



PRIMARY DB KEY: NAME/DESCRIP : **BLACK COMB 5-14**
 LEASE #: GAS AT SEPARATOR

PROJECT NO. : **201712120** ANALYSIS NO. : **08**
 COMPANY NAME : **NIGHTHAWK PRODUCTION COMPANY** ANALYSIS DATE: **DECEMBER 27, 2017 09:53**
 OFFICE / BRANCH: **HIGHLANDS RANCH, CO** SAMPLE DATE : **DECEMBER 20, 2017 11:35**
 CUSTOMER REF: TO:
 PRODUCER : EFFECTIVE DATE:

FIELD DATA

SAMPLE CYCLE: SAMPLE TYPE: SPOT
 SAMPLE PRES. : 26 psig PROBE : NO
 FLOW PRES. : psig CYLINDER NO. : 0604
 LAB PRES: psig SAMPLED BY : JOHN MOSER
 SAMPLE TEMP. : 89 °f SAMPLING COMPANY: EMPACT
 AMBIENT TEMP.: °f H2S BY STAIN TUBE: **4.0** ppm
 H2O BY STAIN TUBE #/mmcf CO2 BY STAIN TUBE: Mol %

FIELD COMMENTS:
 LAB COMMENTS:

COMPONENTS	NORM. MOLE%	GPM @ 14.73	GPM @ 14.65
HELIUM	0.61	-	-
HYDROGEN	0.02	-	-
OXYGEN/ARGON	0.40	-	-
NITROGEN	50.65	-	-
CO2	2.11	-	-
METHANE	26.66	-	-
ETHANE	5.39	1.4449	1.4370
PROPANE	6.00	1.6569	1.6479
ISOBUTANE	1.10	0.3607	0.3588
N-BUTANE	3.65	1.1535	1.1472
ISOPENTANE	0.81	0.2964	0.2948
N-PENTANE	1.15	0.4180	0.4157
HEXANES+	1.45	0.6310	0.6276
TOTAL	100.00	5.9614	5.9290

BTU @ 60 DEG F

	14.73	14.65
GROSS DRY REAL =	827.4 /scf	822.9 /scf
GROSS SATURATED REAL =	813.0 /scf	808.5 /scf
RELATIVE DENSITY (AIR=1 @ 14.696 PSIA 60F)	1.013	
GRAVITY (LB/SCF)	0.07731	
COMPRESSIBILITY FACTOR :	0.99756	

NOTE: REFERENCE GPA 2261(ASTM D1945 & ASME-PTC), 2145, & 2172 CURRENT PUBLICATIONS

Reference: Per GPA 2172-14 sec 9

The C6+ is derived from the following ratios of C6, C7 & C8+ respectively: 60% 30% 10%

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.