



SULFUR IN NATURAL GAS ANALYSIS

SN/PRIMARY DB KEY		NAME/DESCRIP :	HAWKINS RANCH
LEASE #/ PROJECT #:			HAWKINS RANCH 10-4B
FIELD/AREA:			SEPARATOR
PROJECT NO. :	202003118	ANALYSIS NO. :	02
COMPANY NAME :	LARAMIE ENERGY, LLC	ANALYSIS DATE:	MARCH 28, 2020 08:55
OFFICE / BRANCH:	GRAND JUNCTION, CO	SAMPLE DATE :	MARCH 23, 2020 11:30
CUSTOMER REF:		TO:	
PRODUCER :		EFFECTIVE DATE:	
FIELD DATA			
SAMPLE CYCLE:		SAMPLE TYPE:	SPOT
SAMPLE PRES. :	psig	PROBE :	
FLOW PRES. :	psig	CYLINDER NO. :	1L TEDLAR
LAB PRES:	psig	SAMPLED BY :	GALE MCENDREE
SAMPLE TEMP. : 69	°f	SAMPLING COMPANY:	EMPACT
AMBIENT TEMP.:	°f	H2S BY STAIN TUBE:	- ppm
H2O BY STAIN TUBE:	#/mmcf	CO2 BY STAIN TUBE:	- Mol %
FIELD COMMENTS:			
LAB COMMENTS:			

<u>COMPONENT</u>	<u>SULFUR ppm mole (ul/L)</u>
Hydrogen Sulfide (H2S)	13.6
Carbonyl Sulfide (COS)/Sulfur Dioxide (SO2)	BDL
Methanethiol (MeSH)	BDL
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
Methylethyldisulfide (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>
TOTAL SULFUR	13.6

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

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