

Results of Directional Survey

API number:	30-025-41807		
OGRID:		Operator:	DEVON ENERGY PRODUCTION COMPANY, LP
		Property:	BILBREY 33 FEDERAL COM # 4H

surface	ULSTR:	I	33	T	21S	R	32E
				2600	FSL	1300	FEL

BH Loc	ULSTR:	A	28	T	21S	R	32E
18080	MD	10606.5	TVD	310	FNL	921	FEL
				10250	FSL		

Top Perf/OH	ULSTR:	I	33	T	21S	R	32E
10869	MD	10610.4	TVD	3036	FSL	841	FEL

Bot Perf/OH	ULSTR:	A	28	T	21S	R	32E
17985	MD	10614.3	TVD	412	FNL	920	FEL
				10148	FSL		

	MD	N/S	E/W	VD
	10864.00	430.62	458.82	10609.46
TOP PERFS/OH	10869.00	435.52	458.63	10610.43
	10896.00	461.95	457.59	10615.68
	17978.00	7540.97	380.63	10614.86
BOT PERFS/OH	17985.00	7547.95	380.50	10614.30
	18033.00	7595.78	379.63	10610.45

NEXT TO LAST	18033.00	7595.78	379.63	10610.45
LAST READING	18080.00	7650.43	378.89	10606.51
TD	18080.00	7650.43	378.89	10606.51

Surface Location	2600	FS	1300	FE
Projected BHL	10250	FS	921	FE
Location of				
Top Perfs/OH	3036	FS	841	FE
Bottom Perfs/OH	10148	FS	920	FE

SUMMARY of Subsurface Locations

Surface Location	I-33-21S-32E	2600	FS	1300	FE	Vert. Depth
Top Perfs/OH	I-33-21S-32E	3036	FS	841	FE	10610.43
Bottom Perfs/OH	A-28-21S-32E	10148	FS	920	FE	10614.30
Projected TD	A-28-21S-32E	10250	FS	921	FE	10606.51

DEC 23 2014



July 8, 2014

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

HOBBSD

DEC 12 2014

Attn: David Cook

RECEIVED

Re: **Bilbrey 33 Fed Com 4H**

Please find enclosed a copy of the survey from 0.00' to 4605.00' 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,

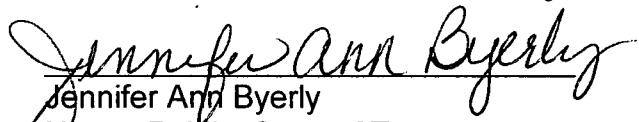

Keith Havelka
Operations

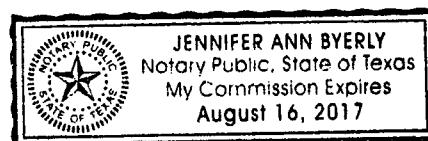
STATE OF TEXAS §

§

COUNTY OF NUECES §

This instrument was acknowledged before me on the 8 day of July,
A.D., 2014, by Keith Havelka.


Jennifer Ann Byerly
Notary Public, State of Texas





Company: Devon Energy
Lease/Well: Bilbrey 33 Fed Com/4H

Rig Name: H&P 394
State/County: New Mexico/Lea
Latitude: 32.44, Longitude: -103.68
GRID North is 0.35 Degrees East of True North
VS-Azi: 0.00 Degrees



HOBBSD

DEC 12 2014

RECEIVED

Depth Reference : RKB=25 Feet

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: gyro survey.ut
Minimum Curvature Method
Report Date/Time: 7/8/2014 / 15:16

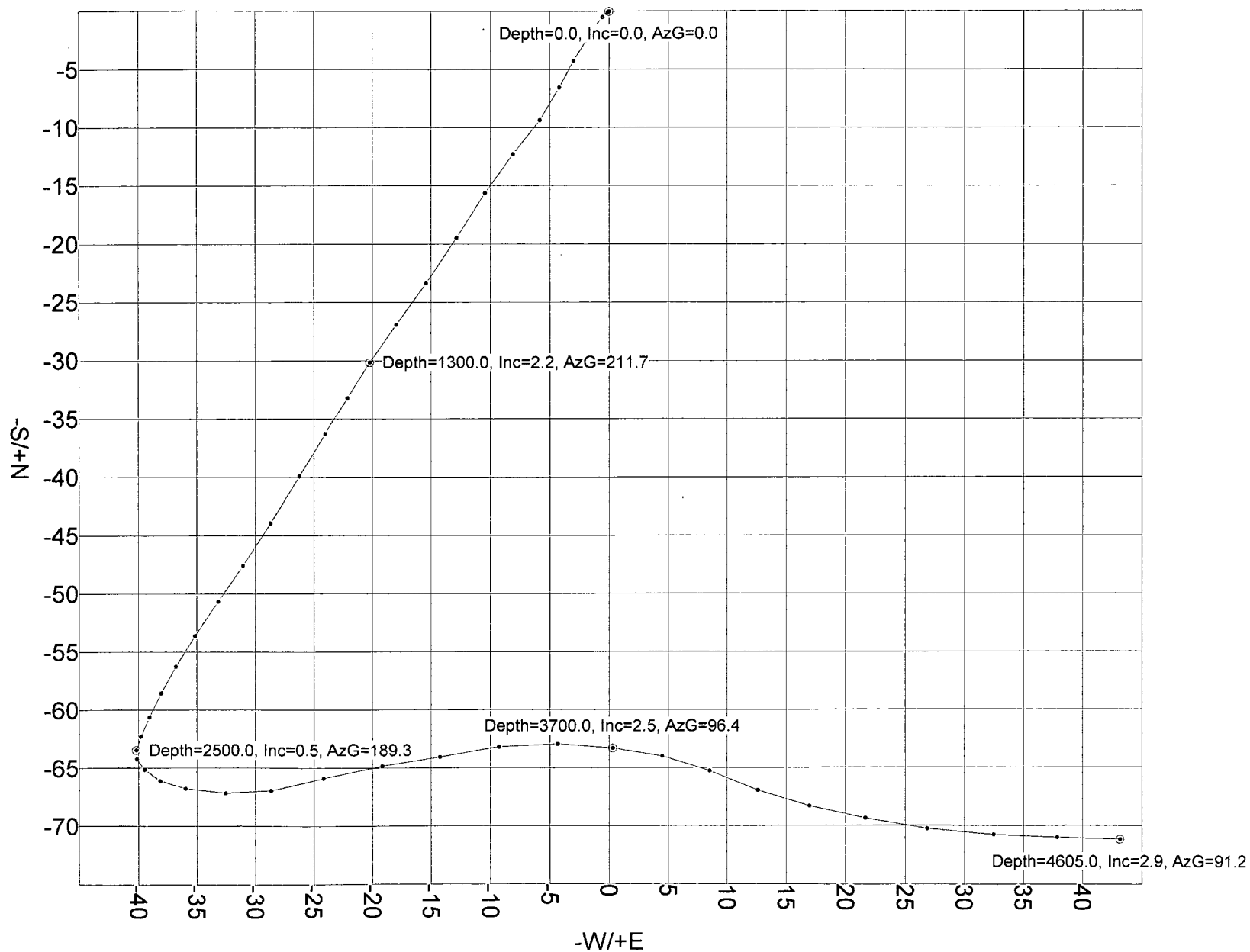
VES Survey International
West Texas
(432) 563-5444
Surveyor: Adam Gathright
Bilbrey 33 Fed Com 4H / API 30-025-41807

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	****
100.00	0.15	232.95	100.00	-0.08	-0.10	-0.08	0.13	232.95	0.15
200.00	0.57	225.54	200.00	-0.50	-0.56	-0.50	0.75	228.10	0.42
300.00	0.68	212.91	299.99	-1.35	-1.24	-1.35	1.83	222.52	0.18
400.00	0.95	209.65	399.98	-2.57	-1.97	-2.57	3.23	217.49	0.27
500.00	1.30	213.10	499.96	-4.24	-3.00	-4.24	5.19	215.28	0.36
600.00	1.71	203.99	599.93	-6.56	-4.23	-6.56	7.80	212.82	0.47
700.00	2.02	215.10	699.87	-9.36	-5.85	-9.36	11.04	211.99	0.47
800.00	2.22	219.38	799.81	-12.30	-8.09	-12.30	14.72	213.33	0.26
900.00	2.49	211.72	899.72	-15.64	-10.46	-15.64	18.81	213.77	0.41
1000.00	2.68	212.53	999.62	-19.46	-12.86	-19.46	23.32	213.45	0.20
1100.00	2.69	214.10	1099.51	-23.38	-15.43	-23.38	28.01	213.43	0.07
1200.00	2.31	217.55	1199.42	-26.92	-17.98	-26.92	32.37	213.74	0.41
1300.00	2.20	211.71	1299.34	-30.15	-20.21	-30.15	36.30	213.84	0.26
1400.00	1.94	211.73	1399.27	-33.22	-22.11	-33.22	39.91	213.65	0.26
1500.00	2.20	212.25	1499.21	-36.28	-24.03	-36.28	43.52	213.51	0.26
1600.00	2.68	210.59	1599.12	-39.92	-26.24	-39.92	47.77	213.32	0.48
1700.00	2.72	211.92	1699.01	-43.94	-28.68	-43.94	52.48	213.13	0.07
1800.00	2.26	214.27	1798.91	-47.59	-31.05	-47.59	56.82	213.12	0.47

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	2.01	215.10	1898.84	-50.65	-33.17	-50.65	60.55	213.22	0.25
2000.00	2.07	212.27	1998.78	-53.62	-35.14	-53.62	64.11	213.24	0.12
2100.00	1.48	210.81	2098.73	-56.26	-36.77	-56.26	67.21	213.17	0.59
2200.00	1.55	207.39	2198.69	-58.57	-38.05	-58.57	69.84	213.02	0.11
2300.00	1.09	203.57	2298.67	-60.64	-39.06	-60.64	72.13	212.79	0.46
2400.00	0.98	203.61	2398.65	-62.29	-39.78	-62.29	73.91	212.56	0.12
2500.00	0.47	189.33	2498.64	-63.47	-40.19	-63.47	75.13	212.34	0.54
2600.00	0.45	163.86	2598.64	-64.25	-40.14	-64.25	75.76	212.00	0.20
2700.00	0.91	133.94	2698.63	-65.17	-39.47	-65.17	76.19	211.20	0.56
2800.00	0.97	117.69	2798.62	-66.12	-38.14	-66.12	76.33	209.98	0.27
2900.00	1.66	100.61	2898.59	-66.78	-35.96	-66.78	75.85	208.30	0.79
3000.00	2.29	93.72	2998.53	-67.18	-32.55	-67.18	74.65	205.85	0.67
3100.00	2.22	79.73	3098.46	-66.96	-28.65	-66.96	72.83	203.16	0.55
3200.00	3.08	74.36	3198.35	-65.89	-24.15	-65.89	70.18	200.13	0.89
3300.00	2.78	82.25	3298.22	-64.84	-19.17	-64.84	67.61	196.47	0.50
3400.00	2.91	79.72	3398.10	-64.06	-14.27	-64.06	65.63	192.56	0.18
3500.00	2.88	81.15	3497.97	-63.22	-9.29	-63.22	63.90	188.36	0.08
3600.00	2.82	92.76	3597.85	-62.95	-4.36	-62.95	63.11	183.96	0.58
3700.00	2.55	96.39	3697.74	-63.32	0.30	-63.32	63.32	179.73	0.32
3800.00	2.31	102.25	3797.65	-63.99	4.48	-63.99	64.15	176.00	0.35
3900.00	2.56	112.50	3897.56	-65.28	8.51	-65.28	65.83	172.57	0.50
4000.00	2.51	111.58	3997.46	-66.94	12.61	-66.94	68.11	169.33	0.06
4100.00	2.71	103.74	4097.35	-68.30	16.94	-68.30	70.37	166.07	0.41
4200.00	2.80	101.70	4197.24	-69.36	21.63	-69.36	72.66	162.68	0.14
4300.00	3.26	98.00	4297.10	-70.25	26.84	-70.25	75.21	159.09	0.50
4400.00	3.23	92.49	4396.94	-70.77	32.47	-70.77	77.87	155.35	0.31
4500.00	2.94	92.27	4496.79	-71.00	37.85	-71.00	80.46	151.94	0.29
4605.00	2.86	91.17	4601.66	-71.16	43.16	-71.16	83.22	148.76	0.09



VES Survey International
West Texas
(432) 563-5444
Surveyor: Adam Gathright
Bilbrey 33 Fed Com 4H / API 30-025-41807



VES Survey Date: 06/29/2014



Directional Survey

District DELAWARE BASIN	County LEA	Field Name JOHNSON RANCH	Project Group DELAWARE BASIN REG	State/Province NM
Surface Legal Location Sec. 33 T21S R32E	API/UWI 3002541807	Latitude (°) 32° 26' 6.345" N	Longitude (°) 103° 40' 31.407" W	Ground Elev... 3,729.10
			KB - GL (ft) 25.00	Orig KB Elev (ft) 3,754.10
				Tubing Head Elevation (ft)

Wellbores

Wellbore Name OH	Parent Wellbore	SAP Well ID 35802	Kick Off Depth (ftKB) 10,050.0	Vertical Section Direction (°) 1.68
Actual Deviation Survey GYRO/MWD, Proposed? No	Definitive? Yes	Proposed? No	Proposed Deviation Survey	

Deviation Survey

Date 6/29/2014		Description GYRO/MWD			
MD Tie In (ftKB) 0.00	TVD Tie In (ftKB) 0.00	Inclination Tie In (°) 0.00	Azimuth Tie In (°) 0.00	NSTie In (ft) 0.00	EW Tie In (ft) 0.00

Survey Data

Date	MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	N/S (ft)	E/W (ft)	DLS (°/100ft)	Survey Tool	Survey Company
6/29/2014	100.00	0.15	232.92	100.00	-0.08	-0.08	-0.10	0.15	GYRO	VAUHGN ENERGY SERVICES
6/29/2014	200.00	0.57	225.54	200.00	-0.52	-0.51	-0.56	0.42	GYRO	VAUHGN ENERGY SERVICES
6/29/2014	300.00	0.68	212.91	299.99	-1.39	-1.35	-1.24	0.18	GYRO	VAUHGN ENERGY SERVICES
6/29/2014	400.00	0.95	209.65	399.98	-2.63	-2.57	-1.97	0.27	GYRO	VAUHGN ENERGY SERVICES
6/29/2014	500.00	1.30	213.10	499.96	-4.33	-4.24	-3.00	0.36	GYRO	VAUHGN ENERGY SERVICES
6/29/2014	600.00	1.71	203.99	599.93	-6.68	-6.56	-4.23	0.47	GYRO	VAUHGN ENERGY SERVICES
6/29/2014	700.00	2.02	215.10	699.87	-9.53	-9.36	-5.85	0.47	GYRO	VAUHGN ENERGY SERVICES
6/29/2014	800.00	2.22	219.38	799.81	-12.53	-12.30	-8.09	0.25	GYRO	VAUHGN ENERGY SERVICES
6/29/2014	900.00	2.49	211.72	899.72	-15.94	-15.64	-10.46	0.41	GYRO	VAUHGN ENERGY SERVICES
6/29/2014	1,000.00	2.68	212.53	999.62	-19.83	-19.46	-12.86	0.19	GYRO	VAUHGN ENERGY SERVICES
6/29/2014	1,100.00	2.69	214.10	1,099.51	-23.82	-23.38	-15.43	0.07	GYRO	VAUHGN ENERGY SERVICES
6/29/2014	1,200.00	2.31	217.55	1,199.42	-27.43	-26.92	-17.98	0.41	GYRO	VAUHGN ENERGY SERVICES
6/29/2014	1,300.00	2.20	211.71	1,299.34	-30.73	-30.15	-20.22	0.25	GYRO	VAUHGN ENERGY SERVICES
6/29/2014	1,400.00	1.94	211.73	1,399.27	-33.86	-33.22	-22.11	0.26	GYRO	VAUHGN ENERGY SERVICES
6/29/2014	1,500.00	2.20	212.25	1,499.21	-36.97	-36.28	-24.03	0.26	GYRO	VAUHGN ENERGY SERVICES
6/29/2014	1,600.00	2.68	210.59	1,599.12	-40.67	-39.92	-26.24	0.49	GYRO	VAUHGN ENERGY SERVICES
6/29/2014	1,700.00	2.72	211.92	1,699.01	-44.77	-43.95	-28.69	0.07	GYRO	VAUHGN ENERGY SERVICES
6/29/2014	1,800.00	2.26	214.27	1,798.91	-48.48	-47.59	-31.05	0.47	GYRO	VAUHGN ENERGY SERVICES
6/29/2014	1,900.00	2.01	215.10	1,898.84	-51.61	-50.65	-33.17	0.25	GYRO	VAUHGN ENERGY SERVICES
6/29/2014	2,000.00	2.07	212.27	1,998.78	-54.62	-53.62	-35.14	0.12	GYRO	VAUHGN ENERGY SERVICES
6/29/2014	2,100.00	1.48	210.81	2,098.73	-57.31	-56.25	-36.77	0.59	GYRO	VAUHGN ENERGY SERVICES
6/29/2014	2,200.00	1.55	207.39	2,198.69	-59.65	-58.56	-38.05	0.11	GYRO	VAUHGN ENERGY SERVICES
6/29/2014	2,300.00	1.09	203.57	2,298.67	-61.75	-60.64	-39.06	0.47	GYRO	VAUHGN ENERGY SERVICES
6/29/2014	2,400.00	0.98	203.61	2,398.65	-63.43	-62.29	-39.78	0.11	GYRO	VAUHGN ENERGY SERVICES
6/29/2014	2,500.00	0.47	189.33	2,498.64	-64.63	-63.48	-40.19	0.54	GYRO	VAUHGN ENERGY SERVICES
6/29/2014	2,600.00	0.45	163.86	2,598.64	-65.41	-64.26	-40.14	0.20	GYRO	VAUHGN ENERGY SERVICES
6/29/2014	2,700.00	0.91	133.94	2,698.63	-66.32	-65.19	-39.46	0.57	GYRO	VAUHGN ENERGY SERVICES
6/29/2014	2,800.00	0.97	117.69	2,798.62	-67.22	-66.13	-38.14	0.27	GYRO	VAUHGN ENERGY SERVICES
6/29/2014	2,900.00	1.66	100.61	2,898.59	-67.82	-66.79	-35.97	0.79	GYRO	VAUHGN ENERGY SERVICES
6/29/2014	3,000.00	2.29	93.72	2,998.53	-68.12	-67.19	-32.55	0.67	GYRO	VAUHGN ENERGY SERVICES
6/29/2014	3,100.00	2.22	79.73	3,098.46	-67.79	-66.97	-28.65	0.55	GYRO	VAUHGN ENERGY SERVICES
6/29/2014	3,200.00	3.08	74.36	3,198.35	-66.58	-65.90	-24.16	0.89	GYRO	VAUHGN ENERGY SERVICES
6/29/2014	3,300.00	2.78	82.25	3,298.22	-65.39	-64.85	-19.17	0.50	GYRO	VAUHGN ENERGY SERVICES
6/29/2014	3,400.00	2.91	79.72	3,398.10	-64.46	-64.07	-14.27	0.18	GYRO	VAUHGN ENERGY SERVICES
6/29/2014	3,500.00	2.88	81.15	3,497.97	-63.48	-63.23	-9.29	0.08	GYRO	VAUHGN ENERGY SERVICES
6/29/2014	3,600.00	2.82	92.76	3,597.84	-63.07	-62.97	-4.35	0.58	GYRO	VAUHGN ENERGY SERVICES
6/29/2014	3,700.00	2.55	96.39	3,697.73	-63.30	-63.33	0.32	0.32	GYRO	VAUHGN ENERGY SERVICES
6/29/2014	3,800.00	2.31	102.25	3,797.65	-63.85	-64.01	4.50	0.35	GYRO	VAUHGN ENERGY SERVICES
6/29/2014	3,900.00	2.56	112.50	3,897.56	-65.01	-65.29	8.53	0.50	GYRO	VAUHGN ENERGY SERVICES
6/29/2014	4,000.00	2.51	111.58	3,997.46	-66.55	-66.95	12.63	0.06	GYRO	VAUHGN ENERGY SERVICES
6/29/2014	4,100.00	2.71	103.74	4,097.35	-67.79	-68.32	16.96	0.41	GYRO	VAUHGN ENERGY SERVICES
6/29/2014	4,200.00	2.80	101.70	4,197.24	-68.71	-69.37	21.65	0.13	GYRO	VAUHGN ENERGY SERVICES
6/29/2014	4,300.00	3.26	98.00	4,297.10	-69.45	-70.26	26.86	0.50	GYRO	VAUHGN ENERGY SERVICES
6/29/2014	4,400.00	3.23	92.49	4,396.94	-69.80	-70.78	32.49	0.31	GYRO	VAUHGN ENERGY SERVICES
6/29/2014	4,500.00	2.94	92.27	4,496.79	-69.87	-71.01	37.87	0.29	GYRO	VAUHGN ENERGY SERVICES
6/29/2014	4,605.00	2.86	91.17	4,601.66	-69.87	-71.17	43.18	0.09	GYRO	VAUHGN ENERGY SERVICES
7/1/2014	4,819.00	2.70	94.40	4,815.41	-70.06	-71.66	53.54	0.10	MWD	LEAM DRILLING SYSTEMS



BILBREY 33 FED COM 4H

WEST UNRESTRICTED

Directional Survey

District DELAWARE BASIN	County LEA	Field Name JOHNSON RANCH	Project Group DELAWARE BASIN REG	State/Province NM			
Surface Legal Location Sec. 33 T21S R32E	API/UWI 3002541807	Latitude (°) 32° 26' 6.345" N	Longitude (°) 103° 40' 31.407" W	Ground Elev... 3,729.10	KB - GL (ft) 25.00	Orig KB Elev (ft) 3,754.10	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
7/2/2014	4,914.00	2.40	97.00	4,910.31	-70.35	-72.08	57.74	0.34	MWD	LEAM DRILLING SYSTEMS
7/2/2014	5,008.00	2.60	102.70	5,004.22	-70.94	-72.78	61.78	0.34	MWD	LEAM DRILLING SYSTEMS
7/2/2014	5,103.00	2.60	98.30	5,099.13	-71.60	-73.57	66.01	0.21	MWD	LEAM DRILLING SYSTEMS
7/2/2014	5,198.00	2.90	89.80	5,194.02	-71.77	-73.87	70.55	0.53	MWD	LEAM DRILLING SYSTEMS
7/2/2014	5,292.00	4.00	87.70	5,287.84	-71.47	-73.73	76.20	1.18	MWD	LEAM DRILLING SYSTEMS
7/2/2014	5,387.00	4.00	87.20	5,382.61	-70.98	-73.44	82.82	0.04	MWD	LEAM DRILLING SYSTEMS
7/2/2014	5,482.00	4.90	91.60	5,477.33	-70.71	-73.39	90.19	1.01	MWD	LEAM DRILLING SYSTEMS
7/2/2014	5,576.00	5.00	89.80	5,570.98	-70.57	-73.49	98.30	0.20	MWD	LEAM DRILLING SYSTEMS
7/2/2014	5,671.00	4.90	90.40	5,665.62	-70.35	-73.50	106.49	0.12	MWD	LEAM DRILLING SYSTEMS
7/2/2014	5,766.00	5.20	92.10	5,760.25	-70.29	-73.69	114.85	0.35	MWD	LEAM DRILLING SYSTEMS
7/2/2014	5,861.00	5.20	90.40	5,854.86	-70.22	-73.87	123.46	0.16	MWD	LEAM DRILLING SYSTEMS
7/2/2014	5,954.00	5.20	93.20	5,947.48	-70.24	-74.14	131.88	0.27	MWD	LEAM DRILLING SYSTEMS
7/2/2014	6,048.00	5.20	89.10	6,041.09	-70.16	-74.31	140.39	0.40	MWD	LEAM DRILLING SYSTEMS
7/2/2014	6,143.00	5.20	91.90	6,135.70	-69.98	-74.38	149.00	0.27	MWD	LEAM DRILLING SYSTEMS
7/2/2014	6,238.00	5.10	88.40	6,230.32	-69.76	-74.41	157.52	0.35	MWD	LEAM DRILLING SYSTEMS
7/2/2014	6,332.00	5.00	91.80	6,323.95	-69.53	-74.42	165.80	0.34	MWD	LEAM DRILLING SYSTEMS
7/2/2014	6,427.00	4.70	88.80	6,418.61	-69.34	-74.47	173.82	0.41	MWD	LEAM DRILLING SYSTEMS
7/2/2014	6,521.00	5.20	89.30	6,512.26	-68.97	-74.34	181.93	0.53	MWD	LEAM DRILLING SYSTEMS
7/2/2014	6,616.00	5.30	89.00	6,606.86	-68.59	-74.21	190.63	0.11	MWD	LEAM DRILLING SYSTEMS
7/2/2014	6,710.00	5.20	88.40	6,700.47	-68.14	-74.01	199.22	0.12	MWD	LEAM DRILLING SYSTEMS
7/2/2014	6,805.00	5.20	91.40	6,795.08	-67.87	-74.00	207.83	0.29	MWD	LEAM DRILLING SYSTEMS
7/2/2014	6,899.00	4.60	88.80	6,888.74	-67.66	-74.02	215.86	0.68	MWD	LEAM DRILLING SYSTEMS
7/2/2014	6,993.00	4.10	88.30	6,982.46	-67.28	-73.85	222.99	0.53	MWD	LEAM DRILLING SYSTEMS
7/2/2014	7,088.00	4.80	90.70	7,077.18	-67.01	-73.79	230.36	0.76	MWD	LEAM DRILLING SYSTEMS
7/2/2014	7,183.00	4.90	91.10	7,171.84	-66.90	-73.92	238.39	0.11	MWD	LEAM DRILLING SYSTEMS
7/2/2014	7,277.00	4.80	96.70	7,265.50	-67.20	-74.46	246.31	0.51	MWD	LEAM DRILLING SYSTEMS
7/3/2014	7,372.00	5.20	87.70	7,360.14	-67.25	-74.75	254.56	0.93	MWD	LEAM DRILLING SYSTEMS
7/3/2014	7,466.00	5.20	83.20	7,453.75	-66.33	-74.07	263.04	0.43	MWD	LEAM DRILLING SYSTEMS
7/3/2014	7,561.00	4.90	92.10	7,548.39	-65.72	-73.71	271.37	0.88	MWD	LEAM DRILLING SYSTEMS
7/3/2014	7,655.00	4.70	96.50	7,642.06	-66.08	-74.29	279.21	0.45	MWD	LEAM DRILLING SYSTEMS
7/3/2014	7,750.00	4.30	102.50	7,736.77	-67.07	-75.50	286.55	0.65	MWD	LEAM DRILLING SYSTEMS
7/3/2014	7,845.00	3.80	95.10	7,831.53	-67.93	-76.56	293.17	0.76	MWD	LEAM DRILLING SYSTEMS
7/3/2014	7,939.00	4.70	88.40	7,925.27	-67.89	-76.72	300.12	1.09	MWD	LEAM DRILLING SYSTEMS
7/3/2014	8,034.00	5.30	91.10	8,019.91	-67.63	-76.70	308.40	0.68	MWD	LEAM DRILLING SYSTEMS
7/3/2014	8,128.00	5.50	94.90	8,113.49	-67.83	-77.17	317.23	0.44	MWD	LEAM DRILLING SYSTEMS
7/3/2014	8,222.00	5.50	94.90	8,207.06	-68.34	-77.94	326.20	0.00	MWD	LEAM DRILLING SYSTEMS
7/3/2014	8,317.00	5.90	87.70	8,301.59	-68.26	-78.13	335.62	0.86	MWD	LEAM DRILLING SYSTEMS
7/3/2014	8,411.00	6.00	82.80	8,395.08	-67.16	-77.32	345.32	0.55	MWD	LEAM DRILLING SYSTEMS
7/3/2014	8,506.00	5.50	83.20	8,489.61	-65.73	-76.16	354.77	0.53	MWD	LEAM DRILLING SYSTEMS
7/3/2014	8,600.00	4.90	86.30	8,583.22	-64.69	-75.37	363.24	0.70	MWD	LEAM DRILLING SYSTEMS
7/3/2014	8,695.00	5.50	91.40	8,677.83	-64.28	-75.22	371.84	0.80	MWD	LEAM DRILLING SYSTEMS
7/3/2014	8,790.00	4.90	89.50	8,772.44	-64.11	-75.29	380.45	0.66	MWD	LEAM DRILLING SYSTEMS
7/3/2014	8,885.00	3.90	90.20	8,867.15	-63.87	-75.27	387.74	1.05	MWD	LEAM DRILLING SYSTEMS
7/4/2014	8,979.00	3.90	89.80	8,960.94	-63.68	-75.27	394.13	0.03	MWD	LEAM DRILLING SYSTEMS
7/4/2014	9,074.00	3.80	91.10	9,055.72	-63.54	-75.32	400.51	0.14	MWD	LEAM DRILLING SYSTEMS
7/4/2014	9,169.00	3.90	77.70	9,150.51	-62.73	-74.69	406.82	0.95	MWD	LEAM DRILLING SYSTEMS
7/4/2014	9,264.00	4.50	75.10	9,245.25	-60.89	-73.04	413.58	0.66	MWD	LEAM DRILLING SYSTEMS
7/4/2014	9,358.00	5.60	87.90	9,338.89	-59.53	-71.93	421.72	1.67	MWD	LEAM DRILLING SYSTEMS
7/4/2014	9,453.00	5.30	91.90	9,433.46	-59.24	-71.90	430.74	0.51	MWD	LEAM DRILLING SYSTEMS
7/4/2014	9,548.00	4.40	88.10	9,528.12	-59.03	-71.93	438.77	1.01	MWD	LEAM DRILLING SYSTEMS
7/5/2014	9,643.00	4.10	78.40	9,622.86	-58.03	-71.12	445.74	0.82	MWD	LEAM DRILLING SYSTEMS
7/5/2014	9,738.00	2.70	58.20	9,717.69	-56.01	-69.26	450.97	1.92	MWD	LEAM DRILLING SYSTEMS
7/5/2014	9,832.00	2.50	45.00	9,811.60	-53.30	-66.64	454.30	0.67	MWD	LEAM DRILLING SYSTEMS
7/5/2014	9,927.00	1.70	45.20	9,906.53	-50.77	-64.19	456.76	0.84	MWD	LEAM DRILLING SYSTEMS
7/5/2014	9,994.00	1.10	55.70	9,973.51	-49.67	-63.12	458.00	0.97	MWD	LEAM DRILLING SYSTEMS



Directional Survey

District DELAWARE BASIN	County LEA	Field Name JOHNSON RANCH	Project Group DELAWARE BASIN REG			State/Province NM	
Surface Legal Location Sec. 33 T21S R32E	API/UWI 3002541807	Latitude (°) 32° 26' 6.345" N	Longitude (°) 103° 40' 31.407" W	Ground Elev... 3,729.10	KB - GL (ft) 25.00	Orig KB Elev (ft) 3,754.10	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
7/6/2014	10,043.00	1.10	44.70	10,022.50	-49.05	-62.52	458.72	0.43	MWD	LEAM DRILLING SYSTEMS
7/6/2014	10,074.00	4.00	14.20	10,053.47	-47.78	-61.26	459.19	10.01	MWD	LEAM DRILLING SYSTEMS
7/6/2014	10,106.00	8.00	8.10	10,085.29	-44.47	-57.98	459.78	12.64	MWD	LEAM DRILLING SYSTEMS
7/6/2014	10,138.00	11.90	5.50	10,116.80	-38.97	-52.49	460.41	12.27	MWD	LEAM DRILLING SYSTEMS
7/6/2014	10,169.00	15.80	5.60	10,146.90	-31.56	-45.10	461.13	12.58	MWD	LEAM DRILLING SYSTEMS
7/6/2014	10,201.00	19.40	3.00	10,177.39	-21.90	-35.46	461.83	11.51	MWD	LEAM DRILLING SYSTEMS
7/6/2014	10,233.00	22.30	1.20	10,207.30	-10.51	-24.08	462.24	9.28	MWD	LEAM DRILLING SYSTEMS
7/6/2014	10,264.00	25.40	1.40	10,235.64	2.02	-11.55	462.52	10.00	MWD	LEAM DRILLING SYSTEMS
7/6/2014	10,296.00	28.30	2.80	10,264.19	16.47	2.89	463.06	9.27	MWD	LEAM DRILLING SYSTEMS
7/6/2014	10,327.00	30.50	1.60	10,291.20	31.69	18.10	463.64	7.35	MWD	LEAM DRILLING SYSTEMS
7/6/2014	10,359.00	32.30	0.50	10,318.51	48.36	34.77	463.94	5.90	MWD	LEAM DRILLING SYSTEMS
7/6/2014	10,390.00	34.50	359.80	10,344.39	65.41	51.83	463.98	7.20	MWD	LEAM DRILLING SYSTEMS
7/6/2014	10,422.00	36.20	359.00	10,370.49	83.91	70.34	463.79	5.51	MWD	LEAM DRILLING SYSTEMS
7/6/2014	10,454.00	38.90	358.60	10,395.86	103.39	89.84	463.38	8.47	MWD	LEAM DRILLING SYSTEMS
7/6/2014	10,486.00	41.70	358.40	10,420.26	124.05	110.53	462.83	8.76	MWD	LEAM DRILLING SYSTEMS
7/6/2014	10,517.00	44.40	358.40	10,442.91	145.18	131.68	462.24	8.71	MWD	LEAM DRILLING SYSTEMS
7/6/2014	10,549.00	47.70	358.60	10,465.12	168.17	154.71	461.64	10.32	MWD	LEAM DRILLING SYSTEMS
7/6/2014	10,580.00	50.60	359.00	10,485.39	191.59	178.15	461.15	9.41	MWD	LEAM DRILLING SYSTEMS
7/6/2014	10,612.00	53.20	359.50	10,505.14	216.75	203.33	460.82	8.22	MWD	LEAM DRILLING SYSTEMS
7/6/2014	10,644.00	55.90	0.50	10,523.69	242.80	229.39	460.83	8.81	MWD	LEAM DRILLING SYSTEMS
7/6/2014	10,675.00	59.10	0.90	10,540.35	268.94	255.53	461.15	10.38	MWD	LEAM DRILLING SYSTEMS
7/6/2014	10,706.00	63.00	0.70	10,555.35	296.06	282.65	461.53	12.59	MWD	LEAM DRILLING SYSTEMS
7/6/2014	10,738.00	65.70	359.80	10,569.20	324.89	311.49	461.65	8.81	MWD	LEAM DRILLING SYSTEMS
7/7/2014	10,770.00	68.50	359.30	10,581.65	354.35	340.97	461.42	8.87	MWD	LEAM DRILLING SYSTEMS
7/7/2014	10,801.00	71.20	358.80	10,592.33	383.42	370.06	460.93	8.84	MWD	LEAM DRILLING SYSTEMS
7/7/2014	10,833.00	74.22	357.90	10,601.84	413.91	400.60	460.05	9.81	MWD	LEAM DRILLING SYSTEMS
7/7/2014	10,864.00	77.30	357.40	10,609.46	443.88	430.62	458.82	10.06	MWD	LEAM DRILLING SYSTEMS
7/7/2014	10,896.00	80.30	358.10	10,615.68	475.20	461.98	457.59	9.62	MWD	LEAM DRILLING SYSTEMS
7/7/2014	10,928.00	83.10	358.30	10,620.30	506.80	493.63	456.59	8.77	MWD	LEAM DRILLING SYSTEMS
7/7/2014	10,959.00	85.40	358.60	10,623.40	537.59	524.46	455.76	7.48	MWD	LEAM DRILLING SYSTEMS
7/8/2014	10,974.00	86.40	358.40	10,624.48	552.53	539.41	455.37	6.80	MWD	LEAM DRILLING SYSTEMS
7/8/2014	11,006.00	88.70	358.30	10,625.84	584.45	571.37	454.45	7.19	MWD	LEAM DRILLING SYSTEMS
7/8/2014	11,037.00	90.20	358.10	10,626.14	615.39	602.35	453.47	4.88	MWD	LEAM DRILLING SYSTEMS
7/8/2014	11,068.00	90.60	358.30	10,625.93	646.33	633.34	452.50	1.44	MWD	LEAM DRILLING SYSTEMS
7/8/2014	11,165.00	91.50	358.40	10,624.15	743.15	730.28	449.71	0.93	MWD	LEAM DRILLING SYSTEMS
7/8/2014	11,259.00	90.30	358.60	10,622.67	836.99	824.23	447.25	1.29	MWD	LEAM DRILLING SYSTEMS
7/8/2014	11,354.00	90.80	359.00	10,621.76	931.87	919.21	445.26	0.67	MWD	LEAM DRILLING SYSTEMS
7/8/2014	11,449.00	91.50	359.30	10,619.85	1,026.75	1,014.18	443.85	0.80	MWD	LEAM DRILLING SYSTEMS
7/8/2014	11,544.00	91.40	359.30	10,617.45	1,121.64	1,109.14	442.69	0.11	MWD	LEAM DRILLING SYSTEMS
7/8/2014	11,639.00	90.50	359.30	10,615.87	1,216.54	1,204.12	441.53	0.95	MWD	LEAM DRILLING SYSTEMS
7/8/2014	11,734.00	91.00	0.00	10,614.63	1,311.48	1,299.11	440.95	0.91	MWD	LEAM DRILLING SYSTEMS
7/8/2014	11,828.00	91.50	0.70	10,612.58	1,405.43	1,393.08	441.52	0.91	MWD	LEAM DRILLING SYSTEMS
7/8/2014	11,923.00	90.30	0.40	10,611.09	1,500.40	1,488.06	442.43	1.30	MWD	LEAM DRILLING SYSTEMS
7/8/2014	12,018.00	90.70	0.50	10,610.26	1,595.37	1,583.06	443.18	0.43	MWD	LEAM DRILLING SYSTEMS
7/9/2014	12,112.00	91.00	1.10	10,608.86	1,689.35	1,677.04	444.49	0.71	MWD	LEAM DRILLING SYSTEMS
7/9/2014	12,207.00	91.20	1.40	10,607.04	1,784.33	1,772.00	446.56	0.38	MWD	LEAM DRILLING SYSTEMS
7/9/2014	12,302.00	91.70	1.90	10,604.64	1,879.30	1,866.93	449.30	0.74	MWD	LEAM DRILLING SYSTEMS
7/9/2014	12,396.00	90.60	1.20	10,602.75	1,973.27	1,960.87	451.84	1.39	MWD	LEAM DRILLING SYSTEMS
7/10/2014	12,491.00	90.80	1.80	10,601.59	2,068.27	2,055.83	454.33	0.67	MWD	LEAM DRILLING SYSTEMS
7/10/2014	12,586.00	90.40	1.60	10,600.59	2,163.26	2,150.78	457.14	0.47	MWD	LEAM DRILLING SYSTEMS
7/10/2014	12,680.00	89.40	359.80	10,600.76	2,257.24	2,244.77	458.29	2.19	MWD	LEAM DRILLING SYSTEMS
7/10/2014	12,775.00	89.50	0.20	10,601.67	2,352.20	2,339.77	458.29	0.43	MWD	LEAM DRILLING SYSTEMS
7/10/2014	12,870.00	89.10	359.80	10,602.83	2,447.15	2,434.76	458.29	0.60	MWD	LEAM DRILLING SYSTEMS
7/10/2014	12,964.00	88.70	359.00	10,604.64	2,541.06	2,528.74	457.31	0.95	MWD	LEAM DRILLING SYSTEMS
7/11/2014	13,059.00	88.80	359.10	10,606.71	2,635.93	2,623.70	455.73	0.15	MWD	LEAM DRILLING SYSTEMS



BILBREY 33 FED COM 4H

WEST UNRESTRICTED

Directional Survey

District DELAWARE BASIN	County LEA	Field Name JOHNSON RANCH	Project Group DELAWARE BASIN REG	State/Province NM
Surface Legal Location Sec. 33 T21S R32E	API/UWI 3002541807	Latitude (°) 32° 26' 6.345" N	Longitude (°) 103° 40' 31.407" W	Ground Elev... 3,729.10
			KB - GL (ft) 25.00	Orig KB Elev (ft) 3,754.10
				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
7/11/2014	13,153.00	89.20	359.70	10,608.35	2,729.84	2,717.68	454.75	0.77	MWD	LEAM DRILLING SYSTEMS
7/11/2014	13,247.00	89.80	358.60	10,609.17	2,823.75	2,811.66	453.36	1.33	MWD	LEAM DRILLING SYSTEMS
7/11/2014	13,342.00	89.90	358.80	10,609.42	2,918.62	2,906.64	451.20	0.24	MWD	LEAM DRILLING SYSTEMS
7/11/2014	13,436.00	89.60	359.30	10,609.83	3,012.52	3,000.63	449.64	0.62	MWD	LEAM DRILLING SYSTEMS
7/11/2014	13,531.00	90.30	358.80	10,609.91	3,107.42	3,095.61	448.07	0.91	MWD	LEAM DRILLING SYSTEMS
7/11/2014	13,625.00	89.69	358.80	10,609.92	3,201.30	3,189.59	446.10	0.65	MWD	LEAM DRILLING SYSTEMS
7/11/2014	13,720.00	89.30	359.00	10,610.76	3,296.18	3,284.57	444.27	0.46	MWD	LEAM DRILLING SYSTEMS
7/11/2014	13,815.00	90.00	359.30	10,611.34	3,391.09	3,379.56	442.87	0.80	MWD	LEAM DRILLING SYSTEMS
7/11/2014	13,909.00	90.50	358.80	10,610.93	3,484.99	3,473.54	441.31	0.75	MWD	LEAM DRILLING SYSTEMS
7/11/2014	14,004.00	90.70	359.00	10,609.93	3,579.87	3,568.52	439.48	0.30	MWD	LEAM DRILLING SYSTEMS
7/11/2014	14,098.00	90.50	359.30	10,608.95	3,673.77	3,662.50	438.09	0.38	MWD	LEAM DRILLING SYSTEMS
7/11/2014	14,193.00	90.10	358.80	10,608.45	3,768.67	3,757.49	436.51	0.67	MWD	LEAM DRILLING SYSTEMS
7/11/2014	14,287.00	89.80	359.10	10,608.53	3,862.56	3,851.47	434.79	0.45	MWD	LEAM DRILLING SYSTEMS
7/12/2014	14,382.00	89.80	359.10	10,608.86	3,957.47	3,946.46	433.30	0.00	MWD	LEAM DRILLING SYSTEMS
7/12/2014	14,476.00	89.70	359.30	10,609.27	4,051.38	4,040.45	431.99	0.24	MWD	LEAM DRILLING SYSTEMS
7/12/2014	14,571.00	89.30	0.00	10,610.10	4,146.31	4,135.44	431.41	0.85	MWD	LEAM DRILLING SYSTEMS
7/12/2014	14,665.00	89.00	359.80	10,611.50	4,240.26	4,229.43	431.24	0.38	MWD	LEAM DRILLING SYSTEMS
7/12/2014	14,770.00	89.60	0.40	10,612.78	4,345.21	4,334.42	431.43	0.81	MWD	LEAM DRILLING SYSTEMS
7/12/2014	14,854.00	90.10	0.70	10,613.00	4,429.19	4,418.42	432.23	0.69	MWD	LEAM DRILLING SYSTEMS
7/12/2014	14,949.00	89.70	359.70	10,613.17	4,524.16	4,513.42	432.56	1.13	MWD	LEAM DRILLING SYSTEMS
7/12/2014	15,043.00	90.20	359.10	10,613.25	4,618.08	4,607.41	431.58	0.83	MWD	LEAM DRILLING SYSTEMS
7/12/2014	15,138.00	90.50	359.00	10,612.67	4,712.98	4,702.40	430.00	0.33	MWD	LEAM DRILLING SYSTEMS
7/13/2014	15,232.00	90.50	358.30	10,611.85	4,806.85	4,796.37	427.79	0.74	MWD	LEAM DRILLING SYSTEMS
7/13/2014	15,327.00	91.10	359.10	10,610.52	4,901.71	4,891.33	425.63	1.05	MWD	LEAM DRILLING SYSTEMS
7/13/2014	15,421.00	90.10	359.50	10,609.54	4,995.62	4,985.32	424.49	1.15	MWD	LEAM DRILLING SYSTEMS
7/13/2014	15,516.00	90.00	359.10	10,609.45	5,090.54	5,080.31	423.33	0.43	MWD	LEAM DRILLING SYSTEMS
7/13/2014	15,611.00	89.50	358.60	10,609.87	5,185.42	5,175.29	421.42	0.74	MWD	LEAM DRILLING SYSTEMS
7/13/2014	15,705.00	89.30	358.80	10,610.85	5,279.29	5,269.26	419.29	0.30	MWD	LEAM DRILLING SYSTEMS
7/13/2014	15,799.00	90.40	359.00	10,611.10	5,373.18	5,363.24	417.48	1.19	MWD	LEAM DRILLING SYSTEMS
7/13/2014	15,894.00	91.90	359.30	10,609.19	5,468.06	5,458.21	416.07	1.61	MWD	LEAM DRILLING SYSTEMS
7/13/2014	15,988.00	91.40	359.70	10,606.48	5,561.95	5,552.17	415.25	0.68	MWD	LEAM DRILLING SYSTEMS
7/13/2014	16,083.00	89.30	358.60	10,605.90	5,656.85	5,647.15	413.84	2.50	MWD	LEAM DRILLING SYSTEMS
7/17/2014	16,177.00	88.80	358.40	10,607.46	5,750.69	5,741.10	411.38	0.57	MWD	LEAM DRILLING SYSTEMS
7/17/2014	16,274.00	88.30	359.80	10,609.92	5,847.56	5,838.06	409.86	1.53	MWD	LEAM DRILLING SYSTEMS
7/17/2014	16,369.00	89.60	359.70	10,611.66	5,942.49	5,933.04	409.45	1.37	MWD	LEAM DRILLING SYSTEMS
7/17/2014	16,464.00	88.90	358.80	10,612.90	6,037.39	6,028.02	408.20	1.20	MWD	LEAM DRILLING SYSTEMS
7/17/2014	16,558.00	88.20	358.10	10,615.28	6,131.21	6,121.95	405.66	1.05	MWD	LEAM DRILLING SYSTEMS
7/17/2014	16,653.00	88.30	358.60	10,618.18	6,226.01	6,216.87	402.93	0.54	MWD	LEAM DRILLING SYSTEMS
7/17/2014	16,748.00	88.40	359.10	10,620.92	6,320.85	6,311.81	401.02	0.54	MWD	LEAM DRILLING SYSTEMS
7/17/2014	16,843.00	88.50	359.80	10,623.49	6,415.75	6,406.77	400.11	0.74	MWD	LEAM DRILLING SYSTEMS
7/17/2014	16,937.00	89.20	358.80	10,625.37	6,509.64	6,500.74	398.96	1.30	MWD	LEAM DRILLING SYSTEMS
7/17/2014	17,032.00	88.90	357.90	10,626.95	6,604.47	6,595.69	396.23	1.00	MWD	LEAM DRILLING SYSTEMS
7/17/2014	17,127.00	88.70	358.60	10,628.94	6,699.28	6,690.62	393.33	0.77	MWD	LEAM DRILLING SYSTEMS
7/17/2014	17,222.00	89.00	358.80	10,630.84	6,794.13	6,785.58	391.17	0.38	MWD	LEAM DRILLING SYSTEMS
7/17/2014	17,316.00	89.60	359.30	10,631.99	6,888.02	6,879.56	389.61	0.83	MWD	LEAM DRILLING SYSTEMS
7/17/2014	17,411.00	89.70	359.80	10,632.57	6,982.96	6,974.55	388.87	0.54	MWD	LEAM DRILLING SYSTEMS
7/17/2014	17,506.00	89.90	0.40	10,632.91	7,077.92	7,069.55	389.03	0.67	MWD	LEAM DRILLING SYSTEMS
7/17/2014	17,600.00	91.00	359.00	10,632.17	7,171.86	7,163.54	388.54	1.89	MWD	LEAM DRILLING SYSTEMS
7/17/2014	17,694.00	91.00	359.30	10,630.53	7,265.75	7,257.52	387.15	0.32	MWD	LEAM DRILLING SYSTEMS
7/17/2014	17,789.00	92.90	358.60	10,627.29	7,360.58	7,352.44	385.41	2.13	MWD	LEAM DRILLING SYSTEMS
7/17/2014	17,884.00	93.90	358.40	10,621.66	7,455.27	7,447.24	382.92	1.07	MWD	LEAM DRILLING SYSTEMS
7/17/2014	17,978.00	94.40	358.80	10,614.86	7,548.89	7,540.97	380.63	0.68	MWD	LEAM DRILLING SYSTEMS
7/18/2014	18,033.00	94.80	359.10	10,610.45	7,603.65	7,595.78	379.63	0.91	MWD	LEAM DRILLING SYSTEMS
7/18/2014	18,080.00	94.80	359.10	10,606.51	7,650.43	7,642.61	378.89	0.00	BIT	LEAM DRILLING SYSTEMS