



A GYRO TECHNOLOGIES INC. COMPANY

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

30-015-40135

June 14, 2012

Devon Energy Production Co., L. P.
20 North Broadway
Oklahoma City, OK 73102-8260

Attn: Mark Cooper

Re: Onyx PWU 29 No. 005H

Please find enclosed a copy of the survey from 0' to 5840' ran on the above referenced well.

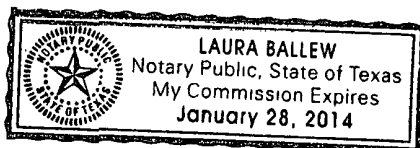
If I can be of any further service please do not hesitate to call me at 800-606-4976.

Sincerely,

Keith Havelka
Operations

STATE OF TEXAS §
COUNTY OF NUECES §

This instrument was acknowledged before me on the 15th day of June, A.D., 2012, by Keith Havelka.



Laura Ballew
Notary Public, State of Texas



Company: DEVON ENERGY PRODUCTION CO

Lease/Well: ONYX PWU 29/No. 005H

Rig Name: CACTUS 126

State/County: TX/EDDY

Latitude: 32.64

GRID North is 0.13 Degrees East of True North

VS-Azi: 0.00 Degrees



DRILLOG MS GYRO SURVEY CALCULATIONS

Filename: msgyro_run02-01.ut

Minimum Curvature Method

Report Date/Time: 6/14/2012 / 11:09

VAUGHN ENERGY SERVICES

CORPUS CHRISTI, TX

1-800-606-4976

SURVEYOR: ADAM GWYN

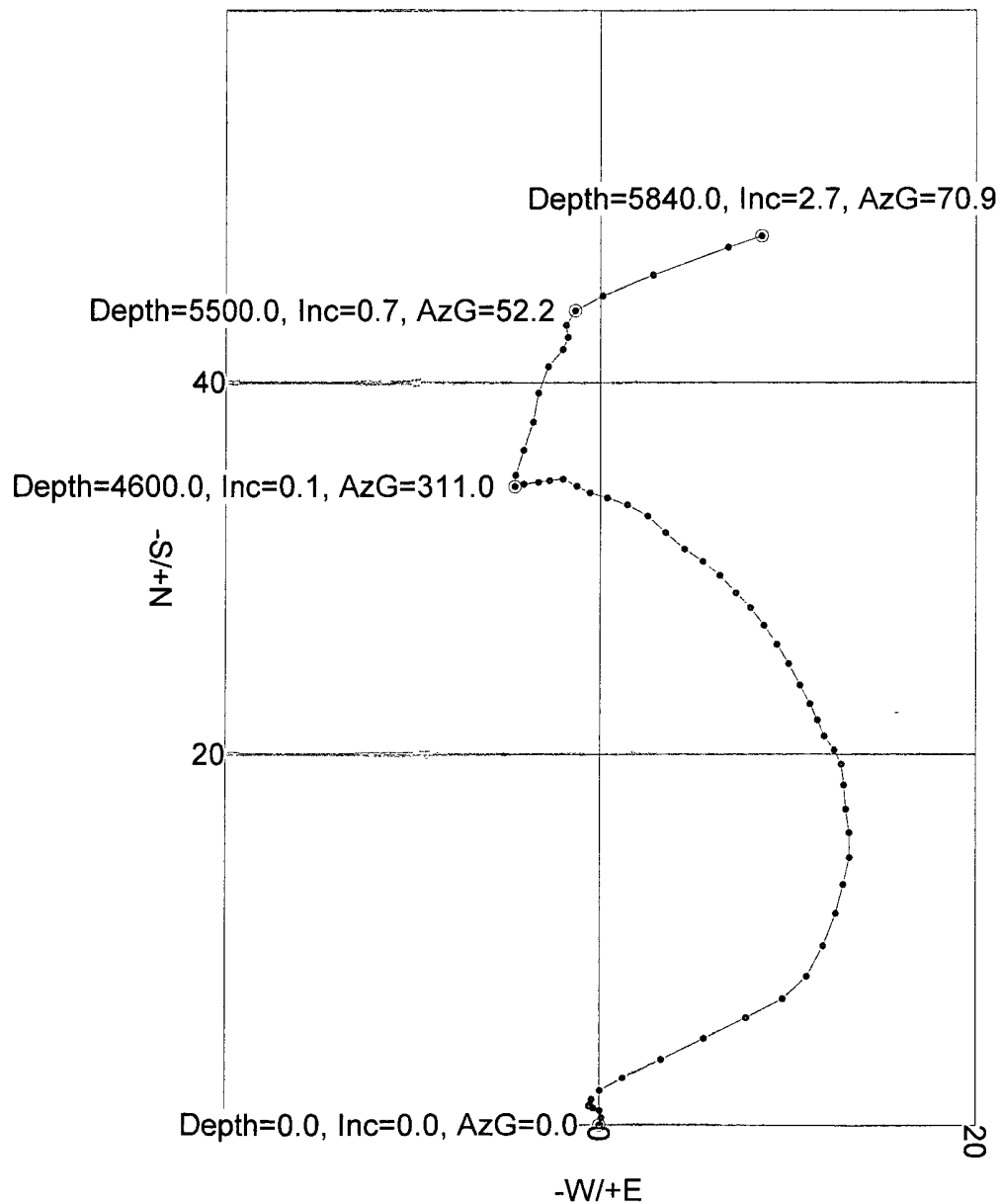
ONYX PWU 29 NO. 005H / API 30-015-40135

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	0.06	70.34	100.00	0.02	0.05	0.02	0.05	70.34	0.06
200.00	0.40	1.16	200.00	0.38	0.11	0.38	0.40	15.91	0.38
300.00	0.12	299.03	300.00	0.78	0.02	0.78	0.78	1.69	0.36
400.00	0.30	288.30	400.00	0.91	-0.32	0.91	0.97	340.62	0.18
500.00	0.03	30.16	500.00	1.02	-0.56	1.02	1.16	331.18	0.31
600.00	0.07	32.85	600.00	1.09	-0.51	1.09	1.21	334.92	0.05
700.00	0.28	16.44	700.00	1.38	-0.41	1.38	1.44	343.65	0.21
800.00	0.49	56.29	799.99	1.86	0.02	1.86	1.86	0.53	0.32
900.00	1.12	62.89	899.98	2.54	1.24	2.54	2.82	26.03	0.64
1000.00	1.48	65.08	999.96	3.53	3.28	3.53	4.81	42.91	0.36
1100.00	1.47	62.27	1099.92	4.67	5.59	4.67	7.28	50.12	0.07
1200.00	1.39	64.88	1199.89	5.78	7.82	5.78	9.73	53.54	0.10
1300.00	1.12	59.21	1299.87	6.80	9.76	6.80	11.90	55.15	0.30
1400.00	0.94	31.80	1399.85	8.00	11.03	8.00	13.63	54.07	0.52
1500.00	1.19	24.57	1499.84	9.63	11.90	9.63	15.31	51.00	0.28
1600.00	0.99	17.58	1599.82	11.40	12.59	11.40	16.98	47.84	0.24
1700.00	0.85	10.86	1699.81	12.95	12.99	12.95	18.34	45.08	0.17
1800.00	0.87	14.31	1799.79	14.42	13.32	14.42	19.63	42.72	0.05
1900.00	0.74	342.41	1899.79	15.77	13.31	15.77	20.64	40.16	0.46

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
2000.00	0.75	0.62	1999.78	17.04	13.12	17.04	21.51	37.60	0.24
2100.00	0.77	350.79	2099.77	18.35	13.02	18.35	22.50	35.36	0.13
2200.00	0.52	356.12	2199.76	19.47	12.88	19.47	23.34	33.50	0.25
2300.00	0.54	311.86	2299.76	20.24	12.50	20.24	23.79	31.70	0.40
2400.00	0.54	335.39	2399.75	20.98	11.95	20.98	24.15	29.66	0.22
2500.00	0.52	338.82	2499.75	21.84	11.59	21.84	24.72	27.95	0.04
2600.00	0.58	333.66	2599.74	22.72	11.20	22.72	25.33	26.24	0.08
2700.00	0.73	330.38	2699.74	23.73	10.66	23.73	26.01	24.19	0.15
2800.00	0.76	334.60	2799.73	24.88	10.06	24.88	26.83	22.02	0.06
2900.00	0.63	321.98	2899.72	25.91	9.44	25.91	27.58	20.01	0.20
3000.00	0.78	330.02	2999.71	26.93	8.76	26.93	28.32	18.01	0.17
3100.00	0.60	313.72	3099.71	27.88	8.04	27.88	29.02	16.09	0.26
3200.00	0.68	317.93	3199.70	28.68	7.27	28.68	29.59	14.21	0.10
3300.00	0.78	316.97	3299.69	29.62	6.40	29.62	30.31	12.20	0.10
3400.00	0.60	299.52	3399.69	30.37	5.49	30.37	30.87	10.24	0.27
3500.00	0.78	308.37	3499.68	31.05	4.50	31.05	31.38	8.25	0.21
3600.00	0.78	313.00	3599.67	31.93	3.48	31.93	32.12	6.21	0.06
3700.00	0.72	312.66	3699.66	32.82	2.52	32.82	32.92	4.39	0.06
3800.00	0.74	286.31	3799.65	33.43	1.44	33.43	33.46	2.46	0.33
3900.00	0.58	293.20	3899.65	33.81	0.35	33.81	33.81	0.60	0.18
4000.00	0.52	280.93	3999.64	34.09	-0.55	34.09	34.09	359.07	0.13
4100.00	0.41	316.56	4099.64	34.43	-1.24	34.43	34.46	357.94	0.30
4200.00	0.59	283.15	4199.64	34.81	-1.99	34.81	34.87	356.74	0.33
4300.00	0.33	230.54	4299.63	34.74	-2.71	34.74	34.85	355.54	0.47
4400.00	0.42	283.57	4399.63	34.64	-3.30	34.64	34.80	354.56	0.35
4500.00	0.52	244.92	4499.63	34.54	-4.07	34.54	34.78	353.28	0.33
4600.00	0.12	311.00	4599.63	34.41	-4.56	34.41	34.71	352.45	0.49
4700.00	0.65	12.26	4699.62	35.03	-4.52	35.03	35.32	352.65	0.60
4800.00	0.97	21.21	4799.61	36.37	-4.10	36.37	36.60	353.57	0.34
4900.00	0.85	16.26	4899.60	37.87	-3.58	37.87	38.04	354.60	0.14
5000.00	0.98	4.87	4999.59	39.44	-3.30	39.44	39.58	355.22	0.22
5100.00	0.83	39.34	5099.58	40.86	-2.77	40.86	40.95	356.13	0.56
5200.00	0.55	40.18	5199.57	41.79	-1.99	41.79	41.83	357.27	0.28
5300.00	0.33	350.68	5299.57	42.44	-1.73	42.44	42.47	357.66	0.42
5400.00	0.42	354.40	5399.56	43.09	-1.82	43.09	43.13	357.59	0.09
5500.00	0.74	52.20	5499.56	43.86	-1.34	43.86	43.88	358.25	0.63
5600.00	1.18	66.82	5599.55	44.66	0.12	44.66	44.66	0.15	0.50
5700.00	2.16	68.11	5699.50	45.77	2.82	45.77	45.86	3.52	0.98
5800.00	2.73	70.92	5799.41	47.25	6.82	47.25	47.74	8.21	0.58
5840.00	2.72	70.94	5839.36	47.87	8.61	47.87	48.64	10.20	0.01



VAUGHN ENERGY SERVICES
CORPUS CHRISTI, TX
1-800-606-4976
SURVEYOR: ADAM GWYN
ONYX PWU 29 NO. 005H / API 30-015-40135



VES SURVEY DATE: 06/06/2012

HALLIBURTON

3950 Interwood South Pkwy Houston, TX 77032
Phone 281-986-4416 Fax 281-986-4499

June 20, 2012

Devon Energy Production, Co
Attn: Judy Barnett
20 N. Broadway
Oklahoma City, Ok
73102

Final Survey for:
Well Name: Onyx PWU 29 5H
County: Eddy County, NM
Rig Name: Cactus 126
Sperry Job #: 9438310

Judy Barnett

Enclosed you will find the following survey information on the above referenced well:

- 0 *Survey Report(s)*
- 0 *MWD End of Well Report(s)*

2 Certified Letters for New Mexico NMOCD

We appreciate the opportunity to serve you and welcome any comments or suggestions that you may have regarding our service. You may contact your local sales representative, **Ryan Annesley @ 405-231-1868**

Should you have any questions or require additional information regarding the enclosed information, please do not hesitate to contact me at (281) 986-4400.

Once again, we thank you for your business.

Sincerely,



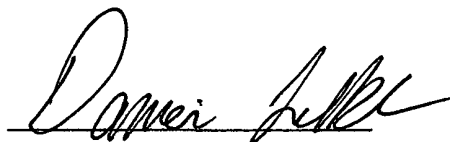
Rachell Ortiz
Sperry Drilling Services

HALLIBURTON

3950 Interwood S. Pkwy • Houston, TX 77032
PHONE 281.986.4400 • FAX 281.986.4499

State of New Mexico, Eddy County

I, Damien LeBlanc certify that I am employed by Halliburton Energy Services, Inc. (AKA Sperry Drilling) and that on the dates of June 08, 2012 - June 17, 2012
I did conduct or supervise the taking of a DGWD Directional Surveys for the
Onyx PWU 29 5H well from a depth of 5906' MD to a depth of 11752' 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
for the Onyx PWU 29 5H well API #30-015-40135-0000 well in Eddy County
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).

A handwritten signature in black ink, appearing to read 'Damien LeBlanc', written over a horizontal line.

Damien LeBlanc
Field Engineer

Devon Energy

Onyx PWU 29 5H

Eddy County

Cactus 126

API# 30-015-40135-0000

June 08, 2012 - June 17, 2012

HD-MJ-9438310

Sperry Drilling

MWD Survey Report

Submitted by Damien LeBlanc

3950 Interwood South Parkway

Houston, TX 77032

Ph: 281.986.4400

HALLIBURTON

**Drilling and Formation
Evaluation**

Survey Report for Devon Energy

Rig:	Cactus 126
Well Name:	Onyx PWU 29 5H
Field Name:	Parkway West
Country:	U.S.A.
Job Number:	HD-XX-0009438310
Job Start Date:	08-Jun-12
API Number:	30-015-40135-0000

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')
100.00	0.06	70.34	100.00	0.02 N	0.05 E	-0.05	0.06
200.00	0.40	1.16	200.00	0.38 N	0.11 E	-0.10	0.38
300.00	0.12	299.03	300.00	0.78 N	0.02 E	0.00	0.36
400.00	0.30	288.30	400.00	0.92 N	0.32 W	0.34	0.18
500.00	0.03	30.16	500.00	1.02 N	0.55 W	0.58	0.31
600.00	0.07	32.85	600.00	1.10 N	0.51 W	0.54	0.04
700.00	0.28	16.44	700.00	1.38 N	0.41 W	0.44	0.21
800.00	0.49	56.29	799.99	1.85 N	0.02 E	0.03	0.33
900.00	1.12	62.89	899.98	2.54 N	1.24 E	-1.18	0.64
1000.00	1.48	65.08	999.96	3.53 N	3.29 E	-3.20	0.36
1100.00	1.47	62.27	1,099.93	4.67 N	5.59 E	-5.47	0.07
1200.00	1.39	64.88	1,199.89	5.78 N	7.83 E	-7.68	0.10
1300.00	1.12	59.21	1,299.87	6.79 N	9.76 E	-9.59	0.30
1400.00	0.94	31.80	1,399.85	7.99 N	11.04 E	-10.83	0.52
1500.00	1.19	24.57	1,499.84	9.63 N	11.90 E	-11.65	0.28
1600.00	0.99	17.58	1,599.82	11.40 N	12.59 E	-12.30	0.24
1700.00	0.85	10.86	1,699.81	12.95 N	12.99 E	-12.66	0.18
1800.00	0.87	14.31	1,799.80	14.42 N	13.32 E	-12.95	0.06
1900.00	0.74	342.41	1,899.79	15.77 N	13.31 E	-12.91	0.46
2000.00	0.75	0.62	1,999.78	17.04 N	13.12 E	-12.69	0.24
2100.00	0.77	350.79	2,099.77	18.36 N	13.02 E	-12.56	0.13
2200.00	0.52	356.12	2,199.76	19.47 N	12.89 E	-12.39	0.26
2300.00	0.54	311.86	2,299.76	20.24 N	12.50 E	-11.99	0.40
2400.00	0.54	335.39	2,399.75	20.98 N	11.96 E	-11.42	0.22
2500.00	0.52	338.82	2,499.75	21.83 N	11.60 E	-11.04	0.04
2600.00	0.58	333.66	2,599.75	22.71 N	11.21 E	-10.63	0.08
2700.00	0.73	330.38	2,699.74	23.72 N	10.67 E	-10.07	0.15
2800.00	0.76	334.60	2,799.73	24.87 N	10.07 E	-9.44	0.06
2900.00	0.63	321.98	2,899.72	25.90 N	9.45 E	-8.79	0.20
3000.00	0.78	330.02	2,999.72	26.92 N	8.77 E	-8.08	0.18
3100.00	0.60	313.72	3,099.71	27.88 N	8.05 E	-7.34	0.26
3200.00	0.68	317.93	3,199.70	28.68 N	7.27 E	-6.55	0.09
3300.00	0.78	316.97	3,299.69	29.62 N	6.41 E	-5.66	0.10
3400.00	0.60	299.52	3,399.69	30.37 N	5.49 E	-4.72	0.27
3500.00	0.78	308.37	3,499.68	31.05 N	4.50 E	-3.71	0.21
3600.00	0.78	313.00	3,599.67	31.94 N	3.47 E	-2.66	0.06
3700.00	0.72	312.66	3,699.66	32.83 N	2.51 E	-1.68	0.06
3800.00	0.74	286.31	3,799.65	33.44 N	1.43 E	-0.58	0.33
3900.00	0.58	293.20	3,899.65	33.82 N	0.34 E	0.51	0.18
4000.00	0.52	280.93	3,999.64	34.10 N	0.57 W	1.43	0.13
4100.00	0.41	316.56	4,099.64	34.45 N	1.26 W	2.13	0.30
4200.00	0.59	283.15	4,199.64	34.83 N	2.01 W	2.89	0.34

Directional Survey Data

Measured Depth (ft)	Inclination (deg)	Direction (deg)	Vertical Depth (ft)	Latitude (ft)	Departure (ft)	Vertical Section (ft)	Dogleg (°/100')
4300.00	0.33	230.54	4,299.63	34.76 N	2.73 W	3.61	0.47
4400.00	0.42	283.57	4,399.63	34.66 N	3.31 W	4.18	0.34
4500.00	0.52	244.92	4,499.63	34.56 N	4.08 W	4.95	0.33
4600.00	0.12	311.00	4,599.63	34.43 N	4.57 W	5.44	0.48
4700.00	0.65	12.26	4,699.62	35.06 N	4.52 W	5.41	0.60
4800.00	0.97	21.21	4,799.61	36.40 N	4.10 W	5.02	0.34
4900.00	0.85	16.26	4,899.60	37.90 N	3.58 W	4.54	0.14
5000.00	0.98	4.87	4,999.59	39.46 N	3.30 W	4.30	0.22
5100.00	0.83	39.34	5,099.58	40.88 N	2.77 W	3.80	0.56
5200.00	0.55	40.18	5,199.57	41.80 N	2.00 W	3.06	0.28
5300.00	0.33	350.68	5,299.57	42.45 N	1.74 W	2.81	0.42
5400.00	0.42	354.40	5,399.56	43.10 N	1.82 W	2.91	0.09
5500.00	0.74	52.20	5,499.56	43.86 N	1.35 W	2.46	0.63
5600.00	1.18	66.82	5,599.55	44.66 N	0.11 E	1.02	0.50
5700.00	2.16	68.11	5,699.50	45.77 N	2.80 E	-1.65	0.98
5800.00	2.73	70.92	5,799.41	47.25 N	6.80 E	-5.61	0.58
5840.00	2.72	70.94	5,839.37	47.87 N	8.60 E	-7.39	0.03
5906.00	2.37	76.45	5,905.30	48.71 N	11.41 E	-10.17	0.65
6001.00	2.98	59.97	6,000.20	50.40 N	15.45 E	-14.17	1.03
6096.00	3.68	67.42	6,095.04	52.81 N	20.41 E	-19.07	0.87
6190.00	2.85	63.16	6,188.88	55.02 N	25.28 E	-23.88	0.92
6285.00	2.90	52.52	6,283.76	57.55 N	29.30 E	-27.83	0.56
6317.00	2.91	65.14	6,315.72	58.39 N	30.68 E	-29.19	2.00
6348.00	2.38	49.81	6,346.69	59.13 N	31.88 E	-30.38	2.84
6380.00	2.15	39.12	6,378.67	60.03 N	32.77 E	-31.24	1.50
6412.00	3.00	303.90	6,410.65	60.96 N	32.45 E	-30.90	12.01
6443.00	7.06	278.06	6,441.52	61.68 N	29.89 E	-28.32	14.70
6475.00	10.77	272.64	6,473.13	62.09 N	24.96 E	-23.38	11.86
6507.00	15.68	269.60	6,504.27	62.20 N	17.64 E	-16.06	15.50
6538.00	19.51	266.15	6,533.82	61.83 N	8.29 E	-6.72	12.79
6570.00	23.12	265.85	6,563.63	61.01 N	3.31 W	4.86	11.29
6602.00	26.02	263.53	6,592.73	59.77 N	16.56 W	18.06	9.54
6633.00	28.37	262.81	6,620.30	58.08 N	30.62 W	32.08	7.66
6665.00	32.05	266.52	6,647.95	56.61 N	46.64 W	48.06	12.89
6696.00	34.61	265.44	6,673.85	55.41 N	63.63 W	65.01	8.48
6728.00	37.27	262.14	6,699.76	53.36 N	82.29 W	83.62	10.28
6759.00	40.22	263.36	6,723.94	50.92 N	101.54 W	102.79	9.82
6791.00	43.79	263.70	6,747.71	48.51 N	122.81 W	124.00	11.18
6823.00	46.78	262.57	6,770.22	45.79 N	145.38 W	146.49	9.70
6854.00	49.34	262.97	6,790.94	42.89 N	168.26 W	169.29	8.30
6886.00	52.84	265.19	6,811.04	40.33 N	193.02 W	193.98	12.21
6918.00	55.60	267.06	6,829.75	38.59 N	218.92 W	219.82	9.84
6949.00	58.02	269.17	6,846.72	37.74 N	244.84 W	245.72	9.64
6981.00	60.08	272.44	6,863.18	38.13 N	272.27 W	273.15	10.87
7013.00	62.06	271.78	6,878.66	39.16 N	300.26 W	301.16	6.45

Directional Survey Data

Measured Depth (ft)	Inclination (deg)	Direction (deg)	Vertical Depth (ft)	Latitude (ft)	Departure (ft)	Vertical Section (ft)	Dogleg (%/100)
7045.00	65.11	271.53	6,892.89	39.99 N	328.90 W	329.81	9.55
7076.00	68.60	270.86	6,905.08	40.58 N	357.40 W	358.31	11.44
7108.00	71.92	271.46	6,915.89	41.19 N	387.50 W	388.42	10.52
7140.00	74.80	272.79	6,925.05	42.33 N	418.14 W	419.08	9.84
7171.00	77.85	275.03	6,932.38	44.39 N	448.18 W	449.16	12.09
7203.00	80.78	276.31	6,938.31	47.50 N	479.47 W	480.52	9.98
7234.00	83.74	277.20	6,942.49	51.11 N	509.97 W	511.10	9.95
7328.00	91.21	278.39	6,946.63	63.84 N	602.94 W	604.37	8.04
7360.00	91.60	279.74	6,945.84	68.88 N	634.53 W	636.07	4.40
7455.00	91.60	278.79	6,943.19	84.17 N	728.26 W	730.15	1.00
7550.00	91.33	276.86	6,940.76	97.10 N	822.34 W	824.53	2.05
7645.00	89.26	274.21	6,940.27	106.26 N	916.88 W	919.28	3.54
7740.00	87.96	272.33	6,942.58	111.68 N	1,011.69 W	1014.19	2.40
7835.00	88.98	270.73	6,945.11	114.21 N	1,106.62 W	1109.16	2.00
7929.00	89.51	269.77	6,946.35	114.62 N	1,200.61 W	1203.13	1.16
8024.00	90.56	269.21	6,946.30	113.78 N	1,295.60 W	1298.07	1.25
8119.00	89.81	268.34	6,945.99	111.76 N	1,390.58 W	1392.96	1.20
8214.00	89.35	268.58	6,946.68	109.20 N	1,485.54 W	1487.83	0.55
8308.00	88.80	269.74	6,948.20	107.82 N	1,579.52 W	1581.74	1.37
8403.00	89.26	269.42	6,949.81	107.12 N	1,674.50 W	1676.68	0.59
8498.00	89.32	269.20	6,950.99	105.97 N	1,769.49 W	1771.60	0.24
8593.00	88.08	267.18	6,953.14	102.97 N	1,864.41 W	1866.42	2.49
8687.00	88.18	268.22	6,956.20	99.20 N	1,958.28 W	1960.17	1.11
8782.00	89.29	267.91	6,958.30	95.99 N	2,053.20 W	2054.97	1.22
8877.00	88.89	267.78	6,959.81	92.41 N	2,148.12 W	2149.77	0.44
8970.00	90.28	269.34	6,960.49	90.07 N	2,241.09 W	2242.65	2.25
9065.00	89.51	267.87	6,960.67	87.77 N	2,336.05 W	2337.53	1.74
9160.00	91.08	269.46	6,960.18	85.56 N	2,431.02 W	2432.41	2.35
9256.00	90.71	269.39	6,958.68	84.60 N	2,527.00 W	2528.34	0.39
9350.00	90.03	269.20	6,958.07	83.45 N	2,621.00 W	2622.27	0.75
9443.00	91.33	269.54	6,956.97	82.42 N	2,713.98 W	2715.20	1.44
9538.00	91.08	269.63	6,954.98	81.74 N	2,808.96 W	2810.13	0.28
9633.00	91.73	269.59	6,952.65	81.09 N	2,903.93 W	2905.05	0.69
9728.00	93.73	269.35	6,948.12	80.21 N	2,998.81 W	2999.88	2.12
9822.00	94.48	269.59	6,941.39	79.35 N	3,092.56 W	3093.58	0.84
9917.00	94.66	269.09	6,933.82	78.26 N	3,187.25 W	3188.21	0.56
10012.00	94.02	267.74	6,926.63	75.64 N	3,281.94 W	3282.81	1.57
10106.00	94.79	267.95	6,919.41	72.12 N	3,375.60 W	3376.34	0.85
10201.00	93.67	270.50	6,912.40	70.85 N	3,470.32 W	3471.00	2.92
10295.00	91.88	269.62	6,907.85	70.94 N	3,564.21 W	3564.86	2.12
10390.00	92.91	270.34	6,903.88	70.90 N	3,659.12 W	3659.74	1.32
10485.00	93.43	273.13	6,898.63	73.76 N	3,753.92 W	3754.59	2.98
10580.00	93.89	274.61	6,892.56	80.16 N	3,848.51 W	3849.31	1.63
10674.00	93.51	273.05	6,886.49	86.43 N	3,942.10 W	3943.03	1.70
10769.00	92.52	271.60	6,881.49	90.28 N	4,036.89 W	4037.88	1.85

Directional Survey Data

Measured Depth (ft)	Inclination (deg)	Direction (deg)	Vertical Depth (ft)	Latitude (ft)	Departure (ft)	Vertical Section (ft)	Dogleg (°/100')
10864.00	93.18	272.51	6,876.76	93.67 N	4,131.71 W	4132.76	1.18
10958.00	91.39	271.05	6,873.01	96.59 N	4,225.58 W	4226.67	2.45
11053.00	91.39	271.20	6,870.71	98.46 N	4,320.54 W	4321.64	0.16
11147.00	92.57	271.40	6,867.46	100.60 N	4,414.45 W	4415.59	1.27
11242.00	92.84	271.52	6,862.98	103.01 N	4,509.32 W	4510.48	0.31
11336.00	92.50	270.41	6,858.60	104.59 N	4,603.20 W	4604.37	1.23
11431.00	92.63	269.89	6,854.35	104.84 N	4,698.10 W	4699.25	0.56
11524.00	90.99	270.77	6,851.42	105.37 N	4,791.05 W	4792.19	2.00
11619.00	92.44	271.43	6,848.58	107.20 N	4,885.99 W	4887.14	1.68
11713.00	92.56	271.58	6,844.49	109.67 N	4,979.87 W	4981.05	0.20
11752.00	93.52	272.82	6,842.42	111.17 N	5,018.78 W	5019.99	4.03
11841.00	93.52	272.82	6,836.95	115.54 N	5,107.51 W	5108.80	0.00

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 271.45 degrees (Grid)
- A total correction of 7.69 deg from Magnetic north to Grid north has been applied
- Horizontal displacement is relative to the well head.
- Horizontal displacement (closure) at 11,841.00 feet is 5,108.81 feet along 271.30 degrees (Grid)

SURVEYS CALCULATED USING LONG COLLAR METHOD.

WELL ASSUMED VERTICAL AT WELLHEAD.

SURVEYS FROM 100' MD TO 5840' MD PROVIDED BY VAUGH ENERGY SERVICES.

SURVEYS FROM 5906' MD TO 11752' MD PROVIDED BY SPERRY DRILLING.

SURVEY AT 11752' MD IS PROJECTED TO TD AT 11841' MD.

SPERRY DRILLING ENGINEERS: DAMIEN LEBLANC, CHRIS NWUZO

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