

EXTENDED NATURAL GAS ANALYSIS (*DHA)

MAIN PAGE

LEASE #: NAME/DESCRIP : **JACOBUCCI 32K-44
BRADEN HEAD GAS**

PROJECT NO. : **201606017** ANALYSIS NO. : **01**
 COMPANY NAME : **PDC ENERGY, INC** ANALYSIS DATE: **JUNE 04, 2016 09:35**
 OFFICE / BRANCH: **EVANS** SAMPLE DATE : **JUNE 2, 2016 16:15**
 CUSTOMER REF: TO:
 PRODUCER : EFFECTIVE DATE:

*****FIELD DATA*****

SAMPLE CYCLE: SAMPLE TYPE: **SPOT**
 SAMPLE PRES. : 650.0 psig CYLINDER NO. : 0228
 LAB PRES: 104.0 psig SAMPLED BY : **JOHN MOSER**
 SAMPLE TEMP. : °f SAMPLING COMPANY: **EMPACT**
 AMBIENT TEMP.: °f H2S BY STAIN TUBE: - ppm
 H2O BY STAIN TUBE: - #/mmcf CO2 BY STAIN TUBE: - Mol %
 FIELD COMMENTS: **NO PROBE**
 LAB COMMENTS:

COMPONENT	MOLE %	MASS %	GPM @ 14.730	GPM @ 14.650
HELIUM	0.02	0.00	---	---
HYDROGEN	0.05	0.00	---	---
OXYGEN/ARGON	0.01	0.02	---	---
NITROGEN	1.3700	1.8900	---	---
CARBON DIOXIDE	0.02	0.04	---	---
METHANE	79.84510	63.22400	---	---
ETHANE	11.5236	17.1030	3.0912	3.0744
PROPANE	4.6499	10.1205	1.2852	1.2782
I-BUTANE	0.5332	1.5297	0.1750	0.1740
N-BUTANE	1.4527	4.1676	0.4596	0.4571
I-PENTANE	0.2707	0.9640	0.0995	0.0990
N-PENTANE	0.2091	0.7446	0.0764	0.0760
HEXANES PLUS	0.0457	0.1966	0.0170	0.0170
TOTALS	100.00000	100.00000	5.2039	5.1757

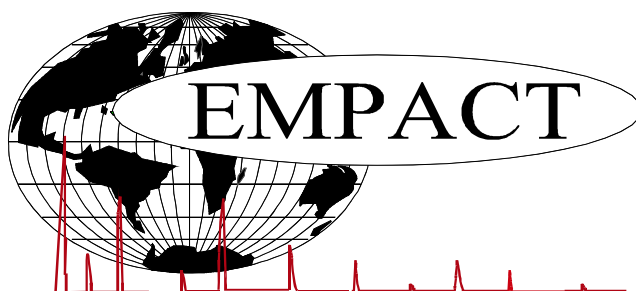
BTEX COMPONENTS	MOLE%	WT%	BTU @	14.730	14.650
BENZENE	0.0001	0.0004	LOW NET DRY REAL :	1105.9 /scf	1099.9 /scf
TOLUENE	0.0001	0.0004	NET WET REAL :	1086.7 /scf	1080.6 /scf
ETHYLBENZENE	0.0000	0.0000	HIGH GROSS DRY REAL :	1220.1 /scf	1213.5 /scf
XYLENES	0.0000	0.0000	GROSS WET REAL :	1198.9 /scf	1192.3 /scf
TOTAL BTEX	0.0002	0.0008	NET DRY REAL :	20716.0 /lb	20603.5 /lb
			GROSS DRY REAL :	22857.3 /lb	22733.2 /lb

(CALC: GPA STD 2145 & TP-17 @14.696 & 60 F)

*(DETAILED HYDROCARBON ANALYSIS/NJ 1993) ; ASTM D6730

RELATIVE DENSITY (AIR=1): 0.6995
COMPRESSIBILITY FACTOR : 0.99673

The data presented herein has been acquired by means of current analytical techniques and represents the judicious conclusion EMPACT Analytical Systems, Inc. Results of the analysis can be affected by the sampling conditions, therefore, are only warranted through proper lab protocol. EMPACT assumes no responsibility for interpretation or any consequences from application of the reported information and is the sole liability of the user. The reproduction in any media of this reported information may not be made, in portion or as a whole, without the written permission of EMPACT Analytical Systems, Inc.



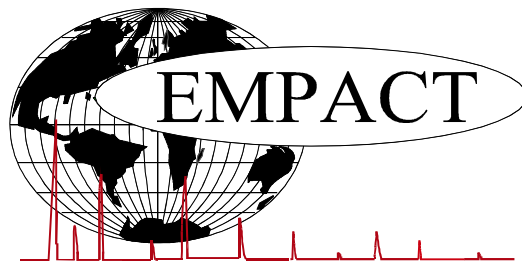
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GLYCALC INFORMATION

PROJECT NO. :	201606017	ANALYSIS NO. :	01
COMPANY NAME :	PDC ENERGY, INC	ANALYSIS DATE:	JUNE 04, 2016 09:35
ACCOUNT NO. :		SAMPLE DATE :	JUNE 2, 2016 16:15
PRODUCER :		CYLINDER NO. :	0228
LEASE NO. :		SAMPLED BY :	JOHN MOSER
NAME/DESCRIP :	JACOBUECCI 32K-44 BRADEN HEAD GAS		
FIELD DATA		SAMPLE TEMP. :	
SAMPLE PRES. :	650.0	AMBIENT TEMP.:	
COMMENTS :	NO PROBE SPOT		

Componet	Mole %	Wt %
Helium	0.02	0.00
Hydrogen	0.05	0.00
Carbon Dioxide	0.02	0.04
Nitrogen	1.37	1.89
Methane	79.84510	63.22400
Ethane	11.5236	17.1030
Propane	4.6499	10.1205
Isobutane	0.5332	1.5297
n-Butane	1.4527	4.1676
Isopentane	0.2706	0.9636
n-Pentane	0.2091	0.7446
Cyclopentane	0.0001	0.0004
n-Hexane	0.0111	0.0472
Cyclohexane	0.0003	0.0012
Other Hexanes	0.0306	0.1300
Heptanes	0.0026	0.0130
Methycyclohexane	0.0006	0.0029
2,2,4 Trimethylpentane	0.0000	0.0000
Benzene	0.0001	0.0004
Toluene	0.0001	0.0004
Ethylbenzene	0.0000	0.0000
Xylenes	0.0000	0.0000
C8+ Heavies	0.0003	0.0015
Subtotal	99.99000	99.98000
Oxygen/Argon	0.01	0.02
Total	100.00000	100.00000

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EXTENDED NATURAL GAS ANALYSIS (*DHA)

DHA COMPONENT LIST

PROJECT NO. : 201606017
 COMPANY NAME : PDC ENERGY, INC
 ACCOUNT NO. :
 PRODUCER :
 LEASE NO. :
 NAME/DESCRIP : JACOBUCCI 32K-44
 BRADEN HEAD GAS

ANALYSIS NO. : 01
 ANALYSIS DATE: JUNE 04, 2016 09:35
 SAMPLE DATE : JUNE 2, 2016 16:15
 CYLINDER NO. : 0228
 SAMPLED BY : JOHN MOSER

FIELD DATA

SAMPLE PRES. : 650.0
 COMMENTS : NO PROBE
 SPOT

SAMPLE TEMP. :
 AMBIENT TEMP.:

COMPONENT	PIANO #	MOLE %	MASS %	GPM @ 14.730	GPM @ 14.650
Helium	---	0.02	0.00	---	---
Hydrogen	---	0.05	0.00	---	---
Oxygen/Argon	---	0.01	0.02	---	---
Nitrogen	---	1.37	1.89	---	---
Carbon Dioxide	---	0.02	0.04	---	---
Methane	P1	79.84510	63.22400	---	---
Ethane	P2	11.5236	17.1030	3.091	3.074
Propane	P3	4.6499	10.1205	1.285	1.278
i-Butane	I4	0.5332	1.5297	0.175	0.174
n-Butane	P4	1.4526	4.1673	0.460	0.457
2,2-Dimethylpropane	I5	0.0025	0.0089	0.001	0.001
i-Pentane	I5	0.2681	0.9547	0.099	0.098
UnknownC4s	U4	0.0001	0.0003	0.000	0.000
n-Pentane	P5	0.2091	0.7446	0.076	0.076
2,2-Dimethylbutane	I6	0.0011	0.0047	0.000	0.000
Cyclopentane	N5	0.0001	0.0004	0.000	0.000
2,3-Dimethylbutane	I6	0.0024	0.0102	0.001	0.001
2-Methylpentane	I6	0.0195	0.0829	0.008	0.008
3-Methylpentane	I6	0.0065	0.0276	0.003	0.003
n-Hexane	P6	0.0111	0.0472	0.005	0.005
Methylcyclopentane	N6	0.0011	0.0046	0.000	0.000
2,4-Dimethylpentane	I7	0.0003	0.0015	0.000	0.000
Benzene	A6	0.0001	0.0004	0.000	0.000
Cyclohexane	N6	0.0003	0.0012	0.000	0.000
2-Methylhexane	I7	0.0005	0.0025	0.000	0.000
2,3-Dimethylpentane	I7	0.0001	0.0005	0.000	0.000
1,1-Dimethylcyclopentane	N7	0.0001	0.0005	0.000	0.000
3-Methylhexane	I7	0.0004	0.0020	0.000	0.000
1c,3-Dimethylcyclopentane	N7	0.0001	0.0005	0.000	0.000
1t,3-Dimethylcyclopentane	N7	0.0001	0.0005	0.000	0.000
1t,2-Dimethylcyclopentane	N7	0.0002	0.0010	0.000	0.000
n-Heptane	P7	0.0007	0.0035	0.000	0.000
Methylcyclohexane	N7	0.0006	0.0029	0.000	0.000
1,1,3-Trimethylcyclopentane	N7	0.0001	0.0005	0.000	0.000
Toluene	A7	0.0001	0.0004	0.000	0.000

2-Methylheptane	I8	0.0001	0.0005	0.000	0.000
1c,2t,3-Trimethylcyclopentane	N8	0.0001	0.0005	0.000	0.000
n-Octane	P8	0.0001	0.0005	0.000	0.000
TOTAL		<u>100.00000</u>	<u>100.00000</u>	<u>5.2039</u>	<u>5.1757</u>

BTEX COMPONENTS	MOLE%	WT%	BTU @	14.730	14.650
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