



PERRY JOHNSON LABORATORY ACCREDITATION, INC.

Certificate of Accreditation

Perry Johnson Laboratory Accreditation, Inc. has assessed the Laboratory of:

Texas Oil Tech Laboratories, Inc.
10630 Fallstone Road, Houston, TX 77099

(Hereinafter called the Organization) and hereby declares that Organization 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 (as outlined by the joint ISO-ILAC-IAF Communiqué dated April 2017):

Petroleum, Fuel, Lubricant & Chemical Testing
(As detailed in the supplement)

Accreditation claims for such testing and/or calibration services shall only be made from addresses referenced within this certificate. This Accreditation is granted subject to the system rules governing the Accreditation referred to above, and the Organization hereby covenants with the Accreditation body's duty to observe and comply with the said rules.

For PJLA:

Tracy Szerszen
President

Initial Accreditation Date:

November 18, 2011

Issue Date:

February 17, 2022

Expiration Date:

March 31, 2024

Accreditation No.:

72003

Certificate No.:

L22-141

Perry Johnson Laboratory
Accreditation, Inc. (PJLA)
755 W. Big Beaver, Suite 1325
Troy, Michigan 48084

The validity of this certificate is maintained through ongoing assessments based on a continuous accreditation cycle. The validity of this certificate should be confirmed through the PJLA website: www.pjlabs.com



Certificate of Accreditation: Supplement

Texas Oil Tech Laboratories, Inc.

10630 Fallstone Road, Houston, TX 77099
 Contact name: Phil Sorubakhsh Phone: 281-495-2400

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Chemical ^F	Petroleum Hydrocarbon Oils, Fuels	Viscosity at 40°C	ASTM D445	0.2 mm ² /s to 300 000 mm ² /s
		Density @ 15°C	ASTM D4052	0.6 g/cm ³ to 1.1 g/cm ³
			ASTM D1298	0.65 g/cm ³ to 1.5 g/cm ³
		Cetane Index	ASTM D976 ASTM D86 ASTM D2887	30 to 60 cetane number, the expected correlation of the Calculated Cetane Index with the ASTM cetane number will be somewhat < ± cetane number for 75 % of the distillate fuels evaluated.
		Sulfur	ASTM D2622	0.000 3 % wt to 4.6 % wt total sulfur
			ASTM D4294	0.01 % wt to 4.6 % wt total sulfur
		Flash Point	ASTM D93 D92	40 °C to 360 °C
		Acid Number	ASTM D664	0.1 mg KOH/g to 150 mg KOH/g
		Total Sediment by Hot Filtration	ASTM D4870	0.01 % wt to 0.5% wt
		Oxidation Stability	ASTM D2274	No detection limit report will be to the nearest 0.1 mg/100 mL
		Carbon Residue: Micro Method on the 10 % Volume Distillation	ASTM D4530 ASTM D524	0.1 % wt to 30 % wt
		Cloud Point	ASTM D2500	-80 °C to 50 °C or -112 °F to 122 °F
		Pour Point	ASTM D97	-80 °C to 50 °C or -112 °F to 122 °F
		Appearance	ASTM D4176	Clear and Bright (pass/fail) Rating Chart
		Water	ASTM D95	0 % to 25 %
		ASH	ASTM D482	0.001 % mass to 0.18 % mass
	Lubricity, Corrected Wear Scar Diameter	ASTM D6079	A Quality Control Standard is used to Confirm the Analysis	
	Hydrogen Sulfide	ASTM D7621	0.4 mg/kg to 15 mg/kg	
	Petroleum Products	BTU	ASTM 240	No Detection Limit
			ASTM 4809	± 40 BTU/lb
Petroleum Products - Fuel, Lubricant	Water Determination by Karl Fischer Titration	ASTM D6304	10 mg/kg to 25 000 mg/kg	
	Foaming Tendencies of Engine Coolants	ASTM D1881	Volume of Foam measured	



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Chemical ^F	Petroleum Products -Fuel, Lubricant	Density of crude oils	ASTM D5002	0.75 mg/L to 0.95 mg/L
		Vapor pressure of petroleum products (mini method)	ASTM D5191	1 psi to 18.6 psi @ 37.8 °C >Boiling point
		Determination of Vapor Pressure of Crude Oil	ASTM D6377	25 kPa to 180 kPa @ 37.8 °C
	Petroleum Products, Crude	Asphaltenes (Heptane Insolubles)	ASTM D6560	0.5 % m/m to 30 % m/m
		Sulfur Compounds in Light Petroleum Liquids	ASTM D5623	0.1 mg/kg to 100 mg/kg
		Boiling Point Distribution of Crude Oils and Vacuum Residues by Gas Chromatography	ASTM D7169	C ₅ to C ₁₀₀
		Gas Component	Sulfur Compounds	ASTM D5504
	Chemical and Mechanical ^F	Petroleum	Metals: Sodium & Vanadium	ASTM D5708-05
Aluminum & Silicon			ASTM D5184-01	
Zinc, Phosphorus & Calcium			ASTM D5185	
Calcium, Lead, Vanadium, Silicon, Iron, Magnesium, Sodium, Nickel			ASTM D7111	
FAME (Fatty Acid Methyl Esters)			ASTM D7371-07	0.01 % to 20 %
Oxidation Stability			ASTM D5304-06	< 3.6 mg/100 mL
Dielectric Breakdown Voltage & Disc Electrodes			ASTM D877-02 ASTM D1816	55 Hz to 2 000 V
Calc Carbon Aromaticity Index (CCAI)			Calculation	No Unit



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Chemical and Environmental ^{FO}	Gas Components	Gas	ASTM D1945	0.01 mol % to 100 mol %
			ASTM D1946	0.01 mol % to 100 mol %
			ASTM D4888	0.1 mg/L to 40 mg/L
			ASTM D5504	0.01 mg/m ³ to 1 000 mg/m ³
			ASTM D5623	0.01 mg/m ³ to 1 000 mg/m ³
			ASTM D6667	1 mg/kg to 100 mg/kg GH & 1 mg/kg to 196 mg/kg LPG
			GPA 2261	0.01 mol % to 100 mol %
			GPA 2286	0.01 mol % to 100 mol %
	Metals by ICP-AES	See Metal list	ASTM D1976	< 0.075 ppm
Fuels, oils, Petroleum	Metals - Spectro	ASTM D 6595	0.01 ppm to 100 ppm (24) and 900 ppm (5)	
Cleaner linen	Particle Size	NAS 1638 and ISO 4406	Code 0-10 and ISO Code 1-24	

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Chemical and Environmental Testing ^F	Fuels, Oils, Petroleum, Aqueous and Non Aqueous	Anions Inorganic	ASTM D4327	1 ppm to 10 ppm
		Anions Inorganic Organic acids	TOL – 6055 (ASTM 5560M)	1 ppm to 10 ppm
	Water, wastewater	Metals by ICP	EPA 200.7	< 200 ug/L

1. The presence of a superscript F means that the laboratory performs testing of the indicated parameter at its fixed location. Example: Outside Micrometer^F would mean that the laboratory performs this testing at its fixed location.
2. The presence of a superscript FO means that the laboratory performs calibration of the indicated parameter both at its fixed location and onsite at customer locations. Example: Outside Micrometer^{FO} would mean that the laboratory performs this calibration at its fixed location and onsite at customer locations.