



**Southwestern Energy  
Production Company**

A subsidiary of Southwestern Energy Company

2350 N. Sam Houston Parkway East  
Suite 300  
Houston, Texas 77032  
(281) 618-4700 FAX: (281) 618-4757

06 January 2004

New Mexico Energy, Minerals,  
and Natural Resources Department  
Oil Conservation Division  
1220 South St. Francis Drive  
Santa Fe, New Mexico 87505

Attn: Mr. William Jones

**RE: Request for Increased Injection Pressure  
Corbin-Abo SWD #G-31  
Lea County, New Mexico  
API No.: 30-025-01337  
Administrative Order SWD-890**

Dear Mr. Jones:

Pursuant to Administrative Order SWD-890, issued 23 September 2003, Southwestern Energy Production Company is limited to a wellhead injection pressure of 680 psi for the Corbin-Abo SWD #G-31. Southwestern Energy Production Company requests that the maximum wellhead injection be increased to 1,400 psig.

The Corbin-Abo SWD #G-31 is permitted to inject in the interval of 3,400 ft to 6,375 ft. The maximum wellhead injection pressure was calculated by multiplying a 0.2 psi/ft gradient to the minimum permitted injection depth of 3,400 ft.

A step-rate injection test was performed on Monday, 8 December 2003 on the above referenced well. This step-rate test was conducted with a surface pressure gauge and a downhole pressure gauge. Lease produced water was used as the injection fluid. Precision Pressure Data provided the pressure gauges and data measurement.

The test was pumped in 30-min stages with 200 bbl of water per day increments. The first stage, which started at 8:49 AM MST, was pumped at a 200 bbl per day injection rate. The final stage, which ended at 9:19 PM MST, was pumped at a 5,000 bbl per day injection rate. The final stage ended prematurely due to lack of available injection fluid and injection pump horsepower limitation.

The initial wellhead injection pressure was 456 psig (at a 200 bbl per day injection rate) and the final wellhead injection pressure was 1,458 psig (at a 5,000 bbl per day injection rate).

**RECEIVED**

**JAN 9 2004**

**Oil Conservation Division  
1220 S. St. Francis Drive  
Santa Fe, NM 87505**

*Yalen, Queen, SA  
3400-6375  
27K 11  
R-3564  
SWD-890  
1980 FNL  
1980 FEL  
52231  
175  
33E*

Examination of the wellhead injection pressure data and the downhole injection pressure data show that a hydraulic fracture was never initiated. Since the maximum wellhead injection pressure of 1,458 psig seen in this step-rate test was below that required to initiate a fracture, Southwestern Energy Production Company requests that the maximum wellhead injection pressure be increased to 1,400 psig from the current 680 psig.

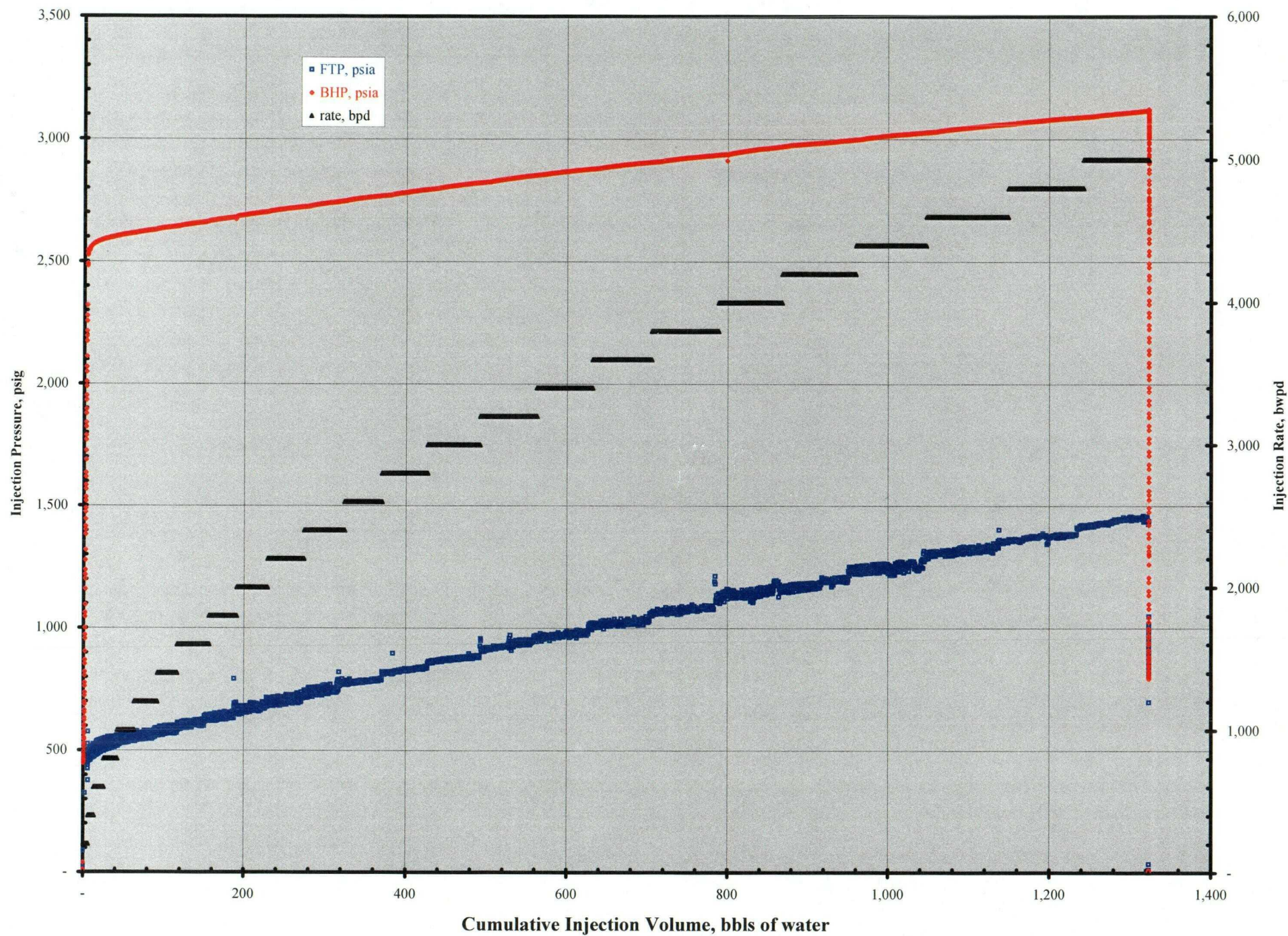
With this letter, I've attached six plots documenting the step-rate test and a CD with the files containing the surface and subsurface pressure data. If you have any questions, please do not hesitate to call me at (281) 618-4788 (office) or (713) 213-5909 (cellular).

Sincerely,

A handwritten signature in black ink, appearing to read "L. Williams", with a long horizontal flourish extending to the right.

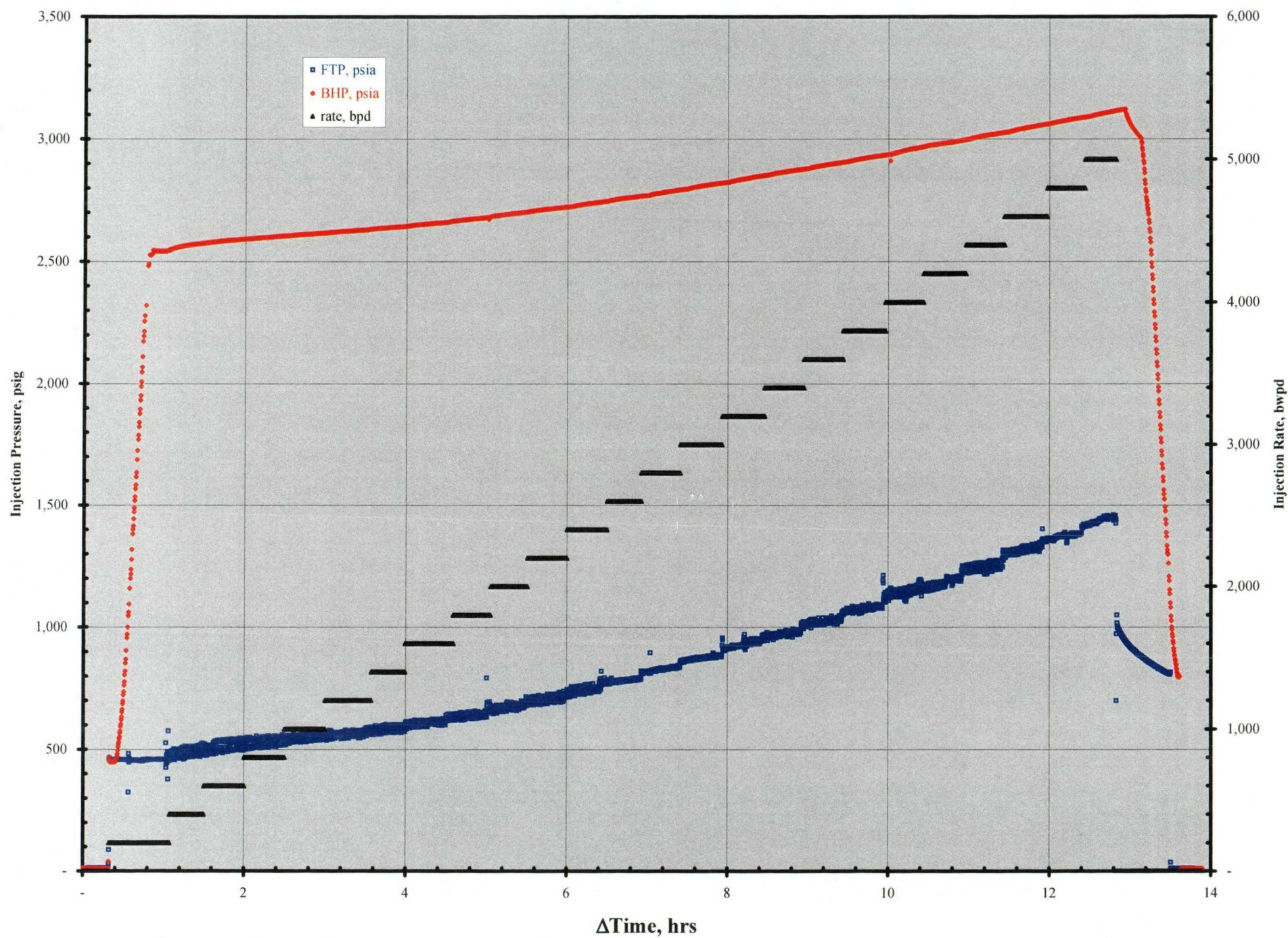
Lee I. Williams  
Production Engineer  
Permian Basin Asset Team

Corbin-Abo SWD #G-31 Step-Rate Test  
12-08-2003



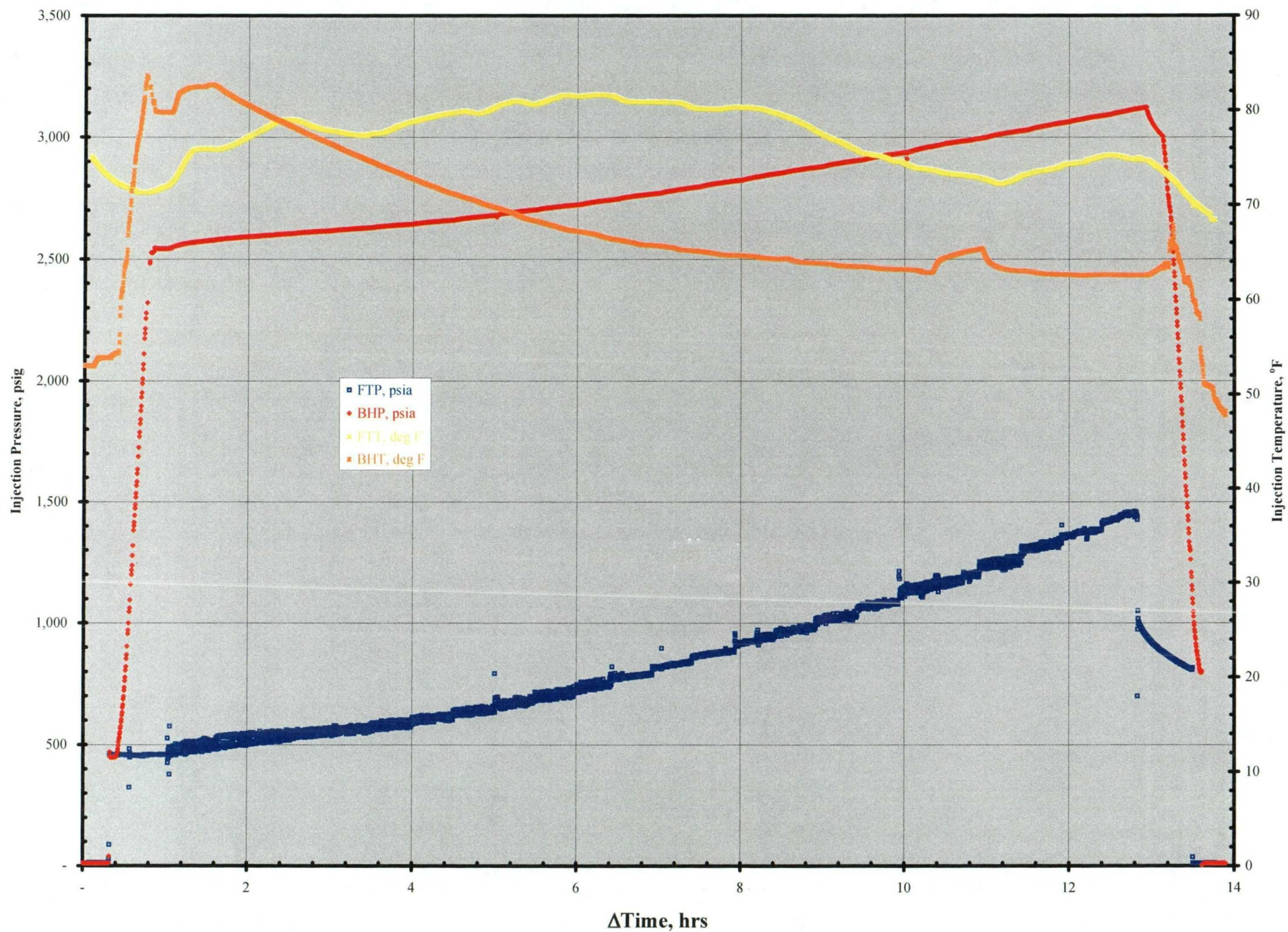


Corbin-Abo SWD #G-31 Step-Rate Test  
12-08-2003



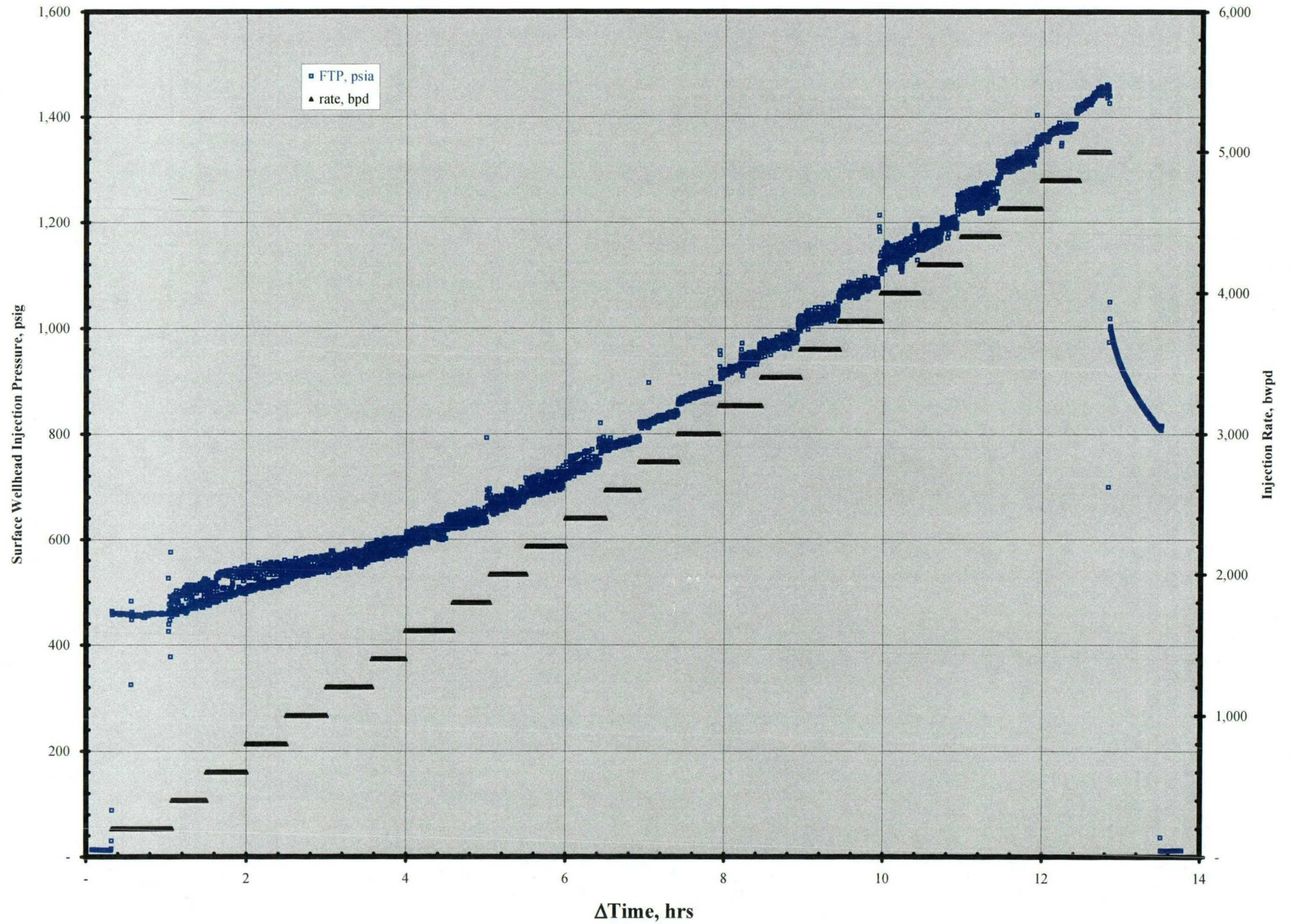


Corbin-Abo SWD #G-31 Step-Rate Test  
12-08-2003



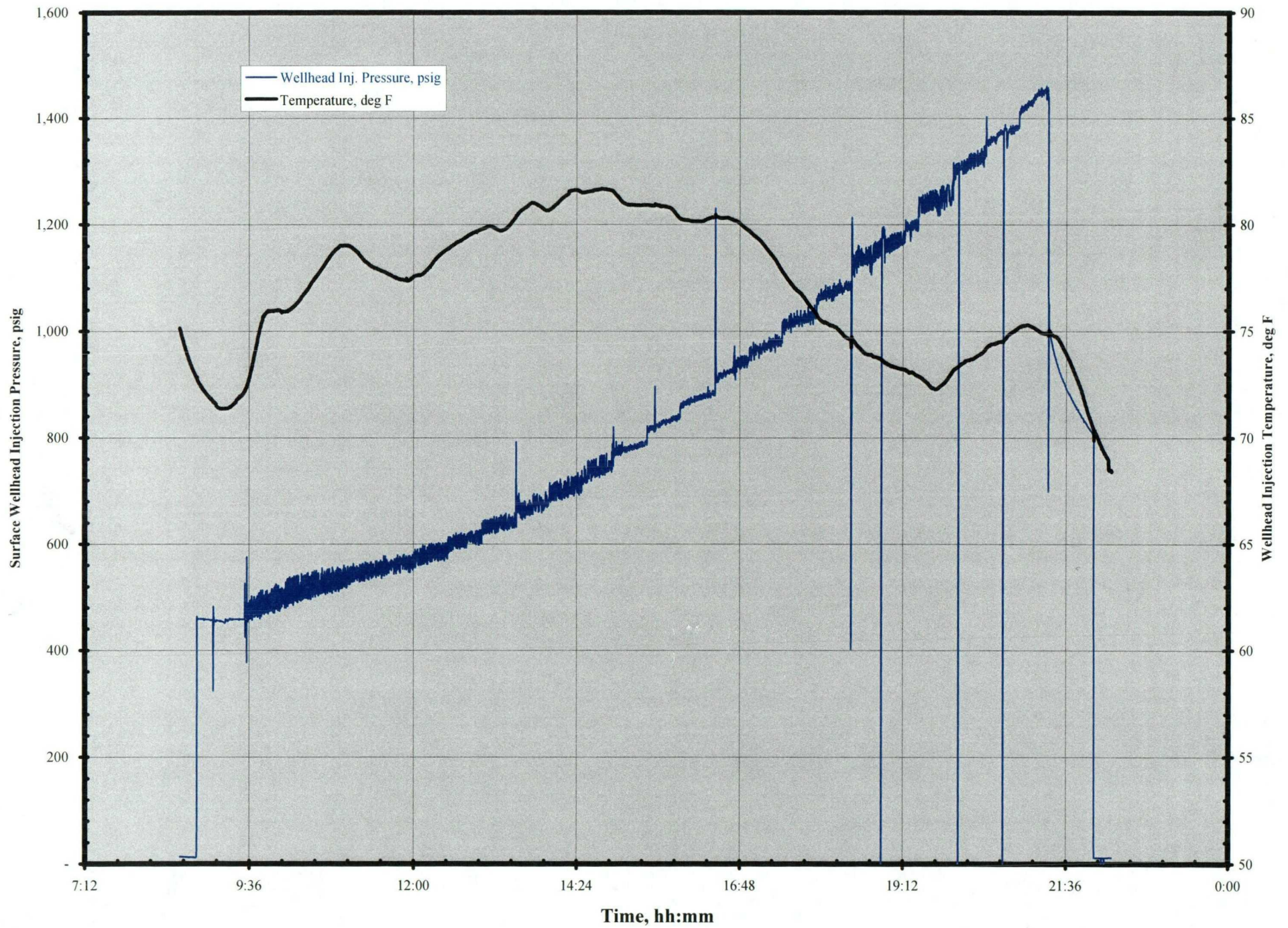


Corbin-Abo SWD #G-31 Step-Rate Test  
12-08-2003





Corbin-Abo SWD #G-31 Step-Rate Test  
12-08-2003





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