

1 1.0079

A

ACTION

4 9.0122

D

DETERMINATION

22 47.867

V

VISION

9 18.998

I

INVESTIGATION

19 39.098

S

SOLUTION

5 10.811

E

EVALUATION

4 9.0122

D

DEDICATION

REFINERY ADVICE FROM **SGS CRUDE OIL ASSAY TESTING SERVICES**



CRUDE OIL ASSAY TESTING ADVISES

PROFITABLE

PETROLEUM REFINEMENT

PROFITISATION

In an industry that is increasingly investigating the viability of taking a more diverse slate of crude oil qualities into production, understanding fully the chemical and physical properties has never been more important. Getting the right crude oil to the right refinery is essential to prevent yield, quality, production and environmental problems, among others. Each of your customers will be looking to you for key data on your crude oil to ensure that it will be compatible with the refinery process and to confirm that the end product will be delivered on time, at the quality expected and without any interruption to supply.



ABOUT CRUDE OIL ASSAY TESTING

Using a variety of both standard and innovative procedures the SGS Crude Oil Assay testing laboratories provide the molecular and chemical characterisations of crude oil. Information is generated on the boiling-range and on each requested fraction within the range using a variety of physical distillation procedures. Sulfur content, nitrogen content, viscosity measurements, cold properties and metals content are all measured as part of the normal analysis of the general properties of the crude oil. We also analyse the crude oil off-gas and provide you with full hydrocarbon analysis for this.

From the basic petroleum assay atmospheric and vacuum distillations we produce distillate fractions and residual bottoms similar to those produced during the actual refining process. We also provide petroleum feedstock and crude oil quality evaluations that use ASTM, IP and other industry standards and protocols.

THE BENEFITS

Crude Oil Assay testing generates the detailed hydrocarbon analysis data that may be used to inform and reassure your customers and supply chain.

This extensive evaluation will allow you to demonstrate your dedication to supplying crude oil data that meets the exacting standards required for processing, providing high quality information that will help and guide the refinery engineering staff. Having a complete characterisation of the crude oil being considered puts planners in the best possible position to maximise profits. With this data in hand, you can market your product service correctly and identify your potential value chain partners. The Crude Oil Assay evaluation that SGS provides not only assists your marketing, but also helps your customers and others in the value chain, giving you a significant advantage over your competitors when you are undergoing customer evaluation.

HOW THE CRUDE OIL ASSAYS ARE PRESENTED

The presentation details included in each Crude Oil Assay are dependant on the specific requirements:

- that you stipulate
- of the crude oil and its molecular characteristics.

SGS will discuss the options, depth, complexity and format of each assay with you ahead of their generation and on a project-by-project basis. This includes those for which the results can be presented using LP models.

Once you have agreed the information that will be included and how it will be presented with SGS, you can feel confident that, working with the industry leader, your information will be accurate, comprehensive and easy to use.

WHY SGS?

Our industry knowledge, alongside our experience and recognition allows us to offer you our advice and to share with you our expertise. Our full Oil, Gas and Chemicals (OGC) programme covers upstream, midstream and downstream as well as LNG.

We have been the established leading industry player in the sampling, measurement, analysis and certification of bulk liquids since the 1950s as a unified Group and for many decades before that in the form of the individual international companies who were merged to form what is today's OGC division.

Our unique mix of local knowledge and global intelligence, led by the SGS OGC team, is unmatched across the industry. Our OGC services company participates in industry bodies such as API, The Energy Institute and ASTM while SGS as a Group is a member of ISO regional and national standards committees. We also take pride in coordinating with committees that bridge the industry ISO divide.

A WORLDWIDE COMPANY WITH GLOBAL SOLUTIONS

SGS is the world's leading inspection, verification, testing and certification company. Recognised as the global benchmark for quality and integrity, we employ over 90,000 people and operate a network of more than 2,000 offices and laboratories around the world.

We provide innovative services and solutions for every part of the oil, gas and chemicals industry. Our global network of offices and laboratories, alongside our dedicated team, allows us to respond to your needs, when and where they occur. Our reputation for independence, excellence and innovation has established us as the market leader in providing services that improve efficiency, reduce risk and deliver competitive advantage for you.

For more information about CRUDE OIL ASSAY SERVICES, [contact \[ogc@sgs.com\]\(mailto:contact_ogc@sgs.com\)](mailto:contact_ogc@sgs.com), or visit www.sgs.com/ogc

CRUDE OIL ASSAY EXPERTISE

The SGS Deer Park petroleum laboratory provides clients with a full range of crude oil testing and assay analysis capabilities. Tailored to specific customer needs, Deer Park's crude oil assay analysis is conducted in a timely manner by experienced crude oil chemists with years of industry experience and knowledge. The lab operates on a 24/7/365 basis, with client samples accepted on a global basis.

Crude oil assay testing includes crude oil characterization of whole crude oils and boiling-range fractions. The analytical data provided helps our clients optimize their refinery engineering process, enhance refinery yields, and assist in crude oil marketing.

SGS DEER PARK CRUDE OIL ASSAY TESTS:

- True Boiling Point Distillation – TBP (D2892)
- Vacuum Potstill Distillation (D5236)
- Atmospheric Distillation – Petroleum Products (D86)
- Vacuum Distillation – Petroleum Products (D1160)

- Simulated Distillation (D2887, D7169)
- Specific Gravity / API (D5002, D2598, D1298, D70)
- Sulfur, Total (D4294, D2622, D5453)
- H₂S & Mercaptan Sulfur in Liquid (UOP 163)
- H₂S in Vapor (D5705)
- Total Acid Number (D664, D974)
- Vapor Pressure (D323, D5191, D6377)
- Gas Chromatography Analysis:
 - DHA D6730
 - PIONA D5443
 - Light Ends D7900
 - High Temp SimDis Merge D7169 X.1
 - Hydrocarbon D2425
 - Methanol in Crude (D7059)
 - Sulfur Speciation (D5623, UOP 791)
- Naphthalene (D1840)
- Aniline Point (D611)
- Cloud Point (D2500, D5771)
- Flash Point (D56, D92, D93)
- Freeze Point (D2386, D5972)
- Pour Point (D97, D5949)
- Smoke Point (D1322)
- Nitrogen, Total (D4629, D5762)
- Basic Nitrogen (UOP 269)
- Bromine Number (D1159)
- Carbon, Hydrogen, Nitrogen (D5291)
- SARA Analysis (IP 469)
- Carbon Residue (D189, D4530)
- Ash Content (D482)
- Refractive Index (D1747)
- Viscosity (D445, D7042)
- Heat of Combustion (D240)
- Asphaltenes (D6560, IP-143)
- Metals (D5708, D5863, IP-501)
- Chlorides (D4929, UOP 779, UOP 588)
- Anions (D4327)
- Penetration (D5)
- Water & Sediment (D4007)
- Wax Content (UOP 46)
- Additional crude oil assay tests

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WHEN YOU NEED TO BE SURE

SGS