


**PHOENIX
TECHNOLOGY SERVICES**

September 29, 2016

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

HOBBS OCD

OCT 04 2016

RECEIVED

Dear District 1 - Hobbs

Re: McElvain Energy, Inc.
EK 29 BS2 Federal Com 4H
Lea Co., New Mexico
API #30-025-42700
Job No. 60207

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. 664171). 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	
Bill Oehlert	4H	1,868	14,608	09/05/16	09/21/16	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,

Claudia Carreon

Claudia Carreon
Operations Administrator

Certified mail receipt number: 7015 0640 0000 9907 5609

Phoenix Technology Services
SURVEY DATA CERTIFICATION



PHOENIX JOB NUMBER

60207

ENERGY COMPANY McElvain Energy Inc.

WELL NAME EK 29 BS2 Federal Com 4H

COUNTY & STATE

Lea New Mexico

API WELL NUMBER

30-025-42700

PROPOSED DIRECTION

358.28

TIE-IN DATA						
MEASURED DEPTH	VERTICAL DEPTH	INCLIN	AZIMUTH	N-S COORD	E-W COORD	DATA SOURCE
1,818.00 ft	1,817.99 ft	0.11	209.02	-.42 ft	4.89 ft	Gyro

FIRST SURVEY DATE	FIRST SURVEY DEPTH	INCLIN	AZIMUTH
5-Sep-16	1,868.00 ft	0.40	111.10

SURVEY INSTRUMENT TYPE
Phoenix MWD

LAST SURVEY DATE	LAST SURVEY DEPTH	INCLIN	AZIMUTH
21-Sep-16	14,608.00 ft	87.40	356.80

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
21-Sep-16	14,664.00 ft	87.40	356.80

William (Bill) Oehlert

PRINT YOUR NAME ABOVE

Bill Oehlert

SIGN YOUR NAME ABOVE

9/21/2016

TODAY'S DATE

MAGNETIC DECLINATION OR TOTAL GRID

TOTAL CORRECTION USED	6.42
DECLINATION OR GRID	GRID

MWD SUPERVISOR 1

BILL OEHLERT

DIRECTIONAL DRILLER 1

Hicham Chaara

MWD SUPERVISOR 2

Clinton A Kelly

DIRECTIONAL DRILLER 2

Terry Parker

12329 Cutten Rd., Houston, Texas 777066 (713)337-0600 (Voice), (713)337-0599 (Fax)



McElvain Energy, Inc.

Lea County, NM (NAD83)

EK 29 BS2 Federal Com

4H

OH / Job 60207

Survey: Phoenix MWD Surveys

Standard Survey Report

21 September, 2016





Phoenix Technology Services LP

Survey Report



Company: McElvain Energy, Inc.
 Project: Lea County, NM (NAD83)
 Site: EK 29 BS2 Federal Com
 Well: 4H
 Wellbore: OH / Job 60207
 Design: Surveys (H&P 497)

Local Co-ordinate Reference: Well 4H
 TVD Reference: RKB @ 3929.00usft (H&P 497)
 MD Reference: RKB @ 3929.00usft (H&P 497)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: Compass 5000 GCR

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

Site	EK 29 BS2 Federal Com				
Site Position:		Northing:	623,533.90 usft	Latitude:	32° 42' 42.98578 N
From:	Map	Easting:	769,543.90 usft	Longitude:	103° 35' 28.94512 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.40 °

Well	4H					
Well Position	+N/-S	0.00 usft	Northing:	623,533.90 usft	Latitude:	32° 42' 42.98578 N
	+E/-W	0.00 usft	Easting:	769,543.90 usft	Longitude:	103° 35' 28.94512 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	3,904.00 usft

Wellbore OH / Job 60207

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	9/2/2016	6.82	60.78	48,462

Design Surveys (H&P 497)

Audit Notes:

Version: 1.0 Phase: ACTUAL Tie On Depth: 1,818.00

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	358.28

Survey Program Date 9/21/2016

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
118.00	1,818.00	VES Gyro Surveys (OH / Job 60207 (Surfa	NS-GYRO-MS	North sensing gyrocompassing m/s
1,818.00	14,664.00	Phoenix MWD Surveys (OH / Job 60207)	PHX+MWD+HDGM	PHX+OWSG 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)
1,818.00	0.11	209.02	1,817.99	-0.42	4.89	-0.57	0.00	0.00	0.00
1,868.00	0.40	111.10	1,867.99	-0.52	5.03	-0.68	0.86	0.58	-195.84
First Phoenix MWD Survey									
1,981.00	0.30	135.10	1,980.98	-0.88	5.61	-1.04	0.16	-0.09	21.24
2,075.00	0.40	124.10	2,074.98	-1.23	6.06	-1.42	0.13	0.11	-11.70
2,170.00	0.80	111.40	2,169.98	-1.66	6.95	-1.87	0.44	0.42	-13.37
2,264.00	2.10	101.70	2,263.94	-2.25	9.25	-2.53	1.40	1.38	-10.32
2,358.00	3.60	103.90	2,357.83	-3.31	13.80	-3.72	1.60	1.60	2.34
2,452.00	4.70	107.80	2,451.58	-5.20	20.33	-5.80	1.21	1.17	4.15
2,547.00	6.20	106.80	2,546.15	-7.87	28.95	-8.73	1.58	1.58	-1.05



Phoenix Technology Services LP

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 Well: 4H
 Wellbore: OH / Job 60207
 Design: Surveys (H&P 497)

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 TVD Reference: RKB @ 3929.00usft (H&P 497)
 MD Reference: RKB @ 3929.00usft (H&P 497)
 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)
2,641.00	6.80	105.50	2,639.54	-10.82	39.17	-11.99	0.66	0.64	-1.38
2,735.00	7.50	107.30	2,732.81	-14.13	50.39	-15.64	0.78	0.74	1.91
2,829.00	8.40	111.90	2,825.91	-18.52	62.62	-20.39	1.17	0.96	4.89
2,924.00	8.50	119.50	2,919.88	-24.57	75.17	-26.81	1.18	0.11	8.00
3,018.00	7.50	125.60	3,012.96	-31.56	86.20	-34.13	1.39	-1.06	6.49
3,112.00	6.10	128.60	3,106.30	-38.25	95.09	-41.08	1.54	-1.49	3.19
3,206.00	4.70	123.20	3,199.88	-43.47	102.22	-46.52	1.58	-1.49	-5.74
3,301.00	3.90	108.50	3,294.62	-46.63	108.54	-49.86	1.43	-0.84	-15.47
3,395.00	3.60	103.60	3,388.41	-48.33	114.44	-51.75	0.47	-0.32	-5.21
3,489.00	3.20	104.20	3,482.25	-49.67	119.85	-53.25	0.43	-0.43	0.64
3,584.00	3.10	94.70	3,577.11	-50.53	124.98	-54.26	0.56	-0.11	-10.00
3,678.00	3.20	87.60	3,670.96	-50.63	130.14	-54.51	0.43	0.11	-7.55
3,772.00	3.00	88.80	3,764.83	-50.47	135.22	-54.51	0.22	-0.21	1.28
3,866.00	2.90	86.80	3,858.70	-50.29	140.05	-54.47	0.15	-0.11	-2.13
3,960.00	2.90	83.90	3,952.58	-49.90	144.79	-54.22	0.16	0.00	-3.09
4,055.00	2.80	83.40	4,047.46	-49.38	149.48	-53.84	0.11	-0.11	-0.53
4,149.00	2.70	79.30	4,141.36	-48.70	153.94	-53.30	0.23	-0.11	-4.36
4,244.00	2.60	80.20	4,236.25	-47.92	158.26	-52.65	0.11	-0.11	0.95
4,338.00	3.20	81.10	4,330.13	-47.15	162.96	-52.02	0.64	0.64	0.96
4,432.00	3.90	79.20	4,423.95	-46.15	168.69	-51.19	0.76	0.74	-2.02
4,527.00	3.60	75.50	4,518.75	-44.80	174.75	-50.02	0.41	-0.32	-3.89
4,621.00	4.30	75.20	4,612.53	-43.16	181.01	-48.57	0.75	0.74	-0.32
4,716.00	5.00	86.80	4,707.21	-42.02	188.59	-47.66	1.23	0.74	12.21
4,810.00	5.10	92.60	4,800.85	-41.98	196.85	-47.87	0.55	0.11	6.17
4,862.00	4.90	92.10	4,852.65	-42.16	201.38	-48.19	0.39	-0.38	-0.96
4,934.00	4.90	90.30	4,924.39	-42.29	207.53	-48.50	0.21	0.00	-2.50
5,028.00	6.10	100.10	5,017.96	-43.19	216.46	-49.67	1.62	1.28	10.43
5,123.00	6.00	101.50	5,112.43	-45.06	226.30	-51.84	0.19	-0.11	1.47
5,217.00	5.90	101.40	5,205.92	-47.00	235.85	-54.06	0.11	-0.11	-0.11
5,311.00	5.70	101.70	5,299.44	-48.90	245.15	-56.24	0.22	-0.21	0.32
5,405.00	5.80	101.30	5,392.97	-50.78	254.38	-58.39	0.11	0.11	-0.43
5,500.00	5.70	101.10	5,487.49	-52.63	263.72	-60.52	0.11	-0.11	-0.21
5,594.00	5.60	101.50	5,581.03	-54.44	272.79	-62.60	0.11	-0.11	0.43
5,688.00	5.60	102.00	5,674.58	-56.31	281.77	-64.74	0.05	0.00	0.53
5,783.00	5.50	102.40	5,769.14	-58.25	290.75	-66.95	0.11	-0.11	0.42
5,877.00	5.50	101.30	5,862.71	-60.10	299.57	-69.06	0.11	0.00	-1.17
5,971.00	5.40	102.90	5,956.28	-61.97	308.30	-71.19	0.19	-0.11	1.70
6,066.00	5.20	103.80	6,050.87	-63.99	316.84	-73.47	0.23	-0.21	0.95
6,160.00	5.00	102.40	6,144.50	-65.89	324.98	-75.61	0.25	-0.21	-1.49
6,254.00	4.90	105.30	6,238.15	-67.83	332.85	-77.79	0.29	-0.11	3.09
6,349.00	5.50	101.80	6,332.76	-69.83	341.22	-80.04	0.71	0.63	-3.68
6,443.00	6.10	96.10	6,426.28	-71.28	350.60	-81.77	0.88	0.64	-6.06
6,537.00	6.50	93.90	6,519.71	-72.17	360.87	-82.97	0.50	0.43	-2.34



Phoenix Technology Services LP

Survey Report



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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)
6,632.00	6.40	93.80	6,614.11	-72.89	371.52	-84.01	0.11	-0.11	-0.11
6,726.00	6.40	93.10	6,707.53	-73.52	381.98	-84.95	0.08	0.00	-0.74
6,821.00	6.30	99.70	6,801.94	-74.69	392.40	-86.43	0.78	-0.11	6.95
6,915.00	5.80	101.90	6,895.42	-76.53	402.13	-88.57	0.59	-0.53	2.34
7,010.00	6.20	101.20	6,989.90	-78.52	411.86	-90.85	0.43	0.42	-0.74
7,104.00	6.20	102.00	7,083.35	-80.56	421.81	-93.19	0.09	0.00	0.85
7,198.00	6.10	102.00	7,176.81	-82.66	431.66	-95.57	0.11	-0.11	0.00
7,293.00	6.70	97.60	7,271.22	-84.44	442.09	-97.67	0.82	0.63	-4.63
7,387.00	6.50	97.40	7,364.59	-85.85	452.80	-99.40	0.21	-0.21	-0.21
7,482.00	7.00	96.50	7,458.93	-87.20	463.88	-101.08	0.54	0.53	-0.95
7,576.00	6.30	94.30	7,552.30	-88.23	474.72	-102.44	0.79	-0.74	-2.34
7,671.00	6.90	90.30	7,646.67	-88.65	485.62	-103.19	0.80	0.63	-4.21
7,766.00	7.80	94.00	7,740.89	-89.13	497.76	-104.03	1.07	0.95	3.89
7,860.00	8.00	102.10	7,834.00	-90.95	510.52	-106.23	1.20	0.21	8.62
7,954.00	7.20	104.90	7,927.18	-93.83	522.61	-109.48	0.94	-0.85	2.98
8,049.00	7.10	99.40	8,021.44	-96.32	534.15	-112.31	0.73	-0.11	-5.79
8,143.00	6.70	98.90	8,114.76	-98.12	545.30	-114.44	0.43	-0.43	-0.53
8,237.00	6.60	100.50	8,208.13	-99.95	556.03	-116.60	0.22	-0.11	1.70
8,332.00	7.70	95.10	8,302.39	-101.51	567.74	-118.51	1.36	1.16	-5.68
8,426.00	7.20	94.60	8,395.59	-102.55	579.88	-119.90	0.54	-0.53	-0.53
8,520.00	7.20	95.50	8,488.85	-103.58	591.62	-121.29	0.12	0.00	0.96
8,615.00	6.20	95.60	8,583.20	-104.65	602.65	-122.70	1.05	-1.05	0.11
8,709.00	6.30	96.00	8,676.64	-105.69	612.83	-124.04	0.12	0.11	0.43
8,802.00	7.20	97.40	8,769.00	-106.97	623.68	-125.64	0.98	0.97	1.51
8,896.00	9.10	99.50	8,862.04	-108.96	636.86	-128.02	2.05	2.02	2.23
8,991.00	10.20	102.90	8,955.70	-112.08	652.47	-131.61	1.30	1.16	3.58
9,085.00	10.10	106.00	9,048.23	-116.21	668.50	-136.22	0.59	-0.11	3.30
9,179.00	9.80	107.60	9,140.81	-120.90	684.05	-141.37	0.43	-0.32	1.70
9,273.00	9.40	104.40	9,233.50	-125.23	699.11	-146.15	0.71	-0.43	-3.40
9,357.00	8.70	105.50	9,316.45	-128.63	711.88	-149.94	0.86	-0.83	1.31
9,419.00	8.00	101.70	9,377.80	-130.76	720.62	-152.33	1.44	-1.13	-6.13
9,451.00	10.60	77.30	9,409.38	-130.56	725.68	-152.28	14.59	8.13	-76.25
9,482.00	14.30	62.10	9,439.66	-128.14	731.85	-150.05	15.85	11.94	-49.03
9,514.00	18.50	55.30	9,470.35	-123.40	739.52	-145.54	14.41	13.13	-21.25
9,545.00	21.50	49.30	9,499.48	-116.89	747.87	-139.29	11.71	9.68	-19.35
9,577.00	24.00	44.70	9,528.99	-108.44	756.90	-131.11	9.58	7.81	-14.38
9,608.00	26.60	40.60	9,557.02	-98.69	765.85	-121.63	10.11	8.39	-13.23
9,640.00	29.10	36.00	9,585.31	-86.95	775.09	-110.18	10.30	7.81	-14.38
9,672.00	30.70	31.30	9,613.06	-73.67	783.91	-97.17	8.86	5.00	-14.69
9,703.00	31.40	28.60	9,639.62	-59.82	791.88	-83.56	5.03	2.26	-8.71
9,735.00	32.20	24.50	9,666.82	-44.74	799.41	-68.71	7.20	2.50	-12.81
9,766.00	34.80	19.30	9,692.67	-28.87	805.76	-53.04	12.49	8.39	-16.77
9,798.00	36.10	13.50	9,718.74	-11.08	810.98	-35.42	11.27	4.06	-18.13



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9,829.00	38.80	9.30	9,743.36	7.39	814.69	-17.06	11.98	8.71	-13.55
9,860.00	42.40	7.40	9,766.89	27.35	817.60	2.80	12.28	11.61	-6.13
9,892.00	46.10	6.00	9,789.81	49.52	820.20	24.88	11.96	11.56	-4.38
9,924.00	50.50	5.00	9,811.09	73.30	822.48	48.58	13.95	13.75	-3.13
9,955.00	53.80	3.80	9,830.11	97.70	824.35	72.91	11.07	10.65	-3.87
9,987.00	57.30	2.50	9,848.21	124.04	825.80	99.20	11.44	10.94	-4.06
10,018.00	61.60	1.80	9,863.96	150.72	826.79	125.83	14.01	13.87	-2.26
10,049.00	65.60	1.10	9,877.75	178.47	827.49	153.55	13.06	12.90	-2.26
10,081.00	69.10	0.50	9,890.07	207.99	827.90	183.05	11.07	10.94	-1.88
10,112.00	71.50	0.00	9,900.52	237.18	828.03	212.22	7.89	7.74	-1.61
10,144.00	73.30	1.50	9,910.19	267.67	828.43	242.69	7.18	5.63	4.69
10,175.00	75.40	1.00	9,918.55	297.52	829.08	272.50	6.95	6.77	-1.61
10,207.00	79.00	1.00	9,925.64	328.71	829.63	303.66	11.25	11.25	0.00
10,236.00	82.00	0.00	9,930.43	357.31	829.87	332.24	10.89	10.34	-3.45
10,268.00	83.50	0.40	9,934.47	389.05	829.99	363.96	4.85	4.69	1.25
10,300.00	86.20	1.70	9,937.34	420.91	830.57	395.79	9.36	8.44	4.06
10,331.00	88.10	1.80	9,938.88	451.86	831.52	426.70	6.14	6.13	0.32
10,362.00	89.80	2.40	9,939.45	482.83	832.65	457.62	5.82	5.48	1.94
10,394.00	90.70	2.50	9,939.31	514.80	834.02	489.54	2.83	2.81	0.31
10,425.00	91.30	2.10	9,938.77	545.77	835.26	520.45	2.33	1.94	-1.29
10,457.00	90.50	1.90	9,938.26	577.75	836.38	552.38	2.58	-2.50	-0.63
10,488.00	90.40	2.10	9,938.02	608.73	837.46	583.32	0.72	-0.32	0.65
10,520.00	89.90	1.50	9,937.94	640.71	838.47	615.26	2.44	-1.56	-1.88
10,551.00	88.50	1.10	9,938.37	671.70	839.17	646.21	4.70	-4.52	-1.29
10,583.00	87.40	1.10	9,939.52	703.67	839.78	678.15	3.44	-3.44	0.00
10,614.00	87.70	1.10	9,940.84	734.64	840.38	709.08	0.97	0.97	0.00
10,646.00	88.00	0.60	9,942.04	766.61	840.85	741.03	1.82	0.94	-1.56
10,677.00	88.50	0.80	9,942.99	797.60	841.23	771.99	1.74	1.61	0.65
10,709.00	88.70	0.40	9,943.77	829.58	841.57	803.95	1.40	0.63	-1.25
10,740.00	89.40	0.30	9,944.28	860.58	841.76	834.93	2.28	2.26	-0.32
10,772.00	89.80	0.10	9,944.51	892.58	841.87	866.91	1.40	1.25	-0.63
10,803.00	90.30	0.10	9,944.48	923.58	841.92	897.89	1.61	1.61	0.00
10,834.00	90.90	359.70	9,944.15	954.58	841.87	928.88	2.33	1.94	-1.29
10,897.00	91.50	359.40	9,942.84	1,017.56	841.37	991.85	1.06	0.95	-0.48
10,929.00	91.80	359.40	9,941.91	1,049.54	841.04	1,023.83	0.94	0.94	0.00
11,023.00	92.10	357.60	9,938.72	1,143.45	838.58	1,117.77	1.94	0.32	-1.91
11,118.00	92.90	357.20	9,934.57	1,238.27	834.27	1,212.67	0.94	0.84	-0.42
11,212.00	91.60	358.00	9,930.88	1,332.11	830.34	1,306.58	1.62	-1.38	0.85
11,306.00	89.10	357.90	9,930.31	1,426.04	826.98	1,400.57	2.66	-2.66	-0.11
11,401.00	89.60	357.60	9,931.38	1,520.96	823.25	1,495.56	0.61	0.53	-0.32
11,495.00	90.80	356.60	9,931.06	1,614.83	818.49	1,589.54	1.66	1.28	-1.06
11,589.00	89.70	356.80	9,930.65	1,708.68	813.08	1,683.50	1.19	-1.17	0.21
11,683.00	90.50	356.80	9,930.48	1,802.53	807.84	1,777.47	0.85	0.85	0.00
11,778.00	91.90	356.00	9,928.49	1,897.32	801.87	1,872.39	1.70	1.47	-0.84



Phoenix Technology Services LP

Survey Report



Company: McElvain Energy, Inc.
 Project: Lea County, NM (NAD83)
 Site: EK 29 BS2 Federal Com
 Well: 4H
 Wellbore: OH / Job 60207
 Design: Surveys (H&P 497)

Local Co-ordinate Reference: Well 4H
 TVD Reference: RKB @ 3929.00usft (H&P 497)
 MD Reference: RKB @ 3929.00usft (H&P 497)
 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)
11,872.00	91.60	357.00	9,925.62	1,991.10	796.14	1,966.30	1.11	-0.32	1.06
11,967.00	89.80	357.80	9,924.46	2,085.99	791.83	2,061.28	2.07	-1.89	0.84
12,061.00	91.80	356.50	9,923.15	2,179.86	787.15	2,155.25	2.54	2.13	-1.38
12,156.00	91.30	357.90	9,920.58	2,274.70	782.52	2,250.19	1.56	-0.53	1.47
12,250.00	90.00	358.90	9,919.51	2,368.66	779.89	2,344.18	1.74	-1.38	1.06
12,344.00	90.80	359.00	9,918.86	2,462.64	778.17	2,438.17	0.86	0.85	0.11
12,439.00	90.00	358.20	9,918.19	2,557.61	775.85	2,533.17	1.19	-0.84	-0.84
12,533.00	91.10	358.20	9,917.29	2,651.56	772.90	2,627.16	1.17	1.17	0.00
12,628.00	90.60	358.10	9,915.88	2,746.50	769.83	2,722.15	0.54	-0.53	-0.11
12,723.00	89.40	358.90	9,915.88	2,841.46	767.34	2,817.15	1.52	-1.26	0.84
12,817.00	90.70	358.90	9,915.80	2,935.44	765.54	2,911.14	1.38	1.38	0.00
12,912.00	90.50	358.50	9,914.81	3,030.41	763.38	3,006.13	0.47	-0.21	-0.42
13,006.00	91.20	357.80	9,913.41	3,124.35	760.35	3,100.12	1.05	0.74	-0.74
13,101.00	90.20	358.20	9,912.25	3,219.28	757.03	3,195.11	1.13	-1.05	0.42
13,195.00	89.80	357.90	9,912.25	3,313.23	753.84	3,289.11	0.53	-0.43	-0.32
13,290.00	90.40	357.40	9,912.08	3,408.15	749.94	3,384.10	0.82	0.63	-0.53
13,384.00	92.90	357.40	9,909.38	3,502.01	745.68	3,478.05	2.66	2.66	0.00
13,479.00	93.90	358.00	9,903.74	3,596.76	741.87	3,572.87	1.23	1.05	0.63
13,573.00	93.10	357.90	9,898.01	3,690.52	738.52	3,666.69	0.86	-0.85	-0.11
13,668.00	92.00	358.90	9,893.78	3,785.39	735.87	3,761.60	1.56	-1.16	1.05
13,762.00	92.20	358.60	9,890.33	3,879.30	733.82	3,855.53	0.38	0.21	-0.32
13,856.00	92.00	357.10	9,886.89	3,973.17	730.29	3,949.46	1.61	-0.21	-1.60
13,950.00	91.40	357.50	9,884.10	4,067.03	725.87	4,043.41	0.77	-0.64	0.43
14,045.00	90.60	357.50	9,882.44	4,161.92	721.72	4,138.38	0.84	-0.84	0.00
14,139.00	89.20	357.70	9,882.61	4,255.84	717.79	4,232.37	1.50	-1.49	0.21
14,233.00	90.50	357.50	9,882.85	4,349.75	713.85	4,326.36	1.40	1.38	-0.21
14,327.00	89.70	356.80	9,882.69	4,443.63	709.18	4,420.34	1.13	-0.85	-0.74
14,422.00	88.40	357.60	9,884.26	4,538.50	704.54	4,515.31	1.61	-1.37	0.84
14,516.00	87.40	357.40	9,887.71	4,632.35	700.44	4,609.24	1.08	-1.06	-0.21
14,608.00	87.40	356.80	9,891.88	4,724.14	695.79	4,701.12	0.65	0.00	-0.65
Final Phoenix MWD Survey									
14,664.00	87.40	356.80	9,894.42	4,779.99	692.67	4,757.05	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)	
1,868.00	1,867.99	-0.52	5.03	First Phoenix MWD Survey
14,608.00	9,891.88	4,680.25	698.13	Final Phoenix MWD Survey
14,664.00	9,894.42	4,724.14	695.79	Projection to TD