

PHOENIX
TECHNOLOGY SERVICES

May 17, 2012

Oil Conservation Division
State of New Mexico
811 S. First St.
Artesia, New Mexico 88210

015-40156

Dear District 2 - Artesia

Re: Chesapeake Operating Inc.
PLU Big Sinks 34 24 30 USA 1H
Eddy Co., NM
API #30-015-40156
Job No. 1210326

Enclosed please find the Survey Data Certification, and the original Plat and one copy of the Survey Report performed on the above referenced Well by Phoenix Technology Services, Inc. (P-5 No. 606018). Other information required by your office is as follows:

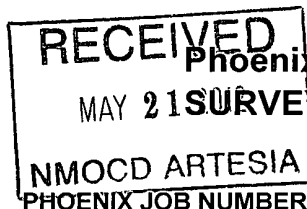
Name & Title of Surveyor	Drainhole Number	Surveyed Depths		Dates Performed		Type of Survey
		From	To	Start	End	
Eric Wolter	1H	8,543	13,712	05/01/2012	05/12/2012	MWD

A certified plat on which the bottom hole location is oriented both to the surface location and to the lease lines (or unit lines in case of pooling) is attached to the survey report. If any other information is required, please contact the undersigned at the letterhead address and phone number.

Best Regards,

Amy Castroman
Operations Administrator

Certified mail receipt number: 7011 1570 0001 4364 9278



Phoenix Technology Services
SURVEY DATA CERTIFICATION



PHOENIX JOB NUMBER

1210326

OPERATOR Chesapeake

WELL NAME PLU Big Sink 34-24-30 USA 1H

COUNTY & STATE

Eddy New Mexico

API WELL NUMBER

30-015-40156

PROPOSED DIRECTION

179.15

TIE-IN DATA						
MEASURED	VERTICAL			N-S	E-W	DATA
DEPTH	DEPTH	INCLIN	AZIMUTH	COORD	COORD	SOURCE
8,500 ft	8,498.95 ft	1	300.86	-65.05	26.31	Gyro

FIRST	FIRST		
SURVEY	SURVEY		
DATE	DEPTH	INCLIN	AZIMUTH
1-May-12	8,543 ft	1.3	341.9

SURVEY INSTRUMENT

TYPE

Phoenix MWD

LAST	LAST		
SURVEY	SURVEY		
DATE	DEPTH	INCLIN	AZIMUTH
12-May-12	13,712 ft	86.7	176.1

TO THE BEST OF MY KNOWLEDGE I
CERTIFY THIS SURVEY DATA TO BE
TRUE AND CORRECT.

PROJECTED	PROJECTED		
TD SURVEY	TD SURVEY		
DATE	DEPTH	INCLIN	AZIMUTH
12-May-12	13,772 ft	86.7	176.1

Eric Wolter

PRINT YOUR NAME ABOVE

SIGN YOUR NAME ABOVE

MAGNETIC DECLINATION OR TOTAL GRID

TOTAL CORRECTION USED	7.37
DECLINATION OR GRID	DEC

5/12/2012

TODAY'S DATE

MWD SUPERVISOR 1

Eric Wolter

DIRECTIONAL DRILLER 1

Glen McVay

MWD SUPERVISOR 2

Mike Hickman

DIRECTIONAL DRILLER 2

Josh Deets

1805 Brittmore Road

Houston, Texas 77043

(713)3370609 (Voice), (713)337-0599 (Fax)

DISTRICT I
1825 N. French Dr., Hobbs, NM 88240
Phone (505) 393-6181 Fax: (505) 393-0720

DISTRICT II
611 S. First St., Artesia, NM 88210
Phone (505) 740-1203 Fax: (505) 740-0720

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone (505) 334-6170 Fax: (505) 334-6170

DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone (505) 476-3460 Fax: (505) 476-3462

RECEIVED

21 2012

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised August 1, 2011

Submit one copy to appropriate
District Office

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code	Pool Name
Property Code	Property Name PLU BIG SINKS 34 24 30 USA	Well Number 1H
GRID No.	Operator Name CHESAPEAKE OPERATING CO.	Elevation 3351'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	34	24 S	30 E		165	NORTH	1980	EAST	EDDY

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
O	34	24 S	30 E		100	SOUTH	1980	EAST	EDDY

Dedicated Acres 162.49	Joint or Infill	Consolidation Code	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

SURFACE LOCATION Lat - N 32.18116994° Long - W 103.86667565° NMSPC - E 685711.343 (NAD-83) Lat - N 32.1810464° Long - W 103.8661918° NMSPC - E 644526.835 (NAD-27)	1980' 3348.7' 3347.9' 165' 5018.8' 100' 1980'	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 _____ Printed Name _____ Email Address _____
PROPOSED BOTTOM HOLE LOCATION Lat - N 32.167374589° Long - W 103.866505310° NMSPC - E 685785.816 (NAD-83) Lat - N 32.167250883° Long - W 103.866022029° NMSPC - E 644880.690 (NAD-27)		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. DECEMBER 22 2011 Date Surveyed _____ Signature _____ Professional Surveyor W.S. No. 485636 Certificate No. Gary L. Jones 7977 BASIN SURVEYS 25836

EXHIBIT A-1



Chesapeake Operating Inc.

Eddy County, New Mexico (NAD 1983)

PLU Big Sinks 34-24-30 USA 1H

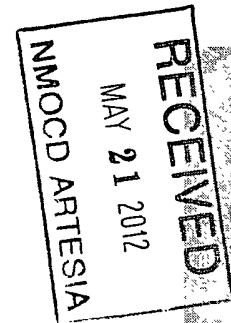
Job # 1210326

Rig: Patterson 62

Survey: Phoenix MWD Surveys

Chesapeake Energy, Survey Report

17 May, 2012





Chesapeake Energy, Survey Report



Company:	Chesapeake Operating Inc.	Local Co-ordinate Reference:	Well Job # 1210326
Project:	Eddy County, New Mexico (NAD 1983)	TVD Reference:	WELL @ 3376.00usft (Patterson 62)
Site:	PLU Big Sinks 34-24-30 USA 1H	MD Reference:	WELL @ 3376.00usft (Patterson 62)
Well:	Job # 1210326	North Reference:	Grid
Wellbore:	Rig: Patterson 62	Survey Calculation Method:	Minimum Curvature
Design:	Rig Patterson 62	Database:	Compass5000

Project:	Eddy County, New Mexico (NAD 1983)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site:	PLU Big Sinks 34-24-30 USA 1H		
Site Position:		Northing:	429,957.45 usft
From:	Map	Easting:	685,711.34 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 10' 52.2118 N
		Longitude:	103° 52' 0.0323 W
		Grid Convergence:	0.25 °

Well:		Job # 1210326				
Well Position	+N-S	0.00 usft	Northing:	429,957.45 usft	Latitude:	32° 10' 52.2118 N
	+E-W	0.00 usft	Easting:	685,711.34 usft	Longitude:	103° 52' 0.0323 W
Position Uncertainty	0.00 usft	Wellhead Elevation:	25.00 usft	Ground Level:	3,351.00 usft	

Wellbore	Rig: Patterson 62				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010_14	04/17/12	7.62	60.08	48,474

Design:	Rig: Patterson 62				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0 00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(usft)	(usft)	(usft)	(")	
	0.00	0.00	0.00	179.15	

Survey Program		Date - 05/17/12		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
8,543.00	13,772.00	Phoenix MWD Surveys (Rig: Patterson 62	MWD	MWD - Standard



Chesapeake Energy, Survey Report



Company: Chesapeake Operating Inc.
Project: Eddy County, New Mexico (NAD 1983)
Site: PLU Big Sinks 34-24-30 USA-1H
Well: Job # 1210326
Wellbore: Rig: Patterson 62
Design: Rig: Patterson 62

Local Co-ordinate Reference: Well Job # 1210326
TVD Reference: WELL @ 3376.00usft (Patterson 62)
MD Reference: WELL @ 3376.00usft (Patterson 62)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Compass5000

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
8,500.00	1.00	300.86	-5,122.95	8,498.95	-65.05	26.31	65.44	0.00	429,892.40	685,737.65
8,543.00	1.30	341.90	-5,165.95	8,541.95	-64.40	25.83	64.77	1.99	429,893.06	685,737.18
First Phoenix MWD Survey @ 8543' MD										
8,574.00	1.20	271.80	-5,196.94	8,572.94	-64.05	25.40	64.42	4.64	429,893.40	685,736.74
8,606.00	6.20	198.30	-5,228.87	8,604.87	-65.68	24.52	66.04	18.66	429,891.77	685,735.86
8,638.00	10.60	190.80	-5,260.52	8,636.52	-70.22	23.43	70.56	14.14	429,887.24	685,734.77
8,670.00	14.70	186.10	-5,291.74	8,667.74	-77.15	22.44	77.47	13.20	429,880.30	685,733.79
8,701.00	19.80	181.70	-5,321.34	8,697.34	-86.32	21.87	86.63	16.97	429,871.14	685,733.21
8,733.00	24.10	176.60	-5,351.01	8,727.01	-98.26	22.10	98.58	14.69	429,859.19	685,733.44
8,765.00	28.10	173.20	-5,379.75	8,755.75	-112.27	23.38	112.61	13.34	429,845.18	685,734.72
8,797.00	32.10	169.40	-5,407.43	8,783.43	-128.12	25.83	128.49	13.84	429,829.33	685,737.18
8,828.00	35.80	169.80	-5,433.14	8,809.14	-145.15	28.96	145.56	11.96	429,812.31	685,740.30
8,860.00	40.40	171.50	-5,458.31	8,834.31	-164.63	32.15	165.08	14.74	429,792.83	685,743.49
8,892.00	45.20	172.20	-5,481.79	8,857.79	-186.14	35.22	186.64	15.07	429,771.31	685,746.57
8,924.00	48.00	171.00	-5,503.77	8,879.77	-209.14	38.63	209.69	9.16	429,748.32	685,749.97
8,955.00	51.40	170.60	-5,523.82	8,899.82	-232.47	42.41	233.08	11.01	429,724.98	685,753.75
8,987.00	54.80	172.70	-5,543.03	8,919.03	-257.79	46.11	258.44	11.85	429,699.67	685,757.45
9,019.00	58.50	175.20	-5,560.62	8,936.62	-284.36	48.92	285.06	13.28	429,673.09	685,760.26
9,051.00	61.40	178.00	-5,576.65	8,952.65	-312.01	50.55	312.72	11.81	429,645.45	685,761.89
9,082.00	65.60	179.30	-5,590.48	8,966.48	-339.73	51.20	340.46	14.06	429,617.72	685,762.54
9,114.00	67.80	180.20	-5,603.13	8,979.13	-369.12	51.32	369.84	7.34	429,588.33	685,762.67
9,146.00	70.40	181.60	-5,614.55	8,990.55	-399.01	50.85	399.72	9.09	429,558.44	685,762.19
9,178.00	72.80	181.00	-5,624.65	9,000.65	-429.36	50.16	430.06	7.71	429,528.09	685,761.50
9,209.00	74.90	180.90	-5,633.27	9,009.27	-459.13	49.67	459.82	6.78	429,498.32	685,761.01
9,241.00	75.90	180.50	-5,641.34	9,017.34	-490.10	49.29	490.78	3.35	429,467.36	685,760.63
9,273.00	75.40	180.30	-5,649.27	9,025.27	-521.10	49.07	521.77	1.68	429,436.35	685,760.42
9,305.00	78.10	180.10	-5,656.60	9,032.60	-552.24	48.97	552.91	8.46	429,405.21	685,760.31



Chesapeake Energy, Survey Report

Chesapeake

Company: Chesapeake Operating Inc.
Project: Eddy County, New Mexico (NAD 1983)
Site: PLU Big Sinks 34-24-30 USA 1H
Well: Job # 1210326
Wellbore: Rig: Patterson 62
Design: Rig: Patterson 62

Local Co-ordinate Reference: Well Job # 1210326
TVD Reference: WELL @ 3376.00usft (Patterson 62)
MD Reference: WELL @ 3376.00usft (Patterson 62)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Compass5000

Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	N/S (usft)	EW (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
9,336.00	81.30	179.60	-5,662.14	9,038.14	-582.74	49.05	583.40	10.44	429,374.71	685,760.39
9,368.00	84.00	179.60	-5,666.24	9,042.24	-614.47	49.27	615.14	8.44	429,342.98	685,760.61
9,400.00	86.10	180.40	-5,669.00	9,045.00	-646.35	49.27	647.01	7.02	429,311.10	685,760.61
9,432.00	89.10	181.00	-5,670.34	9,046.34	-678.32	48.88	678.97	9.56	429,279.14	685,760.22
9,463.00	91.00	181.10	-5,670.31	9,046.31	-709.31	48.31	709.95	6.14	429,248.14	685,759.65
9,495.00	91.60	181.00	-5,669.58	9,045.58	-741.30	47.72	741.92	1.90	429,216.16	685,759.07
9,527.00	92.00	181.00	-5,668.58	9,044.58	-773.28	47.16	773.89	1.25	429,184.18	685,758.51
9,622.00	89.40	181.80	-5,667.42	9,043.42	-868.23	44.84	868.80	2.86	429,089.22	685,756.19
9,717.00	88.90	181.50	-5,668.83	9,044.83	-963.18	42.11	963.70	0.61	428,994.27	685,753.45
9,813.00	86.60	181.30	-5,672.60	9,048.60	-1,059.07	39.76	1,059.55	2.40	428,898.38	685,751.11
9,908.00	86.80	179.10	-5,678.07	9,054.07	-1,153.91	39.43	1,154.37	2.32	428,803.54	685,750.78
10,003.00	89.60	179.10	-5,681.05	9,057.05	-1,248.84	40.92	1,249.31	2.95	428,708.61	685,752.27
10,099.00	89.50	179.20	-5,681.80	9,057.80	-1,344.83	42.35	1,345.31	0.15	428,612.63	685,753.69
10,194.00	89.10	177.70	-5,682.96	9,058.96	-1,439.78	44.92	1,440.29	1.63	428,517.67	685,756.26
10,289.00	90.70	178.10	-5,683.13	9,059.13	-1,534.72	48.40	1,535.26	1.74	428,422.74	685,759.74
10,384.00	90.80	180.10	-5,681.89	9,057.89	-1,629.69	49.89	1,630.25	2.11	428,327.76	685,761.23
10,479.00	90.10	180.00	-5,681.14	9,057.14	-1,724.69	49.81	1,725.24	0.74	428,232.77	685,761.15
10,574.00	91.40	180.30	-5,679.90	9,055.90	-1,819.68	49.56	1,820.21	1.40	428,137.78	685,760.90
10,669.00	91.00	180.90	-5,677.91	9,053.91	-1,914.65	48.57	1,915.16	0.76	428,042.80	685,759.91
10,765.00	89.80	181.00	-5,677.24	9,053.24	-2,010.63	46.97	2,011.11	1.25	427,946.82	685,758.32
10,860.00	89.80	180.40	-5,677.57	9,053.57	-2,105.62	45.81	2,106.07	0.63	427,851.83	685,757.16
10,955.00	89.10	180.00	-5,678.48	9,054.48	-2,200.62	45.48	2,201.05	0.85	427,756.84	685,756.82
11,050.00	87.20	179.80	-5,681.55	9,057.55	-2,295.56	45.65	2,295.99	2.01	427,661.89	685,756.99
11,146.00	89.50	179.00	-5,684.31	9,060.31	-2,391.51	46.65	2,391.94	2.54	427,565.94	685,757.99
11,241.00	90.20	180.20	-5,684.56	9,060.56	-2,486.51	47.32	2,486.94	1.46	427,470.95	685,758.66
11,336.00	90.90	180.90	-5,683.65	9,059.65	-2,581.50	46.40	2,581.90	1.04	427,375.96	685,757.75
11,431.00	90.80	180.50	-5,682.24	9,058.24	-2,676.48	45.24	2,676.86	0.43	427,280.97	685,756.59



Chesapeake Energy, Survey Report



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Well: Job # 1210326
Wellbore: Rig: Patterson 62
Design: Rig: Patterson 62

Local Co-ordinate Reference: Well Job # 1210326
TVD Reference: WELL @ 3376.00usft (Patterson 62)
MD Reference: WELL @ 3376.00usft (Patterson 62)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Compass5000

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
11,526.00	91.10	181.20	-5,680.66	9,056.66	-2,771.46	43.83	2,771.80	0.80	427,186.00	685,755.18
11,622.00	90.80	181.20	-5,679.07	9,055.07	-2,867.42	41.82	2,867.73	0.31	427,090.03	685,753.17
11,717.00	90.30	180.40	-5,678.16	9,054.16	-2,962.41	40.50	2,962.68	0.99	426,995.05	685,751.84
11,812.00	89.30	179.00	-5,678.49	9,054.49	-3,057.40	40.99	3,057.67	1.81	426,900.05	685,752.34
11,907.00	92.20	178.80	-5,677.25	9,053.25	-3,152.37	42.82	3,152.65	3.06	426,805.09	685,754.16
12,002.00	91.10	178.40	-5,674.51	9,050.51	-3,247.30	45.14	3,247.61	1.23	426,710.16	685,756.48
12,098.00	89.70	178.50	-5,673.84	9,049.84	-3,343.26	47.73	3,343.60	1.46	426,614.20	685,759.08
12,193.00	89.90	178.30	-5,674.18	9,050.18	-3,438.22	50.39	3,438.59	0.30	426,519.24	685,761.73
12,288.00	91.30	179.00	-5,673.18	9,049.18	-3,533.18	52.63	3,533.58	1.65	426,424.27	685,763.97
12,383.00	91.20	179.40	-5,671.11	9,047.11	-3,628.15	53.95	3,628.55	0.43	426,329.30	685,765.29
12,478.00	91.30	179.00	-5,669.04	9,045.04	-3,723.12	55.28	3,723.53	0.43	426,234.33	685,766.62
12,574.00	90.10	178.90	-5,667.86	9,043.86	-3,819.09	57.04	3,819.52	1.25	426,138.36	685,768.38
12,669.00	90.50	179.10	-5,667.37	9,043.37	-3,914.08	58.69	3,914.52	0.47	426,043.38	685,770.04
12,764.00	91.20	179.50	-5,665.96	9,041.96	-4,009.06	59.86	4,009.51	0.85	425,948.39	685,771.20
12,859.00	91.70	179.70	-5,663.55	9,039.55	-4,104.03	60.52	4,104.47	0.57	425,853.43	685,771.86
12,955.00	87.80	179.80	-5,663.97	9,039.97	-4,200.01	60.94	4,200.45	4.06	425,757.45	685,772.28
13,050.00	87.30	178.80	-5,668.03	9,044.03	-4,294.91	62.10	4,295.36	1.18	425,662.54	685,773.44
13,145.00	88.10	178.50	-5,671.84	9,047.84	-4,389.81	64.33	4,390.28	0.90	425,567.65	685,775.68
13,240.00	88.60	178.60	-5,674.58	9,050.58	-4,484.74	66.74	4,485.23	0.54	425,472.72	685,778.08
13,335.00	87.90	177.10	-5,677.48	9,053.48	-4,579.62	70.30	4,580.16	1.74	425,377.83	685,781.64
13,430.00	87.20	176.60	-5,681.54	9,057.54	-4,674.39	75.51	4,675.00	0.91	425,283.06	685,786.86
13,526.00	86.60	175.90	-5,686.73	9,062.73	-4,770.05	81.78	4,770.73	0.96	425,187.41	685,793.13
13,621.00	87.00	176.30	-5,692.04	9,068.04	-4,864.68	88.23	4,865.45	0.59	425,092.78	685,799.58
13,712.00	86.70	176.10	-5,697.04	9,073.04	-4,955.34	94.26	4,956.19	0.40	425,002.11	685,805.60
Last Phoenix MWD Survey @ 13712' MD:										
13,772.00	86.70	176.10	-5,700.49	9,076.49	-5,015.10	98.33	5,016.01	0.00	424,942.35	685,809.67
Projection to TD @ 13772' MD:										



Chesapeake Energy, Survey Report



Company: Chesapeake Operating Inc.
Project: Eddy County, New Mexico (NAD 1983)
Site: PLU Big Sinks 34-24-30.USA 1H
Well: Job # 1210326
Wellbore: Rig Patterson 62
Design: Rig Patterson 62

Local Co-ordinate Reference: Well Job # 1210326
TVD Reference: WELL @ 3376.00usft (Patterson 62)
MD Reference: WELL @ 3376.00usft (Patterson 62)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Compass5000

Survey Annotations:

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
8,543.00	8,541.95	-64.40	25.83	First Phoenix MWD Survey @ 8543' MD
13,712.00	9,073.04	-4,955.34	94.26	Last Phoenix MWD Survey @ 13712' MD
13,772.00	9,076.49	-5,015.10	98.33	Projection to TD @ 13772' MD

Checked By: _____ Approved By: _____ Date: _____