

Morning Report PNR1z				
Management System:		HSE	File Name:	024_PNR1z_31.10.18_RMR
Approver:		Senior Geoscientist	Version No:	1
Reviewer:		Frac Manager	Date of Issue:	1 st November 2018
Author:		Senior Frac Engineer	Proposed date of Review:	n/a
Version	Section	Revision Information	Date	Reviser
0.1	All	Draft Publication	01/11/2018	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>				

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Summary

Overview of day's operations:

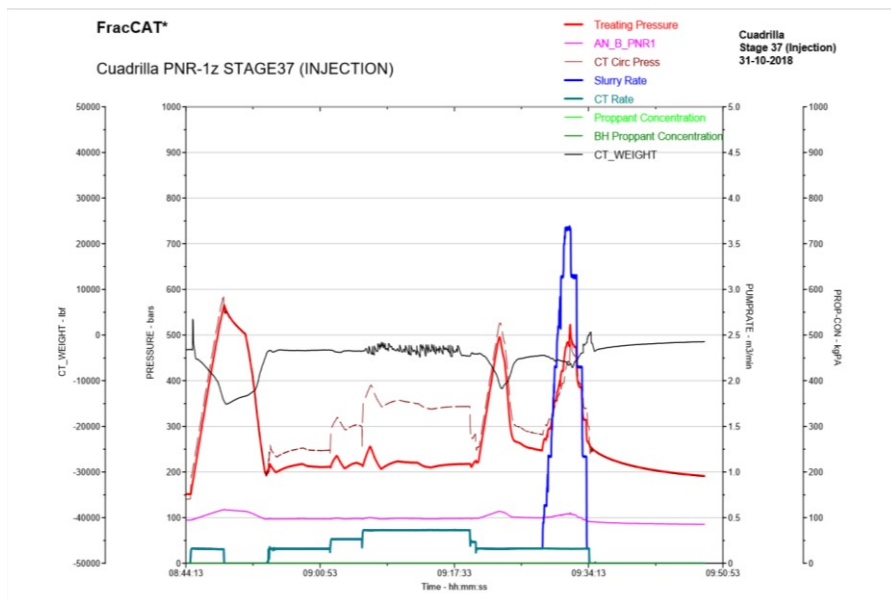
- Minifrac injected into Stage 37
- Flowback performed – none
- Minifrac injected into Stage 40
- Flowback performed – none
- Flowed back stages 31 and 32 (both open and previously fractured) – 12.1 m³ (until midnight)
- Induced seismicity - none
- No red line boundary breached

Injection Summary

Stage 37

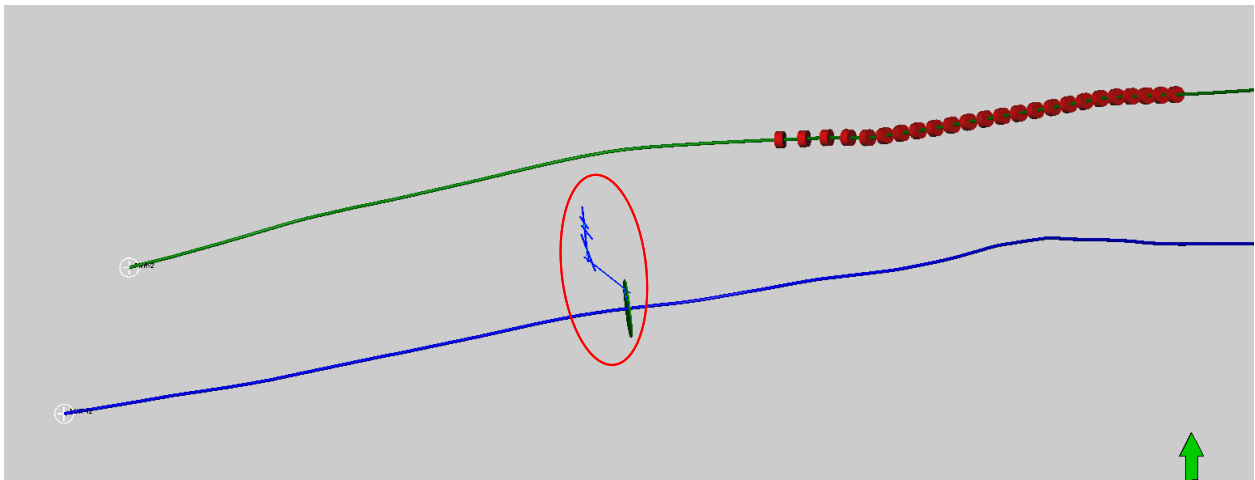
Injection Depth m (RT)	Volume (fluid m3, proppant tonne)	Fluid System	Additives (type, mass kg, %)
-2734.82 M MDRT	Slickwater Frac (13.3 m³) Acid Spearhead (1 m³)	Slickwater 10% HCl	B528 Friction Reducer, Slickwater Frac – 3.6 kg – 0.02%
-2344.20 M TVDRT			

Injection Chart

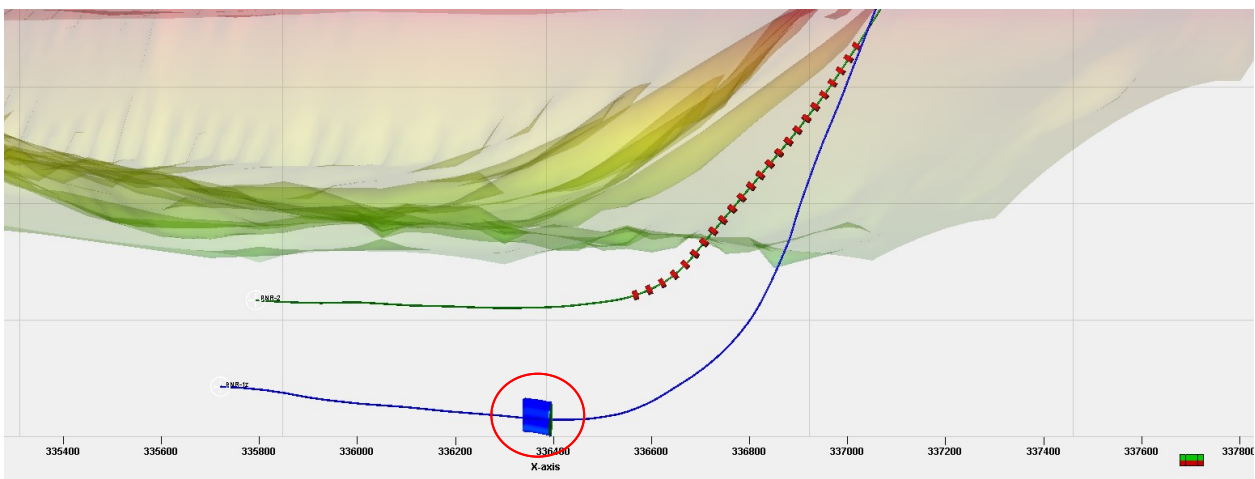


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Fracture Growth

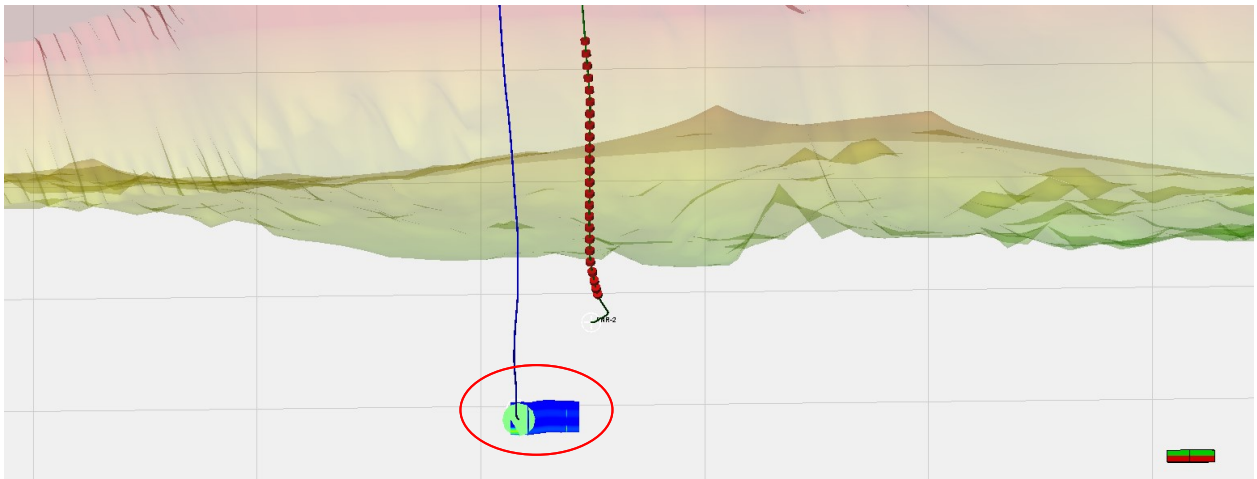


- Map View, scale north bar



- X-section due north

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- X-section due east
- Max hydraulic frac half length: 143.00 m
- Hydraulic frac height at well: 68.89 m

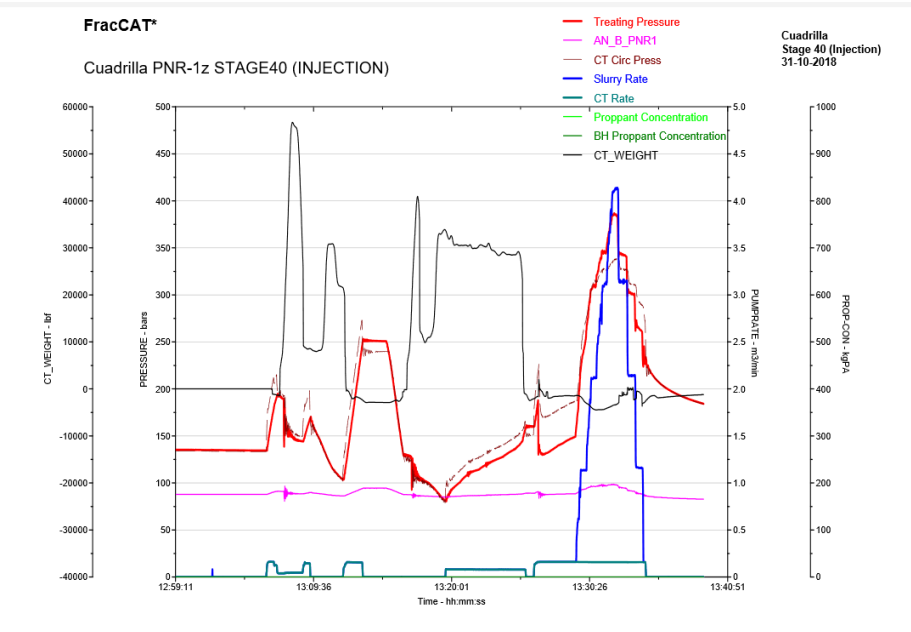
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Injection Summary

Stage 40

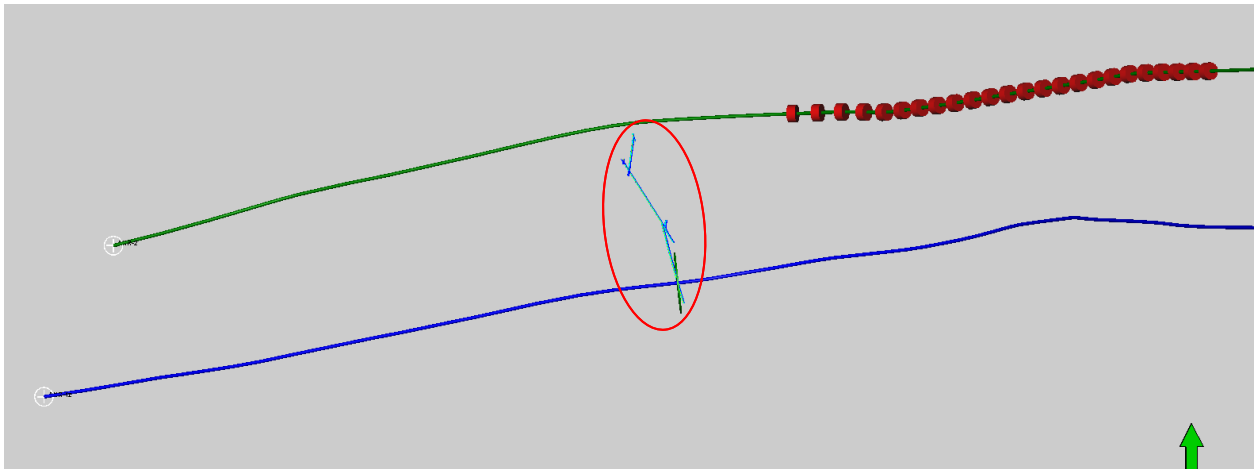
Injection Depth m (RT)	Volume (fluid m3, proppant tonne)	Fluid System	Additives (type, mass kg, %)
-2681.93 M MDRT	Slickwater Frac (13.3 m³)	Slickwater	B528 Friction Reducer, Slickwater Frac – 3.4 kg – 0.02 %
-2344.04 M TVDRT			

Injection Chart

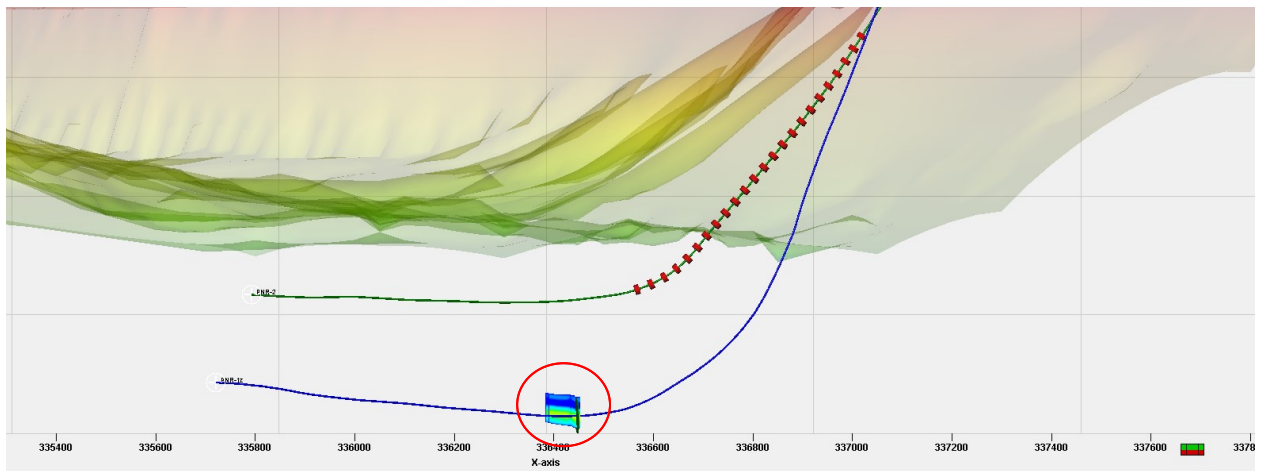


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Fracture Growth

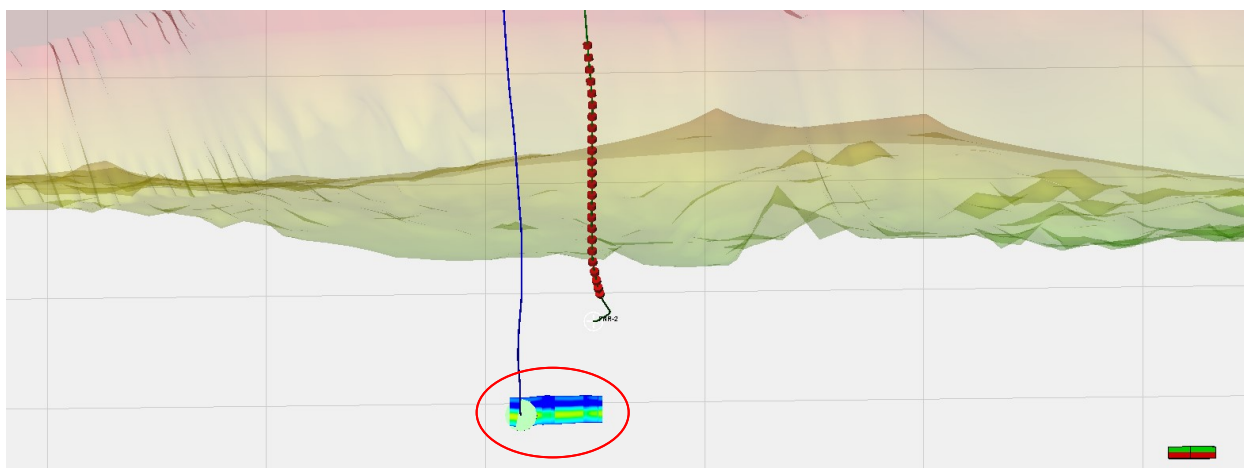


- Map View, scale north bar



- X-section due north

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- X-section due east

- Max hydraulic frac half length: 197.00 m
- Hydraulic frac height at well: 52.03 m

Well Integrity Status

- No change

Induced Seismicity of Note

- None

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Update to Stress Magnitude

- An update to stress magnitude as closure was observed
- $S_{Hmin} = 0.0148 \text{ MPa/m}$

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