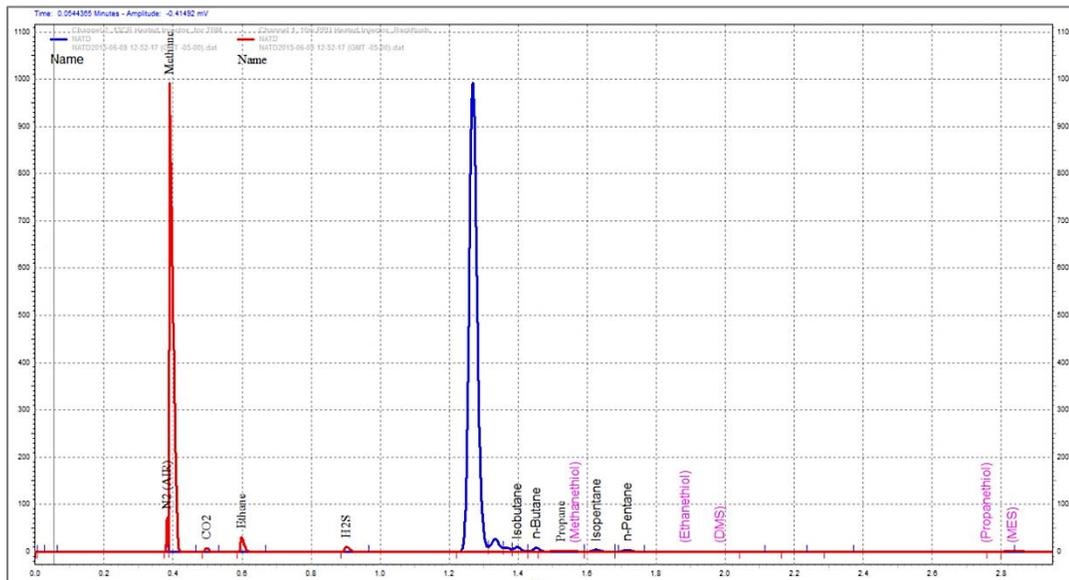


On-Site Gas Composition & Gas Contamination Testing

Nexo field engineers and analytical experts provide gas testing services on-site in a wide range of applications in order to quickly and accurately obtain real-time contamination information. The Nexo on-site team consists of engineers with experience in industrial settings and expertise in gas testing implementation. Testing can be set up, performed and completed in as little as one day and can also be implemented over several weeks' time for extensive projects and trials. Extensive testing has been used at several sites with demonstrated success to quantify gaseous, liquid, and solid contaminants and provides valuable information related to inlet contamination, pipeline contamination, separation equipment performance and stream quality.



On-Site Gas Chromatography

To quantify the levels of hydrocarbons, sulfur contamination and other contaminants such as oxygen in a gas stream, a specially equipped micro Gas Chromatograph (GC) is deployed on-site and utilized. The GC is small, portable, and can be run on-site to generate results in less than 10 minutes after a sample is injected. As shown on the picture above, the device can be used to perform baseline compositional analysis, or frequently measure at process contaminates under varying conditions. Further process improvements can be done based on the results generated.

The device consists of channels constructed specifically for the separation, detection, and quantification of distinct components within gas streams. Just the standard list of components that can be quantified are presented in the table below. Other components can be quantified upon request after calibration of the device for the specific application.

On-Site Gas Chromatography – Component Quantification Capabilities					
Methane	<i>i</i> -Pentane	Oxygen (O ₂)	H ₂ S	<i>n</i> -Propyl Mercaptan	Dimethyl Sulfide
Ethane	<i>i</i> -Butane	C5-C6+	Methyl Mercaptan	<i>n</i> -Butyl Mercaptan	Methyl Ethyl Sulfide
Propane	<i>n</i> -Butane	CO ₂	Ethyl Mercaptan	<i>t</i> -Butyl Mercaptan	Diethyl Sulfide



Liquid Contaminant Quantification & Analysis

One of the best ways to assess liquid contamination in a gas stream is to remove and quantify them in a representative slipstream. To achieve this, it is necessary to efficiently remove all liquids from the stream using a high performance coalescer. The best method is to use a micro-fiber Gas Coalescer Sampling System (GASCO) equipped with ports and features that will allow the removal of 99.9998% of liquids. This separation is completed by contacting the liquids with a specialized formulation of materials and coatings specifically designed to promote total coalescence and liquids discharge.

The GASCO sampling system (picture to the right) has a number of mechanisms to measure flow rate, temperature, pressure, differential pressure and liquid buildup levels. The gas stream is contacted with the internal separates any gas stream liquids into a reservoir for measurement, sampling and further analysis.



The GASCO test system allows for not only the quantification (and variability thereof) of all liquids entrained in a gas stream; it also allows for the isolation of *representative* contamination samples



that can be used to produce truly accurate analytical results. Nexo Solutions offers a suite of laboratory analytical techniques including Gas Chromatography/Mass Spectrometry (GC-MS), Infrared Spectroscopy (FT-IR), surface tension and many others methods producing results in a very detailed, efficient and timely manner.

Solid Contaminant Quantification & Analysis

The test system allows for segregation of liquids and solids by separating both contaminants in different and independent stages. Using this method allows any solids to be removed, quantified and characterized (as well as liquids). On-site gravimetric analysis of solid contaminants within the slipstream allows for representative determination of solid loadings and variability

over time in the process. In addition, solids can be collected and isolated for further analysis such as FTIR, EDX, XRD, or microscopy with the objective of characterizing its composition, potential source(s), and removal options. This method also can be used for performance evaluations of many separation, coalescence and filtration systems among others.

For additional information, please contact us at Support@NexoSolutions.com