



PHOENIX
TECHNOLOGY SERVICES

COG Operating LLC

Eddy County, NM (NAD27 NME)

Burch Keely Unit

#960H

OH / 63795

Survey: Phoenix MWD Surveys

Standard Survey Report

05 November, 2018

RECEIVED

MAY 02 2019

DISTRICT II-ARTESIA O.C.D.



Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #960H
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	RKB @ 3598.50usft (Trinidad 436)
Site:	Burch Keely Unit	MD Reference:	RKB @ 3598.50usft (Trinidad 436)
Well:	#960H	North Reference:	Grid
Wellbore:	OH / 63795	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Trinidad 436)	Database:	USA Compass

Project	Eddy County, NM (NAD27 NME)		
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	Burch Keely Unit		
-------------	------------------	--	--

Site Position:		Northing:	666,591.10 usft	Latitude:	32° 49' 55.74916 N
From:	Map	Easting:	596,305.50 usft	Longitude:	104° 1' 11.28420 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.17 °

Well	#960H				
Well Position	+N/-S	0.00 usft	Northing:	660,325.50 usft	Latitude: 32° 48' 53.89754 N
	+E/-W	0.00 usft	Easting:	591,112.80 usft	Longitude: 104° 2' 12.34878 W
Position Uncertainty	0.00 usft		Wellhead Elevation:	usft	Ground Level: 3,582.00 usft

Wellbore	OH / 63795				
-----------------	------------	--	--	--	--

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	MVHD	10/10/2018	7.49	60.60	48,140.31867754

Design	Surveys (Trinidad 436)				
---------------	------------------------	--	--	--	--

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	80.53

Survey Program		Date	11/5/2018		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
100.00	846.00	Scientific Gyro Surveys (OH / 63795)	NS-GYRO-MS	North sensing gyrocompassing m/s	
992.00	10,257.00	Phoenix MWD Surveys (OH / 63795)	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)
846.00	1.75	69.88	845.78	2.92	17.54	17.78	0.00	0.00	0.00
Tie In									
992.00	1.50	73.27	991.72	4.24	21.46	21.87	0.18	-0.17	2.32
First Phoenix MWD Survey									
1,055.00	1.45	78.88	1,054.70	4.63	23.04	23.48	0.24	-0.08	8.90
1,118.00	1.35	76.64	1,117.68	4.96	24.54	25.02	0.18	-0.16	-3.56
1,180.00	1.13	324.29	1,179.68	5.62	24.89	25.48	3.33	-0.35	-181.21
1,243.00	2.97	298.07	1,242.63	6.90	23.09	23.91	3.20	2.92	-41.62
1,306.00	4.89	275.11	1,305.49	7.90	18.97	20.02	3.88	3.05	-36.44

Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #960H
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	RKB @ 3598.50usft (Trinidad 436)
Site:	Burch Keely Unit	MD Reference:	RKB @ 3598.50usft (Trinidad 436)
Well:	#960H	North Reference:	Grid
Wellbore:	OH / 63795	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Trinidad 436)	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)
1,369.00	5.14	274.64	1,368.25	8.37	13.49	14.68	0.40	0.40	-0.75
1,432.00	7.17	264.72	1,430.88	8.24	6.76	8.02	3.63	3.22	-15.75
1,496.00	7.48	261.52	1,494.36	7.25	-1.34	-0.13	0.80	0.48	-5.00
1,559.00	7.22	258.33	1,556.84	5.85	-9.27	-8.18	0.77	-0.41	-5.06
1,622.00	6.93	255.57	1,619.36	4.10	-16.83	-15.92	0.71	-0.46	-4.38
1,685.00	6.69	254.17	1,681.92	2.15	-24.04	-23.36	0.46	-0.38	-2.22
1,748.00	7.08	271.92	1,744.47	1.28	-31.45	-30.81	3.42	0.62	28.17
1,811.00	6.81	274.11	1,807.01	1.68	-39.06	-38.25	0.60	-0.43	3.48
1,874.00	6.42	273.41	1,869.59	2.16	-46.30	-45.31	0.63	-0.62	-1.11
1,937.00	6.05	272.45	1,932.22	2.51	-53.13	-52.00	0.61	-0.59	-1.52
2,000.00	5.84	271.74	1,994.88	2.75	-59.65	-58.39	0.35	-0.33	-1.13
2,063.00	5.69	267.93	2,057.56	2.73	-65.98	-64.63	0.65	-0.24	-6.05
2,126.00	5.69	265.33	2,120.25	2.37	-72.21	-70.84	0.41	0.00	-4.13
2,189.00	5.68	264.16	2,182.94	1.79	-78.43	-77.06	0.18	-0.02	-1.86
2,252.00	5.72	260.24	2,245.63	0.94	-84.62	-83.31	0.62	0.06	-6.22
2,315.00	5.93	257.35	2,308.30	-0.30	-90.89	-89.70	0.57	0.33	-4.59
2,378.00	6.05	255.83	2,370.96	-1.83	-97.29	-96.26	0.32	0.19	-2.41
2,441.00	6.18	253.44	2,433.60	-3.61	-103.75	-102.93	0.45	0.21	-3.79
2,504.00	6.31	251.87	2,496.23	-5.65	-110.30	-109.72	0.34	0.21	-2.49
2,567.00	6.34	251.38	2,558.84	-7.84	-116.88	-116.58	0.10	0.05	-0.78
2,630.00	6.46	252.32	2,621.45	-10.02	-123.56	-123.52	0.25	0.19	1.49
2,659.00	6.53	252.41	2,650.26	-11.02	-126.68	-126.77	0.24	0.24	0.31
2,722.00	6.72	251.85	2,712.84	-13.25	-133.60	-133.96	0.32	0.30	-0.89
2,785.00	6.96	251.97	2,775.39	-15.58	-140.73	-141.38	0.38	0.38	0.19
2,848.00	7.25	260.75	2,837.91	-17.40	-148.28	-149.13	1.78	0.46	13.94
2,912.00	7.41	261.77	2,901.39	-18.64	-156.35	-157.29	0.32	0.25	1.59
2,975.00	7.54	262.42	2,963.85	-19.77	-164.47	-165.48	0.25	0.21	1.03
3,038.00	8.13	274.42	3,026.27	-19.97	-173.01	-173.94	2.75	0.94	19.05
3,101.00	8.38	275.34	3,088.62	-19.20	-182.02	-182.70	0.45	0.40	1.46
3,164.00	8.55	276.09	3,150.93	-18.27	-191.25	-191.65	0.32	0.27	1.19
3,227.00	8.71	276.38	3,213.22	-17.25	-200.65	-200.75	0.26	0.25	0.46
3,290.00	9.02	272.41	3,275.46	-16.51	-210.32	-210.17	1.09	0.49	-6.30
3,353.00	9.39	271.37	3,337.65	-16.18	-220.40	-220.05	0.64	0.59	-1.65
3,416.00	8.30	267.66	3,399.90	-16.24	-230.08	-229.61	1.95	-1.73	-5.89
3,479.00	8.43	266.32	3,462.23	-16.72	-239.23	-238.72	0.37	0.21	-2.13
3,542.00	8.65	267.49	3,524.54	-17.23	-248.57	-248.02	0.44	0.35	1.86
3,605.00	8.11	271.38	3,586.86	-17.33	-257.75	-257.08	1.24	-0.86	6.17
3,668.00	7.11	275.33	3,649.31	-16.86	-266.07	-265.22	1.79	-1.59	6.27
3,731.00	5.51	281.47	3,711.92	-15.89	-272.92	-271.81	2.75	-2.54	9.75
3,794.00	5.07	280.05	3,774.66	-14.81	-278.62	-277.26	0.73	-0.70	-2.25
3,857.00	4.12	284.78	3,837.45	-13.74	-283.55	-281.95	1.62	-1.51	7.51
3,920.00	2.35	308.96	3,900.35	-12.35	-286.75	-284.87	3.49	-2.81	38.38
3,983.00	0.98	23.98	3,963.33	-11.05	-287.53	-285.43	3.65	-2.17	119.08

Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #960H
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	RKB @ 3598.50usft (Trinidad 436)
Site:	Burch Keely Unit	MD Reference:	RKB @ 3598.50usft (Trinidad 436)
Well:	#960H	North Reference:	Grid
Wellbore:	OH / 63795	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Trinidad 436)	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)
4,046.00	1.02	37.35	4,026.32	-10.11	-286.97	-284.72	0.37	0.06	21.22
4,109.00	1.03	41.67	4,089.31	-9.24	-286.26	-283.87	0.12	0.02	6.86
4,172.00	1.14	43.34	4,152.30	-8.36	-285.45	-282.93	0.18	0.17	2.65
4,235.00	1.14	41.48	4,215.29	-7.44	-284.60	-281.95	0.06	0.00	-2.95
4,298.00	2.84	65.61	4,278.25	-6.32	-282.77	-279.95	2.95	2.70	38.30
4,332.00	6.35	74.34	4,312.13	-5.47	-280.19	-277.27	10.50	10.32	25.68
4,363.00	9.23	76.04	4,342.84	-4.41	-276.12	-273.09	9.32	9.29	5.48
4,394.00	11.61	76.85	4,373.33	-3.10	-270.67	-267.49	7.69	7.68	2.61
4,425.00	13.82	77.93	4,403.57	-1.61	-264.01	-260.68	7.17	7.13	3.48
4,457.00	16.26	80.20	4,434.47	-0.05	-255.86	-252.38	7.84	7.63	7.09
4,488.00	18.88	81.75	4,464.02	1.41	-246.62	-243.03	8.58	8.45	5.00
4,520.00	21.21	84.10	4,494.08	2.75	-235.74	-232.07	7.70	7.28	7.34
4,583.00	25.61	89.15	4,551.89	4.12	-210.77	-207.22	7.67	6.98	8.02
4,645.00	32.37	90.88	4,606.09	4.06	-180.74	-177.61	10.99	10.90	2.79
4,708.00	39.65	90.62	4,657.02	3.59	-143.73	-141.18	11.56	11.56	-0.41
4,771.00	47.13	90.17	4,702.77	3.30	-100.48	-98.57	11.88	11.87	-0.71
4,834.00	48.67	90.10	4,745.00	3.19	-53.74	-52.48	2.45	2.44	-0.11
4,897.00	49.82	90.16	4,786.13	3.08	-6.02	-5.43	1.83	1.83	0.10
4,937.42	50.42	89.95	4,812.05	3.05	25.00	25.16	1.53	1.48	-0.51
FTP: 4937' MD									
4,960.00	50.75	89.84	4,826.38	3.08	42.44	42.37	1.53	1.48	-0.50
5,023.00	55.71	88.85	4,864.08	3.67	92.89	92.23	7.97	7.87	-1.57
5,086.00	63.24	89.03	4,896.06	4.67	147.11	145.87	11.95	11.95	0.29
5,149.00	71.01	91.57	4,920.53	4.33	205.10	203.02	12.88	12.33	4.03
5,180.00	75.10	92.39	4,929.57	3.31	234.73	232.08	13.43	13.19	2.65
5,212.00	78.69	92.52	4,936.82	1.97	265.86	262.56	11.23	11.22	0.41
5,243.00	81.33	92.01	4,942.20	0.77	296.37	292.45	8.67	8.52	-1.65
5,274.00	83.73	91.15	4,946.23	-0.08	327.09	322.62	8.22	7.74	-2.77
5,306.00	86.20	90.35	4,949.04	-0.50	358.96	353.99	8.11	7.72	-2.50
5,337.00	87.71	90.14	4,950.68	-0.63	389.92	384.50	4.92	4.87	-0.68
5,400.00	88.59	86.73	4,952.72	1.09	452.85	446.86	5.59	1.40	-5.41
5,463.00	89.62	85.71	4,953.70	5.24	515.70	509.54	2.30	1.63	-1.62
5,526.00	90.67	85.09	4,953.54	10.30	578.50	572.31	1.94	1.67	-0.98
5,589.00	91.73	84.25	4,952.22	16.15	641.21	635.13	2.15	1.68	-1.33
5,652.00	91.98	84.04	4,950.18	22.57	703.85	697.97	0.52	0.40	-0.33
5,715.00	90.92	84.71	4,948.59	28.74	766.52	760.81	1.99	-1.68	1.06
5,778.00	90.18	86.93	4,947.99	33.33	829.35	823.53	3.71	-1.17	3.52
5,841.00	90.96	86.80	4,947.36	36.78	892.25	886.14	1.26	1.24	-0.21
5,903.00	91.27	87.08	4,946.15	40.09	954.15	947.74	0.67	0.50	0.45
5,967.00	88.36	87.52	4,946.36	43.10	1,018.07	1,011.29	4.60	-4.55	0.69
6,030.00	88.75	86.86	4,947.95	46.19	1,080.98	1,073.84	1.22	0.62	-1.05
6,093.00	89.35	86.79	4,948.99	49.68	1,143.87	1,136.45	0.96	0.95	-0.11
6,156.00	89.72	88.00	4,949.50	52.54	1,206.80	1,199.00	2.01	0.59	1.92
6,219.00	90.92	88.11	4,949.15	54.68	1,269.76	1,261.45	1.91	1.90	0.17

Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #960H
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	RKB @ 3598.50usft (Trinidad 436)
Site:	Burch Keely Unit	MD Reference:	RKB @ 3598.50usft (Trinidad 436)
Well:	#960H	North Reference:	Grid
Wellbore:	OH / 63795	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Trinidad 436)	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)
6,282.00	91.36	89.82	4,947.90	55.82	1,332.74	1,323.76	2.80	0.70	2.71
6,345.00	91.69	89.79	4,946.22	56.03	1,395.72	1,385.91	0.53	0.52	-0.05
6,409.00	90.12	89.79	4,945.21	56.27	1,459.71	1,449.07	2.45	-2.45	0.00
6,472.00	90.67	89.33	4,944.78	56.75	1,522.70	1,511.28	1.14	0.87	-0.73
6,535.00	91.13	89.16	4,943.79	57.58	1,585.69	1,573.55	0.78	0.73	-0.27
6,598.00	89.56	89.60	4,943.41	58.26	1,648.68	1,635.80	2.59	-2.49	0.70
6,661.00	90.75	89.53	4,943.24	58.74	1,711.68	1,698.01	1.89	1.89	-0.11
6,724.00	91.64	89.20	4,941.92	59.44	1,774.66	1,760.25	1.51	1.41	-0.52
6,819.00	92.52	87.49	4,938.47	62.18	1,869.55	1,854.30	2.02	0.93	-1.80
6,883.00	92.13	86.55	4,935.88	65.50	1,933.41	1,917.84	1.59	-0.61	-1.47
6,945.00	91.90	84.27	4,933.70	70.46	1,995.17	1,979.57	3.69	-0.37	-3.68
7,008.00	91.53	80.97	4,931.81	78.55	2,057.61	2,042.49	5.27	-0.59	-5.24
7,071.00	91.15	78.02	4,930.34	90.03	2,119.53	2,105.46	4.72	-0.60	-4.68
7,135.00	86.96	75.65	4,931.39	104.60	2,181.83	2,169.30	7.52	-6.55	-3.70
7,197.00	82.33	74.65	4,937.18	120.42	2,241.48	2,230.74	7.64	-7.47	-1.61
7,229.00	81.74	77.05	4,941.61	128.16	2,272.20	2,262.32	7.65	-1.84	7.50
7,260.00	81.62	79.85	4,946.10	134.30	2,302.25	2,292.97	8.95	-0.39	9.03
7,323.00	81.91	84.71	4,955.13	142.68	2,364.02	2,355.27	7.65	0.46	7.71
7,355.00	82.04	87.98	4,959.60	144.70	2,395.64	2,386.79	10.13	0.41	10.22
7,387.00	82.74	90.69	4,963.84	145.06	2,427.35	2,418.13	8.67	2.19	8.47
7,418.00	84.75	92.19	4,967.21	144.29	2,458.15	2,448.39	8.07	6.48	4.84
7,450.00	87.81	92.19	4,969.29	143.07	2,490.06	2,479.66	9.56	9.56	0.00
7,513.00	92.78	94.87	4,968.97	139.19	2,552.91	2,541.02	8.96	7.89	4.25
7,575.00	93.18	95.08	4,965.74	133.82	2,614.60	2,600.98	0.73	0.65	0.34
7,639.00	92.86	95.05	4,962.37	128.18	2,678.26	2,662.84	0.50	-0.50	-0.05
7,703.00	93.04	95.55	4,959.08	122.28	2,741.90	2,724.64	0.83	0.28	0.78
7,766.00	92.66	96.06	4,955.94	115.91	2,804.50	2,785.34	1.01	-0.60	0.81
7,829.00	91.76	93.78	4,953.51	110.51	2,867.21	2,846.32	3.89	-1.43	-3.62
7,891.00	91.27	91.66	4,951.87	107.57	2,929.12	2,906.89	3.51	-0.79	-3.42
7,954.00	91.61	91.45	4,950.29	105.86	2,992.08	2,968.71	0.63	0.54	-0.33
8,017.00	92.36	90.28	4,948.11	104.91	3,055.03	3,030.65	2.21	1.19	-1.86
8,080.00	92.70	90.22	4,945.33	104.64	3,117.97	3,092.68	0.55	0.54	-0.10
8,143.00	92.98	90.25	4,942.21	104.38	3,180.89	3,154.71	0.45	0.44	0.05
8,206.00	92.96	90.29	4,938.94	104.08	3,243.80	3,216.71	0.07	-0.03	0.06
8,269.00	92.86	90.19	4,935.74	103.82	3,306.72	3,278.73	0.22	-0.16	-0.16
8,333.00	92.92	89.64	4,932.52	103.91	3,370.64	3,341.79	0.86	0.09	-0.86
8,396.00	91.13	88.43	4,930.29	104.98	3,433.59	3,404.06	3.43	-2.84	-1.92
8,459.00	91.41	88.65	4,928.90	106.58	3,496.55	3,466.43	0.57	0.44	0.35
8,522.00	91.50	88.83	4,927.30	107.96	3,559.52	3,528.76	0.32	0.14	0.29
8,586.00	91.47	88.83	4,925.64	109.27	3,623.48	3,592.07	0.05	-0.05	0.00
8,649.00	91.35	88.70	4,924.09	110.63	3,686.45	3,654.40	0.28	-0.19	-0.21
8,711.00	91.15	88.44	4,922.73	112.18	3,748.41	3,715.78	0.53	-0.32	-0.42
8,774.00	91.72	88.59	4,921.16	113.81	3,811.37	3,778.15	0.94	0.90	0.24

Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #960H
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	RKB @ 3598.50usft (Trinidad 436)
Site:	Burch Keely Unit	MD Reference:	RKB @ 3598.50usft (Trinidad 436)
Well:	#960H	North Reference:	Grid
Wellbore:	OH / 63795	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Trinidad 436)	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)	
8,837.00	87.69	86.98	4,921.48	116.24	3,874.31	3,840.63	6.89	-6.40	-2.56	
8,900.00	86.27	86.66	4,924.80	119.73	3,937.12	3,903.16	2.31	-2.25	-0.51	
8,963.00	86.38	87.55	4,928.84	122.91	3,999.91	3,965.61	1.42	0.17	1.41	
9,025.00	88.43	89.70	4,931.65	124.39	4,061.83	4,026.93	4.79	3.31	3.47	
9,088.00	89.98	90.78	4,932.52	124.13	4,124.82	4,089.02	3.00	2.46	1.71	
9,151.00	91.58	91.31	4,931.66	122.98	4,187.80	4,150.95	2.68	2.54	0.84	
9,214.00	91.67	91.13	4,929.88	121.64	4,250.76	4,212.83	0.32	0.14	-0.29	
9,277.00	90.44	90.19	4,928.72	120.91	4,313.74	4,274.84	2.46	-1.95	-1.49	
9,340.00	89.86	88.61	4,928.55	121.57	4,376.73	4,337.08	2.67	-0.92	-2.51	
9,403.00	90.52	88.74	4,928.34	123.03	4,439.72	4,399.44	1.07	1.05	0.21	
9,466.00	90.12	88.18	4,927.99	124.72	4,502.69	4,461.84	1.09	-0.63	-0.89	
9,529.00	88.98	87.09	4,928.48	127.32	4,565.64	4,524.35	2.50	-1.81	-1.73	
9,592.00	88.04	86.71	4,930.12	130.73	4,628.52	4,586.94	1.61	-1.49	-0.60	
9,654.00	89.74	87.51	4,931.32	133.85	4,690.43	4,648.52	3.03	2.74	1.29	
9,717.00	90.18	87.11	4,931.37	136.81	4,753.36	4,711.08	0.94	0.70	-0.63	
9,780.00	90.09	87.24	4,931.22	139.91	4,816.28	4,773.65	0.25	-0.14	0.21	
9,843.00	90.37	86.61	4,930.97	143.29	4,879.19	4,836.26	1.09	0.44	-1.00	
9,906.00	90.66	86.28	4,930.40	147.20	4,942.07	4,898.92	0.70	0.46	-0.52	
9,969.00	92.09	86.54	4,928.89	151.14	5,004.92	4,961.57	2.31	2.27	0.41	
10,032.00	92.78	87.22	4,926.21	154.57	5,067.77	5,024.13	1.54	1.10	1.08	
10,048.03	92.76	87.21	4,925.44	155.35	5,083.76	5,040.03	0.11	-0.10	-0.06	
HL Crossing: 10048' MD										
10,095.00	92.72	87.18	4,923.19	157.64	5,130.62	5,086.63	0.11	-0.10	-0.06	
10,158.00	92.64	87.29	4,920.24	160.68	5,193.48	5,149.13	0.22	-0.13	0.17	
10,194.00	92.89	87.35	4,918.51	162.36	5,229.40	5,184.83	0.71	0.69	0.17	
Final Phoenix MWD Survey										
10,257.00	92.89	87.35	4,915.33	165.27	5,292.25	5,247.31	0.00	0.00	0.00	
Projection to TD										

Survey Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
846.00	845.78	2.92	17.54	Tie In	
992.00	991.72	4.24	21.46	First Phoenix MWD Survey	
4,937.42	4,812.05	3.05	25.00	FTP: 4937' MD	
10,048.03	4,925.44	155.35	5,083.76	HL Crossing: 10048' MD	
10,194.00	4,918.51	162.36	5,229.40	Final Phoenix MWD Survey	
10,257.00	4,915.33	165.27	5,292.25	Projection to TD	