



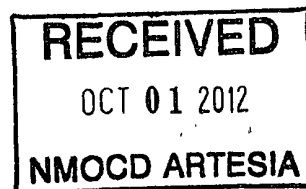
PHOENIX
TECHNOLOGY SERVICES

September 25, 2012

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

Dear District 2 - Artesia

Re: Chesapeake Operating Inc.
PLU Big Sinks 7-25-31 USA 1H
Eddy Co., NM
API #30-105-40447
Job No. 1210774



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	
Spencer Brown	1	8,886	13,998	09/10/12	09/18/12	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 Pope
Operations Administrator

Certified mail receipt number: 701101570 0001 4364 9889

**PHOENIX TECHNOLOGY SERVICES INC.
SURVEY DATA CERTIFICATION**



PHOENIX JOB NUMBER 1210774

OPERATOR Chesapeake

WELL NAME PLU Big Sinks 7-26-31 USA 1H

COUNTY & STATE

Eddy Co., NM

API WELL NUMBER	3001540447
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PROPOSED DIRECTION	179.98
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TIE-IN DATA						
MEASURED DEPTH	VERTICAL DEPTH	INCLIN	AZIMUTH	N-S COORD	E-W COORD	DATA SOURCE
8,800 ft	8,792.9 ft	2.54	272.59	-238.8	105.28	Gyro

FIRST SURVEY DATE	FIRST SURVEY DEPTH	INCLIN	AZIMUTH
10-Sep-12	8,886 ft	2.5	285.6

SURVEY INSTRUMENT TYPE
Phoenix MWD

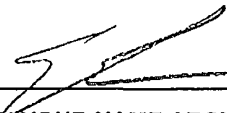
LAST SURVEY DATE	LAST SURVEY DEPTH	INCLIN	AZIMUTH
18-Sep-12	13,998 ft	89.1	177.3

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

PROJECTED TD SURVEY DATE	PROJECTED TD SURVEY DEPTH	INCLIN	AZIMUTH
18-Sep-12	14,050 ft	89.1	177.3

Spencer Brown

PRINT YOUR NAME ABOVE


SIGN YOUR NAME ABOVE

MAGNETIC DECLINATION OR TOTAL GRID

TOTAL CORRECTION USED	7.28
DECLINATION OR GRID	Grid

18-Sep

TODAY'S DATE

MWD SUPERVISOR 1

Spencer Brown

DIRECTIONAL DRILLER 1

Brady Welch

MWD SUPERVISOR 2

Brandon Jenkins

DIRECTIONAL DRILLER 2

Jay Stanly

1805 Brittmore Road

Houston, Texas 77043

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

RECEIVED

OCT 01 2012

NMOCD ARTESIA

DISTRICT I
1025 N. French Dr., Hobbs, NM 88240
Phone (875) 893-8101 Fax: (875) 363-0720

DISTRICT II
811 S. First St., Artesia, NM 80210
Phone (875) 740-1203 Fax: (875) 740-9120

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone (505) 834-0170 Fax: (505) 834-0170

DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87605
Phone (505) 476-5100 Fax: (505) 476-5100

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, New Mexico 87605

Form C-102
Revised August 1, 2011

Submit one copy to appropriate
District Office

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number		Pool Code 96403	Pool Name WILDCAT; BONE SPRING
Property Code	Property Name PLU BIG SINKS 7 25 31 USA		Well Number 1H
GRID No. 147179	Operator Name CHESAPEAKE OPERATING CO.		Elevation 3369'

Surface Location

Ul. or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	7	25 S	31 E		150	NORTH	1980	WEST	EDDY

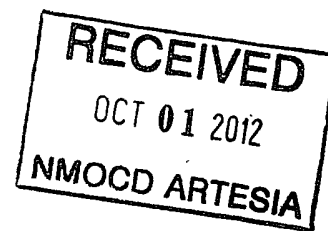
Bottom Hole Location If Different From Surface

Ul. or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	7	25 S	31 E		100	SOUTH	1980	WEST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
163.48			

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 Lot - N 32.152005312' Long - W 103.819398879' NMSPC- E 700388.587 (HAD-83) Lot - N 32.151881342' Long - W 103.818917730' NMSPC- N 419356.166 E 659203.616 (HAD-27)	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: <i>Bryan Arrant</i> Date: 02/10/2012 Printed Name: Bryan Arrant Email Address: bryan.arrant@chk.com
	PROPOSED BOTTOM HOLE LOCATION Lot - N 32.137040113' Long - W 103.819473436' NMSPC- N 414297.704 E 700389.030 (HAD-83) Lot - N 32.137816008' Long - W 103.818992927' NMSPC- N 414239.494 E 659204.782 (HAD-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. Date Surveyed: FEBRUARY 13 2012 Signature: <i>BASIN SURVYS</i> Professional Surveyor Certificate No. 20059 BASIN SURVYS 26053



Chesapeake Operating Inc.

Eddy County, New Mexico (NAD 1983)

PLU Big Sinks 7-25-31 USA 1H

Job #1210774

Latshaw 14

Survey: Phoenix MWD Surveys

Chesapeake Energy, Survey Report

19 September, 2012





Chesapeake Energy, Survey Report



Company: Chesapeake Operating Inc.
Project: Eddy County, New Mexico (NAD 1983)
Site: PLU Big Sinks 7-25-31 USA 1H
Well: Job #1210774
Wellbore: Latshaw 14
Design: Latshaw 14

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:
Well Job #1210774
WELL @ 3386.00usft (Tnnidad:111)
WELL @ 3386.00usft (Tnnidad:111)
Grid:
Minimum Curvature
Compass5000

Project: Eddy County, New Mexico (NAD 1983)

Map System: US State Plane 1983
Geo Datum: North American Datum 1983
Map Zone: New Mexico Eastern Zone

System Datum: Mean Sea Level

Site: PLU Big Sinks 7-25-31 USA 1H

Site Position:	Map	Northing:	419,414.49 usft	Latitude:	32° 9' 7.2191 N
From:		Easting:	700,388.59 usft	Longitude:	103° 49' 9.8360 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.27 °

Well: Job #1210774

Well Position	+N-S	0 00 usft	Northing:	419,414.49 usft	Latitude:	32° 9' 7.2191 N
	+E-W	0 00 usft	Easting:	700,388.59 usft	Longitude:	103° 49' 9.8360 W
Position Uncertainty		0 00 usft	Wellhead Elevation:	usft	Ground Level:	3,369 00 usft

Wellbore: Latshaw 14

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010_14	08/17/12	7.55	60.05	48,429

Design: Latshaw 14

Audit Notes:

Version: 10 Phase: ACTUAL Tie On Depth: 0 00

Vertical Section:	Depth From (TVD) (usft)	+N-S (usft)	+E-W (usft)	Direction (°)
	0 00	0 00	0 00	179.98

Company: Chesapeake Operating Inc.

Project: Eddy County, New Mexico (NAD, 1983)

Site: PLU Big Sinks 7-25-31 USA 1H

Well: Job #1210774

Wellbore: Latshaw 14

Design: Latshaw 14

Local Co-ordinate Reference:

Well Job #1210774

TVD Reference:

WELL @ 3386.00usft (Trinidad 111)

MD Reference:

WELL @ 3386.00usft (Trinidad 111)

North Reference:

Grid

Survey Calculation Method:

Minimum Curvature

Database:

Compass5000

Survey Program Date 09/19/12

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
200.00	8,800.00	VES Gyro (Latshaw 14)	NS-GYRO-MS	North sensing gyrocompassing m/s
8,800.00	14,050.00	Phoenix MWD Surveys (Latshaw 14)	MWD	MWD - Standard

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
8,800.00	2.54	272.59	-5,406.90	8,792.90	-238.80	105.28	238.84	0.00	419,175.69	700,493.87
Tie on From Gyro Surveys @ 8800' MD										
8,886.00	2.50	285.60	-5,492.82	8,878.82	-238.21	101.57	238.24	0.67	419,176.28	700,490.16
First Phoenix MWD Surveys @ 8886' MD										
8,918.00	5.40	202.80	-5,524.76	8,910.76	-239.41	100.31	239.45	17.68	419,175.08	700,488.90
8,949.00	8.70	184.90	-5,555.53	8,941.53	-243.09	99.55	243.13	12.67	419,171.40	700,488.13
8,981.00	11.60	177.30	-5,587.02	8,973.02	-248.72	99.49	248.75	9.96	419,165.77	700,488.08
9,013.00	15.50	178.50	-5,618.13	9,004.13	-256.21	99.76	256.25	12.22	419,158.28	700,488.34
9,045.00	19.60	178.50	-5,648.63	9,034.63	-265.85	100.01	265.89	12.81	419,148.64	700,488.60
9,076.00	23.60	179.30	-5,677.45	9,063.45	-277.26	100.22	277.30	12.94	419,137.23	700,488.81
9,108.00	27.40	182.20	-5,706.33	9,092.33	-291.03	100.02	291.06	12.50	419,123.46	700,488.60
9,140.00	30.90	185.30	-5,734.27	9,120.27	-306.58	98.97	306.61	11.91	419,107.92	700,487.56
9,172.00	34.20	187.80	-5,761.24	9,147.24	-323.67	96.99	323.71	11.13	419,090.82	700,485.58
9,203.00	36.40	187.50	-5,786.54	9,172.54	-341.43	94.61	341.46	7.12	419,073.07	700,483.20
9,235.00	39.30	186.90	-5,811.81	9,197.81	-360.90	92.15	360.94	9.14	419,053.59	700,480.74
9,267.00	41.10	186.00	-5,836.25	9,222.25	-381.43	89.84	381.46	5.91	419,033.07	700,478.42
9,298.00	42.40	185.20	-5,859.38	9,245.38	-401.97	87.82	402.00	4.53	419,012.52	700,476.41
9,330.00	44.40	183.10	-5,882.63	9,268.63	-423.90	86.24	423.93	7.71	418,990.60	700,474.83
9,362.00	48.00	183.70	-5,904.77	9,290.77	-446.95	84.87	446.98	11.33	418,967.54	700,473.45
9,394.00	52.50	185.90	-5,925.23	9,311.23	-471.45	82.79	471.48	15.02	418,943.04	700,471.38
9,426.00	55.60	188.40	-5,944.01	9,330.01	-497.15	79.56	497.18	11.57	418,917.34	700,468.15
9,457.00	59.10	188.90	-5,960.74	9,346.74	-522.95	75.63	522.98	11.37	418,891.54	700,464.22

Company: Chesapeake Operating Inc
 Project: Eddy County, New Mexico (NAD:1983)
 Site: PLU-Big Sinks 7-25-31 USA 1H
 Well: Job #1210774
 Wellbore: Latshaw 14
 Design: Latshaw 14

Local Co-ordinate Reference: Well Job #1210774
 TVD Reference: WELL @ 3386.00usft (Trinidad 111)
 MD Reference: WELL @ 3386.00usft (Trinidad 111)
 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)
9,489.00	62.00	188.90	-5,976.47	9,362.47	-550.48	71.32	550.50	9.06	418,864.02	700,459.91
9,521.00	64.50	189.10	-5,990.87	9,376.87	-578.70	66.85	578.72	7.83	418,835.79	700,455.44
9,552.00	67.50	189.00	-6,003.48	9,389.48	-606.66	62.40	606.68	9.68	418,807.83	700,450.98
9,584.00	70.50	187.90	-6,014.94	9,400.94	-636.21	58.01	636.23	9.91	418,778.28	700,446.60
9,616.00	72.80	186.50	-6,025.02	9,411.02	-666.34	54.21	666.36	8.30	418,748.15	700,442.79
9,648.00	75.40	185.70	-6,033.79	9,419.79	-696.94	50.94	696.96	8.47	418,717.55	700,439.52
9,679.00	78.40	183.90	-6,040.81	9,426.81	-727.02	48.41	727.04	11.21	418,687.47	700,437.00
9,711.00	82.20	182.20	-6,046.20	9,432.20	-758.51	46.74	758.53	12.98	418,655.98	700,435.33
9,743.00	86.30	182.70	-6,049.41	9,435.41	-790.31	45.38	790.33	12.91	418,624.18	700,433.97
9,775.00	90.20	182.40	-6,050.38	9,436.38	-822.26	43.96	822.28	12.22	418,592.23	700,432.54
9,838.00	91.60	182.20	-6,049.39	9,435.39	-885.20	41.43	885.22	2.24	418,529.29	700,430.01
9,934.00	91.60	181.70	-6,046.71	9,432.71	-981.11	38.16	981.12	0.52	418,433.38	700,426.75
10,028.00	91.80	181.70	-6,043.93	9,429.93	-1,075.03	35.37	1,075.04	0.21	418,339.47	700,423.96
10,123.00	91.60	181.60	-6,041.11	9,427.11	-1,169.94	32.64	1,169.96	0.24	418,244.55	700,421.23
10,219.00	91.80	181.70	-6,038.26	9,424.26	-1,265.86	29.88	1,265.87	0.23	418,148.63	700,418.46
10,314.00	91.60	181.70	-6,035.44	9,421.44	-1,360.78	27.06	1,360.79	0.21	418,053.71	700,415.65
10,409.00	90.70	181.70	-6,033.53	9,419.53	-1,455.72	24.24	1,455.72	0.95	417,958.78	700,412.83
10,504.00	90.30	181.40	-6,032.71	9,418.71	-1,550.68	21.67	1,550.69	0.53	417,863.81	700,410.26
10,599.00	89.10	181.20	-6,033.20	9,419.20	-1,645.65	19.52	1,645.66	1.28	417,768.84	700,408.11
10,694.00	90.90	180.20	-6,033.20	9,419.20	-1,740.64	18.36	1,740.64	2.17	417,673.85	700,406.94
10,790.00	90.70	179.50	-6,031.86	9,417.86	-1,836.63	18.61	1,836.63	0.76	417,577.86	700,407.20
10,885.00	90.40	178.40	-6,030.95	9,416.95	-1,931.61	20.35	1,931.61	1.20	417,482.89	700,408.94
10,980.00	90.60	177.90	-6,030.12	9,416.12	-2,026.55	23.42	2,026.56	0.57	417,387.94	700,412.00
11,075.00	90.60	177.70	-6,029.13	9,415.13	-2,121.48	27.06	2,121.49	0.21	417,293.01	700,415.65
11,170.00	90.40	177.20	-6,028.30	9,414.30	-2,216.38	31.29	2,216.39	0.57	417,198.11	700,419.88
11,266.00	90.20	180.10	-6,027.80	9,413.80	-2,312.34	33.55	2,312.35	3.03	417,102.15	700,422.14
11,361.00	89.30	179.10	-6,028.21	9,414.21	-2,407.34	34.21	2,407.35	1.42	417,007.16	700,422.80



Chesapeake Energy, Survey Report

CLERGY & CO

Company: Chesapeake Operating Inc
Project: Eddy County, New Mexico (NAD 1983)
Site: PLU Big Sinks 7:25-31 USA 1H
Well: Job #1210774
Wellbore: Latshaw 14
Design: Latshaw 14

Local Co-ordinate Reference:
TVD Reference: WELL @ 3386.00usft (Trinidad 111)
MD Reference: WELL @ 3386.00usft (Trinidad 111)
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)	
11,456.00	90.40	180.60	-6,028.46	9,414.46	-2,502.33	34.46	2,502.34	1.96	416,912.16	700,423.05	
11,551.00	89.60	180.70	-6,028.46	9,414.46	-2,597.32	33.39	2,597.34	0.85	416,817.17	700,421.97	
11,646.00	89.10	180.50	-6,029.54	9,415.54	-2,692.31	32.39	2,692.32	0.57	416,722.18	700,420.98	
11,741.00	89.30	181.70	-6,030.86	9,416.86	-2,787.28	30.57	2,787.29	1.28	416,627.21	700,419.15	
11,836.00	89.60	182.20	-6,031.77	9,417.77	-2,882.22	27.33	2,882.23	0.61	416,532.27	700,415.92	
11,931.00	89.10	182.00	-6,032.85	9,418.85	-2,977.15	23.85	2,977.16	0.57	416,437.34	700,412.44	
12,027.00	89.80	181.90	-6,033.77	9,419.77	-3,073.09	20.59	3,073.10	0.74	416,341.40	700,409.17	
12,122.00	89.40	181.50	-6,034.44	9,420.44	-3,168.05	17.77	3,168.05	0.60	416,246.44	700,406.36	
12,217.00	89.70	181.30	-6,035.18	9,421.18	-3,263.02	15.45	3,263.02	0.38	416,151.48	700,404.03	
12,313.00	89.20	181.00	-6,036.10	9,422.10	-3,358.99	13.52	3,359.00	0.61	416,055.50	700,402.11	
12,408.00	88.00	180.60	-6,038.43	9,424.43	-3,453.95	12.19	3,453.96	1.33	415,960.54	700,400.78	
12,504.00	89.00	180.90	-6,040.94	9,426.94	-3,549.91	10.94	3,549.91	1.09	415,864.58	700,399.53	
12,599.00	90.40	181.20	-6,041.44	9,427.44	-3,644.89	9.20	3,644.89	1.51	415,769.60	700,397.78	
12,695.00	89.80	181.00	-6,041.27	9,427.27	-3,740.87	7.35	3,740.87	0.66	415,673.62	700,395.94	
12,790.00	91.10	182.00	-6,040.52	9,426.52	-3,835.83	4.87	3,835.84	1.73	415,578.66	700,393.46	
12,886.00	89.30	180.90	-6,040.19	9,426.19	-3,931.80	2.44	3,931.80	2.20	415,482.69	700,391.03	
12,981.00	90.00	180.80	-6,040.77	9,426.77	-4,026.78	1.03	4,026.78	0.74	415,387.71	700,389.62	
13,077.00	89.40	180.60	-6,041.27	9,427.27	-4,122.78	-0.14	4,122.78	0.66	415,291.72	700,388.44	
13,172.00	90.10	180.20	-6,041.68	9,427.68	-4,217.77	-0.81	4,217.77	0.85	415,196.72	700,387.78	
13,267.00	89.50	181.30	-6,042.02	9,428.02	-4,312.76	-2.05	4,312.76	1.32	415,101.73	700,386.54	
13,362.00	90.00	181.40	-6,042.43	9,428.43	-4,407.73	-4.29	4,407.73	0.54	415,006.76	700,384.30	
13,457.00	91.10	181.20	-6,041.52	9,427.52	-4,502.70	-6.44	4,502.70	1.18	414,911.79	700,382.14	
13,552.00	88.30	180.40	-6,042.02	9,428.02	-4,597.68	-7.77	4,597.68	3.07	414,816.81	700,380.82	
13,647.00	89.80	179.80	-6,043.59	9,429.59	-4,692.67	-7.93	4,692.66	1.70	414,721.83	700,380.65	
13,742.00	88.60	178.90	-6,044.92	9,430.92	-4,787.65	-6.86	4,787.64	1.58	414,626.84	700,381.73	
13,838.00	90.00	178.60	-6,046.09	9,432.09	-4,883.62	-4.76	4,883.61	1.49	414,530.88	700,383.82	
13,933.00	89.80	178.30	-6,046.26	9,432.26	-4,978.58	-2.19	4,978.58	0.38	414,435.91	700,386.39	



Chesapeake Energy, Survey Report



Company: Chesapeake Operating Inc.
Project: Eddy County, New Mexico (NAD 1983)
Site: PLU Big Sinks 7-25-31 USA 1H
Well: Job #1210774
Wellbore: Latshaw 14
Design: Latshaw 14

Local Co-ordinate Reference: Well Job #1210774
TVD Reference: WELL @ 3386.00usft (Trinidad 111)
MD Reference: WELL @ 3386.00usft (Trinidad 111)
North Reference: Grd
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)
13,998.00	89.10	177.30	-6,046.88	9,432.88	-5,043.53	0.30	5,043.53	1.88	414,370.96	700,388.89
Last Phoenix MWD Surveys @ 13998' MD										
14,050.00	89.10	177.30	-6,047.70	9,433.70	-5,095.46	2.75	5,095.46	0.00	414,319.03	700,391.34
Projection to TD @ 14050' MD										

Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
8,800.00	8,792.90	-238.80	105.28	Tie on From Gyro Surveys @ 8800' MD
8,886.00	8,878.82	-238.21	101.57	First Phoenix MWD Surveys @ 8886' MD
13,998.00	9,432.88	-5,043.53	0.30	Last Phoenix MWD Surveys @ 13998' MD
14,050.00	9,433.70	-5,095.46	2.75	Projection to TD @ 14050' MD

Checked By: _____

Approved By: _____

Date: _____