PLAINS
PETROLEUM
OPERATING
COMPANY

February 5, 1993

New Mexico Oil Conservation District
P. O. Box 1980
Hobbs, New Mexico 88240

Re: Application for Authorization to Inject
G.H. Mattix Federal No. 7
1980' FSL & 1980' FWL, Sec 3-T24S-R37E
Lea County, New Mexico

Dear Sirs:

Please find enclosed an Application for Authorization to Inject for the above wells. This well is an expansion of the G. H. Mattix Federal Waterflood Project that was originally approved by the Oil Conservation Commission on September 30, 1982 with Order No. R-7082. Should you have any questions in regard to this application, please call me at (915) 683-4434.

Sincerely yours,

Plains Petroleum Operating Company

Mark A. Nieberding
Petroleum Engineer

cc: Well File
Reading File

415 WEST WALL STREET, SUITE 1000 MIDLAND, TX 79701 (915) 683-4434

PLAINS
PETROLEUM
OPERATING
COMPANY

February 5, 1993

New Mexico Oil Conservation District
P. O. Box 2088
State Land Office Building
Santa Fe, New Mexico 87501

Re: Application for Authorization to Inject
G.H. Mattix Federal No. 7
1980' FSL & 1980' FWL, Sec 3-T24S-R37E
Lea County, New Mexico

Dear Sirs:

Please find enclosed an Application for Authorization to Inject for the above wells. This well is an expansion of the G. H. Mattix Federal Waterflood Project that was originally approved by the Oil Conservation Commission on September 30, 1982 with Order No. R-7082. Should you have any questions in regard to this application, please call me at (915) 683-4434.

Sincerely yours,

Plains Petroleum Operating Company

Mark A. Nieberding
Petroleum Engineer

cc: Well File
Reading File

115 WEST WALL STREET, SUITE 1000 MIDLAND, TX 79701 (915) 683-4434

PLAINS
PETROLEUM
OPERATING
COMPANY

February 5, 1993

Bureau of Land Management
P. O. Box 1778
Carlsbad, NM 88221

Re: Application for Authorization to Inject
G.H. Mattix Federal No. 7
1980' FSL & 1980' FWL, Sec 3-T24S-R37E
Lea County, New Mexico

Dear Sirs:

Plains Petroleum Operating Company respectfully submits the enclosed an Application for Authorization to Inject for the above well. The conversion of this well from producer to water injector will be an expansion of the G. H. Mattix Federal Waterflood Project that was originally approved by the Oil Conservation Commission on September 30,1982 with Order No. R-7082. Should you have any questions in regard to this application, please call me at (915) 683-4434.

Sincerely yours,

Plains Petroleum Operating Company

Mark A. Nieberding
Petroleum Engineer

cc: Well File
Reading File

415 WEST WALL STREET, SUITE 1000 MIDLAND, TX 79701 (915) 683-4434

STATE OF NEW MEXIC
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION
POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501

FORM C-108
Revised 7-1-81

APPLICATION FOR AUTHORIZATION TO INJECT

I. Purpose: ☒ Secondary Recovery ☐ Pressure Maintenance ☐ Disposal ☐ Storage
Application qualifies for administrative approval? ☐ yes ☐ no

II. Operator: Plains Petroleum Operating Company

Address: 415 West Wall, Suite 1000, Midland, TX 79701

Contact party: Mark A. Nieberding Phone: 915/683-4434

III. Well data: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.

IV. Is this an expansion of an existing project? ☒ yes ☐ no
If yes, give the Division order number authorizing the project R-7082.

V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.

* VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.

VII. Attach data on the proposed operation, including:

1. Proposed average and maximum daily rate and volume of fluids to be injected;
2. Whether the system is open or closed;
3. Proposed average and maximum injection pressure;
4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and
5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).

*VIII. Attach appropriate geological data on the injection zone including appropriate lithologic detail, geological name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such source known to be immediately underlying the injection interval.

IX. Describe the proposed stimulation program, if any.

* X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division they need not be resubmitted.)

* XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.

XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.

XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.

XIV. Certification

I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

Name: Mark A. Nieberding Title Petroleum Engineer

Signature: Mark A Nieberding Date: 2/16/93

* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be duplicated and resubmitted. Please show the date and circumstance of the earlier submittal.

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate Division district office.

APPLICATION FOR AUTHORIZATION TO INJECT
G. H. MATTIX FEDERAL #7
LEA COUNTY, NEW MEXICO
February 5, 1993

In addition with Form C-108, Application for Authorization to Inject for the subject well, Plains Petroleum Operating Company submits the following typical well data in accordance with NMOCD requirements.

III. Well Data

See the attached Well Data sheets.

VI. Tabulation of Offsetting Well Data

The attached data sheets provide a description of all of the wells within a 1/2 mile radius around the subject well that penetrate the Queen-Penrose interval. The 1/2 mile circle was used because the subject well are an expansion of an existing approved waterflood project and is surrounded by other waterflood projects in operation within the Queen-Penrose interval.

VII. Proposed Operating Conditions:

1. Average and Maximum Daily Rate:	400, 1000 BWPD
2. Water Injection System Configuration:	Open
3. Average and Maximum Injection Pressure:	1500 psig
4. Sources of Injection Fluids:	Produced and Fresh water
5. Water Injection Purpose:	Secondary Oil Recovery

VIII. Geological Data:

The injection zone in the Queen-Penrose between 3400 and 3800′ consists of fine grained quartzose sandstone. The fresh water source is the Santa Rosa Formation between 350 and 650′. This unit is comprised of medium grained sandstone units of variable thickness and lateral extent.

IX. Proposed Stimulation Program:

The proposed injection well will be stimulated with approximately 10,000 gals 15% NEFE HCl acid upon conversion. Thereafter, maintenance of injectivity will be obtained with smaller volume acid stimulation treatments as needed.

X. Logging or Test Data:

Upon drilling and completing the wells, injectivity test data and well logs will be acquired, reported, and submitted to the appropriate Federal and State offices.

XI. Analysis of Fresh Water:

Attached is a chemical analysis of the fresh water produced from the E. C. Hill 'B' No. 7 WSW located 990' FNL & 330' FWL of Section 35-T23S-R37E. The well is currently producing from the Santa Rosa formation with perforations between 580' to 681'.

XIV. Proof of Notice:

Attached are copies of the certified mail receipts to the surface owner and offsetting leasehold operators within the 1/2 mile radii of the subject wells. In addition, a proof of publication is attached to show that a public advertisement has been published in the Hobbs Sun on September 23, 1992.

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 7662
Order No. R-7082

APPLICATION OF CARTER FOUNDATION
PRODUCTION COMPANY FOR A WATERFLOOD
PROJECT, LEA COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on September 1, 1982, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 30th day of September, 1982, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, Carter Foundation Company, seeks authority to expand its Bline-Cade Waterflood Project in the Langlie Mattix Pool, by the injection of water into the Queen formation through its Mattix Federal Wells Nos. 2, 5, 6 located in Units C, E, and O, respectively,in Section 3, Township 24 South, Range 37 East, NMPM, Lea County, New Mexico.

(3) That the proposed injection is not an expansion of said Bline-Cade project but is in fact a new project.

(4) That the wells in the project area are in an advanced state of depletion and should properly be classified as "stripper" wells.

(5) That the proposed waterflood project should result in the recovery of otherwise unrecoverable oil, thereby preventing waste.

(6) That the operator should take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface from injection, production, or plugged and abandoned wells.

(7) That the injection wells or injection pressurization system should be so equipped as to limit injection pressure at the wellhead to no more than 900 psi, but the Division Director should have authority to increase said pressure limitation, should circumstances warrant.

(7) That the subject application should be approved and the project should be governed by the provisions of Rules 702 through 708 of the Division Rules and Regulations.

IT IS THEREFORE ORDERED:

(1) That the applicant, Carter Foundation Production Company, is hereby authorized to institute a waterflood project on its Mattix Federal Lease, Langlie Mattix Pool, by the injection of water into the Queen formation through its Mattix Federal Wells Nos. 2, 5, and 6, located in Units C, E, and O, respectively, in Section 3, Township 24 South, Range 37 East, NMPM, Lea County, New Mexico.

(2) That injection into each of said wells shall be through internally coated tubing, set in a packer which shall be located as near as practicable to the uppermost perforation or in the case of an open hole completion, the casing shoe; that the casing-tubing annulus of each injection well shall be loaded with an inert fluid and equipped with an approved pressure gauge or attention-attracting leak detection device.

(3) That the operator shall immediately notify the supervisor of the Division's Hobbs district office of the failure of the tubing or packer in any of said injection wells, the leakage of water or oil from around any producing well, or the leakage of water or oil from any plugged and abandoned well within the project area and shall take such timely steps as may be necessary or required to correct such failure or leakage.

(4) That the injection wells herein authorized and/or the injection pressurization system shall be so equipped as to limit injection pressure at the wellhead to no more than 900 psi, provided however, the Division Director may authorize a higher surface injection pressure upon satisfactory showing that such pressure will not result in fracturing of the confining strata.

(5) That the subject waterflood project is hereby designated the Carter-Mattix Waterflood Project and shall be governed by the provisions of Rules 701 through 708 of the Division Rules and Regulations.

(6) That monthly progress reports of the waterflood project herein authorized shall be submitted to the Division in accordance with Rules 706 and 1115 of the Division Rules and Regulations.

(7) That jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

JOE D. RAMEY,
Director

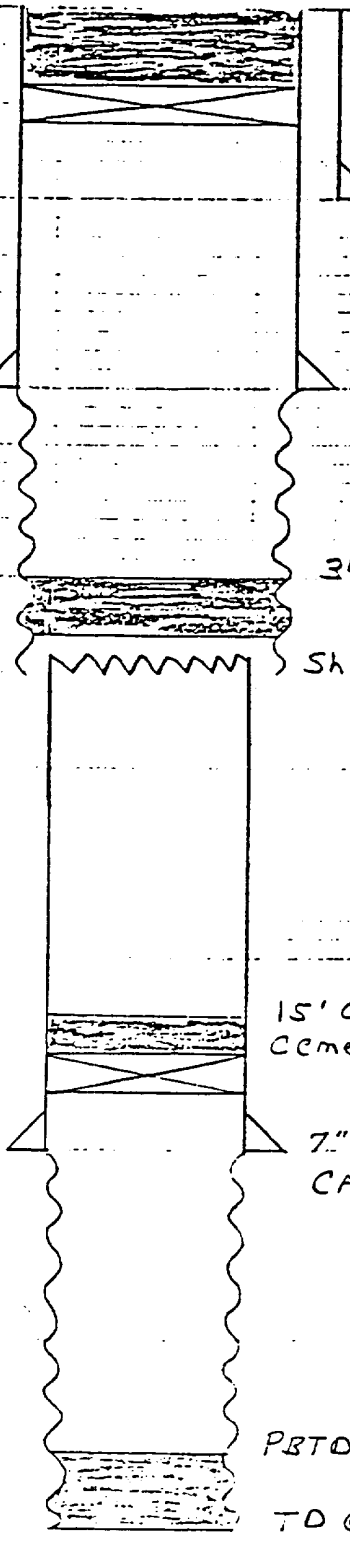
S E A L

GULF OIL CORP. VI.

S.J.C. R NO. 1

UL L, Sec. 3-T24S-R37E

P+A 4/52



13 SX Cement Plug SURFACE - 25'

Bridge Plug @ 25'

15½ CSG. @ 148' NOT Cemented

10 3/4 CSG @ 1237' Cemented W/250 SXS

Cement TOP @ SURFACE

34 SX Cement PLUG 2445'-2520'

Shot 7" CSG. OFF @ 2554' ± PULLED

15' OF Cement ON TOP OF Retainer

Cement Retainer @ 3466' Squeezed 20 SXS Below Retainer

7" CSG. @ 3484' Cemented W/100 SXS.

CALC. Cement TOP @ 2600'

PBTD @ 3625'

TD @ 3386'

ENERGY AND MINERALS DEPARTMENT

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501

Revised 7-1-81

APPLICATION FOR AUTHORIZATION TO INJECT

I. Purpose: [X] Secondary Recovery [ ] Pressure Maintenance [ ] Disposal [ ] Storage
Application qualifies for administrative approval? [X] yes [ ] no

II. Operator: Carter Foundation Production Company

Address: 901 W. Missouri, Midland, Texas 79701

Contact party: Robert D. Fitting Phone: (915) 683-4616

III. Well data: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.

IV. Is this an expansion of an existing project? [X] yes [ ] no
If yes, give the Division order number authorizing the project R-3027.

V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.

* VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.

VII. Attach data on the proposed operation, including:

1. Proposed average and maximum daily rate and volume of fluids to be injected;
2. Whether the system is open or closed;
3. Proposed average and maximum injection pressure;
4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and
5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).

*VIII. Attach appropriate geological data on the injection zone including appropriate lithologic detail, geological name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such source known to be immediately underlying the injection interval.

IX. Describe the proposed stimulation program, if any.

* X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division they need not be resubmitted.)

* XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.

XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.

XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.

XIV. Certification

I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

Name: Robert D. Fitting Title Agent

Signature: Robert D. Fitting Date: 7-7-82

* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be duplicated and resubmitted. Please show the date and circumstance of the earlier submittal.

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate Division district office.

Petroleum Engineering & Geological Consultants
MIDLAND, TEXAS 79701

July 7, 1982

CERTIFIED - RETURN RECEIPT

Getty Oil Company
P. O. Box 1231
Midland, Texas 79702

Re: Carter Foundation Production Company,
G. H. Mattix Federal #2, #5 and #6,
Section 3, T-24-S, R-37-E,
Lea County, New Mexico

Gentlemen:

The Carter Foundation Production Company is in the process of making application to convert the above wells to water injection service. The New Mexico Oil Conservation Division requires that a copy of this application be furnished all offset operators. The enclosed application is being mailed this date to the New Mexico Oil Conservation Division in Santa Fe.

Should you have any questions concerning this application, you may contact us at the address shown above.

Yours very truly,

CARTER FOUNDATION PRODUCTION COMPANY

By: Robert D. Fitting
Robert D. Fitting, Agent

RDF:jd
Encl -

Pay Interval

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.

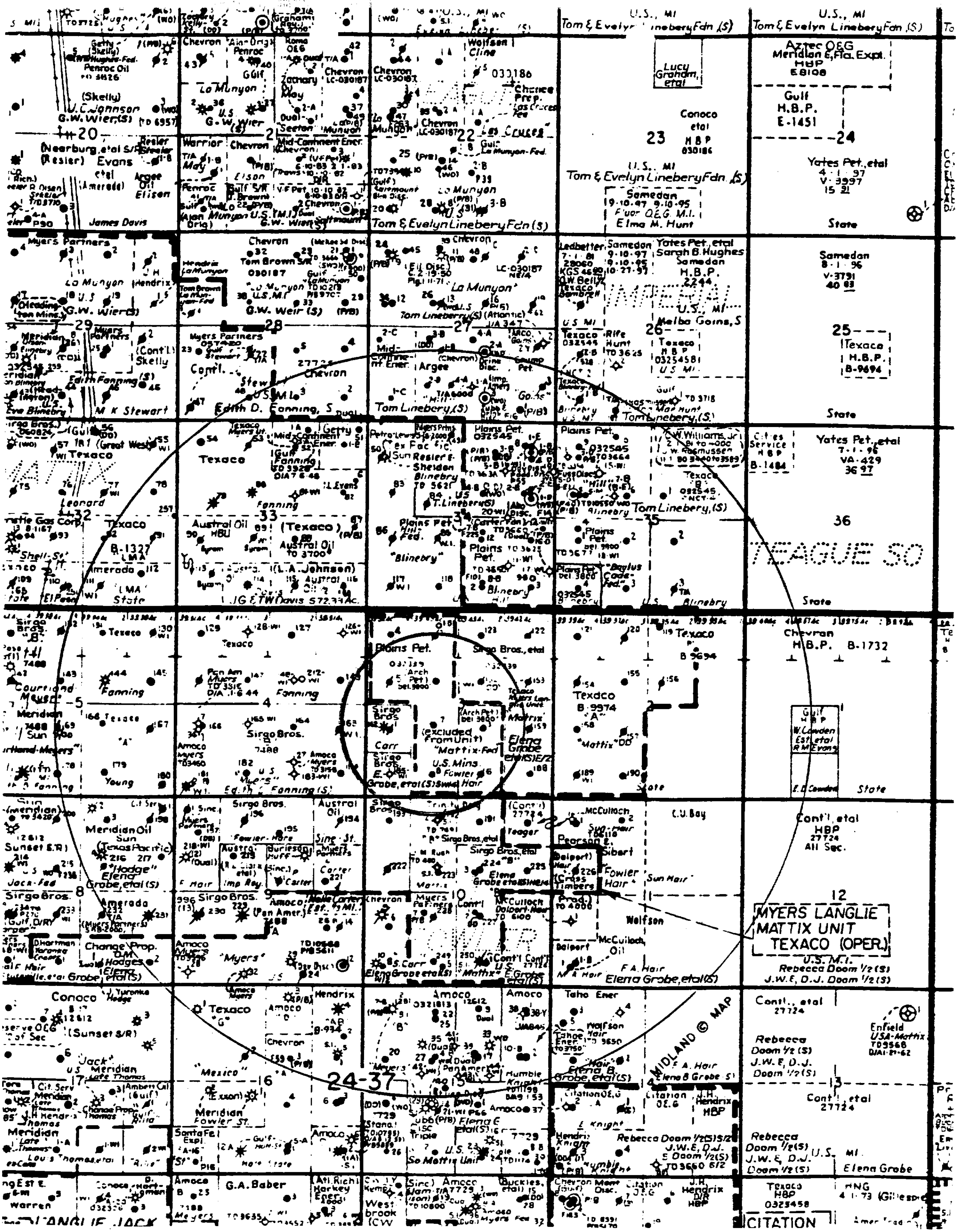
VII.

PROPOSED OPERATIONS

The Carter Foundation Production Company proposes to use the subject G. H. Mattix Federal #2, #5 and #6 as cooperative water injection wells to match the injection pattern established by the Getty Oil Company, Myers Langlie Mattix Unit wells. The average initial daily rate should approximate 200 barrels to a maximum of 350 barrels per well per day.

The system will be closed and the average initial injection pressure is estimated from 0 to 50 psi with an after fillup approximate maximum injection pressure of 1600 psi.

The water source will be primarily of produced salt water from the multipay wells owned by Carter Foundation Production Company in Sections 34 and 35, T-23-S, R-37-E, and the subject lease. If the quantity is insufficient, produced Santa Rosa formation brakish water from our approved water supply well, the E. C. Hill Federal #7 in Section 35, T-23-S, R-37-E, will be used to supplement the supply.



Tom & Evelyn Lineberry Fdn (S)
Aztec O&G
Meridian & Fla. Expl.
HBP
E8108
Lucy Graham, etal
Gulf
H.B.P.
E-1451
Conoco
etal
H B P
030186
Yates Pet., etal
Chevron
La Munyon
G.W. Wier (S)
U.C. Johnson
Nearburg, etal
Resler
Evans
Elison
Warrior
Mid-Continent Ener.
Las Cruces
Zachary
May
Tom & Evelyn Lineberry Fdn (S)
James Davis
Samedan
Elma M. Hunt
State
Myers Partners
Tom Brown S/R
030187
G.W. Weir (S)
La Munyon
Tom Lineberry (S)
Ledbetter
Yates Pet., etal
Sarah B. Hughes
Samedan
H.B.P.
Melba Goins, S
Texaco
Rife
Hunt
Texaco
H.B.P.
B-9694
Skelly
Contl.
Edith Fanning (S)
M K Stewart
Edith D. Fanning, S
Chevron
Argee
Tom Linebery (S)
Tom Linebery (S)
Texaco
Getty
Mid-Continent Ener.
Fanning
Plains Pet.
032545
T. Lineberry (S)
Plains Pet.
Tom Linebery (S)
Cities Service
HBP
B-1484
Yates Pet., etal
VA-429
Leonard
Texaco
B-1327
LMA
Amerada
State
Austral Oil
HBU
(Texaco)
Austral Oil
(L.A. Johnsen)
Blinebry
Baylus Cade Fed.
TEAGUE SO.
State
Sirgo Bros.
Texaco
Fanning
Plains Pet.
Sirgo Bros., etal
Texaco
B-9694
Texaco
B-9974
"Mattix" DD
Chevron
H.B.P.
B-1732
Courtland Myers
Meridian
Sun
Sirgo Bros.
Amoco
Myers
Young
Edith C. Fanning (S)
(excluded from Unit)
"Mattix-Fed"
U.S. Mins.
Fowler
Carr
Elena Grobe, etal (S)
State
Gulf
W. Cowden
Est., etal
R M Evans
State
Meridian Oil
Sun
(Texas Pacific)
"Hodge"
Elena Grobe, etal (S)
Sunset S/R
Sirgo Bros.
Austral Oil
Sirgo Bros.
Fowler-Hare
Sinc. St.
Myers Partners
Carter
Imp Roy
Trinity Drlg
McCulloch
Pearson & Sibert
Fowler
Hair
Sun Hair
C.U. Bay
Cont'l., etal
HBP
27724
All Sec.
Amerada
Sirgo Bros.
Amoco
(Pan Amer.)
Chevron
Myers Partners
Cont'l
McCulloch
Dalport-Hair
Wolfson
McCulloch Oil
Change Prop.
D.M. Hodges
"Myers"
S. Carr
Elena Grobe etal (S)
"Mattix"
E. Grobe etal (S)
F.A. Hair
Elena Grobe, etal (S)
MYERS LANGLIE MATTIX UNIT
TEXACO (OPER.)
U.S. M.I.
Rebecca Doom 1/2 (S)
J.W.E., D.J. Doom 1/2 (S)
Conoco
Texaco
"G"
Amoco
Hendrix
Amoco
Amoco
Taho Ener
Wolfson
Hair
Cont'l., etal
27724
Enfield
USA-Mattix
Rebecca Doom 1/2 (S)
J.W.E., D.J.
Doom 1/2 (S)
Sunset S/R
"Jack"
Meridian
"Mexico"
Exxon
Meridian
Fowler St.
24-37
Elena B. Grobe, etal (S)
MIDLAND © MAP
Citation O&G
J.R. Hendrix
HBP
Cont'l., etal
27724
Cit. Serv.
Meridian
Thomas
Meridian
Louis Thomas, etal
Santa Fe
Expl.
Gulf
Amoco
U.S.
So Mattix Unit
Rebecca Doom 1/2 (S) S/2
J.W.E., D.J.
E Doom 1/2 (S)
Rebecca
Doom 1/2 (S)
J.W.E., D.J.
Doom 1/2 (S)
Elena Grobe
Warren
Conoco
Amoco
G.A. Baber
Amoco
Westbrook
Citation
J.R. Hendrix
HBP
Texaco
HBP
0323458
HNG
LANGLIE JACK
CITATION

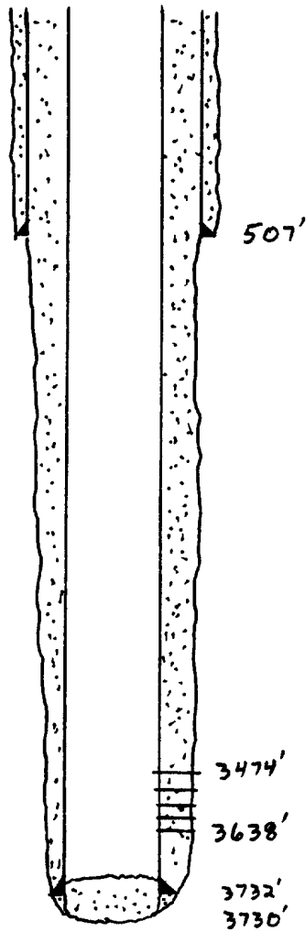
INJECTION WELL DATA SHEET

Plains Petroleum Operating Company — OPERATOR
G. H. Mattix Federal — LEASE

7 — WELL NO.
Unit K, 1980' FSL & 1980' FWL — FOOTAGE LOCATION
3 — SECTION
24S — TOWNSHIP
37E — RANGE

Lea — COUNTY/PARISH
NM — STATE

Schematic



Tabular Data

Surface Casing

Size 8-5/8" Cemented with 360 sx

TOC Surface feet determined by Circulated

Hole size 12-1/4"

Intermediate Casing

Size - " Cemented with - sx

TOC - feet determined by -

Hole size -

Long String

Size 5-1/2" Cemented with 900 sx

TOC Surface feet determined by Circulated

Hole size 7-7/8"

Total Depth 3730'

Injection Interval

3474' feet to 3638' feet Perforated
(perforated or open-hole, indicate which)

Tubing size 2-3/8 lined with SALTA PVC (material) set in a 2-3/8" x 5-1/2" Arlington - Elder Nickel Coated Lockset (brand and model) packer at 3400' feet
(or describe any other casing-tubing seal).

Other Data

1. Name of the injection formation Queen-Penrose Sand

2. Name of Field of Pool (if applicable) Langlie Mattix

3. Is this a new well drilled for injection ? Yes X No
If no, for what purpose was the well originally drilled? Oil and gas production

4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) None

5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools in this area).
Above: Yates - Seven Rivers
Below: Teague (Glorietta - Paddock)

G .H. MATTIX FEDERAL NO. 7 - WATER INJECTION PERMIT

LEASE NAME	WELL NO.	WELL LOCATION UL	SEC	TWP	RNG	CASING SIZE	DEPTH	CEMENT NO. OF SX	TOP OF CEMENT	TD	COMPLETION INTERVAL	DATE DRILLED	WELL TYPE
G. H. MATTIX FEDERAL	1	F	3	24S	37E	13" 8-3/4" 7"	200' 1294' 3407'	 300 400		3913'	QUEEN-PENROSE	03-Apr-35	PROD
G. H. MATTIX FEDERAL	2	C	3	24S	37E	13-3/8" 7"	312' 3313'	175 875	SURFACE SURFACE	3805'	QUEEN-PENROSE	13-Jan-51	WIW
G. H. MATTIX FEDERAL	3	J	3	24S	37E	13-3/8" 7"	323' 3310'	175 875	SURFACE SURFACE	3674'	QUEEN-PENROSE	22-Jan-51	WIW
G. H. MATTIX FEDERAL	5	E	3	24S	37E	9-5/8" 7"	308' 3665'	300 1000	SURFACE SURFACE	3667'	QUEEN-PENROSE	02-Nov-61	WIW
G. H. MATTIX FEDERAL	6	O	3	24S	37E	9-5/8" 7"	311' 3670'	300 1000	SURFACE SURFACE	3671'	QUEEN-PENROSE	17-Nov-61	WIW
G. H. MATTIX FEDERAL	7	K	3	24S	37E	8-5/8" 5-1/2"	507' 3722'	360 900	SURFACE SURFACE	3730'	QUEEN-PENROSE	08-Oct-81	PROD
G. H. MATTIX FEDERAL	8	N	3	24S	37E	8-5/8" 5-1/2"	565' 3692'	360 900	SURFACE SURFACE	3692'	QUEEN-PENROSE	01-Aug-81	PROD
MYERS LANGLIE MATTIX UNIT	152	G	3	24S	37E	9-5/8" 7"	287' 3328'	150 800	SURFACE SURFACE	3560'	QUEEN-PENROSE	07-Oct-51	WIW
MYERS LANGLIE MATTIX UNIT	159	I	3	24S	37E	10-3/4" 7"	261' 3323'	150 800	SURFACE SURFACE	3586'	QUEEN-PENROSE	06-Feb-52	WIW
MYERS LANGLIE MATTIX UNIT	162	L	3	24S	37E	8-5/8" 5-1/2"	501' 3745'	350 1100	SURFACE SURFACE	3745'	QUEEN-PENROSE	23-Jul-81	PROD
MYERS LANGLIE MATTIX UNIT	163	I	4	24S	37E	8-5/8" 5-1/2" 4"	1374' 3466' 3218 TO 3731'	400 400 125	SURFACE SURFACE 3200'	3731'	QUEEN-PENROSE	20-Jul-78	WIW
MYERS LANGLIE MATTIX UNIT	185	M	3	24S	37E	8-5/8" 5-1/2"	500' 3703'	350 1150	SURFACE SURFACE	3705'	QUEEN-PENROSE	11-Jul-81	WIW
CARR & HAIR	1	L	3	24S	37E	7"	3484'	100	3300'	3886'	QUEEN-PENROSE	10-Sep-36	P&A

AQUANESS
WATER ANALYSIS REPORT

Lab ID No. : Analysis Date: January 25, 1993

Company	: Plains Petro.	Sampled By :	
Field	:	Sample Date:	1-20-93
Lease/Unit	: GH Mattix	Salesperson:	
Well ID.	: #1	Formation :	
Sample Loc.	:	Location :	

CATIONS	MG/L	MEQ/L	ANIONS	MG/L	MEQ/L
Calcium as Ca++	2,141	107	Hydroxyl as OH-	0	0
Magnesium as Mg++	3,244	266	Carbonate as CO3=	0	0
Sodium as Na+ (Calc)	12,398	539	Bicarbonate as HCO3-	913	15
Barium as Ba++	Not Determined		Sulfate as SO4=	2,450	51
Oil Content	0		Chloride as Cl-	29,993	846

Total Dissolved Solids, Calculated: 51,139 mg/L.

Calculated Resistivity: 0.169 ohm-meters
mg/L. Hydrogen Sulfide: Not Determined
mg/L. Carbon Dioxide: Not Determined
mg/L. Dissolved Oxygen: Not Determined

pH: 7.250
Specific Gravity 60/60 F.: 1.038
Saturation Index @ 80 F.: +0.712
@ 140 F.: +1.622

Total Hardness: 18,690 mg/L. as CaCO3
Total Iron: 13.00 mg/L. as Fe++

Calcium Sulfate Scaling Potential
Marginal

Estimated Temperature of Calcium Carbonate Instability is 57 F.

Cyndi A. Ward
Analyst 12:46 PM

PROBABLE MINERAL COMPOSITION

COMPOUND	MG/L	MEQ/L
Ca(HCO3)2	1,212	15.0
CaSO4	3,474	51.0
CaCl2	2,279	41.1
Mg(HCO3)2	0	0.0
MgSO4	0	0.0
MgCl2	12,662	265.9
NaHCO3	0	0.0
Na2SO4	0	0.0
NaCl	31,512	539.0

AQUANESS
WATER ANALYSIS REPORT

Lab ID No. : Analysis Date: January 25, 1993

Company : Plains Petro.
Field :
Lease/Unit : GH Mattix
Well ID. : Fed Batt Water Tank
Sample Loc.:

Sampled By :
Sample Date: 1-20-93
Salesperson:
Formation :
Location :

CATIONS	MG/L	MEQ/L	ANIONS	MG/L	MEQ/L
Calcium as Ca++	2,355	118	Hydroxyl as OH-	0	0
Magnesium as Mg++	1,557	128	Carbonate as CO3=	0	0
Sodium as Na+ (Calc)	13,530	588	Bicarbonate as HCO3-	1,020	17
Barium as Ba++	Not Determined		Sulfate as SO4=	1,313	27
Oil Content	0		Chloride as Cl-	27,994	790

Total Dissolved Solids, Calculated: 47,769 mg/L.

Calculated Resistivity: 0.210 ohm-meters
mg/L. Hydrogen Sulfide: Not Determined
mg/L. Carbon Dioxide: Not Determined
mg/L. Dissolved Oxygen: Not Determined

pH: 7.790
Specific Gravity 60/60 F.: 1.033
Saturation Index @ 80 F.: +1.431
@ 140 F.: +2.331

Total Hardness: 12,282 mg/L. as CaCO3
Total Iron: 18.00 mg/L. as Fe++

Calcium Sulfate Scaling Potential
Not Present

Estimated Temperature of Calcium Carbonate Instability is 53 F.

Cynthia A. Ward
Analyst 12:46 PM

PROBABLE MINERAL COMPOSITION

COMPOUND	MG/L	MEQ/L
Ca(HCO3)2	1,355	16.7
CaSO4	1,862	27.4
CaCl2	4,090	73.7
Mg(HCO3)2	0	0.0
MgSO4	0	0.0
MgCl2	6,078	127.6
NaHCO3	0	0.0
Na2SO4	0	0.0
NaCl	34,390	588.3

AQUANESS
WATER ANALYSIS REPORT

Lab ID No. : Analysis Date: January 25, 1993

Company : Plains Petroleum
Field :
Lease/Unit : GH Mattix
Well ID. : Fed #3
Sample Loc.:

Sampled By :
Sample Date: 1-20-93
Salesperson:
Formation :
Location :

CATIONS	MG/L	MEQ/L	ANIONS	MG/L	MEQ/L
Calcium as Ca++	1,178	59	Hydroxyl as OH-	0	0
Magnesium as Mg++	1,233	101	Carbonate as CO3=	0	0
Sodium as Na+ (Calc)	6,784	295	Bicarbonate as HCO3-	789	13
Barium as Ba++	Not Determined		Sulfate as SO4=	910	19
Oil Content	0		Chloride as Cl-	14,997	423

Total Dissolved Solids, Calculated: 25,890 mg/L.

Calculated Resistivity: 0.245 ohm-meters
mg/L. Hydrogen Sulfide: Not Determined
mg/L. Carbon Dioxide: Not Determined
mg/L. Dissolved Oxygen: Not Determined

pH: 7.250
Specific Gravity 60/60 F.: 1.023
Saturation Index @ 80 F.: +0.539
@ 140 F.: +1.469

Total Hardness: 8,010 mg/L. as CaCO3
Total Iron: 8.00 mg/L. as Fe++

Calcium Sulfate Scaling Potential
Not Present

Estimated Temperature of Calcium Carbonate Instability is 60 F.

Analyst 12:46 PM

PROBABLE MINERAL COMPOSITION

COMPOUND	MG/L	MEQ/L
Ca(HCO3)2	1,048	12.9
CaSO4	1,290	19.0
CaCl2	1,498	27.0
Mg(HCO3)2	0	0.0
MgSO4	0	0.0
MgCl2	4,812	101.0
NaHCO3	0	0.0
Na2SO4	0	0.0
NaCl	17,244	295.0

Dickey
Analytical Laboratory, Inc.

P.O. Box 2163
Midland, Texas 79702
915 - 687-2240

Plains Petroleum Operating Company
SWD Injection System
Teague Field
Lea County, NM

Date of Analysis: September 28, 1992
Date of Sample: September 24, 1992
Sample Source: Header
Reference Number: DL-13488
EVA BLINEBRY SWD
SEC. 34-T23S-R37E
LEA CO., NM.

A P I W A T E R A N A L Y S I S

DISSOLVED SOLIDS		
CATIONS	mg/l	me/l
Sodium, Na	18028	784
Calcium, Ca	3008	150
Magnesium, Mg	1458	120
ANIONS		
Chloride, Cl	34435	971
Sulfate, SO4	3207	67
Carbonate, CO3	0	0
Bicarbonate, HCO3	976	16
Total Dissolved Solids	61112	
Specific Gravity	1.044	
pH	7.6	
Hardness as CaCO3, mg/l	13514	
Resistivity, ohm-meters @ 75'F	0.120	
Sulfate as H2S	present	

R.S. Dickey
Dickey Analytical Laboratory, Inc.

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To M. K NIEBERDING	From RITA DICKEY
Co. PLAINS PETROLEUM	Co. DICKEY ANA. LAB
Dept.	Phone # 687-2240
Fax # 683-8046	Fax # 682-6830

Dickey
Analytical Laboratory, Inc.

P.O. Box 2163
Midland, Texas 79702
915 - 687-2240

Plains Petroleum Operating Company
Fresh Water Station
Teague Field
Lea County, NM

Date of Analysis: September 28, 1992
Date of Sample: September 24, 1992
Sample Source: Header
Reference Number: DL-13489

E.C. HILL 'B' No. 7 WSW
SEC. 35-T23S-R37E
LEA CO., NM

A P I W A T E R A N A L Y S I S

DISSOLVED SOLIDS		
CATIONS	mg/l	me/l
Sodium, Na	272	12
Calcium, Ca	92	5
Magnesium, Mg	73	6
ANIONS		
Chloride, Cl	389	11
Sulfate, SO4	340	7
Carbonate, CO3	0	0
Bicarbonate, HCO3	268	4
Total Dissolved Solids	1434	
Specific Gravity	1.000	
pH	7.8	
Hardness as CaCO3, mg/l	531	
Resistivity, ohm-meters @ 75'F	4.6	
Sulfate as H2S	none detected	

R.S. Dickey
Dickey Analytical Laboratory, Inc.

PLAINS
PETROLEUM
OPERATING
COMPANY

February 5, 1993

Mr. J. J. Doom
Star Route
Jal, NM 88252

Texaco E & P
P. O. Box 3109
Midland, TX 79702
Attn: D. D. Ulrich

Re: Notification of Application for Authorization to Inject
G.H. Mattix Federal No. 7
1980' FSL & 1980' FWL, Sec 3-T24S-R37E
Lea County, New Mexico

Dear Mr. Linebery:

Please find enclosed an Application for Authorization to Inject for the above well. This well is an expansion of the G. H. Mattix Federal Waterflood Project that was originally approved by the Oil Conservation Commission on September 30, 1982 with Order No. R-7082. The purpose of this letter is to request a waiver, please sign and return one coy of this letter in the enclosed self-addressed envelope. Any objections or requests for hearing must be filed with the Oil Conservation Division, P. O. Box 2088, Santa Fe, New Mexico 87501. Should you have any other questions in regard to this application, please call me at (915) 683-4434.

Sincerely yours,
PLAINS PETROLEUM OPERATING COMPANY

Mark A. Nieberding
Petroleum Engineer

Company _____

Signature _____

Date _____

cc: Well File
Reading File

P 963 193 413

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL
(See Reverse)

Sent to Texaco E & P Attn: D. D. Ulrich	
Street and No. P. O. Box 3109	
P.O., State and ZIP Code Midland, TX 79702	
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	$
Postmark or Date RE: G. H. Mattix 7	

PS Form 3800, June 1985

SENDER:
- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt Fee will provide you the signature of the person delivered to and the date of delivery.

I also wish to receive the following services (for an extra fee):
1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
Texaco E & P
Attn: D. D. Ulrich
P. O. Box 3109
Midland, Texas 79702

RE: G. H. Mattix 7

4a. Article Number
P 963 193 413

4b. Service Type
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

7. Date of Delivery
FEB 17 1993

5. Signature (Addressee)

8. Addressee's Address (Only if requested and fee is paid)

6. Signature (Agent)
[signature]

PS Form 3811, November 1990 ★U.S. GPO: 1991—287-066 **DOMESTIC RETURN RECEIPT**

P 963 193 414

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL
(See Reverse)

Sent to Mr. J. J.Doom	
Street and No. Star Route	
P.O., State and ZIP Code Jal, NM 88252	
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	$
Postmark or Date RE: G.H. Mattix 7	

PS Form 3800, June 1985

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- Complete items 1 and/or 2 for additional services.
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- Print your name and address on the reverse of this form so that we can return this card to you.
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2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
Mr. J. J. Doom
Star Route
Jal, NM 88252

Re: G.H.Mattix 7

4a. Article Number
P 963 193 414

4b. Service Type
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

7. Date of Delivery
2-17-93

5. Signature (Addressee)
Harold Doom

8. Addressee's Address (Only if requested and fee is paid)

6. Signature (Agent)

PS Form 3811, November 1990 ★U.S. GPO: 1991—287-066 **DOMESTIC RETURN RECEIPT**

AFFIDAVIT OF PUBLICATION

State of New Mexico,
County of Lea.

I, Kathi Bearden

of the Hobbs Daily News-Sun, a daily newspaper published at Hobbs, New Mexico, do solemnly swear that the clipping attached hereto was published once a week in the regular and entire issue of said paper, and not a supplement thereof for a period

of three weeks.

Beginning with the issue dated

Feb. 10, 1993

and ending with the issue dated

Feb. 12, 1993

Kathi Bearden
General Manager

Sworn and subscribed to before me this 12th day of February, 1993

Peggy Lentz
Notary Public

My Commission expires

July 6, 1994
(Seal)

This newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Laws of 1937, and payment of fees for said publication has been made.