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ANALYSIS REPORT

Lab #: 153885 Job #: 10882
Sample Name: Mickey Co. Lab#:
Company: Penn. Dept. of Environmental Res.
Date Sampled: 1/07/2009
Container: Dissolved Gas Bottle
Field/Site Name: Marcellus
Location: Tioga/Susquehanna Co
Formation/Depth:
Sampling Point:
Date Received: 1/15/2009 Date Reported: 1/21/2009

Component	Chemical mol. %	Delta 13C per mil	Delta D per mil	Delta 15N per mil
Hydrogen Sulfide	nd			
Helium	0.0131			
Hydrogen	0.0079			
Argon	0.0754			
Oxygen	1.37			
Nitrogen	3.48			
Carbon Dioxide	0.068			
Methane	92.94	-35.48	-162.3	
Ethane	1.94			
Ethylene	na			
Propane	0.0950			
Iso-butane	0.0023			
N-butane	0.0096			
Iso-pentane	nd			
N-pentane	nd			
Hexanes +	nd			

Total BTU/cu.ft. dry @ 60deg F & 14.7psia, calculated: 980
Specific gravity, calculated: 0.588

nd = not detected. na = not analyzed. Isotopic composition of carbon is relative to VPDB. Isotopic composition of hydrogen is relative to VSMOW. Calculations for BTU and specific gravity per ASTM D3588. Chemical compositions are normalized to 100%. Mol. % is approximately equal to vol. %. Chemical analysis based on standards accurate to within 2%

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ANALYSIS REPORT

Lab #: 153886 Job #: 10882
Sample Name: Seymour Pond Co. Lab#:
Company: Penn. Dept. of Environmental Res.
Date Sampled: 1/08/2009
Container: Dissolved Gas Bottle
Field/Site Name: Marcellus
Location: Tioga/Susquehanna Co
Formation/Depth:
Sampling Point:
Date Received: 1/15/2009 Date Reported: 1/21/2009

Component	Chemical mol. %	Delta 13C per mil	Delta D per mil	Delta 15N per mil
Hydrogen Sulfide	nd			
Helium	0.0140			
Hydrogen	nd			
Argon	0.562			
Oxygen	4.56			
Nitrogen	28.94			
Carbon Dioxide	2.20			
Methane	62.50	-28.07	-156.6	
Ethane	1.16			
Ethylene	na			
Propane	0.0586			
Iso-butane	0.0017			
N-butane	0.0035			
Iso-pentane	nd			
N-pentane	nd			
Hexanes +	nd			

Total BTU/cu.ft. dry @ 60deg F & 14.7psia, calculated: 656
Specific gravity, calculated: 0.731

nd = not detected. na = not analyzed. Isotopic composition of carbon is relative to VPDB. Isotopic composition of hydrogen is relative to VSMOW. Calculations for BTU and specific gravity per ASTM D3588. Chemical compositions are normalized to 100%. Mol. % is approximately equal to vol. %. Chemical analysis based on standards accurate to within 2%