

POWER GRAYBURG UNIT  
ATTACHMENT TO FORM C-108  
ITEM NO. VII  
INJECTION DATA

1. The daily average rate for each injection well is 375 bbls. per day. A maximum rate of 500 bbls. per day will be injected during fillup. A total volume of 2,700,000 barrels of make-up water will be injected and an equal volume of produced water.
2. The system will be closed.
3. Average injection pressure is 600 - 800 psi. Maximum injection pressure is 1,000 psi.
4. Analysis of water from producing formation is attached. Injection water is fresh and will be compatible with the produced water and formation.
5. Injection data:
  - ARCO #1 - U New Mexico: Perfs 3,415' - 3,449'. Fraced with 18,000 gallons water and 3 lbs. sand/gallon. Injection rate 380 BPD at 1,000 psi. Total injected - 600,000 barrels produced and fresh.
  - Eastland Kenwood Fed #4: Injection perfs. 3,506' - 3,598'. Fraced with 30,000 gallons water frac and 33,000 lbs. sand. Injection rate: maximum - 360 BPD at 875 psi., Average - 240 BPD at 750 psi. Total injected - 250,000 barrels produced.

ITEM NO. VIII  
GEOLOGICAL DATA

1. Injection Zone - Grayburg sands. Cross sections attached.
2. Drinking water - none within radius of two miles around injection wells. All produced water has solids content in excess of 10,000 mg/liter. Penrose formation is immediately above Grayburg and San Andres immediately below. All stock water is hauled into area of proposed unit.

ITEM NO. IX  
STIMULATION PROGRAM

1. Wells are treated with limited entry in three sand zones usually in the amount of 30,000 gallons water frac with 1 lb. sand/gallon at rates of 25 BPM.

ITEM NO. X  
LOGGING

1. All logs of wells in Unit have been submitted to Federal agency with a copy for OCD.

ITEM NO. XI

1. No fresh water wells within two miles of injection wells.

## HALLIBURTON DIVISION LABORATORY

HALLIBURTON SERVICES

MIDLAND DIVISION

ARTESIA, NEW MEXICO 88210

LABORATORY WATER ANALYSIS No. W678 &amp; W679-85

To: Mr. George NealDate December 5, 1985The Eastland Oil CompanyP. O. Box 3485Midland, TX 79702

This report is the property of Halliburton Company and neither it nor any part thereof nor a copy thereof is to be published or disclosed without first securing the express written approval of laboratory management; it may however, be used in the course of regular business operations by any person or concern and employees thereof receiving such report from Halliburton Company.

Submitted by Jon SmithDate Rec. December 5, 1985

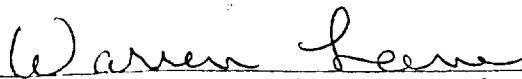
Well No. \_\_\_\_\_ Depth \_\_\_\_\_ Formation \_\_\_\_\_

County \_\_\_\_\_ Field \_\_\_\_\_ Source \_\_\_\_\_

	<u>Kenwood Fed. #1</u>	<u>Sibyl Fed. #3</u>	
Resistivity	<u>.07 @ 70°</u>	<u>.06 @ 70°</u>	
Specific Gravity	<u>1.08 @ 60°</u>	<u>1.10 @ 60°</u>	
pH	<u>8.5</u>	<u>9.0</u>	
Calcium (Ca)	<u>2,775</u>	<u>3,660</u>	<u>*MPL</u>
Magnesium (Mg)	<u>3,370</u>	<u>3,500</u>	
Chlorides (Cl)	<u>72,000</u>	<u>92,000</u>	
Sulfates (SO <sub>4</sub> )	<u>Medium</u>	<u>Medium</u>	
Bicarbonates (HCO <sub>3</sub> )			
Soluble Iron (Fe)	<u>Nil</u>	<u>Nil</u>	

Remarks:

\*Milligrams per liter



Respectfully submitted,

 Analyst: Warren Lane - Field Engineer  
 cc:

HALLIBURTON COMPANY

## NOTICE

This report is limited to the described sample tested. Any user of this report agrees that Halliburton shall not be liable for any loss or damage, whether it be to act or omission, resulting from such report or its use.