

## Certificate of Calibration

Al Takamul Yard, North Rumailah South Iraq

• Phone : +964 7810009138 • www.qualitycontrol-iraq.com • E-mail: op@qualitycontrol-iraq.com

**Date of Issue:**

July 4, 2024

Page 1 of 1

REF NUMBER	: By Contract	APPROVED BY CALIBRATION IN CHARGE QC
Job No #	: QC/JN/24/00265	
CERTIFICATE NUMBER	: <b>QC240704-101</b>	


**CUSTOMER DETAILS**

Name: **Zhongman Petroleum Engineering**  
 Address: Basra, South Iraq  
 Rig: ZPEC023

**EQUIPMENT IDENTIFICATION AND SPECIFICATIONS**

Description: **Fixed Gas System**  
 Manufacturer: OLDHAM  
 Serial Number: **140100P-001**  
 Type: Digital  
 Calibrated Range: 25 PPM H2S      50% LEL  
 Calibrated By: Hussein Alaa  
 Calibration Date: July 4, 2024  
 Calibration Due: **October 3, 2024**

Alarm Details	Low	High
H2S-ppm	5	10
CH4-%LEL	10	20

Tested and found OK


**REMARK (S) :**

- 1 The results relate to measurements taken at nominal value only.
- 2 No adjustments were made prior to calibration.
- 3 No accessories were fitted.
- 4 Calibration were carried out for all the Sensors

Serial Number	Sensor Type	Location	Manufacturer	Model
AUGK1602097	H2S	Cellar	OLDHAM	MX43
AUGK1901936	H2S	Bell Nipple	OLDHAM	MX43
AUGK2300485	H2S	Rig Floor	OLDHAM	MX43
AUGK2203033	H2S	Shale Shaker	OLDHAM	MX43
AUBB1903428	LEL	Cellar	OLDHAM	MX43
AUBB2204392	LEL	Bell Nipple	OLDHAM	MX43
AUBB2204391	LEL	Rig Floor	OLDHAM	MX43
AUBB1603535	LEL	Shale Shaker	OLDHAM	MX43

**ENVIRONMENTAL CONDITIONS DURING TEST**

Ambient Temperature : 28°C ± 2°C      ± 2      Relative Humidity      40 %RH ± 10 %RH

**CALIBRATION METHOD**

Reference cylinders consisting of gases LEL & H2S is used , which are detected by gas detector by diffusion.

**TRACEABILITY**

The measurements made by Quality Control, realize the physical units of measurements (SI), through its state of the art calibration standards that are controlled and maintained by QC.

**REFERENCE EQUIPMENT USED :**

DESCRIPTION	SERIAL NO.	Make	Valid Until
Calibration Gas Cylinder (25PPM H2S) & (50% LEL)	950-092876	CALGAZ	27-June-2025

**CALIBRATION TEST RESULTS**

Applied Gas	Values of UUC	Values on Reference Standard	Error in Reading of UUC	Uncertainty of Measurement
Methane(LEL)% (Cellar)	51.0	50	1.0	± 1
Methane(LEL)% (Bell Nipple)	50.0	50	0.0	± 1
Methane(LEL)% (Rig Floor)	49.0	50	-1.0	± 1
Methane(LEL)% (Shale Shaker)	50.0	50	0.0	± 1
H2S PPM (Cellar)	25.0	25.0	0.0	± 1
H2S PPM (Bell Nipple)	24.0	25.0	-1.0	± 1
H2S PPM (Rig Floor)	24.0	25.0	-1.0	± 1
H2S PPM (Shale Shaker)	25.0	25.0	0.0	± 1

Calibration results were found to conform as per specified accuracy requirements. Above Instrument has **PASSED** its Calibration.