

Morning Report PNR1z

Management System:	HSE	File Name:	065_PNR1z_11.12.18_RMR	
Approver:	Senior Geoscientist	Version No:	1	
Reviewer:	Frac Manager	Date of Issue:	12 th December 2018	
Author:	Senior Frac Engineer	Proposed date of Review:	n/a	
Version	Section	Revision Information	Date	Reviser
0.1	All	Draft Publication	12/12/2018	Senior Frac Engineer
<i>Documents are reviewed as per proposed review date, or sooner if a significant change to the operation has taken place, to ensure relevance to the systems and process that they define.</i>				

Summary

Overview of day's operations (midnight to midnight):

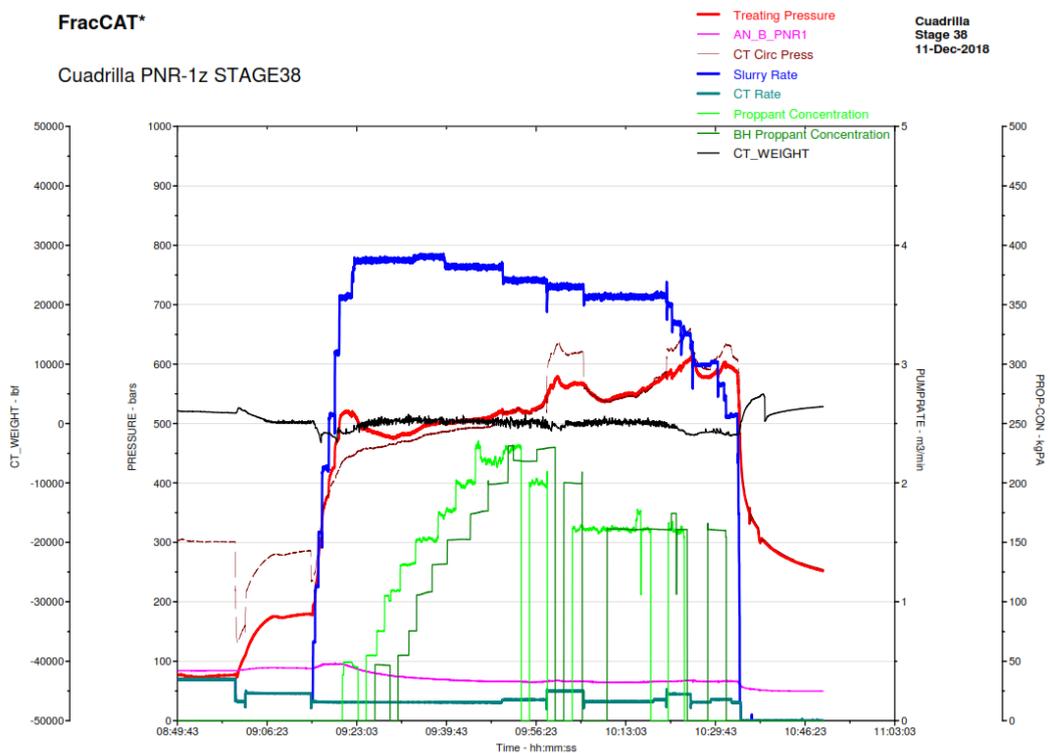
- Opened and proppant fractured sleeve 38. Flowed back well.
- Immediate post-frac flowback performed
- Induced seismicity: yes (see below)
- No red line boundary breached

Injection Summary

Stage 38

Injection Depth m (RT)	Volume (fluid m ³ , proppant tonne)	Fluid System	Additives (type, mass kg, %)
-2717.2 m MDRT	Slickwater (268.2 m ³ & 27.9 T) 10% HCl (1.5 m ³)	Slickwater HCl	B528 Friction Reducer, Slickwater – 64.0 kg – 0.02%
-2344.6 m TVDRT			

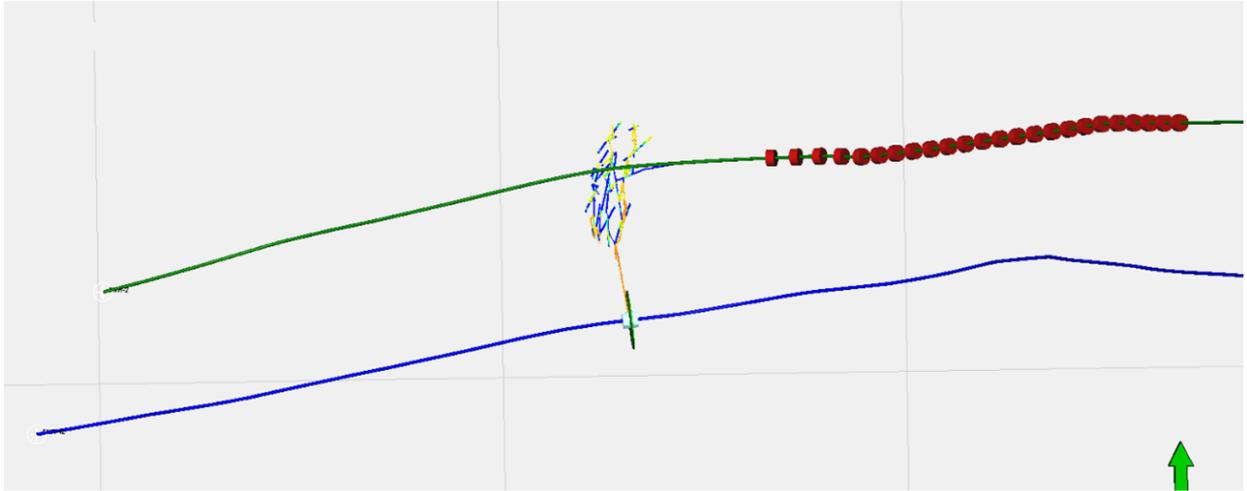
Injection Chart



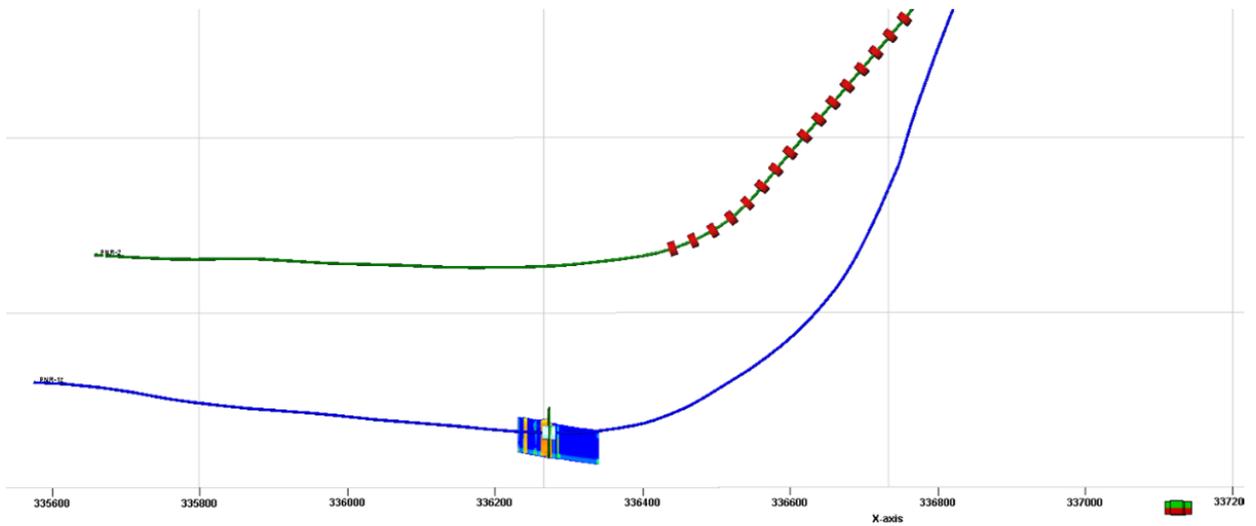
Pumping Time:

1) 11/12/2018 09:01:00 - 11/12/2018 10:34:00

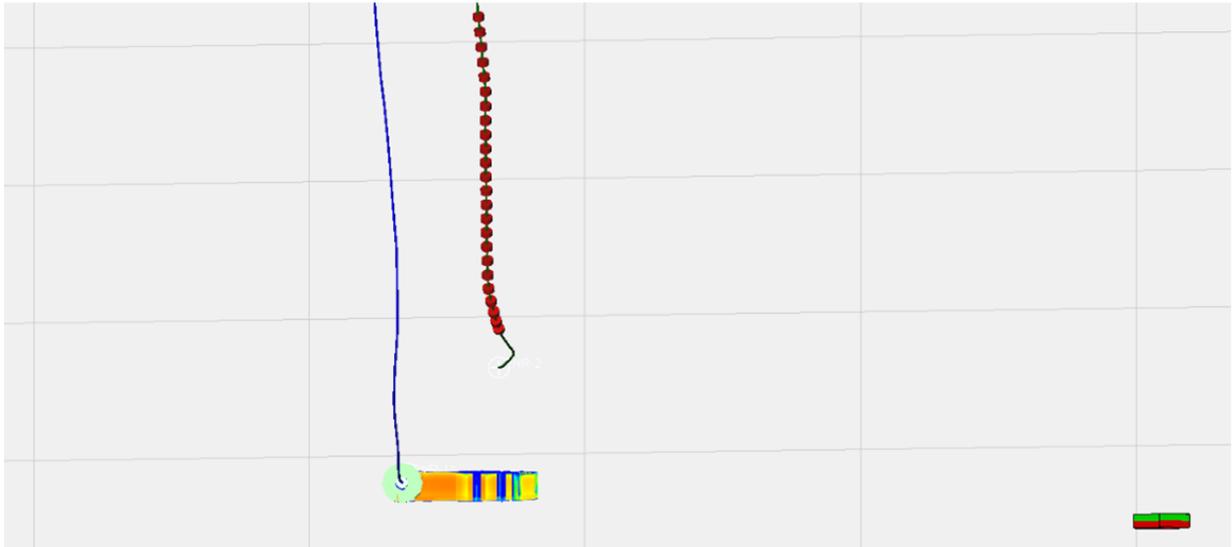
Fracture Growth



• Map View, scale north bar



• X-section due north



- X-section due east
- Max hydraulic frac half length: 118.7 m
- Hydraulic frac height at well: 52.4 m

Well Integrity Status

- No change

Seismicity of Note

- 11/12/2018 09:53:31 - $M_L = 0.1$
- 11/12/2018 10:18:46 - $M_L = 0.0$
- 11/12/2018 11:21:15 - $M_L = 1.5$ (Trailing)

Update to Stress Magnitude

- No update to stress magnitude as closure was not observed
- $S_{Hmin} = 0.0148$ MPa/m