EMPACT

NATURAL GAS ANALYSIS

PRIMARY DB KEY:		NAME/DESCRIP :	**KEYSTONE 3-7**
LEASE #:			**GAS AT SEPARATOR**
PROJECT NO. :	**201712120**		
COMPANY NAME :	**NIGHTHAWK PRODUCTION COMPANY**		
OFFICE / BRANCH:	HIGHLANDS RANCH, CO		
CUSTOMER REF:			
PRODUCER :			
FIELD DATA			
SAMPLE CYCLE:			
SAMPLE PRES. :	23 psig		
FLOW PRES. :	psig		
LAB PRES:	psig		
SAMPLE TEMP. :	88.1 °f		
AMBIENT TEMP.:	°f		
H2O BY STAIN TUBE	- #/mmcf		
FIELD COMMENTS:			
LAB COMMENTS:			

ANALYSIS NO. :	**12**		
ANALYSIS DATE:	DECEMBER 27, 2017 09:51		
SAMPLE DATE :	DECEMBER 20, 2017 12:50		
TO:			
EFFECTIVE DATE:			
SAMPLE TYPE:	SPOT		
PROBE :	NO		
CYLINDER NO. :	2069		
SAMPLED BY :	JOHN MOSER		
SAMPLING COMPANY:	EMPACT		
H2S BY STAIN TUBE:	**3.0** ppm		
CO2 BY STAIN TUBE:	- Mol %		

COMPONENTS	NORM. MOLE%	GPM @ 14.73	GPM @ 14.65
HELIUM	0.63	-	-
HYDROGEN	0.01	-	-
OXYGEN/ARGON	0.39	-	-
NITROGEN	46.28	-	-
CO2	3.24	-	-
METHANE	25.60	-	-
ETHANE	3.06	0.8206	0.8162
PROPANE	7.42	2.0506	2.0394
ISOBUTANE	2.02	0.6627	0.6591
N-BUTANE	5.76	1.8213	1.8114
ISOPENTANE	1.44	0.5280	0.5251
N-PENTANE	1.79	0.6507	0.6471
HEXANES+	2.36	1.0268	1.0212
TOTAL	100.00	7.5607	7.5195

BTU @ 60 DEG F	**14.73**	**14.65**
GROSS DRY REAL =	1009.3 **/scf**	1003.8 **/scf**
GROSS SATURATED REAL =	991.8 **/scf**	986.3 **/scf**

RELATIVE DENSITY (AIR=1 @14.696 PSIA 60F)	1.1012
GRAVITY (LB/SCF)	0.08404
COMPRESSIBILITY FACTOR :	0.99665

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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