

District I  
 1625 N. French Dr., Hobbs, NM 88240  
 District II  
 1301 W. Grand Avenue, Artesia, NM 88210  
 District III  
 1000 Rio Brazos Rd., Aztec, NM 87410  
 District IV  
 1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
 Energy, Minerals & Natural Resources Department  
**OIL CONSERVATION DIVISION**  
 1220 South St. Francis Dr.  
 Santa Fe, NM 87505

**RECEIVED**  
 MAY 04 2010  
 NMOCD ARTESIA

Form O-102  
 Revised October 15, 2009  
 Submit one copy to appropriate District Office

AMENDED REPORT

**WELL LOCATION AND ACREAGE DEDICATION PLAT**

<sup>1</sup> API Number 30-015-37031	<sup>2</sup> Pool Code <del>96403</del> 97798	<sup>3</sup> Pool Name Wildcat; Bone Spring
<sup>4</sup> Property Code 37645	<sup>5</sup> Property Name PLU Big Sinks 26 Federal	<sup>6</sup> Well Number 1H
<sup>7</sup> OGRID No. 147179	<sup>8</sup> Operator Name Chesapeake Operating, Inc.	<sup>9</sup> Elevation 3342' GR

<sup>10</sup> Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	26	24S	30E		150'	South	600'	West	Eddy

<sup>11</sup> Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	26	24S	30E		355'	North	468'	West	Eddy

<sup>12</sup> Dedicated Acres 160	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> Order No
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No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

<sup>16</sup> <p><b>BOTTOM HOLE LOCATION</b> 355' FNL &amp; 468' FWL</p> <p><b>PRODUCING AREA</b></p> <p><b>PROJECT AREA</b></p> <p><b>PENETRATION POINT</b> 343' FSL &amp; 588' FWL  <b>SURFACE HOLE LOCATION</b> 150' FSL &amp; 660' FWL</p>				<sup>17</sup> OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division  Signature Date 01/19/2010 Bryan Arrant Printed Name
				<sup>18</sup> SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief  Date of Survey Signature and Seal of Professional Surveyor
				PLEASE REFER TO ORIGINAL PLAT  Certificate Number

*Handwritten initials*



# Chesapeake Operating, Inc.

Field: Eddy Co, NM NAD 83  
 Site: PLU Big Sinks 26 Federal 1H  
 Well: PLU Big Sinks 26 Federal 1H  
 Wellpath: 26 Fed 1H ST1



Adjusted to Grid North  
 True North: 325°  
 Magnetic North: 7° 55'  
 Magnetic Field  
 Strength: 48.78 uT  
 Dip Angle: 66.15°  
 Date: 10/14/2008  
 Model: IGRF08

### SITE DETAILS

PLU Big Sinks 26 Federal 1H  
 Eddy Co, NM  
 Site Centre Northing: 432054.47  
 Easting: 635503.52  
 Ground Level: 3335.00  
 Positional Uncertainty: 0.00  
 Convergence: 0.25

### FIELD DETAILS

Eddy Co, NM NAD 83  
 USA  
 Geodetic System: US State Plane Coordinate System 1653  
 Ellipsoid: GRS 1980  
 Zone: New Mexico, Eastern Zone  
 Magnetic Model: IGRF2005  
 System Datum: Mean Sea Level  
 Local North: Grid North

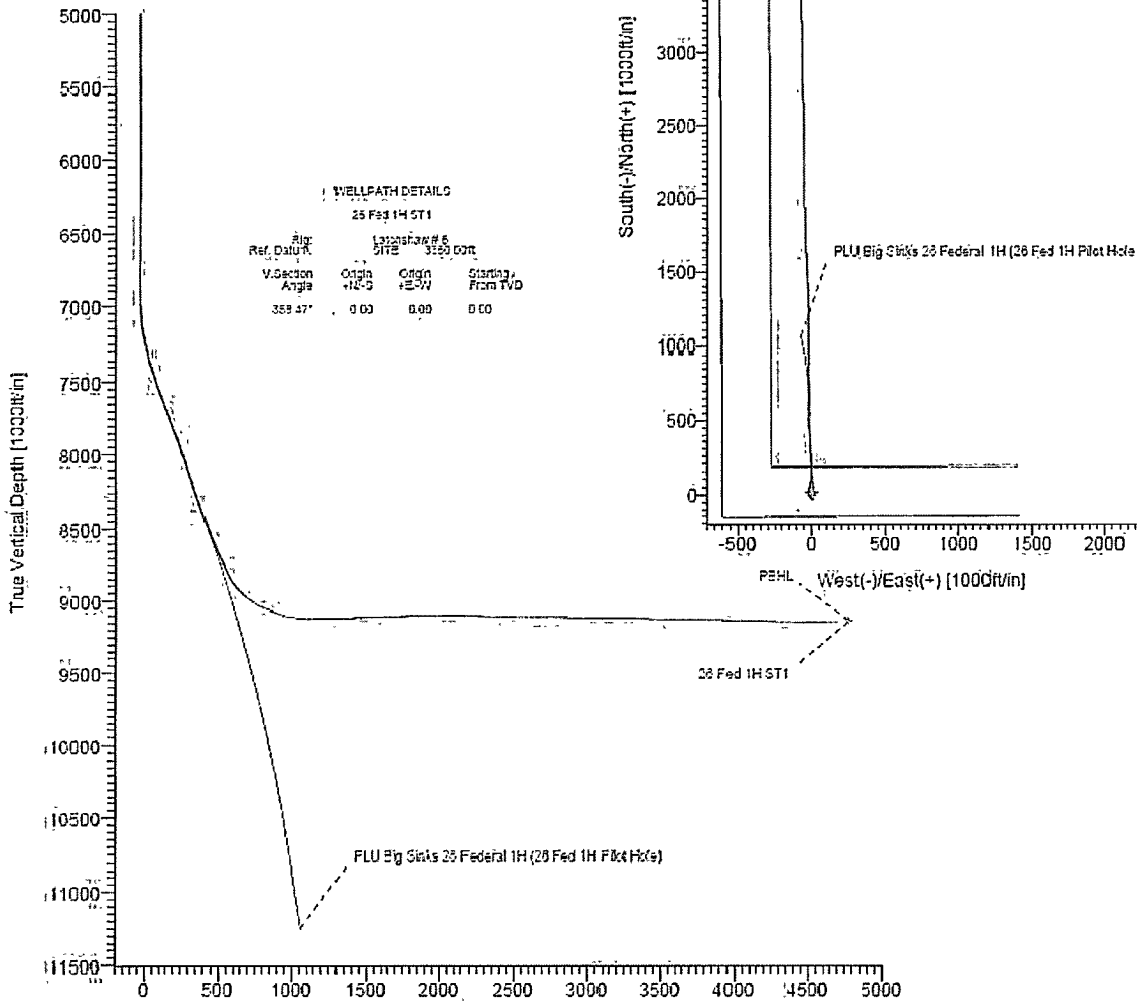
### TARGET DETAILS

Name	TVD	+N(°)	-E(°)	Northing	Easting	Latitude	Longitude	Shape
PBHL	9140.00	4775.00	-88.10	432054.47	635503.52	32°11'42.632N	103°51'30.750W	Point

### WELLPATH DETAILS

26 Fed 1H ST1

Ref. Datum	Rig	Legation #	Site	Origin	Origin	Starting
				+N(°)	+E(°)	From TVD
				359.47	0.00	0.00



Ryan Energy Technologies  
 12910 Old Center Blvd  
 Houston, TX 77073  
 PH: 281-443-4414  
 FX: 281-443-1576

Vertical Section



Well Path: 26 Fed 1H ST1 (1000 ft/in)  
 Plotting Parameters: File: 10/14/08  
 Created: \_\_\_\_\_ File: \_\_\_\_\_  
 Revised: \_\_\_\_\_ File: \_\_\_\_\_  
 Approved: \_\_\_\_\_ File: \_\_\_\_\_

*Handwritten initials*

30015 37031

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MAY 04 2010  
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**Ryan Energy Technologies**  
Survey Report



Company: Chesapeake Operating, Inc.	Date: 12/23/2009	Time: 10:29:19	Page: 1
Field: Eddy Co, NM NAD 83	Co-ordinate (NE) Reference:	Site: PLU Big Sinks 26 Federal 1H	
Site: PLU Big Sinks 26 Federal 1H	Vertical (TVD) Reference:	SITE 3360.0	
Well: PLU Big Sinks 26 Federal 1H	Section (VS) Reference:	Well (0.00N, 0.00E, 358.47Azi)	
Wellpath: 26 Fed 1H Pilot Hole	Survey Calculation Method:	Minimum Curvature	Db: Sybase

Field: Eddy Co, NM NAD 83		
USA		
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:	igrf2005

Site: PLU Big Sinks 26 Federal 1H				
Reeves Co. NM				
Site Position:	Northings:	430269.47 ft	Latitude:	32 10 55.377 N
From: Map	Easting:	688269.42 ft	Longitude:	103 51 30.033 W
Position Uncertainty:		0.00 ft	North Reference:	Grid
Ground Level:		3338.00 ft	Grid Convergence:	-0.25 deg

Well: PLU Big Sinks 26 Federal 1H	Slot Name:					
Well Position:	+N-S	0.00 ft	Northings:	430269.47 ft	Latitude:	32 10 55.377 N
	+E-W	0.00 ft	Easting:	688269.42 ft	Longitude:	103 51 30.033 W
Position Uncertainty:		0.00 ft				

Wellpath: 26 Fed 1H Pilot Hole	Drilled From:	Surface
Current Datum: SITE	Tie-on Depth:	0.00 ft
Magnetic Data: 9/28/2009	Above System Datum:	Mean Sea Level
Field Strength: 48788 nT	Declination:	7.91 deg
Vertical Section: Depth From (TVD)	Mag Dip Angle:	60.16 deg
ft	+N-S	ft
	+E-W	ft
0.00	0.00	0.00
		358.47

Survey Program for Definitive Wellpath	Version: 2
Date: 11/27/2009	Validated: No
Actual From To Survey	Toolcode Tool Name
ft ft	
152.20 6692.40 Survey #1 (152.20-6692.40)	Gyro GyroIMS
6605.00 11400.00 Survey #2 (6605.00-11400.00)	Ryan MWD Ryan MWD

Survey	MD ft	Incl deg	Azin deg	TVD ft	+N-S ft	+E-W ft	VS ft	DLs deg/100ft	Build deg/100ft	Turns 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
	152.20	0.38	185.74	152.20	-0.50	-0.05	-0.50	0.25	0.25	0.00	Gyro
	307.60	0.19	84.84	307.60	-0.99	0.15	-1.00	0.29	-0.12	-64.85	Gyro
	481.60	0.48	34.01	481.60	-0.36	0.85	-0.38	0.22	0.17	-29.20	Gyro
	655.20	0.47	358.49	655.19	0.95	1.24	0.92	0.17	-0.01	-20.50	Gyro
	744.30	0.49	18.38	744.29	1.63	1.35	1.64	0.19	0.02	22.30	Gyro
	831.60	0.42	7.59	831.59	2.35	1.51	2.31	0.13	-0.03	-12.34	Gyro
	862.90	0.19	1.80	862.83	2.51	1.52	2.47	0.74	-0.73	-18.50	Gyro
	1050.50	0.14	276.29	1050.48	2.65	1.31	2.81	0.12	-0.03	-45.58	Gyro
	1239.60	0.33	263.25	1239.58	-2.81	0.54	2.80	-0.10	0.10	-6.90	Gyro
	1428.00	0.32	231.87	1427.96	2.42	-0.42	2.43	0.09	-0.01	-16.66	Gyro
	1616.90	0.61	223.18	1616.87	1.36	-1.52	1.40	0.16	0.15	-4.60	Gyro
	1804.90	0.72	232.08	1804.86	-0.09	-3.14	-0.01	0.03	0.06	4.73	Gyro
	1993.30	1.07	234.88	1993.24	-1.83	-5.51	-1.68	0.19	0.19	1.49	Gyro
	2181.50	1.04	213.94	2181.40	-4.26	-7.90	-4.05	0.20	-0.02	-11.13	Gyro
	2369.70	0.75	202.41	2369.56	-6.81	-9.32	-6.56	0.18	-0.15	-6.13	Gyro
	2557.40	0.96	172.94	2557.26	-9.51	-9.60	-9.25	0.26	0.11	-15.70	Gyro
	2745.20	1.04	165.66	2745.03	-12.72	-3.93	-12.48	0.03	0.04	-3.88	Gyro
	2933.10	1.25	144.64	2932.90	-16.05	-7.37	-15.64	0.25	0.11	-11.19	Gyro
	3121.00	1.51	129.21	3120.74	-19.25	-4.24	-19.13	0.25	0.14	-8.74	Gyro
	3308.60	0.98	87.08	3308.30	-20.70	-0.70	-20.67	0.54	-0.23	-21.92	Gyro
	3497.20	0.67	124.23	3496.88	-21.38	1.70	-21.42	0.33	-0.16	25.00	Gyro

DB



# Ryan Energy Technologies Survey Report



Company: Chesapeake Operating, Inc.	Date: 12/23/2009	Time: 10:29:19	Page: 2
Field: Eddy Co, NM NAD 83	Co-ordinate(NE) Reference:	Site: PLU Big Sinks 26 Federal 1H	
Site: PLU Big Sinks 26 Federal 1H	Vertical (TYD) Reference:	SITE 3360.0	
Well: PLU Big Sinks 26 Federal 1H	Section (VS) Reference:	Well (0.004,0.00E,353.47Az)	
Wellpath: 26 Fed 1H Pilot Hole	Survey Calculation Method:	Minimum Curvature	Db: Sybase

MD ft	Incl deg	Azin deg	TYD ft	-N-S ft	-E-W ft	VS ft	DL5 deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
3665.10	1.07	147.48	3684.76	-23.63	3.43	-23.71	0.24	0.21	7.05	Gyro
3873.20	0.46	136.71	3872.64	-25.66	4.89	-25.78	0.33	-0.32	-5.73	Gyro
4061.50	0.38	4.19	4061.14	-25.59	5.49	-25.72	0.41	-0.04	-70.38	Gyro
4249.60	0.48	42.06	4249.24	-24.33	6.03	-24.53	0.16	0.05	20.13	Gyro
4437.20	0.50	79.76	4436.83	-23.65	7.35	-23.84	0.17	0.01	20.10	Gyro
4625.50	0.51	93.19	4625.12	-23.62	9.00	-23.66	0.09	0.01	9.79	Gyro
4813.60	0.42	103.61	4813.22	-23.91	10.50	-24.18	0.05	-0.05	2.68	Gyro
5001.30	0.22	93.93	5000.91	-24.09	11.53	-24.39	0.11	-0.11	-5.13	Gyro
5169.40	0.03	128.99	5169.01	-24.15	11.93	-24.46	0.10	-0.10	17.54	Gyro
5377.20	0.09	358.97	5376.81	-24.03	11.96	-24.34	0.06	0.03	-69.23	Gyro
5565.50	0.43	-51.68	5564.91	-23.45	12.51	-23.77	0.20	0.18	29.18	Gyro
5753.30	0.03	115.11	5752.91	-23.03	13.11	-23.37	0.22	-0.21	33.64	Gyro
5941.10	0.14	263.54	5940.71	-23.03	12.92	-23.42	0.09	0.06	79.04	Gyro
6129.20	0.46	230.71	6128.81	-23.53	12.11	-23.90	0.19	0.17	-17.45	Gyro
6317.20	0.66	224.36	6316.80	-24.33	10.77	-25.11	0.11	0.11	-3.38	Gyro
6504.60	0.68	224.13	6504.18	-26.25	9.11	-26.49	0.06	0.01	-5.21	Gyro
6692.40	0.90	232.62	6691.97	-27.30	7.04	-27.98	0.12	-0.12	-0.70	Gyro
6805.00	0.70	256.30	6804.56	-28.50	5.66	-28.64	0.34	-0.18	20.65	Ryan MWD
6899.00	11.20	329.40	6898.54	-27.79	4.60	-27.90	1.28	0.53	77.77	Ryan MWD
6993.00	2.50	358.30	6992.50	-24.39	4.04	-24.99	1.66	1.33	30.74	Ryan MWD
7066.00	4.80	5.40	7065.30	-18.91	4.36	-19.02	2.62	2.53	7.63	Ryan MWD
7180.00	9.60	3.30	7178.49	-6.92	5.19	-7.05	5.22	5.21	-2.23	Ryan MWD
7274.00	13.60	0.20	7270.53	12.13	5.69	-11.97	4.10	4.04	-3.30	Ryan MWD
7368.00	16.10	359.70	7361.38	36.22	5.66	36.05	2.66	2.66	-0.53	Ryan MWD
7461.00	18.30	359.00	7450.21	63.71	5.34	63.55	2.38	2.37	-0.75	Ryan MWD
7555.00	19.30	358.20	7539.20	94.00	4.60	93.84	1.10	1.06	-0.85	Ryan MWD
7649.00	20.90	357.50	7627.47	128.28	3.49	128.14	1.71	1.70	-0.32	Ryan MWD
7744.00	21.00	357.80	7716.19	160.22	2.22	160.11	0.11	0.11	-0.11	Ryan MWD
7838.00	20.40	357.60	7804.12	193.42	0.89	193.33	0.64	-0.64	-0.21	Ryan MWD
7932.00	19.20	357.60	7892.56	225.24	-0.45	225.17	1.28	-1.28	0.00	Ryan MWD
8027.00	19.20	356.80	7982.28	256.44	-1.97	256.40	0.28	0.00	-0.84	Ryan MWD
8120.00	19.30	355.80	8070.03	287.04	-3.95	287.04	0.37	0.11	-1.03	Ryan MWD
8217.00	18.00	356.80	8161.98	317.99	-5.96	318.03	1.33	-1.34	1.03	Ryan MWD
8312.00	19.40	359.00	8251.97	348.42	-7.06	348.49	1.65	1.47	2.32	Ryan MWD
8408.00	18.50	359.10	8342.76	379.59	-7.53	379.69	0.94	-0.94	0.10	Ryan MWD
8503.00	17.00	1.60	8433.24	409.54	-7.33	408.60	1.60	-1.58	2.84	Ryan MWD
8598.00	20.30	1.60	8523.24	438.90	-6.39	438.92	3.47	3.47	0.11	Ryan MWD
8694.00	18.60	0.60	8513.70	471.02	-5.62	471.00	1.61	-1.56	-1.15	Ryan MWD
8789.00	17.30	0.50	8704.03	500.45	-5.29	500.41	1.58	-1.53	-0.32	Ryan MWD
8885.00	17.10	359.80	8795.73	528.34	-5.21	528.79	0.30	-0.21	-0.73	Ryan MWD
8980.00	17.00	359.00	8886.56	556.69	-5.50	556.64	0.27	-0.11	-0.64	Ryan MWD
9076.00	16.70	358.30	8978.44	584.51	-6.16	584.46	0.33	-0.31	-0.73	Ryan MWD
9171.00	16.40	357.60	9069.50	611.55	-7.12	611.52	0.33	-0.32	-0.74	Ryan MWD
9267.00	15.60	356.40	9161.78	637.93	-8.50	637.93	0.80	-0.83	-1.25	Ryan MWD
9362.00	15.40	357.10	9253.33	663.32	-9.94	663.35	0.29	-0.21	0.74	Ryan MWD
9458.00	14.90	355.50	9345.99	688.38	-11.56	688.42	0.68	-0.52	-1.87	Ryan MWD
9554.00	14.30	353.90	9438.69	712.45	-13.73	712.56	0.75	-0.62	-1.67	Ryan MWD
9649.00	14.00	354.30	9531.01	735.55	-16.17	735.72	0.33	-0.32	0.42	Ryan MWD
9744.00	13.60	352.90	9623.22	758.23	-18.71	758.46	0.41	-0.21	-1.47	Ryan MWD
9840.00	13.60	352.40	9716.49	780.78	-21.62	781.03	0.24	0.21	-0.52	Ryan MWD
9935.00	13.00	351.60	9808.94	802.42	-24.65	802.79	0.65	-0.63	-0.84	Ryan MWD
10031.00	12.60	353.70	9902.56	823.51	-27.39	823.95	0.64	-0.42	2.19	Ryan MWD
10124.00	12.90	354.00	9993.27	843.02	-29.58	844.41	0.33	0.32	0.32	Ryan MWD



## Ryan Energy Technologies Survey Report



<b>Company:</b> Chesapeake Operating, Inc. <b>Field:</b> Eddy Co, NM NAD 83 <b>Site:</b> PLU Big Sinks 26 Federal 1H <b>Well:</b> PLU Big Sinks 26 Federal 1H <b>Wellpath:</b> 26 Fed 1H Pilot Hole	<b>Date:</b> 12/23/2009 <b>Time:</b> 10:29:19 <b>Page:</b> 3 <b>Co-ordinate(NE) Reference:</b> Site: PLU Big Sinks 26 Federal 1H <b>Vertical (TVD) Reference:</b> SITE 3360.0 <b>Section (V'S) Reference:</b> Well (0.00N,0.00E,353.47Azi) <b>Survey Calculation Method:</b> Minimum Curvature <b>Db:</b> Sybase
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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
10220.00	12.50	352.80	10068.92	864.88	-32.01	865.43	0.50	-0.42	-1.25	Ryan MWD
10315.00	11.50	352.40	10179.84	884.47	-34.55	885.08	1.08	-1.05	-0.42	Ryan MWD
10411.00	11.10	352.20	10273.93	903.11	-37.07	903.78	0.42	-0.42	-0.21	Ryan MWD
10506.00	10.40	351.00	10367.31	920.64	-39.65	921.37	0.77	-0.74	-1.28	Ryan MWD
10602.00	9.90	349.70	10461.31	937.32	-42.48	938.12	0.57	-0.52	-1.35	Ryan MWD
10698.00	9.70	349.20	10556.41	953.38	-45.47	954.26	0.23	-0.21	-0.52	Ryan MWD
10792.00	9.20	349.40	10649.13	968.55	-48.34	969.49	0.53	-0.53	0.21	Ryan MWD
10888.00	9.10	349.20	10739.96	982.92	-51.05	983.93	0.11	-0.11	-0.22	Ryan MWD
10978.00	9.10	347.40	10832.73	997.48	-54.07	998.57	0.30	0.00	-1.91	Ryan MWD
11074.00	8.90	345.90	10927.60	1012.09	-57.53	1013.26	0.32	-0.21	-1.58	Ryan MWD
11170.00	8.90	346.60	11022.44	1026.52	-61.08	1027.73	0.11	0.00	0.73	Ryan MWD
11266.00	8.60	345.70	11117.32	1040.69	-64.56	1042.05	0.34	-0.31	-0.94	Ryan MWD
11352.00	8.60	345.50	11202.36	1053.15	-67.73	1054.58	0.03	0.00	-0.23	Ryan MWD
11400.00	8.60	345.50	11249.82	1060.10	-69.55	1061.53	0.00	0.00	0.00	Ryan MWD



## Ryan Energy Technologies COMPLETION REPORT



<b>Company:</b> Chesapeake Operating, Inc.		<b>Date:</b> 12/23/2009		<b>Time:</b> 10:28:50		<b>Page:</b> 1				
<b>Field:</b> Eddy Co, NM NAD 83		<b>Coordinate(NE) Reference:</b> Site: PLU Big Sink 26 Federal 1H		<b>Vertical (TYD) Reference:</b> SITE 3360 0		<b>Section (VS) Reference:</b> Well (0 00N,0.00E,358 47Azi)				
<b>Site:</b> PLU Big Sink 26 Federal 1H		<b>Vertical (TYD) Reference:</b> SITE 3360 0		<b>Section (VS) Reference:</b> Well (0 00N,0.00E,358 47Azi)		<b>Survey Calculation Method:</b> Minimum Curvature				
<b>Wall:</b> PLU Big Sink 26 Federal 1H		<b>Survey Calculation Method:</b> Minimum Curvature		<b>Db:</b> Sybase						
<b>Wellpath:</b> 26 Fed 1H Pilot Hole										
<b>Field:</b> Eddy Co, NM NAD 83										
USA										
<b>Map System:</b> US State Plane Coordinate System 1983				<b>Map Zone:</b> New Mexico, Eastern Zone						
<b>Geo Datum:</b> GRS 1980				<b>Coordinate System:</b> Site Center						
<b>Geo Datum:</b> Mean Sea Level				<b>Geometric Model:</b> igf2005						
<b>Site:</b> PLU Big Sink 26 Federal 1H										
Reeves Co, NM										
<b>Site Position:</b>		<b>Northings:</b> 430269.47 ft		<b>Latitude:</b> 32 10 55.377 N						
<b>From Map</b>		<b>Eastings:</b> 688269.42 ft		<b>Longitude:</b> 103 51 33.033 W						
<b>Position Uncertainty:</b> 0.00 ft				<b>North Reference:</b> Grid						
<b>Ground Level:</b> 3338.00 ft				<b>Grid Convergence:</b> 0.25 deg						
<b>Well:</b> PLU Big Sink 26 Federal 1H										
Well Name:										
<b>Well Position:</b>		<b>Northings:</b> 430269.47 ft		<b>Latitude:</b> 32 10 55.377 N						
<b>+N/-S</b>		<b>Eastings:</b> 688269.42 ft		<b>Longitude:</b> 103 51 33.033 W						
<b>+E/-W</b>										
<b>Position Uncertainty:</b> 0.00 ft										
<b>Wellpath:</b> 26 Fed 1H Pilot Hole										
<b>Current Datum:</b> SITE		<b>Height:</b> 3360.00 ft		<b>Drilled From:</b> Surface						
<b>Magnetic Data:</b> 9/28/2009				<b>Top of Depth:</b> 0.00 ft						
<b>Field Strength:</b> 48738 nT				<b>Above System Datum:</b> Mean Sea Level						
<b>Vertical Section:</b> Depth From (TYD)		<b>+N/-S</b>		<b>+E/-W</b>		<b>Declination:</b> 7 31 deg				
ft		ft		ft		deg				
0.00		0.00		0.00		358.47				
<b>Survey Program for Definitive Wellpath</b>										
<b>Date:</b> 11/27/2009		<b>Validated:</b> No		<b>Version:</b> 2						
<b>Actual From</b>		<b>To</b>		<b>Toolcode</b>		<b>Tool Name</b>				
ft		ft								
152.20		6192.40		Survey #1 (152.20-6692.40)		Gyro				
6005.00		11400.00		Survey #2 (6005.00-11400.00)		Ryan MWD				
<b>Survey</b>										
MD	Incl	TYD	VS	Azim	N/S	E/W	Clr Dist.	Clr Azi.	Dog Tag	Tool
ft.	deg	ft	ft	deg	ft	ft.	ft	deg	deg/100ft	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	TIE LINE
152.20	0.38	152.20	-0.50	185.74	-0.50	-0.05	0.50	185.74	0.25	Gyro
307.60	0.19	307.60	-1.00	84.84	-1.99	-0.15	-1.60	171.13	-0.23	Gyro
461.50	0.48	461.50	-0.38	34.01	-1.35	0.65	0.82	113.06	0.22	Gyro
655.20	0.47	655.19	0.92	358.49	-0.95	1.24	-1.56	52.49	0.17	Gyro
744.30	0.48	744.29	1.64	18.38	1.63	1.35	2.15	38.79	0.13	Gyro
831.60	0.42	831.58	2.31	7.59	2.35	1.51	2.79	32.70	0.13	Gyro
862.90	0.18	862.88	2.47	1.80	2.51	1.52	2.64	31.23	0.74	Gyro
1050.50	0.14	1050.48	2.81	276.29	2.85	1.31	3.14	24.63	0.12	Gyro
1239.00	0.30	1238.98	2.00	203.25	2.04	0.54	2.60	10.80	0.10	Gyro
1428.00	0.32	1427.98	2.43	231.87	2.42	-0.42	2.46	350.25	0.09	Gyro
1616.90	0.61	1616.87	1.40	223.18	1.33	-1.52	2.04	311.91	0.16	Gyro
1804.90	0.72	1804.86	-0.01	232.08	-0.09	-3.14	3.14	268.33	0.03	Gyro
1993.30	1.07	1993.24	-1.63	234.66	-1.63	-5.51	5.61	251.51	0.19	Gyro
2181.50	1.04	2181.40	-4.05	213.04	-4.23	-7.90	8.07	241.67	0.20	Gyro
2369.70	0.75	2369.58	-6.56	202.41	-5.61	-9.32	11.55	233.83	0.18	Gyro
2557.40	0.66	2557.26	-9.25	172.94	-9.51	-9.60	13.51	225.26	0.26	Gyro
2745.20	1.04	2745.03	-12.48	165.66	-12.72	-8.98	15.57	215.22	0.08	Gyro
2933.10	1.25	2932.90	-15.84	144.64	-13.05	-7.37	17.66	204.68	0.25	Gyro
3121.00	1.51	3120.74	-19.13	128.21	-19.25	4.24	19.71	192.13	0.26	Gyro
3308.60	0.98	3308.30	-29.67	87.03	-20.70	-0.70	20.71	181.93	0.54	Gyro
3497.20	0.67	3496.68	-21.42	134.23	-21.38	1.70	21.45	175.45	0.38	Gyro



# Ryan Energy Technologies COMPLETION REPORT



<b>Company:</b> Chesapeake Operating, Inc. <b>Field:</b> Eddy Co, NM NAD 83 <b>Site:</b> PLU Big Sinks 26 Federal 1H <b>Well:</b> PLU Big Sinks 26 Federal 1H <b>Wellpath:</b> 26 Fed 1H Pilot Hole	<b>Date:</b> 12/23/2009 <b>Co-ordinate(NE) Reference:</b> Site: PLU Big Sinks 26 Federal 1H <b>Vertical (TVD) Reference:</b> SITE 3360.0 <b>Section (VS) Reference:</b> Well (0.00N, 0.00E, 353.47Azi) <b>Survey Calculation Method:</b> Minimum Curvature <b>Time:</b> 10:28:50 <b>Page:</b> 2 <b>Db:</b> Sybase
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Survey										
MD ft	Incl. deg	TVD ft	VS ft	Azin deg	N/S ft	E/W ft	Clr Dist. ft	Clr Azi. deg	Deg Leg deg/100ft	Tool
3585.10	1.07	3684.78	-23.71	147.48	-23.63	3.43	23.88	171.73	0.24	Gyro
3873.20	0.46	3872.84	-25.78	136.71	-25.86	4.69	26.12	189.20	0.33	Gyro
4061.50	0.38	4061.14	-25.72	4.19	-25.59	5.46	26.16	167.96	0.41	Gyro
4249.60	0.48	4249.24	-24.53	42.06	-24.38	6.03	25.12	166.10	0.16	Gyro
4437.20	0.50	4435.83	-23.24	79.76	-23.65	7.36	24.77	182.71	0.17	Gyro
4625.50	0.51	4625.12	-23.66	98.19	-23.62	9.00	25.28	159.14	0.09	Gyro
4813.60	0.42	4813.22	-24.18	103.61	-23.91	10.50	26.11	156.29	0.05	Gyro
5001.30	0.22	5000.91	-24.39	93.93	-24.09	11.53	26.71	154.43	0.11	Gyro
5189.40	0.03	5189.01	-24.46	126.68	-24.15	11.93	26.93	153.71	0.10	Gyro
5377.20	0.09	5376.81	-24.34	356.97	-24.03	11.96	26.84	153.54	0.06	Gyro
5565.30	0.43	5564.91	-23.77	51.66	-23.45	12.51	26.67	151.92	0.20	Gyro
5753.30	0.03	5752.91	-23.37	115.11	-23.03	13.11	26.50	150.36	0.22	Gyro
5941.10	0.14	5940.71	-23.42	263.54	-23.03	12.92	26.45	150.75	0.09	Gyro
6129.20	0.46	6128.81	-23.50	230.71	-23.58	12.11	26.51	152.82	0.19	Gyro
6317.20	0.66	6316.80	-25.11	224.36	-24.83	10.77	27.07	156.56	0.11	Gyro
6504.60	0.68	6504.18	-26.49	334.13	-26.26	9.11	27.79	160.66	0.03	Gyro
6692.40	0.90	6691.97	-27.88	232.62	-27.60	7.04	28.68	165.60	0.12	Gyro
6880.00	0.70	6880.56	-28.64	356.30	-28.50	5.66	29.06	168.76	0.34	Ryan MWD
6899.00	1.20	6898.54	-27.60	329.40	-27.79	4.60	28.17	170.59	1.23	Ryan MWD
6993.00	2.50	6992.50	-24.99	358.30	-24.89	4.04	25.22	170.78	1.66	Ryan MWD
7086.00	4.90	7085.30	-19.02	5.40	-18.91	4.36	19.40	187.03	2.62	Ryan MWD
7199.00	9.80	7178.49	-7.05	3.30	-6.92	5.19	8.65	143.10	5.22	Ryan MWD
7274.00	13.60	7270.53	11.97	0.20	12.13	5.69	13.40	25.15	4.10	Ryan MWD
7368.00	16.10	7361.39	36.05	359.70	36.22	5.66	36.66	3.89	2.66	Ryan MWD
7491.00	18.30	7450.21	63.55	359.00	63.71	5.34	63.94	4.79	2.38	Ryan MWD
7555.00	19.30	7539.20	83.54	358.20	84.00	4.60	94.11	2.80	1.10	Ryan MWD
7649.00	20.90	7627.47	128.14	357.90	128.28	3.49	126.33	1.53	1.71	Ryan MWD
7744.00	21.00	7716.19	180.11	357.60	180.22	2.22	160.24	0.79	0.11	Ryan MWD
7838.00	20.40	7804.12	193.33	357.60	193.42	0.89	193.42	0.26	0.64	Ryan MWD
7932.00	19.20	7892.56	225.17	357.60	225.24	-0.45	225.24	359.89	1.23	Ryan MWD
8027.00	19.20	7982.28	256.40	356.60	256.44	-1.97	256.45	359.56	0.28	Ryan MWD
8120.00	19.30	8070.08	287.04	356.60	287.04	-3.65	287.06	359.21	0.37	Ryan MWD
8217.00	18.00	8161.99	318.03	356.60	317.99	-5.66	318.04	358.93	1.33	Ryan MWD
8312.00	19.40	8251.97	348.49	359.00	348.42	-7.06	348.49	358.84	1.65	Ryan MWD
8408.00	19.50	8342.76	379.66	359.10	379.59	-7.58	379.67	358.66	0.94	Ryan MWD
8503.00	17.00	8433.24	408.60	1.80	408.54	-7.36	408.61	358.97	1.89	Ryan MWD
8599.00	20.30	8523.24	438.92	1.90	438.80	-6.39	438.95	359.17	3.47	Ryan MWD
8694.00	19.60	8613.70	471.00	0.60	471.02	-5.62	471.05	359.32	1.61	Ryan MWD
8789.00	17.30	8704.03	500.41	0.50	500.45	-5.29	500.48	359.39	1.53	Ryan MWD
8885.00	17.10	8795.73	528.79	359.60	528.84	-5.21	528.86	359.44	0.30	Ryan MWD
8980.00	17.00	8886.56	556.64	359.00	556.69	-5.50	556.72	359.43	0.27	Ryan MWD
9076.00	16.70	8978.44	584.46	358.30	584.51	-6.16	584.54	359.40	0.39	Ryan MWD
9171.00	16.40	9069.50	611.52	357.60	611.55	-7.12	611.53	359.33	0.33	Ryan MWD
9267.00	15.60	9161.78	637.98	356.40	637.98	-8.50	638.03	359.24	0.90	Ryan MWD
9362.00	15.40	9253.33	663.35	357.10	663.32	-9.94	663.40	359.14	0.29	Ryan MWD
9458.00	14.90	9345.99	688.42	355.50	688.36	-11.56	688.45	359.04	0.68	Ryan MWD
9554.00	14.30	9438.89	712.56	353.90	712.45	-13.78	712.53	358.89	0.75	Ryan MWD
9649.00	14.00	9531.91	735.72	354.30	735.55	-16.17	735.73	358.74	0.33	Ryan MWD
9744.00	13.60	9623.22	758.46	352.90	758.23	-18.71	758.46	358.59	0.41	Ryan MWD
9840.00	13.60	9716.49	781.08	352.40	780.78	-21.62	781.03	358.41	0.24	Ryan MWD
9935.00	13.00	9809.94	802.79	351.60	802.42	-24.66	802.60	358.24	0.66	Ryan MWD
10031.00	12.60	9902.56	823.95	353.70	823.51	-27.39	823.97	358.10	0.64	Ryan MWD
10124.00	12.90	9993.27	844.41	354.00	843.92	-29.58	844.44	357.99	0.33	Ryan MWD



# Ryan Energy Technologies COMPLETION REPORT



<b>Company:</b> Chesapeake Operating, Inc. <b>Field:</b> Eddy Co, NM NAD 33 <b>Site:</b> PLU Big Sinks 26 Federal 1H <b>Well:</b> PLU Big Sinks 26 Federal 1H <b>Wellpath:</b> 26 Fed 1H Pilot Hole	<b>Date:</b> 12/23/2009 <b>Time:</b> 10:28:50 <b>Page:</b> 3 <b>Co-ordinate(N/E) Reference:</b> Site: PLU Big Sinks 26 Federal 1H <b>Vertical (TVD) Reference:</b> SITE 0090.0' <b>Section (V's) Reference:</b> Well (0.00N,0.00E,558.47Ad) <b>Survey Calculation Method:</b> Minimum Curvature <b>Dbi:</b> Sybate
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Survey											
MD ft	Incl deg	TVD ft	V's ft	Azim deg	N/S ft	E/W ft	Clr: Dir: ft	Clr: Azi deg	Dog Leg deg/100ft	Tool	
10220.00	12.50	10088.92	865.43	352.50	864.83	-32.01	865.47	357.68	0.59	Ryan MWD	
10315.00	11.50	10179.84	865.03	352.40	864.47	-34.55	865.14	357.76	1.05	Ryan MWD	
10411.00	11.10	10273.98	863.78	352.20	863.11	37.07	863.87	357.65	0.42	Ryan MWD	
10506.00	10.40	10367.31	821.37	351.50	820.64	-39.65	821.43	357.63	0.77	Ryan MWD	
10602.00	9.90	10461.61	938.12	349.70	937.32	-42.48	938.23	357.41	0.57	Ryan MWD	
10698.00	9.70	10556.41	954.26	349.20	953.38	-45.47	954.46	357.27	0.23	Ryan MWD	
10792.00	9.20	10649.13	969.49	349.40	968.55	-48.34	969.75	357.14	0.53	Ryan MWD	
10884.00	9.10	10739.96	983.93	349.20	982.92	-51.05	984.25	357.03	0.11	Ryan MWD	
10978.00	9.10	10832.78	998.57	347.40	997.48	-54.07	998.94	356.90	0.30	Ryan MWD	
11074.00	8.90	10927.60	1013.28	345.80	1012.09	-57.53	1013.72	356.75	0.32	Ryan MWD	
11170.00	8.90	11022.44	1027.78	346.50	1026.52	-61.06	1028.33	356.60	0.11	Ryan MWD	
11266.00	8.60	11117.32	1042.05	345.70	1040.69	-64.59	1042.69	356.45	0.34	Ryan MWD	
11352.00	8.50	11202.36	1054.58	345.50	1053.15	-67.76	1055.33	356.32	0.03	Ryan MWD	
11400.00	8.60	11249.82	1061.58	345.50	1060.10	-69.55	1062.33	356.25	0.00	Ryan MWD	





# Ryan Energy Technologies Survey Report



<b>Company:</b> Chesapeake Operating, Inc. <b>Field:</b> Eddy Co, NM NAD 83 <b>Site:</b> PLU Big Sinks 26 Federal 1H <b>Well:</b> PLU Big Sinks 26 Federal 1H <b>Wellpath:</b> 26 Fed 1H ST1	<b>Date:</b> 12/23/2009 <b>Time:</b> 10:19:07 <b>Page:</b> 2 <b>Co-ordinates(N/E) Reference:</b> Site: PLU Big Sinks 26 Federal 1H <b>Vertical (TVD) Reference:</b> SITE 3360.0 <b>Section (V/S) Reference:</b> Well (0.00N,0.00E,353.47Azi) <b>Survey Calculation Method:</b> Minimum Curvature <b>Db:</b> Sybase
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MD ft	Incl deg	Azimuth deg	TVD ft	-N-S ft	-E-W ft	V/S ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
3497.20	0.67	134.23	3496.88	-21.33	1.70	-21.42	0.33	-0.16	25.00	Gyro
3655.10	1.07	147.48	3684.76	-23.63	3.43	-23.71	0.24	-0.21	7.05	Gyro
3873.20	0.46	138.71	3872.84	-25.66	4.89	-25.78	0.33	-0.32	-5.73	Gyro
4061.50	0.38	4.19	4061.14	-25.59	5.48	-25.72	0.41	-0.04	-70.38	Gyro
4249.60	0.48	42.06	4249.24	-24.38	6.03	-24.53	0.16	-0.05	20.13	Gyro
4437.20	0.50	79.76	4436.63	-23.65	7.36	-23.84	0.17	0.01	20.10	Gyro
4625.50	0.51	93.19	4625.12	-23.62	9.00	-23.86	0.09	0.01	9.79	Gyro
4813.60	0.42	103.61	4813.22	-23.91	10.50	-24.18	0.05	-0.05	2.88	Gyro
5001.30	0.22	93.98	5000.91	-24.09	11.53	-24.39	0.11	-0.11	-5.13	Gyro
5189.40	0.03	128.98	5189.01	-24.15	11.93	-24.46	0.10	-0.10	17.54	Gyro
5377.20	0.09	358.97	5376.61	-24.03	11.86	-24.34	0.08	-0.03	-69.23	Gyro
5565.30	0.43	51.66	5564.91	-23.45	12.51	-23.77	0.20	0.13	29.18	Gyro
5753.30	0.03	115.11	5752.91	-23.03	13.11	-23.37	0.22	-0.21	33.64	Gyro
5941.10	0.14	263.54	5940.71	-23.08	12.92	-23.42	0.09	0.08	79.04	Gyro
6129.20	0.46	230.71	6128.81	-23.58	12.11	-23.90	0.19	0.17	-17.45	Gyro
6317.20	0.66	224.36	6316.60	-24.33	10.77	-25.11	0.11	0.11	-3.38	Gyro
6504.60	0.66	234.13	6504.18	-26.26	9.11	-26.49	0.06	0.01	5.21	Gyro
6692.40	0.90	232.82	6691.97	-27.80	7.04	-27.98	0.12	0.12	-0.70	Gyro
6880.00	0.70	256.30	6880.58	-28.50	5.66	-28.64	0.34	-0.18	20.65	Ryan MWD
6899.00	1.20	329.40	6898.54	-27.79	4.60	-27.90	1.23	0.53	77.77	Ryan MWD
6999.00	2.50	358.30	6992.50	-24.89	4.04	-24.99	1.66	1.33	30.74	Ryan MWD
7086.00	4.60	5.40	7085.30	-18.91	4.36	-19.02	2.62	2.59	7.63	Ryan MWD
7160.00	9.60	3.30	7178.49	-6.92	5.19	-7.05	5.22	5.21	-2.23	Ryan MWD
7274.00	13.60	0.20	7270.53	12.13	5.69	11.97	4.10	4.04	-3.30	Ryan MWD
7368.00	-16.10	359.70	7361.33	36.22	5.66	36.05	2.66	2.66	-0.53	Ryan MWD
7461.00	-18.30	359.00	7450.21	63.71	5.34	63.55	2.33	2.37	-0.75	Ryan MWD
7555.00	-19.30	358.20	7539.20	94.00	4.60	93.84	1.10	1.05	-0.65	Ryan MWD
7649.00	-20.60	357.90	7627.47	126.26	3.49	126.14	1.71	1.70	-0.32	Ryan MWD
7744.00	-21.00	357.60	7716.19	160.22	2.22	160.11	0.11	0.11	-0.11	Ryan MWD
7838.00	20.40	357.60	7804.12	193.42	0.89	193.33	0.64	-0.64	-0.21	Ryan MWD
7932.00	19.20	357.60	7892.56	225.24	-0.45	225.17	1.23	-1.23	0.00	Ryan MWD
8027.00	19.20	356.80	7982.28	256.44	-1.97	256.40	0.29	0.00	-0.84	Ryan MWD
8120.00	19.30	355.80	8070.08	287.04	-3.95	287.04	0.37	0.11	-1.09	Ryan MWD
8217.00	18.00	356.60	8161.98	317.99	-5.96	318.03	1.33	-1.34	1.03	Ryan MWD
8312.00	19.40	359.00	8251.97	348.42	-7.06	348.49	1.65	1.47	2.32	Ryan MWD
8408.00	18.50	359.10	8342.76	379.59	-7.53	379.66	0.94	-0.94	0.10	Ryan MWD
8524.00	21.30	349.60	8451.66	418.73	-11.67	418.90	3.63	2.41	-8.19	Ryan MWD
8618.00	21.50	354.90	8539.38	452.69	-16.28	452.96	2.07	0.21	5.64	Ryan MWD
8712.00	22.10	354.20	8626.66	487.44	-19.60	487.79	0.70	0.64	-0.74	Ryan MWD
8806.00	22.60	1.40	8713.65	523.02	-20.95	523.39	2.94	0.43	7.66	Ryan MWD
8899.00	22.50	0.40	8799.57	553.60	-20.39	558.95	0.41	0.00	-1.09	Ryan MWD
8930.00	25.50	2.50	8827.58	571.20	-20.08	571.53	10.08	9.63	6.77	Ryan MWD
8962.00	30.40	3.30	8856.14	596.17	-19.29	596.48	15.36	15.31	2.50	Ryan MWD
8994.00	35.40	3.40	8882.16	602.98	-18.31	603.25	16.13	16.13	0.32	Ryan MWD
9024.00	40.70	2.60	8906.57	622.05	-17.31	622.29	17.17	17.10	-2.53	Ryan MWD
9055.00	44.60	2.30	8929.36	643.03	-16.42	643.24	12.60	12.58	-0.97	Ryan MWD
9087.00	46.70	2.80	8951.73	665.89	-15.40	666.07	6.66	6.56	1.56	Ryan MWD
9118.00	50.10	2.50	8972.31	689.05	-14.33	689.18	10.99	10.97	-0.97	Ryan MWD
9149.00	54.60	1.20	8991.20	713.60	-13.54	713.71	15.52	15.16	-4.19	Ryan MWD
9181.00	57.60	0.00	9008.95	740.22	-13.27	740.31	9.88	9.37	-3.75	Ryan MWD
9212.00	60.50	359.20	9024.85	766.83	-13.48	766.92	8.99	8.71	-2.58	Ryan MWD
9244.00	63.90	359.10	9039.77	795.13	-13.89	795.22	10.63	10.62	-0.31	Ryan MWD
9275.00	67.20	359.20	9052.60	823.34	-14.30	823.43	10.65	10.65	0.32	Ryan MWD
9306.00	68.60	359.60	9064.29	852.05	-14.60	852.14	4.39	4.19	1.29	Ryan MWD



# Ryan Energy Technologies Survey Report



<b>Company:</b> Chesapeake Operating, Inc. <b>Field:</b> Eddy Co, NM MAD 63 <b>Site:</b> PLU Big Sinks 23 Federal 1H <b>Well:</b> PLU Big Sinks 23 Federal 1H <b>Wellpath:</b> 26 Fed 1H ST 1	<b>Date:</b> 12/23/2009 <b>Time:</b> 10:19:07 <b>Page:</b> 3 <b>Coordinate(N/E) Reference:</b> Site: PLU Big Sinks 26 Federal 1H <b>Vertical (TVD) Reference:</b> SITE 3360.0 <b>Section (V's) Reference:</b> Well (0.000, 0.00E, 358.47Az) <b>Survey Calculation Method:</b> Minimum Curvature <b>Db:</b> Sybase
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MD ft	Incl deg	Azim deg	TVD ft	-N/E ft	-E/W ft	V'S ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool Comment
9337.00	68.00	358.90	9075.77	480.84	-14.97	880.93	2.65	-1.61	-2.26	Ryan MWD
9369.00	69.50	358.70	9097.37	910.66	-15.60	910.75	4.72	1.69	-0.62	Ryan MWD
9400.00	73.40	358.60	9097.23	940.03	-16.29	940.13	12.58	12.58	-0.32	Ryan MWD
9432.00	77.10	359.00	9125.38	970.87	-16.94	971.07	11.63	11.56	1.25	Ryan MWD
9463.00	80.10	359.20	9111.50	1001.35	-17.42	1001.46	9.70	9.63	0.65	Ryan MWD
9494.00	01.90	0.10	9110.35	1031.97	-17.60	1032.07	6.40	5.01	2.50	Ryan MWD
9526.00	84.80	0.10	9120.06	1063.75	-17.55	1063.84	9.06	9.06	0.00	Ryan MWD
9559.00	89.60	0.10	9121.67	1099.70	-17.49	1096.77	14.35	14.55	0.00	Ryan MWD
9653.00	50.80	359.50	9121.34	1100.70	-17.40	1100.74	1.20	1.23	-0.21	Ryan MWD
9747.00	91.50	359.70	9119.48	1284.67	-18.64	1284.71	1.43	0.74	-1.28	Ryan MWD
9841.00	92.10	357.70	9116.60	1378.57	-21.59	1378.66	1.24	0.64	-1.66	Ryan MWD
9936.00	92.70	356.50	9112.52	1473.38	-28.06	1473.55	1.05	0.63	-0.84	Ryan MWD
10030.00	91.70	357.40	9108.82	1567.20	-30.73	1567.46	1.19	-1.08	0.53	Ryan MWD
10123.00	80.70	357.40	9106.67	1660.10	-34.54	1660.43	1.70	-1.03	0.54	Ryan MWD
10217.00	91.20	357.60	9105.41	1754.01	-33.23	1754.41	0.62	0.53	-0.32	Ryan MWD
10311.00	90.50	359.00	9104.02	1847.66	-41.02	1848.39	1.67	-0.74	1.49	Ryan MWD
10405.00	91.20	357.80	9102.62	1941.91	-43.64	1942.38	1.48	0.74	-1.28	Ryan MWD
10500.00	90.50	359.00	9101.21	2036.07	-45.00	2037.06	2.00	-0.74	1.09	Ryan MWD
10593.00	69.60	359.70	9101.13	2129.86	-46.37	2130.34	0.97	-0.97	0.11	Ryan MWD
10687.00	87.90	0.10	9103.13	2223.84	-46.53	2224.29	1.36	-1.61	0.43	Ryan MWD
10781.00	88.20	0.30	9106.38	2317.78	-46.20	2318.19	0.38	0.32	0.21	Ryan MWD
10875.00	88.30	0.00	9109.35	2411.74	-45.66	2412.11	0.34	0.11	-0.32	Ryan MWD
10969.00	88.90	359.30	9111.55	2505.70	-47.35	2506.07	1.32	0.64	1.81	Ryan MWD
11063.00	90.30	357.50	9112.20	2599.63	-50.80	2600.06	1.72	1.49	-0.85	Ryan MWD
11158.00	90.00	359.10	9111.55	2694.56	-54.44	2695.05	0.71	-0.32	0.63	Ryan MWD
11252.00	88.70	359.20	9113.02	2788.52	-56.57	2789.04	1.33	-1.39	1.28	Ryan MWD
11346.00	88.50	359.00	9115.29	2881.48	-57.95	2882.00	0.39	-0.22	-0.32	Ryan MWD
11440.00	88.40	358.80	9117.66	2976.43	-59.78	2976.97	0.24	-0.11	-0.21	Ryan MWD
11534.00	69.30	359.10	9119.75	3070.40	-61.50	3070.94	1.01	0.98	0.32	Ryan MWD
11628.00	90.20	359.50	9120.40	3164.39	-62.05	3164.93	1.05	0.66	0.43	Ryan MWD
11723.00	89.60	358.50	9120.16	3259.38	-63.97	3259.92	0.76	-0.42	-0.63	Ryan MWD
11817.00	87.50	359.30	9122.37	3353.33	-65.45	3353.80	2.48	-2.45	0.43	Ryan MWD
11911.00	87.10	359.00	9126.60	3447.22	-66.84	3447.77	0.53	-0.43	-0.32	Ryan MWD
12005.00	89.10	359.20	9129.82	3541.15	-68.32	3541.71	2.14	2.13	0.21	Ryan MWD
12099.00	59.60	359.30	9130.81	3634.12	-70.25	3634.70	1.23	0.75	-0.97	Ryan MWD
12192.00	90.00	359.30	9130.57	3728.08	-73.14	3728.70	0.21	0.21	0.00	Ryan MWD
12286.00	86.30	357.40	9132.37	3822.00	-76.66	3822.68	0.05	-1.81	-0.66	Ryan MWD
12379.00	88.40	359.70	9134.63	3910.84	-81.24	3911.62	0.79	0.11	-0.79	Ryan MWD
12473.00	69.10	359.50	9137.00	4005.67	-86.82	4006.55	0.74	0.74	0.11	Ryan MWD
12566.00	87.90	359.20	9139.52	4101.54	-90.81	4102.50	1.92	-1.26	1.46	Ryan MWD
12662.00	00.20	357.30	9142.70	4197.41	-94.50	4198.44	0.39	0.31	-0.84	Ryan MWD
12753.00	88.50	358.50	9145.55	4293.23	-99.77	4294.36	0.39	0.31	-0.83	Ryan MWD
12853.00	88.60	359.30	9147.55	4388.01	-105.73	4389.27	0.24	0.11	-0.21	Ryan MWD
12949.00	89.70	359.20	9149.38	4483.73	-112.81	4485.15	1.62	1.15	1.15	Ryan MWD
13045.00	90.60	354.30	9148.66	4579.33	-121.63	4580.94	1.48	1.15	-0.94	Ryan MWD
13141.00	91.20	353.70	9147.28	4674.79	-131.66	4676.63	0.75	0.42	-0.62	Ryan MWD
13196.00	92.00	353.40	9145.75	4729.42	-137.84	4731.41	1.55	1.45	-0.55	Ryan MWD
13242.00	92.00	353.40	9144.14	4775.68	-143.12	4777.20	0.00	0.00	0.00	PROJECTED to TD



# Ryan Energy Technologies COMPLETION REPORT



<b>Company:</b> Chesapeake Operating, Inc. <b>Field:</b> Eddy Co, NM NAD 83 <b>Site:</b> P-U Big Sinks 26 Federal 1H <b>Wells:</b> P-U Big Sinks 26 Federal 1H <b>Wellpath:</b> 26 Fed 1H ST1	<b>Date:</b> 12/23/2009 <b>Time:</b> 10:20:12 <b>Page:</b> 1 <b>Coordinate(NF) Reference:</b> Site: PLU Rig Sinks 26 Federal 1H <b>Vertical (TVD) Reference:</b> SITE 3360.0 <b>Section (VS) Reference:</b> Well (0.00N,0.00E,358.47Az) <b>Survey Calculation Method:</b> Minimum Curvature <b>Db:</b> Sybase
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<b>Field:</b> Eddy Co, NM NAD 83	
USA	
<b>Map System:</b> US State Plane Coordinate System 1983	<b>Map Zone:</b> New Mexico, Eastern Zone
<b>Geo Datum:</b> GRS 1980	<b>Coordinate System:</b> Site Centre
<b>Sys Datum:</b> Mean Sea Level	<b>Geomagnetic Model:</b> Igrf2005

<b>Site:</b> PLU Eig Sinks 26 Federal 1H	
Reeves Co, NM	
<b>Site Position:</b>	<b>Northings:</b> 430269.47 ft <b>Longitude:</b> 103 51 30.033 W
<b>From:</b> Map:	<b>Easting:</b> 688269.42 ft <b>Latitude:</b> 32 10 55.377 N
<b>Position Uncertainty:</b> ±0.00 ft	<b>North Reference:</b> Grid
<b>Ground Level:</b> 3368.00 ft	<b>Grid Convergence:</b> 0.25 deg

<b>Wells:</b> PLU Eig Sinks 26 Federal 1H		<b>Slot Name:</b>	
<b>Well Position:</b>	<b>±N-S:</b> 0.00 ft <b>Northings:</b> 430269.47 ft <b>Longitude:</b> 103 51 30.033 W	<b>±E-W:</b> 0.00 ft <b>Easting:</b> 688269.42 ft <b>Latitude:</b> 32 10 55.377 N	<b>Position Uncertainty:</b> ±0.00 ft

<b>Wellpath:</b> 26 Fed 1H ST1		<b>Drilled From:</b> Surface
		<b>True Depth:</b> 0.00 ft
<b>Current Datum:</b> SITE	<b>Height:</b> 3369.00 ft	<b>Above System Datum:</b> Mean Sea Level
<b>Magnetic Data:</b> 10/14/2009		<b>Declination:</b> 7.90 deg
<b>Field Strength:</b> 48781 nT		<b>Mag Dip Angle:</b> 60.16 deg
<b>Vertical Section:</b> Depth From (TVD) ft	<b>±N-S:</b> ft	<b>±E-W:</b> ft
	<b>Direction:</b> deg	
	0.00	0.00    0.00    358.47

<b>Survey Program for Definitive Wellpath</b>				
<b>Date:</b> 12/23/2009	<b>Validated:</b> No	<b>Version:</b> 5		
<b>Actual From:</b> ft	<b>To:</b> Survey	<b>Toolcode:</b>	<b>Tool Name:</b>	
152.20	3692.40	Survey #1 (152.20-6692.40)	Gyro	Gyro MS
6605.00	13196.00	Survey #2 (6605.00-13196.00)	Ryan MWD	Ryan MWD
15242.00	13242.00	Survey #3 (13242.00-13242.00)	Project	

MD ft	Incl deg	TVD ft	VS ft	Azim deg	N/S ft	E/W ft	Clr. Dir. ft	Clr. Azi. deg	Dog Leg 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
152.20	0.38	152.20	-6.50	185.74	-0.53	-0.05	0.00	185.74	0.25	Gyro
307.80	0.18	307.80	-1.00	84.84	-0.99	0.15	1.00	171.13	0.29	Gyro
481.90	0.48	481.90	-0.38	34.01	-0.35	0.65	0.92	113.05	0.22	Gyro
655.20	0.47	655.19	0.92	358.49	0.95	1.24	1.96	52.48	0.17	Gyro
744.30	0.49	744.29	1.04	10.39	1.03	1.35	2.15	30.79	0.19	Gyro
831.60	0.42	831.58	2.31	7.59	2.35	1.51	2.79	32.70	0.13	Gyro
882.90	0.19	882.88	2.47	1.80	2.51	1.52	2.94	31.23	0.74	Gyro
1050.50	0.14	1050.48	2.81	276.29	2.65	1.31	3.14	24.63	0.12	Gyro
1239.60	0.33	1239.58	2.80	283.25	2.81	0.54	2.66	10.80	0.10	Gyro
1428.00	0.32	1427.98	2.43	231.87	2.42	-0.42	2.46	350.25	0.09	Gyro
1616.90	0.61	1616.87	1.40	223.18	1.33	-1.52	2.04	211.91	0.16	Gyro
1804.90	0.72	1804.86	-0.01	232.08	-0.09	-3.14	3.14	288.33	0.08	Gyro
1993.30	1.07	1993.24	-1.68	234.88	-1.83	-5.51	5.81	251.61	0.19	Gyro
2181.50	1.04	2181.40	-4.05	213.94	-4.25	-7.90	8.97	241.67	0.20	Gyro
2369.70	0.75	2369.59	-6.56	202.41	-0.01	-9.32	11.55	200.00	0.10	Gyro
2557.40	0.96	2557.25	-9.25	172.94	-9.51	-9.60	13.51	225.26	0.26	Gyro
2745.20	1.04	2745.03	-12.48	165.66	-12.77	-8.98	15.57	215.22	0.08	Gyro
2933.10	1.25	2932.90	-15.84	144.64	-16.05	-7.37	17.66	204.68	0.25	Gyro
3121.00	1.51	3120.74	-18.13	126.21	-19.25	-4.24	19.71	192.43	0.25	Gyro
3308.60	0.98	3308.30	-20.67	87.08	-20.70	-0.70	20.71	181.93	0.54	Gyro



# Ryan Energy Technologies COMPLETION REPORT



<b>Company:</b> Chesapeake Operating, Inc. <b>Field:</b> Eddy Co, NM NAD 83 <b>Site:</b> PLU Big Sinks 26 Federal 1H <b>Well:</b> PLU Big Sinks 26 Federal 1H <b>Wellpath:</b> 26 Fed 1H ST1	<b>Date:</b> 12/23/2009 <b>Time:</b> 10:20:12 <b>Page:</b> 2 <b>Co-ordinate(NE) Reference:</b> Site: FLU Big Sinks 26 Federal 1H <b>Vertical (TVD) Reference:</b> SITE 3360.0 <b>Section (VS) Reference:</b> Well (0.00N,0.00E,353.47Azi) <b>Survey Calculation Method:</b> Minimum Curvature <b>Db:</b> Sybase
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Survey											
MD ft	Incl deg	TVD ft	VS ft	Azim deg	NS ft	EAS ft	Clr Dist. ft	Clr Azi. deg	Dog Leg deg/100ft	Tool	
3497.20	0.67	3496.83	-21.42	134.23	-21.38	1.70	21.45	175.45	0.38	Gyro	
3685.10	1.07	3684.76	-23.71	147.48	-23.63	3.43	23.68	171.73	0.24	Gyro	
3873.20	0.46	3872.84	-25.78	136.71	-25.66	4.89	26.12	169.20	0.33	Gyro	
4061.50	0.38	4061.14	-25.72	4.19	-25.59	5.46	26.16	167.96	0.41	Gyro	
4249.60	0.48	4249.24	-24.53	42.05	-24.33	6.03	25.12	166.10	0.16	Gyro	
4437.20	0.50	4436.83	-23.84	79.76	-23.65	7.36	24.77	162.71	0.17	Gyro	
4625.50	0.51	4625.12	-23.86	98.19	-23.62	9.00	25.28	159.14	0.09	Gyro	
4813.80	0.42	4813.22	-24.18	103.61	-23.91	10.50	26.11	156.29	0.05	Gyro	
5001.30	0.22	5000.91	-24.39	93.98	-24.09	11.53	26.71	154.43	0.11	Gyro	
5189.40	0.03	5189.01	-24.46	126.93	-24.15	11.93	26.93	153.71	0.10	Gyro	
5377.20	0.09	5376.81	-24.34	358.97	-24.03	11.96	26.64	153.54	0.06	Gyro	
5565.30	0.43	5564.91	-23.77	51.66	-23.45	12.51	26.57	151.92	0.20	Gyro	
5753.30	0.03	5752.91	-23.37	115.11	-23.03	13.11	26.60	150.36	0.22	Gyro	
5941.10	0.14	5940.71	-23.42	263.54	-23.03	12.92	26.45	150.75	0.09	Gyro	
6129.20	0.46	6128.81	-23.50	230.71	-23.53	12.11	26.51	152.62	0.19	Gyro	
6317.20	0.66	6316.80	-25.11	224.38	-24.33	10.77	27.07	158.56	0.11	Gyro	
6504.60	0.68	6504.18	-26.49	234.13	-26.26	9.11	27.79	160.66	0.06	Gyro	
6692.40	0.90	6691.97	-27.98	232.62	-27.80	7.04	28.68	165.60	0.12	Gyro	
6880.50	0.70	6880.05	-28.64	256.30	-28.50	5.66	29.06	168.76	0.24	Ryan MWD	
6899.00	1.20	6898.54	-27.50	329.40	-27.79	4.60	28.17	170.59	1.28	Ryan MWD	
6993.00	2.50	6992.50	-24.99	358.30	-24.99	4.04	25.22	170.78	1.66	Ryan MWD	
7086.00	4.60	7085.50	-19.02	5.40	-18.91	4.36	19.40	167.03	2.62	Ryan MWD	
7180.00	9.80	7178.43	-7.05	3.30	-6.92	5.19	8.65	143.10	5.22	Ryan MWD	
7274.00	13.60	7270.53	11.97	0.20	12.43	5.69	13.40	25.15	4.10	Ryan MWD	
7368.00	16.10	7361.33	35.65	359.70	36.22	5.66	36.66	8.89	2.65	Ryan MWD	
7461.00	18.30	7450.21	83.55	359.00	83.71	5.34	63.94	4.79	2.38	Ryan MWD	
7555.00	19.30	7539.20	93.84	358.20	94.00	4.60	94.11	2.80	1.10	Ryan MWD	
7649.00	20.90	7627.47	126.14	357.90	126.23	3.49	126.33	1.59	1.71	Ryan MWD	
7744.00	21.00	7716.19	160.11	357.60	160.22	2.22	160.24	0.79	0.11	Ryan MWD	
7838.00	20.40	7804.12	193.33	357.60	193.42	0.89	193.42	0.26	0.64	Ryan MWD	
7932.00	19.20	7892.58	225.17	357.60	225.24	-0.45	225.24	359.69	1.28	Ryan MWD	
8027.00	19.20	7882.28	256.40	358.60	256.44	-1.97	256.45	359.56	0.28	Ryan MWD	
8120.00	19.30	8070.08	287.04	355.60	287.04	-3.95	287.06	359.21	0.37	Ryan MWD	
8217.00	18.00	8161.98	318.03	358.60	317.99	-5.96	318.04	358.93	1.38	Ryan MWD	
8312.00	19.40	8251.97	348.49	359.00	348.42	-7.08	348.49	358.84	1.65	Ryan MWD	
8408.00	18.50	8342.78	379.66	359.10	379.59	-7.58	379.67	358.66	0.94	Ryan MWD	
8524.00	21.30	8451.93	418.90	349.60	418.73	-11.67	418.90	358.40	3.63	Ryan MWD	
8618.00	21.50	8539.38	452.96	354.90	452.89	-16.28	452.98	357.94	2.07	Ryan MWD	
8712.00	22.10	8626.66	487.79	354.20	487.44	-19.60	487.83	357.70	0.70	Ryan MWD	
8808.00	22.50	8713.65	523.39	1.40	523.02	-20.96	523.44	357.71	2.94	Ryan MWD	
8899.00	22.60	8799.57	559.95	0.40	559.80	-20.39	559.97	357.91	0.41	Ryan MWD	
8930.00	25.60	8827.83	571.53	2.50	571.20	-20.06	571.55	357.99	10.06	Ryan MWD	
8962.00	30.40	8856.14	566.48	3.30	569.17	-19.29	566.49	358.12	15.36	Ryan MWD	
8993.00	35.40	8882.16	603.25	3.40	602.93	-18.31	603.26	358.26	16.13	Ryan MWD	
9024.00	40.70	8906.57	622.29	2.60	622.05	-17.31	622.29	358.41	17.17	Ryan MWD	
9055.00	44.60	8929.36	643.24	2.30	643.03	-16.42	643.24	358.54	12.60	Ryan MWD	
9087.00	48.70	8951.73	668.07	2.80	665.89	-15.40	666.07	358.66	6.66	Ryan MWD	
9118.00	50.10	8972.31	683.18	2.50	689.05	-14.33	689.19	358.81	10.89	Ryan MWD	
9149.00	54.60	8991.20	713.71	1.20	713.60	-13.54	713.73	358.91	15.52	Ryan MWD	
9181.00	57.60	9009.55	740.31	0.00	740.22	-13.27	740.34	359.07	9.83	Ryan MWD	
9212.00	60.50	9024.85	768.92	359.20	768.83	-13.46	768.95	358.89	8.99	Ryan MWD	
9244.00	63.90	9039.77	795.22	359.10	795.13	-13.88	795.25	359.00	10.63	Ryan MWD	
9275.00	67.20	9052.60	823.43	359.20	823.34	-14.30	823.47	359.01	10.65	Ryan MWD	



# Ryan Energy Technologies COMPLETION REPORT



<b>Company:</b> Chesapeake Operating, Inc.	<b>Date:</b> 12/23/2009	<b>Time:</b> 10:20:12	<b>Page:</b> 3
<b>Field:</b> Fdry Cr, NM NAD #3	<b>Co-ordinate(N):</b> Reference:	<b>Job:</b> P111 Big Sinks 26 Federal 1H	
<b>Site:</b> P_U Big Sinks 26 Federal 1H	<b>Vertical (TV):</b> Reference:	<b>SITE:</b> 3360.01	
<b>Well:</b> P_U Big Sinks 26 Federal 1H	<b>Section (VS):</b> Reference:	<b>Well (U.UIN,U.ULL):</b> 358.47/A21	
<b>Wellpath:</b> 26 Fed 1H ST1	<b>Survey Calculation Method:</b>	<b>Minimum Curvature</b>	<b>Db:</b> Sybco

MD ft	Incl deg	TVI ft	VS ft	Azm deg	NS ft	E/W ft	Cor Dst. ft	Cor Azl. deg	Dog Leg deg/100ft	Tool
9308.00	89.50	9084.29	852.14	359.80	852.05	-14.60	352.13	359.02	4.36	Ryan MWD
9337.00	88.00	9075.77	880.93	358.90	830.34	-14.97	650.97	359.03	2.65	Ryan MWD
9369.00	89.60	9087.37	910.76	358.70	910.66	-15.60	610.79	359.02	4.72	Ryan MWD
9400.00	73.40	9097.23	940.13	358.80	940.03	-13.29	540.13	359.01	12.58	Ryan MWD
9432.00	77.10	9105.38	971.07	359.00	970.97	-13.84	571.12	359.00	11.63	Ryan MWD
9463.00	89.10	9111.50	1001.46	359.20	1001.35	-17.42	1001.50	359.00	3.70	Ryan MWD
9494.00	81.50	9116.35	1032.07	0.10	1031.97	-17.60	1032.12	359.02	3.48	Ryan MWD
9526.00	84.80	9120.08	1063.84	0.10	1063.75	-17.55	1063.99	359.00	3.05	Ryan MWD
9559.00	89.60	9121.67	1095.77	0.10	1095.70	-17.49	1095.94	359.05	11.55	Ryan MWD
9593.00	90.80	9121.34	1180.74	359.90	1180.70	-17.49	1180.32	359.16	1.29	Ryan MWD
9747.00	91.50	9115.46	1284.71	358.70	1284.37	-13.64	1284.80	359.17	1.48	Ryan MWD
9841.00	92.10	9116.50	1378.66	357.70	1378.57	-21.59	1378.74	359.10	1.24	Ryan MWD
9936.00	92.70	9112.52	1473.55	356.90	1473.38	-23.06	1473.61	358.96	1.05	Ryan MWD
10030.00	91.10	9108.92	1567.46	357.40	1567.20	-30.73	1567.50	358.88	1.19	Ryan MWD
10123.00	90.70	9106.97	1660.43	357.90	1660.10	-34.54	1660.45	358.51	1.20	Ryan MWD
10217.00	91.20	9105.41	1754.41	357.60	1754.01	-33.23	1754.43	358.75	0.62	Ryan MWD
10311.00	90.60	9104.02	1848.50	359.00	1847.98	-41.02	1848.41	358.73	1.67	Ryan MWD
10405.00	91.20	9102.62	1942.38	357.60	1941.31	-43.84	1942.40	358.71	1.48	Ryan MWD
10500.00	90.50	9101.21	2037.36	359.60	2036.37	-45.60	2037.38	358.71	2.03	Ryan MWD
10593.00	89.80	9101.13	2130.34	359.70	2129.36	-49.37	2130.37	358.75	0.97	Ryan MWD
10687.00	87.50	9105.18	2224.29	0.10	2223.34	-43.53	2224.32	358.60	1.68	Ryan MWD
10781.00	88.20	9106.38	2318.19	0.30	2317.76	-43.20	2318.24	358.60	0.38	Ryan MWD
10875.00	88.30	9106.25	2412.11	0.00	2411.74	-45.06	2412.10	358.91	0.34	Ryan MWD
10969.00	88.90	9111.55	2506.07	358.30	2505.70	-47.35	2506.14	359.92	1.92	Ryan MWD
11063.00	90.30	9112.20	2600.06	357.50	2599.33	-50.60	2600.12	358.88	1.72	Ryan MWD
11150.00	90.00	9111.95	2695.05	350.10	2694.36	-54.44	2695.11	350.04	3.71	Ryan MWD
11252.00	88.70	9113.02	2789.04	359.30	2788.52	-53.57	2789.10	358.64	1.68	Ryan MWD
11345.00	88.50	9115.29	2882.00	359.00	2881.48	-57.95	2882.07	358.65	0.39	Ryan MWD
11440.00	88.40	9117.88	2976.97	358.80	2976.43	-59.78	2977.03	358.85	0.74	Ryan MWD
11534.00	89.30	9119.75	3070.94	359.10	3070.40	-61.50	3071.01	358.65	1.01	Ryan MWD
11628.00	90.20	9120.16	3164.93	359.50	3164.39	-62.65	3165.01	358.67	1.05	Ryan MWD
11723.00	89.80	9120.16	3259.92	358.90	3259.38	-63.97	3260.01	358.68	0.76	Ryan MWD
11817.00	87.50	9122.37	3353.89	359.30	3353.33	-65.45	3353.97	358.88	2.48	Ryan MWD
11911.00	87.10	9126.60	3447.77	359.00	3447.22	-68.84	3447.37	358.68	0.53	Ryan MWD
12005.00	89.10	9128.97	3541.71	359.20	3541.15	-69.30	3541.81	358.85	2.14	Ryan MWD
12098.00	89.60	9130.81	3634.70	358.30	3634.12	-70.35	3634.30	358.68	1.23	Ryan MWD
12192.00	90.00	9130.97	3728.70	358.20	3728.09	-73.14	3728.80	358.88	0.21	Ryan MWD
12286.00	89.30	9132.37	3822.68	357.40	3822.00	-75.66	3822.77	358.88	2.05	Ryan MWD
12375.00	88.40	9134.93	3911.62	358.70	3910.34	-81.24	3911.59	358.81	0.79	Ryan MWD
12470.00	89.10	9137.00	4000.55	359.00	4000.07	-83.62	4000.91	358.70	0.74	Ryan MWD
12566.00	87.50	9138.52	4102.50	358.20	4101.54	-91.81	4102.55	358.73	1.90	Ryan MWD
12662.00	88.20	9142.78	4196.44	357.30	4197.41	-84.58	4198.47	358.71	0.99	Ryan MWD
12758.00	88.50	9145.55	4294.36	356.50	4293.23	-99.77	4294.39	358.67	0.89	Ryan MWD
12853.00	88.00	9147.55	4389.27	356.30	4388.01	-105.73	4389.28	358.62	0.24	Ryan MWD
12949.00	89.70	9148.38	4485.15	355.20	4483.73	-112.84	4485.15	358.58	1.62	Ryan MWD
13045.00	90.60	9148.98	4580.04	354.30	4579.33	-121.63	4580.04	358.48	1.48	Ryan MWD
13141.00	91.20	9147.28	4676.63	353.70	4674.79	-131.60	4676.64	358.38	0.75	Ryan MWD
13195.00	92.00	9145.75	4731.41	353.40	4729.42	-137.84	4731.42	358.33	1.55	Ryan MWD
13242.00	92.00	9144.14	4777.20	353.40	4775.98	-143.12	4777.23	358.28	0.69	PROJECTED