

**NATURAL GAS ANALYSIS**

PRIMARY DB KEY: NAME/DESCRIP : SALEN 14-35  
 LEASE #:  
 FIELD/ AREA:

PROJECT NO. : 202207107 ANALYSIS NO. : 01  
 COMPANY NAME : GRAND MESA OPERATING ANALYSIS DATE: JULY 22, 2022 09:58  
 OFFICE / BRANCH: WICHITA, KS SAMPLE DATE : JULY 8, 2022  
 CUSTOMER REF: TO:  
 PRODUCER : EFFECTIVE DATE:

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

SAMPLE CYCLE: SAMPLE TYPE:  
 SAMPLE PRES. : psig PROBE :  
 FLOW PRES. : psig CYLINDER NO. : 1L TEDLAR  
 LAB PRES: psig SAMPLED BY :  
 SAMPLE TEMP. : °f SAMPLING COMPANY: GRAND MESA OPERATING  
 AMBIENT TEMP.: °f H2S BY STAIN TUBE: - ppm mol  
 H2O BY STAIN TUBE: - #/mmcf CO2 BY STAIN TUBE: - Mol %  
 FIELD COMMENTS:  
 LAB COMMENTS:

COMPONENTS	NORM. MOLE%	GPM @ 14.73	GPM @ 14.65
HELIUM	0.16	-	-
HYDROGEN	0.03	-	-
OXYGEN/ARGON	1.56	-	-
NITROGEN	23.41	-	-
CO2	1.23	-	-
METHANE	42.06	-	-
ETHANE	11.67	3.1334	3.1163
PROPANE	10.29	2.8465	2.8310
ISOBUTANE	2.10	0.6895	0.6857
N-BUTANE	4.81	1.5229	1.5146
ISOPENTANE	0.85	0.3120	0.3103
N-PENTANE	0.69	0.2506	0.2493
HEXANES+	1.14	0.4962	0.4935
<b>TOTAL</b>	<b>100.00</b>	<b>9.2511</b>	<b>9.2007</b>

BTU @ 60 DEG F

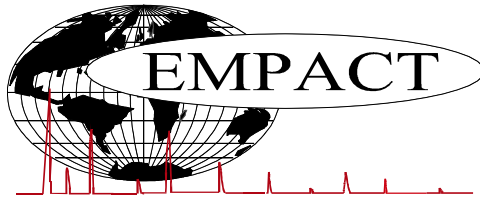
	<b>14.73</b>	<b>14.65</b>
GROSS DRY REAL =	1243.8 /scf	1237.0 /scf
GROSS SATURATED REAL =	1222.2 /scf	1215.4 /scf
RELATIVE DENSITY (AIR=1 @14.696 PSIA 60F)	0.9871	
DENSITY (lbm/scf)	0.07534	
COMPRESSIBILITY FACTOR :	0.9958	

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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**SULFUR IN NATURAL GAS ANALYSIS**

SN/PRIMARY DB KEY  
LEASE #/ PROJECT #:  
FIELD/AREA:

NAME/DESCRIP : SALEN 14-35

PROJECT NO. : **202207107**  
COMPANY NAME : **GRAND MESA OPERATING**  
OFFICE / BRANCH: **WICHITA, KS**  
CUSTOMER REF:  
PRODUCER :

ANALYSIS NO. : **01**  
ANALYSIS DATE: **JULY 22, 2022 10:08**  
SAMPLE DATE : **JULY 8, 2022**  
TO:  
EFFECTIVE DATE:

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

SAMPLE CYCLE:  
SAMPLE PRES. :                   psig  
FLOW PRES. :                   psig  
LAB PRES:                       psig  
SAMPLE TEMP. :                 °F  
AMBIENT TEMP.:                °F  
H2O BY STAIN TUBE:           -   #/mmcf  
FIELD COMMENTS:  
LAB COMMENTS:

SAMPLE TYPE:  
PROBE :  
CYLINDER NO. :                1L TEDLAR  
SAMPLED BY :  
SAMPLING COMPANY: GRAND MESA OPERATING  
H2S BY STAIN TUBE:           -       ppm mol  
CO2 BY STAIN TUBE:           -       Mol %

<u>COMPONENT</u>	<b>SULFUR</b>	
	<u>ppm mole (ul/L)</u>	<u>ppm wt (ug/g)</u>
Hydrogen Sulfide (H2S)	25.7	28.9
Carbonyl Sulfide (COS)/Sulfur Dioxide (SO2)	BDL	
Methanethiol (MeSH)	0.1	0.1
Ethanethiol (EtSH)	BDL	
Dimethylsulfide (DMS)	BDL	
Carbon Disulfide (CS2)	BDL	
i-Propanethiol (i-PrSH)	BDL	
t-Butanethiol (t-BuSH)	BDL	
n-Propanethiol (n-PrSH)	BDL	
Methylethylsulfide (MES)	BDL	
s-Butanethiol (s-BuSH)	BDL	
i-Butanethiol (i-BuSH)	BDL	
Thiophene (TP)	BDL	
Diethylsulfide (DES)	BDL	
n-Butanethiol (n-BuSH)	BDL	
Dimethyldisulfide (DMDS)	BDL	
Unidentified Sulfurs - Light Ends	BDL	
Methylthiophenes (MTP)	BDL	
2-Ethylthiophene (2-ETP)	BDL	
Methylethylsulfide (MEDS)	BDL	
Dimethylthiophenes (DMTP)	BDL	
Diethyldisulfide (DEDS)	BDL	
Benzothiophene (BzTP)	BDL	
Unidentified Sulfurs - Mid Range	BDL	
Methylbenzothiophenes (MBzTP)	BDL	
Dimethylbenzothiophenes (DMBzTP)	BDL	
Trimethylbenzothiophenes (TMBzTP)	BDL	
Dibenzothiophenes (DBzTP)	BDL	
Methyldibenzothiophenes (MDBzTP)	BDL	
<u>Unidentified Sulfurs - Heavy Ends</u>	<u>BDL</u>	
<b>TOTAL SULFUR</b>	<b>25.8</b>	<b>29.0</b>

<b>GRAINS OF H2S</b>	<b>1.6188 / 100 scf</b>	<b>TOTAL GRAINS OF SULFUR</b>	<b>1.5291 / 100 scf</b>
<b>POUNDS OF H2S</b>	<b>0.00231 / 1000 scf</b>	<b>TOTAL POUNDS OF SULFUR</b>	<b>0.0022 / 1000 scf</b>
<b>WT% OF H2S</b>	<b>0.00289 / 1000 scf</b>	<b>TOTAL WT% OF SULFUR</b>	<b>0.00290 / 1000 scf</b>

\* ASTM D5504      \*\* DETECTION LIMIT DETERMINED TO BE 0.1 ppm (ul/L) Sulfur - BDL (BELOW DETECTION LIMIT)  
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