



PRIMARY DB KEY: NAME/DESCRIP: **BIG SKY 5-11**  
 LEASE #: **GAS AT SEPARATOR**

PROJECT NO. : **201712120** ANALYSIS NO. : **02**  
 COMPANY NAME : **NIGHTHAWK PRODUCTION COMPANY** ANALYSIS DATE: **DECEMBER 27, 2017 07:55**  
 OFFICE / BRANCH: **HIGHLANDS RANCH, CO** SAMPLE DATE : **DECEMBER 20, 2017 09:10**  
 CUSTOMER REF: TO:  
 PRODUCER : EFFECTIVE DATE:

**\*\*\*FIELD DATA\*\*\***

SAMPLE CYCLE: SAMPLE TYPE: **SPOT**  
 SAMPLE PRES. : **30** psig PROBE : **NO**  
 FLOW PRES. : psig CYLINDER NO. : **0349**  
 LAB PRES: psig SAMPLED BY : **JOHN MOSER**  
 SAMPLE TEMP. : **68.4** °f SAMPLING COMPANY: **EMPACT**  
 AMBIENT TEMP.: °f H2S BY STAIN TUBE: **80.0** 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	0.83	-	-
HYDROGEN	0.03	-	-
OXYGEN/ARGON	0.41	-	-
NITROGEN	52.61	-	-
CO2	3.47	-	-
METHANE	26.25	-	-
ETHANE	3.21	0.8599	0.8552
PROPANE	5.14	1.4184	1.4107
ISOBUTANE	1.18	0.3867	0.3846
N-BUTANE	3.58	1.1311	1.1250
ISOPENTANE	0.84	0.3074	0.3057
N-PENTANE	1.12	0.4068	0.4046
HEXANES+	1.33	0.5786	0.5755
<b>TOTAL</b>	<b>100.00</b>	<b>5.0889</b>	<b>5.0613</b>

BTU @ 60 DEG F

	<b>14.73</b>	<b>14.65</b>
GROSS DRY REAL =	756.5 /scf	752.4 /scf
GROSS SATURATED REAL =	743.3 /scf	739.2 /scf
RELATIVE DENSITY (AIR=1 @ 14.696 PSIA 60F)	1.0111	
GRAVITY (LB/SCF)	0.07719	
COMPRESSIBILITY FACTOR :	0.99778	

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%**

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