



August 4, 2014

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

Attn: David Cook

30-015-41869

Re: Cotton Draw Unit No. 213H

Please find enclosed a copy of the survey from 0.00' to 9648.39' 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,

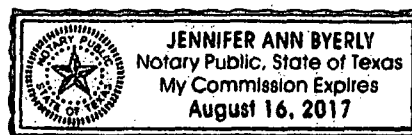

Keith Havelka
Operations

STATE OF TEXAS §
 §
COUNTY OF NUECES §

This instrument was acknowledged before me on the 4 day of August, A.D., 2014, by Keith Havelka.


Jennifer Ann Byerly
Notary Public, State of Texas

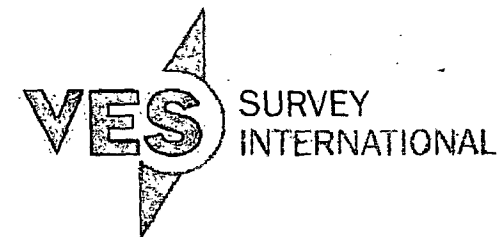
VES Survey International
P.O. Box 261021 Corpus Christi, TX 78426
T (361) 767-0602 F (361) 767-0612
www.vessurvey.com





Company: DEVON ENERGY
Lease/Well: COTTON DRAW UNIT/NO. 213H

Rig Name: H & P #223
State/County: NEW MEXICO /EDDY
Latitude: 32.18, Longitude: -103.74
GRID North is 0.32 Degrees East of True North
VS-Azi: 0.00 Degrees



Depth Reference : RKB: 25 FEET

DRILLOG MS GYRO SURVEY CALCULATIONS

Filename: gyro survey.ut
Minimum Curvature Method
Report Date/Time: 8/4/2014 / 12:02

VES Survey Calculations
Midland, TX
(432)-563-5444
Surveyor: Jordan Shelleby
Cotton Draw Unit No. 213H / API 30-015-41869

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	****
185.39	1.37	321.68	185.37	1.74	-1.38	1.74	2.22	321.68	0.74
280.02	1.19	307.61	279.98	3.24	-2.86	3.24	4.32	318.50	0.38
374.65	1.03	328.34	374.59	4.56	-4.09	4.56	6.13	318.12	0.46
469.28	0.95	333.86	469.21	6.00	-4.89	6.00	7.74	320.82	0.13
563.91	0.35	334.92	563.83	6.97	-5.36	6.97	8.79	322.45	0.63
658.54	0.27	317.78	658.46	7.40	-5.63	7.40	9.30	322.72	0.13
753.17	0.92	324.19	753.08	8.19	-6.23	8.19	10.29	322.72	0.69
847.80	0.87	322.39	847.70	9.38	-7.12	9.38	11.77	322.80	0.06
942.43	0.27	333.12	942.33	10.15	-7.66	10.15	12.71	322.96	0.64
1037.06	0.25	313.75	1036.96	10.49	-7.91	10.49	13.14	322.98	0.10
1131.69	0.51	310.77	1131.58	10.91	-8.38	10.91	13.76	322.47	0.27
1226.32	0.52	319.78	1226.21	11.52	-8.98	11.52	14.60	322.06	0.09
1320.95	0.96	299.92	1320.83	12.24	-9.94	12.24	15.77	320.91	0.53
1415.58	0.70	329.45	1415.45	13.13	-10.92	13.13	17.07	320.25	0.52
1510.21	0.69	331.78	1510.08	14.12	-11.48	14.12	18.20	320.90	0.03
1604.84	1.29	299.44	1604.69	15.15	-12.68	15.15	19.75	320.08	0.85
1699.47	1.22	301.92	1699.30	16.21	-14.46	16.21	21.72	318.26	0.09
1794.10	1.13	327.80	1793.91	17.53	-15.81	17.53	23.61	317.94	0.56

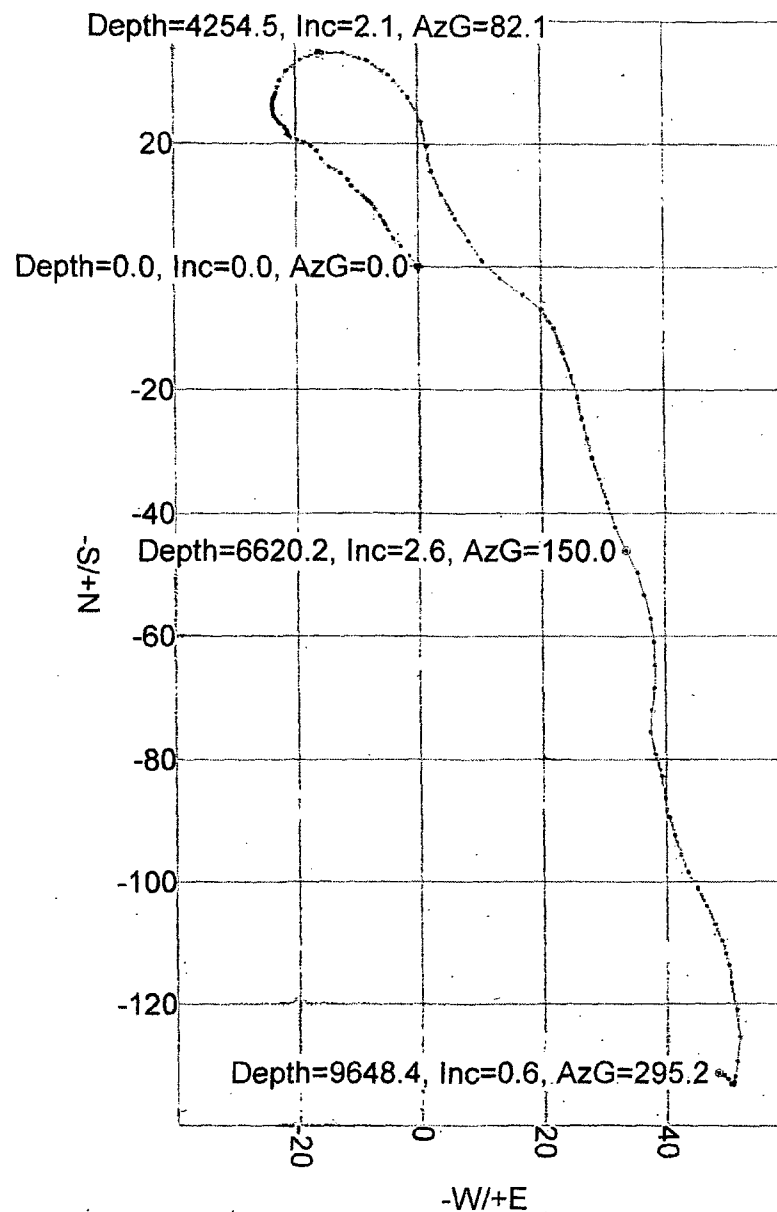
Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
1888.73	0.71	325.47	1888.53	18.80	-16.64	18.80	25.11	318.48	0.44
1983.36	0.80	299.85	1983.15	19.61	-17.55	19.61	26.31	318.18	0.36
2077.99	0.80	294.82	2077.77	20.21	-18.71	20.21	27.55	317.21	0.07
2172.62	0.66	294.18	2172.39	20.71	-19.81	20.71	28.66	316.28	0.15
2267.25	0.68	285.12	2267.02	21.08	-20.85	21.08	29.65	315.32	0.11
2361.88	0.34	6.43	2361.64	21.51	-21.37	21.51	30.32	315.19	0.76
2456.51	0.27	7.24	2456.27	22.01	-21.31	22.01	30.63	315.93	0.08
2551.14	0.64	308.23	2550.90	22.56	-21.70	22.56	31.30	316.12	0.59
2645.77	0.44	309.23	2645.52	23.11	-22.39	23.11	32.18	315.91	0.22
2740.40	0.23	311.11	2740.15	23.47	-22.81	23.47	32.73	315.81	0.22
2835.03	0.40	324.02	2834.78	23.86	-23.15	23.86	33.25	315.87	0.20
2929.66	0.19	318.24	2929.41	24.25	-23.45	24.25	33.74	315.96	0.22
3024.29	0.50	347.95	3024.04	24.77	-23.64	24.77	34.24	316.33	0.36
3118.92	0.24	352.27	3118.67	25.37	-23.76	25.37	34.76	316.88	0.27
3213.55	0.25	355.55	3213.30	25.77	-23.80	25.77	35.08	317.28	0.02
3308.18	0.19	4.87	3307.92	26.14	-23.80	26.14	35.35	317.68	0.08
3402.81	0.17	8.83	3402.55	26.43	-23.77	26.43	35.55	318.03	0.02
3497.44	0.59	11.13	3497.18	27.04	-23.65	27.04	35.93	318.83	0.44
3592.07	0.05	37.44	3591.81	27.55	-23.54	27.55	36.24	319.49	0.57
3686.70	0.09	30.94	3686.44	27.65	-23.47	27.65	36.27	319.67	0.04
3781.33	0.60	21.21	3781.07	28.17	-23.26	28.17	36.53	320.46	0.54
3875.96	0.62	12.82	3875.69	29.13	-22.96	29.13	37.09	321.75	0.10
3970.59	0.73	20.57	3970.32	30.20	-22.64	30.20	37.74	323.14	0.15
4065.22	1.75	42.94	4064.92	31.82	-21.44	31.82	38.37	326.03	1.17
4159.85	1.90	57.07	4159.51	33.73	-19.14	33.73	38.78	330.43	0.50
4254.48	2.08	82.11	4254.08	34.82	-16.12	34.82	38.37	335.15	0.93
4349.11	2.66	99.80	4348.63	34.68	-12.25	34.68	36.78	340.54	0.98
4443.74	2.37	113.73	4443.17	33.52	-8.29	33.52	34.53	346.10	0.72
4538.37	2.88	130.18	4537.70	31.20	-4.69	31.20	31.55	351.45	0.96
4633.00	2.99	147.42	4632.21	27.58	-1.54	27.58	27.62	356.81	0.94
4727.63	2.48	157.95	4726.73	23.60	0.56	23.60	23.61	1.36	0.75
4822.26	2.60	178.22	4821.27	19.56	1.40	19.56	19.61	4.09	0.95
4916.89	2.36	160.51	4915.81	15.57	2.12	15.57	15.72	7.74	0.84
5011.52	2.72	150.96	5010.35	11.77	3.86	11.77	12.39	18.14	0.58
5106.15	2.85	149.64	5104.87	7.78	6.14	7.78	9.91	38.27	0.15
5200.78	2.29	150.48	5199.40	4.10	8.26	4.10	9.22	63.58	0.59
5295.41	2.28	139.90	5293.96	1.02	10.40	1.02	10.45	84.41	0.45
5390.04	2.74	129.63	5388.50	-1.86	13.35	-1.86	13.48	97.94	0.68
5484.67	2.73	121.95	5483.02	-4.50	17.00	-4.50	17.59	104.81	0.39

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
5579.30	2.06	137.36	5577.57	-6.94	20.07	-6.94	21.24	109.08	0.98
5673.93	2.50	156.03	5672.12	-10.08	22.06	-10.08	24.26	114.55	0.91
5768.56	2.42	162.24	5766.67	-13.87	23.51	-13.87	27.30	120.54	0.29
5863.19	2.50	159.47	5861.21	-17.71	24.84	-17.71	30.51	125.48	0.15
5957.82	1.90	170.42	5955.77	-21.18	25.83	-21.18	33.40	129.36	0.77
6052.45	2.33	167.35	6050.33	-24.60	26.51	-24.60	36.17	132.86	0.47
6147.08	1.88	162.50	6144.90	-27.95	27.40	-27.95	39.14	135.58	0.51
6241.71	1.96	171.26	6239.48	-31.03	28.11	-31.03	41.87	137.83	0.32
6336.34	2.41	154.19	6334.04	-34.42	29.22	-34.42	45.15	139.67	0.83
6430.97	2.52	166.21	6428.58	-38.23	30.58	-38.23	48.96	141.34	0.56
6525.60	2.57	158.89	6523.12	-42.23	31.84	-42.23	52.88	142.98	0.35
6620.23	2.63	150.00	6617.65	-46.09	33.69	-46.09	57.09	143.83	0.43
6714.86	2.21	158.53	6712.20	-49.67	35.45	-49.67	61.02	144.49	0.59
6809.49	2.39	165.38	6806.75	-53.28	36.61	-53.28	64.64	145.50	0.34
6904.12	2.37	165.22	6901.30	-57.07	37.61	-57.07	68.35	146.62	0.02
6998.75	2.37	180.00	6995.85	-60.92	38.11	-60.92	71.85	147.97	0.64
7093.38	2.22	177.04	7090.41	-64.71	38.20	-64.71	75.14	149.44	0.20
7188.01	2.29	182.31	7184.96	-68.43	38.22	-68.43	78.38	150.81	0.23
7282.64	2.09	193.96	7279.52	-71.99	37.73	-71.99	81.28	152.34	0.51
7377.27	2.25	175.26	7374.09	-75.52	37.46	-75.52	84.30	153.62	0.76
7471.90	2.27	160.52	7468.64	-79.14	38.24	-79.14	87.90	154.21	0.61
7566.53	2.28	166.19	7563.20	-82.73	39.31	-82.73	91.60	154.58	0.24
7661.16	2.19	177.79	7657.76	-86.37	39.83	-86.37	95.11	155.24	0.49
7755.79	1.70	156.32	7752.33	-89.46	40.47	-89.46	98.19	155.66	0.92
7850.42	2.04	169.87	7846.91	-92.41	41.33	-92.41	101.23	155.90	0.58
7945.05	1.97	155.88	7941.49	-95.54	42.29	-95.54	104.48	156.13	0.52
8039.68	1.84	158.14	8036.07	-98.43	43.52	-98.43	107.62	156.15	0.16
8134.31	1.94	144.13	8130.64	-101.14	45.02	-101.14	110.71	156.00	0.50
8228.94	2.02	158.78	8225.22	-104.00	46.56	-104.00	113.95	155.88	0.54
8323.57	1.96	153.12	8319.79	-107.00	47.90	-107.00	117.24	155.88	0.22
8418.20	1.52	164.35	8414.38	-109.66	48.98	-109.66	120.10	155.93	0.59
8512.83	1.20	161.65	8508.98	-111.81	49.63	-111.81	122.33	156.07	0.35
8607.46	1.23	170.36	8603.59	-113.75	50.11	-113.75	124.30	156.23	0.20
8702.09	2.43	171.63	8698.17	-116.73	50.57	-116.73	127.22	156.58	1.27
8796.72	2.82	167.73	8792.70	-120.99	51.36	-120.99	131.44	157.00	0.45
8891.35	2.63	180.23	8887.22	-125.44	51.84	-125.44	135.73	157.55	0.66
8985.98	2.33	191.62	8981.77	-129.49	51.45	-129.49	139.33	158.33	0.61
9080.61	0.71	184.44	9076.36	-131.95	51.01	-131.95	141.47	158.86	1.72
9175.24	0.44	189.34	9170.98	-132.90	50.91	-132.90	142.32	159.04	0.28

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
9269.87	0.13	205.88	9265.61	-133.36	50.80	-133.36	142.71	159.15	0.34
9364.50	0.51	301.61	9360.24	-133.24	50.40	-133.24	142.45	159.28	0.57
9459.13	0.74	349.52	9454.87	-132.41	49.93	-132.41	141.52	159.34	0.58
9553.76	0.64	281.96	9549.49	-131.70	49.30	-131.70	140.63	159.48	0.82
9648.39	0.62	295.20	9644.12	-131.38	48.33	-131.38	139.98	159.80	0.15



VES Survey Calculations
Midland, TX
(432)-563-5444
Surveyor: Jordan Shelleby
Cotton Draw Unit No. 213H / API 30-015-41869



V.E.S Survey Date: 07/21/2014

COTTON DRAW UNIT 213H

WEST UNRESTRICTED

devon

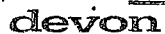
Directional Survey

District DELAWARE BASIN	County EDDY	Field Name PADUCA	Project Group DELAWARE BASIN REG	State/Province NM
Surface Legal Location Sec. 35 T24S R31E	API/UWI 3001541869	Latitude (°) 32° 10' 49.92" N	Longitude (°) 103° 44' 30.069" W	Ground Elev... 3,499.90
			KB - GL (ft) 25.00	Orig KB Elev (ft) 3,524.90
				Tubing Head Elevation (ft)

Wellbores				
Wellbore Name OH	Parent Wellbore	SAP Well ID 36019	Kick Off Depth (ftKB)	Vertical Section Direction (°)
Actual Deviation Survey GYRO, Proposed? No		Definitive? Yes	Proposed? No	Proposed Deviation Survey

Deviation Survey					
Date 7/22/2014	Description GYRO				
MD Tie In (ftKB) 0.00	TVD Tie In (ftKB) 0.00	Inclination Tie In (°) 0.00	Azimuth Tie In (°) 0.00	NS Tie In (ft) 0.00	EW Tie In (ft) 0.00

Survey Data										
Date	MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	N/S (ft)	E/W (ft)	DLS (°/100ft)	Survey Tool	Survey Company
7/22/2014	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	GYRO	VAUHGN ENERGY SERVICES
7/22/2014	185.39	1.37	321.68	185.37	-1.69	1.74	-1.37	0.74	GYRO	VAUHGN ENERGY SERVICES
7/22/2014	280.02	1.19	307.61	279.98	-3.13	3.23	-2.85	0.38	GYRO	VAUHGN ENERGY SERVICES
7/22/2014	374.65	1.03	328.34	374.59	-4.41	4.55	-4.08	0.45	GYRO	VAUHGN ENERGY SERVICES
7/22/2014	469.28	0.95	333.86	469.21	-5.81	5.98	-4.87	0.13	GYRO	VAUHGN ENERGY SERVICES
7/22/2014	563.91	0.35	334.92	563.83	-6.75	6.94	-5.34	0.63	GYRO	VAUHGN ENERGY SERVICES
7/22/2014	658.54	0.27	317.78	658.46	-7.17	7.37	-5.61	0.13	GYRO	VAUHGN ENERGY SERVICES
7/22/2014	753.17	0.92	324.19	753.08	-7.93	8.15	-6.21	0.69	GYRO	VAUHGN ENERGY SERVICES
7/22/2014	847.80	0.87	322.39	847.70	-9.09	9.34	-7.09	0.06	GYRO	VAUHGN ENERGY SERVICES
7/22/2014	942.43	0.27	333.12	942.33	-9.84	10.11	-7.63	0.64	GYRO	VAUHGN ENERGY SERVICES
7/22/2014	1,037.06	0.25	313.75	1,036.96	-10.17	10.45	-7.88	0.09	GYRO	VAUHGN ENERGY SERVICES
7/22/2014	1,131.69	0.51	310.77	1,131.58	-10.57	10.86	-8.35	0.28	GYRO	VAUHGN ENERGY SERVICES
7/22/2014	1,226.32	0.52	319.78	1,226.21	-11.15	11.47	-8.94	0.09	GYRO	VAUHGN ENERGY SERVICES
7/22/2014	1,320.95	0.96	299.92	1,320.83	-11.84	12.19	-9.91	0.53	GYRO	VAUHGN ENERGY SERVICES
7/22/2014	1,415.58	0.70	329.45	1,415.45	-12.70	13.08	-10.89	0.52	GYRO	VAUHGN ENERGY SERVICES
7/22/2014	1,510.21	0.69	331.78	1,510.08	-13.68	14.08	-11.45	0.03	GYRO	VAUHGN ENERGY SERVICES
7/22/2014	1,604.84	1.29	299.44	1,604.69	-14.66	15.11	-12.65	0.84	GYRO	VAUHGN ENERGY SERVICES
7/22/2014	1,699.47	1.22	301.92	1,699.30	-15.66	16.17	-14.43	0.09	GYRO	VAUHGN ENERGY SERVICES
7/22/2014	1,794.10	1.13	327.80	1,793.91	-16.93	17.49	-15.78	0.56	GYRO	VAUHGN ENERGY SERVICES
7/22/2014	1,888.73	0.71	325.47	1,888.53	-18.17	18.76	-16.61	0.45	GYRO	VAUHGN ENERGY SERVICES
7/22/2014	1,983.36	0.80	299.85	1,983.15	-18.95	19.57	-17.52	0.37	GYRO	VAUHGN ENERGY SERVICES
7/22/2014	2,077.99	0.80	294.82	2,077.77	-19.52	20.18	-18.69	0.07	GYRO	VAUHGN ENERGY SERVICES
7/22/2014	2,172.62	0.66	294.18	2,172.39	-19.98	20.68	-19.79	0.15	GYRO	VAUHGN ENERGY SERVICES
7/22/2014	2,267.25	0.68	285.12	2,267.02	-20.32	21.05	-20.83	0.11	GYRO	VAUHGN ENERGY SERVICES
7/22/2014	2,361.88	0.34	6.43	2,361.64	-20.72	21.47	-21.34	0.75	GYRO	VAUHGN ENERGY SERVICES
7/22/2014	2,456.51	0.27	7.24	2,456.27	-21.22	21.97	-21.28	0.07	GYRO	VAUHGN ENERGY SERVICES
7/22/2014	2,551.14	0.64	308.23	2,550.90	-21.76	22.52	-21.66	0.58	GYRO	VAUHGN ENERGY SERVICES
7/22/2014	2,645.77	0.44	309.23	2,645.52	-22.29	23.08	-22.36	0.21	GYRO	VAUHGN ENERGY SERVICES
7/22/2014	2,740.40	0.23	311.11	2,740.15	-22.63	23.43	-22.79	0.22	GYRO	VAUHGN ENERGY SERVICES
7/22/2014	2,835.03	0.40	324.02	2,834.78	-23.01	23.83	-23.12	0.19	GYRO	VAUHGN ENERGY SERVICES
7/22/2014	2,929.66	0.19	318.24	2,929.41	-23.39	24.21	-23.42	0.22	GYRO	VAUHGN ENERGY SERVICES
7/22/2014	3,024.29	0.50	347.95	3,024.04	-23.90	24.73	-23.61	0.37	GYRO	VAUHGN ENERGY SERVICES
7/22/2014	3,118.92	0.24	352.27	3,118.67	-24.50	25.33	-23.73	0.28	GYRO	VAUHGN ENERGY SERVICES
7/22/2014	3,213.55	0.25	355.55	3,213.30	-24.90	25.73	-23.77	0.02	GYRO	VAUHGN ENERGY SERVICES
7/22/2014	3,308.18	0.19	4.87	3,307.93	-25.26	26.10	-23.77	0.07	GYRO	VAUHGN ENERGY SERVICES
7/22/2014	3,402.81	0.17	8.83	3,402.55	-25.55	26.39	-23.74	0.02	GYRO	VAUHGN ENERGY SERVICES
7/22/2014	3,497.44	0.59	11.13	3,497.18	-26.17	27.01	-23.62	0.44	GYRO	VAUHGN ENERGY SERVICES
7/22/2014	3,592.07	0.05	37.44	3,591.81	-26.69	27.52	-23.50	0.58	GYRO	VAUHGN ENERGY SERVICES
7/22/2014	3,686.70	0.09	30.94	3,686.44	-26.79	27.62	-23.44	0.04	GYRO	VAUHGN ENERGY SERVICES
7/22/2014	3,781.33	0.60	21.21	3,781.07	-27.32	28.14	-23.22	0.54	GYRO	VAUHGN ENERGY SERVICES
7/22/2014	3,875.96	0.62	12.82	3,875.69	-28.29	29.10	-22.93	0.10	GYRO	VAUHGN ENERGY SERVICES
7/22/2014	3,970.59	0.73	20.57	3,970.32	-29.37	30.17	-22.60	0.15	GYRO	VAUHGN ENERGY SERVICES
7/22/2014	4,065.22	1.75	42.94	4,064.92	-31.03	31.79	-21.41	1.17	GYRO	VAUHGN ENERGY SERVICES
7/22/2014	4,159.85	1.90	57.07	4,159.51	-33.02	33.70	-19.10	0.50	GYRO	VAUHGN ENERGY SERVICES
7/22/2014	4,254.48	2.08	82.11	4,254.08	-34.21	34.79	-16.09	0.93	GYRO	VAUHGN ENERGY SERVICES
7/22/2014	4,349.11	2.66	99.80	4,348.63	-34.21	34.65	-12.22	0.98	GYRO	VAUHGN ENERGY SERVICES
7/22/2014	4,443.74	2.37	113.73	4,443.17	-33.18	33.49	-8.27	0.71	GYRO	VAUHGN ENERGY SERVICES



COTTON DRAW UNIT 213H

WEST UNRESTRICTED

Directional Survey

District DELAWARE BASIN	County EDDY	Field Name PADUCA	Project Group DELAWARE BASIN REG	State/Province NM
Surface Legal Location Sec: 35 T24S R31E	API/UWI 3001541869	Latitude (°) 32° 10' 49.92" N	Longitude (°) 103° 44' 30.069" W	Ground Elev... 3,499.90
			KB - GL (ft) 25.00	Orig KB Elev (ft) 3,524.90
				Tubing Head Elevation (ft)

Survey Data

Date	MD (ft/KB)	Incl (°)	Azm (°)	TVD (ft/KB)	VS (ft)	N/S (ft)	E/W (ft)	DLS (°/100ft)	Survey Tool	Survey Company
7/22/2014	4,538.37	2.88	130.18	4,537.70	-30.99	31.17	-4.66	0.96	GYRO	VAUHG N ENERGY SERVICES
7/22/2014	4,633.00	2.99	147.42	4,632.21	-27.48	27.55	-1.51	0.94	GYRO	VAUHG N ENERGY SERVICES
7/22/2014	4,727.63	2.48	157.95	4,726.73	-23.58	23.58	0.58	0.75	GYRO	VAUHG N ENERGY SERVICES
7/22/2014	4,822.26	2.60	178.22	4,821.27	-19.57	19.53	1.42	0.95	GYRO	VAUHG N ENERGY SERVICES
7/22/2014	4,916.89	2.36	160.51	4,915.81	-15.62	15.55	2.14	0.84	GYRO	VAUHG N ENERGY SERVICES
7/22/2014	5,011.52	2.72	150.96	5,010.35	-11.88	11.75	3.88	0.59	GYRO	VAUHG N ENERGY SERVICES
7/22/2014	5,106.15	2.85	149.64	5,104.87	-7.97	7.76	6.15	0.15	GYRO	VAUHG N ENERGY SERVICES
7/22/2014	5,200.78	2.29	150.48	5,199.40	-4.37	4.08	8.28	0.59	GYRO	VAUHG N ENERGY SERVICES
7/22/2014	5,295.41	2.28	139.90	5,293.96	-1.36	1.00	10.42	0.45	GYRO	VAUHG N ENERGY SERVICES
7/22/2014	5,390.04	2.74	129.63	5,388.50	1.42	-1.88	13.37	0.68	GYRO	VAUHG N ENERGY SERVICES
7/22/2014	5,484.67	2.73	121.95	5,483.02	3.93	-4.52	17.03	0.39	GYRO	VAUHG N ENERGY SERVICES
7/22/2014	5,579.30	2.06	137.36	5,577.57	6.26	-6.96	20.09	0.98	GYRO	VAUHG N ENERGY SERVICES
7/22/2014	5,673.93	2.50	156.03	5,672.12	9.33	-10.10	22.08	0.91	GYRO	VAUHG N ENERGY SERVICES
7/22/2014	5,768.56	2.42	162.24	5,766.67	13.07	-13.89	23.53	0.29	GYRO	VAUHG N ENERGY SERVICES
7/22/2014	5,863.19	2.50	159.47	5,861.21	16.85	-17.72	24.86	0.15	GYRO	VAUHG N ENERGY SERVICES
7/22/2014	5,957.82	1.90	170.42	5,955.77	20.30	-21.20	25.85	0.77	GYRO	VAUHG N ENERGY SERVICES
7/22/2014	6,052.45	2.33	167.35	6,050.34	23.69	-24.63	26.53	0.47	GYRO	VAUHG N ENERGY SERVICES
7/22/2014	6,147.08	1.88	162.50	6,144.90	27.02	-27.99	27.42	0.51	GYRO	VAUHG N ENERGY SERVICES
7/22/2014	6,241.71	1.96	171.26	6,239.48	30.07	-31.07	28.13	0.32	GYRO	VAUHG N ENERGY SERVICES
7/22/2014	6,336.34	2.41	154.19	6,334.04	33.42	-34.46	29.24	0.83	GYRO	VAUHG N ENERGY SERVICES
7/22/2014	6,430.97	2.52	166.21	6,428.58	37.19	-38.27	30.61	0.56	GYRO	VAUHG N ENERGY SERVICES
7/22/2014	6,525.60	2.57	158.89	6,523.12	41.14	-42.27	31.87	0.35	GYRO	VAUHG N ENERGY SERVICES
7/22/2014	6,620.23	2.63	150.00	6,617.65	44.93	-46.13	33.72	0.43	GYRO	VAUHG N ENERGY SERVICES
7/22/2014	6,714.86	2.21	158.53	6,712.20	48.45	-49.70	35.47	0.58	GYRO	VAUHG N ENERGY SERVICES
7/22/2014	6,809.49	2.39	165.38	6,806.75	52.01	-53.31	36.64	0.35	GYRO	VAUHG N ENERGY SERVICES
7/22/2014	6,904.12	2.37	165.22	6,901.30	55.78	-57.11	37.63	0.02	GYRO	VAUHG N ENERGY SERVICES
7/22/2014	6,998.75	2.37	180.00	6,995.85	59.60	-60.96	38.13	0.64	GYRO	VAUHG N ENERGY SERVICES
7/22/2014	7,093.38	2.22	177.04	7,090.41	63.39	-64.75	38.23	0.20	GYRO	VAUHG N ENERGY SERVICES
7/22/2014	7,188.01	2.29	182.31	7,184.96	67.10	-68.47	38.24	0.23	GYRO	VAUHG N ENERGY SERVICES
7/22/2014	7,282.64	2.09	193.96	7,279.52	70.68	-72.03	37.75	0.51	GYRO	VAUHG N ENERGY SERVICES
7/22/2014	7,377.27	2.25	175.26	7,374.09	74.21	-75.56	37.49	0.76	GYRO	VAUHG N ENERGY SERVICES
7/22/2014	7,471.90	2.27	160.52	7,468.64	77.80	-79.18	38.27	0.61	GYRO	VAUHG N ENERGY SERVICES
7/22/2014	7,566.53	2.28	166.19	7,563.20	81.36	-82.77	39.34	0.24	GYRO	VAUHG N ENERGY SERVICES
7/22/2014	7,661.16	2.19	177.79	7,657.76	84.97	-86.40	39.86	0.49	GYRO	VAUHG N ENERGY SERVICES
7/22/2014	7,755.79	1.70	156.32	7,752.34	88.04	-89.50	40.49	0.92	GYRO	VAUHG N ENERGY SERVICES
7/22/2014	7,850.42	2.04	169.87	7,846.92	90.95	-92.44	41.35	0.59	GYRO	VAUHG N ENERGY SERVICES
7/22/2014	7,945.05	1.97	155.88	7,941.49	94.06	-95.58	42.32	0.52	GYRO	VAUHG N ENERGY SERVICES
7/22/2014	8,039.68	1.84	158.14	8,036.07	96.91	-98.48	43.55	0.16	GYRO	VAUHG N ENERGY SERVICES
7/22/2014	8,134.31	1.94	144.13	8,130.64	99.57	-101.19	45.05	0.50	GYRO	VAUHG N ENERGY SERVICES
7/22/2014	8,228.94	2.02	158.78	8,225.22	102.36	-104.04	46.59	0.54	GYRO	VAUHG N ENERGY SERVICES
7/22/2014	8,323.57	1.96	153.12	8,319.79	105.31	-107.04	47.93	0.22	GYRO	VAUHG N ENERGY SERVICES
7/22/2014	8,418.20	1.52	164.35	8,414.38	107.93	-109.69	49.00	0.59	GYRO	VAUHG N ENERGY SERVICES
7/22/2014	8,512.83	1.20	161.65	8,508.98	110.05	-111.84	49.65	0.34	GYRO	VAUHG N ENERGY SERVICES
7/22/2014	8,607.46	1.23	170.36	8,603.59	111.98	-113.78	50.13	0.20	GYRO	VAUHG N ENERGY SERVICES
7/22/2014	8,702.09	2.43	171.63	8,698.17	114.94	-116.77	50.59	1.27	GYRO	VAUHG N ENERGY SERVICES
7/22/2014	8,796.72	2.82	167.73	8,792.70	119.17	-121.02	51.38	0.45	GYRO	VAUHG N ENERGY SERVICES
7/22/2014	8,891.35	2.63	180.23	8,887.22	123.60	-125.47	51.87	0.66	GYRO	VAUHG N ENERGY SERVICES
7/22/2014	8,985.98	2.33	191.62	8,981.77	127.67	-129.53	51.47	0.61	GYRO	VAUHG N ENERGY SERVICES
7/22/2014	9,080.61	0.71	184.44	9,076.36	130.15	-131.99	51.04	1.72	GYRO	VAUHG N ENERGY SERVICES
7/22/2014	9,175.24	0.44	189.34	9,170.99	131.10	-132.94	50.93	0.29	GYRO	VAUHG N ENERGY SERVICES
7/22/2014	9,269.87	0.13	205.88	9,265.61	131.55	-133.39	50.83	0.34	GYRO	VAUHG N ENERGY SERVICES
7/22/2014	9,364.50	0.51	301.61	9,360.24	131.44	-133.27	50.42	0.57	GYRO	VAUHG N ENERGY SERVICES
7/22/2014	9,459.13	0.74	349.52	9,454.87	130.64	-132.45	49.95	0.58	GYRO	VAUHG N ENERGY SERVICES
7/22/2014	9,553.76	0.64	281.96	9,549.49	129.95	-131.74	49.32	0.82	GYRO	VAUHG N ENERGY SERVICES
7/22/2014	9,648.39	0.62	295.20	9,644.12	129.66	-131.41	48.34	0.15	GYRO	VAUHG N ENERGY SERVICES

COTTON DRAW UNIT 213H

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Directional Survey

District DELAWARE BASIN	County EDDY	Field Name PADUCA	Project Group DELAWARE BASIN REG	State/Province NM
Surface Legal Location Sec. 35 T24S R31E	API/UWI 3001541869	Latitude (°) 32° 10' 49.92" N	Longitude (°) 103° 44' 30.069" W	Ground Elev... 3,499.90
			KB - GL (ft) 25.00	Orig KB Elev (ft) 3,524.90
				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
7/28/2014	9,742.00	0.80	287.81	9,737.72	129.28	-130.99	47.26	0.22	MWD	SPERRY-SUN DRILLING SE...
7/29/2014	9,774.00	1.00	261.08	9,769.72	129.27	-130.97	46.77	1.44	MWD	SPERRY-SUN DRILLING SE...
7/29/2014	9,806.00	1.73	207.84	9,801.71	129.76	-131.44	46.27	4.33	MWD	SPERRY-SUN DRILLING SE...
7/29/2014	9,838.00	3.90	188.38	9,833.67	131.27	-132.94	45.89	7.31	MWD	SPERRY-SUN DRILLING SE...
7/29/2014	9,870.00	6.55	189.29	9,865.53	134.17	-135.82	45.43	8.29	MWD	SPERRY-SUN DRILLING SE...
7/29/2014	9,902.00	9.35	187.69	9,897.22	138.56	-140.20	44.79	8.78	MWD	SPERRY-SUN DRILLING SE...
7/29/2014	9,933.00	12.32	183.78	9,927.67	144.38	-146.00	44.24	9.86	MWD	SPERRY-SUN DRILLING SE...
7/29/2014	9,965.00	14.69	181.50	9,958.78	151.85	-153.46	43.91	7.59	MWD	SPERRY-SUN DRILLING SE...
7/29/2014	9,997.00	16.02	181.96	9,989.64	160.32	-161.93	43.65	4.17	MWD	SPERRY-SUN DRILLING SE...
7/30/2014	10,028.00	17.66	182.41	10,019.30	169.30	-170.90	43.30	5.31	MWD	SPERRY-SUN DRILLING SE...
7/30/2014	10,060.00	20.46	181.66	10,049.55	179.75	-181.35	42.94	8.78	MWD	SPERRY-SUN DRILLING SE...
7/30/2014	10,092.00	26.33	179.14	10,078.90	192.44	-194.04	42.88	18.60	MWD	SPERRY-SUN DRILLING SE...
7/30/2014	10,124.00	32.63	180.20	10,106.75	208.17	-209.78	42.96	19.75	MWD	SPERRY-SUN DRILLING SE...
7/31/2014	10,155.00	36.96	182.47	10,132.20	225.85	-227.46	42.53	14.58	MWD	SPERRY-SUN DRILLING SE...
7/31/2014	10,187.00	39.60	183.40	10,157.32	245.67	-247.26	41.51	8.44	MWD	SPERRY-SUN DRILLING SE...
7/31/2014	10,218.00	40.82	183.80	10,180.99	265.68	-267.23	40.25	4.02	MWD	SPERRY-SUN DRILLING SE...
7/31/2014	10,250.00	43.42	183.28	10,204.73	287.13	-288.65	38.93	8.20	MWD	SPERRY-SUN DRILLING SE...
7/31/2014	10,282.00	46.62	181.33	10,227.34	309.76	-311.26	38.03	10.89	MWD	SPERRY-SUN DRILLING SE...
7/31/2014	10,314.00	49.98	181.17	10,248.63	333.64	-335.14	37.51	10.51	MWD	SPERRY-SUN DRILLING SE...
8/1/2014	10,346.00	52.53	181.11	10,268.65	358.60	-360.09	37.01	7.97	MWD	SPERRY-SUN DRILLING SE...
8/1/2014	10,378.00	55.02	181.91	10,287.56	384.41	-385.90	36.33	8.04	MWD	SPERRY-SUN DRILLING SE...
8/1/2014	10,410.00	57.71	180.82	10,305.29	411.05	-412.53	35.70	8.87	MWD	SPERRY-SUN DRILLING SE...
8/2/2014	10,441.00	60.51	183.76	10,321.20	437.64	-439.10	34.63	12.16	MWD	SPERRY-SUN DRILLING SE...
8/2/2014	10,473.00	62.22	184.63	10,336.54	465.71	-467.11	32.57	5.85	MWD	SPERRY-SUN DRILLING SE...
8/2/2014	10,505.00	64.98	184.73	10,350.76	494.33	-495.68	30.23	8.63	MWD	SPERRY-SUN DRILLING SE...
8/2/2014	10,537.00	66.82	184.75	10,363.83	523.51	-524.79	27.82	5.75	MWD	SPERRY-SUN DRILLING SE...
8/2/2014	10,572.00	68.83	184.81	10,377.04	555.88	-557.08	25.12	5.75	MWD	SPERRY-SUN DRILLING SE...
8/2/2014	10,604.00	73.35	184.58	10,387.41	586.11	-587.25	22.64	14.14	MWD	SPERRY-SUN DRILLING SE...
8/3/2014	10,636.00	78.09	186.69	10,395.30	617.05	-618.10	19.59	16.13	MWD	SPERRY-SUN DRILLING SE...
8/3/2014	10,668.00	82.17	186.97	10,400.78	648.46	-649.39	15.84	12.78	MWD	SPERRY-SUN DRILLING SE...
8/3/2014	10,700.00	85.11	185.74	10,404.33	680.16	-681.00	12.32	9.95	MWD	SPERRY-SUN DRILLING SE...
8/4/2014	10,729.00	87.44	185.59	10,406.21	709.04	-709.79	9.47	8.05	MWD	SPERRY-SUN DRILLING SE...
8/4/2014	10,760.00	90.25	184.53	10,406.84	739.99	-740.66	6.73	9.69	MWD	SPERRY-SUN DRILLING SE...
8/4/2014	10,793.00	90.83	183.92	10,406.53	772.96	-773.57	4.30	2.55	MWD	SPERRY-SUN DRILLING SE...
8/4/2014	10,824.00	90.74	183.79	10,406.10	803.94	-804.50	2.22	0.51	MWD	SPERRY-SUN DRILLING SE...
8/4/2014	10,856.00	90.62	183.27	10,405.72	835.92	-836.43	0.25	1.67	MWD	SPERRY-SUN DRILLING SE...
8/4/2014	10,888.00	89.38	183.29	10,405.72	867.92	-868.38	-1.58	3.88	MWD	SPERRY-SUN DRILLING SE...
8/4/2014	10,983.00	91.05	182.97	10,405.36	962.89	-963.24	-6.77	1.79	MWD	SPERRY-SUN DRILLING SE...
8/4/2014	11,079.00	89.97	182.49	10,404.51	1,058.88	-1,059.12	-11.34	1.23	MWD	SPERRY-SUN DRILLING SE...
8/4/2014	11,175.00	90.28	181.64	10,404.30	1,154.88	-1,155.06	-14.80	0.94	MWD	SPERRY-SUN DRILLING SE...
8/4/2014	11,270.00	87.47	180.64	10,406.17	1,249.84	-1,250.01	-16.69	3.14	MWD	SPERRY-SUN DRILLING SE...
8/5/2014	11,366.00	87.47	181.04	10,410.40	1,345.73	-1,345.91	-18.10	0.42	MWD	SPERRY-SUN DRILLING SE...
8/5/2014	11,461.00	90.56	181.02	10,412.04	1,440.69	-1,440.86	-19.81	3.25	MWD	SPERRY-SUN DRILLING SE...
8/5/2014	11,556.00	90.99	181.44	10,410.75	1,535.67	-1,535.83	-21.84	0.63	MWD	SPERRY-SUN DRILLING SE...
8/5/2014	11,651.00	88.98	178.28	10,410.78	1,630.59	-1,630.82	-21.61	3.94	MWD	SPERRY-SUN DRILLING SE...
8/5/2014	11,747.00	90.80	181.38	10,410.96	1,726.50	-1,726.80	-21.33	3.74	MWD	SPERRY-SUN DRILLING SE...
8/5/2014	11,842.00	90.99	182.03	10,409.48	1,821.49	-1,821.75	-24.15	0.71	MWD	SPERRY-SUN DRILLING SE...
8/5/2014	11,939.00	90.34	181.68	10,408.35	1,918.48	-1,918.69	-27.29	0.76	MWD	SPERRY-SUN DRILLING SE...
8/5/2014	12,034.00	91.76	181.35	10,406.61	2,013.46	-2,013.64	-29.80	1.53	MWD	SPERRY-SUN DRILLING SE...
8/5/2014	12,129.00	90.74	181.09	10,404.54	2,108.43	-2,108.59	-31.83	1.11	MWD	SPERRY-SUN DRILLING SE...
8/5/2014	12,224.00	91.14	180.96	10,402.98	2,203.40	-2,203.56	-33.53	0.44	MWD	SPERRY-SUN DRILLING SE...
8/5/2014	12,320.00	88.95	180.45	10,402.90	2,299.37	-2,299.55	-34.71	2.34	MWD	SPERRY-SUN DRILLING SE...
8/6/2014	12,445.00	87.96	181.04	10,406.27	2,424.30	-2,424.49	-36.33	0.92	MWD	SPERRY-SUN DRILLING SE...
8/6/2014	12,541.00	91.74	180.77	10,406.53	2,520.26	-2,520.46	-37.85	3.95	MWD	SPERRY-SUN DRILLING SE...
8/7/2014	12,635.00	89.91	181.66	10,405.17	2,614.24	-2,614.43	-39.84	2.16	MWD	SPERRY-SUN DRILLING SE...



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Directional Survey

District DELAWARE BASIN	County EDDY	Field Name PADUCA	Project Group DELAWARE BASIN REG	State/Province NM			
Surface Legal Location Sec. 35 T24S R31E	API/JWI 3001541869	Latitude (") 32° 10' 49.92" N	Longitude (") 103° 44' 30.069" W	Ground Elev... 3,499.90	KB - GL (ft) 25.00	Orig KB Elev (ft) 3,524.90	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
8/7/2014	12,731.00	92.41	182.05	10,403.23	2,710.21	-2,710.35	-42.95	2.64	MWD	SPERRY-SUN DRILLING SE...
8/7/2014	12,827.00	89.26	181.80	10,401.83	2,806.19	-2,806.27	-46.17	3.29	MWD	SPERRY-SUN DRILLING SE...
8/7/2014	12,922.00	92.28	182.12	10,400.55	2,901.17	-2,901.20	-49.42	3.20	MWD	SPERRY-SUN DRILLING SE...
8/7/2014	13,113.00	91.08	182.21	10,394.95	3,092.08	-3,091.97	-56.63	0.63	MWD	SPERRY-SUN DRILLING SE...
8/7/2014	13,208.00	90.68	182.31	10,393.49	3,187.07	-3,186.89	-60.38	0.43	MWD	SPERRY-SUN DRILLING SE...
8/7/2014	13,304.00	87.75	182.16	10,394.81	3,283.05	-3,282.80	-64.12	3.06	MWD	SPERRY-SUN DRILLING SE...
8/8/2014	13,400.00	88.26	182.30	10,398.15	3,378.99	-3,378.67	-67.85	0.55	MWD	SPERRY-SUN DRILLING SE...
8/8/2014	13,495.00	89.88	183.02	10,399.69	3,473.97	-3,473.55	-72.26	1.87	MWD	SPERRY-SUN DRILLING SE...
8/8/2014	13,591.00	91.12	182.60	10,398.86	3,569.95	-3,569.43	-76.97	1.36	MWD	SPERRY-SUN DRILLING SE...
8/8/2014	13,686.00	90.65	182.60	10,397.39	3,664.93	-3,664.32	-81.28	0.49	MWD	SPERRY-SUN DRILLING SE...
8/8/2014	13,781.00	91.45	184.98	10,395.65	3,759.86	-3,759.08	-87.55	2.64	MWD	SPERRY-SUN DRILLING SE...
8/8/2014	13,876.00	90.93	185.14	10,393.67	3,854.70	-3,853.69	-95.93	0.57	MWD	SPERRY-SUN DRILLING SE...
8/8/2014	13,972.00	90.81	188.75	10,392.22	3,950.32	-3,948.96	-107.54	3.76	MWD	SPERRY-SUN DRILLING SE...
8/8/2014	14,068.00	90.46	189.76	10,391.15	4,045.54	-4,043.71	-122.97	1.11	MWD	SPERRY-SUN DRILLING SE...
8/8/2014	14,164.00	90.15	186.79	10,390.64	4,140.95	-4,138.69	-136.79	3.11	MWD	SPERRY-SUN DRILLING SE...
8/8/2014	14,259.00	89.65	186.63	10,390.81	4,235.63	-4,233.04	-147.89	0.55	MWD	SPERRY-SUN DRILLING SE...
8/9/2014	14,355.00	89.63	184.54	10,391.41	4,331.43	-4,328.58	-157.23	2.18	MWD	SPERRY-SUN DRILLING SE...
8/9/2014	14,451.00	89.26	179.55	10,392.34	4,427.39	-4,424.48	-160.66	5.21	MWD	SPERRY-SUN DRILLING SE...
8/9/2014	14,547.00	90.58	181.70	10,392.48	4,523.36	-4,520.47	-161.70	2.63	MWD	SPERRY-SUN DRILLING SE...
8/9/2014	14,643.00	91.64	179.91	10,390.62	4,619.32	-4,616.44	-163.05	2.17	MWD	SPERRY-SUN DRILLING SE...
8/9/2014	14,678.00	91.79	179.74	10,389.57	4,654.27	-4,651.42	-162.95	0.65	MWD	SPERRY-SUN DRILLING SE...
8/9/2014	14,725.00	91.79	179.74	10,388.10	4,701.22	-4,698.40	-162.73	0.00	MWD	SPERRY-SUN DRILLING SE...