



October 31, 2014

NM OIL CONSERVATION
ARTESIA DISTRICT

FEB 27 2015

RECEIVED

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

15-42331

Attn: David Cook

Re: **Cotton Draw Unit 244H**

Please find enclosed a copy of the survey from 0' to 11,005.38' 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

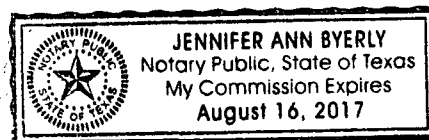
STATE OF TEXAS §

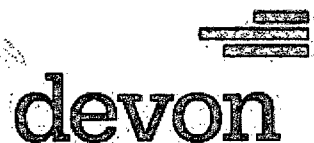
§

COUNTY OF NUECES §

This instrument was acknowledged before me on the 31 day of October,
A.D., 2014, by Keith Havelka.

Jennifer Ann Byerly
Notary Public, State of Texas





Company: DEVON ENERGY
Lease/Well: COTTON DRAW UNIT/244H

Location:

Rig Name: CACTUS 105

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 28 FEET

DRILLOG MS GYRO SURVEY CALCULATIONS

Filename: cotton draw unit #244h .ut

Minimum Curvature Method

Report Date/Time: 10/31/2014 / 14:20

VES Survey International

Fort Worth, Texas

817-741-3610

Surveyor: Eric Warner

Cotton Draw Unit 244H / API 30-015-42331

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	****
102.23	0.77	96.13	102.23	-0.07	0.68	-0.07	0.69	96.13	0.75
197.04	0.55	100.32	197.03	-0.22	1.76	-0.22	1.78	97.20	0.24
291.85	0.76	98.64	291.83	-0.40	2.83	-0.40	2.86	98.01	0.23
386.66	0.41	97.36	386.64	-0.54	3.80	-0.54	3.83	98.06	0.37
481.47	0.42	89.36	481.45	-0.58	4.48	-0.58	4.52	97.34	0.06
576.28	0.25	74.85	576.26	-0.52	5.02	-0.52	5.05	95.91	0.20
671.09	0.49	64.78	671.06	-0.29	5.59	-0.29	5.60	93.02	0.26
765.90	0.30	53.47	765.87	0.03	6.15	0.03	6.15	89.75	0.21
860.71	0.25	41.04	860.68	0.33	6.49	0.33	6.50	87.08	0.08
955.52	0.17	350.94	955.49	0.63	6.60	0.63	6.63	84.57	0.20
1050.33	0.23	319.02	1050.30	0.91	6.46	0.91	6.52	81.97	0.13
1145.14	0.25	299.50	1145.11	1.15	6.15	1.15	6.26	79.38	0.09
1239.95	0.20	28.78	1239.92	1.40	6.06	1.40	6.22	76.97	0.34
1334.76	0.05	48.98	1334.73	1.58	6.17	1.58	6.37	75.68	0.17
1429.57	0.17	61.13	1429.54	1.67	6.32	1.67	6.54	75.21	0.13
1524.38	0.27	340.89	1524.35	1.95	6.38	1.95	6.67	73.00	0.31
1619.19	0.17	355.98	1619.16	2.30	6.29	2.30	6.70	69.91	0.12
1714.00	0.52	358.64	1713.96	2.88	6.27	2.88	6.90	65.36	0.37

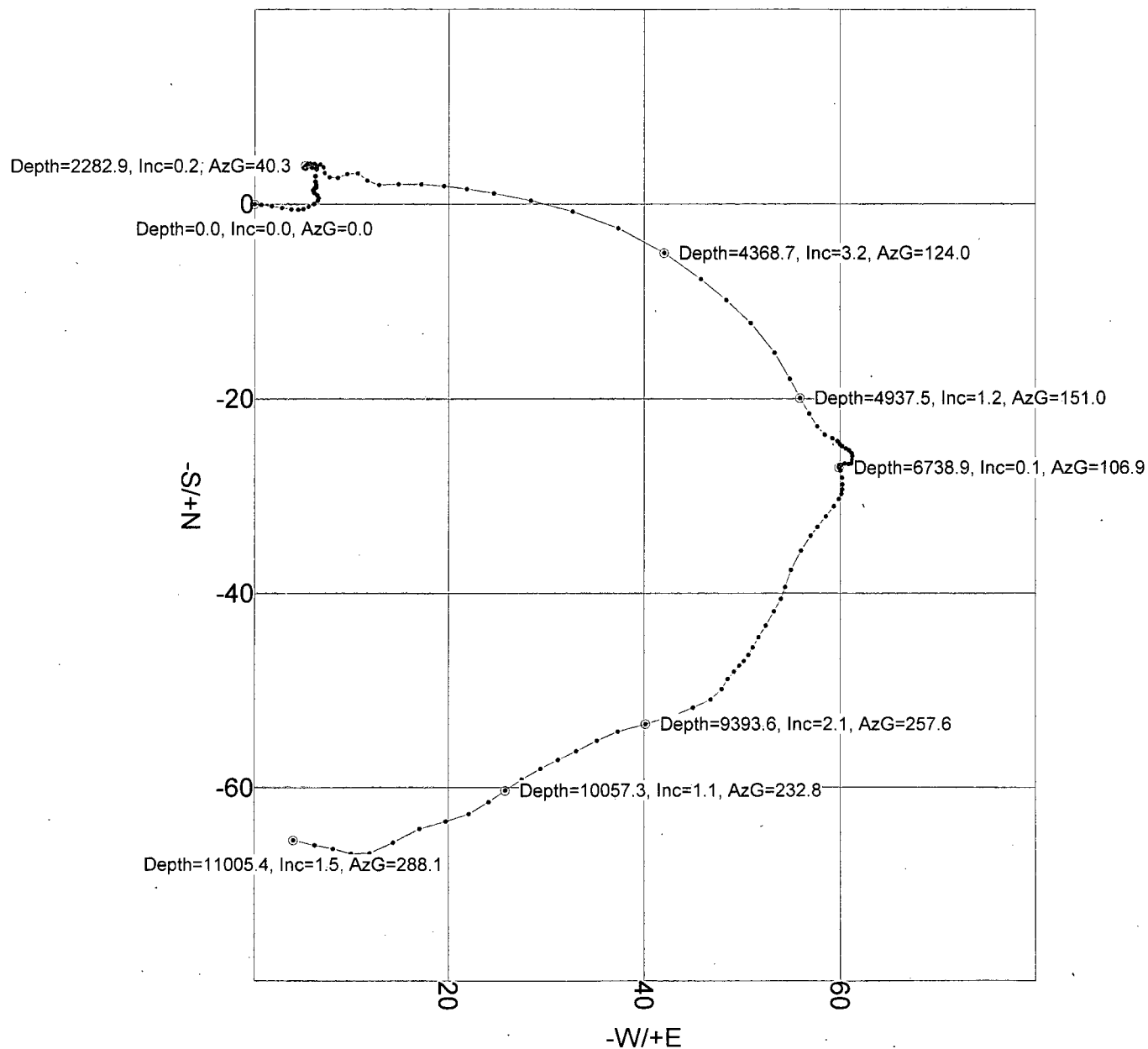
Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
1808.81	0.34	25.15	1808.77	3.56	6.38	3.56	7.31	60.82	0.28
1903.62	0.09	277.15	1903.58	3.82	6.42	3.82	7.47	59.22	0.40
1998.43	0.47	255.14	1998.39	3.73	5.97	3.73	7.04	57.96	0.41
2093.24	0.35	272.75	2093.20	3.65	5.29	3.65	6.43	55.44	0.18
2188.05	0.12	46.22	2188.01	3.73	5.07	3.73	6.30	53.67	0.47
2282.86	0.20	40.26	2282.82	3.93	5.25	3.93	6.56	53.23	0.08
2377.67	0.07	55.06	2377.63	4.08	5.41	4.08	6.77	52.93	0.14
2472.48	0.10	77.18	2472.44	4.13	5.53	4.13	6.91	53.23	0.05
2567.29	0.20	96.92	2567.25	4.13	5.77	4.13	7.10	54.41	0.12
2662.10	0.30	87.62	2662.05	4.12	6.19	4.12	7.44	56.32	0.12
2756.91	0.43	99.66	2756.86	4.07	6.79	4.07	7.92	59.04	0.16
2851.72	0.30	179.50	2851.67	3.76	7.15	3.76	8.08	62.23	0.51
2946.53	0.42	157.31	2946.48	3.19	7.28	3.19	7.95	66.36	0.19
3041.34	0.53	104.26	3041.29	2.75	7.85	2.75	8.32	70.66	0.46
3136.15	0.46	84.14	3136.09	2.68	8.65	2.68	9.06	72.76	0.20
3230.96	0.84	59.28	3230.90	3.08	9.63	3.08	10.11	72.27	0.49
3325.77	0.68	117.53	3325.70	3.17	10.72	3.17	11.18	73.51	0.79
3420.58	0.83	136.43	3420.50	2.42	11.69	2.42	11.93	78.31	0.30
3515.39	0.88	86.65	3515.30	1.97	12.88	1.97	13.03	81.32	0.76
3610.20	1.52	88.61	3610.09	2.04	14.87	2.04	15.01	82.19	0.68
3705.01	1.29	92.57	3704.87	2.02	17.19	2.02	17.31	83.29	0.27
3799.82	1.52	96.11	3799.65	1.84	19.51	1.84	19.59	84.61	0.26
3894.63	1.31	98.38	3894.43	1.55	21.83	1.55	21.89	85.94	0.22
3989.44	2.08	99.69	3989.20	1.10	24.61	1.10	24.63	87.44	0.81
4084.25	2.59	102.53	4083.93	0.34	28.40	0.34	28.40	89.30	0.55
4179.06	2.73	107.09	4178.64	-0.78	32.65	-0.78	32.66	91.38	0.26
4273.87	3.31	112.60	4273.32	-2.50	37.33	-2.50	37.41	93.83	0.68
4368.68	3.22	123.97	4367.98	-5.04	42.06	-5.04	42.36	96.83	0.69
4463.49	2.32	128.16	4462.67	-7.71	45.78	-7.71	46.42	99.56	0.97
4558.30	1.77	131.51	4557.42	-9.87	48.39	-9.87	49.38	101.53	0.59
4653.11	2.39	134.77	4652.17	-12.23	50.89	-12.23	52.34	103.52	0.66
4747.92	2.33	148.30	4746.90	-15.26	53.31	-15.26	55.45	105.98	0.59
4842.73	1.46	153.02	4841.66	-17.98	54.86	-17.98	57.73	108.14	0.93
4937.54	1.22	151.00	4936.44	-19.93	55.90	-19.93	59.35	109.62	0.26
5032.35	1.03	148.52	5031.23	-21.54	56.83	-21.54	60.78	110.75	0.21
5127.16	0.85	147.80	5126.03	-22.86	57.65	-22.86	62.02	111.63	0.19
5221.97	0.54	122.46	5220.84	-23.69	58.41	-23.69	63.03	112.08	0.45
5316.78	0.50	108.19	5315.64	-24.06	59.18	-24.06	63.88	112.13	0.15
5411.59	0.29	137.59	5410.45	-24.37	59.73	-24.37	64.51	112.20	0.30

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
5506.40	0.15	148.49	5505.26	-24.65	59.96	-24.65	64.83	112.35	0.15
5601.21	0.25	127.60	5600.07	-24.89	60.19	-24.89	65.13	112.47	0.13
5696.02	0.29	115.47	5694.88	-25.12	60.56	-25.12	65.57	112.52	0.07
5790.83	0.21	125.79	5789.69	-25.32	60.92	-25.32	65.97	112.57	0.09
5885.64	0.24	150.23	5884.50	-25.59	61.16	-25.59	66.30	112.71	0.10
5980.45	0.21	180.54	5979.30	-25.94	61.26	-25.94	66.52	112.95	0.13
6075.26	0.21	186.19	6074.11	-26.29	61.24	-26.29	66.64	113.24	0.02
6170.07	0.25	207.96	6168.92	-26.64	61.12	-26.64	66.68	113.55	0.10
6264.88	0.23	308.28	6263.73	-26.71	60.88	-26.71	66.48	113.69	0.39
6359.69	0.31	249.70	6358.54	-26.68	60.49	-26.68	66.11	113.80	0.29
6454.50	0.17	259.62	6453.35	-26.79	60.11	-26.79	65.82	114.02	0.15
6549.31	0.15	214.91	6548.16	-26.92	59.91	-26.92	65.68	114.20	0.13
6644.12	0.03	184.21	6642.97	-27.04	59.84	-27.04	65.66	114.32	0.13
6738.93	0.08	106.89	6737.78	-27.08	59.90	-27.08	65.73	114.33	0.08
6833.74	0.35	166.07	6832.59	-27.38	60.03	-27.38	65.98	114.52	0.34
6928.55	0.56	168.99	6927.40	-28.12	60.18	-28.12	66.43	115.05	0.22
7023.36	0.27	190.85	7022.20	-28.80	60.23	-28.80	66.76	115.56	0.34
7118.17	0.37	179.70	7117.01	-29.33	60.19	-29.33	66.95	115.98	0.12
7212.98	0.20	201.29	7211.82	-29.78	60.13	-29.78	67.10	116.35	0.20
7307.79	0.53	208.22	7306.63	-30.32	59.86	-30.32	67.11	116.86	0.35
7402.60	0.60	222.06	7401.43	-31.07	59.33	-31.07	66.97	117.64	0.16
7497.41	0.98	215.41	7496.24	-32.11	58.52	-32.11	66.75	118.75	0.42
7592.22	0.68	220.85	7591.04	-33.19	57.68	-33.19	66.55	119.92	0.33
7687.03	0.71	215.74	7685.84	-34.09	56.98	-34.09	66.40	120.89	0.07
7781.84	1.52	210.89	7780.63	-35.64	55.99	-35.64	66.37	122.48	0.86
7876.65	1.17	202.21	7875.41	-37.61	54.98	-37.61	66.62	124.38	0.43
7971.46	1.09	194.83	7970.21	-39.38	54.39	-39.38	67.14	125.90	0.17
8066.27	0.47	210.68	8065.01	-40.58	53.96	-40.58	67.51	126.95	0.68
8161.08	1.31	208.38	8159.80	-41.87	53.24	-41.87	67.73	128.19	0.89
8255.89	0.71	213.81	8254.60	-43.32	52.39	-43.32	67.98	129.58	0.64
8350.70	0.99	208.96	8349.40	-44.52	51.67	-44.52	68.21	130.75	0.30
8445.51	0.46	210.05	8444.20	-45.57	51.09	-45.57	68.45	131.73	0.56
8540.32	0.62	206.83	8539.01	-46.35	50.67	-46.35	68.67	132.45	0.17
8635.13	0.36	238.53	8633.81	-46.96	50.18	-46.96	68.73	133.10	0.39
8729.94	0.48	215.95	8728.62	-47.43	49.70	-47.43	68.70	133.66	0.21
8824.75	0.53	225.64	8823.43	-48.06	49.16	-48.06	68.75	134.35	0.10
8919.56	0.67	215.72	8918.23	-48.82	48.52	-48.82	68.83	135.18	0.19
9014.37	0.82	204.27	9013.03	-49.89	47.91	-49.89	69.17	136.16	0.22
9109.18	1.15	242.40	9107.83	-50.94	46.79	-50.94	69.17	137.43	0.75

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
9203.99	1.28	247.51	9202.62	-51.79	44.97	-51.79	68.59	139.03	0.18
9298.80	1.41	246.95	9297.40	-52.65	42.92	-52.65	67.93	140.81	0.14
9393.61	2.09	257.62	9392.17	-53.48	40.16	-53.48	66.88	143.10	0.79
9488.42	1.47	250.79	9486.93	-54.25	37.32	-54.25	65.85	145.47	0.69
9583.23	1.41	241.85	9581.71	-55.20	35.14	-55.20	65.44	147.52	0.25
9678.04	1.44	243.57	9676.49	-56.28	33.05	-56.28	65.27	149.58	0.05
9772.85	1.08	246.34	9771.28	-57.17	31.16	-57.17	65.11	151.40	0.39
9867.66	1.35	240.49	9866.07	-58.07	29.38	-58.07	65.08	153.17	0.32
9962.47	1.32	238.88	9960.85	-59.19	27.47	-59.19	65.25	155.10	0.05
10057.28	1.12	232.83	10055.64	-60.31	25.80	-60.31	65.60	156.84	0.25
10152.09	1.40	236.92	10150.43	-61.50	24.10	-61.50	66.05	158.60	0.31
10246.90	1.47	239.85	10245.21	-62.74	22.08	-62.74	66.51	160.62	0.11
10341.71	1.58	263.03	10339.99	-63.51	19.72	-63.51	66.50	162.75	0.66
10436.52	1.84	245.75	10434.75	-64.30	17.04	-64.30	66.51	165.16	0.60
10531.33	1.83	238.93	10529.52	-65.70	14.35	-65.70	67.25	167.68	0.23
10626.14	1.35	252.70	10624.29	-66.81	11.99	-66.81	67.88	169.82	0.64
10720.95	1.09	286.75	10719.08	-66.89	10.06	-66.89	67.64	171.45	0.80
10815.76	1.20	284.96	10813.87	-66.37	8.23	-66.37	66.88	172.93	0.12
10910.57	1.23	277.69	10908.66	-65.98	6.26	-65.98	66.27	174.58	0.16
11005.38	1.54	288.11	11003.44	-65.44	4.04	-65.44	65.57	176.46	0.43



VES Survey International
Fort Worth, Texas
817-741-3610
Surveyor: Eric Warner
Cotten Draw Unit 244H / API 30-015-42331



VES Survey Date: 10/14/2014



COTTON DRAW UNIT 244H

DELAWARE BASIN UNRESTRICTED

Directional Survey

District DELAWARE BASIN	County EDDY	Field Name PADUCA	Project Group DELAWARE BASIN WEST	State/Province NM
Surface Legal Location Sec. 36 T24S R31E	API/UWI 3001542331	Latitude (°) 32° 10' 49.926" N	Longitude (°) 103° 44' 18.327" W	Ground Elev M... 3,505.10
				Orig KB Elev (ft) 3,533.10
				Tubing Head Elevation (ft)

Wellbores

Wellbore Name OH	Parent Wellbore OH	SAP Well ID	Vertical Section Direction (°) 179.84
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Kick Offs & Key Depths

Date	Type	Top Depth (ftKB)
Actual Deviation Survey	Definitive?	Proposed?
		Proposed Deviation Survey

Deviation Survey

Date	Description
MD Tie In (ftKB)	TVD Tie In (ftKB)
Inclination Tie In (°)	Azimuth Tie In (°)
NSTie In (ft)	EW Tie In (ft)

Survey Data

Date	MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	N/S (ft)	E/W (ft)	DLS (°/100ft)	Survey Tool	Survey Company

Wellbore Name ST01	Parent Wellbore OH	SAP Well ID	Vertical Section Direction (°) 179.84
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Kick Offs & Key Depths

Date 10/25/2014	Type Kick Off	Top Depth (ftKB) 11,000.0
Actual Deviation Survey LEAM /MWD, Proposed? No	Definitive? Yes	Proposed? No
		Proposed Deviation Survey

Deviation Survey

Date 10/25/2014	Description LEAM /MWD
MD Tie In (ftKB)	TVD Tie In (ftKB)
Inclination Tie In (°)	Azimuth Tie In (°)
NSTie In (ft)	EW Tie In (ft)

Survey Data

Date	MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	N/S (ft)	E/W (ft)	DLS (°/100ft)	Survey Tool	Survey Company
10/25/2...		72.30	173.90	0.00	0.00	0.00	0.00		MWD	LEAM
10/15/2...	0.00	0.00	0.00	0.00	0.00	0.00	0.00		GYRO	VAUHG N ENERGY SERVICES
10/15/2...	102.23	0.77	96.13	102.23	0.08	-0.07	0.68	0.75	GYRO	VAUHG N ENERGY SERVICES
10/15/2...	197.04	0.55	100.32	197.03	0.23	-0.22	1.76	0.24	GYRO	VAUHG N ENERGY SERVICES
10/15/2...	291.85	0.76	98.64	291.83	0.41	-0.40	2.83	0.22	GYRO	VAUHG N ENERGY SERVICE
10/15/2...	386.66	0.41	97.36	386.64	0.55	-0.54	3.79	0.37	GYRO	VAUHG N ENERGY SERVICE
10/15/2...	481.47	0.42	89.36	481.45	0.59	-0.58	4.48	0.06	GYRO	VAUHG N ENERGY SERVICE
10/15/2...	576.28	0.25	74.85	576.26	0.53	-0.52	5.02	0.20	GYRO	VAUHG N ENERGY SERVICE
10/15/2...	671.09	0.49	64.78	671.06	0.31	-0.29	5.59	0.26	GYRO	VAUHG N ENERGY SERVICE
10/15/2...	765.90	0.30	53.47	765.87	-0.01	0.03	6.16	0.22	GYRO	VAUHG N ENERGY SERVICE
10/15/2...	860.71	0.25	41.04	860.68	-0.31	0.33	6.49	0.08	GYRO	VAUHG N ENERGY SERVICE
10/15/2...	955.52	0.17	350.94	955.49	-0.61	0.63	6.60	0.20	GYRO	VAUHG N ENERGY SERVICE
10/15/2...	1,050.33	0.23	319.02	1,050.30	-0.89	0.91	6.46	0.13	GYRO	VAUHG N ENERGY SERVICE
10/15/2...	1,145.14	0.25	299.50	1,145.11	-1.14	1.16	6.15	0.09	GYRO	VAUHG N ENERGY SERVICE
10/15/2...	1,239.95	0.20	28.78	1,239.92	-1.39	1.40	6.05	0.34	GYRO	VAUHG N ENERGY SERVICE
10/15/2...	1,334.76	0.05	48.98	1,334.73	-1.56	1.57	6.16	0.16	GYRO	VAUHG N ENERGY SERVICE
10/15/2...	1,429.57	0.17	61.13	1,429.54	-1.65	1.67	6.32	0.13	GYRO	VAUHG N ENERGY SERVICE
10/15/2...	1,524.38	0.27	340.89	1,524.35	-1.93	1.95	6.37	0.31	GYRO	VAUHG N ENERGY SERVICE
10/15/2...	1,619.19	0.17	355.98	1,619.16	-2.28	2.30	6.28	0.12	GYRO	VAUHG N ENERGY SERVICE
10/15/2...	1,714.00	0.52	358.64	1,713.96	-2.85	2.87	6.26	0.37	GYRO	VAUHG N ENERGY SERVICE
10/15/2...	1,808.81	0.34	25.15	1,808.77	-3.54	3.56	6.37	0.28	GYRO	VAUHG N ENERGY SERVICE
10/15/2...	1,903.62	0.09	277.15	1,903.58	-3.80	3.82	6.42	0.40	GYRO	VAUHG N ENERGY SERVICE
10/15/2...	1,998.43	0.47	255.14	1,998.39	-3.71	3.73	5.97	0.41	GYRO	VAUHG N ENERGY SERVICE
10/15/2...	2,093.24	0.35	272.75	2,093.20	-3.63	3.64	5.30	0.18	GYRO	VAUHG N ENERGY SERVICE
10/15/2...	2,188.05	0.12	46.22	2,188.01	-3.71	3.73	5.09	0.47	GYRO	VAUHG N ENERGY SERVICE
10/15/2...	2,282.86	0.20	40.26	2,282.82	-3.91	3.92	5.27	0.09	GYRO	VAUHG N ENERGY SERVICE
10/15/2...	2,377.67	0.07	55.06	2,377.63	-4.06	4.08	5.42	0.14	GYRO	VAUHG N ENERGY SERVICE
10/15/2...	2,472.48	0.10	77.18	2,472.44	-4.12	4.13	5.55	0.05	GYRO	VAUHG N ENERGY SERVICE
10/15/2...	2,567.29	0.20	96.92	2,567.25	-4.11	4.13	5.79	0.12	GYRO	VAUHG N ENERGY SERVICE
10/15/2...	2,662.10	0.30	87.62	2,662.05	-4.10	4.12	6.21	0.11	GYRO	VAUHG N ENERGY SERVICE
10/15/2...	2,756.91	0.43	99.66	2,756.86	-4.05	4.07	6.80	0.16	GYRO	VAUHG N ENERGY SERVICE
10/15/2...	2,851.72	0.30	179.50	2,851.67	-3.74	3.76	7.16	0.51	GYRO	VAUHG N ENERGY SERVICE



COTTON DRAW UNIT 244H

DELAWARE BASIN UNRESTRICTED

Directional Survey

District DELAWARE BASIN	County EDDY	Field Name PADUCA	Project Group DELAWARE BASIN WEST	State/Province NM
Surface Legal Location Sec. 36 T24S R31E	API/UWI 3001542331	Latitude (°) 32° 10' 49.926" N	Longitude (°) 103° 44' 18.327" W	Ground Elev M. 3,505.10
				Orig KB Elev (ft) 3,533.10
				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
10/15/2...	2,946.53	0.42	157.31	2,946.48	-3.17	3.19	7.29	0.19	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	3,041.34	0.53	104.26	3,041.29	-2.74	2.77	7.85	0.46	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	3,136.15	0.46	84.14	3,136.09	-2.67	2.70	8.66	0.20	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	3,230.96	0.84	59.28	3,230.90	-3.06	3.09	9.63	0.49	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	3,325.77	0.68	117.53	3,325.70	-3.16	3.19	10.73	0.79	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	3,420.58	0.83	136.43	3,420.50	-2.39	2.43	11.70	0.30	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	3,515.39	0.88	86.65	3,515.30	-1.94	1.97	12.90	0.76	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	3,610.20	1.52	88.61	3,610.09	-2.00	2.05	14.88	0.68	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	3,705.01	1.29	92.57	3,704.87	-1.98	2.03	17.21	0.26	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	3,799.82	1.52	96.11	3,799.65	-1.79	1.85	19.52	0.26	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	3,894.63	1.31	98.38	3,894.43	-1.49	1.55	21.85	0.23	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	3,989.44	2.08	99.69	3,989.20	-1.04	1.11	24.61	0.81	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	4,084.25	2.59	102.53	4,083.93	-0.27	0.35	28.40	0.55	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	4,179.06	2.73	107.09	4,178.64	0.87	-0.78	32.65	0.27	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	4,273.87	3.31	112.60	4,273.32	-2.59	-2.49	37.34	0.68	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	4,368.68	3.22	123.97	4,367.98	-5.15	-5.03	42.07	0.69	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	4,463.49	2.32	128.16	4,462.68	-7.83	-7.70	45.79	0.97	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	4,558.30	1.77	131.51	4,557.42	-10.00	-9.86	48.39	0.59	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	4,653.11	2.39	134.77	4,652.17	-12.36	-12.22	50.89	0.67	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	4,747.92	2.33	148.30	4,746.90	-15.40	-15.25	53.31	0.59	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	4,842.73	1.46	153.02	4,841.66	-18.12	-17.97	54.87	0.93	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	4,937.54	1.22	151.00	4,936.44	-20.09	-19.93	55.91	0.26	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	5,032.35	1.03	148.52	5,031.23	-21.70	-21.54	56.84	0.21	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	5,127.16	0.85	147.80	5,126.03	-23.02	-22.86	57.66	0.19	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	5,221.97	0.54	122.46	5,220.84	-23.86	-23.70	58.41	0.45	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	5,316.78	0.50	108.19	5,315.64	-24.23	-24.07	59.18	0.14	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	5,411.59	0.29	137.59	5,410.45	-24.54	-24.37	59.74	0.30	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	5,506.40	0.15	148.49	5,505.26	-24.82	-24.65	59.97	0.15	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	5,601.21	0.25	127.60	5,600.07	-25.05	-24.89	60.19	0.13	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	5,696.02	0.29	115.47	5,694.88	-25.28	-25.12	60.57	0.07	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	5,790.83	0.21	125.79	5,789.69	-25.49	-25.32	60.93	0.10	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	5,885.64	0.24	150.23	5,884.50	-25.77	-25.59	61.17	0.11	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	5,980.45	0.21	180.54	5,979.30	-26.11	-25.94	61.27	0.13	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	6,075.26	0.21	186.19	6,074.11	-26.46	-26.29	61.25	0.02	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	6,170.07	0.25	207.96	6,168.92	-26.81	-26.64	61.13	0.10	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	6,264.88	0.23	308.28	6,263.73	-26.88	-26.71	60.89	0.39	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	6,359.69	0.31	249.70	6,358.54	-26.85	-26.68	60.50	0.29	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	6,454.50	0.17	259.62	6,453.35	-26.96	-26.79	60.12	0.15	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	6,549.31	0.15	214.91	6,548.16	-27.09	-26.92	59.91	0.13	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	6,644.12	0.03	184.21	6,642.97	-27.21	-27.05	59.84	0.13	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	6,738.93	0.08	106.89	6,737.78	-27.26	-27.09	59.90	0.08	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	6,833.74	0.35	166.07	6,832.59	-27.56	-27.39	60.03	0.33	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	6,928.55	0.56	168.99	6,927.40	-28.29	-28.13	60.19	0.22	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	7,023.36	0.27	190.85	7,022.20	-28.97	-28.80	60.23	0.34	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	7,118.17	0.37	179.70	7,117.01	-29.49	-29.33	60.19	0.12	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	7,212.98	0.20	201.29	7,211.82	-29.95	-29.79	60.14	0.21	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	7,307.79	0.53	208.22	7,306.63	-30.49	-30.33	59.87	0.35	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	7,402.60	0.60	222.06	7,401.43	-31.25	-31.08	59.33	0.16	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	7,497.41	0.98	215.41	7,496.24	-32.27	-32.11	58.53	0.41	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	7,592.22	0.68	220.85	7,591.04	-33.36	-33.20	57.69	0.33	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	7,687.03	0.71	215.74	7,685.84	-34.26	-34.10	56.98	0.07	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	7,781.84	1.52	210.89	7,780.63	-35.81	-35.66	55.99	0.86	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	7,876.65	1.17	202.21	7,875.41	-37.78	-37.63	54.98	0.43	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	7,971.46	1.09	194.83	7,970.21	-39.55	-39.40	54.38	0.17	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	8,066.27	0.47	210.68	8,065.01	-40.76	-40.61	53.95	0.69	GYRO	VAUGHN ENERGY SERVICE



COTTON DRAW UNIT 244H

DELAWARE BASIN UNRESTRICTED

Directional Survey

District	County	Field Name		Project Group		State/Province				
DELAWARE BASIN	EDDY	PADUCA		DELAWARE BASIN WEST		NM				
Surface Legal Location		API/UWI	Latitude (°)	Longitude (°)	Ground Elev M.	Orig KB Elev (ft)	Tubing Head Elevation (ft)			
Sec. 36 T24S R31E		3001542331	32° 10' 49.926"N	103° 44' 18.327" W	3,505.10	3,533.10				
Survey Data										
Date	MD (ftKB)	Incl.(°)	Azm (°)	TVD (ftKB)	VS (ft)	N/S (ft)	E/W (ft)	DLS ("/100ft)	Survey Tool	Survey Company
10/15/2...	8,161.08	1.31	208.38	8,159.80	42.04	-41.89	53.24	0.89	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	8,255.89	0.71	213.81	8,254.60	43.48	-43.33	52.40	0.64	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	8,350.70	0.99	208.96	8,349.40	44.68	-44.54	51.67	0.30	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	8,445.51	0.46	210.05	8,444.20	45.73	-45.59	51.08	0.56	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	8,540.32	0.62	206.83	8,539.01	46.51	-46.37	50.66	0.17	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	8,635.13	0.36	238.53	8,633.81	47.13	-46.99	50.18	0.39	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	8,729.94	0.48	215.95	8,728.62	47.60	-47.46	49.69	0.21	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	8,824.75	0.53	225.64	8,823.43	48.23	-48.09	49.14	0.10	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	8,919.56	0.67	215.72	8,918.23	48.98	-48.85	48.51	0.18	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	9,014.37	0.82	204.27	9,013.03	50.05	-49.92	47.90	0.22	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	9,109.18	1.15	242.40	9,107.83	51.11	-50.98	46.78	0.75	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	9,203.99	1.28	247.51	9,202.62	51.95	-51.82	44.96	0.18	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	9,298.80	1.41	246.95	9,297.40	52.80	-52.68	42.91	0.14	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	9,393.61	2.09	257.62	9,392.17	53.62	-53.51	40.15	0.79	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	9,488.42	1.47	250.79	9,486.93	54.39	-54.28	37.31	0.69	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	9,583.23	1.41	241.85	9,581.71	55.33	-55.23	35.13	0.24	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	9,678.04	1.44	243.57	9,676.49	56.40	-56.31	33.04	0.06	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	9,772.85	1.08	246.34	9,771.28	57.29	-57.20	31.15	0.38	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	9,867.66	1.35	240.49	9,866.07	58.19	-58.11	29.36	0.31	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	9,962.47	1.32	238.88	9,960.85	59.30	-59.22	27.45	0.05	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	10,057.28	1.12	232.83	10,055.64	60.42	-60.35	25.78	0.25	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	10,152.09	1.40	236.92	10,150.43	61.61	-61.54	24.07	0.31	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	10,246.90	1.47	239.85	10,245.21	62.85	-62.78	22.05	0.11	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	10,341.71	1.58	263.03	10,339.99	63.61	-63.55	19.70	0.66	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	10,436.52	1.84	245.75	10,434.75	64.38	-64.34	17.02	0.61	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	10,531.33	1.83	238.93	10,529.52	65.78	-65.74	14.33	0.23	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	10,626.14	1.35	252.70	10,624.29	66.89	-66.86	11.97	0.64	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	10,720.95	1.09	286.75	10,719.08	66.96	-66.93	10.04	0.80	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	10,815.76	1.20	284.96	10,813.87	66.44	-66.41	8.22	0.12	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	10,910.57	1.23	277.69	10,908.66	66.04	-66.02	6.25	0.17	GYRO	VAUGHN ENERGY SERVICE
10/15/2...	11,005.38	1.54	288.11	11,003.44	65.50	-65.49	4.03	0.42	GYRO	VAUGHN ENERGY SERVICE
10/25/2...	11,059.00	8.20	192.60	11,056.87	69.01	-69.00	2.51	15.83	MWD	LEAM
10/25/2...	11,090.00	10.20	189.70	11,087.47	73.87	-73.87	1.56	6.62	MWD	LEAM
10/25/2...	11,122.00	12.40	188.30	11,118.85	80.06	-80.06	0.59	6.93	MWD	LEAM
10/25/2...	11,153.00	15.80	185.00	11,148.91	87.56	-87.56	-0.26	11.27	MWD	LEAM
10/25/2...	11,185.00	18.70	182.20	11,179.47	97.03	-97.03	-0.84	9.42	MWD	LEAM
10/25/2...	11,217.00	21.40	181.30	11,209.53	107.99	-107.99	-1.17	8.49	MWD	LEAM
10/25/2...	11,248.00	24.10	181.10	11,238.12	119.97	-119.98	-1.42	8.71	MWD	LEAM
10/25/2...	11,280.00	26.20	178.80	11,267.08	133.57	-133.57	-1.39	7.24	MWD	LEAM
10/25/2...	11,303.00	28.00	178.00	11,287.56	144.04	-144.05	-1.10	7.98	MWD	LEAM
10/25/2...	11,334.00	31.20	178.50	11,314.51	159.35	-159.35	-0.63	10.35	MWD	LEAM
10/25/2...	11,366.00	34.10	177.60	11,341.45	176.60	-176.60	-0.04	9.19	MWD	LEAM
10/25/2...	11,398.00	37.30	178.10	11,367.43	195.26	-195.26	0.66	10.04	MWD	LEAM
10/25/2...	11,429.00	39.90	178.50	11,391.66	214.59	-214.59	1.23	8.43	MWD	LEAM
10/25/2...	11,461.00	43.90	178.80	11,415.47	235.95	-235.95	1.73	12.52	MWD	LEAM
10/25/2...	11,492.00	46.30	179.60	11,437.35	257.91	-257.90	2.03	7.95	MWD	LEAM
10/25/2...	11,524.00	47.50	180.60	11,459.21	281.27	-281.27	1.99	4.39	MWD	LEAM
10/25/2...	11,556.00	49.50	181.00	11,480.42	305.23	-305.23	1.65	6.32	MWD	LEAM
10/25/2...	11,587.00	52.10	180.80	11,500.01	329.25	-329.25	1.28	8.40	MWD	LEAM
10/25/2...	11,619.00	54.20	180.10	11,519.20	354.85	-354.85	1.08	6.79	MWD	LEAM
10/25/2...	11,650.00	57.90	178.50	11,536.51	380.56	-380.56	1.40	12.68	MWD	LEAM
10/25/2...	11,682.00	60.90	177.10	11,552.80	408.08	-408.08	2.46	10.10	MWD	LEAM
10/25/2...	11,714.00	63.50	176.60	11,567.72	436.35	-436.34	4.02	8.24	MWD	LEAM
10/25/2...	11,745.00	65.40	175.20	11,581.09	464.25	-464.24	6.02	7.36	MWD	LEAM
10/25/2...	11,777.00	68.50	174.30	11,593.62	493.57	-493.55	8.72	10.03	MWD	LEAM



COTTON DRAW UNIT 244H

DELAWARE BASIN UNRESTRICTED

Directional Survey

District DELAWARE BASIN	County EDDY	Field Name PADUCA	Project Group DELAWARE BASIN WEST	State/Province NM
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Surface Legal Location Sec. 36 T24S R31E	API/UWI 3001542331	Latitude (°) 32° 10' 49.926" N	Longitude (°) 103° 44' 18.327" W	Ground Elev M. 3,505.10	Orig KB Elev (ft) 3,533.10	Tubing Head Elevation (ft)
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Survey Data

Date	MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	N/S (ft)	E/W (ft)	DLS (%/100ft)	Survey Tool	Survey Company
10/25/2...	11,840.00	76.30	174.60	11,612.65	553.31	-553.28	14.52	12.39	MWD	LEAM
10/25/2...	11,872.00	80.00	176.60	11,619.22	584.54	-584.50	16.92	13.08	MWD	LEAM
10/25/2...	11,904.00	82.70	177.60	11,624.04	616.14	-616.09	18.52	8.99	MWD	LEAM
10/25/2...	11,935.00	84.40	178.30	11,627.52	646.92	-646.87	19.62	5.93	MWD	LEAM
10/25/2...	11,967.00	85.30	178.10	11,630.39	678.78	-678.72	20.62	2.88	MWD	LEAM
10/25/2...	11,998.00	86.20	177.80	11,632.69	709.68	-709.62	21.72	3.06	MWD	LEAM
10/25/2...	12,030.00	87.80	178.00	11,634.36	741.61	-741.55	22.90	5.04	MWD	LEAM
10/25/2...	12,062.00	89.70	179.70	11,635.06	773.60	-773.54	23.54	7.97	MWD	LEAM
10/25/2...	12,093.00	90.20	180.10	11,635.09	804.60	-804.54	23.59	2.07	MWD	LEAM
10/25/2...	12,188.00	90.70	181.10	11,634.34	899.59	-899.53	22.60	1.18	MWD	LEAM
10/25/2...	12,283.00	90.50	185.40	11,633.35	994.39	-994.35	17.21	4.53	MWD	LEAM
10/25/2...	12,378.00	91.40	187.30	11,631.77	1,088.76	-1,088.74	6.71	2.21	MWD	LEAM
10/25/2...	12,473.00	88.50	185.50	11,631.85	1,183.12	-1,183.14	3.88	3.59	MWD	LEAM
10/25/2...	12,566.00	88.30	182.70	11,634.45	1,275.82	-1,275.86	-10.53	3.02	MWD	LEAM
10/25/2...	12,662.00	88.50	181.50	11,637.13	1,371.71	-1,371.75	14.04	1.27	MWD	LEAM
10/25/2...	12,757.00	88.40	182.70	11,639.70	1,466.60	-1,466.65	-17.52	1.27	MWD	LEAM
10/25/2...	12,852.00	88.80	181.70	11,642.02	1,561.49	-1,561.55	-21.17	1.13	MWD	LEAM
10/25/2...	12,947.00	90.50	180.80	11,642.60	1,656.45	-1,656.52	-23.24	2.02	MWD	LEAM
10/28/2...	13,041.00	90.70	182.00	11,641.62	1,750.41	-1,750.49	-25.54	1.29	MWD	LEAM
10/28/2...	13,136.00	89.60	185.40	11,641.37	1,845.18	-1,845.27	-31.67	3.76	MWD	LEAM
10/28/2...	13,231.00	91.30	186.40	11,640.62	1,939.64	-1,939.76	-41.43	2.08	MWD	LEAM
10/29/2...	13,326.00	91.50	181.70	11,638.30	2,034.33	-2,034.47	-48.14	4.95	MWD	LEAM
10/29/2...	13,420.00	91.50	180.40	11,635.84	2,128.27	-2,128.42	-49.86	1.38	MWD	LEAM
10/29/2...	13,516.00	91.30	179.90	11,633.49	2,224.24	-2,224.39	-50.14	0.56	MWD	LEAM
10/29/2...	13,610.00	90.90	176.40	11,631.69	2,318.17	-2,318.31	-47.08	3.75	MWD	LEAM
10/29/2...	13,705.00	91.00	176.90	11,630.11	2,413.01	-2,413.14	-41.53	0.54	MWD	LEAM
10/29/2...	13,800.00	90.70	175.30	11,628.71	2,507.79	-2,507.90	-35.07	1.71	MWD	LEAM
10/29/2...	13,895.00	89.30	177.60	11,628.71	2,602.62	-2,602.71	-29.18	2.83	MWD	LEAM
10/29/2...	13,990.00	89.20	177.60	11,629.95	2,697.54	-2,697.62	-25.21	0.11	MWD	LEAM
10/29/2...	14,085.00	89.20	177.30	11,631.28	2,792.45	-2,792.52	-20.98	0.32	MWD	LEAM
10/29/2...	14,180.00	89.30	176.20	11,632.52	2,887.30	-2,887.35	-15.59	1.16	MWD	LEAM
10/29/2...	14,275.00	92.00	175.70	11,631.44	2,982.06	-2,982.10	-8.89	2.89	MWD	LEAM
10/30/2...	14,370.00	92.70	175.20	11,627.55	3,076.71	-3,076.72	-1.36	0.91	MWD	LEAM
10/30/2...	14,464.00	92.30	175.70	11,623.45	3,170.34	-3,170.33	6.09	0.68	MWD	LEAM
10/30/2...	14,559.00	91.50	178.30	11,620.30	3,265.16	-3,265.14	11.06	2.86	MWD	LEAM
10/30/2...	14,654.00	90.70	179.00	11,618.47	3,360.12	-3,360.10	13.30	1.12	MWD	LEAM
10/30/2...	14,749.00	89.30	173.20	11,618.47	3,454.88	-3,454.84	-19.76	6.28	MWD	LEAM
10/30/2...	14,844.00	90.10	174.10	11,618.97	3,549.32	-3,549.25	-30.27	1.27	MWD	LEAM
11/1/2014	15,034.00	92.50	174.30	11,614.66	3,738.34	-3,738.21	49.46	1.27	MWD	LEAM
11/1/2014	15,129.00	93.40	176.60	11,609.77	3,832.93	-3,832.78	56.99	2.60	MWD	LEAM
11/1/2014	15,223.00	92.80	178.10	11,604.69	3,926.70	-3,926.54	61.33	1.72	MWD	LEAM
11/1/2014	15,318.00	93.10	178.80	11,599.80	4,021.54	-4,021.38	63.89	0.80	MWD	LEAM
11/1/2014	15,413.00	92.40	179.90	11,595.24	4,116.43	-4,116.26	64.97	1.37	MWD	LEAM
11/1/2014	15,508.00	90.00	181.30	11,593.25	4,211.39	-4,211.23	63.97	2.92	MWD	LEAM
11/1/2014	15,602.00	90.70	181.50	11,592.67	4,305.35	-4,305.20	61.68	0.77	MWD	LEAM
11/1/2014	15,697.00	90.50	181.70	11,591.68	4,400.30	-4,400.15	59.02	0.30	MWD	LEAM
11/1/2014	15,792.00	91.00	181.70	11,590.44	4,495.24	-4,495.10	56.21	0.53	MWD	LEAM
11/2/2014	15,887.00	90.70	182.20	11,589.03	4,590.17	-4,590.04	52.97	0.61	MWD	LEAM
11/2/2014	15,958.00	91.30	182.20	11,587.79	4,661.10	-4,660.97	50.25	0.85	MWD	LEAM
11/2/2014	16,017.00	91.30	182.20	11,586.45	4,720.03	-4,719.92	47.98	0.00	BIT	LEAM