



Directional Survey

Well Name: THISTLE UNIT 26H

Sub-Division	Region	Field Name	County	State/Province		
DELAWARE BASIN	DELAWARE BASIN EAST	JOHNSON RANCH	LEA	NM		
Surface Legal Location	API/UWI	Latitude (°)	Longitude (°)	Orig KB Elevation (ft)	Ground Elev MSL (ft)	KB - GL (ft)
SEC 22 23S 33E	3002542431	32° 17' 0.899" N	103° 33' 58.551" W	3,726.00	3,703.00	23.00

Wellbores			
Wellbore Name	Parent Wellbore	SAP Well ID	Vertical Section Direction (°)
OH	OH	38524	

Kick Offs & Key Depths				
Date 6/8/2015		Type KICK OFF		Top Depth (ftKB) 8,390.0
				HOBBS OCL
Date 6/9/2015		Type LATERAL		Top Depth (ftKB) 9,314.0
Actual Deviation Survey		Definitive?	Proposed?	Proposed Deviation Survey
EXETREME TOOL, Proposed? No		No	No	SEP 24 2015

Deviation Survey					
Date 5/29/2015		Description EXETREME TOOL			
RECEIVED					
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
5/29/2015	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	MWD	EXTREME
5/29/2015	160.00	0.31	145.25	160.00	-0.36	-0.36	0.25	0.19	MWD	EXTREME
5/29/2015	252.00	0.22	75.78	252.00	-0.54	-0.52	0.56	0.34	MWD	EXTREME
5/29/2015	342.00	0.48	39.26	342.00	-0.22	-0.18	0.97	0.37	MWD	EXTREME
5/29/2015	399.00	0.31	8.36	399.00	0.12	0.16	1.14	0.47	MWD	EXTREME
5/29/2015	490.00	0.40	57.67	489.99	0.52	0.57	1.44	0.34	MWD	EXTREME
5/29/2015	597.00	0.62	82.15	596.99	0.77	0.85	2.33	0.28	MWD	EXTREME
5/29/2015	693.00	0.70	73.67	692.98	0.97	1.08	3.41	0.13	MWD	EXTREME
5/29/2015	789.00	0.79	85.27	788.98	1.14	1.30	4.63	0.18	MWD	EXTREME
5/29/2015	878.00	0.79	83.29	877.97	1.22	1.42	5.85	0.03	MWD	EXTREME
5/29/2015	974.00	0.79	92.56	973.96	1.22	1.47	7.17	0.13	MWD	EXTREME
5/29/2015	1,070.00	0.48	109.35	1,069.95	1.03	1.31	8.21	0.37	MWD	EXTREME
5/29/2015	1,149.00	0.31	133.08	1,148.95	0.75	1.05	8.68	0.29	MWD	EXTREME
5/29/2015	1,245.00	0.09	201.86	1,244.95	0.50	0.81	8.84	0.30	MWD	EXTREME
5/29/2015	1,334.00	0.22	222.07	1,333.95	0.32	0.62	8.70	0.16	MWD	EXTREME
5/29/2015	1,459.00	0.22	65.76	1,458.95	0.23	0.54	8.76	0.34	MWD	EXTREME
5/29/2015	1,553.00	0.40	296.07	1,552.95	0.46	0.75	8.63	0.60	MWD	EXTREME
5/29/2015	1,649.00	0.48	303.85	1,648.95	0.85	1.13	7.99	0.10	MWD	EXTREME
5/29/2015	1,743.00	0.70	309.87	1,742.94	1.46	1.71	7.23	0.24	MWD	EXTREME
5/29/2015	1,838.00	0.70	308.55	1,837.93	2.23	2.45	6.33	0.02	MWD	EXTREME
5/29/2015	1,933.00	0.70	305.26	1,932.93	2.95	3.14	5.40	0.04	MWD	EXTREME
5/29/2015	2,029.00	0.79	305.87	2,028.92	3.72	3.87	4.38	0.09	MWD	EXTREME
5/29/2015	2,122.00	0.79	310.49	2,121.91	4.54	4.66	3.38	0.07	MWD	EXTREME
5/29/2015	2,214.00	0.88	316.29	2,213.90	5.50	5.58	2.41	0.13	MWD	EXTREME
5/29/2015	2,309.00	1.01	311.45	2,308.89	6.62	6.67	1.28	0.16	MWD	EXTREME
5/29/2015	2,404.00	1.19	310.18	2,403.87	7.85	7.86	-0.11	0.19	MWD	EXTREME
5/29/2015	2,498.00	1.32	317.08	2,497.85	9.33	9.28	-1.59	0.21	MWD	EXTREME
5/29/2015	2,593.00	1.41	315.59	2,592.82	11.02	10.91	-3.15	0.10	MWD	EXTREME
5/29/2015	2,688.00	1.58	320.77	2,687.79	12.92	12.76	-4.80	0.23	MWD	EXTREME
5/29/2015	2,784.00	1.89	320.46	2,783.74	15.23	15.01	-6.64	0.32	MWD	EXTREME
5/29/2015	2,874.00	2.02	323.89	2,873.69	17.72	17.44	-8.52	0.19	MWD	EXTREME
5/29/2015	2,968.00	2.29	326.48	2,967.62	20.69	20.34	-10.54	0.31	MWD	EXTREME
5/29/2015	3,064.00	2.29	325.39	3,063.55	23.94	23.52	-12.68	0.05	MWD	EXTREME
5/29/2015	3,159.00	2.50	325.08	3,158.46	27.28	26.78	-14.95	0.22	MWD	EXTREME
5/29/2015	3,254.00	2.81	326.66	3,253.36	31.00	30.42	-17.41	0.34	MWD	EXTREME
5/29/2015	3,348.00	2.90	325.96	3,347.25	34.99	34.32	-20.01	0.10	MWD	EXTREME
5/29/2015	3,442.00	3.12	329.47	3,441.12	39.25	38.49	-22.64	0.31	MWD	EXTREME
5/29/2015	3,534.00	3.38	330.35	3,532.97	43.85	43.01	-25.26	0.29	MWD	EXTREME
5/29/2015	3,633.00	3.38	330.48	3,631.80	49.02	48.08	-28.14	0.01	MWD	EXTREME
5/29/2015	3,727.00	3.78	332.29	3,725.61	54.27	53.24	-30.94	0.44	MWD	EXTREME
5/29/2015	3,822.00	3.91	332.77	3,820.40	60.02	58.89	-33.88	0.14	MWD	EXTREME
5/29/2015	3,916.00	3.78	336.99	3,914.19	65.81	64.59	-36.56	0.33	MWD	EXTREME
5/29/2015	4,011.00	3.78	335.58	4,008.98	71.63	70.32	-39.08	0.10	MWD	EXTREME
5/29/2015	4,106.00	3.91	333.16	4,103.77	77.46	76.07	-41.84	0.22	MWD	EXTREME
5/29/2015	4,200.00	3.78	336.99	4,197.55	83.26	81.78	-44.49	0.31	MWD	EXTREME
5/29/2015	4,295.00	3.69	344.78	4,292.35	89.16	87.61	-46.52	0.54	MWD	EXTREME
5/29/2015	4,482.00	3.30	352.98	4,479.01	100.38	98.76	-48.76	0.34	MWD	EXTREME
5/29/2015	4,575.00	3.12	1.68	4,571.86	105.57	103.94	-49.01	0.56	MWD	EXTREME
5/29/2015	4,671.00	3.21	6.56	4,667.71	110.83	109.23	-48.63	0.30	MWD	EXTREME
5/29/2015	4,765.00	3.30	12.45	4,761.56	116.06	114.48	-47.74	0.37	MWD	EXTREME
5/29/2015	4,860.00	3.52	20.05	4,856.40	121.41	119.89	-46.15	0.53	MWD	EXTREME
5/29/2015	4,956.00	3.69	26.38	4,952.21	126.86	125.43	-43.77	0.45	MWD	EXTREME
5/29/2015	5,051.00	3.60	36.66	5,047.02	131.88	130.56	-40.63	0.69	MWD	EXTREME
5/29/2015	5,141.00	3.69	40.66	5,136.83	136.22	135.02	-37.06	0.30	MWD	EXTREME
5/29/2015	5,237.00	3.69	42.07	5,232.63	140.71	139.66	-32.98	0.09	MWD	LEAM DRILLING SYSTEMS
5/29/2015	5,394.00	3.43	49.41	5,389.33	147.27	146.47	-26.02	0.33	MWD	LEAM DRILLING SYSTEMS
5/29/2015	5,489.00	3.25	45.19	5,484.17	150.88	150.21	-21.95	0.32	MWD	LEAM DRILLING SYSTEMS
5/29/2015	5,583.00	3.16	42.72	5,578.02	154.53	153.99	-18.31	0.18	MWD	LEAM DRILLING SYSTEMS
5/29/2015	5,678.00	3.17	44.14	5,672.88	158.21	157.80	-14.70	0.08	MWD	LEAM DRILLING SYSTEMS
5/29/2015	5,772.00	3.08	42.55	5,766.74	161.82	161.53	-11.18	0.13	MWD	LEAM DRILLING SYSTEMS
5/29/2015	5,867.00	3.25	37.63	5,861.59	165.71	165.54	-7.81	0.34	MWD	LEAM DRILLING SYSTEMS
5/29/2015	5,961.00	3.08	36.75	5,955.45	169.73	169.67	-4.68	0.19	MWD	LEAM DRILLING SYSTEMS
5/29/2015	6,056.00	3.17	34.82	6,050.31	173.83	173.88	-1.65	0.15	MWD	LEAM DRILLING SYSTEMS
5/29/2015	6,151.00	2.90	33.59	6,145.18	177.89	178.03	1.18	0.29	MWD	LEAM DRILLING SYSTEMS
5/29/2015	6,246.00	2.64	28.49	6,240.07	181.73	181.96	3.55	0.38	MWD	LEAM DRILLING SYSTEMS



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DELAWARE BASIN		DELAWARE BASIN EAST		JOHNSON RANCH		LEA		NM	
Surface Legal Location		API/UWI		Latitude (°)		Longitude (°)		Orig KB Elevation (ft)	
SEC 22 23S 33E		3002542431		32° 17' 0.899" N		103° 33' 58.551" W		3,726.00	
								3,703.00	
								KB - GL (ft)	
								23.00	

Survey Data										
Date	MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	N/S (ft)	E/W (ft)	DLS (°/100ft)	Survey Tool	Survey Company
5/29/2015	6,339.00	2.46	29.55	6,332.97	185.28	185.58	5.56	0.20	MWD	LEAM DRILLING SYSTEMS
5/29/2015	6,434.00	2.37	29.02	6,427.89	188.70	189.07	7.52	0.10	MWD	LEAM DRILLING SYSTEMS
5/29/2015	6,528.00	2.37	23.57	6,521.81	192.12	192.55	9.24	0.24	MWD	LEAM DRILLING SYSTEMS
5/29/2015	6,623.00	2.55	25.85	6,616.72	195.76	196.25	10.95	0.22	MWD	LEAM DRILLING SYSTEMS
5/29/2015	6,719.00	2.46	27.79	6,712.63	199.44	200.00	12.84	0.13	MWD	LEAM DRILLING SYSTEMS
5/29/2015	6,812.00	2.20	19.88	6,805.55	202.83	203.44	14.37	0.44	MWD	LEAM DRILLING SYSTEMS
5/29/2015	6,906.00	1.49	11.26	6,899.50	205.69	206.34	15.23	0.81	MWD	LEAM DRILLING SYSTEMS
5/29/2015	7,002.00	1.14	4.58	6,995.48	207.85	208.51	15.55	0.40	MWD	LEAM DRILLING SYSTEMS
5/29/2015	7,096.00	1.23	359.84	7,089.46	209.79	210.45	15.62	0.14	MWD	LEAM DRILLING SYSTEMS
5/29/2015	7,190.00	0.35	19.88	7,183.45	211.07	211.73	15.71	0.97	MWD	LEAM DRILLING SYSTEMS
5/29/2015	7,286.00	0.26	27.79	7,279.45	211.53	212.20	15.91	0.10	MWD	LEAM DRILLING SYSTEMS
5/29/2015	7,380.00	0.26	27.79	7,373.45	211.90	212.58	16.11	0.00	MWD	LEAM DRILLING SYSTEMS
5/29/2015	7,475.00	0.26	13.55	7,468.44	212.29	212.98	16.26	0.07	MWD	LEAM DRILLING SYSTEMS
5/29/2015	7,569.00	0.26	43.96	7,562.44	212.65	213.34	16.46	0.15	MWD	LEAM DRILLING SYSTEMS
5/29/2015	7,665.00	0.26	118.32	7,658.44	212.69	213.39	16.81	0.33	MWD	LEAM DRILLING SYSTEMS
5/29/2015	7,760.00	0.44	141.87	7,753.44	212.28	213.00	17.22	0.24	MWD	LEAM DRILLING SYSTEMS
5/29/2015	7,855.00	0.44	134.84	7,848.44	211.72	212.46	17.70	0.06	MWD	LEAM DRILLING SYSTEMS
5/29/2015	7,949.00	0.62	116.73	7,942.43	211.22	211.98	18.41	0.26	MWD	LEAM DRILLING SYSTEMS
5/29/2015	8,044.00	0.70	124.82	8,037.43	210.62	211.41	19.35	0.13	MWD	LEAM DRILLING SYSTEMS
5/29/2015	8,139.00	0.97	133.43	8,132.42	209.70	210.53	20.41	0.31	MWD	LEAM DRILLING SYSTEMS
5/29/2015	8,231.00	1.14	140.64	8,224.40	208.42	209.29	21.56	0.23	MWD	LEAM DRILLING SYSTEMS
5/29/2015	8,325.00	0.97	140.99	8,318.39	207.04	207.94	22.65	0.18	MWD	LEAM DRILLING SYSTEMS
5/29/2015	8,420.00	2.73	27.61	8,413.35	208.37	209.33	24.21	3.41	MWD	LEAM DRILLING SYSTEMS
5/29/2015	8,450.00	5.80	18.47	8,443.26	210.41	211.40	25.02	10.45	MWD	LEAM DRILLING SYSTEMS
5/29/2015	8,482.00	8.97	14.25	8,475.00	214.32	215.35	26.14	10.04	MWD	LEAM DRILLING SYSTEMS
5/29/2015	8,514.00	11.87	13.73	8,506.46	219.89	220.97	27.54	9.07	MWD	LEAM DRILLING SYSTEMS
5/29/2015	8,546.00	14.77	12.14	8,537.60	227.01	228.15	29.18	9.13	MWD	LEAM DRILLING SYSTEMS
5/29/2015	8,577.00	17.41	12.50	8,567.38	235.34	236.54	31.01	8.52	MWD	LEAM DRILLING SYSTEMS
5/29/2015	8,609.00	20.14	13.02	8,597.68	245.30	246.59	33.29	8.55	MWD	LEAM DRILLING SYSTEMS
5/29/2015	8,641.00	23.21	13.02	8,627.41	256.71	258.10	35.95	9.59	MWD	LEAM DRILLING SYSTEMS
5/29/2015	8,673.00	26.03	12.50	8,656.50	269.60	271.10	38.89	8.84	MWD	LEAM DRILLING SYSTEMS
5/29/2015	8,704.00	28.23	11.44	8,684.09	283.32	284.93	41.82	7.27	MWD	LEAM DRILLING SYSTEMS
5/29/2015	8,736.00	29.28	11.97	8,712.14	298.28	300.00	44.95	3.38	MWD	LEAM DRILLING SYSTEMS
5/29/2015	8,767.00	30.43	12.85	8,739.03	313.23	315.07	48.26	3.97	MWD	LEAM DRILLING SYSTEMS
5/29/2015	8,798.00	32.27	12.85	8,765.50	328.82	330.80	51.85	5.94	MWD	LEAM DRILLING SYSTEMS
5/29/2015	8,830.00	35.00	13.02	8,792.14	345.94	348.07	55.82	8.54	MWD	LEAM DRILLING SYSTEMS
5/29/2015	8,861.00	37.64	13.02	8,817.11	363.68	365.96	59.95	8.52	MWD	LEAM DRILLING SYSTEMS
5/29/2015	8,893.00	39.92	12.32	8,842.06	383.07	385.51	64.35	7.26	MWD	LEAM DRILLING SYSTEMS
5/29/2015	8,924.00	42.21	12.14	8,865.43	402.81	405.41	68.66	7.40	MWD	LEAM DRILLING SYSTEMS
5/29/2015	8,950.00	44.58	11.97	8,884.32	420.14	422.88	72.39	9.13	MWD	LEAM DRILLING SYSTEMS
5/29/2015	8,981.00	48.01	11.44	8,905.74	441.91	444.82	76.93	11.13	MWD	LEAM DRILLING SYSTEMS
5/29/2015	9,012.00	52.23	10.56	8,925.61	465.09	468.17	81.47	13.79	MWD	LEAM DRILLING SYSTEMS
5/29/2015	9,044.00	56.45	9.86	8,944.26	490.50	493.75	86.07	13.31	MWD	LEAM DRILLING SYSTEMS
5/29/2015	9,076.00	59.97	8.80	8,961.12	517.16	520.59	90.47	11.35	MWD	LEAM DRILLING SYSTEMS
5/29/2015	9,107.00	63.22	6.52	8,975.86	544.04	547.61	94.10	12.32	MWD	LEAM DRILLING SYSTEMS
5/29/2015	9,139.00	67.09	5.11	8,989.31	572.81	576.49	97.03	12.74	MWD	LEAM DRILLING SYSTEMS
5/29/2015	9,170.00	70.61	3.35	9,000.49	601.55	605.32	99.16	12.53	MWD	LEAM DRILLING SYSTEMS
5/29/2015	9,202.00	75.27	1.77	9,009.88	632.03	635.87	100.52	15.31	MWD	LEAM DRILLING SYSTEMS
5/29/2015	9,234.00	80.02	0.54	9,016.72	663.24	667.11	101.15	15.31	MWD	LEAM DRILLING SYSTEMS
5/29/2015	9,265.00	84.68	358.78	9,020.85	693.94	697.83	100.96	16.05	MWD	LEAM DRILLING SYSTEMS
5/29/2015	9,289.00	87.23	357.03	9,022.54	717.87	721.75	100.09	12.88	MWD	LEAM DRILLING SYSTEMS
5/29/2015	9,384.00	90.31	355.62	9,024.58	812.80	816.52	94.00	3.57	MWD	LEAM DRILLING SYSTEMS
5/29/2015	9,478.00	89.69	356.15	9,024.58	906.73	910.27	87.26	0.87	MWD	LEAM DRILLING SYSTEMS
5/29/2015	9,573.00	90.84	356.67	9,024.14	1,001.69	1,005.08	81.31	1.33	MWD	LEAM DRILLING SYSTEMS
5/29/2015	9,668.00	91.54	354.57	9,022.17	1,096.58	1,099.78	74.05	2.33	MWD	LEAM DRILLING SYSTEMS
5/29/2015	9,762.00	91.54	355.09	9,019.64	1,190.40	1,193.36	65.59	0.55	MWD	LEAM DRILLING SYSTEMS
5/29/2015	9,856.00	92.15	355.09	9,016.61	1,284.23	1,286.97	57.55	0.65	MWD	LEAM DRILLING SYSTEMS
5/29/2015	9,951.00	92.15	355.62	9,013.05	1,379.06	1,381.59	49.86	0.56	MWD	LEAM DRILLING SYSTEMS
5/29/2015	10,045.00	90.04	354.74	9,011.25	1,472.92	1,475.24	41.96	2.43	MWD	LEAM DRILLING SYSTEMS
5/29/2015	10,140.00	89.34	354.04	9,011.77	1,567.72	1,569.78	32.67	1.04	MWD	LEAM DRILLING SYSTEMS
5/29/2015	10,235.00	90.75	354.74	9,011.69	1,662.53	1,664.32	23.39	1.66	MWD	LEAM DRILLING SYSTEMS
5/29/2015	10,330.00	91.71	354.92	9,009.65	1,757.36	1,758.91	14.83	1.03	MWD	LEAM DRILLING SYSTEMS
5/29/2015	10,424.00	92.68	354.74	9,006.05	1,851.14	1,852.46	6.36	1.05	MWD	LEAM DRILLING SYSTEMS
5/29/2015	10,518.00	90.40	355.44	9,003.53	1,944.98	1,946.07	-1.68	2.54	MWD	LEAM DRILLING SYSTEMS
5/29/2015	10,612.00	89.60	355.09	9,003.53	2,038.87	2,039.75	-9.44	0.93	MWD	LEAM DRILLING SYSTEMS
5/29/2015	10,708.00	89.87	356.32	9,003.97	2,134.79	2,135.48	-16.63	1.31	MWD	LEAM DRILLING SYSTEMS
5/29/2015	10,803.00	90.75	357.20	9,003.46	2,229.76	2,230.32	-21.99	1.31	MWD	LEAM DRILLING SYSTEMS
5/29/2015	10,896.00	92.33	357.73	9,000.96	2,322.72	2,323.20	-26.11	1.79	MWD	LEAM DRILLING SYSTEMS
5/29/2015	10,991.00	93.30	358.26	8,996.29	2,417.60	2,418.02	-29.43	1.16	MWD	LEAM DRILLING SYSTEMS
5/29/2015	11,086.00	93.74	358.43	8,990.46	2,512.42	2,512.80	-32.16	0.50	MWD	LEAM DRILLING SYSTEMS
5/29/2015	11,180.00	92.42	359.14	8,985.41	2,606.27	2,606.64	-34.15	1.59	MWD	LEAM DRILLING SYSTEMS
5/29/2015	11,275.00	92.59	359.49	8,981.26	2,701.16	2,701.55	-35.29	0.41	MWD	LEAM DRILLING SYSTEMS
5/29/2015	11,370.00	89.96	357.20	8,979.14	2,796.12	2,796.47	-38.03	3.67	MWD	LEAM DRILLING SYSTEMS
5/29/2015	11,464.00	90.75	358.78	8,978.56	2,890.11	2,890.40	-41.33	1.88	MWD	LEAM DRILLING SYSTEMS
5/29/2015	11,559.00	91.28	359.49	8,976.88	2,985.08	2,985.38	-42.76	0.93	MWD	LEAM DRILLING SYSTEMS
5/29/2015	11,654.00	90.04	357.38	8,975.78	3,080.06	3,080.33	-45.36	2.58	MWD	LEAM DRILLING SYSTEMS
5/29/2015	11,749.00	89.78	355.97	8,975.93	3,175.03	3,175.17	-50.87	1.51	MWD	LEAM DRILLING SYSTEMS



Directional Survey

Well Name: THISTLE UNIT 26H

Sub-Division		Region		Field Name		County		State/Province	
DELAWARE BASIN		DELAWARE BASIN EAST		JOHNSON RANCH		LEA		NM	
Surface Legal Location		API/UWI		Latitude (°)		Longitude (°)		Orig KB Elevation (ft)	
SEC 22 23S 33E		3002542431		32° 17' 0.899" N		103° 33' 58.551" W		3,726.00	
								Ground Elev MSL (ft)	
								3,703.00	
								KB - GL (ft)	
								23.00	

Survey Data										
Date	MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	N/S (ft)	E/W (ft)	DLS (°/100ft)	Survey Tool	Survey Company
5/29/2015	11,844.00	88.72	354.92	8,977.18	3,269.93	3,269.85	-58.41	1.57	MWD	LEAM DRILLING SYSTEMS
5/29/2015	11,939.00	88.99	355.44	8,979.08	3,364.79	3,364.50	-66.39	0.62	MWD	LEAM DRILLING SYSTEMS
5/29/2015	12,034.00	88.02	355.27	8,981.55	3,459.65	3,459.15	-74.08	1.04	MWD	LEAM DRILLING SYSTEMS
5/29/2015	12,128.00	88.11	355.97	8,984.73	3,553.52	3,552.83	-81.26	0.75	MWD	LEAM DRILLING SYSTEMS
5/29/2015	12,223.00	88.46	356.50	8,987.57	3,648.43	3,647.58	-87.49	0.67	MWD	LEAM DRILLING SYSTEMS
5/29/2015	12,315.00	90.57	356.85	8,988.35	3,740.39	3,739.41	-92.83	2.32	MWD	LEAM DRILLING SYSTEMS
5/29/2015	12,410.00	91.19	356.15	8,986.89	3,835.35	3,834.22	-98.63	0.98	MWD	LEAM DRILLING SYSTEMS
5/29/2015	12,504.00	91.63	355.27	8,984.58	3,929.24	3,927.93	-105.66	1.05	MWD	LEAM DRILLING SYSTEMS
5/29/2015	12,598.00	91.80	355.97	8,981.76	4,023.12	4,021.61	-112.83	0.77	MWD	LEAM DRILLING SYSTEMS
5/29/2015	12,694.00	90.84	355.80	8,979.55	4,119.02	4,117.34	-119.72	1.02	MWD	LEAM DRILLING SYSTEMS
5/29/2015	12,788.00	88.20	355.09	8,980.34	4,212.91	4,211.03	-127.18	2.91	MWD	LEAM DRILLING SYSTEMS
5/29/2015	12,883.00	90.13	356.67	8,981.72	4,307.83	4,305.77	-134.01	2.63	MWD	LEAM DRILLING SYSTEMS
5/29/2015	12,977.00	91.36	357.20	8,980.50	4,401.80	4,399.62	-139.03	1.42	MWD	LEAM DRILLING SYSTEMS
5/29/2015	13,072.00	90.24	355.86	8,979.18	4,496.76	4,494.44	-144.78	1.84	MWD	LEAM DRILLING SYSTEMS
5/29/2015	13,166.00	90.35	355.67	8,978.69	4,590.68	4,588.18	-151.72	0.23	MWD	LEAM DRILLING SYSTEMS
5/29/2015	13,261.00	89.87	357.03	8,978.51	4,685.64	4,682.98	-157.77	1.52	MWD	LEAM DRILLING SYSTEMS
5/29/2015	13,354.00	88.90	356.76	8,979.51	4,778.61	4,775.84	-162.81	1.08	MWD	LEAM DRILLING SYSTEMS
5/29/2015	13,431.00	88.90	356.76	8,980.99	4,855.58	4,852.70	-167.16	0.00	BIT	LEAM DRILLING SYSTEMS