

HOBBS OCD
APR 27 2015
RECEIVED



January 12, 2015

Devon Energy Production Co., L. P.
333 West Sheridan Ave
Oklahoma City, Oklahoma 73102-5010

30-025-41203

Attn: David Cook

Re: Cotton Draw 33 4 Fed Com 1H

Please find enclosed a copy of the survey from 0' to 4646' 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,

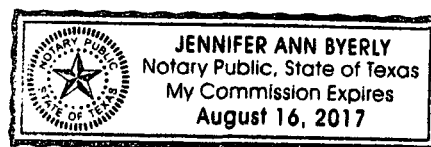
A handwritten signature in black ink, appearing to read "Keith Havelka".

Keith Havelka
Operations

STATE OF TEXAS §
 §
COUNTY OF NUECES §

This instrument was acknowledged before me on the 12 day of January, A.D., 2015, by Keith Havelka.

A handwritten signature in black ink, appearing to read "Jennifer Ann Byerly".
Jennifer Ann Byerly
Notary Public, State of Texas



MAY 04 2015



Company: Devon Energy
Lease/Well: Cotton Draw 33 4 Fed Com /1H
Location: Sec 33 T24S R32E
Rig Name: Cactus 126
State/County: New Mexico/Lea
Latitude: 31.18, Longitude: -103.68
GRID North is 0.34 Degrees East of True North
VS-Azi: 0.00 Degrees



Depth Reference : RKB = 25 Feet

DRILLOG MS GYRO SURVEY CALCULATIONS

Filename: msgyro_run01-01-de_01.ut

Minimum Curvature Method

Report Date/Time: 1/12/2015 / 11:01

VES Survey International

West Texas

(432) 563-5444

Surveyor: Chris Bankson

Cotton Draw 33 4 Fed Com 1H / API 30-025-41263

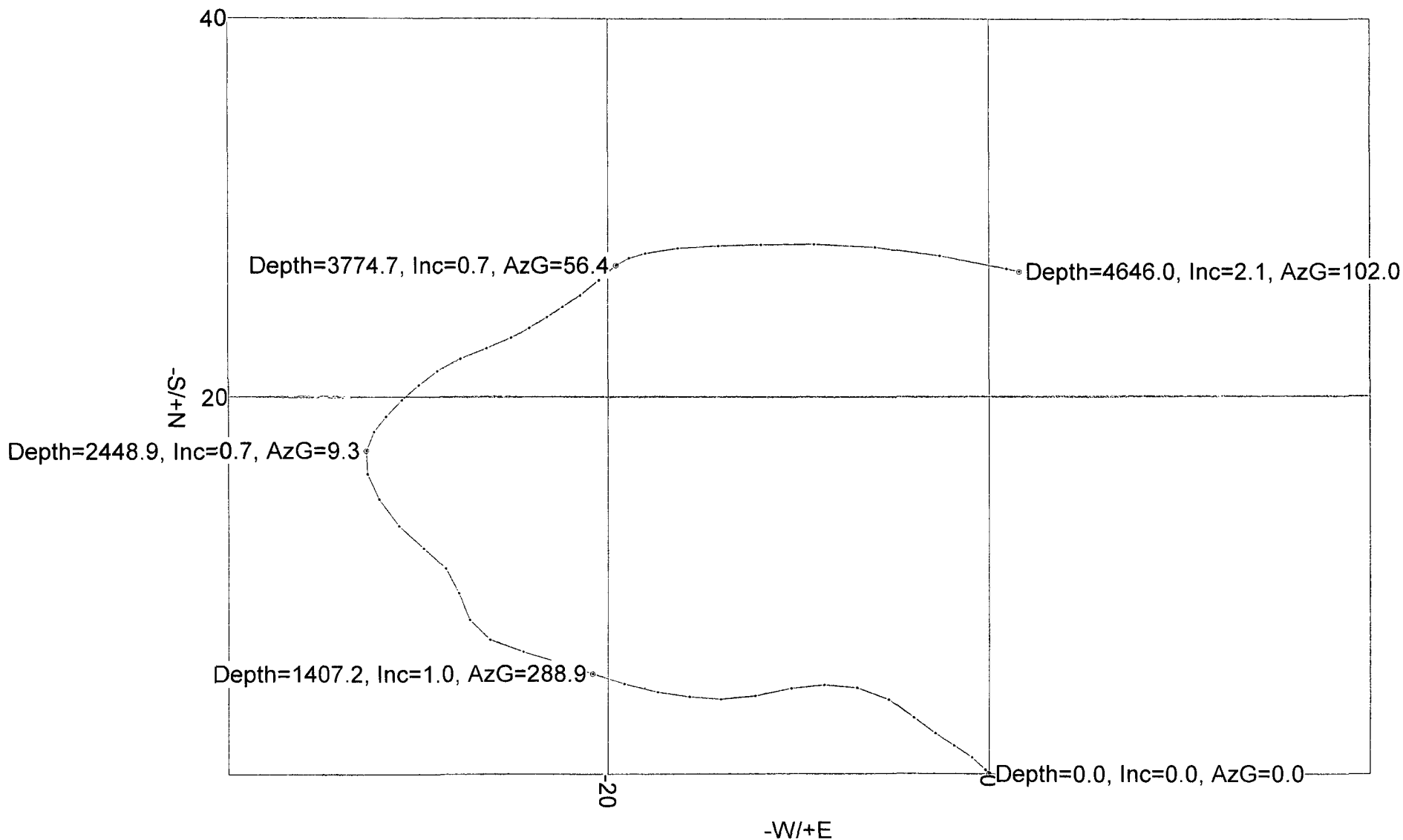
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Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	****
81.40	0.40	319.85	81.40	0.22	-0.18	0.22	0.28	319.85	0.49
176.10	0.76	309.19	176.09	0.87	-0.88	0.87	1.24	314.42	0.40
270.80	0.62	297.62	270.79	1.50	-1.82	1.50	2.36	309.45	0.21
365.50	0.79	307.20	365.48	2.13	-2.80	2.13	3.52	307.33	0.22
460.20	0.92	305.87	460.17	2.98	-3.94	2.98	4.93	307.09	0.14
554.90	1.06	305.45	554.86	3.93	-5.27	3.93	6.57	306.73	0.15
649.60	1.16	277.44	649.54	4.56	-6.93	4.56	8.30	303.36	0.58
744.30	0.93	271.30	744.22	4.70	-8.65	4.70	9.85	298.54	0.27
839.00	1.17	258.34	838.91	4.53	-10.36	4.53	11.31	293.59	0.36
933.70	1.17	257.58	933.59	4.12	-12.26	4.12	12.93	288.59	0.02
1028.40	1.02	273.24	1028.27	3.96	-14.04	3.96	14.59	285.76	0.35
1123.10	0.98	275.77	1122.96	4.09	-15.69	4.09	16.22	284.61	0.07
1217.80	1.09	281.08	1217.64	4.35	-17.38	4.35	17.91	284.04	0.15
1312.50	1.10	287.13	1312.32	4.79	-19.13	4.79	19.72	284.05	0.12
1407.20	1.00	288.90	1407.01	5.32	-20.79	5.32	21.46	284.36	0.12
1501.90	1.20	288.15	1501.69	5.90	-22.51	5.90	23.27	284.69	0.21
1596.60	1.27	285.98	1596.37	6.50	-24.46	6.50	25.30	284.88	0.09
1691.30	1.02	295.58	1691.05	7.15	-26.23	7.15	27.18	285.25	0.33

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
1786.00	0.93	335.58	1785.74	8.21	-27.31	8.21	28.52	286.74	0.71
1880.70	0.90	340.15	1880.42	9.62	-27.88	9.62	29.49	289.03	0.08
1975.40	0.91	323.54	1975.11	10.92	-28.58	10.92	30.59	290.92	0.28
2070.10	1.04	301.98	2069.80	11.98	-29.75	11.98	32.07	291.93	0.41
2164.80	1.13	320.59	2164.48	13.16	-31.07	13.16	33.74	292.95	0.38
2259.50	1.01	326.55	2259.17	14.58	-32.13	14.58	35.28	294.40	0.17
2354.20	0.81	346.24	2353.85	15.92	-32.75	15.92	36.41	295.93	0.39
2448.90	0.73	9.30	2448.55	17.16	-32.81	17.16	37.02	297.61	0.33
2543.60	0.60	36.71	2543.24	18.15	-32.41	18.15	37.15	299.25	0.36
2638.30	0.66	40.25	2637.93	18.97	-31.76	18.97	37.00	300.85	0.08
2733.00	0.79	47.61	2732.63	19.83	-30.93	19.83	36.74	302.67	0.17
2827.70	0.66	49.70	2827.32	20.62	-30.03	20.62	36.43	304.48	0.15
2922.40	0.87	56.95	2922.01	21.37	-29.01	21.37	36.03	306.37	0.25
3017.10	0.83	67.98	3016.70	22.02	-27.77	22.02	35.44	308.40	0.18
3111.80	0.98	68.24	3111.39	22.57	-26.39	22.57	34.72	310.55	0.17
3206.50	0.71	65.15	3206.08	23.12	-25.10	23.12	34.12	312.65	0.29
3301.20	0.67	60.86	3300.77	23.64	-24.08	23.64	33.74	314.46	0.07
3395.90	0.62	53.94	3395.46	24.21	-23.18	24.21	33.52	316.24	0.10
3490.60	0.57	58.36	3490.16	24.76	-22.37	24.76	33.37	317.90	0.07
3585.30	0.77	57.01	3584.85	25.35	-21.44	25.35	33.20	319.78	0.21
3680.00	0.78	42.95	3679.54	26.16	-20.47	26.16	33.22	321.96	0.20
3774.70	0.68	56.40	3774.24	26.94	-19.56	26.94	33.30	324.02	0.21
3869.40	0.27	68.94	3868.93	27.34	-18.89	27.34	33.23	325.36	0.45
3964.10	0.82	75.72	3963.63	27.58	-18.02	27.58	32.95	326.84	0.59
4058.80	1.29	84.04	4058.31	27.86	-16.30	27.86	32.28	329.67	0.52
4153.50	1.29	89.16	4152.99	27.99	-14.18	27.99	31.37	333.13	0.12
4248.20	1.42	87.19	4247.66	28.06	-11.95	28.06	30.50	336.94	0.14
4342.90	1.95	91.17	4342.32	28.08	-9.17	28.08	29.54	341.92	0.57
4437.60	1.92	94.62	4436.97	27.92	-5.98	27.92	28.56	347.91	0.13
4532.30	2.26	100.35	4531.60	27.46	-2.56	27.46	27.58	354.67	0.41
4627.00	2.07	102.13	4626.24	26.77	0.94	26.77	26.78	2.02	0.21
4646.00	2.06	101.97	4645.22	26.62	1.61	26.62	26.67	3.46	0.05



VES Survey International
West Texas
(432) 563-5444
Surveyor: Chris Bankson
Cotton Draw 33 4 Fed Com 1H / API 30-025-41263





Directional Survey

Sub-Division DELAWARE BASIN	County DELAWARE	Field Name PADUCA	Region DELAWARE BASIN WEST	State/Province NM
Surface Legal Location SEC33 24S 32E	APN 0002541265	Latitude (°) 32° 10' 48.712" N	Longitude (°) 103° 41' 0.554" W	Ground Elev. (M) 3,515.00
				Orig. KB Elev. (ft) 3,540.00
				Tubing Head Elevation (ft)

Wellbores

Wellbore Name OH	Parent Wellbore	SAP Well ID 37569	Vertical Section Direction (°) 0.00
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Kick Offs & Key Depths

Date	Type	Top Depth (ftKB)
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Actual Deviation Survey GYRO, Proposed? No	Definitive? Yes	Proposed? No	Proposed Deviation Survey GYRO, Proposed? No
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Deviation Survey

Date 12/13/2014	Description GYRO				
MD Tie In (ftKB) 0.00	TVD Tie In (ftKB) 0.00	Inclination Tie In (°) 0.00	Azimuth Tie In (°) 0.00	NSTie In (ft) 0.00	EW Tie In (ft) 0.00

Survey Data

Date	MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Survey Tool	Survey Company
12/26/2									MWD	LEAM DRILLING SYSTEMS
12/22/2	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	GYRO	VAUHGN ENERGY SERVICES
12/22/2	81:40	0:40	319:85	81:40	0:22	0:22	0:18	0:49	GYRO	VAUHGN ENERGY SERVICES
12/22/2	176:10	0:76	309:19	176:09	0:87	0:87	0:88	0:40	GYRO	VAUHGN ENERGY SERVICES
12/22/2	270:80	0:62	297:62	270:79	1:50	1:50	1:82	0:21	GYRO	VAUHGN ENERGY SERVICES
12/22/2	365:50	0:79	307:20	365:48	2:13	2:13	2:80	0:22	GYRO	VAUHGN ENERGY SERVICES
12/22/2	460:20	0:92	305:87	460:17	2:97	2:97	3:93	0:14	GYRO	VAUHGN ENERGY SERVICES
12/22/2	554:90	1:06	305:45	554:86	3:93	3:93	5:26	0:15	GYRO	VAUHGN ENERGY SERVICES
12/22/2	649:60	1:16	277:44	649:54	4:56	4:56	6:93	0:58	GYRO	VAUHGN ENERGY SERVICES
12/22/2	744:30	0:93	271:30	744:22	4:70	4:70	8:65	0:27	GYRO	VAUHGN ENERGY SERVICES
12/22/2	839:00	1:17	258:34	838:91	4:52	4:52	10:36	0:36	GYRO	VAUHGN ENERGY SERVICES
12/22/2	933:70	1:17	257:58	933:59	4:12	4:12	12:25	0:02	GYRO	VAUHGN ENERGY SERVICES
12/22/2	1028:40	1:02	273:24	1028:27	3:96	3:96	14:04	0:35	GYRO	VAUHGN ENERGY SERVICES
12/22/2	1123:10	0:98	275:77	1122:96	4:09	4:09	15:69	0:06	GYRO	VAUHGN ENERGY SERVICES
12/22/2	1217:80	1:09	281:08	1217:64	4:34	4:34	17:38	0:15	GYRO	VAUHGN ENERGY SERVICES
12/22/2	1312:50	1:10	287:13	1312:32	4:78	4:78	19:13	0:12	GYRO	VAUHGN ENERGY SERVICES
12/22/2	1407:20	1:00	288:90	1407:01	5:32	5:32	20:78	0:11	GYRO	VAUHGN ENERGY SERVICES
12/22/2	1501:90	1:20	288:15	1501:69	5:90	5:90	22:50	0:21	GYRO	VAUHGN ENERGY SERVICES
12/22/2	1596:60	1:27	285:98	1596:37	6:49	6:49	24:45	0:09	GYRO	VAUHGN ENERGY SERVICES
12/22/2	1691:30	1:02	295:58	1691:05	7:15	7:15	26:22	0:33	GYRO	VAUHGN ENERGY SERVICES
12/22/2	1786:00	0:93	335:58	1785:74	8:21	8:21	27:30	0:71	GYRO	VAUHGN ENERGY SERVICES
12/22/2	1880:70	0:90	340:15	1880:42	9:61	9:61	27:87	0:08	GYRO	VAUHGN ENERGY SERVICES
12/22/2	1975:40	0:91	323:54	1975:11	10:91	10:91	28:57	0:28	GYRO	VAUHGN ENERGY SERVICES
12/22/2	2070:10	1:04	301:98	2069:80	11:97	11:97	29:75	0:41	GYRO	VAUHGN ENERGY SERVICES
12/22/2	2164:80	1:13	320:59	2164:48	13:15	13:15	31:07	0:38	GYRO	VAUHGN ENERGY SERVICES
12/22/2	2259:50	1:01	326:55	2259:17	14:57	14:57	32:12	0:17	GYRO	VAUHGN ENERGY SERVICES
12/22/2	2354:20	0:81	346:24	2353:85	15:91	15:91	32:74	0:39	GYRO	VAUHGN ENERGY SERVICES
12/22/2	2448:90	0:73	9:30	2448:55	17:16	17:16	32:80	0:34	GYRO	VAUHGN ENERGY SERVICES
12/22/2	2543:60	0:60	36:71	2543:24	18:15	18:15	32:41	0:36	GYRO	VAUHGN ENERGY SERVICES
12/22/2	2638:30	0:66	40:25	2637:93	18:97	18:97	31:76	0:08	GYRO	VAUHGN ENERGY SERVICES
12/22/2	2733:00	0:79	47:61	2732:63	19:82	19:82	30:93	0:17	GYRO	VAUHGN ENERGY SERVICES
12/22/2	2827:70	0:66	49:70	2827:32	20:62	20:62	30:03	0:14	GYRO	VAUHGN ENERGY SERVICES
12/22/2	2922:40	0:87	56:95	2922:01	21:36	21:36	29:01	0:24	GYRO	VAUHGN ENERGY SERVICES
12/22/2	3017:10	0:83	67:98	3016:70	22:01	22:01	27:77	0:18	GYRO	VAUHGN ENERGY SERVICES
12/22/2	3111:80	0:98	68:24	3111:39	22:57	22:57	26:38	0:16	GYRO	VAUHGN ENERGY SERVICES
12/22/2	3206:50	0:71	65:15	3206:08	23:11	23:11	25:10	0:29	GYRO	VAUHGN ENERGY SERVICES
12/22/2	3301:20	0:67	60:86	3300:77	23:63	23:63	24:08	0:07	GYRO	VAUHGN ENERGY SERVICES
12/22/2	3395:90	0:62	53:94	3395:46	24:20	24:20	23:18	0:10	GYRO	VAUHGN ENERGY SERVICES
12/22/2	3490:60	0:57	58:36	3490:16	24:75	24:75	22:37	0:07	GYRO	VAUHGN ENERGY SERVICES
12/22/2	3585:30	0:77	57:01	3584:85	25:34	25:34	21:43	0:21	GYRO	VAUHGN ENERGY SERVICES
12/22/2	3680:00	0:78	42:95	3679:54	26:16	26:16	20:46	0:20	GYRO	VAUHGN ENERGY SERVICES
12/22/2	3774:70	0:68	56:40	3774:24	26:95	26:95	19:55	0:21	GYRO	VAUHGN ENERGY SERVICES
12/22/2	3869:40	0:27	68:94	3868:93	27:34	27:34	18:88	0:44	GYRO	VAUHGN ENERGY SERVICES
12/22/2	3964:10	0:82	75:72	3963:63	27:58	27:58	18:01	0:58	GYRO	VAUHGN ENERGY SERVICES



Directional Survey

Sub-Division	Country	Field Name	Region	State/Province		
DELAWARE BASIN	USA	PADUCA	DELAWARE BASIN WEST	NM		
Surface Legal Location	API Well	Latitude (°)	Longitude (°)	Ground Elev. (M)	Orig KB Elev. (ft)	Tubing Head Elevation (ft)
SEC33.24S.32E	3002541283	32° 10' 48.712" N	103° 41' 0.554" W	3 515.00	3 540.00	

Survey Data

Date	MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Survey Tool	Survey Company
12/22/2	4 058.80	1.29	84.04	4 058.31	27.86	27.86	-16.30	0.52	GYRO	VAUHGN ENERGY SERVICES
12/22/2	4 153.50	1.29	89.16	4 152.99	27.99	27.99	-14.17	0.12	GYRO	VAUHGN ENERGY SERVICES
12/22/2	4 248.20	1.42	87.19	4 247.66	28.06	28.06	-11.93	0.15	GYRO	VAUHGN ENERGY SERVICES
12/22/2	4 342.90	1.95	91.17	4 342.32	28.09	28.09	-9.15	0.57	GYRO	VAUHGN ENERGY SERVICES
12/22/2	4 437.60	1.92	94.62	4 436.97	27.92	27.92	-5.96	0.13	GYRO	VAUHGN ENERGY SERVICES
12/22/2	4 532.30	2.26	100.35	4 531.60	27.46	27.46	-2.54	0.42	GYRO	VAUHGN ENERGY SERVICES
12/22/2	4 627.00	2.07	102.13	4 626.24	26.77	26.77	0.97	0.21	GYRO	VAUHGN ENERGY SERVICES
12/22/2	4 646.00	2.06	101.97	4 645.22	26.62	26.62	1.64	0.06	GYRO	VAUHGN ENERGY SERVICES
12/26/2	4 668.00	2.10	105.00	4 667.21	26.44	26.44	2.42	0.53	MWD	LEAM DRILLING SYSTEMS
12/26/2	4 738.00	0.70	75.10	4 737.19	26.22	26.22	4.07	2.19	MWD	LEAM DRILLING SYSTEMS
12/26/2	4 832.00	1.30	315.00	4 831.18	27.12	27.12	3.87	1.87	MWD	LEAM DRILLING SYSTEMS
12/26/2	4 927.00	3.20	310.10	4 926.10	29.59	29.59	1.08	2.01	MWD	LEAM DRILLING SYSTEMS
12/26/2	5 021.00	4.70	308.20	5 019.88	33.66	33.66	-3.95	1.60	MWD	LEAM DRILLING SYSTEMS
12/26/2	5 117.00	6.80	304.50	5 115.39	39.31	39.31	-11.73	2.22	MWD	LEAM DRILLING SYSTEMS
12/26/2	5 211.00	8.20	306.60	5 208.58	46.46	46.46	-21.70	1.52	MWD	LEAM DRILLING SYSTEMS
12/26/2	5 306.00	8.30	306.60	5 302.60	54.59	54.59	-32.64	0.11	MWD	LEAM DRILLING SYSTEMS
12/26/2	5 401.00	8.30	304.10	5 396.60	62.52	62.52	-43.83	0.38	MWD	LEAM DRILLING SYSTEMS
12/26/2	5 496.00	7.70	303.40	5 490.68	69.87	69.87	-54.82	0.64	MWD	LEAM DRILLING SYSTEMS
12/26/2	5 590.00	6.20	307.10	5 583.99	76.40	76.40	-64.12	1.66	MWD	LEAM DRILLING SYSTEMS
12/26/2	5 685.00	6.20	308.00	5 678.43	82.65	82.65	-72.26	0.10	MWD	LEAM DRILLING SYSTEMS
12/26/2	5 780.00	6.40	307.50	5 772.86	89.03	89.03	-80.50	0.22	MWD	LEAM DRILLING SYSTEMS
12/26/2	5 874.00	6.30	304.80	5 866.28	95.16	95.16	-88.89	0.33	MWD	LEAM DRILLING SYSTEMS
12/26/2	5 969.00	6.20	305.00	5 960.71	101.08	101.08	-97.37	0.11	MWD	LEAM DRILLING SYSTEMS
12/26/2	6 063.00	6.60	306.00	6 054.13	107.17	107.17	-105.90	0.44	MWD	LEAM DRILLING SYSTEMS
12/26/2	6 157.00	5.60	310.10	6 147.60	113.30	113.30	-113.78	1.16	MWD	LEAM DRILLING SYSTEMS
12/26/2	6 252.00	5.50	311.00	6 242.15	119.27	119.27	-120.76	0.14	MWD	LEAM DRILLING SYSTEMS
12/26/2	6 346.00	5.30	310.60	6 335.73	125.05	125.05	-127.46	0.22	MWD	LEAM DRILLING SYSTEMS
12/26/2	6 440.00	5.00	309.40	6 429.35	130.48	130.48	-133.92	0.34	MWD	LEAM DRILLING SYSTEMS
12/26/2	6 535.00	5.90	302.20	6 523.92	135.71	135.71	-141.25	1.19	MWD	LEAM DRILLING SYSTEMS
12/26/2	6 629.00	6.20	300.10	6 617.40	140.83	140.83	-149.73	0.40	MWD	LEAM DRILLING SYSTEMS
12/26/2	6 723.00	6.30	301.60	6 710.84	146.07	146.07	-158.52	0.20	MWD	LEAM DRILLING SYSTEMS
12/26/2	6 818.00	6.60	310.30	6 805.24	152.34	152.34	-167.12	1.07	MWD	LEAM DRILLING SYSTEMS
12/26/2	6 913.00	6.70	310.10	6 899.60	159.44	159.44	-175.52	0.11	MWD	LEAM DRILLING SYSTEMS
12/26/2	7 008.00	6.30	302.50	6 994.00	165.81	165.81	-184.16	1.00	MWD	LEAM DRILLING SYSTEMS
12/26/2	7 103.00	6.20	299.70	7 088.43	171.15	171.15	-193.01	0.34	MWD	LEAM DRILLING SYSTEMS
12/26/2	7 198.00	5.00	297.30	7 182.98	175.59	175.59	-201.14	1.29	MWD	LEAM DRILLING SYSTEMS
12/26/2	7 293.00	4.00	302.70	7 277.68	179.28	179.28	-207.61	1.14	MWD	LEAM DRILLING SYSTEMS
12/26/2	7 387.00	3.70	309.60	7 371.47	182.98	182.98	-212.71	0.59	MWD	LEAM DRILLING SYSTEMS
12/26/2	7 482.00	3.20	308.00	7 466.30	186.57	186.57	-217.16	0.54	MWD	LEAM DRILLING SYSTEMS
12/26/2	7 578.00	2.50	338.90	7 562.18	190.17	190.17	-220.02	1.73	MWD	LEAM DRILLING SYSTEMS
12/26/2	7 672.00	1.20	5.10	7 656.13	193.07	193.07	-220.68	1.62	MWD	LEAM DRILLING SYSTEMS
12/26/2	7 765.00	0.70	97.70	7 749.13	193.96	193.96	-220.03	1.52	MWD	LEAM DRILLING SYSTEMS
12/26/2	7 860.00	1.70	146.60	7 844.11	192.71	192.71	-218.67	1.42	MWD	LEAM DRILLING SYSTEMS
12/26/2	7 892.00	4.20	166.60	7 876.06	191.17	191.17	-218.14	8.33	MWD	LEAM DRILLING SYSTEMS
12/26/2	7 924.00	7.80	175.60	7 907.88	187.86	187.86	-217.70	11.59	MWD	LEAM DRILLING SYSTEMS
12/26/2	7 955.00	10.70	178.80	7 938.48	182.89	182.89	-217.48	9.50	MWD	LEAM DRILLING SYSTEMS
12/26/2	7 987.00	13.50	182.30	7 969.76	176.19	176.19	-217.57	9.04	MWD	LEAM DRILLING SYSTEMS
12/26/2	8 019.00	16.70	185.60	8 000.65	167.87	167.87	-218.17	10.35	MWD	LEAM DRILLING SYSTEMS
12/26/2	8 051.00	19.90	187.70	8 031.03	157.90	157.90	-219.35	10.21	MWD	LEAM DRILLING SYSTEMS
12/26/2	8 082.00	23.10	189.10	8 059.87	146.66	146.66	-221.02	10.45	MWD	LEAM DRILLING SYSTEMS
12/26/2	8 114.00	25.90	189.90	8 088.99	133.58	133.58	-223.21	8.81	MWD	LEAM DRILLING SYSTEMS
12/26/2	8 146.00	28.10	190.00	8 117.50	119.27	119.27	-225.72	6.88	MWD	LEAM DRILLING SYSTEMS
12/26/2	8 178.00	31.00	190.60	8 145.33	103.74	103.74	-228.55	9.11	MWD	LEAM DRILLING SYSTEMS
12/26/2	8 210.00	34.20	190.40	8 172.29	86.79	86.79	-231.69	10.01	MWD	LEAM DRILLING SYSTEMS
12/26/2	8 241.00	37.60	190.60	8 197.39	68.92	68.92	-235.00	10.97	MWD	LEAM DRILLING SYSTEMS



Directional Survey

Sub-Division		County		Field Name		Region		State/Province							
DELAWARE BASIN		LEA		PADUCA		DELAWARE BASIN WEST		NM							
Surface Legal Location				API Well		Latitude (°)		Longitude (°)		Ground Elev. M		Orig. KB Elev. (ft)		Tubing Head Elevation (ft)	
SEC33 24S 32E				3002541263		32° 10' 48.712" N		103° 41' 0.554" W		3,515.00		3,540.00			
Survey Data															
Date	MD (ftKB)	Inc (°)	Azm (°)	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Survey Tool	Survey Company					
12/26/2	8,273.00	40.80	191.40	8,222.19	49.07	49.07	238.86	10.12	MWD	LEAM DRILLING SYSTEMS					
12/26/2	8,305.00	43.70	191.30	8,245.87	27.98	27.98	243.10	9.06	MWD	LEAM DRILLING SYSTEMS					
12/26/2	8,337.00	47.00	191.10	8,268.36	5.65	5.65	247.52	10.32	MWD	LEAM DRILLING SYSTEMS					
12/26/2	8,369.00	50.30	191.80	8,289.50	17.89	17.89	252.29	10.44	MWD	LEAM DRILLING SYSTEMS					
12/26/2	8,401.00	53.30	191.80	8,309.28	42.50	42.50	257.43	9.37	MWD	LEAM DRILLING SYSTEMS					
12/26/2	8,432.00	56.60	191.80	8,327.09	67.34	67.34	262.62	10.65	MWD	LEAM DRILLING SYSTEMS					
12/26/2	8,464.00	58.80	192.30	8,344.18	93.79	93.79	268.27	7.00	MWD	LEAM DRILLING SYSTEMS					
12/26/2	8,496.00	61.20	192.80	8,360.18	120.84	120.84	274.29	7.62	MWD	LEAM DRILLING SYSTEMS					
12/26/2	8,528.00	64.80	192.80	8,374.71	148.64	148.64	280.61	11.25	MWD	LEAM DRILLING SYSTEMS					
12/26/2	8,560.00	67.90	193.40	8,387.54	177.18	177.18	287.25	9.84	MWD	LEAM DRILLING SYSTEMS					
12/26/2	8,592.00	71.30	193.40	8,398.70	206.35	206.35	294.20	10.62	MWD	LEAM DRILLING SYSTEMS					
12/26/2	8,624.00	75.00	193.90	8,407.97	236.11	236.11	301.43	11.66	MWD	LEAM DRILLING SYSTEMS					
12/26/2	8,655.00	78.80	193.90	8,414.99	265.41	265.41	308.68	12.26	MWD	LEAM DRILLING SYSTEMS					
12/26/2	8,687.00	83.30	194.20	8,419.97	296.07	296.07	316.35	14.09	MWD	LEAM DRILLING SYSTEMS					
12/26/2	8,719.00	87.50	194.60	8,422.54	326.96	326.96	324.28	13.18	MWD	LEAM DRILLING SYSTEMS					
12/26/2	8,751.00	89.60	194.40	8,423.35	357.93	357.93	332.29	6.59	MWD	LEAM DRILLING SYSTEMS					
12/26/2	8,814.00	90.70	193.40	8,423.18	419.08	419.08	347.43	2.36	MWD	LEAM DRILLING SYSTEMS					
12/26/2	8,910.00	90.80	190.20	8,421.93	513.03	513.03	367.05	3.33	MWD	LEAM DRILLING SYSTEMS					
12/26/2	9,005.00	90.60	186.90	8,420.76	606.95	606.95	381.17	3.48	MWD	LEAM DRILLING SYSTEMS					
12/26/2	9,101.00	91.30	185.10	8,419.17	702.41	702.41	391.21	2.01	MWD	LEAM DRILLING SYSTEMS					
12/26/2	9,196.00	90.90	183.00	8,417.35	797.15	797.15	397.92	2.25	MWD	LEAM DRILLING SYSTEMS					
12/26/2	9,291.00	89.90	180.00	8,416.69	892.10	892.10	400.40	3.33	MWD	LEAM DRILLING SYSTEMS					
12/26/2	9,386.00	90.00	178.30	8,416.77	987.09	987.09	398.99	1.79	MWD	LEAM DRILLING SYSTEMS					
12/26/2	9,481.00	90.50	179.50	8,416.35	1,082.07	1,082.07	397.17	1.37	MWD	LEAM DRILLING SYSTEMS					
12/26/2	9,599.00	90.00	179.30	8,415.84	1,200.06	1,200.06	395.93	0.46	MWD	LEAM DRILLING SYSTEMS					
12/26/2	9,680.00	89.70	178.80	8,416.05	1,281.05	1,281.05	394.59	0.72	MWD	LEAM DRILLING SYSTEMS					
12/26/2	9,774.00	89.70	178.80	8,416.54	1,375.03	1,375.03	392.62	0.00	MWD	LEAM DRILLING SYSTEMS					
12/26/2	9,869.00	89.00	180.00	8,417.62	1,470.01	1,470.01	391.63	1.46	MWD	LEAM DRILLING SYSTEMS					
12/26/2	9,963.00	89.90	181.60	8,418.52	1,564.00	1,564.00	392.94	1.95	MWD	LEAM DRILLING SYSTEMS					
12/26/2	10,057.00	90.00	183.20	8,418.61	1,657.91	1,657.91	396.87	1.71	MWD	LEAM DRILLING SYSTEMS					
12/26/2	10,152.00	90.70	186.00	8,418.02	1,752.59	1,752.59	404.49	3.04	MWD	LEAM DRILLING SYSTEMS					
12/26/2	10,246.00	90.00	185.50	8,417.45	1,846.12	1,846.12	413.91	0.92	MWD	LEAM DRILLING SYSTEMS					
12/26/2	10,340.00	89.70	184.90	8,417.70	1,939.73	1,939.73	422.43	0.71	MWD	LEAM DRILLING SYSTEMS					
12/26/2	10,435.00	90.20	185.80	8,417.78	2,034.32	2,034.32	431.29	1.08	MWD	LEAM DRILLING SYSTEMS					
12/26/2	10,529.00	91.00	185.30	8,416.80	2,127.87	2,127.87	440.38	1.00	MWD	LEAM DRILLING SYSTEMS					
12/26/2	10,624.00	89.60	184.20	8,416.30	2,222.54	2,222.54	448.24	1.87	MWD	LEAM DRILLING SYSTEMS					
12/26/2	10,719.00	88.30	183.00	8,418.04	2,317.33	2,317.33	454.21	1.86	MWD	LEAM DRILLING SYSTEMS					
12/26/2	10,813.00	89.10	182.60	8,420.17	2,411.19	2,411.19	458.80	0.95	MWD	LEAM DRILLING SYSTEMS					
12/26/2	10,909.00	90.70	183.00	8,420.34	2,507.07	2,507.07	463.49	1.72	MWD	LEAM DRILLING SYSTEMS					
12/26/2	11,004.00	90.50	182.80	8,419.34	2,601.95	2,601.95	468.29	0.30	MWD	LEAM DRILLING SYSTEMS					
12/26/2	11,098.00	90.50	183.30	8,418.52	2,695.81	2,695.81	473.30	0.53	MWD	LEAM DRILLING SYSTEMS					
12/26/2	11,193.00	90.20	184.40	8,417.94	2,790.59	2,790.59	479.67	1.20	MWD	LEAM DRILLING SYSTEMS					
12/26/2	11,288.00	90.00	184.80	8,417.78	2,885.29	2,885.29	487.29	0.47	MWD	LEAM DRILLING SYSTEMS					
12/26/2	11,383.00	89.30	184.10	8,418.36	2,980.00	2,980.00	494.66	1.04	MWD	LEAM DRILLING SYSTEMS					
12/26/2	11,478.00	89.70	183.70	8,419.19	3,074.77	3,074.77	501.12	0.60	MWD	LEAM DRILLING SYSTEMS					
12/26/2	11,573.00	90.00	183.70	8,419.44	3,169.57	3,169.57	507.26	0.32	MWD	LEAM DRILLING SYSTEMS					
12/26/2	11,666.00	90.20	184.60	8,419.27	3,262.33	3,262.33	513.99	0.99	MWD	LEAM DRILLING SYSTEMS					
12/26/2	11,761.00	90.00	183.90	8,419.11	3,357.07	3,357.07	521.03	0.77	MWD	LEAM DRILLING SYSTEMS					
12/26/2	11,856.00	89.90	183.30	8,419.19	3,451.88	3,451.88	526.99	0.64	MWD	LEAM DRILLING SYSTEMS					
12/26/2	11,951.00	88.50	183.90	8,420.52	3,546.68	3,546.68	532.96	1.60	MWD	LEAM DRILLING SYSTEMS					
12/26/2	12,047.00	89.30	183.90	8,422.36	3,642.44	3,642.44	539.48	0.83	MWD	LEAM DRILLING SYSTEMS					
12/26/2	12,142.00	90.90	184.20	8,422.19	3,737.20	3,737.20	546.19	1.71	MWD	LEAM DRILLING SYSTEMS					
12/26/2	12,237.00	90.50	183.00	8,421.03	3,832.00	3,832.00	552.16	1.33	MWD	LEAM DRILLING SYSTEMS					
12/26/2	12,333.00	90.00	182.10	8,420.61	3,927.90	3,927.90	556.43	1.07	MWD	LEAM DRILLING SYSTEMS					
12/26/2	12,429.00	90.40	182.10	8,420.28	4,023.84	4,023.84	559.95	0.42	MWD	LEAM DRILLING SYSTEMS					

Directional Survey

Sub-Division DELAWARE BASIN	County LEA	Field Name PADUCA	Region DELAWARE BASIN WEST	State/Province N/A
Surface Legal Location SEC33 24S 32E	API Well # 3002541265	Latitude (°) 32° 10' 48.712" N	Longitude (°) 103° 41' 0.554" W	Ground Elev. (M) 3,515.00
				Orig. KB Elev. (ft) 3,540.00
				Tubing Head Elevation (ft)

Survey Data

Date	MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	N/S (ft)	E/W (ft)	DLS (°/100ft)	Survey Tool	Survey Company
12/26/2	12,524.00	90.00	182.10	8,419.95	-4,118.78	-4,118.78	-563.43	0.42	MWD	LEAM DRILLING SYSTEMS
12/26/2	12,620.00	89.80	181.90	8,420.12	-4,214.72	-4,214.72	-566.78	0.29	MWD	LEAM DRILLING SYSTEMS
12/26/2	12,715.00	89.10	182.50	8,421.03	-4,309.64	-4,309.64	-570.42	0.97	MWD	LEAM DRILLING SYSTEMS
12/26/2	12,810.00	88.00	182.60	8,423.43	-4,404.51	-4,404.51	-574.65	1.16	MWD	LEAM DRILLING SYSTEMS
12/26/2	12,906.00	87.80	183.00	8,426.95	-4,500.34	-4,500.34	-579.34	0.47	MWD	LEAM DRILLING SYSTEMS
12/26/2	12,979.00	87.70	183.00	8,429.81	-4,573.18	-4,573.18	-583.15	0.14	MWD	LEAM DRILLING SYSTEMS
12/26/2	13,038.00	87.70	183.00	8,432.18	-4,632.05	-4,632.05	-586.24	0.00	BIT	LEAM DRILLING SYSTEMS