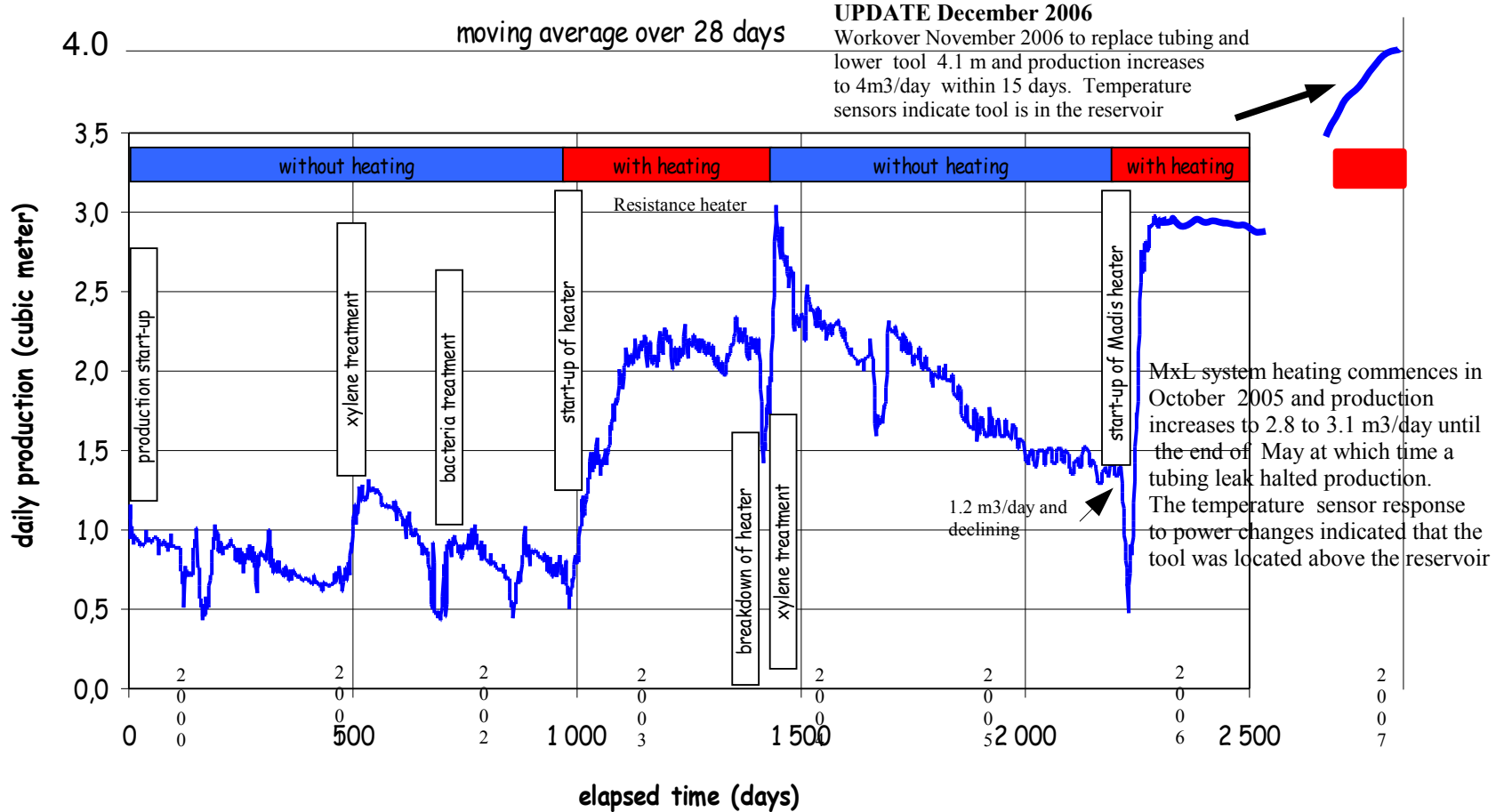


# UPDATE ON ALSACE FRANCE MxL SYSTEM

**Congratulations OELWEG SARL and P. Labat Production up 330%  
Preparation for second system underway**

**PRODUCTION OF WELL MUEHLWEG 1, AUGUST 1999 - DECEMBER 2005,**



# HISTORY OF MLW 1

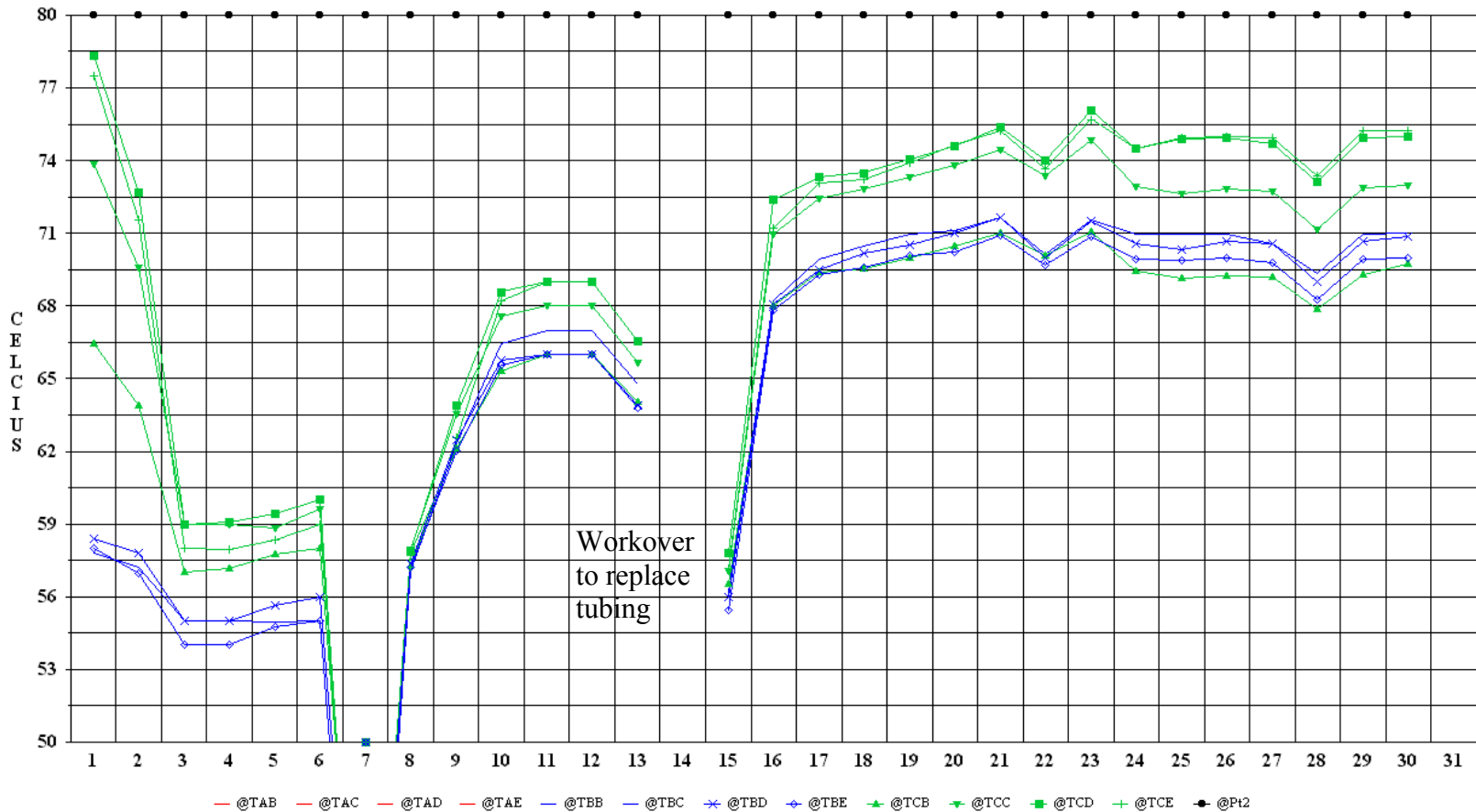


Initial production of 60 bbl/d declined at 1% per day to 2 bbl/d. Well was re-entered in 1999 and various treatments were tried, with limited success, except heating which showed a constant production rate. A resistance heater installed in 2002 increased production to slightly more than 13bbl/day for about a year until it burned out.

In September 2005 the **MxL** Induction Heater was installed which increased production to 18 bbl/day within 60 days.

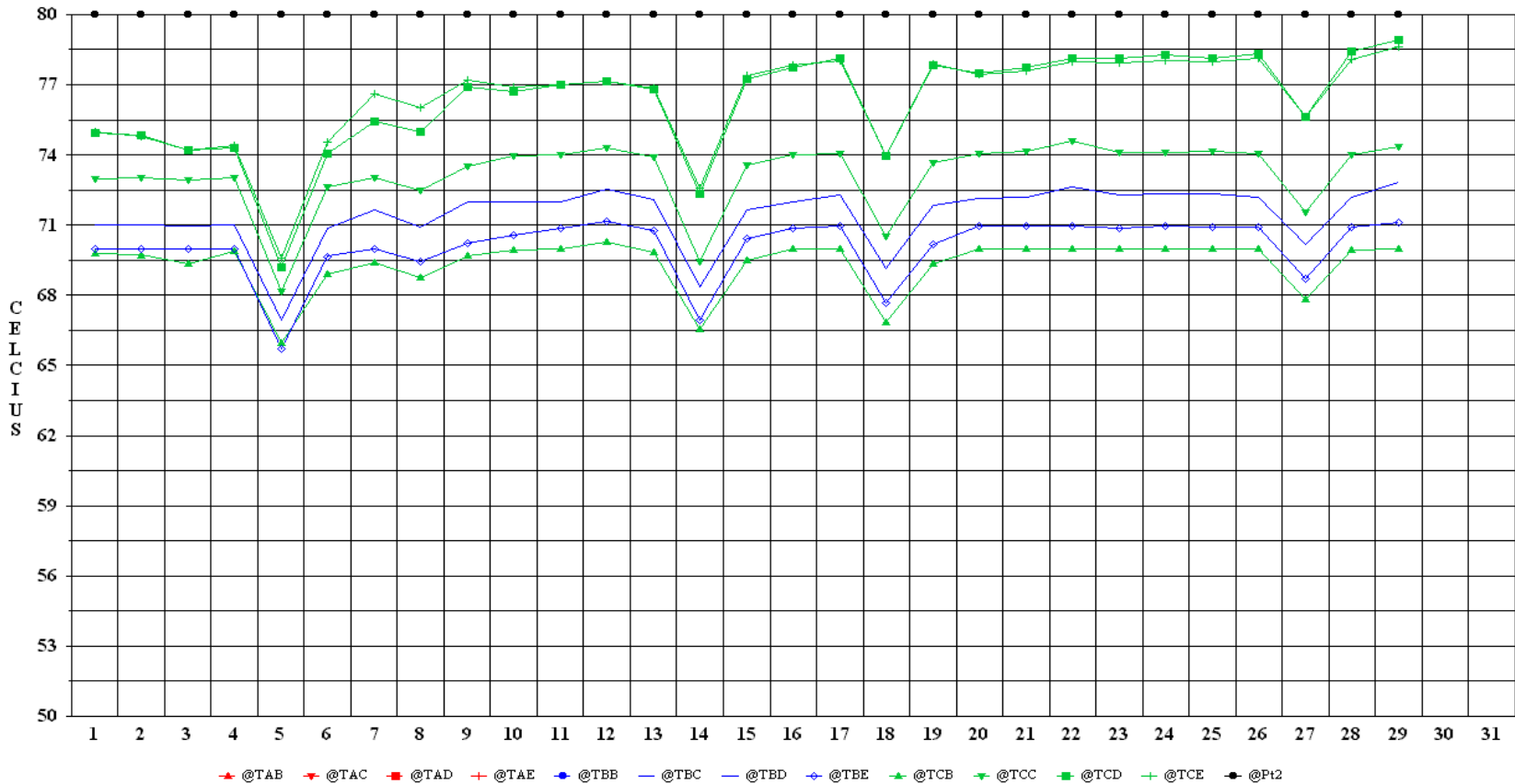
Normally there are temperature fluctuations at the tool sensors, in response to flow changes. In this installation the fluctuations were absent which indicated the tool was not across the perforations. A second characteristic, a gradual increase in casing temperature as the reservoir warms up, was also missing.

Madis xL Unit #11 - November, 2006 - Inductor Sensor Temperature Chart



A tubing leak halted production in late May of 2006 and the tool elevation was reviewed and compared to old logs so adjustments could be made during the workover. When the tool was re-installed the ESP cable was 4.1 m too short which confirmed our suspicions that the tool was originally above the reservoir. Since the heated portion of the tool is only 5.2 m long the original installation only heated about a meter of the zone

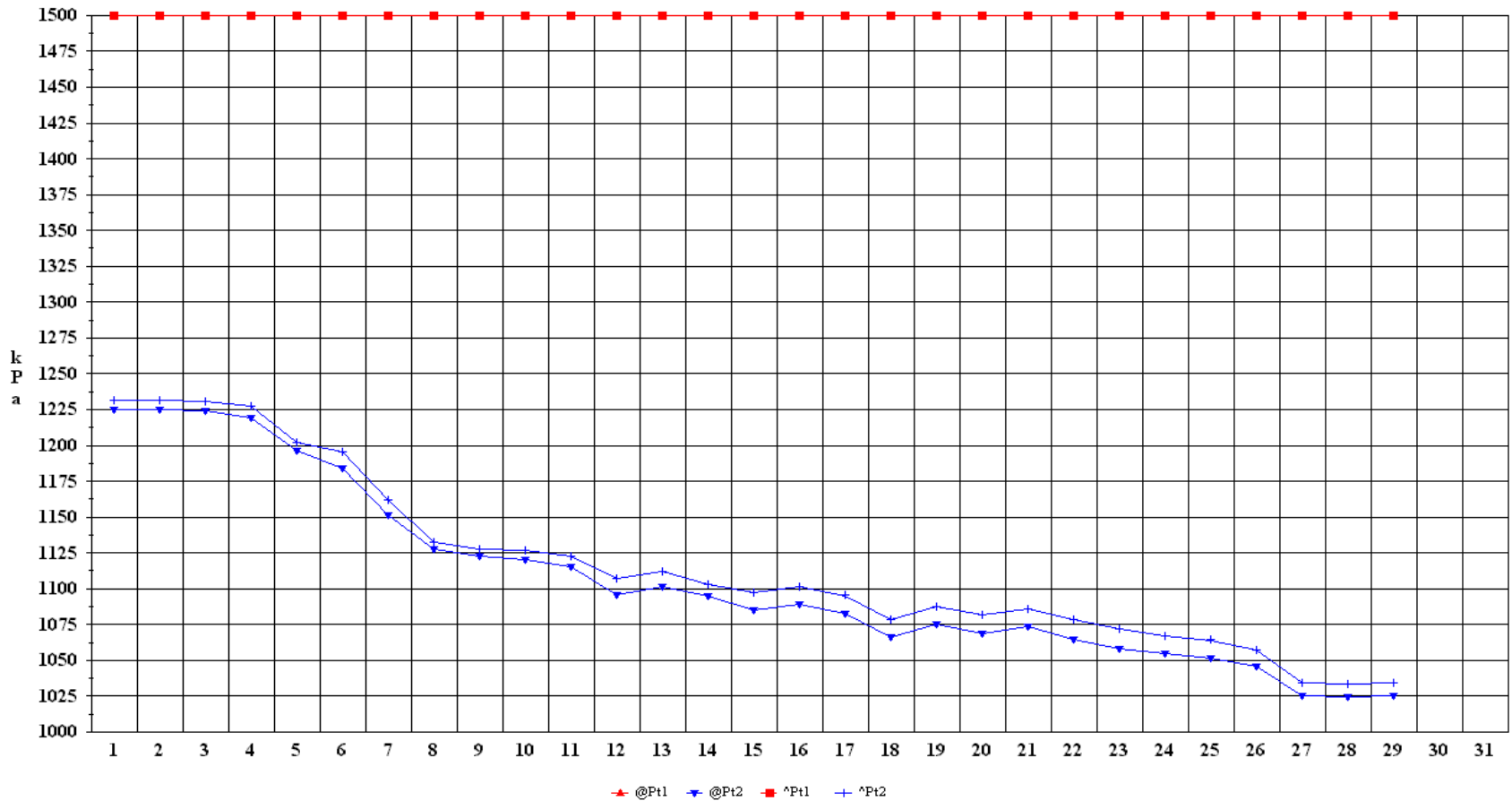
Madis xL Unit #11 - December, 2006 - Inductor Sensor Temperature Chart



The gradual increase in reservoir temperature, with the same power output, is indicative of heat accumulating in the reservoir. As the near wellbore temperature rises oil mobility improves, wax melts out improving permeability and production increases.

Heavy oil has a greater viscosity change per degree of temperature change thus enhancing mobility and incremental production.

Madis xL Unit #11 - December, 2006 - Bottom Hole Pressure Chart



During the shut-in bottom hole pressure climbed slowly to 4800 kPa.  
Bottom hole pressure is approaching the 850 kPa that was typical before the workover.



## WELL DATA

### OELWEG SARL

Name Muehlweg 1 (MLW 1)  
Depth 591m  
Zone 585 to 582.5 net 67%  
porosity 23%  
permeability 59 mD  
587.5 to 591  
porosity 21%  
permeability 250mD  
Sandstone  
Casing 7 inch  
Oil 28 API, 40% wax,  
15.1 cP @50 °C  
8.4 cP @70 °C  
BS&W 10%  
BHT 45 °C  
BHP 4700 kPa

## HEATER DATA

Length 6.2 m  
Diameter 4.5 inches  
KVA 20 maximum  
operating at 10

Philippe Labat during MxL installation in September 2005