

# **Javernick Oil LLC**

**Fremont County, Co (NAD 27)**

**Sec 33 T19S-R69W**

**Royal Gorge #1-A**

**Stk**

**Job #:**

**API:**

**Survey: Final**

## **Mesa West Survey Report**

**19 December, 2016**

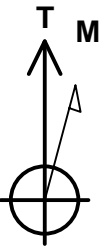


Javernick Oil LLC

Project: Fremont County, Co (NAD 27)  
Site: Sec 33 T19S-R69W  
Well: Royal Gorge #1-A  
Wellbore: Stk  
Plan: Final

Reference Details - WELL CENTRE

Geodetic System: US State Plane 1927 (Exact solution)  
Ellipsoid: Clarke 1866  
Zone: Colorado South 503  
Northing: 614640.60  
Easting: 2110072.10  
Latitude: 38° 21' 14.600 N  
Longitude: 105° 6' 58.223 W  
Grid Convergence: 0.24° West  
Ground Elevation: 5417.0  
KB Elevation: RKB @ 5423.0usft (jav #1a)

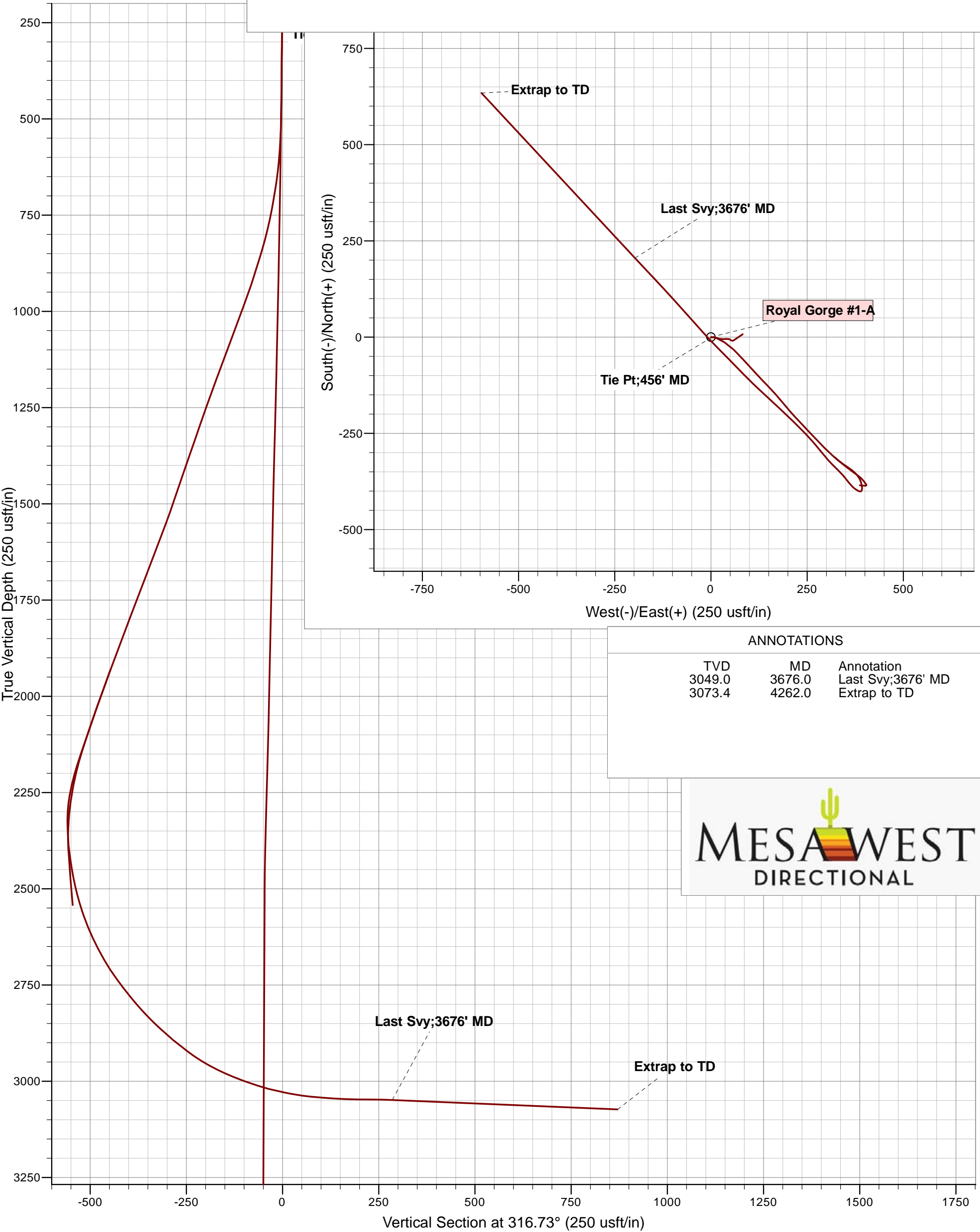


Azimuths to True North  
Magnetic North: 9.02°

Magnetic Field  
Strength: 52158.8snT  
Dip Angle: 65.37°  
Date: 31/12/2009  
Model: IGRF200510

PLAN DETAILS

No plan data is available



<b>Company:</b>	Javernick Oil LLC	<b>Local Co-ordinate Reference:</b>	Well Royal Gorge #1-A
<b>Project:</b>	Fremont County, Co (NAD 27)	<b>TVD Reference:</b>	RKB @ 5423.0usft (jav #1a)
<b>Site:</b>	Sec 33 T19S-R69W	<b>MD Reference:</b>	RKB @ 5423.0usft (jav #1a)
<b>Well:</b>	Royal Gorge #1-A	<b>North Reference:</b>	True
<b>Wellbore:</b>	Stk	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Survey:</b>	Final	<b>Database:</b>	WellPlan Services

<b>Project</b>	Fremont County, Co (NAD 27)		
<b>Map System:</b>	US State Plane 1927 (Exact solution)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	Colorado South 503		

<b>Site</b>	Sec 33 T19S-R69W		
<b>Site Position:</b>		<b>Northing:</b>	614,640.60 usft
<b>From:</b>	Map	<b>Easting:</b>	2,110,072.10 usft
<b>Position Uncertainty:</b>	0.0 usft	<b>Slot Radius:</b>	13-3/16 "
		<b>Latitude:</b>	38° 21' 14.600 N
		<b>Longitude:</b>	105° 6' 58.223 W
		<b>Grid Convergence:</b>	0.24 °

<b>Well</b>	Royal Gorge #1-A		
<b>Well Position</b>	<b>+N/-S</b>	0.0 usft	<b>Northing:</b> 614,640.60 usft
	<b>+E/-W</b>	0.0 usft	<b>Easting:</b> 2,110,072.10 usft
<b>Position Uncertainty</b>	0.0 usft	<b>Wellhead Elevation:</b>	usft
		<b>Latitude:</b>	38° 21' 14.600 N
		<b>Longitude:</b>	105° 6' 58.223 W
		<b>Ground Level:</b>	5,417.0 usft

<b>Wellbore</b>	Stk		
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>
	IGRF200510	31/12/2009	9.02
			<b>Dip Angle (°)</b>
			65.37
			<b>Field Strength (nT)</b>
			52,159

<b>Survey</b>	Final		
<b>Audit Notes:</b>			
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL
		<b>Tie On Depth:</b>	2,007.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>
	0.0	0.0	0.0
			<b>Direction (°)</b>
			316.73

<b>Survey Program</b>	<b>Date</b>	19/12/2016		
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
11.0	456.0	Survey #1 (Original)	MWD	MWD - Standard
488.0	2,007.0	Actual (Re-Entry)	MWD	MWD - Standard
2,106.0	4,262.0	Final (Stk)	MWD	MWD - Standard

<b>Survey</b>										
<b>Measured Depth (usft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (usft)</b>	<b>Subsea (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Vertical Section (usft)</b>	<b>Dogleg Rate (°/100usft)</b>	<b>Build Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</b>
2,007.0	19.90	131.50	1,932.7	-3,490.3	-312.3	321.5	-447.8	0.00	0.00	0.00
2,106.0	20.20	124.50	2,025.7	-3,397.3	-333.2	348.3	-481.3	2.44	0.30	-7.07
2,137.0	19.80	123.30	2,054.9	-3,368.1	-339.1	357.1	-491.6	1.85	-1.29	-3.87
2,199.0	18.80	133.00	2,113.4	-3,309.6	-351.6	373.1	-511.8	5.41	-1.61	15.65
2,230.0	18.20	140.30	2,142.8	-3,280.2	-358.8	379.9	-521.6	7.71	-1.94	23.55
2,262.0	18.56	151.61	2,173.2	-3,249.8	-367.1	385.5	-531.5	11.18	1.13	35.34
2,295.0	17.63	161.71	2,204.5	-3,218.5	-376.5	389.6	-541.1	9.90	-2.82	30.61
2,327.0	15.08	170.94	2,235.3	-3,187.7	-385.2	391.7	-549.0	11.36	-7.97	28.84
2,357.0	11.68	178.41	2,264.4	-3,158.6	-392.1	392.4	-554.5	12.69	-11.33	24.90

## Survey Report

<b>Company:</b>	Javernick Oil LLC	<b>Local Co-ordinate Reference:</b>	Well Royal Gorge #1-A
<b>Project:</b>	Fremont County, Co (NAD 27)	<b>TVD Reference:</b>	RKB @ 5423.0usft (jav #1a)
<b>Site:</b>	Sec 33 T19S-R69W	<b>MD Reference:</b>	RKB @ 5423.0usft (jav #1a)
<b>Well:</b>	Royal Gorge #1-A	<b>North Reference:</b>	True
<b>Wellbore:</b>	Stk	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Survey:</b>	Final	<b>Database:</b>	WellPlan Services

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
2,388.0	7.06	189.66	2,295.0	-3,128.0	-397.1	392.2	-558.0	15.96	-14.90	36.29
2,420.0	4.39	227.97	2,326.9	-3,096.1	-399.9	391.0	-559.1	14.13	-8.34	119.72
2,451.0	4.96	267.47	2,357.8	-3,065.2	-400.7	388.8	-558.2	10.33	1.84	127.42
2,482.0	6.89	284.24	2,388.6	-3,034.4	-400.3	385.6	-555.8	8.30	6.23	54.10
2,514.0	8.44	296.81	2,420.3	-3,002.7	-398.8	381.7	-552.0	7.11	4.84	39.28
2,545.0	9.87	302.91	2,450.9	-2,972.1	-396.3	377.4	-547.2	5.57	4.61	19.68
2,577.0	11.79	306.77	2,482.4	-2,940.6	-392.9	372.5	-541.4	6.41	6.00	12.06
2,608.0	14.79	316.59	2,512.5	-2,910.5	-388.1	367.2	-534.3	12.08	9.68	31.68
2,640.0	17.40	319.39	2,543.3	-2,879.7	-381.5	361.3	-525.4	8.51	8.16	8.75
2,670.0	19.06	322.35	2,571.8	-2,851.2	-374.2	355.4	-516.1	6.33	5.53	9.87
2,701.0	21.96	320.15	2,600.8	-2,822.2	-365.7	348.6	-505.2	9.68	9.35	-7.10
2,731.0	25.29	318.19	2,628.3	-2,794.7	-356.7	340.7	-493.2	11.40	11.10	-6.53
2,763.0	27.86	314.81	2,656.9	-2,766.1	-346.3	330.8	-478.9	9.32	8.03	-10.56
2,794.0	30.00	314.27	2,684.0	-2,739.0	-335.8	320.1	-463.9	6.95	6.90	-1.74
2,824.0	33.07	317.58	2,709.6	-2,713.4	-324.5	309.3	-448.3	11.74	10.23	11.03
2,855.0	35.80	319.94	2,735.2	-2,687.8	-311.3	297.7	-430.7	9.80	8.81	7.61
2,887.0	38.31	320.54	2,760.7	-2,662.3	-296.5	285.4	-411.5	7.92	7.84	1.88
2,916.0	39.30	319.85	2,783.3	-2,639.7	-282.5	273.7	-393.4	3.73	3.41	-2.38
2,947.0	41.21	318.45	2,807.0	-2,616.0	-267.4	260.6	-373.3	6.82	6.16	-4.52
2,978.0	44.05	316.41	2,829.8	-2,593.2	-251.9	246.4	-352.4	10.19	9.16	-6.58
3,009.0	46.09	314.84	2,851.7	-2,571.3	-236.2	231.1	-330.4	7.49	6.58	-5.06
3,041.0	48.06	314.37	2,873.4	-2,549.6	-219.8	214.4	-307.0	6.25	6.16	-1.47
3,072.0	50.59	313.57	2,893.6	-2,529.4	-203.5	197.5	-283.5	8.39	8.16	-2.58
3,103.0	52.80	313.22	2,912.9	-2,510.1	-186.8	179.8	-259.2	7.18	7.13	-1.13
3,135.0	54.29	312.77	2,931.9	-2,491.1	-169.2	161.0	-233.5	4.79	4.66	-1.41
3,166.0	57.83	312.39	2,949.2	-2,473.8	-151.8	142.0	-207.9	11.46	11.42	-1.23
3,197.0	62.84	313.22	2,964.5	-2,458.5	-133.5	122.3	-181.0	16.33	16.16	2.68
3,228.0	66.52	314.51	2,977.8	-2,445.2	-114.1	102.1	-153.1	12.45	11.87	4.16
3,259.0	67.92	316.05	2,989.8	-2,433.2	-93.8	82.0	-124.5	6.43	4.52	4.97
3,291.0	69.92	315.70	3,001.3	-2,421.7	-72.4	61.2	-94.6	6.33	6.25	-1.09
3,322.0	71.92	315.19	3,011.4	-2,411.6	-51.5	40.6	-65.3	6.64	6.45	-1.65
3,352.0	75.80	315.42	3,019.8	-2,403.2	-31.0	20.4	-36.5	12.95	12.93	0.77
3,383.0	77.38	316.41	3,026.9	-2,396.1	-9.3	-0.6	-6.4	5.97	5.10	3.19
3,414.0	79.18	317.71	3,033.2	-2,389.8	12.9	-21.3	24.0	7.11	5.81	4.19
3,446.0	82.98	318.66	3,038.2	-2,384.8	36.4	-42.3	55.6	12.23	11.88	2.97
3,476.0	85.43	318.01	3,041.2	-2,381.8	58.7	-62.2	85.4	8.45	8.17	-2.17
3,507.0	85.72	317.90	3,043.6	-2,379.4	81.7	-82.9	116.3	1.00	0.94	-0.35
3,538.0	86.36	317.70	3,045.8	-2,377.2	104.6	-103.7	147.2	2.16	2.06	-0.65
3,568.0	89.05	317.35	3,047.0	-2,376.0	126.7	-123.9	177.2	9.04	8.97	-1.17
3,600.0	89.84	316.62	3,047.3	-2,375.7	150.1	-145.7	209.2	3.36	2.47	-2.28
3,632.0	88.90	316.80	3,047.6	-2,375.4	173.4	-167.7	241.2	2.99	-2.94	0.56
<b>Last Svy;3676' MD</b>										
3,676.0	87.61	317.05	3,049.0	-2,374.0	205.5	-197.7	285.2	2.99	-2.93	0.57

<b>Company:</b>	Javernick Oil LLC	<b>Local Co-ordinate Reference:</b>	Well Royal Gorge #1-A
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<b>Well:</b>	Royal Gorge #1-A	<b>North Reference:</b>	True
<b>Wellbore:</b>	Stk	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Survey:</b>	Final	<b>Database:</b>	WellPlan Services

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
Extrap to TD										
4,262.0	87.61	317.05	3,073.4	-2,349.6	634.1	-596.6	870.6	0.00	0.00	0.00

Survey Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
3,676.0	3,049.0	205.5	-197.7	Last Svy;3676' MD	
4,262.0	3,073.4	634.1	-596.6	Extrap to TD	

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_