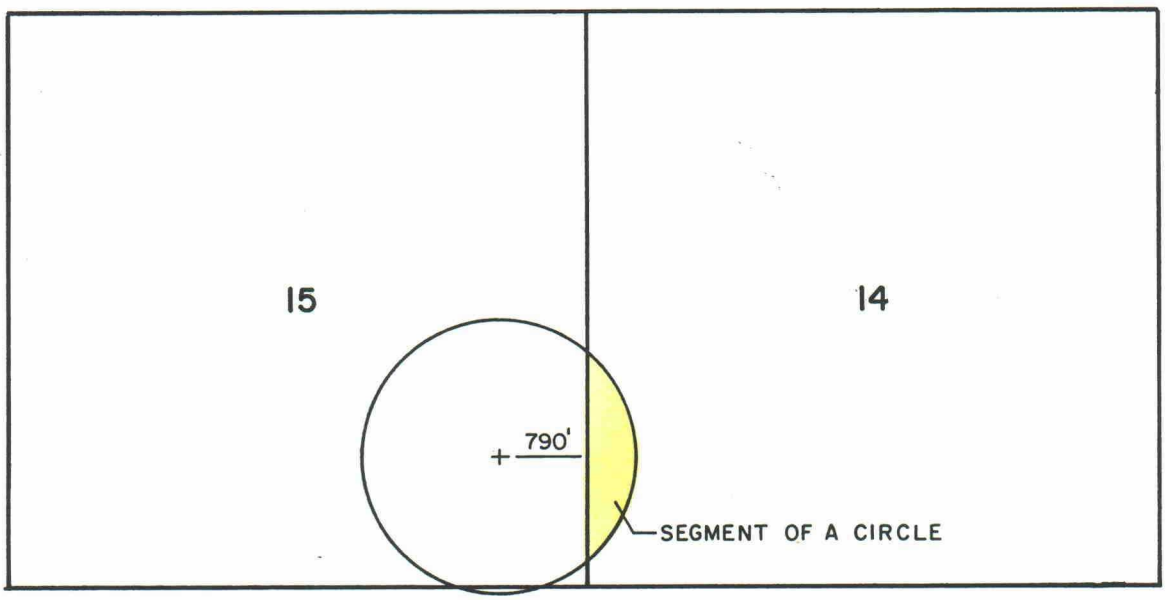
DRAINAGE OVERLAP



Yellow = AREA OF A SEGMENT = $R^2 \cos^{-1}\left(\frac{R-h}{R}\right) - (R-h) \cdot \sqrt{2Rh-h^2}$

$h = R-d$

R = Drainage Radius

d = distance of well to section line

MESA GRANDE RESOURCES, INC-MESA GRANDE LTD.

WEST LINDRITH GALLUP-DAKOTA——GAVILAN MANCOS BUFFER ZONE

BEFORE THE NEW MEXICO OIL CONSERVATION COMMISSION

CASE NO. 9226 & 9227 SCALE: 3"= 1 MILE

EXHIBIT NO. F-3 DATE:

COMPARISON OF DRAINAGE OVERLAP IN BUFFER ZONE OF

WEST LINDRITH GALLUP-DAKOTA OIL POOL

and

GAVILAN-MANCOS OIL POOL

POOL	DRAINAGE RADIUS (Acres)	SETBACK	OVERLAP (Acres)
West Lindrith	160	330'	41
West Lindrith	160	790'	33
Gavilan Mancos	187	790'	41
Gavilan Mancos	252 (1/2 of 505)	790'	57

MESA GRANDE RESOURCES, INC-MESA GRANDE LTD.
WEST LINDRITH GALLUP-DAKOTA——GAVILAN MANCOS BUFFER ZONE

BEFORE THE NEW MEXICO OIL CONSERVATION COMMISSION
CASE NO. 9226 & 9227
EXHIBIT NO. E-4A
DATE: