



CERTIFICATE OF ACCREDITATION

ANSI-ASQ National Accreditation Board

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

This is to certify that

**Nordic Camp Supply
Kabul (HKIA)
Fuel Testing - A, B and C Tests
Hamid Karzai Int. Airport
Kabul, Afghanistan**

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

ISO/IEC 17025:2005

while demonstrating technical competence in the field of

TESTING

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

AT-2539

Certificate Number


ANAB Approval

Certificate Valid: 12/22/2017 - 12/22/2019

Version No. 001 Issued: 12/22/2017



This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005. 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 17025:2005

Nordic Camp Supply
Kabul (HKIA)
Fuel Testing - A, B and C Tests

Hamid Karzai Int. Airport
Kabul, Afghanistan

Anders Kjelgaard
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TESTING

Valid to: December 22, 2019

Certificate Number: AT-2539

Chemical

Specific Tests and / or Properties Measured	Specification, Standard, Method, or Test Technique	Items, Materials or Product Tested	Key Equipment or Technology
Acid Number / Total Acidity (mgKOH/gm)	ASTM D3242	F34 AVTUR F35 AVTUR	Manual titration
Acid Number / Total Acidity (mgKOH/gm)	ASTM D664	F34 AVTUR F35 AVTUR	Metrohm titrator Metrohm Titrande
Appearance (Clear & Bright)	Visual C&B	F34 AVTUR F54 Diesel MT Avgas F-18 and F-67 F35 AVTUR	Sampling Jar 3.5l with carry basket
Aromatics or Total Aromatics (olefins % vol)	ASTM D1319	F34 AVTUR F35 AVTUR	Petro Test 13-0930
Calculated Cetane Index	ASTM D976	F54 Diesel MT	Nomograph
CFPP Winter/Summer Grade °C	ASTM D6371	F54 Diesel MT	ISL CFPP
Color (Saybolt)	ASTM D156	F34 AVTUR F35 AVTUR	Tintometer Petro Test 16-2194
Color (Visual)	Visual	F34 AVTUR F54 Diesel MT Avgas F-18 and F-67 F35 AVTUR	Sampling Jar 3.5l with carry basket



Chemical

Specific Tests and / or Properties Measured	Specification, Standard, Method, or Test Technique	Items, Materials or Product Tested	Key Equipment or Technology
Conductivity (p/sm at °C)	ASTM D2624	F34 AVTUR Avgas F-18 F35 AVTUR	EMCEE 1152 Digital Conductivity Meter
Copper Strip Corrosion (2hr at 100°C)	ASTM D130	F34 AVTUR Avgas F-18 F35 AVTUR	LAWLER 279-4 Liquid Bath
Conidia Microbial test	ASTM D8070	F34 AVTUR F54 Diesel MT Avgas F-18 and F-67 F35 AVTUR	Conidia Kit
Density (at 15°C) Kg/m ³	ASTM D7777 ISO 15212	F34 AVTUR F54 Diesel MT Avgas F-18 and F-67 F35 AVTUR	Anton Paar DMA 35n
Distillation: IBP	ASTM D86 ASTM D7345 ISO 3405	F34 AVTUR F54 Diesel MT Avgas F-18 and F-67 F35 AVTUR	PAC Opti dist Analyser, ISL PMD-110 Portable Micro Distillation Analyser
Distillation: IBP (% Recovered at 180 °C)	ASTM D86 ASTM D7345	F54 Diesel MT	As above
Distillation: IBP (5 % to 95% Recovery at °C)	ASTM D86 ASTM D7345	F34 AVTUR F54 Diesel MT Avgas F-18 and F-67 F35 AVTUR	As above
Distillation: IBP (Sum of 10 % and 50 % Evaporated)	ASTM D86 ASTM D7345	Avgas F-18	Equation
Distillation: IBP (Final boiling point)	ASTM D86 ASTM D7345	F34 AVTUR F54 Diesel MT Avgas F-18 and F-67 F35 AVTUR	PAC Opti dist Analyser, ISL PMD-110 Portable Micro Distillation Analyser
Distillation: IBP (Residue %)	ASTM D86 ASTM D7345	F34 AVTUR F54 Diesel MT Avgas F-18 and F-67 F35 AVTUR	As above
Distillation: IBP (Loss %)	ASTM D86 ASTM D7345	F34 AVTUR F54 Diesel MT Avgas F-18 and F-67 F35 AVTUR	As above



Chemical


Specific Tests and / or Properties Measured	Specification, Standard, Method, or Test Technique	Items, Materials or Product Tested	Key Equipment or Technology
Estimated net heat of combustion	ASTM D3338	F34 AVTUR F35 AVTUR	Equation
Filtration Time	ASTM D5452	F34 AVTUR F35 AVTUR	Vacuum filtration kit - Petrotest
Existent gum (mg/100ml)	IP 540; IP 540 ASTM D381	F34 AVTUR Avgas F-18, F35 AVTUR	Steam gums bath
Flash point	IP 170 ASTM D3278 ASTM D93	F34 AVTUR F54 Diesel MT F35 AVTUR	Seta 3- Seta 8- Abel or pensky martens test kit –
Freezing point °C	ASTM D7153 ASTM D2386 ASTM D7153	F34 AVTUR Avgas F-18 F35 AVTUR	PAC FZP5G2S Automatic Freeze Point Apparatus
Fuel System Icing Inhibitor % volume (FSII) - (If added)	ASTM D5006	F34 AVTUR	Aljac FSII kit
Particle Counting - Individual Channel Counts & ISO Code (≥ 4 µm to ≥ 30 µm (c) vol %)	IP-564	F34 AVTUR	Parker Portable particulate counter
Particulate contaminant	ASTM D5452	F34 AVTUR F35 AVTUR	More vehicle based – membranes from AC Searle
Reid vapor pressure at 37.8 °C (kpa)	ASTM D5191 ASTM D323	Avgas F-18 and F-67	Mini Vapor Pressure HVP-972
Research Octane Number [RON]	ASTM D5845	Avgas F-18 and F-67	Gasoline Analyzer GS-PPA-1
Smoke Point (or SP + Naphthalenes)	ASTM D1322	F34 AVTUR F35 AVTUR	Petrotest smoke point kit Petro Test 13-0691
Sulfur, Mercaptan or Doctor test	ASTM D4952	F34 AVTUR F35 AVTUR	Doctor test kit & buffer solution Petro Test 13-1560
Total sulphur content (% wt)	ASTM D4294	F34 AVTUR F54 Diesel MT	Horiba SLFA 20
Thermal Stability, JTOT	ASTM D3241	F34 AVTUR F35 AVTUR	JFTOT III ALCOR JFTOT 230 Mk III Jet Fuel Thermal Oxidation Tester & VTR 100 Visual Tuberator
Filter Differential Pressure	ASTM D3241	F34 AVTUR F35 AVTUR	JFTOT III

Chemical

Specific Tests and / or Properties Measured	Specification, Standard, Method, or Test Technique	Items, Materials or Product Tested	Key Equipment or Technology
Tube deposit rating	ASTM D3241	F34 AVTUR F35 AVTUR	Visual Tuberator
Viscosity at -20° C (mm ² /s)	ASTM D445	F34 AVTUR F35 AVTUR	Petrotest Visco bath Petro Test 20-0160
Water content, SWD	Pass/Fail	F34 AVTUR F54 Diesel MT Avgas F-18 and F-67 F35 AVTUR	Shell water detection capsules
Water reaction/separation MSEP	ASTM D3948	F34 AVTUR F35 AVTUR	EMCEE MSEP Test kit
Water reaction interface	ASTM D1094	F34 AVTUR Avgas F-18 F35 AVTUR	100ml stoppered cylinder & Buffer solution

Note:

1. This scope is formatted as part of a single document including Certificate of Accreditation No. AT-2539.



Vice President