



5125 Carroll Court, Suite 200
Evansville, WY 82636
307-233-8550

Survey Certification Sheet

Date Submitted:	October 20, 2011
Operator Name:	Chesapeake Operating Inc.
Well Name:	State 7-62-16 1HY
API Number	05-123-32489
Location:	Section 16-T7N-R62W
County/State:	Weld County, CO
Surveyed From a Depth of:	6,041' MD to 10,405' MD
Type of Survey:	Magnetic MWD
Name(s) of MWD Supervisor(s):	Ralph Nicholson / Kyle Sampson

The data and calculations for this survey have been checked by me and conform to the standards and procedures set forth by Professional Directional Ltd. This report represents a true and correct Directional Survey of this well based on the original data obtained at the well site. The survey was calculated using the minimum curvature method.

Robert Hays / Well Planner

Project: Weld County, Colorado NAD27
Site: Sec 16-T7N-R62W
Well: State 7-62-16 1H
Wellbore: Original Hole
Plan: Final Surveys
Rig: SST 53



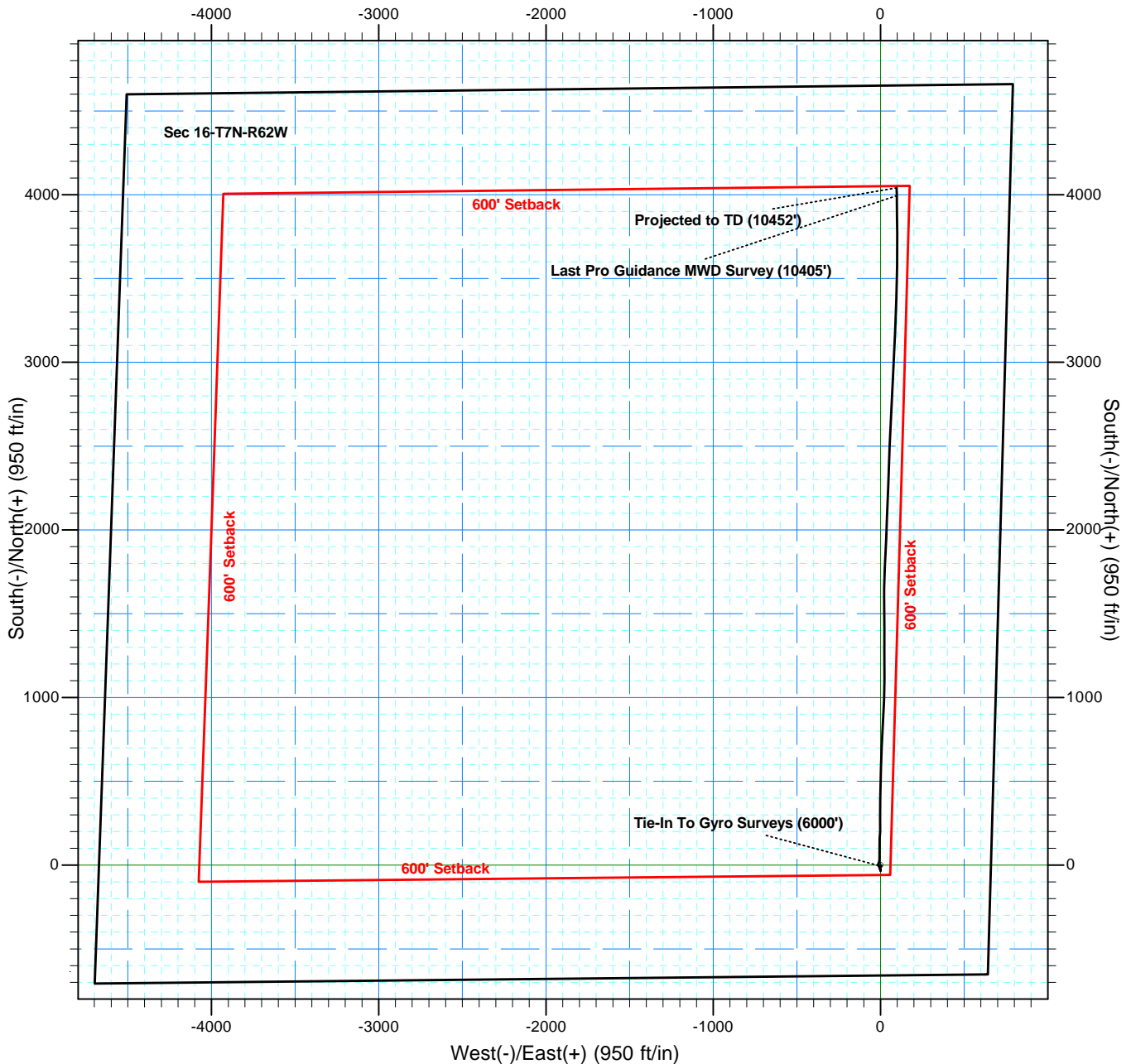
Surface Location:
 SHL 659' FSL & 660' FEL Sec 16-T7N-R62W

US State Plane 1927 (Exact solution)
 Colorado North 501
Elevation: 4908' GL + 22' KB @ 4930.00ft (SST 53)

Northing	Easting	Latitude	Longitude
452161.35	2328039.98	40° 34' 6.983 N	104° 19' 9.260 W

To convert a Magnetic Direction to a Grid Direction, Add 7.79°

Magnetic Model: IGRF200510 Date: 03-Oct-11
Azimuths & Coordinates to NAD27 Grid



Chesapeake Operating Inc.

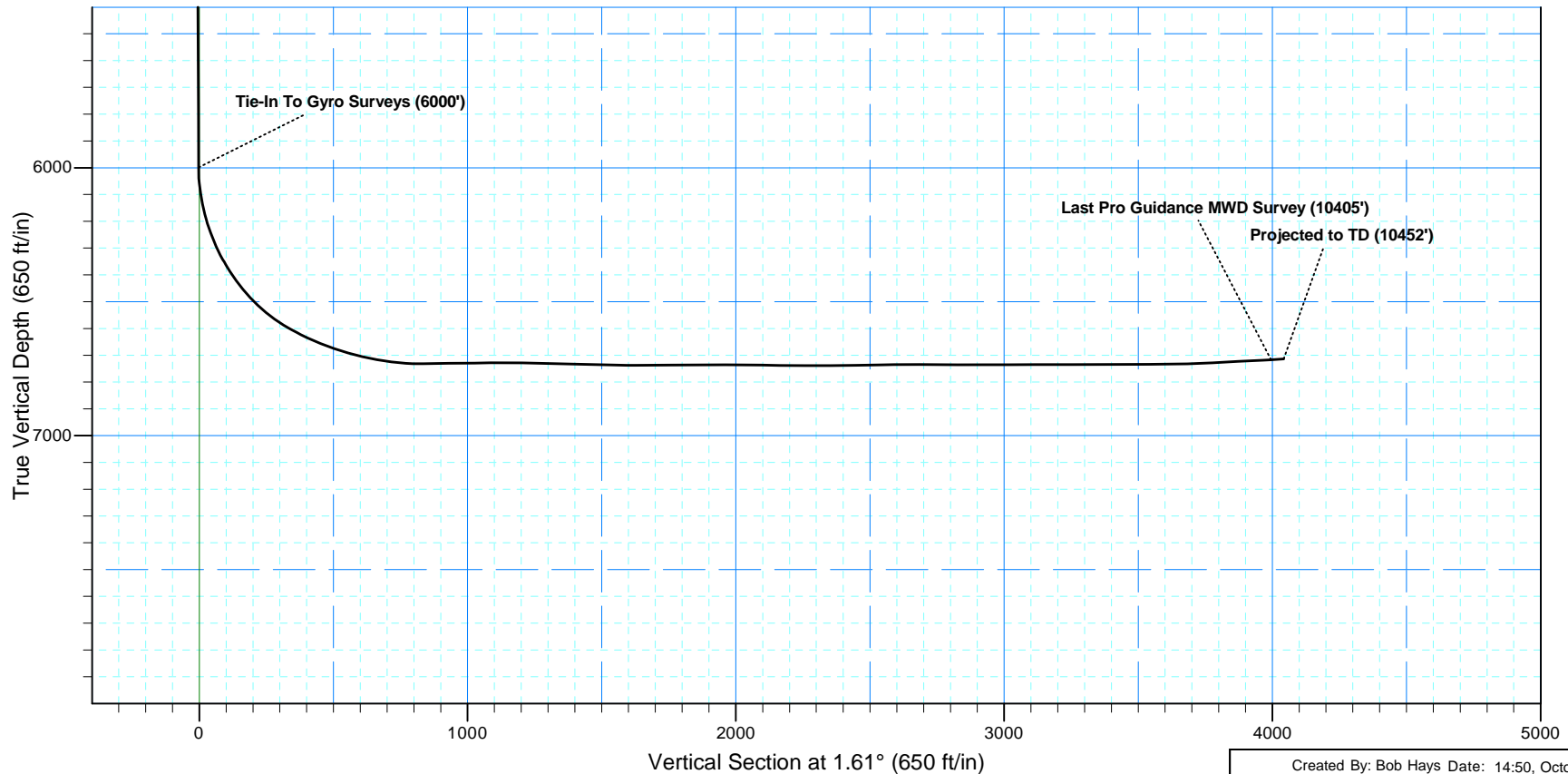


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Site: Sec 16-T7N-R62W
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Wellbore: Original Hole
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Chesapeake Operating Inc.

Weld County, Colorado NAD27

Sec 16-T7N-R62W

State 7-62-16 1H

Original Hole

Design: Final Surveys

Standard Survey Report

20 October, 2011





Professional Directional LTD

Survey Report



Company:	Chesapeake Operating Inc.	Local Co-ordinate Reference:	Well State 7-62-16 1H
Project:	Weld County, Colorado NAD27	TVD Reference:	4908' GL + 22' KB @ 4930.00ft (SST 53)
Site:	Sec 16-T7N-R62W	MD Reference:	4908' GL + 22' KB @ 4930.00ft (SST 53)
Well:	State 7-62-16 1H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Final Surveys	Database:	EDM 5000.1 Single User Db

Project Weld County, Colorado NAD27			
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Colorado North 501		

Site Sec 16-T7N-R62W			
Site Position:		Northing:	452,161.35 ft
From:	Map	Easting:	2,328,039.98 ft
Position Uncertainty:	0.00 ft	Slot Radius:	1.10000 ft
		Latitude:	40° 34' 6.983 N
		Longitude:	104° 19' 9.260 W
		Grid Convergence:	0.76 °

Well State 7-62-16 1H			
Well Position	+N/-S	0.00 ft	Northing: 452,161.35 ft
	+E/-W	0.00 ft	Easting: 2,328,039.98 ft
Position Uncertainty		0.00 ft	Wellhead Elevation: ft
			Latitude: 40° 34' 6.983 N
			Longitude: 104° 19' 9.260 W
			Ground Level: 4,899.00 ft

Wellbore Original Hole					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	10/03/11	8.55	67.26	53,255

Design Final Surveys					
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00		1.61

Survey Program		Date	10/20/11		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
200.00	6,000.00	Gyro Surveys (Original Hole)	MWD	MWD	
6,041.00	10,405.00	Pro Guidance MWD Surveys (Original Hol	MWD	MWD	
10,452.00	10,452.00	Projected to TD (Original Hole)	Projection	Projection	

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
6,000.00	0.89	274.32	5,999.27	-2.36	-12.96	-2.72	0.10	0.10	-0.67	
Tie-In To Gyro Surveys (6000') - Tie-In to Gyrodata Gyro Surveys (6000')										
6,041.00	4.00	320.00	6,040.23	-1.24	-14.20	-1.64	8.38	7.59	111.41	
6,073.00	8.50	3.90	6,072.05	1.98	-14.75	1.56	19.56	14.06	137.19	
6,107.00	9.90	22.10	6,105.61	7.20	-13.48	6.81	9.44	4.12	53.53	
6,138.00	11.30	24.80	6,136.08	12.42	-11.21	12.10	4.79	4.52	8.71	
6,170.00	14.10	15.80	6,167.30	19.02	-8.83	18.77	10.69	8.75	-28.13	
6,202.00	16.90	4.90	6,198.14	27.41	-7.37	27.19	12.59	8.75	-34.06	
6,233.00	19.40	3.10	6,227.60	37.04	-6.71	36.84	8.26	8.06	-5.81	



Professional Directional LTD

Survey Report



Company:	Chesapeake Operating Inc.	Local Co-ordinate Reference:	Well State 7-62-16 1H
Project:	Weld County, Colorado NAD27	TVD Reference:	4908' GL + 22' KB @ 4930.00ft (SST 53)
Site:	Sec 16-T7N-R62W	MD Reference:	4908' GL + 22' KB @ 4930.00ft (SST 53)
Well:	State 7-62-16 1H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Final Surveys	Database:	EDM 5000.1 Single User Db

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
6,265.00	20.90	1.30	6,257.64	48.06	-6.29	47.86	5.07	4.69	-5.63	
6,296.00	23.30	359.30	6,286.36	59.72	-6.24	59.52	8.11	7.74	-6.45	
6,328.00	26.40	358.70	6,315.39	73.16	-6.48	72.95	9.72	9.69	-1.88	
6,359.00	29.40	0.20	6,342.79	87.66	-6.61	87.44	9.94	9.68	4.84	
6,391.00	31.30	1.50	6,370.40	103.83	-6.36	103.61	6.28	5.94	4.06	
6,423.00	33.80	0.90	6,397.37	121.04	-6.01	120.82	7.88	7.81	-1.88	
6,454.00	36.70	0.90	6,422.68	138.93	-5.73	138.71	9.35	9.35	0.00	
6,486.00	38.30	2.70	6,448.07	158.40	-5.11	158.19	6.06	5.00	5.63	
6,517.00	41.00	3.20	6,471.94	178.15	-4.09	177.96	8.77	8.71	1.61	
6,549.00	44.10	2.10	6,495.51	199.76	-3.09	199.60	9.96	9.69	-3.44	
6,581.00	47.70	0.90	6,517.78	222.73	-2.50	222.57	11.57	11.25	-3.75	
6,612.00	50.40	0.10	6,538.09	246.14	-2.30	245.98	8.92	8.71	-2.58	
6,644.00	52.80	359.20	6,557.97	271.22	-2.45	271.04	7.82	7.50	-2.81	
6,676.00	56.20	359.30	6,576.55	297.26	-2.80	297.06	10.63	10.63	0.31	
6,707.00	59.30	359.70	6,593.09	323.47	-3.02	323.26	10.06	10.00	1.29	
6,739.00	61.60	0.40	6,608.87	351.31	-3.00	351.09	7.44	7.19	2.19	
6,770.00	63.20	0.80	6,623.23	378.78	-2.71	378.55	5.29	5.16	1.29	
6,802.00	65.50	1.70	6,637.08	407.62	-2.08	407.40	7.62	7.19	2.81	
6,834.00	67.10	1.30	6,649.94	436.91	-1.31	436.70	5.13	5.00	-1.25	
6,865.00	69.20	1.50	6,661.48	465.67	-0.61	465.47	6.80	6.77	0.65	
6,897.00	70.90	1.50	6,672.40	495.74	0.18	495.55	5.31	5.31	0.00	
6,928.00	72.20	2.20	6,682.21	525.13	1.13	524.95	4.71	4.19	2.26	
6,960.00	73.70	2.10	6,691.59	555.70	2.28	555.54	4.70	4.69	-0.31	
6,992.00	75.40	1.70	6,700.11	586.52	3.30	586.39	5.45	5.31	-1.25	
7,023.00	77.00	1.50	6,707.51	616.62	4.14	616.49	5.20	5.16	-0.65	
7,055.00	79.70	1.80	6,713.97	647.94	5.04	647.83	8.49	8.44	0.94	
7,087.00	80.90	1.90	6,719.36	679.47	6.06	679.37	3.76	3.75	0.31	
7,118.00	81.90	2.50	6,724.00	710.10	7.24	710.02	3.75	3.23	1.94	
7,150.00	84.30	2.60	6,727.84	741.83	8.65	741.78	7.51	7.50	0.31	
7,181.00	86.40	3.00	6,730.35	772.69	10.16	772.67	6.90	6.77	1.29	
7,213.00	89.60	3.20	6,731.47	804.62	11.89	804.64	10.02	10.00	0.63	
7,244.00	90.60	3.20	6,731.42	835.57	13.62	835.62	3.23	3.23	0.00	
7,339.00	90.60	2.60	6,730.42	930.44	18.43	930.59	0.63	0.00	-0.63	
7,435.00	90.50	1.80	6,729.50	1,026.37	22.11	1,026.58	0.84	-0.10	-0.83	
7,530.00	91.00	359.70	6,728.26	1,121.35	23.36	1,121.56	2.27	0.53	-2.21	
7,624.00	88.70	359.70	6,728.50	1,215.34	22.86	1,215.50	2.45	-2.45	0.00	
7,719.00	88.30	0.10	6,730.99	1,310.30	22.70	1,310.42	0.60	-0.42	0.42	
7,813.00	88.60	359.80	6,733.53	1,404.27	22.62	1,404.35	0.45	0.32	-0.32	
7,908.00	89.00	359.00	6,735.52	1,499.24	21.62	1,499.26	0.94	0.42	-0.84	
8,003.00	89.10	359.90	6,737.10	1,594.22	20.71	1,594.18	0.95	0.11	0.95	
8,098.00	90.40	1.50	6,737.51	1,689.21	21.87	1,689.16	2.17	1.37	1.68	
8,193.00	90.80	3.20	6,736.52	1,784.12	25.77	1,784.14	1.84	0.42	1.79	
8,288.00	90.20	2.90	6,735.69	1,878.98	30.82	1,879.11	0.71	-0.63	-0.32	



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Survey Report



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Project:	Weld County, Colorado NAD27	TVD Reference:	4908' GL + 22' KB @ 4930.00ft (SST 53)
Site:	Sec 16-T7N-R62W	MD Reference:	4908' GL + 22' KB @ 4930.00ft (SST 53)
Well:	State 7-62-16 1H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Final Surveys	Database:	EDM 5000.1 Single User Db

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
8,383.00	89.70	1.90	6,735.77	1,973.90	34.80	1,974.10	1.18	-0.53	-1.05	
8,478.00	89.10	2.30	6,736.77	2,068.83	38.28	2,069.09	0.76	-0.63	0.42	
8,573.00	89.50	1.90	6,737.93	2,163.76	41.76	2,164.08	0.60	0.42	-0.42	
8,668.00	89.60	2.60	6,738.67	2,258.68	45.49	2,259.07	0.74	0.11	0.74	
8,763.00	90.60	1.60	6,738.51	2,353.61	48.97	2,354.06	1.49	1.05	-1.05	
8,857.00	90.70	2.30	6,737.44	2,447.55	52.17	2,448.05	0.75	0.11	0.74	
8,952.00	91.20	2.30	6,735.87	2,542.46	55.98	2,543.03	0.53	0.53	0.00	
9,047.00	90.50	3.30	6,734.46	2,637.34	60.62	2,638.00	1.28	-0.74	1.05	
9,141.00	89.10	2.60	6,734.78	2,731.21	65.46	2,731.97	1.67	-1.49	-0.74	
9,235.00	90.20	2.80	6,735.36	2,825.10	69.89	2,825.95	1.19	1.17	0.21	
9,330.00	89.80	2.80	6,735.36	2,919.99	74.53	2,920.93	0.42	-0.42	0.00	
9,425.00	90.10	2.70	6,735.44	3,014.88	79.08	3,015.91	0.33	0.32	-0.11	
9,520.00	90.60	2.50	6,734.86	3,109.78	83.39	3,110.89	0.57	0.53	-0.21	
9,616.00	90.00	2.70	6,734.36	3,205.68	87.75	3,206.88	0.66	-0.63	0.21	
9,711.00	89.70	2.30	6,734.61	3,300.59	91.89	3,301.87	0.53	-0.32	-0.42	
9,806.00	90.00	1.30	6,734.86	3,395.54	94.88	3,396.86	1.10	0.32	-1.05	
9,901.00	90.90	0.80	6,734.11	3,490.52	96.62	3,491.86	1.08	0.95	-0.53	
9,997.00	90.30	0.90	6,733.10	3,586.50	98.04	3,587.84	0.63	-0.63	0.10	
10,092.00	91.20	0.50	6,731.86	3,681.49	99.20	3,682.82	1.04	0.95	-0.42	
10,186.00	93.00	359.60	6,728.42	3,775.42	99.28	3,776.72	2.14	1.91	-0.96	
10,281.00	93.10	359.30	6,723.36	3,870.28	98.37	3,871.51	0.33	0.11	-0.32	
10,375.00	92.70	359.20	6,718.61	3,964.15	97.14	3,965.31	0.44	-0.43	-0.11	
10,405.00	93.40	359.00	6,717.01	3,994.10	96.67	3,995.24	2.43	2.33	-0.67	
Last Pro Guidance MWD Survey (10405')										
10,452.00	93.40	359.00	6,714.22	4,041.01	95.86	4,042.11	0.00	0.00	0.00	
Projected to TD (10452')										

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
6,000.00	5,999.27	-2.36	-12.96	Tie-In To Gyro Surveys (6000')	
6,000.00	5,999.27	-2.36	-12.96	Tie-In to Gyrodata Gyro Surveys (6000')	
10,405.00	6,717.01	3,994.10	96.67	Last Pro Guidance MWD Survey (10405')	
10,452.00	6,714.22	4,041.01	95.86	Projected to TD (10452')	