

Form 5A, Frac. Desc., CLD, 08/17/11

TOTAL STAGES: 13 (11,291'-6,812'); 1,208,508 gal w/2,069,159# SND (190,807# 40/70, 1,878,352# 20/40)

- Frac'd STG 1 (11,291'-10,809'), w/ SLF: 124,632 gls, Total SND : 212,778 #SND (22,559 40/70 & 190,219 20/40) ATP 5419, MTP 6557, ATR 50.6 MTR 53.5SND 1# to 4#, XLG 135,759 gals, Linear 22,396 gals, Total Fluid 158,155.
- Frac'd STG 2 (10,809'-10,535'), w/ SLF: 75,678 gals, Total SND: 172,063 # SND (24,082 40/70 & 147,981 20/40) ATP 5102, MTP 5892, ATR 53.5 MTR 57, SND 1# to 3.75#, XLG 91,092 gals, Linear 17,595 gals, Total Fluid 108,687.
- Frac'd STG 3 (10,535'-10,262'), w/ 62,368 gals, Total SND 146,187 # SND (21,443 40/70 & 124,744 20/40) ATP 5098, MTP 5442, ATR 55.6 MTR 56, SND 1# to 4#, XLG 77,630 gals, Linear 17,612 gals, Total Fluid 95,242.
- Frac'd STG 4 (10,262'-9,947'), w/ 47,136 gals, Total SND 137,911 # SND (8,539 40/70 & 129,372 20/40) ATP 4856, MTP 5148, ATR 55.5 MTR 56, SND 1# to 4#, XLG 62,377 gals, Linear 17,508 gals, Total Fluid 79,885.
- Frac'd STG 5 (9,947'-9,714'), w/ 48,220 gals, Total SND 138,804 # SND (11,602 40/70 & 127,202 20/40) ATP 4728, MTP 5069, ATR 55.8 MTR 56.6, SND 1# to 4#, XLG 63,670 gals, Linear 17,654 gals, Total Fluid 81,324
- Frac'd STG 6 (9,714'-8,950'), w/ 64,645 gals, Total SND 205,980 # SND (9,880 40/70 & 196,100 20/40) ATP 4490, MTP 4833, ATR 56.1 MTR 57.4, SND 1# to 4#, XLG 80,909 gals, Linear 17,664 gals, Total Fluid 98,573.
- Frac'd STG 7 (8,950'-8,718'), w/ 55,111 gals, Total SND 147,049 # SND (21,321 40/70 & 125,728 20/40) ATP 4464, MTP 4753, ATR 56 MTR 56.5, SND 1# to 4#, XLG 69,339 gals, Linear 17,390 gals, Total Fluid 87,859.
- Frac'd STG 8 (8,718'-8,362'), w/ 39,266 gals, Total SND 108,848 # SND (9,481 40/70 & 99,367 20/40) ATP 4473, MTP 8428, ATR 56.4 MTR 56, SND 1# to 4#, XLG 56,790 gals, Linear 20,443 gals, Total Fluid 77,233.
- Frac'd STG 9 (8,362'-8,087'), w/ 48,426 gals, Total SND 139,227 # SND (9,861 40/70 & 129,366 20/40) ATP 4624, MTP 5010, ATR 56.7 MTR 57.3, SND 1# to 4#, XLG 59,702 gals, Linear 17,593 gals, Total Fluid 77,295.
- Frac'd STG 10 (8,087'-7,855'), w/ 45,751 gals, Total SND 140,690 # SND (9,542 40/70 & 131,148 20/40) ATP 4522, MTP 4740, ATR 56.9 MTR 57.5, SND 1# to 4#, XLG 61,085 gals, Linear 17,335 gals, Total Fluid 78,410.
- Frac'd STG 11 (7,855'-7,584'), w/ 49,204 gals, Total SND 150,979 # SND (9,980 40/70 & 140,999 20/40) ATP 4310, MTP 4437, ATR 57.3 MTR 57.7, SND 1# to 4#, XLG 64,612 gals, Linear 17,915 gals, Total Fluid 85,527.
- Frac'd STG 12 (7,584'-7,352'), w/ 46,458 gals, Total SND 141,539 # SND (9,373 40/70 & 132,166 20/40) ATP 4131, MTP 4322, ATR 57.4 MTR 57.9, SND 1# to 4#, XLG 61,772 gals, Linear 17,470 gals, Total Fluid 79,242.
- Frac'd STG 13 (7,352'-6,812'), w/ 70,349 gals, Total SND 227,104 # SND (23,144 40/70 & 203,960 20/40) ATP 4121, MTP 4314, ATR 55.5 MTR 57.5, SND 1# to 4#, XLG 84,628 gals, Linear 15,871 gals, Total Fluid 105,135.