

## Gamma Ray / CCL / Temperature (High Temp 500° F)

### ADVANTAGES:

- Ran in conjunction with a Gamma Ray (GR) and a Casing Collar Locator (CCL) placed on top of the temperature tool (*SEE DIAGRAM ON PAGE 2*), used primarily for correlation purposes.
- Temperature probe provides an accurate measurement of downhole wellbore temperature.
- Compact design, making the tool versatile in many applications. (through casing, tubing, tight wellbore restrictions, etc.) (*SEE TOOL SPECS ON PAGE 2*)
- Complete tool string is rated for 500°F (260°C), making this tool highly utilized in operations, such as thermal applications, where wellbore temperatures are above the operating range of non-high temperature logging tools that have a maximum rating of 350°F (177°C).


### APPLICATIONS:

- Correlating well-to-well details in an open and cased hole environment.
- Providing depth correlation, as the primary log, or correlating to other logs performed in the same wellbore.
- Identifying lithologies in the wellbore
- Record/monitor downhole temperature
- Used to identify channeling and fluid storage/movement during injection profiles
- Highly utilized in thermal applications
- Identify cement top, by recording a temperature change in “green cement” as it releases heat during the curing process.

### SPECIFICATIONS:

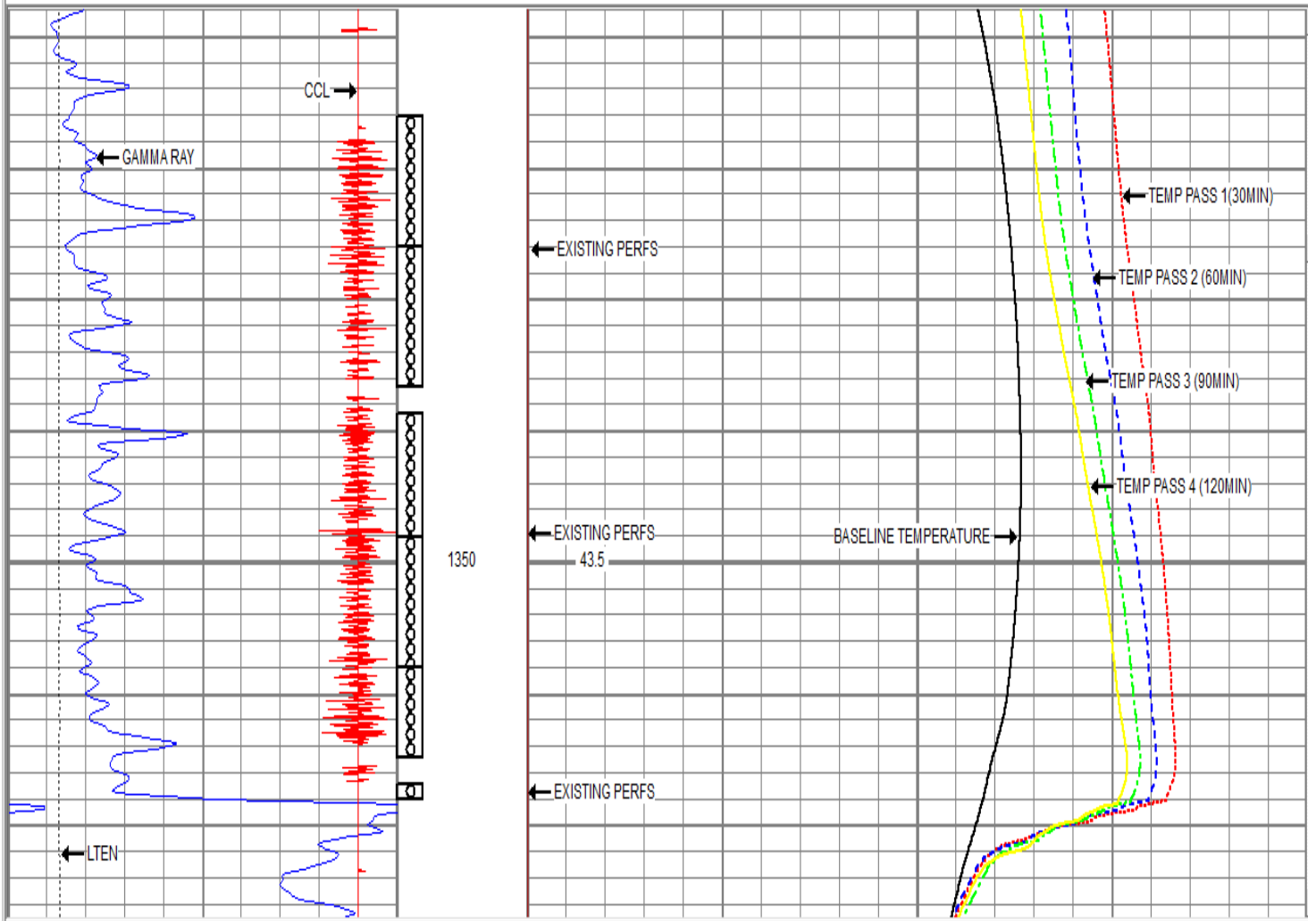
<b>Temperature Rating</b>	<b>500°F (260°C)</b>
<b>Pressure Rating</b>	<b>18,000 psi (124MPa)</b>
<b>Tool Weight</b>	<b>38 lbs. (17.24kg)</b>
<b>Tool Length</b>	<b>7'8" (2.34m)</b>
<b>Tool OD</b>	<b>1 11/16" (42.86mm)</b>
<b>Well Deviation</b>	<b>No Limitations</b>
<b>Borehole Environment</b>	<b>Fluid Filled</b>
<b>Logging Speed</b>	<b>Approx. 30-40 ft/min (9.1m/min)</b>

## TOOL INFORMATION:

Sensor	Offset (m)	Schematic	Description	Length (m)	O.D. (mm)	Weight (kg)
			CHD-Titan_2 Huntung Titan 1.4375 Cone Type II	0.31	36.51	0.91
CCL	2.00		CCL-TITAN (1 11/16" Logging) (169) TITAN 1.69 400 Deg. F Constant Current Pos/Neg Logging CCL	0.56	42.86	4.54
GR	1.32		GT-Titan (Titan168) Titan 1 11/16" 500 Deg. F Gamma/Temp	1.70	42.67	11.34
TEMP	0.14		Titan-1.4375_Cap Titan 1 7/16" Cap	0.08	36.51	0.45

**LOG EXAMPLE #1: TEMPERATURE INJECTION PROFILE**

0	GAMMA RAY (GAPI)	150	40	PERFS	0	20	BASETEMP (degC)	60
0	LTEN (kg)	3000				20	TEMP PASS 1 (degC)	60
-45	CCL	5				20	TEMP PASS 2 (degC)	60
						20	TEMP PASS 3 (degC)	60
						20	TEMP PASS 4 (degC)	60
							TEMP (degC)	



**LOG EXAMPLE #2: BASELINE TEMPERATURE LOG**
