

15-42318



September 15, 2014

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

Attn: David Cook

Re: **Cotton Draw Unit 217H**

Please find enclosed a copy of the survey from 0.00' to 4250.00' 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,

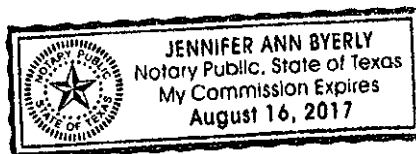
A handwritten signature in black ink, appearing to read "Keith Havelka".

Keith Havelka
Operations

STATE OF TEXAS §
 §
COUNTY OF NUECES §

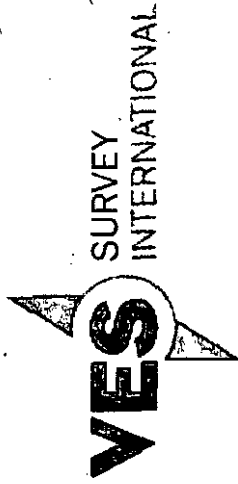
This instrument was acknowledged before me on the 15 day of September A.D., 2014, by Keith Havelka.

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





Company: Devon Energy
Lease/Well: Cotton Draw Unit /217H



Rig Name: H&P 223
State/Country: New Mexico /Eddy
Latitude: 32.15, Longitude: -103.75
GRID North is 0.31 Degrees East of True North
VS-Azi: 0.00 Degrees

Depth Reference : R.K.B = 25FT

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: cotton draw unit 217h-de_01.ut
Minimum Curvature Method

Report Date/Time: 9/15/2014 / 14:57

VES Survey International
(432) 563-5444

West Texas

Surveyor: Javier Estrada

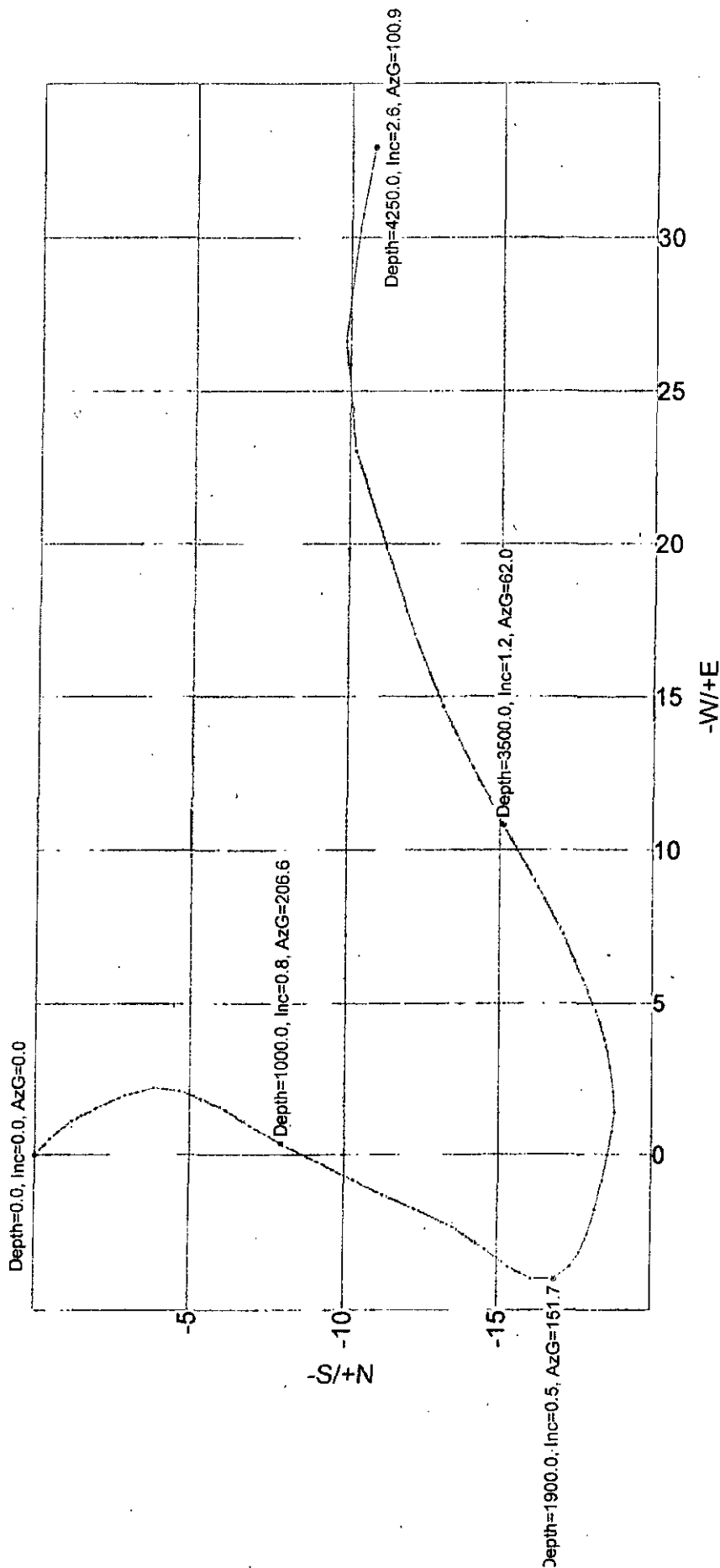
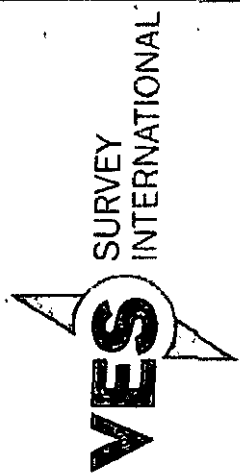
Cotton Draw Unit 217H / API 30-015-42318

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	0.00
100.00	0.80	132.82	100.00	-0.48	0.51	-0.48	0.70	132.82	0.80
200.00	0.30	157.80	199.99	-1.20	1.13	-1.20	1.64	136.74	0.54
300.00	0.67	151.73	299.99	-1.96	1.50	-1.96	2.47	142.49	0.37
400.00	0.52	158.27	399.98	-2.90	1.95	-2.90	3.49	146.06	0.17
500.00	0.60	171.57	499.98	-3.84	2.19	-3.84	4.42	150.23	0.15
600.00	0.41	207.89	599.97	-4.67	2.10	-4.67	5.13	155.76	0.36
700.00	0.44	195.52	699.97	-5.36	1.83	-5.36	5.67	161.13	0.10
800.00	0.58	211.52	799.97	-6.16	1.47	-6.16	6.33	166.61	0.19
900.00	0.52	215.04	899.96	-6.97	0.94	-6.97	7.03	172.30	0.06
1000.00	0.79	206.59	999.96	-7.96	0.37	-7.96	7.97	177.34	0.28
1100.00	0.71	209.49	1099.95	-9.11	-0.24	-9.11	9.11	181.53	0.09
1200.00	0.79	203.72	1199.94	-10.28	-0.82	-10.28	10.31	184.58	0.11
1300.00	0.49	210.21	1299.93	-11.28	-1.32	-11.28	11.36	186.66	0.31
1400.00	0.79	199.71	1399.93	-12.30	-1.77	-12.30	12.43	188.17	0.31
1500.00	0.81	210.43	1499.92	-13.55	-2.35	-13.55	13.76	189.85	0.15
1600.00	0.64	218.72	1599.91	-14.60	-3.06	-14.60	14.92	191.84	0.19
1700.00	0.45	211.96	1699.90	-15.37	-3.62	-15.37	15.79	193.25	0.21
1800.00	0.52	203.25	1799.90	-16.12	-4.00	-16.12	16.61	193.95	0.10

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
1900.00	0.46	151.74	1899.90	-16.88	-4.00	-16.88	17.35	193.32	0.43
2000.00	0.29	129.17	1999.90	-17.39	-3.61	-17.39	17.76	191.73	0.22
2100.00	0.31	119.71	2099.89	-17.69	-3.18	-17.69	17.97	190.19	0.05
2200.00	0.43	110.30	2199.89	-17.95	-2.59	-17.95	18.14	188.22	0.13
2300.00	0.52	103.69	2299.89	-18.19	-1.80	-18.19	18.28	185.65	0.11
2400.00	0.58	101.34	2399.88	-18.40	-0.86	-18.40	18.42	182.69	0.06
2500.00	0.41	101.68	2499.88	-18.57	-0.01	-18.57	18.57	180.04	0.17
2600.00	0.46	100.02	2599.88	-18.71	0.74	-18.71	18.73	177.75	0.05
2700.00	0.29	92.89	2699.88	-18.80	1.39	-18.80	18.85	175.79	0.17
2800.00	0.47	82.98	2799.87	-18.76	2.05	-18.76	18.87	173.76	0.19
2900.00	0.50	82.07	2899.87	-18.65	2.89	-18.65	18.87	171.20	0.03
3000.00	0.55	76.90	2999.87	-18.48	3.79	-18.48	18.86	168.42	0.07
3100.00	0.57	68.53	3099.86	-18.19	4.72	-18.19	18.79	165.46	0.08
3200.00	0.76	67.01	3199.85	-17.75	5.79	-17.75	18.67	161.95	0.19
3300.00	1.08	65.69	3299.84	-17.10	7.25	-17.10	18.58	157.03	0.32
3400.00	1.21	58.30	3399.82	-16.16	9.00	-16.16	18.50	150.88	0.19
3500.00	1.21	61.96	3499.80	-15.12	10.83	-15.12	18.59	144.39	0.08
3600.00	1.21	61.09	3599.78	-14.11	12.68	-14.11	18.97	138.07	0.02
3700.00	1.36	66.13	3699.75	-13.13	14.68	-13.13	19.69	131.80	0.19
3800.00	1.56	70.10	3799.72	-12.18	17.04	-12.18	20.95	125.57	0.23
3900.00	1.87	72.53	3899.67	-11.23	19.88	-11.23	22.83	119.47	0.32
4000.00	1.94	71.61	3999.62	-10.21	23.04	-10.21	25.20	113.89	0.08
4100.00	2.28	94.45	4099.55	-9.82	26.63	-9.82	28.39	110.25	0.90
4200.00	2.47	99.89	4199.47	-10.35	30.74	-10.35	32.44	108.61	0.30
4250.00	2.65	100.94	4249.42	-10.75	32.94	-10.75	34.65	108.08	0.36



VES Survey International
(432) 563-5444
West Texas
Surveyor: Javier Estrada
Cotton Draw Unit 217H / API 30-015-42318



VES Survey Date: 08/31/2014

COTTON DRAW UNIT 217H

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. 3, T25S R31E	API/UWI 3001542318	Latitude (°) 32° 9' 10.049" N	Longitude (°) 103° 45' 42.252" W	Ground Elev... 3,425.20
			KB - GL (ft) 25.00	Orig KB Elev (ft) 3,450.20
				Tubing Head Elevation (ft)

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

Deviation Survey											
Date 9/4/2014		Description MWD, LEAM									
MD Tie In (ftKB)	4,250.00	TVD Tie In (ftKB)	4,249.42	Inclination Tie In (°)	2.64	Azimuth Tie In (°)	100.94	NS Tie In (ft)	-10.73	EW Tie In (ft)	32.95

Survey Data

Date	MD (ftKB)	Incl (°)	Azin (°)	TVD (ftKB)	VS (ft)	N/S (ft)	E/W (ft)	DLS (°/100ft)	Survey Tool	Survey Company
9/4/2014	4,250.00	2.65	100.94	4,249.42	-5.78	-10.73	32.95	0.00	MWD	LEAM DRILLING SYSTEMS
9/4/2014	4,364.00	2.50	101.90	4,363.31	-6.04	-11.74	37.96	0.13	MWD	LEAM DRILLING SYSTEMS
9/4/2014	4,458.00	2.10	101.60	4,457.23	-6.26	-12.51	41.65	0.43	MWD	LEAM DRILLING SYSTEMS
9/4/2014	4,553.00	2.40	100.20	4,552.16	-6.42	-13.21	45.32	0.32	MWD	LEAM DRILLING SYSTEMS
9/4/2014	4,647.00	3.70	97.90	4,646.02	-6.45	-13.98	50.26	1.39	MWD	LEAM DRILLING SYSTEMS
9/4/2014	4,741.00	5.80	91.90	4,739.69	-5.88	-14.55	58.01	2.29	MWD	LEAM DRILLING SYSTEMS
9/4/2014	4,836.00	6.60	97.00	4,834.14	-5.20	-15.38	68.23	1.02	MWD	LEAM DRILLING SYSTEMS
9/4/2014	4,930.00	6.70	97.20	4,927.51	-4.94	-16.72	79.03	0.11	MWD	LEAM DRILLING SYSTEMS
9/4/2014	5,024.00	6.70	97.00	5,020.86	-4.69	-18.08	89.91	0.02	MWD	LEAM DRILLING SYSTEMS
9/4/2014	5,119.00	8.40	94.50	5,115.04	-4.07	-19.30	102.33	1.82	MWD	LEAM DRILLING SYSTEMS
9/4/2014	5,213.00	9.00	93.70	5,207.95	-2.99	-20.31	116.51	0.65	MWD	LEAM DRILLING SYSTEMS
9/4/2014	5,307.00	8.88	94.19	5,300.81	-1.85	-21.32	131.09	0.15	MWD	LEAM DRILLING SYSTEMS
9/4/2014	5,401.00	8.88	93.14	5,393.69	-0.64	-22.24	145.57	0.17	MWD	LEAM DRILLING SYSTEMS
9/4/2014	5,495.00	8.88	93.14	5,486.56	0.70	-23.04	160.05	0.00	MWD	LEAM DRILLING SYSTEMS
9/4/2014	5,590.00	9.06	93.14	5,580.40	2.06	-23.85	174.84	0.19	MWD	LEAM DRILLING SYSTEMS
9/4/2014	5,684.00	9.15	93.49	5,673.21	3.39	-24.71	189.69	0.11	MWD	LEAM DRILLING SYSTEMS
9/4/2014	5,779.00	9.20	92.30	5,767.00	4.86	-25.47	204.82	0.21	MWD	LEAM DRILLING SYSTEMS
9/4/2014	5,874.00	9.20	92.30	5,860.78	6.48	-26.08	220.00	0.00	MWD	LEAM DRILLING SYSTEMS
9/4/2014	5,968.00	9.00	93.00	5,953.59	7.98	-26.77	234.85	0.24	MWD	LEAM DRILLING SYSTEMS
9/5/2014	6,063.00	8.90	92.40	6,047.44	9.46	-27.47	249.61	0.14	MWD	LEAM DRILLING SYSTEMS
9/5/2014	6,157.00	8.70	92.60	6,140.33	10.95	-28.09	263.98	0.22	MWD	LEAM DRILLING SYSTEMS
9/5/2014	6,252.00	8.80	93.80	6,234.22	12.26	-28.90	278.41	0.22	MWD	LEAM DRILLING SYSTEMS
9/5/2014	6,347.00	9.00	95.10	6,328.08	13.28	-30.04	293.06	0.30	MWD	LEAM DRILLING SYSTEMS
9/5/2014	6,441.00	8.70	90.90	6,420.96	14.64	-30.81	307.49	0.76	MWD	LEAM DRILLING SYSTEMS
9/5/2014	6,536.00	8.90	89.80	6,514.84	16.69	-30.90	322.02	0.28	MWD	LEAM DRILLING SYSTEMS
9/5/2014	6,630.00	8.80	89.60	6,607.72	18.89	-30.82	336.49	0.11	MWD	LEAM DRILLING SYSTEMS
9/5/2014	6,724.00	9.00	90.00	6,700.59	21.07	-30.77	351.03	0.22	MWD	LEAM DRILLING SYSTEMS
9/5/2014	6,819.00	8.60	92.40	6,794.47	22.91	-31.07	365.56	0.57	MWD	LEAM DRILLING SYSTEMS
9/5/2014	6,913.00	8.40	93.00	6,887.44	24.30	-31.72	379.43	0.23	MWD	LEAM DRILLING SYSTEMS
9/5/2014	7,008.00	7.00	86.50	6,981.58	26.15	-31.73	392.14	1.73	MWD	LEAM DRILLING SYSTEMS
9/5/2014	7,102.00	6.70	86.80	7,074.91	28.44	-31.07	403.33	0.32	MWD	LEAM DRILLING SYSTEMS
9/5/2014	7,197.00	6.20	88.60	7,169.31	30.44	-30.64	414.00	0.57	MWD	LEAM DRILLING SYSTEMS
9/5/2014	7,291.00	6.20	91.20	7,262.76	31.95	-30.62	424.15	0.30	MWD	LEAM DRILLING SYSTEMS
9/5/2014	7,385.00	5.90	91.90	7,356.24	33.14	-30.89	434.05	0.33	MWD	LEAM DRILLING SYSTEMS
9/5/2014	7,479.00	6.00	93.70	7,449.73	34.09	-31.37	443.78	0.23	MWD	LEAM DRILLING SYSTEMS
9/5/2014	7,574.00	6.00	96.80	7,544.21	34.64	-32.27	453.67	0.34	MWD	LEAM DRILLING SYSTEMS
9/5/2014	7,669.00	6.20	99.10	7,638.67	34.73	-33.67	463.66	0.33	MWD	LEAM DRILLING SYSTEMS
9/5/2014	7,763.00	6.10	101.40	7,732.13	34.41	-35.46	473.57	0.28	MWD	LEAM DRILLING SYSTEMS
9/5/2014	7,857.00	5.60	102.30	7,825.64	33.84	-37.43	482.95	0.54	MWD	LEAM DRILLING SYSTEMS
9/7/2014	7,952.00	5.70	96.30	7,920.18	33.71	-38.93	492.16	0.63	MWD	LEAM DRILLING SYSTEMS
9/8/2014	8,046.00	5.50	96.70	8,013.73	34.02	-39.97	501.28	0.22	MWD	LEAM DRILLING SYSTEMS
9/8/2014	8,141.00	5.20	103.50	8,108.32	33.77	-41.51	509.99	0.74	MWD	LEAM DRILLING SYSTEMS
9/8/2014	8,235.00	5.70	106.30	8,201.90	32.76	-43.81	518.61	0.60	MWD	LEAM DRILLING SYSTEMS
9/8/2014	8,330.00	5.60	97.90	8,296.44	32.16	-45.77	527.73	0.88	MWD	LEAM DRILLING SYSTEMS
9/8/2014	8,424.00	4.90	93.10	8,390.04	32.57	-46.62	536.28	0.88	MWD	LEAM DRILLING SYSTEMS
9/8/2014	8,519.00	4.20	95.20	8,484.74	33.15	-47.16	543.80	0.76	MWD	LEAM DRILLING SYSTEMS
9/8/2014	8,613.00	4.30	87.90	8,578.48	33.99	-47.34	550.74	0.58	MWD	LEAM DRILLING SYSTEMS



COTTON DRAW UNIT 217H

WEST UNRESTRICTED

Directional Survey

District DELAWARE BASIN	County EDDY	Field Name PADUCA	Project Group DELAWARE BASIN REG	State/Province NM
Surface Legal Location Sec. 3, T25S R31E	API/UWI 3001542318	Latitude (") 32° 9' 10.049" N	Longitude (") 103° 45' 42.252" W	Ground Elev... 3,425.20
			KB - GL (ft) 25.00	Org KB Elev (ft) 3,450.20
				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
9/8/2014	8,708.00	3.40	88.90	8,673.27	35.11	-47.15	557.12	0.95	MWD	LEAM DRILLING SYSTEMS
9/8/2014	8,802.00	3.00	91.20	8,767.12	35.88	-47.15	562.37	0.45	MWD	LEAM DRILLING SYSTEMS
9/9/2014	8,896.00	2.90	74.20	8,861.00	37.16	-46.56	567.11	0.93	MWD	LEAM DRILLING SYSTEMS
9/9/2014	8,991.00	2.10	37.90	8,955.91	39.67	-44.53	570.50	1.82	MWD	LEAM DRILLING SYSTEMS
9/9/2014	9,086.00	1.70	15.40	9,050.86	42.58	-41.80	571.94	0.88	MWD	LEAM DRILLING SYSTEMS
9/9/2014	9,180.00	1.70	3.80	9,144.82	45.35	-39.06	572.40	0.37	MWD	LEAM DRILLING SYSTEMS
9/9/2014	9,275.00	1.60	0.10	9,239.78	48.07	-36.33	572.50	0.15	MWD	LEAM DRILLING SYSTEMS
9/9/2014	9,369.00	1.30	35.80	9,333.75	50.32	-34.15	573.12	0.99	MWD	LEAM DRILLING SYSTEMS
9/9/2014	9,464.00	1.80	69.40	9,428.72	52.00	-32.75	575.15	1.07	MWD	LEAM DRILLING SYSTEMS
9/9/2014	9,559.00	2.60	70.60	9,523.65	53.73	-31.51	578.58	0.84	MWD	LEAM DRILLING SYSTEMS
9/9/2014	9,653.00	1.10	45.50	9,617.60	55.44	-30.17	581.23	1.78	MWD	LEAM DRILLING SYSTEMS
9/9/2014	9,748.00	1.10	320.90	9,712.59	56.79	-28.82	581.31	1.56	MWD	LEAM DRILLING SYSTEMS
9/9/2014	9,842.00	1.20	301.10	9,806.57	57.78	-27.61	579.90	0.43	MWD	LEAM DRILLING SYSTEMS
9/10/2014	9,872.00	1.10	296.90	9,836.56	57.99	-27.32	579.37	0.44	MWD	LEAM DRILLING SYSTEMS
9/11/2014	9,916.00	1.10	299.00	9,880.55	58.27	-26.93	578.63	0.09	MWD	LEAM DRILLING SYSTEMS
9/11/2014	9,947.00	1.80	344.20	9,911.55	58.82	-26.31	578.23	4.16	MWD	LEAM DRILLING SYSTEMS
9/11/2014	9,979.00	6.20	0.10	9,943.46	60.99	-24.10	578.10	14.05	MWD	LEAM DRILLING SYSTEMS
9/11/2014	10,010.00	10.20	3.30	9,974.14	65.38	-19.68	578.26	12.98	MWD	LEAM DRILLING SYSTEMS
9/12/2014	10,052.00	15.40	3.00	10,015.08	74.64	-10.40	578.77	12.38	MWD	LEAM DRILLING SYSTEMS
9/11/2014	10,073.00	17.40	4.20	10,035.22	80.55	-4.48	579.14	9.66	MWD	LEAM DRILLING SYSTEMS
9/11/2014	10,095.00	18.70	5.90	10,056.14	87.35	2.31	579.75	6.38	MWD	LEAM DRILLING SYSTEMS
9/11/2014	10,127.00	21.50	3.70	10,086.19	98.32	13.27	580.65	9.06	MWD	LEAM DRILLING SYSTEMS
9/11/2014	10,159.00	25.80	0.70	10,115.50	111.07	26.09	581.12	13.95	MWD	LEAM DRILLING SYSTEMS
9/11/2014	10,191.00	30.10	0.70	10,143.76	125.93	41.08	581.30	13.44	MWD	LEAM DRILLING SYSTEMS
9/11/2014	10,222.00	35.00	0.30	10,169.88	142.45	57.75	581.44	15.82	MWD	LEAM DRILLING SYSTEMS
9/11/2014	10,254.00	40.10	360.00	10,195.24	161.74	77.25	581.49	15.95	MWD	LEAM DRILLING SYSTEMS
9/11/2014	10,285.00	45.40	0.30	10,218.00	182.55	98.29	581.55	17.11	MWD	LEAM DRILLING SYSTEMS
9/11/2014	10,316.00	51.00	0.10	10,238.65	205.42	121.39	581.63	18.07	MWD	LEAM DRILLING SYSTEMS
9/11/2014	10,348.00	54.80	0.30	10,257.95	230.67	146.90	581.72	11.89	MWD	LEAM DRILLING SYSTEMS
9/11/2014	10,380.00	57.30	0.90	10,275.82	256.97	173.44	582.00	7.97	MWD	LEAM DRILLING SYSTEMS
9/11/2014	10,411.00	59.00	1.00	10,292.18	283.07	199.77	582.43	5.49	MWD	LEAM DRILLING SYSTEMS
9/11/2014	10,443.00	61.60	1.40	10,308.03	310.65	227.56	583.02	8.20	MWD	LEAM DRILLING SYSTEMS
9/11/2014	10,474.00	65.10	2.80	10,321.94	338.18	255.24	584.04	11.99	MWD	LEAM DRILLING SYSTEMS
9/11/2014	10,506.00	67.80	2.10	10,334.72	367.35	284.55	585.29	8.67	MWD	LEAM DRILLING SYSTEMS
9/11/2014	10,537.00	69.50	1.40	10,346.01	396.02	313.41	586.17	5.87	MWD	LEAM DRILLING SYSTEMS
9/11/2014	10,569.00	70.40	2.30	10,356.98	425.89	343.45	587.14	3.86	MWD	LEAM DRILLING SYSTEMS
9/11/2014	10,600.00	74.20	1.90	10,366.40	455.23	372.96	588.22	12.32	MWD	LEAM DRILLING SYSTEMS
9/11/2014	10,632.00	79.80	0.70	10,373.60	486.16	404.12	588.92	17.88	MWD	LEAM DRILLING SYSTEMS
9/11/2014	10,663.00	84.90	359.10	10,377.72	516.53	434.83	588.87	17.23	MWD	LEAM DRILLING SYSTEMS
9/14/2014	10,721.00	91.70	358.20	10,379.44	573.63	492.75	587.50	11.83	MWD	LEAM DRILLING SYSTEMS
9/14/2014	10,816.00	90.00	0.90	10,378.03	667.46	587.73	586.76	3.36	MWD	LEAM DRILLING SYSTEMS
9/14/2014	10,911.00	91.50	0.70	10,376.79	761.61	682.71	588.08	1.59	MWD	LEAM DRILLING SYSTEMS
9/14/2014	11,006.00	90.10	1.40	10,375.46	855.81	777.68	589.82	1.65	MWD	LEAM DRILLING SYSTEMS
9/14/2014	11,100.00	89.80	1.60	10,375.54	949.12	871.65	592.28	0.38	MWD	LEAM DRILLING SYSTEMS
9/14/2014	11,195.00	92.60	3.30	10,373.55	1,043.57	966.53	596.34	3.45	MWD	LEAM DRILLING SYSTEMS
9/14/2014	11,289.00	90.80	3.00	10,370.77	1,137.12	1,060.34	601.51	1.94	MWD	LEAM DRILLING SYSTEMS
9/14/2014	11,384.00	91.60	3.50	10,368.78	1,231.71	1,155.16	606.89	0.99	MWD	LEAM DRILLING SYSTEMS
9/15/2014	11,573.00	88.70	3.50	10,368.28	1,419.99	1,343.79	618.43	1.53	MWD	LEAM DRILLING SYSTEMS
9/16/2014	11,670.00	88.70	3.70	10,370.48	1,516.62	1,440.57	624.52	0.21	MWD	LEAM DRILLING SYSTEMS
9/16/2014	11,764.00	87.20	3.30	10,373.84	1,610.21	1,534.34	630.25	1.65	MWD	LEAM DRILLING SYSTEMS
9/16/2014	11,859.00	87.20	1.90	10,378.49	1,704.60	1,629.12	634.56	1.47	MWD	LEAM DRILLING SYSTEMS
9/16/2014	11,954.00	87.10	2.10	10,383.21	1,798.88	1,723.95	637.87	0.24	MWD	LEAM DRILLING SYSTEMS
9/16/2014	12,048.00	87.10	2.40	10,387.96	1,892.22	1,817.75	641.55	0.32	MWD	LEAM DRILLING SYSTEMS
9/16/2014	12,143.00	88.10	0.30	10,391.94	1,986.40	1,912.64	643.79	2.45	MWD	LEAM DRILLING SYSTEMS
9/16/2014	12,237.00	90.60	0.70	10,393.01	2,079.49	2,006.62	644.61	2.69	MWD	LEAM DRILLING SYSTEMS



COTTON DRAW UNIT 217H

WEST UNRESTRICTED

Directional Survey

District DELAWARE BASIN	County EDDY	Field Name PADUCA	Project Group DELAWARE BASIN REG	State/Province NM
Surface Legal Location Sec. 3, T25S R31E	API/UWI 3001542318	Latitude (°) 32° 9' 10.049" N	Longitude (°) 103° 45' 42.252" W	Ground Elev... 3,425.20
			KB - GL (ft) 25.00	Orig KB Elev (ft) 3,450.20
				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
9/16/2014	12,332.00	90.70	1.20	10,391.93	2,173.67	2,101.60	646.18	0.54	MWD	LEAM DRILLING SYSTEMS
9/16/2014	12,427.00	90.90	1.60	10,390.61	2,267.95	2,196.56	648.50	0.47	MWD	LEAM DRILLING SYSTEMS
9/16/2014	12,522.00	91.00	1.20	10,389.03	2,362.22	2,291.52	650.82	0.43	MWD	LEAM DRILLING SYSTEMS
9/16/2014	12,616.00	91.70	1.00	10,386.82	2,455.42	2,385.48	652.63	0.77	MWD	LEAM DRILLING SYSTEMS
9/16/2014	12,711.00	91.30	1.00	10,384.33	2,549.59	2,480.43	654.29	0.42	MWD	LEAM DRILLING SYSTEMS
9/16/2014	12,805.00	90.00	359.80	10,383.26	2,642.66	2,574.42	654.94	1.88	MWD	LEAM DRILLING SYSTEMS
9/16/2014	12,899.00	90.70	0.30	10,382.69	2,735.65	2,668.42	655.02	0.92	MWD	LEAM DRILLING SYSTEMS
9/16/2014	12,994.00	91.20	0.90	10,381.11	2,829.75	2,763.40	656.02	0.82	MWD	LEAM DRILLING SYSTEMS
9/16/2014	13,085.00	90.10	0.50	10,380.08	2,919.91	2,854.38	657.13	1.29	MWD	LEAM DRILLING SYSTEMS
9/16/2014	13,184.00	91.60	0.70	10,378.61	3,017.97	2,953.36	658.17	1.53	MWD	LEAM DRILLING SYSTEMS
9/17/2014	13,278.00	89.90	0.50	10,377.38	3,111.08	3,047.35	659.15	1.82	MWD	LEAM DRILLING SYSTEMS
9/17/2014	13,372.00	91.20	1.00	10,376.48	3,204.23	3,141.33	660.38	1.48	MWD	LEAM DRILLING SYSTEMS
9/17/2014	13,467.00	92.20	2.10	10,373.66	3,298.50	3,236.25	662.95	1.56	MWD	LEAM DRILLING SYSTEMS
9/17/2014	13,562.00	93.00	2.10	10,369.35	3,392.82	3,331.09	666.43	0.84	MWD	LEAM DRILLING SYSTEMS
9/17/2014	13,656.00	92.60	2.30	10,364.76	3,486.15	3,424.91	670.03	0.48	MWD	LEAM DRILLING SYSTEMS
9/17/2014	13,751.00	92.60	2.40	10,360.45	3,580.52	3,519.73	673.92	0.11	MWD	LEAM DRILLING SYSTEMS
9/17/2014	13,846.00	92.90	2.60	10,355.89	3,674.90	3,614.53	678.06	0.38	MWD	LEAM DRILLING SYSTEMS
9/17/2014	13,941.00	89.40	3.00	10,353.99	3,769.41	3,709.38	682.70	3.71	MWD	LEAM DRILLING SYSTEMS
9/17/2014	14,036.00	90.40	2.80	10,354.15	3,863.96	3,804.26	687.51	1.07	MWD	LEAM DRILLING SYSTEMS
9/17/2014	14,131.00	91.10	3.80	10,352.91	3,958.57	3,899.09	692.98	1.28	MWD	LEAM DRILLING SYSTEMS
9/17/2014	14,225.00	89.70	2.30	10,352.25	4,052.15	3,992.95	697.98	2.18	MWD	LEAM DRILLING SYSTEMS
9/17/2014	14,320.00	89.70	2.80	10,352.75	4,146.65	4,087.86	702.20	0.53	MWD	LEAM DRILLING SYSTEMS
9/17/2014	14,415.00	90.00	3.10	10,353.00	4,241.21	4,182.73	707.09	0.45	MWD	LEAM DRILLING SYSTEMS
9/18/2014	14,509.00	88.20	3.10	10,354.47	4,334.79	4,276.58	712.17	1.91	MWD	LEAM DRILLING SYSTEMS
9/18/2014	14,604.00	88.70	3.50	10,357.04	4,429.37	4,371.39	717.64	0.67	MWD	LEAM DRILLING SYSTEMS
9/18/2014	14,699.00	89.20	3.00	10,358.79	4,523.97	4,466.22	723.03	0.74	MWD	LEAM DRILLING SYSTEMS
9/18/2014	14,793.00	90.70	2.80	10,358.87	4,617.52	4,560.09	727.78	1.61	MWD	LEAM DRILLING SYSTEMS
9/18/2014	14,888.00	89.20	3.50	10,358.95	4,712.12	4,654.95	733.00	1.74	MWD	LEAM DRILLING SYSTEMS
9/18/2014	14,926.00	89.30	3.80	10,359.45	4,749.98	4,692.87	735.42	0.83	MWD	LEAM DRILLING SYSTEMS
9/18/2014	14,984.00	89.30	3.80	10,360.16	4,807.79	4,750.73	739.26	0.00	BIT	LEAM DRILLING SYSTEMS