

**STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION**

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

**Case No. 11368
Order No. R-10474**

**APPLICATION OF PLAINS PETROLEUM
COMPANY FOR A PRESSURE MAINTENANCE
PROJECT, SPECIAL PROJECT ALLOWABLE,
AND A QUALIFICATION FOR THE RECOVERED
OIL TAX RATE PURSUANT TO THE "NEW
MEXICO ENHANCED OIL RECOVERY ACT",
LEA COUNTY, NEW MEXICO.**

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on August 24 and September 21, 1995, at Santa Fe, New Mexico, before Examiner David R. Catanach.

NOW, on this 3rd day of October, 1995, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS THAT:

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

(2) The applicant, Plains Petroleum Company, seeks authority to institute a cooperative pressure maintenance project on portions of its E. C. Hill "B" Federal and Baylus Cade Federal Leases, said project area to comprise the SE/4 of Section 34 and the SW/4 of Section 35, both in Township 23 South, Range 37 East, NMPM, Lea County, New Mexico, by the injection of water into the McKee formation of the Teague (Simpson) Pool through the following described wells which will be converted to injection:

<u>WELL NAME</u>	<u>WELL LOCATION</u>
Baylus Cade Federal No. 5	985' FSL & 1650' FWL (N) 35-23S-37E
E.C. Hill "B" Federal No. 13	Surface Location 947' FSL & 1361' FEL (O) 34-23S-37E Bottomhole Location 1120' FSL & 1380' FEL (O) 34-23S-37E

(3) The applicant proposes to inject into the McKee sand member from a depth of approximately 9475 feet to 9641 feet in the aforesaid E. C. Hill "B" Federal Well No. 13, and from a depth of approximately 9408 feet to 9536 feet in the aforesaid Baylus Cade Federal Well No. 5.

(4) The Teague (Simpson) Pool was discovered in 1950 and created by Division Order No. 850. The main producing area of the field, which is located in the SW/4 of Section 22, all of Section 27, the NE/4 of Section 34 and the NW/4 of Section 35, Township 23 South, Range 37 East, has been extensively developed since its discovery. Nearly all of these producing wells are depleted and have now been plugged and abandoned.

(5) The applicant has discovered an area of the Teague (Simpson) Pool not previously developed. The applicant's geologic evidence and testimony indicate that the SE/4 of Section 34 and the SW/4 of Section 35 are effectively isolated from the main portion of the Teague (Simpson) Pool by a system of faults which traverse the area in southwest to northeast and southeast to northwest directions.

(6) The applicant has drilled five wells within the proposed project area. The applicant further testified that no additional wells will be drilled within the project area.

(7) The applicant proposes to utilize the E. C. Hill "B" Federal Well Nos. 10 and 12, located respectively in Unit M of Section 35 and Unit P of Section 34, and its Baylus Cade Federal Well No. 6 located in Unit K of Section 35, as its producing wells within the project area.

(8) Applicant proposes to inject water, for the purpose of pressure maintenance, into three distinct McKee producing sands within the Teague (Simpson) Pool.

(9) The current average producing rate within the proposed project area is approximately 215 barrels of oil per day per well.

(10) According to applicant's engineering evidence and testimony, the reservoir pressure within this isolated portion of the Teague (Simpson) Pool is approximately at bubble point pressure.

(11) Applicant testified that the initiation of pressure maintenance operations at this time should result in the recovery of an additional 400,000 barrels of secondary oil.

(12) Initial project costs are estimated to be approximately \$214,000.

(13) The proposed pressure maintenance project should result in the recovery of otherwise unrecoverable oil from this portion of the field, thereby preventing waste.

(14) The United States Bureau of Land Management (USBLM) has approved the applicant's proposed cooperative Federal lease pressure maintenance project.

(15) The pressure maintenance project area should be limited to the SE/4 of Section 34 and the SW/4 of Section 35.

(16) The injection of water into the proposed injection wells should be accomplished through 2 3/8 inch internally plastic-lined tubing installed in a packer set within 100 feet of the uppermost injection perforations; the casing-tubing annulus in each well should be filled with an inert fluid and a gauge or approved leak-detection device should be attached to the annulus in order to determine leakage in the casing, tubing or packer.

(17) Prior to commencing injection operations into the subject wells, the casing in each well should be pressure tested throughout the interval from the surface down to the proposed packer setting depth, to assure the integrity of such casing.

(18) The injection wells or pressurization system should be initially equipped with a pressure control device or acceptable substitute which will limit the surface injection pressure to no more than 1881 psi.

(19) The Division Director should have the authority to administratively authorize a pressure limitation in excess of the pressure limitation described above upon a showing by the operator that such higher pressure will not result in the fracturing of the injection formation or confining strata.

(20) The operator should give advance notification to the supervisor of the Hobbs District Office of the Division of the date and time of the installation of injection equipment and of the mechanical integrity pressure tests in order that the same may be witnessed.

(21) The proposed pressure maintenance project should be approved and the project should be governed by the provisions of Rule Nos. 701 through 708 of the Oil Conservation Division Rules and Regulations.

(22) The project allowable should be equal to top unit allowable for the Teague (Simpson) Pool (275 barrels of oil per day) times the number of developed (production or injection) proration units within the project area. Unless additional producing or injection wells are drilled within the project area, the allowable should be established at 1,375 barrels of oil per day.

(23) The transfer of allowable between wells within the project area should be permitted.

(24) The injection authority granted herein for the wells described in Finding No. (2) above should terminate one year after the effective date of this order if the operator has not commenced injection operations into these wells, provided however, the Division, upon written request by the operator, may grant an extension thereof for good cause shown.

(25) The applicant further requested that the subject pressure maintenance project be approved by the Division as a qualified "Enhanced Oil Recovery Project" pursuant to the "Enhanced Oil Recovery Act" (Laws 1992, Chapter 38, Sections 1 through 5).

(26) The evidence presented indicates that the subject pressure maintenance project meets all the criteria for approval.

(27) The approved "project area" should initially comprise the SE/4 of Section 34 and the SW/4 of Section 35.

(28) To be eligible for the EOR credit, prior to commencing injection operations, the operator must request from the Division a Certificate of Qualification, which certificate will specify the proposed project area as described above.

(29) At such time as a positive production response occurs and within five years from the date of the Certificate of Qualification, the applicant must apply to the Division for certification of positive production response, which application shall identify the area actually benefiting from enhanced recovery operations, and identifying the specific wells which the operator believes are eligible for the credit. The Division may review the application administratively or set it for hearing. Based upon evidence presented, the Division will certify to The Department of Taxation and Revenue those lands and wells which are eligible for the credit.

IT IS THEREFORE ORDERED THAT:

(1) The applicant, Plains Petroleum Company, is hereby authorized to institute a cooperative pressure maintenance project on portions of its E. C. Hill "B" Federal and Baylus Cade Federal Leases, said project area to comprise the SE/4 of Section 34 and the SW/4 of Section 35, both in Township 23 South, Range 37 East, NMPM, Lea County, New Mexico, by the injection of water into the McKee formation of the Teague (Simpson) Pool through the gross interval from approximately 9,408 feet to 9,641 feet in the following described wells which will be converted to injection:

<u>WELL NAME</u>	<u>WELL LOCATION</u>
Baylus Cade Federal No. 5	985' FSL & 1650' FWL (N) 35-23S-37E
E.C. Hill "B" Federal No. 13	Surface Location 947' FSL & 1361' FEL (O) 34-23S-37E Bottomhole Location 1120' FSL & 1380' FEL (O) 34-23S-37E

(2) The operator shall 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.

(3) The injection of water into the above-described injection wells shall be accomplished through 2 3/8 inch internally plastic-lined tubing installed in a packer set within 100 feet of the uppermost injection perforations; the casing-tubing annulus in each well shall be filled with an inert fluid and a gauge or approved leak-detection device shall be attached to the annulus in order to determine leakage in the casing, tubing or packer.

(4) Prior to commencing injection operations into the subject wells, the casing in each well shall be pressure tested throughout the interval from the surface down to the proposed packer setting depth, to assure the integrity of such casing.

(5) The injection wells or pressurization system shall be initially equipped with a pressure control device or acceptable substitute which will limit the surface injection pressure to no more than 1881 psi.

(6) The Division Director shall have the authority to administratively authorize a pressure limitation in excess of the pressure limitation described above upon a showing by the operator that such higher pressure will not result in the fracturing of the injection formation or confining strata.

(7) The operator shall give advance notification to the supervisor of the Hobbs District Office of the Division of the date and time of the installation of injection equipment and of the mechanical integrity pressure tests in order that the same may be witnessed.

(8) The operator shall immediately notify the supervisor of the Hobbs District Office of the Division of the failure of the tubing, casing or packer in any of the injection wells, the leakage of water, oil or gas from or around any producing well, or the leakage of water, oil or gas from any plugged and abandoned well within the project area, and shall take such steps as may be timely and necessary to correct such failure or leakage.

(9) The subject pressure maintenance project is hereby designated the Hill-Cayless McKee Pressure Maintenance Project, and the operator shall conduct injection operations in accordance with Division Rule Nos. 701 through 708 and shall submit monthly progress reports in accordance with Division Rule Nos. 706 and 1115.

(10) The project allowable shall be equal to top unit allowable for the Teague (Simpson) Pool (275 barrels of oil per day) times the number of developed (production or injection) proration units within the project area. Unless additional producing or injection wells are drilled within the project area, the allowable shall be established at 1,375 barrels of oil per day.

(11) The transfer of allowable between wells within the project area shall be permitted.

(12) The subject pressure maintenance project is hereby approved as an "Enhanced Oil Recovery Project" pursuant to the "Enhanced Oil Recovery Act" (Laws 1992, Chapter 38, Sections 1 through 5).

(13) The approved "project area" shall initially comprise the SE/4 of Section 34 and the SW/4 of Section 35, Township 23 South, Range 37 East.

(14) To be eligible for the EOR credit, prior to commencing injection operations, the operator must request from the Division a Certificate of Qualification, which certificate will specify the proposed project area as described above.

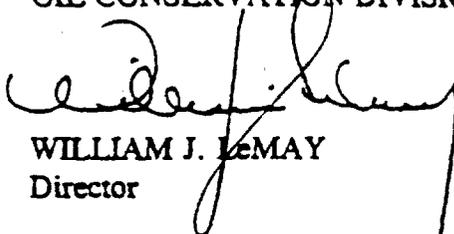
(15) At such time as a positive production response occurs and within five years from the date of the Certificate of Qualification, the operator must apply to the Division for certification of positive production response, which application shall identify the area actually benefitting from enhanced recovery operations, and identifying the specific wells which the operator believes are eligible for the credit. The Division may review the application administratively or set it for hearing. Based upon evidence presented, the Division will certify to The Department of Taxation and Revenue those lands and wells which are eligible for the credit.

(16) The injection authority granted herein for the injection wells described in Finding No. (2) shall terminate one year after the effective date of this order if the operator has not commenced injection operations into these wells, provided however, the Division, upon written request by the operator, may grant an extension thereof for good cause shown.

(17) 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


WILLIAM J. LEMAY
Director

S E A L

STATE OF NEW MEXICO
ENERGY, MINERAL AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE APPLICATION OF
PLAINS PETROLEUM OPERATING COMPANY
FOR EXPANSION ITS TEAGUE-SIMPSON
(MCKEE) PRESSURE MAINTENANCE PROJECT AND TO QUALIFY
SAID EXPANSION FOR THE RECOVERED OIL TAX RATE
PURSUANT TO THE "NEW MEXICO ENHANCED
OIL RECOVERY ACT," LEA COUNTY, NEW MEXICO

CASE NO. 11368 (Reopened)

APPLICATION

Comes now PLAINS PETROLEUM OPERATING COMPANY, by its attorneys, Kellahin & Kellahin, and pursuant to the New Mexico "Enhanced Oil Recovery Act" and Division Rule 701 applies to the New Mexico Oil Conservation Division for authority to expand its Teague-Simpson (McKee) Pressure Maintenance Project to include the NE/4 of Section 34 and the NW/4 of Section 35, T23S, R37E, Lea County, New Mexico, and to qualify said expansion for the recovered oil tax rate for enhanced oil recovery projects and in support states:

(1) Plains Petroleum Operating Company ("Plains") is the operator for the Teague-Simpson (McKee) Pressure Maintenance Project, a secondary recovery project for an area comprising 320 acres, more or less, being the SE/4 of Section 34 and the SW/4 of Section 35, T23S, R37E, NMPM, which are portions of its E. C. Hill "B" Federal and Baylus Cade Federal leases and identified as the "Project Area" on Exhibit "A" attached.

(2) This is a cooperative leasehold project to be known as the Teague-Simpson (McKee) Pressure Maintenance Project which was approved by Division Order R-10474 entered October 3, 1995.

(3) Plains controls 100% of the working interest ownership in the project area and is the current operator of all wells within that area.

(4) Plains also controls 100% of the working interest ownership in the proposed expansion area and it is the current operator of all wells within that expansion area.

(5) The proposed expansion area consists of portions of the same two federal oil and gas leases which are the same leases included in the original Project Area.

(6) As of March 1, 1998, the cumulative primary oil recovery from the wells, the E. C. Hill "B" Federal No. 24 and the Baylus Cade Federal No. 7, in the Proposed Expansion Area has been 110,148 barrels of oil.

(7) The wells in the Proposed Expansion Area are currently producing at a rate of 220 BOPD and 14 BWPD from two (2) active producers. Approximately 289,960 barrels of recoverable primary oil reserves remain under the current mode of operations.

(8) The estimated amount of recoverable oil attributable to a Positive Production Response from the Expanded Use of enhanced oil recovery technology for this EOR Expansion Area is 145,052 barrels of additional oil.

(9) That remaining secondary oil potential from the pool within the Proposed Expansion Area will not be recovered in the absence of pressure maintenance operations on a cooperative leasehold basis.

(10) The Pressure Maintenance Project will continue to be developed on a 40-acre "irregular" injection pattern initially involving three producing wells and the conversion of two (2) existing wells to water injection wells all as located on Exhibit "A".

(11) The two (2) producing wells and the two (2) injection wells in the Expansion Area are as listed by name and location on Exhibit "B" attached.

(12) Plains anticipates that the success of the pressure maintenance project will require that the Division provide administrative procedures to authorize Plains to exceed the 0.2 psi per foot of depth Division guideline.

(13) Plains requests an administrative procedure be established for the project area to allow for the amendment of the location of either injection or producing wells in the event such changes in location, either standard or unorthodox, are deemed necessary by the operator.

(14) Applicant submits with this application the completed Division Form C-108 with attachments for this project which is incorporated by reference herein for the following two injection wells:

(a) E. C. Hill "D" Federal Well No. 1
2131 feet FNL & 660 feet FEL (Unit H)
Section 34, T23S, R37E

(b) E. C. Hill "B" Federal Well No. 6 (formerly #5M)
1980 feet FNL & 810 feet FWL (Unit E)
Section 35, T23S, R37E

(15) The estimated amount of recoverable oil attributable to a Positive Production Response from the Expanded Use of enhanced oil recovery technology for this Expansion Area is 145,052 barrels of additional oil.

(16) In accordance with Division Order R-9708, the following is submitted:

a. Operator's name and address:

Plains Petroleum Operating Company
415 West Wall, Suite 1000
Midland, Texas 79701

b. Description of the Project Area:

(1) Within the Project boundary is an initial Project Area
as outlined on Exhibit "A"

(2) Description of the Project Area:

T23S, R37E
Section 34: SE/4
Section 35: SW/4

(2a) Description of Expansion Area:

T23S, R37E
Section 34: NE/4
Section 35: NW/4

(3) Total acres in the Project Area (including expansion)

640 acres, more or less

(4) Name of the subject Pool and formation:

McKee Sand formation of the Teague (Simpson) Pool

c. Status of operations in the project area:

(1) unit name:

no unit - this is a cooperative leasehold project
to be known as the Teague-Simpson (McKee)
Pressure Maintenance Project

(2) N/A

(3) See Exhibit "C" attached.

d. Method of recovery to be used:

(1) injected fluids: water

(2) Order R-10474 entered October 3, 1995

e. Description of the Project Area:

(1) a list of producing wells:
See Exhibit "B"

(2) a list of injection wells:
See Exhibit "B"

(3) Capital cost of additional facilities:
\$250,000

(4) Total Expansion Project Costs:
\$1,903,500
which includes the costs of drilling and completing
the two wells, E. C. Hill "B" Federal #24 & the
Baylus Cade Federal #7

(5) Estimated total net value (after recovery of project
investments, operating costs, taxes and expenses) of the
additional production that will be recovered as a result
of this Project:

An additional 145,052 barrels of oil with an undiscounted
net present value of \$1,360,936 dollars

(6) Anticipated date of commencement of injection:
As soon as practicable after
OCD approval, if granted

(7) The type of fluid to be injected and the anticipated volumes:
Water injected at forecasted
rates presented in C-108

(8) Explanation of changes in technology:

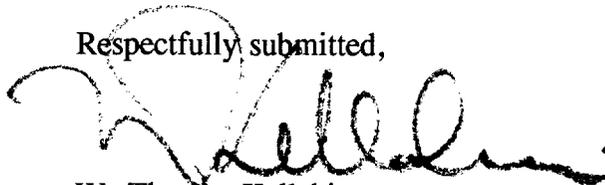
- (a) See C-108 for proposed well status
- (b) See C-108 for summary of changes in technology and the process to be used for displacement of oil
- (c) Expansion acreage is NW/4 Section 35 and NE/4 of Section 34, T23S, R37E

f. Production data:
See Exhibit "D"

(17) In accordance with Division notice requirements, copies of the application have been sent to those parties listed on Exhibit "E" notifying them of this application and of the Applicant's requests that this matter be set on the Division Examiner's docket now scheduled for April 2, 1998.

Wherefore, Applicant requests that this application be set for hearing and that after said hearing, the Division enter its order approving this application.

Respectfully submitted,



W. Thomas Kellahin
KELLAHIN & KELLAHIN
P. O. Box 2265
Santa Fe, New Mexico 87504
(505) 982-4285
ATTORNEYS FOR APPLICANT

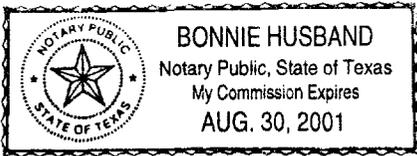
CERTIFICATION

STATE OF TEXAS }
 } SS.
COUNTY OF MIDLAND }

I, James R. Sutherland, have been first duly sworn, state that I am a petroleum engineer, a duly authorized representative of Plains Petroleum Operating Company, have knowledge of the facts herein and therefore certify that the facts set forth in this Application are true and accurate to the best of my own knowledge and belief.

James R. Sutherland
James R. Sutherland

The foregoing certificate was acknowledged before me this 9th day of March, 1998 by James R. Sutherland.



Bonnie Husband
Notary Public

My Commission Expires:

August 30, 2001

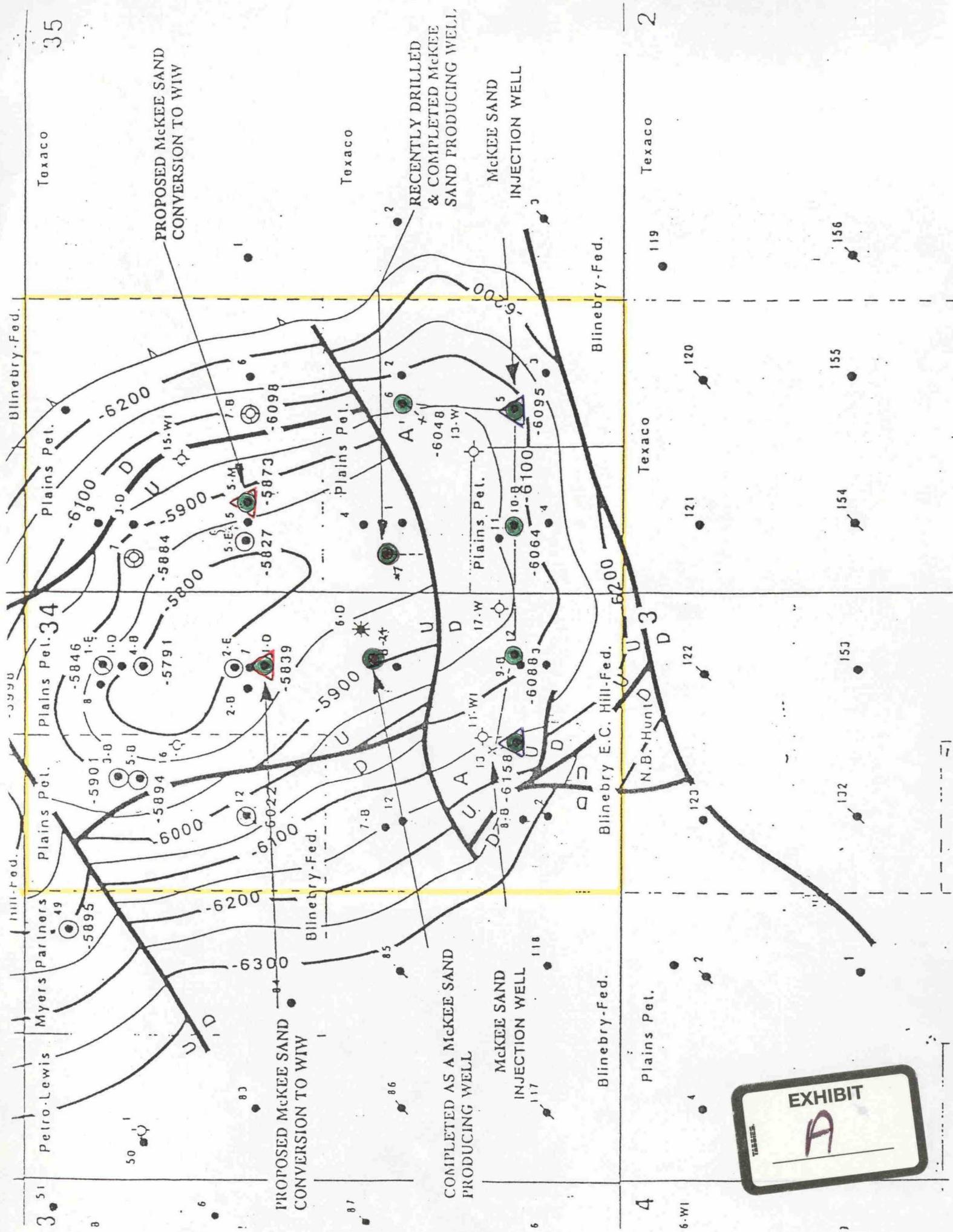


EXHIBIT "B"

EXPANSION AREA WELLS:

injection wells:

- (a) E. C. Hill "B" Federal Well No. 1
2131 feet FNL & 660 feet FEL (Unit H)
Section 34, T23S, R37E

- (b) E. C. Hill "D" Federal Well No. 6 (formerly #5M)
1980 feet FNL & 810 feet FWL (Unit E)
Section 35, T23S, R37E

production wells:

- (b) E. C. Hill "B" Federal Well No. 24
2280 feet FSL & 560 feet FEL (Unit I)
Section 34, T23S, R37E

- (b) Baylus Cade Federal Well No. 7
surface: 1890 feet FSL & 300 feet FWL
BHL: 2300 feet FSL & 400 feet FWL
Unit E of Section 35, T23S, R37E

EXHIBIT "C"

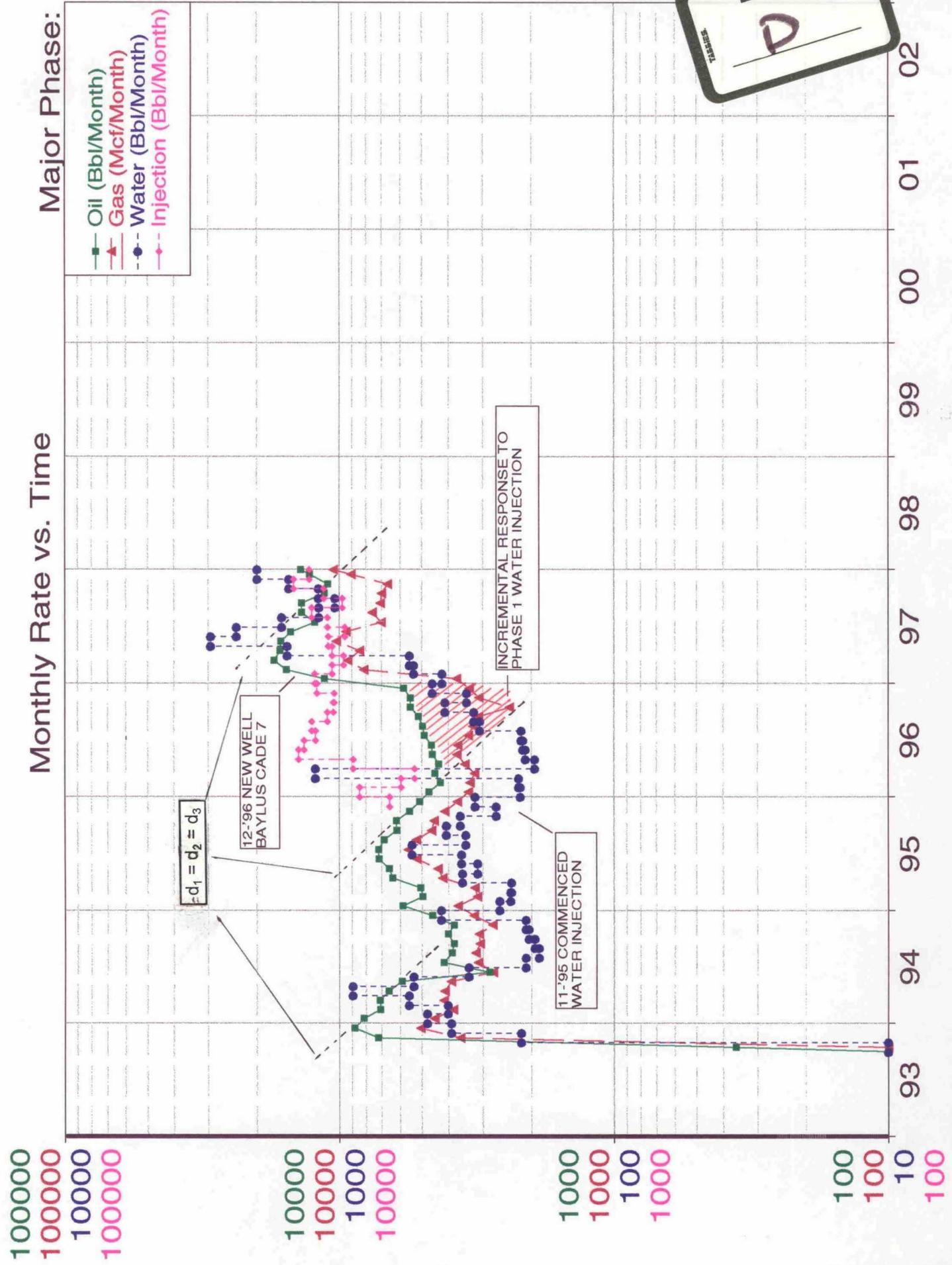
LEASES

- (a) E. C. Hill "B" Federal Lease No. _____
E/2 Section 34, T23S, R37E

- (b) E. C. Hill "D" Federal Lease No. _____
W/2 Section 35, T23S, R37E

TEAGUE MCKEE PRESSURE MAINTENANCE PROJECT

EXHIBIT
D



Notification of Expansion of Teague McKee Pressure Maintenance Project was mailed via certified, return receipt to the following offset operators and surface land owner. Legal notice was mailed (1-29-98) to Hobbs Daily News-Sun for publication in the next available issue.

BLM
Roswell, NM

Arch Petroleum (To North)
Mr. Mark Kelley
Penthouse II Fort Worth Club Tower
Fort Worth, TX 76102

Texaco E & P (To South)
Mr. Charles E. Sadler, NHAT, Mgr
P. O. Box 3109
Midland, TX 79702

Oxy, USA (To West and South-formerly Sirgo)
Mr. Rick Foppiano
P. O. Box 50250
Midland, TX 79702

D. K. Boyd Oil & Gas Co., Inc. (Surface Owner)
Mr. Steve Burke
P. O. Box 11351
Midland, TX 79702



OIL CONSERVATION DIVISION

APPLICATION FOR AUTHORIZATION TO INJECT

- I. Purpose: PRESSURE MAINTENANCE
Application qualifies for administrative approval? YES
- II. Operator: Plains Petroleum Operating Company
Address: 415 West Wall, Suite 1000, Midland, TX 79701
Contact Party: James R. Sutherland, Southern District Manager Phone: 915/683-4434
- III. Well Data: Well data sheets, schematic attached for each well.
- IV. Yes, this is an expansion of an existing project. Order R-10474
- V. 1" = 4000' Map enclosed identifying all wells & leases within two miles of proposed injection well with a one-half mile radius circle drawn around each proposed injection well.
- VI. Spreadsheet/tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone attached.
- VII. Attach data on the proposed operations, including:
1. Proposed average and maximum daily rate and volumes of fluids to be injected
 - A. Average & maximum daily rate - 400, 800 BWPD
 2. Whether or not system is open or closed
 - A. Closed
 3. Proposed average and maximum injection pressures
 - A. 1500, 1800 psig
 4. Sources and appropriate analysis of injection fluid and compatibility with the receiving formation if other than re-injected produced water; and
 - A. Produced & Santa Rosa water - cores from previously drilled by PPOC McKee sands had throughput analysis indicating injected fluids are compatible with the McKee sand.
 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, etc.
 - A. Water injection purpose is for pressure maintenance of the McKee sand reservoir and improved recovery of oil from this reservoir.
- VIII. Geological data on the injection zone, etc. previously submitted in Case No. 11785.
- IX. Proposed stimulation program - none.
- X. Well logs have been filed with the Division as each well was completed.
- XI. Chemical analysis of fresh water attached (E. C. Hill "B" #7 WSW, Dickey Analytical Laboratory, Inc.).
- XII. Not applicable
- XIII. Proof of Notice - Newspaper "Legal Notice" mailed to Hobbs Daily News-Sun 1-29-98 for publication in next available issue. (Published February 4, 1998) Application with all attachments mailed to offset operators and surface owner 2-6-98 via certified mail (list attached).
- XIV. Certification

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

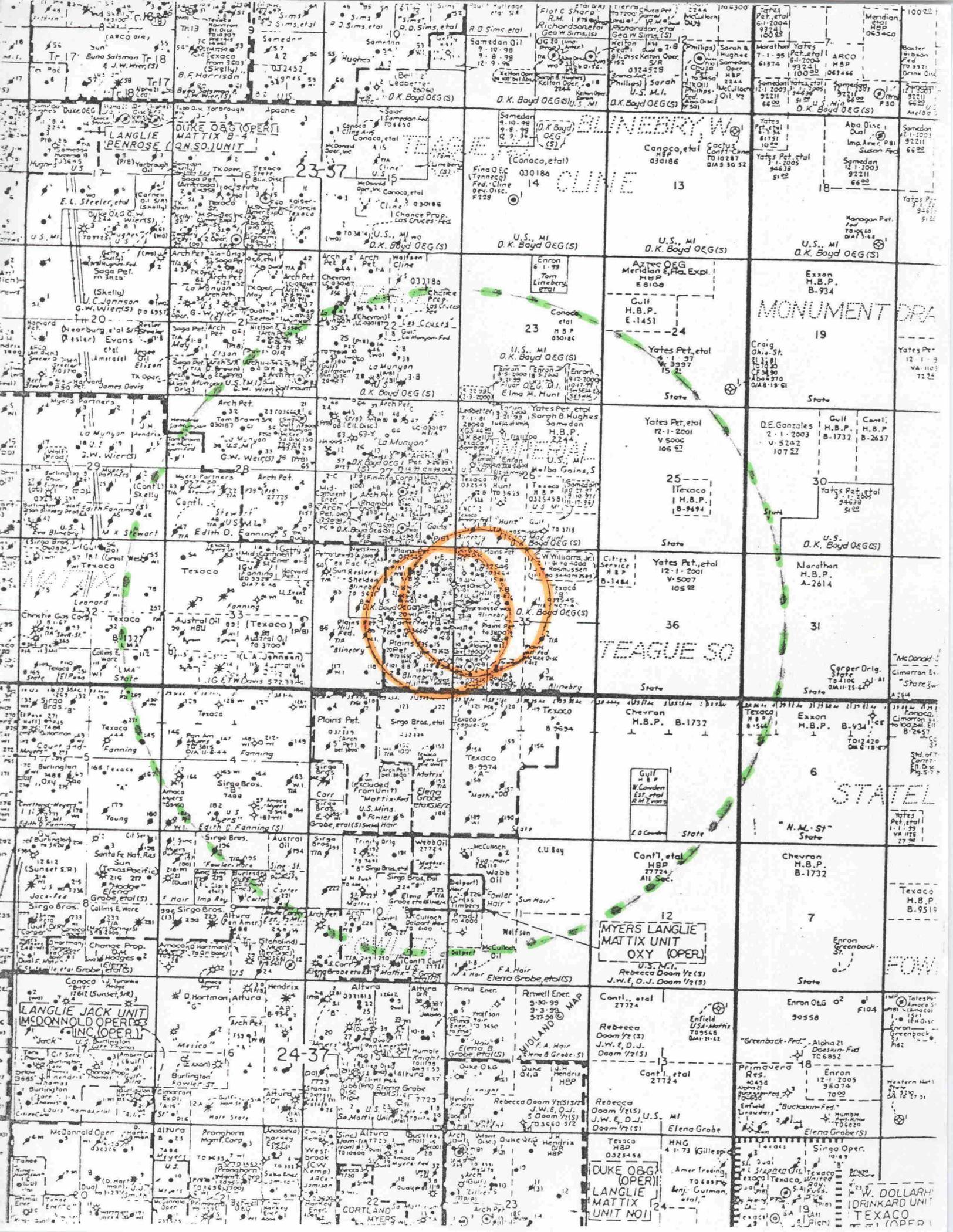
Name: James R. Sutherland

Title: District Manager

Signature: James R. Sutherland

Date: February 6, 1998





DUKE O&G (OPER)
MATTIX B-4
QNSO UNIT

LANGLIE
PENROSE

CLINE

MONUMENT DRA

TEAGUE SO

STATEL

MYERS LANGLIE
MATTIX UNIT
OXY (OPER)

LANGLIE JACK UNIT
MCANNOLO OPER (OP)
INC (OPER)

DUKE O&G
(OPER)
LANGLIE
MATTIX
UNIT NO. 1

W. DOLLARD
DRINKARD UNIT
TEXACO (OPER)

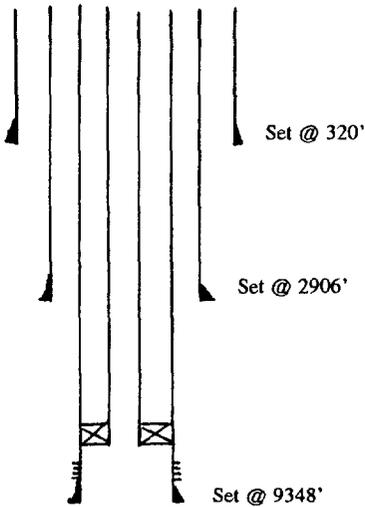
INJECTION WELL DATA SHEET

Plains Petroleum Operating Company OPERATOR E. C. Hill "B" Federal LEASE

#6 (formerly #5M) 1980' FNL & 810' FWL, Unit Letter E, 35 23S 37E
Well No. Footage Location Section Township Range

Lea County, Mexico

Schematic



Tubular Data

Surface Casing

Size 13-3/8" Cemented with 300 sx
TOC Surface feet determined by observation
Hole size 17-1/2"

Intermediate Casing

Size 9-5/8" Cemented with 1600 sx
TOC Surface feet determined by observation
Hole size 12-1/4"

Long String

Size 7" Cemented with 400 sx
TOC *originally 6350' feet determined by temperature survey
(1-13-54) *See 4 below
Hole size 8-3/4"
Total Depth 9351'

Injection Interval

9158 feet to 9332 feet
(perforated or open-hole, indicate which)

Tubing Size 2-3/8" lined with Riceline Duoline 10 IPC set in a
2-3/8" x 7" Nickel coated Arrowset 1 packer at 9070 feet
(brand and model)

(or describe any other casing-tubing seal).

Other Data

1. Name of the injection formation Simpson McKee sand
2. Name of the Field or Pool (if applicable) Teague (Simpson)
3. Is this a new well drilled for injection: Yes No
If no, for what purpose was the well originally drilled: Originally drilled & completed as a producing well

*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. Yes Perforated from 5820' to 5822' and cement block squeezed through cement retainer set at 5799' after having set CIBP (above McKee perforations) at 9120' with 35' cement on top of CIBP. Perforated Blinebry interval 5269' to 5781' treated produced oil and gas well until this zone was depleted. Squeeze casing leak from 4976'-5006' with 450 sx cement through a cement retainer after initially setting an RBP above the Blinebry perforations.
5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. Above - Blinebry-Paddock at 5000'-5400', Below (depleted) Ellenburger at 9575'

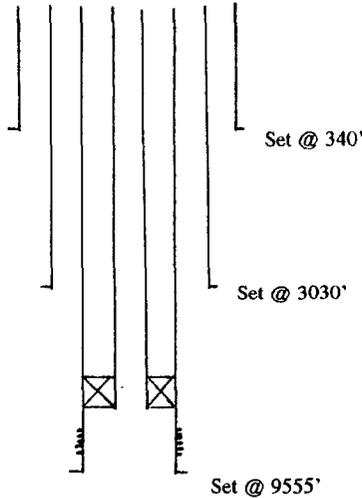
INJECTION WELL DATA SHEET

Plains Petroleum Operating Company OPERATOR E. C. Hill "B" Federal LEASE

#24 Well No. 2280' FSL & 560' FEL, Unit Letter I, Footage Location 34 Section 23S Township 37E Range

Lea County, Mexico

Schematic



Tubular Data

Surface Casing

Size 13-3/8" Cemented with 320 sx
 TOC Surface feet determined by observation
 Hole size 17-1/2"

Intermediate Casing

Size 8-5/8" Cemented with 520 sx
 TOC 50' from surface feet determined by temperature survey
 Hole size 12-1/4"

Long String

Size 5-1/2" Cemented with 1625 sx
 TOC 2595 feet determined by CBL
 Hole size 7-7/8"
 Total Depth 9555'

Injection Interval

9235 feet to 9383 feet
 (perforated or open-hole, indicate which)

Tubing Size 2-3/8" lined with Riceline Duoline 10 IPC set in a
2-3/8" x 5-1/2" Nickel coated Arrowset 1 packer at 9155
 feet

(brand and model)

(or describe any other casing-tubing seal).

Other Data

1. Name of the injection formation Simpson McKee sand
2. Name of the Field or Pool (if applicable) Teague (Simpson)
3. Is this a new well drilled for injection: Yes X No
 If no, for what purpose was the well originally drilled: Originally drilled & completed as a producing well

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 - Drinkard 6310', Abo 6518', Blinebry-Paddock 5000'-5400', Devonian 7325'. Below - None

VI - Application for Authorization to Inject

Well Name	Well No.	UL	Sec	Twn	Rng	Csg Size	Depth	Sx Cmt	TOC	TD	Comp Interval	Date Drilled	Well Type
E.C.Hill D *(Hill 1-M)	4	H	34	23S	37E	13-3/8" 9-5/8" 7"	331' 2919' 9100'	300 1400 650	surface 70' 5900'	9290'	6638'-6714' Abo	8/13/52	Oil Producer Proposed W/W
E.C.Hill D *(Hill 4-M)	4	A	34	23S	37E	13-3/8" 9-5/8"	323' 2902'	300 2000	surface 500'	9399'	7148'-7206' Devonian	11/2/54	Oil Producer
E.C.Hill D *(Hill 5-E)	5	E	35	23S	37E	13-3/8" 9-5/8" 7"	316' 2908' 9729'	300 1500 650	surface surface 5650'	9734'	7265'-7295' Devonian	10/23/53	Oil Producer
E.C.Hill E	1	A	34	23S	37E	13-3/8" 9-5/8" 7"	321' 2895' 9654'	450 1600 500	surface surface 6822'	9733'		11/28/51	P&A'd 1/75
E.C.Hill E	2	H	34	23S	37E	13-3/8" 9-5/8" 7"	317' 2914' 9577'	250 1400 650	surface 900' 5772'	9730'		5/14/52	P&A'd 1/75
Melba Goins	1	P	27	23S	37E	13-3/8" 8-5/8" 5-1/2"	306' 2900' 9723'	325 2000 400	Cal'd surface Cal'd surface Cal'd 7471'	9825'	3382'-3466' 7 Rvrs Qn Phrs	8/18/80	Oil Producer
E.C.Hill B *(Hill 3-M, 3-MD, 6-M)	4	G	34	23S	37E	13-3/8" 7-5/8" 7"	329' 2917' 9510'	300 1500 650	surface 450' 6100'	9827'	5118'-5251' Paddock	7/10/53	Oil Producer
E.C.Hill B *(Hill 3-E, 3-EM, Blinebry #18)	5	B	34	23S	37E	13-3/8" 7-5/8" 7"	322' 2918' 9582'	300 1500 500	surface 750' 5350'	9737'	6617'-6710' Abo	1/16/53	Oil Producer
E.C.Hill B *(Hill 5-M)	6	E	35	23S	37E	13-3/8" 9-5/8" 7"	320' 2906' 9348'	300 1600 403	surface surface 6350'	9351'	5298'-5740' Blinebry	11/2/54	Oil Producer Proposed W/W
E.C.Hill B	10	M	35	23S	37E	13-3/8" 8-5/8" 5-1/2"	354' 3008' 9943'	375 600 2475	surface surface 2800'	9943'	9359'-9484' McKee	10/27/93	Oil Producer
E.C.Hill B	12	P	34	23S	37E	13-3/8" 8-5/8" 5-1/2"	362' 2996' 9978'	375 675 1390	surface surface 3050' CBL	9978'	9479'-9536' McKee	12/23/94	Oil Producer
E.C.Hill B	13	O	34	23S	37E	13-3/8" 8-5/8" 5-1/2"	355' 3008' 9734'	375 625 1350	surface surface 3200' CBL	9740'	9475'-9537' McKee	7/8/95	Oil Producer converted to W/W
Baylus Cade	5	N	35	23S	37E	13-3/8" 8-5/8" 5-1/2"	362' 3001' 9980'	375 650 1875	surface surface 2136' CBL	9980'	9408'-9536' McKee	12/28/94	Oil Producer converted to W/W
Baylus Cade	6	K	35	23S	37E	13-3/8" 8-5/8" 5-1/2"	350' 3000' 9904'	375 725 1725	surface surface 560' CBL	9926'	9365'-9519' McKee	6/11/95	Oil Producer
Baylus Cade	7	L	35	23S	37E	13-3/8" 8-5/8" 5-1/2"	370' 3005' 9877'	330 550 2155	surface surface 310' CBL	9877'	9252'-9412' McKee	1/16/97	Oil Producer
E.C.HILL B	24	I	34	23S	37E	13-3/8" 8-5/8" 5-1/2"	340' 3030' 9555'	320 520 1625	surface 50' 2595' CBL	9555'	9270'-9383' McKee	12/12/97	Oil Producer

*Former Well Name and No.

Dickey

Analytical Laboratory, Inc.

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To: <i>Kirk NIEBERDING</i>	From: <i>RITA Dickey</i>	
Co: <i>PLAINS PETROLEUM</i>	Co: <i>DICKEY ANAL. LAB</i>	
Dept.	Phone # <i>687-2240</i>	
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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. 36-T235-R37E
LEA CO., NM

API WATER ANALYSIS

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.

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