Chevron U.S.A. Inc.
P.O. Box 670, Hobbs, NM 88240

R. C. Anderson
Division Manager
Production Department
Hobbs Division

Hobbs, New Mexico
January 30, 1987

APPLICATION TO DOWNHOLE COMMINGLE CHEVRON'S VIVIAN WELL NO. 8 LOCATED IN UNIT D SECTION 30-T22S-R38E LEA COUNTY, NEW MEXICO

W. J. Lemay
Oil Conservation Division
P.O. Box 2088
Santa Fe, New Mexico 87501

Gentlemen:

Pursuant to the provisions of statewide Rule 303-C, Chevron U.S.A. Inc. respectfully requests administrative approval to commingle production from the Drinkard and Brunson South Abo Pools within the subject wellbore.

The Vivian No. 8 was drilled and completed in 1974 as a dual producer in the Drinkard and Wantz Granite Wash. The Wantz Granite Wash was abandoned in January 1987 for recompletion as a dual producer in the Drinkard and Brunson South Abo Pools. The Drinkard and Abo communicated during fracture stimulation of the Abo. Verbal approval was obtained from the OCD District Office in Hobbs to temporarily downhole commingle the two zones. It should be noted that several offset wells in the vicinity of the subject well are currently downhole commingled in the Drinkard and Abo formations (see attachment).

In the interest of conservation and prevention of waste, we propose to continue producing the well in the Brunson South Abo and Drinkard Pools. Enclosed is pertinent data supporting this application as outlined in Rule 303-C. If additional information is necessary, please contact Byron Hebert at (505) 393-4121.

Yours very truly,

J. G. McBeath Jr

R. C. Anderson

BPH/ds

Attachments

cc: J. T. Sexton
District 1 Supervisor
Oil Conservation Division
P.O. Box 1980
Hobbs, New Mexico 88240

Offset Operators (list attached)
B. P. Hebert
C. L. Morrill

1. OPERATOR: Chevron U.S.A. Inc., P.O. Box 670, Hobbs, N.M. 88240.

2. LEASE, WELL, AND LOCATION: Vivian Well No. 8, 510' FNL and 430' FWL of Section 30-T22S-R38E, Lea County, N.M.

3. PRODUCING ZONES: Drinkard and Brunson S. Abo.

4. DECLINE CURVE: The Drinkard was producing 0 BOPD, 0 BWPD, and 191 MCFGPD, prior to completion of the Abo and is expected to continue to decline at 14% per year. The Abo is expected to decline at 14% per year after an IP of 2 BOPD, 1 BWPD, and 754 MCFGPD, (total flowrate of 945 MCFGPD less 191 MCFGPD).

5. BOTTOM HOLE PRESSURE: Drinkard calculated BPH of 350 psi at a depth of 6305'. Abo pressure not measured. Zones communicated during completion of Abo and were downhole commingled at that time with verbal approval from OCD District Office in Hobbs, N.M. Crossflow between zones is not anticipated as there are several wells in the vicinity of the subject well that are currently downhole commingled in the Drinkard and Abo (see attachment).

6. FLUID CHARACTERISTICS: The Drinkard produces dry gas so fluid incompatibility is not a problem.

7. WELL HISTORY: The subject well was spudded 5-16-74 and drilled to a total depth of 7324'. Nine and five-eights inch surface pipe was set at 1199' and cement was circulated to the surface. Seven inch casing was set at 7323' and cemented with 840 sacks. A temperature survey indicated the top of cement to be at 2230'. The well was completed as a dual producer in the Wantz Granite Wash and Drinkard formations. The Wantz Granite Wash was perforated from 7124-7287 with 4 JHPF (40 holes total) and acidized with 1000 gals. 15% HCL. The formation was frac'd with 37,500 gals. gelled BW and 40,000 lbs. sand and IP'd pumping 36 BOPD and 9 BWPD. The Drinkard was perforated from 6200-6410 with 4 JHPF (64 holes total) and acidized with 1250 gals. 15% HCL. The formation was frac'd with 35,000 gals. gelled BW and 37,500 lbs. sand and IP'd flowing 12 BOPD, 26 BWPD, and 1240 MCFGPD.

   1/87 - Abandoned Granite Wash by setting a CIBP at 7052', capped with 35' of cement. Perforated Brunson S. Abo from 6469-6914 with 2 JHPF (36 holes total) and acidized with 5750 gals. 15% HCL. Swabbed and flowed 119 bbls. water in 7½ hours. Began acid frac designed to pump 27,000 gals. 20% gelled HCL, 61,500 gals. 40

lb. x-linked gel, 7,500 gals. 15% "slick" HCL, and 21,000 gals. 40 lb. non x-linked gel with 30% nitrogen. Pumped a total of 9000 gals. 20% gelled HCL and 18,350 gals. 40 lb. x-linked gel at 15 BPM with maximum and minimum pressures of 8760 psi and 2000 psi, when communication with Drinkard occurred (returns out of casing). Shut down frac job received OCD approval from Paul Kautz on 1-7-87 to set the treating packer above the Drinkard and proceed with the frac and to temporarily downhole commingle Drinkard and Abo formations (30 days to file formal application). Reset packer above Drinkard and pumped remainder of frac fluids at 15 BPM with maximum and minimum pressures of 8710 psi and 900 psi. Dropped a total of 95 - 1.1 SG RCNBS in an effort to block of Drinkard perfs and divert frac to the Abo formation. Well flowed 214 bbls. water in 15½ hours. Flowed trace of oil, 142 bbls. water, and 1.25 MMCFGPD during next 24-hour period, with 200 psi FTP on 24/64 choke. Flow tested for 1½ hours at beginning of next 24-hour period. Recovered 1 bbl. water with well flowing at a rate of 1.26 MMCFGPD. Killed well to POH with workstring and run producing equipment. Subsequent testing yielded a stabilized rate of 2 BOPD, 1 BWPD, and 945 MCFGPD.

8. VALUE OF COMMINGLED FLUIDS: Drinkard is currently classified as NGPA Section 104 gas. Expect to receive the same classification for Abo gas, so a reduction in revenue is not anticipated.

9. CURRENT PRODUCTION: Drinkard producing at an average rate of 0 BOPD, 0 BWPD, and 191 MCFGPD (6 month average from June-November 1986). Abo IP'd flowing 2 BOPD, 1 BWPD, and 754 MCFGPD.

10. RECOMMENDED OIL AND GAS ALLOTMENTS:

Abo	Drinkard
100% Oil	0% Oil
80% Gas	20% Gas

11. OWNERSHIP AND ROYALTY INTEREST: Ownership of the two pools to be commingled is common and correlative rights will not be violated.

12. FUTURE SECONDARY OPERATIONS: Commingling will not jeopardize the efficiency of future secondary recovery operations in either zone.

13. PRODUCTION METHODS: The commingled production will be flowed with minimum instances of shutting the well in, to prevent cross flow between reservoirs.

14. Copies of this application have been furnished to all offset operators by certified mail.

OFFSET OPERATORS

Hanson Operating Company Inc.
Box 1515
Roswell, N.M. 88202-1515

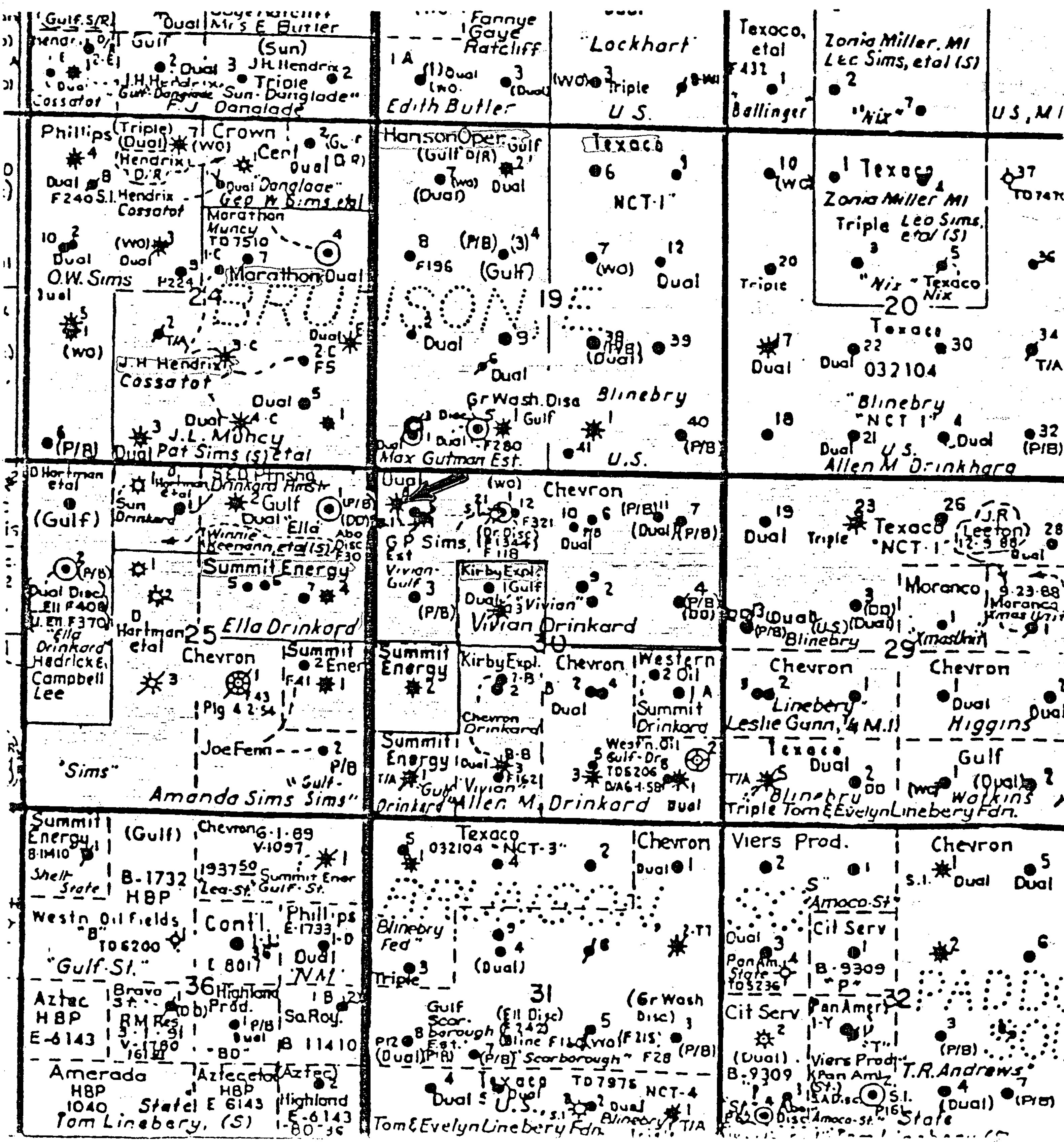
Texaco Producing Inc.
Box 3109
Midland, T.X. 79705

Marathon Oil Company
Box 552
Midland, T.X. 79702

Summit Energy, Inc.
1925 Mercantile Dallas Bldg.
Dallas, T.X. 75201

Kirby Exploration Company of Texas
Box 1745
Houston, T.X. 77251

John H. Hendrix Corporation
P.O. Box 910
Eunice, N.M. 88231

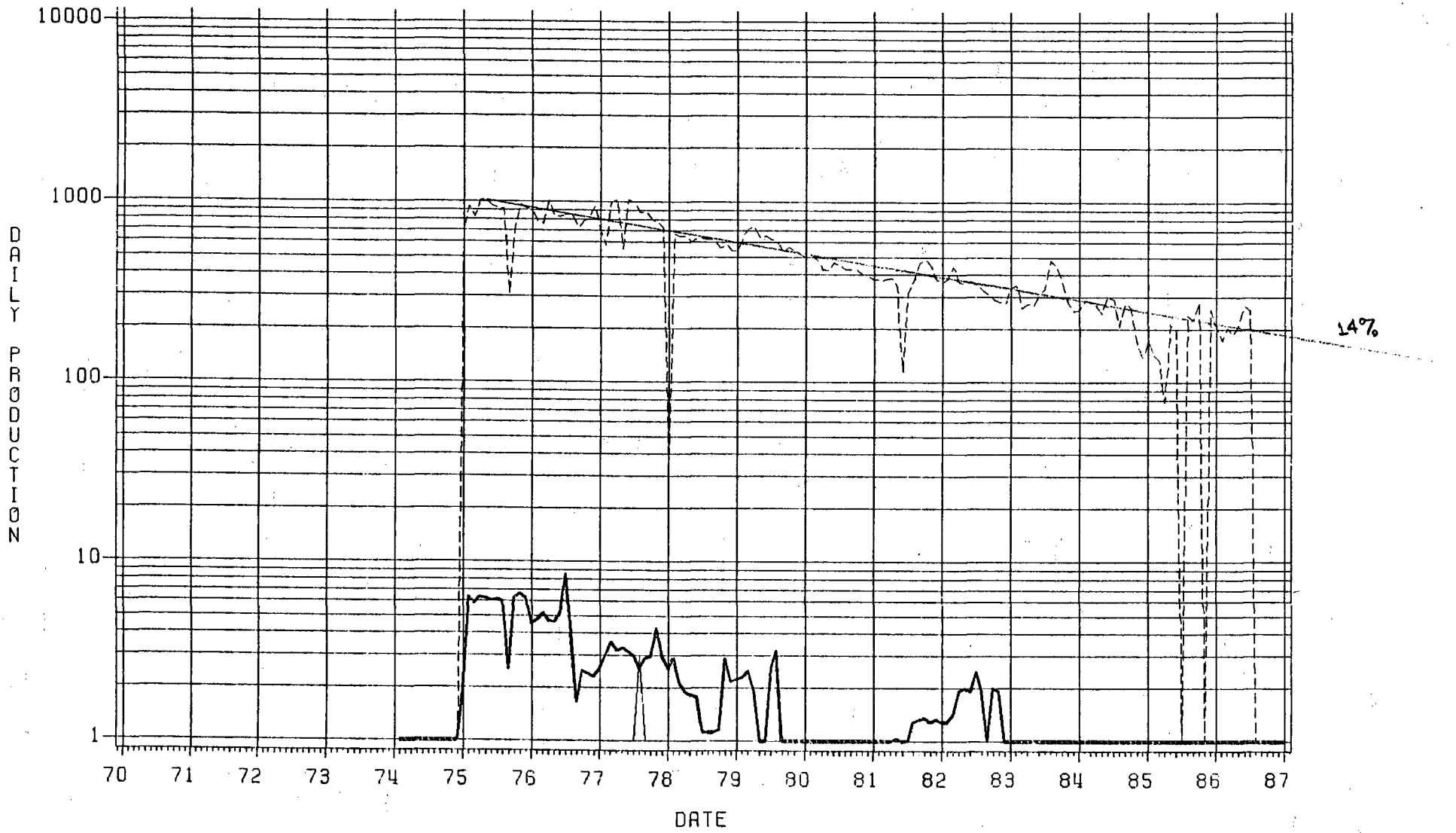


Mrs E Butler
J.H. Hendrix
Triple
F.J. Danglade
Fannye Gaye Ratcliff
Edith Butler
Lockhart
U.S.
Texaco, etal
Ballinger
Zonia Miller, MI
Lee Sims, etal (S)
"Nix"
Phillips
Crown Cent
Hanson Oper.
Texaco
NCT-1
Zonia Miller MI
Geo W Sims etal
Marathon
Muncy
TD 7510
O.W. Sims
Cossatot
J.H. Hendrix
BRUNSON
19
20
24
Texaco
032104
Blinebry
"NCT 1"
J.L. Muncy
Pat Sims (S) etal
Max Gutman Est.
Allen M Drinkhard
Chevron
G P Sims, Est
Summit Energy
Kirby Expl.
Vivian Drinkard
Ella Drinkard
25
30
29
Moranco
Chevron
Summit Energy
Linebery
Leslie Gunn, 4 M.I.
Higgins
Campbell Lee
Joe Fenn
"Sims"
Amanda Sims
"Gulf-Sims"
Allen M. Drinkard
Gulf
Watkins
Tom & Evelyn Linebery Fdn.
Texaco
032104 "NCT-3"
Chevron
Viers Prod.
Amoco-St
Cit Serv
Gulf-St.
Westn Oil Fields
Contl.
Phillips
36
31
32
Blinebry Fed
Aztec HBP E-6143
Highland Prod.
B-1732 HBP
Shell State
Summit Energy
Scarborough Est.
TD 7975
NCT-4
Amerada HBP
Highland E-6143
Pan Amer
T.R. Andrews
State
Tom Linebery, (S)
Tom & Evelyn Linebery Fdn.
U.S.

PRODUCTION DATA PLOT

PETROLEUM INFORMATION

WELLNA=VIVIAN WELLNO=008 FLDRESNA=DRINKARD OPERNA=CHEVRON U.S.A. INC.



HEAVY SOLID LINE=BOPD
SOLID LINE=BWPD
LIGHT DASHED LINE=MCFD

CHEVRON U.S.A. INC.
VIVIAN WELL NO. 8

DRINKARD FORMATION BHP CALCULATION

Reservoir Pressure	=	Static Bottom Hole Pressure	=	Shut-in Tubing Pressure	+	Gas Column Pressure	+	Oil & Water Column Pressure

Shut-In Tubing Pressure = 300 psi (measured during packer leakage test performed 4/10/86)

Gas Column Pressure = 50.4 psi (based on a gas gravity = 0.7 & mid-perf depth = 6305)

Oil & Water Column Pressure = 0 (Drinkard producing dry gas)

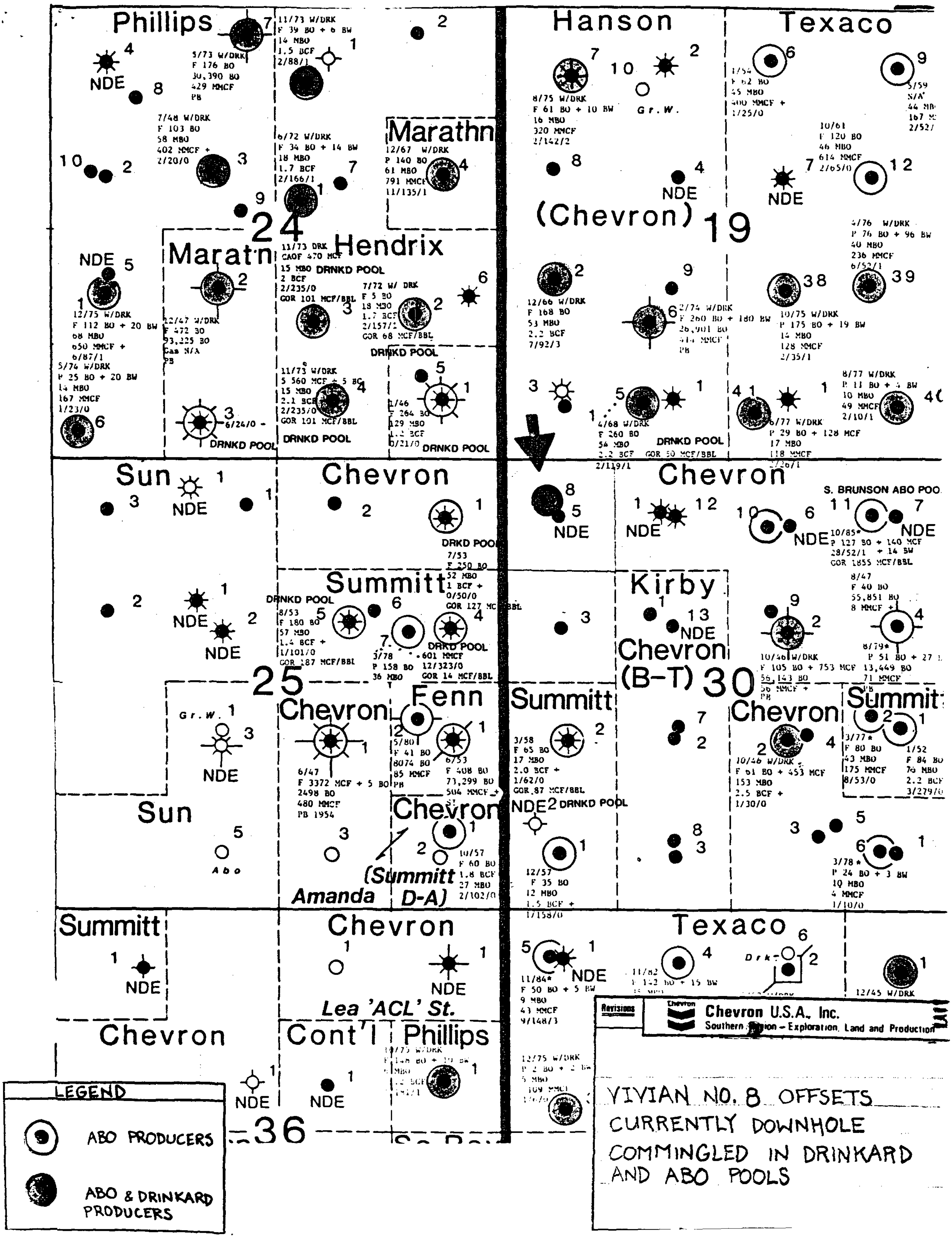
Reservoir Pressure = 300 psi + 50.4 psi + 0 psi
= 350.4 psi

CHEVRON U.S.A. Inc.
VIVIAN WELL NO. 8

OFFSET WELLS CURRENTLY DOWNHOLE
COMMINGLED IN DRINKARD AND ABO POOLS

Lease & Well No.	Operator	Location	Production as of 9/86
Cossatot "C" Well #4	Hendrix	T22S, R37E, Sec 24 Unit O, Lea Co., NM	3.9 BOPD 212 MCFGPD 0 BWPD
Cossatot "C" Well #2	Hendrix	T22S, R37E, Sec 24 Unit I, Lea Co., NM	1.3 BOPD 142 MCFGPD 1 BWPD
Cossatot "C" Well #3	Hendrix	T22S, R37E, Sec 24 Unit J, Lea Co., NM	2.7 BOPD 212 MCFGPD 0 BWPD
Max Gutman Well #5	Hanson	T22S, R38E, Sec 19 Unit N, Lea Co., NM	2.4 BOPD 139 MCFGPD 2 BWPD
Max Gutman Well #2	Hanson	T22S, R38E, Sec 19 Unit L, Lea Co., NM	2.4 BOPD 66 MCFGPD 1 BWPD
A. H. Blinebry Fed. Well #41	Texaco	T22S, R38E, Sec 19 Unit 0, Lea Co., NM	2.3 BOPD 22 MCFGPD 0 BWPD
A. H. Blinebry Fed. Well #40	Texaco	T22S, R38E, Sec 19 Unit P, Lea Co., NM	0.5 BOPD 1.7 MCFGPD 0 BWPD

Note: This is just some of the wells in the immediate vicinity of the Vivian #8. There are several others in surrounding sections.


Phillips
Hanson
Texaco
Marathn
Maratn
Hendrix
(Chevron)
24
19
Sun
Chevron
Summitt
Kirby
Chevron (B-T)
25
30
Fenn
Sun
Amanda
(Summitt D-A)
Lea 'ACL' St.
Cont'l
Phillips
36
S. BRUNSON ABO POOL
DRNKD POOL
NDE
Gr. W.
Abo
Chevron U.S.A. Inc.
Southern Region – Exploration, Land and Production
Revisions
VIVIAN NO. 8 OFFSETS
CURRENTLY DOWNHOLE
COMMINGLED IN DRINKARD
AND ABO POOLS
LEGEND
ABO PRODUCERS
ABO & DRINKARD PRODUCERS

NEW MEXICO OIL CONSERVATION COMMISSION

WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102
Supersedes C-128
Effective 1-1-65

All distances must be from the outer boundaries of the Section.

Operator	Lease	Well No.
Chevron U.S.A. Inc.	Vivian	8

Unit Letter	Section	Township	Range	County
D	30	22S	38E	Lea

Actual Footage Location of Well:
510 feet from the North line and 430 feet from the West line

Ground Level Elev.	Producing Formation	Pool	Dedicated Acreage:
3320' GL	Drinkard	Drinkard Oil & Gas	40 Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.

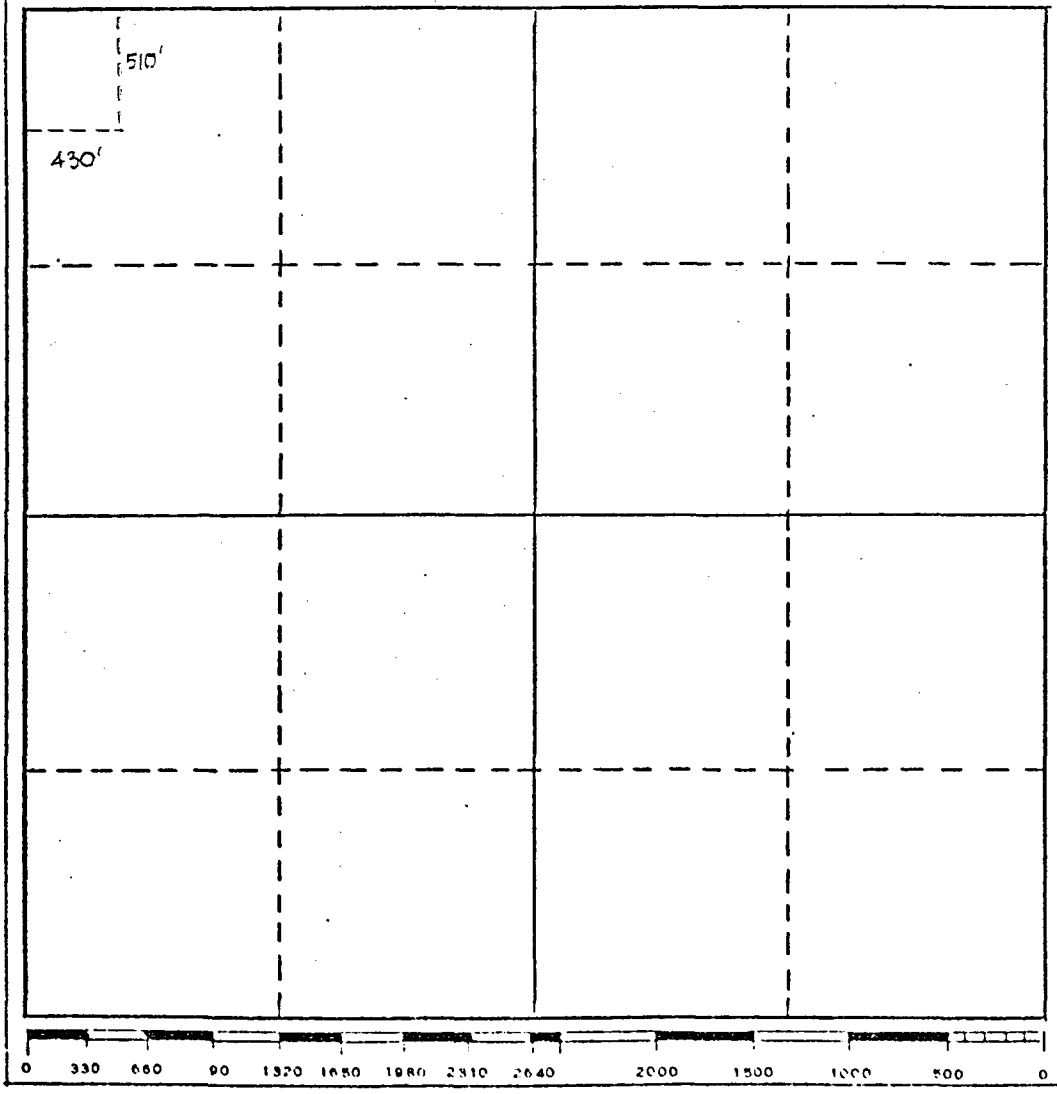
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling. etc?

☐ Yes ☐ No If answer is "yes," type of consolidation _____

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.



CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Name M.M. Casey

Position
Lead Production Engineer

Company
Chevron U.S.A. Inc.

Date
2-3-1987

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed

Registered Professional Engineer and/or Land Surveyor

Certificate No.

NEW MEXICO OIL CONSERVATION COMMISSION

WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102
Supersedes C-128
Effective 1-1-65

All distances must be from the outer boundaries of the Section.

Operator	Lease	Well No.
Chevron U.S.A. Inc.	Vivian	8

Unit Letter	Section	Township	Range	County
D	30	22S	38E	Lea

Actual Footage Location of Well:
510 feet from the North line and 430 feet from the West line

Ground Level Elev.	Producing Formation	Pool	Dedicated Acreage:
3320' GL	Abo	Brunson S. Abo	40 Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.

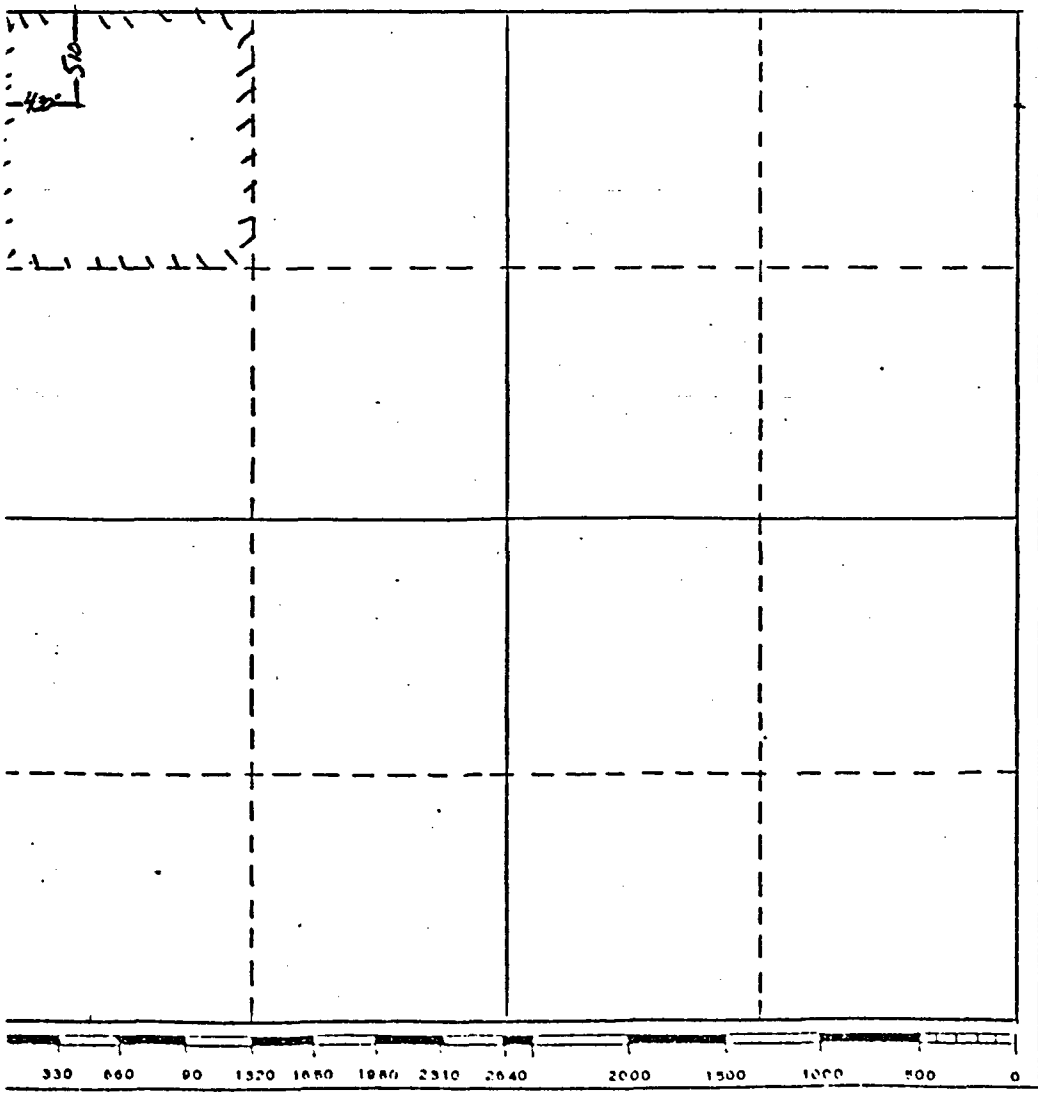
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling. etc?

☐ Yes ☐ No If answer is "yes," type of consolidation _____

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.



CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Name M. E. Ahrens

Position Staff Drilling Engineer

Company Chevron U.S.A. Inc.

Date 12-11-1986

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed

Registered Professional Engineer and/or Land Surveyor

Certificate No.

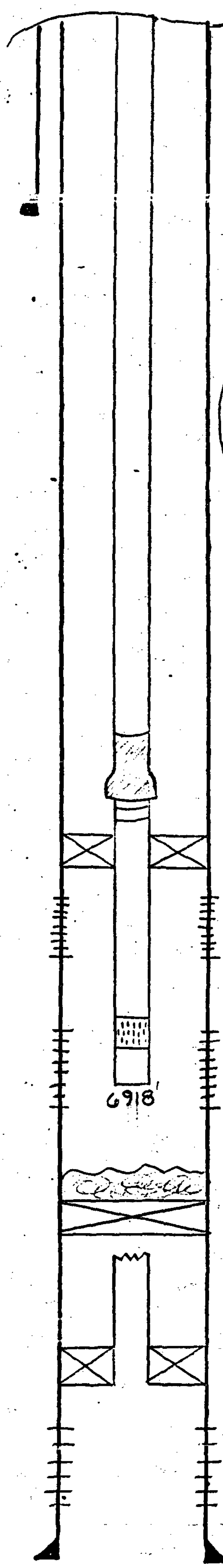
LEASE & WELL NO. VIVIAN #8 FIELD/POOL DRINKARD / BRUNSON S. ABO DATE 1-15-87

LOCATION 510 FEET FROM NORTH LINE AND 430 FEET FROM WEST LINE

SECTION 30, T22S, R38E, UNIT LETTER D COUNTY LEA STATE NM

GE ____ '
KDB to GE ____ '
DF to GE 11.6 '

9 5/8 " OD Surface Pipe set @ 1199 ' w/ 470 sx
Cmt. Circulated? YES



7 " OD 23 & 26 # ____ Thd
Gr. N-80 , ____ Csg.
set @ 7323 ' w/ 840 sx
Cmt Circulated? NO
TOC @ 2230 ' by TS

PBD ____ '
TD 7324 '

Date Completed ____
Initial Formation ____
From: ____ ' to ____ ' GOR ____
Initial: Production ☐ ____ bopd ____ bwpd
Or: Injection ☐ ____ bwpd @ ____ psi

Completion Data:

(JUNE 1974) PERF'D WGW @ 7124-26, 7154-56, 7188-90, 7232-34 & 7285-87 w/ 4-½ JHPF. ACIDIZED w/ 1000 GALS 15% NEA. FRAC'D w/ 37,500 GALS GELLED BW w/ 0-2 PPG SD. IP'D PUMPING 36 BOPD, 9 BWPD

Subsequent Workover or Reconditioning:

(SEPT. 1974) PERF'D DRINKARD @ 6200-02, 6230-32, 6288-90, 6307-09, 6329-31, 6355-57, 6376-78 & 6408-10 w/ 4-½" JHPF. ACIDIZED w/ 1250 GALS 15% NEA, FRAC'D w/ 10,000 GALS GELLED BW & 25,000 GALS GELLED BW w/ 1-2 PPG SD. 16 BPM & 4550 PSI. ISIP = 1500 PSI. TUBED WELL UP FOR DUAL COMPL. DRINKARD CI WAITING ON GAS CONNECTION.

(OCT 1974) DRINKARD IP'D FLOWING 12 BOPD, 26 BWPD & 1240 MCFGPD.

(MAY 1981) WGW PPG 19 BOPD & 0 BWPD.
DRINKARD FLOWING 70 MCFGPD
UNABLE TO PULL PUMP FROM WGW. PULL ROD PARTED. RAN PUMP w/ MECHANICAL HOLDOWN.

Present Inj. ☐ ____ bwpd @ ____ psi Date ____
Present Prod. ☐ ____ bopd ____ bwpd Date ____
GAS ____ MCFPD ____

Remarks Or Additional Data:

Long String:	Short String Reel Cplgs
Baker Lockset w/ 16 pt tension	Baker J Latch
SN	SN
29 jt 2 3/8 J55	198 jt 2 3/8
Baker Parallel Anchor	8' pup
198 jt 2 3/8	6' pup.
	2' pup

Rods
mechanical holdown & 1½" pump
195 - 3/4
85 - 7/8

STATE OF NEW MEXICO

ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION
HOBBS DISTRICT OFFICE

TONEY ANAYA
GOVERNOR

February 13, 1987

POST OFFICE BOX 1980
HOBBS, NEW MEXICO 88240
(505) 393-6161

OIL CONSERVATION DIVISION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

RE: Proposed:
MC _____
DHC XXX
NSL _____
NSP _____
SWD _____
WFX _____
PMX _____

Gentlemen:

I have examined the application for the:

Chevron USA Inc. Vivian #8-D 30-22-37
Operator Lease & Well No. Unit S-T-R

and my recommendations are as follows:

I don't see any problem with the DHC, but it seems like a large volume for administrative approval.

Yours very truly,

Jerry Sexton
Supervisor, District 1

/mc