

8224

Tenanco

Exhibits

1 thru 5

## REQUIREMENTS FOR ADEQUATE STUDY

1. ✓ Inventory water wells and oil and gas wells.
2. Map areas of vulnerable ground water based upon accepted criteria such as: *define*  
  
Depth of Ground Water  
Lithology of the Unsaturated zone  
Transmissivity and Hydraulic Conductivity of the Aquifer
3. Within vulnerable area perform a statistically accurate sampling of wellsites.
4. Evaluate each wellsite for the above criteria as well as:  
  
Chemistry of Produced Water  
Volume of Produced Water
5. Analyze data collected from field study to determine populations within the sample.
6. Select several sites based upon the populations to perform detailed field studies.
7. History of the site where the pits are (were) etc.  
Long term monitoring of volume of water produced.  
Long term monitoring of chemistry of produced water.  
Installation of ground water monitoring network.  
Installation of unsaturated zone monitoring network.  
Chemical analysis of ground water.  
Definition of the hydrogeologic site conditions (sat and unsat).
8. Based upon data collected from several sites and the random sampling perform computer modeling to determine potential impacts to ground water also to reduce the required number of field studies.
9. Calibrate the computer model with field data.

If field data permit calibration of the model should include consideration of the following factors in defining source term:

Attenuation  
Volitalization  
Bio degradation

BEFORE THE	
OIL CONSERVATION COMMISSION	
Santo Domingo, Nariño	
Case No.	8224
Submitted by	TCO
Hearing Date	4/22/85