

WPX Energy  
RWF 724-16  
DFIT Analysis

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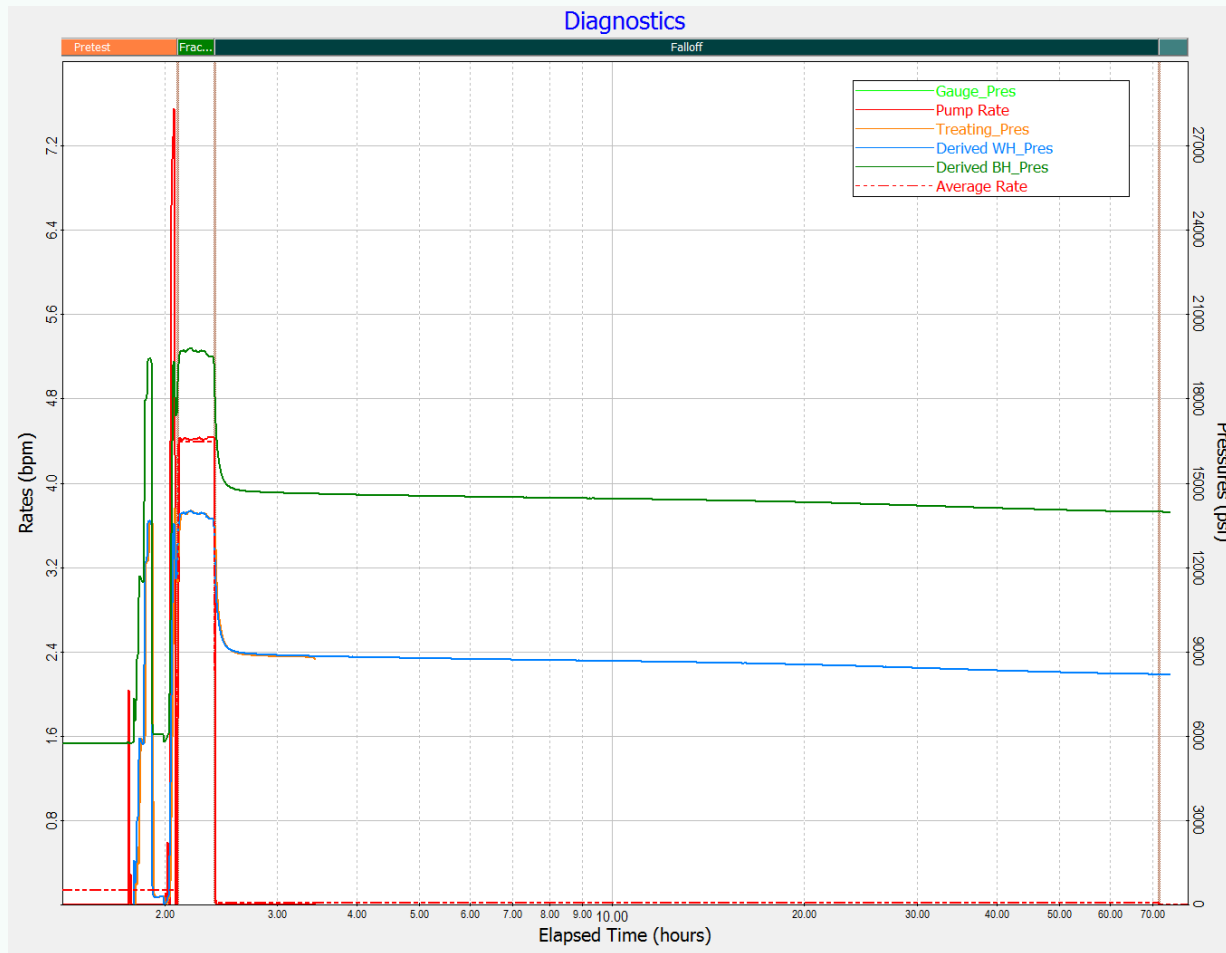
Barree & Associates

# DFIT Overview

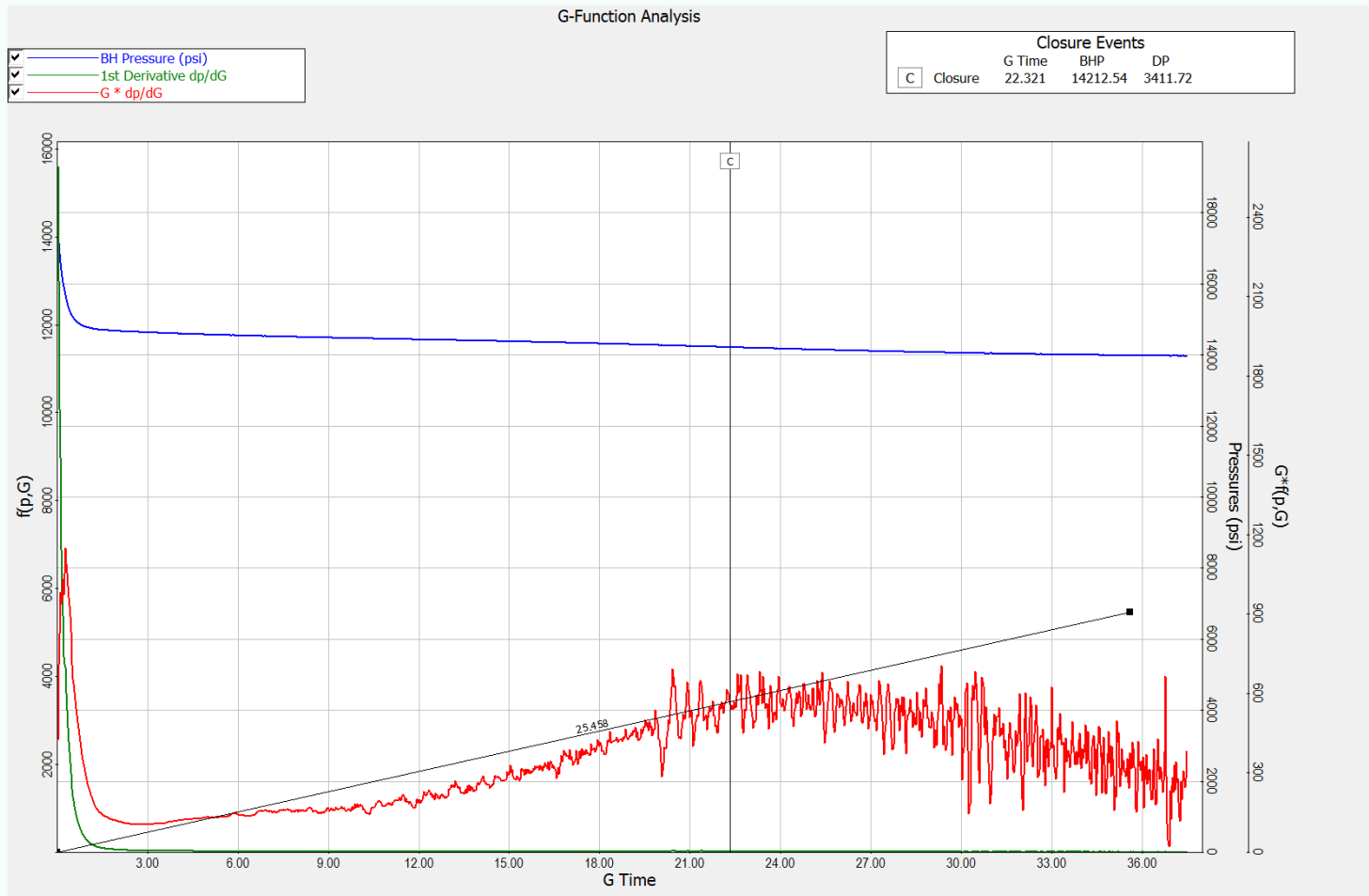
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- Injection of 3245 gals of brine at upto 4 bpm into vertical wellbore
- Perforation at 13295 ft
- Hydrostatic offset of 5774.6 psi added to surface gauge pressure
- Pressure files merged as surface pressure gauge not recorded until under 10 Kpsi on surface

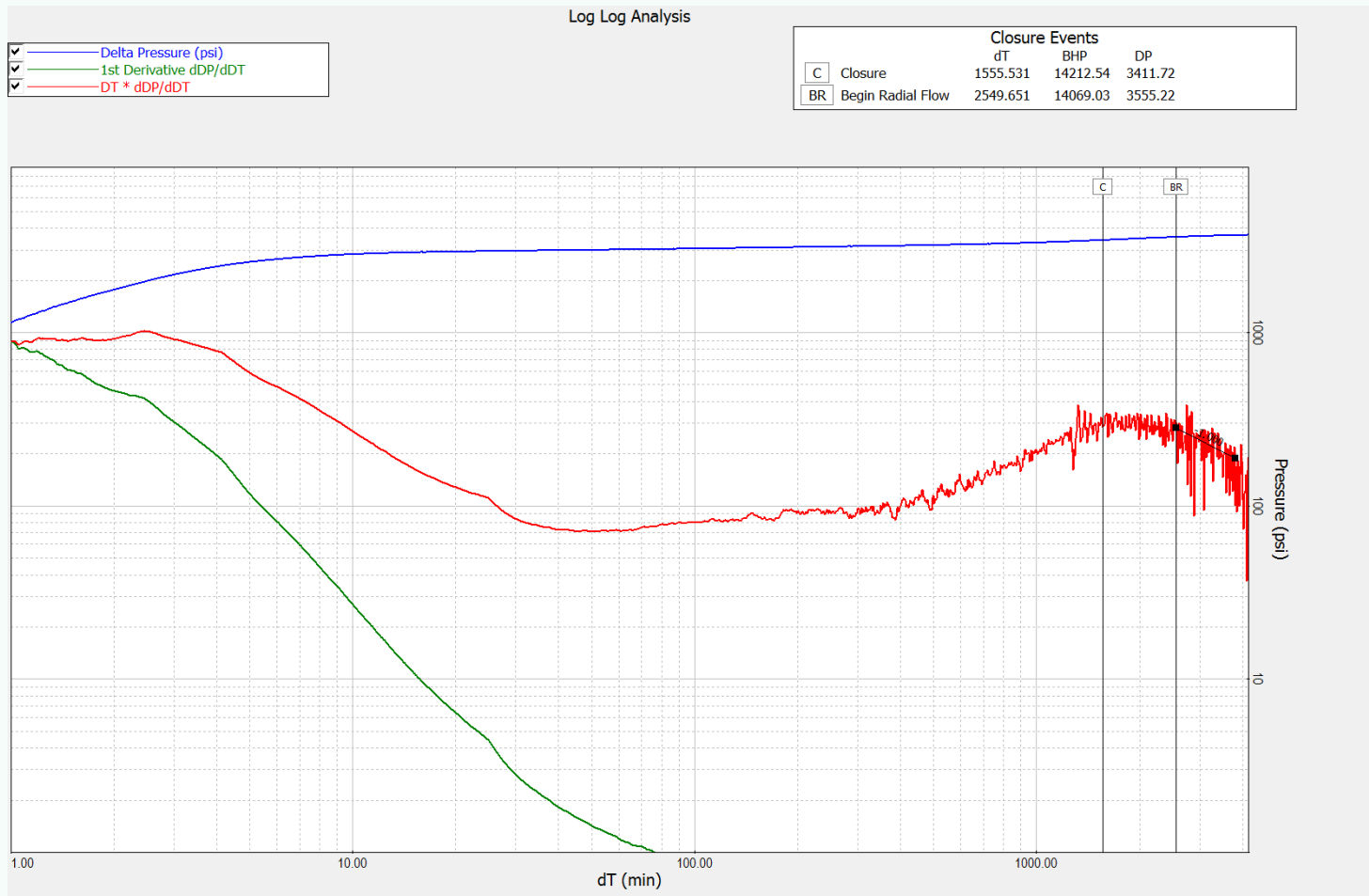
# Job Data



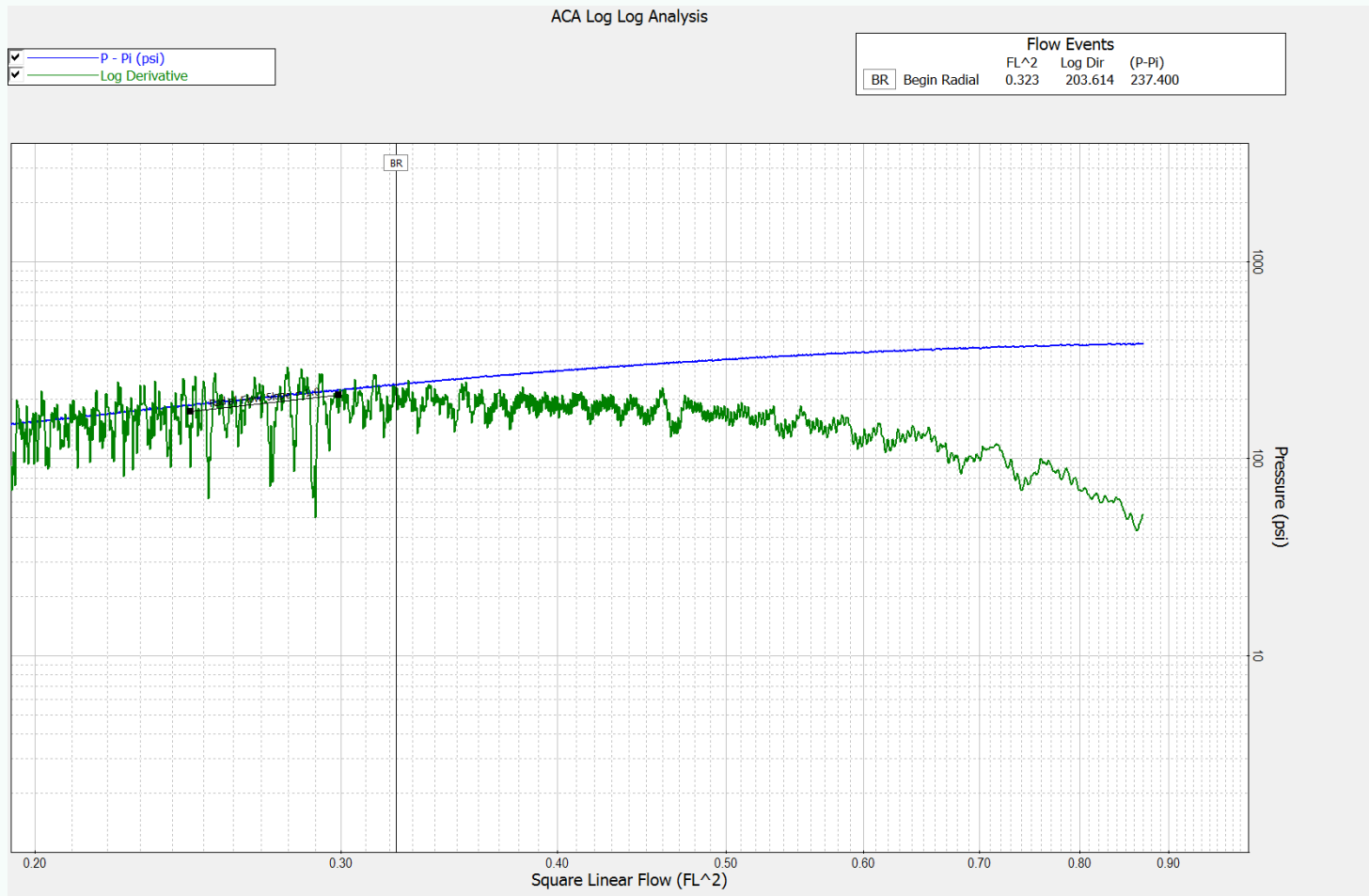
# G-Function Plot – Horizontal Fracture



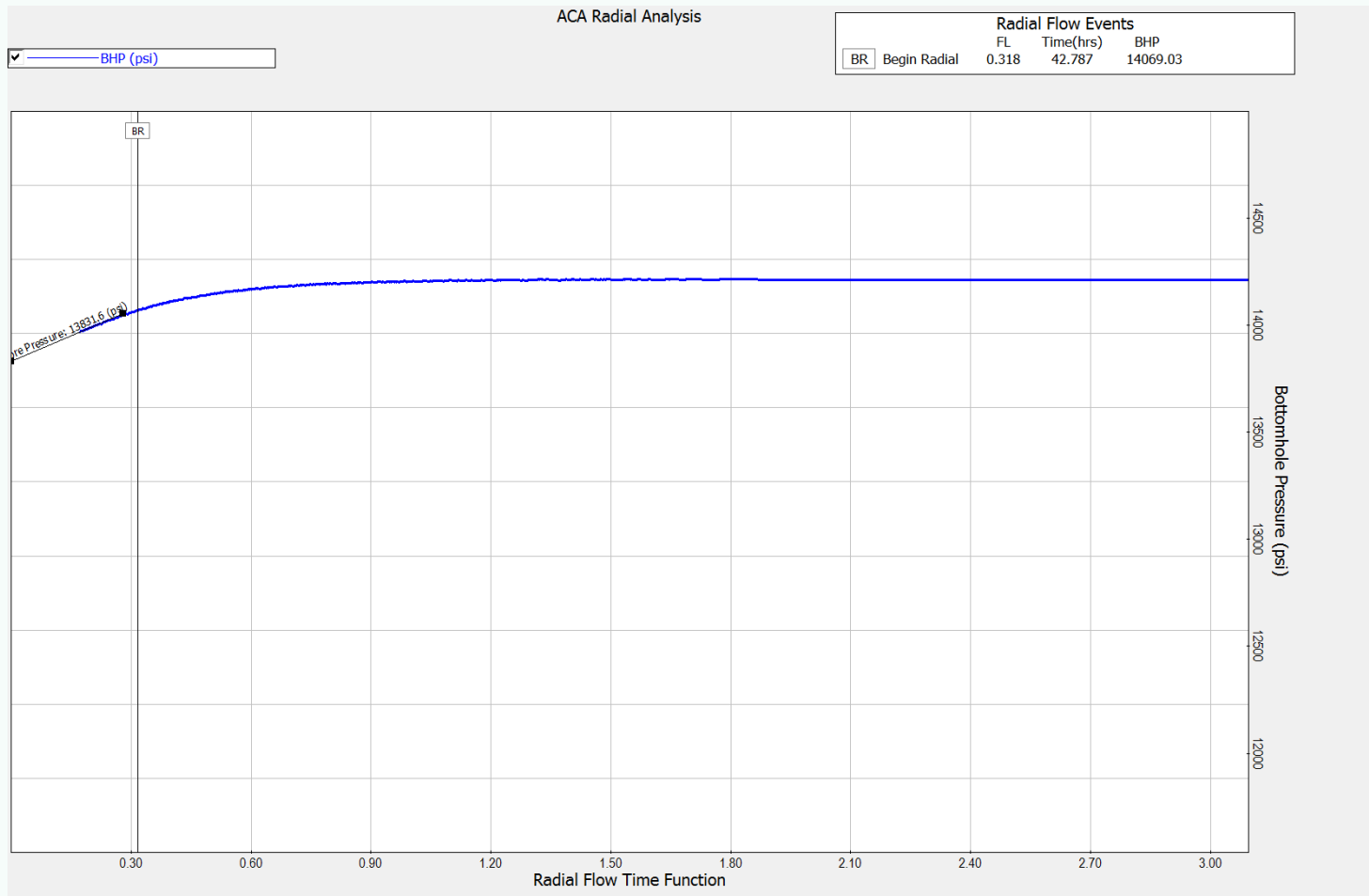
# Log Log Plot



# Log Linear Plot



# Radial Flow Plot



# After Closure Summary

## Diagnostic Results

Event Times		Pressures		Reservoir	
Begin linear flow time (min)	1877.52	PDL coefficient of leakoff (1/psi)	0.000	ACA Radial Kh (md ft)	0.452
Begin radial flow time (min)	2567.23	BHP at end of PDL (psi)	0.000	ACA Radial Kh/mu (md ft/cp)	15.445
End linear flow time (min)	2729.61	Closure gradient (psi/ft)	1.070	ACA Radial permeability (md)	0.0452
Fracture initiation time (min)	0.000	dP at closure (psid)	2809.16	ACA Radial reservoir pressure (psi)	13831.63
G time at closure (G time)	22.321	dP at end of PDL (psid)	0.000	Horner Kh (md ft)	0.000
G time at end of PDL (G time)	0.000	BHP at closure (psi)	14221.24	Horner Kh/mu (md ft/cp)	0.000
Pump stop time (min)	17.583	Fissure opening pressure (psi)	0.000	Horner permeability (md)	0.000
Test end time (min)	4171.17	Fluid gradient (well) (psi/ft)	0.435	Horner reservoir pressure (psi)	0.000
Time at closure (min)	1573.11	Fracture gradient (psi/ft)	1.328	Horner slope	0.000
Time at end of PDL (min)	0.000	Est. Net pay height (ft)	10.000	Permeability from G closure time (md)	0.00151
		ISIP (surface) (psi)	11849.63	ACA Linear reservoir pressure (psi)	13734.56
				Reservoir pore pressure (psi)	13831.63
				Res pressure gradient (psi/ft)	1.042
Test		Fracture		Other	
Avg. pump rate (bpm)	4.395	Fluid efficiency (%)	91.777	Closure found	True
Holes open	10.000	Rp area ratio	0.917	Linear Flow Found	False
Minimum test pressure (psi)	8189.78	PDL coefficient of leakoff (1/psi)	0.000	PDL found	False
Minimum test pressure time (min)	4054.10			Radial Flow Found	True
Relative Pump time (min)	17.583				
Tortuosity psi/sqrt(bpm)	0.000				

# DFIT Summary

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- DFIT injection has generated a complex fracture with vertical and horizontal components
- Fracture extension pressure of 17624 psi or a fracture gradient of 1.328 psi/ft
- Fracture closure at 14221 psi or 1.070 psi/ft
- Radial flow post closure with a pore pressure of 13831 psi or 1.042 psi/ft and a flow capacity of 0.45 md.ft