



PHOENIX
TECHNOLOGY SERVICES

November 9, 2016

BC Operating
Attention: Regulatory Department
303 Veterans Airpark Lane #6101
PO Box 50820, Midland, TX 70710
Midland, TX 79705-4550

Re: BC Operating
Abe State #3H
Lea County, NM
API #30-025-42230
Job No. 60407

Dear Regulatory Department,

Phoenix Technology Services, Inc. has filed the survey certification, surveys, and lease plat for the above referenced well with the State of New Mexico Oil Conservation Division – District 2 via certified mail. A copy of the filing is attached for your records.

Name of Surveyor	Drain Hole Number	Surveyed Depths		Dates Performed		Type of Survey
		From	To	Start	End	
Larry Seebeck	3H	168	16098	10/11/16	10/28/16	MWD

Thank you for the opportunity to be of service. Please contact me if you have any questions or require additional information.

Best Regards,

Brittany Carley

Brittany Carley
Operations Administrator

Phoenix Technology Services
SURVEY DATA CERTIFICATION



PHOENIX JOB NUMBER 60407

ENERGY COMPANY BC Operating

WELL NAME Abe State #3H

COUNTY & STATE

Lea, New Mexico

API WELL NUMBER 30-025-4223

PROPOSED DIRECTION 353.41

TIE-IN DATA						
MEASURED	VERTICAL			N-S	E-W	DATA
DEPTH	DEPTH	INCLIN	AZIMUTH	COORD	COORD	SOURCE
.00 ft	.00 ft	0.00	0.00	.00 ft	.00 ft	Surface

FIRST	FIRST		
SURVEY	SURVEY		
DATE	DEPTH	INCLIN	AZIMUTH
11-Oct-16	168.00 ft	0.28	227.97

SURVEY INSTRUMENT
TYPE
Phoenix MWD

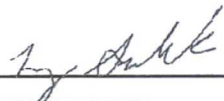
LAST	LAST		
SURVEY	SURVEY		
DATE	DEPTH	INCLIN	AZIMUTH
28-Oct-16	16,098.00 ft	88.26	357.27

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-Oct-16	16,155.00 ft	88.26	357.27

Larry Seebeck

PRINT YOUR NAME ABOVE


SIGN YOUR NAME ABOVE

MAGNETIC DECLINATION OR TOTAL GRID

TOTAL CORRECTION USED	6.53
DECLINATION OR GRID	GRID

TODAY'S DATE

MWD SUPERVISOR 1

Larry Seebeck

DIRECTIONAL DRILLER 1

Vinn Adams

MWD SUPERVISOR 2

Jeff Arenas

DIRECTIONAL DRILLER 2

Ruben Cano



BC Operating, Inc.

Lea County, NM (NAD27 NME)

Abe State

#3H

OH / Job #60407

Survey: Phoenix MWD Surveys

Standard Survey Report

31 October, 2016



Company: BC Operating, Inc.
Project: Lea County, NM (NAD27 NME)
Site: Abe State
Well: #3H
Wellbore: OH / Job #60407
Design: Surveys (Patterson 244)

Local Co-ordinate Reference: Well #3H
TVD Reference: GL + KB @ 3729.50usft (Patterson 244)
MD Reference: GL + KB @ 3729.50usft (Patterson 244)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Compass 5000 GCR

Project Lea County, NM (NAD27 NME)

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

System Datum: Mean Sea Level

Site Abe State

Site Position:
From: Map
Position Uncertainty: 0.00 usft
Northings: 525,680.84 usft
Easting: 730,337.85 usft
Slot Radius: 13-3/16 "
Latitude: 32° 26' 34.78612 N
Longitude: 103° 35' 12.09220 W
Grid Convergence: 0.40 °

Well #3H

Well Position +N/-S 0.00 usft **Northings:** 525,255.88 usft **Latitude:** 32° 26' 30.58082 N
 +E/-W 0.00 usft **Easting:** 730,341.33 usft **Longitude:** 103° 35' 12.08626 W
Position Uncertainty 0.00 usft **Wellhead Elevation:** 0.00 usft **Ground Level:** 3,701.00 usft

Wellbore OH / Job #60407

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	10/3/2016	6.93	60.37	48,378

Design Surveys (Patterson 244)

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	353.41

Survey Program Date 10/31/2016

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
168.00	16,155.00	Phoenix MWD Surveys (OH / Job #60407)	MWD+HDGM	OWSG Rev.2 MWD + HDGM

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
168.00	0.28	227.97	168.00	-0.27	-0.30	-0.24	0.17	0.17	0.00
First Phoenix MWD Survey									
352.00	0.38	230.24	352.00	-0.97	-1.11	-0.83	0.05	0.05	1.23
535.00	0.47	207.57	534.99	-2.02	-1.92	-1.79	0.10	0.05	-12.39
693.00	0.65	228.64	692.98	-3.19	-2.89	-2.83	0.17	0.11	13.34
877.00	0.77	221.52	876.97	-4.80	-4.50	-4.25	0.08	0.07	-3.87
1,061.00	0.88	227.96	1,060.95	-6.67	-6.37	-5.90	0.08	0.06	3.50
1,246.00	1.29	230.27	1,245.92	-8.96	-9.02	-7.86	0.22	0.22	1.25
1,431.00	1.64	224.08	1,430.86	-12.19	-12.47	-10.68	0.21	0.19	-3.35
1,616.00	1.08	201.05	1,615.81	-15.72	-14.93	-13.90	0.42	-0.30	-12.45

Company: BC Operating, Inc.
Project: Lea County, NM (NAD27 NME)
Site: Abe State
Well: #3H
Wellbore: QH / Job #60407
Design: Surveys (Patterson 244)

Local Co-ordinate Reference: Well #3H
TVD Reference: GL + KB @ 3729.50usft (Patterson 244)
MD Reference: GL + KB @ 3729.50usft (Patterson 244)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Compass 5000 GCR

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,657.00	0.90	189.85	1,656.80	-16.40	-15.13	-14.55	0.64	-0.44	-27.32
1,801.00	0.91	196.79	1,800.78	-18.60	-15.65	-16.68	0.08	0.01	4.82
1,986.00	2.10	273.25	1,985.73	-19.82	-19.46	-17.45	1.13	0.64	41.33
2,175.00	2.58	273.15	2,174.57	-19.39	-27.17	-16.14	0.25	0.25	-0.05
2,363.00	2.75	275.39	2,362.37	-18.73	-35.88	-14.49	0.11	0.09	1.19
2,552.00	2.71	282.53	2,551.15	-17.34	-44.76	-12.08	0.18	-0.02	3.78
2,741.00	3.99	291.86	2,739.83	-13.92	-55.22	-7.49	0.73	0.68	4.94
2,929.00	3.70	298.85	2,927.40	-8.56	-66.60	-0.85	0.29	-0.15	3.72
3,117.00	3.35	310.28	3,115.05	-2.08	-76.11	6.67	0.42	-0.19	6.08
3,306.00	3.68	304.40	3,303.70	4.92	-85.33	14.68	0.26	0.17	-3.11
3,494.00	3.78	292.28	3,491.30	10.68	-96.04	21.63	0.42	0.05	-6.45
3,684.00	4.94	255.84	3,680.78	11.05	-109.77	23.58	1.55	0.61	-19.18
3,872.00	4.72	252.51	3,868.11	6.74	-124.99	21.05	0.19	-0.12	-1.77
4,249.00	5.00	243.64	4,243.76	-5.21	-154.51	12.56	0.21	0.07	-2.35
4,437.00	5.43	240.77	4,430.99	-13.19	-169.61	6.37	0.27	0.23	-1.53
4,626.00	5.21	239.33	4,619.17	-21.94	-184.80	-0.58	0.14	-0.12	-0.76
4,720.00	3.05	244.79	4,712.92	-25.18	-190.73	-3.12	2.33	-2.30	5.81
4,812.00	1.29	253.73	4,804.85	-26.51	-193.94	-4.07	1.94	-1.91	9.72
5,000.00	2.17	54.45	4,992.82	-25.04	-193.08	-2.70	1.82	0.47	85.49
5,095.00	2.24	56.48	5,087.75	-22.96	-190.07	-0.99	0.11	0.07	2.14
5,188.00	2.36	54.37	5,180.67	-20.85	-186.99	0.76	0.16	0.13	-2.27
5,282.00	2.27	59.06	5,274.60	-18.76	-183.82	2.47	0.22	-0.10	4.99
5,366.00	2.41	57.08	5,358.53	-16.95	-180.91	3.94	0.19	0.17	-2.36
5,460.00	2.22	57.56	5,452.45	-14.89	-177.72	5.61	0.20	-0.20	0.51
5,554.00	2.21	59.17	5,546.38	-12.99	-174.63	7.14	0.07	-0.01	1.71
5,648.00	2.09	56.32	5,640.31	-11.11	-171.64	8.67	0.17	-0.13	-3.03
5,741.00	0.90	80.05	5,733.28	-10.04	-169.51	9.48	1.42	-1.28	25.52
5,835.00	0.88	80.24	5,827.27	-9.79	-168.07	9.57	0.02	-0.02	0.20
5,929.00	0.99	76.26	5,921.26	-9.48	-166.57	9.71	0.14	0.12	-4.23
6,024.00	0.95	84.69	6,016.24	-9.21	-164.99	9.79	0.16	-0.04	8.87
6,118.00	0.97	81.16	6,110.23	-9.02	-163.43	9.81	0.07	0.02	-3.76
6,212.00	1.11	67.96	6,204.21	-8.55	-161.80	10.08	0.29	0.15	-14.04
6,307.00	0.92	158.39	6,299.20	-8.92	-160.67	9.59	1.52	-0.20	95.19
6,401.00	1.08	163.71	6,393.19	-10.47	-160.14	7.99	0.20	0.17	5.66
6,495.00	1.19	152.87	6,487.17	-12.19	-159.45	6.20	0.26	0.12	-11.53
6,590.00	1.20	164.13	6,582.15	-14.02	-158.72	4.29	0.25	0.01	11.85
6,684.00	1.24	159.25	6,676.13	-15.92	-158.09	2.34	0.12	0.04	-5.19
6,778.00	1.32	161.15	6,770.11	-17.90	-157.38	0.29	0.10	0.09	2.02
6,872.00	1.39	160.32	6,864.08	-19.99	-156.65	-1.88	0.08	0.07	-0.88
6,967.00	1.27	166.99	6,959.05	-22.10	-156.03	-4.05	0.21	-0.13	7.02
7,062.00	1.36	174.42	7,054.03	-24.25	-155.68	-6.22	0.20	0.09	7.82
7,156.00	1.57	171.28	7,148.00	-26.63	-155.38	-8.62	0.24	0.22	-3.34
7,250.00	0.43	297.41	7,241.99	-27.75	-155.49	-9.71	1.97	-1.21	134.18

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Project: Lea County, NM (NAD27 NME)
Site: Abe State
Well: #3H
Wellbore: OH / Job #60407
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Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
7,345.00	0.40	315.89	7,336.99	-27.34	-156.04	-9.25	0.14	-0.03	19.45
7,439.00	0.24	307.33	7,430.98	-26.99	-156.43	-8.85	0.18	-0.17	-9.11
7,533.00	0.42	259.13	7,524.98	-26.93	-156.92	-8.74	0.34	0.19	-51.28
7,628.00	0.62	286.36	7,619.98	-26.85	-157.76	-8.57	0.33	0.21	28.66
7,722.00	0.59	288.41	7,713.97	-26.56	-158.70	-8.16	0.04	-0.03	2.18
7,816.00	0.67	287.52	7,807.97	-26.24	-159.69	-7.73	0.09	0.09	-0.95
7,911.00	0.63	239.04	7,902.96	-26.34	-160.66	-7.72	0.56	-0.04	-51.03
8,005.00	0.80	215.92	7,996.96	-27.14	-161.49	-8.42	0.35	0.18	-24.60
8,099.00	0.98	211.90	8,090.94	-28.35	-162.30	-9.53	0.20	0.19	-4.28
8,193.00	1.04	204.87	8,184.93	-29.81	-163.09	-10.89	0.15	0.06	-7.48
8,287.00	0.93	196.05	8,278.92	-31.32	-163.65	-12.32	0.20	-0.12	-9.38
8,381.00	0.51	53.27	8,372.91	-31.80	-163.53	-12.82	1.46	-0.45	-151.89
8,475.00	0.50	33.51	8,466.91	-31.21	-162.97	-12.29	0.18	-0.01	-21.02
8,570.00	0.48	18.57	8,561.90	-30.48	-162.61	-11.61	0.14	-0.02	-15.73
8,664.00	0.22	331.66	8,655.90	-29.95	-162.57	-11.09	0.39	-0.28	-49.90
8,758.00	0.10	317.61	8,749.90	-29.73	-162.71	-10.86	0.13	-0.13	-14.95
8,852.00	0.60	283.80	8,843.90	-29.55	-163.25	-10.62	0.55	0.53	-35.97
8,947.00	0.79	291.09	8,938.89	-29.20	-164.34	-10.14	0.22	0.20	7.67
9,041.00	1.19	296.46	9,032.88	-28.53	-165.82	-9.31	0.44	0.43	5.71
9,135.00	1.83	302.82	9,126.85	-27.28	-167.96	-7.82	0.70	0.68	6.77
9,230.00	1.28	340.63	9,221.81	-25.46	-169.58	-5.82	1.19	-0.58	39.80
9,323.00	0.97	325.25	9,314.80	-23.83	-170.38	-4.12	0.46	-0.33	-16.54
9,418.00	1.46	300.69	9,409.77	-22.56	-171.87	-2.67	0.74	0.52	-25.85
9,512.00	0.83	347.49	9,503.76	-21.28	-173.05	-1.27	1.15	-0.67	49.79
9,606.00	1.16	323.75	9,597.74	-19.85	-173.76	0.23	0.55	0.35	-25.26
9,700.00	1.03	21.17	9,691.73	-18.29	-174.02	1.81	1.13	-0.14	61.09
9,795.00	1.29	52.04	9,786.71	-16.84	-172.87	3.12	0.70	0.27	32.49
9,889.00	0.91	14.44	9,880.69	-15.46	-171.85	4.37	0.85	-0.40	-40.00
9,984.00	0.36	10.85	9,975.69	-14.44	-171.60	5.36	0.58	-0.58	-3.78
10,078.00	2.25	129.70	10,069.66	-15.33	-170.13	4.30	2.60	2.01	126.44
10,172.00	2.20	131.73	10,163.59	-17.71	-167.36	1.62	0.10	-0.05	2.16
10,284.00	1.59	156.90	10,275.53	-20.57	-165.15	-1.47	0.91	-0.54	22.47
10,378.00	1.38	167.95	10,369.50	-22.88	-164.40	-3.85	0.38	-0.22	11.76
10,473.00	0.89	180.35	10,464.48	-24.73	-164.17	-5.72	0.57	-0.52	13.05
10,520.00	3.35	341.63	10,511.46	-23.79	-164.60	-4.74	8.94	5.23	343.15
10,567.00	9.26	352.99	10,558.16	-18.73	-165.50	0.39	12.79	12.57	24.17
10,614.00	14.64	2.25	10,604.13	-9.04	-165.72	10.05	12.12	11.45	19.70
10,661.00	18.62	5.09	10,649.15	4.38	-164.82	23.27	8.64	8.47	6.04
10,708.00	22.33	4.03	10,693.18	20.76	-163.53	39.40	7.93	7.89	-2.26
10,755.00	26.17	2.15	10,736.02	40.03	-162.51	58.43	8.33	8.17	-4.00
10,802.00	30.44	359.24	10,777.39	62.31	-162.28	80.53	9.55	9.09	-6.19
10,850.00	35.08	356.87	10,817.75	88.25	-163.20	106.41	10.03	9.67	-4.94
10,897.00	40.06	357.75	10,854.99	116.87	-164.53	134.99	10.66	10.60	1.87

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Project: Lea County, NM (NAD27 NME)
Site: Abe State
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Wellbore: OH / Job #60407
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North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Compass 5000 GCR

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Bulld Rate (°/100usft)	Turn Rate (°/100usft)
10,944.00	45.18	357.71	10,889.57	148.66	-165.79	166.71	10.89	10.89	-0.09
10,991.00	49.02	356.26	10,921.55	183.03	-167.62	201.07	8.48	8.17	-3.09
11,038.00	52.25	355.41	10,951.36	219.27	-170.26	237.36	7.01	6.87	-1.81
11,085.00	56.56	354.61	10,978.71	257.33	-173.59	275.56	9.27	9.17	-1.70
11,132.00	61.22	354.89	11,002.99	297.39	-177.27	315.78	9.93	9.91	0.60
11,179.00	65.22	355.14	11,024.16	339.18	-180.91	357.71	8.52	8.51	0.53
11,227.00	69.43	354.92	11,042.66	383.30	-184.75	401.97	8.78	8.77	-0.46
11,274.00	73.76	355.77	11,057.50	427.74	-188.36	446.53	9.37	9.21	1.81
11,321.00	77.61	357.08	11,069.12	473.18	-191.20	492.00	8.63	8.19	2.79
11,368.00	80.42	357.93	11,078.07	519.27	-193.21	538.02	6.24	5.98	1.81
11,415.00	83.95	357.95	11,084.46	565.79	-194.88	584.43	7.51	7.51	0.04
11,418.00	84.17	357.96	11,084.77	568.78	-194.99	587.40	7.37	7.36	0.30
Hardline Crossing - 11418' MD									
11,462.00	87.41	358.09	11,088.00	612.63	-196.50	631.13	7.37	7.36	0.30
11,531.00	90.14	357.53	11,089.48	681.55	-199.13	699.91	4.04	3.96	-0.81
11,626.00	90.45	354.89	11,088.99	776.33	-205.41	794.78	2.80	0.33	-2.78
11,720.00	90.98	354.26	11,087.81	869.91	-214.30	888.76	0.88	0.56	-0.67
11,814.00	91.93	354.34	11,085.43	963.41	-223.63	982.71	1.01	1.01	0.09
11,908.00	92.49	353.96	11,081.80	1,056.85	-233.21	1,076.64	0.72	0.60	-0.40
12,002.00	90.48	354.43	11,079.37	1,150.33	-242.71	1,170.59	2.20	-2.14	0.50
12,096.00	90.42	354.12	11,078.63	1,243.86	-252.09	1,264.58	0.34	-0.06	-0.33
12,190.00	90.00	353.88	11,078.28	1,337.34	-261.91	1,358.57	0.51	-0.45	-0.26
12,284.00	90.67	353.84	11,077.73	1,430.80	-271.97	1,452.57	0.71	0.71	-0.04
12,378.00	91.68	353.78	11,075.81	1,524.23	-282.10	1,546.54	1.08	1.07	-0.06
12,472.00	92.88	353.37	11,072.07	1,617.57	-292.61	1,640.47	1.35	1.28	-0.44
12,566.00	93.58	353.79	11,066.77	1,710.83	-303.10	1,734.31	0.87	0.74	0.45
12,660.00	91.09	355.87	11,062.94	1,804.36	-311.56	1,828.19	3.45	-2.65	2.21
12,754.00	92.07	356.27	11,060.35	1,898.10	-318.00	1,922.06	1.13	1.04	0.43
12,848.00	92.57	356.31	11,056.54	1,991.82	-324.08	2,015.86	0.53	0.53	0.04
12,943.00	93.42	356.62	11,051.58	2,086.51	-329.93	2,110.59	0.95	0.89	0.33
13,036.00	91.56	356.50	11,047.54	2,179.25	-335.51	2,203.36	2.00	-2.00	-0.13
13,131.00	91.59	356.89	11,044.93	2,274.06	-340.98	2,298.17	0.41	0.03	0.41
13,225.00	91.59	356.86	11,042.32	2,367.88	-346.10	2,391.96	0.03	0.00	-0.03
13,320.00	91.59	356.64	11,039.68	2,462.69	-351.49	2,486.76	0.23	0.00	-0.23
13,414.00	89.24	356.72	11,039.00	2,556.53	-356.93	2,580.60	2.50	-2.50	0.09
13,508.00	89.52	356.86	11,040.02	2,650.37	-362.19	2,674.43	0.33	0.30	0.15
13,602.00	89.78	353.37	11,040.59	2,744.02	-370.20	2,768.37	3.72	0.28	-3.71
13,696.00	90.09	357.06	11,040.70	2,837.67	-378.04	2,862.31	3.94	0.33	3.93
13,790.00	90.45	357.22	11,040.26	2,931.55	-382.73	2,956.11	0.42	0.38	0.17
13,884.00	90.14	355.41	11,039.77	3,025.35	-388.77	3,049.98	1.95	-0.33	-1.93
13,978.00	89.30	354.98	11,040.23	3,119.02	-396.64	3,143.94	1.00	-0.89	-0.46
14,072.00	91.20	354.12	11,039.82	3,212.59	-405.57	3,237.91	2.22	2.02	-0.91
14,166.00	91.31	354.66	11,037.77	3,306.12	-414.76	3,331.87	0.59	0.12	0.57
14,261.00	90.53	353.61	11,036.24	3,400.61	-424.46	3,426.85	1.38	-0.82	-1.11

Company: BC Operating, Inc.
Project: Lea County, NM (NAD27 NME)
Site: Abe State
Well: #3H
Wellbore: OH / Job #60407
Design: Surveys (Patterson 244)

Local Co-ordinate Reference: Well #3H
TVD Reference: GL + KB @ 3729.50usft (Patterson 244)
MD Reference: GL + KB @ 3729.50usft (Patterson 244)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Compass 5000 GCR

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
14,355.00	91.65	353.43	11,034.45	3,493.99	-435.07	3,520.83	1.21	1.19	-0.19
14,450.00	91.56	353.61	11,031.79	3,588.34	-445.79	3,615.80	0.21	-0.09	0.19
14,544.00	91.59	352.62	11,029.21	3,681.63	-457.05	3,709.76	1.05	0.03	-1.05
14,638.00	91.68	352.54	11,026.52	3,774.80	-469.18	3,803.71	0.13	0.10	-0.09
14,732.00	91.26	352.92	11,024.11	3,868.02	-481.07	3,897.67	0.60	-0.45	0.40
14,826.00	90.31	352.70	11,022.83	3,961.27	-492.84	3,991.66	1.04	-1.01	-0.23
14,920.00	88.96	353.00	11,023.42	4,054.53	-504.54	4,085.65	1.47	-1.44	0.32
15,014.00	88.85	354.19	11,025.22	4,147.93	-515.02	4,179.63	1.27	-0.12	1.27
15,108.00	88.52	355.07	11,027.38	4,241.49	-523.82	4,273.58	1.00	-0.35	0.94
15,203.00	88.88	355.53	11,029.53	4,336.15	-531.60	4,368.51	0.61	0.38	0.48
15,297.00	90.50	356.31	11,030.04	4,429.90	-538.29	4,462.41	1.91	1.72	0.83
15,391.00	91.85	356.39	11,028.11	4,523.69	-544.27	4,556.26	1.44	1.44	0.09
15,485.00	92.44	355.58	11,024.60	4,617.39	-550.85	4,650.10	1.07	0.63	-0.86
15,580.00	92.94	355.67	11,020.14	4,712.01	-558.09	4,744.93	0.53	0.53	0.09
15,674.00	92.75	356.23	11,015.47	4,805.66	-564.72	4,838.72	0.63	-0.20	0.60
15,768.00	92.77	356.29	11,010.95	4,899.35	-570.84	4,932.49	0.07	0.02	0.06
15,862.00	91.71	356.40	11,007.27	4,993.09	-576.83	5,026.29	1.13	-1.13	0.12
15,956.00	90.42	356.62	11,005.52	5,086.89	-582.55	5,120.14	1.39	-1.37	0.23
16,051.00	88.83	357.09	11,006.15	5,181.75	-587.76	5,214.96	1.75	-1.67	0.49
16,055.00	88.78	357.11	11,006.23	5,185.74	-587.96	5,218.95	1.27	-1.21	0.38
Hardline Crossing - 16055' MD									
16,098.00	88.26	357.27	11,007.34	5,228.67	-590.07	5,261.84	1.27	-1.21	0.38
Final Phoenix MWD Survey									
16,155.00	88.26	357.27	11,009.07	5,285.58	-592.79	5,318.69	0.00	0.00	0.00
Projection to TD									

Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
168.00	168.00	-0.27	-0.30	First Phoenix MWD Survey
11,418.00	11,084.77	568.78	-194.99	Hardline Crossing - 11418' MD
16,055.00	11,006.23	5,185.74	-587.96	Hardline Crossing - 16055' MD
16,098.00	11,007.34	5,228.67	-590.07	Final Phoenix MWD Survey
16,155.00	11,009.07	5,285.58	-592.79	Projection to TD

Checked By: _____ Approved By: _____ Date: _____