

ADAMSON 13N-28HZ PRESSURE INCREASE REPORT FOLLOW-UP

BACKGROUND

A rise in Bradenhead pressure was recorded on 12/10/2016 at approximately 23:11 and was subsequently reported. The rise in Bradenhead pressure occurred within a 24 hour time-frame of frac operations taking place on wells within 300 ft.

FINDINGS

The rise in Bradenhead pressure was caused by producing fluids during flowback.

SUBJECT WELL INFORMATION

API: 05-123-41823

Surface Casing Set Depth: 1863' MD

Frac Ops Period: 11/18/16 12:46 thru 11/27/16 14:28

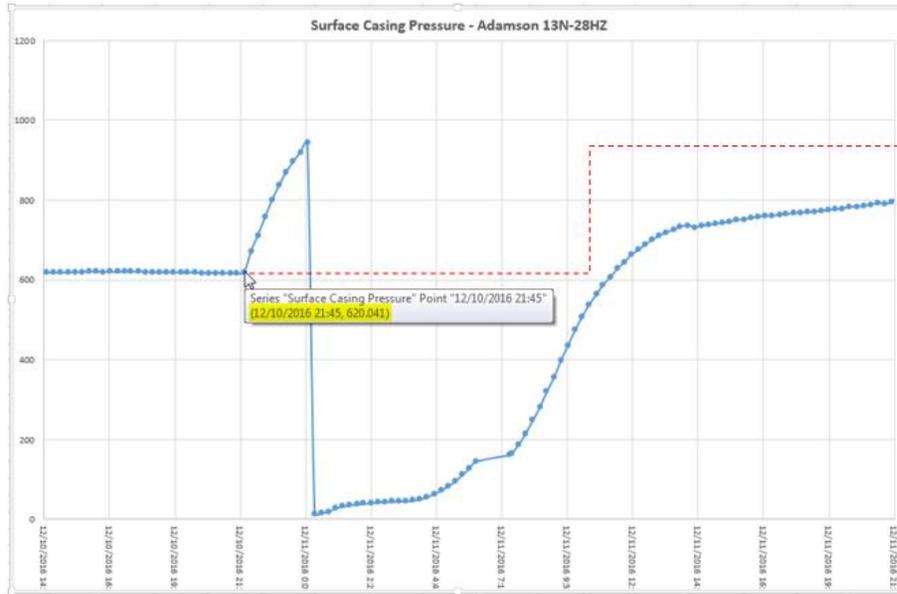
OFFSET WELL EFFECTS

Due to operational challenges, there were no stages pumped between 12/10/16 08:09 and 12/11/16 01:26 on wells within 300' of the Adamson 13N-28HZ. The only stage pumped on the same day that the rise in Bradenhead pressure was recorded took place on the Meguire 30N-16HZ – The stage started at 06:48 and finished at 08:09.

FLOWBACK OPERATIONS

The start of flowback occurred at the same time as the rise in Bradenhead pressure.

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DATE AND TIME				WATER					
Date mm/dd/yyyy	Time 23:59	Test Time hh:mm	Elapsed Time hh:mm	Water Rate		Cum. Prod. Water STB	Load Water Recovery %	Load Water Remaining	
				STB/Time	STB/d			STB	%
12/10/2016	21:00	01:00	548:00						
12/10/2016	22:00	01:00	549:00	45.00	1080.00	53.00	0.03%	198610.00	99.97%
12/10/2016	23:00	01:00	550:00	100.00	2400.00	153.00	0.08%	198510.00	99.92%
12/11/2016	00:00	01:00	551:00	120.00	2880.00	273.00	0.14%	198390.00	99.86%
12/11/2016	01:00	01:00	552:00	132.00	3168.00	405.00	0.20%	198258.00	99.80%
12/11/2016	02:00	01:00	553:00	140.00	3360.00	545.00	0.27%	198118.00	99.73%
12/11/2016	03:00	01:00	554:00	102.00	2448.00	647.00	0.33%	198016.00	99.67%
12/11/2016	04:00	01:00	555:00	108.00	2592.00	755.00	0.38%	197908.00	99.62%
12/11/2016	05:00	01:00	556:00	111.00	2664.00	866.00	0.44%	197797.00	99.56%
12/11/2016	06:00	01:00	557:00	108.00	2592.00	974.00	0.49%	197689.00	99.51%
12/11/2016	07:00	01:00	558:00	80.00	1920.00	1054.00	0.53%	197609.00	99.47%
12/11/2016	08:00	01:00	559:00	32.00	768.00	1086.00	0.55%	197577.00	99.45%
12/11/2016	09:00	01:00	560:00	37.00	888.00	1123.00	0.57%	197540.00	99.43%
12/11/2016	10:00	01:00	561:00	35.00	840.00	1158.00	0.58%	197505.00	99.42%
12/11/2016	11:00	01:00	562:00	36.00	864.00	1194.00	0.60%	197469.00	99.40%
12/11/2016	12:00	01:00	563:00	32.00	768.00	1226.00	0.62%	197437.00	99.38%
12/11/2016	13:00	01:00	564:00	35.00	840.00	1261.00	0.63%	197402.00	99.37%
12/11/2016	14:00	01:00	565:00	34.00	816.00	1295.00	0.65%	197368.00	99.35%
12/11/2016	15:00	01:00	566:00	38.00	912.00	1333.00	0.67%	197330.00	99.33%
12/11/2016	16:00	01:00	567:00	33.00	792.00	1366.00	0.69%	197297.00	99.31%
12/11/2016	17:00	01:00	568:00	35.00	840.00	1401.00	0.71%	197262.00	99.29%
12/11/2016	18:00	01:00	569:00	33.00	792.00	1434.00	0.72%	197229.00	99.28%
12/11/2016	19:00	01:00	570:00	36.00	864.00	1470.00	0.74%	197193.00	99.26%
12/11/2016	20:00	01:00	571:00	34.00	816.00	1504.00	0.76%	197159.00	99.24%
12/11/2016	21:00	01:00	572:00						

TEMPERATURE EFFECTS

Warmer production fluids carried to surface through the 5-1/2" production string heated the 9-5/8" x 5-1/2" annulus. In a comparable analysis that was performed on the Powers 2G-27HZ, the computer model predicted a 400+ psi increase due to raising the annular temperature profile above top of cement.

CONCLUSION

The change in Bradenhead pressure can be explained by changes in temperature inside the production casing during flowback operations.