ODESSA, TEXAS 79762 4001 PENBROOK

EXPLORATION AND PRODUCTION GROUP Permian Basin Region

DD-102

November 11, 1994

RE: Application for Directional

Drilling

East Vacuum GB/SA Unit

Well No. 389

Section 33, T-17-S, R-35-E Lea County, New Mexico

State of New Mexico Energy and Minerals Department Oil Conservation Division 2040 S. Pacheco Santa Fe, New Mexico 87504

Attention: Mr. William J. LeMay, Director

Gentlemen:

We respectfully request approval to intentionally deviate our East Vacuum GB/SA Unit No. 389, as provided in Statewide Rule 111. The surface location of this well is 1339' FNL and 988' FEL, with an intended bottom hole location of 1020' FNL and 970' FEL at depth of 4700'. The top of the San Andres should be cut at 4373' TVD. This unorthodox surface location was selected because of the CO2 plant. The intended bottom hole location is an orthodox location.

Attached is a plat showing surface location and targeted bottom hole location.

This directional well shall be tested at least once every 500 feet or at the first bit change succeeding 500 feet. A tabulation of all deviation tests run, sworn to and notarized, shall be filed with Form C-104.

This well is located with in the central portion of the East Vacuum GB/SA Unit, therefore Phillips is its own offset operator. Your consideration and approval will be appreciated. Please direct any questions to me at (915) 368-1488.

M. Sanders, Supervisor

Régulatory Affairs

CASING & CEMENTING PROGRAM

EVGSAU-389

Well 389 kickoff point is approx. 2600' build to 12-3/4 deg. and hold

8 5/8" 24 lb/ft k-55 Surface Casing Set at 1625' - 12 1/4" Hole:

Lead to surface with 600 sx 75/25 Class "C" Pozmix + 4% gel + 2% CaCl₂

Slurry Weight:

13.5 ppg

Slurry Yield:

1.58 ft³/sx

Water Requirement:

7.99 gals/sx

Tail with 150 sx of Class "C" + 2% CaCl₂.

Slurry Weight:

14.8 ppg

Slurry Yield:

1.32 ft³/sx

Water Requirement:

6.3 gals/sx

5 1/2" 15.5 lb/ft J-55 Production Casing Set at 4700' - 7 7/8" Hole:

Lead:

500 sx Class "C" 65/35 Poz + 6% Gel + 3% Salt. Desired

TOC = Surface.

Slurry Weight:

12.8 ppg

Slurry Yield:

1.85 ft³/sx

Water Requirement:

9.9 gals/sx

Tail: 350 sx Class "C" 50/50 Poz + 0.5% Halad-9 + 1.5% CaCl2. Desired TOC = 4000'.

Slurry Weight:

14.6 ppg

Slurry Yield:

1.15 ft³/sx

Water Requirement:

5.0 gals/sx

MUD PROGRAM

EVGSAU -389

SOLIDS ADDITIVES	FW Gel + Lime for spud mud.	- Native Solids + Paper Sweeps before reaching pay zone. Circulate hole at TD prior to logging.	
CL PPM	Fresh Water	Saturated	
FLUID LOSS			
VISCOSITY	.8 - 36 sec/1000cc	28 - 32 sec/1000cc	
MIID WEIGHT	Surf - 1625' 8.3 - 9.0 ppg 28 - 36 sec/10		
DEDTH	Surf - 1625	1625' - 4700' 10.0 ppg	

