	0.03
5782.00	1.49	30.37	5,763.04	230.17 N	242.15 E	208.24	0.04
5876.50	1.47	29.41	5,857.51	232.29 N	243.37 E	210.24	0.03
5971.00	1.48	28.86	5,951.97	234.41 N	244.55 E	212.25	0.02
6065.50	1.23	29.64	6,046.45	236.36 N	245.64 E	214.10	0.27
6160.00	1.21	28.60	6,140.93	238.12 N	246.62 E	215.76	0.03
6254.50	1.01	38.57	6,235.41	239.65 N	247.62 E	217.20	0.29
6349.00	0.61	36.82	6,329.90	240.70 N	248.44 E	218.18	0.42
6443.50	0.34	71.44	6,424.40	241.19 N	249.00 E	218.62	0.40
6538.00	0.17	118.19	6,518.90	241.22 N	249.39 E	218.61	0.27
6632.50	0.36	199.73	6,613.39	240.87 N	249.42 E	218.26	0.40
6727.00	0.51	211.77	6,707.89	240.23 N	249.10 E	217.65	0.19
6821.50	0.47	213.13	6,802.39	239.55 N	248.66 E	217.01	0.04
6916.00	0.55	224.05	6,896.88	238.90 N	248.14 E	216.41	0.13
7010.50	0.95	237.72	6,991.38	238.16 N	247.16 E	215.75	0.46
7105.00	0.49	235.60	7,085.87	237.51 N	246.16 E	215.20	0.49
7199.50	0.59	249.78	7,180.36	237.11 N	245.37 E	214.87	0.18
7294.00	0.59	251.40	7,274.86	236.79 N	244.45 E	214.63	0.02
7356.00	1.11	289.89	7,369.35	236.89 N	243.59 E	214.80	1.20
7387.00	3.58	349.51	7,463.83	237.94 N	243.13 E	215.89	10.22
7419.00	7.62	343.13	7,558.32	240.96 N	242.33 E	218.97	12.76
7450.00	11.11	345.72	7,652.81	245.82 N	241.00 E	223.93	11.32
7482.00	14.20	345.84	7,747.30	252.62 N	239.28 E	230.85	9.67
7513.00	16.81	350.77	7,841.79	260.73 N	237.63 E	239.07	9.43
7545.00	19.49	353.83	7,936.28	270.61 N	236.31 E	249.03	8.87
7576.00	23.46	356.12	8,030.77	281.91 N	235.34 E	260.37	13.11
7608.00	26.78	356.61	8,125.26	295.47 N	234.48 E	273.95	10.38
7640.00	27.51	357.43	8,219.75	310.04 N	233.72 E	288.54	2.57

Directional Survey Data

Measured Depth (ft)	Inclination (deg)	Direction (deg)	Vertical Depth (ft)	Latitude (ft)	Departure (ft)	Vertical Section (ft)	Dogleg (7/100)
7671.00	29.61	357.68	7,635.26	324.85 N	233.09 E	303.34	6.78
7703.00	31.22	357.49	7,662.86	341.03 N	232.41 E	319.53	5.03
7734.00	32.89	357.04	7,689.13	357.47 N	231.62 E	335.97	5.47
7766.00	33.96	355.34	7,715.84	375.05 N	230.45 E	353.59	4.43
7797.00	35.82	353.70	7,741.26	392.70 N	228.75 E	371.32	6.73
7829.00	39.74	353.88	7,766.55	412.19 N	226.63 E	390.91	12.25
7861.00	42.10	352.92	7,790.73	433.01 N	224.22 E	411.86	7.63
7892.00	44.23	351.87	7,813.34	454.03 N	221.40 E	433.05	7.25
7924.00	46.17	350.94	7,835.89	476.48 N	218.01 E	455.71	6.40
7955.00	48.62	350.02	7,856.87	498.98 N	214.23 E	478.45	8.21
7987.00	52.34	349.61	7,877.23	523.27 N	209.87 E	503.03	11.66
8018.00	55.34	350.93	7,895.52	547.93 N	205.64 E	527.97	10.26
8050.00	58.63	352.26	7,912.95	574.47 N	201.72 E	554.75	10.89
8081.00	62.09	353.84	7,928.28	601.21 N	198.47 E	581.67	12.01
8114.00	65.86	354.54	7,942.75	630.71 N	195.48 E	611.32	11.58
8146.00	70.86	354.83	7,954.55	660.32 N	192.72 E	641.05	15.64
8177.00	76.16	355.35	7,963.35	689.93 N	190.18 E	670.77	17.18
8209.00	81.92	354.45	7,969.43	721.20 N	187.39 E	702.17	18.19
8242.00	88.21	352.00	7,972.27	753.83 N	183.51 E	735.01	20.45
8334.00	93.55	350.39	7,970.85	844.70 N	169.43 E	826.76	6.07
8429.00	93.24	350.69	7,965.23	938.24 N	153.84 E	921.31	0.46
8524.00	91.95	351.15	7,960.93	1,031.96 N	138.87 E	1015.97	1.45
8618.00	89.07	351.14	7,960.09	1,124.82 N	124.40 E	1109.74	3.05
8713.00	88.98	350.80	7,961.71	1,218.63 N	109.49 E	1204.49	0.37
8807.00	90.55	351.05	7,962.09	1,311.45 N	94.67 E	1298.25	1.69
8902.00	91.33	351.48	7,960.52	1,405.33 N	80.24 E	1393.03	0.93
8997.00	89.75	352.18	7,959.63	1,499.36 N	66.74 E	1487.88	1.81
9091.00	89.44	353.19	7,960.29	1,592.59 N	54.77 E	1581.79	1.12
9186.00	88.42	352.85	7,962.05	1,686.87 N	43.23 E	1676.72	1.13
9280.00	88.49	352.41	7,964.59	1,780.06 N	31.18 E	1770.60	0.47
9375.00	89.17	351.86	7,966.53	1,874.15 N	18.18 E	1865.46	0.93
9470.00	90.37	351.17	7,966.91	1,968.11 N	4.17 E	1960.28	1.46
9564.00	91.08	350.74	7,965.72	2,060.93 N	10.61 W	2054.04	0.88
9659.00	90.19	351.75	7,964.67	2,154.81 N	25.08 W	2148.83	1.42
9753.00	90.40	352.52	7,964.19	2,247.93 N	37.94 W	2242.71	0.85
9848.00	91.11	352.51	7,962.94	2,342.11 N	50.31 W	2337.61	0.75
9943.00	90.71	352.20	7,961.43	2,436.25 N	62.94 W	2432.49	0.54
10037.00	91.94	353.02	7,959.25	2,529.44 N	75.03 W	2526.38	1.58
10132.00	89.91	351.63	7,957.72	2,623.57 N	87.72 W	2621.26	2.60
10226.00	89.57	352.45	7,958.15	2,716.67 N	100.74 W	2715.13	0.95
10321.00	89.72	352.57	7,958.74	2,810.85 N	113.12 W	2810.04	0.21
10416.00	88.80	352.27	7,959.96	2,905.01 N	125.65 W	2904.93	1.03
10510.00	88.98	353.09	7,961.79	2,998.23 N	137.63 W	2998.84	0.89
10605.00	89.38	353.27	7,963.14	3,092.55 N	148.91 W	3093.78	0.47
10699.00	90.25	354.26	7,963.45	3,185.99 N	159.12 W	3187.75	1.40

Directional Survey Data

Measured Depth (ft)	Inclination (deg)	Direction (deg)	Vertical Depth (ft)	Latitude (ft)	Departure (ft)	Vertical Section (ft)	Dogleg (°/100)
10794.00	91.33	355.09	7,962.14	3,280.57 N	167.93 W	3282.74	1.43
10889.00	90.86	354.58	7,960.32	3,375.16 N	176.49 W	3377.72	0.73
10983.00	90.31	352.17	7,959.36	3,468.52 N	187.33 W	3471.67	2.63
11078.00	91.17	352.82	7,958.13	3,562.70 N	199.73 W	3566.57	1.14
11173.00	90.03	350.75	7,957.13	3,656.71 N	213.30 W	3661.41	2.49
11267.00	91.64	352.35	7,955.76	3,749.68 N	227.11 W	3755.22	2.41
11362.00	90.37	351.79	7,954.09	3,843.75 N	240.22 W	3850.08	1.46
11456.00	90.43	351.37	7,953.44	3,936.74 N	253.98 W	3943.91	0.46
11551.00	90.65	351.21	7,952.54	4,030.64 N	268.36 W	4038.70	0.28
11646.00	89.51	350.20	7,952.41	4,124.39 N	283.71 W	4133.43	1.61
11740.00	90.00	350.44	7,952.82	4,217.05 N	299.51 W	4227.12	0.58
11835.00	90.49	349.62	7,952.41	4,310.61 N	315.95 W	4321.76	1.01
11930.00	90.03	350.11	7,951.97	4,404.13 N	332.67 W	4416.37	0.71
12024.00	89.20	350.02	7,952.61	4,496.72 N	348.89 W	4510.02	0.89
12119.00	89.01	349.11	7,954.09	4,590.13 N	366.09 W	4604.58	0.98
12213.00	88.18	350.66	7,956.39	4,682.64 N	382.59 W	4698.17	1.88
12308.00	90.83	354.18	7,957.21	4,776.78 N	395.12 W	4793.05	4.63
12402.00	90.25	355.71	7,956.32	4,870.41 N	403.41 W	4887.04	1.75
12497.00	90.71	354.26	7,955.53	4,965.04 N	411.71 W	4982.03	1.61
12592.00	91.70	355.49	7,953.53	5,059.64 N	420.20 W	5077.01	1.66
12686.00	90.31	354.04	7,951.89	5,153.22 N	428.78 W	5170.99	2.13
12781.00	90.28	355.42	7,951.40	5,247.82 N	437.50 W	5265.98	1.45
12875.00	90.68	354.38	7,950.62	5,341.44 N	445.85 W	5359.98	1.18
12970.00	90.12	353.04	7,949.96	5,435.87 N	456.26 W	5454.95	1.53
13064.00	89.88	352.20	7,949.96	5,529.09 N	468.33 W	5548.87	0.93
13159.00	90.25	352.48	7,949.85	5,623.24 N	481.00 W	5643.76	0.49
13254.00	92.23	355.61	7,947.80	5,717.69 N	490.85 W	5738.71	3.90
13323.00	92.96	356.24	7,944.68	5,786.44 N	495.75 W	5807.63	1.40
13386.00	92.96	356.24	7,941.42	5,849.22 N	499.88 W	5870.53	0.01

DIRECTIONAL SURVEY DATA NOTES

- Calculation based on minimum curvature method.
- Survey coordinates relative to well system reference point.
- TVD values given relative to drilling measurement point.
- Vertical section relative to well head.
- Vertical section is computed along a direction of 355.01 degrees (Grid)
- A total correction of 7.38 deg from Magnetic north to Grid north has been applied
- Horizontal displacement is relative to the well head.
- Horizontal displacement (closure) at 13,386.00 feet is 5,870.54 feet along 355.12 degrees (Grid)

SURVEYS ARE CALCULATED USING THE SHORT COLLAR METHOD.
WELL ASSUMED VERTICAL AT THE WELLHEAD.

SURVEYS FROM 112' MD TO 7294' MD PROVIDED BY VAUGHN ENERGY SERVICES.
SURVEYS FROM 7356' MD TO 13323' MD PROVIDED BY SPERRY DRILLING.

SURVEY AT 13323' MD HAS BEEN PROJECTED TO TD AT 13386' MD.
SPERRY DRILLING ENGINEERS: D. LITTLE, K. PARKER.

WARRANTY

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