Al Takamul Company For Engineering Services
Quality Control – Iraq

Certificate of Calibration

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Date of Issue: February 18, 2024

REQUEST NUMBER	:	By Contract
JOB NUMBER	:	QC/JN/24/0024
CERTIFICATE NUMBER	:	QC240218-18

APPROVED BY LAB INCHARGE QC

Al Takamul Company CAL QUALITY CONTROL TEST 2 For Engineering Services

CUSTOMER DETAILS

Name **Daqing Drilling Company IRAQ**
Address Basra, South Iraq
Rig DQ011

EQUIPMENT IDENTIFICATION AND SPECIFICATIONS

Description : **Multigas Detector**
Manufacturer : MSA
Model : ALTAIR XT
Serial Number : 00092887
Type Digital
Calibrated Range : 25 PPM H2S 100 PPM CO
18.0% O2 50% LEL
Calibrated By : Asjad Rafiq
Calibration Date : February 18, 2024
Calibration Due : May 17, 2024

Alarm Details	Low	High
Oxygen (O2) %	19.5	23.5
H2S-ppm	5	10
CH4-%LEL	10	20
CO-ppm	35	200

ENVIRONMENTAL CONDITIONS DURING TEST

Ambient Temperature : 22 °C ± 2 °C
Relative Humidity : 45 %RH ± 5 %RH

CALIBRATION METHOD

A reference cylinder consisting of composition gases (O2, LEL, H2S, CO) is used , which are detected by gas detector by diffusion.

TRACEABILITY

The measurements made by QC Calibration & Testing Labs are traceable to NIST, vide CALGAZ Certificate of Analysis
The measurements made by QC Calibration & Testing Labs, 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	GAS EXPIRY DATE
Mixture of Gases.	955-545316	CALGAZ	1/3/2025

CALIBRATION TEST RESULTS

Gas Name	Values of UUC	Values on Reference Standard	Error in Reading of UUC	Uncertainty of Measurement
Oxygen(O2)%	18.0	18.0	0	± 1
Methane(CH4) LEL	50	50	0	± 1
Carbon Monoxide(CO) ppm	100	100	0	± 1
Hydrogen Sulphide(H2S) ppm	25	25.0	0	± 1

Results :
The above Value Indicates That the Instrument complies with the Specified Maximum Permissible error tolerance. At The Time of Calibration. and ready for use.

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor k=2, providing a level of confidence of approximately 95%. The uncertainty evaluation has been carried out in accordance with international practice.

DEVIATION FROM STANDARD METHOD : None