



30-015-39018

Ryan Energy Directional Drilling Report

Field: Eddy Co, NM NAD 83
Site: PLU Big Sinks 25 Fed 1H
Well: 25 Fed 1H
Wellpath: OH

Prepared For:

Chesapeake Operating, Inc.



Ryan Energy Technology

19510 Oil Center Blvd
Houston, TX 77073
Ph 281-443-1414
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www.ryanenergy.com



Chesapeake Operating, Inc.

Field: Eddy Co, NM NAD 83
 Site: PLU Big Sinks 25 Fed 1H
 Well: 25 Fed 1H
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Azimuths to Grid North
 True North -0.27°
 Magnetic North 7.44°
 Magnetic Field
 Strength 48587nT
 Dip Angle 60.10°
 Date: 6/14/2011
 Model IGRF2010

WELLPATH DETAILS

Rig Ref Datum	Origin +N/-S	Origin +E/-W	Starting From TVD
OH			
Patterson 62 SITE 3476 00ft	0 00	0 00	0 00
V Section Angle	359.76°		

FIELD DETAILS

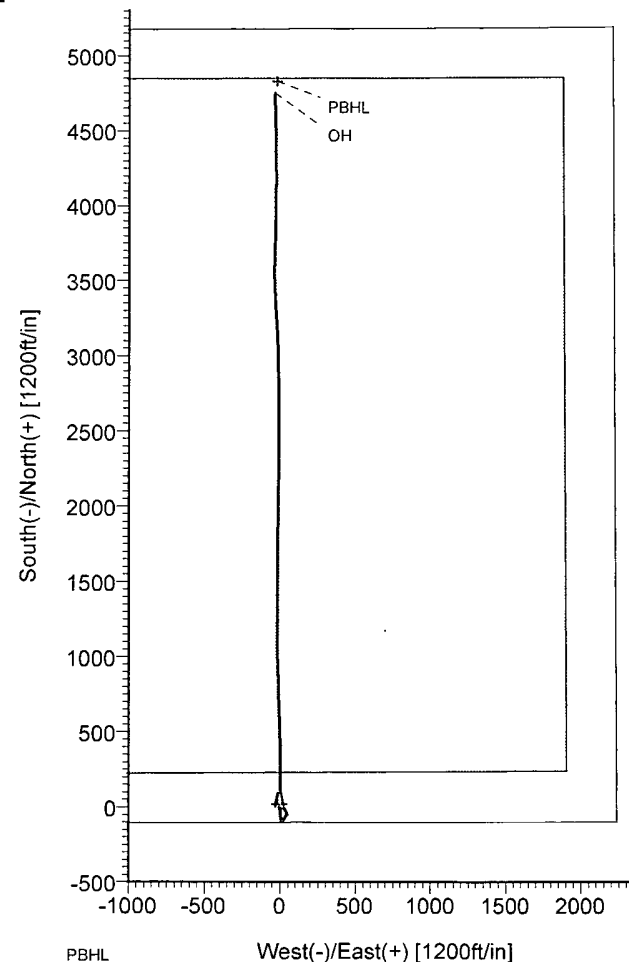
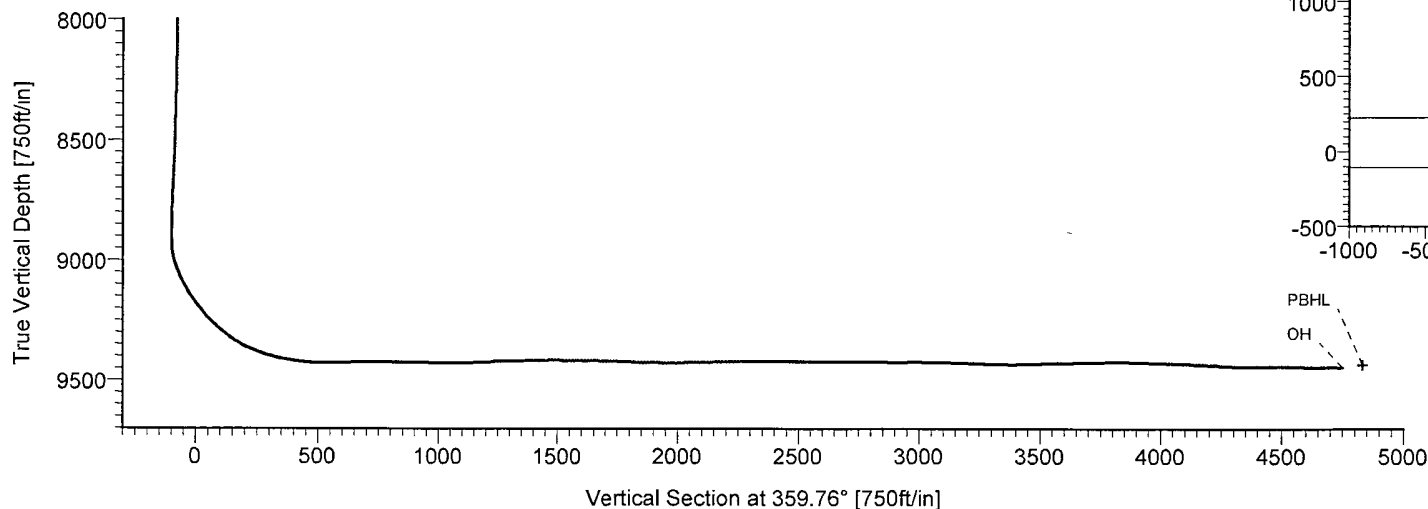
Geodetic System	US State Plane Coordinate System 1983
Ellipsoid	GRS 1980
Zone	New Mexico, Eastern Zone
Magnetic Model	IGRF2010
System Datum	Mean Sea Level
Local North	Grid North

SITE DETAILS

Site Centre Northing	430257.44
Easting	696146.89
Ground Level	3451.00
Positional Uncertainty	0.00
Convergence	0.27

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL	9436.08	4831.55	-20.42	435088.99	696126.47	32°11'42.520N	103°49'58.582W	Point



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Wellpath: (25 Fed 1H)OH

Created By: Erik Alberto De La Fe Date: 7/12/2011
 Checked: _____ Date: _____
 Reviewed: _____ Date: _____
 Approved: _____ Date: _____



Ryan Energy Technologies

Survey Report



Company: Chesapeake Operating, Inc. Field: Eddy Co. NM NAD 83 Site: PLU Big Sinks 25 Fed 1H Well: 25 Fed 1H Wellpath: OH	Date: 7/12/2011 Co-ordinate(NE) Reference: Site: PLU Big Sinks 25 Fed 1H Grid North Vertical (TVD) Reference: SITE 3476.0 Section (VS) Reference: Well (0.00N, 0.00E, 359.76Azi) Survey Calculation Method: Minimum Curvature	Time: 10:05:11 Page: 1 Db: Sybase
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Field: Eddy Co. NM NAD 83 USA Map System: US State Plane Coordinate System 1983 Geo Datum: GRS 1980 Sys Datum: Mean Sea Level	Map Zone: New Mexico Eastern Zone Coordinate System: Site Centre Geomagnetic Model: IGRF2010
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Site: PLU Big Sinks 25 Fed 1H Eddy Co. NM Site Position: From: Map Position Uncertainty: 0.00 ft Ground Level: 3451.00 ft	Northing: 430257.44 ft Easting: 696146.89 ft Latitude: 32 10 54.708 N Longitude: 103 49 58.606 W North Reference: Grid Grid Convergence: 0.27 deg
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Well: 25 Fed 1H Well Position: +N/-S 0.00 ft +E/-W 0.00 ft Position Uncertainty: 0.00 ft	Slot Name: Latitude: 32 10 54.708 N Longitude: 103 49 58.606 W
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Wellpath: OH Current Datum: SITE Magnetic Data: 6/14/2011 Field Strength: 48587 nT Vertical Section: Depth From (TVD) ft 0.00	Drilled From: Surface Tie-on Depth: 0.00 ft Above System Datum: Mean Sea Level Declination: 7.70 deg Mag Dip Angle: 60.10 deg +E/-W Direction deg 0.00 359.76
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Survey Program for Definitive Wellpath Date: 7/12/2011 Actual From ft 0.00 8928.00 14037.00	Validated: No Survey Survey #1 (0.00-8800.00) Survey #2 (8928.00-13992.00) Survey #3 (14037.00-14037.00)
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Version: 0 Toolcode Gyro Ryan MWD Projection	Tool Name Gyro Ryan MWD Projection
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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
100.00	0.30	239.98	100.00	-0.13	-0.23	-0.13	0.30	0.30	0.00	Gyro
300.00	0.37	273.62	300.00	-0.35	-1.32	-0.35	0.10	0.03	16.82	Gyro
500.00	0.07	268.35	499.99	-0.31	-2.09	-0.31	0.15	-0.15	-2.63	Gyro
700.00	0.60	125.12	699.99	-0.92	-1.36	-0.92	0.33	0.26	-71.61	Gyro
900.00	1.02	119.98	899.97	-2.41	1.04	-2.42	0.21	0.21	-2.57	Gyro
1100.00	0.87	116.56	1099.94	-3.98	3.94	-4.00	0.08	-0.07	-1.71	Gyro
1300.00	1.02	99.54	1299.92	-4.96	7.06	-4.98	0.16	0.07	-8.51	Gyro
1500.00	1.04	93.92	1499.88	-5.37	10.62	-5.42	0.05	0.01	-2.81	Gyro
1700.00	1.39	90.18	1699.84	-5.51	14.86	-5.57	0.18	0.17	-1.87	Gyro
1900.00	1.23	100.68	1899.79	-5.91	19.39	-5.99	0.14	-0.08	5.25	Gyro
2100.00	1.30	100.19	2099.74	-6.71	23.74	-6.81	0.04	0.03	-0.24	Gyro
2300.00	0.90	101.12	2299.70	-7.41	27.51	-7.53	0.20	-0.20	0.46	Gyro
2500.00	0.69	95.81	2499.68	-7.84	30.25	-7.97	0.11	-0.10	-2.65	Gyro
2700.00	0.35	146.64	2699.67	-8.47	31.78	-8.61	0.27	-0.17	25.41	Gyro
2900.00	0.97	213.85	2899.66	-10.39	31.18	-10.52	0.45	0.31	33.60	Gyro
3100.00	1.15	164.49	3099.63	-13.73	30.77	-13.86	0.45	0.09	-24.68	Gyro
3300.00	0.73	141.34	3299.61	-16.66	32.10	-16.79	0.28	-0.21	-11.57	Gyro
3500.00	1.10	132.12	3499.58	-18.94	34.32	-19.08	0.20	0.18	-4.61	Gyro
3700.00	1.91	148.58	3699.51	-23.07	37.48	-23.23	0.46	0.40	8.23	Gyro
3900.00	2.20	152.41	3899.38	-29.32	41.00	-29.49	0.16	0.14	1.91	Gyro



Ryan Energy Technologies Survey Report



Company: Chesapeake Operating, Inc.
Field: Eddy Co, NM NAD 83
Site: PLU Big Sinks 25 Fed 1H
Well: 25 Fed 1H
Wellpath: OH

Date: 7/12/2011 Time: 10:05 11 Page: 2
Co-ordinate(NE) Reference: Site: PLU Big Sinks 25 Fed 1H, Grid Nort
Vertical (TVD) Reference: SITE 3476.0
Section (VS) Reference: Well (0.00N, 0.00E, 359 76Azi)
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
4100.00	1.65	160.07	4099.27	-35.43	43.76	-35.61	0.30	-0.27	3.83	Gyro
4300.00	0.74	162.68	4299.22	-39.37	45.12	-39.56	0.46	-0.45	1.30	Gyro
4500.00	0.48	181.64	4499.21	-41.44	45.49	-41.63	0.16	-0.13	9.48	Gyro
4700.00	0.54	178.18	4699.20	-43.22	45.49	-43.41	0.03	0.03	-1.73	Gyro
4900.00	0.46	175.35	4899.19	-44.96	45.59	-45.15	0.04	-0.04	-1.41	Gyro
5100.00	0.27	130.85	5099.19	-46.07	46.01	-46.26	0.16	-0.09	-22.25	Gyro
5300.00	0.27	116.13	5299.19	-46.58	46.79	-46.78	0.03	0.00	-7.36	Gyro
5500.00	0.15	165.30	5499.19	-47.04	47.28	-47.24	0.10	-0.06	24.58	Gyro
5700.00	0.31	148.74	5699.19	-47.76	47.62	-47.96	0.09	0.08	-8.28	Gyro
5900.00	0.26	160.37	5899.18	-48.65	48.06	-48.85	0.04	-0.02	5.81	Gyro
6100.00	0.26	161.67	6099.18	-49.51	48.35	-49.71	0.00	0.00	0.65	Gyro
6300.00	0.38	204.40	6299.18	-50.54	48.22	-50.74	0.13	0.06	21.36	Gyro
6500.00	0.56	232.61	6499.17	-51.74	47.17	-51.94	0.14	0.09	14.10	Gyro
6700.00	0.75	223.65	6699.16	-53.28	45.49	-53.47	0.11	0.09	-4.48	Gyro
6900.00	1.10	220.79	6899.13	-55.68	43.33	-55.86	0.18	0.17	-1.43	Gyro
7100.00	1.35	211.47	7099.09	-59.14	40.85	-59.31	0.16	0.12	-4.66	Gyro
7300.00	1.22	208.40	7299.04	-63.03	38.61	-63.19	0.07	-0.06	-1.53	Gyro
7500.00	1.25	208.69	7498.99	-66.81	36.55	-66.97	0.02	0.01	0.14	Gyro
7700.00	1.36	203.87	7698.94	-70.90	34.54	-71.04	0.08	0.05	-2.41	Gyro
7900.00	1.31	222.63	7898.89	-74.75	32.03	-74.88	0.22	-0.02	9.38	Gyro
8100.00	1.12	236.07	8098.84	-77.52	28.86	-77.64	0.17	-0.09	6.72	Gyro
8300.00	1.40	208.58	8298.79	-80.76	26.07	-80.87	0.33	0.14	-13.74	Gyro
8500.00	2.27	217.92	8498.69	-86.03	22.47	-86.12	0.46	0.43	4.67	Gyro
8700.00	2.26	190.81	8698.54	-93.03	19.29	-93.11	0.53	0.00	-13.55	Gyro
8800.00	2.48	202.73	8798.45	-96.96	18.09	-97.03	0.54	0.22	11.92	Gyro
8928.00	3.20	287.50	8926.34	-98.44	13.61	-98.50	3.02	0.56	66.23	Ryan MWD
8959.00	8.40	334.90	8957.19	-96.13	11.82	-96.18	21.49	16.77	152.90	Ryan MWD
8991.00	13.40	346.70	8988.60	-90.40	9.97	-90.44	17.03	15.62	36.87	Ryan MWD
9023.00	18.80	352.20	9019.34	-81.67	8.42	-81.71	17.52	16.87	17.19	Ryan MWD
9055.00	22.40	352.80	9049.29	-70.51	6.96	-70.54	11.27	11.25	1.87	Ryan MWD
9087.00	25.80	353.70	9078.49	-57.54	5.43	-57.56	10.69	10.62	2.81	Ryan MWD
9118.00	28.60	354.70	9106.06	-43.44	4.00	-43.46	9.15	9.03	3.23	Ryan MWD
9150.00	31.20	355.00	9133.80	-27.56	2.57	-27.57	8.14	8.12	0.94	Ryan MWD
9181.00	34.40	357.30	9159.86	-10.80	1.46	-10.81	11.08	10.32	7.42	Ryan MWD
9213.00	36.80	359.40	9185.88	7.81	0.93	7.81	8.42	7.50	6.56	Ryan MWD
9245.00	39.40	0.80	9211.06	27.55	0.97	27.55	8.56	8.12	4.38	Ryan MWD
9277.00	41.90	1.60	9235.33	48.39	1.41	48.39	7.98	7.81	2.50	Ryan MWD
9309.00	45.00	1.70	9258.56	70.39	2.05	70.38	9.69	9.69	0.31	Ryan MWD
9340.00	47.70	1.50	9279.96	92.81	2.67	92.80	8.72	8.71	-0.65	Ryan MWD
9372.00	50.70	0.40	9300.86	117.03	3.07	117.01	9.73	9.37	-3.44	Ryan MWD
9404.00	54.10	359.80	9320.39	142.38	3.11	142.36	10.73	10.62	-1.88	Ryan MWD
9436.00	57.80	0.20	9338.30	168.88	3.11	168.87	11.61	11.56	1.25	Ryan MWD
9467.00	61.70	0.40	9353.91	195.66	3.25	195.64	12.59	12.58	0.65	Ryan MWD
9498.00	66.50	0.20	9367.45	223.54	3.40	223.52	15.49	15.48	-0.65	Ryan MWD
9530.00	69.30	0.10	9379.49	253.18	3.48	253.16	8.75	8.75	-0.31	Ryan MWD
9562.00	71.30	0.40	9390.28	283.31	3.61	283.29	6.31	6.25	0.94	Ryan MWD
9594.00	74.50	0.20	9399.68	313.89	3.77	313.87	10.02	10.00	-0.62	Ryan MWD
9625.00	78.70	359.40	9406.87	344.04	3.66	344.02	13.78	13.55	-2.58	Ryan MWD
9657.00	80.80	358.90	9412.56	375.52	3.19	375.50	6.74	6.56	-1.56	Ryan MWD
9689.00	82.10	359.10	9417.32	407.16	2.64	407.14	4.11	4.06	0.62	Ryan MWD
9721.00	84.10	358.90	9421.16	438.92	2.09	438.91	6.28	6.25	-0.62	Ryan MWD
9752.00	85.80	358.50	9423.89	469.79	1.39	469.78	5.63	5.48	-1.29	Ryan MWD
9784.00	88.00	358.50	9425.62	501.73	0.55	501.72	6.87	6.87	0.00	Ryan MWD
9816.00	90.20	358.60	9426.12	533.72	-0.26	533.71	6.88	6.87	0.31	Ryan MWD



Ryan Energy Technologies Survey Report



Company: Chesapeake Operating, Inc. Date: 7/12/2011 Time: 10:05:11 Page: 3
Field: Eddy Co. NM NAD 83 Co-ordinate(NE) Reference: Site: PLU Big Sinks 25 Fed 1H, Grid Nort
Site: PLU Big Sinks 25 Fed 1H Vertical (TVD) Reference: SITE 3476.0
Well: 25 Fed 1H Section (VS) Reference: Well (0.00N, 0.00E, 359.76Azi)
Wellpath: OH 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
9847.00	91.20	358.60	9425.74	564.70	-1.02	564.70	3.23	3.23	0.00	Ryan MWD
9943.00	91.50	358.40	9423.48	660.64	-3.53	660.65	0.38	0.31	-0.21	Ryan MWD
10038.00	89.20	358.40	9422.90	755.60	-6.18	755.62	2.42	-2.42	0.00	Ryan MWD
10133.00	89.20	357.90	9424.23	850.54	-9.25	850.57	0.53	0.00	-0.53	Ryan MWD
10229.00	88.70	357.70	9425.99	946.45	-12.93	946.50	0.56	-0.52	-0.21	Ryan MWD
10324.00	89.50	359.10	9427.48	1041.40	-15.59	1041.46	1.70	0.84	1.47	Ryan MWD
10419.00	91.50	359.40	9426.65	1136.38	-16.83	1136.44	2.13	2.11	0.32	Ryan MWD
10515.00	92.10	359.80	9423.64	1232.33	-17.50	1232.40	0.75	0.62	0.42	Ryan MWD
10610.00	92.10	360.00	9420.16	1327.27	-17.66	1327.33	0.21	0.00	0.21	Ryan MWD
10705.00	91.60	0.30	9417.09	1422.22	-17.42	1422.28	0.61	-0.53	0.32	Ryan MWD
10800.00	89.40	0.50	9416.26	1517.21	-16.75	1517.26	2.33	-2.32	-0.21	Ryan MWD
10895.00	89.00	0.20	9417.59	1612.20	-16.17	1612.25	0.53	-0.42	-0.32	Ryan MWD
10991.00	88.10	0.20	9420.02	1708.16	-15.84	1708.22	0.94	-0.94	0.00	Ryan MWD
11086.00	88.10	0.90	9423.16	1803.11	-14.93	1803.15	0.74	0.00	0.74	Ryan MWD
11181.00	88.80	1.10	9425.73	1898.06	-13.27	1898.10	0.77	0.74	0.21	Ryan MWD
11276.00	90.20	0.80	9426.56	1993.04	-11.69	1993.07	1.51	1.47	-0.32	Ryan MWD
11372.00	91.60	0.90	9425.06	2089.01	-10.27	2089.04	1.46	1.46	0.10	Ryan MWD
11466.00	90.60	0.90	9423.25	2182.98	-8.79	2183.00	1.06	-1.06	0.00	Ryan MWD
11562.00	90.20	359.80	9422.58	2278.98	-8.21	2278.99	1.22	-0.42	-1.15	Ryan MWD
11657.00	89.80	359.60	9422.58	2373.98	-8.70	2373.99	0.47	-0.42	-0.21	Ryan MWD
11752.00	90.30	359.60	9422.50	2468.97	-9.37	2468.99	0.53	0.53	0.00	Ryan MWD
11847.00	90.40	360.00	9421.92	2563.97	-9.70	2563.99	0.43	0.11	0.42	Ryan MWD
11943.00	89.80	0.30	9421.75	2659.97	-9.45	2659.99	0.70	-0.62	0.31	Ryan MWD
12038.00	89.50	360.00	9422.33	2754.97	-9.20	2754.98	0.45	-0.32	-0.32	Ryan MWD
12134.00	89.10	359.30	9423.50	2850.96	-9.79	2850.97	0.84	-0.42	-0.73	Ryan MWD
12229.00	90.50	359.30	9423.83	2945.95	-10.95	2945.97	1.47	1.47	0.00	Ryan MWD
12324.00	89.30	358.40	9424.00	3040.92	-12.85	3040.95	1.58	-1.26	-0.95	Ryan MWD
12419.00	87.90	357.50	9426.32	3135.83	-16.25	3135.87	1.75	-1.47	-0.95	Ryan MWD
12515.00	87.60	356.50	9430.09	3231.63	-21.27	3231.69	1.09	-0.31	-1.04	Ryan MWD
12610.00	88.70	356.00	9433.16	3326.37	-27.48	3326.46	1.27	1.16	-0.53	Ryan MWD
12705.00	90.80	356.30	9433.57	3421.15	-33.86	3421.26	2.23	2.21	0.32	Ryan MWD
12801.00	92.30	358.90	9430.98	3517.02	-37.88	3517.15	3.13	1.56	2.71	Ryan MWD
12896.00	92.20	1.30	9427.24	3611.94	-37.71	3612.07	2.53	-0.11	2.53	Ryan MWD
12992.00	90.80	1.60	9424.73	3707.87	-35.28	3707.99	1.49	-1.46	0.31	Ryan MWD
13086.00	90.70	2.00	9423.50	3801.82	-32.33	3801.92	0.44	-0.11	0.43	Ryan MWD
13181.00	88.00	1.50	9424.58	3896.76	-29.43	3896.85	2.89	-2.84	-0.53	Ryan MWD
13277.00	87.70	0.90	9428.18	3992.67	-27.42	3992.75	0.70	-0.31	-0.62	Ryan MWD
13372.00	87.70	0.50	9431.99	4087.59	-26.26	4087.66	0.42	0.00	-0.42	Ryan MWD
13468.00	87.50	360.00	9436.01	4183.50	-25.84	4183.57	0.56	-0.21	-0.52	Ryan MWD
13563.00	87.00	359.40	9440.57	4278.39	-26.34	4278.46	0.82	-0.53	-0.63	Ryan MWD
13658.00	90.00	359.40	9443.06	4373.34	-27.33	4373.42	3.16	3.16	0.00	Ryan MWD
13754.00	90.00	359.00	9443.06	4469.33	-28.67	4469.41	0.42	0.00	-0.42	Ryan MWD
13849.00	89.50	358.60	9443.47	4564.31	-30.66	4564.40	0.67	-0.53	-0.42	Ryan MWD
13944.00	88.90	357.90	9444.80	4659.25	-33.56	4659.35	0.97	-0.63	-0.74	Ryan MWD
13992.00	88.60	357.60	9445.85	4707.21	-35.45	4707.31	0.88	-0.62	-0.62	Ryan MWD
14037.00	88.60	357.60	9446.95	4752.15	-37.33	4752.27	0.00	0.00	0.00	PROJECTED to TD



Ryan Energy Technologies COMPLETION REPORT



Company: Chesapeake Operating, Inc. **Date:** 7/12/2011 **Time:** 10:09:16 **Page:** 1
Field: Eddy Co. NM NAD 83 **Co-ordinate (NE) Reference:** Site: PLU Big Sinks 25 Fed 1H Grid North
Site: PLU Big Sinks 25 Fed 1H **Vertical (TVD) Reference:** SITE 3476.0
Well: 25 Fed 1H **Section (VS) Reference:** Well (0.00N 0.00E 359.76Az)
Wellpath: OH **Survey Calculation Method:** Minimum Curvature **Db:** Sybase

Field: Eddy Co. NM NAD 83
Map System: US State Plane Coordinate System 1983 **Map Zone:** New Mexico Eastern Zone
Geo Datum: GRS 1980 **Coordinate System:** Site Centre
Sys Datum: Mean Sea Level **Geomagnetic Model:** IGRF2010

Site: PLU Big Sinks 25 Fed 1H
Eddy Co. NM
Site Position: **Northing:** 430257.44 ft **Latitude:** 32 10 54.708 N
From: Map **Easting:** 696146.89 ft **Longitude:** 103 49 58.606 W
Position Uncertainty: 0.00 ft **North Reference:** Grid
Ground Level: 3451.00 ft **Grid Convergence:** 0.27 deg

Well: 25 Fed 1H **Slot Name:**
Well Position: +N/-S 0.00 ft **Northing:** 430257.44 ft **Latitude:** 32 10 54.708 N
+E/-W 0.00 ft **Easting:** 696146.89 ft **Longitude:** 103 49 58.606 W
Position Uncertainty: 0.00 ft

Wellpath: OH **Drilled From:** Surface
Current Datum: SITE **Tie-on Depth:** 0.00 ft
Magnetic Data: 6/14/2011 **Above System Datum:** Mean Sea Level
Field Strength: 48587 nT **Declination:** 7.70 deg
Vertical Section: **Depth From (TVD)** **+N/-S** **+E/-W** **Direction**
 ft ft ft deg
 0.00 0.00 0.00 359.76

Survey

MD ft	Incl deg	TVD ft	VS ft	Azin deg	N/S ft	E/W ft	Clsr Dist ft	Clsr Azi 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
100.00	0.30	100.00	-0.13	239.98	-0.13	-0.23	0.26	239.98	0.30	Gyro
300.00	0.37	300.00	-0.35	273.62	-0.35	-1.32	1.37	255.11	0.10	Gyro
500.00	0.07	499.99	-0.31	268.35	-0.31	-2.09	2.11	261.44	0.15	Gyro
700.00	0.60	699.99	-0.92	125.12	-0.92	-1.36	1.64	235.83	0.33	Gyro
900.00	1.02	899.97	-2.42	119.98	-2.41	1.04	2.63	156.65	0.21	Gyro
1100.00	0.87	1099.94	-4.00	116.56	-3.98	3.94	5.60	135.28	0.08	Gyro
1300.00	1.02	1299.92	-4.98	99.54	-4.96	7.06	8.62	125.08	0.16	Gyro
1500.00	1.04	1499.88	-5.42	93.92	-5.37	10.62	11.90	116.84	0.05	Gyro
1700.00	1.39	1699.84	-5.57	90.18	-5.51	14.86	15.85	110.33	0.18	Gyro
1900.00	1.23	1899.79	-5.99	100.68	-5.91	19.39	20.27	106.95	0.14	Gyro
2100.00	1.30	2099.74	-6.81	100.19	-6.71	23.74	24.67	105.79	0.04	Gyro
2300.00	0.90	2299.70	-7.53	101.12	-7.41	27.51	28.49	105.08	0.20	Gyro
2500.00	0.69	2499.68	-7.97	95.81	-7.84	30.25	31.25	104.53	0.11	Gyro
2700.00	0.35	2699.67	-8.61	146.64	-8.47	31.78	32.89	104.93	0.27	Gyro
2900.00	0.97	2899.66	-10.52	213.85	-10.39	31.18	32.86	108.43	0.45	Gyro
3100.00	1.15	3099.63	-13.86	164.49	-13.73	30.77	33.69	114.04	0.45	Gyro
3300.00	0.73	3299.61	-16.79	141.34	-16.66	32.10	36.17	117.42	0.28	Gyro
3500.00	1.10	3499.58	-19.08	132.12	-18.94	34.32	39.20	118.89	0.20	Gyro
3700.00	1.91	3699.51	-23.23	148.58	-23.07	37.48	44.02	121.61	0.46	Gyro
3900.00	2.20	3899.38	-29.49	152.41	-29.32	41.00	50.40	125.57	0.16	Gyro
4100.00	1.65	4099.27	-35.61	160.07	-35.43	43.76	56.30	128.99	0.30	Gyro
4300.00	0.74	4299.22	-39.56	162.68	-39.37	45.12	59.88	131.10	0.46	Gyro
4500.00	0.48	4499.21	-41.63	181.64	-41.44	45.49	61.53	132.33	0.16	Gyro
4700.00	0.54	4699.20	-43.41	178.18	-43.22	45.49	62.75	133.53	0.03	Gyro
4900.00	0.46	4899.19	-45.15	175.35	-44.96	45.59	64.03	134.60	0.04	Gyro
5100.00	0.27	5099.19	-46.26	130.85	-46.07	46.01	65.11	135.04	0.16	Gyro
5300.00	0.27	5299.19	-46.78	116.13	-46.58	46.79	66.02	134.87	0.03	Gyro



Ryan Energy Technologies COMPLETION REPORT



Company: Chesapeake Operating, Inc. Date: 7/12/2011 Time: 10 09:16 Page: 2
Field: Eddy Co. NM NAD 83 Co-ordinate(NE) Reference: Site: PLU Big Sinks 25 Fed 1H, Grid Nort
Site: PLU Big Sinks 25 Fed 1H Vertical (TVD) Reference: SITE 3476 0
Well: 25 Fed 1H Section (VS) Reference: Well (0.00N,0.00E,359.76Azi)
Wellpath: OH Survey Calculation Method: Minimum Curvature Db: Sybase

Survey

MD ft	Incl deg	TVD ft	VS ft	Azim deg	N/S ft	E/W ft	Clsr Dist ft	Clsr Azi deg	DLS deg/100ft	Tool
5500.00	0.15	5499.19	-47.24	165.30	-47.04	47.28	66.70	134.86	0.10	Gyro
5700.00	0.31	5699.19	-47.96	148.74	-47.76	47.62	67.45	135.08	0.09	Gyro
5900.00	0.26	5899.18	-48.85	160.37	-48.65	48.06	68.38	135.35	0.04	Gyro
6100.00	0.26	6099.18	-49.71	161.67	-49.51	48.35	69.20	135.68	0.00	Gyro
6300.00	0.38	6299.18	-50.74	204.40	-50.54	48.22	69.86	136.35	0.13	Gyro
6500.00	0.56	6499.17	-51.94	232.61	-51.74	47.17	70.01	137.64	0.14	Gyro
6700.00	0.75	6699.16	-53.47	223.65	-53.28	45.49	70.06	139.51	0.11	Gyro
6900.00	1.10	6899.13	-55.86	220.79	-55.68	43.33	70.56	142.11	0.18	Gyro
7100.00	1.35	7099.09	-59.31	211.47	-59.14	40.85	71.88	145.37	0.16	Gyro
7300.00	1.22	7299.04	-63.19	208.40	-63.03	38.61	73.91	148.51	0.07	Gyro
7500.00	1.25	7498.99	-66.97	208.69	-66.81	36.55	76.16	151.32	0.02	Gyro
7700.00	1.36	7698.94	-71.04	203.87	-70.90	34.54	78.86	154.03	0.08	Gyro
7900.00	1.31	7898.89	-74.88	222.63	-74.75	32.03	81.32	156.80	0.22	Gyro
8100.00	1.12	8098.84	-77.64	236.07	-77.52	28.86	82.72	159.58	0.17	Gyro
8300.00	1.40	8298.79	-80.87	208.58	-80.76	26.07	84.86	162.11	0.33	Gyro
8500.00	2.27	8498.69	-86.12	217.92	-86.03	22.47	88.91	165.36	0.46	Gyro
8700.00	2.26	8698.54	-93.11	190.81	-93.03	19.29	95.01	168.28	0.53	Gyro
8800.00	2.48	8798.45	-97.03	202.73	-96.96	18.09	98.63	169.43	0.54	Gyro
8928.00	3.20	8926.34	-98.50	287.50	-98.44	13.61	99.38	172.13	3.02	Ryan MWD
8959.00	8.40	8957.19	-96.18	334.90	-96.13	11.82	96.85	172.99	21.49	Ryan MWD
8991.00	13.40	8988.60	-90.44	346.70	-90.40	9.97	90.95	173.70	17.03	Ryan MWD
9023.00	18.80	9019.34	-81.71	352.20	-81.67	8.42	82.11	174.11	17.52	Ryan MWD
9055.00	22.40	9049.29	-70.54	352.80	-70.51	6.96	70.85	174.37	11.27	Ryan MWD
9087.00	25.80	9078.49	-57.56	353.70	-57.54	5.43	57.79	174.61	10.69	Ryan MWD
9118.00	28.60	9106.06	-43.46	354.70	-43.44	4.00	43.63	174.74	9.15	Ryan MWD
9150.00	31.20	9133.80	-27.57	355.00	-27.56	2.57	27.68	174.67	8.14	Ryan MWD
9181.00	34.40	9159.86	-10.81	357.30	-10.80	1.46	10.90	172.32	11.08	Ryan MWD
9213.00	36.80	9185.88	7.81	359.40	7.81	0.93	7.87	6.80	8.42	Ryan MWD
9245.00	39.40	9211.06	27.55	0.80	27.55	0.97	27.57	2.02	8.56	Ryan MWD
9277.00	41.90	9235.33	48.39	1.60	48.39	1.41	48.41	1.67	7.98	Ryan MWD
9309.00	45.00	9258.56	70.38	1.70	70.39	2.05	70.42	1.67	9.69	Ryan MWD
9340.00	47.70	9279.96	92.80	1.50	92.81	2.67	92.85	1.65	8.72	Ryan MWD
9372.00	50.70	9300.86	117.01	0.40	117.03	3.07	117.07	1.50	9.73	Ryan MWD
9404.00	54.10	9320.39	142.36	359.80	142.38	3.11	142.41	1.25	10.73	Ryan MWD
9436.00	57.80	9338.30	168.87	0.20	168.88	3.11	168.91	1.06	11.61	Ryan MWD
9467.00	61.70	9353.91	195.64	0.40	195.66	3.25	195.68	0.95	12.59	Ryan MWD
9498.00	66.50	9367.45	223.52	0.20	223.54	3.40	223.56	0.87	15.49	Ryan MWD
9530.00	69.30	9379.49	253.16	0.10	253.18	3.48	253.21	0.79	8.75	Ryan MWD
9562.00	71.30	9390.28	283.29	0.40	283.31	3.61	283.33	0.73	6.31	Ryan MWD
9594.00	74.50	9399.68	313.87	0.20	313.89	3.77	313.91	0.69	10.02	Ryan MWD
9625.00	78.70	9406.87	344.02	359.40	344.04	3.66	344.06	0.61	13.78	Ryan MWD
9657.00	80.80	9412.56	375.50	358.90	375.52	3.19	375.53	0.49	6.74	Ryan MWD
9689.00	82.10	9417.32	407.14	359.10	407.16	2.64	407.17	0.37	4.11	Ryan MWD
9721.00	84.10	9421.16	438.91	358.90	438.92	2.09	438.93	0.27	6.28	Ryan MWD
9752.00	85.80	9423.89	469.78	358.50	469.79	1.39	469.79	0.17	5.63	Ryan MWD
9784.00	88.00	9425.62	501.72	358.50	501.73	0.55	501.73	0.06	6.87	Ryan MWD
9816.00	90.20	9426.12	533.71	358.60	533.72	-0.26	533.72	359.97	6.88	Ryan MWD
9847.00	91.20	9425.74	564.70	358.60	564.70	-1.02	564.70	359.90	3.23	Ryan MWD
9943.00	91.50	9423.48	660.65	358.40	660.64	-3.53	660.65	359.69	0.38	Ryan MWD
10038.00	89.20	9422.90	755.62	358.40	755.60	-6.18	755.62	359.53	2.42	Ryan MWD
10133.00	89.20	9424.23	850.57	357.90	850.54	-9.25	850.59	359.38	0.53	Ryan MWD
10229.00	88.70	9425.99	946.50	357.70	946.45	-12.93	946.54	359.22	0.56	Ryan MWD



Ryan Energy Technologies COMPLETION REPORT



Company: Chesapeake Operating, Inc.
Field: Eddy Co, NM NAD 83
Site: PLU Big Sinks 25 Fed 1H
Well: 25 Fed 1H
Wellpath: OH

Date: 7/12/2011 Time: 10:09:16 Page: 3
Co-ordinate(NE) Reference: Site: PLU Big Sinks 25 Fed 1H, Grid Nort
Vertical (TVD) Reference: SITE 3476.0
Section (VS) Reference: Well (0.00N,0.00E,359.76Azi)
Survey Calculation Method: Minimum Curvature Db: Sybase

Survey

MD ft	Incl deg	TVD ft	VS ft	Azim deg	N/S ft	E/W ft	Clsr Dist. ft	Clsr Azi deg	DLS deg/100ft	Tool
10324.00	89.50	9427.48	1041.46	359.10	1041.40	-15.59	1041.52	359.14	1.70	Ryan MWD
10419.00	91.50	9426.65	1136.44	359.40	1136.38	-16.83	1136.51	359.15	2.13	Ryan MWD
10515.00	92.10	9423.64	1232.40	359.80	1232.33	-17.50	1232.46	359.19	0.75	Ryan MWD
10610.00	92.10	9420.16	1327.33	360.00	1327.27	-17.66	1327.39	359.24	0.21	Ryan MWD
10705.00	91.60	9417.09	1422.28	0.30	1422.22	-17.42	1422.33	359.30	0.61	Ryan MWD
10800.00	89.40	9416.26	1517.26	0.50	1517.21	-16.75	1517.30	359.37	2.33	Ryan MWD
10895.00	89.00	9417.59	1612.25	0.20	1612.20	-16.17	1612.28	359.43	0.53	Ryan MWD
10991.00	88.10	9420.02	1708.22	0.20	1708.16	-15.84	1708.24	359.47	0.94	Ryan MWD
11086.00	88.10	9423.16	1803.15	0.90	1803.11	-14.93	1803.17	359.53	0.74	Ryan MWD
11181.00	88.80	9425.73	1898.10	1.10	1898.06	-13.27	1898.10	359.60	0.77	Ryan MWD
11276.00	90.20	9426.56	1993.07	0.80	1993.04	-11.69	1993.07	359.66	1.51	Ryan MWD
11372.00	91.60	9425.06	2089.04	0.90	2089.01	-10.27	2089.04	359.72	1.46	Ryan MWD
11466.00	90.60	9423.25	2183.00	0.90	2182.98	-8.79	2183.00	359.77	1.06	Ryan MWD
11562.00	90.20	9422.58	2278.99	359.80	2278.98	-8.21	2278.99	359.79	1.22	Ryan MWD
11657.00	89.80	9422.58	2373.99	359.60	2373.98	-8.70	2373.99	359.79	0.47	Ryan MWD
11752.00	90.30	9422.50	2468.99	359.60	2468.97	-9.37	2468.99	359.78	0.53	Ryan MWD
11847.00	90.40	9421.92	2563.99	360.00	2563.97	-9.70	2563.99	359.78	0.43	Ryan MWD
11943.00	89.80	9421.75	2659.99	0.30	2659.97	-9.45	2659.99	359.80	0.70	Ryan MWD
12038.00	89.50	9422.33	2754.98	360.00	2754.97	-9.20	2754.98	359.81	0.45	Ryan MWD
12134.00	89.10	9423.50	2850.97	359.30	2850.96	-9.79	2850.97	359.80	0.84	Ryan MWD
12229.00	90.50	9423.83	2945.97	359.30	2945.95	-10.95	2945.97	359.79	1.47	Ryan MWD
12324.00	89.30	9424.00	3040.95	358.40	3040.92	-12.85	3040.95	359.76	1.58	Ryan MWD
12419.00	87.90	9426.32	3135.87	357.50	3135.83	-16.25	3135.87	359.70	1.75	Ryan MWD
12515.00	87.60	9430.09	3231.69	356.50	3231.63	-21.27	3231.70	359.62	1.09	Ryan MWD
12610.00	88.70	9433.16	3326.46	356.00	3326.37	-27.48	3326.48	359.53	1.27	Ryan MWD
12705.00	90.80	9433.57	3421.26	356.30	3421.15	-33.86	3421.32	359.43	2.23	Ryan MWD
12801.00	92.30	9430.98	3517.15	358.90	3517.02	-37.88	3517.22	359.38	3.13	Ryan MWD
12896.00	92.20	9427.24	3612.07	1.30	3611.94	-37.71	3612.14	359.40	2.53	Ryan MWD
12992.00	90.80	9424.73	3707.99	1.60	3707.87	-35.28	3708.04	359.45	1.49	Ryan MWD
13086.00	90.70	9423.50	3801.92	2.00	3801.82	-32.33	3801.96	359.51	0.44	Ryan MWD
13181.00	88.00	9424.58	3896.85	1.50	3896.76	-29.43	3896.87	359.57	2.89	Ryan MWD
13277.00	87.70	9428.18	3992.75	0.90	3992.67	-27.42	3992.76	359.61	0.70	Ryan MWD
13372.00	87.70	9431.99	4087.66	0.50	4087.59	-26.26	4087.67	359.63	0.42	Ryan MWD
13468.00	87.50	9436.01	4183.57	360.00	4183.50	-25.84	4183.58	359.65	0.56	Ryan MWD
13563.00	87.00	9440.57	4278.46	359.40	4278.39	-26.34	4278.47	359.65	0.82	Ryan MWD
13658.00	90.00	9443.06	4373.42	359.40	4373.34	-27.33	4373.43	359.64	3.16	Ryan MWD
13754.00	90.00	9443.06	4469.41	359.00	4469.33	-28.67	4469.42	359.63	0.42	Ryan MWD
13849.00	89.50	9443.47	4564.40	358.60	4564.31	-30.66	4564.41	359.62	0.67	Ryan MWD
13944.00	88.90	9444.80	4659.35	357.90	4659.25	-33.56	4659.38	359.59	0.97	Ryan MWD
13992.00	88.60	9445.85	4707.31	357.60	4707.21	-35.45	4707.34	359.57	0.88	Ryan MWD
14037.00	88.60	9446.95	4752.27	357.60	4752.15	-37.33	4752.30	359.55	0.00	PROJECTED



RYAN ENERGY TECHNOLOGIES USA, INC.
SLIDE & ROTATING REPORT



COMPANY: CHESAPEAKE OPERATING, LLC
FIELD: EDDY CO.
LOCATION: NEW MEXICO

RIG CONTRACTOR: Patterson 62
WELL NAME: PLU Big Sinks 25 Fed 1H
JOB NUMBER: Ryan #4937

MODE	DEPTH FROM	DEPTH TO	FEET MADE	T.F.O. MTF/GTF	W.O.B. K	ROTARY R.P.M.	PUMP G.P.M.	PUMP PRESS	SURVEY DEPTH	ANGLE	AZM	DOG LEG	Gamma CPS	B.H.A. NO.
SLIDE	8,906	9,027	121	359 MTF	10		415	1200	8959	8.40	334.90	21.49		1
Rotate	9,027	9,044	17		20	25	415	1250	8991	13.40	346.70	17.03		1
SLIDE	9,044	9,064	20	20R GTF	10		415	1250	9023	18.80	352.20	17.52		1
Rotate	9,064	9,076	12		20	25	415	1650	9055	22.40	352.80	11.27		1
SLIDE	9,076	9,094	18	10R GTF	12		415	1450	9087	25.80	353.70	10.69		1
Rotate	9,094	9,108	14		20	25	415	1650	9118	28.60	354.70	9.15		1
SLIDE	9,108	9,123	15	HS GTF	12		415	1450						1
Rotate	9,123	9,140	17		20	25	415	1650						1
SLIDE	9,140	9,158	18	10R GTF	22		415	1450	9150	31.20	355.00	8.14		1
Rotate	9,158	9,171	13		20	25	415	1450						1
SLIDE	9,171	9,190	19	40R GTF	20		415	1450	9181	34.40	357.30	11.08		1
Rotate	9,190	9,203	13		20	25	415	1450						1
SLIDE	9,203	9,220	17	20R GTF	20		415	1450	9213	36.80	359.40	8.42		1
Rotate	9,220	9,234	14		20	25	415	1450						1
SLIDE	9,234	9,250	16	10R GTF	20		415	1450	9245	39.40	0.80	8.56		1
Rotate	9,250	9,266	16		20	25	415	1450						1
SLIDE	9,266	9,288	22	HS GTF	20		415	1450	9277	41.90	1.60	7.98		1
Rotate	9,288	9,298	10		20	25	415	1450						1
SLIDE	9,298	9,319	21	HS GTF	20		415	1450	9309	45.00	1.70	9.69		1
Rotate	9,319	9,330	11		20	25	415	1450						1
SLIDE	9,330	9,350	20	10L GTF	20		415	1450	9340	47.70	1.50	8.72		1
Rotate	9,350	9,362	12		20	25	415	1450						1
SLIDE	9,362	9,387	25	15L GTF	20		415	1450	9372	50.70	0.40	9.73		1
Rotate	9,387	9,393	6		20	25	415	1450						1
SLIDE	9,393	9,418	25	15L GTF	22		415	1450	9404	54.10	359.80	10.73		1
Rotate	9,418	9,425	7		15	25	415	1450						1
SLIDE	9,425	9,447	22	6R GTF	22		415	1450	9436	57.80	0.20	11.61		1
Rotate	9,447	9,457	10		16	25	415	1450						1
SLIDE	9,457	9,489	32	HS GTF	22		415	1450	9467	61.70	0.40	12.59		1
SLIDE	9,489	9,510	21	HS GTF	20		415	1450	9498	66.50	0.20	15.49		1
Rotate	9,510	9,520	10		20	25	415	1450						1
SLIDE	9,520	9,534	14	HS GTF	20		415	1450	9530	69.30	0.10	8.75		1
Rotate	9,534	9,551	17		20	25	415	1450						1
SLIDE	9,551	9,569	18	HS GTF	20		415	1450	9562	71.30	0.40	6.31		1
Rotate	9,569	9,583	14		20	25	415	1450						1
SLIDE	9,583	9,607	24	HS GTF	20		415	1450	9594	74.50	0.20	10.02		1
Rotate	9,607	9,615	8		20	25	415	1450						1
SLIDE	9,615	9,635	20	HS GTF	20		415	1450	9625	78.70	359.40	13.78		1
Rotate	9,635	9,647	12		20	25	415	1450						1
SLIDE	9,647	9,657	10	HS GTF	20		415	1450	9657	80.80	358.90	6.74		1
Rotate	9,657	9,678	21		20	25	415	1450						1
SLIDE	9,678	9,690	12	HS GTF	20		415	1450	9689	82.10	359.10	4.11		2
Rotate	9,690	9,702	12		20	25	415	1450						2
SLIDE	9,702	9,722	20	HS GTF	20		415	1450	9721	84.10	358.90	6.28		2
Rotate	9,722	9,734	12		20	25	415	1450						2
SLIDE	9,734	9,753	19	HS GTF	20		415	1450	9752	85.80	358.50	5.63		2
Rotate	9,753	9,766	13		20	25	415	1450						2
SLIDE	9,766	9,787	21	HS GTF	20		415	1450	9784	88.00	358.50	6.87		2
Rotate	9,787	9,797	10		20	25	415	1450						2
SLIDE	9,797	9,820	23	6R GTF	35		415	1450	9816	90.20	358.60	6.88		2
Rotate	9,820	9,829	9		20	25	415	1450						2
Rotate	9,829	9,861	32		20	55	415	1450	9847	91.20	358.60	3.23		2
Rotate	9,861	9,892	31		20	55	415	1450						2
Rotate	9,892	9,988	96		20	55	415	1450	9943	91.50	358.40	0.38		2
SLIDE	9,988	9,998	10	170 GTF	35		415	1450						2
Rotate	9,998	10,083	85		25	55	415	1450	10038	89.20	358.40	2.42		2
Rotate	10,083	10,178	95		25	55	415	1450	10133	89.20	357.90	0.53		2
Rotate	10,178	10,274	96		25	55	415	1450	10229	88.70	357.70	0.56		2
SLIDE	10,274	10,286	12	60R GTF	25		415	1450						2
Rotate	10,286	10,369	83		25	55	415	1450	10324	89.50	359.10	1.70		2
SLIDE	10,369	10,377	8	30R GTF	25		415	1450						2
Rotate	10,377	10,464	87		25	55	415	1450	10419	91.50	359.40	2.13		2
Rotate	10,464	10,560	96		25	55	415	1450	10515	92.10	359.80	0.75		2
SLIDE	10,560	10,570	10	150R GTF	35		415	1450						2
Rotate	10,570	10,655	85		35	55	415	1450	10610	92.10	360.00	0.21		2
Rotate	10,655	10,665	10		35	55	415	1450						2
SLIDE	10,665	10,675	10	180 GTF	38		415	1450						2
Rotate	10,675	10,750	75		36	55	415	1500	10705	91.60	0.30	0.61		2



RYAN ENERGY TECHNOLOGIES USA, INC
SLIDE & ROTATING REPORT



COMPANY: CHESAPEAKE OPERATING, LLC
FIELD: EDDY CO
LOCATION: NEW MEXICO

RIG CONTRACTOR: Patterson 62
WELL NAME: PLU Big Sinks 25 Fed 1H
JOB NUMBER: Ryan #4937

MODE	DEPTH FROM	DEPTH TO	FEET MADE	T.F.O. MTF/GTF	W.O.B. K	ROTARY R.P.M.	PUMP G.P.M.	PUMP PRESS	SURVEY DEPTH	ANGLE	AZM	DOG LEG	Gamma CPS	B.H.A NO.
Rotate	10,750	10,760	10		36	55	415	1525						2
SLIDE	10,760	10,772	12	180 GTF	40		415	1500						2
Rotate	10,772	10,845	73		38	55	415	1525	10800	89.40	0.50	2.33		2
Rotate	10,845	10,940	95		38	55	415	1550	10895	89.00	0.20	0.53		2
Rotate	10,940	11,036	96		38	50	415	1550	10991	88.10	0.20	0.94		2
SLIDE	11,036	11,046	10	HS GTF	38		415	1550						2
Rotate	11,046	11,131	85		38	55	415	1550	11086	88.10	0.90	0.74		2
SLIDE	11,131	11,141	10	6L GTF	38		415	1550						2
Rotate	11,141	11,226	85		38	55	415	1550	11181	88.80	1.10	0.77		2
SLIDE	11,226	11,241	15	10L GTF	38		415	1550						2
Rotate	11,241	11,321	80		38	55	415	1550	11276	90.20	0.80	1.51		2
Rotate	11,321	11,417	96		38	55	415	1550	11372	91.60	0.90	1.46		2
SLIDE	11,417	11,432	15	160L GTF	40		415	1550						2
Rotate	11,432	11,511	79		40	55	415	1550	11466	90.60	0.90	1.06		2
Rotate	11,511	11,607	96		40	55	415	1600	11562	90.20	359.80	1.22		2
Rotate	11,607	11,702	95		40	55	415	1600	11657	89.80	359.60	0.47		2
Rotate	11,702	11,797	95		40	50	415	1600	11752	90.30	359.60	0.53		2
Rotate	11,797	11,892	95		40	55	415	1600	11847	90.40	360.00	0.43		2
Rotate	11,892	11,988	96		40	60	415	1600	11943	89.80	0.30	0.70		2
Rotate	11,988	12,083	95		40	60	415	1600	12038	89.50	360.00	0.45		2
Rotate	12,083	12,179	96		40	60	415	1600	12134	89.10	359.30	0.84		2
Rotate	12,179	12,274	95		40	55	415	1600	12229	90.50	359.30	1.47		2
Rotate	12,274	12,369	95		40	60	415	1600	12324	89.30	358.40	1.58		2
Rotate	12,369	12,464	95		40	57	415	1600	12419	87.90	357.50	1.75		2
SLIDE	12,464	12,479	15	30R GTF	45		415	1600						2
Rotate	12,479	12,560	81		45	50	415	1800	12515	87.60	356.50	1.09		2
SLIDE	12,560	12,576	16	30R GTF	45		415	1800						2
Rotate	12,576	12,623	47		45	50	415	1800	12610	88.70	356.00	1.27		2
SLIDE	12,623	12,638	15	45R GTF	45		415	1800						2
Rotate	12,638	12,655	17		45	50	415	1800						2
SLIDE	12,655	12,665	10	70R GTF	45		415	1800						2
Rotate	12,665	12,719	54		45	55	415	1800	12705	90.80	356.30	2.23		2
SLIDE	12,719	12,731	12	90R GTF	45		415	1800						2
Rotate	12,731	12,750	19		45	55	415	1800						2
SLIDE	12,750	12,764	14	90R GTF	45		415	1800						2
Rotate	12,764	12,782	18		45	60	415	1800						2
SLIDE	12,782	12,797	15	90R GTF	45		415	1800						2
Rotate	12,797	12,846	49		45	60	415	1800	12801	92.30	358.90	3.13		2
SLIDE	12,846	12,861	15	130R	50		415	1500						3
Rotate	12,861	12,956	95		35	60	415	1800	12941	92.20	1.30	2.50		3
SLIDE	12,956	12,968	12	170R	55		415	1600						3
Rotate	12,968	13,037	69		35	60	415	1800	12992	90.80	1.60	1.49		3
Rotate	13,037	13,131	94		35	60	415	1800	13086	90.70	2.00	0.44		3
SLIDE	13,131	13,143	12	170L GTF	55		415	1600						3
Rotate	13,143	13,226	83		35	60	415	1800	13181	88.00	1.50	2.89		3
Rotate	13,226	13,322	96		35	50	415	1900	13277	87.70	0.90	0.70		3
Rotate	13,322	13,417	95		38	50	415	1900	13372	87.70	0.50	0.42		3
Rotate	13,417	13,528	111		28	55	415	1900	13468	87.50	360.00	0.56		3
SLIDE	13,528	13,540	12	HS GTF	60		415	1700						3
Rotate	13,540	13,608	68		32	60	415	1700	13563	87.00	359.40	0.80		3
Rotate	13,608	13,620	12		32	55	415	1700						3
SLIDE	13,620	13,640	20	HS GTF	60		415	1800						3
Rotate	13,640	13,703	63		40	55	415	1550	13658	90.00	359.40	3.16		3
Rotate	13,703	13,799	96		40	55	415	1550	13754	90.00	359.00	0.46		3
Rotate	13,799	14,037	238		40	55	415	1550	13992	88.60	357.60	0.88		3