



NorAm Drilling Company

A GLOBAL RIG COMPANY ASA

30-015-42923

Operator: XTO Energy

Well & Lease Number: CORRAL CANYON FEDERAL 4H

County: Eddy

NM OIL CONSERVATION

ARTESIA DISTRICT

SEP 24 2015

State of New Mexico

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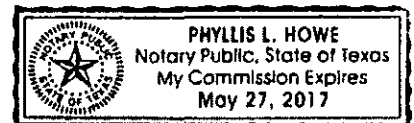
Deviation Report

Footage	Degree
293	3
590	1
933	0.40
1375	0.0
1875	1.75
2062	1.0
2435	1.0
2783	1.50
3102	1.10
3577	0.70
4050	0.70
4521	0.30
4993	0.20
5466	0.30
5942	0.40
6414	0.50
6881	2.10
7360	1.40
7833	1.0
7962	0.8

Completed by:

Will Luker

Will Luker, Safety Director
NorAm Drilling Company



Appeared before me on:

4/16/15

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

1804 Rotary Drive • Humble, TX 77338 USA • Phone: (281) 540-7070 • Fax (281) 540-7071

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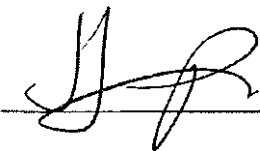
HALLIBURTON

3950 Interwood South Parkway • Houston, TX 77032

PHONE 281.986.4400 • FAX 281.986.4499

State of New Mexico, Eddy County

I, JJ Peters, certify that I am employed by Halliburton Energy Services, Inc. (AKA Sperry Drilling) and that on the dates of March 30, 2015 through April 17, 2015 I did conduct or supervise the taking of MWD Directional surveys for the well Corral Canyon Federal 4H from 7977' MD to 15874' 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 XTO Energy, INC for the Corral Canyon Federal 4H well, API No. 30-015 42923-0000 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).



JJ Peters
MWD Field Engineer

**XTO Energy, INC
Corral Canyon Federal 4H
Eddy County, NM
Noram 25
API# 30-015-42923-0000**

March 30, 2015 – April 17, 2015

MO-XX-0902148487

**Sperry Drilling
Survey Report**

Submitted by JJ Peters
3950 Interwood South Parkway
Houston, TX 77032
Ph: 281.986.4400

HALLIBURTON

**Drilling and Formation
Evaluation**

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Survey Report for XTO Energy, INC

Rig : Noram 25
Well Name : Corral Canyon Federal 4H
Field Name : 2nd Bone Springs "C" SS
Country : USA
Job Number : MO-XX-0902148487
Job Start Date : 30-Mar-15
API Number : 30-015-42923-0000

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)	Reference (ft)	Departure (ft)	Vertical Section (ft)	Toolface (1/100)
100.00	0.13	98.74	100.00	0.02 S	0.11 E	-0.02	0.13
200.00	0.21	47.16	200.00	0.09 N	0.36 E	0.09	0.16
300.00	0.56	107.21	300.00	0.07 N	0.96 E	0.07	0.49
400.00	0.74	108.92	399.99	0.28 S	2.04 E	-0.29	0.18
500.00	0.64	64.80	499.98	0.26 S	3.15 E	-0.27	0.53
600.00	0.40	50.22	599.98	0.21 N	3.93 E	0.19	0.27
700.00	0.54	35.99	699.98	0.81 N	4.47 E	0.79	0.18
800.00	0.30	287.45	799.98	1.27 N	4.50 E	1.25	0.70
900.00	0.18	292.67	899.97	1.41 N	4.10 E	1.39	0.12
1000.00	0.38	259.35	999.97	1.41 N	3.63 E	1.39	0.25
1100.00	0.59	153.03	1,099.97	0.89 N	3.54 E	0.87	0.79
1200.00	0.76	109.57	1,199.96	0.21 N	4.40 E	0.19	0.52
1300.00	0.60	49.37	1,299.96	0.33 N	5.42 E	0.30	0.70
1400.00	0.19	89.58	1,399.96	0.67 N	5.99 E	0.64	0.47
1500.00	0.16	212.08	1,499.95	0.55 N	6.08 E	0.52	0.31
1600.00	0.49	143.87	1,599.95	0.09 N	6.26 E	0.06	0.46
1700.00	0.66	76.36	1,699.95	0.12 S	7.07 E	-0.16	0.65
1800.00	1.18	350.17	1,799.94	1.03 N	7.45 E	0.99	1.31
1900.00	1.59	300.39	1,899.91	2.74 N	6.08 E	2.72	1.22
2000.00	0.92	243.66	1,999.89	3.09 N	4.16 E	3.07	1.33
2100.00	0.42	137.10	2,099.89	2.47 N	3.69 E	2.45	1.11
2200.00	1.37	303.06	2,199.88	2.85 N	2.94 E	2.84	1.78
2300.00	1.18	280.37	2,299.86	3.69 N	0.92 E	3.68	0.54
2400.00	1.30	241.15	2,399.84	3.32 N	1.08 W	3.33	0.84
2500.00	1.10	178.94	2,499.82	1.82 N	2.06 W	1.83	1.25
2600.00	1.12	87.89	2,599.80	0.89 N	1.06 W	0.90	1.58
2700.00	0.87	30.43	2,699.79	1.58 N	0.30 E	1.58	0.98
2800.00	0.69	294.21	2,799.79	2.49 N	0.13 E	2.49	1.17
2900.00	1.04	271.08	2,899.77	2.75 N	1.32 W	2.76	0.49
3000.00	1.28	279.45	2,999.75	2.95 N	3.33 W	2.97	0.29
3100.00	1.30	275.40	3,099.73	3.24 N	5.56 W	3.27	0.09
3200.00	1.19	278.47	3,199.71	3.50 N	7.72 W	3.54	0.13
3300.00	1.26	274.15	3,299.68	3.73 N	9.84 W	3.78	0.12
3400.00	1.27	270.18	3,399.66	3.82 N	12.05 W	3.87	0.09
3500.00	1.18	269.06	3,499.64	3.80 N	14.19 W	3.87	0.09
3600.00	0.86	245.79	3,599.62	3.48 N	15.90 W	3.55	0.52
3700.00	0.90	281.57	3,699.61	3.33 N	17.35 W	3.41	0.54
3800.00	0.98	256.44	3,799.60	3.28 N	18.95 W	3.37	0.42
3900.00	0.95	257.59	3,899.58	2.91 N	20.60 W	3.00	0.04
4000.00	0.81	240.71	3,999.57	2.38 N	22.02 W	2.49	0.29
4100.00	0.32	265.59	4,099.56	2.01 N	22.92 W	2.12	0.54

DIRECTIONAL SURVEY DATA

Measured Depth (ft)	Inclination (deg)	Direction (deg)	Vertical Depth (ft)	Latitude (ft)	Departure (ft)	Vertical Section (ft)	Dogleg (ft/100)
4200.00	0.58	295.72	4,199.56	2.21 N	23.65 W	2.32	0.34
4300.00	0.76	278.09	4,299.56	2.53 N	24.76 W	2.64	0.27
4400.00	0.81	276.16	4,399.55	2.70 N	26.12 W	2.82	0.06
4500.00	0.92	267.93	4,499.53	2.74 N	27.63 W	2.87	0.17
4600.00	0.93	265.80	4,599.52	2.65 N	29.24 W	2.79	0.04
4700.00	0.92	263.77	4,699.51	2.51 N	30.85 W	2.65	0.03
4800.00	0.83	242.53	4,799.50	2.09 N	32.29 W	2.24	0.33
4900.00	0.42	220.68	4,899.49	1.47 N	33.17 W	1.63	0.47
5000.00	0.14	276.60	4,999.49	1.21 N	33.53 W	1.37	0.36
5100.00	0.29	272.05	5,099.49	1.23 N	33.90 W	1.39	0.15
5200.00	0.46	227.80	5,199.49	0.97 N	34.45 W	1.13	0.32
5300.00	0.58	222.21	5,299.48	0.33 N	35.09 W	0.49	0.13
5400.00	0.72	212.92	5,399.48	0.57 S	35.77 W	-0.41	0.17
5500.00	0.86	189.97	5,499.47	1.84 S	36.24 W	-1.67	0.34
5600.00	0.77	169.43	5,599.46	3.24 S	36.25 W	-3.07	0.30
5700.00	0.40	157.59	5,699.45	4.22 S	35.99 W	-4.05	0.39
5800.00	0.57	228.46	5,799.45	4.88 S	36.23 W	-4.71	0.58
5900.00	0.75	206.56	5,899.44	5.79 S	36.90 W	-5.62	0.31
6000.00	0.78	177.46	5,999.43	7.06 S	37.16 W	-6.88	0.39
6100.00	0.77	196.25	6,099.42	8.38 S	37.32 W	-8.21	0.25
6200.00	0.71	150.91	6,199.42	9.57 S	37.21 W	-9.39	0.57
6300.00	0.35	116.68	6,299.41	10.25 S	36.63 W	-10.07	0.46
6400.00	0.43	227.76	6,399.41	10.64 S	36.64 W	-10.46	0.64
6500.00	0.64	159.98	6,499.41	11.41 S	36.72 W	-11.24	0.62
6600.00	0.53	245.66	6,599.40	12.13 S	36.95 W	-11.95	0.80
6700.00	1.33	334.86	6,699.39	11.27 S	37.87 W	-11.09	1.42
6800.00	2.12	334.15	6,799.35	8.55 S	39.17 W	-8.37	0.79
6900.00	2.21	346.64	6,899.28	5.01 S	40.42 W	-4.82	0.48
7000.00	2.25	0.44	6,999.20	1.17 S	40.85 W	-0.98	0.54
7100.00	1.84	349.38	7,099.14	2.37 N	41.13 W	2.56	0.57
7200.00	1.68	321.83	7,199.09	5.10 N	42.33 W	5.30	0.85
7300.00	1.84	293.66	7,299.05	6.89 N	44.71 W	7.10	0.87
7400.00	1.55	286.03	7,399.00	7.91 N	47.48 W	8.13	0.37
7500.00	1.64	269.10	7,498.97	8.26 N	50.21 W	8.50	0.48
7600.00	2.36	269.75	7,598.90	8.23 N	53.70 W	8.48	0.72
7700.00	2.25	267.90	7,698.82	8.15 N	57.72 W	8.42	0.13
7800.00	1.85	279.95	7,798.76	8.36 N	61.27 W	8.65	0.59
7900.00	0.44	244.19	7,898.74	8.47 N	63.21 W	8.77	1.51
7925.00	0.19	168.13	7,923.74	8.39 N	63.29 W	8.68	1.74
7977.00	0.97	171.32	7,975.73	7.87 N	63.20 W	8.17	1.49
8040.00	1.32	16.46	8,038.73	8.04 N	62.92 W	8.33	3.54
8071.00	4.13	4.33	8,069.69	9.49 N	62.73 W	9.79	9.21
8103.00	7.56	358.53	8,101.52	12.75 N	62.70 W	13.04	10.86
8134.00	10.90	356.07	8,132.12	17.71 N	62.95 W	18.01	10.85
8166.00	13.10	356.07	8,163.42	24.35 N	63.41 W	24.64	6.87

DIRECTIONAL SURVEY DATA

Measured Depth (ft)	Inclination (deg)	Direction (deg)	Vertical Depth (ft)	Latitude (ft)	Departure (ft)	Vertical Section (ft)	Dogleg (ft/100)
8197.00	15.73	356.95	8,193.44	32.05 N	63.87 W	32.35	8.53
8229.00	18.54	358.18	8,224.01	41.47 N	64.27 W	41.77	8.87
8260.00	21.45	359.23	8,253.14	52.06 N	64.50 W	52.37	9.43
8291.00	24.35	0.46	8,281.70	64.12 N	64.52 W	64.43	9.48
8323.00	27.95	0.64	8,310.42	78.22 N	64.39 W	78.52	11.26
8354.00	30.15	0.64	8,337.52	93.27 N	64.22 W	93.57	7.09
8386.00	32.61	2.04	8,364.83	109.92 N	63.82 W	110.22	8.02
8417.00	35.33	4.15	8,390.54	127.22 N	62.88 W	127.51	9.57
8449.00	38.06	5.21	8,416.20	146.27 N	61.31 W	146.56	8.74
8481.00	41.40	6.09	8,440.81	166.62 N	59.29 W	166.90	10.58
8512.00	44.74	6.96	8,463.45	187.65 N	56.88 W	187.91	10.95
8544.00	48.08	7.67	8,485.51	210.63 N	53.93 W	210.88	10.56
8575.00	51.24	7.32	8,505.58	234.05 N	50.85 W	234.29	10.24
8607.00	55.28	7.14	8,524.72	259.49 N	47.62 W	259.71	12.64
8638.00	58.89	6.96	8,541.56	285.31 N	44.43 W	285.52	11.63
8673.00	63.19	7.32	8,558.50	315.69 N	40.62 W	315.88	12.34
8704.00	67.06	7.32	8,571.54	343.58 N	37.04 W	343.75	12.47
8736.00	71.28	7.32	8,582.92	373.24 N	33.23 W	373.39	13.18
8767.00	75.59	7.49	8,591.75	402.70 N	29.41 W	402.83	13.90
8798.00	79.54	7.49	8,598.43	432.70 N	25.46 W	432.82	12.76
8830.00	83.67	7.32	8,603.10	464.09 N	21.38 W	464.19	12.92
8855.00	87.54	6.96	8,605.01	488.82 N	18.28 W	488.90	15.53
8875.00	89.91	7.14	8,605.46	508.66 N	15.83 W	508.73	11.90
8924.00	92.20	6.96	8,604.56	557.28 N	9.81 W	557.32	4.68
8971.00	93.51	7.14	8,602.22	603.86 N	4.05 W	603.88	2.83
9018.00	94.48	7.49	8,598.94	650.37 N	1.92 E	650.35	2.19
9065.00	93.08	6.61	8,595.84	696.91 N	7.68 E	696.86	3.53
9113.00	92.28	6.26	8,593.60	744.55 N	13.05 E	744.48	1.80
9160.00	93.43	6.44	8,591.26	791.21 N	18.24 E	791.11	2.46
9207.00	90.53	5.21	8,589.63	837.93 N	23.01 E	837.81	6.70
9255.00	88.59	3.45	8,590.00	885.79 N	26.63 E	885.65	5.44
9302.00	88.15	2.92	8,591.34	932.70 N	29.24 E	932.55	1.46
9349.00	88.51	1.16	8,592.71	979.64 N	30.91 E	979.49	3.81
9396.00	89.03	0.28	8,593.72	1,026.63 N	31.51 E	1026.47	2.18
9443.00	89.56	359.05	8,594.30	1,073.62 N	31.24 E	1073.46	2.85
9490.00	90.18	358.00	8,594.40	1,120.61 N	30.03 E	1120.45	2.60
9537.00	91.14	358.18	8,593.86	1,167.58 N	28.46 E	1167.43	2.09
9585.00	92.11	358.88	8,592.50	1,215.54 N	27.23 E	1215.40	2.49
9679.00	91.41	358.88	8,589.62	1,309.48 N	25.39 E	1309.34	0.75
9773.00	89.99	358.18	8,588.48	1,403.44 N	22.98 E	1403.31	1.68
9868.00	90.70	358.18	8,587.90	1,498.39 N	19.96 E	1498.28	0.75
9962.00	90.00	357.82	8,587.33	1,592.33 N	16.67 E	1592.23	0.84
10057.00	90.88	357.65	8,586.60	1,687.25 N	12.92 E	1687.17	0.94
10152.00	88.15	357.65	8,587.40	1,782.16 N	9.02 E	1782.09	2.87
10246.00	85.43	358.00	8,592.66	1,875.93 N	5.46 E	1875.89	2.92

DIRECTIONAL SURVEY DATA

Measured Depth (ft)	Inclination (deg)	Direction (deg)	Vertical Depth (ft)	Latitude (ft)	Departure (ft)	Vertical Section (ft)	Dogleg (1/100)
10340.00	84.11	359.41	8,601.23	1,969.51 N	3.34 E	1969.48	2.05
10387.00	83.93	359.76	8,606.13	2,016.26 N	3.00 E	2016.22	0.83
10434.00	84.11	359.93	8,611.02	2,063.00 N	2.87 E	2062.96	0.53
10465.00	84.55	359.76	8,614.08	2,093.85 N	2.79 E	2093.81	1.53
10496.00	85.52	359.41	8,616.76	2,124.73 N	2.56 E	2124.70	3.32
10528.00	89.03	358.00	8,618.29	2,156.68 N	1.84 E	2156.65	11.83
10559.00	92.99	356.42	8,617.74	2,187.63 N	0.33 E	2187.61	13.74
10590.00	93.60	356.07	8,615.96	2,218.51 N	1.70 W	2218.50	2.28
10622.00	92.11	356.07	8,614.36	2,250.40 N	3.89 W	2250.39	4.67
10653.00	92.02	356.24	8,613.25	2,281.31 N	5.97 W	2281.31	0.63
10685.00	92.99	356.42	8,611.85	2,313.21 N	8.01 W	2313.22	3.07
10716.00	93.34	356.24	8,610.14	2,344.10 N	10.00 W	2344.12	1.27
10747.00	94.22	356.42	8,608.09	2,374.97 N	11.98 W	2375.00	2.89
10779.00	95.10	356.77	8,605.50	2,406.81 N	13.87 W	2406.85	2.96
10810.00	94.57	356.95	8,602.88	2,437.65 N	15.56 W	2437.70	1.79
10842.00	94.75	357.12	8,600.29	2,469.50 N	17.22 W	2469.56	0.78
10873.00	94.39	357.65	8,597.82	2,500.37 N	18.63 W	2500.43	2.04
10904.00	93.60	358.18	8,595.66	2,531.28 N	19.75 W	2531.34	3.06
10936.00	94.57	358.35	8,593.38	2,563.18 N	20.72 W	2563.25	3.07
10967.00	93.08	358.88	8,591.31	2,594.10 N	21.47 W	2594.17	5.11
10999.00	92.37	359.93	8,589.79	2,626.06 N	21.80 W	2626.13	3.96
11030.00	91.14	0.28	8,588.84	2,657.05 N	21.74 W	2657.12	4.13
11062.00	91.32	0.64	8,588.15	2,689.04 N	21.48 W	2689.11	1.23
11093.00	91.76	0.81	8,587.32	2,720.02 N	21.09 W	2720.09	1.53
11125.00	91.76	0.81	8,586.34	2,752.01 N	20.64 W	2752.07	0.00
11156.00	90.88	0.46	8,585.62	2,782.99 N	20.29 W	2783.06	3.05
11187.00	90.18	359.58	8,585.34	2,813.99 N	20.28 W	2814.06	3.63
11219.00	90.44	359.58	8,585.17	2,845.99 N	20.52 W	2846.06	0.82
11282.00	91.49	0.28	8,584.11	2,908.98 N	20.59 W	2909.05	2.01
11313.00	92.46	0.28	8,583.04	2,939.96 N	20.43 W	2940.03	3.12
11376.00	91.76	359.76	8,580.72	3,002.92 N	20.41 W	3002.98	1.39
11407.00	92.11	359.93	8,579.67	3,033.90 N	20.49 W	3033.96	1.27
11439.00	90.44	359.58	8,578.96	3,065.89 N	20.63 W	3065.96	5.33
11470.00	89.12	358.88	8,579.08	3,096.89 N	21.05 W	3096.95	4.82
11502.00	88.86	358.18	8,579.65	3,128.87 N	21.87 W	3128.94	2.35
11534.00	89.47	357.47	8,580.11	3,160.85 N	23.08 W	3160.92	2.92
11565.00	90.44	357.12	8,580.14	3,191.81 N	24.55 W	3191.89	3.32
11597.00	91.41	356.59	8,579.62	3,223.76 N	26.30 W	3223.85	3.44
11628.00	91.32	356.95	8,578.88	3,254.70 N	28.05 W	3254.80	1.17
11659.00	91.23	357.12	8,578.20	3,285.65 N	29.65 W	3285.75	0.63
11691.00	91.93	356.95	8,577.31	3,317.60 N	31.31 W	3317.71	2.26
11754.00	89.91	358.18	8,576.30	3,380.53 N	33.99 W	3380.65	3.76
11815.00	90.53	357.82	8,576.07	3,441.49 N	36.12 W	3441.62	1.16
11848.00	90.97	357.82	8,575.63	3,474.46 N	37.37 W	3474.60	1.33
11911.00	91.67	358.53	8,574.19	3,537.41 N	39.38 W	3537.56	1.58

DIRECTIONAL SURVEY DATA

Measured Depth (ft)	Inclination (deg)	Direction (deg)	Vertical Depth (ft)	Latitude (ft)	Departure (ft)	Vertical Section (ft)	Dogleg (°/100')
11943.00	90.53	359.23	8,573.57	3,569.40 N	40.00 W	3569.55	4.19
11974.00	90.79	359.05	8,573.22	3,600.39 N	40.47 W	3600.54	1.02
12006.00	90.79	359.23	8,572.78	3,632.39 N	40.94 W	3632.54	0.55
12037.00	88.77	359.76	8,572.89	3,663.38 N	41.22 W	3663.54	6.74
12069.00	88.77	0.11	8,573.58	3,695.38 N	41.26 W	3695.53	1.10
12132.00	87.80	0.46	8,575.47	3,758.35 N	40.94 W	3758.50	1.63
12163.00	88.24	0.81	8,576.54	3,789.33 N	40.60 W	3789.47	1.81
12194.00	89.47	0.99	8,577.16	3,820.31 N	40.11 W	3820.46	4.01
12226.00	90.97	0.99	8,577.03	3,852.31 N	39.56 W	3852.45	4.67
12258.00	89.74	1.34	8,576.84	3,884.30 N	38.91 W	3884.44	4.00
12289.00	89.21	1.69	8,577.12	3,915.29 N	38.09 W	3915.42	2.04
12320.00	89.56	1.69	8,577.46	3,946.27 N	37.18 W	3946.40	1.13
12352.00	89.12	1.87	8,577.83	3,978.26 N	36.18 W	3978.38	1.48
12383.00	87.80	1.87	8,578.66	4,009.23 N	35.17 W	4009.35	4.25
12415.00	88.15	1.87	8,579.79	4,041.19 N	34.13 W	4041.31	1.10
12446.00	87.98	2.39	8,580.83	4,072.15 N	32.98 W	4072.26	1.79
12478.00	88.77	2.22	8,581.74	4,104.11 N	31.69 W	4104.22	2.53
12509.00	90.00	2.39	8,582.07	4,135.08 N	30.44 W	4135.18	4.01
12541.00	91.41	2.39	8,581.68	4,167.05 N	29.11 W	4167.14	4.39
12604.00	89.91	2.39	8,580.96	4,229.99 N	26.48 W	4230.07	2.37
12698.00	88.77	2.39	8,582.04	4,323.90 N	22.55 W	4323.96	1.22
12792.00	88.51	2.22	8,584.28	4,417.80 N	18.77 W	4417.84	0.34
12887.00	89.21	2.39	8,586.17	4,512.70 N	14.94 W	4512.72	0.76
12981.00	90.09	2.04	8,586.75	4,606.63 N	11.31 W	4606.63	1.01
13076.00	90.26	1.69	8,586.46	4,701.58 N	8.21 W	4701.57	0.41
13170.00	89.47	1.52	8,586.68	4,795.54 N	5.58 W	4795.51	0.86
13265.00	88.77	0.99	8,588.13	4,890.51 N	3.51 W	4890.47	0.93
13359.00	90.26	359.76	8,588.93	4,984.50 N	2.89 W	4984.46	2.06
13453.00	92.20	359.23	8,586.91	5,078.47 N	3.72 W	5078.43	2.13
13548.00	91.93	359.05	8,583.49	5,173.39 N	5.15 W	5173.36	0.33
13652.00	89.74	359.23	8,581.97	5,277.36 N	6.70 W	5277.34	2.12
13747.00	88.15	359.41	8,583.72	5,372.34 N	7.83 W	5372.32	1.68
13810.00	89.30	0.28	8,585.13	5,435.32 N	8.00 W	5435.30	2.29
13841.00	89.74	359.93	8,585.39	5,466.32 N	7.94 W	5466.30	1.82
13935.00	89.30	359.23	8,586.18	5,560.31 N	8.63 W	5560.29	0.88
14030.00	89.82	359.05	8,586.91	5,655.30 N	10.05 W	5655.28	0.59
14124.00	88.94	358.35	8,587.92	5,749.27 N	12.18 W	5749.26	1.20
14219.00	89.47	358.70	8,589.23	5,844.23 N	14.62 W	5844.23	0.67
14313.00	89.74	357.65	8,589.88	5,938.18 N	17.61 W	5938.19	1.16
14407.00	91.05	358.35	8,589.24	6,032.11 N	20.90 W	6032.15	1.59
14502.00	89.47	359.05	8,588.80	6,127.09 N	23.05 W	6127.13	1.82
14597.00	90.35	358.70	8,588.95	6,222.07 N	24.90 W	6222.11	1.00
14692.00	89.30	359.05	8,589.24	6,317.05 N	26.76 W	6317.10	1.17
14786.00	88.77	358.70	8,590.83	6,411.01 N	28.60 W	6411.08	0.67
14881.00	89.30	358.70	8,592.43	6,505.98 N	30.75 W	6506.05	0.56

DIRECTIONAL SURVEY DATA

Measured Depth (ft)	Inclination (deg)	Direction (deg)	Vertical Depth (ft)	Northings (ft)	Eastings (ft)	Vertical Section (ft)	Depth (ft)
14975.00	89.74	358.53	8,593.23	6,599.94 N	33.03 W	6600.03	0.50
15070.00	90.00	357.65	8,593.45	6,694.89 N	36.20 W	6694.99	0.97
15165.00	90.00	357.30	8,593.45	6,789.80 N	40.39 W	6789.91	0.37
15259.00	90.70	357.82	8,592.87	6,883.71 N	44.39 W	6883.84	0.93
15354.00	91.05	358.00	8,591.41	6,978.64 N	47.85 W	6978.78	0.41
15448.00	89.47	359.58	8,590.98	7,072.61 N	49.83 W	7072.76	2.38
15543.00	88.68	359.05	8,592.51	7,167.59 N	50.96 W	7167.75	1.00
15638.00	89.30	359.93	8,594.19	7,262.57 N	51.80 W	7262.73	1.13
15732.00	89.82	359.41	8,594.91	7,356.56 N	52.34 W	7356.73	0.79
15797.00	90.00	358.53	8,595.01	7,421.55 N	53.52 W	7421.72	1.38
15826.00	89.91	358.00	8,595.04	7,450.54 N	54.39 W	7450.71	1.84
15874.00	90.18	358.00	8,595.00	7,498.51 N	56.07 W	7498.69	0.55
15935.00	90.18	358.00	8,594.81	7,559.47 N	58.20 W	7559.66	0.01

SURVEY FOOTER

SURVEYS CALCULATED USING SHORT COLLAR METHOD
 TIE-ON SURVEY ASSUMED VERTICAL AT SURFACE
 SURVEYS FROM 100' MD TO 7925' MD PROVIDED BY MULTISHOT DIRECTIONAL SERVICES
 SURVEYS FROM 7977' MD TO 15874' MD PROVIDED BY SPERRY DRILLING SERVICES
 SURVEY AT 15874' MD HAS BEEN PROJECTED TO TD AT 15935' MD
 SPERRY ENGINEERS: JJ PETERS, FRED GALINDO

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 359.73 degrees (Grid)
- A total correction of 7.32 deg from Magnetic north to Grid north has been applied
- Horizontal displacement is relative to the well head.
- Horizontal displacement (closure) at 15,935.00 feet is 7,559.70 feet along 359.56 degrees (Grid)

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