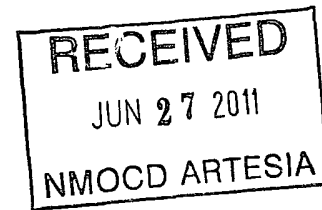




PHOENIX
TECHNOLOGY SERVICES



30-015-37938

Chesapeake Operating Inc.

Eddy County, New Mexico
PLU Ross Ranch 32 State 1H
Job # 1110169
Latshaw #6

Survey: Final Surveys

Chesapeake Energy Survey Report

08 June, 2011



Company: Chesapeake Operating Inc.
Project: Eddy County, New Mexico
Site: PLU Ross Ranch 32 State 1H
Well: Job # 1110169
Wellbore: Latshaw #6
Design: Latshaw #6

Local Co-ordinate Reference: Well Job # 1110169
TVD Reference: WELL @ 3190.00ft (RKB=18' (Latshaw #6))
MD Reference: WELL @ 3190.00ft (RKB=18' (Latshaw #6))
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: gcr3

Project	Eddy County, New Mexico		
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 Ross Ranch 32 State 1H		
Site Position:		Northing:	392,961.00 ft
From:	Map	Easting:	676,737.00 ft
Position Uncertainty:	0.00 ft	Slot Radius:	"
		Latitude:	32.079575
		Longitude:	-103.896168
		Grid Convergence:	0.23 °

Well	Job # 1110169		
Well Position	+N-S	0.00 ft	Northing: 392,961.00 ft
	+E-W	0.00 ft	Easting: 676,737.00 ft
Position Uncertainty	0.00 ft	Wellhead Elevation:	18.00 ft
		Latitude:	32.079575
		Longitude:	-103.896168
		Ground Level:	3,172.00 ft

Wellbore	Latshaw #6		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2010_14	04/26/11	7.74
			Dip Angle (°)
			60.00
			Field Strength (nT)
			48,508

Design	Latshaw #6		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N-S (ft)	+E-W (ft)
	(ft)	(ft)	(ft)
	0.00	0.00	0.00
			Direction (°)
			0.14



Chesapeake Energy Survey Report

12/20/2011

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Database: gcr3

Survey Program Date 06/08/11

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
72.94	7,662.00	Gyro (Latshaw #6)	MWD	MWD - Standard
7,719.00	8,520.00	Phoenix MWD Surveys (Latshaw #6)	MWD	MWD - Standard
8,531.00	13,560.00	Phoenix ST MWD Surveys (Latshaw #6)	MWD	MWD - Standard

MD (ft)	Inc (°)	Azi (azimuth) (°)	TVDSS (ft)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Easting (ft)	Northing (ft)
7,662.00	2.69	297.90	-4,469.40	7,659.40	-40.54	117.72	-40.25	0.00	676,854.72	392,920.46
Tie In From Gyros										
7,719.00	2.90	257.00	-4,526.34	7,716.34	-40.24	115.13	-39.96	3.44	676,852.13	392,920.76
First Phoenix MWD Surveys										
7,813.00	1.10	131.00	-4,620.30	7,810.30	-41.37	113.49	-41.09	3.89	676,850.49	392,919.63
7,907.00	1.00	226.10	-4,714.29	7,904.29	-42.53	113.58	-42.25	1.65	676,850.58	392,918.47
8,000.00	2.90	281.60	-4,807.24	7,997.24	-42.62	110.69	-42.35	2.66	676,847.69	392,918.38
8,094.00	3.60	290.60	-4,901.09	8,091.09	-41.10	105.60	-40.84	0.92	676,842.60	392,919.90
8,188.00	4.40	283.90	-4,994.86	8,184.86	-39.20	99.34	-38.95	0.98	676,836.34	392,921.80
8,282.00	4.60	277.40	-5,088.57	8,278.57	-37.84	92.10	-37.62	0.58	676,829.10	392,923.16
8,313.00	4.50	274.30	-5,119.47	8,309.47	-37.59	89.65	-37.37	0.86	676,826.65	392,923.41
8,344.00	6.80	274.80	-5,150.32	8,340.32	-37.35	86.61	-37.14	7.42	676,823.61	392,923.65
8,376.00	10.10	276.90	-5,181.97	8,371.97	-36.85	81.94	-36.65	10.36	676,818.94	392,924.15
8,407.00	14.10	280.90	-5,212.27	8,402.27	-35.81	75.53	-35.63	13.18	676,812.53	392,925.19
8,438.00	17.90	287.60	-5,242.07	8,432.07	-33.66	67.28	-33.49	13.61	676,804.28	392,927.34
8,469.00	18.90	297.80	-5,271.49	8,461.49	-29.87	58.29	-29.73	10.86	676,795.29	392,931.13
8,501.00	21.30	311.70	-5,301.56	8,491.56	-23.58	49.36	-23.46	16.65	676,786.36	392,937.42
8,520.00	22.72	317.30	-5,319.17	8,509.17	-18.59	44.30	-18.48	13.33	676,781.30	392,942.41
8,531.00	22.90	314.80	-5,329.31	8,519.31	-15.52	41.34	-15.42	8.96	676,778.34	392,945.48
8,562.00	28.70	309.60	-5,357.22	8,547.22	-6.52	31.31	-6.44	20.07	676,768.31	392,954.48
8,594.00	35.80	306.10	-5,384.26	8,574.26	3.91	17.81	3.95	22.93	676,754.81	392,964.91

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Database: gcr3

Survey

MD (ft)	Inc (°)	Azi (azimuth) (°)	TVDSS (ft)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Easting (ft)	Northing (ft)
8,625.00	42.00	306.40	-5,408.38	8,598.38	15.42	2.12	15.42	20.01	676,739.12	392,976.42
8,656.00	46.20	308.60	-5,430.64	8,620.64	28.56	-14.98	28.52	14.42	676,722.02	392,989.56
8,687.00	49.80	312.60	-5,451.38	8,641.38	43.56	-32.45	43.48	15.06	676,704.55	393,004.56
8,719.00	52.00	315.50	-5,471.56	8,661.56	60.83	-50.28	60.70	9.83	676,686.72	393,021.83
8,750.00	52.70	317.30	-5,490.50	8,680.50	78.60	-67.21	78.44	5.12	676,669.79	393,039.60
8,781.00	53.00	319.60	-5,509.22	8,699.22	97.09	-83.59	96.89	5.99	676,653.41	393,058.09
8,812.00	54.40	323.20	-5,527.58	8,717.58	116.61	-99.17	116.37	10.39	676,637.83	393,077.61
8,844.00	56.00	325.60	-5,545.84	8,735.84	137.98	-114.46	137.70	7.93	676,622.54	393,098.98
8,875.00	58.50	327.60	-5,562.61	8,752.61	159.75	-128.80	159.43	9.72	676,608.20	393,120.75
8,906.00	62.20	330.00	-5,577.95	8,767.95	182.79	-142.75	182.44	13.70	676,594.25	393,143.79
8,938.00	65.80	332.50	-5,591.97	8,781.97	208.00	-156.57	207.62	13.26	676,580.43	393,169.00
8,969.00	66.90	337.40	-5,604.42	8,794.42	233.72	-168.58	233.31	14.91	676,568.42	393,194.72
9,000.00	70.20	342.00	-5,615.76	8,805.76	260.77	-178.58	260.34	17.43	676,558.42	393,221.77
9,032.00	73.00	343.60	-5,625.86	8,815.86	289.78	-187.55	289.32	9.95	676,549.45	393,250.78
9,063.00	75.40	346.70	-5,634.30	8,824.30	318.60	-195.19	318.13	12.35	676,541.81	393,279.60
9,094.00	77.30	347.30	-5,641.61	8,831.61	347.95	-201.96	347.46	6.41	676,535.04	393,308.95
9,125.00	81.10	347.70	-5,647.42	8,837.42	377.68	-208.55	377.17	12.32	676,528.45	393,338.68
9,156.00	86.50	348.10	-5,650.77	8,840.77	407.80	-215.01	407.27	17.47	676,521.99	393,368.80
9,187.00	91.40	349.20	-5,651.34	8,841.34	438.18	-221.11	437.64	16.20	676,515.89	393,399.18
9,218.00	92.70	349.90	-5,650.23	8,840.23	468.65	-226.73	468.09	4.76	676,510.27	393,429.64
9,249.00	92.90	351.50	-5,648.71	8,838.71	499.20	-231.73	498.63	5.20	676,505.27	393,460.20
9,281.00	92.40	354.90	-5,647.23	8,837.23	530.94	-235.51	530.36	10.73	676,501.49	393,491.94
9,312.00	91.30	357.10	-5,646.23	8,836.23	561.84	-237.68	561.26	7.93	676,499.32	393,522.84
9,406.00	88.70	359.60	-5,646.23	8,836.23	655.79	-240.38	655.20	3.84	676,496.62	393,616.79
9,500.00	87.90	2.70	-5,649.02	8,839.02	749.72	-238.50	749.13	3.40	676,498.50	393,710.71
9,594.00	89.40	3.70	-5,651.24	8,841.24	843.54	-233.25	842.97	1.92	676,503.75	393,804.54
9,688.00	91.10	6.20	-5,650.83	8,840.83	937.18	-225.14	936.62	3.22	676,511.86	393,898.17

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Database: gcr3

Survey

MD (ft)	Inc (°)	Azi (azimuth) (°)	TVDSS (ft)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Easting (ft)	Northing (ft)
9,782.00	90.80	6.40	-5,649.27	8,839.27	1,030.60	-214.83	1,030.07	0.38	676,522.17	393,991.59
9,876.00	90.00	5.70	-5,648.61	8,838.61	1,124.07	-204.92	1,123.56	1.13	676,532.08	394,085.07
9,970.00	88.40	4.30	-5,649.92	8,839.92	1,217.70	-196.73	1,217.21	2.26	676,540.27	394,178.69
10,064.00	89.40	4.60	-5,651.73	8,841.73	1,311.39	-189.44	1,310.93	1.11	676,547.56	394,272.39
10,157.00	90.70	5.10	-5,651.65	8,841.65	1,404.06	-181.57	1,403.61	1.50	676,555.43	394,365.06
10,252.00	90.60	5.20	-5,650.57	8,840.57	1,498.67	-173.05	1,498.24	0.15	676,563.95	394,459.67
10,345.00	89.80	4.80	-5,650.25	8,840.25	1,591.31	-164.94	1,590.91	0.96	676,572.06	394,552.31
10,439.00	90.70	6.70	-5,649.84	8,839.84	1,684.84	-155.53	1,684.45	2.24	676,581.48	394,645.83
10,533.00	89.60	6.30	-5,649.59	8,839.59	1,778.23	-144.88	1,777.87	1.25	676,592.12	394,739.23
10,626.00	88.90	6.10	-5,650.81	8,840.81	1,870.68	-134.84	1,870.34	0.78	676,602.16	394,831.67
10,720.00	90.30	5.80	-5,651.46	8,841.46	1,964.17	-125.10	1,963.85	1.52	676,611.90	394,925.16
10,814.00	90.80	5.70	-5,650.56	8,840.56	2,057.69	-115.68	2,057.40	0.54	676,621.32	395,018.68
10,907.00	92.20	5.60	-5,648.13	8,838.13	2,150.20	-106.53	2,149.94	1.51	676,630.47	395,111.20
11,001.00	93.20	5.80	-5,643.70	8,833.70	2,243.63	-97.20	2,243.39	1.08	676,639.80	395,204.63
11,095.00	92.40	4.90	-5,639.11	8,829.11	2,337.11	-88.45	2,336.89	1.28	676,648.55	395,298.10
11,189.00	90.60	3.70	-5,636.65	8,826.65	2,430.81	-81.40	2,430.60	2.30	676,655.60	395,391.80
11,283.00	88.60	3.20	-5,637.30	8,827.30	2,524.63	-75.75	2,524.44	2.19	676,661.25	395,485.62
11,377.00	88.60	2.90	-5,639.60	8,829.60	2,618.47	-70.75	2,618.29	0.32	676,666.25	395,579.46
11,471.00	86.20	2.90	-5,643.86	8,833.86	2,712.24	-66.00	2,712.07	2.55	676,671.00	395,673.24
11,565.00	85.60	2.30	-5,650.58	8,840.58	2,805.91	-61.74	2,805.75	0.90	676,675.26	395,766.90
11,658.00	86.10	2.40	-5,657.31	8,847.31	2,898.58	-57.94	2,898.43	0.55	676,679.06	395,859.58
11,754.00	86.10	2.20	-5,663.84	8,853.84	2,994.28	-54.10	2,994.14	0.21	676,682.90	395,955.28
11,848.00	86.10	1.80	-5,670.24	8,860.24	3,088.01	-50.82	3,087.88	0.42	676,686.18	396,049.00
11,942.00	88.40	2.60	-5,674.75	8,864.75	3,181.83	-47.22	3,181.70	2.59	676,689.78	396,142.82
12,037.00	88.50	2.90	-5,677.32	8,867.32	3,276.68	-42.66	3,276.57	0.33	676,694.34	396,237.67
12,132.00	88.50	2.80	-5,679.80	8,869.80	3,371.53	-37.94	3,371.43	0.11	676,699.06	396,332.52
12,225.00	88.30	2.50	-5,682.40	8,872.40	3,464.39	-33.64	3,464.30	0.39	676,703.36	396,425.39

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12,320.00	88.00	2.80	-5,685.47	8,875.47	3,559.24	-29.25	3,559.16	0.45	676,707.75	396,520.24
12,415.00	89.80	2.60	-5,687.29	8,877.29	3,654.12	-24.78	3,654.05	1.91	676,712.22	396,615.11
12,511.00	89.70	2.80	-5,687.71	8,877.71	3,750.01	-20.26	3,749.95	0.23	676,716.74	396,711.00
12,606.00	89.50	2.60	-5,688.37	8,878.37	3,844.90	-15.78	3,844.85	0.30	676,721.22	396,805.89
12,702.00	89.10	2.20	-5,689.54	8,879.54	3,940.81	-11.76	3,940.77	0.59	676,725.24	396,901.80
12,796.00	88.80	2.60	-5,691.27	8,881.27	4,034.71	-7.83	4,034.68	0.53	676,729.17	396,995.70
12,891.00	88.40	1.90	-5,693.59	8,883.59	4,129.61	-4.10	4,129.59	0.85	676,732.90	397,090.60
12,986.00	87.90	1.40	-5,696.65	8,886.65	4,224.52	-1.36	4,224.50	0.74	676,735.64	397,185.51
13,081.00	87.50	1.50	-5,700.47	8,890.47	4,319.41	1.04	4,319.40	0.43	676,738.04	397,280.40
13,176.00	86.90	1.20	-5,705.11	8,895.11	4,414.27	3.27	4,414.27	0.71	676,740.27	397,375.26
13,272.00	86.50	1.00	-5,710.63	8,900.63	4,510.09	5.11	4,510.09	0.47	676,742.11	397,471.09
13,367.00	86.40	0.60	-5,716.52	8,906.52	4,604.90	6.44	4,604.90	0.43	676,743.44	397,565.89
13,463.00	86.50	0.00	-5,722.46	8,912.46	4,700.72	6.94	4,700.72	0.63	676,743.94	397,661.71
13,514.00	86.10	0.05	-5,725.75	8,915.75	4,751.61	6.96	4,751.61	0.79	676,743.96	397,712.60
Last Phoneix MWD Surveys										
13,560.00	86.10	0.05	-5,728.88	8,918.88	4,797.50	7.00	4,797.51	0.00	676,744.00	397,758.49
Projection to TD										

Survey Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
7,662.00	7,659.40	-40.54	117.72	Tie In From Gyros
7,719.00	7,716.34	-40.24	115.13	First Phoenix MWD Surveys
13,514.00	8,915.75	4,751.61	6.96	Last Phoneix MWD Surveys
13,560.00	8,918.88	4,797.50	7.00	Projection to TD



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Checked By: _____ Approved By: _____ Date: _____

Phoenix Technology Services SURVEY DATA CERTIFICATION



PHOENIX
TECHNOLOGY SERVICES

PHOENIX JOB NUMBER

1110169

OPERATOR

Chesapeake Operating

WELL NAME

PLU Ross Ranch 32 State 1H

COUNTY & STATE

Eddy County, NM

API WELL NUMBER

30-015-37938

PROPOSED DIRECTION

0.14

TIE-IN DATA						
MEASURED	VERTICAL			N-S	E-W	DATA
DEPTH	DEPTH	INCLIN	AZIMUTH	COORD	COORD	SOURCE
7.662 ft	7.659.40 ft	2.7 ft	297.9 ft	-40.54 ft	117.72 ft	Halliburton

FIRST	FIRST		
SURVEY	SURVEY		
DATE	DEPTH	INCLIN	AZIMUTH
10-May-11	7.719 ft	2.9	257.0

SURVEY INSTRUMENT

TYPE

Phoenix MWD

LAST	LAST		
SURVEY	SURVEY		
DATE	DEPTH	INCLIN	AZIMUTH
28-May-11	13.514 ft	86.1	0.5

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
28-May-11	13.560 ft	86.1	0.5

David Hayden

PRINT YOUR NAME ABOVE

David Hayden

SIGN YOUR NAME ABOVE

MAGNETIC DECLINATION OR TOTAL GRID

TOTAL CORRECTION USED	
7.52	
DECLINATION OR GRID	DECLINATION

5/28/2011

TODAY'S DATE

MWD SUPERVISOR 1

David Hayden

DIRECTIONAL DRILLER 1

David Reeves

MWD SUPERVISOR 2

Jonathan Gammons

DIRECTIONAL DRILLER 2

Dustin Barnett

1805 Brittmore Road

Houston, Texas 77043

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



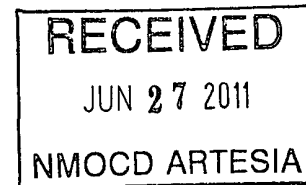
PHOENIX
TECHNOLOGY SERVICES

17 June 2011

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

Dear District 2 - Artesia

Re: Chesapeake Operating Inc.
PLU Ross Ranch 32 State 1H
Eddy County, NM
API #30-015-37938
Job No. 1110169



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	
David Hayden	1H	7719	13514	05/10/11	05/28/11	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
Receptionist/Administrative Assistant

Certified mail receipt number: 7010 11670 0000 9227 7010