KELLAHIN AND KELLAHIN
ATTORNEYS AT LAW
EL PATIO BUILDING
117 NORTH GUADALUPE
POST OFFICE BOX 2265
SANTA FE, NEW MEXICO 87504-2265

W. THOMAS KELLAHIN*
*NEW MEXICO BOARD OF LEGAL SPECIALIZATION RECOGNIZED SPECIALIST IN THE AREA OF NATURAL RESOURCES-OIL AND GAS LAW

JASON KELLAHIN (RETIRED 1991)

TELEPHONE (505) 982-4285
TELEFAX (505) 982-2047

August 29, 1995

HAND DELIVERED

Mr. Michael E. Stogner
Chief Hearing Examiner
Oil Conservation Division
2040 South Pacheco
Santa Fe, New Mexico 87505

Re: ***AMEND AND READVERTISE NMOCD Case 11368***
Application of Plains Petroleum Operating Company for Approval of its Teague-Simpson (McKee) Pressure Maintenance Project including a special project allowable and to Qualify Said Project for the Recovered Oil Tax Rate Pursuant to the "New Mexico Enhanced Oil Recovery Act," Lea County, New Mexico

Dear Mr. Stogner:

On behalf of Plains Petroleum Operating Company, please find enclosed our referenced first amended application which we request be set for hearing on the next available Examiner's docket now scheduled for September 21, 1995.

By copy of this letter and application, sent certified mail, we are notifying all interested parties within a 1/2 mile radius of the subject injection well of their right to appear at the hearing and participate in this case, including the right to present evidence either in support of or in opposition to the application and that failure to appear at the hearing may preclude them from any involvement in this case at a later date.

Pursuant to the Division's Memorandum 2-90, all parties are hereby informed that if they appear in this case, then they are requested to file a Pre-Hearing Statement with the Division not later than 4:00 PM on Friday, September 15, 1995, with a copy delivered to the undersigned.

Also enclosed is our proposed advertisement of this case for the NMOCD docket.

Very truly yours,

W. Thomas Kellahin

WTK/mg
Enclosure

cc: Plains Petroleum Operating Company (Denver) and
By Certified Mail - Return Receipt
All Parties Listed in Application

PROPOSED ADVERTISEMENT

CASE 11368 (continued and readvertised) Application of Plains Petroleum Operating for approval of a pressure maintenance project, special project allowable and to qualify said project for the recovered oil tax rate pursuant to the Enhanced Oil Recovery Act, and for the expansion and contractions of certain pools, Lea County, New Mexico. Applicant seeks approval of its Teague-Simpson (McKee) Pressure Maintenance Project for the secondary recovery of oil by injection of water into the McKee member of the Teague Simpson (McKee) Pool, in a project area comprising 320 acres being the SW/4 of Section 35 and the SE/4 of Section 34, T23S, R37E, NMPM. Applicant further seeks to qualify this project area for the recovered oil tax rate pursuant to the "New Mexico Enhanced Oil Recovery Act" (Law 1992, Chapter 38, Sections 1 through 5). Said project is located approximately 12 miles south of Eunice, New Mexico.

RECEIVED

AUG 2 9 1995

Oil Conservation Division

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

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

RECEIVED
AUG 29 1995
Oil Conservation Division

CASE NO 11368

FIRST AMENDED 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 institute a pressure maintenance project in its Teague-Simpson (McKee) Pressure Maintenance Project by the injection of water into the McKee member of the Teague (Simpson) Pool, Lea County, New Mexico including a special project allowable and to qualify said project for the recovered oil tax rate for enhanced oil recovery projects and in support states:

(1) Plains Petroleum Operating Company ("Plains") is the proposed 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) Plains controls 100% of the working interest ownership in the project area and is the current operator of all wells within that area.

(3) As of July 1, 1995, the cumulative primary oil recovery from the wells in the Project Area has been 114,260 barrels of oil.

(4) The wells in the Project Area are currently producing at a rate of 215 BOPD and 18 BWPD from 5 active producers. Approximately 307,700 barrels of recoverable primary oil reserves remain under the current mode of operations.

(5) The estimated amount of recoverable oil attributable to a Positive Production Response from the Expanded Use of enhanced oil recovery technology for this EOR Project is 417,660 barrels of additional oil.

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

(7) The Pressure Maintenance Project will be developed on a 40-acre "irregular" injection pattern initially involving three (3) producing wells, the and the conversion of two (2) existing wells to water injection wells all as located on Exhibit "A".

(8) The three (3) producing wells and the two (2) injection wells are as listed by name and location on Exhibit "B" attached.

(9) 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.

(10) 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.

(11) At the hearing held on August 25, 1995 applicant submitted the completed Division Form C-108 with attachments for this project which is incorporated by reference herein.

(12) The estimated amount of recoverable oil attributable to a Positive Production Response from the Expanded Use of enhanced oil recovery technology for this EOR Project is 417,660 barrels of additional oil.

(13) 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

(3) Total acres in the Project Area:

320 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) Pending OCD hearing in Case 11368

(3) July 12, 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:
$214,000.

(4) Total Project Costs:

$3,930,000
which includes the costs of drilling and completing the five wells.

(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 417,660 barrels of oil with an undiscounted net present value of $ 5,893,000 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

f. Production data:

See Exhibit "D"

(14) Applicant seeks a special project allowable equal to the depth bracket oil allowable times the number of total wells in the project with the ability to produce said allowable from one or more wells and in any combination.

(15) 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 September 21, 1995.

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 COLORADO)
) SS.
COUNTY OF Jefferson)

I, Jay Vargo, having been first duly sworn, state that I am a petroleum engineer, a duly authorized representative of Plains Petroleum 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.

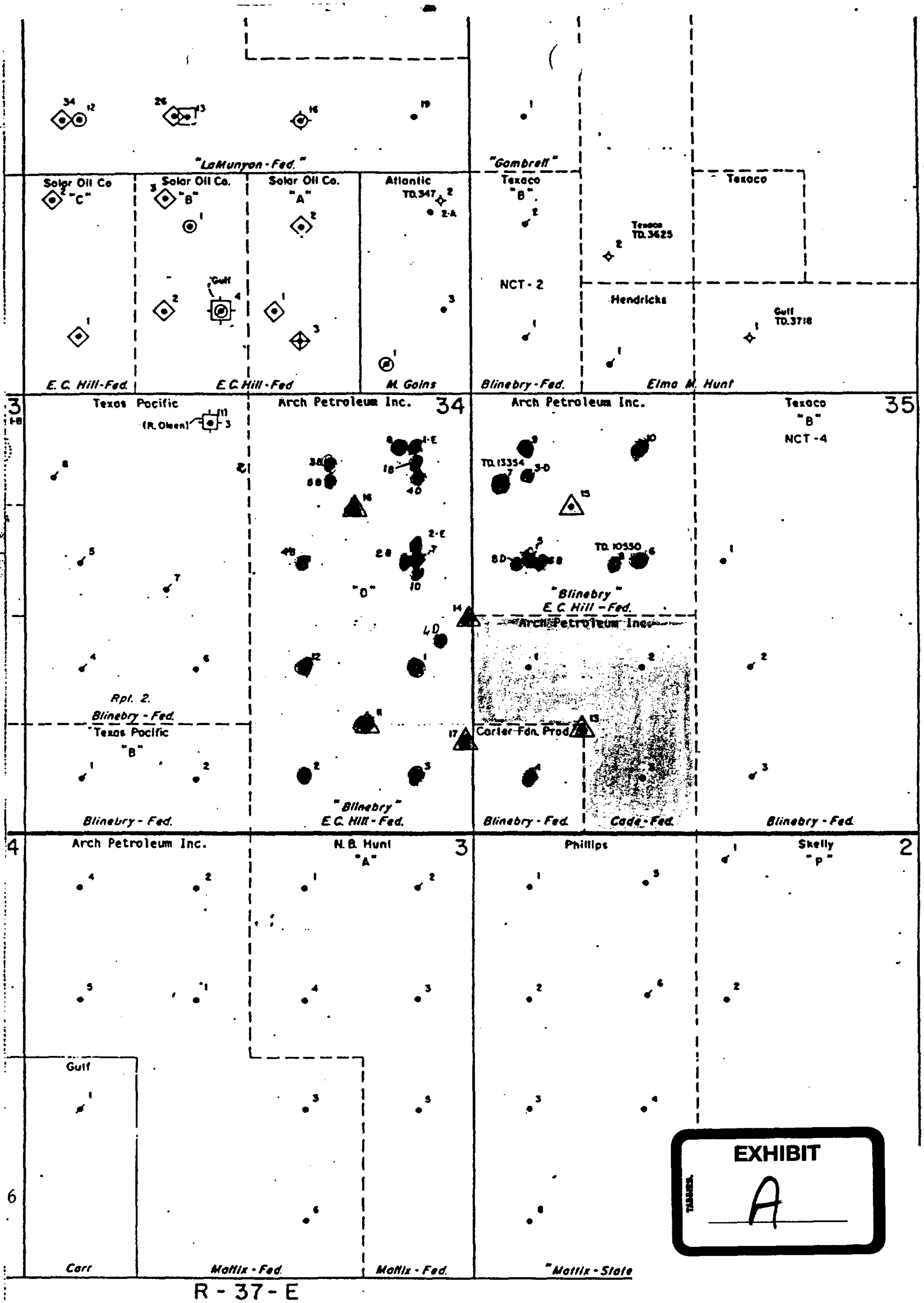
Jay Vargo

The foregoing certificate was acknowledged before me this 29 day of August, 1995 by Jay Vargo.

Notary Public

My Commission Expires:
3-30-99

SEAL



▶) Blinebry
1 thru 18

▶) Hill B
1 thru 7

▶) Hill D
1,3,4,5 & 6

▶) Hill E
1 & 2

▶) Hill 7
water

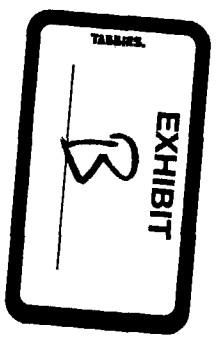
NE 34 NW 35 [illegible]

EAGUE (Multi-Pay) FIELD AREA
LEA COUNTY, NEW MEXICO

Surface to 3800' - Blinebry
3800' and below - Hill

SE [illegible] SW SW

Well Name	Well No.	UL	Well Location Sec	Twn	Rng	Casing Size	Depth	No. of Sacks of Cement	Top of Cement	TD	Completion Interval	Date Drilled	Well Type
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		Oil Producer Proposed Injector
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 Proposed Injector
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		Oil Producer



A. BAYLUS CADE FEDERAL LEASE:

Being 120 acres, more or less, out of that certain Oil and Gas Lease listed below covering the following described lands in Lea County, New Mexico:

Township 23 South, Range 37 East, N.M.P.M.

Section 35: E/2 SW/4 and NW/4 SW/4

Lessor	Lease Date	Recorded Book/Page
United States of America	01/01/40	84/480 Lea Co. Seriel No. 034711 U. S. Land Office Las Cruses, New Mexico

B. EVA E. BLINEBRY FEDERAL LEASE:

Being 520 acres, more or less, out of that certain Oil and Gas Lease listed below insofar and only insofar as said lease covers those rights and formations from the surface to 3,800 feet subsurface in and beneath the following described lands in Lea County, New Mexico:

Township 23 South, Range 37 East, N.M.P.M.

Section 34: E/2
Section 35: NW/4 and SW/4 SW/4

Lessor	Lease Date	Recorded Book/Page
United States of America	01/01/60	Seriel No. 064118 U. S. Land Office, Las Cruses, New Mexico

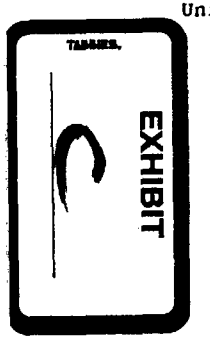
C. E. C. HILL FEDERAL LEASE:

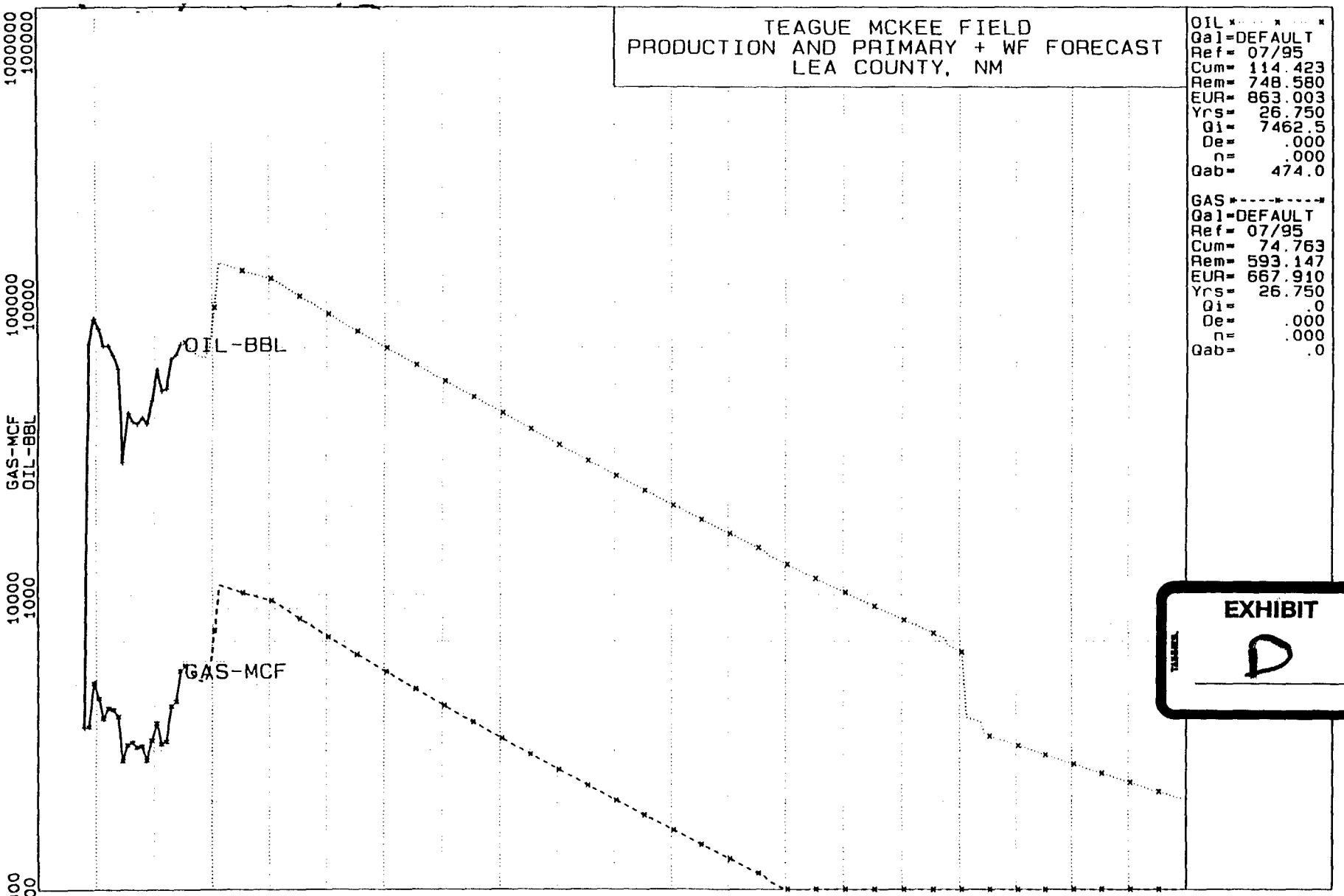
Being 520 acres, more or less, out of that certain Oil and Gas Lease listed below, insofar and only insofar as said lease covers those rights and formations from 3,800 feet subsurface and below in the and beneath the following described lands, Lea County, New Mexico:

Township 23 South, Range 37 East, N.M.P.M.

Section 34: E/2
Section 35: NW/4 and SW/4 SW/4

Lessor	Lease Date	Book/Page
United States of America	01/01/60	Seriel No. 064118 U. S. Land Office, Las Cruses, New Mexico





GROSS PRODUCTION PLOT

EXHIBIT

D

BEFORE THE
OIL CONSERVATION DIVISION
Case No. 11368 Exhibit No. 6
Submitted By:
Plains Petroleum Company

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.

Is your RETURN ADDRESS completed on the reverse side?

3. Article Addressed to:
NM OCD
P.O. Box 1980
Hobbs, NM 88240

4a. Article Number
P 428 546 554

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

7. Date of Delivery

5. Signature (Addressee)

6. Signature (Agent)

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

PS Form 3811, November 1990 ☆U.S. GPO: 1991—287-068 **DOMESTIC RETURN RECEIPT**

Thank you for using

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.
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2. ☐ Restricted Delivery

Consult postmaster for fee.

Is your RETURN ADDRESS completed on the reverse side?

3. Article Addressed to:
BLM
P.O. Box 1778
Carlsbad, NM 88221

4a. Article Number
P 428 546 553

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

7. Date of Delivery

5. Signature (Addressee)

6. Signature (Agent)

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

PS Form 3811, November 1990 ☆U.S. GPO: 1991—287-068 **DOMESTIC RETURN RECEIPT**

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2. ☐ Restricted Delivery

Consult postmaster for fee.

Is your RETURN ADDRESS completed on the reverse side?

3. Article Addressed to:
Texaco E+P
P.O. Box 3109
Midland, TX 79702

4a. Article Number
428 546 639

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

7. Date of Delivery

5. Signature (Addressee)

6. Signature (Agent)

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

PS Form 3811, November 1990 ☆U.S. GPO: 1991—287-068 **DOMESTIC RETURN RECEIPT**

Thank you for using

EXHIBIT
E

SENDER:
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- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so ...st we can return this card to you.
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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:
Arch Petroleum
10 Desta Drive, Ste 4206
Midland, TX 79705

4a. Article Number
P 428 546 551

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

7. Date of Delivery

5. Signature (Addressee)

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

6. Signature (Agent)

PS Form 3811, November 1990 ☆U.S. GPO: 1991—287-088 **DOMESTIC RETURN RECEIPT**

Is your RETURN ADDRESS completed on the reverse side?

Thank you for using

SENDER:
- Complete items 1 and/or 2 for additional services.
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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:
OXY USA Inc.
P.O. Box 50250
Midland, TX 79702

4a. Article Number
P 428 546 550

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

7. Date of Delivery

5. Signature (Addressee)

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

6. Signature (Agent)

PS Form 3811, November 1990 ☆U.S. GPO: 1991—287-088 **DOMESTIC RETURN RECEIPT**

Is your RETURN ADDRESS completed on the reverse side?

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SENDER:
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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:
Sirgo Oper.
P.O. Box 3531
Midland, TX 79702

4a. Article Number
P 428 546 549

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

7. Date of Delivery

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

6. Signature (Agent)

PS Form 3811, November 1990 ☆U.S. GPO: 1991—287-088 **DOMESTIC RETURN RECEIPT**

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2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
ARCO
P.O. Box 1610
Midland, TX 79702

4a. Article Number
P 428 546 546

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

7. Date of Delivery

5. Signature (Addressee)

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**

Is your RETURN ADDRESS completed on the reverse side?

Thank you for using

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.
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- 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:
Chevron USA
P.O. Box 1150
Midland, TX 79702

4a. Article Number
P 428 546 547

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

7. Date of Delivery

5. Signature (Addressee)

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**

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Thank you for using

SENDER:
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- Complete items 3, and 4a & b.
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1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
Chevron USA
P.O. 1150
Midland, TX 79702

4a. Article Number
P 428 546 548

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

7. Date of Delivery

5. Signature (Addressee)

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**

Is your RETURN ADDRESS completed on the reverse side?

Thank you for using Return Receipt Service.

LARGE FORMAT EXHIBIT HAS BEEN REMOVED AND IS LOCATED IN THE NEXT FILE

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. 11,368
APPLICATION OF PLAINS PETROLEUM COMPANY	)	

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

ORIGINAL

BEFORE: DAVID R. CATANACH, Hearing Examiner

August 24th, 1995

Santa Fe, New Mexico

This matter came on for hearing before the New Mexico Oil Conservation Division, DAVID R. CATANACH, Hearing Examiner, on Thursday, August 24th, 1995, at the New Mexico Energy, Minerals and Natural Resources Department, Porter Hall, 2040 South Pacheco, Santa Fe, New Mexico, Steven T. Brenner, Certified Court Reporter No. 7 for the State of New Mexico.

* * *

I N D E X

August 24th, 1995
Examiner Hearing
CASE NO. 11,368

	PAGE
APPEARANCES	3
APPLICANT'S WITNESSES:	
TRACY S. GALLOWAY (Geologist)	
Direct Examination by Mr. Kellahin	6
Examination by Examiner Catanach	18
J.J. VARGO (Engineer)	
Direct Examination by Mr. Kellahin	23
Examination by Examiner Catanach	40
REPORTER'S CERTIFICATE	51

* * *

E X H I B I T S

Applicant's	Identified	Admitted
Exhibit 1	7	18
Exhibit 2	14	18
Exhibit 3	31	40
Exhibit 3A	32	40
Exhibit 4	33	40
Exhibit 5	34	40
Exhibit 6	35	40
Exhibit 7	38	40
Exhibit 8	39	40

* * *

A P P E A R A N C E S

FOR THE DIVISION:

RAND L. CARROLL
Attorney at Law
Legal Counsel to the Division
2040 South Pacheco
Santa Fe, New Mexico 87505

FOR THE APPLICANT:

KELLAHIN & KELLAHIN
117 N. Guadalupe
P.O. Box 2265
Santa Fe, New Mexico 87504-2265
By: W. THOMAS KELLAHIN

* * *

WHEREUPON, the following proceedings were had at 9:42 a.m.:

EXAMINER CATANACH: Call the hearing back to order, and at this time I'm going to call Case 11,368, which is the Application of Plains Petroleum Company for a waterflood project, Lea County, New Mexico.

Are there appearances in this case?

MR. KELLAHIN: Mr. Examiner, I'm Tom Kellahin of the Santa Fe law firm of Kellahin and Kellahin, appearing on behalf of the Applicant, and I have two witnesses to be sworn.

EXAMINER CATANACH: Any additional appearances?

Will the witnesses please stand to be sworn?

(Thereupon, the witnesses were sworn.)

MR. KELLAHIN: Mr. Examiner, with your permission, we would like to make the technical presentation of our expert witnesses' testimony and exhibits, but would request permission to have this case readvertised and appear on the September 21st docket, I believe it is, to correct one item and to add another.

In reviewing the information, it appears to me that this is not a waterflood project. The existing wells still produce substantial oil, and it would be more appropriate to characterize this as a pressure-maintenance project.

If you agree after our evidence, then I will file an amended application to ask that this be a pressure-maintenance project with a project allowable.

For a project allowable, we would simply seek to take the depth bracket oil allowable, which is 275 barrels a day, times the five project wells, to be produced in any combination.

You're about to see a project that initially will involve three producers and two injection wells.

In addition, we would like to supplement our Application to ask for the opportunity to qualify this project for the enhanced oil recovery tax credit, and we would want to put that on the Application.

We are utilizing the C-108 information that was previously submitted to the Division. In reviewing that information, we have found that there is a need to supplement it. There are some additional wells within the half-mile radius that are not reported in the C-108, and we're prepared to address that this morning and provide you the additional information.

EXAMINER CATANACH: Okay.

MR. KELLAHIN: We're going to provide you with a geologic witness and a reservoir engineer to describe the project, and we're ready to proceed.

EXAMINER CATANACH: Okay, you may proceed.

TRACY S. GALLOWAY,

the witness herein, after having been first duly sworn upon his oath, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q. Mr. Galloway, for the record would you please state your name and occupation?

A. Yeah, Tracy Galloway, petroleum geologist.

Q. Mr. Galloway, where do you reside and by whom are you employed?

A. I am currently employed by Plains Petroleum/Barrett Resources in Denver, Colorado.

Q. Have you been involved as a petroleum geologist in examining the geologic factors and parameters that cause Plains Petroleum to propose this particular project as an enhanced oil recovery project, a secondary oil recovery project?

A. Yes, I have.

Q. Do the geologic displays that we're about to see represent your work product?

A. Yes, they do.

MR. KELLAHIN: We tender Mr. Galloway as an expert petroleum geologist.

EXAMINER CATANACH: He is so qualified.

Q. (By Mr. Kellahin) Mr. Galloway, let me have you

unfold what we've marked as Exhibit 1, and before we talk about the specific details let's have you identify for the record what it is that we're looking at.

A. Okay, Exhibit 1 is a structure map on the top of the McKee sand marker over the -- basically the Teague complex.

Q. This pool is identified by the Division as the Teague (Simpson) Pool, is it not?

A. Yes, it is.

Q. And we're looking in particular at the McKee portion or the McKee member of that pool?

A. That's correct.

Q. This structure map is on the top of the McKee sand marker. Why is that an appropriate marker by which to construct a structure map?

A. Well, in this area it's a pervasive -- it's basically the top of the sandstone package, the top of the clastic package as we call it, and it's very easy to pick up on all of the well logs in the area, some of which date back to the late Forties. So it's just a good marker that you can map throughout that whole area.

It's about 18 feet above the top of the Upper McKee sand.

Q. Our project area is proposed to be the southwest quarter of 35 and to include the southeast quarter of 34.

Within that 320 acres that you see on this exhibit, there are wells that are shaded in green, that are contained within a -- what I would characterize to be a fault block in the southern portion of the display. Do you see that?

A. Yes, sir.

Q. Of those five wells, identify for the Examiner the two wells that are proposed to be injection wells.

A. Okay, the well on the east side, which would be in the southeast-southwest of Section 35, is the Baylus Cade Number 5. That's one of the proposed injection wells, and it's so noted on the map.

And then on the west side of the project area is the recently drilled Hill Federal B Number 13, which is located in the -- basically the southwest-southeast of 34, or the northeast corner of that.

Q. These five wells, then, for the project are all existing wells?

A. Yes, sir.

Q. And the two wells you've identified, the McKee 5 and the 13, are to be converted to injection?

A. Yes, sir.

Q. All right. The other three wells, then, will remain available as producing wells?

A. That's correct.

Q. Within that particular area, give us your opinion

as a geologist as to why that is a suitable acreage configuration for a project area.

A. Well, we've -- The area that we've got mapped in there is approximately 200 acres within the structural confinements that we've so mapped, using the subsurface data that we've got, derived from the five wells that we've drilled.

In addition to that, Plains and Texaco shot a joint 3-D over the project after the drilling of the initial well to delineate further drill sites. That helped us come up with the fault interpretation that we've got in the project area, as well as the pressure data that we got from all five of these wells as they were drilled. All five of them had DSTs in the McKee sand member, as well as follow-up bottomhole pressure data. That pressure data showed that we were separated from the production that you can see noted immediately north. Our wells initially had virgin pressure, comparable to that seen just north.

And so based on subsurface control, pressure data and seismic data, we feel like we've got an accurate picture of the size of the reservoir and the project area as being about 200 acres here.

Q. Describe more specifically what has caused you to place the northern boundary of the project as you've shown it, where we have this fault line. You've got an upthrown

fault north and a downthrown side to the south. Do you see that line?

A. You bet.

Q. Describe for us the vertical displacement and what causes you to believe that's an adequate northern boundary for the project.

A. The fault -- We felt certain there was a fault in the area, based on the initial pressure data that we got on the initial well, which the Federal Hill B Number 10, which is in the southwest-southwest of 35. That well was drilled back in November of 1993 and completed in November.

That pressure data was approximately 3600 pounds, which is virgin pressure. We tested two intervals in the McKee sand package.

So we at that point in time had a pretty good hunch that we were fault-separated. Earlier mapping north of this area had showed that there was some additional faulting to the north, separating the production in the two pools to the north.

We then shot 3-D over the area, which has confirmed this interpretation. You can clearly see on the 3-D that we've got that we had this sealing fault to the north. We're estimating approximately 100 feet of throw at the -- basically at the crest of the structural axis. And that again is based on 3-D, but also, in addition, the

substantial well control that we've got in the area.

Q. What is the total gross thickness of the McKee portion that's going to be subject to the injection?

A. The gross thickness is somewhere around 150 feet, and there's three sand members within that gross interval.

Q. Describe for us your basis for concluding that the southern boundary of the project area is also fault-controlled.

A. That control really is, for the most part, based on the rapid drawdown pressurewise, but primarily the 3-D survey that we shot also clearly shows another fault bounding us on the southern edge of our project area.

Q. When we move to the eastern boundary, describe for us why you have chosen the boundary as proposed on the east side.

A. The eastern side is structurally controlled. We have fairly gentle dips to the east, but seismically, it does fall off rapidly to the east, and there's some additional control to the north, which shows that you have a rapid structural fall-off. So that's structurally controlled on that east side, and it's seen on the well control as well as the seismic.

Q. And then finally the western side of the boundary for the project area?

A. The western side really is pretty much the same

story. We know from subsurface control that we're dipping to the west southwest, and also based on the 3-D seismic, we do see basically a fault complex that looks like it's bounding us on the southwest side, of that southwest side of the project area as well.

Q. As a geologist, do you support the concept of putting the Number 5 and the Number 13 well as injection wells? Is there some geologic basis for doing that?

A. Yes, sir. I mean, the -- As Exhibit 2 would show -- I don't know whether I --

Q. Yeah, we'll get to that in a second, but just give me the conclusion.

A. Yeah. What we see from an analogue to the production to the north is that this is an excellent analogue. The reservoir continuity and character is virtually identical to the production to the north, which was also flooded and which we studied extensively.

The pressure data certainly indicates that we've got a well-defined project area that I think is fairly accurately mapped.

Q. Why the choice of the Number 5 well as an injection well rather than, perhaps, the Number 6 or the 10 B?

A. The Number 5, we feel it's structurally downdip and feel like it would be better to -- We had considered

either the 5 or the 6 as the injection well, but the 6, which is one of the later wells that was drilled, just completed back in April of 1995, came in a little structurally bit higher and we feel like we can bank the oil better into that reservoir position.

It's also -- The Number 6 is better reservoir quality, we feel, based on the data we've got.

The Number 13 also is structurally downdip, and we feel like we'd have better sweep coming from the west end. And also using the analogue to the north where the injection was on the west side.

Q. In our particular project area that's before the Examiner today, none of this area has been subject to a prior flood, has it?

A. No, sir.

Q. You talk about an analogue. There was a portion of this pool that was subject at one time to at least some administrative orders issued by the Division for a prior waterflood project?

A. Yes, sir, the project to the north.

Q. Yeah, and was waterflood actually injected and introduced into that area?

A. Yes, sir. The two wells, basically the well in the southwest-northeast of 34 and one of the wells in the northwest-northeast of Section 34, were converted to water

injection in 1964. Now, the original field was developed beginning in 1955. But those two wells were converted to injection.

Q. Let's talk about within the project area, the continuity of the McKee sand members to make it geologically suitable or feasible as a waterflood project. And to do so, let's look at Exhibit Number 2.

A. Okay.

MR. KELLAHIN: I've already got one unfolded here, Mr. Examiner, if we just scoot it over here, it's all right.

EXAMINER CATANACH: What service, huh?

THE WITNESS: It's kind of a horse blanket.

MR. KELLAHIN: You're going to have to stay over there, so the court reporter can hear you. We'll have to have to do this the hard way.

THE WITNESS: Basically, what you're seeing is a structural cross-section. This is Exhibit 2, structural cross-section A-A', which is basically a west-to-east cross-section through the project area. It includes all of the wells that we have drilled, which would include the two proposed injection wells, as well as the three producers.

As you can see, in the middle of the cross-section was the original well, which was the Hill B Number 10.

What I've done is basically pull through the three gross members within this McKee sand package. The -- What I feel is really quite evident, the better reservoir development is in this lower McKee sand package. It's approximately 60, 70 feet in gross thickness, and you've got both the electric log and the CNL density log.

What I've tried to do is show the porosity development over 10 percent colored on each of the logs, on the porosity logs, and you see that you've got really consistent porosity development on the lower McKee throughout all of these wells.

Again, the three producers are in the middle -- Well, excuse me, the -- All of these wells are producing out of the McKee. However, the Number 13, which is on the far west side, is only producing out of the upper and middle members. It came in structurally low to the McKee production and the other wells, and thus -- and it was DST'd, and we know we're in connection on that well by virtue of the pressure data.

You see the perforations are marked and colored up in green. The second better package in terms of just reservoir development would be this middle McKee package, which you can see also correlates really well through the area.

And you can take these wellbores and do the

correlations even up to the north. The logs that we've got to use in that area are old neutron logs, because the vintage of the wells is back in the middle Fifties. But in terms of the gamma-ray response and just the well performance, you see a very similar -- They're almost layovers in terms of sand quality and reservoir quality.

But you can see the three members that we're talking about flooding. We've opened up all three members in the Number 10 well. The Number 5 well, which is to the east of that, we've opened up the lower McKee package and the middle McKee package.

The Number 6 well, which is on the far right-hand side of A-A', was recently completed, and we opened up all three of the intervals in there. But the porosity development, where it's developed, particularly in the lower member, is consistent throughout the whole project area, and I would say that's true as well in the middle McKee.

The upper McKee sand member porosity development is much more erratic, and yet we know from the pressure data that we are communicated throughout the whole project area, in all three members of the McKee that we've broken out here.

Q. (By Mr. Kellahin) Is there one of these logs for a particular well that would represent a type log by which

you could pick, in terms of a footage, the top and the bottom of your proposed approval for injection or pressure maintenance?

A. I can use just the Number 10, would probably be suitable.

Q. All right, sir, let's do that.

A. Okay. The Hill B Federal 10, if I can read down here, it looks like the top of the interval there is 9346, and the base of the lower McKee sand in that well is 9529. That's the well in the middle. So that would be the stratigraphic interval that we would be dealing with.

Q. Is that a sufficient enough identification marker that you can adequately then expose the interval that you choose to involve with waterflood or pressure maintenance?

A. Yes, sir.

Q. Can you geologically conclude that this is an area suitable for waterflood or pressure maintenance and that geologically it is feasible to conduct such an operation in this portion of the pool?

A. I feel strongly, based on the subsurface evidence, the pressure data which clearly shows very good communication between the wellbores, as well as the direct analogue sitting due north on the other side of the fault, which had a good secondary response when that one was put under flood, as well as the project area even further

north, that this is a great analogue. Both of those are great analogues, and they were successful.

I think this will be an even better project, because we're looking at getting into the secondary mode earlier in the life of the pool, so to speak, and I think that we have comparable reservoir quality. So I think it's a very good candidate for secondary.

Q. Is there any probability that water injected into the McKee could migrate out of the McKee and contaminate freshwater sands or compromise other oil-bearing formations either above or below this?

A. I don't believe so.

MR. KELLAHIN: That concludes my examination of Mr. Galloway.

We move the introduction of his Exhibits 1 and 2.

EXAMINER CATANACH: Exhibits 1 and 2 will be admitted as evidence.

EXAMINATION

BY EXAMINER CATANACH:

Q. Mr. Galloway, are these three separate reservoirs?

A. Based on the pressure data that we've taken through time, it appears that they are at least pressure-separated. And the reason I say that is that we have a stronger pressure drawdown in the lower McKee, and we see

different pressures in the upper and middle. They're a little bit higher. So from that standpoint, I would say they are separate.

Q. Okay. What type of drive mechanism is present in these reservoirs?

A. It's basically just pressure depletion.

Q. Is there water present in these?

A. You know, there's been very little water produced thus far, so I don't believe there's a strong water drive component at all.

Q. When was this portion of the field initially developed?

A. The initial development, initial well, this Number 10, was completed in November of 1993. That was done on the basis -- Actually, we were developing a shallower horizon, mapping, and structurally saw that we -- it looked like we had an opportunity to take this particular well deeper to test the concept that maybe there was, in fact, a deeper pool. We did that again. This well was completed in November of 1993.

We then subsequently shot a 3-D, which took quite a while -- it took about a year or so -- and then drilled the Number 12, which was completed in late 1994.

And then early 1995, we drilled and completed the Cade Number 5 and had ongoing studies during that period of

time, and then have now just recently drilled the Number 6, which is on the northeast side of the pool.

And then the very latest well is the Hill Federal Number 13, which was completed basically in June of this year.

Q. When was the main portion of the pool developed? Has that been around the same time period or --

A. The -- To the north of the fault?

Q. Right.

A. No, that was drilled back in the 1950s. 1955 was basically the initial development of that field.

It was a prolific field, not only out of the McKee but also out of the Ellenburger and as well as the Devonian. So that map can lead to a little bit of confusion because basically Carter, who was the operator of the project, basically drilled three wells in each 40, wanted to develop the Ellenburger, the next one to develop the McKee, and then the Devonian. And then in addition you've got Blinebry Paddock production, which we had been developing.

But the McKee production was developed back in the middle Fifties. The conversion of the two wells on the west side of that project area to water injection was done in 1964, and response was seen in the three producers fairly rapidly after that.

The pool was shut down just -- I believe the last McKee production was, I think, in 1982.

Q. The last McKee production to the north of the fault?

A. Yes, sir.

Q. So you've got the only production in the pool at this time?

A. Yes, sir.

Q. Okay. Where was the other waterflood located?

A. The other -- It's just north of that. It's -- The other waterflood was situated basically in the southwest quarter of Section 22 and northwest quarter of Section 27, and you can see that also the east side of the southeast quarter of Section 21, and that area right in there, the LaMunyon leasehold. And that, I believe, was a Chevron flood that was instituted.

Q. You've also examined that flood to see how successful it was?

A. Yes, sir.

Q. Are the Number 5 and Number 13 wells currently producing?

A. Yes, the Number 5, as you can see on the cross-section, is producing out of the -- basically the middle and lower members of the McKee package, and I guess -- I think Jay has these numbers, but it's probably making about

25 barrels a day.

The Number 13 was recently completed out of just the upper and middle sand members of the McKee and is making about eight to ten barrels a day.

Q. The other three wells are producing considerably more; is that correct?

A. The 10, the Number 10, is doing quite well. It's still at about -- I want to say 120 barrels a day.

The Number 12 is making about, I believe, 75 barrels a day.

And the Number 6, I'm not certain what that one is, but it's considerably less. I want to say it's 20 or so, 20 barrels a day.

Q. Does Plains intend to drill any more wells in this project area?

A. No, sir.

Q. Is it Plains' intention to flood all three of these intervals?

A. Yes, it is. I don't know how effective the upper member will be, because the porosity development is a little bit more erratic in that member. But it will be opened, I'm certain, to injection.

EXAMINER CATANACH: I think that's all I have of the witness, Mr. Kellahin.

MR. KELLAHIN: Mr. Examiner, we've called Jay

Vargo to the witness stand. Mr. Vargo is a petroleum engineer.

J.J. VARGO,

the witness herein, after having been first duly sworn upon his oath, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q. For the record, sir, would you please state your name and occupation?

A. Jay Vargo. I'm a petroleum engineer employed by Plains Petroleum, now Barrett Resources.

Q. And where do you reside, sir?

A. In Denver.

Q. On prior occasions have you testified before this Division Examiner?

A. No, I have not.

Q. Summarize for us your education and when and where you obtained your degree?

A. I have a master's degree in engineering mechanics from Arizona State University, which I received in 1968.

I went to work for what is now Amoco Production Company, which was then Pan American, at their research center in Tulsa for four years.

I worked four additional years for Amoco in their northern -- what is now called their northern division, out

of their Denver division. I left them and subsequently went with an independent company called Gary Energy Corporation. From there I went to another company called Angus Petroleum.

I consulted for five years, and for the last four years I have worked for Plains Petroleum, four and a half years.

Q. As part of your duties, have you made a study of the petroleum engineering aspects with regards to the feasibility of a waterflood or a pressure-maintenance project and, in addition, examined the opportunity for additional oil recovery and attempted to quantify the magnitude of that recovery?

A. Yes, I have.

MR. KELLAHIN: We tender Mr. Vargo as an expert petroleum engineer.

EXAMINER CATANACH: He is so qualified.

Q. (By Mr. Kellahin) Let's talk about the general overall conclusions that you see as a petroleum engineer.

What, as an engineer, do you see here as the opportunity here for Plains Petroleum if the Division approves this Application?

A. I believe that we can recover approximately an additional 400,000 barrels of secondary oil, over what we would recover if we were just to allow primary depletion to

go on to its limit.

Q. Is there a timing component in initiating such a secondary recovery project that is of importance to you as an engineer?

A. I believe so.

Q. And what would that be?

A. I think that the sooner that you start the project, the better performance you are likely to have, primarily because there is no gas cap in this reservoir, there is no free gas saturation.

The original pressure of the reservoir is approximately 3600 pounds. From a fluid analysis we have obtained, we estimate the bubble-point pressure to be 1800 pounds, which the reservoir has just crossed through now. It is below 1800 pounds, slightly.

As you drop below that bubble-point pressure, you develop a gas saturation, which in general would detrimentally affect a secondary project by virtue of allowing a path for water to go through easier from injector to producer.

And because of that, I believe it's important that we start this project as soon as we can.

Q. Have you examined the location and the pattern of the existing five wells within the project area to satisfy yourself whether there is a need at this point for

additional producing wells?

A. I have.

Q. And what is your conclusion?

A. I do not believe that any additional wells would be economically feasible in this reservoir.

Q. Do you have an opinion as to which of the five wells and how many to convert to injection wells?

A. I do.

Q. And what is that?

A. I think the two wells that we have selected for conversion are, given the pattern or the arrangement of wells that we have right now, the best that we could select under the circumstances, to achieve -- to maximize the additional recovery.

Q. For you as an engineer, what do you see with the selection of these two injection wells as the reason for their selection?

A. Primarily, their location with respect to the other wells. It allows a reasonably balanced pattern, if you like. "Pattern" is maybe too strong a word, but at least the locations of the wells with respect to the producers is the best, I think, that we could achieve under the circumstances.

Q. In addition to studying the feasibility and the opportunity for additional secondary oil recovery, have you

also examined what your company has filed in compliance with the Division's rules for reporting and monitoring the mechanical integrity of any well within a half-mile radius of an injection well?

A. Yes, I have.

Q. And you have reviewed the filing of the Division Form C-108?

A. That's correct.

MR. KELLAHIN: Mr. Examiner, to aid you, on Exhibit Number 1 we have scribed the two half-mile-radius circles on your copy of the exhibit, so you could more easily visualize the potential wellbores in the area of review.

Q. (By Mr. Kellahin) Mr. Vargo, in looking at the area of review and the tabulation of information available to you, do you find any wellbore in this area that you would characterize to be a problem wellbore?

A. No, I don't.

Q. Have you examined the method by which any plugged and abandoned well within the area of review was plugged and abandoned?

A. I have.

Q. And have they been adequately plugged and abandoned so that water introduced into the McKee would not migrate through those wellbores to some other point?

A. According to the records that I have available to me, that I have examined, which includes wellbore diagrams, I find no reason why we should expect any water to migrate outside of this zone.

Q. In terms of producing wells, do you find any producing wells that penetrated through the McKee? Are there any Ellenburger wells within the half-mile area of review?

A. There are wells that have penetrated the McKee down to the Ellenburger, which have subsequently been plugged back to shallower production than the McKee.

Q. Would any of those wellbores be a problem wellbore?

A. No, they would not. From the records that I have, they were appropriately abandoned, or those producing horizons were appropriately abandoned.

Q. Does the C-108 contain copies of schematics of the two injection wells to show the plan by which they will be set up for injection?

A. Yes, it does.

Q. Give us a general sense or a summary of how you propose to utilize those as injection wells in terms of volume or maximum rate.

A. Basically, we will be looking at injecting an estimated average of around 750 barrels a day into the two

wells, combined.

My expectation is, the greater amount of that will go into the Number 13 well, the western injection well, by virtue of its quality of pay. The remainder of that would be going into the Number 5 well.

Early in the history, or early in the injection life of the wells, I expect we may reach a maximum, perhaps, of 1000 barrels a day. I do not anticipate that we could go above that. This rate will then drop as the reservoir pressure increases.

Now, our objective is to maintain our injection -- surface injection pressure, at about 1900 pounds or less until such time as we conduct a step-rate test.

Q. The 1900 pounds would fall within the Division guidelines of a surface limitation pressure not greater than .2 p.s.i. per foot of depth, down to the top perforation of the flood zone?

A. That's right.

Q. And if you should need a higher surface limitation pressure, then you would want an administrative procedure, then, to submit step-rate tests to increase the rate?

A. That's correct.

Q. What is to be the source of the water that will be used in the project?

A. It's to be a combination of water currently produced within the area, being re-injected, plus make-up water from a freshwater injection -- or source well that we have on the acreage that we operate.

Q. Does the C-108 contain samples of water analysis for the composition of the water that is to be used in the project?

A. It does.

Q. Do you find any evidence of incompatibility of fluids and waters that would be introduced into the McKee?

A. They have been checked for compatibility, and according to the laboratory results we have, there is no expected incompatibility in the waters.

Q. The first primary source of injection water is to utilize produced water in this area, and that if there's a need for additional water you have available to you a company-owned freshwater well within this area?

A. That's correct.

Q. What is the formation from which that water is produced with your freshwater well?

A. It is completed from approximately 500 to 600 feet deep.

Q. I believe that's characterized as the Santa Rosa formation, but I could be mistaken.

A. I believe it is too.

Q. When you look at the opportunity for freshwater in the area, does this Santa Rosa well you have represent the deepest likely point source of fresh water?

A. Yes, it does.

Q. Do all the wellbores in this area appear to be adequately cased and cemented with surface casing strings to protect freshwater sands?

A. They do.

Q. The timing for the project is to commence injection in order to achieve fill-up as soon as possible and maintain a pressure as quickly as you can; is that the concept?

A. That's correct.

Q. Let's turn to Exhibit Number 3 and have you for the record identify what is contained in that package. I won't ask you to describe the details, but if you'll simply identify it for the record.

A. Exhibit 3 was filed with the Commission by our Midland office, the application for injection into the Baylus Cade Number 5 and E.C. Hill "B" Federal Number 13 wells, both of which are in Lea County, New Mexico.

Q. When you look at the schematics for the proposed injection wells, they will be completed and produced in such a way that the annular space between the casing and the tubing will have a means by which you can monitor that

space?

A. That's correct. It will be filled with what we would refer to as the packer fluid, basically to protect both the casing and the tubing in the well, and allow pressure measurements to be taken of the annular space.

Q. Starting on page 8, then, is a copy of the prior order. Mr. Galloway referenced a prior Division order. This is Order Number R-2883. It was approved March 25 of 1965 for a waterflood project with two injection wells in 34.

And then the rest of it is in compliance with the Division 108 rules?

A. That's correct.

Q. As part of your review of the C-108, did you find that there was information that was inadvertently omitted from the original filing?

A. That's correct.

Q. So let's turn to Exhibit Number 3A and have you identify for us what you have added as a supplement to the C-108.

A. These are wellbore diagrams which summarize the completion history of wells within the half-mile radius of the proposed injection wells that represent how they were recompleted and plugged back to shallower sands from -- They penetrate the McKee sand. And in one case, one was

plugged and abandoned. And the others, they were basically recompleted to shallower production.

And I have included these in the exhibits to complete the -- what I believe is the information required by the C-108.

Q. Do you find any problem wells contained within the wells shown in Exhibit 3A?

A. No, I do not.

Q. All right. Let's go back to the project itself and turn now to Exhibit Number 4, and show us what you have determined to be the primary production from these five wells and then how you have forecasted the remaining primary potential.

A. Exhibit 4 is the total production from the five wells that are now completed in the McKee, within the field area.

As you can see, the production is continuing to climb on this total. However, that's a result of the additional wells drilling, not the fact that the production from the wells is inclining.

Q. How have you as an engineer determined the reliability of the forecasted decline curve?

A. I've used the production history of the wells to the north that were in -- completed and produced from the McKee, in the two projects that were previously mentioned.

Q. Is there any reason to believe the decline curves in the project area are going to be any different than the decline curves for the analogue that you used?

A. Not in my opinion.

Q. Okay, let's turn now to Exhibit 5 and have you identify and describe Exhibit 5.

A. Exhibit 5 is a summary of the production history from each of the wells, which includes both a plot and the tabular data of the production, plus a forecast of what we expect the remaining primary performance of the wells to be.

Q. Is the information shown on Exhibit 5 consistent with your conclusions as summarized on Exhibit 4?

A. That's correct. If you add all the five wells' histories and the forecasts together, that is what you will see on Exhibit 4. The forecast that you see on Exhibit 4 represented by the dashed lines is a summary of the forecast for the five wells.

Q. Do you have a point in time and a volume to tell us what the current primary recovery is from the project area wells?

A. The current primary recovery is approximately 114,000 barrels, total, from the five wells.

Q. And that would be as of what date, Mr. Vargo?

A. That would be as of the 1st of July of this year.

Q. Have you forecasted what in the absence of secondary recovery would be the remaining future primary recovery?

A. I have.

Q. And what is that number?

A. I expect the remaining -- I expect the ultimate primary recovery to be approximately 300,000 barrels. The difference between that 300,000 and our current cumulative of approximately 114,000 is what I believe is remaining primary recovery.

Q. When you average the producing rates of the five wells, approximately how many barrels of oil on a daily basis are these five wells producing?

A. Approximately 215 barrels a day --

Q. With what --

A. -- of oil and about 18 barrels a day of water.

Q. In looking at the forecast for a secondary response, the incremental oil, do you have a display that illustrates that conclusion?

A. Yes, there are two displays, actually. Exhibit 6 --

Q. Let's turn to that first, then. Identify for us Exhibit 6.

A. -- is a summary of the expected primary and incremental secondary recovery that we expect from the

project area.

Exhibit 7 is just the incremental secondary recovery.

Q. Okay, let's deal with Exhibit 6 first and show the combination of remaining primary and secondary response, and give us the details of how you have determined you would have this type of response.

A. This response is based on analogy to the two projects that were conducted to the north of our current project. In those two cases, that project, the LaMunyon project, or what has been referred to as the LaMunyon project, recovered approximately 2.2 million barrels of oil from ten wells, whereas immediately to the north of us, just across the fault, approximately 750,000 barrels of oil were recovered from the project. Recovery is both primary and secondary.

These two projects were conducted much later in the life of the field, between 12 and 15 years after the field's initial discovery. So they represent, I believe, a low range of recovery that we would expect.

Basically, we're looking at from 150,000 to 220,000 barrels of recovery on average, per well, for the project. I've used the value of approximately 150,000 barrels of recovery, ultimate recovery, for the five wells in our project area.

I expect that, you know, we are looking in the range of about 725,000 barrels ultimate recovery, primary and secondary now, from the five wells in our project area.

Q. Let's look at the oil curve, the oil plot on Exhibit 6, and starting at the current time, mid-1995, describe for us what happens in order to achieve this forecast of a rapid increase, and then subsequently a decline.

A. The -- What we're looking at, basically, is our hope to begin water injection perhaps in October of this year.

We expect, based on the performance of the Carter project immediately to the north of us, that we should see response relatively quickly, as they did, and perhaps even quicker than they saw, because we are much earlier in the history of the field than they were.

I would expect that within six months we should have increased our production rate up to the peak that you see described on Exhibit 6.

Q. What establishes the basis for the peak?

A. Basically, the productive capacity of the wells, as estimated in their initial completion, the -- also the balancing of injection and withdrawals. We will be injecting initially more fluids than we are producing, in order to rebuild the reservoir pressure back up to its --

in the range of its initial reservoir pressure, and we will be maintaining that -- a balance, an approximate balance of injection to total fluid withdrawals -- to achieve that peak rate you see.

Also, the lift capacity of the equipment on the wells will establish the maximum productive capacity of the wells also.

Q. Let's turn to Exhibit 7 and talk specifically, then, about the incremental oil directly attributed to the secondary recovery project. Describe for us what you're showing here.

A. Basically, Exhibit 7 is, as I mentioned, the incremental recovery or an incremental production forecast for the secondary project. It is based on, as I say, analogy to the performance of the wells in the projects to the north of ours.

The ultimate -- or the incremental secondary recovery is estimated to be about 400,000 to 420,000 barrels of incremental oil.

To some extent, the recovery is also a function of the expected oil price, the economic limit being established by the oil price at the time of abandonment.

Q. Can you give us what is estimated to be the capital cost of the additional facilities for the project?

A. We expect the additional facilities that are

required to install this project to be about $214,000. To date, we have spent approximately $3.7 million on development of the project. We expect total cost of the project to be about $3.9 million.

Q. Your anticipated life of the project is a little over 13 years?

A. That's correct.

Q. Have you attempted to take the anticipated incremental recovery attributed to secondary oil and put a present-day price, undiscounted, on the value of that production?

A. Yes, we have.

Q. Let's turn to Exhibit Number 8 and have you identify for the Examiner how you made that calculation and what results you obtained.

A. Exhibit 8 is an economic analysis of the incremental recovery due to secondary, from the project area. Basically, it describes the incremental gross production and net production associated with the project over time, along with the price that we expect to receive for the product and the cost associated with the project. This gives us a future net cash flow, undiscounted, of about $5.9 million.

Q. Do you have an opinion, Mr. Vargo, as to whether or not the approval of this Application will be in the best

interests of conservation, the prevention of waste and the protection of correlative rights?

A. I believe that there will be additional recovery from this project over what would be available from primary and that there is no question that it should be economic, and it will result in greater recovery and no waste of the oil resource.

MR. KELLAHIN: That concludes my examination of Mr. Vargo.

We move the introduction of his Exhibits 3 through 8.

EXAMINER CATANACH: Exhibits 3 through 8 will be admitted as evidence.

EXAMINATION

BY EXAMINER CATANACH:

Q. Mr. Vargo, what is the advantage of initiating this project at this point in time, as opposed to waiting?

A. The primary advantage is in that we will not develop a -- as significant a free gas saturation within the reservoir, which I believe would be detrimental to the secondary recovery process by virtue of the fact that it would allow channels of higher mobility to develop within the reservoir that the water would go through and more quickly flood out the producers than would be the case if we were to start the project right now.

I believe our opportunity for additional recovery is better starting now than it would be starting later.

Q. Is it possible to quantify how much more oil you would recover, starting the project now as opposed to later?

A. It's certainly possible to estimate it. However, I think that the history of waterflooding certainly suggests that the earlier you start a project, the better your chances for additional recovery are. I have not attempted to try and quantify that additional recovery, however.

Q. Do you feel like you're going to recover more starting now, as opposed to later?

A. I see no reason why starting now would not have a better opportunity to recover more than starting later would.

Q. Mr. Vargo, these are -- my understanding, these are two separate federal leases?

A. I believe so, that's correct.

Q. Has anyone in your company talked to the Bureau of Land Management about your proposed project?

A. I don't believe -- I can't answer that question, quite frankly. Our office out of Midland has been heavily involved with the actual implementation of the paperwork. I don't believe that --

MR. KELLAHIN: Mr. Examiner, if I may, the information I received from Midland, I was going to address with you. I believe it's incomplete on that issue. I can submit to you partial information.

It would be my preference, if you'll allow me, to answer all the questions about that issue by affidavit and to attach the documentation that would show what I believe to be this result: that the southwest quarter of 35 is a federal oil and gas lease that is different from the federal oil and gas lease that constitutes the southeast of 34; that while there is an identity of working interest owners, and that this should be eligible for a leasehold cooperative project, I want to verify for myself that the BLM in Roswell will approve this.

And we will certainly get that information to you so that you can be assured that they don't have a problem about a leasehold cooperative waterflood or pressure maintenance, rather than a unitization-solved project.

So if you'll let me do that by affidavit, I would appreciate it.

EXAMINER CATANACH: Okay.

Q. (By Examiner Catanach) Mr. Vargo, your proposed rate is 750 barrels per day total?

A. Correct.

Q. How much of that is produced water and how much

is going to be make-up water?

A. It will vary during the life of the project, as you would expect. As water production from the wells increases, a greater proportion of it will be produced water.

We currently have produced water available to us right now from other activities in the area. We expect initially that we'll probably be looking at make-up water in the range of around 200 to 300 barrels a day that will be made up of fresh water from our water source well.

Q. On some of your exhibits, you projected a decline curve, or you projected a decline rate for some of these producing wells. You said that was analogous to the northern portion of the field?

A. Analogous to the average performance of the field and the wells to the north, yes.

Q. Okay. Did you take an average of those decline rates or --

A. Basically, we developed a -- if you like, a type curve for the performance of those wells on primary, basically a hyperbolic decline, and used that type curve plus the current available performance of the wells to establish our estimate of what the remaining primary recovery would be.

Q. Do you anticipate a response within approximately

six months?

A. Yes, I would.

Q. In all three producing wells?

A. On average, I would say that -- what -- My performance estimate is based on an average for the field. I haven't attempted to determine or estimate individual well performance with regard to the project.

My expectation is that the better of the wells will perform and respond more quickly, specifically probably the Number 10. It has the highest rate. It also is -- You know, it appears to have the best pay quality from the available information, and I would expect that it will probably respond more quickly.

By the same token, I think the Number 6, which is in, you know, the northeast portion of the project, although it is going to be offset by an injection well, the Number 5, that injection is going to be at a lower rate because of the quality of that well's pay, and therefore the Number 6 will probably respond more slowly.

So no, I don't believe all wells will respond simultaneously to injection. I think there will be a range of response and a range of recovery from these wells.

Q. You were able to estimate what the response will be in terms of increase in production?

A. That's right, based primarily on what I would

refer to as material balance calculations. We have attempted to estimate the original oil in place.

Also, to the extent we could, we looked at the reservoir immediately to the north. We tried to characterize it with volumetric calculations of original oil in place.

We also used the pressure data that we had in our own wells to confirm the volumetric estimate of oil in place of 3.2 million barrels.

And based on the oil-in-place estimate and the amount of production at the start of the project, what we expect it to be, we were -- I estimated what our performance would be, based on basically a volume-injected versus volume-produced basis.

I did not do a simulation of this, I did not do a model study of the proposed project.

Q. Mr. Vargo, I'm looking at your Exhibit Number 6, and -- which shows the current producing rates, and you don't have any decline established as of yet for the producing wells. You say the incline is due to the coming on of additional wells?

A. If you look at the previous exhibit, Number 5, for the individual performance curves of each of the wells, you can see that although the total for the five wells does not have a decline, individual wells do.

The first of these is the Number 10, which has the greatest production history. That has, you know, a fairly well established decline. Again, the performance forecast is based on that production history plus, you know, a match of the performance of the producers on the northern projects.

The Hill Number 12 also is on decline. It's somewhat more difficult to see that, by virtue of the fact that we have only a few months of production since the well was put on pumping, which is the production increase that you see that occurred in the first portion of 1995, first part of 1995 on that.

Subsequent to that -- And if you look at the tabular data that's also included in the exhibit, this well is also declining. And it's very -- as you can see, very similar to the Number 5, the Cade Baylus Number 5, which is the third page on the exhibit. It also is on decline.

Again, the production history of the wells is quite short. We don't really have a well-established decline curve that we can match. We have to look to analogy to come up with our performance forecast.

The two remaining wells, the Number 6 and the Number 13, have a very short production history, but the available daily information from the field, which we basically, you know, just have in house, which is

summarized and reported as monthly production, indicates these wells also to be on decline. And again, the forecast is by virtue of a history match to analogy data.

So yes, I believe all -- the field basically is on decline and that the only reason that the summary curve doesn't show it is because the Number 5, Number 6 and Number 13 wells are so new that they really don't have any production data on them reported, except for one month. So...

Q. On your -- Looking again at 6, your first projected -- You do show a projected decline, mid-1995?

A. That's right.

Q. Is that basically as a result of losing the two producing wells?

A. No, that's basically just -- well, in fact, it's -- The reservoir is on pressure decline. The reservoir pressure on average now is more like about 1800 pounds, from the 3600 pounds that it was originally on discovery. It continues to decline as we have produced, and correspondingly, the production rate of the wells continues to decline.

As I say, we have only one data point for this well, and that's the initial -- one monthly data point. And if you look back at the tabular data for this well, you can see that we are restricted here, we have only that one

month's worth of data. And so we're forecasting our decline based on that monthly data, and the fact that we can see in the daily performance of the well that it is declining.

Q. That slight decline that you show on Exhibit 6, it does take into account losing the six -- I mean, the two injection wells?

A. Oh, I see, I'm sorry, I misunderstood your question.

You're saying that the decline on the Number 6 -- or that curve is basically an extrapolation of a summary performance of this. It does not reflect the effect of taking off this one well.

Q. Okay.

A. Or two wells, in fact. Their current rates are relatively small. There will be an effect, but it is not shown.

A precipitous drop would occur, obviously, for a couple of months during the time that that well is off production and no corresponding response has occurred in the other three wells.

Q. Okay. You, I believe, testified that your project cost is estimated to be around $3.9 million?

A. That's correct.

Q. Your wells that -- Your injection wells are in

existence. You don't have to drill the injection wells. It seems a little high.

A. That total project cost that I've quoted is -- from the start of the drilling program includes the cost of drilling all five wells, that -- up to date.

So it's really -- a total project in my mind. Perhaps, with regard to what remains to be done, if you consider that the project, the additional expense required to get the injection underway would be about $214,000, estimated $214,000.

EXAMINER CATANACH: I think that's all I have.

MR. KELLAHIN: All right, sir. We would request that the case be continued to the September 21st -- is that the right date? 24th?

EXAMINER CATANACH: Yeah, September 21st, that's right.

MR. KELLAHIN: And I will submit to you an amended application to modify the portions of the request that I described earlier.

EXAMINER CATANACH: Do you intend to put anything else on at the 21st hearing?

MR. KELLAHIN: Not unless you call and say that there is additional information you need.

It would be complete with the submittal of an affidavit dealing with the BLM and the leasehold issue. As

far as engineering and geologic evidence, we don't anticipate putting on anything else.

EXAMINER CATANACH: Okay. There being nothing further in this case, this case will be continued to the September 21st hearing.

(Thereupon, these proceedings were concluded at 10:56 a.m.)

* * *

CERTIFICATE OF REPORTER

STATE OF NEW MEXICO)
) ss.
COUNTY OF SANTA FE)

I, Steven T. Brenner, Certified Court Reporter and Notary Public, HEREBY CERTIFY that the foregoing transcript of proceedings before the Oil Conservation Division was reported by me; that I transcribed my notes; and that the foregoing is a true and accurate record of the proceedings.

I FURTHER CERTIFY that I am not a relative or employee of any of the parties or attorneys involved in this matter and that I have no personal interest in the final disposition of this matter.

WITNESS MY HAND AND SEAL August 29th, 1995.

STEVEN T. BRENNER
CCR No. 7

My commission expires: October 14, 1998

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 11368, heard by me on 8/24/95.

David R. Catanach, Examiner
Oil Conservation Division

PLAINS
PETROLEUM
OPERATING
COMPANY

July 12, 1995

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

Re: Application for Authorization to Inject

Baylus Cade #5
985' FSL & 1650' FWL, Unit N
Sec 35, T23S, R37E
Lea County, New Mexico

E. C. Hill 'B' Federal #13
947' FSL & 1361' FEL (SHL)
1120' FSL & 1380' FEL (BHL)
Sec 34, T23S, R37E
Lea County, New Mexico

Dear Sirs:

Please find enclosed an Application for Authorization to Inject for the subject wells. These wells will initiate the Teague Simpson (McKee) Waterflood Project that was originally approved by the Oil Conservation Commission on March 25, 1965, order no. R-2883, case no. 3214 (Carter Foundation was Operator). Should you have any questions in regard to this application, please call 915/683-4434.

Sincerely yours,
PLAINS PETROLEUM OPERATING COMPANY

Dominic, J. Bazile, P. E.
Area Engineer

Enclosure: Legal Notice

cc: Well File
Reading File

415 WEST WALL STREET, SUITE 1000 MIDLAND, TX 79701

BEFORE THE
OIL CONSERVATION DIVISION
Case No. 11368 Exhibit No. 3
Submitted By:
Plains Petroleum Company
Hearing Date: August 24, 1995

PLAINS
PETROLEUM
OPERATING
COMPANY

July 12, 1995

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

Re: Application for Authorization to Inject

Baylus Cade #5
985' FSL & 1650' FWL, Unit N
Sec 35, T23S, R37E
Lea County, New Mexico

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Reading File

STATE OF NEW MEXICO
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: [X] Secondary Recovery [ ] Pressure Maintenance [ ] Disposal [ ] Storage
Application qualifies for administrative approval? [X] yes [ ] no

II. Operator: Plains Petroleum Operating Company

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

Contact party: Dominic J. Bazile 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? [X] yes [ ] no
If yes, give the Division order number authorizing the project R-2883.

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: Dominic J. Bazile Title Area Engineer

Signature: Dominic J. Bazile Date: 7-14-95

* 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.

3

III. WELL DATA

A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:

(1) Lease name; Well No.; location by Section, Township, and Range; and footage location within the section.

(2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.

(3) A description of the tubing to be used including its size, lining material, and setting depth.

(4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

Division District offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.

(1) The name of the injection formation and, if applicable, the field or pool name.

(2) The injection interval and whether it is perforated or open-hole.

(3) State if the well was drilled for injection or, if not, the original purpose of the well.

(4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.

(5) Give the depth to and name of the next higher and next lower oil or gas zone in the area of the well, if any.

XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

(1) The name, address, phone number, and contact party for the applicant;

(2) the intended purpose of the injection well; with the exact location of single wells or the section, township, and range location of multiple wells;

(3) the formation name and depth with expected maximum injection rates and pressures; and

(4) a notation that 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.

NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

APPLICATION FOR AUTHORIZATION TO INJECT

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

I. Purpose: See C-108, Application for Authorization to Inject

II. Operator: See C-108, Application for Authorization to Inject

III. Well Data: See the Attached Well Data Sheets

IV. Expansion Project: See C-108, Application for Authorization to Inject.

See also an attached copy of Case No. 3214, Order No. R-2883.

V. Map: See Attached Map

VI. Tabulation of Offsetting Well Data

The attached data sheet provides a description of all of the wells within a 1/2 mile radius around the subject wells that penetrate the Teague Simpson (McKee) interval. Also attached are schematics of the two plugged wells.

VII. Proposed Operating Conditions:

1. Average and Maximum Daily Rate:	500, 1000 BWPD
2. Water Injection System Configuration:	Closed
3. Average and Maximum Injection Pressure:	1500, 2500 psig
4. Sources of Injection Fluids:	Produced and Fresh water
5. Water Injection Purpose:	Secondary Oil Recovery

VIII. Geological Data:

Data was previously supplied for a hearing on an unorthodox location which was submitted with the Application to Drill on the E. C. Hill 'B' Federal #13, hearing Case No. 11276, Order No. 10370.

IX. Proposed Stimulation Program:

The two proposed injection wells have already been stimulated. See attached Sundry Notices.

X. Logging or Test Data:

Logs and completion data have been filed for the subject wells being completed as producers. Sundry Notices and appropriate injectivity profiles will be submitted after the subject wells are converted to injectors.

APPLICATION FOR AUTHORIZATION TO INJECT
(Continued)

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'. Also attached is a water analysis on the combined produced formation water samples to be injected.

XII. Affirmation statement:

The attached seismic data demonstrates that there are no open faults or any other hydrologic connection between the injection zone and any underground source of drinking water.

XIV. Proof of Notice:

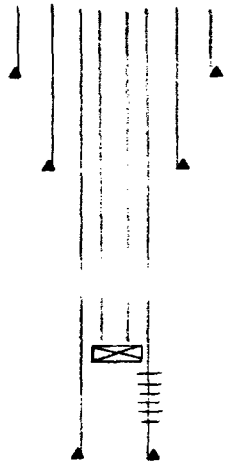
Attached are copies of the certified mail receipts to the surface owner and offsetting leasehold operators within the 1/2 mile radii of the subject wells. In addition, a proof of publication is attached to show that a public advertisement has been published in the Hobbs News Sun on July 12, 1995.

INJECTION WELL DATA SHEET

Plains Petroleum Operating Company		Baylus Cade Federal	
Operator		Lease	
5	985' FSL & 1650 FWL	35 Unit N	T23S R37E
Well No.	Footage Location	Section	Township Range

Lea County, New Mexico
County, State

Schematic



Tabular Data

Surface Casing

Size 13-3/8 " Cemented w/ 375 sx

TOC Surface ' determined by Circ'd

Hole Size 17-1/2"

Intermediate Casing

Size 8-5/8 " Cemented w/ 650 sx

TOC Surface ' determined by Circ'd

Hole Size 11"

Long String

Size 5-1/2 " Cemented w/ 1875 sx

TOC 2136 ' determined by CBL

Hole Size 7-7/8"

Injection Interval

9408' to 9536'

(perforated or open-hole, indicate which)

Tubing size 2-3/8" lined with Seal Tite Plastic Coating (Material) set in a

2-3/8" x 5-1/2" Arlington-Elder Nickel Coated Lokset packer at 9300' 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 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 as a producer

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) CIBP 9800' 3-1/2 sx cmt on top Ellnbgr perfs 9842' - 9858'

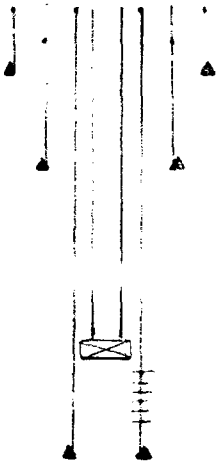
5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools in this area).
   Below - Ellenburger 9842' - 9858' Above - Fusselman 8323', Devonian 7243'

INJECTION WELL DATA SHEET

Plains Petroleum Operating Company	E. C. Hill 'B' Federal			
Operator	Lease			
13	947' FSL & 1361 FEL	34 Unit O	T23S	R37E
Well No.	Footage Location	Section	Township	Range

Lea County, New Mexico
County, State

Schematic



Tabular Data

Surface Casing

Size 13-3/8 " Cemented w/ 375 sx

TOC Surface ' determined by Circ'd

Hole Size 17-1/2"

Intermediate Casing

Size 8-5/8 " Cemented w/ 625 sx

TOC Surface ' determined by Circ'd

Hole Size 11"

Long String

Size 5-1/2 " Cemented w/ 1350 sx

TOC 3200 ' determined by CBL

Hole Size 7-7/8"

Injection Interval

9475' to 9641'
(perforated or open-hole, indicate which)

Tubing size 2-3/8" lined with Seal Tite Plastic Coating set in a
(Material)

2-3/8" x 5-1/2" Arlington-Elder Nickel Coated Lokset packer at 9375' 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 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 as a producer

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) No

5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools in this area).
Above - Montoya 8801' Devonian 7276'
Fusselman 8434'

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION COMMISSION OF NEW MEXICO FOR THE PURPOSE OF CONSIDERING:

CASE No. 3214
Order No. R-2883

APPLICATION OF CARTER FOUNDATION PRODUCTION COMPANY FOR A WATER-FLOOD PROJECT, LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on March 10 1965, at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 25th day of March, 1965, the Commission, a quorum being present, 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 Commission has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, Carter Foundation Production Company, seeks permission to institute a waterflood project in the Teague-Simpson Pool by the injection of water into the Simpson formation through two injection wells in Section 34, Township 23 South, Range 37 East, NMPM, Lea County, New Mexico.

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

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

(5) That the subject application should be approved and the project should be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations.

IT IS THEREFORE ORDERED:

(1) That the applicant, Carter Foundation Production Company, is hereby authorized to institute a waterflood project in Teague-Simpson Pool by the injection of water into the Simpson formation through the following-described two wells in Section 34, Township 23 South, Range 37 East, NMPM, Lea County, New Mexico:

Carter-Hill Well No. 2-M, located in Unit B
Carter-Hill Well No. 3-MD, located in Unit G

(2) That the subject waterflood project shall be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations.

(3) That monthly progress reports of the waterflood project herein authorized shall be submitted to the Commission in accordance with Rules 704 and 1120 of the Commission Rules and Regulations.

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

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

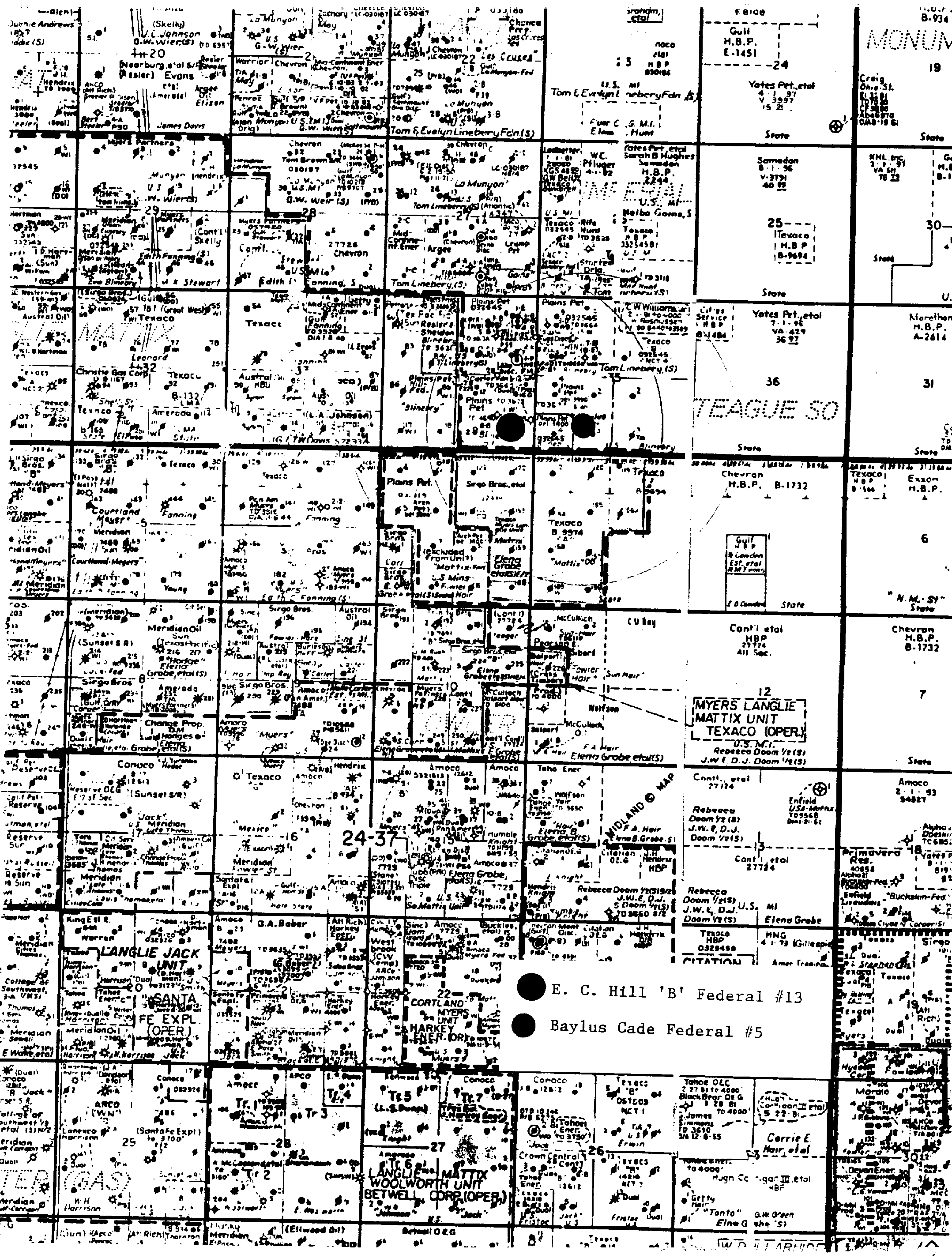
JACK M. CAMPBELL, Chairman

GUYTON B. HAYS, Member

S E A L

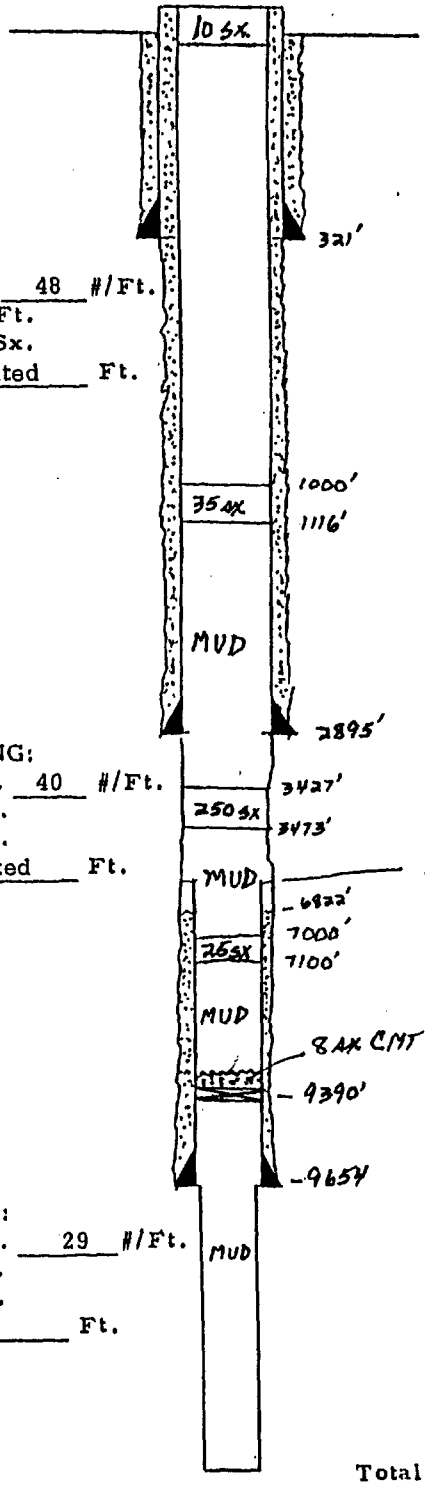
A. L. PORTER, Jr., Member & Secretary

esr/



MYERS LANGLIE MATTIX UNIT TEXACO (OPER.)
LANGLIE JACK UNIT SANTA FE EXPL. (OPER.)
CORTLAND MYERS UNIT HARKEY ENER. (OPR.)
LANGLIE MATTIX WOOLWORTH UNIT BETWELL CORP. (OPER.)
TEAGUE SO
MIDLAND MAP
24-37
E. C. Hill 'B' Federal #13
Baylus Cade Federal #5

Well Name	Well No.	UL	Well Location Sec	Twn	Rng	Casing Size	Depth	No. of Sacks of Cement	Top of Cement	TD	Completion Interval	Date Drilled	Well Type
E. C. Hill 'D'	1	H	34	23S	37E	13-3/8" 9-5/8" 7"	331' 2919' 9100'	300 1400 650	Surface 70' 5900'	9290'	7184' - 7256' Devonian	08-13-52	Oil Producer
E. C. Hill 'D'	4	A	34	23S	37E	13-3/8" 9-5/8" 7"	323' 2902' 9399'	300 2000 265	Surface 500' 6200'	9399'	7148' - 7206' Devonian	01-12-54	Oil Producer
E. C. Hill 'D'	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 01/75
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'		05-14-52	P&A'd 01/75
Melba Goins	1	P	27	23S	37E	13-3/8" 8-5/8" 5-1/2"	306' 2900' 9723'	325 2000 400	Surface Surface 7471' (all calc'd)	9825'	3382' - 3466' 7RvsQnPnrs	08-18-80	Oil Producer
E. C. Hill 'B'	1	G	31	23S	37E	13-3/8" 7-5/8" 7"	329' 2917' 9510'	300 1500 650	Surface 450' 6100'	9827'	5287' - 5791' Blinebry	07-10-53	Oil Producer
E. C. Hill 'B'	5	B	34	23S	37E	13-3/8" 7-5/8" 5-1/2"	322' 2918' 9582'	300 1500 500	Surface 750' 5350'	9737'	4912' - 5058' Paddock- Glorietta	01-16-53	Oil Producer
E. C. Hill 'B'	6	D	35	23S	37e	13-3/8" 9-5/8" 7"	320' 2906' 9348'	300 1600 403	Surface Surface 6350'	9351'	5298' - 5740' Blinebry	01-12-54	Oil Producer
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		Oil Producer Proposed Injector
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 Proposed Injector
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		Oil Producer



6227' TOP OF 7" CSG
3427' PULLED.

SURFACE CASING:
Size: 13-3/8" Wt. 48 #/Ft.
Set at 321 Ft.
Cement: 450 Sx.
Top Cement: Circulated Ft.

INTERMEDIATE CASING:
Size: 9-5/8" Wt. 40 #/Ft.
Set at 2895 Ft.
Cement: 1600 Sx.
Top Cement: Circulated Ft.

LONG STRING CASING:
Size: 7" Wt. 29 #/Ft.
Set at 9654 Ft.
Cement: 500 Sx.
Top Cement: 6822 Ft.

Total Well Depth 9733 Ft.

DATE: 8-9-72

FIELD Teague Ellenburger COUNTY Lea ~~RRCxDKSTx~~ New Mexico

OPERATOR Carter Foundation Production LEASE E.C. Hill Fed. "E" ~~Well~~ WELL NO. 1
Company

P&A
(1/75)

Arch Petroleum Inc.

(WAS #2)

Well History Summary Sheet

Operator ARCH Well Name & # E.C. HILL # 2 E Lease #

RRC District NMOCC Made By DAVID MILLER Date 4/28/89

Location 1831 FNL & 660 FEL, SEC 34, T23S, R37E, LEA CO, N.M.

Spud Date 2-11-52 Compl. Date 5-14-52 TD 9730 PBTD

Type Well: Oil ✓ Gas Other Field TEAGUE

IP F 1037 BO + 0 BW Zone ELLENBURGER

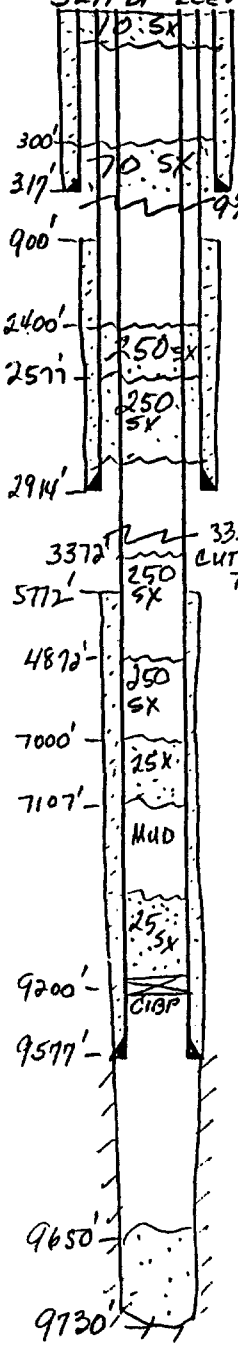
Perfs.: OH Total Holes OH

Stimulation

Cumul. Oil MCF Water

Recent Test Lift Equipment

Misc. 3271 DF ELEV



Drive or Conductor

" @

Surface: 13 3/8" 48 # Gr. H-40 @ 317 Cmt. w/ 250 Sx. TOC SURF.

Hole Size "

Max Mud Wt.

CUT & PULL 386'

Intermediate: 9 5/8" 32,36 # Gr H-40, J-55 @ 2914 Cmt w/ 1400 Sx. TOC @ 900 X T.S., Hole Size ', Max Mud Wt. #/G

3333 CUT & PULL 7" CSG

Production: 7" 23,26,29 #, N-80 Gr. @ 9577 Cmt. w/ 1650 Sx, TOC @ 5772 X T.S., Hole Size Mx Mud Wt. #/G

Liner: #, Gr. @ , Cmt. w/ Hanger

Hole Mx Mud Wt.

TD ' PBTD x 9650'

Pump:

Rods:

Tubing

Tubing

Packer (TAC) @

WELL HISTORY

CGD TD #2E 10/53
6/58 PUT ON PUMP TEST 518 BO + 115 BW + 36 MCFG
3/59 TEST 11.6 BO + 83 BW
7/64 DRILLED OUT 9690 - 9772, ACED W/1000 GALS 15%, RAN REDA PMP 8/64 @ 9000', TEST 86 BO + 1252 BW + 22 MCFG
6/66 TBG STUCK @ 3708 — AND VARIOUS MIKES DOWN TO 5260. RAN FREE-PT @ 3713, SHOT OFF TBG @ 3690 POOH W/2500' TBG & REDA CABLE CABLE BROKE @ SURF, AND STARTED BACK IN HOLE. 1200-1500' LOST IN HOLE, FN, PULLING TBG. FISH AND WASH. TOP OF TBG FISH @ 3994
DR PLUG OUT @ 3977' HIT TIGHT SPOT @ 5085, & ANOTHER @ 5221. SHOT OFF 2 7/8" tbg @ 6526
FISHED FOR REDA CABLE - RECV.
7/66 DR & PUSH PLUG IN 2 7/8" TBG FROM 6715' to 7011'. SHOT OFF TBG @ 8767 POOH FISH REDA CABLE. LOST IMPRESSION BLK IN HOLE RECV. BLK, TD @ 8710 (57' OF BANDS ABOVE FISH @ 8767). STRING SHOT @ 9422. POOH. RECV. TBG & ALL OF REDA PMP. TD @ 9610
RAN REDA PMP @ 9551
8/67 ACED W/5000 GALS 28% (15 MGAL WTR AHEAD & FLUSH) VIA CSG.
3/69 15 MGALS WTR, 5000 GALS 28% ACID VIA CSG.
9/70 FISHED, SPOT 1100 GALS 7½% ACID CHEM CUT @ 6338 POOH. RECV CABLE
POOH W/ REDA PMP & CABLE
5/74 PULL TBG. SI WELL.
11/74 PROPOSE TO P&A
1/75 SET BP @ 9200', DISP. FLUID IN HOLE W/ MUD, PUT 25 SX CMT ON TOP OF BP.
PMP 25 SX @ 7107 - 7000
CUT 7" CSG @ 3333 & PULLED, PMP 250 SX PLUG @ 3417 CMT WENT DOWN HOLE TO 4872. CMT W/ 250 SX TOP @ 3372
CMT W/ 250 SX TOP @ 2577 CMT W/ 250 SX TOP @ 2400.
CUT & PULLED 386' OF 9 5/8" CSG, PMP 70 SX 400 - 300. 10 SX PLUG @ SURF. SET MARKER.

Form 3160-5
(June 1990)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals

SUBMIT IN TRIPLICATE

5. Lease Designation and Serial No.
LC 034711

6. If Indian, Allottee or Tribe Name

7. If Unit or CA, Agreement Designation

1. Type of Well
☒ Oil Well ☐ Gas Well ☐ Other

8. Well Name and No.
Baylus Cade Federal #5

2. Name of Operator
PLAINS PETROLEUM OPERATING COMPANY

9. API Well No.
30-025-32486

3. Address and Telephone No.
415 WEST WALL, SUITE 1000, MIDLAND, TEXAS 79701

10. Field and Pool, or Exploratory Area
Teague Simpson

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
985' FSL & 1650' FWL
Sec 35, T23S, R37E, Unit N

11. County or Parish, State
Lea Co., NM

12. CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION	
☐ Notice of Intent	☐ Abandonment	☐ Change of Plans
☐ Subsequent Report	☐ Recompletion	☐ New Construction
☐ Final Abandonment Notice	☐ Plugging Back	☐ Non-Routine Fracturing
	☐ Casing Repair	☐ Water Shut-Off
	☐ Altering Casing	☐ Conversion to Injection
	☐ Other _____	☐ Dispose Water

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

11-18-94 **DST #1 @ 7538'.**

Surface Action: Open tool for 10 min preflow w/weak blow. Increase to bottom bucket in 20 sec. Open 1/4" choke, 5 psi 5 min, 5 psi 10 min. Close in tool for 1 hr initial shut-in. GTS in 13 min. Reopen tool for 60 min. final flow w/good blow. Increase to bottom bucket in 15 sec. Open 1/4" choke, 15 psi 5 min 39.2 MCF, 14 psi 10 min 37 MCF, 11 psi 15 min 32 MCF, 10 psi 20-30 min, 31 MCF, 8 psi 40 min 27 MCF, 7 psi 50-60 min 25 MCF. Close for 2 hrs SI.

Recovery: 847' 6 BBL, 4 BBL 463' heavy gas cut oil, 1 BBL 192' drill mud, 1 bbl 192' water.

Sample Chamber: 2000 cc 3.45 cu ft gas, 500 cc water, trace oil, 1100 psi, 57000 PPM Chl, Rw .089, BHT 135°F.

Pressure: IHP 3460 psi, FHP 3398 psi, PFP 145 - 103 psi, 10 min ISIP 2545 psi, FFP 145-145 psi 30 min, FSIP 2587 psi 120 min.

Continued on page 2

14. I hereby certify that the foregoing is true and correct

Signed Dominic J. Bazile Title Area Engineer Date February 2, 1995

(This space for Federal or State office use)

Approved by _____ Title _____ Date _____
Conditions of approval, if any:

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

*See Instruction on Reverse Side

PLAINS PETROLEUM OPERATING COM[illegible]Y
415 WEST WALL, SUITE 1000, MID[illegible]D, TEXAS 79701
985' FSL & 1650' FWL
Sec 35, T23S, R37E, Unit N
Baylus Cade Federal #5
Teague Simpson
Lea Co., NM
Page 2

<u>11-30-94</u> **DST #2, 9390' - 9463'.**

Surface Action: Open tools for 15 min pre-flow w/weak blow, 2" @ 5 min, 3" @ 10 min, 5" @ 15 min. SI for 60 min initial SI. Open for 60 min final flow w/good blow , btm bucket in 20 sec, open on 1/4" choke, 1" @ min, 1/2" @ 10 min, 13" @ 15 min, 11" @ 20 - 35 min, 14" @ 40 min, flow line plugged. 20" @ 45 min, 28" @ 50 min, 34" @ 60 min. SI for 120 min final SI.

Pull tools loose at 6:00 a.m. 12/1/94 and started out of hole.

<u>12-01-94</u> **DST #3, 9390' - 9463'.**

Surface Action: Open tools for 15 min pre-flow w/weak blow, 2" @ 5 min, 3" @ 10 min, 5" @ 15 min. SI for 60 min initial SI. Open for 60 min final flow w/good blow , btm bucket in 20 sec, open on 1/4" choke, 1" @ 5 min, 1/2" @ 10 min, 13" @ 15 min, 11" @ 20 - 35 min, 14" @ 40 min, 20" @ 45 min, 28" @ 50 min, 34" @ 60 min. Valve on ground plugged during final flow.

Recovery: 4600' GIDP plus 405' of HO&GCM (1.98 BBL), oil & gas cut mud, Chlor 4000 psi, Rw 1.1 @ 60°F, No free oil.

Sample Chamber: 2000 cc, 75 psi, .1 cu ft gas, 1150 cc drilling mud, 50 cc oil, BHT 146°F @ 9372'.

Pressures: IHP 4368 psi, FHP 4286 psi, IPF 124 - 124 15 @ min, FFP 145 - 146 @ 60 min, ISIP 2295 pis @ 60 min (pressure still building, pressure had not broke over), FSIP 2525 psi @ 120 min (pressure starting to break over).

<u>12-02-94</u> **DST #4, 9475' - 9545'.**

Surface Action: Open tools for 10 min pre-flow w/weak blow, btm bucket in 45 sec. Open on 1/4" choke, 10 psi @ 5 min, GTS in 8 min, 14 psi @ 10 min - 37.6 MCF. SI for 60 min initial SI. Open on 1/4" choke for 65 min final flow. Flare still burning during SI. 2 psi @ 5 min - 11 MCF, 6 psi @ 10 min - 23 MCF, 5 psi @ 15 min - 20.7 MCF, 3 psi @ 25 min - 15.7 MCF, 10" @ 30 min - 5.3 MCF, 3 psi @ 35 min - 15.7 MCF, 3.5 psi @ 40 - 45 min - 17.1 MCF, 2 psi on 1/2" choke @ 50 min - 47.7 MCF, 1 psi @ 55 min - 33.9 MCF, 3" on 1" choke @ 60 min - 44 MCF.

Recovery: Reversed out 21.5 BBL, 20.5 BBLS 1443' oil, 41.7° @ 60°F, 1 BBL 70' mud, chlor 4000 ppm, Rw 1.1 @ 60°F.

Sample Chamber: 2000 cc, 1200 psi, 4.45 cu ft gas, 175 cc water, chlor 16,000 ppm, Rw .28 @ 60°F, [illegible]00 cc mud, chlor 4000, Rw 1.1 @ 60 °F, 65[illegible] cc oil.

Pressures: IHP 4430 psi, FHP 4268 psi, IPF [illegible] - [illegible] psi 10 min, FFP [illegible] - [illegible] psi @ [illegible] min, ISIP [illegible]129 psi @ 60 min, FSIP 1752 psi @ 143 min. BHT 145°F @ 9457'.

15

12-07-94 **Rig released @ 11:00 p.m. TD @ 9980'.** Ran 5-1/2" casing detail as follows: 1 - 5-1/2" Float Shoe (9979'), 1 - 5-1/2" 17# N-80 LTC, 1 - 5-1/2" Float Collar (9933'), 14 - 5-1/2" 17# N-80 LTC, 51 - 5-1/2" 17# J-55 LTC, 1 - 5-1/2" 17# J-55 Marker JT (7059' - 7081'), 24 - 5-1/2" 15.5# J-55 LTC, 1 DV tool (6010' - 6112'), 148 - 5-1/2" 15.5# J-55 LTC, Set & Cmt'd @ 9980.00'. Set slips w/150,000#. Ran 20 centralizers, one on every 3rd joint & one above & below DV tool. Ran cmt basket above & below DV. Cmt w/10 BFW, 30 BBL mud flush, 10 BFW. Lead w/450 sx 'C' lite + 6% gel + 9#/sx salt + .2% AF-11 + .8% CF14 + 1/4#/sx Cello-seal. Tail w/650 sx 50:50 poz 'C' + 2% gel + 4#/sx salt + .2% AF-11 + .6% CF14. Displace w/91 BBLS 2% KCl, 143 BBLS mud @ 10 BPM, 2000 psi. Bump plug 4:00 p.m. w/2000 psi. Floats held. Drop bomb. Open DV tool w/1000 psi. Circ 2-1/2 hrs between stages. Circ 187 sx on DV tool to surface. Cmt 2nd stage w/225 sx 'C' lite + 6% gel + 5#/sx salt + 1/4/sx Cello seal. Tail w/550 sx 50:50 poz 'C' + 2% gel + 4#/sx salt + .2% AF-11 + .6% CF-14. Displace w/143 BBLS 2% KCl at 10 BPM, 1500 psi. Bump plug w/3000 psi 7:30 p.m. 12-7-94. Close DV tool w/3000 psi.

12-10-94 Drill out DV tool, TIH to PBTD (9930'). Circ hole w/2% KCl water & test to 1000 psi.

12-11-94 RIH & log **w/CBL-CCL-GR from PBTD (9933') to 7900', & 6000' to 4000'. Find TOC @ 2136'.** PU full bore 2-7/8" x 5-1/2" Arrowset I. TIH.

12-12-94 Finish RIH **w/295 jts 2-7/8" J-55 6.5# tbg (EOT 9758),** SN, 2-7/8" x 5-1/2" Arrowset I pkr. ND BOP, **set pkr (9758')** w/10K tension, test to 500 psi. Swab down to 6500'. RIH & perf as directed w/180° phased tbg gun. **Perf 9842' - 9858' w/2 JSPF (34 total).** Swab well dry, recover 24 BBL H_2O, very little entry, no oil. **Acidize w/500 gal 15% NEFE HCl.** Well communicated w/1400 psi on tbg. Pump 1 BBL down backside & finish acid job. Increased pressure to 2900 psi. Before perfs broke down. AIR 1/4 BPM, max 3000 psi, ISIP vac. Pressure up backside & finish acid job. Flush to top perf. Unflange WH & check pkr, still set & packed off. Drop SV & check tbg for leak. Appears there is a HIT. NU BOP, fish SV (too much weight). Unset pkr, flush backside w/110 BBL 2% KCl water.

12-16-94 Swab, testing Ellenburger recovering only salt water. Water analysis confirmed to be formation water. Release pkr set @ 9758' & POOH w/2-7/8" tbg, SN & pkr, re-dress Arrowset I pkr. GIH w/5-1/2" CIBP w/Baker 20 setting tool & charge. **Set CIBP @ 9800'.** RU dump bailer, mix and **dump 3-1/2 sx cmt on top of CIBP as recommended by BLM.** NOTE: **Shannon Shaw w/BLM approved abandonment of Ellenburger perfs 9842' - 9858', via phone conversation w/Dominic Bazile, 9:30 a.m. CST 12-16-94.** POOH w/dump bailer. RD

12-17-94 PU Arrowset I **pkr, TIH to 9692', set w/10K comp. EOP 9196'.** Test CIBP to 2000 psi. POOH to 9556'. Displace well w/oil **spotting 100 gal 7-1/2% mud acid.** PU to 9196' & set pkr. Test BS to 500 psi. **Perf 9474' - 9536' 2 JSPF, 40 total shots. Flush acid into perfs.** Swab, IFL surface, swab 3 hrs, to SN, no fluid last run. FFL - 9196'. **Breakdown: 2450 psi, ISIP 2150 psi, 1500 psi @ 5 min, 1250 psi @ 10 min, 1100 psi @ 15 min.**

12-18-94 SITP 40 psi, IFL 6200'. Make 1 run. **Acidize perfs 9474' - 9536' w/3000 gal 7-1/2% mud acid & 60 ball sealers, excellent ball action.** IFL surface, swab 9-1/2 hrs, recovered 100 BBL total fluid, 30% oil cut after 60 BBLS were recovered. 2500' entry per hour when swabbed to SN. IFL surface. FFL - SN (9196'). **ISIP 1700 psi, 1100 psi @ 5min, 750 psi @ 10 min, 500 psi @ 15 min. Rate 5 BPM, PMAX 3800 psi, PMIN 2400 psi, PAVG 2700 psi.**

12-21-94 SITP 190 psi. **Well SI** for BHPBU test.

12-22-94 POOH w/bomb, try to run static. RIH w/2" tbg gun, cannot get below 8,549'. POOH & RD Wedge. Unset pkr, POOH w/tbg, LD 79 jts & remove pkr. **Perf 2JSPF w/0° phasing from 9476'-9534'.** RIH w/production string, ND BOP, set TAC, pack off. 3-1/2 Mutha Hubbard, EOT - 7016.26', 2-7/8" x 2-3/8" X-over, TAC- 6918.10', 2-3/8" SN, Set w/18K tension, 2-7/8" x 2-3/8" X-over, 2-7/8" 6.5# EUE 8rd tbg J-55, 2-7/8" 5-1/2" Baker TAC, set @ 6915.30'

12-23-94 PU pump, 20-150 - RHBC - Pump w/20' GA, 1" Pony Rod, 1" Sucker Rods w/MORGS, 3/4" Sucker Rods w/MORGS, 3/4" Steel Sucker Rods, 7/8" Steel Sucker Rods. 1" Steel Sucker Rods, 1" Pony Rod , 1-1/2", Polish Rod w/16' Liner.

12-28-94 Unseat pump, POOH w/rods & pump. No sand found in GA. ND WH. NU BOP. Unset TAC, POOH w/tbg. RU Sandline bailer. RIH w/same, **tag PBTD @ 9780'.** POOH w/bailer. Recover 51 frac balls.

12-29-94 RIH w/production tbg. ND BOP, set TAC w/15K tension, checked FL w/swab, 4000' FS, NU WH. RIH w/rods, PU 1000' more, hang on, space out. Started well pumping @ 6:00 p.m. 12-28-94. 24 BLOYTR + 25 BLWYTR. 3-1/2" Mutha Hubbard, EOT @ 8004.16', 2-7/8" x 2-3/8" X-Over, 2-3/8" SN, 2-7/8" x 2-3/8" X-Over, 2-7/8" 6.5# J-55 EUE 8rd tbg, 2-7/8" x 5-1/2" Baker TAC, 2-7/8" 6.5# J-55 EUE 8rd tbg. 20-150 RHBC pump w/20' GA, 1" Pony Rod, 1" Sucker Rods w/MORGS, 3/4" Sucker Rods w/MORGS, 3/4" Sucker Rods (KD), 7/8" Sucker Rods (KD), 1" Sucker Rods (KD), 1-1/2" Polish Rod w/1-3/4" Liners.

01-10-95 Pumped 11 BO, 1 BW, & 10 MCF in 24 hrs. FL 239 JFS = 7872', TP 150 psi, CP 165 psi. MIRU X-pert (9:20). RIH w/5-1/2" wireline, set RBP, set plug @ 9465'. POOH w/wireline. PU 2-7/8" x 5-1/2" Arrow Set I pkr, 1 jt, SN & start in hole w/pkr.

01-13-95 Pump 150 BBLS McKee oil, **150 gal 7-1/2% HCl mud acid + 52 BBL Mckee oil. Flush, spotting acid across area to be perfed, 9408' - 9440'.** RD XL, PU pkr to 9190', set pkr. Pressure test csg to 1000 psi. RIH w/2-1/8" tbg gun, 0° phasing, 2 JSPF, mag decentralized & **perf as directed 9408' - 9440' (9408', 9409', 9411', 9413', 9414', 9419', 9423', 9428', 9429', 9432', 9435', 9436', 9439' 26 holes total).** Displace acid into perfs. Avg pressure 2200 psi @ .8 BPM. ISIP 2000 psi, 5 min 400 psi, 10 min 50 psi, 15 min vac. Swab. IFL 500' FS, 1st hour recovered 18 BO, FFL 4500'. 2nd hr recovered 15 BO, FL 6200', 3rd hr recovered 24 BO. Swabbing from SN, FL 8800'. Wait 30 min, FL 8800', recovered 3 BBL, 60% water. Recovered a total of 58 BO, 2 BW, **150 BLOYTR.**

01-14-95 **Acidize McKee sand perfs 9408' - 9409' w/3000 gal 7-1/2% HCl mud acid.** Dropping 40 density matched ball sealers, 8 per 12 BBL. Flush w/2% KCl to top perf (58.3 BBL). Pmin 2000 psi, Pmax 3000 psi, Pavg 2500 psi, AIR 4 BPM. excellent ball action from 2000 to 3000 psi. Did not ball out. ISIP 1700 psi, 5 min @ 900 psi, 10 min @ 200 psi, 12 min @ 0 psi. IFL 650', first 3 hrs. Swab back 56 BW. FL @ 6800', 4th hr FL 6800'. Recovered 13 BBL TF, 6 BW, 7 BO. FL 8800'. Make one more run. Recovered 1 BO. SD for 1 hr. FL 8800'. Swab from SN. Recovered 2-1/2 BO, 2 BW, FL @ SN. Next 2 runs, wait 1 hr each. FL 9000', recovered 1 BW & 2 BO each run.

01-17-95 SITP - 210 psi. IFL - 6200', 2800' rise in 42 hrs. First run 99% oil. Swab well 6 hrs. Recover 27-1/2 bbls TF, 14 oil - 13-1/2 H_2O. FFL - 9000'. **Acidize McKee perfs 9408'-9439' w/2000 gal AC-1 diesel blend**, tag job w/Iridium for 36 bbls. Flush to btm perf plus 1 bbl w/lease oil. P-Max - 3000, P-Avg - 3000, rate avg. - 3 BPM, ISIP 2300 psi 5 min - 1800 psi, 10 min - 1300 psi, 15 min - 900 psi. Run temp survey & Gamma Ray across perfs (TD to 9000').

01-18-95 SITP - vacuum, IFL - 3500', swab well 10 hrs, FL rises to 6800' in 1 hr after swabbed down to SN. Recover 71 bbls total fluid - 100% oil. FFL - 9000'.

01-20-95 RIH w/242 jts 2-7/8" 6.5# J-55 EUE tbg, EOT 8004.16'. ND BOP, set TAC @ 7906' w/16K tension, NU WH. PU 20-150 RHBC pump w/20' GA, RIH w/pump & rods, hang on, space out.

Form 3160-5
(June 1990)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals

SUBMIT IN TRIPLICATE

5. Lease Designation and Serial No.: LC 064118

6. If Indian, Allottee or Tribe Name:

7. If Unit or CA, Agreement Designation:

1. Type of Well: [X] Oil Well [ ] Gas Well [ ] Other

8. Well Name and No.: E. C. Hill 'B' Federal #13

2. Name of Operator: PLAINS PETROLEUM OPERATING COMPANY

9. API Well No.: 30-025-32962

3. Address and Telephone No.: 415 WEST WALL, SUITE 1000, MIDLAND, TEXAS 79701

10. Field and Pool, or Exploratory Area: Teague Simpson

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
947' FSL & 1361' FEL (SHL)
1120' FSL & 1380' FEL (BHL)
Sec 34, T23S, R37E, Unit O

11. County or Parish, State: Lea Co., NM

12. CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION	
[ ] Notice of Intent	[ ] Abandonment	[ ] Change of Plans
[ ] Subsequent Report	[ ] Recompletion	[ ] New Construction
[ ] Final Abandonment Notice	[ ] Plugging Back	[ ] Non-Routine Fracturing
	[ ] Casing Repair	[ ] Water Shut-Off
	[ ] Altering Casing	[ ] Conversion to Injection
	[ ] Other _____	[ ] Dispose Water

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

05-22-95 SPUD 17-1/2" HOLE @ 5:00 P.M. 05-22-95. TD @ 355'. Ran 8 jts 13-3/8" 48# H-40 ST&C & set @ 355'. Ran 3 centralizers one per jt. RU Western/BJ & cmt w/375 sx 'C' +2% $CaCl_2$. Displace w/48 BFW. Bump plug @ 2:00 a.m. 05-23-95. Circ'd 30 sx to reserve pit. Contacted BLM prior to spud & to witness surface cmt job. No BLM witness present.

05-26-95 Run csg as follows: 1 8-5/8" float shoe (1.5'), 1 8-5/8" WC50 32# STC (42.65'), 1 8-5/8" float collar (1.2'), 20 8-5/8" 32# WC50 STC (844.08'), 44 8-5/8" 24# J-55 STC (1948.11'), 4 8-5/8" 32# WC50 STC (176.14'), total pipe ran 3013.68', set & cmt'd @ 3008'. Called BLM to notify for cmt job. No one present. RU Western/BJ, ran 5 centralizers, one in middle of 1st jt then every collar. Cmt w/625 Pacesetter Lite 'C'. Tail 100 sx 'C' neat displace w/85 BFW @ 7 BPM 850 psi. Bump plug @ 8:15 a.m. 05/27/95 w/1350 psi. Release pressure, floats held OK. Circ'd 105 sx to pit.

ontinued on Page 2 Attached

14. I hereby certify that the foregoing is true and correct

Signed Dominic J. Bazile Title Area Engineer Date June 22, 1995

(This space for Federal or State office use)

Approved by _____ Title _____ Date _____
Conditions of approval, if any:

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

*See Instruction on Reverse Side

06-18-95 **DST #1** **9591' - 9639' (48') Lower McKee Porosity**

Surface Action: Open w/weak blow - increased to btm bucket in 90 seconds, 20 oz - 5 mins, open 1/4" choke 14 oz. 10 min 10 oz. SI for 1 hr ISI. Surface read out after 1 hr SI 1612.4 psi. Open for 1 hr final flow w/weak blow. Increased to BTM bucket in 4 min, 5 min 9 oz, 10 min 11 oz, 15 min 12 oz, 15-45 min 15 oz, 50 min 14 oz, 60 min 13 oz. SI for 2 hr final SI. Surface readout after 2 hr SI 1421.5 psi. Pulled pkrs free TOOH w/43 stds & single. Rig broke down.

Recovery: 1650' - 18.6 BBL, 200' - 2.84 BBL, slightly oil & gas cut mud. 1450' - 15.16 BW, Chlor 145,000 ppm, Rw .05 @ 60°F.

Sample Chamber: 1950 cc water, .052 cuft gas @ 400 psi, Rw .05 @ 60°F, Chlor 145,000 ppm, BHT 139°F @ 9568'.

Pressure: IHYD 4465 psi, I Pre Flow, 376 - 406 psi, ISIP 1648 psi 60 min, FF 662 - 858 psi. FSIP 1380 psi. 120 min FHYD, 4580 psi. Btm 5 DC's were plugged w/formation sand.

06-20-95 TD @ 9740', 7-7/8" hole @ 3:00 p.m. 06/20/95. RU Computa-Log, loggers TD 9742'.

06-21-95 Run Spectral Density Compensated Neutron Spectral Gamma Ray, Borehole Compensated Sonic. RD Computalog. RU Numar, run Numar Magnetic Resonance Imaging log from 9740' - 9400' McKee, 8650' - 8400' Fusselman, 7670' - 7260' Devonian, 7090' - 6680' Abo, 6600' - 5920' Drinkard, Vivian, Upper Abo.

Post-it™ brand fax transmittal memo 7671	# of pages ▸ 2
To [illegible]ck 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
<u>Fresh Water Station</u>
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.

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.

PETROLITE

Petrolite Corporation
5624 Lovington Highway
Hobbs, NM 88240-9143

TRETOLITE DIVISION

(505) 392-6711
Fax (505) 392-3759

WATER ANALYSIS REPORT

Company : Plains Petroleum
Address : Jal NM
Lease : Teague Water Inj. Station
Well : Injection Pump
Sample Pt. : Pump Discharge

Date : 06-20-95
Date Sampled : 06-19-95
Analysis No. : 86

	ANALYSIS		mg/L		* meq/L
1.	pH	7.4			
2.	H2S	150 ppm			
3.	Specific Gravity	1.038			
4.	Total Dissolved Solids		70681.8		
5.	Suspended Solids		23.8		
6.	Dissolved Oxygen		0.1 ppm		
7.	Dissolved CO2		70 ppm		
8.	Oil In Water		65 ppm		
9.	Phenolphthalein Alkalinity (CaCO3)				
10.	Methyl Orange Alkalinity (CaCO3)		765.0		
11.	Bicarbonate	HCO3	933.3	HCO3	15.3
12.	Chloride	Cl	40123.4	Cl	1131.8
13.	Sulfate	SO4	3400.0	SO4	70.8
14.	Calcium	Ca	2725.4	Ca	136.0
15.	Magnesium	Mg	1541.3	Mg	126.8
16.	Sodium (calculated)	Na	21958.5	Na	955.1
17.	Iron	Fe	0.0		
18.	Barium	Ba	NR		
19.	Strontium	Sr	NR		
20.	Total Hardness (CaCO3)		13151.8		

PROBABLE MINERAL COMPOSITION

*milli equivalents per Liter

136	*Ca <----- *HCO3	15
	/------->	
127	*Mg -----> *SO4	71
	<----------/	
955	*Na -----> *Cl	1132

Saturation Values Dist. Water 20 C

CaCO3	13	mg/L
CaSO4 * 2H2O	2090	mg/L
BaSO4	2.4	mg/L

Compound	Equiv wt	X meq/L	= mg/L
Ca(HCO3)2	81.0	15.3	1240
CaSO4	68.1	70.8	4819
CaCl2	55.5	49.9	2769
Mg(HCO3)2	73.2		
MgSO4	60.2		
MgCl2	47.6	126.8	6036
NaHCO3	84.0		
Na2SO4	71.0		
NaCl	58.4	955.1	55818

REMARKS: Dominic Bazile / Rodney Long / Shannon Willis
Greg Archer / file (RapidChek II - 10/3rd)

Petrolite Oilfield Chemicals Group

Respectfully submitted,
Greg Archer

PETROLITE

SCALE TENDENCY REPORT

Company	: Plains Petroleum	Date	: 06-20-95
Address	: Jal NM	Date Samplod	: 06-19-95
Lease	: Teague Water Inj. Station	Analysis No.	: 86
Well	: Injection Pump	Analyst	: Greg Archer
Sample Pt.	: Pump Discharge		

STABILITY INDEX CALCULATIONS
(Stiff-Davis Method)
CaCO3 Scaling Tendency

S.I. =	1.4	at	60 deg. F	or	16 deg. C
S.I. =	1.5	at	80 deg. F	or	27 deg. C
S.I. =	1.6	at	100 deg. F	or	38 deg. C
S.I. =	1.7	at	120 deg. F	or	49 deg. C
S.I. =	1.8	at	140 deg. F	or	60 deg. C

****

CALCIUM SULFATE SCALING TENDENCY CALCULATIONS
(Skillman-McDonald-Stiff Method)
Calcium Sulfate

S =	4414	at	60 deg. F	or	16 deg C
S =	4709	at	80 deg. F	or	27 deg C
S =	4882	at	100 deg. F	or	38 deg C
S =	4946	at	120 deg. F	or	49 deg C
S =	4984	at	140 deg. F	or	60 deg C

Petrolite Oilfield Chemicals Group

Respectfully submitted,
Greg Archer

24

AFFIDAVIT OF PUBLICATION

State of New Mexico
County of Lea

I, Kathi Bearden

General Manager

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

1 weeks.

Beginning with the issue dated

July 14, 199519

and ending with the issue dated

July 14, 199519

Kathi Bearden

General Manager

Sword and subscribed to before me this 14th day of July 1995

Notary Public.

My Commission expires
~~March 24, 1998~~ 6-21-98
(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.

LEGAL NOTICE
July 14,1995

Plains Petroleum Operating Company (415 West Wall, Suite 1000, Midland, Texas 79701, 915/683-4434, Attention: Dominic Bazile, P.E. Area Engineer) intends to complete two water injection wells to initiate the secondary oil recovery operations in the Teague Simpson (McKee) Waterflood Project in the E/2 of Sec 34 & the W/2 of Sec 35, T23S, R37E, Lea County, New Mexico. Water will be injected into the Teague Simpson (McKee) formation through perforations from 9400' to 9550'. Water will be injected at average rate of 500 BWPD and maximum rate of 1000 BWPD per well with an average injection pressure of 1500 psig and a maximum injection pressure of 2500 psig. Interested parties must file objections or requests for hearing with the New Mexico Oil Conservation Division, P.O. Box 2088, Santa Fe, New Mexico 87501 within 15 days.

25

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State of New Mexico
County of Lea

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General Manager

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2L

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:
ARCO
P.O. Box 1610
Midland, TX 79702

4a. Article Number
P 428 546 546

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

7. Date of Delivery

5. Signature (Addressee)

6. Signature (Agent)

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

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

Is your RETURN ADDRESS completed on the reverse side?

Thank you for using Return Receipt Service.

SENDER:
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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:
Chevron USA
P.O. Box 1150
Midland, TX 79702

4a. Article Number
P 428 546 547

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

7. Date of Delivery

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2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
Arch Petroleum
10 Desta Drive, Ste 4206
Midland, TX 79705

4a. Article Number
P 428 546 551

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

7. Date of Delivery

5. Signature (Addressee)

6. Signature (Agent)

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

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2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
OXY USA Inc.
P.O. Box 50250
Midland, TX 79702

4a. Article Number
P 428 546 550

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

7. Date of Delivery

5. Signature (Addressee)

6. Signature (Agent)

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

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

Is your RETURN ADDRESS completed on the reverse side?

Thank you for using

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:
Sirgo Oper.
P.O. Box 3531
Midland, TX 79702

4a. Article Number
P 428 546 549

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

7. Date of Delivery

5. Signature (Addressee)

6. Signature (Agent)

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

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

Is your RETURN ADDRESS completed on the reverse side?

Thank you for using Return Receipt Service

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:
NM OCD
P.O. Box 1980
Hobbs, NM 88240

4a. Article Number
P 428 546 554

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

7. Date of Delivery

5. Signature (Addressee)

6. Signature (Agent)

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

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

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- Complete items 3, and 4a & b.
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- 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:
BLM
P.O. Box 1778
Carlsbad, NM 88221

4a. Article Number
P 428 546 553

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

7. Date of Delivery

5. Signature (Addressee)

6. Signature (Agent)

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

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

Is your RETURN ADDRESS completed on the reverse side?

Thank you for using Return Receipt Service.

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
P.O. Box 3109
Midland, TX 79702

4a. Article Number
428 546 639

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

7. Date of Delivery

5. Signature (Addressee)

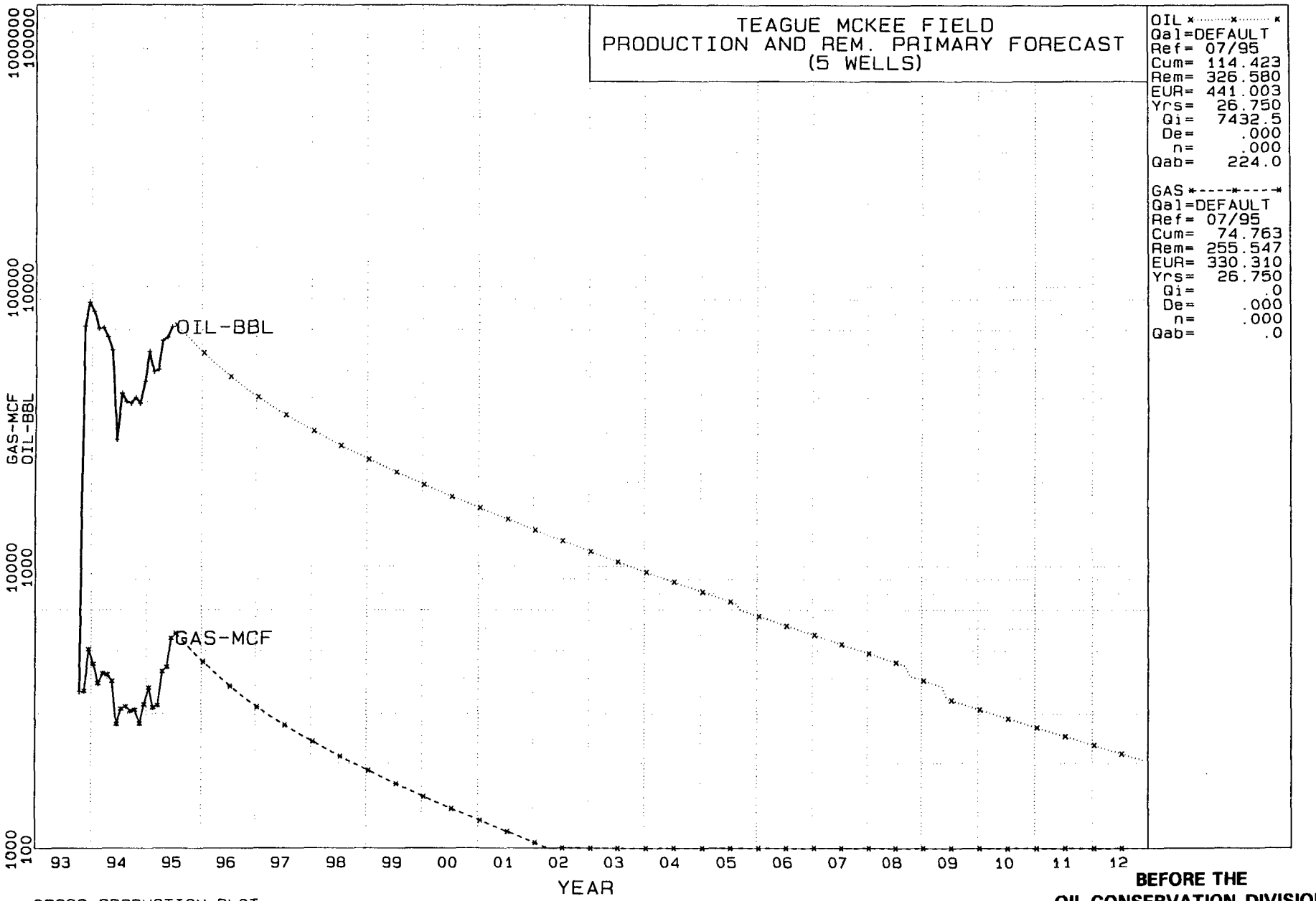
6. Signature (Agent)

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

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

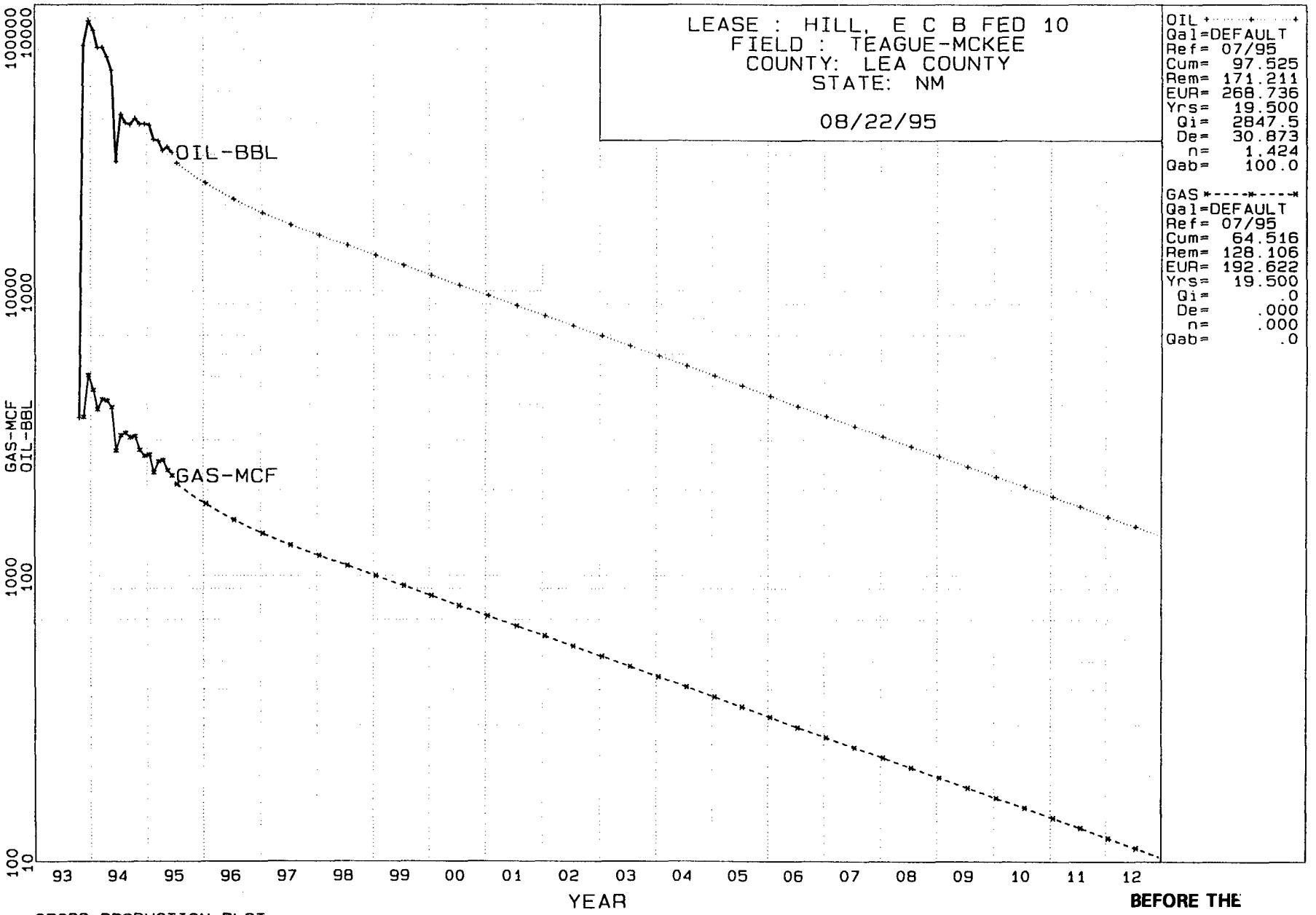
Is your RETURN ADDRESS completed on the reverse side?

Thank you for using Return Receipt Service.



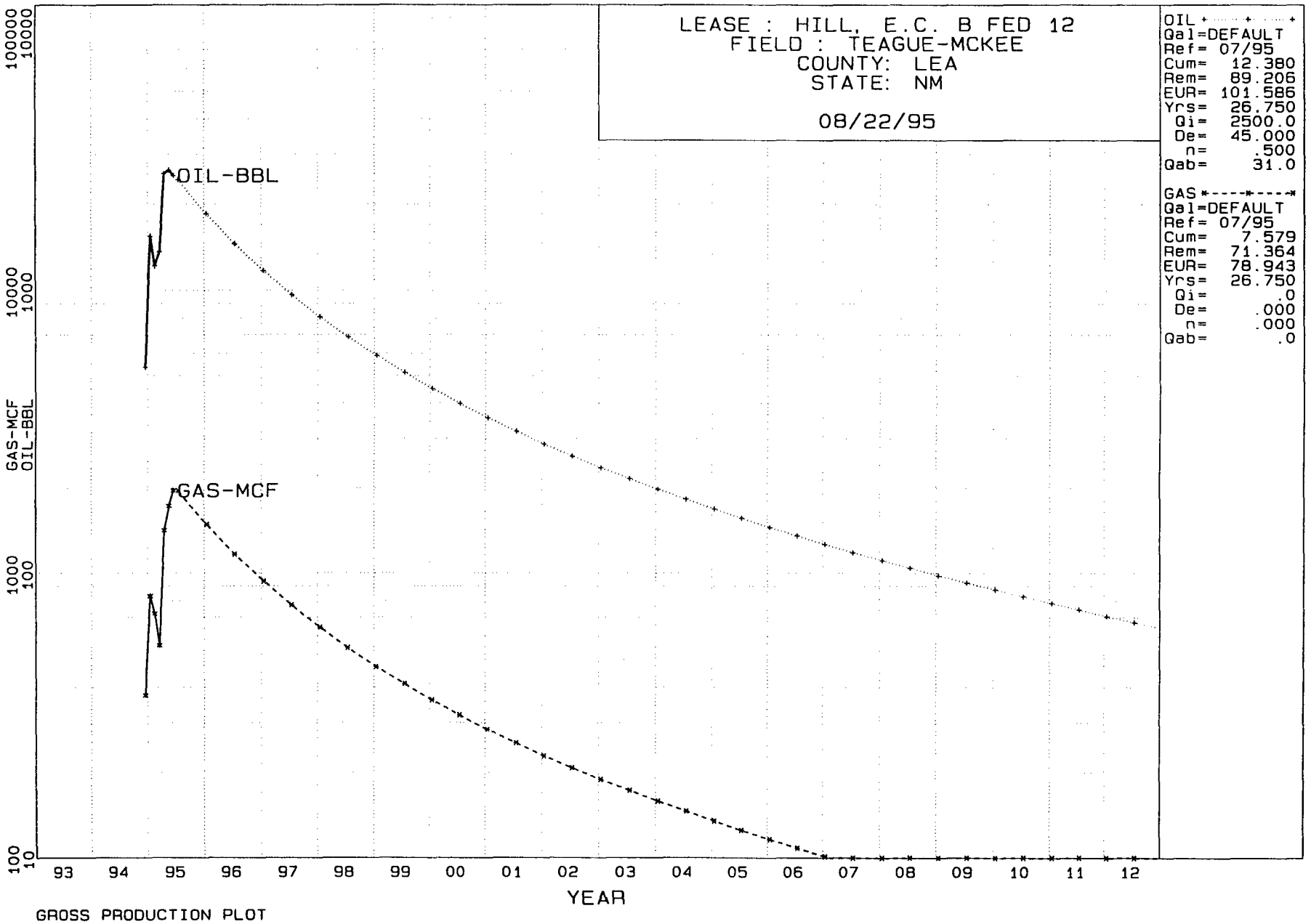
GROSS PRODUCTION PLOT

BEFORE THE
OIL CONSERVATION DIVISION
Case No. 11368 Exhibit No. 4
Submitted By:
Plains Petroleum Company
Hearing Date: August 24, 1995

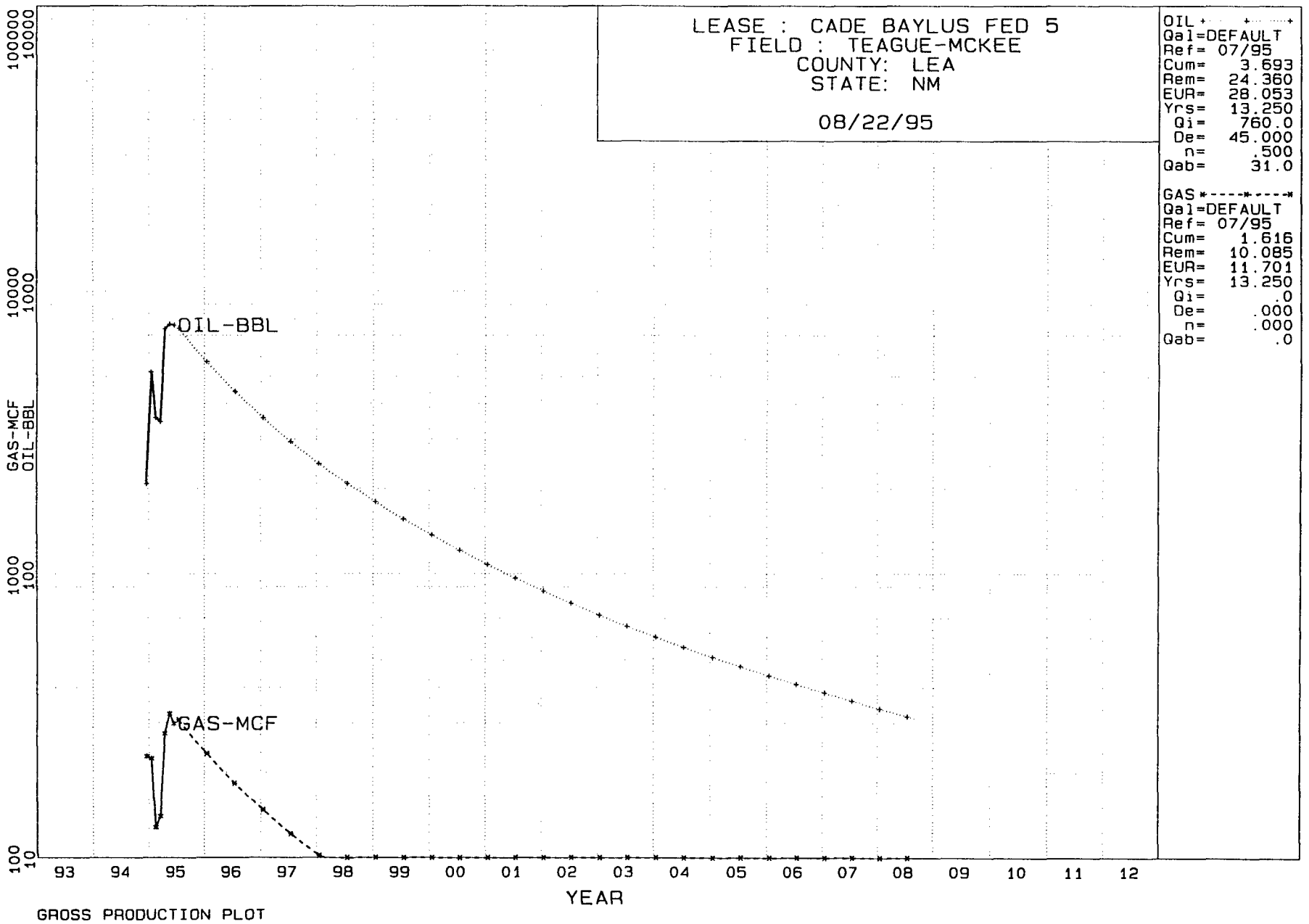


GROSS PRODUCTION PLOT

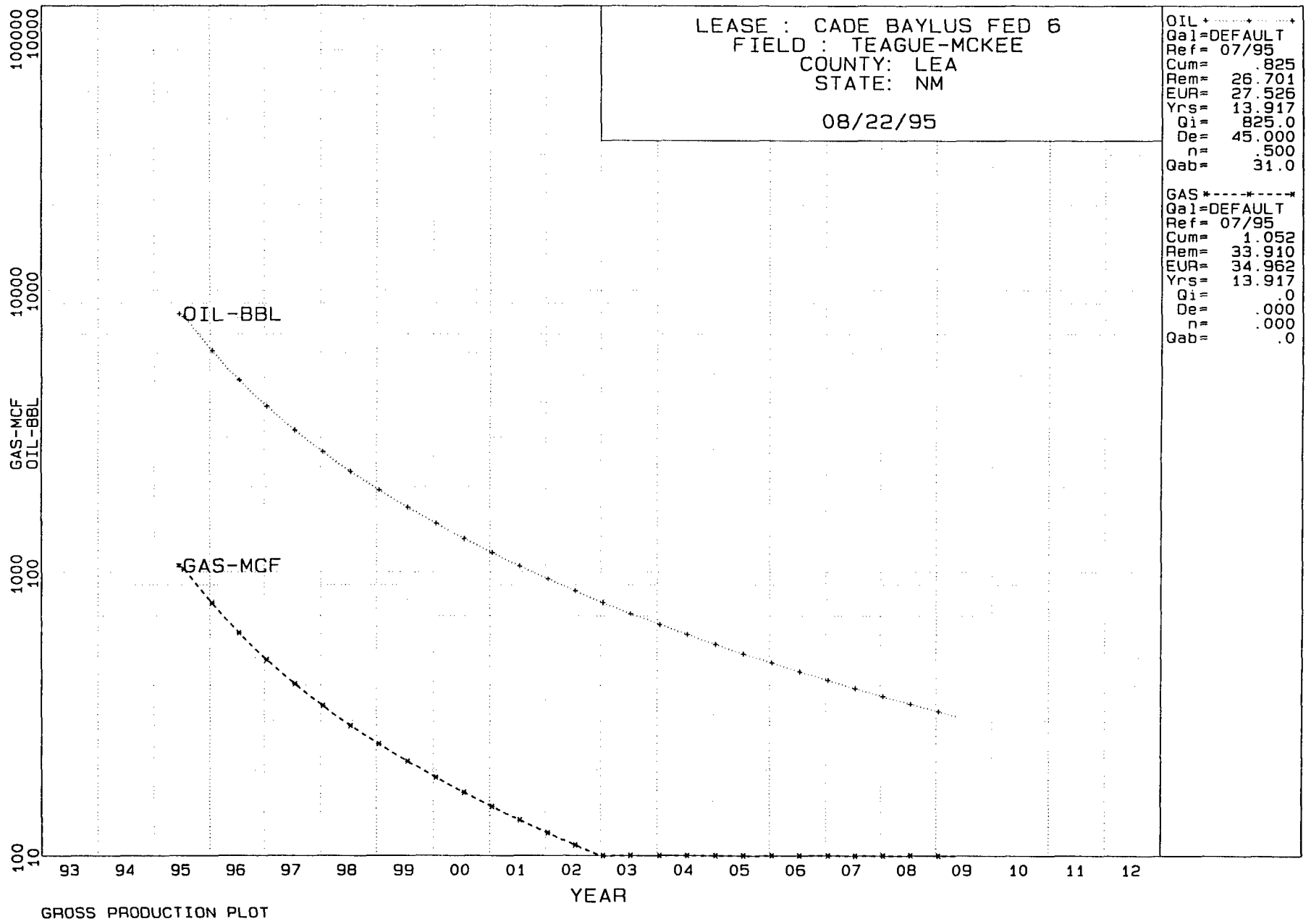
BEFORE THE
OIL CONSERVATION DIVISION
Case No. 11368 Exhibit No. 5
Submitted By:
Plains Petroleum Company
Hearing Date: August 24, 1995



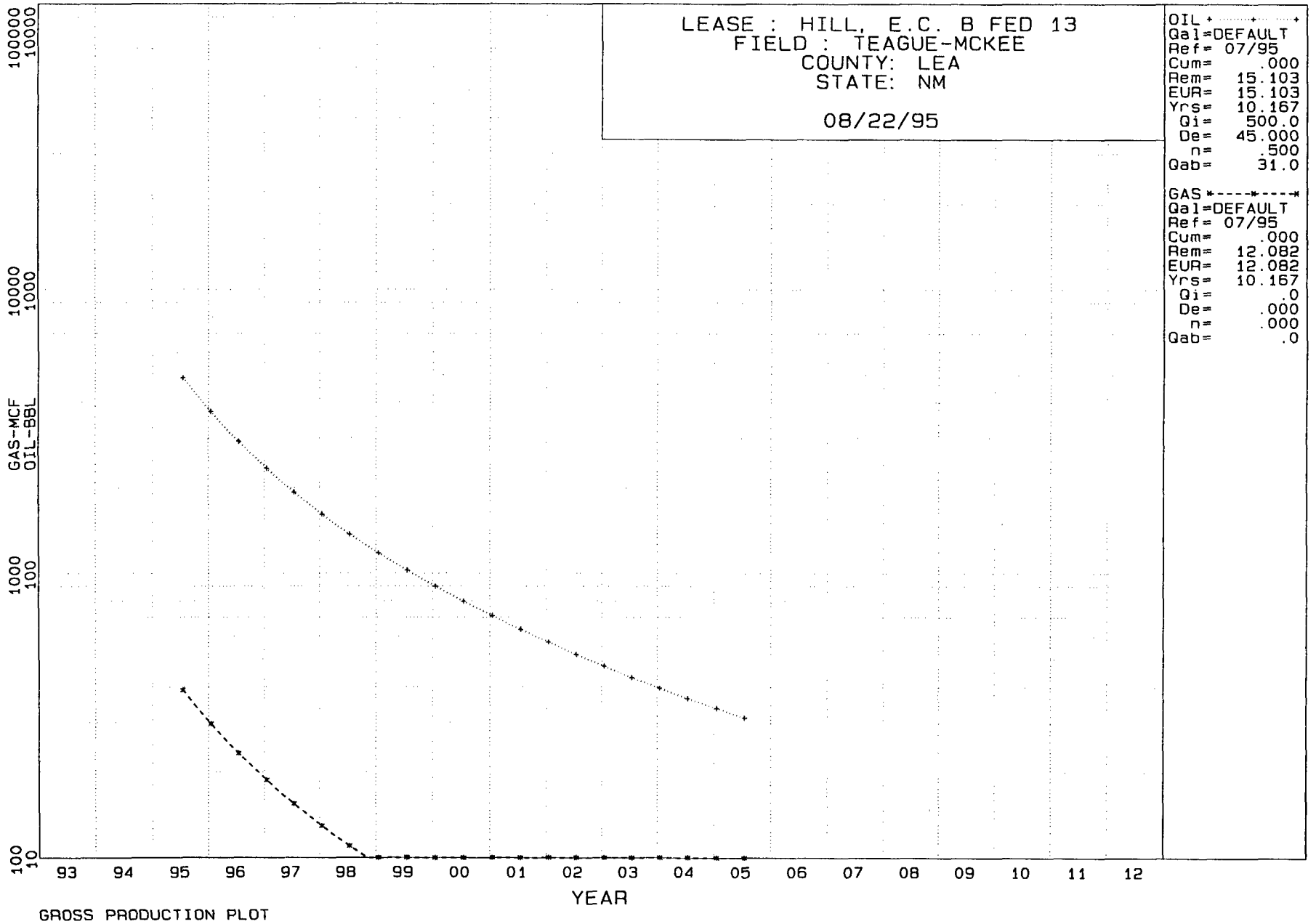
GROSS PRODUCTION PLOT



GROSS PRODUCTION PLOT



GROSS PRODUCTION PLOT



GROSS PRODUCTION PLOT

CASE: 886 HILL, E C B FED 10 M.WELL_ID
TEAGUE-MCKEE
LEA COUNTY , NM
PLAINS PETROLEUM

DATE: 08/22/95
TIME: 09:46:24
PAGE: 1
PLN_UPD.DBS

P R O D U C T I O N L E D G E R

DATE	OIL, BBL	GAS, MCF	WATER, BBL	GOR, CF/BBL	WATER CUT, %	CUM OIL, BBL	CUM GAS, MCF
PRIOR	0	0	0	0	0.00	0	0
9/93	0	0	0	0	0.00	0	0
10/93	360	0	0	0	0.00	360	0
11/93	7219	3620	217	501	2.92	7,579	3,620
12/93	8793	5067	391	576	4.26	16,372	8,687
YTD/93	16372	8687	608	531		16,372	8,687
1/94	8150	4503	478	553	5.54	24,522	13,190
2/94	7096	3851	402	543	5.36	31,618	17,041
3/94	7111	4169	557	586	7.26	38,729	21,210
4/94	6601	4129	893	626	11.92	45,330	25,339
5/94	5925	3915	536	661	8.30	51,255	29,254
6/94	2844	2756	338	969	10.62	54,099	32,010
7/94	4153	3124	209	752	4.79	58,252	35,134
8/94	3887	3184	187	819	4.59	62,139	38,318
9/94	3827	3075	194	804	4.82	65,966	41,393
10/94	4011	3100	204	773	4.84	69,977	44,493
11/94	3829	2770	209	723	5.18	73,806	47,263
12/94	3836	2636	229	687	5.63	77,642	49,899
TOT/94	61270	41212	4436	673		77,642	49,899
1/95	3804	2659	152	699	3.84	81,446	52,558
2/95	3390	2306	147	680	4.16	84,836	54,864
3/95	3347	2518	169	752	4.81	88,183	57,382
4/95	3099	2544	165	821	5.06	91,282	59,926
5/95	3189	2345	0	735	0.00	94,471	62,271
6/95	3054	2245	0	735	0.00	97,525	64,516
YTD/95	19883	14617	633	735		97,525	64,516
TOTAL	97525	64516	5677	662		97,525	64,516

CASE: 1092 HILL, E.C. B FED 12 M.WELL_ID
TEAGUE-MCKEE
LEA , NM
PLAINS PETROLEUM

DATE: 08/22/95
TIME: 09:46:24
PAGE: 2
PLN_UPD.DBS

P R O D U C T I O N L E D G E R

DATE	OIL, BBL	GAS, MCF	WATER, BBL	GOR, CF/BBL	WATER CUT, %	CUM OIL, BBL	CUM GAS, MCF
PRIOR	0	0	0	0	0.00	0	0
1/94							
2/94							
3/94							
4/94							
5/94							
6/94							
7/94							
8/94							
9/94							
10/94							
11/94							
12/94	537	375	85	698	13.67	537	375
TOT/94	537	375	85	698		537	375
1/95	1547	831	76	537	4.68	2,084	1,206
2/95	1217	720	59	592	4.62	3,301	1,926
3/95	1363	560	67	411	4.69	4,664	2,486
4/95	2560	1413	124	552	4.62	7,224	3,899
5/95	2634	1725	0	655	0.00	9,858	5,624
6/95	2522	1955	0	775	0.00	12,380	7,579
YTD/95	11843	7204	326	608		12,380	7,579
TOTAL	12380	7579	411	612		12,380	7,579

P R O D U C T I O N L E D G E R

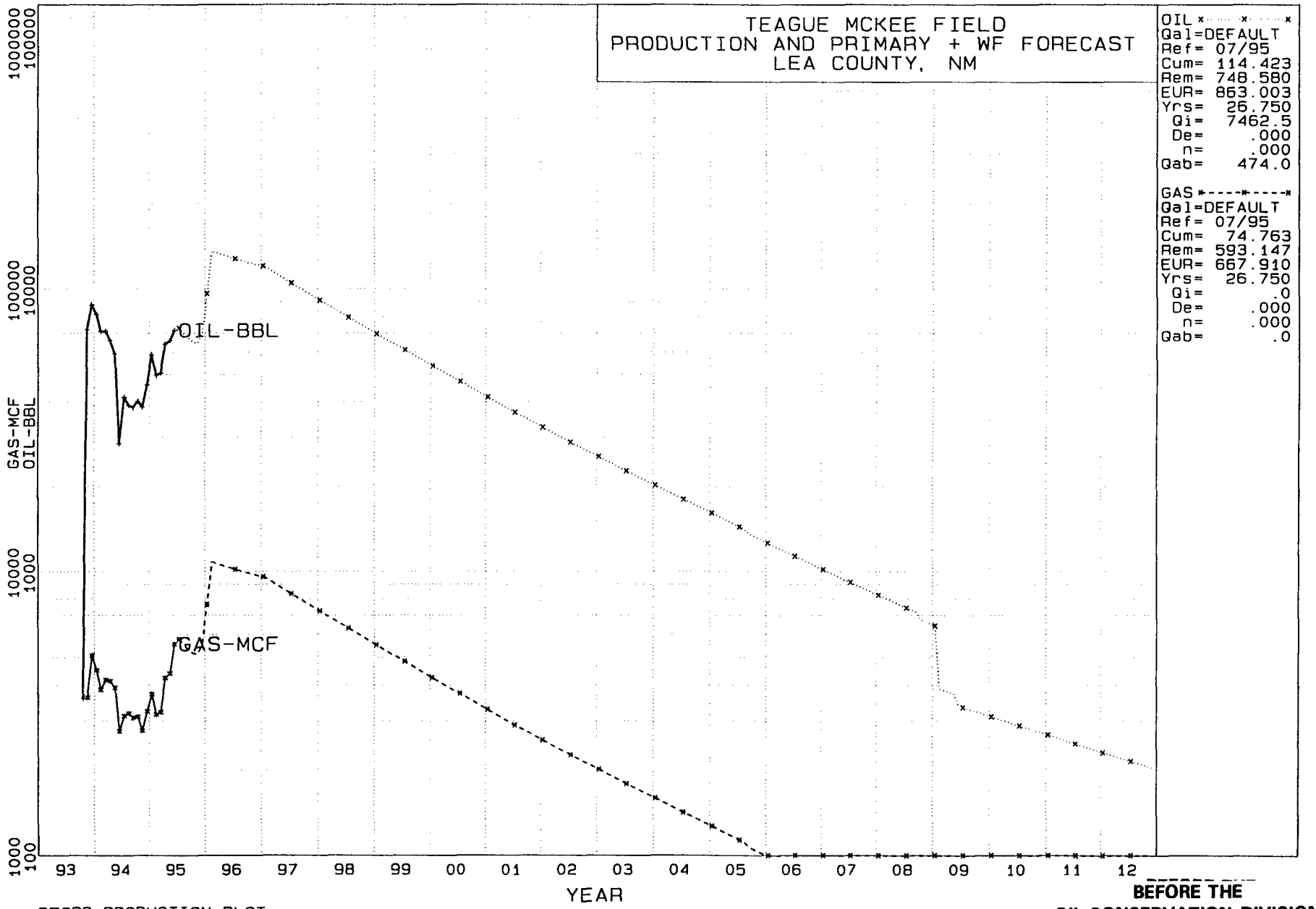
DATE	OIL, BBL	GAS, MCF	WATER, BBL	GOR, CF/BBL	WATER CUT, %	CUM OIL, BBL	CUM GAS, MCF
PRIOR	0	0	0	0	0.00	0	0
1/94							
2/94							
3/94							
4/94							
5/94							
6/94							
7/94							
8/94							
9/94							
10/94							
11/94							
12/94	208	228	111	1096	34.80	208	228
TOT/94	208	228	111	1096		208	228
1/95	518	224	33	432	5.99	726	452
2/95	357	128	32	359	8.23	1,083	580
3/95	346	140	0	405	0.00	1,429	720
4/95	738	275	67	373	8.32	2,167	995
5/95	766	323	0	422	0.00	2,933	1,318
6/95	760	298	0	392	0.00	3,693	1,616
YTD/95	3485	1388	132	398		3,693	1,616
TOTAL	3693	1616	243	438		3,693	1,616

P R O D U C T I O N L E D G E R

DATE	OIL, BBL	GAS, MCF	WATER, BBL	GOR, CF/BBL	WATER CUT, %	CUM OIL, BBL	CUM GAS, MCF
PRIOR	0	0	0	0	0.00	0	0
1/95							
2/95							
3/95							
4/95							
5/95							
6/95	825	1052	0	1275	0.00	825	1,052
YTD/95	825	1052	0	1275		825	1,052
TOTAL	825	1052	0	1275		825	1,052

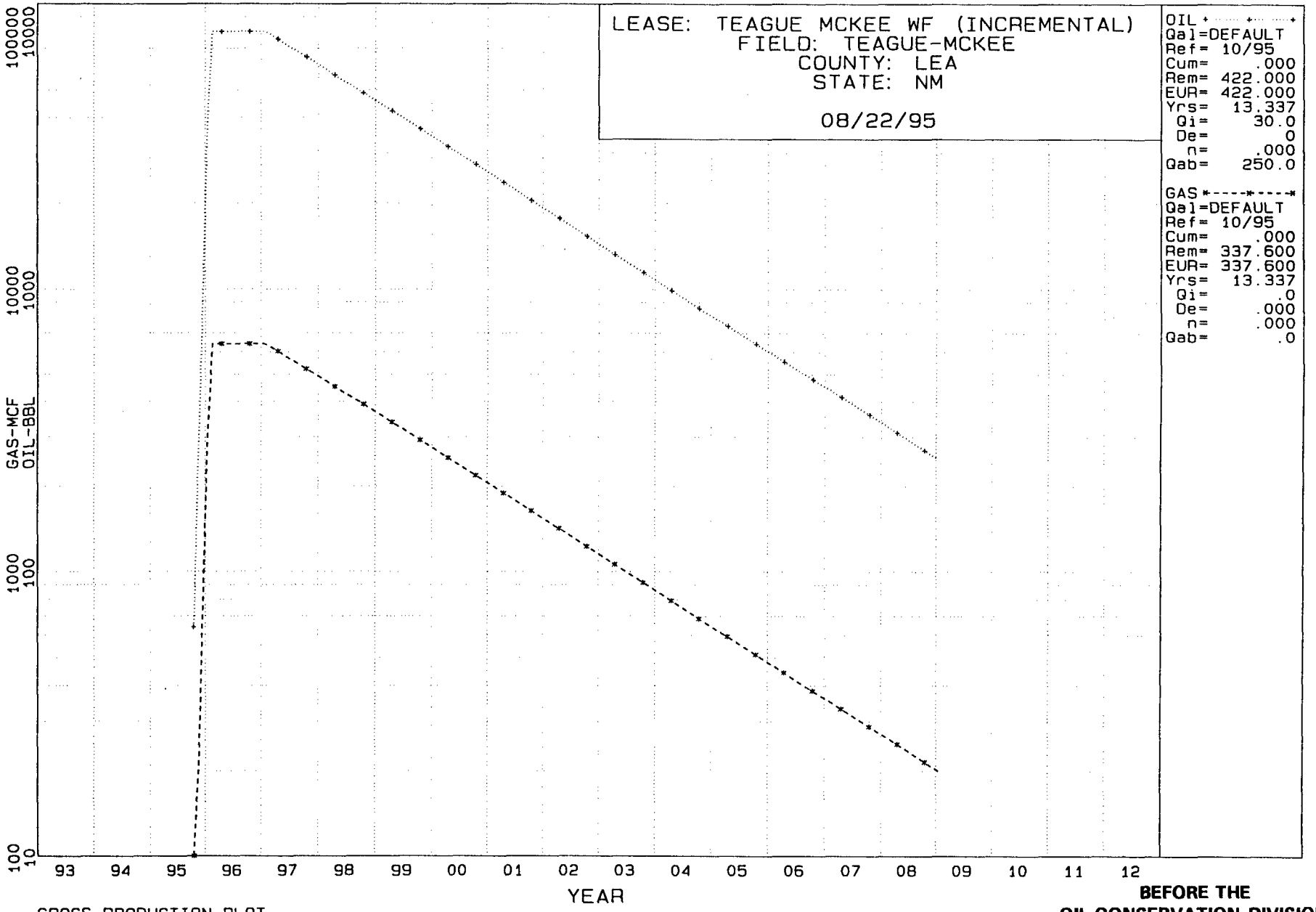
P R O D U C T I O N L E D G E R

DATE	OIL, BBL	GAS, MCF	WATER, BBL	GOR, CF/BBL	WATER CUT, %	CUM OIL, BBL	CUM GAS, MCF
PRIOR	0	0	0	0	0.00	0	0



GROSS PRODUCTION PLOT

BEFORE THE
OIL CONSERVATION DIVISION
Case No. 11368 Exhibit No. 6
Submitted By:
Plains Petroleum Company
Hearing Date: August 24, 1995



GROSS PRODUCTION PLOT

BEFORE THE
OIL CONSERVATION DIVISION
Case No. 11368 Exhibit No. 2
Submitted By:
Plains Petroleum Company
Hearing Date: August 24, 1995

PLAINS PETROLEUM OPERATING COMPANY
RESERVES AND ECONOMICS

TEAGUE MEKEE WF PROJECT
S WELL PROJECT
TEAGUE-MCKEE FIELD
LEA CO, NM
PUD (INCREMENTAL WF RESV.)

AS OF DATE: 7/95

QUALIFIERS FOR PROD:DEFAULT
OWNER:PLAINS
OTHER: DEFAULT

DATE : 08/21/95
TIME : 13:53:09
DBS FILE : PLN_UPD
SETUP FILE : PLP795
SEQ NUMBER : 1095

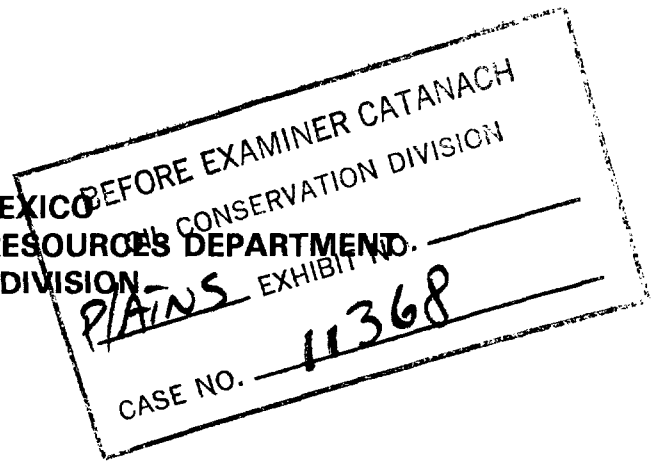
-END- MO-YR	GROSS OIL PRODUCTION ---MBBLS---	GROSS GAS PRODUCTION ----MMCF---	NET OIL PRODUCTION ---MBBLS---	NET GAS PRODUCTION ----MMCF---	NET OIL PRICE ---$/BBL---	NET GAS PRICE ---$/MCF---	NET OIL REVENUE -----M$----	NET GAS REVENUE -----M$----	TOTAL NET REVENUE -----M$----
12-95	1.292	1.034	1.190	.853	15.405	1.745	18.330	1.488	19.817
12-96	91.821	73.457	84.567	60.602	15.972	1.770	1350.738	107.286	1458.024
12-97	85.280	68.224	78.543	56.285	16.387	1.974	1287.060	111.098	1398.158
12-98	63.897	51.117	58.849	42.172	17.062	2.054	1004.063	86.602	1090.665
12-99	47.820	38.256	44.042	31.561	17.764	2.136	782.376	67.430	849.806
12-00	35.788	28.631	32.961	23.620	18.495	2.223	609.608	52.502	662.110
12-01	26.784	21.427	24.668	17.677	19.255	2.312	474.971	40.878	515.850
12-02	20.045	16.036	18.461	13.230	20.045	2.406	370.055	31.828	401.883
12-03	15.002	12.001	13.816	9.901	20.867	2.503	288.302	24.780	313.083
12-04	11.227	8.982	10.340	7.410	21.721	2.604	224.602	19.293	243.895
S-TOT	398.956	319.165	367.439	263.311	17.445	2.063	6410.106	543.186	6953.292
AFTER	18.704	14.963	17.226	12.345	23.309	2.791	401.538	34.457	435.995
TOTAL	417.660	334.128	384.665	275.656	17.708	2.096	6811.644	577.643	7389.287

-END- MO-YR	NET ADVAL & PROD. TAXES -----M$----	DIRECT OPER EXPENSE -----M$----	TOTAL TRUST PAYMENTS -----M$----	TOTAL OPER EXPENSE -----M$----	NET PET INT EXPENSE -----M$-	CAPITAL INVESTMENT -----M$---	FUTURE NET CASHFLOW -----M$----	CUMULATIVE CASHFLOW -----M$----	CUM. DISC. CASHFLOW -----M$----
12-95	1.694	.000	.000	1.694	.000	214.000	-195.877	-195.877	-192.016
12-96	124.627	.000	.000	124.627	.000	.000	1333.397	1137.521	964.718
12-97	119.530	.000	.000	119.530	.000	.000	1278.628	2416.149	1935.048
12-98	93.242	.000	.000	93.242	.000	.000	997.423	3413.571	2593.293
12-99	72.651	.000	.000	72.651	.000	.000	777.156	4190.727	3039.276
12-00	56.604	66.916	.000	123.520	.000	.000	538.590	4729.317	3308.333
12-01	44.100	75.919	.000	120.019	.000	.000	395.830	5125.148	3480.189
12-02	34.357	78.956	.000	113.313	.000	.000	288.570	5413.717	3589.160
12-03	26.766	82.114	.000	108.880	.000	.000	204.203	5617.920	3656.238
12-04	20.851	85.399	.000	106.249	.000	.000	137.646	5755.566	3695.581
S-TOT	594.421	389.304	.000	983.725	.000	214.000	5755.566	5755.566	3695.581
AFTER	37.273	261.234	.000	298.507	.000	.000	137.489	5893.055	3727.891
TOTAL	631.695	650.537	.000	1282.232	.000	214.000	5893.055	5893.055	3727.891

	OIL	GAS				
GROSS WELLS	5.0	.0	DCFROR, PCT.	100.00	UNDISCOUNTED PAYOUT, YRS.	.65
GROSS CUM., MB & MMF	.000	.000	DEV. COST, $/NEB	.50	UNDISC. NET INCOME/INVST.	28.54
GROSS ULT., MB & MMF	417.660	334.128	PROJ. LIFE, YRS.	12.33	DISCOUNTED PAYOUT, YRS.	.67
INITIAL N.R.I., PCT.	92.100	82.500	INITIAL W.I., PCT.	100.00	DISC. NET INCOME/INVEST.	18.83
FINAL N.R.I., PCT.	92.100	82.500	FINAL W.I., PCT.	100.00	DISCOUNT RATE, PCT.	15.00

PRESENT WORTH	PCT.:	10.000	12.000	15.000	18.000	20.000	25.000	40.000	60.000	80.000
	M$:	4272.437	4038.915	3727.891	3456.534	3294.280	2942.336	2202.646	1621.951	1266.668

BEFORE THE
OIL CONSERVATION DIVISION
Case No. 11368 Exhibit No. 8
Submitted By:
Plains Petroleum Company
Hearing Date: August 24, 1995



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 (Amended and Readvertised)

Application of Plains Petroleum Operating Company
for Approval of Pressure Maintenance Project,
Special project allowable, and to apply for an EOR
Lea County, New Mexico.

CERTIFICATE OF MAILING AND COMPLIANCE WITH ORDER R-8054

W. Thomas Kellahin, attorney in fact and authorized representative of Naumann Oil & Gas Inc., states that the notice provisions of Division Rule 1207 (Order R-8054) have been complied with, that Applicant has caused to be conducted a good faith diligent effort to find the correct addresses of all interested parties entitled to receive notice, that on the 30th day of August, 1995 I caused to be sent, by certified mail return receipt requested, notice of this hearing and a copy of the application for the referenced case along with the cover letter, at least twenty days prior to the hearing set for September 21, 1995, to the parties shown in the application as evidenced by the attached copies of receipt cards, and that pursuant to Division Rule 1207, notice has been given at the correct addresses provided by such rule.

W. Thomas Kellahin

SUBSCRIBED AND SWORN to before me on this 20th day of September 1995.

Notary Public

My Commission Expires: June 15th, 1998

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 will show to whom the article was delivered and the date delivered.

Plains Petro/Teague9/21
August 30, 1995

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:

Oil Conservation Division
PO Box 1980
Hobbs, New Mexico 88240
Attn: Jerry Sexton

4a. Article Number
P 194 406 616

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

7. Date of Delivery
9-1-95

5. Signature (Addressee)

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

6. Signature (Agent)
D Pelton

PS Form 3811, December 1991 ☆ U.S.G.P.O.: 1992-307-530 **DOMESTIC RETURN RECEIPT**

Thank you for using Return Receipt Service.

Is your RETURN ADDRESS completed on the reverse side?

Z 194 406 616

Receipt for Certified Mail
No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

Sent to
Oil Conservation Division
PO Box 1980
Hobbs, New Mexico 88240
Attn: Jerry Sexton

PS Form	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	$

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 will show to whom the article was delivered and the date delivered.

Plains Petro/Teague9/21
August 30, 1995

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:

Bureau of Land Management
PO Box 1778
Carlsbad, New Mexico 88221

4a. Article Number
P 194 406 617

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

7. Date of Delivery

5. Signature (Addressee)

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

6. Signature (Agent)

PS Form 3811, December 1991 ☆ U.S.G.P.O.: 1992-307-530 **DOMESTIC RETURN RECEIPT**

Thank you for using Return Receipt Service.

Is your RETURN ADDRESS completed on the reverse side?

Z 194 406 617

Receipt for Certified Mail
No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

Sent to
Bureau of Land Management
PO Box 1778
Carlsbad, New Mexico 88221

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 will show to whom the article was delivered and the date delivered.

Plains Petro/Teague9/21
August 30, 1995

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
PO Box 3109
Midland, Texas 79702

4a. Article Number
P 194 406 618

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

7. Date of Delivery
SEP - 5 1995

5. Signature (Addressee)

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

6. Signature (Agent)

PS Form 3811, December 1991 ☆ U.S.G.P.O.: 1992-307-530 **DOMESTIC RETURN RECEIPT**

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PO Box 3109
Midland, Texas 79702

PS Form	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	$
Postmark or Date	

Plains Petro/Teague9/21
August 30, 1995

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Plains Petro/Teague9/21
August 30, 1995

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

3. Article Addressed to:

Arch Petroleum
10 Desta Drive,
Ste 420 E
Midland, Texas 79705

4a. Article Number
P 194 406 619

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

7. Date of Delivery

5. Signature (Addressee)

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

6. Signature (Agent)
Vickie Martinez

PS Form **3811**, December 1991 ☆ U.S.G.P.O.: 1992-307-530 **DOMESTIC RETURN RECEIPT**

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Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	

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Plains Petro/Teague9/21
August 30, 1995

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:

OXY USA
PO Box 50250
Midland, Texas 79702
Attn: Mr. Richard Foppiano

4a. Article Number
P 194 406 620

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

7. Date of Delivery
9-5

5. Signature (Addressee)
Amanda Lopez

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

6. Signature (Agent)

PS Form **3811**, December 1991 ☆ U.S.G.P.O.: 1992-307-530 **DOMESTIC RETURN RECEIPT**

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Restricted Delivery Fee	

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Plains Petro/Teague9/21
August 30, 1995

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:

Chevron USA
PO Box 1150
Midland, Texas 79702

4a. Article Number
P 194 406 621

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

7. Date of Delivery
SEP - 5 1995

ture (Addressee)

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

ent)

☆ U.S.G.P.O.: 1992-307-530 **DOMESTIC RETURN RECEIPT**

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(See Reverse)

Sent to
Chevron USA
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Midland, Texas 79702

Special Delivery Fee	
Restricted Delivery Fee	
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Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	$
Postmark or Date	

Plains Petro/Teague9/21
August 30, 1995

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- Plains Petro/Teague9/21
- August 30, 1995
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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:
ARCO
PO Box 1610
Midland, Texas 79702

4a. Article Number
P4 406 622

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

7. Date of Delivery
SEP 5 1995

5. Signature (Addressee)

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

6. Signature (Agent)

PS Form **3811**, December 1991 ☆ U.S.G.P.O.: 1992-307-530 **DOMESTIC RETURN RECEIPT**

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Thank you for using Return Receipt Service.

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ARCO
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Midland, Texas 79702

PS Fo

Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing	

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- Plains Petro/Teague9/21
- August 30, 1995
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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:
Sirgo Operating
PO Box 3531
Midland, Texas 79702

4a. Article Number
P4 406 623

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

7. Date of Delivery

5. Signature (Addressee)

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

6. Signature (Agent)
PU Redman

PS Form **3811**, December 1991 ☆ U.S.G.P.O.: 1992-307-530 **DOMESTIC RETURN RECEIPT**

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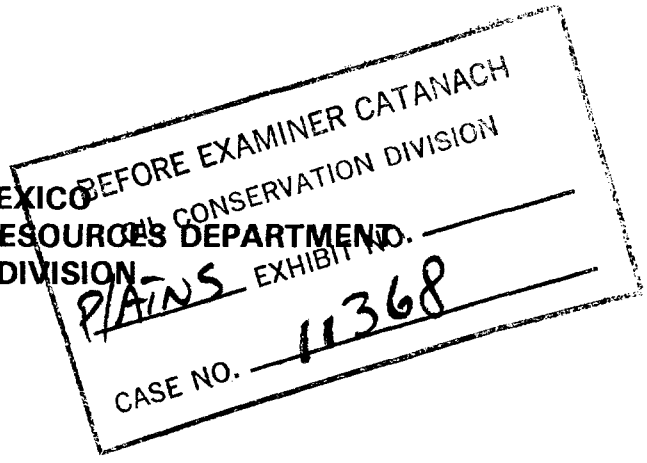
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	$
Postmark or Date	

Plains Petro/Teague9/21
August 30, 1995



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 (Amended and Readvertised)

Application of Plains Petroleum Operating Company
for Approval of Pressure Maintenance Project,
Special project allowable, and to apply for an EOR
Lea County, New Mexico.

CERTIFICATE OF MAILING AND COMPLIANCE WITH ORDER R-8054

W. Thomas Kellahin, attorney in fact and authorized representative of Naumann Oil & Gas Inc., states that the notice provisions of Division Rule 1207 (Order R-8054) have been complied with, that Applicant has caused to be conducted a good faith diligent effort to find the correct addresses of all interested parties entitled to receive notice, that on the 30th day of August, 1995 I caused to be sent, by certified mail return receipt requested, notice of this hearing and a copy of the application for the referenced case along with the cover letter, at least twenty days prior to the hearing set for September 21, 1995, to the parties shown in the application as evidenced by the attached copies of receipt cards, and that pursuant to Division Rule 1207, notice has been given at the correct addresses provided by such rule.

W. Thomas Kellahin

SUBSCRIBED AND SWORN to before me on this 20th day of September 1995.

Notary Public

My Commission Expires: June 15th, 1998

SENDER:
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Plains Petro/Teague9/21
August 30, 1995

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:
Oil Conservation Division
PO Box 1980
Hobbs, New Mexico 88240
Attn: Jerry Sexton

4a. Article Number
P 194 406 616

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

7. Date of Delivery
9-1-95

5. Signature (Addressee)

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

6. Signature (Agent)
D Weiss

PS Form 3811, December 1991 ☆ U.S.G.P.O.: 1992-307-530 **DOMESTIC RETURN RECEIPT**

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P 194 406 617

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☐ Certified ☐ COD
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Plains Petro/Teague9/21
August 30, 1995

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3. Article Addressed to:
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PO Box 3109
Midland, Texas 79702

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P 194 406 618

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SEP - 5 1995

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Postmark or Date	

Plains Petro/Teague9/21
August 30, 1995

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August 30, 1995

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3. Article Addressed to:
Arch Petroleum
10 Desta Drive,
Ste 420 E
Midland, Texas 79705

4a. Article Number
P 194 406 619

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

7. Date of Delivery

5. Signature (Addressee)

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

6. Signature (Agent)
Vicki Martinez

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Arch Petroleum
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Midland, Texas 79705

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Plains Petro/Teague9/21
August 30, 1995

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☐ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

7. Date of Delivery
9-5

5. Signature (Addressee)
Amanda Lopez

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

6. Signature (Agent)

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☐ Certified ☐ COD
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7. Date of Delivery
SEP - 5 1995

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Plains Petro/Teague9/21
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ARCO
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Midland, Texas 79702

4a. Article Number
P4 406 622

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☐ Certified ☐ COD
☐ Express Mail ☒ Return Receipt for Merchandise

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SEP 5 1995

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193 Sent to
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PO Box 1610
Midland, Texas 79702

PS Fo

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Return Receipt Showing	

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2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
Sirgo Operating
PO Box 3531
Midland, Texas 79702

4a. Article Number
P4 406 623

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

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6. Signature (Agent)
P.D. Redman

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PO Box 3531
Midland, Texas 79702

PS Form

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Postmark or Date	

Plains Petro/Teague9/21
August 30, 1995

Arch Petroleum Inc. (WAS 1-M)

Well History Summary Sheet

Operator ARCH Well Name & # E.C. Hill 'D' Fed #1 Lease # 064118

RRC District NMOCC Made By DAVID MILLER Date 3/9/89

Location 2131 FNL & 660 FEL, SEC 34, T23S, R37E, LEA CO, N.M.

Spud Date 5-23-52 Compl. Date 8-13-52 TD 9290 PBTD 8422

Type Well: Oil ✓ Gas ____ Other ____ Field TEAGUE DEVONIAN

IP F 1104 BO + 0 BW Zone DEVONIAN (7184-

ORIGINAL * Perfs.: 9114-22 (8'), 9134-40 (6'), 9162-94 (32') 9202-28 (26) 9234-64 (30') Total Holes 102' w/ 408 HOLES

Stimulation ____

Cumul. Oil ____ MCF ____ Water ____

Recent Test ____ Lift Equipment American 320 + 50 Hp Toshiba Mar

Misc. ____

3275 KB ELEV

70'

331

2919

5900

7184 (72) 7256

8422

5700 - 8845

9026

9100

9289

9290

Drive or Conductor

____" @ ____

Surface: 13 3/8" 48 # Gr. @ 321 Cmt. w/ 300 Sx. TOC CIRC Hole Size ____" Max Mud Wt. ____

Intermediate: 9 5/8", 32-36 # Gr ____ @ 2919 Cmt w/ 1400 Sx. TOC @ 70', Hole Size ____', Max Mud Wt. ____ #/G

Production: 7" 23-26 #, ____ Gr. @ 9100, Cmt. w/ 650 Sx, TOC @ 5900, Hole Size ____, Mx Mud Wt. ____ #/G

Liner: 5" #, ____ Gr. @ ____, Cmt. w/ 35 SX Hanger 9026-9289 Hole ____ Mx Mud Wt.

TD 9290' PBTD x 8422'

Pump: 2 x 1 1/2 x 16

Rods: 110-7/8" & 180-3/4" 6' E.A.

Tubing 240 jts 2 3/8", SN, PERF SUB, MA

Tubing ____

Packer (TAC) @ ____

WELL HISTORY

5-11-82 PB TO DEVONIAN FROM SIMPSON (MC,
PERF 7184,88,92,96,7200,04,08,12,16,20,24,
28,32,36,40,44,48,52 W/56 (38 HOLES
IPA 22 BO + 200 BW + 21 MCFG
SET CMT RTNR @ 8700' PMPD 150 SX - DUMPED
50 SX ON TOP OF PLUG
ACZD W/ 5000 gals 20% ACID
5-82 7" MUST have 36# JT ON TOP.
5-82 STUCK PKR @ 8845 + TUBING & VALVE
ABOVE TO 8716' WHERE WAS CUT OFF
ALL LEFT UNDER CMT RETAINER
5/82 - REPAIR/REPLACE PMP 2½ x 2 x 1½ x 16'
6/82 - RUN 2" x 1½ X 16' RWTC
3/83 - LOOK FOR HOLE IN TUBING - TEST
BACK IN HOLE - COLLAR LK, TEST @ 5000#
RUN 2" x 1.5" X 16' RWTC
6/83 ROD PART - BODY 2 DOWN. (7/8")
1/84 ROD PART - BODY 3 DOWN (7/8")
1/84 7/8" BODY 6 DOWN
2/84 PMP CHANGE 2 X 1½ X 16 REPAIRED
3/84 7/8" BODY 5 down
6/84 7/8" BODY 7 down
6/84 REPLACE PMP
8/87 7/8" BOX 49 DOWN C/O PMP
10/87 7/8" BOX 39 DOWN
1/88 7/8 BODY BREAK
2/88 TUBING LK - LOOSE COLLAR
6/88 HOLE IN TUBING TESTED - 2 COLLARS
REPLACED @ 2 JTS ABOVE SN
8/88 7/8 BOX 42 down
11/88 7/8 BOX 7 down

3/89 CASING LK CHLORIDES 8900 PPM
#4 CHLORIDES 69,000 PPM

3/89 SQZ CSG LEAK 5222-5282 W/150SX DOWELL
TST 500# RUN GST/NGT/CNL/TDT AND SONIC 7150-5155
PERF 6958-6974 (17 holes) 6991-7014 (24 holes) ACDZ 6000 GAL
15% 60 BS.
4/89 SET CIBP @ 6910' PERF 6638-6714 W/56 holes
ACDZ 6000 GAL 15% 80 BS KICKED OFF FLOWING
4/90 PLACE on Pump

BEFORE THE
OIL CONSERVATION DIVISION
Case No. 11368 Exhibit No. 3-A
Submitted By:
Plains Petroleum Company
Hearing Date: August 24, 1995

Arch Petroleum Inc.

P&A

Well History Summary Sheet

Operator ARCH Well Name & # E.C. HILL # 8 Lease # _____

RRC District NMOCC Made By DAVID MILLER Date 4/28/89

Location 980 FNL & 1650 FWL, SEC 35, T23S, R37E, LEA CO, N.M.

Spud Date 1-22-54 Compl. Date 5-11-54 TD 10550 PBTD _____

Type Well: Oil ____ Gas ____ Other DRY Field TEAGUE

I P _____ Zone DRY

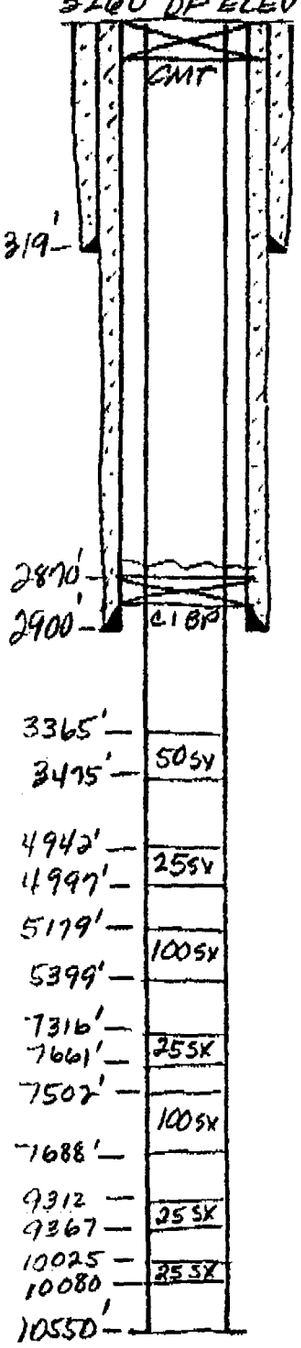
Perfs.: _____ Total Holes _____

Stimulation _____

Cumul. Oil _____ MCF _____ Water _____

Recent Test _____ Lift Equipment _____

Misc. 3260 DF ELEV



Drive or Conductor

_____" @ _____

Surface: 13 3/8 48 # Gr. H-40 @ 319 Cmt. w/ 300 Sx. TOC SURF

Hole Size _____"

Max Mud Wt. _____

Intermediate: 9 5/8" 32.36 # Gr H-40 @ 2900 Cmt w/ 1600 Sx. TOC @ SURFACE, Hole Size _____', Max Mud Wt. _____ #/G

Production: _____ #, _____ Gr. @ _____, Cmt. w/ _____ Sx, TOC @ _____, Hole Size _____ Mx Mud Wt. _____ #/G

Liner: _____ #, _____ Gr. @ _____, Cmt. w/ _____ Hanger _____ Hole _____ Mx Mud Wt.

TD 10550, PBTD x SURF.

Pump: _____

Rods: _____

Tubing _____

Tubing _____

Packer (TAC) @ _____

WELL HISTORY

@ 10,550 TD TESTED McKEE & ELLENBURGER FORM. NON-PRODUCTIVE
SET CMT PLUG OF 85 SX @ 10 025-10080 ELLENB
SET CMT PLUG OF 25 SX @ 9312-9367 MCKEE
SET CMT PLUG OF 100 SX @ 7502-7688 DEVONIAN
SET CMT PLUG OF 25 SX @ 7316-7661 DEVONIAN
SET CMT PLUG OF 100 SX @ 5179-5399 GLOR CB.
SET CMT PLUG OF 25 SX @ 4942-4997 GLOR Cr.
SET CMT PLUG OF 50 SX @ 3365-3475 TRVRANCE
SET CIBP @ 2870 + 10 FT. HYDROMITE ON TOP,
CMT PLUG @ SURFACE.

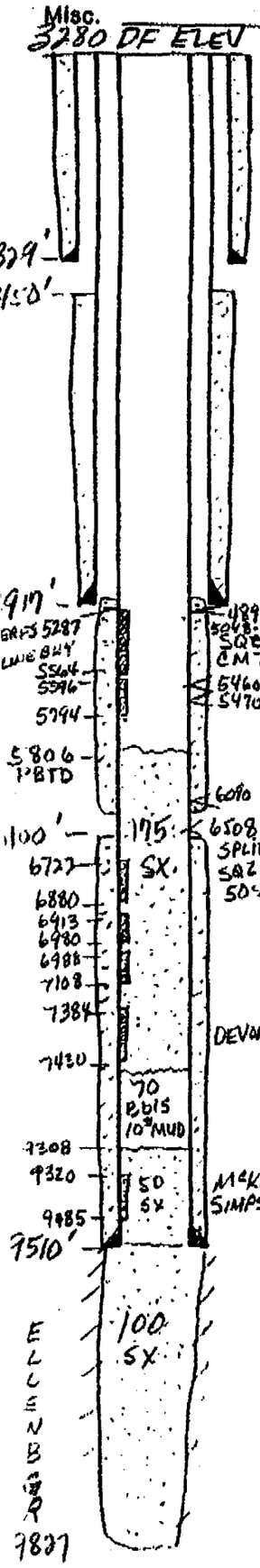
" " 3M (MCKEE)
" " 3MD (DEVONIAN)
" " 6M (INJ. MCKEE)
" " 4B (BLINEBRY)

APA

Arch Petroleum Inc.

Well History Summary Sheet

Operator ARCH Well Name & # EC. HILL # 4-B Lease #
RRC District NMOCC Made By DAVID MILLER Date 4/26/89
Location 1980 FNL & 1989 FEL, SEC 34, T23S, R37E, LEA CO., N.M.
Spud Date 4-14-53 Compl. Date 7-10-53 TD 9877 PBTD 9485
Type Well: Oil X Gas Other Field TEAGUE
IP F 240 BOT Zone BLINEBRY
Perfs.: 9320-9485 (McKEE) 5287-5794 Total Holes 84/0
Stimulation
Cumul. Oil MCF Water
Recent Test Lift Equipment National 160D + 30 Hp Norton
Misc. 3280 DF ELEV



Drive or Conductor " @

Surface: 13" @ 13 3/8" 45-48 # Gr. @ 329 Cmt. w/ 300 Sx. TOC SURF Hole Size " Max Mud Wt.

Intermediate: 9 5/8", 36 # Gr J-55 @ 2917 Cmt w/ 1500 Sx. TOC @ 450 X T.S., Hole Size 12", Max Mud Wt. #/G

Production: 7" 23, 26, 29 #, J-55, N-80 Gr. @ 9510, Cmt. w/ 650 Sx, TOC @ 6100 X T.S., Hole Size Mx Mud Wt. STAGE TOOL @ 9092' #/G

8232 BOPD CUM

Liner: #, Gr. @ Cmt. w/ Hanger Hole Mx Mud Wt.

TD 9877' PBTD x 5806'

Pump: 2 1/2" X 1 1/2" X 16'

Rods: 214 - 3/4" + ponys.

WELL HISTORY

7/53 PLUGGED BACK FROM ELLENBURGER TO MCKEE CHG WELL FROM #4 TO #3M. PLUGGED BACK W/ 100 SX CMT TO 9650 - AFTER PIPE SET, DRILL OUT TO 9485.
8/53 500 gals MUD ACID + 5000 gals FRAC GEL + 1#/gal SAND.
12/59 WELL GRADUALLY WENT TO WTR, WELL TA
12/59 SET BP @ 7600' W/ 20 gals hydro-MITE ON TOP. PERF 7" CSG @ 6988-7108 W/ 37 HOLES, ACZD W/ 2000 gals MUD ACID, SLIGHT SHOW. PERF 6913-6980 W/ 4 JSPF, SWAB TRACE OIL & GAS. PERF'D 6903-6983 W/ 500 gals MUD ACID, SWAB 100% WTR, PERF @ 6722-6880, ACZD W/ 500 gals MUD ACID, NO SHOWS.
1/60 PERF 4 JSPF @ 7384-7430 (DEVONIAN) WELL # 3MD, ACZD W/ 1000 gals MUD ACID, ACZD W/ 10000 gals 20 WELL X + 125 MOTH BALLS SWAB AVGD 18 BOT + 120 BW PER DAY. SET PUMPING UNIT - TESTED 8 BO + 160 BW AFTER WELL CLEANED UP - TESTED 14 BO + 106 BW PUMPING UNIT W/ PRV.
12/59 CSG LK @ 4891 & SPLIT CSG @ 6508-6520 - SQZ W/ 50 SX, TEST TO 2000 #, OK.
10/64 DRILLED OUT TO 9509, RAN 3 LINERS IN HOLE - BOTTOM LINER 9377-9421, MIDDLE LINER 9357-9376, TOP LINER 9312-9336 ACZD 9320-9485 W/ 2000 gals 15%. FISHED OUT 2 TOP LINERS. PAINTED SAND LINE ON BOTTOM LINER. FISHED 1000' SAND LINE AND FISHING TOOL, RECV'D LINER. SET PKR @ 9251
2/65 FILED TO CONVERT TO WIW W SIMPSON (McKEE). PUT WELL ON INJ AS 6M 4-1-65
12/68 WELL CALLED 6M. SET NEW PKR @ 9211
4/73 WELL SI. DISC. INJECTION
8/74 WELL CHGED TO #4B. SPOT 50 SX CMT @ 9308, SPOT 70 BBLS 10# MUD. CMT W/ 175 SX. TEST CSG. LK @ 5189. TNG PLUG @ 6190. CMT W/ 200 SX @ 4752. CSG TEST OK @ 3000 #. TOC @ 5327. DRILL OUT TO 5808 TEST @ 2000 # OK. RAN CBL. NO CMT BEHIND CSG 6090 TO 5468 OR 5464 TO 5040. PERF 4 @ 6090 & 4 @ 5048. COULD NOT GET COMMUNICATION. PERF 4 @ 5470 & GOT COMMUNICATION. PERF 4 @ 5460. SET CMT RTNR @ 5810, CMT W/ 150 SX, SET CMT RTNR @ 5400!

Tubing + 169 JTS 2 7/8" J-55, TA, 9 JTS 2 7/8", SN, P.S., NIA (TOTAL 5545)
Tubing
Packer (TAC) @ 25" X 7" GUIBERSON AK @ 5239

(OVER)

(DRILLED AS 5-M)
CHGD NOV 5, 1953

USENCO

Well History Summary Sheet

Operator ARCH Well Name & # E.C. Hill Fed #5-E Lease #

RRC District NMOCC Made By DAVID MILLER Date 3-6-89

Location 'G' 1980 FNL & 510 FWL, SEC 35, T23S, R37E, LEA CO, N.M.

Spud Date 7/24/53 Compl. Date 10/23/53 TD 9734 PBTD 8165

Type Well: Oil ✓ Gas ___ Other ___ Field Teague

IP F 626 BO + 0 BW + GAS (ELLENBURGER) Zone Fuss (8069-8118)

Perfs.: 9580-9640 (60'x4); 9650-80 (30'x4) (ELLENB) Total Holes 360

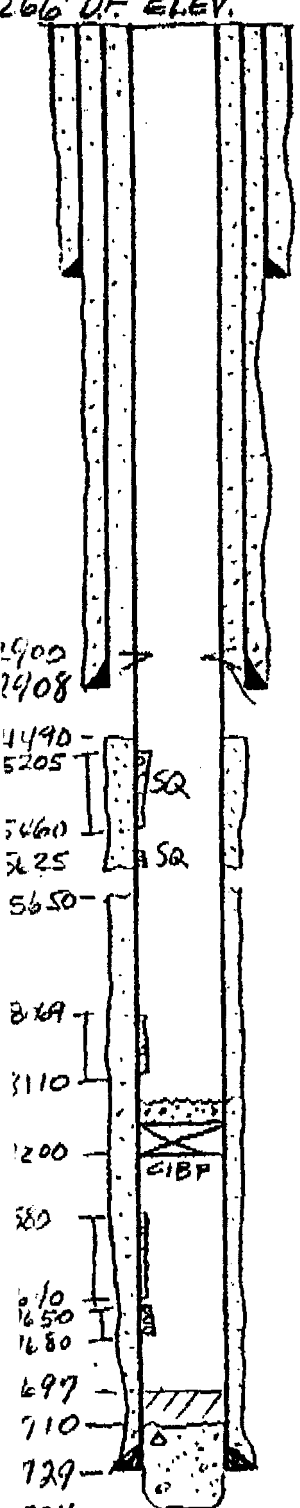
Stimulation FUSS: 6000 gal Acid; Frac w/15M gals Wtr 40 pad, 30M# 10C mesh & 15M gals 15% Acid

Cumul. Oil ___ MCF ___ Water ___

Recent Test ___ Lift Equipment American 320G w/60 HP Motor

Misc. FUSS, TEST 40 BO + 10 BW + 14 MCF (PMP)

266' DF ELEV.



Drive or Conductor
___" @ ___

Surface: 13 3/8"
48 # Gr. H-40
@ 316 Cmt. w/
300 Sx. TOC CIRC.
Hole Size ___"
Max Mud Wt. ___

Intermediate: 9 5/8", 32, 36 & 40 #
Gr. H-40, J55 @ 2908
Cmt w/ 1500 Sx.
TOC @ CIRC. Hole
Size ___', Max Mud
Wt. ___ #/G

Production: 7"
23-29 #, J-55 Gr.
@ 9729 Cmt. w/
650 Sx, TOC @
5650 (T.S.) Hole Size
___ Mx Mud Wt.
___ #/G

Liner: ___ #, ___ Gr. @ ___,
Cmt. w/ ___
___ Hanger
___ Hole ___ Mx Mud Wt.

TD 9734 PBTD x 8165

Pump: 1 1/2" x 16' rod insert

Rods: 315 - 7/8, 1-2' & 1-6' PONY, 1 1/4" x 22 P.R.

WELL HISTORY

1/54 PERF 7" @ 5625' 4 HOLES - SQ 160 SX
TOC @ 4490 BAKER DB PROD PKR @ 9530
1/54 PERF 5205-35 (30'); 5270-5310 (40');
5355-80 (25'); 5420-5460 (40') 4 SPF.
540 HOLES. CLEARFORK
2/54 PERF 5420-60 (40'); 5355-80 (25')
4 SPF. 2000 gal 15% ACID Other upper
perfs SQZ prior to this.
TESTED 10-35 MCFD + 12 BOPD UNECO.
SQ ALL PERFS w/ 400 SX.
3/54 RTN WELL TO ELLENBURGER ZONE THRU
BAKER DB PKR.
8/65 RAN McCullough LOGS TD @ 9697
PERF 2SPF @ 9650-9666
LOG INDICATED PERFS @ 9650-9680 HAD SCALE
COLLAR LOG INDICATES TOP PERFS 8' HIGH
PERFS PREV SHOWN 9580-9640 TO BE
→ 9572-9632 ACTUAL.
1/68 Well approved to be used for SWD
into Ellenburger Formation.
Order # R-3377 - Case # 3716
6/74 DISCONTINUE USE AS SWD - CUM WTR DISP
424,808 Bbls. (SI 8/72)
3/69 BLOCK PERFS 5205-5460 w/ OIL SOLUBLE
130 Unibeads mixed in 20# gelled wtr.
11/76 Set CIBP @ 8200' w/35' cement on top
PERF FUSSELMAN w/2SPF @ 8069, 73, 77, 86,
90, 94, 98, 8102, 06 & 10. TREATED w/ 6000 gals
REG. ACID.
10-16-80 TO 11-20-80 FISHED TUBING & RODS
FOUND CASING PARTED @ 2900'. TA.
9-82 Could Not Pull 7" CASING FROM 2900
CEMENT BETWEEN 7" & 9 5/8" w/300 SX (Backside)
TOP CEMENT INSIDE 7" @ 2437, DRILLED
OUT TO 2977, MILLED - FOUND RODS IN WASH
PIPE - FOUND TBG IN WASH PIPE CLEAN OUT
TO 4250. PRESSURE TEST CSG TO 500# OK
11-26-82 PUT WELL ON PUMP.
6/83 ROD PART STRIPPED OUT C/O 12 BOXES
± 250 RODS DOWN.
5/85 PULLED TUBING & RODS LOADED HOLE - GOT
CIRC. ADDED 55 gal DEMULSIFIER, 25 gal paraffac,
40 gal corrfac, 10 Bbls wtr. RE-RAN PROD EQ.
TUBING 262 JTS 2 3/8 7944.21'
1 SN
1 TAC
1 PF SUB
1 MA ± 7983

~~Tubing~~ 1/29/87 rod pt. 225 down
Tubing 5/6/87 rod pt. 306 down 8/87 Box Break
90 rods down. 8/29/87 Rod pt. Boxes. 9/4/87 Box
~~Packer (TAC)~~ @ Break 99 down. 11/19/87 Pump pulled
3/21/88 Box Break 93 down. 3/30/88 Box Break 87
down. 6/15/88 C/O pump. 11/17/88 Body Break 105 down.
3/6/89 HOLE IN TUBING

Cont.

4

SW, 4, 6P-16

PLAINS PETROLEUM OPERATING COMPANY

Well History Summary Sheet

Operator PLAINS Well Name & # E.C. HILL Lo-B Lease # 064118

RRC District NMOCD Made By M. NIEBERDING Date 6-24-92

Location 1980'FNL & 810'FWL, SEC 36, T23S-R37E, LEA CO, NM

Spud Date 11-2-53 Compl. Date 1-12-54 TD 9351 PBTD 9265

Type Well: Oil ____ Gas ____ Other ____ Field TEAGUE

I P ____ Zone BLINEBRY

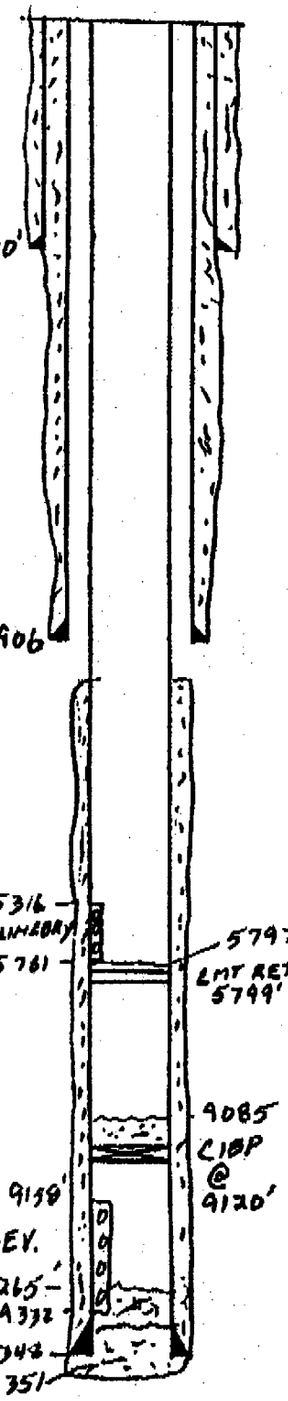
Perfs. 5316-5781 45 HOLES Total Holes ____

Stimulation 6,000 gals 15% HCl, 42,000 gal 40#GW, 18,700 gal CO_2, 108,600 # 20/40

Cum Oil ____ Cum MCF ____ Water ____

Recent Test 2/3/92 4.1 BO TRACE WATER Lift Equipment JIAGNAN 228-246-86

Misc. ____



Drive or Conductor ____" @ ____

Surface: 13 3/8" 48 # Gr. ____ @ 320 Cmt. w/ 500 Sx TOC SURF Hole Size ____ Max Mud Wt. ____

Intermediate: 9 5/8", 40, 36, 32 # Gr J-55, H-80 @ 2906 Cmt w/ 1600 Sx. TOC @ SURF, Hole Size ____", Max Mud Wt. ____ #/G

Production: 7" 23, 26 #, J-55, N-80 Gr. @ 9348, Cmt. w/ 403 Sx, TOC @ 6350' TS, Hole Size ____ Mx Mud Wt. ____ #/G

Liner: ____ #, ____ Gr. @ ____, Cmt. w/ ____ Hanger ____ Hole ____ Mx Mud Wt.

TD 9351' PBTD x 5797'

Pump: 2 X 1½" X 18' W/ 8' GA

Rods: 18 - ⅞" 150 - ¾" 51 - ⅞"

WELL HISTORY

7/92 POOH rods, Pmp, Tally, tbg. Set Packer @ 5202' Load BS w/ 120 KCl RIH w/ Temp Surv. Tag Bottom @ 5755' Bottom Perf 5771' PBTD 5797' Acidize w/ 10 gal Chem Spec. 1225 gal 15% NEFE HCl w/ 68 ball sealers. 8/92 Log GR, CCL, CBL, from 5771' - 5200' Tag fill @ 5772', bail to 5785'. Perf 1 JSPF 5569-76, 5301-03, 5308-10 (14 holes) Acidize perfs w/ 500 gal 15% NEFE HCl w/ 90 (7/8) ball sealers. Flush. Frac treat Blinebry w/ 464 BBL 468 Borate gel pad, 150,000 # 16/30 Ottawa Sand. 726 BBL X-link borate gel. Flush. Set TAC 5233' w/ 18000 #, SN 5422, EOT 5456' Pump - 2 x 1½ x 18, 10 (7/8), 137 (3/4) GA (7/8) Rods. Pumping on 76" stroke @ 6 spm. 9/92 Pmp Chg 2 x 1½ x 16 2/93 Pmp Chg due severe corrosion, plunger severely scarred, scale found on pump barrel on send

Tubing MA, 4' PN, SN, 174 jts 2 3/8

Tubing ____

Packer (TAC) @ ?

LARGE FORMAT EXHIBIT HAS BEEN REMOVED AND IS LOCATED IN THE NEXT FILE