



PHOENIX
TECHNOLOGY SERVICES

March 13, 2018

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

Dear District 1 - Hobbs

Re: Energen Resources
Pegasus 23-35-16 State 251H
Lea County, NM
API #30-025-44199
Job No. 62309

HOBBS OCD

MAR 19 2018

RECEIVED

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	Drain Hole Number	Surveyed Depths		Dates Performed		Type of Survey
		From	To	Start	End	
Jerad Steel	251H	168	14,496	2/13/18	3/8/18	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,

Brittany Carley

Brittany Carley
Operations Administrator

SURVEY DATA CERTIFICATION



PHOENIX
TECHNOLOGY SERVICES

Job #: 62309
 Client: Energen Resources
 County & State: Lea County, NM
 Well: Pegasus 23-35-16 State 251H
 API No: 30-025-44199
 Proposed Direction: 359.48

TIE-IN DATA

MD	TVD	INC	AZM	N/-S	E/-W	DATA SOURCE
Data Source Company:						

SURVEY DATA

First Survey Date	First Survey Depth	INC	AZM
13-Feb-18	168 ft	0.42°	135.46°

Last Survey Date	Last Survey Depth	INC	AZM
8-Mar-18	14,496 ft	90.21°	359.03°

Survey Instrument Type
Phoenix MWD Velocity

Projected TD Survey Date	Projected TD Survey Depth	INC	AZM
8-Mar-18	14,560 ft	90.21°	359.03°

CORRECTION INFORMATION

Magnetic Declination Used	6.85 degrees
Grid Convergence Used	0.51 degrees
Total Correction	6.34 degrees

Corrected to True/Grid North
Grid

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

Jerad Steel 3/8/2018
 Field Engineer Signature Date

Well Planner/Supervisor Date



PHOENIX
TECHNOLOGY SERVICES

Energen Resources

**Lea County, NM (NAD83 NME)
Pegasus 23-35-16 State
251H**

OH/Job# 62309

Survey: Phoenix MWD Surveys

Standard Survey Report

09 March, 2018

ENERGEN®



Survey Report



Company:	Energen Resources	Local Co-ordinate Reference:	Well 251H
Project:	Lea County, NM (NAD83 NME)	TVD Reference:	GL+KB @ 3428.98usft (Scan Texas)
Site:	Pegasus 23-35-16 State	MD Reference:	GL+KB @ 3428.98usft (Scan Texas)
Well:	251H	North Reference:	Grid
Wellbore:	OH/Job# 62309	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Scan Texas)	Database:	USA Compass

Project	Lea County, NM (NAD83 NME)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Pegasus 23-35-16 State		
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Site Position:		Northing:	473,614.99 usft	Latitude:	32° 17' 54.35956 N
From:	Map	Easting:	836,231.66 usft	Longitude:	103° 22' 44.18399 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.51 °

Well	251H				
Well Position	+N/-S	0.00 usft	Northing:	473,614.95 usft	Latitude: 32° 17' 54.35916 N
	+E/-W	0.00 usft	Easting:	836,231.68 usft	Longitude: 103° 22' 44.18380 W
Position Uncertainty	0.00 usft		Wellhead Elevation:	0.00 usft	Ground Level: 3,403.98 usft

Wellbore	OH/Job# 62309				
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	1/24/2018	6.85	60.03	48,109.40000000

Design	Surveys (Scan Texas)				
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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	359.48

Survey Program	Date	3/9/2018			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
168.00	14,560.00	Phoenix MWD Surveys (OH/Job# 62309)	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	0.42	135.46	168.00	-0.44	0.43	-0.44	0.25	0.25	0.00
First Phoenix MWD Survey									
229.00	0.62	144.02	229.00	-0.87	0.78	-0.87	0.35	0.33	14.03
320.00	0.53	151.75	319.99	-1.63	1.27	-1.65	0.13	-0.10	8.49
407.00	0.60	133.35	406.99	-2.30	1.79	-2.32	0.22	0.08	-21.15
496.00	0.62	150.07	495.98	-3.04	2.37	-3.06	0.20	0.02	18.79
621.00	0.67	155.67	620.97	-4.29	3.01	-4.32	0.06	0.04	4.48
682.00	0.61	150.03	681.97	-4.90	3.32	-4.93	0.14	-0.10	-9.25
773.00	0.76	147.32	772.96	-5.82	3.89	-5.86	0.17	0.16	-2.98
864.00	0.77	147.87	863.96	-6.85	4.54	-6.89	0.01	0.01	0.60

Company:	Energen Resources	Local Co-ordinate Reference:	Well 251H
Project:	Lea County, NM (NAD83 NME)	TVD Reference:	GL+KB @ 3428.98usft (Scan Texas)
Site:	Pegasus 23-35-16 State	MD Reference:	GL+KB @ 3428.98usft (Scan Texas)
Well:	251H	North Reference:	Grid
Wellbore:	OH/Job# 62309	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Scan Texas)	Database:	USA Compass

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)
955.00	0.90	142.84	954.95	-7.94	5.30	-7.99	0.16	0.14	-5.53
1,046.00	0.93	147.70	1,045.93	-9.13	6.12	-9.19	0.09	0.03	5.34
1,136.00	1.07	145.49	1,135.92	-10.44	6.99	-10.50	0.16	0.16	-2.46
1,227.00	1.22	140.82	1,226.90	-11.89	8.08	-11.97	0.19	0.16	-5.13
1,318.00	1.21	139.79	1,317.88	-13.38	9.31	-13.46	0.03	-0.01	-1.13
1,410.00	1.30	138.09	1,409.86	-14.90	10.64	-14.99	0.11	0.10	-1.85
1,501.00	1.39	140.51	1,500.84	-16.52	12.03	-16.62	0.12	0.10	2.66
1,595.00	0.81	99.33	1,594.82	-17.50	13.41	-17.62	1.01	-0.62	-43.81
1,690.00	1.40	38.14	1,689.80	-16.70	14.79	-16.83	1.30	0.62	-64.41
1,784.00	1.49	35.87	1,783.77	-14.81	16.21	-14.95	0.11	0.10	-2.41
1,859.00	1.64	37.10	1,858.75	-13.16	17.43	-13.32	0.20	0.20	1.64
2,061.00	1.66	28.61	2,060.66	-8.29	20.58	-8.47	0.12	0.01	-4.20
2,155.00	1.34	26.63	2,154.63	-6.11	21.72	-6.30	0.34	-0.34	-2.11
2,250.00	1.10	22.44	2,249.61	-4.27	22.57	-4.48	0.27	-0.25	-4.41
2,344.00	0.95	20.19	2,343.59	-2.71	23.18	-2.92	0.17	-0.16	-2.39
2,438.00	0.98	23.17	2,437.58	-1.24	23.77	-1.45	0.06	0.03	3.17
2,533.00	1.25	259.80	2,532.57	-0.67	23.07	-0.88	2.07	0.28	-129.86
2,627.00	2.69	255.12	2,626.51	-1.42	19.93	-1.60	1.54	1.53	-4.98
2,721.00	1.33	237.21	2,720.45	-2.58	16.88	-2.73	1.58	-1.45	-19.05
2,816.00	0.79	213.77	2,815.44	-3.72	15.59	-3.86	0.72	-0.57	-24.67
2,910.00	0.68	213.69	2,909.43	-4.72	14.92	-4.86	0.12	-0.12	-0.09
3,004.00	0.66	232.20	3,003.42	-5.52	14.18	-5.65	0.23	-0.02	19.69
3,099.00	0.48	225.64	3,098.42	-6.13	13.46	-6.25	0.20	-0.19	-6.91
3,193.00	0.15	101.10	3,192.42	-6.43	13.30	-6.55	0.62	-0.35	-132.49
3,288.00	0.35	62.13	3,287.42	-6.32	13.68	-6.44	0.26	0.21	-41.02
3,382.00	0.60	70.91	3,381.41	-6.02	14.40	-6.15	0.28	0.27	9.34
3,477.00	0.80	71.58	3,476.41	-5.65	15.50	-5.79	0.21	0.21	0.71
3,571.00	1.04	57.32	3,570.39	-4.98	16.84	-5.14	0.35	0.26	-15.17
3,666.00	1.24	67.52	3,665.38	-4.13	18.51	-4.29	0.30	0.21	10.74
3,760.00	0.07	349.89	3,759.37	-3.68	19.44	-3.86	1.31	-1.24	-82.59
3,855.00	0.93	245.99	3,854.36	-3.94	18.73	-4.11	1.00	0.91	-109.37
3,949.00	0.87	236.97	3,948.35	-4.64	17.43	-4.79	0.16	-0.06	-9.60
4,044.00	1.04	232.48	4,043.34	-5.55	16.15	-5.70	0.20	0.18	-4.73
4,138.00	1.11	234.47	4,137.32	-6.60	14.73	-6.74	0.08	0.07	2.12
4,232.00	1.21	243.92	4,231.30	-7.57	13.10	-7.69	0.23	0.11	10.05
4,327.00	1.34	241.03	4,326.28	-8.55	11.22	-8.65	0.15	0.14	-3.04
4,421.00	1.26	247.69	4,420.26	-9.47	9.31	-9.56	0.18	-0.09	7.09
4,515.00	1.49	242.75	4,514.23	-10.42	7.26	-10.49	0.28	0.24	-5.26
4,610.00	1.04	301.18	4,609.21	-10.54	5.43	-10.59	1.36	-0.47	61.51
4,704.00	1.42	324.78	4,703.19	-9.15	4.03	-9.19	0.67	0.40	25.11
4,799.00	1.29	326.41	4,798.16	-7.30	2.76	-7.32	0.14	-0.14	1.72
4,893.00	1.08	332.86	4,892.14	-5.63	1.77	-5.64	0.26	-0.22	6.86
4,988.00	0.86	326.66	4,987.13	-4.24	0.97	-4.24	0.26	-0.23	-6.53

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Well:	251H	North Reference:	Grid
Wellbore:	OH/Job# 62309	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Scan Texas)	Database:	USA Compass

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)
5,082.00	1.01	331.41	5,081.11	-2.92	0.18	-2.92	0.18	0.16	5.05
5,177.00	1.06	325.63	5,176.10	-1.46	-0.72	-1.45	0.12	0.05	-6.08
5,271.00	0.88	335.83	5,270.09	-0.08	-1.50	-0.07	0.26	-0.19	10.85
5,366.00	0.88	342.85	5,365.07	1.28	-2.02	1.30	0.11	0.00	7.39
5,460.00	1.04	332.36	5,459.06	2.73	-2.62	2.75	0.25	0.17	-11.16
5,555.00	1.22	335.21	5,554.04	4.41	-3.45	4.44	0.20	0.19	3.00
5,649.00	1.20	342.00	5,648.02	6.25	-4.17	6.29	0.15	-0.02	7.22
5,743.00	1.24	340.36	5,742.00	8.15	-4.82	8.19	0.06	0.04	-1.74
5,838.00	0.38	220.49	5,836.99	8.88	-5.37	8.92	1.54	-0.91	-126.18
5,932.00	1.12	191.52	5,930.99	7.74	-5.75	7.79	0.86	0.79	-30.82
6,026.00	2.15	185.14	6,024.95	5.08	-6.10	5.14	1.11	1.10	-6.79
6,121.00	3.25	177.03	6,119.84	0.62	-6.12	0.67	1.22	1.16	-8.54
6,215.00	4.43	176.93	6,213.63	-5.67	-5.78	-5.62	1.26	1.26	-0.11
6,310.00	5.17	179.61	6,308.29	-13.61	-5.56	-13.56	0.81	0.78	2.82
6,404.00	5.88	184.20	6,401.86	-22.65	-5.88	-22.60	0.89	0.76	4.88
6,498.00	6.84	187.34	6,495.28	-33.00	-6.95	-32.94	1.09	1.02	3.34
6,593.00	7.38	189.04	6,589.55	-44.64	-8.63	-44.56	0.61	0.57	1.79
6,687.00	7.27	190.31	6,682.78	-56.45	-10.64	-56.36	0.21	-0.12	1.35
6,782.00	7.23	186.90	6,777.02	-68.30	-12.44	-68.19	0.45	-0.04	-3.59
6,876.00	6.73	186.67	6,870.32	-79.65	-13.79	-79.52	0.53	-0.53	-0.24
6,971.00	6.67	183.35	6,964.67	-90.68	-14.76	-90.54	0.41	-0.06	-3.49
7,065.00	6.91	178.71	7,058.02	-101.79	-14.95	-101.65	0.64	0.26	-4.94
7,160.00	6.63	178.57	7,152.35	-112.98	-14.68	-112.84	0.30	-0.29	-0.15
7,254.00	6.40	177.18	7,245.75	-123.64	-14.29	-123.50	0.30	-0.24	-1.48
7,348.00	6.82	177.41	7,339.12	-134.45	-13.78	-134.32	0.45	0.45	0.24
7,443.00	6.25	176.84	7,433.50	-145.25	-13.24	-145.12	0.60	-0.60	-0.60
7,537.00	6.35	176.59	7,526.94	-155.54	-12.65	-155.42	0.11	0.11	-0.27
7,631.00	5.47	179.19	7,620.44	-165.21	-12.28	-165.09	0.98	-0.94	2.77
7,726.00	5.38	176.14	7,715.01	-174.18	-11.91	-174.07	0.32	-0.09	-3.21
7,820.00	5.77	173.65	7,808.57	-183.28	-11.09	-183.17	0.49	0.41	-2.65
7,914.00	5.65	172.92	7,902.10	-192.56	-10.00	-192.47	0.15	-0.13	-0.78
8,009.00	5.86	174.59	7,996.62	-202.03	-8.97	-201.94	0.28	0.22	1.76
8,103.00	5.16	171.88	8,090.19	-211.00	-7.92	-210.92	0.79	-0.74	-2.88
8,197.00	5.25	173.74	8,183.80	-219.46	-6.85	-219.38	0.20	0.10	1.98
8,292.00	5.37	174.06	8,278.39	-228.20	-5.92	-228.13	0.13	0.13	0.34
8,386.00	5.12	173.37	8,372.00	-236.74	-4.98	-236.68	0.27	-0.27	-0.73
8,480.00	5.02	173.38	8,465.63	-244.99	-4.02	-244.94	0.11	-0.11	0.01
8,575.00	5.27	175.39	8,560.25	-253.47	-3.19	-253.43	0.32	0.26	2.12
8,669.00	5.13	174.75	8,653.86	-261.96	-2.46	-261.92	0.16	-0.15	-0.68
8,764.00	5.21	175.91	8,748.47	-270.49	-1.76	-270.46	0.14	0.08	1.22
8,858.00	4.36	171.34	8,842.14	-278.28	-0.92	-278.26	0.99	-0.90	-4.86
8,953.00	3.96	165.89	8,936.89	-285.03	0.42	-285.02	0.59	-0.42	-5.74
9,047.00	3.26	155.48	9,030.71	-290.61	2.32	-290.62	1.02	-0.74	-11.07

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Well:	251H	North Reference:	Grid
Wellbore:	OH/Job# 62309	Survey Calculation Method:	Minimum Curvature
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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)	
9,141.00	3.03	151.71	9,124.57	-295.23	4.61	-295.26	0.33	-0.24	-4.01	
9,236.00	3.10	155.11	9,219.43	-299.77	6.88	-299.82	0.21	0.07	3.58	
9,339.00	3.60	139.48	9,322.26	-304.75	10.16	-304.83	1.01	0.49	-15.17	
9,387.00	8.17	98.85	9,370.01	-306.42	14.51	-306.54	12.33	9.52	-84.65	
9,434.00	12.63	72.95	9,416.25	-305.43	22.73	-305.62	13.53	9.49	-55.11	
9,481.00	18.21	62.96	9,461.55	-300.58	34.19	-300.88	13.11	11.87	-21.26	
9,528.00	24.22	50.40	9,505.36	-291.08	48.18	-291.51	15.97	12.79	-26.72	
9,575.00	26.55	39.53	9,547.85	-276.83	62.31	-277.38	11.07	4.96	-23.13	
9,622.00	28.90	27.78	9,589.48	-258.66	74.30	-259.32	12.64	5.00	-25.00	
9,670.00	33.98	19.94	9,630.44	-235.76	84.29	-236.52	13.57	10.58	-16.33	
9,717.00	39.59	13.00	9,668.08	-208.79	92.15	-209.62	14.84	11.94	-14.77	
9,764.00	44.09	6.82	9,703.10	-177.94	97.46	-178.81	12.98	9.57	-13.15	
9,811.00	48.86	0.65	9,735.48	-143.97	99.61	-144.86	13.91	10.15	-13.13	
9,858.00	54.27	356.46	9,764.69	-107.19	98.63	-108.08	13.46	11.51	-8.91	
9,905.00	60.28	353.80	9,790.09	-67.82	95.24	-68.68	13.64	12.79	-5.66	
9,952.00	65.76	354.63	9,811.40	-26.17	91.03	-26.99	11.77	11.66	1.77	
9,999.00	70.08	355.42	9,829.07	17.21	87.26	16.42	9.32	9.19	1.68	
10,046.00	73.48	355.61	9,843.76	61.71	83.77	60.95	7.24	7.23	0.40	
10,093.00	77.33	356.46	9,855.60	107.08	80.63	106.34	8.38	8.19	1.81	
10,141.00	81.11	356.26	9,864.58	154.13	77.63	153.42	7.89	7.88	-0.42	
10,188.00	84.66	356.59	9,870.40	200.67	74.73	199.98	7.59	7.55	0.70	
10,236.00	85.47	357.19	9,874.53	248.42	72.13	247.75	2.10	1.69	1.25	
10,283.00	86.48	356.88	9,877.83	295.24	69.71	294.60	2.25	2.15	-0.66	
10,330.00	86.55	357.07	9,880.68	342.09	67.23	341.46	0.43	0.15	0.40	
10,377.00	84.63	355.52	9,884.30	388.85	64.20	388.25	5.24	-4.09	-3.30	
10,425.00	84.86	356.14	9,888.69	436.52	60.73	435.95	1.37	0.48	1.29	
10,472.00	85.37	355.31	9,892.70	483.22	57.24	482.68	2.07	1.09	-1.77	
10,519.00	86.23	355.27	9,896.14	529.93	53.39	529.43	1.83	1.83	-0.09	
10,566.00	87.91	354.28	9,898.54	576.67	49.11	576.20	4.15	3.57	-2.11	
10,614.00	89.78	353.18	9,899.51	624.37	43.87	623.95	4.52	3.90	-2.29	
10,708.00	92.21	353.48	9,897.88	717.72	32.96	717.39	2.60	2.59	0.32	
10,802.00	89.50	352.64	9,896.47	811.01	21.60	810.78	3.02	-2.88	-0.89	
10,897.00	91.30	353.55	9,895.81	905.31	10.18	905.18	2.12	1.89	0.96	
10,991.00	89.56	352.75	9,895.11	998.63	-1.03	998.60	2.04	-1.85	-0.85	
11,085.00	90.95	353.22	9,894.69	1,091.93	-12.51	1,091.99	1.56	1.48	0.50	
11,180.00	88.59	354.58	9,895.07	1,186.38	-22.60	1,186.54	2.87	-2.48	1.43	
11,274.00	87.68	358.93	9,898.13	1,280.15	-27.92	1,280.36	4.73	-0.97	4.63	
11,369.00	88.28	358.75	9,901.48	1,375.08	-29.84	1,375.29	0.66	0.63	-0.19	
11,463.00	88.64	1.42	9,904.00	1,469.03	-29.70	1,469.24	2.87	0.38	2.84	
11,557.00	90.12	2.14	9,905.02	1,562.98	-26.78	1,563.16	1.75	1.57	0.77	
11,652.00	90.61	1.64	9,904.42	1,657.92	-23.65	1,658.07	0.74	0.52	-0.53	
11,746.00	91.84	1.59	9,902.41	1,751.86	-21.00	1,751.98	1.31	1.31	-0.05	
11,841.00	90.45	1.46	9,900.51	1,846.81	-18.47	1,846.90	1.47	-1.46	-0.14	
11,935.00	92.60	1.60	9,898.01	1,940.74	-15.97	1,940.80	2.29	2.29	0.15	

Company:	Energen Resources	Local Co-ordinate Reference:	Well 251H
Project:	Lea County, NM (NAD83 NME)	TVD Reference:	GL+KB @ 3428.98usft (Scan Texas)
Site:	Pegasus 23-35-16 State	MD Reference:	GL+KB @ 3428.98usft (Scan Texas)
Well:	251H	North Reference:	Grid
Wellbore:	OH/Job# 62309	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Scan Texas)	Database:	USA Compass

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)
12,046.00	90.45	0.07	9,895.05	2,051.68	-14.35	2,051.72	2.38	-1.94	-1.38
12,140.00	88.99	0.24	9,895.51	2,145.67	-14.10	2,145.71	1.56	-1.55	0.18
12,235.00	88.15	0.35	9,897.88	2,240.64	-13.61	2,240.67	0.89	-0.88	0.12
12,329.00	87.68	0.67	9,901.30	2,334.57	-12.77	2,334.59	0.60	-0.50	0.34
12,424.00	90.30	0.11	9,902.98	2,429.55	-12.12	2,429.56	2.82	2.76	-0.59
12,518.00	91.59	359.65	9,901.43	2,523.53	-12.32	2,523.54	1.46	1.37	-0.49
12,613.00	91.07	0.53	9,899.22	2,618.51	-12.17	2,618.51	1.08	-0.55	0.93
12,707.00	91.39	0.33	9,897.20	2,712.48	-11.47	2,712.47	0.40	0.34	-0.21
12,801.00	89.92	0.10	9,896.13	2,806.47	-11.11	2,806.46	1.58	-1.56	-0.24
12,896.00	89.62	359.30	9,896.51	2,901.47	-11.61	2,901.46	0.90	-0.32	-0.84
12,990.00	90.61	359.63	9,896.32	2,995.46	-12.49	2,995.45	1.11	1.05	0.35
13,085.00	91.71	359.16	9,894.40	3,090.44	-13.49	3,090.43	1.26	1.16	-0.49
13,179.00	89.24	359.00	9,893.62	3,184.41	-15.00	3,184.42	2.63	-2.63	-0.17
13,274.00	89.87	358.54	9,894.36	3,279.39	-17.04	3,279.41	0.82	0.66	-0.48
13,368.00	92.56	358.33	9,892.36	3,373.32	-19.61	3,373.36	2.87	2.86	-0.22
13,463.00	90.52	358.90	9,889.81	3,468.26	-21.90	3,468.31	2.23	-2.15	0.60
13,557.00	90.42	359.22	9,889.04	3,562.24	-23.44	3,562.31	0.36	-0.11	0.34
13,652.00	92.01	359.49	9,887.03	3,657.21	-24.51	3,657.28	1.70	1.67	0.28
13,746.00	92.50	0.25	9,883.33	3,751.14	-24.73	3,751.21	0.96	0.52	0.81
13,841.00	91.18	0.40	9,880.28	3,846.08	-24.19	3,846.14	1.40	-1.39	0.16
13,936.00	92.09	0.54	9,877.57	3,941.04	-23.41	3,941.09	0.97	0.96	0.15
14,030.00	89.64	0.23	9,876.15	4,035.02	-22.78	4,035.06	2.63	-2.61	-0.33
14,125.00	89.76	359.97	9,876.65	4,130.02	-22.61	4,130.05	0.30	0.13	-0.27
14,219.00	91.09	0.44	9,875.95	4,224.01	-22.27	4,224.04	1.50	1.41	0.50
14,314.00	90.42	359.55	9,874.70	4,319.00	-22.28	4,319.03	1.17	-0.71	-0.94
14,408.00	89.67	359.26	9,874.62	4,413.00	-23.26	4,413.03	0.86	-0.80	-0.31
14,496.00	90.21	359.03	9,874.71	4,500.99	-24.57	4,501.03	0.67	0.61	-0.26
Final Phoenix MWD Survey									
14,560.00	90.21	359.03	9,874.48	4,564.98	-25.66	4,565.02	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	-0.44	0.43	First Phoenix MWD Survey
14,496.00	9,874.71	4,500.99	-24.57	Final Phoenix MWD Survey
14,560.00	9,874.48	4,564.98	-25.66	Projection to TD