

WELL # Piedmont - Denver #1

PERFORATIONS:

Stage 1, Perforations: 63 holes from 5690' to 5752'

Stage 2, Perforations: 43 holes from 5338' to 5651'

Stage 3, Perforations: \_\_\_\_\_ holes from \_\_\_\_\_ to \_\_\_\_\_

Stage 4, Perforations: \_\_\_\_\_ holes from \_\_\_\_\_ to \_\_\_\_\_

FRACTURING:

1<sup>ST</sup> STAGE: MARQUIS SHALE 1-23-07

Perforations from 5690' - 5752', Acid 1000 gal. 15% HCL, 75 PERF BAUS  
Breakdown @ 3830 PSI, Avg. Rate 29.6 BPM,  
ATP 3341 PSI, Total H<sub>2</sub>O 4128 Bbl., Total sand 23,800 # 1/0-1/2 PPA  
Total N<sub>2</sub> NA Scf. I.S.I.P. 1350 # 788 min. 788 #

BALLUP OUT @ 4600 #; SURGE BAUS OFF PRIOR TO FRACT.

2<sup>ND</sup> STAGE: RHINESTREET SHALE 2-15-07

Perforations from 5338' - 5651', Acid 1000 gal. 15% HCL, 60 PERF BAUS  
Breakdown @ 2570 PSI, Avg. Rate 45.1 BPM, 500 GAL. BREAKDOWN  
ATP 2533 PSI, Total H<sub>2</sub>O 4678 Bbl., Total sand 35,000 # 1/4 PPA  
Total N<sub>2</sub> NA Scf. I.S.I.P. 830 # 640 min. 640 #

PRESSURE INCREASED TO 2810 # DURING BALLUP.

3<sup>RD</sup> STAGE: \_\_\_\_\_

Perforations from \_\_\_\_\_ - \_\_\_\_\_, Acid \_\_\_\_\_ gal. \_\_\_\_\_ HCL,  
Breakdown @ \_\_\_\_\_ PSI, Avg. Rate \_\_\_\_\_ BPM,  
ATP \_\_\_\_\_ PSI, Total H<sub>2</sub>O \_\_\_\_\_ Bbl., Total sand \_\_\_\_\_ #  
Total N<sub>2</sub> \_\_\_\_\_ Scf. I.S.I.P. \_\_\_\_\_ 15 min. \_\_\_\_\_

4<sup>TH</sup> STAGE: \_\_\_\_\_

Perforations from \_\_\_\_\_ - \_\_\_\_\_, Acid \_\_\_\_\_ gal. \_\_\_\_\_ HCL,  
Breakdown @ \_\_\_\_\_ PSI, Avg. Rate \_\_\_\_\_ BPM,  
ATP \_\_\_\_\_ PSI, Total H<sub>2</sub>O \_\_\_\_\_ Bbl., Total sand \_\_\_\_\_ #  
Total N<sub>2</sub> \_\_\_\_\_ Scf. I.S.I.P. \_\_\_\_\_ 15 min. \_\_\_\_\_

RHINESTONE  
SHALE  
43 40095

105°

5350

106°

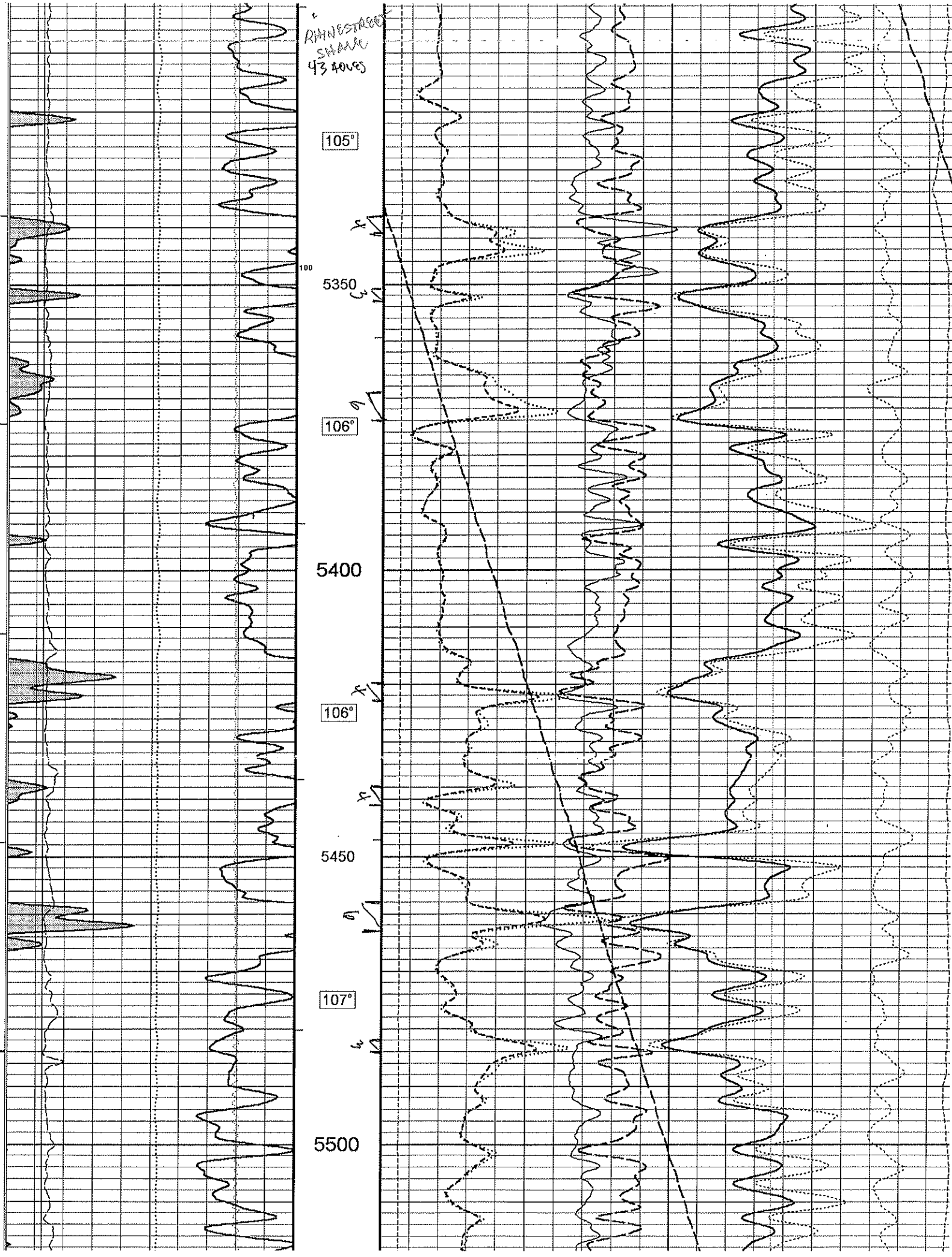
5400

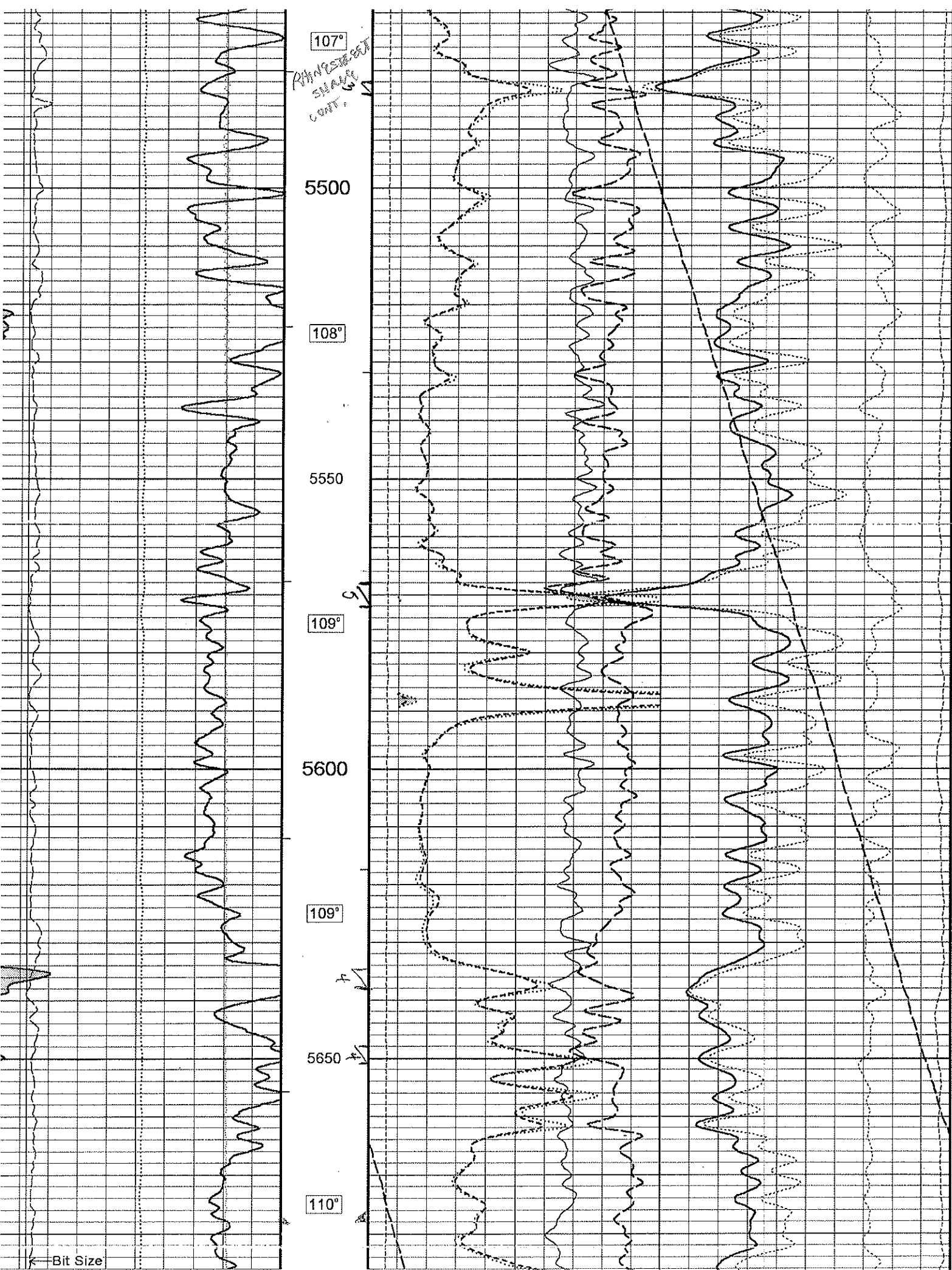
106°

5450

107°

5500





107°

RHO ESTIMATED  
SHAPE  
CONF. 60

5500

108°

5550

109°

5600

109°

5650

110°

← Bit Size



Piedmont-Deever #1  
Permit #: 47-105-01348  
Wirt County, WV

FORMATION TOPS:

Salt Sands	1215'-1416'
Sand & Shale	1416'-1433'
Maxon	1433'-1554'
Big Lime	1554'-1726'
Big Injun	1726'-1788'
Sand & Shale	1788'-2212'
Berea	2212'-2214'
Shale	2214'-2569'
Fifth Sand	2569'-2601'
Shale	2601'-3512'
Lower Huron	3512'-4553'
Java	4553'-4712'
Angola	4712'-5122'
Rhinestreet	5122'-5689'
Marcellus Shale	5689'-5796'
TD	5796'

1<sup>st</sup> Perforated interval: 5690'-5752' (63 holes) – Marcellus Shale

1<sup>st</sup> Stimulation:

Waterfrac w/ 4128 bbls. water and 23,800# of 20/40 sand @ 1/10 - 1/2 ppa  
Ave. psi: 3341 psi  
Ave. rate: 29.6 bpm

2<sup>nd</sup> Perforated interval: 5338'-5651' (43 holes) – Rhinestreet Shale

2<sup>nd</sup> Stimulation:

Waterfrac w/ 4678 bbls. water and 35,000# of 20/40 sand @ 1/4 ppa  
Ave. psi: 2533 psi  
Ave. rate: 45.1 bpm