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### eGC<sup>®</sup> *environmental* Gas Chromatograph Benzene in Ambient Air

The eGC measures trace (i.e., sub-ppbv) levels of benzene in ambient air in refinery environments. Therefore, eGC is ideal for fence-line or remote monitoring applications where the specific measurement of benzene in atmospheres containing interfering chemicals is essential.

#### **INTRODUCTION**

The eGC automatically samples the air, performs a gas chromatographic analysis and sends a report on a ten-minute cycle. The system generates a continuous record of benzene emissions logged on the eGC and uploaded to a user-accessible web server via an onboard cellular modem. The eGC is unique in its ability to operate in uncontrolled hot and cold environments. The wind speed and direction sensor

makes the eGC a highly effective area monitor, giving a near real-time picture of the site emissions. Using an array of eGC units allows for vector triangulation of emissions for quickly locating emission sources. The near real-time reporting of the eGC provides valuable temporal information complementary to sample canister or passive tube collection methods.

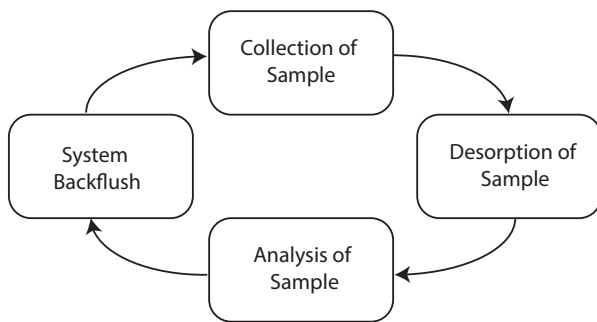
## eGC ADVANTAGES

- Fully autonomous operation
- No shelter or wiring construction required
- Automatic calibration
- Laboratory level data quality assurance
- Analysis data fused with local weather conditions and GIS position
- Intuitive graphical data website
- E-mail and text alarm alerts
- Limited maintenance

## SAMPLE ANALYSIS METHOD

The eGC uses a selective sorbent trap and thermal desorption to inject a sample of ambient air into the gas chromatograph. The GC column separates benzene from other chemicals in the sample. These chemicals elute sequentially into a solid-state hydrocarbon detector that measures the benzene and generates the analytical result. Upon completion of the analysis time, the GC system is automatically backflushed and prepared for the following analysis.

### eGC Analysis Cycle



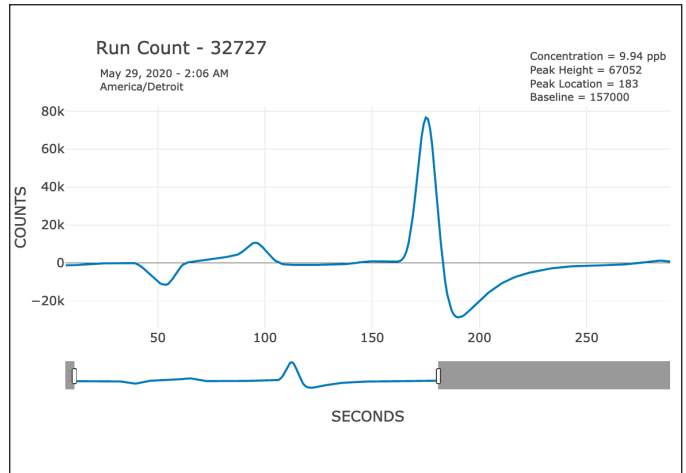
## ANALYSIS SPECIFICATIONS

Benzene

Measurement Range:	0.25 to 200ppb
Analysis Time:	10 Minutes
Column:	0.53mm x 10m
Column Temperature:	+55°C
Ambient Temperature:	-10°C to +45°C
Power Input:	12 VDC @ 5A (max) 110-240 VAC
Analysis Precision:	±5%

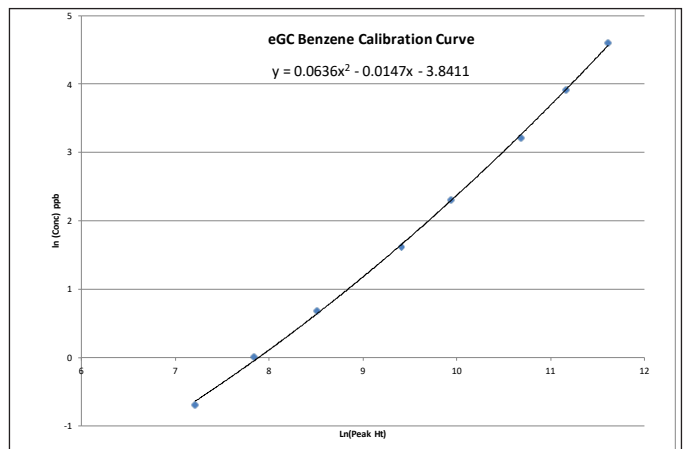
## BENZENE CHROMATOGRAM

10.0ppb Calibration Standard



## BENZENE CALIBRATION CURVE

Calibration Range 0.0ppb to 200ppb



## eGC ORDERING INFORMATION

Contact ENMET's application team for additional information.



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