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SGL-301 岩心伽玛谱仪

美国岩心 TEMCO公司



SGL-301岩心伽玛谱仪



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SGL-301岩心伽玛谱仪



主要功能与用途:

- 测量岩心总伽玛 (API单位)
- 测量元素组分: 钾Potassium (%), 铀Uranium (ppm), 钍 Thorium (ppm)
- 测量岩心体积密度 (Bulk Density)
- 可用于岩心伽玛测试数据与井下测井之井深标定
- 测试数据可用于页岩识别

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主要技术参数:

- 探测系统: 碘化钠探测器 (Sodium Iodide)
- 信号处理技术: 最新数字信号处理技术, 大大改进分析器的信噪比、分辨率和数据精度
- 256道分析器: 为探测器及其放大器功能实现了计算机直接控制
- 屏蔽板: 探测器和岩心测试部分用纯铅屏蔽板遮挡, 最大程度地降低了背景伽玛辐射的影响
- 测试速度: 通常设置为0.5-1.0 英尺/分
- 传送带长度: 9英尺
- 精度: 0-200 API: +/- 12 API
4.0% K: +/- 0.8%
0-100 ppm U: +/- 5 ppm
0-100 ppm T: +/- 7 ppm
- 总体尺寸: 11英尺 x 4英尺 x 5英尺
- 重量: 约800磅
- 电源: 220V/50Hz 单相

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计算机操作及数据采集处理系统:

预装仪器操作及数据采集处理软件。

计算机具体配置由厂家在采购时确定。最低配置如下:

- CPU \geq 2 GHz (Dual core)
- 内存 \geq 1 GB
- 硬盘 \geq 250 GB
- 光驱: DVD -RW
- 22"高分辨率液晶彩色显示器
- Windows 系统

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适用标准:

美国石油学会标准 API RP 40:

岩心分析: 第三部分 – 岩心筛选和保存

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仪器配置

	SGL-301型岩心伽玛谱仪	1套
	由下列主要部件和附件组成:	
1	计算机控制岩心传送装置及底座	1套
2	探测器	1套
3	信号放大器/数字信号处理器/多道分析器	1套
4	探测器及岩心扫描区铅屏蔽罩	1套
5	计算机操作及数据采集处理系统	1套
6	校验管: API标定管1件, 惰性标定管1件, 铀标定管1件, 钍标定管1件, 钾标定管1件, 总密度校验管2件 (铝和聚碳酸酯)	1套
7	备件包, 包括备用探测器和传送皮带各1个	1套

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探测器及铅屏蔽罩



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探测器及铅屏蔽罩



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传送装置及控制器



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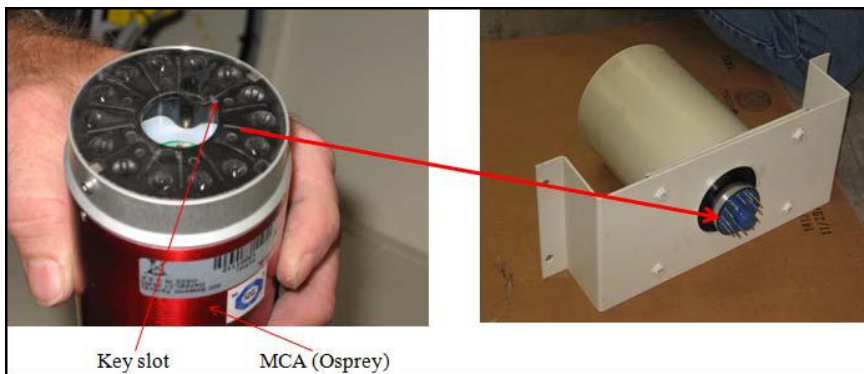
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信号放大器/数字信号处理器/多道分析器



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Instructions | Amplifier Settings | Calibration | Measurements

Belt Speed Guidelines

- 1) For total gamma measurements, set to a maximum of 1 feet/minute for open core; If the core is in inner barrel, set to a maximum of 0.5 feet/minute.
- 2) For spectral measurements, set the speed at a maximum of 0.5 ft/min.

传送皮带速度设定指南:

- 总伽玛测量: 对于不带岩心筒的岩心, 最大测量速度为1英尺/分; 对于带岩心筒的岩心, 最大测量速度为0.5英尺/分;
- 伽玛谱测量: 最大测量速度为0.5英尺/分;

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放大器校验



Instructions | **Amplifier Settings** | Calibration | Measurements

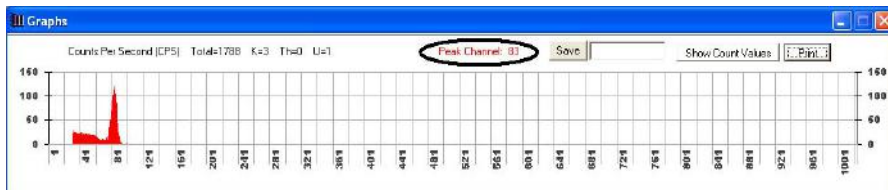
Acquisition Time (seconds)

Amplifier Coarse Gain

Amplifier Fine Gain

Amplifier High Voltage +

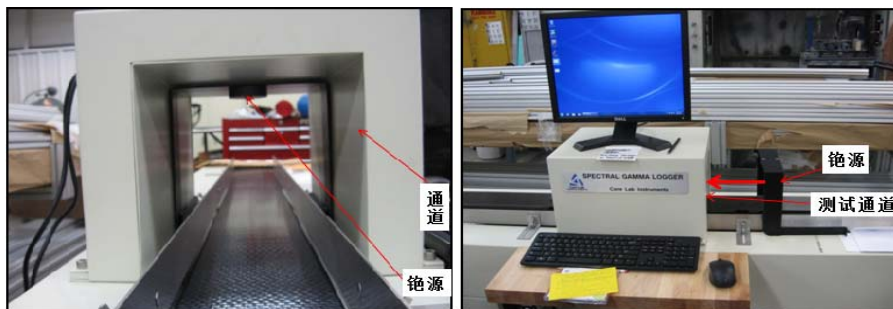
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放大器校验



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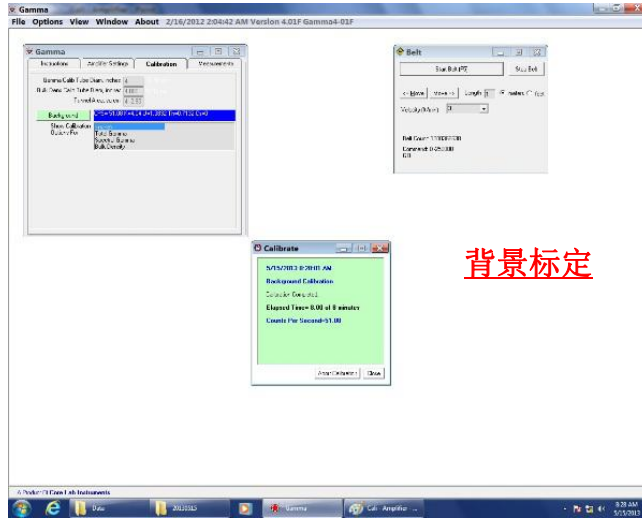
标定

Instructions	Amplifier Settings	Calibration	Measurements
Calibration Tube Diameter <input type="text"/> <input type="text"/>			
Tunnel Area (sq cm) <input type="text"/>			
Background		CPS =	
Show Calibration Options For <input type="text"/>			
API Calibration		API Tube API <input type="text"/>	CPS =
Potassium Calibration		Potassium % <input type="text"/>	CPS =
Uranium Calibration		Uranium ppm <input type="text"/>	CPS =
Thorium Calibration		Thorium ppm <input type="text"/>	CPS =
Bulk Density Aluminium		Density, gm/cc <input type="text"/>	CPS =
Bulk Density Polycarb.		Density, gm/cc <input type="text"/>	CPS =



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Gamma							
Instructions		Amplifier Settings		Calibration		Measurements	
Gamma Calib Tube Diam, inches	4						
Bulk Dens Calib Tube Diam, inches	4.000						
Tunnel Area, sq cm	412.90						
Background	CPS= 51.08 K=4.04 U=1.3832 Th=0.7132 Cs=0						
Show Calibration Options For	<none> Total Gamma Spectral Gamma Bulk Density					伽玛谱标定	
API Calib	API Tube API	200.00	CPS= 47.89				
Potassium (K) Calib	Potassium %	4.50	CPS= 1.8117%				
Uranium Calib	Uranium ppm	100.00	CPS= 3.9545				
Thorium Calib	Thorium ppm	100.00	CPS= 1.4979				

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Gamma							
Instructions		Amplifier Settings		Calibration		Measurements	
Gamma Calib Tube Diam, inches	4						
Bulk Dens Calib Tube Diam, inches	4.000						
Tunnel Area, sq cm	412.90						
Background	CPS= 51.08 K=4.04 U=1.3832 Th=0.7132 Cs=0						
Show Calibration Options For	<none> Total Gamma Spectral Gamma Bulk Density					总密度标定	
Bulk Dens Aluminium	Density, gm/cc	2.700	CPS= 397				
Bulk Dens Polycarb.	Density, gm/cc	1.200	CPS= 978				

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样品测试



The screenshot shows the 'Gamma' software interface with the following data:

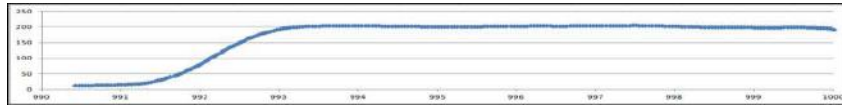
Field	Value
Job Name	Test - API200
Company	CNOOC SZ
Location	SZ
Well	NA
Operator	Henry
Bottom Depth	1000 Feet
Top Depth	998.5
Core Diameter	4 Inches
Cross Section	Unslabbed
Run Type	Total
Velocity (ft/min)	0.25
Depth At Detector	998.66
API	194

Additional settings visible: Slice Length (Inch)=1, Log Debug Information checked, File Name: Test - API200.

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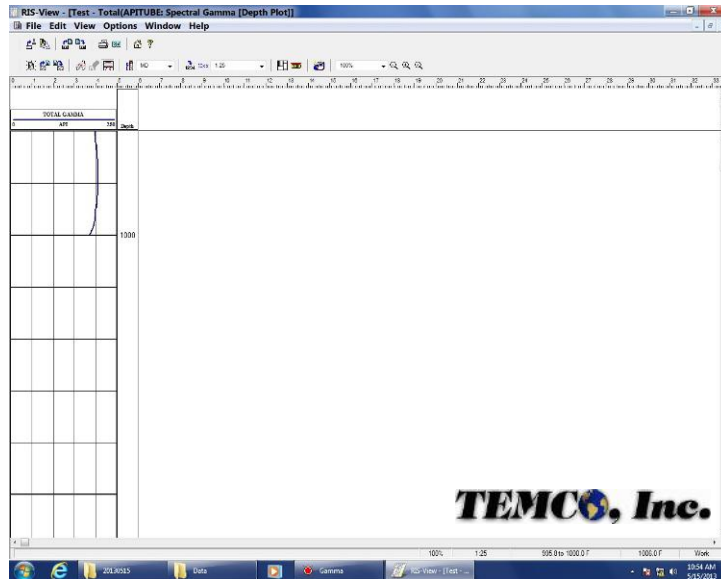
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样品测试曲线



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**RADIOACTIVE MATERIAL
LIMITED QUANTITY - UN2910**



This package conforms to the conditions and limitations specified in 49 CFR 173.421; IATA Section 10.5.9.4; and Postal Publication No. 6 dated September 1983 for radioactive material, excepted package, limited quantity of material - UN2910.

The radiation exposure rate at any point on the external surface of this package does not exceed 0.5 millirem per hour.

No other labels are required - or authorized.

The radioactive material contained in this package is exempt from USNRC and Agreement State licensing requirements.

"Radioactive Material - Not for human use- introduction into foods, beverages, cosmetics, drugs, or medicinals or products manufactured for commercial distribution is prohibited - exempt quantities should not be combined" (from USNRC regulation 10 CFR 32.19d).

**SGL-301伽玛仪之放射性
铯源 - 安全免检说明**

**放射性强度不超过0.5毫
镭/小时**

A
CANBERRA
CANBERRA INDUSTRIES, INC.
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US NRC License No. 41-14168-01E
State of Tennessee License No. R-01012-F05

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需用户提供的外部实验室条件

实验室：面积3×5米，应放置在一楼。
(其下没有地下室为好)

电源要求： 220V/50Hz, 30A

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中海油湛江实验中心



TEMCO, Inc.

中海油深圳实验中心



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谢谢！
任何问题？

