

UNITED STATES DEPARTMENT OF THE INTERIOR • U.S. BUREAU OF MINES
 HELIUM FIELD OPERATIONS 801 S. FILLMORE AMARILLO, TEXAS 79101



REPORT OF ANALYSIS

CUSTOMER ADDRESS LIBOC, INC. 3300 SOUTH PARKER ROAD SUITE 3206 AURORA, CO 80014	CUSTOMER ORDER NUMBER	DATE
	LIBOC	11/27/95
	METHOD OF ANALYSIS:	
	MS, SHA	
	CHEMIST:	
	DBW, MA	
	CERTIFIED:	DATE

Well Name	GRABBE #1-3	GRABBE #1-3	GRABBE #1-3
Lab #	L-46976	L-46977A	L-46977B
Container	STEEL CYLINDER	CITRATE BOTTLE	CITRATE BOTTLE
Test #	1	1	1
Legal Description	3-16-18	3-16-18	3-16-18
County & State	Rush, KS	Rush, KS	Rush, KS
Formation	Krider/Winfield	Krider/Winfield	Krider/Winfield
Components			
Hydrogen	< 0.002 %	< 0.002 %	< 0.002 %
Helium	< 0.002 %	< 0.002 %	< 0.002 %
Methane	< 0.05 %	< 0.05 %	< 0.05 %
Nitrogen	78.49 %	78.48 %	78.45 %
Ethane	< 0.05 %	< 0.05 %	< 0.05 %
Oxygen	20.55 %	20.46 %	20.49 %
Hydrogen sulfide	< 0.05 %	< 0.05 %	< 0.05 %
Argon	0.91 %	0.91 %	0.91 %
Carbon dioxide	0.05 %	0.16 %	0.14 %
Propane	< 0.05 %	< 0.05 %	< 0.05 %
Isobutane	< 0.05 %	< 0.05 %	< 0.05 %
N-butane	< 0.05 %	< 0.05 %	< 0.05 %
Cyclopentane	< 0.05 %	< 0.05 %	< 0.05 %
Isopentane	< 0.05 %	< 0.05 %	< 0.05 %
N-pentane	< 0.05 %	< 0.05 %	< 0.05 %
Hexanes+	< 0.05 %	< 0.05 %	< 0.05 %
Specific Gravity	1.000	1.000	1.000
BTU	0	0	0

All values are in mole percent.

Tolerance is ± 5 % of reported value.

Instruments are calibrated using gravimetric gas standards prepared using Class M weights certified by NIST.

The second citrate bottle was analyzed due to a concentration of more than 0.1 % oxygen in the first bottle.