

**Ryan Directional Services
Directional Drilling Report**

**Field: Crockett Co, Tx
Site: University East 4107 AH
Well: 4107 AH
Wellpath: 4107 AH**

Prepared For:

EP Energy E&P Company, L.P.



Ryan Directional Services.

19510 Oil Center Blvd
Houston, TX 77073
Ph: 281-443-1414
Fx: 281-443-1676

www.ryanenergy.com



EP Energy E&P Company, L.P.

Field: Crockett Co, Tx
Site: University East 4107 AH
Well: 4107 AH
Wellpath: 4107 AH



Azimuths to Grid North
True North: 0.45°
Magnetic North: 6.48°

Magnetic Field
Strength: 47856nT
Dip Angle: 59.36°
Date: 4/9/2014
Model: IGRF2010

FIELD DETAILS

Crockett Co, Tx
Texas
USA

Geodetic System: US State Plane Coordinate System 1927
Ellipsoid: NAD27 (Clarke 1866)
Zone: Texas, Central Zone
Magnetic Model: IGRF2010

System Datum: Mean Sea Level
Local North: Grid North

WELLPATH DETAILS

4107 AH
Rig: Noram 21
Ref. Datum: SITE 2709.50ft
V. Section Angle: 180.65°
Origin +N/-S: 0.00
Origin +E/-W: 0.00
Starting From TVD: 0.00

SITE DETAILS

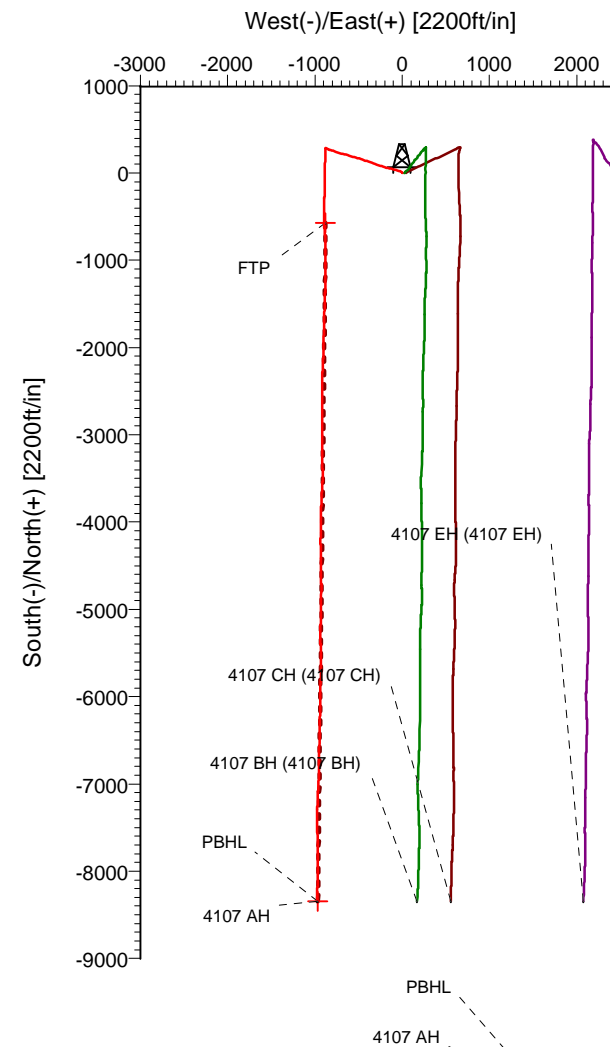
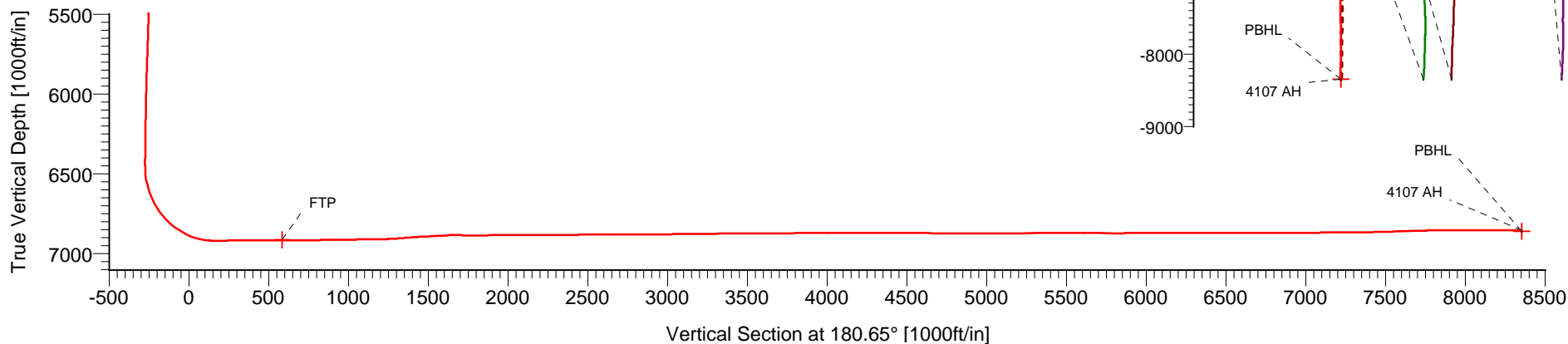
University East 4107 AH
Crockett Co, TX

Site Centre Northing: 491454.00
Easting: 1724611.00

Ground Level: 2680.00
Positional Uncertainty: 2.00
Convergence: -0.45

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL	6860.00	-8342.00	-972.00	483112.00	1723639.00	30°59'31.341N	101°12'55.288W	Point
FTP	6913.10	-573.00	-884.00	490881.00	1723727.00	31°00'48.247N	101°12'54.985W	Point



Company: EP Energy E&P Company, L.P.	Date: 4/23/2014	Time: 08:52:52	Page: 1
Field: Crockett Co, Tx	Co-ordinate(NE) Reference: Site: University East 4107 AH, Grid Nort		
Site: University East 4107 AH	Vertical (TVD) Reference: SITE 2709.5		
Well: 4107 AH	Section (VS) Reference: Well (0.00N,0.00E,180.65Azi)		
Wellpath: 4107 AH	Survey Calculation Method: Minimum Curvature	Db: Sybase	

Field: Crockett Co, Tx Texas USA	Map Zone: Texas, Central Zone
Map System: US State Plane Coordinate System 1927	Coordinate System: Site Centre
Geo Datum: NAD27 (Clarke 1866)	Geomagnetic Model: IGRF2010
Sys Datum: Mean Sea Level	

Site: University East 4107 AH

Crockett Co, TX

Site Position:	Northing: 491454.00 ft	Latitude: 31 0 53.988 N
From: Map	Easting: 1724611.00 ft	Longitude: 101 12 44.878 W
Position Uncertainty: 2.00 ft		North Reference: Grid
Ground Level: 2680.00 ft		Grid Convergence: -0.45 deg

Well: 4107 AH

Slot Name:

Well Position: +N/-S 0.00 ft	Northing: 491454.00 ft	Latitude: 31 0 53.988 N
+E/-W 0.00 ft	Easting: 1724611.00 ft	Longitude: 101 12 44.878 W
Position Uncertainty: 0.00 ft		

Wellpath: 4107 AH

Drilled From: Surface
Tie-on Depth: 0.00 ft
Above System Datum: Mean Sea Level
Declination: 6.03 deg
Mag Dip Angle: 59.36 deg
Direction: deg

Current Datum: SITE	Height 2709.50 ft
Magnetic Data: 4/9/2014	
Field Strength: 47856 nT	
Vertical Section: Depth From (TVD) ft	+N/-S ft
0.00	0.00

+E/-W ft	0.00
Direction deg	180.65

Survey Program for Definitive Wellpath

Date: 4/23/2014	Validated: No	Version: 1
Actual From ft	To ft	Toolcode
129.50	924.50	Gyro
1090.00	15402.00	Ryan MWD
15447.00	15447.00	Projection

Tool Name

Gyro
Ryan MWD
Projected to TD

Survey

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
0.00	0.00	0.00	0.00	0.00	0.00	-0.00	0.00	0.00	0.00	TIE LINE
129.50	0.15	304.95	129.50	0.10	-0.14	-0.10	0.12	0.12	0.00	Gyro
229.50	0.06	122.34	229.50	0.14	-0.20	-0.14	0.21	-0.09	177.39	Gyro
329.50	0.19	112.49	329.50	0.05	0.00	-0.05	0.13	0.13	-9.85	Gyro
429.50	0.21	91.74	429.50	-0.02	0.33	0.01	0.07	0.02	-20.75	Gyro
529.50	0.33	83.31	529.50	0.01	0.80	-0.02	0.13	0.12	-8.43	Gyro
629.50	0.30	93.95	629.50	0.03	1.35	-0.04	0.07	-0.03	10.64	Gyro
729.50	0.39	73.39	729.49	0.11	1.94	-0.13	0.15	0.09	-20.56	Gyro
829.50	0.36	83.39	829.49	0.24	2.57	-0.27	0.07	-0.03	10.00	Gyro
924.50	0.46	345.61	924.49	0.64	2.78	-0.68	0.65	0.11	-102.93	Gyro
1090.00	0.30	51.70	1089.99	1.56	2.95	-1.59	0.26	-0.10	39.93	Ryan MWD
1185.00	2.80	309.60	1184.95	3.19	1.36	-3.20	3.03	2.63	-107.47	Ryan MWD
1279.00	5.10	309.80	1278.72	7.33	-3.62	-7.29	2.45	2.45	0.21	Ryan MWD
1374.00	7.60	298.80	1373.13	13.06	-12.37	-12.92	2.91	2.63	-11.58	Ryan MWD
1469.00	9.90	292.70	1467.02	19.24	-25.41	-18.95	2.61	2.42	-6.42	Ryan MWD
1564.00	9.90	293.50	1560.61	25.65	-40.44	-25.18	0.14	0.00	0.84	Ryan MWD
1659.00	10.90	284.70	1654.05	31.18	-56.62	-30.54	1.97	1.05	-9.26	Ryan MWD
1754.00	11.30	284.70	1747.28	35.82	-74.31	-34.98	0.42	0.42	0.00	Ryan MWD
1849.00	11.30	284.70	1840.43	40.55	-92.31	-39.50	0.00	0.00	0.00	Ryan MWD
1944.00	11.50	284.30	1933.56	45.25	-110.49	-43.99	0.23	0.21	-0.42	Ryan MWD
2038.00	11.40	282.70	2025.69	49.60	-128.63	-48.14	0.35	-0.11	-1.70	Ryan MWD

Company: EP Energy E&P Company, L.P.	Date: 4/23/2014	Time: 08:52:52	Page: 2
Field: Crockett Co, Tx	Co-ordinate(NE) Reference:	Site: University East 4107 AH, Grid Nort	
Site: University East 4107 AH	Vertical (TVD) Reference:	SITE 2709.5	
Well: 4107 AH	Section (VS) Reference:	Well (0.00N,0.00E,180.65Azi)	
Wellpath: 4107 AH	Survey Calculation Method:	Minimum Curvature	Db: Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
2134.00	11.40	282.30	2119.80	53.71	-147.16	-52.04	0.08	0.00	-0.42	Ryan MWD
2229.00	11.30	282.00	2212.94	57.65	-165.44	-55.77	0.12	-0.11	-0.32	Ryan MWD
2324.00	10.50	281.80	2306.22	61.35	-183.02	-59.27	0.84	-0.84	-0.21	Ryan MWD
2418.00	11.90	289.10	2398.44	66.27	-200.56	-64.00	2.12	1.49	7.77	Ryan MWD
2513.00	11.30	289.00	2491.49	72.51	-218.61	-70.03	0.63	-0.63	-0.11	Ryan MWD
2608.00	10.10	289.70	2584.84	78.35	-235.26	-75.67	1.27	-1.26	0.74	Ryan MWD
2703.00	11.80	288.30	2678.11	84.21	-252.32	-81.34	1.81	1.79	-1.47	Ryan MWD
2798.00	13.90	288.00	2770.72	90.78	-272.40	-87.69	2.21	2.21	-0.32	Ryan MWD
2893.00	12.70	286.30	2863.17	97.24	-293.28	-93.91	1.33	-1.26	-1.79	Ryan MWD
2988.00	10.70	285.70	2956.20	102.56	-311.79	-99.02	2.11	-2.11	-0.63	Ryan MWD
3083.00	11.70	288.70	3049.39	108.03	-329.41	-104.29	1.22	1.05	3.16	Ryan MWD
3178.00	12.70	289.70	3142.24	114.64	-348.36	-110.68	1.08	1.05	1.05	Ryan MWD
3273.00	11.60	291.10	3235.11	121.60	-367.11	-117.43	1.20	-1.16	1.47	Ryan MWD
3368.00	12.90	290.70	3327.95	128.79	-385.94	-124.40	1.37	1.37	-0.42	Ryan MWD
3463.00	12.40	291.20	3420.64	136.23	-405.37	-131.62	0.54	-0.53	0.53	Ryan MWD
3558.00	10.80	291.50	3513.70	143.18	-423.16	-138.37	1.69	-1.68	0.32	Ryan MWD
3653.00	11.30	288.40	3606.94	149.38	-440.27	-144.37	0.82	0.53	-3.26	Ryan MWD
3748.00	11.80	287.70	3700.01	155.27	-458.36	-150.06	0.55	0.53	-0.74	Ryan MWD
3843.00	12.30	285.30	3792.92	160.89	-477.37	-155.47	0.74	0.53	-2.53	Ryan MWD
3938.00	10.60	284.70	3886.02	165.78	-495.59	-160.15	1.79	-1.79	-0.63	Ryan MWD
4033.00	11.50	285.30	3979.26	170.49	-513.17	-164.66	0.96	0.95	0.63	Ryan MWD
4127.00	12.60	287.30	4071.19	176.02	-532.00	-169.97	1.25	1.17	2.13	Ryan MWD
4222.00	11.00	284.30	4164.18	181.34	-550.68	-175.08	1.80	-1.68	-3.16	Ryan MWD
4317.00	11.70	284.70	4257.32	186.02	-568.78	-179.56	0.74	0.74	0.42	Ryan MWD
4411.00	12.40	286.90	4349.25	191.37	-587.65	-184.69	0.89	0.74	2.34	Ryan MWD
4507.00	12.20	288.50	4443.05	197.59	-607.13	-190.69	0.41	-0.21	1.67	Ryan MWD
4602.00	11.90	288.20	4535.95	203.83	-625.96	-196.72	0.32	-0.32	-0.32	Ryan MWD
4697.00	11.70	285.60	4628.95	209.48	-644.54	-202.16	0.60	-0.21	-2.74	Ryan MWD
4792.00	12.30	284.60	4721.87	214.62	-663.61	-207.08	0.67	0.63	-1.05	Ryan MWD
4887.00	11.00	283.20	4814.91	219.24	-682.23	-211.49	1.40	-1.37	-1.47	Ryan MWD
4982.00	12.20	285.00	4907.97	223.91	-700.75	-215.95	1.32	1.26	1.89	Ryan MWD
5077.00	12.20	284.80	5000.82	229.07	-720.15	-220.89	0.04	0.00	-0.21	Ryan MWD
5172.00	13.10	287.20	5093.52	234.82	-740.14	-226.41	1.10	0.95	2.53	Ryan MWD
5267.00	12.00	286.80	5186.25	240.86	-759.88	-232.22	1.16	-1.16	-0.42	Ryan MWD
5362.00	11.50	293.40	5279.26	247.47	-778.02	-238.63	1.51	-0.53	6.95	Ryan MWD
5457.00	10.60	291.20	5372.50	254.40	-794.86	-245.36	1.05	-0.95	-2.32	Ryan MWD
5552.00	9.10	289.20	5466.10	260.03	-810.10	-250.82	1.62	-1.58	-2.11	Ryan MWD
5647.00	7.70	286.10	5560.07	264.26	-823.31	-254.91	1.55	-1.47	-3.26	Ryan MWD
5742.00	6.90	283.90	5654.30	267.40	-834.97	-257.91	0.89	-0.84	-2.32	Ryan MWD
5837.00	6.30	290.60	5748.68	270.60	-845.39	-261.00	1.03	-0.63	7.05	Ryan MWD
5931.00	5.10	290.80	5842.21	273.90	-854.12	-264.19	1.28	-1.28	0.21	Ryan MWD
6026.00	4.50	290.60	5936.87	276.71	-861.56	-266.92	0.63	-0.63	-0.21	Ryan MWD
6121.00	3.80	286.70	6031.63	278.93	-868.06	-269.06	0.79	-0.74	-4.11	Ryan MWD
6217.00	2.20	303.80	6127.49	280.87	-872.64	-270.95	1.89	-1.67	17.81	Ryan MWD
6312.00	1.70	304.30	6222.44	282.68	-875.32	-272.73	0.53	-0.53	0.53	Ryan MWD
6407.00	1.40	303.50	6317.40	284.11	-877.45	-274.14	0.32	-0.32	-0.84	Ryan MWD
6502.00	0.90	299.40	6412.38	285.12	-879.07	-275.13	0.53	-0.53	-4.32	Ryan MWD
6564.00	1.80	208.50	6474.37	284.50	-879.96	-274.50	3.27	1.45	-146.61	Ryan MWD
6595.00	5.40	191.20	6505.30	282.64	-880.47	-272.63	12.00	11.61	-55.81	Ryan MWD
6627.00	10.00	182.00	6537.01	278.38	-880.86	-268.37	14.84	14.37	-28.75	Ryan MWD
6659.00	14.50	181.50	6568.27	271.60	-881.06	-261.59	14.07	14.06	-1.56	Ryan MWD
6690.00	17.70	182.60	6598.05	263.01	-881.38	-252.99	10.37	10.32	3.55	Ryan MWD
6722.00	21.00	182.40	6628.24	252.42	-881.84	-242.40	10.31	10.31	-0.62	Ryan MWD
6754.00	23.90	180.70	6657.81	240.21	-882.16	-230.18	9.29	9.06	-5.31	Ryan MWD

Company: EP Energy E&P Company, L.P.
Field: Crockett Co, Tx
Site: University East 4107 AH
Well: 4107 AH
Wellpath: 4107 AH

Date: 4/23/2014
Co-ordinate(NE) Reference: Site: University East 4107 AH, Grid Nort
Vertical (TVD) Reference: SITE 2709.5
Section (VS) Reference: Well (0.00N,0.00E,180.65Azi)
Survey Calculation Method: Minimum Curvature **Db:** Sybase

Page: 3

Survey

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
6785.00	27.40	178.70	6685.75	226.79	-882.08	-216.77	11.63	11.29	-6.45	Ryan MWD
6817.00	31.60	179.10	6713.60	211.04	-881.78	-201.02	13.14	13.12	1.25	Ryan MWD
6848.00	35.60	180.90	6739.42	193.89	-881.79	-183.87	13.30	12.90	5.81	Ryan MWD
6880.00	39.60	181.70	6764.76	174.37	-882.24	-164.35	12.59	12.50	2.50	Ryan MWD
6911.00	44.00	182.10	6787.87	153.73	-882.93	-143.70	14.22	14.19	1.29	Ryan MWD
6943.00	48.50	182.10	6809.99	130.63	-883.77	-120.60	14.06	14.06	0.00	Ryan MWD
6974.00	52.60	181.60	6829.68	106.71	-884.54	-96.67	13.28	13.23	-1.61	Ryan MWD
7006.00	56.70	181.10	6848.19	80.63	-885.16	-70.58	12.88	12.81	-1.56	Ryan MWD
7038.00	60.20	180.80	6864.94	53.37	-885.61	-43.32	10.97	10.94	-0.94	Ryan MWD
7069.00	64.10	180.40	6879.41	25.96	-885.89	-15.91	12.63	12.58	-1.29	Ryan MWD
7101.00	69.00	180.10	6892.14	-3.38	-886.02	13.44	15.34	15.31	-0.94	Ryan MWD
7132.00	73.80	180.10	6902.03	-32.76	-886.07	42.81	15.48	15.48	0.00	Ryan MWD
7164.00	78.30	180.20	6909.74	-63.81	-886.15	73.85	14.07	14.06	0.31	Ryan MWD
7196.00	82.10	180.50	6915.19	-95.33	-886.34	105.38	11.91	11.87	0.94	Ryan MWD
7284.00	91.90	182.00	6919.79	-183.08	-888.26	193.15	11.27	11.14	1.70	Ryan MWD
7379.00	91.20	182.50	6917.22	-277.97	-891.99	288.07	0.91	-0.74	0.53	Ryan MWD
7474.00	90.20	180.10	6916.06	-372.93	-894.15	383.05	2.74	-1.05	-2.53	Ryan MWD
7569.00	90.30	180.50	6915.64	-467.93	-894.64	478.05	0.43	0.11	0.42	Ryan MWD
7664.00	90.00	179.40	6915.39	-562.93	-894.56	573.04	1.20	-0.32	-1.16	Ryan MWD
7759.00	89.80	174.00	6915.56	-657.73	-889.10	667.78	5.69	-0.21	-5.68	Ryan MWD
7854.00	90.30	177.00	6915.48	-752.43	-881.64	762.38	3.20	0.53	3.16	Ryan MWD
7949.00	90.70	179.80	6914.65	-847.38	-878.99	857.30	2.98	0.42	2.95	Ryan MWD
8045.00	90.10	181.10	6913.98	-943.37	-879.74	953.29	1.49	-0.62	1.35	Ryan MWD
8139.00	92.70	182.50	6911.68	-1037.29	-882.69	1047.23	3.14	2.77	1.49	Ryan MWD
8234.00	89.70	178.60	6909.69	-1132.23	-883.60	1142.18	5.18	-3.16	-4.11	Ryan MWD
8329.00	91.60	179.30	6908.61	-1227.21	-881.86	1237.13	2.13	2.00	0.74	Ryan MWD
8424.00	95.10	181.70	6903.06	-1322.02	-882.69	1331.95	4.46	3.68	2.53	Ryan MWD
8519.00	93.40	182.20	6896.02	-1416.70	-885.91	1426.66	1.86	-1.79	0.53	Ryan MWD
8614.00	93.10	182.10	6890.64	-1511.48	-889.47	1521.47	0.33	-0.32	-0.11	Ryan MWD
8709.00	93.10	181.40	6885.50	-1606.30	-892.37	1616.32	0.74	0.00	-0.74	Ryan MWD
8804.00	87.60	181.50	6884.92	-1701.23	-894.77	1711.27	5.79	-5.79	0.11	Ryan MWD
8899.00	90.80	181.60	6886.25	-1796.17	-897.34	1806.23	3.37	3.37	0.11	Ryan MWD
8994.00	91.20	181.30	6884.59	-1891.13	-899.74	1901.21	0.53	0.42	-0.32	Ryan MWD
9089.00	90.80	181.60	6882.93	-1986.08	-902.15	1996.19	0.53	-0.42	0.32	Ryan MWD
9184.00	89.10	181.60	6883.01	-2081.04	-904.80	2091.17	1.79	-1.79	0.00	Ryan MWD
9280.00	91.10	183.20	6882.84	-2176.95	-908.82	2187.12	2.67	2.08	1.67	Ryan MWD
9375.00	90.10	182.50	6881.85	-2271.82	-913.54	2282.04	1.28	-1.05	-0.74	Ryan MWD
9470.00	89.80	181.60	6881.93	-2366.76	-916.94	2377.01	1.00	-0.32	-0.95	Ryan MWD
9565.00	91.00	180.80	6881.27	-2461.74	-918.93	2472.00	1.52	1.26	-0.84	Ryan MWD
9659.00	89.20	179.40	6881.11	-2555.73	-919.09	2565.99	2.43	-1.91	-1.49	Ryan MWD
9754.00	91.30	180.50	6880.69	-2650.72	-919.01	2660.98	2.50	2.21	1.16	Ryan MWD
9849.00	90.90	180.60	6878.87	-2745.70	-919.92	2755.96	0.43	-0.42	0.11	Ryan MWD
9944.00	89.10	179.20	6878.87	-2840.69	-919.76	2850.94	2.40	-1.89	-1.47	Ryan MWD
10039.00	90.30	179.80	6879.36	-2935.69	-918.93	2945.92	1.41	1.26	0.63	Ryan MWD
10134.00	91.20	180.40	6878.12	-3030.68	-919.09	3040.91	1.14	0.95	0.63	Ryan MWD
10229.00	90.20	178.50	6876.96	-3125.66	-918.18	3135.87	2.26	-1.05	-2.00	Ryan MWD
10324.00	90.70	179.20	6876.21	-3220.64	-916.27	3230.82	0.91	0.53	0.74	Ryan MWD
10419.00	90.90	179.30	6874.89	-3315.62	-915.03	3325.79	0.24	0.21	0.11	Ryan MWD
10514.00	90.80	178.30	6873.48	-3410.59	-913.04	3420.72	1.06	-0.11	-1.05	Ryan MWD
10608.00	90.20	181.30	6872.66	-3504.57	-912.71	3514.70	3.25	-0.64	3.19	Ryan MWD
10703.00	90.10	183.80	6872.41	-3599.47	-916.94	3609.64	2.63	-0.11	2.63	Ryan MWD
10798.00	90.10	183.10	6872.24	-3694.30	-922.66	3704.52	0.74	0.00	-0.74	Ryan MWD
10894.00	90.70	182.40	6871.57	-3790.18	-927.26	3800.46	0.96	0.62	-0.73	Ryan MWD

Company: EP Energy E&P Company, L.P.
Field: Crockett Co, Tx
Site: University East 4107 AH
Well: 4107 AH
Wellpath: 4107 AH

Date: 4/23/2014
Co-ordinate(NE) Reference: Site: University East 4107 AH, Grid Nort
Vertical (TVD) Reference: SITE 2709.5
Section (VS) Reference: Well (0.00N,0.00E,180.65Azi)
Survey Calculation Method: Minimum Curvature **Db:** Sybase

Page: 4

Survey

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
10989.00	89.50	180.90	6871.41	-3885.14	-930.00	3895.44	2.02	-1.26	-1.58	Ryan MWD
11084.00	90.50	181.60	6871.41	-3980.11	-932.07	3990.43	1.28	1.05	0.74	Ryan MWD
11179.00	90.40	180.80	6870.66	-4075.09	-934.06	4085.42	0.85	-0.11	-0.84	Ryan MWD
11274.00	90.20	180.90	6870.16	-4170.08	-935.47	4180.42	0.24	-0.21	0.11	Ryan MWD
11369.00	89.40	179.20	6870.50	-4265.07	-935.55	4275.41	1.98	-0.84	-1.79	Ryan MWD
11464.00	89.80	179.60	6871.16	-4360.06	-934.56	4370.39	0.60	0.42	0.42	Ryan MWD
11559.00	91.10	180.20	6870.41	-4455.06	-934.39	4465.37	1.51	1.37	0.63	Ryan MWD
11654.00	89.00	178.00	6870.33	-4550.04	-932.90	4560.33	3.20	-2.21	-2.32	Ryan MWD
11749.00	89.30	178.10	6871.74	-4644.97	-929.67	4655.22	0.33	0.32	0.11	Ryan MWD
11844.00	90.00	180.10	6872.32	-4739.95	-928.17	4750.18	2.23	0.74	2.11	Ryan MWD
11938.00	89.90	180.20	6872.40	-4833.95	-928.42	4844.17	0.15	-0.11	0.11	Ryan MWD
12033.00	90.20	182.10	6872.32	-4928.93	-930.33	4939.16	2.02	0.32	2.00	Ryan MWD
12128.00	89.90	181.20	6872.24	-5023.89	-933.06	5034.15	1.00	-0.32	-0.95	Ryan MWD
12223.00	90.00	180.80	6872.32	-5118.87	-934.72	5129.15	0.43	0.11	-0.42	Ryan MWD
12318.00	90.50	181.60	6871.90	-5213.85	-936.71	5224.14	0.99	0.53	0.84	Ryan MWD
12413.00	90.50	179.80	6871.07	-5308.83	-937.87	5319.13	1.89	0.00	-1.89	Ryan MWD
12508.00	90.50	177.30	6870.25	-5403.79	-935.47	5414.06	2.63	0.00	-2.63	Ryan MWD
12603.00	89.50	177.70	6870.25	-5498.70	-931.32	5508.91	1.13	-1.05	0.42	Ryan MWD
12698.00	89.80	180.70	6870.83	-5593.68	-930.00	5603.87	3.17	0.32	3.16	Ryan MWD
12792.00	89.70	181.60	6871.24	-5687.66	-931.88	5697.86	0.96	-0.11	0.96	Ryan MWD
12887.00	89.70	181.60	6871.73	-5782.62	-934.54	5792.85	0.00	0.00	0.00	Ryan MWD
12981.00	90.70	181.60	6871.41	-5876.58	-937.16	5886.83	1.06	1.06	0.00	Ryan MWD
13077.00	90.50	182.10	6870.40	-5972.53	-940.26	5982.81	0.56	-0.21	0.52	Ryan MWD
13172.00	90.20	179.40	6869.82	-6067.51	-941.50	6077.80	2.86	-0.32	-2.84	Ryan MWD
13266.00	90.40	181.20	6869.33	-6161.50	-942.00	6171.79	1.93	0.21	1.91	Ryan MWD
13361.00	90.20	180.20	6868.83	-6256.49	-943.16	6266.79	1.07	-0.21	-1.05	Ryan MWD
13456.00	89.90	181.90	6868.75	-6351.47	-944.90	6361.78	1.82	-0.32	1.79	Ryan MWD
13550.00	89.80	182.10	6868.99	-6445.41	-948.18	6455.76	0.24	-0.11	0.21	Ryan MWD
13645.00	90.00	180.30	6869.16	-6540.39	-950.17	6550.75	1.91	0.21	-1.89	Ryan MWD
13740.00	89.90	180.40	6869.24	-6635.39	-950.75	6645.75	0.15	-0.11	0.11	Ryan MWD
13836.00	89.90	179.70	6869.41	-6731.39	-950.83	6741.74	0.73	0.00	-0.73	Ryan MWD
13930.00	89.80	181.40	6869.66	-6825.38	-951.73	6835.74	1.81	-0.11	1.81	Ryan MWD
14026.00	90.60	183.20	6869.32	-6921.30	-955.59	6931.69	2.05	0.83	1.87	Ryan MWD
14121.00	90.10	183.30	6868.74	-7016.14	-960.97	7026.59	0.54	-0.53	0.11	Ryan MWD
14215.00	90.80	183.40	6868.00	-7109.98	-966.46	7120.48	0.75	0.74	0.11	Ryan MWD
14311.00	90.10	181.70	6867.25	-7205.87	-970.73	7216.42	1.92	-0.73	-1.77	Ryan MWD
14406.00	90.80	182.30	6866.50	-7300.81	-974.05	7311.39	0.97	0.74	0.63	Ryan MWD
14501.00	90.70	179.40	6865.26	-7395.78	-975.46	7406.37	3.05	-0.11	-3.05	Ryan MWD
14597.00	91.90	178.70	6863.08	-7491.74	-973.87	7502.31	1.45	1.25	-0.73	Ryan MWD
14692.00	92.00	178.50	6859.85	-7586.66	-971.55	7597.19	0.24	0.11	-0.21	Ryan MWD
14787.00	92.00	178.20	6856.53	-7681.56	-968.81	7692.06	0.32	0.00	-0.32	Ryan MWD
14882.00	90.00	178.60	6854.87	-7776.51	-966.16	7786.97	2.15	-2.11	0.42	Ryan MWD
14977.00	91.70	180.40	6853.46	-7871.48	-965.33	7881.93	2.61	1.79	1.89	Ryan MWD
15072.00	89.50	181.40	6852.47	-7966.46	-966.83	7976.92	2.54	-2.32	1.05	Ryan MWD
15167.00	89.40	180.80	6853.38	-8061.44	-968.65	8071.91	0.64	-0.11	-0.63	Ryan MWD
15262.00	89.80	182.20	6854.05	-8156.40	-971.14	8166.89	1.53	0.42	1.47	Ryan MWD
15356.00	90.40	181.10	6853.88	-8250.36	-973.84	8260.88	1.33	0.64	-1.17	Ryan MWD
15402.00	89.30	178.80	6854.00	-8296.36	-973.80	8306.87	5.54	-2.39	-5.00	Ryan MWD
15447.00	89.30	178.80	6854.55	-8341.34	-972.86	8351.84	0.00	0.00	0.00	Projection

Company: EP Energy E&P Company, L.P.	Date: 4/23/2014	Time: 08:51:56	Page: 1
Field: Crockett Co, Tx	Co-ordinate(NE) Reference:	Site: University East 4107 AH, Grid Nort	
Site: University East 4107 AH	Vertical (TVD) Reference:	SITE 2709.5	
Well: 4107 AH	Section (VS) Reference:	Well (0.00N,0.00E,180.65Azi)	
Wellpath: 4107 AH	Survey Calculation Method:	Minimum Curvature	Db: Sybase

Field: Crockett Co, Tx Texas USA	Map Zone: Texas, Central Zone
Map System: US State Plane Coordinate System 1927	Coordinate System: Site Centre
Geo Datum: NAD27 (Clarke 1866)	Geomagnetic Model: IGRF2010
Sys Datum: Mean Sea Level	

Site: University East 4107 AH

Crockett Co, TX

Site Position:	Northing: 491454.00 ft	Latitude: 31 0 53.988 N	
From: Map	Easting: 1724611.00 ft	Longitude: 101 12 44.878 W	
Position Uncertainty: 2.00 ft		North Reference: Grid	
Ground Level: 2680.00 ft		Grid Convergence: -0.45 deg	

Well: 4107 AH

Slot Name:

Well Position: +N/-S 0.00 ft	Northing: 491454.00 ft	Latitude: 31 0 53.988 N	
+E/-W 0.00 ft	Easting: 1724611.00 ft	Longitude: 101 12 44.878 W	
Position Uncertainty: 0.00 ft			

Wellpath: 4107 AH

Drilled From: Surface	
Tie-on Depth: 0.00 ft	
Above System Datum: Mean Sea Level	
Declination: 6.03 deg	
Mag Dip Angle: 59.36 deg	
+E/-W	Direction
ft	deg

Current Datum: SITE	Height 2709.50 ft	
Magnetic Data: 4/9/2014		
Field Strength: 47856 nT		
Vertical Section: Depth From (TVD)	+N/-S	
ft	ft	
0.00	0.00	0.00 180.65

Survey

MD ft	Incl deg	TVD ft	VS ft	Azim deg	N/S ft	E/W ft	ClsD ft	ClsA deg	DLS deg/100ft	Tool
0.00	0.00	0.00	-0.00	0.00	0.00	0.00	0.00	0.00	0.00	TIE LINE
129.50	0.15	129.50	-0.10	304.95	0.10	-0.14	0.17	304.95	0.12	Gyro
229.50	0.06	229.50	-0.14	122.34	0.14	-0.20	0.25	305.50	0.21	Gyro
329.50	0.19	329.50	-0.05	112.49	0.05	0.00	0.05	355.05	0.13	Gyro
429.50	0.21	429.50	0.01	91.74	-0.02	0.33	0.33	92.82	0.07	Gyro
529.50	0.33	529.50	-0.02	83.31	0.01	0.80	0.80	89.17	0.13	Gyro
629.50	0.30	629.50	-0.04	93.95	0.03	1.35	1.35	88.85	0.07	Gyro
729.50	0.39	729.49	-0.13	73.39	0.11	1.94	1.94	86.85	0.15	Gyro
829.50	0.36	829.49	-0.27	83.39	0.24	2.57	2.58	84.68	0.07	Gyro
924.50	0.46	924.49	-0.68	345.61	0.64	2.78	2.85	76.94	0.65	Gyro
1090.00	0.30	1089.99	-1.59	51.70	1.56	2.95	3.34	62.20	0.26	Ryan MWD
1185.00	2.80	1184.95	-3.20	309.60	3.19	1.36	3.47	23.05	3.03	Ryan MWD
1279.00	5.10	1278.72	-7.29	309.80	7.33	-3.62	8.17	333.70	2.45	Ryan MWD
1374.00	7.60	1373.13	-12.92	298.80	13.06	-12.37	17.99	316.54	2.91	Ryan MWD
1469.00	9.90	1467.02	-18.95	292.70	19.24	-25.41	31.87	307.12	2.61	Ryan MWD
1564.00	9.90	1560.61	-25.18	293.50	25.65	-40.44	47.88	302.38	0.14	Ryan MWD
1659.00	10.90	1654.05	-30.54	284.70	31.18	-56.62	64.64	298.84	1.97	Ryan MWD
1754.00	11.30	1747.28	-34.98	284.70	35.82	-74.31	82.49	295.74	0.42	Ryan MWD
1849.00	11.30	1840.43	-39.50	284.70	40.55	-92.31	100.82	293.71	0.00	Ryan MWD
1944.00	11.50	1933.56	-43.99	284.30	45.25	-110.49	119.40	292.27	0.23	Ryan MWD
2038.00	11.40	2025.69	-48.14	282.70	49.60	-128.63	137.87	291.09	0.35	Ryan MWD
2134.00	11.40	2119.80	-52.04	282.30	53.71	-147.16	156.66	290.05	0.08	Ryan MWD
2229.00	11.30	2212.94	-55.77	282.00	57.65	-165.44	175.19	289.21	0.12	Ryan MWD
2324.00	10.50	2306.22	-59.27	281.80	61.35	-183.02	193.02	288.53	0.84	Ryan MWD
2418.00	11.90	2398.44	-64.00	289.10	66.27	-200.56	211.23	288.29	2.12	Ryan MWD
2513.00	11.30	2491.49	-70.03	289.00	72.51	-218.61	230.33	288.35	0.63	Ryan MWD
2608.00	10.10	2584.84	-75.67	289.70	78.35	-235.26	247.96	288.42	1.27	Ryan MWD
2703.00	11.80	2678.11	-81.34	288.30	84.21	-252.32	266.00	288.46	1.81	Ryan MWD

Company: EP Energy E&P Company, L.P.	Date: 4/23/2014	Time: 08:51:56	Page: 2
Field: Crockett Co, Tx	Co-ordinate(NE) Reference:	Site: University East 4107 AH, Grid Nort	
Site: University East 4107 AH	Vertical (TVD) Reference:	SITE 2709.5	
Well: 4107 AH	Section (VS) Reference:	Well (0.00N,0.00E,180.65Azi)	
Wellpath: 4107 AH	Survey Calculation Method:	Minimum Curvature	Db: Sybase

Survey

MD ft	Incl deg	TVD ft	VS ft	Azim deg	N/S ft	E/W ft	ClsD ft	ClsA deg	DLS deg/100ft	Tool
2798.00	13.90	2770.72	-87.69	288.00	90.78	-272.40	287.13	288.43	2.21	Ryan MWD
2893.00	12.70	2863.17	-93.91	286.30	97.24	-293.28	308.98	288.34	1.33	Ryan MWD
2988.00	10.70	2956.20	-99.02	285.70	102.56	-311.79	328.23	288.21	2.11	Ryan MWD
3083.00	11.70	3049.39	-104.29	288.70	108.03	-329.41	346.67	288.16	1.22	Ryan MWD
3178.00	12.70	3142.24	-110.68	289.70	114.64	-348.36	366.74	288.22	1.08	Ryan MWD
3273.00	11.60	3235.11	-117.43	291.10	121.60	-367.11	386.72	288.33	1.20	Ryan MWD
3368.00	12.90	3327.95	-124.40	290.70	128.79	-385.94	406.86	288.45	1.37	Ryan MWD
3463.00	12.40	3420.64	-131.62	291.20	136.23	-405.37	427.64	288.58	0.54	Ryan MWD
3558.00	10.80	3513.70	-138.37	291.50	143.18	-423.16	446.72	288.69	1.69	Ryan MWD
3653.00	11.30	3606.94	-144.37	288.40	149.38	-440.27	464.92	288.74	0.82	Ryan MWD
3748.00	11.80	3700.01	-150.06	287.70	155.27	-458.36	483.94	288.71	0.55	Ryan MWD
3843.00	12.30	3792.92	-155.47	285.30	160.89	-477.37	503.76	288.63	0.74	Ryan MWD
3938.00	10.60	3886.02	-160.15	284.70	165.78	-495.59	522.58	288.50	1.79	Ryan MWD
4033.00	11.50	3979.26	-164.66	285.30	170.49	-513.17	540.75	288.38	0.96	Ryan MWD
4127.00	12.60	4071.19	-169.97	287.30	176.02	-532.00	560.36	288.31	1.25	Ryan MWD
4222.00	11.00	4164.18	-175.08	284.30	181.34	-550.68	579.76	288.23	1.80	Ryan MWD
4317.00	11.70	4257.32	-179.56	284.70	186.02	-568.78	598.42	288.11	0.74	Ryan MWD
4411.00	12.40	4349.25	-184.69	286.90	191.37	-587.65	618.03	288.04	0.89	Ryan MWD
4507.00	12.20	4443.05	-190.69	288.50	197.59	-607.13	638.48	288.03	0.41	Ryan MWD
4602.00	11.90	4535.95	-196.72	288.20	203.83	-625.96	658.31	288.04	0.32	Ryan MWD
4697.00	11.70	4628.95	-202.16	285.60	209.48	-644.54	677.73	288.00	0.60	Ryan MWD
4792.00	12.30	4721.87	-207.08	284.60	214.62	-663.61	697.45	287.92	0.67	Ryan MWD
4887.00	11.00	4814.91	-211.49	283.20	219.24	-682.23	716.59	287.82	1.40	Ryan MWD
4982.00	12.20	4907.97	-215.95	285.00	223.91	-700.75	735.65	287.72	1.32	Ryan MWD
5077.00	12.20	5000.82	-220.89	284.80	229.07	-720.15	755.70	287.65	0.04	Ryan MWD
5172.00	13.10	5093.52	-226.41	287.20	234.82	-740.14	776.50	287.60	1.10	Ryan MWD
5267.00	12.00	5186.25	-232.22	286.80	240.86	-759.88	797.14	287.59	1.16	Ryan MWD
5362.00	11.50	5279.26	-238.63	293.40	247.47	-778.02	816.43	287.64	1.51	Ryan MWD
5457.00	10.60	5372.50	-245.36	291.20	254.40	-794.86	834.58	287.75	1.05	Ryan MWD
5552.00	9.10	5466.10	-250.82	289.20	260.03	-810.10	850.81	287.80	1.62	Ryan MWD
5647.00	7.70	5560.07	-254.91	286.10	264.26	-823.31	864.69	287.80	1.55	Ryan MWD
5742.00	6.90	5654.30	-257.91	283.90	267.40	-834.97	876.74	287.76	0.89	Ryan MWD
5837.00	6.30	5748.68	-261.00	290.60	270.60	-845.39	887.64	287.75	1.03	Ryan MWD
5931.00	5.10	5842.21	-264.19	290.80	273.90	-854.12	896.96	287.78	1.28	Ryan MWD
6026.00	4.50	5936.87	-266.92	290.60	276.71	-861.56	904.90	287.81	0.63	Ryan MWD
6121.00	3.80	6031.63	-269.06	286.70	278.93	-868.06	911.77	287.81	0.79	Ryan MWD
6217.00	2.20	6127.49	-270.95	303.80	280.87	-872.64	916.73	287.84	1.89	Ryan MWD
6312.00	1.70	6222.44	-272.73	304.30	282.68	-875.32	919.83	287.90	0.53	Ryan MWD
6407.00	1.40	6317.40	-274.14	303.50	284.11	-877.45	922.30	287.94	0.32	Ryan MWD
6502.00	0.90	6412.38	-275.13	299.40	285.12	-879.07	924.15	287.97	0.53	Ryan MWD
6564.00	1.80	6474.37	-274.50	208.50	284.50	-879.96	924.81	287.92	3.27	Ryan MWD
6595.00	5.40	6505.30	-272.63	191.20	282.64	-880.47	924.73	287.80	12.00	Ryan MWD
6627.00	10.00	6537.01	-268.37	182.00	278.38	-880.86	923.81	287.54	14.84	Ryan MWD
6659.00	14.50	6568.27	-261.59	181.50	271.60	-881.06	921.98	287.13	14.07	Ryan MWD
6690.00	17.70	6598.05	-252.99	182.60	263.01	-881.38	919.79	286.62	10.37	Ryan MWD
6722.00	21.00	6628.24	-242.40	182.40	252.42	-881.84	917.26	285.97	10.31	Ryan MWD
6754.00	23.90	6657.81	-230.18	180.70	240.21	-882.16	914.28	285.23	9.29	Ryan MWD
6785.00	27.40	6685.75	-216.77	178.70	226.79	-882.08	910.76	284.42	11.63	Ryan MWD
6817.00	31.60	6713.60	-201.02	179.10	211.04	-881.78	906.68	283.46	13.14	Ryan MWD
6848.00	35.60	6739.42	-183.87	180.90	193.89	-881.79	902.86	282.40	13.30	Ryan MWD
6880.00	39.60	6764.76	-164.35	181.70	174.37	-882.24	899.31	281.18	12.59	Ryan MWD
6911.00	44.00	6787.87	-143.70	182.10	153.73	-882.93	896.21	279.88	14.22	Ryan MWD

Company: EP Energy E&P Company, L.P. Field: Crockett Co, Tx Site: University East 4107 AH Well: 4107 AH Wellpath: 4107 AH	Date: 4/23/2014 Co-ordinate(NE) Reference: Site: University East 4107 AH, Grid Nort Vertical (TVD) Reference: SITE 2709.5 Section (VS) Reference: Well (0.00N,0.00E,180.65Azi) Survey Calculation Method: Minimum Curvature	Time: 08:51:56 Page: 3 Db: Sybase
--	--	--

Survey

MD ft	Incl deg	TVD ft	VS ft	Azim deg	N/S ft	E/W ft	ClsD ft	ClsA deg	DLS deg/100ft	Tool
6943.00	48.50	6809.99	-120.60	182.10	130.63	-883.77	893.38	278.41	14.06	Ryan MWD
6974.00	52.60	6829.68	-96.67	181.60	106.71	-884.54	890.96	276.88	13.28	Ryan MWD
7006.00	56.70	6848.19	-70.58	181.10	80.63	-885.16	888.82	275.20	12.88	Ryan MWD
7038.00	60.20	6864.94	-43.32	180.80	53.37	-885.61	887.21	273.45	10.97	Ryan MWD
7069.00	64.10	6879.41	-15.91	180.40	25.96	-885.89	886.27	271.68	12.63	Ryan MWD
7101.00	69.00	6892.14	13.44	180.10	-3.38	-886.02	886.02	269.78	15.34	Ryan MWD
7132.00	73.80	6902.03	42.81	180.10	-32.76	-886.07	886.67	267.88	15.48	Ryan MWD
7164.00	78.30	6909.74	73.85	180.20	-63.81	-886.15	888.45	265.88	14.07	Ryan MWD
7196.00	82.10	6915.19	105.38	180.50	-95.33	-886.34	891.46	263.86	11.91	Ryan MWD
7284.00	91.90	6919.79	193.15	182.00	-183.08	-888.26	906.94	258.35	11.27	Ryan MWD
7379.00	91.20	6917.22	288.07	182.50	-277.97	-891.99	934.30	252.69	0.91	Ryan MWD
7474.00	90.20	6916.06	383.05	180.10	-372.93	-894.15	968.80	247.36	2.74	Ryan MWD
7569.00	90.30	6915.64	478.05	180.50	-467.93	-894.64	1009.63	242.39	0.43	Ryan MWD
7664.00	90.00	6915.39	573.04	179.40	-562.93	-894.56	1056.94	237.82	1.20	Ryan MWD
7759.00	89.80	6915.56	667.78	174.00	-657.73	-889.10	1105.94	233.51	5.69	Ryan MWD
7854.00	90.30	6915.48	762.38	177.00	-752.43	-881.64	1159.07	229.52	3.20	Ryan MWD
7949.00	90.70	6914.65	857.30	179.80	-847.38	-878.99	1220.93	226.05	2.98	Ryan MWD
8045.00	90.10	6913.98	953.29	181.10	-943.37	-879.74	1289.92	223.00	1.49	Ryan MWD
8139.00	92.70	6911.68	1047.23	182.50	-1037.29	-882.69	1362.03	220.40	3.14	Ryan MWD
8234.00	89.70	6909.69	1142.18	178.60	-1132.23	-883.60	1436.21	217.97	5.18	Ryan MWD
8329.00	91.60	6908.61	1237.13	179.30	-1227.21	-881.86	1511.20	215.70	2.13	Ryan MWD
8424.00	95.10	6903.06	1331.95	181.70	-1322.02	-882.69	1589.61	213.73	4.46	Ryan MWD
8519.00	93.40	6896.02	1426.66	182.20	-1416.70	-885.91	1670.89	212.02	1.86	Ryan MWD
8614.00	93.10	6890.64	1521.47	182.10	-1511.48	-889.47	1753.77	210.48	0.33	Ryan MWD
8709.00	93.10	6885.50	1616.32	181.40	-1606.30	-892.37	1837.53	209.05	0.74	Ryan MWD
8804.00	87.60	6884.92	1711.27	181.50	-1701.23	-894.77	1922.18	207.74	5.79	Ryan MWD
8899.00	90.80	6886.25	1806.23	181.60	-1796.17	-897.34	2007.85	206.55	3.37	Ryan MWD
8994.00	91.20	6884.59	1901.21	181.30	-1891.13	-899.74	2094.25	205.44	0.53	Ryan MWD
9089.00	90.80	6882.93	1996.19	181.60	-1986.08	-902.15	2181.37	204.43	0.53	Ryan MWD
9184.00	89.10	6883.01	2091.17	181.60	-2081.04	-904.80	2269.23	203.50	1.79	Ryan MWD
9280.00	91.10	6882.84	2187.12	183.20	-2176.95	-908.82	2359.04	202.66	2.67	Ryan MWD
9375.00	90.10	6881.85	2282.04	182.50	-2271.82	-913.54	2448.62	201.91	1.28	Ryan MWD
9470.00	89.80	6881.93	2377.01	181.60	-2366.76	-916.94	2538.18	201.18	1.00	Ryan MWD
9565.00	91.00	6881.27	2472.00	180.80	-2461.74	-918.93	2627.65	200.47	1.52	Ryan MWD
9659.00	89.20	6881.11	2565.99	179.40	-2555.73	-919.09	2715.97	199.78	2.43	Ryan MWD
9754.00	91.30	6880.69	2660.98	180.50	-2650.72	-919.01	2805.51	199.12	2.50	Ryan MWD
9849.00	90.90	6878.87	2755.96	180.60	-2745.70	-919.92	2895.71	198.52	0.43	Ryan MWD
9944.00	89.10	6878.87	2850.94	179.20	-2840.69	-919.76	2985.88	197.94	2.40	Ryan MWD
10039.00	90.30	6879.36	2945.92	179.80	-2935.69	-918.93	3076.15	197.38	1.41	Ryan MWD
10134.00	91.20	6878.12	3040.91	180.40	-3030.68	-919.09	3166.97	196.87	1.14	Ryan MWD
10229.00	90.20	6876.96	3135.87	178.50	-3125.66	-918.18	3257.73	196.37	2.26	Ryan MWD
10324.00	90.70	6876.21	3230.82	179.20	-3220.64	-916.27	3348.44	195.88	0.91	Ryan MWD
10419.00	90.90	6874.89	3325.79	179.30	-3315.62	-915.03	3439.56	195.43	0.24	Ryan MWD
10514.00	90.80	6873.48	3420.72	178.30	-3410.59	-913.04	3530.69	194.99	1.06	Ryan MWD
10608.00	90.20	6872.66	3514.70	181.30	-3504.57	-912.71	3621.47	194.60	3.25	Ryan MWD
10703.00	90.10	6872.41	3609.64	183.80	-3599.47	-916.94	3714.42	194.29	2.63	Ryan MWD
10798.00	90.10	6872.24	3704.52	183.10	-3694.30	-922.66	3807.77	194.02	0.74	Ryan MWD
10894.00	90.70	6871.57	3800.46	182.40	-3790.18	-927.26	3901.96	193.75	0.96	Ryan MWD
10989.00	89.50	6871.41	3895.44	180.90	-3885.14	-930.00	3994.90	193.46	2.02	Ryan MWD
11084.00	90.50	6871.41	3990.43	181.60	-3980.11	-932.07	4087.79	193.18	1.28	Ryan MWD
11179.00	90.40	6870.66	4085.42	180.80	-4075.09	-934.06	4180.77	192.91	0.85	Ryan MWD
11274.00	90.20	6870.16	4180.42	180.90	-4170.08	-935.47	4273.72	192.64	0.24	Ryan MWD
11369.00	89.40	6870.50	4275.41	179.20	-4265.07	-935.55	4366.47	192.37	1.98	Ryan MWD

Company: EP Energy E&P Company, L.P.
Field: Crockett Co, Tx
Site: University East 4107 AH
Well: 4107 AH
Wellpath: 4107 AH

Date: 4/23/2014
Co-ordinate(NE) Reference: Site: University East 4107 AH, Grid Nort
Vertical (TVD) Reference: SITE 2709.5
Section (VS) Reference: Well (0.00N,0.00E,180.65Azi)
Survey Calculation Method: Minimum Curvature **Db:** Sybase

Page: 4

Survey

MD ft	Incl deg	TVD ft	VS ft	Azim deg	N/S ft	E/W ft	ClsD ft	ClsA deg	DLS deg/100ft	Tool
11464.00	89.80	6871.16	4370.39	179.60	-4360.06	-934.56	4459.10	192.10	0.60	Ryan MWD
11559.00	91.10	6870.41	4465.37	180.20	-4455.06	-934.39	4551.99	191.85	1.51	Ryan MWD
11654.00	89.00	6870.33	4560.33	178.00	-4550.04	-932.90	4644.69	191.59	3.20	Ryan MWD
11749.00	89.30	6871.74	4655.22	178.10	-4644.97	-929.67	4737.09	191.32	0.33	Ryan MWD
11844.00	90.00	6872.32	4750.18	180.10	-4739.95	-928.17	4829.97	191.08	2.23	Ryan MWD
11938.00	89.90	6872.40	4844.17	180.20	-4833.95	-928.42	4922.30	190.87	0.15	Ryan MWD
12033.00	90.20	6872.32	4939.16	182.10	-4928.93	-930.33	5015.96	190.69	2.02	Ryan MWD
12128.00	89.90	6872.24	5034.15	181.20	-5023.89	-933.06	5109.80	190.52	1.00	Ryan MWD
12223.00	90.00	6872.32	5129.15	180.80	-5118.87	-934.72	5203.51	190.35	0.43	Ryan MWD
12318.00	90.50	6871.90	5224.14	181.60	-5213.85	-936.71	5297.32	190.18	0.99	Ryan MWD
12413.00	90.50	6871.07	5319.13	179.80	-5308.83	-937.87	5391.04	190.02	1.89	Ryan MWD
12508.00	90.50	6870.25	5414.06	177.30	-5403.79	-935.47	5484.17	189.82	2.63	Ryan MWD
12603.00	89.50	6870.25	5508.91	177.70	-5498.70	-931.32	5577.01	189.61	1.13	Ryan MWD
12698.00	89.80	6870.83	5603.87	180.70	-5593.68	-930.00	5670.46	189.44	3.17	Ryan MWD
12792.00	89.70	6871.24	5697.86	181.60	-5687.66	-931.88	5763.49	189.30	0.96	Ryan MWD
12887.00	89.70	6871.73	5792.85	181.60	-5782.62	-934.54	5857.65	189.18	0.00	Ryan MWD
12981.00	90.70	6871.41	5886.83	181.60	-5876.58	-937.16	5950.84	189.06	1.06	Ryan MWD
13077.00	90.50	6870.40	5982.81	182.10	-5972.53	-940.26	6046.09	188.95	0.56	Ryan MWD
13172.00	90.20	6869.82	6077.80	179.40	-6067.51	-941.50	6140.12	188.82	2.86	Ryan MWD
13266.00	90.40	6869.33	6171.79	181.20	-6161.50	-942.00	6233.09	188.69	1.93	Ryan MWD
13361.00	90.20	6868.83	6266.79	180.20	-6256.49	-943.16	6327.18	188.57	1.07	Ryan MWD
13456.00	89.90	6868.75	6361.78	181.90	-6351.47	-944.90	6421.37	188.46	1.82	Ryan MWD
13550.00	89.80	6868.99	6455.76	182.10	-6445.41	-948.18	6514.78	188.37	0.24	Ryan MWD
13645.00	90.00	6869.16	6550.75	180.30	-6540.39	-950.17	6609.05	188.27	1.91	Ryan MWD
13740.00	89.90	6869.24	6645.75	180.40	-6635.39	-950.75	6703.15	188.15	0.15	Ryan MWD
13836.00	89.90	6869.41	6741.74	179.70	-6731.39	-950.83	6798.21	188.04	0.73	Ryan MWD
13930.00	89.80	6869.66	6835.74	181.40	-6825.38	-951.73	6891.41	187.94	1.81	Ryan MWD
14026.00	90.60	6869.32	6931.69	183.20	-6921.30	-955.59	6986.95	187.86	2.05	Ryan MWD
14121.00	90.10	6868.74	7026.59	183.30	-7016.14	-960.97	7081.64	187.80	0.54	Ryan MWD
14215.00	90.80	6868.00	7120.48	183.40	-7109.98	-966.46	7175.36	187.74	0.75	Ryan MWD
14311.00	90.10	6867.25	7216.42	181.70	-7205.87	-970.73	7270.97	187.67	1.92	Ryan MWD
14406.00	90.80	6866.50	7311.39	182.30	-7300.81	-974.05	7365.50	187.60	0.97	Ryan MWD
14501.00	90.70	6865.26	7406.37	179.40	-7395.78	-975.46	7459.83	187.51	3.05	Ryan MWD
14597.00	91.90	6863.08	7502.31	178.70	-7491.74	-973.87	7554.78	187.41	1.45	Ryan MWD
14692.00	92.00	6859.85	7597.19	178.50	-7586.66	-971.55	7648.62	187.30	0.24	Ryan MWD
14787.00	92.00	6856.53	7692.06	178.20	-7681.56	-968.81	7742.42	187.19	0.32	Ryan MWD
14882.00	90.00	6854.87	7786.97	178.60	-7776.51	-966.16	7836.30	187.08	2.15	Ryan MWD
14977.00	91.70	6853.46	7881.93	180.40	-7871.48	-965.33	7930.46	186.99	2.61	Ryan MWD
15072.00	89.50	6852.47	7976.92	181.40	-7966.46	-966.83	8024.91	186.92	2.54	Ryan MWD
15167.00	89.40	6853.38	8071.91	180.80	-8061.44	-968.65	8119.43	186.85	0.64	Ryan MWD
15262.00	89.80	6854.05	8166.89	182.20	-8156.40	-971.14	8214.01	186.79	1.53	Ryan MWD
15356.00	90.40	6853.88	8260.88	181.10	-8250.36	-973.84	8307.64	186.73	1.33	Ryan MWD
15402.00	89.30	6854.00	8306.87	178.80	-8296.36	-973.80	8353.31	186.69	5.54	Ryan MWD
15447.00	89.30	6854.55	8351.84	178.80	-8341.34	-972.86	8397.88	186.65	0.00	Projection



RYAN DIRECTIONAL SERVICES, INC.
A NABORS COMPANY

SLIDE & ROTATING REPORT

Customer:

EP Energy

Field:

Crocket Co.

County, State:

Crocket Co., Texas

Rig Name & No.:

NORAM 21

Well Name & No.:

University 4107 AH

Ryan Job #:

7422

MODE	DEPTH FROM	DEPTH TO	FEET MADE	SURVEY DEPTH	INC	AZI	DLS	BUILD RATE	MOTOR OUTPUT	SLIDE SEEN	SLIDE AHEAD	DLN	SIDE / ROTATE (Based on Formula)	MTF / GTF	WOB (1K lbs)	RPM	PUMP GPM	PUMP PRESSURE
ROTATE	1,011	1,135	124	1,090	0.30°	51.70°									10.00	60.00	500.00	1850.00
SLIDE	1,135	1,150	15											290 MTF	10.00		590.00	2000.00
ROTATE	1,150	1,230	80	1,185	2.80°	309.60°									25.00	50.00	590.00	2300.00
SLIDE	1,230	1,242	12											290 MTF	10.00		590.00	2000.00
ROTATE	1,242	1,324	82	1,279	5.10°	309.80°									25.00	50.00	590.00	2300.00
SLIDE	1,324	1,336	12											HS GTF	15.00		590.00	2000.00
ROTATE	1,336	1,419	83	1,374	7.60°	298.80°									25.00	50.00	590.00	2300.00
SLIDE	1,419	1,431	12											HS GTF	15.00		590.00	2000.00
ROTATE	1,431	1,514	83	1,469	9.90°	292.70°									25.00	50.00	590.00	2300.00
ROTATE	1,514	1,609	95	1,564	9.90°	293.50°									25.00	50.00	590.00	2300.00
SLIDE	1,609	1,619	10											HS GTF	15.00		590.00	2000.00
ROTATE	1,619	1,704	85	1,659	10.90°	284.70°									25.00	50.00	590.00	2300.00
ROTATE	1,704	1,799	95	1,754	11.30°	284.70°									25.00	50.00	590.00	2300.00
ROTATE	1,799	1,894	95	1,849	11.30°	284.70°									25.00	50.00	590.00	2300.00
ROTATE	1,894	1,989	95	1,944	11.50°	284.30°									25.00	50.00	590.00	2300.00
ROTATE	1,989	2,083	94	2,038	11.40°	282.70°									25.00	50.00	590.00	2300.00
ROTATE	2,083	2,179	96	2,134	11.40°	282.30°									25.00	50.00	590.00	2400.00
ROTATE	2,179	2,274	95	2,229	11.30°	282.00°									25.00	50.00	590.00	2400.00
ROTATE	2,274	2,369	95	2,324	10.50°	281.80°									25.00	50.00	590.00	2400.00
SLIDE	2,369	2,389	20											40R GTF	15.00		590.00	2100.00
ROTATE	2,389	2,463	74	2,418	11.90°	289.10°									25.00	50.00	590.00	2400.00
ROTATE	2,463	2,558	95	2,513	11.30°	289.00°									25.00	50.00	590.00	2400.00
ROTATE	2,558	2,653	95	2,608											25.00	50.00	590.00	2400.00
SLIDE	2,653	2,673	20											HS GTF	15.00		590.00	2200.00
ROTATE	2,673	2,748	75	2,703	11.80°	288.30°									25.00	50.00	590.00	2500.00
SLIDE	2,748	2,763	15											HS GTF	15.00		590.00	2200.00
ROTATE	2,763	2,843	80	2,798	13.90°	288.00°									25.00	50.00	590.00	2500.00
ROTATE	2,843	2,938	95	2,893	12.70°	286.30°									25.00	50.00	590.00	2500.00
ROTATE	2,938	3,033	95	2,988	10.70°	285.70°									25.00	50.00	590.00	2500.00
SLIDE	3,033	3,053	20											HS GTF	15.00		590.00	2200.00
ROTATE	3,053	3,128	75	3,083	11.70°	288.70°									25.00	50.00	590.00	2500.00
SLIDE	3,128	3,143	15											HS GTF	15.00		590.00	2200.00
ROTATE	3,143	3,223	80	3,178	12.70°	289.70°									25.00	50.00	590.00	2500.00
ROTATE	3,223	3,318	95	3,273	11.60°	291.10°									25.00	50.00	590.00	2500.00
SLIDE	3,318	3,333	15											HS GTF	15.00		590.00	2200.00
ROTATE	3,333	3,413	80	3,368	12.90°	290.70°									25.00	50.00	590.00	2500.00
ROTATE	3,413	3,508	95	3,463	12.40°	291.20°									25.00	50.00	590.00	2500.00
ROTATE	3,508	3,603	95	3,558	10.80°	291.50°									25.00	50.00	590.00	2500.00
SLIDE	3,603	3,618	15											HS GTF	15.00		590.00	2200.00
ROTATE	3,618	3,698	80	3,653	11.30°	288.40°									25.00	50.00	590.00	2500.00
SLIDE	3,698	3,713	15											HS GTF	15.00		590.00	2200.00
ROTATE	3,713	3,793	80	3,748	11.80°	287.70°									25.00	50.00	590.00	2500.00
SLIDE	3,793	3,808	15											HS GTF	15.00		590.00	2200.00
ROTATE	3,808	3,888	80	3,843	12.30°	285.30°									25.00	50.00	590.00	2500.00
ROTATE	3,888	3,983	95	3,938	10.60°	284.70°									25.00	50.00	590.00	2500.00
SLIDE	3,983	4,003	20											HS GTF	15.00		590.00	2400.00
ROTATE	4,003	4,078	75	4,033	11.50°	285.30°									25.00	50.00	590.00	2700.00
SLIDE	4,078	4,098	20											HS GTF	15.00		590.00	2400.00
ROTATE	4,098	4,172	74	4,127	12.60°	287.30°									25.00	50.00	590.00	2700.00
ROTATE	4,172	4,267	95	4,222	11.00°	284.30°									25.00	50.00	590.00	2700.00
SLIDE	4,267	4,287	20											HS GTF	15.00		590.00	2400.00
ROTATE	4,287	4,362	75	4,317	11.70°	284.70°									25.00	50.00	590.00	2700.00
SLIDE	4,362	4,382	20											HS GTF	15.00		590.00	2400.00
ROTATE	4,382	4,456	74	4,411	12.40°	286.90°									15.00	40.00	425.00	1900.00
SLIDE	4,456	4,466	10											HS GTF	15.00		590.00	2400.00
ROTATE	4,466	4,552	86	4,507	12.20°	288.50°									15.00	40.00	425.00	1900.00
SLIDE	4,552	4,562	10											HS GTF	15.00		590.00	2400.00
ROTATE	4,562	4,647	85	4,602	11.90°	288.20°									15.00	40.00	425.00	1900.00
SLIDE	4,647	4,657	10											HS GTF	15.00		590.00	2400.00
ROTATE	4,657	4,742	85	4,697	11.70°	285.60°									15.00	40.00	425.00	1900.00
SLIDE	4,742	4,757	15											HS GTF	15.00		590.00	2400.00
ROTATE	4,757	4,837	80	4,792	12.30°	284.60°									15.00	40.00	425.00	1900.00
ROTATE	4,837	4,932	95	4,887	11.00°	283.20°									15.00	40.00	425.00	1900.00
SLIDE	4,932	4,952	20											40R GTF	15.00		590.00	2400.00
ROTATE	4,952	5,027	75	4,982	12.20°	285.00°									15.00	40.00	425.00	1900.00
SLIDE	5,027	5,042	15											40R GTF	15.00		590.00	2400.00
ROTATE	5,042	5,122	80	5,077	12.20°	284.80°									15.00	40.00	425.00	1900.00
SLIDE	5,122	5,137	15											40R GTF	15.00		590.00	2400.00
ROTATE	5,137	5,217	80	5,172	13.10°	287.20°									15.00	40.00	425.00	1900.00
ROTATE	5,217	5,312	95	5,267	12.00°	268.80°									15.00	40.00	425.00	1900.00
SLIDE	5,312	5,332	20											70R GTF	15.00		590.00	2400.00
ROTATE	5,332	5,407	75	5,362	11.50°	293.40°									15.00	40.00	425.00	1900.00
ROTATE	5,407	5,502	95	5,457	10.60°	291.20°									15.00	40.00	425.00	1900.00
ROTATE	5,502	5,597	95	5,552	9.10°	289.20°									15.00	40.00	425.00	1900.00
ROTATE	5,597	5,692	95	5,647	7.70°	286.10°									15.00	40.00	425.00	1900.00



RYAN DIRECTIONAL SERVICES, INC.
A NABORS COMPANY

SLIDE & ROTATING REPORT

Customer:

EP Energy

Field:

Crocket Co.

County, State:

Crocket Co., Texas

Rig Name & No.:

NORAM 21

Well Name & No.:

University 4107 AH

Ryan Job #:

7422

MODE	DEPTH FROM	DEPTH TO	FEET MADE	SURVEY DEPTH	INC	AZI	DLS	BUILD RATE	MOTOR OUTPUT	SLIDE SEEN	SLIDE AHEAD	DLN	SIDE / ROTATE (Based on Formula)	MTF / GTF	WOB (1K lbs)	RPM	PUMP GPM	PUMP PRESSURE
ROTATE	5,692	5,787	95	5,742	6.90°	283.90°									15.00	40.00	425.00	1900.00
SLIDE	5,787	5802	15											90R GTF	15.00		590.00	2400.00
ROTATE	5,802	5882	80	5,837	6.30°	290.60°									15.00	40.00	425.00	1900.00
ROTATE	5,882	5,976	94	5,931	5.10°	290.80°									15.00	40.00	425.00	1900.00
ROTATE	5,976	6,071	95	6,026	4.50°	290.60°									15.00	40.00	425.00	1900.00
ROTATE	6,071	6,166	95	6,121	3.80°	286.70°									15.00	40.00	425.00	1900.00
SLIDE	6,166	6,178	12											90 MTF	15.00		425.00	1600.00
ROTATE	6,178	6,262	84	6,217	2.20°	303.80°									15.00	40.00	425.00	1900.00
ROTATE	6,262	6,357	95	6,312	1.70°	304.30°									15.00	40.00	425.00	1900.00
ROTATE	6,357	6,452	95	6,407	1.40°	303.50°									15.00	40.00	425.00	1900.00
ROTATE	6,452	6,547	95	6,502	0.90°	299.40°									15.00	40.00	425.00	1900.00
ROTATE	6,547	6558	11												25.00	20.00	510.00	2200.00
SLIDE	6,558	6577	19											180 MTF	25.00		510.00	2200.00
ROTATE	6,577	6582	5												25.00	20.00	510.00	2200.00
SLIDE	6,582	6609	27	6,564	1.80°	208.50°	3.20°	1.50°	?	6.00	40.00	12.00°	26-5	180 MTF	25.00		510.00	2200.00
ROTATE	6,609	6614	5												25.00	20.00	510.00	2200.00
SLIDE	6,614	6640	26	6,595	5.40°	191.20°	12.00°	11.60°	13.80°	26.00	40.00	11.80°	28-4	180 MTF	35.00		510.00	2200.00
ROTATE	6,640	6,644	4												25.00	20.00	510.00	2200.00
SLIDE	6,644	6,672	28	6,627	10.00°	182.00°	14.80°	14.30°	17.00°	27.00	41.00	10.80°	22-10	10L GTF	35.00		510.00	2200.00
ROTATE	6,672	6682	10												25.00	20.00	510.00	2200.00
SLIDE	6,682	6704	22	6,659	14.50°	181.50°	14.00°	14.00°	16.00°	28.00	35.00	11.00°	22-9	HS GTF	35.00		510.00	2200.00
ROTATE	6,704	6713	9												25.00	20.00	510.00	2200.00
SLIDE	6,713	6735	22	6,690	17.70°	182.60°	10.30°	10.20°	16.60°	21.00	23.00	10.90°	21-11	HS GTF	35.00		510.00	2200.00
ROTATE	6,735	6746	11												25.00	20.00	510.00	2200.00
SLIDE	6,746	6767	21	6,722	21.00°	182.40°	10.30°	10.30°	14.30°	23.00	34.00	11.80°	27-5	10L GTF	35.00		510.00	2200.00
ROTATE	6,767	6772	5												25.00	20.00	510.00	2300.00
SLIDE	6,772	6799	27	6,754	23.90°	180.70°	9.20°	9.00°	13.80°	21.00	40.00	12.00°	28-3	10L GTF	35.00		510.00	2300.00
ROTATE	6,799	6802	3												25.00	20.00	510.00	2300.00
SLIDE	6,802	6830	28	6,785	27.40°	178.70°	11.60°	11.20°	13.40°	26.00	42.00	12.20°	30-2	HS GTF	35.00		510.00	2300.00
ROTATE	6,830	6832	2												25.00	20.00	510.00	2300.00
SLIDE	6,832	6862	30	6,817	31.60°	179.10°	13.10°	13.10°	14.40°	29.00	43.00	11.10°	26-5	HS GTF	35.00		510.00	2300.00
ROTATE	6,862	6,867	5												25.00	20.00	510.00	2300.00
SLIDE	6,867	6,893	26	6,848	35.60°	180.90°	13.30°	12.90°	13.70°	29.00	40.00	13.50°	32.00	HS GTF	35.00		510.00	2300.00
SLIDE	6,893	6,925	32	6,880	39.60°	181.70°	12.50°	12.50°	14.80°	27.00	45.00	13.00°	27-4	HS GTF	35.00		510.00	2300.00
ROTATE	6,925	6,929	4												25.00	20.00	510.00	2300.00
SLIDE	6,929	6,956	27	6,911	44.00°	182.10°	14.20°	14.20°	14.20°	31.00	41.00	12.90°	27-5	20L GTF	35.00		510.00	2300.00
ROTATE	6,956	6,961	5												25.00	20.00	510.00	2300.00
SLIDE	6,961	6,988	27	6,943	48.50°	182.10°	14.00°	14.00°	15.50°	28.00	40.00	12.90°	26-5	20L GTF	35.00		510.00	2300.00
ROTATE	6,988	6,993	5												25.00	20.00	510.00	2300.00
SLIDE	6,993	7,019	26	6,974	52.60°	181.60°	13.20°	13.20°	15.70°	26.00	40.00	12.70°	25-7	20L GTF	35.00		510.00	2300.00
ROTATE	7,019	7,026	7												25.00	20.00	510.00	2300.00
SLIDE	7,026	7,051	25	7,006	56.70°	181.10°	12.80°	12.80°	15.10°	27.00	38.00	13.20°	28-4	20L GTF	35.00		510.00	2300.00
ROTATE	7,051	7,055	4												25.00	20.00	510.00	2300.00
SLIDE	7,055	7,083	28	7,038	60.20°	180.80°	10.90°	10.90°	14.00°	25.00	41.00	14.20°	31.00	20L GTF	35.00		510.00	2300.00
SLIDE	7,083	7,114	31	7,069	64.10°	180.40°	12.60°	12.50°	14.40°	27.00	45.00	14.10°	30-2	HS GTF	35.00		510.00	2300.00
ROTATE	7,114	7,116	2												25.00	20.00	510.00	2300.00
SLIDE	7,116	7,146	30	7,101	69.00°	180.10°	15.30°	15.30°	15.30°	32.00	43.00	12.70°	25-6	HS GTF	35.00		510.00	2300.00
ROTATE	7,146	7,152	6												25.00	20.00	510.00	2300.00
SLIDE	7,152	7,177	25	7,132	73.80°	180.10°	15.40°	15.40°	16.60°	29.00	39.00	10.60°	18-14	HS GTF	35.00		510.00	2300.00
ROTATE	7,177	7,191	14												25.00	20.00	510.00	2300.00
SLIDE	7,191	7,209	18	7,164	78.30°	180.20°	14.00°	14.00°	17.30°	26.00	31.00	12.00°	25-7	HS GTF	35.00		510.00	2300.00
ROTATE	7,209	7,216	7												25.00	20.00	510.00	2300.00
SLIDE	7,216	7,241	25	7,196	82.10°	180.50°	11.90°	11.80°	18.00°	18.00	38.00			HS GTF	35.00		510.00	2300.00
SLIDE	7,241	7,251	10											HS GTF	15.00		545.00	2650.00
ROTATE	7,251	7,329	78	7,284	91.90°	182.00°	11.20°	11.10°	20.00°	48.00	0.00				25.00	40.00	545.00	2900.00
SLIDE	7,329	7,339	10											150L GTF	15.00		585.00	3050.00
ROTATE	7,339	7,424	85	7,379	91.20°	182.50°									25.00	55.00	585.00	3300.00
SLIDE	7,424	7,439	15											110L GTF	15.00		585.00	3050.00
ROTATE	7,439	7,519	80	7,474	90.20°	180.10°									25.00	55.00	585.00	3300.00
ROTATE	7,519	7,614	95	7,569	90.30°	180.50°									25.00	55.00	585.00	3300.00
ROTATE	7,614	7,709	95	7,664	90.00°	179.40°									25.00	60.00	600.00	3400.00
ROTATE	7,709	7,804	95	7,759	89.80°	174.00°									25.00	60.00	600.00	3400.00
SLIDE	7,804	7,839	35											90R GTF	15.00		600.00	3150.00
ROTATE	7,839	7,899	60	7,854	90.30°	177.00°									25.00	60.00	600.00	3400.00
SLIDE	7,899	7,924	25											90R GTF	15.00		600.00	3150.00
ROTATE	7,924	7,994	70	7,949	90.70°	179.80°									25.00	60.00	600.00	3400.00
SLIDE	7,994	8,011	17											20R GTF	20.00		600.00	3150.00
ROTATE	8,011	8,090	79	8,045	90.10°	181.10°									25.00	50.00	600.00	3400.00
SLIDE	8,090	8115	25											20R GTF	20.00		600.00	3150.00
ROTATE	8,115	8184	69	8,139	92.70°	182.50°									25.00	50.00	600.00	3400.00
ROTATE	8,184	8,279	95	8,234	89.70°	178.60°									25.00	50.00	600.00	3400.00
SLIDE	8,279	8309	30											40R GTF	20.00		600.00	3150.00
ROTATE	8,309	8374	65	8,329	91.60°	179.60°									25.00	50.00	600.0	



RYAN DIRECTIONAL SERVICES, INC.
A NABORS COMPANY

SLIDE & ROTATING REPORT

Customer:
Field:
County, State:

EP Energy
Crocket Co.
Crocket Co., Texas

Rig Name & No.: NORAM 21
Well Name & No.: University 4107 AH
Ryan Job #: 7422

MODE	DEPTH FROM	DEPTH TO	FEET MADE	SURVEY DEPTH	INC	AZI	DLS	BUILD RATE	MOTOR OUTPUT	SLIDE SEEN	SLIDE AHEAD	DLN	SIDE / ROTATE (Based on Formula)	MTF / GTF	WOB (1K lbs)	RPM	PUMP GPM	PUMP PRESSURE
SLIDE	8,469	8481	12											160R GTF	20.00		600.00	3150.00
ROTATE	8,481	8564	83	8,519	93.40°	182.20°									25.00	50.00	600.00	3400.00
ROTATE	8,564	8,659	95	8,614	93.10°	182.10°									25.00	50.00	600.00	3400.00
ROTATE	8,659	8,754	95	8,709	93.10°	181.40°									25.00	50.00	600.00	3400.00
SLIDE	8,754	8,774	20											160R GTF	20.00		600.00	3150.00
ROTATE	8,774	8,849	75	8,804	87.60°	181.50°									25.00	50.00	600.00	3400.00
SLIDE	8,849	8,869	20											HS GTF	20.00		600.00	3150.00
ROTATE	8,869	8,944	75	8,899	90.80°	181.60°									25.00	50.00	600.00	3500.00
ROTATE	8,944	9,039	95	8,994	91.20°	181.30°									25.00	50.00	600.00	3500.00
SLIDE	9,039	9,046	7											160R GTF	20.00		600.00	3150.00
ROTATE	9,046	9,134	88	9,089	90.80°	181.60°									25.00	50.00	600.00	3500.00
SLIDE	9,134	9,141	7											180 GTF	20.00		600.00	3150.00
ROTATE	9,141	9,229	88	9,184	89.10°	181.60°									25.00	50.00	600.00	3500.00
SLIDE	9,229	9,235	6											HS GTF	20.00		600.00	3150.00
ROTATE	9,235	9,325	90	9,280	91.10°	183.20°									25.00	50.00	600.00	3500.00
ROTATE	9,325	9,420	95	9,375	90.10°	182.50°									25.00	50.00	600.00	3500.00
SLIDE	9,420	9,435	15											90L GTF	20.00		600.00	3150.00
ROTATE	9,435	9,515	80	9,470	89.80°	181.60°									25.00	50.00	600.00	3500.00
SLIDE	9,515	9,530	15											90L GTF	20.00		600.00	3150.00
ROTATE	9,530	9,610	80	9,565	91.00°	180.80°									25.00	50.00	600.00	3500.00
ROTATE	9,610	9,704	94	9,659	89.20°	179.40°									25.00	50.00	600.00	3500.00
ROTATE	9,704	9,799	95	9,754	91.30°	180.50°									25.00	50.00	600.00	3500.00
ROTATE	9,799	9,894	95	9,849	90.90°	180.60°									25.00	50.00	600.00	3500.00
ROTATE	9,894	9,989	95	9,944	89.10°	179.20°									25.00	50.00	600.00	3500.00
ROTATE	9,989	10,084	95	10,039	90.30°	178.80°									25.00	50.00	600.00	3500.00
ROTATE	10,084	10,179	95	10,134	91.20°	180.40°									25.00	50.00	600.00	3500.00
ROTATE	10,179	10,274	95	10,229	90.20°	178.50°									25.00	50.00	600.00	3500.00
ROTATE	10,274	10,369	95	10,324	90.70°	179.20°									25.00	50.00	600.00	3500.00
ROTATE	10,369	10,464	95	10,419	90.90°	179.30°									25.00	50.00	600.00	3700.00
ROTATE	10,464	10,559	95	10,514	90.80°	178.30°									25.00	50.00	600.00	3700.00
SLIDE	10,559	10584	25											90R GTF	20.00		585.00	3500.00
ROTATE	10,584	10653	69	10,608	90.20°	181.30°									25.00	50.00	585.00	3800.00
ROTATE	10,653	10,748	95	10,703	90.10°	183.80°									25.00	50.00	585.00	3800.00
SLIDE	10,748	10,763	15											90L GTF	20.00		585.00	3500.00
ROTATE	10,763	10,843	80	10,798	90.10°	183.10°									25.00	50.00	585.00	3800.00
SLIDE	10,843	10,858	15											90L GTF	20.00		585.00	3500.00
ROTATE	10,858	10,939	81	10,894	90.70°	182.40°									25.00	50.00	585.00	3800.00
SLIDE	10,939	10,959	20											90L GTF	20.00		585.00	3500.00
ROTATE	10,959	11,034	75	10,989	89.50°	180.90°									25.00	50.00	585.00	3800.00
ROTATE	11,034	11,129	95	11,084	90.50°	181.60°									25.00	50.00	585.00	3800.00
SLIDE	11,129	11,149	20											90L GTF	20.00		585.00	3500.00
ROTATE	11,149	11,224	75	11,179	90.40°	180.80°									25.00	50.00	585.00	3800.00
SLIDE	11,224	11,244	20											110L GTF	20.00		585.00	3500.00
ROTATE	11,244	11,319	75	11,274	90.20°	180.90°									25.00	50.00	585.00	3800.00
SLIDE	11,319	11,344	25											120L GTF	20.00		585.00	3500.00
ROTATE	11,344	11,414	70	11,369	89.40°	179.20°									25.00	50.00	585.00	3800.00
ROTATE	11,414	11,509	95	11,464	89.80°	179.60°									20.00	50.00	550.00	3800.00
ROTATE	11,509	11,604	95	11,559	91.10°	180.20°									20.00	50.00	550.00	3800.00
SLIDE	11,604	11614	10											120L GTF	20.00		550.00	3500.00
ROTATE	11,614	11699	85	11,654	89.00°	178.00°									25.00	50.00	550.00	3800.00
ROTATE	11,699	11,794	95	11,749	89.30°	178.10°									25.00	50.00	550.00	3800.00
SLIDE	11,794	11806	12											70R GTF	35.00		550.00	3500.00
ROTATE	11,806	11889	83	11,844	90.00°	180.10°									25.00	50.00	550.00	3800.00
ROTATE	11,889	11,983	94	11,938	89.90°	180.20°									25.00	50.00	550.00	3800.00
ROTATE	11,983	12,078	95	12,033	90.20°	182.10°									25.00	50.00	550.00	3800.00
ROTATE	12,078	12,173	95	12,128	89.90°	181.20°									25.00	50.00	550.00	3800.00
ROTATE	12,173	12,268	95	12,223	90.00°	180.80°									25.00	50.00	550.00	3800.00
ROTATE	12,268	12,363	95	12,318	90.50°	181.60°									25.00	50.00	550.00	3800.00
ROTATE	12,363	12,458	95	12,413	90.50°	179.80°									25.00	50.00	550.00	3800.00
ROTATE	12,458	12,553	95	12,508	90.50°	177.30°									25.00	50.00	550.00	3800.00
SLIDE	12,553	12,578	25											90R GTF	40.00		525.00	3500.00
ROTATE	12,578	12,648	70	12,603	89.50°	177.70°									25.00	50.00	525.00	3800.00
SLIDE	12,648	12663	15											90R GTF	40.00		525.00	3500.00
ROTATE	12,663	12743	80	12,698	89.80°	180.70°									25.00	50.00	525.00	3800.00
SLIDE	12,743	12,753	10											90R GTF	40.00		525.00	3500.00
ROTATE	12,753	12,837	84	12,792	89.70°	181.60°									25.00	50.00	525.00	3800.00
ROTATE	12,837	12,932	95	12,887	89.70°	181.60°									25.00	50.00	525.00	3800.00
ROTATE	12,932	13,026	94	12,981	90.70°	181.60°									25.00	50.00	525.00	3800.00
ROTATE	13,026	13,122	96	13,077	90.50°	182.10°									25.00	50.00	525.00	3800.00
ROTATE	13,122	13,217	95	13,172	90.20°	179.40°									25.00	50.00	525.00	3800.00
SLIDE	13,217	13,227	10											90R GTF	40.00		525.00	3500.00
ROTATE	13,227	13,311	84	13,266	90.40°	181.20°									25.00	50.00	525.00	3800.00
ROTATE	13,311	13,406	95	13,361	90.20°	180.20°									25.00	50.00	525.00	3800.00
SLIDE	13,406	13,416	10											90R GTF	40.00		525.00	3500.00
ROTATE	13,416	13,501	85	13,456	89.90°	181.90°									25.00	50.00	525.00	3800.00



Customer:
Field:
County, State:

EP Energy
Crocket Co.
Crocket Co., Texas

Rig Name & No.:	NORAM 21
Well Name & No.:	University 4107 AH
Ryan Job #:	7422

[illegible]

Date: 13-Apr-14



Ryan Job # 7422

From	To	Hrs.	Start Depth	End Depth	CL	Code	Time Breakdown	Current Operations			
0:00	23:59	23:59				S	STANDBY	STANDBY			
								Estimated Daily Charges			
								Description		Cost	
								Estimated Daily Cost (USD)		\$ -	
								Accumulated Cost (USD)		\$ -	
								Company Representative (s)			
								JIMMY DAVIS		GARTH STARR	
								STACIE REDDEN		RICHARD JOHN	
								RYAN Directional Representative (s)			
								WESTON WHITE		JARED FAUST	
								RYAN MWD Representative (s)			
								ANDY STECKBECK		DEVIN WILLIAMS	
								24 Hour Breakdown			
								Ftg Rot.	0	Time Rot.	0.00
								Ftg Orient	-	Time Orient	0.00
								Rot ROP	-	Orient ROP	-

Report #: 2

Date: 14-Apr-14


RYAN DIRECTIONAL SERVICES, INC.

A NABORS COMPANY

Ryan Job #: 7422

DAILY DRILLING REPORT

Oil Company: **EP Energy**
 Field: **Crocket Co.**
 County, State: **Crocket Co., Texas**
 AFE or PO #: **160548**

Customer: **EP Energy**
 Well Name & No.: **University 4107 AH**
 Block or Section: **Big Lake**
 Rig Contractor & No.: **NORAM 21**

00:00 Depth: 1011
 24:00 Depth: 2369

Footage Today: 1358
 Current Run Ftg: 1358

Drig Hrs Today: 5.30
 Run Drig Hrs: 5.30

ROP Today: 256.23
 Run Avg. ROP: 256.23

Last Casing Set: 9 5/8"
 Depth: 1011

PUMP Data Total Gals/Min = 593				MUD DATA		Previous	Current	MOTOR DATA		CURRENT
Pump	Bonco	Bonco	0	Mud Type	OBM	BHA #	1	BHA #	Run No.	1
Liner (in)	6	6		Sample	IN			MOTOR	Size (in.)	6 3/4
%	97.5	97.5		Time	20:00			UBHO	Type	7/8 5.0 8 1/2 STAB
Vol (gals)	4.17	4.17	0.00	Wt.	9.5			MWD COLLAR	Serial No.	1011449-22
SPM	71	71		VIS	62			NMDC	Tool Deflection	1.5 FIXED
DRILLING PARAMETERS				PV	17			XOVER	Avg. Diff. Press.	500
ST. WT. ROT 1000's:	80			YP	18			3 6 1/4" DC	Daily Drill Hrs.	5.30
P/U WT. 1000's:	80			WL				XOVER	Daily Circ. Hrs.	4.50
S/O WT. 1000's:	80			CL	76000				Daily Total Hrs.	9.80
WOB 1000's:	25			Gels	12_17_22				Acc. Drill Hrs.	5.30
ROTARY RPM:	50			% Oil	73				Acc. Circ. Hrs.	4.50
MOTOR RPM:	171			% Solids	5.1				Depth In	1011
TOTAL Bit RPM	221			% Sand	0.01				Depth Out	
ROT TQ. OFF BTM:	2000			PH					LIH Hrs.	
ROT TQ. ON BTM:	8500			Temp F	100				Acc. LIH Hrs.	0.00
Current Mag Dec:	6.48			MWD F	110	BHA WT			Acc. Hrs Cir/Drig	9.80
Pulse Hight	95			GPM	590	BELOW JARS			Total K Revs	70.28
"G" Totals	1.001			PSI	1900				Jar # HRS	

BIT DATA														DULL CONDITION					
Bit No.	Size (in)	Mfg.	Type	Serial No.	Nozzles or TFA	Depth In	Cum. Footage	Cum. Hrs.	Depth Out	IR	OR	DC	LOC	B/S	G/16"	OC	RPLD		
1	8 3/4	HUGHES	T606X	7149880	6x14's	1011													

From	To	Hrs.	Start Depth	End Depth	CL	Code	Time Breakdown			Current Operations			
0:00	1:00	1:00				6.G	P/U BHA 1			P/U BHA 1			
1:00	3:00	2:00				6.A	TIH						
3:00	4:15	1:15				5.A	DISPLACE WITH OILBASE MUD			TIH			
4:15	4:45	0:30				3.A	DRILL FLOAT, SHOE AND CEMENT						
4:45	5:55	1:10	1011	1135	124	2.A	ROTATE WOB-15 ROT-60 DIFF-400			DRILL TANGENT			
5:55	6:25	0:30				7	RIG SERVICE						
6:25	6:40	0:15				10	C/S @ 1090' INC- 0.3 AZ- 51.7 TEMP-85						
6:40	6:55	0:15	1135	1150	15	2.B	SLIDE @ 290 MTF WOB-10 DIFF-200						
6:55	7:10	0:15	1150	1230	80	2.A	ROTATE WOB-25 ROT-50 DIFF-500						
7:10	7:25	0:15				10	C/S @ 1185' INC- 2.8 AZ- 309.6 TEMP- 85						
7:25	7:35	0:10	1230	1242	12	2.B	SLIDE @ 290 MTF WOB-10 DIFF-200			Estimated Daily Charges			
7:35	7:45	0:10	1242	1324	82	2.A	ROTATE WOB-25 ROT-50 DIFF-500			Description		Cost	
7:45	7:55	0:10				10	C/S @ 1279' INC- 5.1 AZ- 309.8 TEMP-85						
7:55	8:05	0:10	1324	1336	12	2.B	SLIDE @ HS GTF WOB-15 DIFF-200						
8:05	8:15	0:10	1336	1419	83	2.A	ROTATE WOB-25 ROT-50 DIFF-500						
8:15	8:25	0:10				10	C/S @ 1374' INC- 7.7 AZ- 298.8 TEMP-85						
8:25	8:40	0:15	1419	1431	12	2.B	SLIDE @ HS GTF WOB-15 DIFF-200						
8:40	8:55	0:15	1431	1514	83	2.A	ROTATE WOB-25 ROT-50 DIFF-500						
8:55	9:05	0:10				10	C/S @ 1469' INC- 9.9 AZ- 292.7 TEMP-85						
9:05	9:25	0:20	1514	1609	95	2.A	ROTATE WOB-25 ROT-50 DIFF-500						
9:25	9:40	0:15				10	C/S @ 1564' INC- 9.9 AZ- 293.5 TEMP-90						
9:40	9:50	0:10	1609	1619	10	2.B	SLIDE @ HS GTF WOB-15 DIFF-200						
9:50	10:00	0:10	1619	1704	85	2.A	ROTATE WOB-25 ROT-50 DIFF-500			Estimated Daily Cost (USD)		\$ -	
10:00	10:10	0:10				10	C/S @ 1659' INC- 10.9 AZ- 284.7 TEMP-95			Accumulated Cost (USD)		\$ -	
10:10	10:30	0:20	1704	1799	95	2.A	ROTATE WOB-25 ROT-50 DIFF-500			Company Representative (s)			
10:30	10:45	0:15				10	C/S @ 1754' INC- 11.3 AZ- 284.7 TEMP-95			JIMMY DAVIS		GARTH STARR	
10:45	11:00	0:15	1799	1894	95	2.A	ROTATE WOB-25 ROT-50 DIFF-500			STACIE REDDEN		RICHARD JOHN	
11:00	11:15	0:15				10	C/S @ 1849' INC- 11.3 AZ- 284.7 TEMP-95			RYAN Directional Representative (s)			
11:15	11:35	0:20	1894	1989	95	2.A	ROTATE WOB-25 ROT-50 DIFF-500			WESTON WHITE		JARED FAUST	
11:35	11:45	0:10				10	C/S @ 1944' INC- 11.5 AZ- 284.3 TEMP-95						
11:45	12:00	0:15	1989	2083	94	2.A	ROTATE WOB-25 ROT-50 DIFF-500			RYAN MWD Representative (s)			
12:00	12:15	0:15				10	C/S @ 2038' INC- 11.4 AZ- 282.7 TEMP-95			ANDY STECKBECK		DEVIN WILLIAMS	
12:15	12:30	0:15	2083	2179	96	2.A	ROTATE WOB-25 ROT-50 DIFF-500						
12:30	12:45	0:15				10	C/S @ 2134' INC- 11.4 AZ- 282.3 TEMP-100			24 Hour Breakdown			
12:45	12:55	0:10	2179	2274	95	2.A	ROTATE WOB-25 ROT-50 DIFF-500			Ftg Rot.	1297	Time Rot.	4.30
12:55	13:05	0:10				10	C/S @ 2229' INC- 11.3 AZ- 282.0 TEMP-100			Ftg Orient	61	Time Orient	1.00
13:05	13:15	0:10	2274	2369	95	2.A	ROTATE WOB-25 ROT-50 DIFF-500			Rot. ROP	301.63	Orient ROP	61.00

Report #: 2A

Date: 14-Apr-14



RYAN DIRECTIONAL SERVICES, INC.

A NABORS COMPANY

Ryan Job #: 7422

DAILY DRILLING REPORT

Oil Company: EP Energy
Field: Crocket Co.
County, State: Crocket Co., Texas
AFE or PO #: 160548

Customer: EP Energy
Well Name & No.: University 4107 AH
Block or Section: Big Lake
Rig Contractor & No.: NORAM 21

00:00 Depth: 2369
24:00 Depth: 3713

Footage Today: 1344
Current Run Ftg: 2702

Drig Hrs Today: 4.00
Run Drig Hrs: 9.30

ROP Today: 336.00
Run Avg. ROP: 290.54

Last Casing Set: 9 5/8"
Depth: 1011

PUMP Data Total Gals/Min = 593				MUD DATA		Previous	Current	MOTOR DATA		CURRENT
Pump	Bonco	Bonco	0	Mud Type	OBM	BHA #	1	BHA #	Run No.	1
Liner (in)	6	6		Sample	IN			MOTOR	Size (in.)	6 3/4
%	97.5	97.5		Time	20:00			UBHO	Type	7/8 5.0 8 1/2 STAB
Vol (gps)	4.17	4.17	0.00	Wt.	9.5			MWD COLLAR	Serial No.	1011449-22
SPM	71	71		VIS	62			NMDC	Tool Deflection	1.5 FIXED
DRILLING PARAMETERS				PV	17			XOVER	Avg. Diff. Press.	500
ST. WT. ROT 1000's:	80			YP	18			3 6 1/4" DC	Daily Drill Hrs.	4.00
P/U WT. 1000's:	80			WL				XOVER	Daily Circ. Hrs.	3.00
S/O WT. 1000's:	80			CL	76000				Daily Total Hrs.	7.00
WOB 1000's:	25			Gels	12_17_22				Acc. Drill Hrs.	9.30
ROTARY RPM:	50			% Oil	73				Acc. Circ. Hrs.	7.50
MOTOR RPM:	171			% Solids	5.1				Depth In	1011
TOTAL Bit RPM	221			% Sand	0.01				Depth Out	
ROT TQ. OFF BTM:	2000			PH					LIH Hrs.	
ROT TQ. ON BTM:	8500			Temp F	100				Acc. LIH Hrs.	0.00
Current Mag Dec:	6.48			MWD F	110	BHA WT			Acc. Hrs Cir/Drilg	16.80
Pulse Hight	95			GPM	590	BELOW JARS			Total K Revs	123.32
"G" Totals	1.001			PSI	2000				Jar # HRS	

BIT DATA														DULL CONDITION					
Bit No.	Size (in)	Mfg.	Type	Serial No.	Nozzles or TFA	Depth In	Cum. Footage	Cum. Hrs.	Depth Out	IR	OR	DC	LOC	B/S	G/16"	OC	RPLD		
1	8 3/4	HUGHES	T606X	7149880	6x14's	1011													

From	To	Hrs.	Start Depth	End Depth	CL	Code	Time Breakdown			Current Operations			
13:15	13:30	0:15				10	C/S @ 2324' INC- 10.5 AZ- 281.8 TEMP-100						
13:30	13:40	0:10	2369	2389	20	2.B	SLIDE @ 40R GTF WOB-15 DIFF-200						
13:40	13:55	0:15	2389	2463	74	2.A	ROTATE WOB-25 ROT-50 DIFF-500						
13:55	14:10	0:15				10	C/S @ 2418' INC- 11.9 AZ- 289.1 TEMP-100						
14:10	14:20	0:10	2463	2558	95	2.A	ROTATE WOB-25 ROT-50 DIFF-500			DRILL TANGENT			
14:20	14:30	0:10				10	C/S @ 2513' INC- 11.3 AZ- 289.0 TEMP-100						
14:30	14:45	0:15	2558	2653	95	2.A	ROTATE WOB-25 ROT-50 DIFF-500						
14:45	14:55	0:10				10	C/S @ 2608' INC- 10.1 AZ- 289.7 TEMP-100						
14:55	15:05	0:10	2653	2673	20	2.B	SLIDE @ HS GTF WOB-15 DIFF-200						
15:05	15:20	0:15	2673	2748	75	2.A	ROTATE WOB-25 ROT-50 DIFF-500						
15:20	15:30	0:10				10	C/S @ 2703' INC- 11.8 AZ- 288.3 TEMP-105			Estimated Daily Charges			
15:30	15:40	0:10	2748	2763	15	2.B	SLIDE @ HS GTF WOB-15 DIFF-200			Description		Cost	
15:40	15:50	0:10	2763	2843	80	2.A	ROTATE WOB-25 ROT-50 DIFF-500						
15:50	16:00	0:10				10	C/S @ 2798' INC- 13.9 AZ- 288.0 TEMP-105						
16:00	16:15	0:15	2843	2938	95	2.A	ROTATE WOB-25 ROT-50 DIFF-500						
16:15	16:25	0:10				10	C/S @ 2893' INC- 12.7 AZ- 286.3 TEMP-105						
16:25	16:40	0:15	2938	3033	95	2.A	ROTATE WOB-25 ROT-50 DIFF-500						
16:40	16:50	0:10				10	C/S @ 2988' INC- 10.7 AZ- 285.7 TEMP-105						
16:50	17:00	0:10	3033	3053	20	2.B	SLIDE @ HS GTF WOB-15 DIFF-200						
17:00	17:10	0:10	3053	3128	75	2.A	ROTATE WOB-25 ROT-50 DIFF-500						
17:10	17:20	0:10				10	C/S @ 3083' INC- 11.7 AZ- 288.7 TEMP-105						
17:20	17:25	0:05	3128	3143	15	2.B	SLIDE @ HS GTF WOB-15 DIFF-200						
17:25	17:35	0:10	3143	3223	80	2.A	ROTATE WOB-25 ROT-50 DIFF-500			Estimated Daily Cost (USD)		\$ -	
17:35	17:45	0:10				10	C/S @ 3178' INC- 12.7 AZ- 289.7 TEMP-105			Accumulated Cost (USD)		\$ -	
17:45	17:55	0:10	3223	3318	95	2.A	ROTATE WOB-25 ROT-50 DIFF-500			Company Representative (s)			
17:55	18:20	0:25				10	C/S @ 3273' INC-11.6 AZ-291.1 TEMP-105			JIMMY DAVIS		GARTH STARR	
18:20	18:25	0:05	3318	3333	15	2.B	SLIDE @ HS GTF WOB-15 DIFF-200			STACIE REDDEN		RICHARD JOHN	
18:25	18:35	0:10	3333	3413	80	2.A	ROTATE WOB-25 ROT-50 DIFF-500			RYAN Directional Representative (s)			
18:35	18:45	0:10				10	C/S @ 3368' INC-12.9 AZ-290.7 TEMP-105			WESTON WHITE		JARED FAUST	
18:45	19:00	0:15	3413	3508	95	2.A	ROTATE WOB-25 ROT-50 DIFF-500						
19:00	19:15	0:15				10	C/S @ 3463' INC-12.4 AZ-291.2 TEMP-105			RYAN MWD Representative (s)			
19:15	19:25	0:10	3508	3603	95	2.A	ROTATE WOB-25 ROT-50 DIFF-500			ANDY STECKBECK		DEVIN WILLIAMS	
19:25	19:35	0:10				10	C/S @ 3558' INC-10.8 AZ-291.5 TEMP-105						
19:35	19:45	0:10	3603	3618	15	2.B	SLIDE @ HS GTF WOB-15 DIFF-200			24 Hour Breakdown			
19:45	19:55	0:10	3618	3698	80	2.A	ROTATE WOB-25 ROT-50 DIFF-500			Ftg Rot.	1209	Time Rot.	2.80
19:55	20:05	0:10				10	C/S @ 3653' INC-11.3 AZ-288.4 TEMP-105			Ftg Orient	135	Time Orient	1.20
20:05	20:15	0:10	3698	3713	15	2.B	SLIDE @ HS GTF WOB-15 DIFF-200			Rot. ROP	431.79	Orient ROP	112.50

Date: 14-Apr-14



A NABORS COMPANY

Ryan Job # **7422**

Oil Company:	EP Energy
Field:	Crocket Co.
County, State:	Crocket Co., Texas
AFE or PO #:	160548

Customer:	EP Energy
Well Name & No.:	University 4107 AH
Block or Section:	Big Lake
Rig Contractor & No.:	NORAM 21

00:00 Depth:	3713
24:00 Depth:	4172

Footage Today:	459
Current Run Ftg:	3161

Drlg Hrs Today:	1.90
Run Drlg Hrs:	11.20

ROP Today:	241.58
Run Avg. ROP:	282.23

Last Casing Set: 9 5/8"
Depth: 1011

[illegible]

Report #: 3

Date: 15-Apr-14



RYAN DIRECTIONAL SERVICES, INC.

A NABORS COMPANY

Ryan Job # 7422

DAILY DRILLING REPORT

Oil Company: EP Energy
Field: Crocket Co.
County, State: Crocket Co., Texas
AFE or PO #: 160548

Customer: EP Energy
Well Name & No.: University 4107 AH
Block or Section: Big Lake
Rig Contractor & No.: NORAM 21

00:00 Depth: 4172
24:00 Depth: 5502

Footage Today: 1330
Current Run Ftg: 4491

Drig Hrs Today: 9.30
Run Drig Hrs: 20.50

ROP Today: 143.01
Run Avg. ROP: 219.07

Last Casing Set: 9 5/8"
Depth: 1011

PUMP Data Total Gals/Min = 426				MUD DATA		Previous	Current	MOTOR DATA		CURRENT
Pump	Bonco	Bonco	0	Mud Type	OBM	BHA #	1	BHA #	Run No.	1
Liner (in)	6	6		Sample	IN			MOTOR	Size (in.)	6 3/4
%	97.5	97.5		Time	19:00			UBHO	Type	7/8 5.0 8 1/2 STAB
Vol (gps)	4.17	4.17	0.00	Wt.	9.5			MWD COLLAR	Serial No.	1011449-22
SPM	51	51		VIS	79			NMDC	Tool Deflection	1.5 FIXED
DRILLING PARAMETERS				PV	21			XOVER	Avg. Diff. Press.	500
ST. WT. ROT 1000's:	140			YP	21			3 6 1/4" DC	Daily Drill Hrs.	9.30
P/U WT. 1000's:	140			WL				XOVER	Daily Circ. Hrs.	2.80
S/O WT. 1000's:	135			CL	82000				Daily Total Hrs.	12.10
WOB 1000's:	15			Gels	14_22_27				Acc. Drill Hrs.	20.50
ROTARY RPM:	40			% Oil	71.9				Acc. Circ. Hrs.	11.30
MOTOR RPM:	123			% Solids	5.1				Depth In	1011
TOTAL Bit RPM	163			% Sand	0.01				Depth Out	
ROT TQ. OFF BTM:	2000			PH					LIH Hrs.	
ROT TQ. ON BTM:	10000			Temp F	103				Acc. LIH Hrs.	23.98
Current Mag Dec:	6.48			MWD F	114	BHA WT			Acc. Hrs Cir/Drig	31.80
Pulse Hight	80			GPM	425	BELOW JARS			Total K Revs	200.49
"G" Totals	1.001			PSI	1400				Jar # HRS	

BIT DATA														DULL CONDITION					
Bit No.	Size (in)	Mfg.	Type	Serial No.	Nozzles or TFA	Depth In	Cum. Footage	Cum. Hrs.	Depth Out	IR	OR	DC	LOC	B/S	G/16"	OC	RPLD		
1	8 3/4	HUGHES	T606X	7149880	6x14's	1011													

From	To	Hrs.	Start Depth	End Depth	CL	Code	Time Breakdown				Current Operations			
0:00	0:20	0:20	4172	4267	95	2.A	ROTATE	WOB-25	ROT-50	DIFF-500				
0:20	0:30	0:10				10	C/S @ 4222'	INC-11	AZ-284.3	TEMP-111	DRILL TANGENT			
0:30	0:50	0:20	4267	4287	20	2.B	SLIDE @	HS GTF	WOB-15	DIFF-200				
0:50	1:05	0:15	4287	4362	75	2.A	ROTATE	WOB-25	ROT-50	DIFF-500	F/4380' WOB-15, ROT-40, 425 GPM			
1:05	1:20	0:15				10	C/S @ 4317'	INC-11.7	AZ-284.7	TEMP-111				
1:20	1:35	0:15	4362	4382	20	2.B	SLIDE @	HS GTF	WOB-15	DIFF-200				
1:35	1:55	0:20	4382	4456	74	2.A	ROTATE	WOB-15	ROT-40	DIFF-500				
1:55	2:05	0:10				10	C/S @ 4411'	INC-12.4	AZ-286.9	TEMP-114				
2:05	2:15	0:10	4456	4466	10	2.B	SLIDE @	HS GTF	WOB-15	DIFF-200				
2:15	2:40	0:25	4466	4552	86	2.A	ROTATE	WOB-15	ROT-40	DIFF-500				
2:40	2:50	0:10				10	C/S @ 4507'	INC-12.2	AZ-288.5	TEMP-114	Estimated Daily Charges			
2:50	3:00	0:10	4552	4562	10	2.B	SLIDE @	HS GTF	WOB-15	DIFF-200	Description		Cost	
3:00	3:20	0:20	4562	4647	85	2.A	ROTATE	WOB-15	ROT-40	DIFF-500				
3:20	3:35	0:15				10	C/S @ 4602'	INC-11.9	AZ-288.2	TEMP-114				
3:35	3:45	0:10	4647	4657	10	2.B	SLIDE @	HS GTF	WOB-15	DIFF-200				
3:45	4:15	0:30	4657	4742	85	2.A	ROTATE	WOB-15	ROT-40	DIFF-500				
4:15	4:25	0:10				10	C/S @ 4697'	INC-11.7	AZ-285.6	TEMP-114				
4:25	4:40	0:15	4742	4757	15	2.B	SLIDE @	HS GTF	WOB-15	DIFF-200				
4:40	5:05	0:25	4757	4837	80	2.A	ROTATE	WOB-15	ROT-40	DIFF-500				
5:05	5:15	0:10				10	C/S @ 4792'	INC-12.3	AZ-284.6	TEMP-114				
5:15	5:55	0:40	4837	4932	95	2.A	ROTATE	WOB-15	ROT-40	DIFF-500				
5:55	6:05	0:10				10	C/S @ 4887'	INC- 11.0	AZ- 283.2	TEMP-114				
6:05	6:25	0:20	4932	4952	20	2.B	SLIDE @	40R GTF	WOB-15	DIFF-200	Estimated Daily Cost (USD)		\$	-
6:25	6:55	0:30	4952	5027	75	2.A	ROTATE	WOB-15	ROT-40	DIFF-500	Accumulated Cost (USD)		\$	-
6:55	7:10	0:15				10	C/S @ 4982'	INC- 12.2	AZ- 285.0	TEMP-114	Company Representative (s)			
7:10	7:30	0:20	5027	5042	15	2.B	SLIDE @	40R GTF	WOB-15	DIFF-200	JIMMY DAVIS		GARTH STARR	
7:30	7:55	0:25	5042	5122	80	2.A	ROTATE	WOB-15	ROT-40	DIFF-500	STACIE REDDEN		RICHARD JOHN	
7:55	8:10	0:15				10	C/S @ 5077'	INC- 12.2	AZ- 284.8	TEMP-114	RYAN Directional Representative (s)			
8:10	8:40	0:30	5122	5137	15	2.B	SLIDE @	40R GTF	WOB-15	DIFF-200	WESTON WHITE		JARED FAUST	
8:40	9:20	0:40	5137	5217	80	2.A	ROTATE	WOB-15	ROT-40	DIFF-500				
9:20	9:35	0:15				10	C/S @ 5172'	INC- 13.1	AZ- 287.2	TEMP-114	RYAN MWD Representative (s)			
9:35	10:05	0:30	5217	5312	95	2.A	ROTATE	WOB-15	ROT-40	DIFF-500	ANDY STECKBECK		DEVIN WILLIAMS	
10:05	10:20	0:15				10	C/S @ 5267'	INC- 12.0	AZ- 286.8	TEMP-114				
10:20	10:45	0:25	5312	5332	20	2.B	SLIDE @	70R GTF	WOB-15	DIFF-200	24 Hour Breakdown			
10:45	11:20	0:35	5332	5407	75	2.A	ROTATE	WOB-15	ROT-40	DIFF-500	Ftg Rot.	1175	Time Rot.	6.40
11:20	11:35	0:15				10	C/S @ 5362'	INC- AZ-	TEMP-114		Ftg Orient	155	Time Orient	2.90
11:35	12:05	0:30	5407	5502	95	2.A	ROTATE	WOB-15	ROT-40	DIFF-500	Rot. ROP	183.59	Orient ROP	53.45

Report #: 3A

Date: 15-Apr-14



RYAN DIRECTIONAL SERVICES, INC.

A NABORS COMPANY

Ryan Job #: 7422

DAILY DRILLING REPORT

Oil Company: EP Energy
Field: Crocket Co.
County, State: Crocket Co., Texas
AFE or PO #: 160548

Customer: EP Energy
Well Name & No.: University 4107 AH
Block or Section: Big Lake
Rig Contractor & No.: NORAM 21

00:00 Depth: 5502
24:00 Depth: 6547

Footage Today: 1045
Current Run Ftg: 5536

Drig Hrs Today: 7.20
Run Drig Hrs: 27.70

ROP Today: 145.14
Run Avg. ROP: 199.86

Last Casing Set: 9 5/8"
Depth: 1011

PUMP Data Total Gals/Min =					426		MUD DATA		Previous		Current		MOTOR DATA		CURRENT	
Pump	Bonco	Bonco	0	Mud Type	OBM			BIT		Run No.	1					
Liner (in)	6	6		Sample	IN			MOTOR		Size (in.)	6 3/4					
%	97.5	97.5		Time	20:00			UBHO		Type	7/8 5.0 8 1/2 STAB					
Vol (gps)	4.17	4.17	0.00	Wt.	9			MWD COLLAR		Serial No.	1011449-22					
SPM	51	51		VIS	55			NMDC		Tool Deflection	1.5 FIXED					
DRILLING PARAMETERS				PV	16			XOVER		Avg. Diff. Press.	500					
ST. WT. ROT 1000's:		150		YP	18			3 6 1/4" DC		Daily Drill Hrs.	7.20					
P/U WT. 1000's:		155		WL				XOVER		Daily Circ. Hrs.	3.60					
S/O WT. 1000's:		145		CL	77000					Daily Total Hrs:	10.80					
WOB 1000's:		15		Gels	12_17_20					Acc. Drill Hrs.	27.70					
ROTARY RPM:		40		% Oil	72.2					Acc. Circ. Hrs.	14.90					
MOTOR RPM:		123		% Solids	6.8					Depth In	1011					
TOTAL Bit RPM		163		% Sand	0.01					Depth Out						
ROT TQ. OFF BTM:		2000		PH						LIH Hrs.	23:59					
ROT TQ. ON BTM:		10000		Temp F	114					Acc. LIH Hrs.	47.97					
Current Mag Dec:		6.48		MWD F	125	BHA WT				Acc. Hrs Cir/Drilg	42.60					
Pulse Hight		80		GPM	425	BELOW JARS				Total K Revs	270.91					
"G" Totals		1.001		PSI	1400					Jar # HRS						

BIT DATA														DULL CONDITION					
Bit No.	Size (in)	Mfg.	Type	Serial No.	Nozzles or TFA	Depth In	Cum. Footage	Cum. Hrs.	Depth Out	IR	OR	DC	LOC	B/S	G/16"	OC	RPLD		
1	8 3/4	HUGHES	T606X	7149880	6x14's	1011													

From	To	Hrs.	Start Depth	End Depth	CL	Code	Time Breakdown	Current Operations			
12:05	12:20	0:15				10	C/S @ 5457' INC- 10.6 AZ- 291.2 TEMP-120				
12:20	12:50	0:30	5502	5597	95	2.A	ROTATE WOB-15 ROT-40 DIFF-500	DRILL TANGENT			
12:50	13:05	0:15				10	C/S @ 5552' INC- 9.1 AZ- 289.2 TEMP-120				
13:05	13:35	0:30	5597	5692	95	2.A	ROTATE WOB-15 ROT-40 DIFF-500	F/4380' T/KOP WOB-15, ROT-40, 425 GPM			
13:35	13:50	0:15				10	C/S @ 5647' INC- 7.7 AZ- 286.1 TEMP-120				
13:50	14:15	0:25	5692	5787	95	2.A	ROTATE WOB-15 ROT-40 DIFF-500				
14:15	14:30	0:15				10	C/S @ 5742' INC- 6.9 AZ- 283.9 TEMP-125	TOOH			
14:30	15:00	0:30	5787	5802	15	2.B	SLIDE @ 90R GTF WOB-15 DIFF-200				
15:00	15:30	0:30	5802	5882	80	2.A	ROTATE WOB-15 ROT-40 DIFF-500				
15:30	15:45	0:15				10	C/S @ 5837' INC- 6.3 AZ- 290.6 TEMP-125				
15:45	16:15	0:30	5882	5976	94	2.A	ROTATE WOB-15 ROT-40 DIFF-500	Estimated Daily Charges			
16:15	16:30	0:15				10	C/S @ 5931' INC- 5.1 AZ- 290.8 TEMP-125	Description		Cost	
16:30	16:55	0:25	5976	6071	95	2.A	ROTATE WOB-15 ROT-40 DIFF-500				
16:55	17:10	0:15				10	C/S @ 6026' INC-4.5 AZ-290.6 TEMP-125				
17:10	17:35	0:25	6071	6166	95	2.A	ROTATE WOB-15 ROT-40 DIFF-500				
17:35	18:05	0:30				7	RIG SERVICE				
18:05	18:15	0:10				10	C/S @ 6121' INC-3.8 AZ-286.7 TEMP-125				
18:15	18:40	0:25	6166	6178	12	2.B	SLIDE @ 90 MTF WOB-15 DIFF-200				
18:40	19:20	0:40	6178	6262	84	2.A	ROTATE WOB-15 ROT-40 DIFF-500				
19:20	19:30	0:10				10	C/S @ 6217' INC-2.2 AZ-303.8 TEMP-125				
19:30	20:30	1:00	6262	6357	95	2.A	ROTATE WOB-15 ROT-40 DIFF-500				
20:30	20:40	0:10				10	C/S @ 6312' INC-1.7 AZ-304.3 TEMP-125				
20:40	21:30	0:50	6357	6452	95	2.A	ROTATE WOB-15 ROT-40 DIFF-500	Estimated Daily Cost (USD)		\$ -	
21:30	21:40	0:10				10	C/S @ 6407' INC-1.4 AZ-303.5 TEMP-125	Accumulated Cost (USD)		\$ -	
21:40	22:10	0:30	6452	6547	95	2.A	ROTATE WOB-15 ROT-40 DIFF-500	Company Representative (s)			
22:10	22:15	0:05				10	C/S @ 6502' INC-0.9 AZ-299.4 TEMP-125	JIMMY DAVIS		GARTH STARR	
22:15	23:20	1:05				5.A	CIRCULATE AND PUMP SLUG	STACIE REDDEN		RICHARD JOHN	
23:20	23:59	0:39				6.A	TOOH	RYAN Directional Representative (s)			
								WESTON WHITE		JARED FAUST	
								RYAN MWD Representative (s)			
								ANDY STECKBECK		DEVIN WILLIAMS	
								24 Hour Breakdown			
								Ftg Rot.	1018	Time Rot.	6.30
								Ftg Orient	27	Time Orient	0.90
								Rot. ROP	161.59	Orient ROP	30.00

Report #: 4

Date: 16-Apr-14


RYAN DIRECTIONAL SERVICES, INC.

A NABORS COMPANY

Ryan Job #: 7422

DAILY DRILLING REPORT

Oil Company: **EP Energy**
 Field: **Crocket Co.**
 County, State: **Crocket Co., Texas**
 AFE or PO #: **160548**

Customer: **EP Energy**
 Well Name & No.: **University 4107 AH**
 Block or Section: **Big Lake**
 Rig Contractor & No.: **NORAM 21**

00:00 Depth: 0 Footage Today: 0 Drlg Hrs Today: 0.00 ROP Today: - Last Casing Set: 9 5/8"
 24:00 Depth: 0 Current Run Ftg: -1011 Run Drlg Hrs: 27.70 Run Avg. ROP: -36.50 Depth: 1011

PUMP Data Total Gals/Min = 426				MUD DATA		Previous	Current	MOTOR DATA		CURRENT
Pump	Bonco	Bonco	0	Mud Type	OBM	BHA #	1	BHA #	Run No.	1
Liner (in)	6	6		Sample	IN			MOTOR	Size (in.)	6 3/4
%	97.5	97.5		Time	20:00			UBHO	Type	7/8 5.0 8 1/2 STAB
Vol (gps)	4.17	4.17	0.00	Wt.	9			MWD COLLAR	Serial No.	1011449-22
SPM	51	51		VIS	55			NMDC	Tool Deflection	1.5 FIXED
DRILLING PARAMETERS				PV	16			XOVER	Avg. Diff. Press.	500
ST. WT. ROT 1000's:	150			YP	18			3 6 1/4" DC	Daily Drill Hrs.	0.00
P/U WT. 1000's:	155			WL				XOVER	Daily Circ. Hrs.	0.00
S/O WT. 1000's:	145			CL	77000				Daily Total Hrs:	0.00
WOB 1000's:	15			Gels	12_17_20				Acc. Drill Hrs.	27.70
ROTARY RPM:	40			% Oil	72.2				Acc. Circ. Hrs.	14.90
MOTOR RPM:	123			% Solids	6.8				Depth In	1011
TOTAL Bit RPM	163			% Sand	0.01				Depth Out	6547
ROT TQ. OFF BTM:	2000			PH					LIH Hrs.	3:30
ROT TQ. ON BTM:	10000			Temp F	114				Acc. LIH Hrs.	51.47
Current Mag Dec:	6.48			MWD F	125	BHA WT			Acc. Hrs Cir/Drilg	42.60
Pulse Hight	80			GPM	425	BELOW JARS			Total K Revs	270.91
"G" Totals	1.001			PSI	1400				Jar # HRS	

BIT DATA														DULL CONDITION					
Bit No.	Size (in)	Mfg.	Type	Serial No.	Nozzles or TFA	Depth In	Cum. Footage	Cum. Hrs.	Depth Out	IR	OR	DC	LOC	B/S	G/16"	OC	RPLD		
1	8 3/4	HUGHES	T606X	7149880	6x14's	1011	5536	27.7	6547								BHA		

From	To	Hrs.	Start Depth	End Depth	CL	Code	Time Breakdown	Current Operations			
0:00	2:45	2:45				6.A	TOOH	TOOH			
2:45	3:30	0:45				6.G	L/D BHA 1				
3:30	4:00	0:30				O	CLEAN RIG FLOOR	L/D BHA 1			
		</									

Report #: 4A

Date: 16-Apr-14



RYAN DIRECTIONAL SERVICES, INC.

A NABORS COMPANY

Ryan Job #: 7422

DAILY DRILLING REPORT

Oil Company: EP Energy
 Field: Crocket Co.
 County, State: Crocket Co., Texas
 AFE or PO #: 160548

Customer: EP Energy
 Well Name & No.: University 4107 AH
 Block or Section: Big Lake
 Rig Contractor & No.: NORAM 21

00:00 Depth: 6547
 24:00 Depth: 6925

Footage Today: 378
 Current Run Ftg: 378

Drig Hrs Today: 7.80
 Run Drig Hrs: 7.80

ROP Today: 48.46
 Run Avg. ROP: 48.46

Last Casing Set: 9 5/8"
 Depth: 1011

PUMP Data Total Gals/Min =					484		MUD DATA		Previous		Current		MOTOR DATA		CURRENT	
Pump	Bonco	Bonco	0	Mud Type	OBM	1	BHA #	2	BHA #							
Liner (in)	6	6		Sample	IN		MOTOR		MOTOR			Run No.		2		
%	97.5	97.5		Time	20:00		UBHO		UBHO			Type		4/5 7.0		
Vol (gps)	4.17	4.17	0.00	Wt.	9		MWD COLLAR		MWD COLLAR			Serial No.		900813-12		
SPM	58	58		VIS	55		NMDC		FLEX COLLAR			Tool Deflection		2.12 FIXED		
DRILLING PARAMETERS				PV	16		XOVER					Avg. Diff. Press.		250		
ST. WT. ROT 1000's:		160		YP	18		3 6 1/4" DC					Daily Drill Hrs.		7.80		
P/U WT. 1000's:		165		WL			XOVER					Daily Circ. Hrs.		2.40		
S/O WT. 1000's:		155		CL	77000							Daily Total Hrs:		10.20		
WOB 1000's:		25		Gels	12_17_20							Acc. Drill Hrs.		7.80		
ROTARY RPM:		20		% Oil	72.2							Acc. Circ. Hrs.		2.40		
MOTOR RPM:		260		% Solids	6.8							Depth In		6547		
TOTAL Bit RPM		280		% Sand	0.01							Depth Out				
ROT TQ. OFF BTM:		2000		PH								LIH Hrs.				
ROT TQ. ON BTM:		6000		Temp F	114							Acc. LIH Hrs.		0.00		
Current Mag Dec:		6.48		MWD F			BHA WT					Acc. Hrs Cir/Drilg		10.20		
Pulse Hight		80		GPM	510		BELOW JARS					Total K Revs		131.04		
G Totals		1.001		PSI	1950							Jar # HRS				

BIT DATA														DULL CONDITION					
Bit No.	Size (in)	Mfg.	Type	Serial No.	Nozzles or TFA	Depth In	Cum. Footage	Cum. Hrs.	Depth Out	IR	OR	DC	LOC	B/S	G/16"	OC	RPLD		
2	8 3/4	SMITH	FH121	RA7155	3X18'S	6547													

From	To	Hrs.	Start Depth	End Depth	CL	Code	Time Breakdown		Current Operations			
4:00	5:30	1:30				6.G	P/U BHA 2		P/U BHA 2			
5:30	10:00	4:30				6.A	TIH					
10:00	10:15	0:15				3.A	WASH LAST STAND TO BOTTOM		TIH			
10:15	10:25	0:10	6547	6558	11	2.A	ROTATE WOB-25 ROT-20 DIFF-250					
10:25	11:00	0:35	6558	6577	19	2.B	SLIDE @ 180 MTF WOB-20 DIFF-250		BUILD CURVE			
11:00	11:10	0:10	6577	6582	5	2.A	ROTATE WOB-25 ROT-20 DIFF-250					
11:10	11:45	0:35	6582	6609	27	2.B	SLIDE @ 180 MTF WOB-20 DIFF-250		KOP @ 6553'			
11:45	12:00	0:15				10	C/S @ 6564' INC- 1.8 AZ- 208.5 TEMP-115					
12:00	12:10	0:10	6609	6614	5	2.A	ROTATE WOB-25 ROT-20 DIFF-250					
12:10	12:30	0:20	6614	6640	26	2.B	SLIDE @ 180 MTF WOB-30 DIFF-250					
12:30	12:45	0:15				10	C/S @ 6595' INC- 5.4 AZ- 191.2 TEMP-120		Estimated Daily Charges			
12:45	12:55	0:10	6640	6644	4	2.A	ROTATE WOB-25 ROT-20 DIFF-250		Description		Cost	
12:55	13:20	0:25	6644	6672	28	2.B	SLIDE @ 10L GTF WOB-30 DIFF-250					
13:20	13:20	0:00	6672	6672	0	KOP	C/S @ 6627' INC- 10.0 AZ- 182.0 TEMP-120					
13:20	13:50	0:30	6672	6682	10	2.A	ROTATE WOB-25 ROT-20 DIFF-250					
13:50	14:05	0:15	6682	6704	22	2.B	SLIDE @ HS GTF WOB-30 DIFF-250					
14:05	14:20	0:15				10	C/S @ 6659' INC- 14.5 AZ- 181.5 TEMP-120					
14:20	14:30	0:10	6704	6713	9	2.A	ROTATE WOB-25 ROT-20 DIFF-250					
14:30	14:50	0:20	6713	6735	22	2.B	SLIDE @ HS GTF WOB-30 DIFF-250					
14:50	15:05	0:15				10	C/S @ 6690' INC- 17.7 AZ- 182.6 TEMP-120					
15:05	15:15	0:10	6735	6746	11	2.A	ROTATE WOB-25 ROT-20 DIFF-250					
15:15	15:35	0:20	6746	6767	21	2.B	SLIDE @ 10L GTF WOB-30 DIFF-250					
15:35	15:50	0:15				10	C/S @ 6722' INC- 21.0 AZ- 182.4 TEMP-120		Estimated Daily Cost (USD)		\$	-
15:50	16:00	0:10	6767	6772	5	2.A	ROTATE WOB-25 ROT-20 DIFF-250		Accumulated Cost (USD)		\$	-
16:00	16:25	0:25	6772	6799	27	2.B	SLIDE @ 10L GTF WOB-30 DIFF-250		Company Representative (s)			
16:25	16:35	0:10				10	C/S @ 6754' INC- 23.9 AZ- 180.7 TEMP-120		JIMMY DAVIS		GARTH STARR	
16:35	16:40	0:05	6799	6802	3	2.A	ROTATE WOB-25 ROT-20 DIFF-250		STACIE REDDEN		RICHARD JOHN	
16:40	17:15	0:35	6802	6830	28	2.B	SLIDE @ HS GTF WOB-30 DIFF-250		RYAN Directional Representative (s)			
17:15	17:30	0:15				10	C/S @ 6785' INC- 27.4 AZ- 178.7 TEMP-120		WESTON WHITE		JARED FAUST	
17:30	17:35	0:05	6830	6832	2	2.A	ROTATE WOB-25 ROT-20 DIFF-250					
17:35	18:20	0:45	6832	6862	30	2.B	SLIDE @ HS GTF WOB-30 DIFF-250		RYAN MWD Representative (s)			
18:20	18:35	0:15				10	C/S @ 6817' INC-31.6 AZ-179.1 TEMP-120		ANDY STECKBECK		DEVIN WILLIAMS	
18:35	18:45	0:10	6862	6867	5	2.A	ROTATE WOB-25 ROT-20 DIFF-250					
18:45	19:20	0:35	6867	6893	26	2.B	SLIDE @ HS GTF WOB-30 DIFF-250		24 Hour Breakdown			
19:20	19:35	0:15				10	C/S @ 6848' INC-35.6 AZ-180.9 TEMP-125		Ftg Rot.	70	Time Rot.	2.00
19:35	20:10	0:35	6893	6925	32	2.B	SLIDE @ HS GTF WOB-30 DIFF-250		Ftg Orient	308	Time Orient	5.80
20:10	20:25	0:15				12	C/S @ 6880' INC- AZ- TEMP-125		Rot. ROP	35.00	Orient ROP	53.10

4B

16-Apr-14



A NABORS COMPANY

7422

AFE or PO #: 160548

Rig Contractor & No.:	NORAM 21
-----------------------	----------

6925

101

2.80

36.07

9 5/8"

7026

479

10.60

45.19

1011

[illegible]

Report #: 5

Date: 17-Apr-14



RYAN DIRECTIONAL SERVICES, INC.

A NABORS COMPANY

Ryan Job #: 7422

DAILY DRILLING REPORT

Oil Company: EP Energy
 Field: Crocket Co.
 County, State: Crocket Co., Texas
 AFE or PO #: 160548

Customer: EP Energy
 Well Name & No.: University 4107 AH
 Block or Section: Big Lake
 Rig Contractor & No.: NORAM 21

00:00 Depth: 7026
 24:00 Depth: 7241

Footage Today: 215
 Current Run Ftg: 694

Drig Hrs Today: 5.90
 Run Drig Hrs: 16.50

ROP Today: 36.44
 Run Avg. ROP: 42.06

Last Casing Set: 9 5/8"
 Depth: 1011

PUMP Data Total Gals/Min = 484				MUD DATA		Previous	Current	MOTOR DATA		CURRENT
Pump	Bonco	Bonco	0	Mud Type	OBM	BIT	BIT	Run No.	2	
Liner (in)	6	6		Sample	IN	MOTOR	MOTOR	Size (in.)	6 3/4	
%	97.5	97.5		Time	18:00	UBHO	UBHO	Type	4/5 7.0	
Vol (gals)	4.17	4.17	0.00	Wt.	9.1	MWD COLLAR	MWD COLLAR	Serial No.	900813-12	
SPM	58	58		VIS	68	NMDC	FLEX COLLAR	Tool Deflection	2.12 FIXED	
DRILLING PARAMETERS				PV	16	XOVER		Avg. Diff. Press.	250	
ST. WT. ROT 1000's:	160			YP	18	3 6 1/4" DC		Daily Drill Hrs.	5.90	
P/U WT. 1000's:	165			WL		XOVER		Daily Circ. Hrs.	3.10	
S/O WT. 1000's:	155			CL	65000			Daily Total Hrs.	9.00	
WOB 1000's:	25			Gels	12_17_20			Acc. Drill Hrs.	16.50	
ROTARY RPM:	20			% Oil	72.5			Acc. Circ. Hrs.	6.30	
MOTOR RPM:	260			% Solids	4			Depth In	6547	
TOTAL Bit RPM	280			% Sand	0.01			Depth Out	7241	
ROT TQ. OFF BTM:	2000			PH				LIH Hrs.	12:30	
ROT TQ. ON BTM:	6000			Temp F	105			Acc. LIH Hrs.	32.48	
Current Mag Dec:	6.48			MWD F	129	BHA WT		Acc. Hrs Cir/Drig	22.80	
Pulse Hight	50			GPM	510	BELOW JARS		Total K Revs	277.20	
"G" Totals	1.001			PSI	2000			Jar # HRS		

BIT DATA														DULL CONDITION					
Bit No.	Size (in)	Mfg.	Type	Serial No.	Nozzles or TFA	Depth In	Cum. Footage	Cum. Hrs.	Depth Out	IR	OR	DC	LOC	B/S	G/16"	OC	RPLD		
2	8 3/4	SMITH	FH121	RA7155	3X18'S	6547	694	16.2	7241									BHA	

From	To	Hrs.	Start Depth	End Depth	CL	Code	Time Breakdown				Current Operations							
0:00	0:35	0:35	7026	7051	25	2.B	SLIDE @ 20L GTF WOB-30 DIFF-250											
0:35	0:50	0:15				10	C/S @ 7006' INC-56.7 AZ-181.1 TEMP-129											
0:50	0:55	0:05	7051	7055	4	2.A	ROTATE WOB-25 ROT-20 DIFF-250											
0:55	1:45	0:50	7055	7083	28	2.B	SLIDE @ 20L GTF WOB-30 DIFF-250											
1:45	2:00	0:15				10	C/S @ 7038' INC-60.2 AZ-180.8 TEMP-131				BUILD CURVE							
2:00	2:40	0:40	7083	7114	31	2.B	SLIDE @ HS GTF WOB-30 DIFF-250											
2:40	3:00	0:20				10	C/S @ 7069' INC-64.1 AZ-180.4 TEMP-131				KOP @ 6553'							
3:00	3:05	0:05	7114	7116	2	2.A	ROTATE WOB-25 ROT-20 DIFF-250											
3:05	3:50	0:45	7116	7146	30	2.B	SLIDE @ HS GTF WOB-30 DIFF-250											
3:50	4:05	0:15				10	C/S @ 7101' INC-69 AZ-180.1 TEMP-131											
4:05	4:15	0:10	7146	7152	6	2.A	ROTATE WOB-25 ROT-20 DIFF-250				Estimated Daily Charges							
4:15	5:00	0:45	7152	7177	25	2.B	SLIDE @ HS GTF WOB-30 DIFF-250				Description		Cost					
5:00	5:15	0:15				10	C/S @ 7132' INC-73.8 AZ-180.1 TEMP-131											
5:15	5:40	0:25	7177	7191	14	2.A	ROTATE WOB-25 ROT-20 DIFF-250											
5:40	6:10	0:30	7191	7209	18	2.B	SLIDE @ HS GTF WOB-30 DIFF-250											
6:10	6:25	0:15				10	C/S @ 7164' INC- 78.3 AZ- 180.2 TEMP-131											
6:25	6:45	0:20	7209	7216	7	2.A	ROTATE WOB-25 ROT-20 DIFF-250											
6:45	7:30	0:45	7216	7241	25	2.B	SLIDE @ HS GTF WOB-30 DIFF-250											
7:30	7:45	0:15				10	C/S @ 7196' INC- 82.1 AZ- 180.5 TEMP-131											
7:45	9:00	1:15				5.A	CIRCULATE AND PUMP SLUG											
9:00	12:30	3:30				6.A	TOOH TO L/D CURVE ASSY											
12:30	13:30	1:00				6.G	L/D BHA# 2											
13:30	14:00	0:30				O	CLEAN RIG FLOOR				Estimated Daily Cost (USD)		\$ -					
											Accumulated Cost (USD)		\$ -					
											Company Representative (s)							
											JIMMY DAVIS		GARTH STARR					
											STACIE REDDEN		RICHARD JOHN					
											RYAN Directional Representative (s)							
											WESTON WHITE		JARED FAUST					
											RYAN MWD Representative (s)							
											ANDY STECKBECK		DEVIN WILLIAMS					
											24 Hour Breakdown							
											Ftg Rot.		33		Time Rot.		1.10	
											Ftg Orient		182		Time Orient		4.80	
											Rot. ROP		30.00		Orient ROP		37.92	

Date: 17-Apr-14



A NABORS COMPANY

Ryan Job # 7422

Oil Company:	EP Energy
Field:	Crocket Co.
County, State:	Crocket Co., Texas
AFE or PO #:	160548

Customer:	EP Energy
Well Name & No.:	University 4107 AH
Block or Section:	Big Lake
Rig Contractor & No.:	NORAM 21

00:00 Depth:	7241
24:00 Depth:	7519

Footage Today:	278
Current Run Ftg:	278

Drlg Hrs Today:	4.10
Run Drlg Hrs:	4.10

ROP Today:	67.80
Un Adj. Avg. ROP:	67.80

Last Casing Set: 9 5/8"
Depth: 1011

[illegible]

Report #: 6

Date: 18-Apr-14



RYAN DIRECTIONAL SERVICES, INC.

A NABORS COMPANY

Ryan Job # 7422

DAILY DRILLING REPORT

Oil Company: EP Energy
Field: Crocket Co.
County, State: Crocket Co., Texas
AFE or PO #: 160548

Customer: EP Energy
Well Name & No.: University 4107 AH
Block or Section: Big Lake
Rig Contractor & No.: NORAM 21

00:00 Depth: 7519
24:00 Depth: 8849

Footage Today: 1330
Current Run Ftg: 1608

Drig Hrs Today: 16.00
Run Drig Hrs: 20.10

ROP Today: 83.13
Run Avg. ROP: 80.00

Last Casing Set: 9 5/8"
Depth: 1011

					Previous		Current				
PUMP Data Total Gals/Min =			601	MUD DATA		2	BHA #	3	BHA #	MOTOR DATA	CURRENT
Pump	Bonco	Bonco	0	Mud Type	OBM	BIT		BIT		Run No.	3
Liner (in)	6	6		Sample	IN	MOTOR		MOTOR		Size (in.)	6 3/4
%	97.5	97.5		Time	18:00	UBHO		UBHO		Type	7/8 5.0
Vol (gps)	4.17	4.17	0.00	Wt.	9	MWD COLLAR		MWD COLLAR		Serial No.	DRM-675-4096551
SPM	72	72		VIS	63	FLEX		NMDC		Tool Deflection	1.83 FBH
DRILLING PARAMETERS				PV	16			AGITATOR		Avg. Diff. Press.	500
ST. WT. ROT 1000's:		170		YP	18			SHOCK SUB		Daily Drill Hrs.	16.00
P/U WT. 1000's:		180		WL						Daily Circ. Hrs.	3.50
S/O WT. 1000's:		160		CL	64000					Daily Total Hrs:	19.50
WOB 1000's:		25		Gels	13_16_20					Acc. Drill Hrs.	20.10
ROTARY RPM:		55		% Oil	72.5					Acc. Circ. Hrs.	3.90
MOTOR RPM:		174		% Solids	4.7					Depth In	7241
TOTAL Bit RPM		229		% Sand	0.01					Depth Out	
ROT TQ. OFF BTM:		4000		PH						LIH Hrs.	
ROT TQ. ON BTM:		20000		Temp F						Acc. LIH Hrs.	10.00
Current Mag Dec:		6.48		MWD F	127	BHA WT				Acc. Hrs Cir/Drilg	24.00
Pulse Hight		50		GPM	600	BELOW JARS				Total K Revs	276.17
G Totals		1.001		PSI	2900					Jar # HRS	

BIT DATA														DULL CONDITION					
Bit No.	Size (in)	Mfg.	Type	Serial No.	Nozzles or TFA	Depth In	Cum. Footage	Cum. Hrs.	Depth Out	IR	OR	DC	LOC	B/S	G/16"	OC	RPLD		
3	8 3/4	HUGHES	T606X	7147855	6x18's	7241													

From	To	Hrs.	Start Depth	End Depth	CL	Code	Time Breakdown				Current Operations			
0:00	0:15	0:15				10	C/S @ 7474' INC-90.2 AZ-180.1 TEMP-136							
0:15	0:50	0:35	7519	7614	95	2.A	ROTATE WOB-25 ROT-55 DIFF-500							
0:50	1:05	0:15				10	C/S @ 7569' INC-90.3 AZ-180.5 TEMP-140							
1:05	1:50	0:45	7614	7709	95	2.A	ROTATE WOB-25 ROT-55 DIFF-500							
1:50	2:05	0:15				10	C/S @ 7664' INC-90 AZ-179.4 TEMP-143							
2:05	2:45	0:40	7709	7804	95	2.A	ROTATE WOB-25 ROT-55 DIFF-500							
2:45	3:00	0:15				10	C/S @ 7759' INC-89.8 AZ-174 TEMP-145							
3:00	3:45	0:45	7804	7839	35	2.B	SLIDE @ 90R GTF WOB-15 DIFF-250							
3:45	4:10	0:25	7839	7899	60	2.A	ROTATE WOB-25 ROT-55 DIFF-500							
4:10	4:25	0:15				10	C/S @ 7854' INC-90.3 AZ-177 TEMP-147							
4:25	5:10	0:45	7899	7924	25	2.B	SLIDE @ 90R GTF WOB-15 DIFF-250							
5:10	5:55	0:45	7924	7994	70	2.A	ROTATE WOB-25 ROT-55 DIFF-500							
5:55	6:10	0:15				10	C/S @ 7949' INC-90.7 AZ-179.8 TEMP-147							
6:10	6:45	0:35	7994	8011	17	2.B	SLIDE @ 20R GTF WOB-15 DIFF-250							
6:45	7:55	1:10	8011	8090	79	2.A	ROTATE WOB-25 ROT-55 DIFF-500							
7:55	8:10	0:15				10	C/S @ 8045' INC- 90.1 AZ- 181.1 TEMP-147							
8:10	9:15	1:05	8090	8115	25	2.B	SLIDE @ 20R GTF WOB-15 DIFF-250							
9:15	9:50	0:35	8115	8184	69	2.A	ROTATE WOB-25 ROT-55 DIFF-500							
9:50	10:05	0:15				10	C/S @ 8139' INC- 92.7 AZ- 182.5 TEMP-147							
10:05	10:45	0:40	8184	8279	95	2.A	ROTATE WOB-25 ROT-55 DIFF-500							
10:45	11:00	0:15				10	C/S @ 8234' INC- 89.7 AZ- 178.6 TEMP-147							
11:00	11:50	0:50	8279	8309	30	2.B	SLIDE @ 40R GTF WOB-15 DIFF-250							
11:50	12:35	0:45	8309	8374	65	2.A	ROTATE WOB-25 ROT-55 DIFF-500							
12:35	12:50	0:15				10	C/S @ 8329' INC- 91.6 AZ- 179.6 TEMP-155							
12:50	13:45	0:55	8374	8404	30	2.B	SLIDE @ 30R GTF WOB-15 DIFF-250							
13:45	14:30	0:45	8404	8469	65	2.A	ROTATE WOB-25 ROT-55 DIFF-500							
14:30	14:45	0:15				10	C/S @ 8424' INC- 95.1 AZ- 181.7 TEMP-155							
14:45	15:05	0:20	8469	8481	12	2.B	SLIDE @ 160R GTF WOB-15 DIFF-250							
15:05	15:50	0:45	8481	8564	83	2.A	ROTATE WOB-25 ROT-55 DIFF-500							
15:50	16:05	0:15				10	C/S @ 8519' INC- 93.4 AZ- 182.2 TEMP-155							
16:05	16:50	0:45	8564	8659	95	2.A	ROTATE WOB-25 ROT-55 DIFF-500							
16:50	17:05	0:15				10	C/S @ 8614' INC-93.1 AZ- 182.1 TEMP-155							
17:05	17:35	0:30				7	RIG SERVICE							
17:35	18:25	0:50	8659	8754	95	2.A	ROTATE WOB-25 ROT-55 DIFF-500							
18:25	18:40	0:15				10	C/S @ 8709' INC-93.1 AZ-181.4 TEMP-159							
18:40	19:20	0:40	8754	8774	20	2.B	SLIDE @ 160R GTF WOB-15 DIFF-250							
19:20	20:00	0:40	8774	8849	75	2.A	ROTATE WOB-25 ROT-55 DIFF-500							
											24 Hour Breakdown			
											Ftg Rot.	1136	Time Rot.	10.10
											Ftg Orient	194	Time Orient	5.90
											Rot. ROP	112.48	Orient ROP	32.88

Date: 18-Apr-14



A NABORS COMPANY

Ryan Job # **7422**

Customer:	EP Energy
Well Name & No.:	University 4107 AH
Block or Section:	Big Lake
Rig Contractor & No.:	NORAM 21

Last Casing Set: 9 5/8"
Depth: 1011

[illegible]

Report #: 7

Date: 19-Apr-14



RYAN DIRECTIONAL SERVICES, INC.

A NABORS COMPANY

Ryan Job #: 7422

DAILY DRILLING REPORT

Oil Company: EP Energy
 Field: Crocket Co.
 County, State: Crocket Co., Texas
 AFE or PO #: 160548

Customer: EP Energy
 Well Name & No.: University 4107 AH
 Block or Section: Big Lake
 Rig Contractor & No.: NORAM 21

00:00 Depth: 9134
 24:00 Depth: 10653

Footage Today: 1519
 Current Run Ftg: 3412

Drig Hrs Today: 13.60
 Run Drig Hrs: 36.70

ROP Today: 111.69
 Run Avg. ROP: 92.97

Last Casing Set: 9 5/8"
 Depth: 1011

PUMP Data Total Gals/Min = 601				MUD DATA		Previous	Current	MOTOR DATA		CURRENT
Pump	Bonco	Bonco	0	Mud Type	OBM	2	BHA #	3	BHA #	
Liner (in)	6	6		Sample	IN					
%	97.5	97.5		Time	18:00					
Vol (gals)	4.17	4.17	0.00	Wt.	9					
SPM	72	72		VIS	54					
DRILLING PARAMETERS				PV	15					
ST. WT. ROT 1000's:	165			YP	15					
P/U WT. 1000's:	200			WL						
S/O WT. 1000's:	145			CL	63000					
WOB 1000's:	25			Gels	13_16_20					
ROTARY RPM:	50			% Oil	72.5					
MOTOR RPM:	174			% Solids	4.8					
TOTAL Bit RPM	224			% Sand	0.01					
ROT TQ. OFF BTM:	4000			PH						
ROT TQ. ON BTM:	18000			Temp F	140					
Current Mag Dec:	6.48			MWD F	167					
Pulse Hight	50			GPM	600					
G Totals	1.001			PSI	3000					

BIT DATA														DULL CONDITION					
Bit No.	Size (in)	Mfg.	Type	Serial No.	Nozzles or TFA	Depth In	Cum. Footage	Cum. Hrs.	Depth Out	IR	OR	DC	LOC	B/S	G/16"	OC	RPLD		
3	8 3/4	HUGHES	T606X	7147855	6x18's	7241													

From	To	Hrs.	Start Depth	End Depth	CL	Code	Time Breakdown				Current Operations				
0:00	0:10	0:10	9134	9141	7	2.B	SLIDE @ 180 GTF WOB-15 DIFF-250								
0:10	0:50	0:40	9141	9229	88	2.A	ROTATE WOB-25 ROT-50 DIFF-500								
0:50	1:05	0:15				10	C/S @ 9184' INC-89.1 AZ-181.6 TEMP-165								
1:05	1:10	0:05	9229	9235	6	2.B	SLIDE @ HS GTF WOB-15 DIFF-250				DRILL LATERAL				
1:10	2:00	0:50	9235	9325	90	2.A	ROTATE WOB-25 ROT-50 DIFF-500								
2:00	2:15	0:15				10	C/S @ 9280' INC-91.1 AZ-183.2 TEMP-167								
2:15	3:00	0:45	9325	9420	95	2.A	ROTATE WOB-25 ROT-50 DIFF-500								
3:00	3:15	0:15				10	C/S @ 9375' INC-90.1 AZ-182.5 TEMP-167								
3:15	3:45	0:30	9420	9435	15	2.B	SLIDE @ 90L GTF WOB-15 DIFF-250								
3:45	4:40	0:55	9435	9515	80	2.A	ROTATE WOB-25 ROT-50 DIFF-500								
4:40	4:55	0:15				10	C/S @ 9470' INC-89.8 AZ-181.6 TEMP-167				Estimated Daily Charges				
4:55	5:25	0:30	9515	9530	15	2.B	SLIDE @ 90L GTF WOB-15 DIFF-250				Description		Cost		
5:25	6:15	0:50	9530	9610	80	2.A	ROTATE WOB-25 ROT-50 DIFF-500								
6:15	6:30	0:15				10	C/S @ 9565' INC-91.0 AZ-180.8 TEMP-167								
6:30	7:10	0:40	9610	9704	94	2.A	ROTATE WOB-25 ROT-50 DIFF-500								
7:10	7:25	0:15				10	C/S @ 9659' INC-89.2 AZ-179.4 TEMP-167								
7:25	8:10	0:45	9704	9799	95	2.A	ROTATE WOB-25 ROT-50 DIFF-500								
8:10	8:25	0:15				10	C/S @ 9754' INC-91.3 AZ-180.5 TEMP-167								
8:25	9:15	0:50	9799	9894	95	2.A	ROTATE WOB-25 ROT-50 DIFF-500								
9:15	9:30	0:15				10	C/S @ 9849' INC-90.9 AZ-180.6 TEMP-167								
9:30	10:30	1:00	9894	9989	95	2.A	ROTATE WOB-25 ROT-50 DIFF-500								
10:30	10:45	0:15				10	C/S @ 9944' INC-89.1 AZ-179.2 TEMP-167								
10:45	11:20	0:35	9989	10084	95	2.A	ROTATE WOB-25 ROT-50 DIFF-500				Estimated Daily Cost (USD)		\$ -		
11:20	11:35	0:15				10	C/S @ 10039' INC-90.3 AZ-178.8 TEMP-167				Accumulated Cost (USD)		\$ -		
11:35	12:15	0:40	10084	10179	95	2.A	ROTATE WOB-25 ROT-50 DIFF-500				Company Representative (s)				
12:15	12:30	0:15				10	C/S @ 10134' INC-91.2 AZ-180.4 TEMP-167				JIMMY DAVIS		GARTH STARR		
12:30	13:20	0:50	10179	10274	95	2.A	ROTATE WOB-25 ROT-50 DIFF-500				STACIE REDDEN		RICHARD JOHN		
13:20	13:35	0:15				10	C/S @ 10229' INC-90.2 AZ-178.5 TEMP-167				RYAN Directional Representative (s)				
13:35	14:10	0:35	10274	10369	95	2.A	ROTATE WOB-25 ROT-50 DIFF-500				WESTON WHITE		JARED FAUST		
14:10	14:25	0:15				10	C/S @ 10324' INC-90.7 AZ-179.2 TEMP-167								
14:25	15:00	0:35	10369	10464	95	2.A	ROTATE WOB-25 ROT-50 DIFF-500				RYAN MWD Representative (s)				
15:00	15:15	0:15				10	C/S @ 10416' INC-90.9 AZ-179.3 TEMP-167				ANDY STECKBECK		DEVIN WILLIAMS		
15:15	16:00	0:45	10464	10559	95	2.A	ROTATE WOB-25 ROT-50 DIFF-500								
16:00	16:15	0:15				10	C/S @ 10514' INC-90.8 AZ-178.3 TEMP-167				24 Hour Breakdown				
16:15	16:55	0:40	10559	10584	25	2.B	SLIDE @ 90R GTF WOB-15 DIFF-250				Ftg Rot.		1451	Time Rot.	11.70
16:55	17:20	0:25	10584	10653	69	2.A	ROTATE WOB-25 ROT-50 DIFF-500				Ftg Orient		68	Time Orient	1.90
17:20	17:35	0:15				10	C/S @ 10608' INC-90.2 AZ-181.3 TEMP-167				Rot. ROP		124.02	Orient ROP	35.79

Report #: 7A

Date: 19-Apr-14



RYAN DIRECTIONAL SERVICES, INC.

A NABORS COMPANY

Ryan Job #: 7422

DAILY DRILLING REPORT

Oil Company: EP Energy
 Field: Crocket Co.
 County, State: Crocket Co., Texas
 AFE or PO #: 160548

Customer: EP Energy
 Well Name & No.: University 4107 AH
 Block or Section: Big Lake
 Rig Contractor & No.: NORAM 21

00:00 Depth: 10653
 24:00 Depth: 11068

Footage Today: 415
 Current Run Ftg: 3827

Drig Hrs Today: 4.90
 Run Drig Hrs: 41.60

ROP Today: 84.69
 Run Avg. ROP: 92.00

Last Casing Set: 9 5/8"
 Depth: 1011

PUMP Data Total Gals/Min =					584		MUD DATA		Previous		Current			
Pump		Bonco	Bonco	0	Mud Type	OBM	2	BHA #	3	BHA #	MOTOR DATA		CURRENT	
Liner (in)	6	6		Sample	IN			MOTOR		MOTOR	Run No.	3		
%	97.5	97.5		Time	18:00			UBHO		UBHO	Type	7/8 5.0		
Vol (gps)	4.17	4.17	0.00	Wt.	9.1			MWD COLLAR		MWD COLLAR	Serial No.	DRM-675-4096551		
SPM	70	70		VIS	60			FLEX		NMDC	Tool Deflection	1.83 FBH		
DRILLING PARAMETERS					PV	17				AGITATOR	Avg. Diff. Press.	500		
ST. WT. ROT 1000's:		165			YP	18				SHOCK SUB	Daily Drill Hrs.	4.90		
P/U WT. 1000's:		220			WL						Daily Circ. Hrs.	1.00		
S/O WT. 1000's:		130			CL	64000					Daily Total Hrs:	5.90		
WOB 1000's:		25			Gels	14_17_21					Acc. Drill Hrs.	41.60		
ROTARY RPM:		50			% Oil	72.5					Acc. Circ. Hrs.	9.90		
MOTOR RPM:		169			% Solids	4					Depth In	7241		
TOTAL Bit RPM		219			% Sand	0.01					Depth Out			
ROT TQ. OFF BTM:		4000			PH						LIH Hrs.	23:59		
ROT TQ. ON BTM:		18000			Temp F	150					Acc. LIH Hrs.	57.97		
Current Mag Dec:		6.48			MWD F	170		BHA WT			Acc. Hrs Cir/Drilg	51.50		
Pulse Hight		35			GPM	585		BELOW JARS			Total K Revs	546.62		
"G" Totals		1.001			PSI	3300					Jar # HRS			

BIT DATA														DULL CONDITION					
Bit No.	Size (in)	Mfg.	Type	Serial No.	Nozzles or TFA	Depth In	Cum. Footage	Cum. Hrs.	Depth Out	IR	OR	DC	LOC	B/S	G/16"	OC	RPLD		
3	8 3/4	HUGHES	T606X	7147855	6x18's	7241													

From	To	Hrs.	Start Depth	End Depth	CL	Code	Time Breakdown	Current Operations			
17:35	18:05	0:30				7	RIG SERVICE				
18:05	18:55	0:50	10653	10748	95	2.A	ROTATE WOB-25 ROT-50 DIFF-500				
18:55	19:10	0:15				10	C/S @ 10703' INC-90.1 AZ-183.8 TEMP-167				
19:10	19:35	0:25	10748	10763	15	2.B	SLIDE @ 90L GTF WOB-15 DIFF-200	DRILL LATERAL			
19:35	20:20	0:45	10763	10843	80	2.A	ROTATE WOB-25 ROT-50 DIFF-500				
20:20	20:35	0:15				10	C/S @ 10798' INC-90.1 AZ-183.1 TEMP-167				
20:35	21:15	0:40	10843	10858	15	2.B	SLIDE @ 90L GTF WOB-15 DIFF-200				
21:15	21:55	0:40	10858	10939	81	2.A	ROTATE WOB-25 ROT-50 DIFF-500				
21:55	22:10	0:15				10	C/S @ 10894' INC-90.7 AZ-182.4 TEMP-170				
22:10	22:45	0:35	10939	10959	20	2.B	SLIDE @ 90L GTF WOB-15 DIFF-200				
22:45	23:30	0:45	10959	11034	75	2.A	ROTATE WOB-25 ROT-50 DIFF-500	Estimated Daily Charges			
23:30	23:45	0:15				10	C/S @ 10989' INC-89.5 AZ-180.9 TEMP-170	Description		Cost	
23:45	23:59	0:14	11034	11068	34	2.A	ROTATE WOB-25 ROT-50 DIFF-500				

Report #: 8

Date: 20-Apr-14



RYAN DIRECTIONAL SERVICES, INC.

A NABORS COMPANY

Ryan Job #: 7422

DAILY DRILLING REPORT

Oil Company: EP Energy
 Field: Crocket Co.
 County, State: Crocket Co., Texas
 AFE or PO #: 160548

Customer: EP Energy
 Well Name & No.: University 4107 AH
 Block or Section: Big Lake
 Rig Contractor & No.: NORAM 21

00:00 Depth: 11068
 24:00 Depth: 11460

Footage Today: 392
 Current Run Ftg: 4219

Drig Hrs Today: 6.10
 Run Drig Hrs: 47.70

ROP Today: 64.26
 Run Avg. ROP: 88.45

Last Casing Set: 9 5/8"
 Depth: 1011

					Previous		Current				
PUMP Data Total Gals/Min =			584	MUD DATA		2	BHA #	3	BHA #	MOTOR DATA	CURRENT
Pump	Bonco	Bonco	0	Mud Type	OBM	BIT		BIT		Run No.	3
Liner (in)	6	6		Sample	IN	MOTOR		MOTOR		Size (in.)	6 3/4
%	97.5	97.5		Time	18:00	UBHO		UBHO		Type	7/8 5.0
Vol (gps)	4.17	4.17	0.00	Wt.	9.1	MWD COLLAR		MWD COLLAR		Serial No.	DRM-675-4096551
SPM	70	70		VIS	60	FLEX		NMDC		Tool Deflection	1.83 FBH
DRILLING PARAMETERS				PV	17			AGITATOR		Avg. Diff. Press.	500
ST. WT. ROT 1000's:		165		YP	18			SHOCK SUB		Daily Drill Hrs.	6.10
P/U WT. 1000's:		220		WL						Daily Circ. Hrs.	4.70
S/O WT. 1000's:		130		CL	64000					Daily Total Hrs:	10.80
WOB 1000's:		25		Gels	14_17_21					Acc. Drill Hrs.	47.70
ROTARY RPM:		50		% Oil	72.5					Acc. Circ. Hrs.	14.60
MOTOR RPM:		169		% Solids	4					Depth In	7241
TOTAL Bit RPM		219		% Sand	0.01					Depth Out	11460
ROT TQ. OFF BTM:		4000		PH						LIH Hrs.	16:30
ROT TQ. ON BTM:		19000		Temp F	150					Acc. LIH Hrs.	74.47
Current Mag Dec:		6.48		MWD F	174	BHA WT				Acc. Hrs Cir/Drilg	62.30
Pulse Hight		35		GPM	585	BELOW JARS				Total K Revs	626.78
G Totals		1.001		PSI	3300					Jar # HRS	

BIT DATA														DULL CONDITION					
Bit No.	Size (in)	Mfg.	Type	Serial No.	Nozzles or TFA	Depth In	Cum. Footage	Cum. Hrs.	Depth Out	IR	OR	DC	LOC	B/S	G/16"	OC	RPLD		
3	8 3/4	HUGHES	T606X	7147855	6x18's	7241	4219	47.4	11460										

From	To	Hrs.	Start Depth	End Depth	CL	Code	Time Breakdown				Current Operations			
0:00	0:25	0:25	11068	11129	61	2.A	ROTATE	WOB-25	ROT-50	DIFF-500				
0:25	0:40	0:15				10	C/S @ 11084'	INC-90.5	AZ-181.6	TEMP-170				
0:40	1:15	0:35	11129	11149	20	2.B	SLIDE @ 90L	GTF	WOB-15	DIFF-200				
1:15	1:50	0:35	11149	11224	75	2.A	ROTATE	WOB-25	ROT-50	DIFF-500	DRILL LATERAL			
1:50	2:05	0:15				10	C/S @ 11179'	INC-90.4	AZ-180.8	TEMP-172				
2:05	2:55	0:50	11224	11244	20	2.B	SLIDE @ 110L	GTF	WOB-15	DIFF-200				
2:55	3:45	0:50	11244	11319	75	2.A	ROTATE	WOB-25	ROT-50	DIFF-500	TOOH			
3:45	4:00	0:15				10	C/S @ 11274'	INC-90.2	AZ-180.9	TEMP-174				
4:00	4:50	0:50	11319	11344	25	2.B	SLIDE @ 120L	GTF	WOB-15	DIFF-200	L/D BHA			
4:50	5:55	1:05	11344	11414	70	2.A	ROTATE	WOB-25	ROT-50	DIFF-500				
5:55	6:10	0:15				10	C/S @ 11369'	INC-89.4	AZ-179.2	TEMP-174	Estimated Daily Charges			
6:10	7:05	0:55	11414	11460	46	2.A	ROTATE	WOB-25	ROT-50	DIFF-500	Description		Cost	
7:05	9:45	2:40				5.A	CIRCULATE							
9:45	12:00	2:15				6.G	POOH TO THE CURVE							
12:00	13:00	1:00				5.A	CIRCULATE BOTTOMS UP AT CURVE							
13:00	16:00	3:00				6.G	POOH TO BHA							
16:00	16:30	0:30				6.G	L/D BHA							
16:30	17:00	0:30				O	CLEAN RIG FLOOR							
17:00	17:30	0:30				7	RIG SERVICE							
											Estimated Daily Cost (USD)		\$ -	
											Accumulated Cost (USD)		\$ -	
											Company Representative (s)			
											JIMMY DAVIS		GARTH STARR	
											STACIE REDDEN		RICHARD JOHN	
											RYAN Directional Representative (s)			
											WESTON WHITE		JARED FAUST	
											RYAN MWD Representative (s)			
											ANDY STECKBECK		DEVIN WILLIAMS	
											24 Hour Breakdown			
							Ftg Rot.		327		Time Rot.		3.80	
							Ftg Orient		65		Time Orient		2.30	
							Rot. ROP		86.05		Orient ROP		28.26	

Report #: 8A

Date: 20-Apr-14



RYAN DIRECTIONAL SERVICES, INC.

A NABORS COMPANY

Ryan Job #: 7422

DAILY DRILLING REPORT

Oil Company: EP Energy
 Field: Crocket Co.
 County, State: Crocket Co., Texas
 AFE or PO #: 160548

Customer: EP Energy
 Well Name & No.: University 4107 AH
 Block or Section: Big Lake
 Rig Contractor & No.: NORAM 21

00:00 Depth: 0 Footage Today: 0 Drlg Hrs Today: 0.00 ROP Today: - Last Casing Set: 9 5/8"
 24:00 Depth: 0 Current Run Ftg: -11460 Run Drlg Hrs: 0.00 Run Avg. ROP: - Depth: 1011

PUMP Data Total Gals/Min =					584		MUD DATA		Previous		Current			
3		BHA #		4		BHA #		MOTOR DATA		CURRENT				
Pump	Bonco	Bonco	0	Mud Type	OBM	BIT		BIT		Run No.		4		
Liner (in)	6	6		Sample	IN	MOTOR		MOTOR		Size (in.)		6 3/4		
%	97.5	97.5		Time	18:00	UBHO		UBHO		Type		7/8 5.0		
Vol (gps)	4.17	4.17	0.00	Wt.	9.1	MWD COLLAR		MWD COLLAR		Serial No.		1068004-9		
SPM	70	70		VIS	60	NMDC		NMDC		Tool Deflection		1.83 FBH		
DRILLING PARAMETERS				PV	17	AGITATOR		AGITATOR		Avg. Diff. Press.		500		
ST. WT. ROT 1000's:				YP	18	SHOCK SUB		SHOCK SUB		Daily Drill Hrs.		0.00		
P/U WT. 1000's:				WL						Daily Circ. Hrs.		0.70		
S/O WT. 1000's:				CL	64000					Daily Total Hrs:		0.70		
WOB 1000's:				Gels	14_17_21					Acc. Drill Hrs.		0.00		
ROTARY RPM:				% Oil	72.5					Acc. Circ. Hrs.		0.70		
MOTOR RPM:				% Solids	4					Depth In		11460		
TOTAL Bit RPM		0		% Sand	0.01					Depth Out				
ROT TQ. OFF BTM:				PH						LIH Hrs.		6:30		
ROT TQ. ON BTM:				Temp F	150					Acc. LIH Hrs.		6.50		
Current Mag Dec:		6.48		MWD F		BHA WT				Acc. Hrs Cir/Drilg		0.70		
Pulse Hight		35		GPM		BELOW JARS				Total K Revs		0.00		
"G" Totals		1.001		PSI						Jar # HRS				

BIT DATA														DULL CONDITION					
Bit No.	Size (in)	Mfg.	Type	Serial No.	Nozzles or TFA	Depth In	Cum. Footage	Cum. Hrs.	Depth Out	IR	OR	DC	LOC	B/S	G/16"	OC	RPLD		
4	8 3/4	HUGHES	T606X	7147030	6x18's	11460													

From	To	Hrs.	Start Depth	End Depth	CL	Code	Time Breakdown		Current Operations			
17:30	18:30	1:00				6.G	P/U BHA 4		P/U BHA 4			
18:30	23:00	4:30				6.A	TIH TO BOTTOM OF CURVE		TIH			
23:00	23:40	0:40				5.A	CIRCULATE					
23:40	23:59	0:19				6.A	TIH					

Report #: 9

Date: 21-Apr-14



RYAN DIRECTIONAL SERVICES, INC.

A NABORS COMPANY

Ryan Job #: 7422

DAILY DRILLING REPORT

Oil Company: EP Energy
 Field: Crocket Co.
 County, State: Crocket Co., Texas
 AFE or PO #: 160548

Customer: EP Energy
 Well Name & No.: University 4107 AH
 Block or Section: Big Lake
 Rig Contractor & No.: NORAM 21

00:00 Depth: 11460
 24:00 Depth: 12743

Footage Today: 1283
 Current Run Ftg: 1283

Drig Hrs Today: 9.70
 Run Drig Hrs: 9.70

ROP Today: 132.27
 Run Avg. ROP: 132.27

Last Casing Set: 9 5/8"
 Depth: 1011

PUMP Data Total Gals/Min = 543				MUD DATA		Previous	Current	MOTOR DATA		CURRENT
Pump	Bonco	Bonco	0	Mud Type	OBM	3	BHA #	4	BHA #	
Liner (in)	6	6		Sample	IN					
%	97.5	97.5		Time	18:00					
Vol (gals)	4.17	4.17	0.00	Wt.	9.1					
SPM	65	65		VIS	60					
DRILLING PARAMETERS				PV	17					
ST. WT. ROT 1000's:	165			YP	18					
P/U WT. 1000's:	220			WL						
S/O WT. 1000's:	130			CL	64000					
WOB 1000's:	25			Gels	14_17_21					
ROTARY RPM:	50			% Oil	72.5					
MOTOR RPM:	157			% Solids	4					
TOTAL Bit RPM	207			% Sand	0.01					
ROT TQ. OFF BTM:	6000			PH						
ROT TQ. ON BTM:	14000			Temp F	150					
Current Mag Dec:	6.48			MWD F						
Pulse Hight	35			GPM	543					
G Totals	1.001			PSI	3300					

BIT DATA														DULL CONDITION					
Bit No.	Size (in)	Mfg.	Type	Serial No.	Nozzles or TFA	Depth In	Cum. Footage	Cum. Hrs.	Depth Out	IR	OR	DC	LOC	B/S	G/16"	OC	RPLD		
4	8 3/4	HUGHES	T606X	7147030	6x18's	11460													

From	To	Hrs.	Start Depth	End Depth	CL	Code	Time Breakdown				Current Operations			
0:00	2:00	2:00				6.A	TIH				TIH			
2:00	2:45	0:45	11460	11509	49	2.A	ROTATE WOB-20 ROT-50 DIFF-500							
2:45	4:30	1:45				5.A	CIRCULATE AND CLEAN HOLE / HOLE PACKING OFF				CIRCULATE			
4:30	4:45	0:15				10	C/S @ 11464' INC-89.8 AZ-179.6 TEMP-152							
4:45	4:55	0:10	11509	11541	32	2.A	ROTATE WOB-20 ROT-50 DIFF-500							
4:55	5:10	0:15				O	L/D SINGLE AND P/U STAND				DRILL LATERAL			
5:10	5:50	0:40	11541	11604	63	2.A	ROTATE WOB-20 ROT-50 DIFF-500							
5:50	6:05	0:15				10	C/S @ 11559' INC-91.1 AZ- 180.2 TEMP-152							
6:05	6:30	0:25	11604	11614	10	2.B	SLIDE @ 120L GTF WOB-15 DIFF-200							
6:30	7:25	0:55	11614	11699	85	2.A	ROTATE WOB-20 ROT-50 DIFF-500							
7:25	7:40	0:15				10	C/S @ 11654' INC- 89 AZ- 178 TEMP-152				Estimated Daily Charges			
7:40	8:20	0:40	11699	11794	95	2.A	ROTATE WOB-20 ROT-50 DIFF-500				Description		Cost	
8:20	8:35	0:15				10	C/S @ 11749' INC-89.3 AZ- 178.1 TEMP-152							
8:35	9:00	0:25	11794	11806	12	2.B	SLIDE @ 70R GTF WOB-15 DIFF-200							
9:00	9:25	0:25	11806	11889	83	2.A	ROTATE WOB-20 ROT-50 DIFF-500							
9:25	9:40	0:15				10	C/S @ 11844' INC- 90.0 AZ- 180.1 TEMP-152							
9:40	10:05	0:25	11889	11983	94	2.A	ROTATE WOB-20 ROT-50 DIFF-500							
10:05	10:20	0:15				10	C/S @ 11938' INC- 89.9 AZ- 180.2 TEMP-152							
10:20	12:05	1:45				7	WORK ON TOP DRIVE							
12:05	12:35	0:30	11983	12078	95	2.A	ROTATE WOB-20 ROT-50 DIFF-500							
12:35	12:50	0:15				10	C/S @ 12033' INC- 90.2 AZ- 182.1 TEMP-152							
12:50	13:20	0:30	12078	12173	95	2.A	ROTATE WOB-20 ROT-50 DIFF-500							
13:20	13:35	0:15				10	C/S @ 12128' INC- 89.9 AZ- 181.2 TEMP-152				Estimated Daily Cost (USD)		\$ -	
13:35	14:10	0:35	12173	12268	95	2.A	ROTATE WOB-20 ROT-50 DIFF-500				Accumulated Cost (USD)		\$ -	
14:10	14:25	0:15				10	C/S @ 12223' INC- 90.0 AZ- 180.9 TEMP-165				Company Representative (s)			
14:25	15:00	0:35	12268	12363	95	2.A	ROTATE WOB-20 ROT-50 DIFF-500				JIMMY DAVIS		GARTH STARR	
15:00	15:15	0:15				10	C/S @ 12318' INC-90.5 AZ- 181.6 TEMP-165				STACIE REDDEN		RICHARD JOHN	
15:15	15:30	0:15	12363	12458	95	2.B	ROTATE WOB-20 ROT-50 DIFF-500				RYAN Directional Representative (s)			
15:30	15:45	0:15				10	C/S @ 12413' INC- 90.5 AZ- 179.8 TEMP-165				WESTON WHITE		JARED FAUST	
15:45	16:10	0:25	12458	12553	95	2.A	ROTATE WOB-20 ROT-50 DIFF-500							
16:10	16:25	0:15				10	C/S @ 12508' INC-90.5 AZ- 177.3 TEMP-165				RYAN MWD Representative (s)			
16:25	17:10	0:45	12553	12578	25	2.B	SLIDE @ 90R GTF WOB-15 DIFF-200				ANDY STECKBECK		DEVIN WILLIAMS	
17:10	17:25	0:15	12578	12648	70	2.A	ROTATE WOB-20 ROT-50 DIFF-500							
17:25	17:35	0:10				10	C/S @ 12603' INC- 89.5 AZ- 177.7 TEMP-165				24 Hour Breakdown			
17:35	18:05	0:30				7	RIG SERVICE				Ftg Rot.	1126	Time Rot.	7.30
18:05	18:40	0:35	12648	12663	15	2.B	SLIDE @ 90R GTF WOB-40 DIFF-200				Ftg Orient	157	Time Orient	2.40
18:40	19:05	0:25	12663	12743	80	2.A	ROTATE WOB-25 ROT-50 DIFF-500				Rot. ROP	154.25	Orient ROP	65.42

Date: 21-Apr-14



A NABORS COMPANY

Ryan Job # 7422

Oil Company:	EP Energy
Field:	Crocket Co.
County, State:	Crocket Co., Texas
AFE or PO #:	160548

Customer:	EP Energy
Well Name & No.:	University 4107 AH
Block or Section:	Big Lake
Rig Contractor & No.:	NORAM 21

00:00 Depth:	12743
24:00 Depth:	13311

Footage Today:	568
Current Run Ftg:	1851

Drlg Hrs Today:	3.20
Run Drlg Hrs:	12.90

ROP Today:	177.50
Run Avg. ROP:	143.49

Last Casing Set: 9 5/8"
Depth: 1011

[illegible]

Report #: 10

Date: 22-Apr-14



RYAN DIRECTIONAL SERVICES, INC.

A NABORS COMPANY

Ryan Job #: 7422

DAILY DRILLING REPORT

Oil Company: EP Energy
 Field: Crocket Co.
 County, State: Crocket Co., Texas
 AFE or PO #: 160548

Customer: EP Energy
 Well Name & No.: University 4107 AH
 Block or Section: Big Lake
 Rig Contractor & No.: NORAM 21

00:00 Depth: 13311
 24:00 Depth: 14848

Footage Today: 1537
 Current Run Ftg: 3388

Drig Hrs Today: 12.30
 Run Drig Hrs: 25.20

ROP Today: 124.96
 Run Avg. ROP: 134.44

Last Casing Set: 9 5/8"
 Depth: 1011

PUMP Data Total Gals/Min = 526				MUD DATA		Previous	Current	MOTOR DATA		CURRENT
Pump	Bonco	Bonco	0	Mud Type	OBM	3	BHA #	4	BHA #	
Liner (in)	6	6		Sample	IN					
%	97.5	97.5		Time	18:00					
Vol (gals)	4.17	4.17	0.00	Wt.	9.3					
SPM	63	63		VIS	58					
DRILLING PARAMETERS				PV	17					
ST. WT. ROT 1000's:	160			YP	18					
P/U WT. 1000's:	220			WL						
S/O WT. 1000's:	90			CL	63000					
WOB 1000's:	25			Gels	15_18_23					
ROTARY RPM:	50			% Oil	72.8					
MOTOR RPM:	152			% Solids	0.4					
TOTAL Bit RPM	202			% Sand	0.01					
ROT TQ. OFF BTM:	7000			PH						
ROT TQ. ON BTM:	16000			Temp F	135					
Current Mag Dec:	6.48			MWD F	176					
Pulse Hight	30			GPM	525					
G Totals	1.001			PSI	3300					

BIT DATA														DULL CONDITION					
Bit No.	Size (in)	Mfg.	Type	Serial No.	Nozzles or TFA	Depth In	Cum. Footage	Cum. Hrs.	Depth Out	IR	OR	DC	LOC	B/S	G/16"	OC	RPLD		
4	8 3/4	HUGHES	T606X	7147030	6x18's	11460													

From	To	Hrs.	Start Depth	End Depth	CL	Code	Time Breakdown				Current Operations			
0:00	0:30	0:30	13311	13406	95	2.A	ROTATE WOB-25 ROT-50 DIFF-500							
0:30	0:45	0:15				10	C/S @ 13361' INC-90.2 AZ-180.2 TEMP-172							
0:45	1:05	0:20	13406	13416	10	2.B	SLIDE @ 90R GTF WOB-40 DIFF-200							
1:05	1:35	0:30	13416	13501	85	2.A	ROTATE WOB-25 ROT-50 DIFF-500							
1:35	1:50	0:15				10	C/S @ 13456' INC-89.9 AZ-181.9 TEMP-172							
1:50	2:15	0:25	13501	13595	94	2.A	ROTATE WOB-25 ROT-50 DIFF-500				DRILL LATERAL			
2:15	2:30	0:15				10	C/S @ 13550' INC-89.8 AZ-182.1 TEMP-172							
2:30	3:05	0:35	13595	13690	95	2.A	ROTATE WOB-25 ROT-50 DIFF-500							
3:05	3:20	0:15				10	C/S @ 13645' INC-90 AZ-180.3 TEMP-176							
3:20	3:50	0:30	13690	13785	95	2.A	ROTATE WOB-25 ROT-50 DIFF-500							
3:50	4:05	0:15				10	C/S @ 13740' INC-89.9 AZ-180.4 TEMP-176				Estimated Daily Charges			
4:05	4:40	0:35	13785	13881	96	2.A	ROTATE WOB-25 ROT-50 DIFF-500				Description		Cost	
4:40	4:55	0:15				10	C/S @ 13836' INC-89.9 AZ-179.4 TEMP-176							
4:55	5:20	0:25	13881	13896	15	2.B	SLIDE @ 90R GTF WOB-40 DIFF-200							
5:20	5:55	0:35	13896	13975	79	2.A	ROTATE WOB-25 ROT-50 DIFF-500							
5:55	6:10	0:15				10	C/S @ 13930' INC-89.8 AZ-181.4 TEMP-176							
6:10	6:40	0:30	13975	14071	96	2.A	ROTATE WOB-25 ROT-50 DIFF-500							
6:40	6:55	0:15				10	C/S @ 14026' INC-90.6 AZ-183.2 TEMP-176							
6:55	7:20	0:25	14071	14166	95	2.A	ROTATE WOB-25 ROT-50 DIFF-500							
7:20	7:25	0:05				10	C/S @ 14121' INC-90.1 AZ-183.3 TEMP-176							
7:25	8:00	0:35	14166	14260	94	2.A	ROTATE WOB-25 ROT-50 DIFF-500							
8:00	8:15	0:15				10	C/S @ 14215' INC-90.8 AZ-183.4 TEMP-176							
8:15	9:10	0:55	14260	14275	15	2.B	SLIDE @ 90L GTF WOB-40 DIFF-200				Estimated Daily Cost (USD)		\$	-
9:10	9:40	0:30	14275	14356	81	2.A	ROTATE WOB-25 ROT-50 DIFF-500				Accumulated Cost (USD)		\$	-
9:40	9:55	0:15				10	C/S @ 14311' INC-90.1 AZ-181.7 TEMP-176				Company Representative (s)			
9:55	10:35	0:40	14356	14451	95	2.A	ROTATE WOB-25 ROT-50 DIFF-500				JIMMY DAVIS		GARTH STARR	
10:35	10:50	0:15				10	C/S @ 14406' INC-90.8 AZ-182.3 TEMP-176				STACIE REDDEN		RICHARD JOHN	
10:50	11:35	0:45	14451	14471	20	2.A	SLIDE @ 90L GTF WOB-40 DIFF-200				RYAN Directional Representative (s)			
11:35	12:20	0:45	14471	14546	75	2.A	ROTATE WOB-25 ROT-50 DIFF-500				WESTON WHITE		JARED FAUST	
12:20	12:35	0:15				10	C/S @ 14501' INC-90.7 AZ-179.4 TEMP-176							
12:35	13:20	0:45	14546	14642	96	2.A	ROTATE WOB-25 ROT-50 DIFF-500				RYAN MWD Representative (s)			
13:20	13:35	0:15				10	C/S @ 14597' INC-91.9 AZ-178.7 TEMP-176				ANDY STECKBECK		DEVIN WILLIAMS	
13:35	14:15	0:40	14642	14737	95	2.A	ROTATE WOB-25 ROT-50 DIFF-500							
14:15	14:30	0:15				10	C/S @ 14692' INC-92 AZ-178.5 TEMP-176				24 Hour Breakdown			
14:30	15:10	0:40	14737	14832	95	2.A	ROTATE WOB-25 ROT-50 DIFF-500				Ftg Rot.	1481	Time Rot.	9.90
15:10	15:25	0:15				10	C/S @ 14787' INC-92 AZ-178.2 TEMP-176				Ftg Orient	56	Time Orient	2.30
15:25	16:05	0:40	14832	14848	16	2.B	SLIDE @ 160R GTF WOB-40 DIFF-200				Rot. ROP	149.60	Orient ROP	24.35

Date: 22-Apr-14



A NABORS COMPANY

Ryan Job # 7422

Oil Company:	EP Energy
Field:	Crocket Co.
County, State:	Crocket Co., Texas
AFE or PO #:	160548

Customer:	EP Energy
Well Name & No.:	University 4107 AH
Block or Section:	Big Lake
Rig Contractor & No.:	NORAM 21

00:00 Depth:	14848
24:00 Depth:	15447

Footage Today:	599
Current Run Ftg:	3987

Drlg Hrs Today:	5.70
Run Drlg Hrs:	30.90

ROP Today:	105.09
Run Avg. ROP:	129.03

Last Casing Set: 9 5/8"
Depth: 1011

[illegible]

Date: 23-Apr-14



A NABORS COMPANY

Ryan Job # **7422**

Oil Company:	EP Energy
Field:	Crocket Co.
County, State:	Crocket Co., Texas
AFE or PO #:	160548

Customer:	EP Energy
Well Name & No.:	University 4107 AH
Block or Section:	Big Lake
Rig Contractor & No.:	NORAM 21

00:00 Depth:	0
24:00 Depth:	0

Footage Today:	0
Current Run Ftg:	-11460

Drlg Hrs Today:	0.00
Run Drlg Hrs:	30.90

ROP Today:	-
Run Avg. ROP:	-370.87

Last Casing Set: 9 5/8"
Depth: 1011

From	To	Hrs.	Start Depth	End Depth	CL	Code	Time Breakdown	Current Operations			
0:00	6:30	6:30				5.A	CIRCULATE				
6:30	13:20	6:50				6.A	TOOH L/D DRILL PIPE TO BOTTOM OF CURVE				
13:20	14:20	1:00				5.A	CIRCULATE	CIRCULATE AND TOO H			
14:20	22:30	8:10				6.A	TOOH L/D DRILL PIPE TO BHA				
22:30	23:30	1:00				6.G	L/D BHA				
23:30	23:59	0:29				S	STANDBY				
								Estimated Daily Charges			
								Description	Cost		
								Estimated Daily Cost (USD)	\$ -		
								Accumulated Cost (USD)	\$ -		
								Company Representative (s)			
								JIMMY DAVIS	GARTH STARR		
								STACIE REDDEN	RICHARD JOHN		
								RYAN Directional Representative (s)			
								WESTON WHITE	JARED FAUST		
								RYAN MWD Representative (s)			
								ANDY STECKBECK	DEVIN WILLIAMS		
								24 Hour Breakdown			
								Ftg Rot.	0	Time Rot.	0.00
								Ftg Orient	0	Time Orient	0.00
								Rot ROP	-	Orient ROP	-



BOTTOM HOLE ASSEMBLY

[illegible]



BOTTOM HOLE ASSEMBLY

[illegible]



BOTTOM HOLE ASSEMBLY

[illegible]



BOTTOM HOLE ASSEMBLY

[illegible]



RYAN DIRECTIONAL SERVICES, INC.

A NABORS COMPANY

Motor Run Report #1

General Information:		In the Event of an Incident:	
Ryan Job #:	7422	Date of Incident:	
Customer:	EP Energy	Date Notified Office:	
Location:	Crocket Co., Texas	Person Notified:	
Lease:	Big Lake		
Well Name & Number:	University 4107 AH		
Rig Name & Number:	NORAM 21	Incident Comments:	
Directional Driller ('s):	WESTON WHITE		
	JARED FAUST		
Motor Information:			
Motor Serial #:	1011449-22		
Motor Size (OD):	6 3/4		
Motor Company:	NOV		
Motor Stabilizer Size:	8 1/2		
Degree Bent Housing:	1.83		
Rotor / Stator Conf.:	7/8 5.0		
Depth In:	1011		
Depth Out:	6547		
Footage:	5536		
Drilg Hours:	27.7		
Circulating Hours:	14.9		
Total Hours:	42.6		
Hours Below Rotary Table (LIH):	51.47		
Motor Yield:	10		
Start of Run: Date		April 14, 2014	
GPM'S:	500	Bit Information:	
Standpipe Press / Off Bottom:	1450	Bit Size:	8 3/4
Standpipe Press / On Bottom:	1950	Bit Type:	T606X
Weight on Bit Avg :	25	Bit Manufacture:	HUGHES
End Of Run: Date		Serial #:	7149880
GPM'S:	425	Jets / TFA:	6x14's
Standpipe Press / Off Bottom:	1400	Mud Information End of Run:	
Standpipe Press / On Bottom:	1900	Mud Type:	OBM
Weight on Bit Avg :	15	Mud Weight:	9
		Viscosity:	55
		Plastic Vis:	16
		Yield Point:	18
		Sand %:	0.01
		Solids %:	6.8
		LCM (yes or no):	NO
		% LCM per/BBL:	0
		Static Temp:	114
		Circulating Temp:	125
		OBM Aniline Point:	

Comments

MOTOR DID GOOD.



RYAN DIRECTIONAL SERVICES, INC.

A NABORS COMPANY

Motor Run Report #2

General Information:		In the Event of an Incident:	
Ryan Job #:	7422	Date of Incident:	
Customer:	EP Energy	Date Notified Office:	
Location:	Crocket Co., Texas	Person Notified:	
Lease:	Big Lake		
Well Name & Number:	University 4107 AH		
Rig Name & Number:	NORAM 21	Incident Comments:	
Directional Driller ('s):	WESTON WHITE		
	JARED FAUST		
Motor Information:			
Motor Serial #:	900813-12		
Motor Size (OD):	6 3/4		
Motor Company:	NOV		
Motor Stabilizer Size:	SLICK		
Degree Bent Housing:	2.12		
Rotor / Stator Conf.:	4/5 7.0		
Depth In:	6547		
Depth Out:	7241		
Footage:	694		
Drilg Hours:	16.2		
Circulating Hours:	6.6		
Total Hours:	22.8		
Hours Below Rotary Table (LIH):	32.4		
Motor Yield:	15		
Start of Run: Date		April 16, 2014	
GPM'S:	510	Bit Information:	
Standpipe Press / Off Bottom:	1950	Bit Size:	8 3/4
Standpipe Press / On Bottom:	2250	Bit Type:	FHI21
Weight on Bit Avg :	25	Bit Manufacture:	SMITH
End Of Run: Date		Serial #:	RA7155
April 17, 2014		Jets / TFA:	3X18'S
GPM'S:	510	Mud Information End of Run:	
Standpipe Press / Off Bottom:	1950	Mud Type:	OBM
Standpipe Press / On Bottom:	2250	Mud Weight:	9
Weight on Bit Avg :	35	Viscosity:	68
		Plastic Vis:	16
		Yield Point:	18
		Sand %:	0.01
		Solids %:	4
		LCM (yes or no):	NO
		% LCM per/BBL:	0
		Static Temp:	125
		Circulating Temp:	125
		OBM Aniline Point:	

Comments

MOTOR DID GOOD



RYAN DIRECTIONAL SERVICES, INC.

A NABORS COMPANY

Motor Run Report #3

General Information:		In the Event of an Incident:	
Ryan Job #:	7422	Date of Incident:	
Customer:	EP Energy	Date Notified Office:	
Location:	Crocket Co., Texas	Person Notified:	
Lease:	Big Lake		
Well Name & Number:	University 4107 AH		
Rig Name & Number:	NORAM 21	Incident Comments:	
Directional Driller ('s):	WESTON WHITE		
	JARED FAUST		
Motor Information:			
Motor Serial #:	DRM-675-4096551		
Motor Size (OD):	6 3/4		
Motor Company:	NOV		
Motor Stabilizer Size:	SLICK		
Degree Bent Housing:	1.83		
Rotor / Stator Conf.:	7/8 5.0		
Depth In:	7241		
Depth Out:	11460		
Footage:	4219		
Drilg Hours:	47.4		
Circulating Hours:	14.9		
Total Hours:	62.3		
Hours Below Rotary Table (LIH):	74.47		
Motor Yield:	12		
Start of Run: Date		April 17, 2014	
GPM'S:	585	Bit Information:	
Standpipe Press / Off Bottom:	2800	Bit Size:	8 3/4
Standpipe Press / On Bottom:	3300	Bit Type:	T606X
Weight on Bit Avg :	25	Bit Manufacture:	HUGHES
End Of Run: Date		Serial #:	7147855
GPM'S:	585	Jets / TFA:	6x18's
Standpipe Press / Off Bottom:	3300	Mud Information End of Run:	
Standpipe Press / On Bottom:	3800	Mud Type:	OBM
Weight on Bit Avg :	25	Mud Weight:	9.1
		Viscosity:	63
		Plastic Vis:	15
		Yield Point:	18
		Sand %:	0.01
		Solids %:	4
		LCM (yes or no):	NO
		% LCM per/BBL:	0
		Static Temp:	150
		Circulating Temp:	174
		OBM Aniline Point:	

Comments



RYAN DIRECTIONAL SERVICES, INC.

A NABORS COMPANY

Motor Run Report #4

General Information:		In the Event of an Incident:	
Ryan Job #:	7422	Date of Incident:	
Customer:	EP Energy	Date Notified Office:	
Location:	Crocket Co., Texas	Person Notified:	
Lease:	Big Lake		
Well Name & Number:	University 4107 AH		
Rig Name & Number:	NORAM 21	Incident Comments:	
Directional Driller ('s):	WESTON WHITE		
	JARED FAUST		
Motor Information:			
Motor Serial #:	1068004-9		
Motor Size (OD):	6 3/4		
Motor Company:	NOV		
Motor Stabilizer Size:	SLICK		
Degree Bent Housing:	1.83		
Rotor / Stator Conf.:	7/8 5.0		
Depth In:	11460		
Depth Out:	15447		
Footage:	3987		
Drilg Hours:	30.4		
Circulating Hours:	21.3		
Total Hours:	51.7		
Hours Below Rotary Table (LIH):	77.97		
Motor Yield:	12		
Start of Run: Date		April 21, 2014	
GPM'S:	550	Bit Information:	
Standpipe Press / Off Bottom:	3300	Bit Size:	8 3/4
Standpipe Press / On Bottom:	3800	Bit Type:	T606X
Weight on Bit Avg :	20	Bit Manufacture:	HUGHES
End Of Run: Date		Serial #:	7147030
GPM'S:	526	Jets / TFA:	6x18's
Standpipe Press / Off Bottom:	3300	Mud Information End of Run:	
Standpipe Press / On Bottom:	3800	Mud Type:	OBM
Weight on Bit Avg :	25	Mud Weight:	9
		Viscosity:	50
		Plastic Vis:	19
		Yield Point:	19
		Sand %:	0.01
		Solids %:	2.6
		LCM (yes or no):	NO
		% LCM per/BBL:	N/A
		Static Temp:	145
		Circulating Temp:	175
		OBM Aniline Point:	

Comments

MOTOR DID GOOD

EP Energy E&P Company, L.P.

University East 4107AH

Noram 21

Drilling Time Only

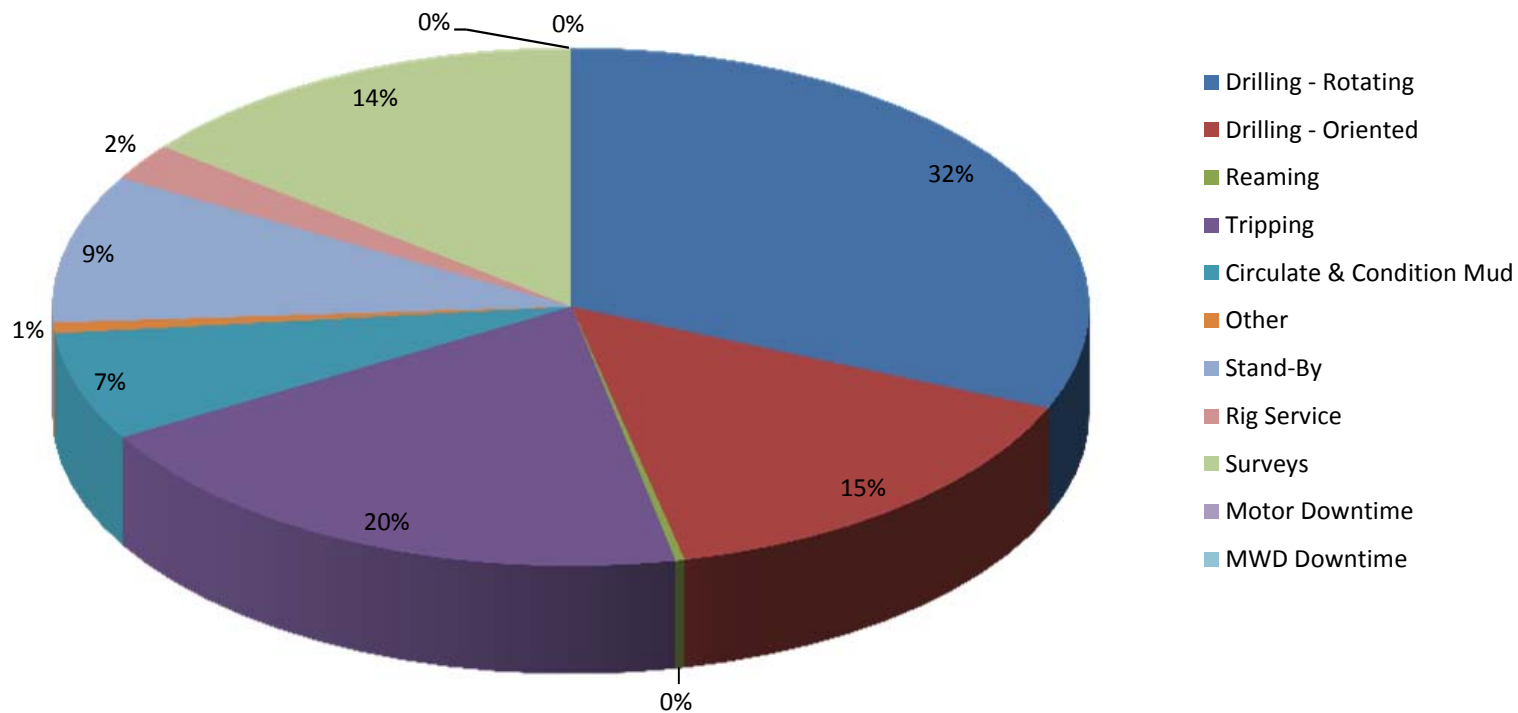
	Rotating Ftg	Rotating Hrs	Rotating ROP	Rotating %	Slide Ftg	Slide Hrs	Slide ROP	Slide %	Total Ftg	Total Hrs	Avg ROP
Vertical Hole	5128.00	21.57	237.74	90.58%	533.00	8.77	60.78	9.42%	5661.00	30.34	186.59
Curve	177.00	4.49	39.42	26.94%	480.00	11.24	42.70	73.06%	657.00	15.73	41.77
Lateral	7441.00	56.83	130.93	91.66%	677.00	19.75	34.28	8.34%	8118.00	76.58	106.01

Start Depth: 1011

Date	Day	Depth	KOP / EOC	Ftg. Today	Ftg. Oriented	Ftg. Rotating	Drilling - Rotating	Drilling - Oriented	Reaming	Tripping	Circulate & Condition Mud	Other	Stand-By	Rig Service	Surveys	Motor Downtime	MWD Downtime	Run Casing, Testing BOP	Fishing	Total Hours
4/13/2014	1	1011	KOP @ 6672 EOC @ 7329	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	23.98	0.00	0.00	0.00	0.00	0.00	0.00	24.00
4/14/2014	2	4172		3161	251	2910	8.17	3.00	0.50	3.00	1.25	0.00	0.00	1.33	6.73	0.00	0.00	0.00	0.00	24.00
4/15/2014	3	6547		2375	182	2193	12.67	3.83	0.00	0.65	1.08	0.00	0.00	0.50	5.25	0.00	0.00	0.00	0.00	24.00
4/16/2014	4	7026		479	388	91	2.65	7.92	0.25	9.50	0.00	0.50	0.00	0.00	2.92	0.00	0.00	0.25	0.00	24.00
4/17/2014	5	7519		493	217	276	3.73	6.25	0.00	9.50	1.25	0.50	0.00	0.50	2.25	0.00	0.00	0.00	0.00	24.00
4/18/2014	6	9134		1615	221	1394	12.33	6.67	0.00	0.00	0.00	0.00	0.00	0.50	4.48	0.00	0.00	0.00	0.00	24.00
4/19/2014	7	11068		1934	118	1816	14.90	3.58	0.00	0.00	0.00	0.00	0.00	0.50	5.00	0.00	0.00	0.00	0.00	24.00
4/20/2014	8	11460		392	65	327	3.83	2.25	0.00	11.57	4.33	0.50	0.00	0.50	1.00	0.00	0.00	0.00	0.00	24.00
4/21/2014	9	13311		1851	177	1674	9.83	3.00	0.00	2.00	1.75	0.25	0.00	2.25	4.90	0.00	0.00	0.00	0.00	24.00
4/22/2014	10	15447		2136	71	2065	14.67	3.25	0.00	0.00	0.65	0.00	0.00	0.00	5.42	0.00	0.00	0.00	0.00	24.00
4/23/2014	11	15447		0	0	0	0.00	0.00	0.00	16.00	7.50	0.00	0.48	0.00	0.00	0.00	0.00	0.00	0.00	24.00
				14436	1690	12746	82.78	39.75	0.75	52.22	17.82	1.75	24.47	6.08	37.95	0.00	0.00	0.25	0.00	264.00

**EP Energy
University 4107 AH**

TIME BREAKDOWN

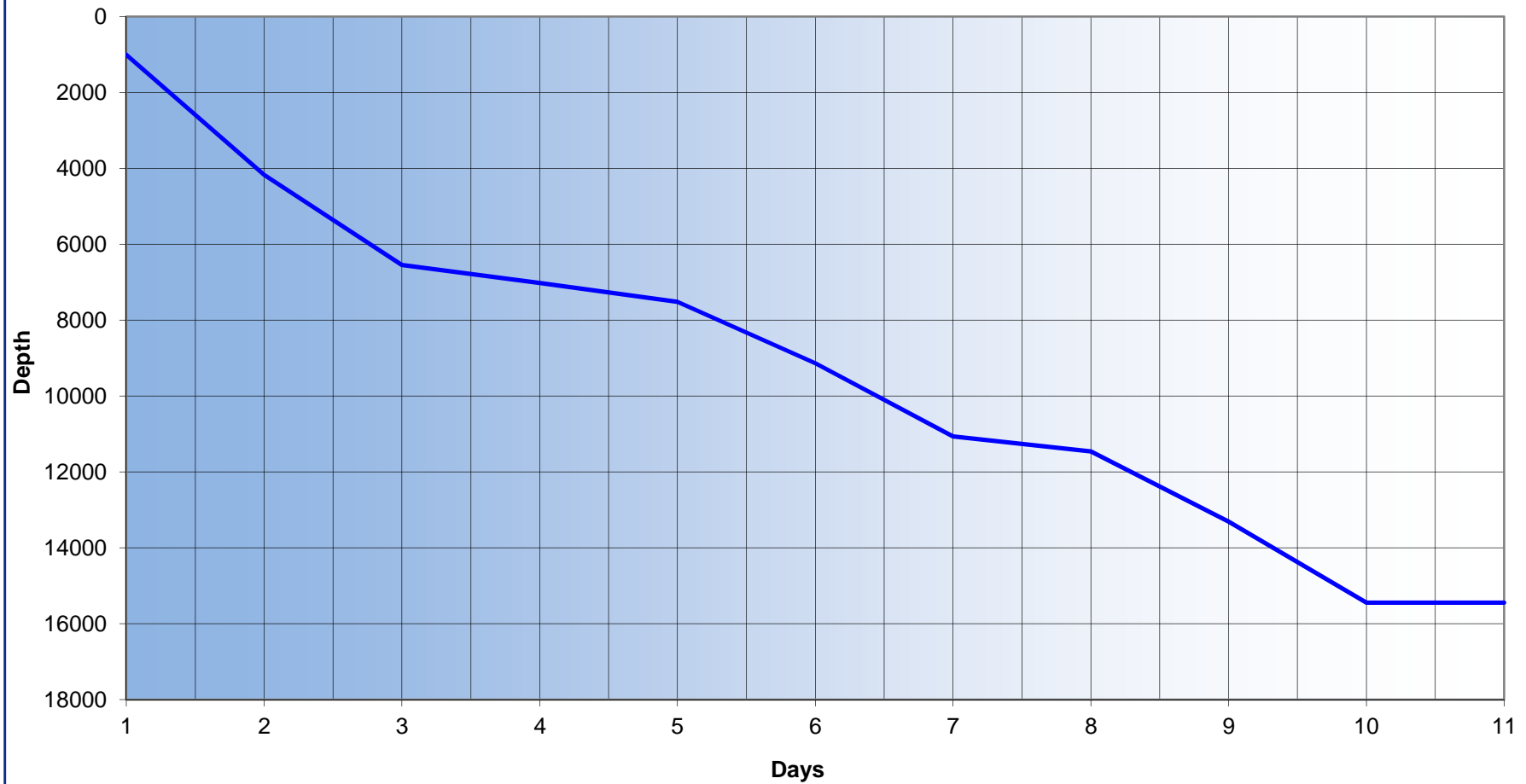


RYAN DIRECTIONAL SERVICES, INC.

A NABORS COMPANY

**EP Energy
University 4107 AH**

Days vs. Depth

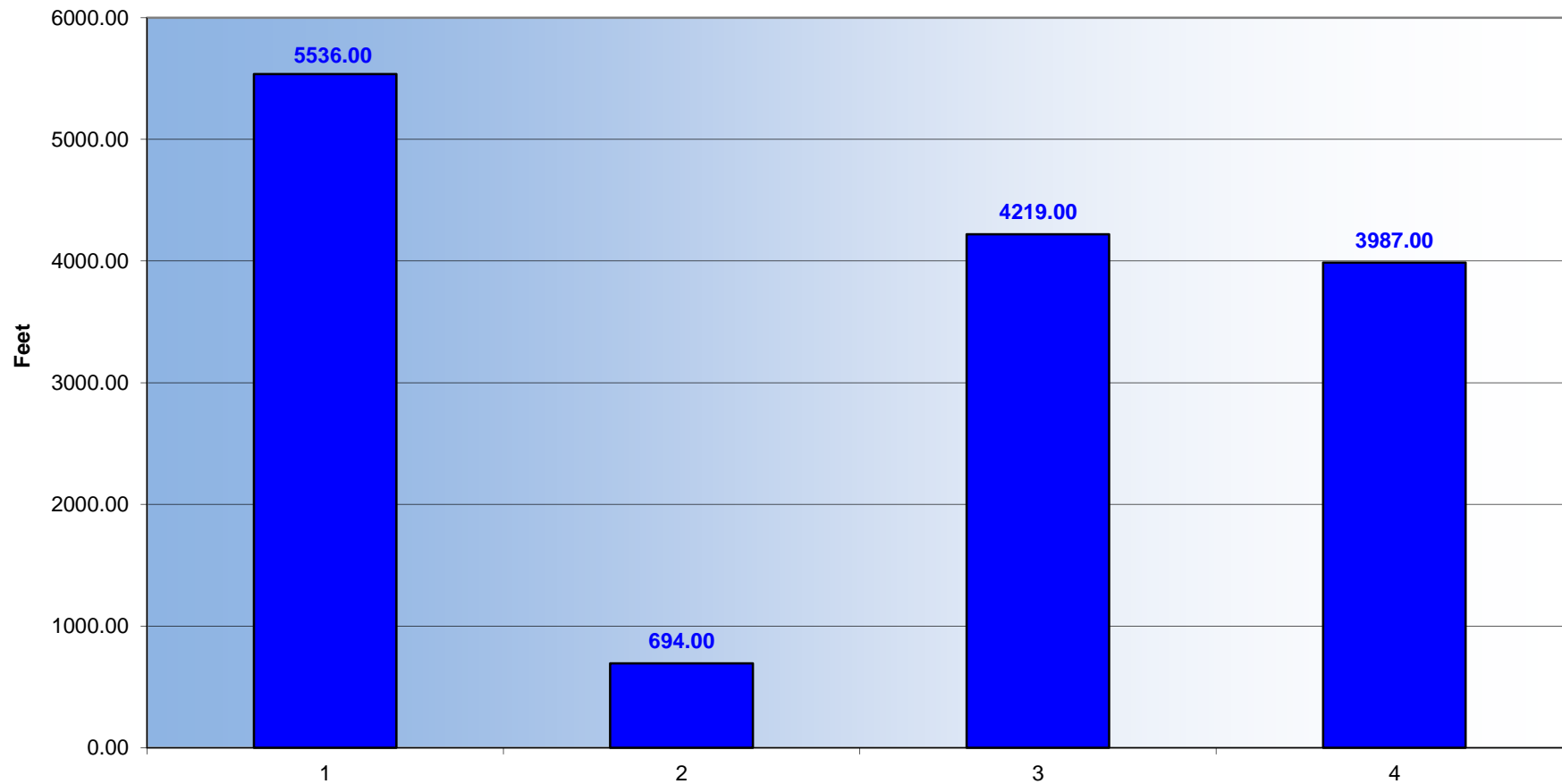


RYAN DIRECTIONAL SERVICES, INC.

A NABORS COMPANY

**EP Energy
University 4107 AH**

Footage Per BHA

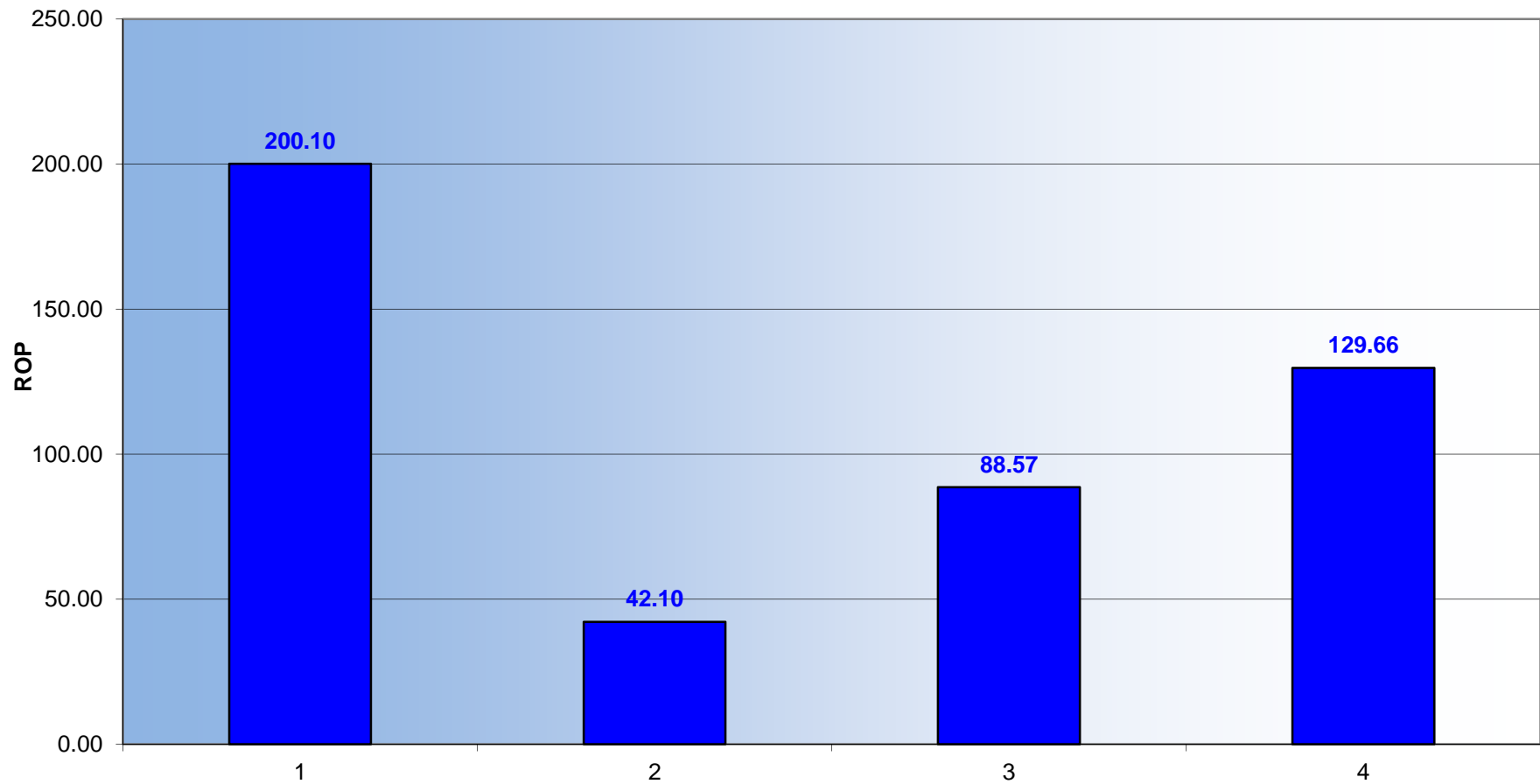


RYAN DIRECTIONAL SERVICES, INC.

A NABORS COMPANY

**EP Energy
University 4107 AH**

Average Rate of Penetration Per BHA

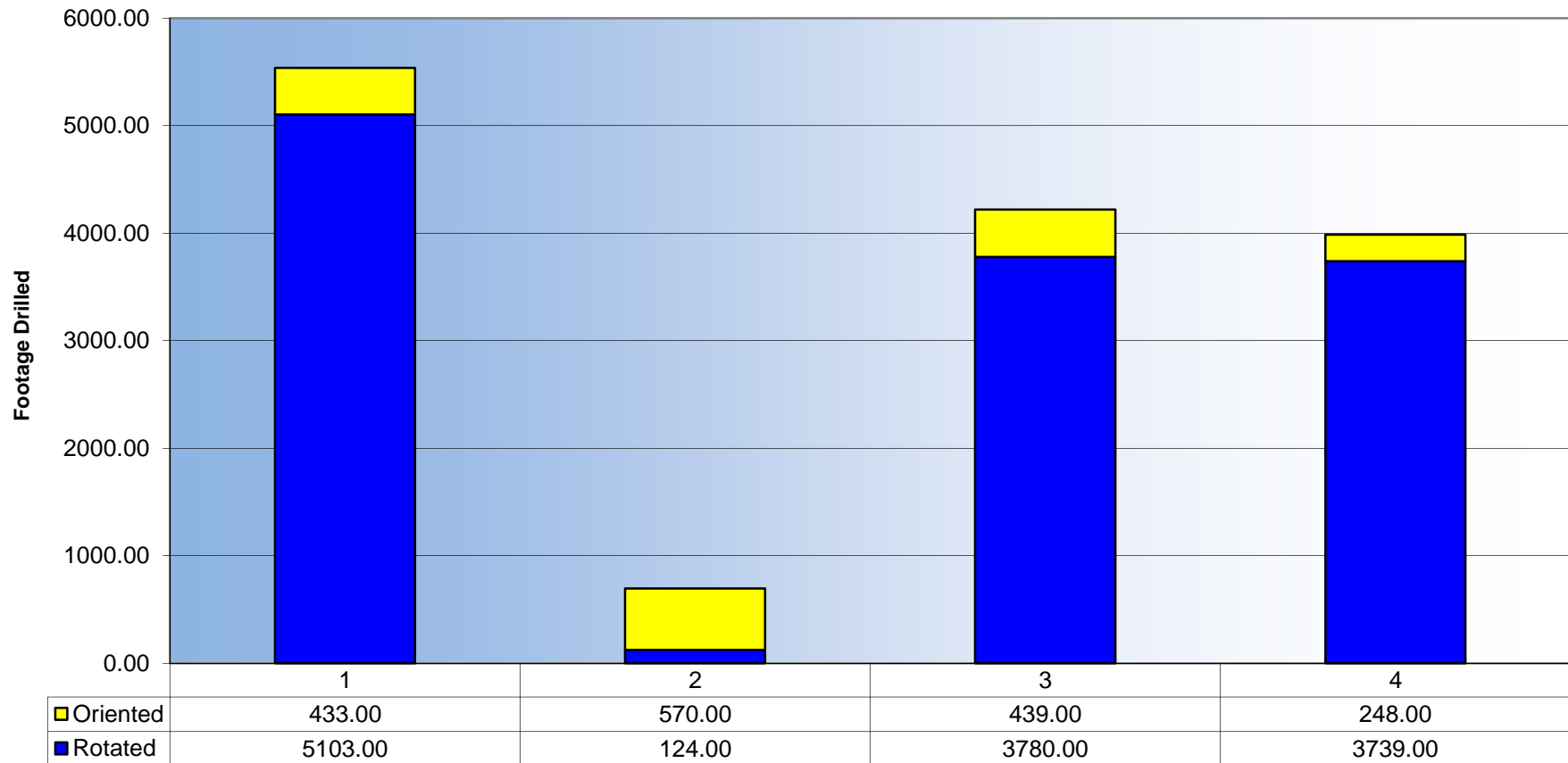


RYAN DIRECTIONAL SERVICES, INC.

A NABORS COMPANY

**EP Energy
University 4107 AH**

Oriented vs. Rotated

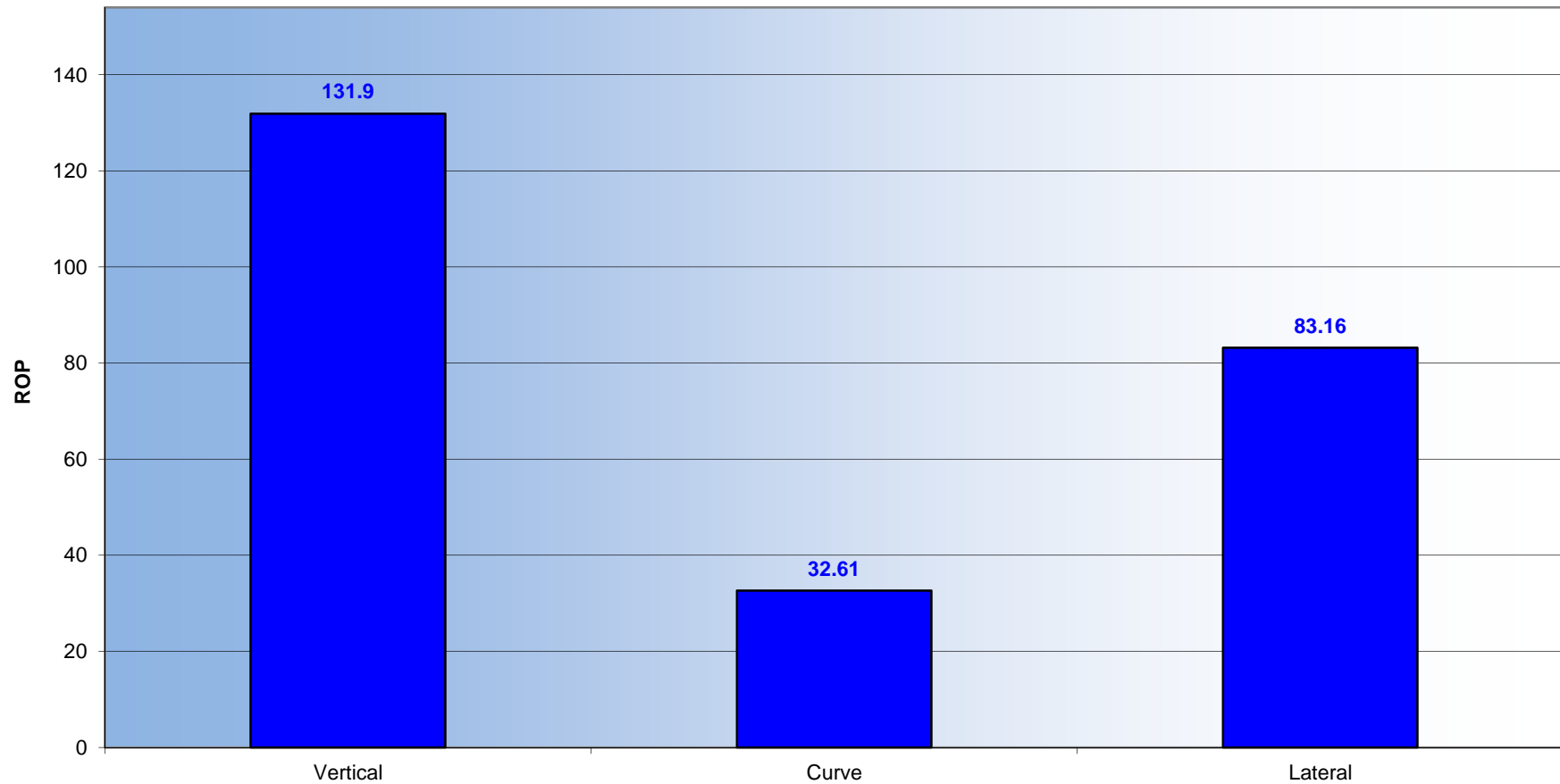


RYAN DIRECTIONAL SERVICES, INC.

A NABORS COMPANY

**EP Energy
University 4107 AH**

Vertical, Curve, and Lateral Average ROP

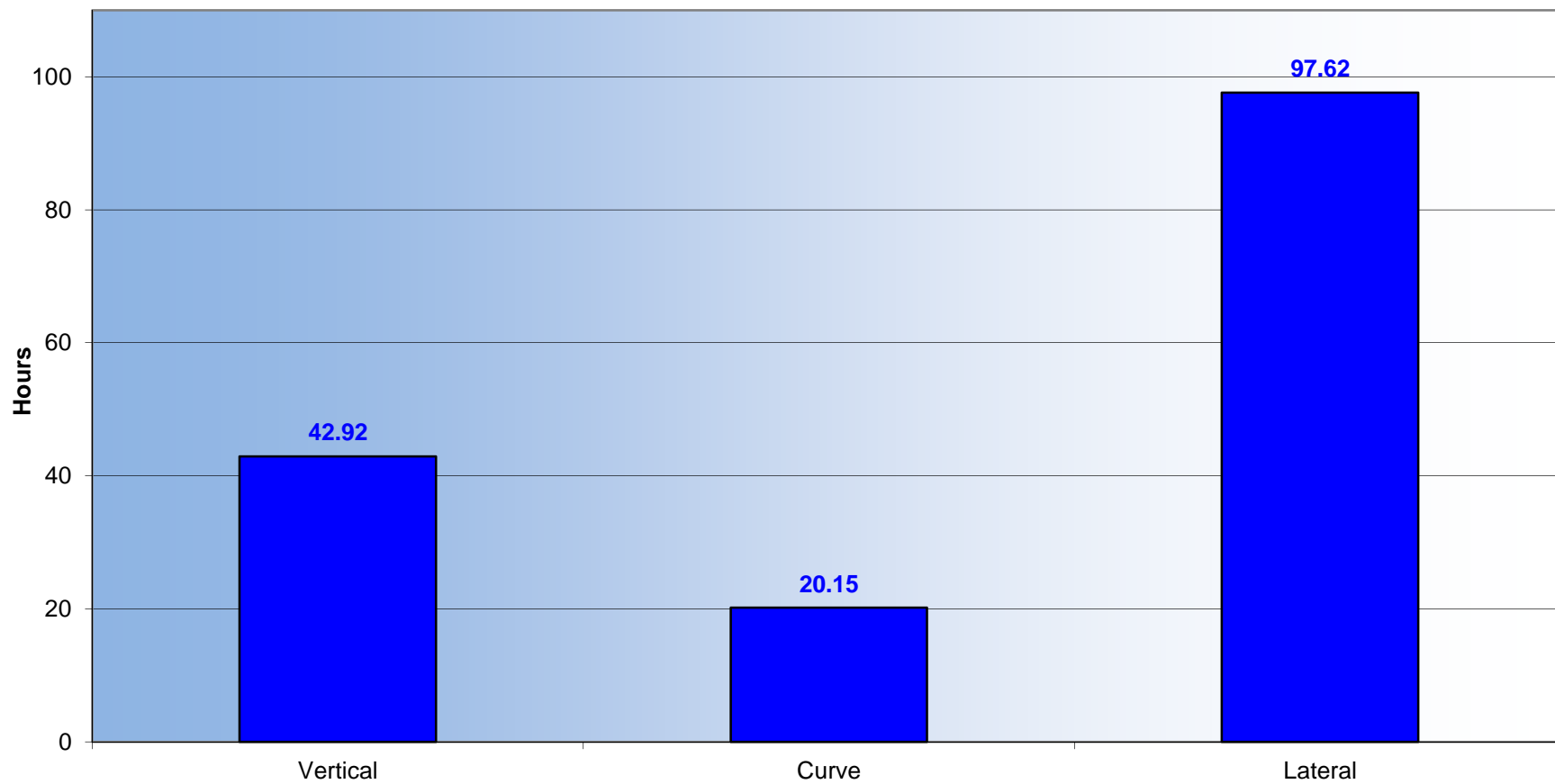


RYAN DIRECTIONAL SERVICES, INC.

A NABORS COMPANY

**EP Energy
University 4107 AH**

Vertical, Curve, and Lateral Hours

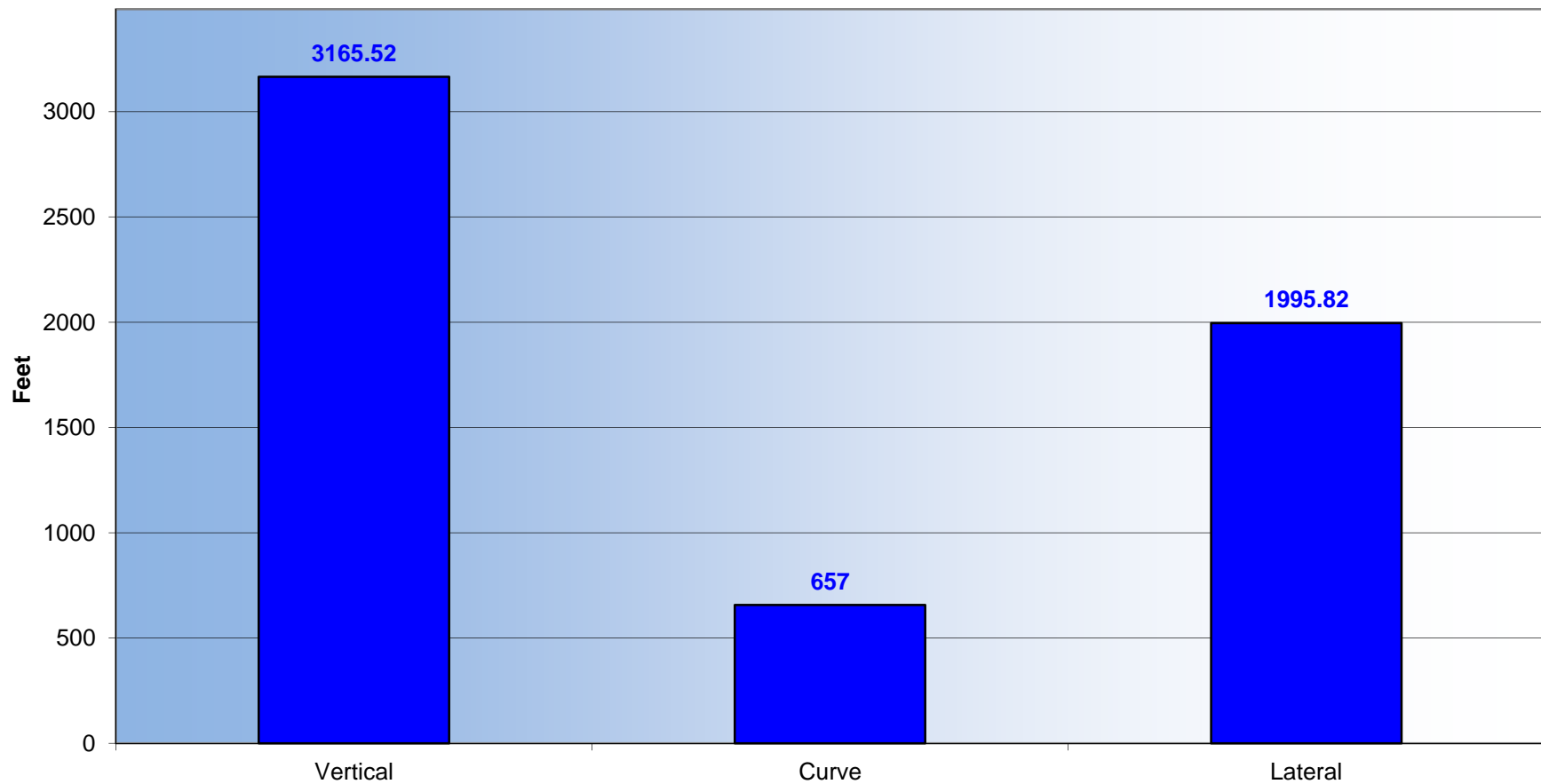


RYAN DIRECTIONAL SERVICES, INC.

A NABORS COMPANY

**EP Energy
University 4107 AH**

Vertical, Curve, and Lateral Average Footage Per Day



RYAN DIRECTIONAL SERVICES, INC.

A NABORS COMPANY