

***Pioneer Petrotech Services Inc.***

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## **PPS71 Geothermal Memory Tool**

[www.pioneerps.com](http://www.pioneerps.com)





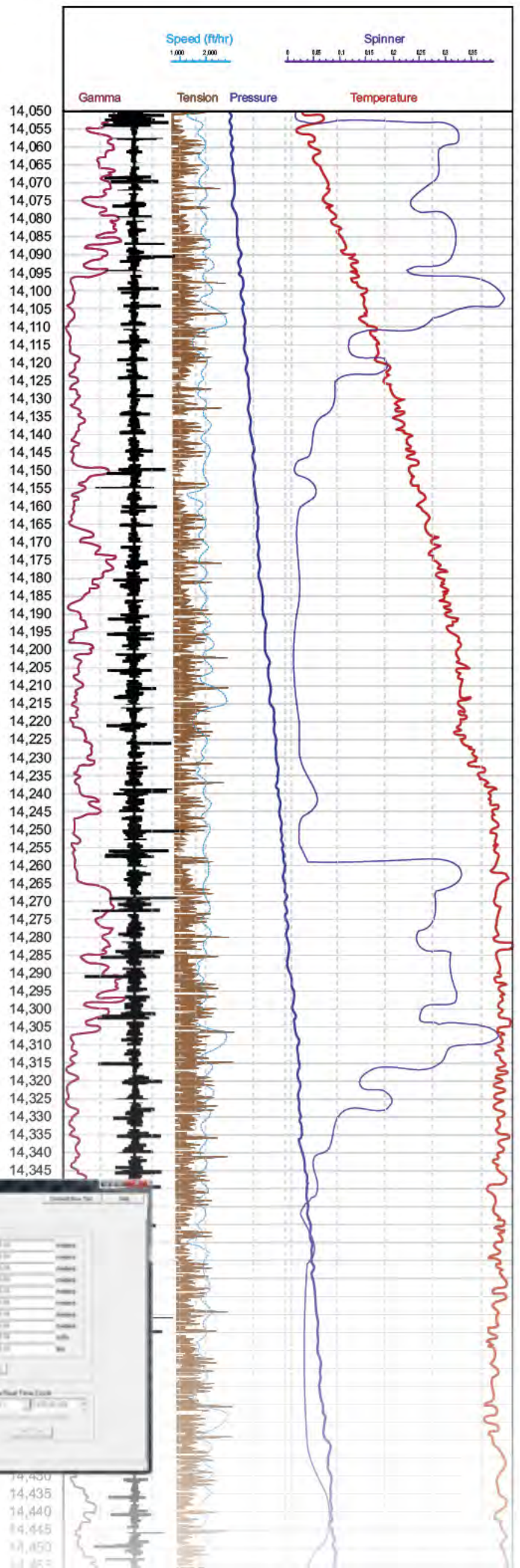
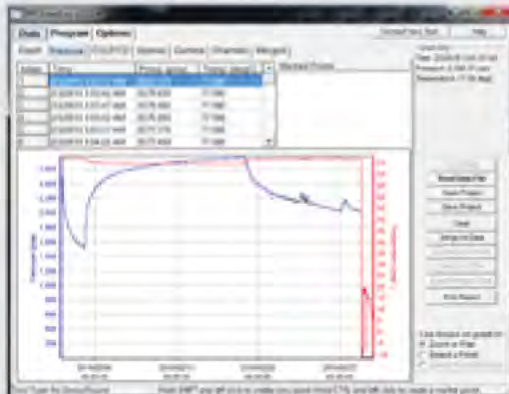
## Geothermal Memory Tool

The PPS71 is designed for extreme, high temperature downhole conditions. The robust electronics combined with vacuum flask technology allow this product to perform at 350°C (662°F) continuously, for four hours.

By combining the measurements from the downhole gamma, spinner, casing collar locator, pressure, and fast response RTD temperature data with PPS's DepthWatcher (PPS36), a depth versus time recorder, customers have the capability to create synchronized profile logs.

Customers can generate these logs using SmartLog, PPS's proprietary software, which creates temperature and pressure profiles based on depth that can be easily opened in any commercial logging software, as all files are in the ASCII data format. The simple to use software also provides all the necessary interactivity with the tool and data from programming, downloading, data processing to reporting.

For more information on the PPS71, and to discover the best configuration of this tool for specific applications, please contact a Pioneer Petrotech Services representative.







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### Components:

- 1 Casing Collar Locator
- 2 Gamma Ray
- 3 Temperature Sensor
- 4 Pressure Sensor
- 5 Spinner
- 6 Bowspring Centralizer (Optional)
- 7 Standard Housing (Flask Housing is Optional)

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- Features robust electronics and vacuum flask technology for outstanding performance at 350 °C (662 °F)
- Creates complete profile logs when used in conjunction with PPS36 DepthWatcher
- Performs as an exceptional pressure and temperature tool when ordered without gamma and spinner
- Incorporates advanced customer support with online maintenance and software tutorials



# Geothermal Memory Gauge

## Specifications

### Pressure Measurement

Sensor type	Silicon-Sapphire
Pressure range	Up to 18000psi
Accuracy	$\pm 0.03\%$ FS
Resolution	0.0003% FS

### Temperature Measurement

Sensor type	RTD (Pt1000, 4-wire)
Temperature range	0 - 350°C (662°F)
Accuracy	$\pm 0.5^\circ\text{C}$
Resolution	0.01°C

### Flow Measurement

Sensor type	Spinner
Spinner range	5 – 7000RPM
Accuracy	$\pm 0.5$ revolution
Resolution	0.08RPS

### Gamma Measurement

Sensor type	Crystal, NaI
Sensitivity	1.0 count/second/API

### Data Store

Sampling Rate	0.1s – 1.8hrs/per sample
Datasets	Time/Pressure/RTD/Flow Percentage/CCL/Gamma Ray
Memory capacity	1million datasets

## Tool Applications

- Geothermal Well Test
- Steam Injection Monitoring
- Pressure Build-Up Tests
- Pressure and Temperature Gradients
- Tubing and Casing Leak Detection
- Fluid Production/Injection Profiles





### Environmental

Gauge temperature rating

177°C (351°F) Standard housing, 350°C (662°F) Flask

Electronics rating

177°C (351°F)

Downhole Time

4 hours at 350°C (662°F) /

6 hours at 300°C (572°F) / 8 hours at 250°C (482°F) /

10 hours at 200°C (392°F) / 12 hours at 180°C (356°F)

### Power supply (without Gamma)

Operation voltage

2.7 – 3.9VDC

Battery

180°C C size Li-battery (5Ahr/3.6V)

Power Consumption

Operation current 5mA, Idle 3mA

Connector

Lemo 6pin with locker

### Power supply (with Gamma)

Operation voltage

5.5 – 7.3VDC

Battery

180°C C size Li-battery (5Ahr/7.2V)

Power Consumption

Operation current 35mA, Idle 3mA

Connector

Lemo 4pin with locker

### Communication

Interface

USB/RS-232 (TTL)

Rate

115200bits/s

### Mechanical and Material

Service

H<sub>2</sub>S

Outside diameter

1.75" (44.5mm) & 1.83" (46.5mm)

Overall length

67" (1702mm) & 82.5" (2095mm)



## Smart Gauges and Simple Software



### ***Pioneer Petrotech Services Inc.***

#1, 1431-40 Avenue NE  
Calgary, Alberta, Canada, T2E 8N6  
Tel: 1-403-282-7669  
Fax: 1-403-282-0509  
Toll Free in Canada & US: 1-888-PP-GAUGE (774-2843)  
Email: [infoppps@pioneerps.com](mailto:infoppps@pioneerps.com)

