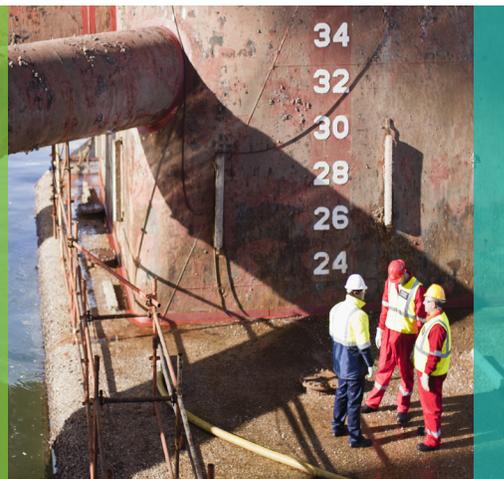


Gulf Coast Conference 2017

Workshop Sessions / Exhibitor / Posters /
General Session Presentations / Event Sponsor



Abstracts for Agilent Seminars

Date: Thursday, January 18th, 2018

Location: George R Brown Convention
Center, Houston, TX - Room 372E

Time: 09:00 a.m. – 02:30 p.m.

Highlights:

- Visit Agilent in the main Exhibit Hall:
booths #622 & 624.
- View additional Agilent posters in room
the Exhibit Hall



Automated GC Analysis for Monitoring of Ozone Precursors through Photochemical Assessment Monitoring Stations (PAMS)

Kelly Beard, 9:00 a.m., Abstract #246

The analysis of ozone precursors has been a feature of the EPA air quality surveillance regulations since 1992 with the establishment of Photochemical Assessment Monitoring Stations (PAMS) as part of State Implementation Plans (SIP). This paper will cover the PAMS analysis, utilizing the Marks Unity-xr thermal desorber in conjunction with the Agilent 7890 GC with a Dual FID Deans switch.

Thermal-Vaporization/Pyrolysis and Evolved Hydrocarbon Analysis from Source Rocks and Mud-Rock Reservoirs

Dr. Thomas Malloy, University of Houston, 9:30 a.m., Abstract #239

A new approach has been developed to measure and characterize mobile components in hydrocarbon-bearing rocks using a Frontier Laboratories' thermal vaporization/Multishot Pyrolyzer (EGA/PY-3030D) in tandem with an Agilent 7890B GC-FID/5977 MSD. With a capillary in place of a column, parameters, S1 (free oil), S2 (potential), S3 (CO₂) and TMax are obtained and compared to those from the Rock-Eval 6. With a column in place, evolved gases are cryo-trapped and GC/MS (SIM/SCAN) and FID chromatograms are obtained. Information on the distribution of different species, including biomarkers is obtained and compared to results from extracted organic material.

Go online for more information:

www.agilent.com/chem/gcc-2017

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Improved Method for Simultaneous Determination of Saturated and Aromatic Biomarkers, Organosulfur Compounds and Diamondoids in Whole-Oil by GC-MS/MS

Mei-Mei Bissada, University of Houston, 10:00 a.m., Abstract #242

A GC-MS/MS method, with an Agilent 7890/7000B QQQ system, was developed for determination of saturated and aromatic biomarkers, organosulfur compounds and diamondoids in whole crude-oil samples in a single run. This eliminated the need for group-type separation and analyses of the fractions and avoided the loss of light-ends. This was achieved through improved GC separation; selection of transitions, collision energies, dwell time, and time windows. The method was tested using four crude oils of diverse types. Accuracy and precision were validated by spiking. Comparison of the results indicated higher resolution, higher specificity, sensitivity, accuracy and precision for common biomarker indices.

Automate Data Processing, Report Generation and LIMS Worklist Processing with OpenLAB CDS

Jennifer McCulley, 10:45 a.m., Abstract #246

OpenLAB CDS is a chromatography data system designed for the Q/C lab with a focus on delivering more results with greater accuracy while requiring fewer tasks from your staff. Automated built-in customized calculations ensure accurate results every time. Unique visualization and data processing tools quickly identify out of spec samples. Straightforward LIMS connectivity can be added to remove manual interaction with the CDS. In addition to greatly improving productivity and reducing errors it provides a single interface to view all of your samples in process so you can better manage your lab.

Multi-Element Analysis of Petroleum Crude Oils using ICP-MS

Jenny Nelson, 11:30 a.m., Abstract #117

In the petrochemical industry, certain analytes are known to impact the performance and value of the final product. Consequently, there are several ASTM methods on the elemental analysis of oils, lubricants and fuels. One example is standard test method ASTM D7111-15a for the determination of trace elements in middle distillate fuels which uses Inductively Coupled Plasma Atomic Emission Spectrometry (ICP-AES). This method is widely used in the industry, but as specifications for fuels become more stringent, some laboratories are favoring the more sensitive analytical technique of ICP-MS, which provides significantly lower detection limits than ICP-OES. To reflect this trend, the first ASTM ICP-MS method for petroleum has been balloted in D0203. This is likely to be followed by an ICP-MS method for petroleum crude oils. This presentation describes how the Agilent 7900 ICP-MS was used to analyze different types of crude oil samples following simple dilution in an organic solution containing o-xylene. The aim was to develop a method that is suitable for routine use in the petroleum refining industry, particularly in high sample volume facilities, where turnaround time is critical. For this study, a wide range of samples were tested, and various quality control measures were taken. A series of 18 petroleum crude oil samples were used in the study. The chosen samples had a diverse set of properties; a wide range of American Petroleum Institute (API) gravity, elemental composition, hydrocarbon (H/C) content, and densities were selected. As a performance check, the 7900 ICP-MS was used to analyze diluted NIST 1634c standard multiple times per day with measurements taken over the course of a few months. The results show excellent recoveries for the certified elements V and Ni within + 10%, with good agreement. The recoveries for the non-certified elements As and Se in the SRM were within + 10%.

High Throughput Wear Oil Analysis. ASTM D5185-13: Analyzing 22 Elements in Used and Unused Lubricating and Base Oils

Lindsey Whitecotton, 1:30 p.m., Abstract #248

ICP is a well-accepted and versatile technique for the analysis of many different materials. This presentation will focus on the analysis of wear metals and additives in oil by ICP-OES. Discussion will focus on overcoming the challenges of running organics by ICP-OES while increasing productivity.

Get 'er Done with OpenLAB CDS EZChrom Edition

Kathleen O'Dea, 1:45 p.m., Abstract #244

Do you want to obliterate your workload using the software you already have in your lab? See how OpenLAB CDS EZChrom Edition can help you analyze more samples, process more data and make you the Friday afternoon hero. Learn from an Agilent expert who uses the product every day.