Memo

From

CARL ULVOG
SENIOR
PETROLEUM GEOLOGIST

To

File DHC-140

Getty #1 Dora E. Meyers was not dually completed. Furthermore, there will be oil (comingled in well bore) pumped (thru tubing) and gas flowed (thru casing-tubing annulus).

There does not appear to be any provision for this type of completion in rules, as they cover only administrative approval for down-hole commingling in a well which had previously been approved for a dual completion.

I discussed this with Mr. Porter and Mr. Nutter on 2/7/74, ~~and they were in~~ both of which agreed this application should be approved due to minor amounts of ~~B~~ oil and ... lved.

DHC - 140

Due 2/11/74

Getty Oil Company

~~Southern Division~~ MID-CONTINENT EXPLORATION AND PRODUCTION DIVISION

P. O. Box 249
Hobbs, New Mexico 88240

RECEIVED
JAN 22 1974
OIL CONSERVATION COMM.
Santa Fe

January 21, 1974

New Mexico Oil Conservation Commission
P.O. Box 2088
Santa Fe, New Mexico 87501

Attention: Mr. A. L. Porter, Jr.

Re: Application for Downhole Commingling Getty Oil Company's Dora E. Meyers Well No. 1 (Lovington Paddock & Lovington Tubb), Lea County, New Mexico

Gentlemen:

The subject well was recompleted to the Paddock Formation (6186-6269') in April 1953; the well was recompleted to the Tubb Zone (7775-8099') in November 1973. The Paddock is presently isolated behind a packer which requires the Tubb pumping equipment to produce all of the oil, gas, and water through the bottom hole pump. Attached is a "NABLA" Dynamometer Survey that shows the severity of the gas interference. Calculations show that 3-10 BOPD additional production would be possible if the produced gas could be vented via the casing. If the packer would be removed, then the production should increase as follows:

1. 36 BOPD presently being produced from the Tubb,

2. 3-10 BOPD increase from the Tubb, and

3. 4 BOPD increase from the Paddock.

The total production will be a maximum of 51 BOPD. New Mexico Oil Conservation Commission Rule 303 C (b) permits downhole commingling of two zones if the depth is below 8000 ft. and the total production is less than 60 BOPD. Getty Oil Company respectfully requests permission to remove the packer to permit the casing to vent the gas and the bottomhole pump to pump the fluid from both zones; the following data is offered in support of such request:

I. The attached plat shows the Dora E. Meyers Lease outlined in RED and located in Section 33, Township 16 South, Range 38 East, Lea County, New Mexico. Well No. 1 is circled in RED on the plat.

II. The well was producing from the Lovington Paddock until November 1973. A packer was set at 7756' to isolate the Paddock and the well was recompleted to the Lovington Tubb in December 1973.

III. The latest tests are as follows:

5 mcf/day

LOVINGTON PADDOCK: In October 1973, the Paddock was averaging 4 BOPD; a trace of water and a GOR of 750/1. (Perforations 6186-6269').

LOVINGTON TUBB: On January 7, 1974, the Tubb was produced at a rate of 36 BOPD, 32 BWPD, and a GOR of 667/1. (Perforations 7775-8099')

NMOCC Forms C-116 are attached. These producing rates do not exceed the limits set out in Rule 303, Paragraph C (b); i.e., 60 BOPD.

IV. Neither zone produces more water than the combined oil limit as determined in Rule 303, Paragraph C (d).

V. Production decline curves are attached as follows:

LOVINGTON PADDOCK: Monthly production of oil and water since 1969.

LOVINGTON TUBB: Daily production of oil and water since well was completed (December 3, 1973). Also attached is the well completion history.

VI. The production from the Paddock Zone was by artificial lift and the Tubb is produced by artificial lift. The producing bottomhole pressure is estimated to be less than 500 PSIG in each zone.

VII. API gravity on the Paddock is 33.4° and the Tubb is 35.1°. Oil from each zone is classified as Sour Crude. If zones are commingled, the fluids will not be incompatible in the well bore.

VIII. Since each zone is classified as Sour Crude, for price, downhole commingling will not reduce the oil value.

IX. The ownership of the zones to be commingled is common.

X. Commingling the well bore will not jeopardize the efficiency of future secondary operations in either zone.

XI. It is recommended that the production be allocated as follows:

LOVINGTON PADDOCK: 4 BOPD to the end of 1976.
3 BOPD to the end of 1981
2 BOPD to the economical limit of the well.

LOVINGTON TUBB: The Tubb production will be determined by the subtraction method.

XII. Copies of this Application have been furnished to offset operators.

Very truly yours,
GETTY OIL COMPANY

C. L. Wade
C. L. Wade
Area Superintendent

Didn't really mean to dispose of gas by venting or flaring. 1-28-74 (Tele)

HBS-EJM/bh
ATTACHMENTS
CC: 1-NMOCC,P.O. Box 1980, Hobbs, N.M. 88240. 1-J.L. Cox 408 W. Wall,Midland,Tex.79701
1-Getty Oil Company, P.O. Box 1231, Midland, Texas 79701

(915) 683-6123
MIDLAND, TEXAS 79701

107 NORTH N
POST OFFICE BOX 5446

NABLA CORPORATION

January 2, 1974

SUMMARY

Getty, D. E. Meyers No. 1

Production Potential:

1) Well is capable of more production as indicated by a calculated pump intake pressure (PIP) of 672 psi; however, severe gas interference is limiting liquid fillage.

2) Based on an estimated static reservoir pressure of 3400 a PI of 0.027 is calculated. Thus, assuming this well could be pumped down to a PIP of 50 psi, an additional potential of 10 BOPD (17 BFPD) exists. If Vogel's method is used, additional potential is estimated at 3 BOPD (5 BFPD).

Equipment Loading:

1) Gearbox is operating at 86.6 percent of rated capacity. Unit is rod heavy with weights all-out. Ideally balanced with additional counterbalance the gearbox should operate at 61.6 percent of rating under existing conditions.

2) Rod loads are high if corrosion is a problem. Based on the API Goodman Diagram and a service factor of 0.8 the rods are operating at 103 percent and 77 percent of rating.

3) Prime mover load is not excessive.

4) Structure is operating at 94 percent of rating.

Pump Conditions:

1) Severe gas interference is occurring. Out of a gross stroke of 68.4 inches only 35 inches are effective in displacing liquids. Thus, pump fillage is only 51 percent.

2) Pump is in good mechanical condition.

3) The pump displacement (78 BPD) agrees favorably with the test (75 BPD); thus, the test is accurate and no tubing leak is indicated.

Conclusions and Recommendations:

1) More production is available; however, to produce this well effectively venting is necessary. If well is vented make sure pump intake is positioned below all perforations to improve gas separation.

2) By increasing the stroke length to 74 inches or by changing to a 1-1/2 inch pump a small production increase of 3-5 BOPD ($8\pm$ BFPD) is predicted. More counterbalance weight would be required to prevent gearbox overload and rod loads will be increased.

K. B. Nolen

(915) 683-6123
MIDLAND, TEXAS 79701

107 NORTH N
POST OFFICE BOX 5446

NABLA CORPORATION

ROD PUMPING DIAGNOSTIC ANALYSIS

COMPANY, LEASE AND WELL NUMBER: GETTY, D. E. MEYERS NO. 1

ANALYSIS NUMBER: 2R4-1-2-1 DATE OF ANALYSIS: 1/2/74

<<<<< SURFACE EQUIPMENT >>>>>

PRIME MOVER -

TYPE AND RATING: LUFKIN H-333

ACTUAL POWER REQUIREMENTS **********

AVERAGE POWER(HP): 6.5 PEAK POWER(HP): 41.9
CYCLIC LOAD FACTOR: 2.475

PUMPING UNIT -

MFGR AND TYPE: LUFKIN CONVENTIONAL STRUCTURE RATING(LBS): 20000
GEARBOX RATING(M IN-LBS): 228.0 STROKE LENGTH(IN): 65.0
(74" MAX.)

ACTUAL STRUCTURE LOAD **********

MAXIMUM(LBS): 18855. MINIMUM(LBS): 11492.

SUMMARY OF GEARBOX PERFORMANCE *****

	EXISTING	IN BALANCE
PEAK TORQUE(M IN-LBS):	197.4	140.4
COUNTERBALANCE(M IN-LBS):	421.1	501.8
PERCENT OF GEARBOX RATING:	86.6	61.6

<<<<< ROD STRING >>>>>

API ROD GRADE AND MIN TENSILE: GRADE K; 112000 PSI

DIMENSIONS AND ACTUAL STRESSES *****

DIAMETER (IN)	INTERVAL LENGTH (FT)	MAX STRESS (PSI)	MIN STRESS (PSI)	PERCENT OF API-GOODMAN RANGE FOR SERVICE FACTOR OF 1.0	0.8	0.6
.875	2625	31356.	19112.	62.3	103.0	295.9
.750	5108	25882.	15001.	50.8	76.9	158.6

<<<<< SUBSURFACE PUMP >>>>>

PUMP BORE SIZE(IN): 1.2500 SETTING DEPTH(FT): 7755.

ACTUAL PUMP CONDITIONS **********

PUMP INTAKE PRESSURE(PSI): 672. PUMPING SPEED(SPM): 13.36
GROSS STROKE(IN): 68.4 NET STROKE(IN): 35.0
GAS INTERFERENCE: SEVERE FLUID POUND: NONE
FLUID LOAD(LBS): 2215. PUMP LEAKAGE: NIL
CRUDE SHRINKAGE FACTOR FROM PUMP TO STOCK TANK: 1.1773

- PUMP VOLUMETRIC DISPLACEMENTS -

BASED ON NET STROKE	BASED ON GROSS STROKE
85. BPD	166. BPD
(78. BPD @ SURFACE CONDITIONS)	

- PUMP EFFICIENCIES -

	BASED ON TEST AND GROSS STROKE (PERCENT)	BASED ON TEST AND NET STROKE (PERCENT)
CRUDE SHRINKAGE NOT CONSIDERED:	45.0	87.9
CRUDE SHRINKAGE CONSIDERED:	49.6	96.9

<<<<< OTHER DIAGNOSTIC INDICATORS >>>>>

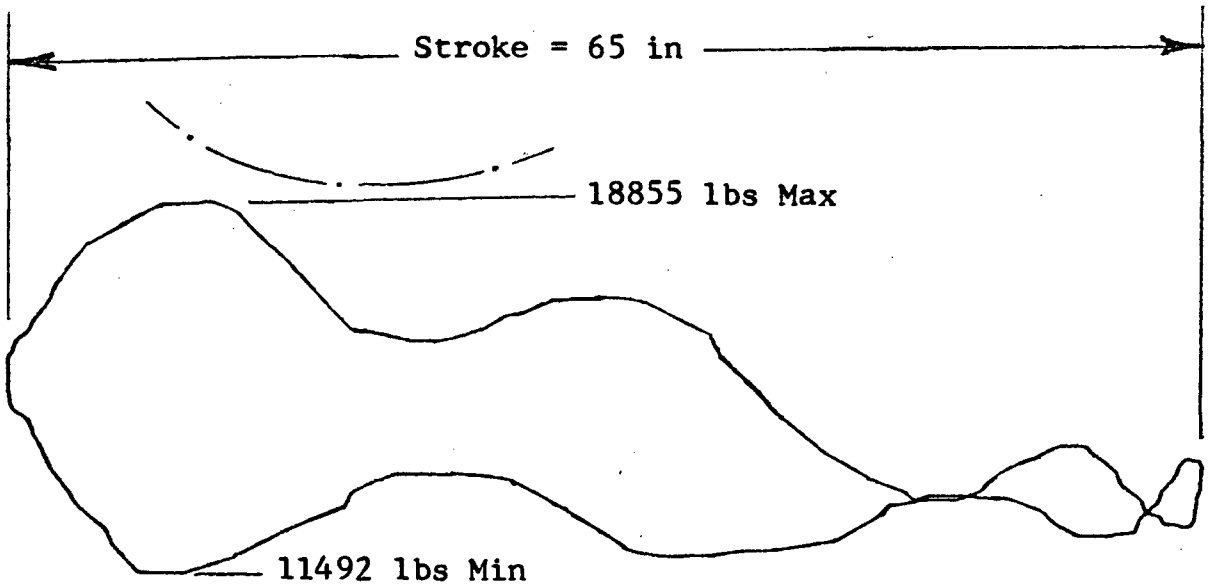
DOWNHOLE FRICTION: NORMAL
TUBING OR ANNULUS CHECK VALVE LEAK: NONE
TUBING MOVEMENT(IN): .0 LOST DISPLACEMENT(BPD): .0
FLOWLINE PRESSURE(PSI): 60. AVG TBG GRAD(PSI/FT): .312

<<<<< WELL TEST AND FLUID PROPERTY DATA >>>>>

TEST DATE: 1/1/74
BFPD: 75. BOPD: 43.
BWPD: 32. GOR: 500-700 EST
PUMPING UNIT STROKE(IN): 65 SPM: 14
OIL GRAVITY(API): 36.6 WATER GRAVITY(SG): 1.175
BUBBLE POINT(PSI): 1000. EST. SOLUTION GOR: 400. EST.
FORMATION VOLUME FACTOR: 1.220 EST.

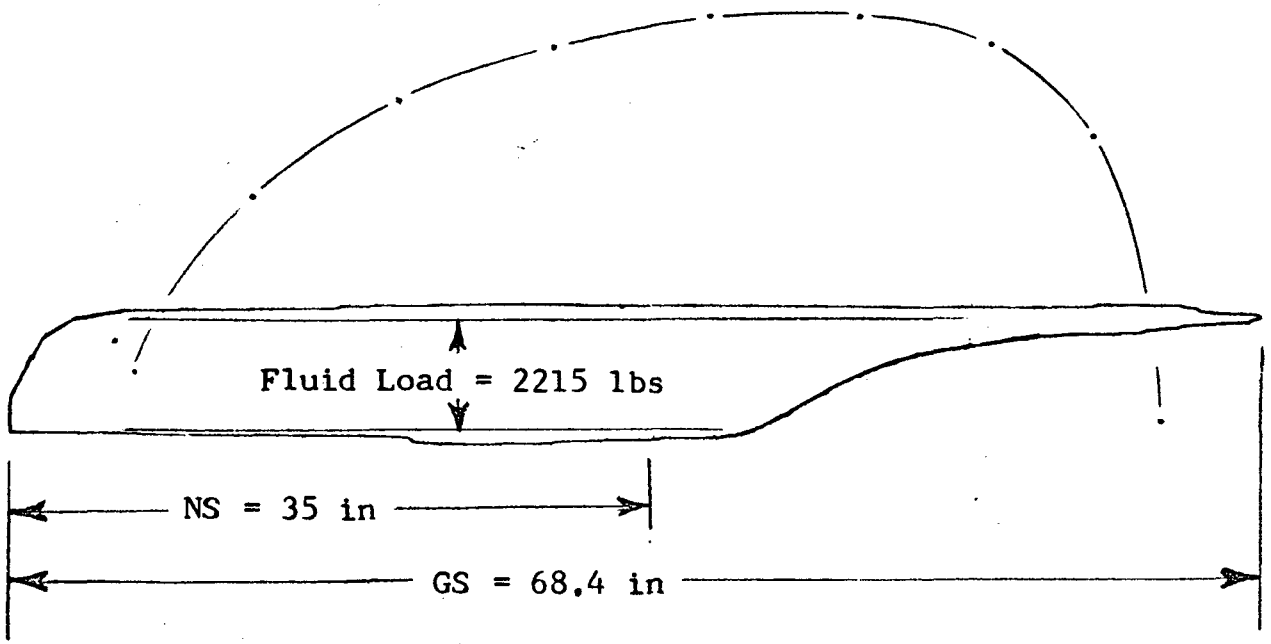
January 2, 1973

Getty, D. E. Meyers No. 1



SURFACE CARD

Dotted and dashed lines are permissible loads for gearbox.



PUMP CARD

Severe Gas Interference

LEASE AND WELL NO: D. E. Mayes #1 LOCATION: Section 33-16-37

ZONE AND PERFORATIONS: TUBB 7775-7825, 7840-70, 7923-8099

FIELD: LOVINGTON COUNTY: LEA STATE: NM

PURPOSE OF SURVEY: DETERMINE PIP, GAS INTERFERENCE EFFICIENCY, ETC.

SURFACE EQUIPMENT:

PUMPING UNIT: 228 W/OFFSET BEAM (LUFKIN TC-2R-36A-10217CH)

STRUCTURE RATING:

PRIME MOVER: LUFKIN H-333 5½" X 7" TWO Cycle.

SUBSURFACE EQUIPMENT:

CASING SIZE: 5½" SET AT: 8499' PBTD: Est. 8126

TUBING SIZE: 2⅜" SET AT: 7760

COMPLETION: PERFS OR o/H FROM 7775 TO 8099

TUBING ANCHOR SA OR PACKER SA 7756

DOWNHOLE GAS SEPARATOR DESCRIPTION:

DOWNHOLE PUMP DESCRIPTION: SIZE: 2" x 1¼" x 16' SET AT 7755
RWBC w/6" x 1" strainer nipple

ROD DESIGN:

5/8" ROD: LENGTH ____'; PERCENT ____%: API GRADE: ____

3/4" ROD: LENGTH 5100' ': PERCENT 66.9 %; API GRADE: K

7/8" ROD: LENGTH 2625' '; PERCENT 33.1 %; API GRADE: K

1" ROD: LENGTH ____'; PERCENT ____%; API GRADE: ____

TOTAL: 7625

PRODUCTION DATA AND PROPERTIES:

TEST DATE: 1-1-74 TEST PERIOD 24 HOURS.

BOPD: 43; BWPD: 32; BFPD: 75

GOR: EST. 500-700; (S.G.) GRAVITY: OIL: 36.6; WATER: 1.125

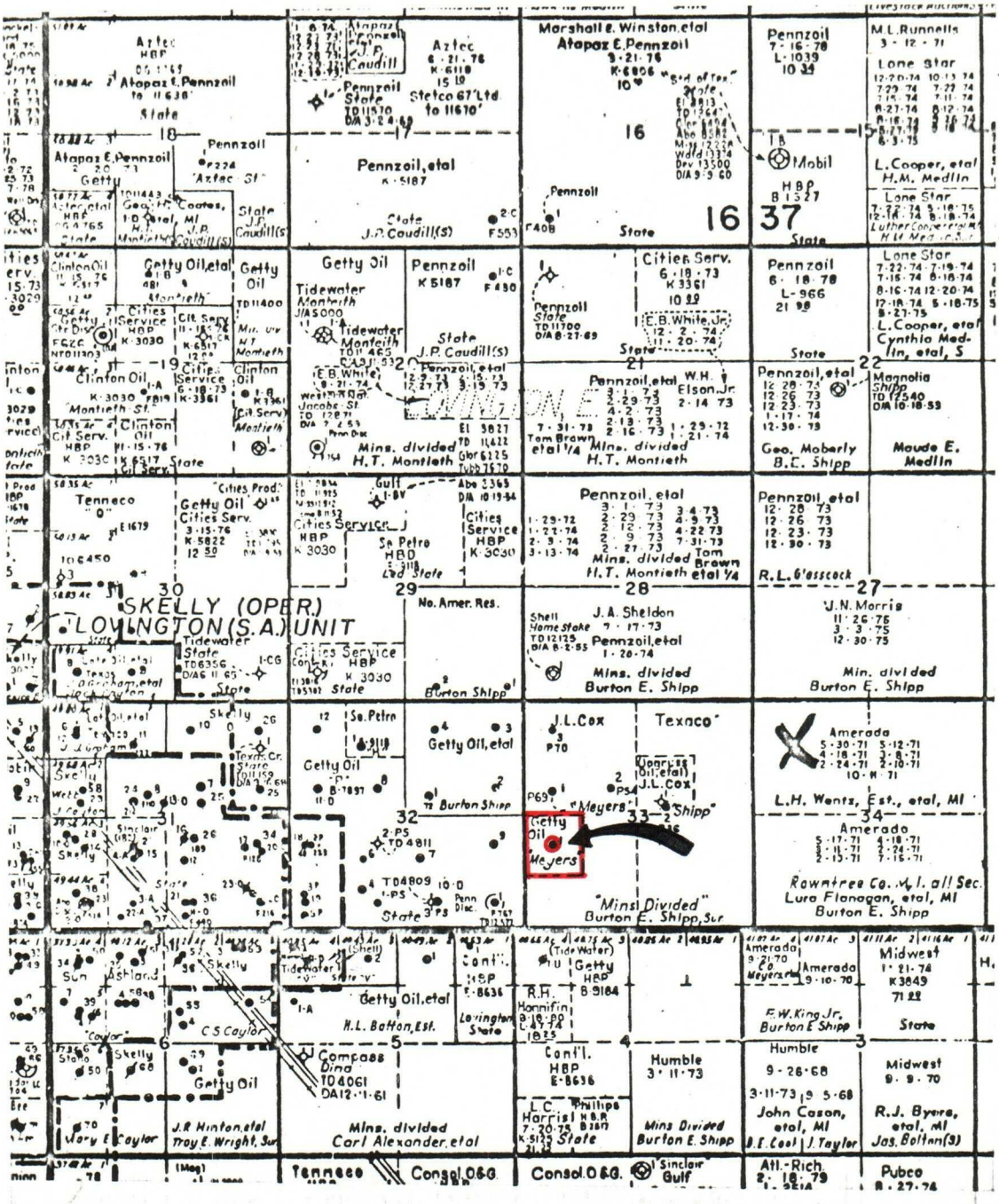
BUBBLE POINT: 1000 est. PSI., SOLUTION GOR AT BUBBLE POINT: 400 est

STROKE LENGTH: 62.5 IN; SPEED (SPM) 14 FVF: 1.22 est.

ADDITION COMMENT: PADDOCK PERS. (6186-6269) OPEN ON CSG. SIDE ABOVE DOC-SET PKR.

Producing 1 month since fracturing

R - 37 - E



GETTY OIL COMPANY
Dora E. Meyers No. 1
Lovington Field
Lea County, New Mexico
Application For Downhole
Commingling (Lovington
Tubb & Lovington Paddock)

NEW MEXICO OIL CONSERVATION COMMISSION

GAS – OIL RATIO TESTS

C-116
Revised 1-1-65

Operator	Pool	County
GETTY OIL COMPANY	LOVINGTON TUBB	LEA

Address	TYPE OF TEST – (X)			
P. O. Box 249, Hobbs, New Mexico 88240	Scheduled ☐	Completion ☐	Special XX

LEASE NAME	WELL NO.	LOCATION U	S	T	R	DATE OF TEST	STATUS	CHOKE SIZE	TBG. PRESS.	DAILY ALLOW-ABLE	LENGTH OF TEST HOURS	PROD. DURING TEST WATER BBLS.	GRAV. OIL	OIL BBLS.	GAS M.C.F.	GAS – OIL RATIO CU.FT./BBL.
DORA E. MEYERS	1	L	33	16-S	37-E	1-7-74	P	-	28	65	24	32	35.1	36	24	667

APPLICATION FOR DOWNHOLE COMMINGLING

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 Commission.

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 Commission 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.

C. R. Wade
(Signature)

AREA SUPERINTENDENT
(Title)

January 21, 1974
(Date)

NEW MEXICO OIL CONSERVATION COMMISSION

GAS - OIL RATIO TESTS

C-116
Revised 1-1-65

Operator	Pool	County
GETTY OIL COMPANY	LOVINGTON PADDOCK	LEA

Address	TYPE OF TEST - (X)			
P.O. BOX 249, HOBBS, NEW MEXICO 88240	Scheduled [ ]	Completion [ ]	Special [XX]

LEASE NAME	WELL NO.	LOCATION U	S	T	R	DATE OF TEST	STATUS	CHOKE SIZE	TBG. PRESS.	DAILY ALLOW-ABLE	LENGTH OF TEST HOURS	PROD. DURING TEST WATER BBLS.	GRAV. OIL	OIL BBLS.	GAS M.C.F.	GAS - OIL RATIO CU.FT./BBL.
DORA E. MEYERS	1	L	33	16-S	37-E	Oct.,1973 Average	P	- -	10	6	24	Trace	33.4	4	3	750

APPLICATION FOR DOWNHOLE COMMINGLING

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 Commission.

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.

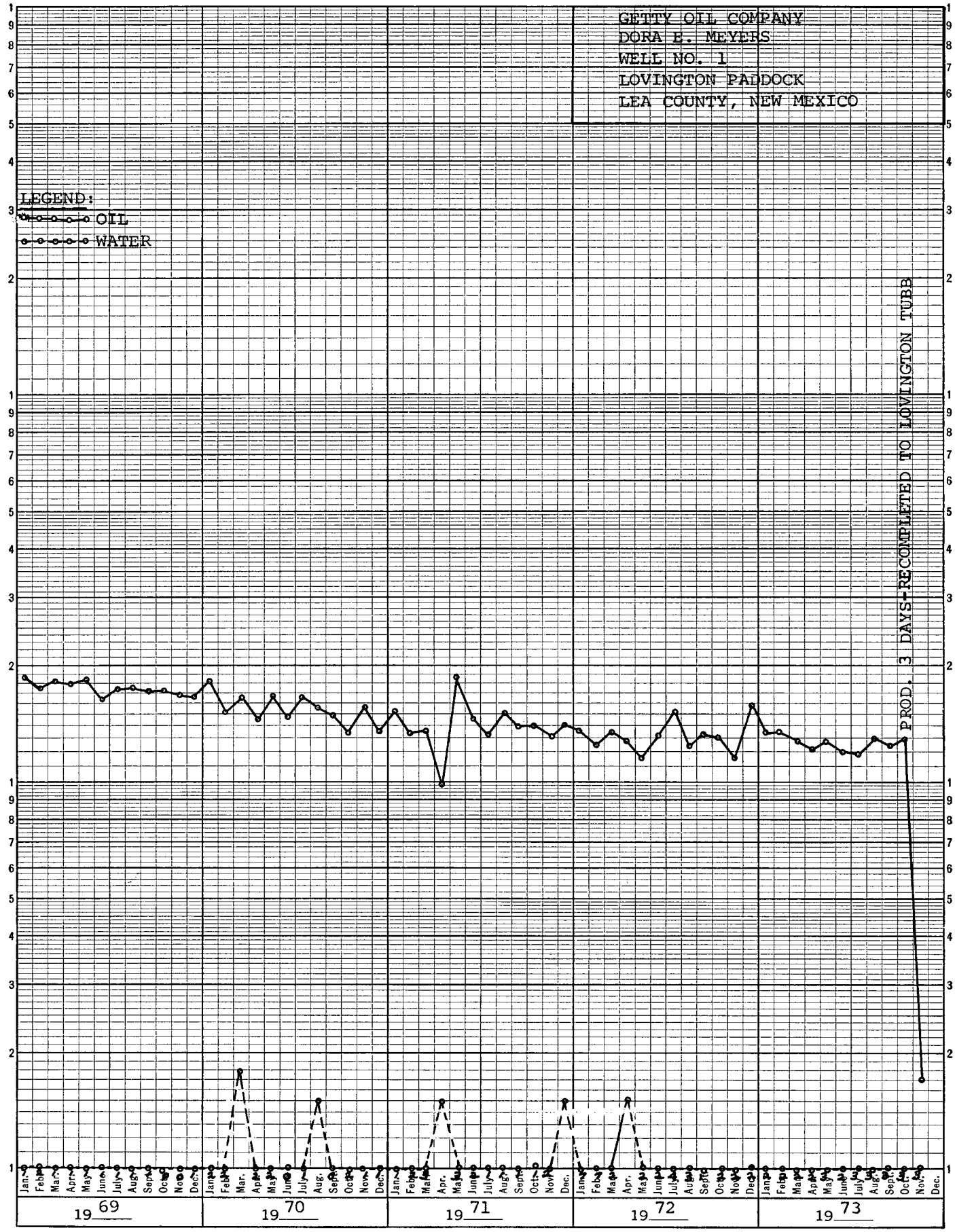
Mail original and one copy of this report to the district office of the New Mexico Oil Conservation Commission in accordance with Rule 301 and appropriate pool rules.

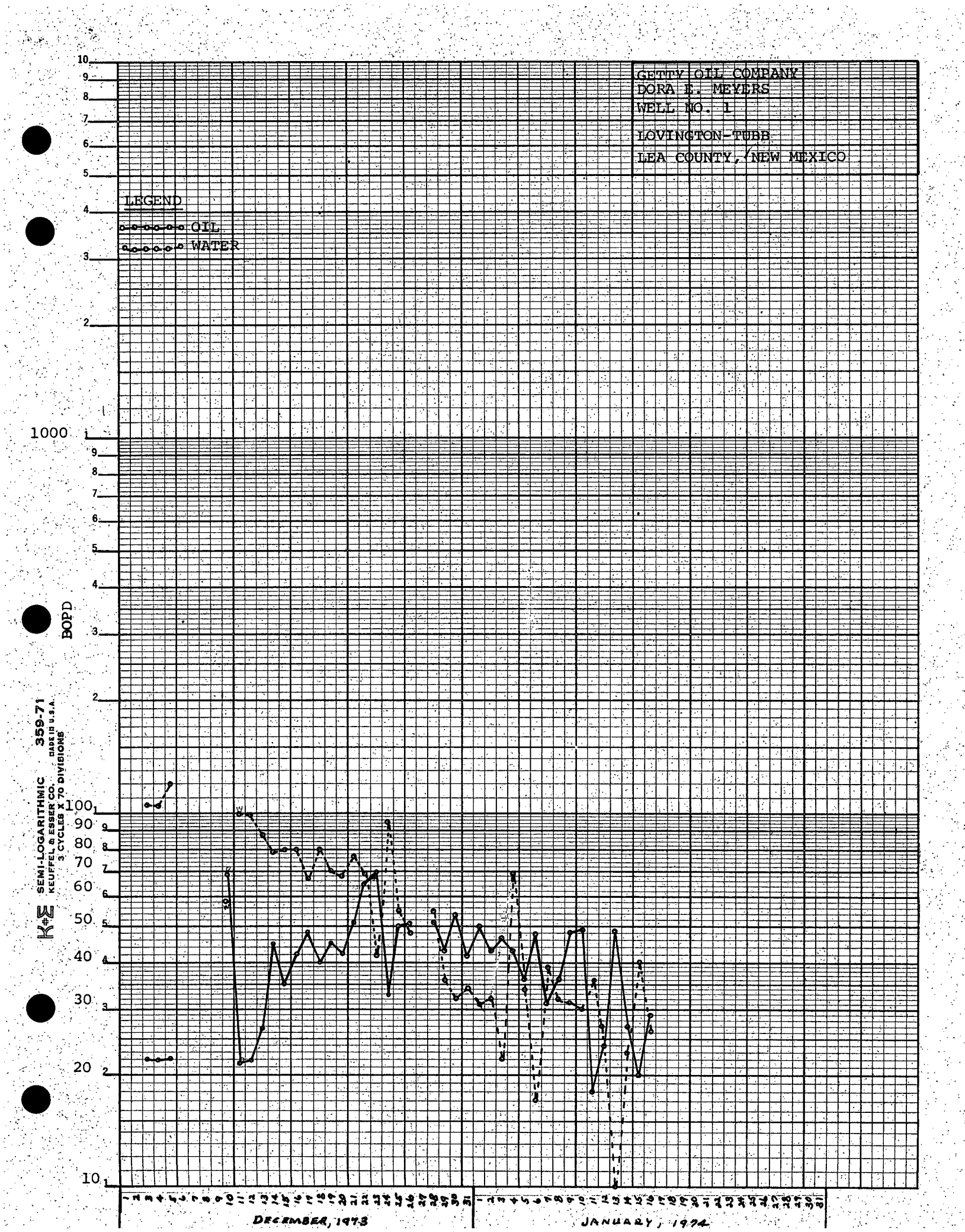
I hereby certify that the above information is true and complete to the best of my knowledge and belief.

C. K. Wade
(Signature)

AREA SUPERINTENDENT
(Title)

January 21, 1974
(Date)




GETTY OIL COMPANY
DORA E. MEYERS
WELL NO. 1
LOVINGTON-TUBB
LEA COUNTY, NEW MEXICO
LEGEND
OIL
WATER
BOPD
1000
100
10
DECEMBER, 1973
JANUARY, 1974
SEMI-LOGARITHMIC
KEUFFEL & ESSER CO.
3 CYCLES X 70 DIVISIONS
359-71
MADE IN U.S.A.

NO. OF COPIES RECEIVED		
DISTRIBUTION		
SANTA FE		
FILE		
U.S.G.S.		
LAND OFFICE		
OPERATOR		

NEW MEXICO OIL CONSERVATION COMMISSION
3-NMOCC
1-File

Form C-103
Supersedes Old C-102 and C-103
Effective 1-1-65

5a. Indicate Type of Lease
State ☐ Fee ☒

5. State Oil & Gas Lease No.

SUNDRY NOTICES AND REPORTS ON WELLS

(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT —" (FORM C-101) FOR SUCH PROPOSALS.)

1. OIL WELL ☒ GAS WELL ☐ OTHER-

7. Unit Agreement Name

2. Name of Operator
GETTY OIL COMPANY

8. Farm or Lease Name
D. E. MEYERS

3. Address of Operator
P. O. BOX 249, HOBBS, NEW MEXICO 88240

9. Well No.
1

4. Location of Well
UNIT LETTER L, 1980 FEET FROM THE SOUTH LINE AND 660 FEET FROM THE WEST LINE, SECTION 33 TOWNSHIP 16-S RANGE 37-E NMPM.

10. Field and Pool, or Wildcat
LOVINGTON TUBB

15. Elevation *(Show whether DF, RT, GR, etc.)*
3798 D.F.

12. County
LEA

16. Check Appropriate Box To Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK ☐	PLUG AND ABANDON ☐	REMEDIAL WORK ☒	ALTERING CASING ☐
TEMPORARILY ABANDON ☐		COMMENCE DRILLING OPNS. ☐	PLUG AND ABANDONMENT ☐
PULL OR ALTER CASING ☐	CHANGE PLANS ☐	CASING TEST AND CEMENT JOB ☐	
OTHER ☐		OTHER ☐	

17. Describe Proposed or Completed Operations *(Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work)* SEE RULE 1103.

Cleaned out to 8136'. Ran Gamma Ray Collar Correlation Log from 8131 to 6000'. Set wireline bridge plug at 8134'. Dumped one sack cement on top of BP. Perforated 5-1/2" casing at 7923', 50, 59, 67, 76, 89; 8001', 19, 39, 45, 54, 72, & 99' with one .39" Golden Jet each. Treated perforations with 3,000 gals. 15% NE Acid, 72,932 gals. 9# Gelled Brine, 48,663# 20-40 sand, 350# Benzoic Acid and 650# rock salt. Swabbed and flowed all but 1449 BLW. Replaced 3-1/2" frac tubing with 2-3/8" OD tubing. Set tubing @ 7760'; packer at 7756'. Ran rods and put on pump.

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

ORIGINAL SIGNED BY:
SIGNED C. L. Wade TITLE AREA SUPERINTENDENT DATE DECEMBER 4, 1973

APPROVED BY _____ TITLE _____ DATE DEC 5 - 1973

CONDITIONS OF APPROVAL, IF ANY:

CLH-WLG/bh