



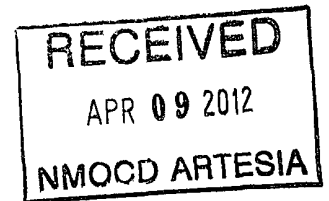
PHOENIX
TECHNOLOGY SERVICES

April 3, 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 Pierce Canyon 21 24 30 USA 1H
Eddy County, NM
API #30-015-39768
Job No. 1210204



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	
Tony Mack	1H	496	12,949	03/18/12	03/30/12	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,

Gretchen Briggs
Operations Administrator

Certified mail receipt number: **7011 1570 0001 4364 9308**

Phoenix Technology Services SURVEY DATA CERTIFICATION

RECEIVED

APR 09 2012

NMOCD ARTESIA



PHOENIX
TECHNOLOGY SERVICES

PHOENIX JOB NUMBER

1210204

OPERATOR

Chesapeake

WELL NAME

PLU Pierce Canyon USA 1H

COUNTY & STATE

Eddy NM

API WELL NUMBER

30-015-39768

PROPOSED DIRECTION

182.37

TIE-IN DATA						
MEASURED	VERTICAL			N-S	E-W	DATA
DEPTH	DEPTH	INCLIN	AZIMUTH	COORD	COORD	SOURCE
ft	.00 ft	.0 ft	.0 ft	.00 ft	.00 ft	Surface

FIRST	FIRST		
SURVEY	SURVEY		
DATE	DEPTH	INCLIN	AZIMUTH
18-Mar-12	496 ft	0.7	0.1

SURVEY INSTRUMENT

TYPE

Phoenix MWD

LAST	LAST		
SURVEY	SURVEY		
DATE	DEPTH	INCLIN	AZIMUTH
30-Mar-12	12,949 ft	87.6	180.8

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
30-Mar-12	12,995 ft	87.6	180.8

Tony Mack

PRINT YOUR NAME ABOVE

Tony Mack

SIGN YOUR NAME ABOVE

MAGNETIC DECLINATION OR TOTAL GRID

TOTAL CORRECTION USED	7.4
DECLINATION OR GRID	GRID

30-Mar

TODAY'S DATE

MWD SUPERVISOR 1

Erik Wolff

DIRECTIONAL DRILLER 1

Shane Ates

MWD SUPERVISOR 2

Derek Webster/Tony Mack

DIRECTIONAL DRILLER 2

Terry Masters

1805 Brittmore Road

Houston, Texas 77043

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

Chesapeake Operating Inc.

Eddy County, New Mexico (NAD 1983)

PLU Pierce Canyon 21 24 30 USA 1H

Job # 1210204

Rig: Latshaw 14

Survey: Phoenix Final MWD Surveys

Chesapeake Energy, Survey Report

03 April, 2012

Chesapeake Energy, Survey Report

Company:	Chesapeake Operating Inc.	Local Co-ordinate Reference:	Well Job # 1210204
Project:	Eddy County, New Mexico (NAD 1983)	TVD Reference:	WELL @ 3375.00usft (Latshaw 14)
Site:	PLU.Pierce Canyon 21 24 30 USA 1H	MD Reference:	WELL @ 3375.00usft (Latshaw 14)
Well:	Job # 1210204	North Reference:	Grid
Wellbore:	Rig: Latshaw 14	Survey Calculation Method:	Minimum Curvature
Design:	Rig: Latshaw 14	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 Pierce Canyon 21 24 30 USA 1H									
Site Position:		Northing:		440,467.50 usft		Latitude:		32° 12' 36.4430 N			
From:		Map		Easting:		680,350.41 usft		Longitude:		103° 53' 1 9006 W	
Position Uncertainty:		0.00 usft		Slot Radius:		13-3/16 "		Grid Convergence:		0 24 °	

Well		Job # 1210204				
Well Position	+N/-S	0.00 usft	Northing:	440,467.50 usft	Latitude:	32° 12' 36.4430 N
	+E/-W	0.00 usft	Easting:	680,350.41 usft	Longitude:	103° 53' 1 9006 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	22.00 usft	Ground Level:	3,353.00 usft

Wellbore	Rig: Latshaw 14				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010_14	03/05/12	7.64	60.10	48,502

Design					Rig: Latshaw 14						
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		182 37			

Chesapeake Energy, Survey Report

Company:	Chesapeake Operating Inc.	Local Co-ordinate Reference:	Well Job # 1210204
Project:	Eddy County, New Mexico (NAD 1983)	TVD Reference:	WELL @ 3375 00usft (Latshaw 14)
Site:	PLU Pierce Canyon 21 24 30 USA 1H	MD Reference:	WELL @ 3375.00usft (Latshaw 14)
Well:	Job # 1210204	North Reference:	Grid
Wellbore:	Rig: Latshaw 14	Survey Calculation Method:	Minimum Curvature
Design:	Rig: Latshaw 14	Database:	Compass5000

Survey Program		Date 04/03/12			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
496.00	7,470.00	Phoenix MWD Surveys (Rig: Latshaw 14)	MWD	MWD - Standard	
7,557.00	12,995.00	Phoenix MWD STK 1 Surveys (Rig: Latshaw 14)	MWD	MWD - Standard	

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)	
0.00	0.00	0.00	3,375.00	0.00	0.00	0.00	0.00	0.00	440,467.50	680,350.41	
1.00	0.00	0.13	3,374.00	1.00	0.00	0.00	0.00	0.00	440,467.50	680,350.41	
Surface											
496.00	0.67	0.13	2,879.01	495.99	2.90	0.01	-2.90	0.14	440,470.40	680,350.41	
First Phoenix MWD Survey @ 496" MD											
942.00	2.10	321.10	2,433.15	941.85	11.87	-5.12	-11.65	0.37	440,479.37	680,345.29	
1,131.00	1.20	294.80	2,244.22	1,130.78	15.39	-9.09	-15.00	0.61	440,482.90	680,341.32	
1,321.00	1.00	216.50	2,054.25	1,320.75	14.89	-11.88	-14.39	0.74	440,482.40	680,338.53	
1,511.00	2.00	137.20	1,864.30	1,510.70	11.13	-10.62	-10.68	1.09	440,478.63	680,339.79	
1,701.00	2.30	130.30	1,674.44	1,700.56	6.23	-5.46	-6.00	0.21	440,473.73	680,344.95	
1,891.00	2.40	123.60	1,484.59	1,890.41	1.56	0.77	-1.59	0.15	440,469.07	680,351.17	
2,082.00	0.10	95.70	1,293.65	2,081.35	-0.67	4.26	0.49	1.21	440,466.84	680,354.67	
2,272.00	0.70	297.10	1,103.66	2,271.34	-0.15	3.39	0.01	0.42	440,467.35	680,353.80	
2,462.00	0.90	282.60	913.68	2,461.32	0.70	0.90	-0.74	0.15	440,468.20	680,351.31	
2,652.00	0.80	321.40	723.69	2,651.31	2.06	-1.38	-2.00	0.30	440,469.56	680,349.03	
2,874.00	1.00	351.10	501.72	2,873.28	5.19	-2.65	-5.07	0.23	440,472.69	680,347.76	
2,968.00	1.70	354.90	407.75	2,967.25	7.39	-2.90	-7.26	0.75	440,474.89	680,347.51	
3,063.00	2.20	338.20	312.80	3,062.20	10.48	-3.70	-10.32	0.79	440,477.99	680,346.71	
3,158.00	2.50	343.10	217.88	3,157.12	14.16	-4.98	-13.94	0.38	440,481.66	680,345.43	
3,348.00	2.80	335.70	28.08	3,346.92	22.35	-8.09	-22.00	0.24	440,489.86	680,342.32	
3,443.00	2.60	323.50	-66.81	3,441.81	26.20	-10.33	-25.75	0.64	440,493.70	680,340.08	
3,697.00	1.30	310.90	-320.66	3,695.66	32.72	-15.93	-32.03	0.54	440,500.22	680,334.47	

Chesapeake Energy, Survey Report

Company:	Chesapeake Operating Inc.	Local Co-ordinate Reference:	Well Job # 1210204
Project:	Eddy County, New Mexico (NAD 1983)	TVD Reference:	WELL @ 3375.00usft (Latshaw 14)
Site:	PLU Pierce Canyon 21 24 30 USA 1H	MD Reference:	WELL @ 3375.00usft (Latshaw 14)
Well:	Job # 1210204	North Reference:	Grid
Wellbore:	Rig. Latshaw 14	Survey Calculation Method:	Minimum Curvature
Design:	Rig Latshaw 14	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)	
3,856.00	1.20	303.10	-479.62	3,854.62	34.81	-18.69	-34.00	0.12	440,502.31	680,331.72	
4,046.00	1.50	301.20	-669.57	4,044.57	37.18	-22.49	-36.22	0.16	440,504.69	680,327.92	
4,236.00	1.40	285.40	-859.51	4,234.51	39.09	-26.85	-37.94	0.22	440,506.59	680,323.56	
4,426.00	1.00	297.70	-1,049.47	4,424.47	40.47	-30.56	-39.18	0.25	440,507.98	680,319.85	
4,617.00	1.00	289.70	-1,240.44	4,615.44	41.81	-33.60	-40.39	0.07	440,509.31	680,316.81	
4,807.00	1.10	295.00	-1,430.41	4,805.41	43.14	-36.82	-41.58	0.07	440,510.64	680,313.59	
4,997.00	1.30	301.90	-1,620.36	4,995.36	45.05	-40.30	-43.34	0.13	440,512.55	680,310.11	
5,188.00	1.40	309.20	-1,811.31	5,186.31	47.67	-43.95	-45.81	0.10	440,515.17	680,306.46	
5,377.00	1.50	290.70	-2,000.25	5,375.25	50.00	-48.05	-47.97	0.25	440,517.51	680,302.36	
5,566.00	1.30	298.40	-2,189.19	5,564.19	51.90	-52.25	-49.69	0.15	440,519.40	680,298.16	
5,756.00	1.20	288.70	-2,379.15	5,754.15	53.56	-56.03	-51.20	0.12	440,521.06	680,294.38	
5,947.00	0.90	272.20	-2,570.12	5,945.12	54.26	-59.42	-51.76	0.22	440,521.76	680,290.99	
6,137.00	1.00	258.50	-2,760.09	6,135.09	53.99	-62.54	-51.35	0.13	440,521.49	680,287.87	
6,328.00	1.20	283.40	-2,951.06	6,326.06	54.12	-66.12	-51.34	0.27	440,521.62	680,284.29	
6,519.00	0.90	284.90	-3,142.03	6,517.03	54.97	-69.51	-52.04	0.16	440,522.47	680,280.90	
6,709.00	0.20	289.60	-3,332.02	6,707.02	55.46	-71.27	-52.47	0.37	440,522.96	680,279.14	
6,899.00	0.20	300.80	-3,522.01	6,897.01	55.74	-71.86	-52.72	0.02	440,523.25	680,278.54	
7,089.00	0.30	105.10	-3,712.01	7,087.01	55.78	-71.67	-52.77	0.26	440,523.29	680,278.74	
7,280.00	0.50	172.40	-3,903.01	7,278.01	54.83	-71.08	-51.84	0.25	440,522.33	680,279.33	
7,470.00	0.80	167.50	-4,093.00	7,468.00	52.71	-70.68	-49.74	0.16	440,520.21	680,279.73	
7,557.00	0.50	130.30	-4,179.99	7,554.99	51.87	-70.26	-48.92	0.58	440,519.37	680,280.15	
7,589.00	1.20	231.10	-4,211.99	7,586.99	51.57	-70.41	-48.61	4.32	440,519.07	680,280.00	
7,621.00	6.40	243.00	-4,243.91	7,618.91	50.55	-72.26	-47.52	16.35	440,518.05	680,278.14	
7,652.00	10.70	230.60	-4,274.56	7,649.56	47.94	-76.03	-44.75	15.01	440,515.44	680,274.38	
7,684.00	13.80	229.50	-4,305.83	7,680.83	43.57	-81.23	-40.18	9.71	440,511.07	680,269.18	
7,716.00	16.70	224.60	-4,336.70	7,711.70	37.82	-87.36	-34.17	9.91	440,505.32	680,263.05	
7,747.00	20.00	220.60	-4,366.12	7,741.12	30.62	-93.94	-26.71	11.39	440,498.12	680,256.47	

Chesapeake Energy, Survey Report

Company:	Chesapeake Operating Inc.	Local Co-ordinate Reference:	Well Job # 1210204
Project:	Eddy County, New Mexico (NAD 1983)	TVD Reference:	WELL @ 3375.00usft (Latshaw 14)
Site:	PLU Pierce Canyon 21 24 30 USA 1H	MD Reference:	WELL @ 3375.00usft (Latshaw 14)
Well:	Job # 1210204.	North Reference:	Grd
Wellbore:	Rig: Latshaw 14	Survey Calculation Method:	Minimum Curvature
Design:	Rig: Latshaw 14	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)	
7,779.00	24.00	222.60	-4,395.78	7,770.78	21.67	-101.91	-17.44	12.72	440,489.17	680,248.50	
7,811.00	27.60	219.20	-4,424.59	7,799.59	11.13	-111.00	-6.53	12.16	440,478.63	680,239.41	
7,842.00	30.10	214.70	-4,451.74	7,826.74	-0.83	-119.97	5.79	10.68	440,466.67	680,230.44	
7,874.00	32.70	210.40	-4,479.06	7,854.06	-14.89	-128.91	20.20	10.72	440,452.62	680,221.49	
7,906.00	35.90	205.80	-4,505.49	7,880.49	-30.79	-137.37	36.45	12.86	440,436.71	680,213.03	
7,937.00	39.10	202.60	-4,530.09	7,905.09	-48.01	-145.09	53.97	12.08	440,419.50	680,205.32	
7,969.00	42.90	199.40	-4,554.24	7,929.24	-67.61	-152.59	73.86	13.56	440,399.90	680,197.82	
8,001.00	46.70	197.60	-4,576.94	7,951.94	-88.99	-159.73	95.52	12.52	440,378.52	680,190.68	
8,032.00	50.20	195.80	-4,597.50	7,972.50	-111.21	-166.39	117.99	12.10	440,356.30	680,184.02	
8,063.00	53.80	193.90	-4,616.58	7,991.58	-134.82	-172.64	141.84	12.58	440,332.69	680,177.77	
8,095.00	57.10	192.70	-4,634.73	8,009.73	-160.46	-178.69	167.71	10.76	440,307.04	680,171.72	
8,127.00	60.50	192.10	-4,651.30	8,026.30	-187.19	-184.57	194.66	10.75	440,280.31	680,165.84	
8,158.00	64.60	189.90	-4,665.59	8,040.59	-214.19	-189.80	221.86	14.65	440,253.31	680,160.60	
8,190.00	68.40	187.50	-4,678.35	8,053.35	-243.19	-194.23	251.01	13.72	440,224.31	680,156.17	
8,221.00	71.10	184.50	-4,689.08	8,064.08	-272.11	-197.27	280.03	12.58	440,195.39	680,153.14	
8,253.00	75.60	181.40	-4,698.25	8,073.25	-302.72	-198.83	310.68	16.85	440,164.79	680,151.57	
8,285.00	79.80	180.30	-4,705.07	8,080.07	-333.97	-199.29	341.93	13.55	440,133.53	680,151.11	
8,316.00	84.40	180.20	-4,709.33	8,084.33	-364.67	-199.43	372.60	14.84	440,102.84	680,150.98	
8,348.00	90.00	179.90	-4,710.89	8,085.89	-396.62	-199.46	404.53	17.53	440,070.89	680,150.95	
8,379.00	91.20	180.40	-4,710.56	8,085.56	-427.61	-199.54	435.50	4.19	440,039.89	680,150.87	
8,411.00	91.60	180.00	-4,709.78	8,084.78	-459.60	-199.65	467.47	1.77	440,007.90	680,150.76	
8,504.00	91.70	180.10	-4,707.10	8,082.10	-552.57	-199.73	560.35	0.15	439,914.94	680,150.68	
8,597.00	91.00	180.30	-4,704.91	8,079.91	-645.54	-200.05	653.26	0.78	439,821.96	680,150.35	
8,692.00	91.10	180.60	-4,703.17	8,078.17	-740.52	-200.80	748.19	0.33	439,726.98	680,149.61	
8,785.00	91.30	180.70	-4,701.22	8,076.22	-833.49	-201.86	841.13	0.24	439,634.01	680,148.55	
8,879.00	89.50	180.50	-4,700.57	8,075.57	-927.48	-202.84	935.08	1.93	439,540.02	680,147.57	
8,973.00	89.10	180.50	-4,701.72	8,076.72	-1,021.47	-203.66	1,029.02	0.43	439,446.03	680,146.75	

Chesapeake Energy, Survey Report

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Site:	PLU Pierce Canyon 21 24 30 USA 1H	MD Reference:	WELL @ 3375 00usft (Latshaw 14)
Well:	Job # 1210204	North Reference:	Grid
Wellbore:	Rig: Latshaw 14	Survey Calculation Method:	Minimum Curvature
Design:	Rig: Latshaw 14	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)	
9,067.00	89.40	181.00	-4,702.95	8,077.95	-1,115.45	-204.89	1,122.97	0.62	439,352.05	680,145.52	
9,161.00	88.50	180.80	-4,704.67	8,079.67	-1,209.43	-206.37	1,216.93	0.98	439,258.08	680,144.04	
9,256.00	88.30	179.80	-4,707.32	8,082.32	-1,304.39	-206.86	1,311.82	1.07	439,163.12	680,143.54	
9,350.00	90.20	179.70	-4,708.55	8,083.55	-1,398.37	-206.45	1,405.71	2.02	439,069.13	680,143.95	
9,445.00	91.00	178.80	-4,707.56	8,082.56	-1,493.36	-205.21	1,500.57	1.27	438,974.15	680,145.20	
9,541.00	90.50	178.30	-4,706.30	8,081.30	-1,589.32	-202.78	1,596.34	0.74	438,878.18	680,147.63	
9,636.00	91.70	179.10	-4,704.48	8,079.48	-1,684.27	-200.63	1,691.13	1.52	438,783.23	680,149.78	
9,731.00	92.10	179.10	-4,701.33	8,076.33	-1,779.21	-199.14	1,785.92	0.42	438,688.29	680,151.27	
9,826.00	90.80	179.60	-4,698.92	8,073.92	-1,874.17	-198.06	1,880.76	1.47	438,593.33	680,152.35	
9,921.00	90.50	179.30	-4,697.85	8,072.85	-1,969.16	-197.15	1,975.63	0.45	438,498.34	680,153.26	
10,017.00	90.20	179.40	-4,697.26	8,072.26	-2,065.15	-196.06	2,071.49	0.33	438,402.35	680,154.35	
10,112.00	90.90	179.80	-4,696.35	8,071.35	-2,160.14	-195.39	2,166.38	0.85	438,307.36	680,155.01	
10,207.00	90.90	181.20	-4,694.86	8,069.86	-2,255.13	-196.22	2,261.31	1.47	438,212.38	680,154.19	
10,302.00	92.00	183.80	-4,692.45	8,067.45	-2,350.00	-200.36	2,356.27	2.97	438,117.51	680,150.04	
10,398.00	88.90	179.80	-4,691.70	8,066.70	-2,445.91	-203.38	2,452.23	5.27	438,021.59	680,147.03	
10,493.00	89.90	180.40	-4,692.69	8,067.69	-2,540.91	-203.54	2,547.15	1.23	437,926.60	680,146.86	
10,588.00	89.90	181.40	-4,692.86	8,067.86	-2,635.89	-205.04	2,642.12	1.05	437,831.61	680,145.37	
10,682.00	90.60	180.90	-4,692.45	8,067.45	-2,729.87	-206.92	2,736.10	0.92	437,737.63	680,143.49	
10,776.00	89.50	180.70	-4,692.37	8,067.37	-2,823.86	-208.23	2,830.06	1.19	437,643.64	680,142.17	
10,872.00	90.20	178.40	-4,692.62	8,067.62	-2,919.85	-207.48	2,925.94	2.50	437,547.65	680,142.93	
10,967.00	90.20	179.70	-4,692.28	8,067.28	-3,014.84	-205.91	3,020.77	1.37	437,452.67	680,144.50	
11,062.00	91.90	178.40	-4,690.54	8,065.54	-3,109.80	-204.33	3,115.59	2.25	437,357.70	680,146.08	
11,157.00	91.80	178.80	-4,687.48	8,062.48	-3,204.72	-202.01	3,210.34	0.43	437,262.78	680,148.40	
11,252.00	91.20	178.60	-4,684.99	8,059.99	-3,299.67	-199.86	3,305.11	0.67	437,167.84	680,150.55	
11,347.00	89.50	178.00	-4,684.41	8,059.41	-3,394.62	-197.04	3,399.86	1.90	437,072.88	680,153.37	
11,441.00	90.10	179.50	-4,684.74	8,059.74	-3,488.59	-194.99	3,493.67	1.72	436,978.91	680,155.42	
11,537.00	91.00	179.70	-4,683.82	8,058.82	-3,584.59	-194.32	3,589.56	0.96	436,882.92	680,156.09	

Chesapeake Energy, Survey Report

Company:	Chesapeake Operating Inc.	Local Co-ordinate Reference:	Well Job # 1210204
Project:	Eddy County, New Mexico (NAD 1983)	TVD Reference:	WELL @ 3375.00usft (Latshaw 14)
Site:	PLU Pierce Canyon 21 24 30 USA 1H	MD Reference:	WELL @ 3375.00usft (Latshaw 14)
Well:	Job # 1210204	North Reference:	Grid
Wellbore:	Rig: Latshaw 14	Survey Calculation Method:	Minimum Curvature
Design:	Rig: Latshaw 14	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)
11,631.00	91.30	179.30	-4,681.93	8,056.93	-3,678.56	-193.50	3,683.42	0.53	436,788.94	680,156.91
11,727.00	91.90	179.80	-4,679.25	8,054.25	-3,774.52	-192.74	3,779.26	0.81	436,692.98	680,157.66
11,822.00	92.40	179.40	-4,675.69	8,050.69	-3,869.45	-192.08	3,874.09	0.67	436,598.05	680,158.33
11,917.00	91.10	179.60	-4,672.78	8,047.78	-3,964.40	-191.25	3,968.92	1.38	436,503.10	680,159.15
12,012.00	89.80	177.80	-4,672.04	8,047.04	-4,059.37	-189.10	4,063.72	2.34	436,408.13	680,161.31
12,108.00	91.00	178.30	-4,671.37	8,046.37	-4,155.31	-185.83	4,159.44	1.35	436,312.19	680,164.58
12,203.00	90.50	177.40	-4,670.12	8,045.12	-4,250.23	-182.27	4,254.13	1.08	436,217.27	680,168.14
12,298.00	89.90	177.20	-4,669.79	8,044.79	-4,345.13	-177.79	4,348.76	0.67	436,122.38	680,172.62
12,393.00	88.80	177.20	-4,670.87	8,045.87	-4,440.01	-173.15	4,443.37	1.16	436,027.50	680,177.26
12,488.00	88.60	176.60	-4,673.03	8,048.03	-4,534.84	-168.02	4,537.91	0.67	435,932.66	680,182.39
12,582.00	89.40	178.70	-4,674.67	8,049.67	-4,628.74	-164.16	4,631.57	2.39	435,838.76	680,186.25
12,678.00	89.30	182.10	-4,675.76	8,050.76	-4,724.72	-164.83	4,727.49	3.54	435,742.78	680,185.58
12,773.00	89.30	181.40	-4,676.92	8,051.92	-4,819.67	-167.73	4,822.48	0.74	435,647.84	680,182.67
12,868.00	88.70	180.90	-4,678.57	8,053.57	-4,914.63	-169.64	4,917.44	0.82	435,552.87	680,180.77
12,949.00	87.60	180.80	-4,681.19	8,056.19	-4,995.58	-170.84	4,998.37	1.36	435,471.92	680,179.57
Last Phoenix MWD Surveys @ 12949' MD										
12,995.00	87.60	180.80	-4,683.12	8,058.12	-5,041.54	-171.48	5,044.31	0.00	435,425.97	680,178.93
Projection to TD @ 12995' MD										

Survey Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1.00	1.00	0.00	0.00	Surface
496.00	495.99	2.90	0.01	First Phoenix MWD Survey @ 496' MD
12,949.00	8,056.19	-4,995.58	-170.84	Last Phoenix MWD Surveys @ 12949' MD
12,995.00	8,058.12	-5,041.54	-171.48	Projection to TD @ 12995' MD

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Well:	Job # 1210204	North Reference:	Grid
Wellbore:	Rig: Latshaw 14	Survey Calculation Method:	Minimum Curvature
Design:	Rig: Latshaw 14	Database:	Compass5000

Checked By: _____ Approved By: _____ Date: _____