Mine gas analysis

Application Note

Environmental

Authors

Agilent Technologies, Inc.

Introduction

An Agilent Micro-GC solution is used for the analyses of mine gas and especially low level carbon monoxide.

Three independent GC channels analyze the sample in less than 120 seconds. The analysis includes permanent gases and C1-C2 hydrocarbons.

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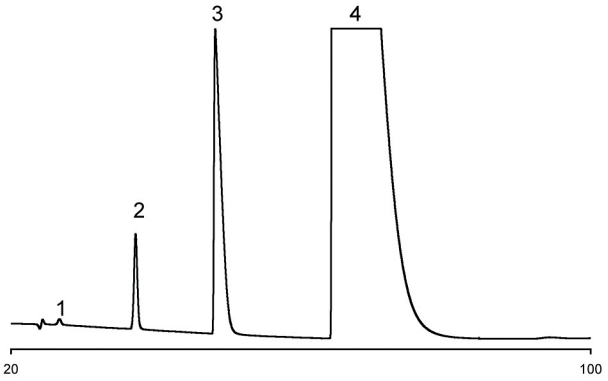
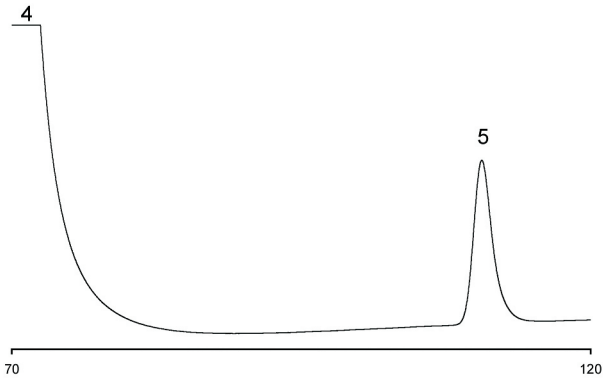
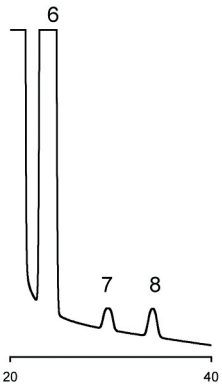


Channel 1. Permanent gases

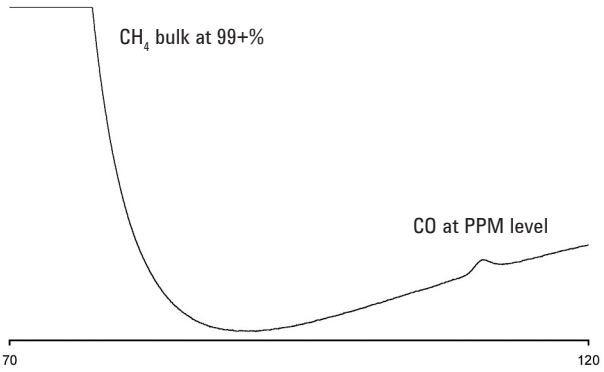


Channel 2. Carbon monoxide



Channel 3. CO_2, ethane and ethylene

A low detection limit of carbon monoxide is required for human safety. The CO channel ensures a free elution of carbon monoxide at low levels, not interfered by the bulk methane.



Channel 2. Low PPM CO sample in methane

Peak identification

		tR (s)
1.	hydrogen	27
2.	oxygen	37
3.	nitrogen	48
4.	methane	66
5.	carbon monoxide	111
6.	carbon dioxide	24
7.	ethylene	30
8.	ethane	34

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Printed in the USA
31 October, 2011
First published prior to 11 May, 2010
A01789

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