

# Detecting MTBE with Low Level MIP Technology

Geoprobe Systems®



MTBE  
Chemical Structure



# MTBE using LL MIP Method

MTBE is a polar molecule and therefore is highly soluble in ground water. This solubility in water as well as its chemical structure make it less sensitive to MIP detection.



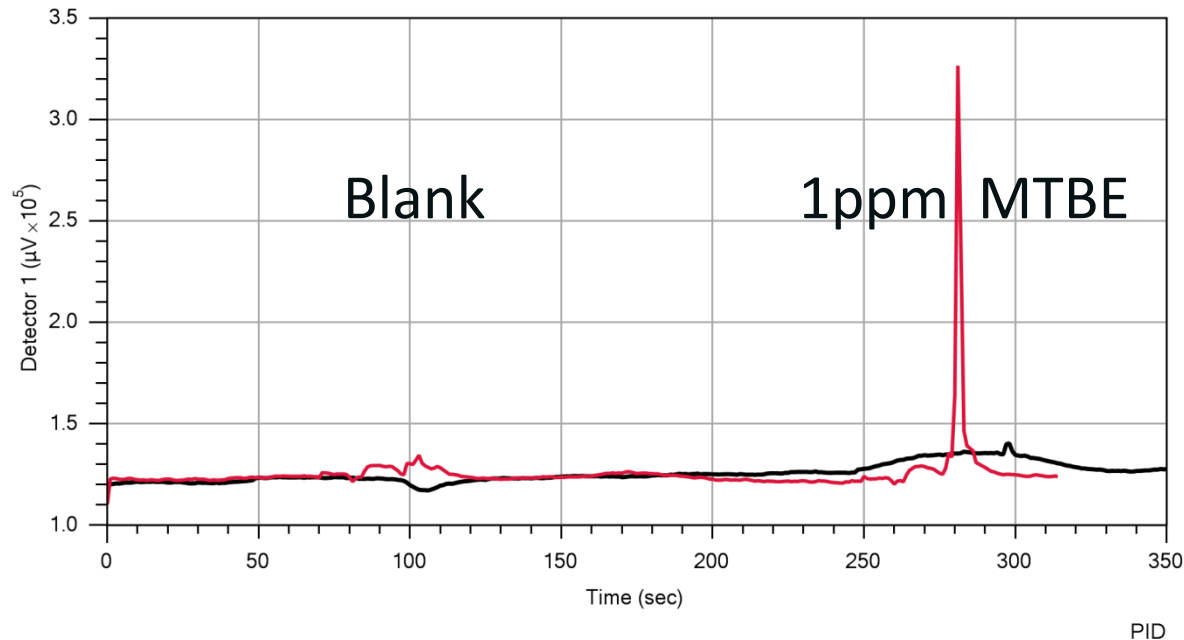
## MTBE using LL MIP Method

Standard MIP methods allow operators the ability to detect MTBE down to 5-10ppm with confidence when other compounds i.e. Benzene and TCE typically have detection limits 10x lower.

Because of the higher detection limits seen in the standard MIP method and a resurgence of interest in MTBE we decided to see how well MTBE would perform with the LL MIP technology.

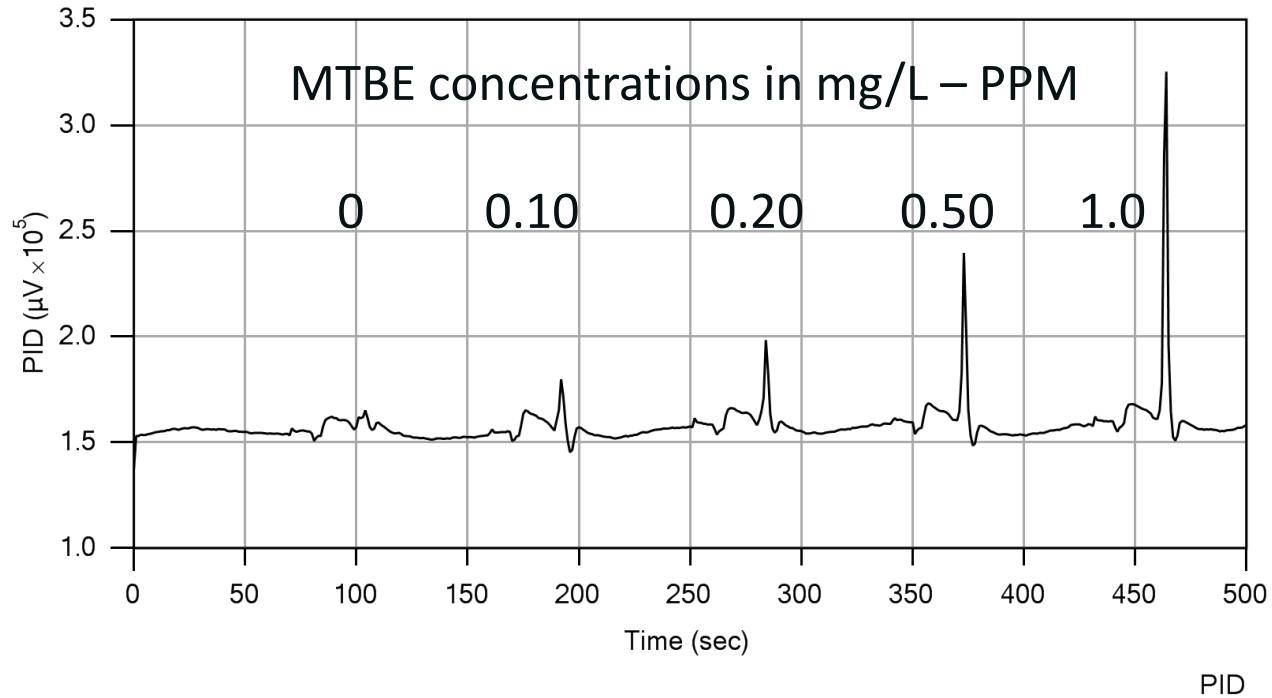
The LL MIP method significantly improves MIP detector sensitivity and signal to noise ratios for a given detector system.

# MIP Method Comparison Standard vs. Low Level



Comparison of blanks and 1ppm MTBE response tests performed by standard MIP and LL MIP methods.

# MTBE using LL MIP Method



LL MIP method response tests of MTBE

# LL MIP Equipment



Only additional piece of equipment needed to operate the LL MIP method.

Add this controller to your existing FI based MIP system.

LL MIP Controller - MP9000

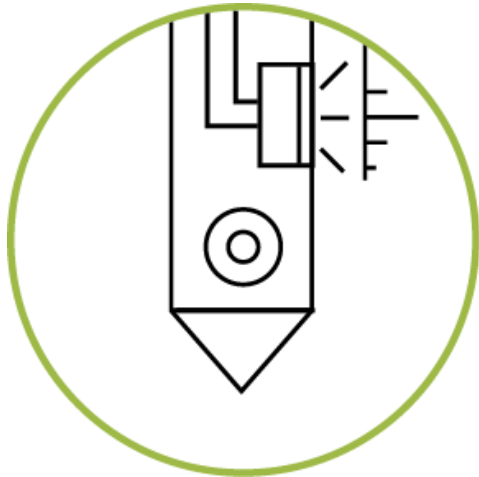
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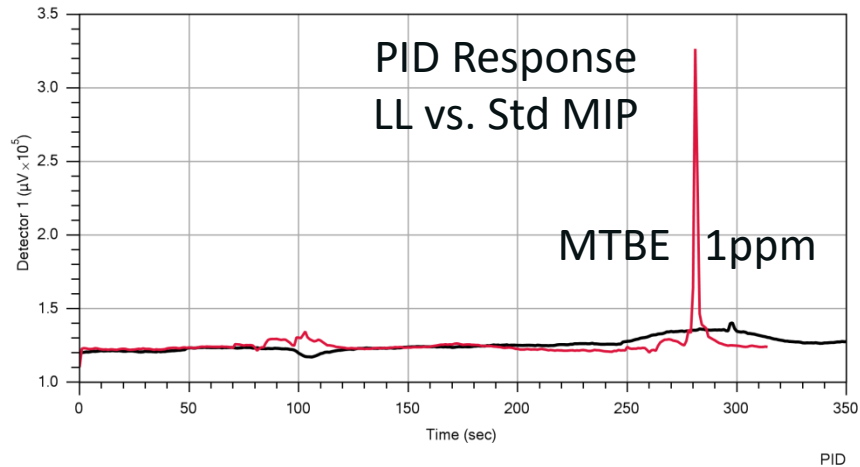
Most MIP systems use a Nafion dryer (pictured here) to remove water vapor from the carrier gas stream. Detectors such as the ECD require its usage to maintain a usable baseline.

When mapping MTBE with MIP, the Nafion dryer **must be removed** from the carrier gas path. MTBE is primarily detected by the PID and it can operate without the Nafion dryer installed.

# MTBE using LL MIP Method Summary



- Improves detector sensitivity 10-20x
- Define plumes further with greater confidence
- Track MTBE plumes to sub PPM range





For more information on the Low Level MIP technology:

<http://geoprobe.com/ll-mip-low-level-membrane-interface-probe>



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