Schedule of Accreditation

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Accredited to ISO/IEC 17025:2017

ITS Testing Services (UK) Limited (Aberdeen Laboratory)

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DETAIL OF ACCREDITATION

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
PETROLEUM and PETROLEUM PRODUCTS	<u>Chemical and Physical Tests</u>	Flexible scope to allow updated standard test methods (already on the schedule of accreditation) to be introduced into the lab at the date of issue in a controlled manner following documented in house procedure COR-PR-14 (Management of Change). Documented In-House Methods, as listed below in the series CBA-00 MOD - Modified.
	Allocation analysis	Forties System Allocation Schedule of Analysis Manual
	- Boiling Range Distribution of the C_6 + Fraction of NGL Samples	NGL-2 encompassing IP406 (modified)
	- Compositional Analysis of NGL Samples	NGL-3 encompassing IP345 (as modified in NGL-3)
	- Direct Measurement of N_2, CO_2 and C_1 - C_6 from Pressurised Sample Cylinders	CRUDE-3 encompassing IP189 (modified), IP344/88 (obsolete) (modified)
	- Gas/Liquid Separation of Forties Pipeline Field Samples	CRUDE-3 encompassing IP345 (as modified in NGL-3), IP189 (modified), IP344 (modified)

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PETROLEUM and PETROLEUM PRODUCTS (cont'd)	Chemical and Physical Tests (cont'd)	Flexible scope to allow updated standard test methods (already on the schedule of accreditation) to be introduced into the lab at the date of issue in a controlled manner following documented in house procedure COR-PR-14 (Management of Change). Documented In-House Methods, as listed below in the series CBA-00 MOD - Modified.
	- Preparation of Forties Pipeline Field Samples	CRUDE-1, NGL-1
	- Sulphur Content of Forties Field 350 + Residue Samples	CRUDE-5 encompassing the following: ASTM D2892 (modified) ASTM D5443 ASTM D2503 ASTM D4052 (modified) ASTM D2887 (modified) ASTM D1160 (modified) and ASTM D5236 IP190 (modified) IP336 (modified) IP71- ASTM D445
	- Water Content of Forties Pipeline Fields - Dissociated Gas	CRUDE-4 encompassing IP386 (modified) and ASTM D4807 (modified)
	- Water Content of Forties Pipeline Field Samples	CRUDE-2, NGL-4 encompassing IP386 (modified) and ASTM D4807 (modified)
	- Water Content of Forties Pipeline Field Samples (Overfilled Vessels)	CRUDE-4 encompassing IP386 (modified) and ASTM D4807 (modified)
	Aniline Point	IP 2 ASTM D611
	Ash from petroleum product	IP 4 ASTM D482

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	Asphaltenes	IP 143 ASTM D6560
	Basic Nitrogen	CBA 73
	Bitumen softening point	BS-2000-58
	Cetane Index, calculated	IP 380 ASTM D4737
	Cloud point	IP 219 ASTM D2500
	Cold filter plugging point	IP 309
	Composition of natural gas	IP 345/80 (obsolete)
	Conradson Carbon residue	IP 13 ASTM D189

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	Density, relative	IP 160 ASTM D1298
	Density, API gravity	IP 365
	Detection of copper corrosion	IP 154 ASTM D130
	Distillation	IP 123 ASTM D5236 ASTM D2892
	Flash Gases	CBA-78
	PMCC Flash point	IP 34 ASTM D93
	COC Flash point	IP 36 (modified) ASTM D92 (modified)
	Flash Point 50 to 200°C	IP 523 Rapid equilibrium closed cup
	Freezing point	IP 16 ASTM D2386
	Fuel dilution	CBA-12
	Hydrocarbon types	IP 156 ASTM D1319

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	Hydrogen sulphide and mercaptan sulphur content	UOP 163 and UOP 163(MOD)
	Insolubles	CBA-11
	Light hydrocarbons in stabilised crude oils	IP 344 (modified) CBA 103
	Molecular weight, average	CBA-2
	Total acid number	IP 177 ASTM D664
	Total base number	ASTM D2896
	Particle size and distribution	CBA-13 using automatic particle counter
	Pour point	IP 15 ASTM D97
	Pour point of Crude Oil	ASTM D5853
	Pressurised Gases	CBA-77
	Salts content, total	IP 265
	Sediment	IP 53 ASTM D473 ASTM D4807 (modified)

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	Smoke point	IP 57 ASTM D1322
	Sulphur	IP 336
	Vapour pressure	IP 69 Reid Method
	Viscosity	IP 71/Section 1 ASTM D445
	Kinematic viscosity of transparent and opaque liquids	ASTM D7279 (modified) by Houillon Viscometer
	Viscosity index	IP 226 ASTM D2270
	Water	IP 386 ASTM D4928 CBA-6
	Wax content	CBA-4 using Soxhlet Extraction technique
	Paraffin wax content of petroleum oils and asphalts	UOP 46

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Pressurised Hydrocarbon Fluids	N_2, CO_2 C_1-C_5 C_{6+} Dry e C_1-C_6 C_1-C_7 C_{7+} C_{8+} SG cut % weight dis.cuts mwt cut S, V	PT-5 using Near Infrared unit
WATERS Saline waters Drinking waters Process Waters	Chemical and Physical Tests Alkalinity Anions: - Bromide, Chloride, Fluoride, Nitrite, Nitrate, Phosphate, Sulphate - Chloride Elemental analysis: Al, B, Ba, Ca, Cr, Cu, Fe, K, Li, Mg, Mn, Mo, Na, Ni, P, Pb, S, Si, Sr, V, Zn	 API RP45, 81 CBA-56 using ion chromatography CBA-69 CBA-67 by ICP-OES

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	Chemical and Physical Tests (cont'd)	Flexible scope to allow updated standard test methods (already on the schedule of accreditation) to be introduced into the lab at the date of issue in a controlled manner following documented in house procedure COR-PR-14 (Management of Change). Documented In-House Methods, as listed below in the series CBA-00 SVTA-000, MOD - Modified.
WATERS Trade effluent (to sewer or controlled water)	Oil in Water	ISO 9377-2 (modified) by Gas Chromatography
	Particulate matter	CBA-58 [Modification of ASTM]
	Physical properties: pH Conductivity/Resistivity	 ASTM D1293 ASTM D1125-A (modified through work instruction SWI 53)
WATERS Drinking waters	Microbiological Tests	Documented In-House Methods based on The Microbiology of Drinking Water (MDW), Environment Agency
	Enumeration:	
	Total viable count at 22 °C and 37 °C	CML-LAB-TP-01 by pour plate based on MDW, Part 7, 2020
	Coliforms, confirmed *Escherichia coli*, confirmed	CML-LAB-TP-04 by MPN using Colilert based on MDW, Part 4, 2016
	Identification and enumeration:	
	Legionella spp *Legionella* pneumophila serogroups 1 and 2-14	CML-LAB-TP-03 based on BS 6068 Section 4.12:1998 (ISO11731:1998 - Withdrawn)

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WATERS Drinking waters	Microbiological Tests (cont'd) Enumeration: Presumptive enterococci	Documented In-House Methods based on The Microbiology of Drinking Water (MDW), Environment Agency CML-LAB-TP-02 by filtration membrane method, based on MDW, Part 5, 2012
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