Results of Directional Survey

API number:	30-025-40551			
OGRID:		Operator:	CHESAPEAKE OPERATING, INC.	
		Property:	MCCLOY RANCH 2 24 32 STATE COM	# 1H

surface	ULSTR:	N	02	T	24S	R	32E
				100	FSL	1980	FWL
BH Loc	ULSTR:	C	02	T	24S	R	32E
14459	MD	9636.4	TVD	200	FNL	2020	FWL
				5080	FSL		
Top Perf/OH	ULSTR:	N	02	T	24S	R	32E
10072	MD	9690.6	TVD	495	FSL	2000	FWL
Bot Perf/OH	ULSTR:	C	02	T	24S	R	32E
14350	MD	9631.2	TVD	309	FNL	2015	FWL
				4971	FSL		

	MD	N/S	E/W	VD
	10034	605.34	23.49	9686.02
TOP PERFS/OH	**10072**	394.61	20.25	9690.61
	10080	350.24	19.57	9691.58
	14277	4798.22	31.35	9627.78
BOT PERFS/OH	**14350**	4871.07	34.72	9631.22
	14368	4889.03	35.55	9632.07

NEXT TO LAST	14368	4889.03	35.55	9632.07
LAST READING	14422	4942.91	37.91	9634.66
TD	**14459**	4979.83	39.53	9636.43

Surface Location	100	FS	1980	FW
Projected BHL	5080	FS	2020	FW
Location of				
Top Perfs/OH	495	FS	2000	FW
Bottom Perfs/OH	4971	FS	2015	FW

SUMMARY of Subsurface Locations

Surface Location	N-02-24S-32E	100	FS	1980	FW	Vert. Depth
Top Perfs/OH	N-02-24S-32E	495	FS	2000	FW	9690.61
Bottom Perfs/OH	C-02-24S-32E	4971	FS	2015	FW	9631.22
Projected TD	C-02-24S-32E	5080	FS	2020	FW	9636.43

PHOENIX
TECHNOLOGY SERVICES

Chesapeake Operating Inc.

Lea County, NM (NAD27)
McCloy Ranch 2-24-32 State Com 1H
Job #1210544
Rig: Trinidad 110

SUR: N-02-24s-32e, 100/S & 1980/W
BHL: C-02-24s-32e, 5080/S & 2020/W
API # 30-025-40551

Survey: Phoenix MWD Surveys

Chesapeake Energy, Survey Report

09 July, 2012

Chesapeake

Company:	Chesapeake Operating Inc.	**Local Co-ordinate Reference:**	Well Job #1210544
Project:	Lea County, NM (NAD27)	**TVD Reference:**	WELL @ 3633.00usft (Trinidad 110)
Site:	McCloy Ranch 2-24-32 State Com 1H	**MD Reference:**	WELL @ 3633.00usft (Trinidad 110)
Well:	Job #1210544	**North Reference:**	Grid
Wellbore:	Rig: Trinidad 110	**Survey Calculation Method:**	Minimum Curvature
Design:	Rig: Trinidad 110	**Database:**	Compass5000

Project Lea County, NM (NAD27)

Map System:	US State Plane 1927 (Exact solution)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site McCloy Ranch 2-24-32 State Com 1H

Site Position:		**Northing:**	451,552.39 usft	**Latitude:**	32° 14' 22.4556 N
From:	Map	**Easting:**	712,185.20 usft	**Longitude:**	103° 38' 49.4520 W
Position Uncertainty:	0.00 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.37 °

Well Job #1210544

Well Position	**+N/-S**	0.00 usft	**Northing:**	451,552.39 usft	**Latitude:**	32° 14' 22.4556 N
	+E/-W	0.00 usft	**Easting:**	712,185.20 usft	**Longitude:**	103° 38' 49.4520 W
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	usft	**Ground Level:**	3,616.00 usft

Wellbore Rig: Trinidad 110

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010_14	06/14/12	7.50	60.16	48,516

Design Rig: Trinidad 110

Audit Notes:

Version:	1.0	**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	359.61

Survey Program **Date** 07/09/12

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
125.00	14,474.00	Phoenix MWD Surveys (Rig: Trinidad 110)	MWD	MWD - Standard

PHOENIX TECHNOLOGY SERVICES

Chesapeake Energy, Survey Report

Company:	Chesapeake Operating Inc.	**Local Co-ordinate Reference:**	Well Job #1210544
Project:	Lea County, NM (NAD27)	**TVD Reference:**	WELL @ 3633.00usft (Trinidad 110)
Site:	McCloy Ranch 2-24-32 State Com 1H	**MD Reference:**	WELL @ 3633.00usft (Trinidad 110)
Well:	Job #1210544	**North Reference:**	Grid
Wellbore:	Rig: Trinidad 110	**Survey Calculation Method:**	Minimum Curvature
Design:	Rig: Trinidad 110	**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)
0.00	0.00	0.00	3,633.00	0.00	0.00	0.00	0.00	0.00	451,552.39	712,185.20
125.00	0.20	314.60	3,508.00	125.00	0.15	-0.16	0.15	0.16	451,552.54	712,185.05
First Phoenix MWD Surveys @ 125' MD										
310.00	0.20	286.40	3,323.00	310.00	0.47	-0.69	0.48	0.05	451,552.86	712,184.51
498.00	0.20	239.80	3,135.00	498.00	0.40	-1.29	0.41	0.08	451,552.79	712,183.91
689.00	0.30	286.70	2,944.00	689.00	0.37	-2.06	0.39	0.11	451,552.76	712,183.14
878.00	0.60	304.50	2,755.01	877.99	1.08	-3.35	1.10	0.17	451,553.47	712,181.85
1,069.00	0.70	326.70	2,564.02	1,068.98	2.62	-4.81	2.65	0.14	451,555.01	712,180.39
1,260.00	0.70	316.90	2,373.04	1,259.96	4.45	-6.25	4.49	0.06	451,556.83	712,178.95
1,320.00	0.60	288.10	2,313.04	1,319.96	4.81	-6.80	4.86	0.56	451,557.20	712,178.40
1,449.00	1.10	240.00	2,184.05	1,448.95	4.40	-8.52	4.46	0.64	451,556.79	712,176.69
1,639.00	1.10	230.40	1,994.09	1,638.91	2.33	-11.50	2.41	0.10	451,554.72	712,173.70
1,830.00	1.20	234.20	1,803.13	1,829.87	-0.01	-14.54	0.09	0.07	451,552.38	712,170.67
2,019.00	1.10	231.90	1,614.16	2,018.84	-2.29	-17.57	-2.17	0.06	451,550.10	712,167.63
2,210.00	1.10	217.70	1,423.20	2,209.80	-4.87	-20.13	-4.73	0.14	451,547.52	712,165.07
2,400.00	0.90	224.00	1,233.23	2,399.77	-7.39	-22.28	-7.23	0.12	451,545.00	712,162.92
2,591.00	1.00	204.60	1,042.25	2,590.75	-9.98	-24.02	-9.82	0.18	451,542.41	712,161.18
2,782.00	0.90	172.90	851.28	2,781.72	-12.98	-24.53	-12.82	0.28	451,539.40	712,160.67
2,973.00	0.90	159.80	660.30	2,972.70	-15.88	-23.82	-15.72	0.11	451,536.51	712,161.38
3,164.00	0.60	118.80	469.32	3,163.68	-17.77	-22.43	-17.62	0.31	451,534.62	712,162.77
3,354.00	0.40	138.40	279.32	3,353.68	-18.75	-21.12	-18.60	0.14	451,533.64	712,164.08
3,545.00	0.30	111.50	88.33	3,544.67	-19.43	-20.21	-19.29	0.10	451,532.96	712,164.99
3,736.00	0.50	118.20	-102.67	3,735.67	-20.00	-19.01	-19.87	0.11	451,532.38	712,166.19
3,994.00	0.20	160.90	-360.66	3,993.66	-20.96	-17.87	-20.84	0.15	451,531.43	712,167.33
4,117.00	0.40	126.70	-483.66	4,116.66	-21.42	-17.46	-21.30	0.21	451,530.97	712,167.74
4,308.00	1.30	118.40	-674.64	4,307.64	-22.85	-15.02	-22.75	0.47	451,529.54	712,170.18
4,499.00	1.80	128.50	-865.57	4,498.57	-25.75	-10.76	-25.67	0.30	451,526.64	712,174.44

Company:	Chesapeake Operating Inc.	**Local Co-ordinate Reference:**	Well Job #1210544
Project:	Lea County, NM (NAD27)	**TVD Reference:**	WELL @ 3633.00usft (Trinidad 110)
Site:	McCloy Ranch 2-24-32 State Com 1H	**MD Reference:**	WELL @ 3633.00usft (Trinidad 110)
Well:	Job #1210544	**North Reference:**	Grid
Wellbore:	Rig: Trinidad 110	**Survey Calculation Method:**	Minimum Curvature
Design:	Rig: Trinidad 110	**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)
4,689.00	2.20	131.60	-1,055.45	4,688.45	-30.03	-5.70	-29.99	0.22	451,522.36	712,179.50
4,872.00	1.70	124.60	-1,238.35	4,871.35	-33.90	-0.84	-33.89	0.30	451,518.49	712,184.36
4,982.00	1.80	123.10	-1,348.29	4,981.29	-35.77	1.95	-35.78	0.10	451,516.62	712,187.15
5,172.00	1.80	125.20	-1,538.20	5,171.20	-39.12	6.89	-39.17	0.03	451,513.27	712,192.09
5,363.00	1.60	122.30	-1,729.12	5,362.12	-42.27	11.59	-42.35	0.11	451,510.11	712,196.80
5,554.00	1.70	120.50	-1,920.04	5,553.04	-45.14	16.29	-45.25	0.06	451,507.25	712,201.49
5,744.00	1.80	126.10	-2,109.95	5,742.95	-48.33	21.13	-48.47	0.10	451,504.06	712,206.33
5,935.00	1.40	109.00	-2,300.87	5,933.87	-50.85	25.76	-51.03	0.32	451,501.54	712,210.96
6,127.00	1.40	89.90	-2,492.82	6,125.82	-51.61	30.32	-51.82	0.24	451,500.78	712,215.52
6,318.00	1.50	74.60	-2,683.76	6,316.76	-50.94	35.07	-51.18	0.21	451,501.44	712,220.27
6,509.00	1.30	75.70	-2,874.70	6,507.70	-49.75	39.58	-50.01	0.11	451,502.64	712,224.78
6,700.00	1.10	99.30	-3,065.66	6,698.66	-49.51	43.48	-49.80	0.28	451,502.88	712,228.68
6,892.00	1.10	105.60	-3,257.62	6,890.62	-50.30	47.08	-50.62	0.06	451,502.09	712,232.28
7,083.00	1.00	105.20	-3,448.59	7,081.59	-51.23	50.45	-51.57	0.05	451,501.16	712,235.65
7,274.00	0.80	108.10	-3,639.57	7,272.57	-52.08	53.33	-52.44	0.11	451,500.31	712,238.53
7,464.00	1.00	92.50	-3,829.55	7,462.55	-52.57	56.24	-52.95	0.17	451,499.82	712,241.45
7,655.00	0.90	84.20	-4,020.52	7,653.52	-52.49	59.40	-52.89	0.09	451,499.90	712,244.60
7,845.00	1.10	79.40	-4,210.49	7,843.49	-52.00	62.68	-52.43	0.11	451,500.39	712,247.88
8,037.00	0.80	84.30	-4,402.46	8,035.46	-51.53	65.82	-51.98	0.16	451,500.86	712,251.03
8,228.00	0.60	73.70	-4,593.45	8,226.45	-51.12	68.11	-51.58	0.12	451,501.27	712,253.31
8,419.00	0.70	76.70	-4,784.44	8,417.44	-50.57	70.21	-51.04	0.06	451,501.82	712,255.41
8,605.00	0.40	75.90	-4,970.43	8,603.43	-50.15	71.94	-50.64	0.16	451,502.24	712,257.14
8,786.00	0.50	37.50	-5,151.42	8,784.42	-49.37	73.04	-49.86	0.17	451,503.02	712,258.24
8,966.00	0.20	242.10	-5,331.42	8,964.42	-48.89	73.24	-49.39	0.38	451,503.50	712,258.44
9,049.00	0.30	49.80	-5,414.42	9,047.42	-48.82	73.27	-49.32	0.60	451,503.57	712,258.48
9,131.00	4.90	325.80	-5,496.32	9,129.32	-45.78	71.47	-46.27	5.95	451,506.61	712,256.67
9,176.00	10.60	338.20	-5,540.89	9,173.89	-40.34	68.85	-40.81	13.13	451,512.04	712,254.05

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Site:	McCloy Ranch 2-24-32 State Com 1H	**MD Reference:**	WELL @ 3633.00usft (Trinidad 110)
Well:	Job #1210544	**North Reference:**	Grid
Wellbore:	Rig: Trinidad 110	**Survey Calculation Method:**	Minimum Curvature
Design:	Rig: Trinidad 110	**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)
9,221.00	14.10	351.30	-5,584.85	9,217.85	-31.08	66.48	-31.53	9.92	451,521.31	712,251.68
9,266.00	18.20	3.70	-5,628.08	9,261.08	-18.64	66.11	-19.09	11.86	451,533.75	712,251.31
9,312.00	21.90	5.50	-5,671.29	9,304.29	-2.92	67.39	-3.38	8.15	451,549.46	712,252.59
9,357.00	26.80	1.60	-5,712.27	9,345.27	15.58	68.48	15.12	11.45	451,567.97	712,253.68
9,402.00	30.80	356.10	-5,751.71	9,384.71	37.23	67.98	36.77	10.65	451,589.62	712,253.18
9,447.00	34.80	350.80	-5,789.53	9,422.53	61.42	65.14	60.97	10.93	451,613.80	712,250.34
9,492.00	37.30	351.70	-5,825.91	9,458.91	87.59	61.12	87.17	5.68	451,639.98	712,246.32
9,538.00	41.80	352.70	-5,861.37	9,494.37	116.60	57.16	116.21	9.88	451,668.99	712,242.36
9,583.00	46.20	351.50	-5,893.74	9,526.74	147.55	52.85	147.19	9.95	451,699.94	712,238.05
9,628.00	51.60	351.80	-5,923.31	9,556.31	181.09	47.93	180.76	12.01	451,733.48	712,233.13
9,673.00	56.90	353.20	-5,949.59	9,582.59	217.29	43.18	216.99	12.04	451,769.68	712,228.38
9,718.00	62.30	353.60	-5,972.35	9,605.35	255.83	38.72	255.56	12.02	451,808.22	712,223.93
9,763.00	67.40	355.40	-5,991.47	9,624.47	296.36	34.83	296.12	11.90	451,848.75	712,220.04
9,809.00	74.40	357.50	-6,006.52	9,639.52	339.72	32.16	339.49	15.82	451,892.11	712,217.36
9,854.00	78.20	358.40	-6,017.17	9,650.17	383.40	30.60	383.18	8.67	451,935.79	712,215.80
9,899.00	78.80	359.20	-6,026.14	9,659.14	427.49	29.68	427.28	2.19	451,979.88	712,214.88
9,944.00	78.30	359.70	-6,035.08	9,668.08	471.59	29.25	471.38	1.56	452,023.98	712,214.46
9,989.00	77.60	359.90	-6,044.47	9,677.47	515.60	29.10	515.39	1.62	452,067.99	712,214.30
10,034.00	80.50	357.50	-6,053.02	9,686.02	559.76	28.09	559.55	8.30	452,112.15	712,213.30
10,080.00	85.60	356.80	-6,058.58	9,691.58	605.35	25.82	605.16	11.19	452,157.74	712,211.02
10,125.00	90.10	357.40	-6,060.27	9,693.27	650.25	23.55	650.07	10.09	452,202.64	712,208.75
10,215.00	90.80	357.60	-6,059.56	9,692.56	740.16	19.62	740.01	0.81	452,292.55	712,204.82
10,305.00	90.90	357.90	-6,058.23	9,691.23	830.08	16.09	829.95	0.35	452,382.47	712,201.29
10,396.00	89.80	357.80	-6,057.67	9,690.67	921.01	12.68	920.90	1.21	452,473.40	712,197.88
10,486.00	89.20	357.10	-6,058.46	9,691.46	1,010.92	8.67	1,010.84	1.02	452,563.31	712,193.87
10,576.00	91.30	358.00	-6,058.07	9,691.07	1,100.83	4.83	1,100.77	2.54	452,653.22	712,190.03
10,666.00	90.50	357.50	-6,056.65	9,689.65	1,190.75	1.29	1,190.71	1.05	452,743.14	712,186.49

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Site:	McCloy Ranch 2-24-32 State Com 1H	**MD Reference:**	WELL @ 3633.00usft (Trinidad 110)
Well:	Job #1210544	**North Reference:**	Grid
Wellbore:	Rig: Trinidad 110	**Survey Calculation Method:**	Minimum Curvature
Design:	Rig: Trinidad 110	**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)
10,756.00	90.20	356.80	-6,056.10	9,689.10	1,280.63	-3.18	1,280.63	0.85	452,833.02	712,182.02
10,847.00	89.20	356.10	-6,056.58	9,689.58	1,371.46	-8.82	1,371.48	1.34	452,923.84	712,176.38
10,937.00	90.00	357.00	-6,057.21	9,690.21	1,461.29	-14.23	1,461.35	1.34	453,013.68	712,170.97
11,027.00	89.40	357.10	-6,057.68	9,690.68	1,551.17	-18.86	1,551.26	0.68	453,103.56	712,166.34
11,118.00	92.20	357.70	-6,056.41	9,689.41	1,642.06	-22.99	1,642.17	3.15	453,194.44	712,162.21
11,208.00	90.70	356.70	-6,054.13	9,687.13	1,731.92	-27.39	1,732.06	2.00	453,284.30	712,157.81
11,298.00	91.30	356.70	-6,052.56	9,685.56	1,821.75	-32.57	1,821.93	0.67	453,374.14	712,152.63
11,388.00	90.50	355.40	-6,051.15	9,684.15	1,911.53	-38.77	1,911.75	1.70	453,463.91	712,146.44
11,478.00	92.40	357.50	-6,048.87	9,681.87	2,001.31	-44.34	2,001.57	3.15	453,553.70	712,140.86
11,568.00	92.10	357.60	-6,045.34	9,678.34	2,091.16	-48.18	2,091.44	0.35	453,643.55	712,137.02
11,659.00	92.90	1.20	-6,041.37	9,674.37	2,182.06	-49.13	2,182.34	4.05	453,734.44	712,136.07
11,749.00	92.70	1.00	-6,036.97	9,669.97	2,271.93	-47.41	2,272.20	0.31	453,824.32	712,137.79
11,839.00	92.40	1.20	-6,032.96	9,665.96	2,361.83	-45.68	2,362.08	0.40	453,914.21	712,139.52
11,930.00	91.70	0.40	-6,029.71	9,662.71	2,452.76	-44.41	2,453.00	1.17	454,005.15	712,140.79
12,020.00	91.70	359.90	-6,027.04	9,660.04	2,542.72	-44.18	2,542.96	0.56	454,095.11	712,141.02
12,111.00	91.30	359.00	-6,024.66	9,657.66	2,633.68	-45.05	2,633.93	1.08	454,186.07	712,140.15
12,201.00	90.50	358.30	-6,023.24	9,656.24	2,723.64	-47.17	2,723.90	1.18	454,276.03	712,138.03
12,291.00	90.70	1.90	-6,022.30	9,655.30	2,813.62	-47.01	2,813.88	4.01	454,366.01	712,138.19
12,381.00	90.10	1.30	-6,021.67	9,654.67	2,903.59	-44.50	2,903.82	0.94	454,455.97	712,140.70
12,472.00	90.00	1.20	-6,021.59	9,654.59	2,994.56	-42.52	2,994.78	0.16	454,546.95	712,142.69
12,562.00	91.10	2.60	-6,020.73	9,653.73	3,084.51	-39.53	3,084.70	1.98	454,636.89	712,145.67
12,652.00	90.10	1.50	-6,019.79	9,652.79	3,174.44	-36.31	3,174.61	1.65	454,726.83	712,148.89
12,743.00	91.40	2.90	-6,018.60	9,651.60	3,265.36	-32.82	3,265.51	2.10	454,817.75	712,152.38
12,833.00	91.30	2.60	-6,016.47	9,649.47	3,355.23	-28.50	3,355.35	0.35	454,907.62	712,156.70
12,923.00	90.50	1.90	-6,015.06	9,648.06	3,445.15	-24.97	3,445.24	1.18	454,997.54	712,160.23
13,014.00	92.00	1.90	-6,013.08	9,646.08	3,536.08	-21.95	3,536.15	1.65	455,088.47	712,163.25
13,104.00	91.90	1.60	-6,010.01	9,643.01	3,625.98	-19.21	3,626.03	0.35	455,178.37	712,165.99

Company:	Chesapeake Operating Inc.	**Local Co-ordinate Reference:**	Well Job #1210544
Project:	Lea County, NM (NAD27)	**TVD Reference:**	WELL @ 3633.00usft (Trinidad 110)
Site:	McCloy Ranch 2-24-32 State Com 1H	**MD Reference:**	WELL @ 3633.00usft (Trinidad 110)
Well:	Job #1210544	**North Reference:**	Grid
Wellbore:	Rig: Trinidad 110	**Survey Calculation Method:**	Minimum Curvature
Design:	Rig: Trinidad 110	**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)
13,194.00	92.40	1.60	-6,006.64	9,639.64	3,715.88	-16.70	3,715.91	0.56	455,268.27	712,168.50
13,285.00	92.70	1.20	-6,002.59	9,635.59	3,806.77	-14.47	3,806.78	0.55	455,359.16	712,170.73
13,375.00	91.30	0.50	-5,999.45	9,632.45	3,896.70	-13.14	3,896.70	1.74	455,449.09	712,172.06
13,466.00	91.60	0.70	-5,997.14	9,630.14	3,987.67	-12.19	3,987.66	0.40	455,540.05	712,173.01
13,556.00	90.90	0.20	-5,995.18	9,628.18	4,077.64	-11.48	4,077.62	0.96	455,630.03	712,173.72
13,646.00	91.40	359.60	-5,993.38	9,626.38	4,167.62	-11.64	4,167.60	0.87	455,720.01	712,173.56
13,736.00	90.50	358.60	-5,991.88	9,624.88	4,257.60	-13.05	4,257.59	1.49	455,809.98	712,172.15
13,826.00	90.60	358.40	-5,991.02	9,624.02	4,347.56	-15.41	4,347.56	0.25	455,899.95	712,169.79
13,917.00	90.10	358.20	-5,990.46	9,623.46	4,438.52	-18.11	4,438.54	0.59	455,990.91	712,167.09
14,007.00	89.20	357.40	-5,991.01	9,624.01	4,528.45	-21.56	4,528.49	1.34	456,080.84	712,163.64
14,097.00	89.60	358.10	-5,991.96	9,624.96	4,618.37	-25.10	4,618.44	0.90	456,170.76	712,160.11
14,187.00	89.60	358.20	-5,992.58	9,625.58	4,708.32	-28.00	4,708.41	0.11	456,260.71	712,157.20
14,277.00	87.60	357.60	-5,994.78	9,627.78	4,798.23	-31.30	4,798.33	2.32	456,350.62	712,153.90
14,368.00	87.00	357.10	-5,999.07	9,632.07	4,889.03	-35.50	4,889.16	0.86	456,441.42	712,149.70
14,422.00	87.50	357.90	-6,001.66	9,634.66	4,942.92	-37.85	4,943.06	1.75	456,495.31	712,147.35
Last Phoenix MWD Surveys @ 14422' MD										
14,474.00	87.50	357.90	-6,003.93	9,636.93	4,994.84	-39.76	4,994.99	0.00	456,547.22	712,145.44
Projection to TD @ 14474' MD										

Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
125.00	125.00	0.15	-0.16	First Phoenix MWD Surveys @ 125' MD
14,422.00	9,634.66	4,942.92	-37.85	Last Phoenix MWD Surveys @ 14422' MD
14,474.00	9,636.93	4,994.84	-39.76	Projection to TD @ 14474' MD

Company:	Chesapeake Operating Inc.	**Local Co-ordinate Reference:**	Well Job #1210544
Project:	Lea County, NM. (NAD27)	**TVD Reference:**	WELL @ 3633.00usft (Trinidad 110)
Site:	McCloy Ranch 2-24-32 State Com 1H	**MD Reference:**	WELL @ 3633.00usft (Trinidad 110)
Well:	Job #1210544	**North Reference:**	Grid
Wellbore:	Rig: Trinidad 110	**Survey Calculation Method:**	Minimum Curvature
Design:	Rig: Trinidad 110	**Database:**	Compass5000

Checked By: _____ Approved By: _____ Date: _____

PHOENIX
TECHNOLOGY SERVICES

HOBBS OCD

JUL 23 2012

RECEIVED

July 19, 2012

Oil Conservation Division
State of New Mexico
1625 N. French Drive
Hobbs, New Mexico 88240

Dear District 1 - Hobbs

Re: Chesapeake Operating Inc.
McCloy Ranc 2-24-32 State Com 1H
Lea Co., NM
API #30-025-40551
Job No. 1210544

SUR: N-02-24s-32e, 100/S & 1980/W
BHL: C-02-24s-32e, 5080/S & 2020/W
API # 30-025-40551

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. 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	
Ronnie Watson	1H	125	14,422	06/22/12	07/08/12	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: 7011 1570 0001 4364 9933

1805 Brittmoore Rd. Houston, TX 77043 • Phone (713) 337-0600 • Fax (713) 337-0599
www.phxtech.com

HOBBS OCD

JUL 23 2012

RECEIVED

NEVIS ENERGY SERVICES INC.
SURVEY DATA CERTIFICATION

PHOENIX TECHNOLOGY SERVICES

PHOENIX JOB NUMBER 1210544 OPERATOR Chesapeake

WELL NAME McCloy Ranch 2-24-32 State Com 1 H COUNTY & STATE Lea NM

API WELL NUMBER	30-025-40551

PROPOSED DIRECTION	359.61

TIE-IN DATA						
MEASURED DEPTH	VERTICAL DEPTH	INCLIN	AZIMUTH	N-S COORD	E-W COORD	DATA SOURCE

FIRST SURVEY DATE	FIRST SURVEY DEPTH	INCLIN	AZIMUTH
22-Jun-12	125 ft	0.2	314.6

SURVEY INSTRUMENT TYPE
Phoenix Technology

LAST SURVEY DATE	LAST SURVEY DEPTH	INCLIN	AZIMUTH
8-Jul-12	14,422 ft	87.5	357.9

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
8-Jul-12	14,474 ft	87.5	357.9

Ronnie Watson

PRINT YOUR NAME ABOVE

Ronnie Watson

SIGN YOUR NAME ABOVE

MAGNETIC DECLINATION OR TOTAL GRID

TOTAL CORRECTION USED	7.13
DECLINATION OR GRID	Grid

July 8,2012

TODAY'S DATE

MWD SUPERVISOR 1 Ronnie Watson DIRECTIONAL DRILLER 1 Glen McVay

MWD SUPERVISOR 2 Justin Barmore DIRECTIONAL DRILLER 2 0

1805 Brittmore Road Houston, Texas 77043 (713)3370609 (Voice), (713)337-0599 (Fax)

PHOENIX
TECHNOLOGY SERVICES

HOBBS OCD

OCT 11 2012

RECEIVED

Survey Calculation Sheet

Company Chesapeake
Well McCloy Ranch 2-24-32 State Cc
Field Lea NM
Rig Trinidad 110
Phoenix Rep. Ronnie Watson
API# 30-025-40551

Correction 7.13
Target TVD 9677
Target Az. 359.61
Tgt. Coor.

QDT
CLT

Date	No.	DEPTH	INC.	AZM	C.L.	T.V.D.	V.S.	N/S	E/W	DLS	B./D.	BHA
Tie - In	0	0	0.00	0.00	0	0.00	0.00	0.00 N	0.00 E	0.00		
22-Jun	1	125	0.2	314.6	125	125.00	0.15	0.15 N	0.16 W	0.16	0.16	1
22-Jun	2	310	0.2	286.4	185	310.00	0.48	0.47 N	0.69 W	0.05	0.00	1
22-Jun	3	498	0.2	239.8	188	498.00	0.41	0.40 N	1.29 W	0.08	0.00	1
22-Jun	4	689	0.3	286.7	191	689.00	0.39	0.37 N	2.06 W	0.11	0.05	1
22-Jun	5	878	0.6	304.5	189	877.99	1.10	1.08 N	3.35 W	0.17	0.16	1
22-Jun	6	1069	0.7	326.7	191	1068.98	2.65	2.62 N	4.81 W	0.14	0.05	1
22-Jun	7	1260	0.7	316.9	191	1259.96	4.49	4.45 N	6.25 W	0.06	0.00	1
22-Jun	8	1320	0.6	288.1	60	1319.96	4.86	4.81 N	6.80 W	0.56	-0.17	1
25-Jun	9	1449	1.1	240.0	129	1448.95	4.46	4.40 N	8.52 W	0.64	0.39	2
25-Jun	10	1639	1.1	230.4	190	1638.91	2.41	2.33 N	11.50 W	0.10	0.00	2
25-Jun	11	1830	1.2	234.2	191	1829.87	0.09	0.01 S	14.54 W	0.07	0.05	2
25-Jun	12	2019	1.1	231.9	189	2018.84	-2.17	2.29 S	17.57 W	0.06	-0.05	2
25-Jun	13	2210	1.1	217.7	191	2209.80	-4.73	4.87 S	20.13 W	0.14	0.00	2
26-Jun	14	2400	0.9	224.0	190	2399.77	-7.23	7.39 S	22.28 W	0.12	-0.11	2
26-Jun	15	2591	1.0	204.6	191	2590.75	-9.82	9.98 S	24.02 W	0.18	0.05	2
26-Jun	16	2782	0.9	172.9	191	2781.72	-12.82	12.98 S	24.53 W	0.28	-0.05	2
26-Jun	17	2973	0.9	159.8	191	2972.70	-15.72	15.88 S	23.82 W	0.11	0.00	2
26-Jun	18	3164	0.6	118.8	191	3163.68	-17.62	17.77 S	22.43 W	0.31	-0.16	2
26-Jun	19	3354	0.4	138.4	190	3353.68	-18.60	18.75 S	21.12 W	0.14	-0.11	2
26-Jun	20	3545	0.3	111.5	191	3544.67	-19.29	19.43 S	20.21 W	0.10	-0.05	2
26-Jun	21	3736	0.5	118.2	191	3735.67	-19.87	20.00 S	19.01 W	0.11	0.10	2
27-Jun	22	3926	0.2	160.9	190	3925.66	-20.59	20.71 S	18.17 W	0.20	-0.16	2
27-Jun	23	4117	0.4	126.7	191	4116.66	-21.30	21.42 S	17.53 W	0.14	0.10	2
27-Jun	24	4308	1.3	118.4	191	4307.64	-22.75	22.85 S	15.09 W	0.47	0.47	2
27-Jun	25	4499	1.8	128.5	191	4498.57	-25.68	25.75 S	10.83 W	0.30	0.26	2
27-Jun	26	4689	2.2	131.6	190	4688.45	-29.99	30.03 S	5.77 W	0.22	0.21	2
27-Jun	27	4872	1.7	124.6	183	4871.35	-33.90	33.90 S	0.91 W	0.30	-0.27	2
29-Jun	28	4982	1.8	123.1	110	4981.29	-35.78	35.77 S	1.88 E	0.10	0.09	3
29-Jun	29	5172	1.8	125.2	190	5171.20	-39.17	39.12 S	6.82 E	0.03	0.00	3
29-Jun	30	5363	1.6	122.3	191	5362.12	-42.35	42.28 S	11.52 E	0.11	-0.10	3
29-Jun	31	5554	1.7	120.5	191	5553.04	-45.25	45.14 S	16.22 E	0.06	0.05	3
29-Jun	32	5744	1.8	126.1	190	5742.95	-48.47	48.33 S	21.06 E	0.10	0.05	3
29-Jun	33	5935	1.4	109.0	191	5933.87	-51.03	50.85 S	25.69 E	0.32	-0.21	3
29-Jun	34	6127	1.4	89.9	192	6125.82	-51.82	51.61 S	30.25 E	0.24	0.00	3
29-Jun	35	6318	1.5	74.6	191	6316.76	-51.18	50.95 S	34.99 E	0.21	0.05	3
29-Jun	36	6509	1.3	75.7	191	6507.70	-50.01	49.75 S	39.50 E	0.11	-0.10	3
29-Jun	37	6700	1.1	99.3	191	6698.66	-49.80	49.51 S	43.41 E	0.28	-0.10	3
30-Jun	38	6892	1.1	105.6	192	6890.62	-50.62	50.30 S	47.01 E	0.06	0.00	3
30-Jun	39	7083	1.0	105.2	191	7081.59	-51.57	51.23 S	50.38 E	0.05	-0.05	3
30-Jun	40	7274	0.8	108.1	191	7272.57	-52.44	52.08 S	53.26 E	0.11	-0.10	3

30-Jun	41	7464	1.0	92.5	190	7462.55	-52.95	52.57 S	56.17 E	0.17	0.11	3
30-Jun	42	7655	0.9	84.2	191	7653.52	-52.89	52.49 S	59.33 E	0.09	-0.05	3
30-Jun	43	7845	1.1	79.5	190	7843.49	-52.43	52.01 S	62.61 E	0.11	0.11	3
30-Jun	44	8037	0.8	84.3	192	8035.46	-51.98	51.54 S	65.75 E	0.16	-0.16	3
30-Jun	45	8228	0.6	73.7	191	8226.45	-51.59	51.12 S	68.04 E	0.12	-0.10	3
30-Jun	46	8419	0.7	76.7	191	8417.44	-51.05	50.57 S	70.14 E	0.06	0.05	3
1-Jul	47	8605	0.4	75.9	186	8603.43	-50.64	50.15 S	71.87 E	0.16	-0.16	3
1-Jul	48	8786	0.5	37.5	181	8784.42	-49.87	49.37 S	72.97 E	0.17	0.06	3
1-Jul	49	8966	0.2	242.1	180	8964.42	-49.39	48.90 S	73.17 E	0.38	-0.17	3
1-Jul	50	9049	0.3	49.8	83	9047.42	-49.32	48.83 S	73.20 E	0.60	0.12	3
2-Jul	51	9131	4.9	325.8	82	9129.32	-46.27	45.79 S	71.40 E	5.95	5.61	4
2-Jul	52	9176	10.6	338.2	45	9173.89	-40.82	40.35 S	68.78 E	13.13	12.67	4
2-Jul	53	9221	14.1	351.3	45	9217.85	-31.54	31.09 S	66.41 E	9.92	7.78	4
2-Jul	54	9266	18.2	3.7	45	9261.08	-19.09	18.65 S	66.04 E	11.86	9.11	4
2-Jul	55	9312	21.9	5.5	46	9304.29	-3.39	2.93 S	67.32 E	8.15	8.04	4
2-Jul	56	9357	26.8	1.6	45	9345.27	15.11	15.58 N	68.41 E	11.45	10.89	4
2-Jul	57	9402	30.8	356.1	45	9384.71	36.76	37.22 N	67.91 E	10.65	8.89	4
2-Jul	58	9447	34.8	350.8	45	9422.53	60.96	61.41 N	65.08 E	10.93	8.89	4
2-Jul	59	9492	37.3	351.7	45	9458.91	87.16	87.58 N	61.05 E	5.68	5.56	4
2-Jul	60	9538	41.8	352.7	46	9494.37	116.20	116.59 N	57.09 E	9.88	9.78	4
2-Jul	61	9583	46.2	351.5	45	9526.74	147.18	147.55 N	52.79 E	9.95	9.78	4
2-Jul	62	9628	51.6	351.8	45	9556.31	180.75	181.08 N	47.87 E	12.01	12.00	4
2-Jul	63	9673	56.9	353.2	45	9582.59	216.98	217.28 N	43.12 E	12.04	11.78	4
2-Jul	64	9718	62.3	353.6	45	9605.35	255.55	255.82 N	38.67 E	12.02	12.00	4
2-Jul	65	9763	67.4	355.4	45	9624.47	296.11	296.35 N	34.78 E	11.90	11.33	4
2-Jul	66	9809	74.4	357.5	46	9639.52	339.48	339.71 N	32.11 E	15.82	15.22	4
3-Jul	67	9854	78.2	358.4	45	9650.17	383.18	383.39 N	30.55 E	8.67	8.44	5
3-Jul	68	9899	78.8	359.2	45	9659.14	427.27	427.48 N	29.62 E	2.19	1.33	5
3-Jul	69	9944	78.3	359.7	45	9668.08	471.37	471.58 N	29.20 E	1.56	-1.11	5
3-Jul	70	9989	77.6	359.9	45	9677.47	515.38	515.59 N	29.05 E	1.62	-1.56	5
3-Jul	71	10034	80.5	357.5	45	9686.02	559.55	559.75 N	28.04 E	8.30	6.44	5
3-Jul	72	10080	85.6	356.8	46	9691.58	605.15	605.34 N	25.77 E	11.19	11.09	5
3-Jul	73	10125	90.1	357.4	45	9693.27	650.06	650.24 N	23.49 E	10.09	10.00	5
3-Jul	74	10215	90.8	357.6	90	9692.56	740.00	740.15 N	19.57 E	0.81	0.78	5
3-Jul	75	10305	90.9	357.9	90	9691.23	829.94	830.07 N	16.04 E	0.35	0.11	5
3-Jul	76	10396	89.8	357.8	91	9690.67	920.90	921.00 N	12.62 E	1.21	-1.21	5
3-Jul	77	10486	89.2	357.1	90	9691.46	1010.83	1010.91 N	8.62 E	1.02	-0.67	5
3-Jul	78	10576	91.3	358.0	90	9691.07	1100.76	1100.82 N	4.77 E	2.54	2.33	5
4-Jul	79	10666	90.5	357.5	90	9689.65	1190.70	1190.74 N	1.24 E	1.05	-0.89	5
4-Jul	80	10756	90.2	356.8	90	9689.10	1280.62	1280.63 N	3.24 W	0.85	-0.33	5
4-Jul	81	10847	89.2	356.1	91	9689.58	1371.48	1371.45 N	8.87 W	1.34	-1.10	5
4-Jul	82	10937	90.0	357.0	90	9690.21	1461.34	1461.28 N	14.29 W	1.34	0.89	5
4-Jul	83	11027	89.4	357.1	90	9690.68	1551.25	1551.16 N	18.92 W	0.68	-0.67	5
4-Jul	84	11118	92.2	357.7	91	9689.41	1642.17	1642.05 N	23.04 W	3.15	3.08	5
4-Jul	85	11208	90.7	356.7	90	9687.13	1732.06	1731.91 N	27.44 W	2.00	-1.67	5
4-Jul	86	11298	91.3	356.7	90	9685.56	1821.92	1821.75 N	32.62 W	0.67	0.67	5
5-Jul	87	11388	90.5	355.4	90	9684.15	1911.74	1911.52 N	38.82 W	1.70	-0.89	6
5-Jul	88	11478	92.4	357.5	90	9681.87	2001.56	2001.31 N	44.39 W	3.15	2.11	6
5-Jul	89	11568	92.1	357.6	90	9678.34	2091.44	2091.16 N	48.23 W	0.35	-0.33	6
5-Jul	90	11659	92.9	1.2	91	9674.37	2182.33	2182.05 N	49.19 W	4.05	0.88	6
5-Jul	91	11749	92.7	1.0	90	9669.97	2272.19	2271.92 N	47.46 W	0.31	-0.22	6
5-Jul	92	11839	92.4	1.2	90	9665.96	2362.07	2361.82 N	45.73 W	0.40	-0.33	6
5-Jul	93	11930	91.7	0.4	91	9662.71	2453.00	2452.75 N	44.46 W	1.17	-0.77	6
5-Jul	94	12020	91.7	359.9	90	9660.04	2542.95	2542.71 N	44.23 W	0.56	0.00	6
5-Jul	95	12111	91.3	359.0	91	9657.66	2633.92	2633.67 N	45.10 W	1.08	-0.44	6
5-Jul	96	12201	90.5	358.3	90	9656.24	2723.89	2723.64 N	47.22 W	1.18	-0.89	6

5-Jul	97	12291	90.7	1.9	90	9655.30	2813.87	2813.62 N	47.07 W	4.01	0.22	6
5-Jul	98	12381	90.1	1.3	90	9654.67	2903.81	2903.58 N	44.55 W	0.94	-0.67	6
5-Jul	99	12472	90.0	1.2	91	9654.59	2994.78	2994.56 N	42.57 W	0.16	-0.11	6
5-Jul	100	12562	91.1	2.6	90	9653.73	3084.70	3084.50 N	39.58 W	1.98	1.22	6
5-Jul	101	12652	90.1	1.5	90	9652.79	3174.61	3174.43 N	36.37 W	1.65	-1.11	6
6-Jul	102	12743	91.4	2.9	91	9651.60	3265.50	3265.35 N	32.87 W	2.10	1.43	6
6-Jul	103	12833	91.3	2.6	90	9649.48	3355.34	3355.23 N	28.56 W	0.35	-0.11	6
6-Jul	104	12923	90.5	1.9	90	9648.06	3445.23	3445.14 N	25.02 W	1.18	-0.89	6
6-Jul	105	13014	92.0	1.9	91	9646.08	3536.14	3536.07 N	22.01 W	1.65	1.65	6
6-Jul	106	13104	91.9	1.6	90	9643.01	3626.02	3625.98 N	19.26 W	0.35	-0.11	6
6-Jul	107	13194	92.4	1.6	90	9639.64	3715.90	3715.88 N	16.75 W	0.56	0.56	6
6-Jul	108	13285	92.7	1.2	91	9635.59	3806.77	3806.76 N	14.53 W	0.55	0.33	6
7-Jul	109	13375	91.3	0.5	90	9632.45	3896.69	3896.69 N	13.19 W	1.74	-1.56	6
7-Jul	110	13466	91.6	0.7	91	9630.15	3987.65	3987.66 N	12.24 W	0.40	0.33	6
7-Jul	111	13556	90.9	0.2	90	9628.18	4077.62	4077.63 N	11.54 W	0.96	-0.78	6
8-Jul	112	13646	91.4	359.6	90	9626.38	4167.60	4167.61 N	11.69 W	0.87	0.56	7
8-Jul	113	13736	90.5	358.6	90	9624.88	4257.58	4257.59 N	13.11 W	1.49	-1.00	7
8-Jul	114	13826	90.6	358.4	90	9624.02	4347.56	4347.55 N	15.46 W	0.25	0.11	7
8-Jul	115	13917	90.1	358.2	91	9623.46	4438.53	4438.51 N	18.16 W	0.59	-0.55	7
8-Jul	116	14007	89.2	357.4	90	9624.01	4528.48	4528.44 N	21.62 W	1.34	-1.00	7
8-Jul	118	14187	89.6	358.2	90	9625.58	4708.40	4708.32 N	28.05 W	0.11	0.00	7
8-Jul	119	14277	87.6	357.6	90	9627.78	4798.33	4798.22 N	31.35 W	2.32	-2.22	7
8-Jul	120	14368	87.0	357.1	91	9632.07	4889.15	4889.03 N	35.55 W	0.86	-0.66	7
8-Jul	121	14422	87.5	357.9	54	9634.66	4943.06	4942.91 N	37.91 W	1.75	0.93	7
PTB	122	14474	87.5	357.9	52	9636.93	4994.98	4994.83 N	39.81 W	0.00	0.00	TD
	123				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	124				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	125				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	126				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	127				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	128				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	129				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	130				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	131				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	132				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	133				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	134				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	135				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	136				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	137				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	138				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	139				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	140				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	141				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	141				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	142				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	143				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	144				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	145				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	146				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	147				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	148				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	149				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	150				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	151				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
	152				0	0.00	0.00	0.00 N	0.00 E	0.00	0.00	