



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
Kandahar Air Field (KAF)
Fuel Testing – A, B and C Tests
Kandahar Air Field
Kandahar, 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-2539.02

Certificate Number


ANAB Approval

Certificate Valid: 03/16/2018 - 12/22/2019
Version No. 002 Issued: 03/16/2018



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
Kandahar Air Field (KAF)

Fuel Testing – A, B and C Tests

Kandahar Air Field
Kandahar, Afghanistan

Anders Kjelgaard
+45 70 23 13 07

TESTING

Valid to: December 22, 2019

Certificate Number: AT-2539.02

Chemical

Specific Tests and / or Properties Measured	Specification, Standard, Method, or Test Technique	Items, Materials or Product Tested	Key Equipment or Technology
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
Particulate Contaminant in Aviation Fuel	ASTM D2276	F34 AVTUR F54 Diesel MT F35 AVTUR	
Calculated Cetane Index	ASTM D976	F54 Diesel MT	Nomograph
CFPP Winter/Summer Grade °C	ASTM D6371	F54 Diesel MT	ISL CFPP
Color (Visual)	Visual	F34 AVTUR F54 Diesel MT Avgas F-18 and F-67 F35 AVTUR	Sampling Jar 3.5l with carry basket
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	Copper Corrosion Bath



Chemical

Specific Tests and / or Properties Measured	Specification, Standard, Method, or Test Technique	Items, Materials or Product Tested	Key Equipment or Technology
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/m3)	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 PMD-110 Portable Micro Distillation Analyser, Orbis Distillation Unit
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 PMD-110 Portable Micro Distillation Analyser, Orbis Distillation Unit
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
Existent gum (mg/100ml)	IP 540 ASTM D381	F34 AVTUR Avgas F-18 F35 AVTUR	Steam gums bath
Filtration time	ASTM D5452	F34 AVTUR F35 AVTUR	Vacuum filtration kit - Petrotest



Chemical

Specific Tests and / or Properties Measured	Specification, Standard, Method, or Test Technique	Items, Materials or Product Tested	Key Equipment or Technology
Flash point	ASTM D3278 IP 170	F34 AVTUR F54 Diesel MT F35 AVTUR	Seta 3- Seta 8- PMA 4
Freezing point °C	ASTM D7153 ASTM D2386 ASTM D7153	F34 AVTUR Avgas F-18 F35 AVTUR	PAC FZP5G2S Automatic Freeze Point Apparatus- Petrotest freeze point kit.
Fuel System Icing Inhibitor % volume (FSII) - (If added)	ASTM D5006	F34 AVTUR	Aljac FSII kit
Particulate contaminant	ASTM D5452	F34 AVTUR F35 AVTUR	More vehicle based – membranes from AC Searle
Water content, SWD	Pass/Fail	F34 AVTUR F54 Diesel MT Avgas F-18 and F-67 F35 AVTUR	Shell water detection capsules
Water reaction interface	ASTM D1094	F34 AVTUR Avgas F-18 F35 AVTUR	100ml stoppered cylinder & Buffer solution
Reid vapor pressure at 37.8 °C (kpa)	ASTM D5191, ASTM D323	Avgas F-18 and F-67	Seta unit
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 848 Tritrino plus
Aromatics or Total Aromatics - olefins % vol	ASTM D1319	F34 AVTUR F35 AVTUR	Seta Twin Colum
Color (Saybolt)	ASTM D156	F34 AVTUR F35 AVTUR	Lovibond Tintometer PFXi
Estimated net heat of combustion	ASTM D3338	F34 AVTUR F35 AVTUR	Equation
Particle Counting Individual Channel Counts & ISO Code (≥ 4 µm to ≥ 30 µm (c) vol %)	IP-564	F34 AVTUR	Parker ACM Aviation Condition Monitoring



Chemical

Specific Tests and / or Properties Measured	Specification, Standard, Method, or Test Technique	Items, Materials or Product Tested	Key Equipment or Technology
Smoke Point (or SP + Naphthalenes)	ASTM D1322	F34 AVTUR F35 AVTUR	Smoke point kit Seta
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 6100
Thermal Stability, JFTOT	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
Tube deposit rating,	ASTM D3241	F34 AVTUR F35 AVTUR	Visual Tuberator
Viscosity @ -20° mm ² /s	ASTM D445	F34 AVTUR F35 AVTUR	Tamson Viscosity Bath
Water reaction/separation MSEP	ASTM D3948	F34 AVTUR F35 AVTUR	EMCEE MSEP Test kit

Note:

1. This scope is formatted as part of a single document including Certificate of Accreditation No. AT-2539.02.

Vice President