

Isotech Gas Data

Job 10872
Dimock Township

Isotech Lab No.	Sample Name	Field Name	GC date	He %	H ₂ %	Ar %	O ₂ %	CO ₂ %	N ₂ %	CO %	C ₁ %	C ₂ %	C ₂ H ₄ %	C ₃ %	iC ₄ %	nC ₄ %	iC ₅ %	nC ₅ %	C ₆ + %	MS date	δ ¹³ C ₁ ‰	δDC ₁ ‰	Specific Gravity	BTU
153679	115-20026	Dimock	1/13/2009	0.0186	0.0208	0.0430	0.950	0.036	3.67	0	93.16	2.03	0	0.0691	0	0.0029	0	0	0	1/13/2009	-29.91	-161.1	0.585	983
153680	Cabot Pipeline	Dimock	1/13/2009	0.0190	0.0222	0.0378	0.830	0.034	3.26	0	93.69	2.03	0	0.07	0	0.0031	0	0	0	1/13/2009	-29.96	-161.1	0.583	988
153681	Baker #1	Dimock	1/13/2009	0.0333	0.120	0.0081	0.162	0	0.79	0	97.08	1.74	0	0.0576	0.0016	0.0044	0	0	0	1/13/2009	-31.01	-173.1	0.567	1017
153682	Florention WW	Dimock	1/13/2009	0.0265	0	0.317	6.28	0.28	25.32	0	66.51	1.22	0	0.0418	0	0.0026	0	0	0	1/13/2009	-31.03	-173.1	0.705	697

Chemical analysis based on standards accurate to within 2%



ANALYSIS REPORT

Lab #: 153679 Job #: 10872
Sample Name: 115-20026 Co. Lab#:
Company: Penn. Dept. of Environmental Res.
Date Sampled: 1/07/2009
Container: Cali-5-Bond Bag
Field/Site Name: Dimock
Location: Dimock Township
Formation/Depth:
Sampling Point:
Date Received: 1/13/2009 Date Reported: 1/16/2009

Component	Chemical mol. %	Delta 13C per mil	Delta D per mil	Delta 15N per mil
Hydrogen Sulfide -----	nd			
Helium -----	0.0186			
Hydrogen -----	0.0208			
Argon -----	0.0430			
Oxygen -----	0.950			
Nitrogen -----	3.67			
Carbon Dioxide -----	0.036			
Methane -----	93.16	-29.91	-161.1	
Ethane -----	2.03			
Ethylene -----	na			
Propane -----	0.0691			
Iso-butane -----	nd			
N-butane -----	0.0029			
Iso-pentane -----	nd			
N-pentane -----	nd			
Hexanes + -----	nd			

Total BTU/cu.ft. dry @ 60deg F & 14.7psia, calculated: 983

Specific gravity, calculated: 0.585

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%



ANALYSIS REPORT

Lab #: 153680 Job #: 10872
Sample Name: Cabot Pipeline Co. Lab#:
Company: Penn. Dept. of Environmental Res.
Date Sampled: 1/07/2009
Container: Cali-5-Bond Bag
Field/Site Name: Dimock
Location: Dimock Township
Formation/Depth:
Sampling Point:
Date Received: 1/13/2009 Date Reported: 1/16/2009

Component	Chemical mol. %	Delta 13C per mil	Delta D per mil	Delta 15N per mil
Hydrogen Sulfide -----	nd			
Helium -----	0.0190			
Hydrogen -----	0.0222			
Argon -----	0.0378			
Oxygen -----	0.830			
Nitrogen -----	3.26			
Carbon Dioxide -----	0.034			
Methane -----	93.69	-29.96	-161.1	
Ethane -----	2.03			
Ethylene -----	na			
Propane -----	0.0700			
Iso-butane -----	nd			
N-butane -----	0.0031			
Iso-pentane -----	nd			
N-pentane -----	nd			
Hexanes + -----	nd			

Total BTU/cu.ft. dry @ 60deg F & 14.7psia, calculated: 988
Specific gravity, calculated: 0.583

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%



ANALYSIS REPORT

Lab #: 153681 Job #: 10872
Sample Name: Baker #1 Co. Lab#:
Company: Penn. Dept. of Environmental Res.
Date Sampled: 1/08/2009
Container: Cali-5-Bond Bag
Field/Site Name: Dimock
Location: Dimock Township
Formation/Depth:
Sampling Point:
Date Received: 1/13/2009 Date Reported: 1/16/2009

Component	Chemical mol. %	Delta 13C per mil	Delta D per mil	Delta 15N per mil
Hydrogen Sulfide -----	nd			
Helium -----	0.0333			
Hydrogen -----	0.120			
Argon -----	0.0081			
Oxygen -----	0.162			
Nitrogen -----	0.79			
Carbon Dioxide -----	nd			
Methane -----	97.08	-31.01	-173.1	
Ethane -----	1.74			
Ethylene -----	na			
Propane -----	0.0576			
Iso-butane -----	0.0016			
N-butane -----	0.0044			
Iso-pentane -----	nd			
N-pentane -----	nd			
Hexanes + -----	nd			

Total BTU/cu.ft. dry @ 60deg F & 14.7psia, calculated: 1017
Specific gravity, calculated: 0.567

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%



ANALYSIS REPORT

Lab #: 153682 Job #: 10872
Sample Name: Florention WW Co. Lab#:
Company: Penn. Dept. of Environmental Res.
Date Sampled: 1/08/2009
Container: Cali-5-Bond Bag
Field/Site Name: Dimock
Location: Dimock Township
Formation/Depth:
Sampling Point:
Date Received: 1/13/2009 Date Reported: 1/16/2009

Component	Chemical mol. %	Delta 13C per mil	Delta D per mil	Delta 15N per mil
Hydrogen Sulfide -----	nd			
Helium -----	0.0265			
Hydrogen -----	nd			
Argon -----	0.317			
Oxygen -----	6.28			
Nitrogen -----	25.32			
Carbon Dioxide -----	0.28			
Methane -----	66.51	-31.03	-173.1	
Ethane -----	1.22			
Ethylene -----	na			
Propane -----	0.0418			
Iso-butane -----	nd			
N-butane -----	0.0026			
Iso-pentane -----	nd			
N-pentane -----	nd			
Hexanes + -----	nd			

Total BTU/cu.ft. dry @ 60deg F & 14.7psia, calculated: 697
Specific gravity, calculated: 0.705

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%