



# CERTIFICATE OF ACCREDITATION

## ANSI-ASQ National Accreditation Board

500 Montgomery Street, Suite 625, Alexandria, VA 22314, 877-344-3044

This is to certify that

**Petroleum Analyzer Company, LP**  
**8824 Fallbrook Drive**  
**Houston, TX 77064**

has been assessed by ANAB  
and meets the requirements of international standard

## ISO/IEC 17025:2017

while demonstrating technical competence in the fields of

## CALIBRATION AND TESTING

Refer to the accompanying Scope of Accreditation for information regarding the types of calibrations and/or tests to which this accreditation applies.

ACT-2646

Certificate Number

  
ANAB Approval

Certificate Valid: 12/21/2018-12/21/2020  
Version No. 001 Issued: 12/21/2018



This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).



## SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

### Petroleum Analyzer Company, LP

8824 Fallbrook Drive

Houston, TX 77064

Yakub Aliyu

[Yakub.aliyu@pacpl.com](mailto:Yakub.aliyu@pacpl.com) 281-940-1803

### CALIBRATION AND TESTING

Valid to: **December 21, 2020**

Certificate Number: **ACT-2646**

#### Testing

#### Chemical

Specific Tests and/or Properties Measured	Specification, Standard, Method, or Test Technique	Items, Materials or Product Tested	Key Equipment or Technology
Analytical Instrumentation Verification	ASTM 5453, ASTM D5504, ASTM D5623, ASTM D7011, ASTM D3241, ASTM D7551, ASTM D7183, ASTM D7551, ASTM D7359, ASTM D7994, ASTM D3241, EN 15486, IP 323, ISO 6249 ISO 19739, EN-ISO 20846, UOP 791	Gas and Oil Analytical Instrumentation	Electronics, Ellipsometry
Thermal Oxidation – Jet Fuel	ASTM D3241, IP 323, ISO 6249	Jet Fuel	Jet Fuel Thermal Oxidation Tester
Elemental Analysis - Nitrogen	ASTM D4629, ASTM D5176	Oil and Gas	Chemiluminescence
Elemental Analysis - Sulfur	ASTM D5453, EN-ISO 20846, ASTM D6667	Oil and Gas	UV Fluorescence
Freezing Point Analysis	ASTM D7153, MIL DTL - 5624V, ISO 3013	Oil and Gas	Automatic Freezing Point Analyzer



## Calibration

### Thermodynamic

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Temperature Circuit Simulation	(-50 to 0) °C (0 to 100) °C (0 to 400) °C	0.31 °C 0.22 °C 0.65 °C	Probe Simulators PS100, PS400 Temperature Probe Simulator Based on Resistance
PRT Probe	(-10 to 375) °C	0.22 °C	Fluke 9100s, Digital Thermometer with PRT Probe
Type K Thermocouple	(Up to 380) °C	0.59 °C	METASPEC Metal Lot Number 1172

### Electrical – DC/Low Frequency

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
DC Voltage - Measure	(1 to 10) V (10 to 100) V (100 to 1 000) V	0.007 V 0.063 V 1.7 V	Fluke 87V

### Mass and Mass Related

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Atmospheric Pressure Correction	(0 to 200) kPa	0.16 kPa	Handheld Manometer (M1)
Differential Pressure	(0 to 10) psi	0.57 psi	Differential Gauge (PAC DT 1412-5BD-102)
System Pressure	(0 to 600) psi	4.3 psi	Noshok Pressure Gauge
Balance and Scale	(1 to 200) g	0.02 g	ASTM Class 3 Weight
Volumetric Height Measuring Devices	(0 to 200) mm	23 mm	Volumetric Calibration Gauge (Steel, 5202-004-003)

**Mass and Mass Related**

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Flow Rate	(0 to 500) SCCM	0.58 SCCM	Flask, Timer
Torque	(0.17 to 100) lbf-ft	3.5 lbf-ft	Torque Wrench

**Time and Frequency**

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
RPM/Speed	(0 to 500) rpm	0.64 rpm	Tachometer


**Chemical Quantities**

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
PPM Nitrogen, Sulfur	(0 to 20) ppm (0 – 1 000) ppm	1.2 ppm 2.6 ppm	CRM (Nitrogen, Sulfur), MultiTek Horizontal N

Calibration and Measurement Capability (CMC) is expressed in terms of the measurement parameter, measurement range, expanded uncertainty of measurement and reference standard, method, and/or equipment. The expanded uncertainty of measurement is expressed as the standard uncertainty of the measurement multiplied by a coverage factor of 2 ( $k=2$ ), corresponding to a confidence level of approximately 95%.

Notes:

1. On-site calibration service is available for this parameter, since on-site conditions are typically more variable than those in the laboratory, larger measurement uncertainties are expected on-site than what is reported on the accredited scope
2. This scope is formatted as part of a single document including Certificate of Accreditation No. ACT-2646.



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Vice President