



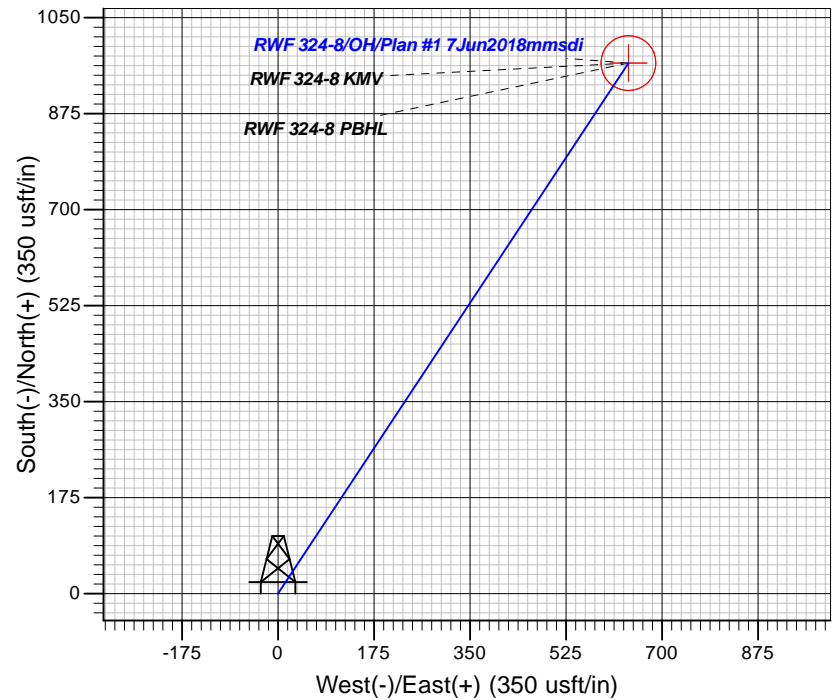
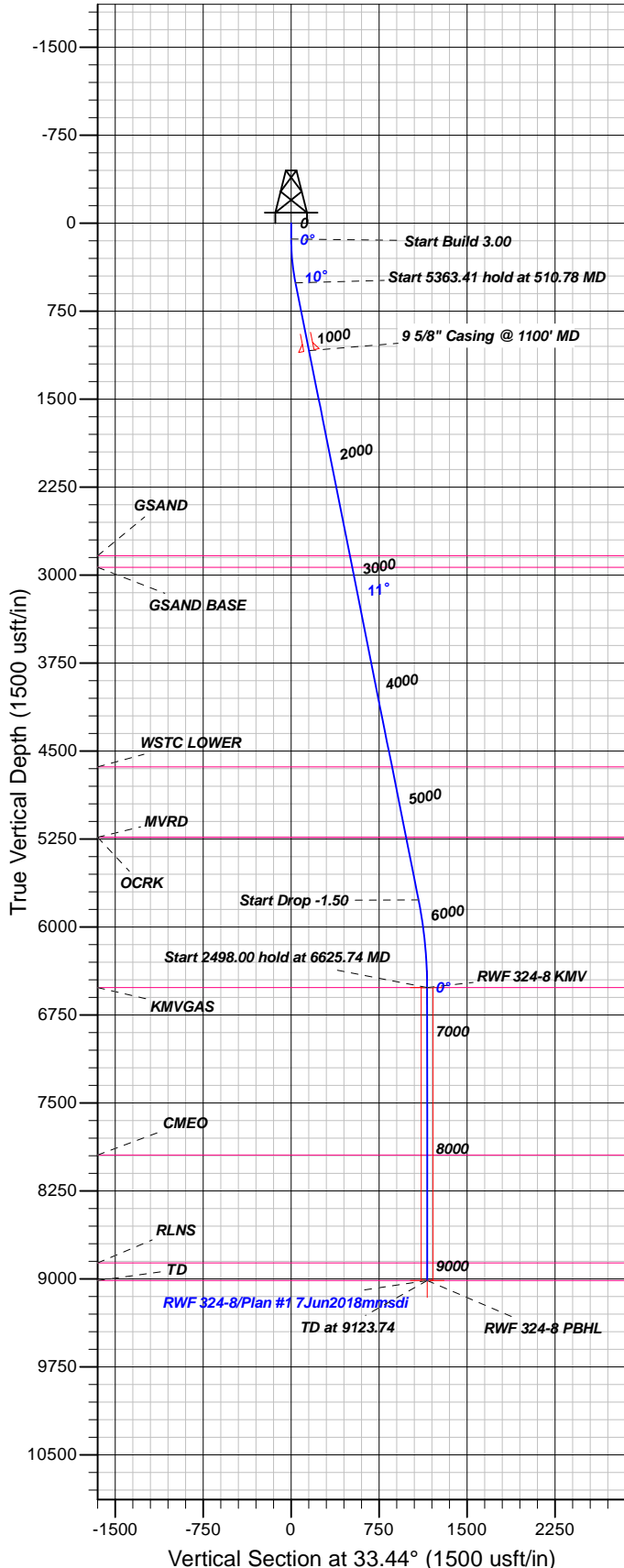
Azimuths to True North
Magnetic North: 9.43°

Magnetic Field
Strength: 51582.5nT
Dip Angle: 65.80°
Date: 6/7/2018
Model: HDGM

Well Details: RWF 324-8

GL 6174.5' & RKB 24' @ 6198.50usft

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1627428.00	2317153.00	39.5310895	-107.9212167	RWF 324-8 (A12)



FORMATION TOP DETAILS

TVDP	MD	Formation
2834.00	2882.17	GSAND
2934.00	2984.14	GSAND BASE
4634.00	4717.59	WSTC LOWER
5234.00	5329.39	MVRD
5234.00	5329.39	OCRK
6515.00	6625.74	KMVGAS
7943.00	8053.74	CMEO
8863.00	8973.74	RLNS
9013.00	9123.74	TD

Plan: Plan #1 7Jun2018mmsdi

18:12, June 11 2018
Created By: Mel Mireles

PROJECT DETAILS: Garfield County, CO NAD83

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Central Zone

System Datum: Mean Sea Level

CASING DETAILS

TVD	MD	Name	Size
1086.21	1100.00	5/8" Casing @ 1100' MD	9.62

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VFace	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	135.00	0.00	0.00	135.00	0.00	0.00	0.00	0.00	0.00	
3	510.78	11.27	33.44	508.36	30.75	20.31	3.00	33.44	36.85	
4	5874.19	11.27	33.44	5768.29	905.68	598.09	0.00	0.001085.34		
5	6625.74	0.00	0.00	6515.00	967.17	638.70	1.50	180.001159.04		RWF 324-8 KMV
6	9123.74	0.00	0.00	9013.00	967.17	638.70	0.00	0.001159.04		RWF 324-8 PBHL

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
RWF 324-8 KMV	6515.00	967.17	638.70	1628377.81	2317817.25	39.5337448	-107.9189522	Circle (Radius: 50.00)
- plan hits target center								
RWF 324-8 PBHL	9013.00	967.17	638.70	1628377.81	2317817.25	39.5337448	-107.9189522	Point
- plan hits target center								



TEP Rocky Mountain LLC

Garfield County, CO NAD83

DOE 1-M-18

RWF 324-8 - Slot RWF 324-8 (A12)

OH

Plan: Plan #1 7Jun2018mmsdi

Standard Planning Report

11 June, 2018



Database:	Grand Junction District	Local Co-ordinate Reference:	Well RWF 324-8 - Slot RWF 324-8 (A12)
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 6174.5' & RKB 24' @ 6198.50usft
Project:	Garfield County, CO NAD83	MD Reference:	GL 6174.5' & RKB 24' @ 6198.50usft
Site:	DOE 1-M-18	North Reference:	True
Well:	RWF 324-8	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 7Jun2018mmsdi		

Project	Garfield County, CO NAD83		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Central Zone		

Site		DOE 1-M-18			
Site Position:		Northing:	1,627,441.60 usft	Latitude:	39.5311260
From:	Map	Easting:	2,317,141.30 usft	Longitude:	-107.9212595
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence:	-1.53 °

Well	RWF 324-8 - Slot RWF 324-8 (A12)					
Well Position	+N/-S	-13.28 usft	Northing:	1,627,428.00 usft	Latitude:	39.5310896
	+E/-W	12.06 usft	Easting:	2,317,153.00 usft	Longitude:	-107.9212167
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	6,174.50 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	6/7/2018	9.43	65.80	51,583

Design	Plan #1 7Jun2018mmsdi			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	33.44

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
135.00	0.00	0.00	135.00	0.00	0.00	0.00	0.00	0.00	0.00	
510.78	11.27	33.44	508.36	30.75	20.31	3.00	3.00	0.00	33.44	
5,874.19	11.27	33.44	5,768.29	905.68	598.09	0.00	0.00	0.00	0.00	
6,625.74	0.00	0.00	6,515.00	967.17	638.70	1.50	-1.50	0.00	180.00	RWF 324-8 KMV
9,123.74	0.00	0.00	9,013.00	967.17	638.70	0.00	0.00	0.00	0.00	RWF 324-8 PBHL

Database:	Grand Junction District	Local Co-ordinate Reference:	Well RWF 324-8 - Slot RWF 324-8 (A12)
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 6174.5' & RKB 24' @ 6198.50usft
Project:	Garfield County, CO NAD83	MD Reference:	GL 6174.5' & RKB 24' @ 6198.50usft
Site:	DOE 1-M-18	North Reference:	True
Well:	RWF 324-8	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 7Jun2018mmsdi		

Planned 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)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
135.00	0.00	0.00	135.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	1.95	33.44	199.99	0.92	0.61	1.11	3.00	3.00	0.00
300.00	4.95	33.44	299.79	5.94	3.93	7.12	3.00	3.00	0.00
400.00	7.95	33.44	399.15	15.32	10.11	18.36	3.00	3.00	0.00
500.00	10.95	33.44	497.78	29.02	19.16	34.77	3.00	3.00	0.00
510.78	11.27	33.44	508.36	30.75	20.31	36.85	3.00	3.00	0.00
600.00	11.27	33.44	595.86	45.30	29.92	54.29	0.00	0.00	0.00
700.00	11.27	33.44	693.93	61.62	40.69	73.84	0.00	0.00	0.00
800.00	11.27	33.44	792.00	77.93	51.46	93.39	0.00	0.00	0.00
900.00	11.27	33.44	890.07	94.24	62.24	112.94	0.00	0.00	0.00
1,000.00	11.27	33.44	988.14	110.56	73.01	132.49	0.00	0.00	0.00
1,100.00	11.27	33.44	1,086.21	126.87	83.78	152.04	0.00	0.00	0.00
9 5/8" Casing @ 1100' MD									
1,200.00	11.27	33.44	1,184.28	143.18	94.55	171.58	0.00	0.00	0.00
1,300.00	11.27	33.44	1,282.35	159.49	105.33	191.13	0.00	0.00	0.00
1,400.00	11.27	33.44	1,380.42	175.81	116.10	210.68	0.00	0.00	0.00
1,500.00	11.27	33.44	1,478.49	192.12	126.87	230.23	0.00	0.00	0.00
1,600.00	11.27	33.44	1,576.56	208.43	137.64	249.78	0.00	0.00	0.00
1,700.00	11.27	33.44	1,674.64	224.75	148.42	269.33	0.00	0.00	0.00
1,800.00	11.27	33.44	1,772.71	241.06	159.19	288.88	0.00	0.00	0.00
1,900.00	11.27	33.44	1,870.78	257.37	169.96	308.43	0.00	0.00	0.00
2,000.00	11.27	33.44	1,968.85	273.68	180.74	327.98	0.00	0.00	0.00
2,100.00	11.27	33.44	2,066.92	290.00	191.51	347.53	0.00	0.00	0.00
2,200.00	11.27	33.44	2,164.99	306.31	202.28	367.07	0.00	0.00	0.00
2,300.00	11.27	33.44	2,263.06	322.62	213.05	386.62	0.00	0.00	0.00
2,400.00	11.27	33.44	2,361.13	338.94	223.83	406.17	0.00	0.00	0.00
2,500.00	11.27	33.44	2,459.20	355.25	234.60	425.72	0.00	0.00	0.00
2,600.00	11.27	33.44	2,557.27	371.56	245.37	445.27	0.00	0.00	0.00
2,700.00	11.27	33.44	2,655.34	387.87	256.14	464.82	0.00	0.00	0.00
2,800.00	11.27	33.44	2,753.41	404.19	266.92	484.37	0.00	0.00	0.00
2,882.17	11.27	33.44	2,834.00	417.59	275.77	500.43	0.00	0.00	0.00
GSAND									
2,900.00	11.27	33.44	2,851.48	420.50	277.69	503.92	0.00	0.00	0.00
2,984.14	11.27	33.44	2,934.00	434.23	286.75	520.37	0.00	0.00	0.00
GSAND BASE									
3,000.00	11.27	33.44	2,949.55	436.81	288.46	523.47	0.00	0.00	0.00
3,100.00	11.27	33.44	3,047.62	453.13	299.24	543.01	0.00	0.00	0.00
3,200.00	11.27	33.44	3,145.69	469.44	310.01	562.56	0.00	0.00	0.00
3,300.00	11.27	33.44	3,243.76	485.75	320.78	582.11	0.00	0.00	0.00
3,400.00	11.27	33.44	3,341.84	502.06	331.55	601.66	0.00	0.00	0.00
3,500.00	11.27	33.44	3,439.91	518.38	342.33	621.21	0.00	0.00	0.00
3,600.00	11.27	33.44	3,537.98	534.69	353.10	640.76	0.00	0.00	0.00
3,700.00	11.27	33.44	3,636.05	551.00	363.87	660.31	0.00	0.00	0.00
3,800.00	11.27	33.44	3,734.12	567.32	374.64	679.86	0.00	0.00	0.00
3,900.00	11.27	33.44	3,832.19	583.63	385.42	699.41	0.00	0.00	0.00
4,000.00	11.27	33.44	3,930.26	599.94	396.19	718.96	0.00	0.00	0.00
4,100.00	11.27	33.44	4,028.33	616.25	406.96	738.50	0.00	0.00	0.00
4,200.00	11.27	33.44	4,126.40	632.57	417.74	758.05	0.00	0.00	0.00
4,300.00	11.27	33.44	4,224.47	648.88	428.51	777.60	0.00	0.00	0.00
4,400.00	11.27	33.44	4,322.54	665.19	439.28	797.15	0.00	0.00	0.00
4,500.00	11.27	33.44	4,420.61	681.51	450.05	816.70	0.00	0.00	0.00

Database:	Grand Junction District	Local Co-ordinate Reference:	Well RWF 324-8 - Slot RWF 324-8 (A12)
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 6174.5' & RKB 24' @ 6198.50usft
Project:	Garfield County, CO NAD83	MD Reference:	GL 6174.5' & RKB 24' @ 6198.50usft
Site:	DOE 1-M-18	North Reference:	True
Well:	RWF 324-8	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 7Jun2018mmsdi		

Planned 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)
4,600.00	11.27	33.44	4,518.68	697.82	460.83	836.25	0.00	0.00	0.00
4,700.00	11.27	33.44	4,616.75	714.13	471.60	855.80	0.00	0.00	0.00
4,717.59	11.27	33.44	4,634.00	717.00	473.49	859.24	0.00	0.00	0.00
WSTC LOWER									
4,800.00	11.27	33.44	4,714.82	730.44	482.37	875.35	0.00	0.00	0.00
4,900.00	11.27	33.44	4,812.89	746.76	493.14	894.90	0.00	0.00	0.00
5,000.00	11.27	33.44	4,910.96	763.07	503.92	914.44	0.00	0.00	0.00
5,100.00	11.27	33.44	5,009.03	779.38	514.69	933.99	0.00	0.00	0.00
5,200.00	11.27	33.44	5,107.11	795.70	525.46	953.54	0.00	0.00	0.00
5,300.00	11.27	33.44	5,205.18	812.01	536.23	973.09	0.00	0.00	0.00
5,329.39	11.27	33.44	5,234.00	816.80	539.40	978.84	0.00	0.00	0.00
OCRK - MVRD									
5,400.00	11.27	33.44	5,303.25	828.32	547.01	992.64	0.00	0.00	0.00
5,500.00	11.27	33.44	5,401.32	844.63	557.78	1,012.19	0.00	0.00	0.00
5,600.00	11.27	33.44	5,499.39	860.95	568.55	1,031.74	0.00	0.00	0.00
5,700.00	11.27	33.44	5,597.46	877.26	579.33	1,051.29	0.00	0.00	0.00
5,800.00	11.27	33.44	5,695.53	893.57	590.10	1,070.84	0.00	0.00	0.00
5,874.19	11.27	33.44	5,768.29	905.68	598.09	1,085.34	0.00	0.00	0.00
5,900.00	10.89	33.44	5,793.62	909.81	600.82	1,090.30	1.50	-1.50	0.00
6,000.00	9.39	33.44	5,892.05	924.50	610.52	1,107.90	1.50	-1.50	0.00
6,100.00	7.89	33.44	5,990.92	937.03	618.80	1,122.91	1.50	-1.50	0.00
6,200.00	6.39	33.44	6,090.14	947.40	625.64	1,135.34	1.50	-1.50	0.00
6,300.00	4.89	33.44	6,189.65	955.59	631.05	1,145.16	1.50	-1.50	0.00
6,400.00	3.39	33.44	6,289.39	961.61	635.03	1,152.37	1.50	-1.50	0.00
6,500.00	1.89	33.44	6,389.28	965.45	637.56	1,156.97	1.50	-1.50	0.00
6,600.00	0.39	33.44	6,489.26	967.10	638.66	1,158.95	1.50	-1.50	0.00
6,625.74	0.00	0.00	6,515.00	967.17	638.70	1,159.04	1.50	-1.50	0.00
KMVGAS - RWF 324-8 KMV									
6,700.00	0.00	0.00	6,589.26	967.17	638.70	1,159.04	0.00	0.00	0.00
6,800.00	0.00	0.00	6,689.26	967.17	638.70	1,159.04	0.00	0.00	0.00
6,900.00	0.00	0.00	6,789.26	967.17	638.70	1,159.04	0.00	0.00	0.00
7,000.00	0.00	0.00	6,889.26	967.17	638.70	1,159.04	0.00	0.00	0.00
7,100.00	0.00	0.00	6,989.26	967.17	638.70	1,159.04	0.00	0.00	0.00
7,200.00	0.00	0.00	7,089.26	967.17	638.70	1,159.04	0.00	0.00	0.00
7,300.00	0.00	0.00	7,189.26	967.17	638.70	1,159.04	0.00	0.00	0.00
7,400.00	0.00	0.00	7,289.26	967.17	638.70	1,159.04	0.00	0.00	0.00
7,500.00	0.00	0.00	7,389.26	967.17	638.70	1,159.04	0.00	0.00	0.00
7,600.00	0.00	0.00	7,489.26	967.17	638.70	1,159.04	0.00	0.00	0.00
7,700.00	0.00	0.00	7,589.26	967.17	638.70	1,159.04	0.00	0.00	0.00
7,800.00	0.00	0.00	7,689.26	967.17	638.70	1,159.04	0.00	0.00	0.00
7,900.00	0.00	0.00	7,789.26	967.17	638.70	1,159.04	0.00	0.00	0.00
8,000.00	0.00	0.00	7,889.26	967.17	638.70	1,159.04	0.00	0.00	0.00
8,053.74	0.00	0.00	7,943.00	967.17	638.70	1,159.04	0.00	0.00	0.00
CME0									
8,100.00	0.00	0.00	7,989.26	967.17	638.70	1,159.04	0.00	0.00	0.00
8,200.00	0.00	0.00	8,089.26	967.17	638.70	1,159.04	0.00	0.00	0.00
8,300.00	0.00	0.00	8,189.26	967.17	638.70	1,159.04	0.00	0.00	0.00
8,400.00	0.00	0.00	8,289.26	967.17	638.70	1,159.04	0.00	0.00	0.00
8,500.00	0.00	0.00	8,389.26	967.17	638.70	1,159.04	0.00	0.00	0.00
8,600.00	0.00	0.00	8,489.26	967.17	638.70	1,159.04	0.00	0.00	0.00
8,700.00	0.00	0.00	8,589.26	967.17	638.70	1,159.04	0.00	0.00	0.00
8,800.00	0.00	0.00	8,689.26	967.17	638.70	1,159.04	0.00	0.00	0.00
8,900.00	0.00	0.00	8,789.26	967.17	638.70	1,159.04	0.00	0.00	0.00
8,973.74	0.00	0.00	8,863.00	967.17	638.70	1,159.04	0.00	0.00	0.00

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Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 6174.5' & RKB 24' @ 6198.50usft
Project:	Garfield County, CO NAD83	MD Reference:	GL 6174.5' & RKB 24' @ 6198.50usft
Site:	DOE 1-M-18	North Reference:	True
Well:	RWF 324-8	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 7Jun2018mmsdi		

Planned 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)
RLNS									
9,000.00	0.00	0.00	8,889.26	967.17	638.70	1,159.04	0.00	0.00	0.00
9,100.00	0.00	0.00	8,989.26	967.17	638.70	1,159.04	0.00	0.00	0.00
9,123.74	0.00	0.00	9,013.00	967.17	638.70	1,159.04	0.00	0.00	0.00
TD - RWF 324-8 PBHL									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
RWF 324-8 KMV	0.00	0.00	6,515.00	967.17	638.70	1,628,377.81	2,317,817.25	39.5337448	-107.9189522
- plan hits target center									
- Circle (radius 50.00)									
RWF 324-8 PBHL	0.00	0.00	9,013.00	967.17	638.70	1,628,377.81	2,317,817.25	39.5337448	-107.9189522
- plan hits target center									
- Point									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,100.00	1,086.21	9 5/8" Casing @ 1100' MD	9.62	13.50	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
2,882.17	2,834.00	GSAND		0.00	0.00	
2,984.14	2,934.00	GSAND BASE		0.00	0.00	
4,717.59	4,634.00	WSTC LOWER		0.00	0.00	
5,329.39	5,234.00	OCRK		0.00	0.00	
5,329.39	5,234.00	MVRD		0.00	0.00	
6,625.74	6,515.00	KMVGAS		0.00	0.00	
8,053.74	7,943.00	CME0		0.00	0.00	
8,973.74	8,863.00	RLNS		0.00	0.00	
9,123.74	9,013.00	TD		0.00	0.00	