



**SULFUR IN NATURAL GAS ANALYSIS**

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

NAME/DESCRIP : **HAWKINS RANCH 10-06A**  
**SALES GAS**

PROJECT NO. : **202205016**  
COMPANY NAME : **LARAMIE ENERGY, LLC**  
OFFICE / BRANCH: **GRAND JUNCTION, CO**  
CUSTOMER REF:  
PRODUCER :

ANALYSIS NO. : **01**  
ANALYSIS DATE: **MAY 04, 2022 10:19**  
SAMPLE DATE : **MAY 2, 2022 14:05**  
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:                   SPOT  
PROBE :                         YES  
CYLINDER NO. :                1L TEDLAR  
SAMPLED BY :                  GALE MCENDREE  
SAMPLING COMPANY: EMPACT  
H2S BY STAIN TUBE:           -       ppm mol  
CO2 BY STAIN TUBE:           -       Mol %

**COMPONENT**

**SULFUR**  
**ppm mole**  
**(ul/L)**

Hydrogen Sulfide (H2S)	9.1
Carbonyl Sulfide (COS)/Sulfur Dioxide (SO2)	BDL
Methanethiol (MeSH)	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>9.2</b>

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

*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.*