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

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-eights 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-eights 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:

Drinkard	Granite Wash
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 C-102
Supersedes C-128
Effective 1-1-65

All distances must be from the outer boundaries of the Section

Operator	Lease	Well No.
GULF OIL CORPORATION	F.J. DANGLADE	2

Unit Letter	Section	Township	Range	County
N	13	22 SOUTH	37 EAST	LEA

Actual Footage Location of Well:
770 feet from the SOUTH line and 1980 feet from the WEST line

Ground Level Elev.	Producing Formation	Pool	Dedicated Acreage:
3328'	Granite Wash & Drk	Wantz Granite Wash & Drk	40 Acres

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

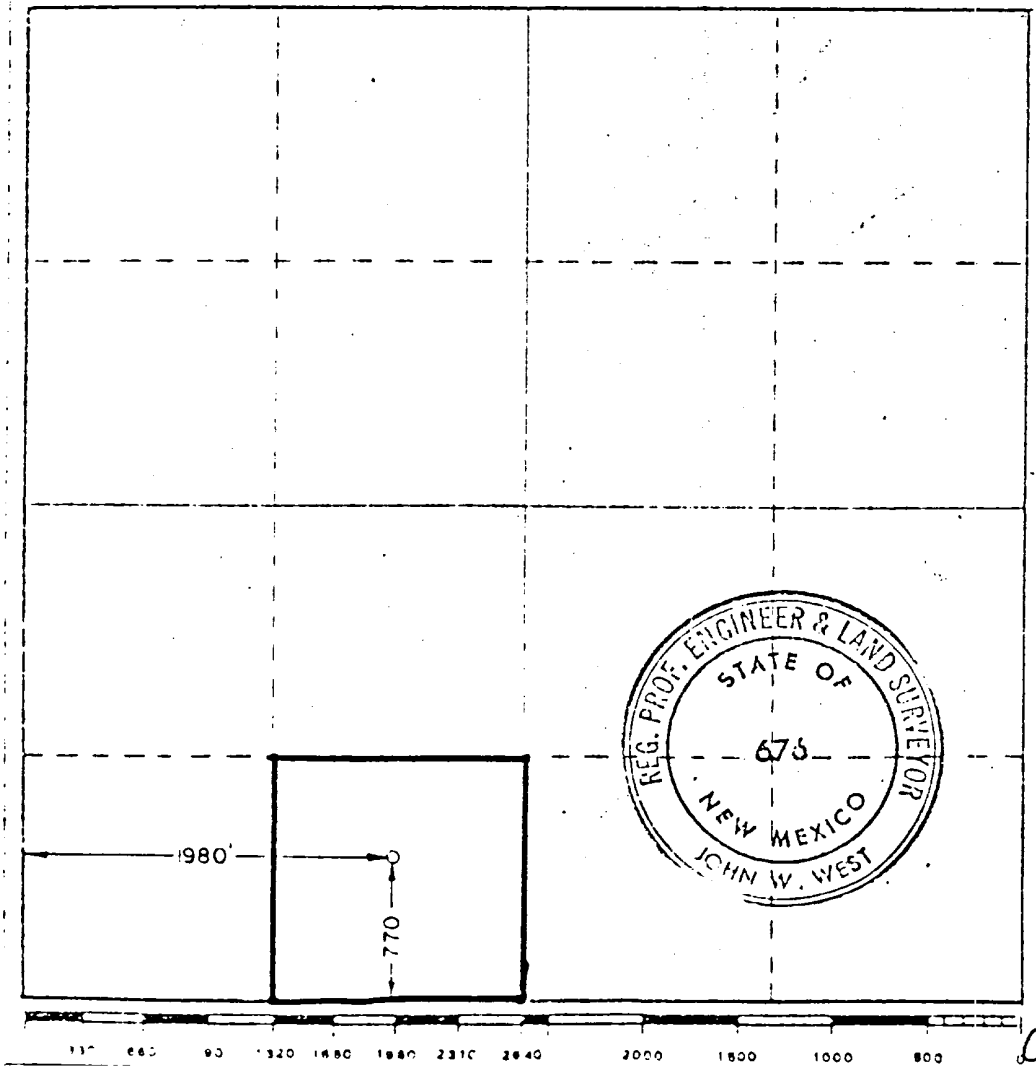
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

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.

C. D. BORLAND

Area Production Manager

Gulf Oil Corporation

November 5, 1973

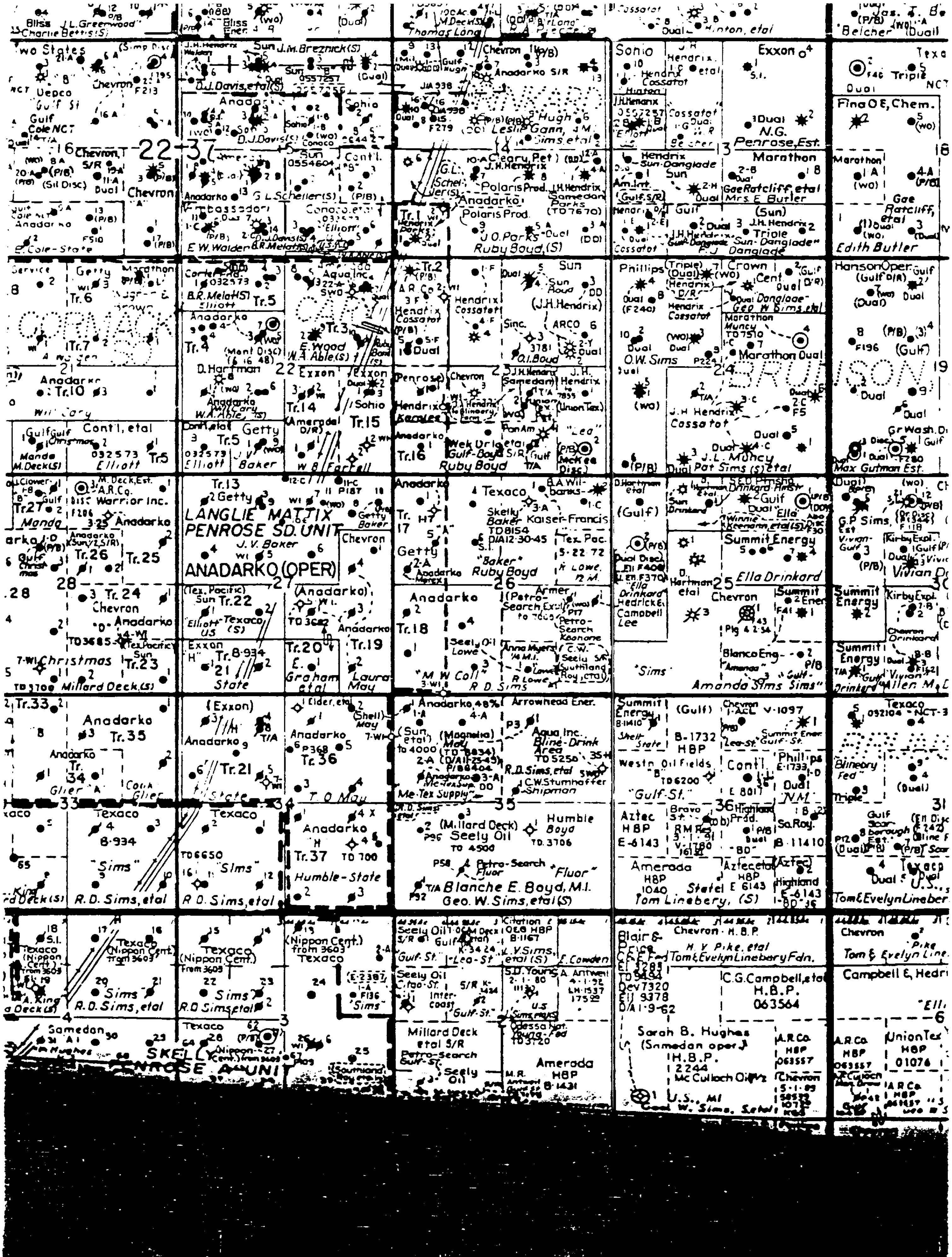
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed
OCTOBER 30, 1973

Registered Professional Engineer and/or Land Surveyor

John W. West

Certificate No. 676



22-37
LANGLIE MATTIX
PENROSE SD. UNIT
ANADARKO (OPER)
J. V. Baker
Texaco
Chevron
Anadarko
Getty
Sun
Gulf
Exxon
Sohio
Conoco
Marathon
Summit Energy
Ella Drinkard
Amanda Sims
Millard Deck
Christmas
Ruby Boyd
Blanche E. Boyd, M.I.
Geo. W. Sims, etal (S)
R.D. Sims, etal
Humble-State
Seely Oil
Amerada
Tom Linebery
Tom & Evelyn Linebery Fdn.
C.G. Campbell, etal
H.B.P.
063564
Sarah B. Hughes
Edith Butler
N.G. Penrose, Est.
Polaris Prod.
J.O. Parks
E.W. Walden
Skelly
Kaiser-Francis
Pat Sims
Max Gutman Est.

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

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

Form C-116
Revised 10-1-7

GAS – OIL RATIO TESTS

Operator	Pool	County
CHEVRON, USA, INC.	Wantz Granite Wash	LEA

Address: P.O. BOX 670 HOBBS, N.M.

TYPE OF TEST – (X): Scheduled [ ] Completion [ ] Special [X]

LEASE NAME	WELL NO.	LOCATION U	S	T	R	DATE OF TEST	STATUS	CHOKE SIZE	TBG. PRESS.	DAILY ALLOWABLE	LENGTH OF TEST HOURS	PROD. DURING TEST WATER BBLS.	GRAV. OIL	OIL BBLS.	GAS M.C.F.	GAS-OIL RATIO CU.FT./BBL.
F.J. Dromgoole	2	N	13	22	37	1/14/88	F	14/64	30	24	24	1	36.6	10	45.0	4500

No well will be assigned an allowable greater than the amount of oil produced on the official test.

During gas-oil ratio test, each well shall be produced at a rate not exceeding the top unit allowable for the pool in which well is located by more than 25 percent. Operator is encouraged to take advantage of this 25 percent tolerance in order that well can be assigned increased allowables when authorized by the Division.

Gas volumes must be reported in MCF measured at a pressure base of 15.025 psia and a temperature of 60° F. Specific gravity base will be 0.60.

Report casing pressure in lieu of tubing pressure for any well producing through casing.

Mail original and one copy of this report to the district office of the New Mexico Oil Conservation Division in accordance with Rule 301 and appropriate pool rules.

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

D.R. Jennings
(Signature)
Production Specialist
(Title)
1/19/88

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

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

Form C-116
Revised 10-1-78

GAS–OIL RATIO TESTS

Operator: CHEVRON, USA, INC.
Pool: Drinkard
County: LEA
Address: P.O. BOX 670 HOBBS, N.M.
TYPE OF TEST – (X): Scheduled [ ] Completion [ ] Special [X]

LEASE NAME	WELL NO.	LOCATION U	S	T	R	DATE OF TEST	STATUS	CHOKE SIZE	TBG. PRESS.	DAILY ALLOWABLE	LENGTH OF TEST HOURS	PROD. DURING TEST WATER BBLS.	GRAV. OIL	OIL BBLS.	GAS M.C.F.	GAS-OIL RATIO CU. FT./BBL.
F.J. Danglade	2	N	13	22	37	1/15/88	F	2" wo	60	4	24	0	34.6	3	42.0	14000

No well will be assigned an allowable greater than the amount of oil produced on the official test.

During gas-oil ratio test, each well shall be produced at a rate not exceeding the top unit allowable for the pool in which well is located by more than 25 percent. Operator is encouraged to take advantage of this 25 percent tolerance in order that well can be assigned increased allowables when authorized by the Division.

Gas volumes must be reported in MCF measured at a pressure base of 15.025 psia and a temperature of 60° F. Specific gravity base will be 0.60.

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Mail original and one copy of this report to the district office of the New Mexico Oil Conservation Division in accordance with Rule 301 and appropriate pool rules.

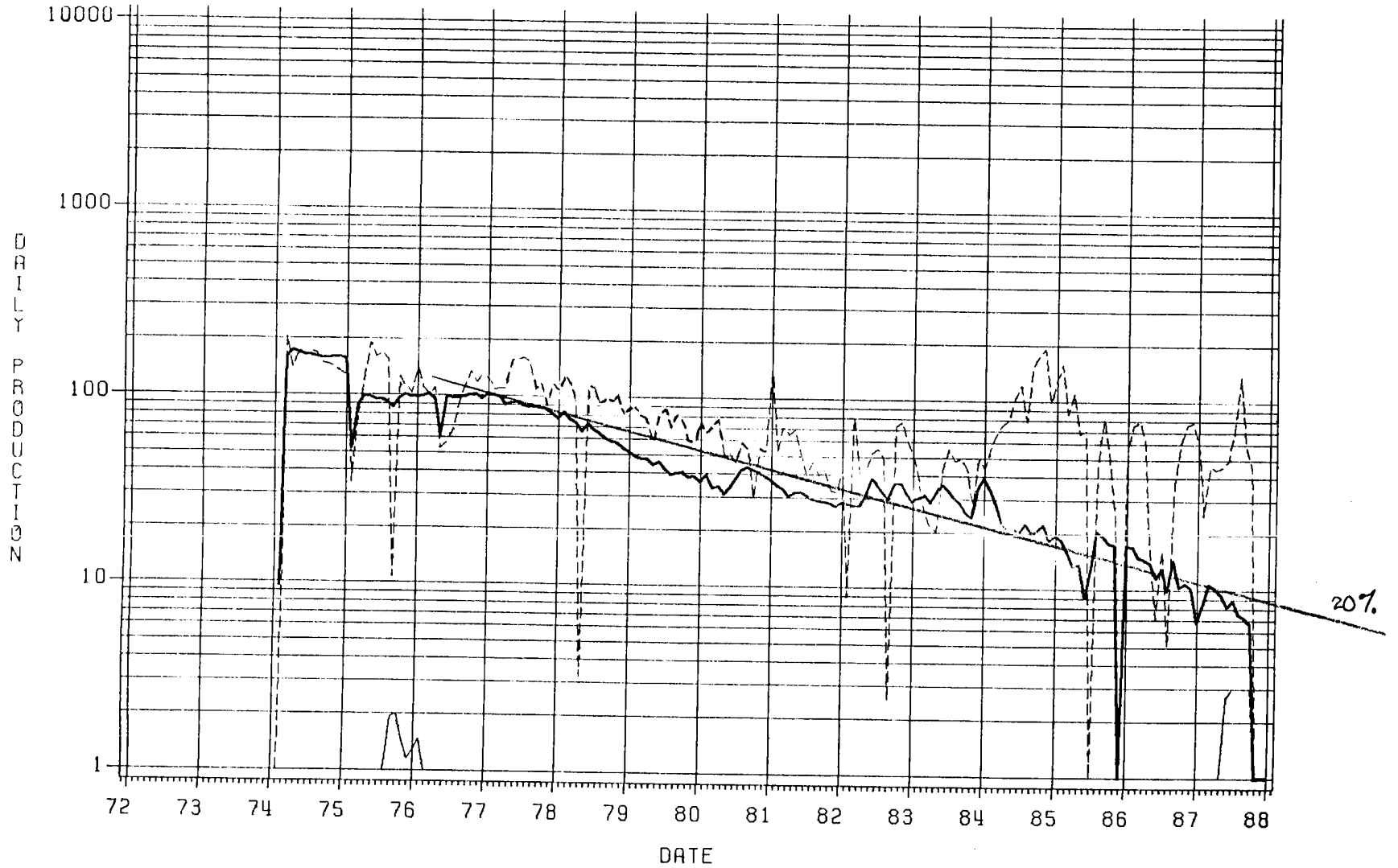
I hereby certify that the above information is true and complete to the best of my knowledge and belief.

R. R. Jennings
(Signature)
Production Specialist
(Title)
1/19/88

PRODUCTION DATA PLOT

PETROLEUM INFORMATION

WELLNO=002 WELLNA=F J DANGLADE OPERNA=CHEVRON U.S.A. INC. FLDRESNA=WANTZ GRANITE WASH

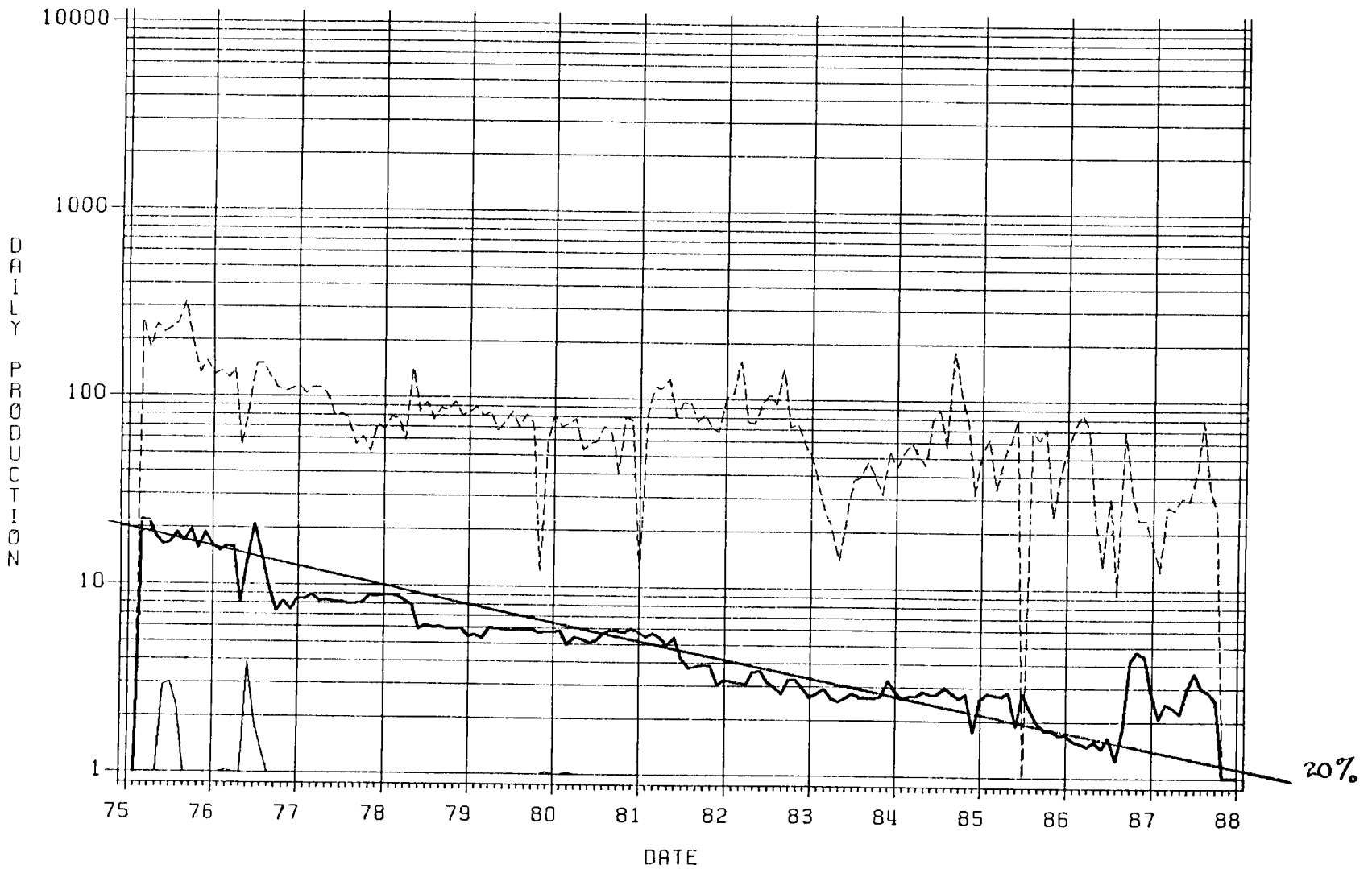


HEAVY SOLID LINE=BOPD
SOLID LINE=BWPD
LIGHT DASHED LINE=MCFD

PRODUCTION DATA PLOT

PETROLEUM INFORMATION

WELLNO=002 WELLNA=F J DANGLADE OPERNA=CHEVRON U.S.A. INC. FLDRESNA=DRINKARD



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

Memorandum GO-144

To T.A. ETCHISON — APRIL 18 19

From B.P. HEBERT

Subject: F. J. DANGLADE #2 : DATA FOR DHC PERMIT APPLICATION

Our File:

Your File:

— BHP DATA —

I) WANTZ GRANITE WASH FORMATION : BHP ≈ 1692 PSI (SEE ATTACHED BUILDUP

II) DRINKARD FORMATION :

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

A) $P_{GAS} = P_{WH\ (STATIC)}\ e^{\frac{0.01875 \times SG \times D}{S_{ANG} \times T_{ANG}}} = 190\ e^{\frac{(0.01875)(.7569)(5928)}{(0.831)(110+460)}}$ (CRAFT & HAWKINS CORRELATION)

$= 227$ PSI

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

$\rho_{OIL} = 7.02$ LBS/GAL (36.6° API) H = HEIGHT OF FLUID COLUMN = MID PERF DEPTH − STATIC FLUID LEVEL DEPTH

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

$= 161$ PSI

BHP = 388 PSI

When reply is required, forward original and one copy.

GO 144 10S 6-86
Printed in U.S.A.

JOHN W. WEST ENGINEERING COMPANY
412 NORTH DAL PASO • HOBBS, NEW MEXICO

TELEPHONES 393-3942
393-3117

BOTTOM HOLE PRESSURE SURVEY REPORT

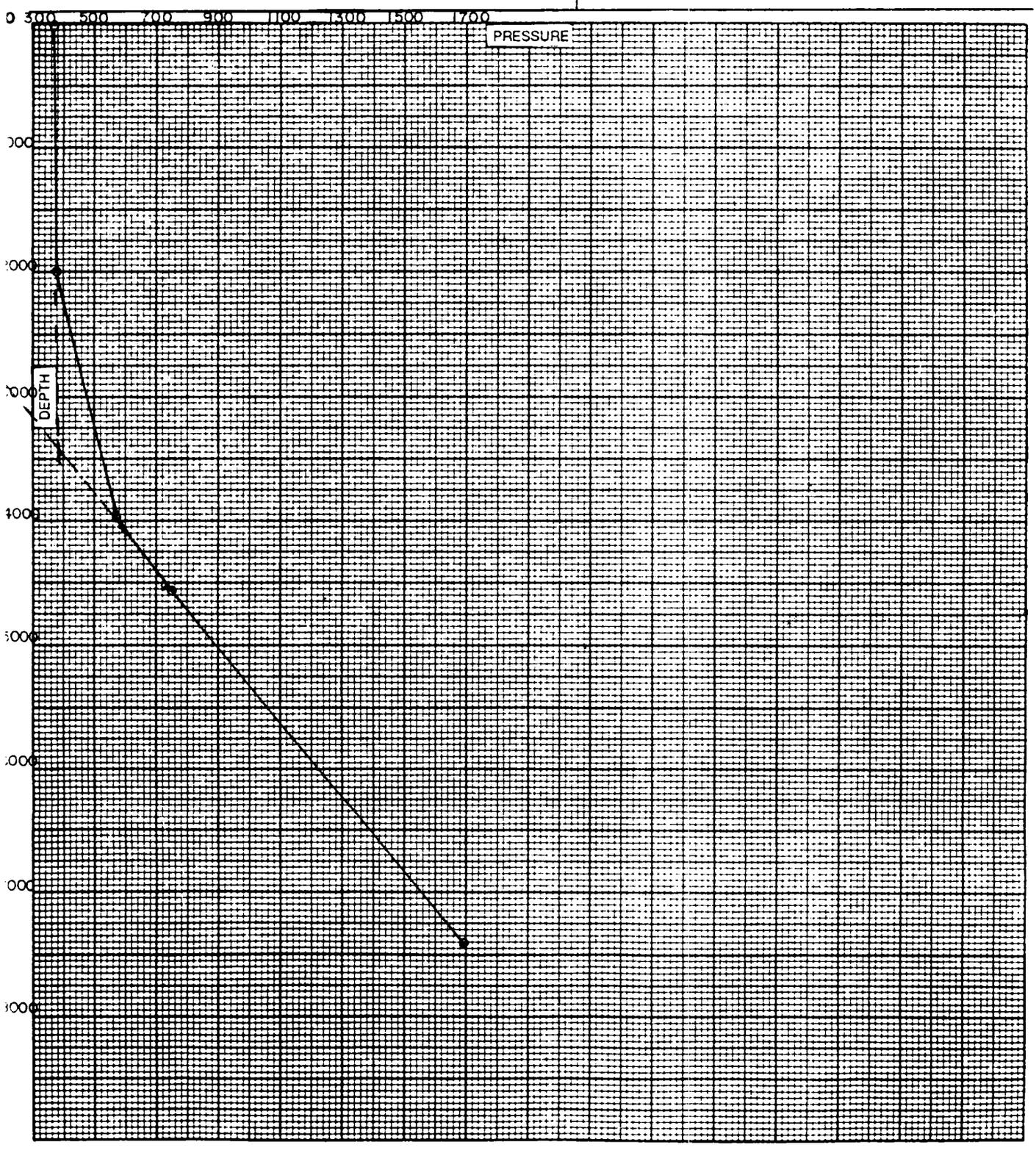
OPERATOR CHEVRON USA, INC.
LEASE F.J. DANGLADE
WELL NO. 2
FIELD
DATE 1-4-88 TIME 11:45 A.M.

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'

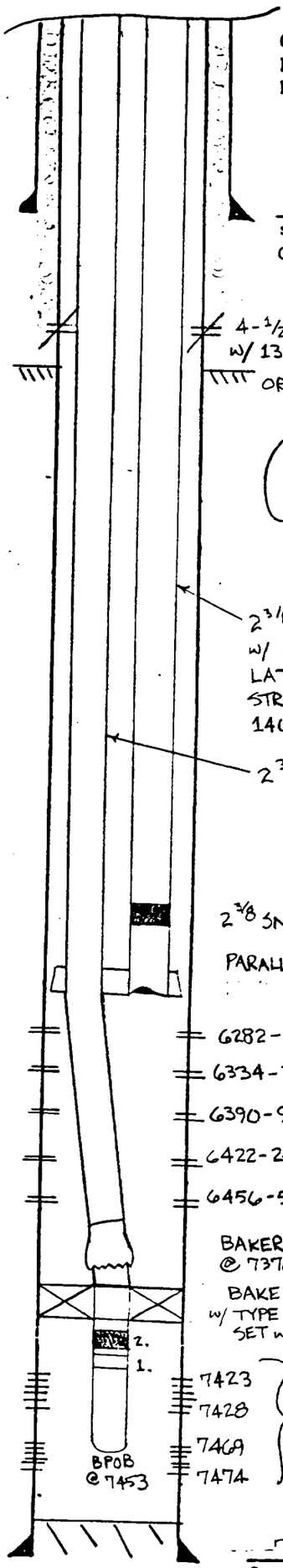
Assuming that the fluid between 4000 and 4560 is the same as that down to 7449'



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.



Date Completed SPUDDED 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. ACD'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 PPG SD, 150# BAF & 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 INTERMITTENTLY. INSTALLED PLUNGER LIFT SYSTEM ON DRINKARD SIDE. DRINKARD IPF @ 112 BO & 8 BW IN 72 HRS 24 HR RATE OF 37 BOPD & 3 BWPD, WGW FLG 9% BOPD & 0 BWPD.

(APR '76) SQZ'D 7 x 9 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 INTERMITTER @ 10 BOPD, 1 BWPD & 70 MCFGPD. WGW FLG 118 BOPD @ BWPD & 50 MCFGPD.

(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

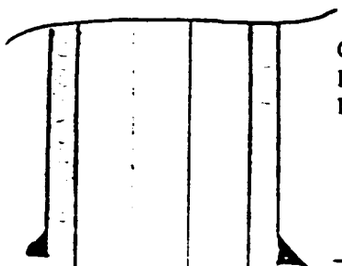
GAS MCFPD

Remarks Or Additional Data:

LEASE & WELL NO. E.J. DANGLADE #2 FIELD/POOL WANTZ GRANITE WASH DATE 12/87

LOCATION 770 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

4-½" SQZ HOLES @ 2100 SQZ'D W/ 1350 SX. CIRC TO SURF

ORIGINAL TOC @ 2160

(PROPOSED INSTALLATION)

2 3/8, J-55 TBG W/ SN @ ± 7450

6282-84
6334-36
6390-92
6422-24
6456-58
DRINKARD PERFS @ 4-½" JHPF. 40 HOLES OVER 176'

7423
7428
7469
7474
WANTZ GRANITE WASH PERFS @ 4-.45" JHPF. 40 HOLES OVER 51'

PBD 7469 '
TD 7502 '

7 " OD 20 23 26 # Thd
Gr. N-80 & K-55 Csg.
set @ 7501 ' w/ 1177 sx
Cmt Circulated? NO
TOC @ 2160 ' by TS

Date Completed SPUDDED 12/13/73
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:
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(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: