



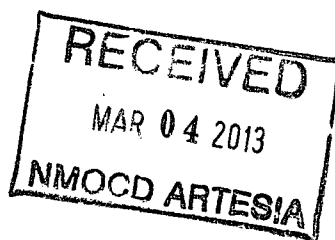
PHOENIX
TECHNOLOGY SERVICES

February 27, 2013

Oil Conservation Division
State of New Mexico
811 S. First St.
Artesia, New Mexico 88210

Dear District 2 - Artesia

Re: Concho Resources Inc.
Hearse 36 State #2H
Eddy Co., NM
API #30-015-40944
Job No. 1310152



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	Drainhole Number	Surveyed Depths		Dates Performed		Type of Survey
		From	To	Start	End	
Robert Dillon	2H	2,495	7,536	02/10/13	02/22/13	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,

Kelly Jo Walter

Kelly Jo Walter
Operations Administrator

Certified mail receipt number: 7011 1570 0001 4364 9421

PHOENIX TECHNOLOGY SERVICES
SURVEY DATA CERTIFICATION



PHOENIX
TECHNOLOGY SERVICES

PHOENIX JOB NUMBER 1310152

OPERATOR COG Operating

WELL NAME Hearse 36 State #2H

COUNTY & STATE Eddy County

API WELL NUMBER	30-015-40944
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PROPOSED DIRECTION	0.02
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TIE-IN DATA						
MEASURED DEPTH	VERTICAL DEPTH	INCLIN	AZIMUTH	N-S COORD	E-W COORD	DATA SOURCE
2,407 ft	2,406.6 ft	0.75	318.41	36.3	-16.51	GYRO

FIRST SURVEY DATE	FIRST SURVEY DEPTH	INCLIN	AZIMUTH
10-Feb-13	2,495 ft	0.9	315.8

SURVEY INSTRUMENT TYPE
PHOENIX MWD

LAST SURVEY DATE	LAST SURVEY DEPTH	INCLIN	AZIMUTH
22-Feb-13	7,536 ft	90.6	0.8

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
22-Feb-13	7,590 ft	90.6	0.8

Robert Dillon

PRINT YOUR NAME ABOVE

Robert Dillon

SIGN YOUR NAME ABOVE

MAGNETIC DECLINATION OR TOTAL GRID

TOTAL CORRECTION USED	7.81
DECLINATION OR GRID	GRID

2-22-2013

TODAY'S DATE

MWD SUPERVISOR 1 Bob Dillon
MWD SUPERVISOR 2 E. Burchinal

DIRECTIONAL DRILLER 1 Andrew Hodgkins
DIRECTIONAL DRILLER 2 Nathan Hodgkins

1805 Brittmore Road

Houston, Texas 77043

(713)3370609 (Voice), (713)337-0599 (Fax)



COG Operating LLC

Eddy County, New Mexico (NAD 27 NME)

Hearse 36 State #2H

Wellbore #1 / Job #1310152

Survey: Phoenix MWD Survey

Phoenix Final Survey Report

23 February, 2013





Phoenix Technology Services
Phoenix Final Survey Report



Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #2H
Project:	Eddy County, New Mexico (NAD 27 NME)	TVD Reference:	KB @ 3439.00usft (JW 4)
Site:	Hearse 36 State	MD Reference:	KB @ 3439.00usft (JW 4)
Well:	#2H	North Reference:	Grid
Wellbore:	Wellbore #1 / Job #1310152	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (JW 4)	Database:	GCR DB

Project	Eddy County, New Mexico (NAD 27 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	Hearse 36 State		
Site Position:		Northing:	585,673.59 usft
From:	Map	Easting:	466,182.10 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 36' 36.2634 N
		Longitude:	104° 26' 35.3708 W
		Grid Convergence:	-0.06 °

Well		#2H				
Well Position	+N/-S	0.00 usft	Northing:	585,673.60 usft	Latitude:	32° 36' 36.2635 N
	+E/-W	0.00 usft	Easting:	466,182.10 usft	Longitude:	104° 26' 35.3708 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,426.00 usft

Wellbore		Wellbore #1 / Job #1310152			
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF2010	01/31/13	7.81	60.35	48,588

Design	Surveys (JW 4)			
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	0.02



Phoenix Technology Services
Phoenix Final Survey Report



Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #2H
Project:	Eddy County, New Mexico (NAD 27 NME)	TVD Reference:	KB @ 3439.00usft (JW 4)
Site:	Hearse 36 State	MD Reference:	KB @ 3439.00usft (JW 4)
Well:	#2H	North Reference:	Grid
Wellbore:	Wellbore #1 / Job #1310152	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (JW 4)	Database:	GCR DB

Survey Program		Date 02/23/13		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.00	2,407.00	VES Gyro Survey (Wellbore #1 / Job #131	VES-ISCWSA-GYRO-3	Biaxial Semi-Cont. Gyro
2,495.00	7,590.00	Phoenix MWD Survey (Wellbore #1 / Job #	MWD	MWD - Standard

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
2,407.00	0.75	318.41	1,032.40	2,406.60	36.30	-16.51	36.30	0.00	585,709.90	466,165.59
First Phoenix MWD Survey										
2,495.00	0.90	315.80	944.41	2,494.59	37.23	-17.38	37.22	0.18	585,710.83	466,164.72
2,526.00	1.80	340.40	913.42	2,525.58	37.86	-17.71	37.86	3.39	585,711.46	466,164.39
2,557.00	4.10	350.10	882.46	2,556.54	39.41	-18.06	39.41	7.57	585,713.01	466,164.04
2,588.00	7.00	353.20	851.61	2,587.39	42.38	-18.48	42.37	9.40	585,715.98	466,163.62
2,620.00	9.90	355.50	819.96	2,619.04	47.06	-18.92	47.05	9.12	585,720.66	466,163.18
2,651.00	12.80	356.50	789.57	2,649.43	53.15	-19.34	53.14	9.38	585,726.75	466,162.76
2,682.00	16.10	356.00	759.55	2,679.45	60.86	-19.85	60.86	10.65	585,734.46	466,162.25
2,714.00	19.40	355.40	729.08	2,709.92	70.59	-20.59	70.58	10.33	585,744.19	466,161.51
2,745.00	22.70	354.30	700.15	2,738.85	81.68	-21.60	81.67	10.72	585,755.28	466,160.50
2,776.00	26.40	354.00	671.96	2,767.04	94.49	-22.91	94.48	11.94	585,768.09	466,159.19
2,807.00	30.10	354.40	644.66	2,794.34	109.08	-24.39	109.07	11.95	585,782.68	466,157.71
2,838.00	33.80	355.20	618.36	2,820.64	125.42	-25.87	125.41	12.01	585,799.02	466,156.23
2,869.00	37.30	356.40	593.14	2,845.86	143.39	-27.18	143.38	11.51	585,816.99	466,154.92
2,904.00	41.20	357.90	566.04	2,872.96	165.50	-28.27	165.49	11.47	585,839.10	466,153.83
2,932.00	44.00	358.70	545.43	2,893.57	184.44	-28.83	184.43	10.19	585,858.04	466,153.27
2,963.00	47.30	359.40	523.77	2,915.23	206.60	-29.19	206.59	10.77	585,880.20	466,152.91
2,994.00	50.10	359.70	503.31	2,935.69	229.89	-29.37	229.88	9.06	585,903.49	466,152.73
3,025.00	52.90	359.80	484.01	2,954.99	254.15	-29.48	254.14	9.04	585,927.75	466,152.62
3,056.00	55.40	359.70	465.86	2,973.14	279.27	-29.59	279.26	8.07	585,952.87	466,152.51



Phoenix Technology Services
Phoenix Final Survey Report



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Project:	Eddy County, New Mexico (NAD 27 NME)	TVD Reference:	KB @ 3439.00usft (JW 4)
Site:	Hearse 36 State	MD Reference:	KB @ 3439.00usft (JW 4)
Well:	#2H	North Reference:	Grid
Wellbore:	Wellbore #1 / Job #1310152	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (JW 4)	Database:	GCR DB

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)
3,087.00	58.20	359.80	448.88	2,990.12	305.21	-29.70	305.20	9.04	585,978.81	466,152.40
3,119.00	60.40	0.10	432.55	3,006.45	332.72	-29.73	332.71	6.92	586,006.32	466,152.37
3,150.00	62.70	0.90	417.78	3,021.22	359.98	-29.49	359.97	7.76	586,033.58	466,152.61
3,181.00	65.40	1.50	404.22	3,034.78	387.84	-28.90	387.83	8.88	586,061.44	466,153.20
3,212.00	68.10	2.20	391.98	3,047.02	416.31	-27.98	416.30	8.95	586,089.91	466,154.12
3,243.00	70.40	2.50	381.00	3,058.00	445.27	-26.79	445.26	7.47	586,118.87	466,155.31
3,274.00	72.60	2.60	371.16	3,067.84	474.64	-25.48	474.63	7.10	586,148.24	466,156.62
3,306.00	76.30	2.40	362.59	3,076.41	505.43	-24.14	505.42	11.58	586,179.03	466,157.96
3,337.00	80.30	2.30	356.30	3,082.70	535.76	-22.89	535.75	12.91	586,209.36	466,159.21
3,369.00	84.40	1.50	352.04	3,086.96	567.45	-21.84	567.44	13.05	586,241.05	466,160.26
3,400.00	88.30	0.30	350.07	3,088.93	598.37	-21.36	598.37	13.16	586,271.97	466,160.74
3,462.00	89.90	359.70	349.09	3,089.91	660.36	-21.36	660.36	2.76	586,333.96	466,160.74
3,555.00	90.20	0.20	349.18	3,089.82	753.36	-21.44	753.36	0.63	586,426.96	466,160.66
3,649.00	90.70	359.60	349.91	3,089.09	847.36	-21.60	847.35	0.83	586,520.96	466,160.50
3,744.00	91.00	359.10	351.32	3,087.68	942.34	-22.68	942.33	0.61	586,615.94	466,159.42
3,837.00	91.20	359.00	353.11	3,085.89	1,035.31	-24.22	1,035.30	0.24	586,708.91	466,157.88
3,930.00	91.00	359.60	354.89	3,084.11	1,128.29	-25.36	1,128.28	0.68	586,801.89	466,156.74
4,025.00	92.10	360.00	357.46	3,081.54	1,223.25	-25.69	1,223.24	1.23	586,896.85	466,156.41
4,119.00	92.90	359.20	361.56	3,077.44	1,317.16	-26.35	1,317.15	1.20	586,990.76	466,155.75
4,212.00	93.30	359.90	366.59	3,072.41	1,410.02	-27.08	1,410.01	0.87	587,083.62	466,155.02
4,302.00	92.70	1.90	371.30	3,067.70	1,499.88	-25.66	1,499.87	2.32	587,173.48	466,156.44
4,396.00	90.60	1.60	374.01	3,064.99	1,593.79	-22.79	1,593.78	2.26	587,267.39	466,159.31
4,489.00	90.20	1.10	374.66	3,064.34	1,686.76	-20.60	1,686.75	0.69	587,360.36	466,161.50
4,583.00	90.20	359.70	374.99	3,064.01	1,780.76	-19.95	1,780.75	1.49	587,454.36	466,162.15
4,677.00	90.70	359.30	375.73	3,063.27	1,874.75	-20.77	1,874.74	0.68	587,548.35	466,161.33
4,770.00	89.80	0.50	376.13	3,062.87	1,967.75	-20.93	1,967.74	1.61	587,641.35	466,161.17
4,864.00	91.20	0.10	376.95	3,062.05	2,061.74	-20.44	2,061.73	1.55	587,735.34	466,161.66



Phoenix Technology Services
Phoenix Final Survey Report



Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #2H
Project:	Eddy County, New Mexico (NAD 27 NME)	TVD Reference:	KB @ 3439.00usft (JW 4)
Site:	Hearse 36 State	MD Reference:	KB @ 3439.00usft (JW 4)
Well:	#2H	North Reference:	Grid
Wellbore:	Wellbore #1 / Job #1310152	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (JW 4)	Database:	GCR DB

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)	
4,958.00	91.40	0.50	379.08	3,059.92	2,155.71	-19.95	2,155.71	0.48	587,829.31	466,162.15	
5,051.00	92.30	0.80	382.09	3,056.91	2,248.66	-18.89	2,248.65	1.02	587,922.26	466,163.21	
5,145.00	90.90	0.60	384.71	3,054.29	2,342.61	-17.74	2,342.60	1.50	588,016.21	466,164.36	
5,238.00	91.90	0.60	386.98	3,052.02	2,435.58	-16.77	2,435.57	1.08	588,109.18	466,165.33	
5,332.00	91.40	0.90	389.69	3,049.31	2,529.53	-15.54	2,529.52	0.62	588,203.13	466,166.56	
5,426.00	92.60	0.30	392.97	3,046.03	2,623.46	-14.56	2,623.46	1.43	588,297.06	466,167.54	
5,520.00	91.30	0.50	396.17	3,042.83	2,717.41	-13.90	2,717.40	1.40	588,391.01	466,168.20	
5,613.00	90.00	359.80	397.22	3,041.78	2,810.40	-13.66	2,810.39	1.59	588,484.00	466,168.44	
5,707.00	90.40	0.10	397.55	3,041.45	2,904.40	-13.74	2,904.39	0.53	588,578.00	466,168.36	
5,800.00	90.40	0.20	398.20	3,040.80	2,997.39	-13.50	2,997.39	0.11	588,670.99	466,168.60	
5,894.00	89.40	360.00	398.04	3,040.96	3,091.39	-13.33	3,091.39	1.08	588,764.99	466,168.77	
5,987.00	91.60	0.10	398.85	3,040.15	3,184.38	-13.25	3,184.38	2.37	588,857.98	466,168.85	
6,081.00	92.10	359.90	401.88	3,037.12	3,278.33	-13.25	3,278.33	0.57	588,951.93	466,168.85	
6,174.00	93.80	359.70	406.67	3,032.33	3,371.21	-13.57	3,371.20	1.84	589,044.81	466,168.53	
6,268.00	92.70	359.00	412.00	3,027.00	3,465.05	-14.64	3,465.04	1.39	589,138.65	466,167.46	
6,362.00	91.80	0.40	415.69	3,023.31	3,558.97	-15.13	3,558.96	1.77	589,232.57	466,166.97	
6,455.00	90.50	1.20	417.56	3,021.44	3,651.94	-13.83	3,651.93	1.64	589,325.54	466,168.27	
6,548.00	89.00	0.30	417.15	3,021.85	3,744.93	-12.62	3,744.92	1.88	589,418.53	466,169.48	
6,642.00	89.20	360.00	415.67	3,023.33	3,838.91	-12.37	3,838.91	0.38	589,512.51	466,169.73	
6,736.00	89.60	359.30	414.69	3,024.31	3,932.91	-12.94	3,932.90	0.86	589,606.51	466,169.16	
6,829.00	90.80	359.50	415.01	3,023.99	4,025.90	-13.92	4,025.89	1.31	589,699.50	466,168.18	
6,923.00	91.70	359.90	417.06	3,021.94	4,119.87	-14.41	4,119.87	1.05	589,793.47	466,167.69	
7,016.00	92.00	0.20	420.07	3,018.93	4,212.83	-14.33	4,212.82	0.46	589,886.43	466,167.77	
7,110.00	91.70	0.70	423.10	3,015.90	4,306.77	-13.59	4,306.77	0.62	589,980.37	466,168.51	
7,203.00	91.50	1.20	425.70	3,013.30	4,399.72	-12.05	4,399.72	0.58	590,073.32	466,170.05	
7,297.00	90.10	0.50	427.01	3,011.99	4,493.70	-10.65	4,493.70	1.67	590,167.30	466,171.45	
7,391.00	91.00	0.30	427.91	3,011.09	4,587.69	-10.00	4,587.69	0.98	590,261.29	466,172.10	



Phoenix Technology Services

Phoenix Final Survey Report



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Project:	Eddy County, New Mexico (NAD 27 NME)	TVD Reference:	KB @ 3439.00usft (JW 4)
Site:	Hearse 36 State	MD Reference:	KB @ 3439.00usft (JW 4)
Well:	#2H	North Reference:	Grid
Wellbore:	Wellbore #1 / Job #1310152	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (JW 4)	Database:	GCR/DB

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)	
7,484.00	90.30	1.00	428.97	3,010.03	4,680.68	-8.94	4,680.68	1.06	590,354.28	466,173.16	
7,536.00	90.60	0.80	429.38	3,009.62	4,732.67	-8.13	4,732.67	0.69	590,406.27	466,173.97	
Current MWD Survey											
7,590.00	90.60	0.80	429.94	3,009.06	4,786.67	-7.37	4,786.66	0.00	590,460.27	466,174.73	
Projection to Bit											

Survey Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
2,407.00	2,406.60	36.30	-16.51	First Phoenix MWD Survey
7,536.00	3,009.62	4,732.67	-8.13	Current MWD Survey
7,590.00	3,009.06	4,786.67	-7.37	Projection to Bit

Checked By: _____	Approved By: _____	Date: _____
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Project: Eddy County, New Mexico (NAD 27 NME)
Site: Hearse 36 State
Well: #2H
Wellbore: Wellbore #1 / Job #1310152
Design: Plan #7 - 02-16-13

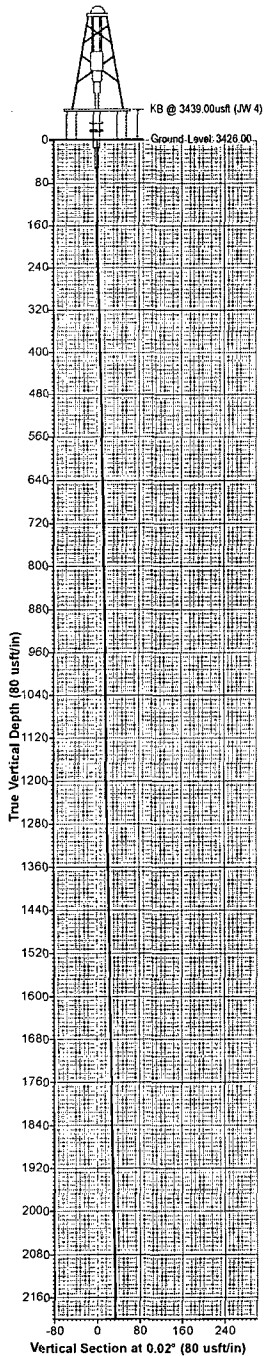


PHOENIX
TECHNOLOGY SERVICES



Azimuths to Grid North
True North: 0.06°
Magnetic North: 7.87°

Magnetic Field
Strength: 48588.3nT
Dip Angle: 60.35°
Date: 01/31/2013
Model: IGRF2010



WELL DETAILS																				
+N/-S		+E/-W		Northing	Ground Level	3426.00	Easting	Latitude	Longitude											
0.00		0.00		585673.60	466182.10 32° 36' 36.2635 N 104° 26' 35.3708 W															
SECTION DETAILS																				
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target	Annotation									
1	4677.00	90.70	359.30	3063.27	1874.75	-20.77	0.00	0.00	1874.74		Tie In, Start DLS 0.63 TFO 135.00									
2	4789.00	90.20	359.80	3062.39	1986.74	-21.65	0.63	135.00	1986.73		PTB! Start DLS 3.00 TFO 20.73									
3	4853.15	92.00	0.48	3061.16	2050.88	-21.49	3.00	20.73	2050.87	PBHL v7-Hearse #2H	Start 1716.30 hold at 4853.15 MD									
4	5569.45	92.00	0.48	3036.16	2766.72	-15.47	0.00	0.00	2766.71		Start DLS 3.00 TFO 180.00									
5	5636.12	90.00	0.48	3035.00	2833.37	-14.91	3.00	-180.00	2833.36		Start 1953.20 hold at 5636.12 MD									
6	7589.32	90.00	0.48	3035.00	4786.50	1.50	0.00	0.00	4786.50	PBHL v7-Hearse #2H	TD at 7589.32									
DESIGN TARGET DETAILS																				
Name		TVD		+N/-S		+E/-W		Northing	Easting	Latitude	Longitude									
PP-Hearse #2H		2867.78		180.00		-22.39		585853.60	466159.71	32° 36' 38.0445 N	104° 26' 35.6347 W									
PBHL v7-Hearse #2H		3035.00		4786.50		1.50		590460.10	466183.60	32° 37' 23.6295 N	104° 26' 35.4111 W									
		- plan misses target center by 1702.81usft at 4677.00usft MD (3063.27 TVD, 1874.75 N, 20.77 E)																		
		- plan hits target center																		
SITE DETAILS: Hearse 36 State																				
Site Centre Northing:		585673.58																		
Easting:		466182.10																		
Positional Uncertainty:		0.00																		
Convergence:		-0.06																		
Local North:		Grid																		
PROJECT DETAILS: Eddy County, New Mexico (NAD 27 NME)																				
Geodetic System:		US State Plane 1927 (Exact solution)																		
Datum:		NAD 1927 (NADCON CONUS)																		
Ellipsoid:		Clarke 1866																		
Zone:		New Mexico East 3001																		
System Datum:		Mean Sea Level																		
FORMATION TOP DETAILS																				
TVDPath	MDPath	Formation	TL, 3060° TVD, 0 VS, 90° INC		DipAngle		0.00		DipDir											
3060.00	4866.48								0.14											
LEGEND																				
—●— #2H, Wellbore #1 / Job #1310152, Surveys (JW 4) V0																				
—●— Plan #7 - 02-16-13																				

