

# Experts in Oil, Gas and Chemical Verification



Quantity and Quality Inspection | Analytical Verification | Bespoke Reconciliation Cargo Superintendency | Project Management | Collateral Monitoring | Export Supervision Schemes

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Stewart Inter Sea Ltd. (SISA), has been established as a cargo management, and analytical specialist in the Oil, Gas and Chemical marine industry since 1987.

Operating an extensive network from established offices and operational hubs throughout West Africa plus two strategically located, twentyfour seven laboratories in Apapa, Nigeria and Lome, Togo.

> Recent expansions have seen our UK based Operation and Quality teams double in head count, drawing on over one-hundred years of specialised industry experience, enabling us to provide customers and affiliates with a single contact point for focused technical advice and operational support twenty-four hours a day, three-hundred and sixty-five days a year.

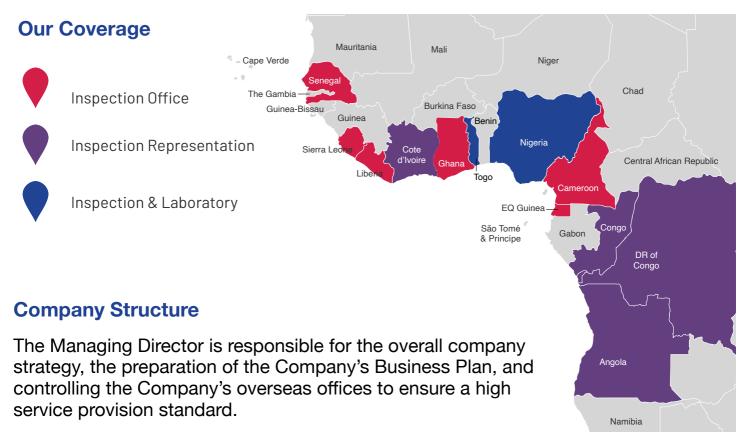
With ISO 9001 accreditation of both UK and African offices we ensure compliance across all supplied services, whilst also adhering to international standards including API, ISO, ASTM, and IP, to ensure integrity and conformance, guaranteeing trust and assurance for our principles across the entire supply chain.



### Locations

Stewart Inter Sea Ltd. currently provide comprehensive inspection services throughout the below locations, with over sixty inspectors overseen by our West Africa Director, and national managers to ensure personnel have constant access to support and technical advice.

Through our extensive network we are able to supply OGC quantity and quality inspection services in any location throughout West Africa and in quarter one of 2023 expanded our operations in Ghana, Nigeria, Angola, and Senegal with tailored Service agreements with further growth of our network and capabilities planned throughout 2023 including a custom built laboratory building planned at our Lome premises.



Reporting directly to the Managing Director is a hand-selected, UK based, operations team of experienced T.I.C. professionals who coordinate, support, and train our local affiliates and field staff, whilst performing in-person and remote auditing to ensure the highest standards are maintained. All local affiliates are also overseen by a dedicated Continental and national management teams to provide local knowledge and contacts, ensuring continuous support and a flexible distribution of assets to meet our clients' needs.



### **A Brief History**

Formed in 1987, Stewart Inter Sea has established 35 years of local knowledge within the Oil, Gas & Chemicals inspection industry; during this time have formed strong bonds with local suppliers, terminals, and shipping, to be able to offer the best and most efficient service possible.

The Company, registered in the United Kingdom and ISO 9001 Certified, formed a partnership with the Alex Stewart group in 2001; expanding expertise into dry goods, and has since co-ordinated operations from its Liverpool and Ellesmere Port offices.

Between 1996-1999 the Company handled the first Pre-shipment inspections for the Sani Abacha Government in Nigeria; the purpose of the Scheme was to reduce and control the theft and nefarious activities of those that would deprive the Government of the correct duties and revenues from the sale of the Crude Oil exports. In 2023 Stewart Inter Sea were awarded the superintendency contract for the latest incarnation of the same scheme, to supervise the inspection and analysis services provided by third-parties. In 2015, we expanded our analytical capability with the opening of our expansive laboratory in Lome, Togo, which is equipped to handle the large volume of Ship-to-Ship operations that take place offshore.

Since the start of 2023 we have expanded our analytical capability with a new laboratory facility in Apapa, Nigeria which was completed simultaneously with expansion of our service capabilities in Angola, Senegal and Ghana.

By the end of 2023 we aim to complete construction of our custom-designed, bespoke laboratory building on our Lome site to further cement our position as leaders in the supply of twenty-four-hour analytical, shore and ship cargo inspection, and commodity management services.

Whilst maintaining adherence to required standards, Stewart Inter Sea pride ourselves on the provision of adaptable technical support, customising our services to meet specific requirements, unique to our clients' needs and the varied locations of their operations.



### **Analytical Services**

Stewart Inter Sea Ltd. currently operates two Laboratories in West Africa.

Our main laboratory in Lome, Togo has been continuously improved over the past two years to become an expansive facility with vast testing capabilities for Petroleum and chemical products.

We have recently enhanced our shared Lagos Facility in Apapa to provide full analysis slates for various grades, plus crucial key points for import requirements, recertifications and general classifications.

Both laboratories are performing to very high capabilities, overseen by the UK Quality Team, who with their expertise, ensure all Analytical testing is performed to International Standards. Lome Laboratory will be assessed in Quarter three 2023 with the view to achieving accreditation for ISO 17025.

Stewart Inter Sea Ltd. is certified for Dangerous Good Shipments, and have initiated several inter-laboratory roundrobin schemes, through which we maintain an extensive continental and international analytical network to ensure we can provide full suite analysis to meet local, national, or industry specifications.

A full list of Stewart Inter Sea's current testing capabilities follows:





## **Stewart Inter Sea, Lome Laboratory**

### **Testing Capability**

#### MIDDLE AND HEAVY DISTILLATES incl. DIESEL AND GASOILS

Parameters	Method(s)
Acid Number by Potentiometric Titration	ASTM D664
Acid and Base Number	ASTM D974 / IP 139 / ISO 6618
Appearance	Visual / ASTM D4176
Hydrocarbons (Aromatics, Olefins, Saturates) by FIA	ASTM D1319
Ash Content	IP 4 / ISO 6245 / ASTM D482
Calorific Value	ASTM D4868
Conradson Carbon Residue	ASTM D189 / IP 13 / ISO 6615
Carbon Residue – Micro Method	EN ISO 10370 / ASTM D4530
Cetane Index (Calculation)	ASTM D976
Cold Filter Plugging Point	IP 309 / EN 116 / ASTM D6371
Cloud Point	ASTM D2500
Colour	ASTM D1500
Copper Corrosion	ASTM D130
Density, API, SG by Digital Density Meter	IP 365 / EN ISO 12185 / ASTM D4052
Atmospheric Distillation (Automated or Manual)	IP 123 / ASTM D86
Electrical Conductivity	ASTM D2624
Filter Blocking Tendency	ASTM D2068
Fatty Acid Methyl Esters (FAME)	DIN EN 14078 / IP 579
Flash Point (PMCC) (Automated or Manual)	EN ISO 2719 / ASTM D93A
Karl Fischer	ASTM D6304
Kinematic Viscosity	IP 71 / EN ISO 3104 / ASTM D445
Oxidation Stability	ASTM D2274
Particulate Contamination	ASTM D6217
Pour Point	ASTM D97 / ISO 3016
Sulphur by EDXRF	IP 336 / EN ISO 8754 / ASTM D4294
Sulphur Content by UV Fluorescence	IP 490 / EN ISO 20846 / ASTM D5453
Total Sediment by Hot Filtration	ISO 10307-1 / ASTM D4870
Water by Distillation	ISO 3733 / ASTM D95



### **KEROSENE AND JET FUEL**

Parameters	Method(s)
Appearance	Visual
Hydrocarbon (Aromatics, Olefins, Saturates)	ASTM D1319
Atmospheric Distillation	IP 123 / ASTM D86
Free Water Content	Visual
Copper Corrosion	ASTM D130
API, Density, SG by Digital Density Meter	IP 365 / EN ISO 12815 / ASTM D4052
Doctor Test	IP 30
Existent Gum - Air Jet Evaporation Method	ASTM D381
Flash Point small scale Closed Cup	ASTM D3828
Saybolt Colour	ASTM D156
Sulphur by EDXRF	IP336 / EN ISO 8754 / ASTM D4294
Sulphur Content by UV Fluorescence	IP 490 / EN ISO 20846 / ASTM D5453

### GASOLINE, LIGHT DISTILLATES, ETC

Parameters	Method(s)
Acid and Base Number	ASTM D974 / ASTM D974 / ISO 6618
Appearance	Visual / ASTM D4176 Proc. 1
Hydrocarbons (Aromatics, Olefins, Saturates)	ASTM D1319
Atmospheric Distillation	IP 123 / ASTM D86
Free Water Content	Visual
Copper Corrosion	ASTM D130
API, Density, SG by Digital Density Meter	IP 365 / EN ISO 12185 / ASTM D4052
Existent Gum - Air Jet Evaporation Method	ASTM D381
Lead in Gasoline by EDXRF	ASTM D5059
Methanol in Gasoline by IR	ASTM D5845
Oxidation Stability (Induction Period Method)	ASTM D525
Oxidation Stability (Rapid Small Method)	ASTM D7525
Reid Vapour Pressure (RVP)	ASTM D323
Saybolt Colour	ASTM D156
Sulphur by EDXRF	IP 336 / EN ISO 8754/ ASTM D4294
Sulphur Content by UV Fluorescence Method	IP 490 / ASTM D5453 / EN ISO 20846
Water Reaction	ASTM D1094



FUEL OILS, LUBRICATION OILS, BIOFUELS, RESIDUES, ETC.	
Parameters	Method(s)
Acid Number by Potentiometric Titration	ASTM D664
Ash Content	ISO 6245 / ASTM D482
Asphaltenes	IP 143
Calorific Value	ASTM D4868
Cleanliness & Compatibility	ASTM D4740
Conradson Carbon Residue	ASTM D189
Carbon Residue – Micro Method	EN ISO 10370 / ASTM D4530
Carbon Residue – MCRT on 10% Distillation Residue	EN ISO 10370 / ASTM D4530
Calculated Carbon Aromaticity Index – Calculation	ISO 8217
Density, SG, or API by Hydrometer	IP 160 / EN ISO 3675 / ASTM D1298
Flash Point (PMCC) (Automated or Manual)	EN ISO 2719 / ASTM D93B
Karl Fischer	ASTM D6304
Kinematic Viscosity	IP 71 / EN ISO 3104 / ASTM D445
Metals by ICP-OES	IP 501
Pour Point	ISO 3016 / ASTM D97
Sediment by Extraction	ASTM D473
Sulphur by EDXRF	IP 336 / EN ISO 8754 / ASTM D4294
Total Sediment by Hot Filtration	ISO 10307-2 / ASTM D4870
Water by Distillation	ISO 3733 / ASTM D95

CRUDE OIL	
Parameters	Method(s)
Acid Number by Potentiometric Titration	ASTM D664
Ash	ASTM D482
Carbon Residue – Micro Method	EN ISO 10370 / ASTM D4530
API, Density, SG by Hydrometer	IP 160 / EN ISO 3675 / ASTM D1298
Flash Point (PMCC) (Manual and Automated)	EN ISO 2719 / ASTM D93B
Kinematic Viscosity	EN ISO 3104 / ASTM D445
Metals	IP 501 / ASTM D5708
Pour Point	ASTM D5853 / ASTM D97
Sediment by Extraction	ASTM D473
Sulphur by Energy Dispersive XRF	IP 336 / EN ISO 8754 / ASTM D4294
Water by Distillation	ISO 3733 / ASTM D95 mod



# Stewart Inter Sea, Lagos Laboratory

# Testing Capability

MIDDLE AND HEAVY DISTILLATES incl. DIESEL AND GASOILS	
Parameters	Method(s)
Acid and Base Number	ASTM D974
Appearance	Visual / ASTM D4176
Ash Content	ISO 6245 / ASTM D482
Calorific Value	ASTM D4868
Conradson Carbon Residue	ASTM D189
Cetane Index (Calculation)	ASTM D976 & ASTM D4737
Cloud Point	ASTM D2500
Colour	ASTM D1500
Compatibility	ASTM D4740
Copper Corrosion	ASTM D130
API, Density, SG by Digital Density Meter	IP 365 / EN ISO 12185 / ASTM D4052
Atmospheric Distillation (Manual)	IP 123 / ASTM D86
Electrical Conductivity	ASTM D2624
Flash Point Abel	IP 170
Flash Point (PMCC) (Manual)	EN ISO 2719 / ASTM D93A
Haze Rating	ASTM D4176
Kinematic Viscosity	EN ISO 3104 / ASTM D445
Micro Carbon Residue	ASTM D4530
Octane and Fuel Analyser	ASTM D2699 (predictive)
Pour Point	ISO 3016 / ASTM D97
Sediment by Extraction	ASTM D473 / IP 53 ISO 3735
Sulphur by EDXRF	IP 336 / EN ISO 8754 / ASTM D4294
Water by Distillation	ISO 3733 / ASTM D95



### **KEROSENE AND JET FUEL**

Parameters	Method(s)
Appearance	Visual
Atmospheric Distillation (Manual)	IP 123 / ASTM D86
Free Water Content	Visual
Copper Corrosion	ASTM D130
API, Density, SG by Digital Density Meter	IP 365 / EN ISO 12185 / ASTM D4052
Doctor Test	IP 30
Electrical Conductivity	ASTM D2624 / IP 274
Existent Gum - Air Jet Evaporation Method	ASTM D381
Flash Point Abel	IP 170
Sulphur by Energy Dispersive X-ray Fluorescence Spectrometry	IP 336 / EN ISO 8754 / ASTM D4294
Appearance	Visual
Atmospheric Distillation (Manual)	ASTM D86 / IP 123
Free Water Content	Visual

GASOLINE, LIGHT DISTILLATES, ETC	
Parameters	Method(s)
Appearance	Visual / ASTM D4176 Proc. 1
Atmospheric Distillation (Manual)	IP 123 / ASTM D86
Benzene	ZELTEX
Free Water Content	Visual
Copper Corrosion	ASTM D130
API, Density, SG by Digital Density Meter	IP 365 / EN ISO 12185 / ASTM D4052
Ethanol	ZELTEX
Existent Gum - Air Jet Evaporation Method	ASTM D381
Free Water Content	Visual
Lead in Gasoline by EDXRF	ASTM D5059
MON	ZELTEX
Pour Point	ISO 3016 / ASTM D97
Reid Vapour Pressure	ASTM D323
RON	ZELTEX
Sulphur by EDXRF	IP 336 / EN ISO 8754 / ASTM D4294



## FUEL OILS, LUBRICATION OILS, BIOFUELS, RESIDUES ETC.

Parameters	Method(s)
Ash Content	ISO 6245 / ASTM D482
Calorific Value	ASTM D4868
Compatibility	ASTM D4740
Conradson Carbon Residue	ASTM D189
Calculated Carbon Aromaticity Index – Calculation	ISO 8217
Density, SG, or API Gravity by Hydrometer	IP 360 / EN ISO 3675 / ASTM D1298
Electrical Conductivity	ASTM D2624
Flash Point (PMCC) (Manual)	EN ISO 2719 / ASTM D93B
Kinematic Viscosity	EN ISO 3104 / ASTM D445
Micro Carbon Residue	ASTM D4530
Pour Point	ISO 3016 / ASTM D97
Sediment by Extraction	ASTM D473 / IP 336 / ISO 3735
Sulphur by EDXRF	ASTM D4294 / IP 336 / EN ISO 8754
Total Sediment Potential	ASTM D4870
Water by Distillation	ASTM D95 / ISO 3733

Crude Oil	
Parameters	Method(s)
Ash Content	ISO 6245 / ASTM D482
Calorific Value	ASTM D4868
Compatibility	ASTM D4740
Conradson Carbon Residue	ASTM D189
Calculated Carbon Aromaticity Index – Calculation	ISO 8217
Density, SG, or API Gravity by Hydrometer	IP 160 / EN ISO 3675 / ASTM D1298
Flash Point (PMCC) (Manual)	EN ISO 2719 / ASTM D93B
Kinematic Viscosity	EN ISO 3104 / ASTM D445
Micro Carbon Residue	ASTM D4530
Pour Point	ISO 3016 / ASTM D97
Salt	IP 265
Sediment by Extraction	ASTM D473 / IP 336 / ISO 3735
Sulphur by EDXRF	ASTM D4294 / IP 336 / EN ISO 8754
Total Sediment Potential	ASTM D4870
Water by Distillation	ASTM D95 / ISO 3733



### **Inspection Services**

Stewart Inter Sea Ltd. perform the below services with the integrity, discipline, and reliability we pride ourselves on, which allows us to provide an adaptable, but consistently dependable service, whilst maintaining high standards and persistent levels of accuracy.

If your specific requirements do not align with the below, we will be delighted to discuss a custom service agreement covering all your certification and verification needs, be it point of custody transfer oversight, single quantity and/ or quality inspection, or a longterm custom management agreement.

Shore tank gauging and sampling
Discharge / load control
Ship to Ship transfer control
Offshore and onshore stock verification
Vessel and/ or Shore tank profile sampling
Cargo blending
Portable key point analysis including offshore
Road Wagon/ trucking monitoring
Technical advice and remote supervision
Due diligence on refineries, terminals, and tanker vessels
Supercargo / Expediting / Loss Control
Voyage reconciliation
Production of customs documentation
Design and supply of custom reports
Collateral Management
Additisation / doping operations
Sample management, storage, and disposal





### **Key Contacts**

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### West Africa Operations and Management Team

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