

# ANALYSIS REPORT

Lab #: 103481 Job #: 7596  
Sample Name/Number: 090506-DCS1  
Company: Cordilleran Compliance Services  
Date Sampled: 9/05/2006  
Container: Round Plastic Bottle  
Field/Site Name: E05369  
Location:  
Formation/Depth:  
Sampling Point:  
Date Received: 9/06/2006 Date Reported: 9/11/2006

Component	Chemical mol. %	Delta 13C per mil	Delta D per mil	Delta 15N per mil
Carbon Monoxide -----	nd			
Hydrogen Sulfide -----	nd			
Helium -----	nd			
Hydrogen -----	nd			
Argon -----	1.24			
Oxygen -----	30.91			
Nitrogen -----	67.33			
Carbon Dioxide -----	0.50			
Methane -----	0.0223			
Ethane -----	nd			
Ethylene -----	nd			
Propane -----	nd			
Iso-butane -----	nd			
N-butane -----	nd			
Iso-pentane -----	nd			
N-pentane -----	nd			
Hexanes + -----	nd			

Total BTU/cu.ft. dry @ 60deg F & 14.7psia, calculated: 0  
Specific gravity, calculated: 1.018

Remarks: Analysis is of gas extracted from water by headspace equilibration. Analysis has been corrected for helium added to create headspace. Helium dilution factor = 0.78

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 #: 103482 Job #: 7596  
Sample Name/Number: 090506-DCS2  
Company: Cordilleran Compliance Services  
Date Sampled: 9/05/2006  
Container: Round Plastic Bottle  
Field/Site Name: E05369  
Location:  
Formation/Depth:  
Sampling Point:  
Date Received: 9/06/2006 Date Reported: 9/11/2006

Component	Chemical mol. %	Delta 13C per mil	Delta D per mil	Delta 15N per mil
Carbon Monoxide -----	nd			
Hydrogen Sulfide -----	nd			
Helium -----	nd			
Hydrogen -----	nd			
Argon -----	1.25			
Oxygen -----	31.57			
Nitrogen -----	66.63			
Carbon Dioxide -----	0.50			
Methane -----	0.0480			
Ethane -----	nd			
Ethylene -----	nd			
Propane -----	nd			
Iso-butane -----	nd			
N-butane -----	nd			
Iso-pentane -----	nd			
N-pentane -----	nd			
Hexanes + -----	nd			

Total BTU/cu.ft. dry @ 60deg F & 14.7psia, calculated: 0  
Specific gravity, calculated: 1.018

Remarks: Analysis is of gas extracted from water by headspace equilibration. Analysis has been corrected for helium added to create headspace. Helium dilution factor = 0.77

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 #: 103483 Job #: 7596  
Sample Name/Number: 090506-DCS3  
Company: Cordilleran Compliance Services  
Date Sampled: 9/05/2006  
Container: Round Plastic Bottle  
Field/Site Name: E05369  
Location:  
Formation/Depth:  
Sampling Point:  
Date Received: 9/06/2006 Date Reported: 9/11/2006

Component	Chemical mol. %	Delta 13C per mil	Delta D per mil	Delta 15N per mil
Carbon Monoxide -----	nd			
Hydrogen Sulfide -----	nd			
Helium -----	nd			
Hydrogen -----	nd			
Argon -----	1.26			
Oxygen -----	31.75			
Nitrogen -----	66.28			
Carbon Dioxide -----	0.53			
Methane -----	0.161			
Ethane -----	0.0153			
Ethylene -----	nd			
Propane -----	0.0070			
Iso-butane -----	nd			
N-butane -----	nd			
Iso-pentane -----	nd			
N-pentane -----	nd			
Hexanes + -----	nd			

Total BTU/cu.ft. dry @ 60deg F & 14.7psia, calculated: 2

Specific gravity, calculated: 1.018

Remarks: Analysis is of gas extracted from water by headspace equilibration. Analysis has been corrected for helium added to create headspace. Helium dilution factor = 0.78

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 #: 103484 Job #: 7596  
Sample Name/Number: 090506-DCS4  
Company: Cordilleran Compliance Services  
Date Sampled: 9/05/2006  
Container: Round Plastic Bottle  
Field/Site Name: E05369  
Location:  
Formation/Depth:  
Sampling Point:  
Date Received: 9/06/2006 Date Reported: 9/11/2006

Component	Chemical mol. %	Delta 13C per mil	Delta D per mil	Delta 15N per mil
Carbon Monoxide -----	nd			
Hydrogen Sulfide -----	nd			
Helium -----	nd			
Hydrogen -----	nd			
Argon -----	1.31			
Oxygen -----	33.11			
Nitrogen -----	65.04			
Carbon Dioxide -----	0.45			
Methane -----	0.0849			
Ethane -----	0.0069			
Ethylene -----	nd			
Propane -----	nd			
Iso-butane -----	nd			
N-butane -----	nd			
Iso-pentane -----	nd			
N-pentane -----	nd			
Hexanes + -----	nd			

Total BTU/cu.ft. dry @ 60deg F & 14.7psia, calculated: 1

Specific gravity, calculated: 1.020

Remarks: Analysis is of gas extracted from water by headspace equilibration. Analysis has been corrected for helium added to create headspace. Helium dilution factor = 0.79

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 #: 103485 Job #: 7596  
Sample Name/Number: 090506-DCS5  
Company: Cordilleran Compliance Services  
Date Sampled: 9/05/2006  
Container: Round Plastic Bottle  
Field/Site Name: E05369  
Location:  
Formation/Depth:  
Sampling Point:  
Date Received: 9/06/2006 Date Reported: 9/11/2006

Component	Chemical mol. %	Delta 13C per mil	Delta D per mil	Delta 15N per mil
Carbon Monoxide -----	nd			
Hydrogen Sulfide -----	nd			
Helium -----	nd			
Hydrogen -----	nd			
Argon -----	1.27			
Oxygen -----	32.11			
Nitrogen -----	65.99			
Carbon Dioxide -----	0.53			
Methane -----	0.0946			
Ethane -----	0.0061			
Ethylene -----	nd			
Propane -----	nd			
Iso-butane -----	nd			
N-butane -----	nd			
Iso-pentane -----	nd			
N-pentane -----	nd			
Hexanes + -----	nd			

Total BTU/cu.ft. dry @ 60deg F & 14.7psia, calculated: 1  
Specific gravity, calculated: 1.019

Remarks: Analysis is of gas extracted from water by headspace equilibration. Analysis has been corrected for helium added to create headspace. Helium dilution factor = 0.78

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 #: 103486 Job #: 7596  
Sample Name/Number: 090506-DCS6  
Company: Cordilleran Compliance Services  
Date Sampled: 9/05/2006  
Container: Round Plastic Bottle  
Field/Site Name: E05369  
Location:  
Formation/Depth:  
Sampling Point:  
Date Received: 9/06/2006 Date Reported: 9/11/2006

Component	Chemical mol. %	Delta 13C per mil	Delta D per mil	Delta 15N per mil
Carbon Monoxide -----	0.044			
Hydrogen Sulfide -----	nd			
Helium -----	nd			
Hydrogen -----	nd			
Argon -----	1.24			
Oxygen -----	30.61			
Nitrogen -----	67.40			
Carbon Dioxide -----	0.59			
Methane -----	0.109			
Ethane -----	0.0065			
Ethylene -----	nd			
Propane -----	nd			
Iso-butane -----	nd			
N-butane -----	nd			
Iso-pentane -----	nd			
N-pentane -----	nd			
Hexanes + -----	nd			

Total BTU/cu.ft. dry @ 60deg F & 14.7psia, calculated: 1  
Specific gravity, calculated: 1.017

Remarks: Analysis is of gas extracted from water by headspace equilibration. Analysis has been corrected for helium added to create headspace. Helium dilution factor = 0.76

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 #: 103487 Job #: 7596  
Sample Name/Number: 090506-DCS7  
Company: Cordilleran Compliance Services  
Date Sampled: 9/05/2006  
Container: Round Plastic Bottle  
Field/Site Name: E05369  
Location:  
Formation/Depth:  
Sampling Point:  
Date Received: 9/06/2006 Date Reported: 9/11/2006

Component	Chemical mol. %	Delta 13C per mil	Delta D per mil	Delta 15N per mil
Carbon Monoxide -----	0.042			
Hydrogen Sulfide -----	nd			
Helium -----	nd			
Hydrogen -----	nd			
Argon -----	1.23			
Oxygen -----	30.26			
Nitrogen -----	67.80			
Carbon Dioxide -----	0.56			
Methane -----	0.100			
Ethane -----	0.0055			
Ethylene -----	nd			
Propane -----	nd			
Iso-butane -----	nd			
N-butane -----	nd			
Iso-pentane -----	nd			
N-pentane -----	nd			
Hexanes + -----	nd			

Total BTU/cu.ft. dry @ 60deg F & 14.7psia, calculated: 1  
Specific gravity, calculated: 1.017

Remarks: Analysis is of gas extracted from water by headspace equilibration. Analysis has been corrected for helium added to create headspace. Helium dilution factor = 0.75

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 #: 103488 Job #: 7596  
Sample Name/Number: 090506-DCS8  
Company: Cordilleran Compliance Services  
Date Sampled: 9/05/2006  
Container: Round Plastic Bottle  
Field/Site Name: E05369  
Location:  
Formation/Depth:  
Sampling Point:  
Date Received: 9/06/2006 Date Reported: 9/11/2006

Component	Chemical mol. %	Delta 13C per mil	Delta D per mil	Delta 15N per mil
Carbon Monoxide -----	nd			
Hydrogen Sulfide -----	nd			
Helium -----	nd			
Hydrogen -----	nd			
Argon -----	1.24			
Oxygen -----	30.52			
Nitrogen -----	67.63			
Carbon Dioxide -----	0.54			
Methane -----	0.0706			
Ethane -----	nd			
Ethylene -----	nd			
Propane -----	nd			
Iso-butane -----	nd			
N-butane -----	nd			
Iso-pentane -----	nd			
N-pentane -----	nd			
Hexanes + -----	nd			

Total BTU/cu.ft. dry @ 60deg F & 14.7psia, calculated: 1  
Specific gravity, calculated: 1.017

Remarks: Analysis is of gas extracted from water by headspace equilibration. Analysis has been corrected for helium added to create headspace. Helium dilution factor = 0.75

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 #: 103561 Job #: 7602  
Sample Name/Number: 090706-MW2  
Company: Cordilleran Compliance Services  
Date Sampled: 9/07/2006  
Container: Round Plastic Bottle  
Field/Site Name: E05369  
Location:  
Formation/Depth:  
Sampling Point:  
Date Received: 9/08/2006 Date Reported: 9/20/2006

Component	Chemical mol. %	Delta 13C per mil	Delta D per mil	Delta 15N per mil
Carbon Monoxide -----	nd			
Hydrogen Sulfide -----	nd			
Helium -----	nd			
Hydrogen -----	nd			
Argon -----	0.220			
Oxygen -----	2.20			
Nitrogen -----	11.71			
Carbon Dioxide -----	4.25			
Methane -----	67.71	-40.91	-181.6	
Ethane -----	9.78	-27.70		
Ethylene -----	nd			
Propane -----	3.03	-24.73		
Iso-butane -----	0.386			
N-butane -----	0.463			
Iso-pentane -----	0.109			
N-pentane -----	0.0576			
Hexanes + -----	0.0805			

Total BTU/cu.ft. dry @ 60deg F & 14.7psia, calculated: 976

Specific gravity, calculated: 0.752

Remarks: Analysis is of gas extracted from water by headspace equilibration. Analysis has been corrected for helium added to create headspace. Helium dilution factor = 0.68

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 #: 103562 Job #: 7602  
Sample Name/Number: 090706-MW13  
Company: Cordilleran Compliance Services  
Date Sampled: 9/07/2006  
Container: Round Plastic Bottle  
Field/Site Name: E05369  
Location:  
Formation/Depth:  
Sampling Point:  
Date Received: 9/08/2006 Date Reported: 9/20/2006

Component	Chemical mol. %	Delta 13C per mil	Delta D per mil	Delta 15N per mil
Carbon Monoxide -----	nd			
Hydrogen Sulfide -----	nd			
Helium -----	nd			
Hydrogen -----	nd			
Argon -----	1.60			
Oxygen -----	0.114			
Nitrogen -----	86.38			
Carbon Dioxide -----	6.29			
Methane -----	5.58	-84.83	-336.8	
Ethane -----	0.0293			
Ethylene -----	nd			
Propane -----	0.0094			
Iso-butane -----	nd			
N-butane -----	nd			
Iso-pentane -----	nd			
N-pentane -----	nd			
Hexanes + -----	nd			

Total BTU/cu.ft. dry @ 60deg F & 14.7psia, calculated: 57  
Specific gravity, calculated: 0.986

Remarks: Analysis is of gas extracted from water by headspace equilibration. Analysis has been corrected for helium added to create headspace. Helium dilution factor = 0.81

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 #: 103563 Job #: 7602  
Sample Name/Number: 090706-MW17  
Company: Cordilleran Compliance Services  
Date Sampled: 9/07/2006  
Container: Round Plastic Bottle  
Field/Site Name: E05369  
Location:  
Formation/Depth:  
Sampling Point:  
Date Received: 9/08/2006 Date Reported: 9/20/2006

Component	Chemical mol. %	Delta 13C per mil	Delta D per mil	Delta 15N per mil
Carbon Monoxide -----	nd			
Hydrogen Sulfide -----	nd			
Helium -----	nd			
Hydrogen -----	nd			
Argon -----	0.945			
Oxygen -----	0.143			
Nitrogen -----	52.28			
Carbon Dioxide -----	5.74			
Methane -----	35.55	-41.70	-185.9	
Ethane -----	4.32	-28.13		
Ethylene -----	nd			
Propane -----	0.873	-22.50		
Iso-butane -----	0.0411			
N-butane -----	0.0746			
Iso-pentane -----	0.0107			
N-pentane -----	0.0055			
Hexanes + -----	0.0122			

Total BTU/cu.ft. dry @ 60deg F & 14.7psia, calculated: 464  
Specific gravity, calculated: 0.866

Remarks: Analysis is of gas extracted from water by headspace equilibration. Analysis has been corrected for helium added to create headspace. Helium dilution factor = 0.74

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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