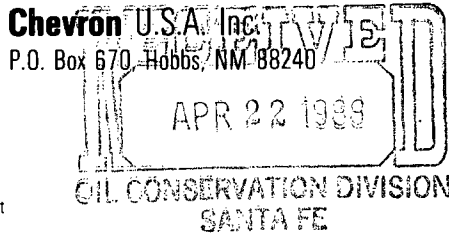




R. C. Anderson
Division Manager
Production Department
Hobbs Division



April 19, 1988

APPLICATION TO DOWNHOLE COMMINGLE
F. J. DANGLADE WELL NO. 2
WANTZ GRANITE WASH AND DRINKARD ZONES
LOCATED IN UNIT N, SECTION 13-T22S-
R37E, LEA COUNTY, NEW MEXICO

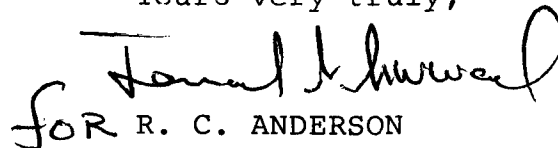
W. J. Lemay - Director
Oil Conservation Division
P.O. Box 2088
Santa Fe, New Mexico 87501

Gentlemen:

Pursuant to the provisions of Statewide Rule 303-C, Chevron respectfully requests administrative approval to commingle production within the subject wellbore from the Drinkard and Wantz Granite Wash pools. The subject well is currently a dual producer equipped with separate tubing strings for each zone. The Drinkard is artificially lifted via a plunger lift system and the Wantz Granite Wash is currently flowing. Both zones are marginal producers, therefore to continue to dually complete cannot be justified due to the high operating cost associated with dual tubing strings. In the interest of conservation and prevention of waste, we propose to downhole commingle the Drinkard and Wantz Granite Wash in the subject well.

Enclosed is pertinent data supporting this application as outlined in Rule No. 303-C. If additional information is necessary, please contact Byron Hebert at (505) 393-4121.

Yours very truly,


FOR R. C. ANDERSON

BPH/cjw

Attachments

cc: J. T. Sexton
Oil Conservation Division
P.O. Box 1980
Hobbs, NM 88240

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

2. LEASE, WELL, AND LOCATION:
F. J. Danglade No. 2, 770' FSL and 1980' FWL of Section 13-T22S-R37E, Lea County, New Mexico.

3. PRODUCING ZONES:
Drinkard and Wantz Granite Wash.

4. DECLINE CURVE:
The Drinkard is currently producing at an average rate of 3 BOPD, 0 BWPD, and 42 MCFGPD and is expected to decline at 20% per year.

The Granite Wash is currently producing at an average rate of 10 BOPD, 1 BWPD, and 45 MCFGPD and is expected to decline at 20% per year.

5. BOTTOM HOLE PRESSURE:
Wantz Granite Wash pressure build-up was conducted January 4, 1988. The static BHP was extrapolated* to be 1692 psi at a depth of 7449'. Drinkard static BHP was calculated to be 388 psi at a depth of 6370' (see attachments).

6. FLUID CHARACTERISTICS:
The Wantz Granite Wash and Drinkard are currently surface commingled at the battery under commingling order PC-510. To date, there has been no evidence of fluid incompatibility and it is not expected to be a problem.

7. WELL HISTORY:
The subject well was spudded 12-21-73 and drilled to a total depth of 7502'. Nine and five-eighths inch surface pipe was set at 1198' and cement was circulated to the surface. Seven inch casing was set at 7501' and cemented in two stages with a total of 777 sacks. A temperature survey indicated that the top of cement was at 2160'.

01/74: The well was completed in the Wantz Granite Wash formation with perforations ranging from 7423'-7474'. The Granite Wash was acidized with 1000 gals of 15% HCL and IP'd flowing 220 BOPD and 0 BWPD.

01/75: The well was dually completed in the Granite Wash and Drinkard formations. The Drinkard was perforated in five intervals ranging from 6282'-6458'. The Drinkard was acidized with 2700 gals of 15% HCL and frac'd with 30,000 gals of 9.2# gelled brine water and 50,000 lbs sand. The Drinkard produced 112 BO and 8 BW in 72 hrs, utilizing a plunger lift system.

04/76: Squeezed seven inch by nine and five-eighths inch casing annulus to relieve surface pressure. Perforated the seven inch casing at 2100' and pumped 1350 sacks, circulating approximately 200 sacks to the surface. Placed the well back on production after drilling out and testing the squeezed interval to 1000 psi.

8. VALUE OF COMMINGLED FLUIDS:

The Drinkard and Wantz Wash are being surface commingled on the subject lease as authorized by Division Order PC-510. Therefore, downhole commingling will not effect the price.

9. CURRENT PRODUCTION:

The Drinkard is producing at an average rate of 3 BOPD, 0 BWPD, and 42 MCFGPD. The Granite Wash is producing at an average rate of 10 BOPD, 1 BWPD, and 45 MCFGPD.

10. RECOMMENDED OIL AND GAS ALLOTMENTS:

<u>Drinkard</u>	<u>Granite Wash</u>
23% - Oil	77% - Oil
49% - Gas	51% - 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 pumped and the fluid level monitored to maintain a pumped off condition to eliminate the possibility of cross flow between reservoirs.

14. Copies of this application have been furnished to all offset operators by Certified Mail.

*Due to a mechanical deformation of the tubing, could only run the BHP bomb to 4560'. Since the bomb was in 100% liquid from 4000' to 4560' (i.e. constant pressure gradient), the extrapolated BHP should be an accurate representation of the exact value, as per Mr. Jerry Sexton of the OCD - Hobbs Division.

OFFSET OPERATORS

Sun Exploration and Production Company
P.O. Box 1861
Midland, TX 79702

Marathon Oil Company
P.O. Box 552
Midland, TX 79702

John H. Hendrix
223 W. Wall
525 Midland Tower
Midland, TX 79701

Phillips Petroleum Company
Phillips Building
Bartlesville, OK 74004

Crown Central Petroleum
4000 North Big Spring
Ste. 213
Midland, TX 79705

Certified Mail - Return Receipt Requested

NEW MEXICO OIL CONSERVATION COMMISSION
WELL LOCATION AND ACREAGE DEDICATION PLAT

Form 7-1-1
Superseded 1-1-78
Effective 1-1-78

All distances must be from the outer boundaries of the Section

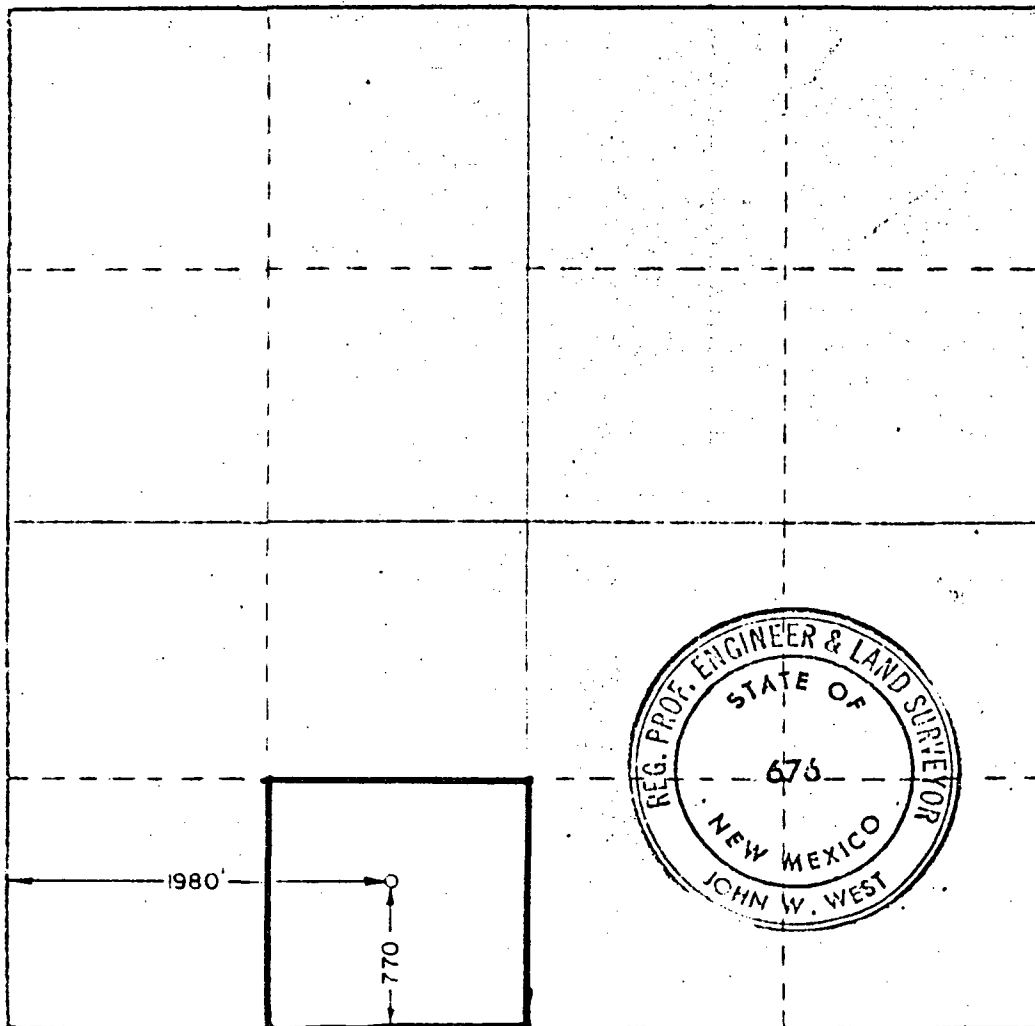
GULF OIL CORPORATION		F. J. DANGLADE		2
N	13	22 SOUTH	37 EAST	LEA
770		SOUTH		1980
3328'		Granite Wash & Drk		Wantz Granite Wash & Drk
				40

1. Outline the acreage dedicated to the subject well by colored pencil or hatchure 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.

C. D. Borland

C. D. BORLAND

Area Production Manager

Gulf Oil Corporation

November 5, 1973

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

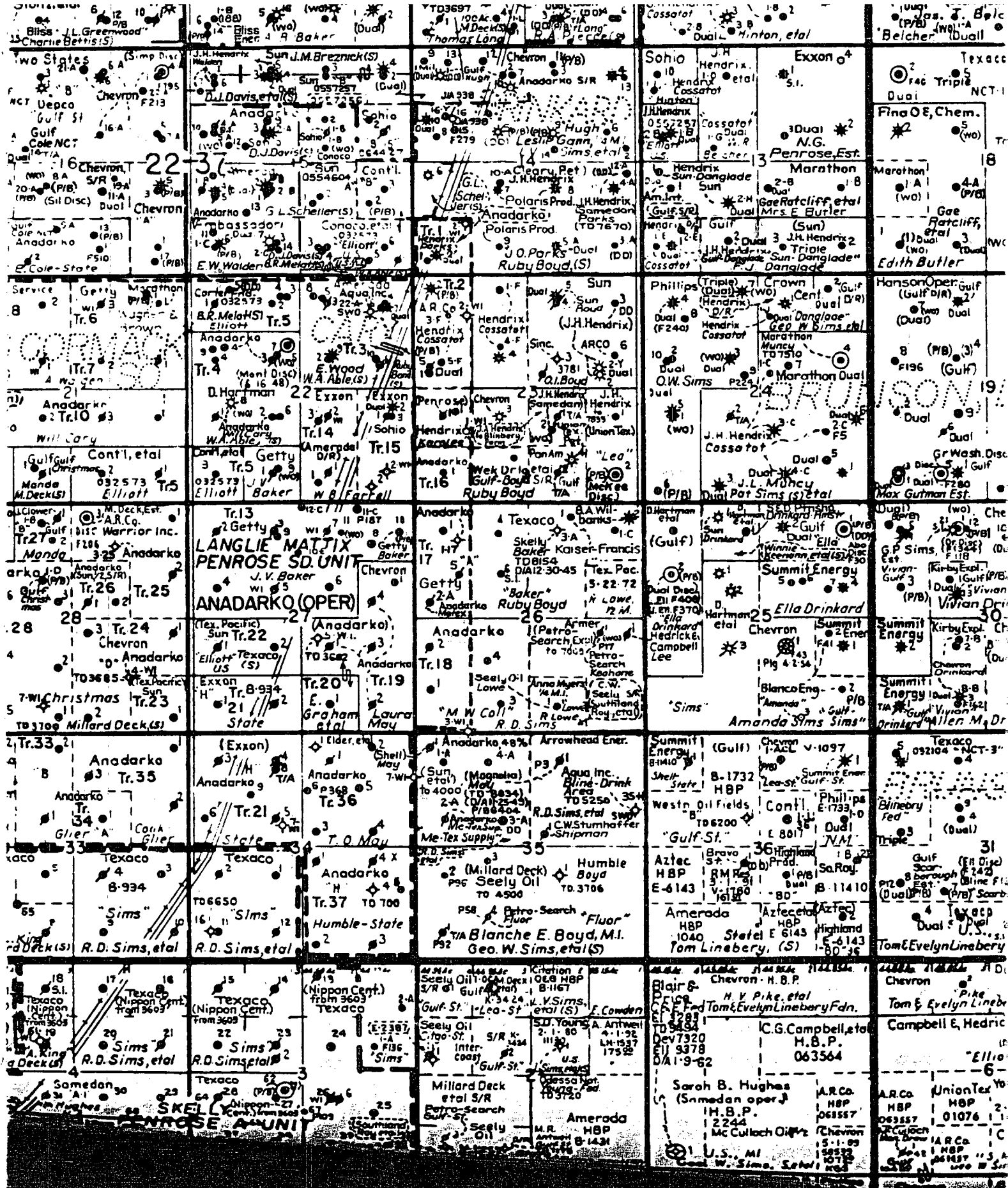
OCTOBER 30, 1973

Registered Professional Landman and/or Land Surveyor

John W. West

Certificate No. 676

330 660 990 1320 1650 1980 2310 2640 2000 1600 1000 600

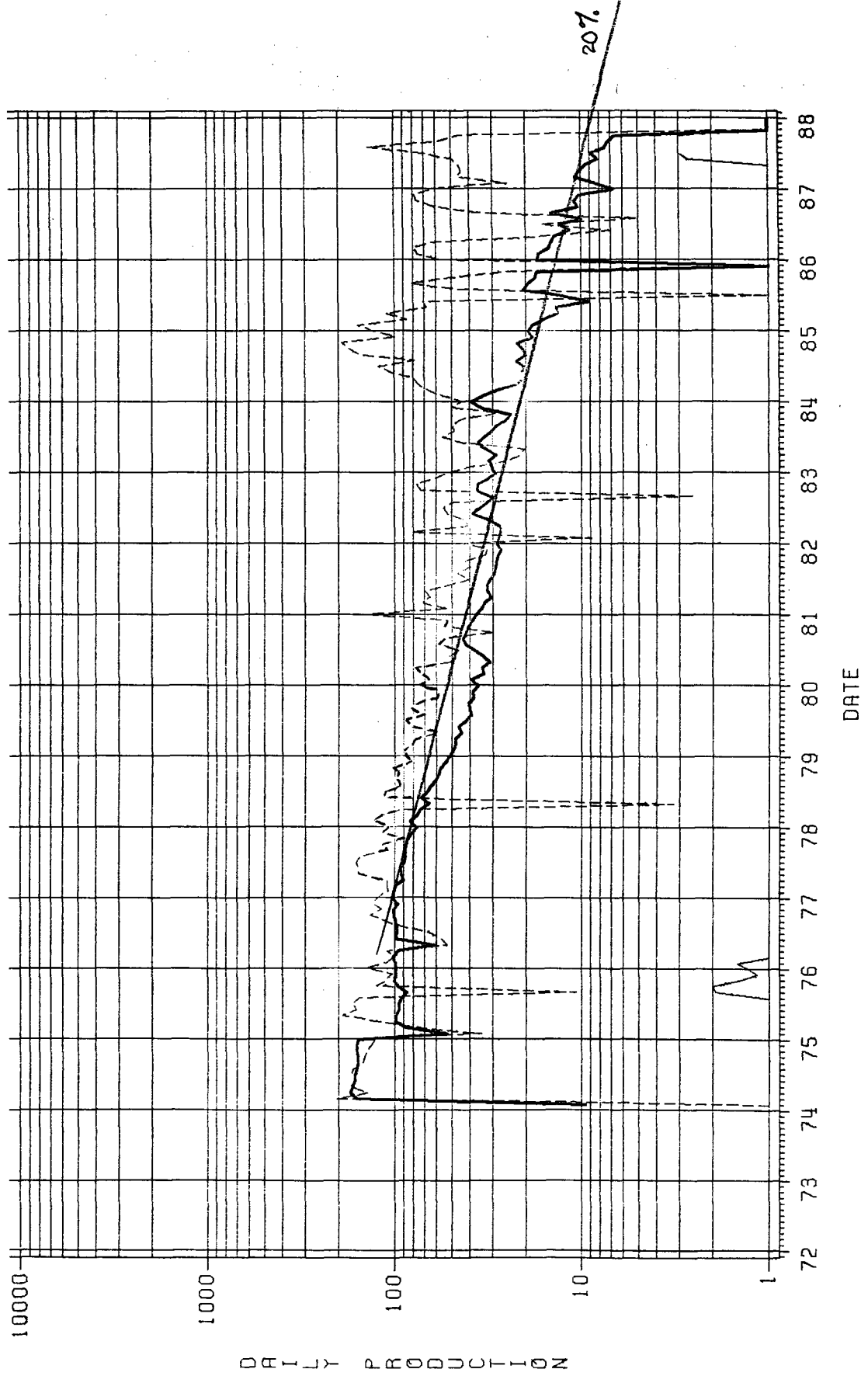


1,19/88

1

PRODUCTION DATA PLOT

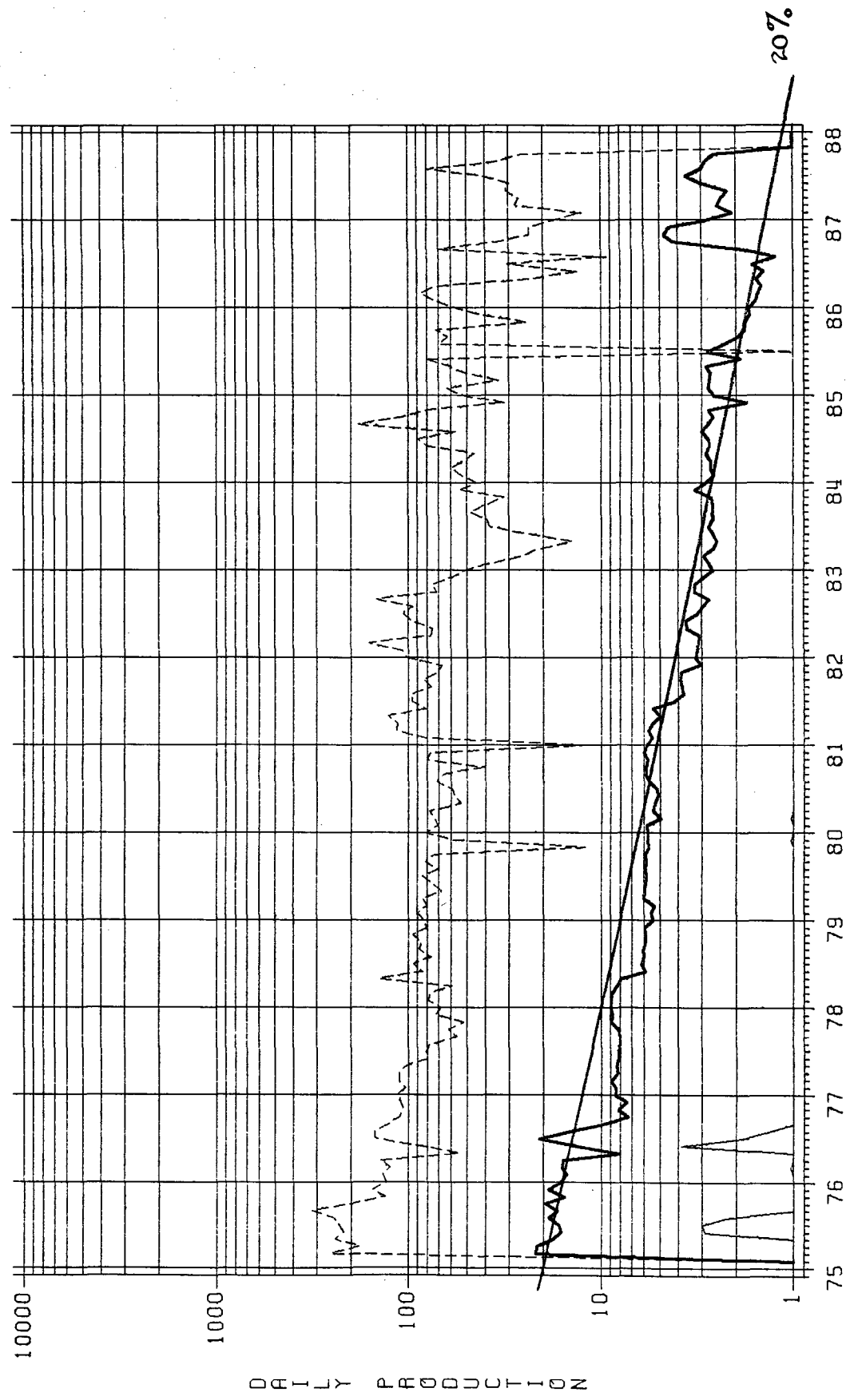
WELLNO=002 WELLNA=F J DANGLEADE PETROLEUM INFORMATION FLORESNA=WANTZ GRANITE WASH
 OPERNA=CHEVRON U.S.A. INC.



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

PRODUCTION DATA PLOT

WELLN0=002 WELLNA=F J DANGLEADE PETROLEUM INFORMATION OPERNA=CHEVRON U.S.A. INC. FLDRESNA=DRINKARD



DATE

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

To T.A. ETCHISON

APRIL 18 19

From B.P. HEIBERT

Subject: F.J. DANGLADE #2: DATA FOR

Our File:

DHC PERMIT APPLICATION

Your File:

— BHP DATA —

I) WANTZ GRANITE WASH FORMATION: $BHP \approx 1692 \text{ PSI}$ (SEE ATTACHED BUILDUP)

II) DRINKARD FORMATION:

$$BHP = P_{GAS} + P_{LIQUID}$$

$$A) P_{GAS} = P_{WH} e^{\frac{0.01875 \times SG \times D}{SANG \times TANG}} = 190 e^{\frac{(0.01875)(.7569)(5928)}{(0.831)(110+460)}} \quad \text{(CRAFT \& HAWKINS CORRELATION)}$$

$$= 227 \text{ PSI}$$

$$B) P_{LIQUID} = .052 \times MW \times H \quad \text{WHERE: } MW = \text{DENSITY OF OIL IN LBS/GAL (PRODUCING OBWPD)}$$

$$\rho_{OIL} = 7.02 \text{ LBS/GAL (36.6° API)}$$

H = HEIGHT OF FLUID COLUMN

= MID PERF - STATIC FLUID
DEPTH LEVEL DEPTH

$$P_{LIQUID} = (0.052)(7.02)(6370 - 5928)$$

$$= 161 \text{ PSI}$$

$$BHP = 388 \text{ PSI}$$

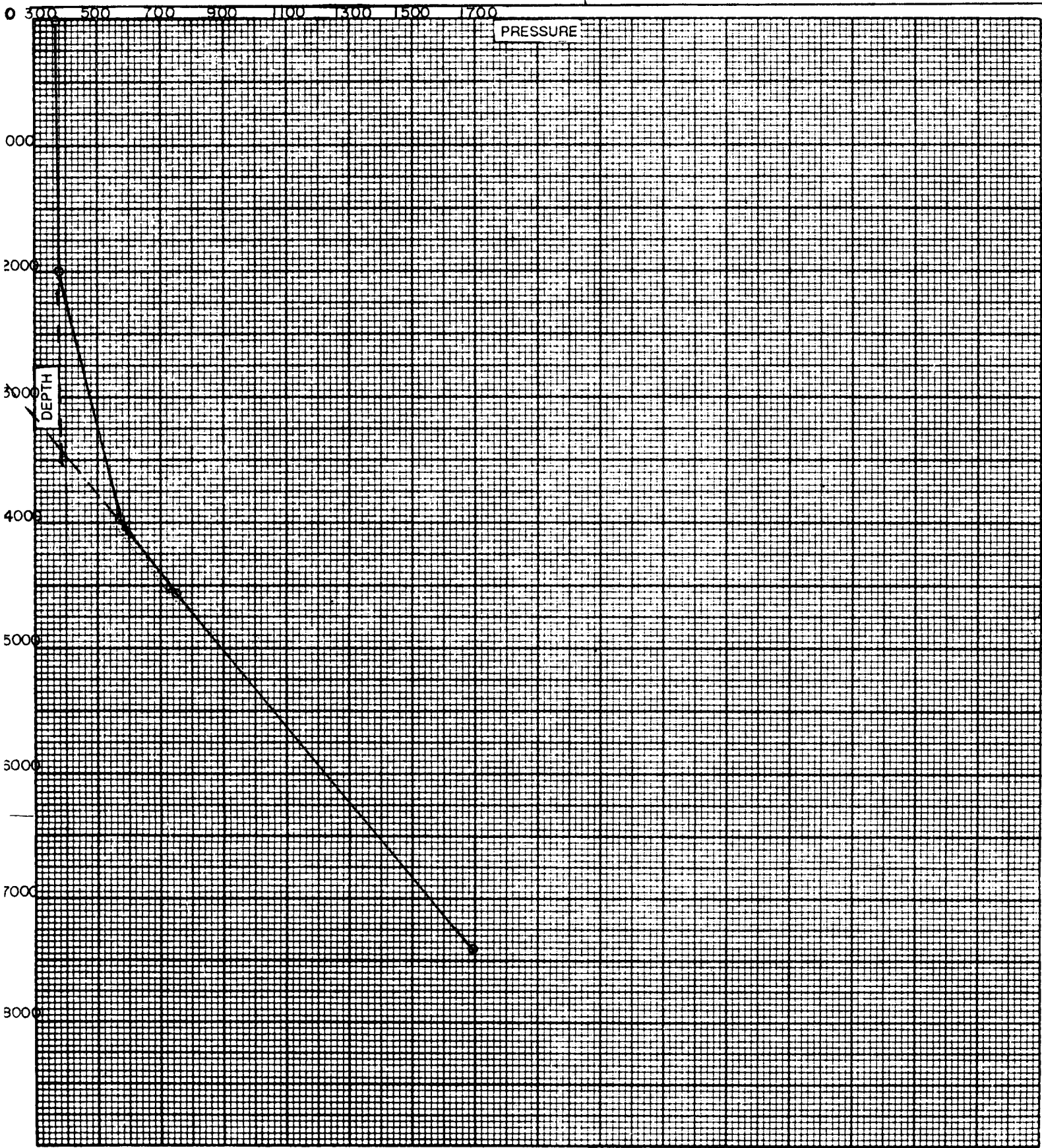
BOTTOM HOLE PRESSURE SURVEY REPORT

OPERATOR CHEVRON USA, INC.
LEASE F.J. DANGLADE
WELL NO. 2
FIELD _____
DATE 1-4-88 TIME 11:45 A.M.
STATUS Shut-In TEST DEPTH 4560'
TIME S.I. _____ LAST TEST DATE _____
CAS. PRES. _____ BHP LAST TEST _____
TUB. PRES. 366 PSI BHP CHANGE _____
ELEV. _____ FLUID TOP 3425'
DATUM _____ WATER TOP _____
TEMP. _____ RUN BY _____
CLOCK NO. 23122 GAUGE NO. 19389
ELEMENT NO. 28552 (0-4150 PSI)

DEPTH	PRESSURE	GRADIENT
000	366	
2000	380	.007
4000	571	.096
*4560	753	.325
**7449	1692	.325

* Maximum Depth Reached
** Pressure Extrapolated to 7449'

Assuming that the fluid between 4000
and 4560 is the same as that down to
7449'



LEASE & WELL NO. F. J. DANGLADE #2 FIELD/POOL WANTZ GRANITE WASH DATE 12/87
LOCATION T70 FEET FROM SOUTH LINE AND 1980 FEET FROM WEST LINE
SECTION 13, T22S R37E COUNTY LEA STATE N.M.

GE _____
KDB to GE _____
DF to GE _____

9 5/8 " OD Surface Pipe
set @ 1198 ' w/ 500 sx
Cmt. Circulated? YES

4-1/2" SQZ HOLES @ 2100 SQZ'D
w/ 1350 SX, CIRC TO SURF

ORIGINAL TOC @ 2160

(CURRENT
INSTALLATION)

2 3/8, 4.7 # J-55 TBG
w/ BEVELLED CPLGS
LATCHED INTO PARALLEL
STRING ANCHOR w/
14000 # TENSION

2 3/8, 4.7 # J-55 TBG

2 3/8 SN @ 6235

PARALLEL STRING ANCHOR @ 6246'

6282-84
6334-36
6390-92
6422-24
6456-58

DRINKARD
PERFS @ 4-1/2"
JHPF. 40 HOLES
OVER 176'

BAKER FL ON-OFF RECEPTACLE
@ 7370

BAKER MODEL D PKR @ 7373
w/ TYPE E SEAL ASSEMBLY
SET w/ 10,000 # TENSION

7423
7428
7469
7474

WANTZ GRANITE
WASH PERFS @ 4-.45"
JHPF. 40 HOLES
OVER 51'

BPOB
@ 7453

PBD 7489
TD 7502

① AXELSON SLIM
CV @ 7418

② 2 3/8 SN @ 7408

Date Completed SPUDED 12/73
Initial Formation WANTZ GRANITE WASH
From: _____ to _____ GOR
Initial: Production ☐ bopd _____ bwpd _____
Or: Injection ☐ bwpd @ _____ psi
Completion Data:

(JAN '74) PERF'D WANTZ GRANITE WASH @ 7423-28
& 7469-74 w/ 4-.45" JHPF. BROKE DOWN w/ 168 GALS
15% NEA. ACIDIZED w/ 1000 GALS 15% NEA @ 4-5 BPM
& 2700 PSI, DROPPING A TOTAL OF 30 BALLS EVENLY
THROUGHOUT JOB. IPF 220 BOPD & 0 BWPD

Subsequent Workover or Reconditioning:

(JAN '75) PERF'D DRINKARD @ 6282-84, 6334-36,
6390-92, 6422-24, & 6456-58 w/ 4-1/2" JHPF. SET BAKER
MODEL D PKR @ 7373, SET RBP & SPOTTED SAND. ACID'Z
DRINKARD PERFS w/ 2700 GALS 15% NEA. FRAC'D IN 5
EQUAL STAGES OF 1000 GALS 9.2 # GELLED BW PAD, 5000
GALS 9.2 # GBW w/ 2 PPS SD, 150 # BAKER, 250 # RS @ 16
BPM & 3700 PSI. ISIP 1600 PSI. TOTAL OF 30,000 GALS
9.2 # GBW & 50,000 # SD. TUBED UP AS DUAL w/ PARALLEL
STRING ANCHOR @ 6247. DRINKARD ZONE FLOWED IN-
TERMITTENTLY. INSTALLED PLUNGER LIFT SYSTEM ON
DRINKARD SIDE. DRINKARD IPF @ 112 BOPD & 8 BW IN 72 HRS
24 HR RATE OF 37 BOPD & 3 BWPD, WGW FLG 96 BOPD &
0 BWPD.

(APR '76) SQZ'D 7x9 5/8 ANNULUS TO RELIEVE SURF
PRESS. PERF'D 7" CSG w/ 4-1/2" JH'S @ 2100'. SET CMT
RTNR @ 2032 & PUMPED 1350 SX. GOT RTNS AFTER PPG
900 SX. CIRC @ 200 SX & SQZ'D REMAINING 250 SX INTO
FMTN @ 1300 PSI. DRILLED OUT & TESTED TO 1000 # OK.
PLACED BACK ON PRODUCTION. DRINKARD FLG ON INTER-
MITTER @ 10 BOPD, 1 BWPD & 70 MCF/GPD. WGW FLG 118 BOPD
@ BWPD & 50 MCF/GPD.

(MAY '80) REPAIRED TBG LEAK IN LONG STRING.
TESTED LS BACK IN HOLE @ 5000 PSI.

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

Remarks Or Additional Data:

7 " OD 26 # Thd
Gr. N-80 & K-55 Csg.
set @ 7501 ' w/ TTT sx
Cmt Circulated? NO
TOC @ 2160 ' by TS



GARREY CARRUTHERS
GOVERNOR

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
HOBBS DISTRICT OFFICE
APR 29 1988
4-25-88
OIL CONSERVATION DIVISION
SANTA FE

POST OFFICE BOX 1980
HOBBS, NEW MEXICO 88241-1980
(505) 393-6161

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

RE: Proposed:

MC _____
DHC ☒ _____
NSL _____
NSP _____
SWD _____
WFX _____
PMX _____

Gentlemen:

I have examined the application for the:

Chevron USA Inc. F.J. Danglede #2-N 13-22-37
Operator Lease & Well No Unit S-T-R

and my recommendations are as follows:

OK

Yours very truly,

Jerry Sexton
Jerry Sexton
Supervisor, District 1

/ed