THE WESTERN COMPANY
Service Laboratory
West Highway 80

Midland, Texas

Phone MU 3-2781 Day or Night

WATER ANALYSIS

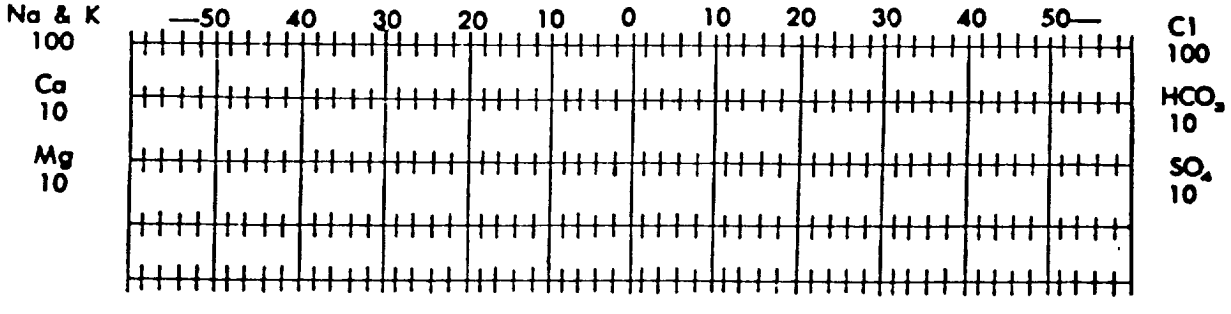
Operator	Carter Foundation	Date Sampled	
Well	Hill No. 7	Date Received	11-14-65
Field	Teague	Submitted by	Kermit District
Formation	Santa Rosa	Worked by	Bob Jones
Depth	661-681'	Other Description	
County	Lee, New Mexico		

CHEMICAL DETERMINATIONS

Density	1.005 @ 75°F.	pH	7.3
Iron	No Trace	Hydrogen Sulfide	None
Sodium and Potassium	900 ppm	Bicarbonate	366 ppm
Calcium	160 ppm	Sulfate	1,500 ppm
Magnesium	140 ppm	Phosphate	ppm
Chloride	800 ppm	as Sodium Chloride	ppm

Remarks:

for Stiff type plot (in meq./l.)



Per _____

VIII.

GEOLOGICAL DATA

The wells in this area of the Langlie Mattix Pool have encountered oil and gas zones within the Penrose Sand section of the Queen formation. In a 1968 secondary recovery study prepared by Skelly Oil Company (now Getty Oil Company), an east-west cross section depicts the producing zone changes. In this section the westerly wells produce from the Seven Rivers with gradational changes to the east to the Upper Queen and then to the Penrose Sand section of the Lower Queen.

This report also shows that of eight Penrose wells cored, the average permeability was 5.7 millidarcies with an average posority of 14.2% and a residual oil saturation of 10.1%.

Of the subject injectors, the G. H. Mattix #5 was cored from 3430' to 3633'. The overall pay section was 169' with 58' of net pay. The average porosity was 7.33% with an average permeability of 0.67 millidarcies. In addition, the G. H. Mattix #6 was cored from 3450' to 3605'. The overall pay section of this well was 120' with 41' of net pay. The average porosity was 10.71% with an average permeability of 0.97 millidarcies. The average oil saturation in both of the cored intervals was extremely low, varying from a trace to 20.4%. Volumetric recovery calculations of the oil in place and the recoverable oil are not considered a correct indication of the probable oil reserves. This conclusion is verified by the fact that the six older wells on the G. H. Mattix Lease through the year of 1981 had produced approximately 302,000 barrels or 50,330 barrels of oil per well. It must be assumed that either at the time the Carter Foundation Production Company cores were taken, the degree of reservoir depletion created the low oil saturations, or that fractures within the Penrose are an important part of the reservoir oil voidage. The lithology of the subject wells consists of interbedded sand in dolomite and sandy dolomite. The oil pay occurrence is both in the sand and dolomite facies.

The depth of the presently produced drinkable water well within a mile of these proposed injection wells is 120'. In the southwest part of Unit D, Section 35, T-23-S, R-37-E, the Carter Foundation Production Company has developed a Santa Rosa water supply well at a depth of 681'. The water produced from this well is not considered potable.

IX.

PROPOSED STIMULATION

The G. H. Mattix #2 well was "shot" with 620 quarts of nitroglycerine in February of 1951. Subsequently, in June 1957 the well was fraced with 20,000 gallons/1-1/2# sand per gallon. The #5 well in November 1961 was acidized and later fraced with 30,000 gallons/1-1/2# sand per gallon. The #6 well in November 1961 was acidized and later fraced with 37,500 gallons of lease crude with 56,250# sand.

No additional stimulation is anticipated unless the injection pressures prove excessive.

X.

WELL TEST DATA
(Taken from Scheduled GOR Tests)

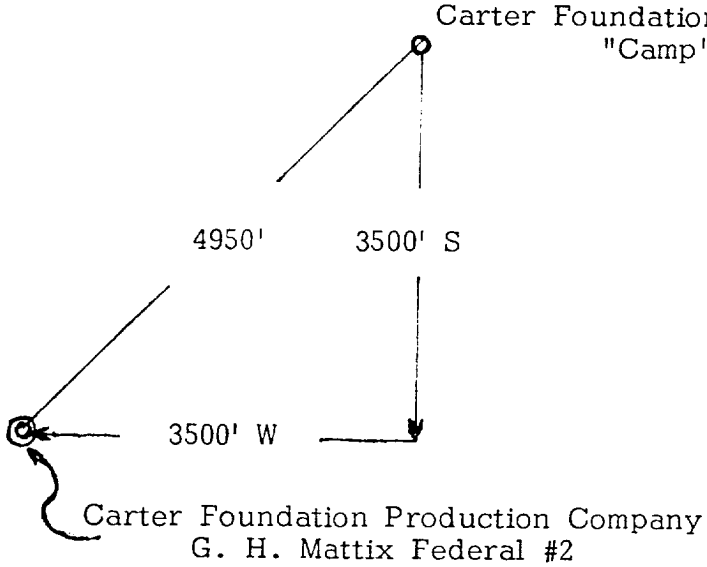
Operator, Lease & Well No.	Date of Test	Length of Test, Hrs.	Production During Test: Water Bbls.	Oil Bbls.	Gas MCF	GOR Cu.Ft./Bbl.
Carter Foundation Production Company						
G. H. Mattix Federal (032339) Well #2 3-24S-37E (Unit C)		Closed In				
G. H. Mattix Federal (032339) Well #5 3-24S-37E (Unit E)	2-10-82	24	1	1.38	3.4	2463
G. H. Mattix Federal (032339) Well #6 3-24S-37E (Unit O)		Closed In				

No well logs are available on these wells.

XI.

LOCATION OF FRESH WATER WELL

Only one fresh water well is within a one-mile radius of one of the proposed injection wells. This well is used for domestic water for the Carter Foundation Production Company camp and is located in the southwest corner of Unit E, Section 35, T-23-S, R-37-E in the camp area. The well is pumped by a downhole centrifical pump at an approximate depth of 120'.



REBBCO
CHEMICALS, INC.

915 1-2595

OFFICE & PLANT
15301 WEST UNIVERSITY

P. O. BOX 6305
ODESSA, TEXAS 79760

WATER ANALYSIS REPORT

COMPANY CARTER FOUNDATION ADDRESS JAL, NEW MEXICO

LEASE H_2O WELL DATE SAMPLED 7/1/82

ANALYSIS		PPM or Mg/L	EPM or Meq./L	Ionic PPM	
1. PH	7.35				
2. H_2S	Neg.				
3. CO_2	Pos.				
4. Specific Gravity	1.0002				
5. Phenol Alkalinity ($CaCO_3$)		0.0			
6. M.P. Alkalinity ($CaCO_3$)		60.0			
7. Bicarbonate ($CaCO_3$)		60.0	1.2	HCO_3	73.2
8. Chlorides (Cl)		200.0	5.6	CL	200.0
9. Sulphates (SO_4)		425.0	8.9	SO_4	425.0
10. Total Hardness ($CaCO_3$)		375.0			
11. Calcium ($CaCO_3$)		275.0	5.5	Ca	110.0
12. Magnesium ($CaCO_3$)		100.0	2.0	Mg	24.4
13. Sodium (Na)			8.2	Na	188.6
14. Barium (Ba)				Ba	8.0
15. Iron (Fe)					TRACE
16. Total Disolved Solids					1,029.2

Remarks:

Lonnie Stahl
REPRESENTATIVE

Chemicals for the Petroleum Industry

XIII.

AFFIDAVIT OF PUBLICATION

COUNTY OF LEA)
STATE OF NEW MEXICO)

I, Robert L. Simmons (Name), PUBLISHER (Title)

of the Hobbs News Sun, a daily newspaper published at Hobbs, New Mexico, do solemnly swear that the clipping hereto attached was published for a period of One Day in the issue dated _____, 1982.

Sworn and subscribed to before me this 28TH day of JUNE, 1982.

Lorette Naegele
Notary Public

My commission expires March 29, 1986.

LEGAL NOTICE
JUNE 28, 1982

The Carter Foundation Production Company intends to convert for secondary recovery purposes their G. H. Mattix Federal #2, #5 and #6 to water injection wells. These wells are located in Section 3, Township 24-South, Range 37-East, Langlie Mattix 7-Rivers Queen Grayburg Field, Lea County, New Mexico.

The injection interval is in the Penrose Queen formation at the following depths: Well #2 3309'-3605' (Open Hole); Well #5 3496'-3614' (Perforations); and, Well #6 3496'-3646' (Perforations). The maximum anticipated injection rate is 12,400 barrels per well per month at 1600 psi. Maximum anticipated volume is 400 barrels per well per day.

Interested parties must file objections or requests for hearing with the Oil Conservation Division, P. O. Box 2088, Santa Fe, New Mexico 87501 within 15 days.