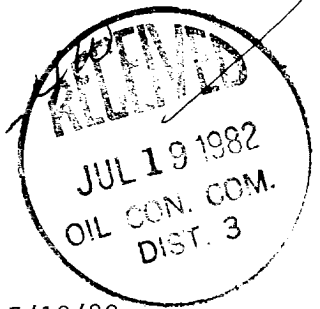


ARAPAHOE DRILLING CO.
P O BOX 26667
ALBUQUERQUE, NEW MEXICO 87125

STEVE SCHALK
GENERAL MANAGER



CHACE OIL COMPANY
313 WASHINGTON, SE
ALBUQUERQUE, NEW MEXICO 87108

TO WHOM IT MAY CONCERN:

THE FOLLOWING ARE THE DIRECTIONAL SURVEYS TAKEN DURING THE DRILLING OF
THE JICARILLA #70-15.

1/4" @		225'
1/4" @		532'
1/4" @		1088'
1/2" @		2136'
1/2" @		2659'
1/2" @		3120'
3/4" @		3552'
1/2" @		4019'
3/4" @		4513'
1" @		5129'
1" @		5473'
1" @		5985'
1" @		6574'
3/4" @		7208'

JOHN A. AHLM II

John A. Ahlm II
OFFICE MANAGER
ARAPAHOE DRILLING COMPANY

STATE OF NEW MEXICO)
)ss
COUNTY OF SAN JUAN)

Subscribed and sworn to before me,
this 12 day of July 1982.

(My Commission Will Expire JUNE-29-1985)

L. Coffman
Notary Public