



CORE LABORATORIES, INC.

*Petroleum Reservoir Engineering*

DALLAS, TEXAS

August 7, 1957

REPLY TO  
706 PATTERSON BLDG.  
DENVER, COLORADO

Northern Natural Gas Producing Company  
202 Mile High Center  
Denver, Colorado

Subject: Core Analysis  
McKenzie-FLB-"A"-1 Well  
McKenzie Field  
Weld County, Colorado

Gentlemen:

Diamond coring equipment and oil emulsion mud were used to core the interval from 5942 to 5982 feet in the subject well. Engineers of Core Laboratories, Inc. selected and quick-froze samples of recovered formation and transported these samples to the Sterling laboratory for analysis. The results are presented in this report. A previous core analysis report issued under the date of July 26, 1957, contained data only on the first core from 5942 to 5954 feet. The present report discusses all formation recovered from the interval between 5942 and 5982 feet and should replace the reports originally issued to you.

"J" sand from 5942 to 5950 feet is impermeable and nonproductive.

From 5950 to 5967 feet, the "J" sand is characterized at permeable points by residual oil and total water saturations indicative of oil production. This zone contains eight feet of permeable sand with permeabilities ranging from 15 to 135 millidarcys and averaging 65 millidarcys. The total observed productive capacity is 520 millidarcy-feet, probably adequate to support satisfactory rates of oil production without the necessity of treatment. The average porosity of the permeable portions of the zone from 5950 to 5967 feet is 13.8 per cent, and the empirically calculated connate water saturation is 30 per cent of pore space.

Estimates of recoverable oil have been calculated for the "J" sand between 5950 and 5967 feet using the observed core analysis data from the