

FILE NOTATIONS

Entered in NID File
Location Map Pinned
Card Indexed

Checked by Chief
Approval Letter
Disapproval Letter

PMB
10-21-71

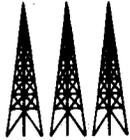
COMPLETION DATA:

Date Well Completed
DW..... WW..... TA.....
GW..... OS..... PA.....

Location Inspected
Bond released
State or Fee Land

LOGS FILED

Driller's Log.....
Electric Logs (No.)
E..... I..... Dual I Lat..... GR-N..... Micro.....
BHC Sonic GR..... Lat..... Mi-L..... Sonic.....
CBLog..... CCLog..... Others.....



MACPET
McKNIGHT PETROLEUM TRUST

October 20, 1971

State of Utah
Department of Natural Resources
Division of Oil and Gas Conservation
348 E. So. Temple
Salt Lake City, Utah

Re: MACPET, Pet. Inc. #14-11 Federal
Section 11, T39S-R21E
San Juan County, Utah

Gentlemen:

MACPET's Application For Permit To Drill the above referenced well was forwarded to your office for approval on October 18, 1971.

We have since received the surveyor's plats for this well and have enclosed herewith two copies of same for your information and records.

Yours very truly,

MACPET

Howard Bush,
District Production Superintendent

jt
Enclosures

AKO

Company... MACPET

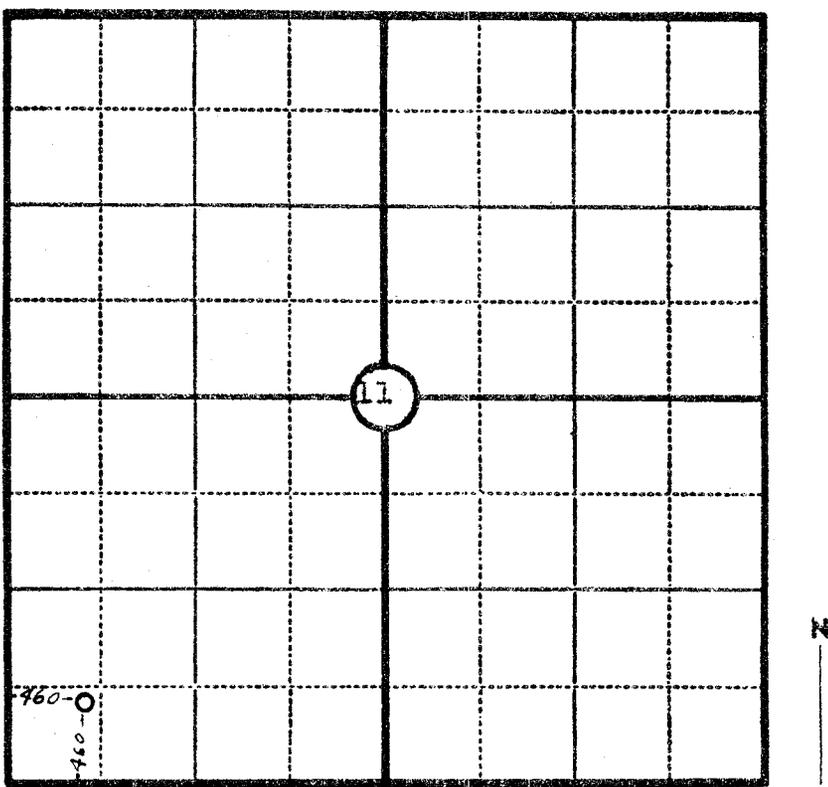
Lease... Pet. Inc. Federal Well No. 14-11 ..

Sec... 11, T. 39.S, R. 21.E

Location 160 feet from the South Line and 160 feet from the West Line.

Elevation... 4796.3

County... San Juan, State... Utah



Scale—4 inches equal 1 mile.

This is to certify that the above plat was prepared from field notes of actual surveys made by me or under my supervision and that the same are true and correct to the best of my knowledge and belief.

Richard G Clark

Seal:

Registered Land Surveyor.
Utah Reg. No. 3034

Surveyed October 11,, 19 71.

ROCKY MOUNTIAN LAND SURVEY, DURANGO, COLORADO

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL & GAS

Utah 074118

5. Lease Designation and Serial No.

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. Type of Work

DRILL

DEEPEN

PLUG BACK

b. Type of Well

Oil Well

Gas Well

Other

Single Zone

Multiple Zone

2. Name of Operator

MACPET

3. Address of Operator

1200 United Bank Center, Denver, Colorado 80202

4. Location of Well (Report location clearly and in accordance with any State requirements.)*
At surface

SWSW (460' FSL & 460' FWL) Sec. 11, *See reverse side.
At proposed prod. zone
Same

14. Distance in miles and direction from nearest town or post office*

Approx. 9 miles north of Bluff, Utah.

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drlg. line, if any)

16. No. of acres in lease

480

17. No. of acres assigned to this well

40

18. Distance from proposed location* to nearest well, drilling, completed, or applied for, on this lease, ft.

19. Proposed depth

6000' ✓

20. Rotary or cable tools

Rotary ✓

21. Elevations (Show whether DF, RT, GR, etc.)

4796.3' Gr.

22. Approx. date work will start*

10-22-71 ✓

Plats will be forwarded under separate cover.

PROPOSED CASING AND CEMENTING PROGRAM

Size of Hole	Size of Casing	Weight per Foot	Setting Depth	Quantity of Cement
12-1/4"	8-5/8" ✓	24#	200' ✓	200 sx. ✓
7-7/8"	5-1/2"	15.5-14#	6000'	200 sx.

1. Drill surface hole of sufficient size to run and cement 200' of 8-5/8" surface casing. Cement to circulate. ✓
2. Drill 7-7/8" hole to a total depth of 6000'. ✓
3. Test all significant shows of oil or gas. ✓
4. If well appears to be productive, run and set a string of 5-1/2" production casing. ✓
5. Designation of operator from Petroleum Inc., to MACPET. ✓
6. B.O.P. to be installed and tested daily. ✓

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24. Signed Howard Bush *Howard Bush* Title Dist. Prod. Supt. Date 10-18-71

(This space for Federal or State office use)

Permit No. 43-037-30071 Approval Date

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

DESIGNATION OF OPERATOR

The undersigned is, on the records of the Bureau of Land Management, holder of lease

DISTRICT LAND OFFICE: Salt Lake City, Utah
SERIAL No.: Utah-074118

and hereby designates

NAME: McKnight Petroleum Trust, a/k/a Macpet
ADDRESS: 1200 Mile High Center, 1700 Broadway, Denver, Colorado 80202

as his operator and local agent, with full authority to act in his behalf in complying with the terms of the lease and regulations applicable thereto and on whom the supervisor or his representative may serve written or oral instructions in securing compliance with the Operating Regulations with respect to (describe acreage to which this designation is applicable):

Township 39 South, Range 21 East, SLM
Section 11: NE $\frac{1}{4}$ NE $\frac{1}{4}$, SE $\frac{1}{4}$ NW $\frac{1}{4}$, SW $\frac{1}{4}$ SW $\frac{1}{4}$, NW $\frac{1}{4}$ SE $\frac{1}{4}$
Section 14: NE $\frac{1}{4}$ NE $\frac{1}{4}$, SE $\frac{1}{4}$ NW $\frac{1}{4}$, SW $\frac{1}{4}$ SW $\frac{1}{4}$, NW $\frac{1}{4}$ SE $\frac{1}{4}$
Section 23: NE $\frac{1}{4}$ NE $\frac{1}{4}$, SE $\frac{1}{4}$ NW $\frac{1}{4}$, SW $\frac{1}{4}$ SW $\frac{1}{4}$, NW $\frac{1}{4}$ SE $\frac{1}{4}$

It is understood that this designation of operator does not relieve the lessee of responsibility for compliance with the terms of the lease and the Operating Regulations. It is also understood that this designation of operator does not constitute an assignment of any interest in the lease.

In case of default on the part of the designated operator, the lessee will make full and prompt compliance with all regulations, lease terms, or orders of the Secretary of the Interior or his representative.

The lessee agrees promptly to notify the supervisor of any change in the designated operator.

PETROLEUM, INC.

BY



(Signature of lessee)
Robert D. Cowdery, Attorney in Fact
500 Colorado State Bank Building
Denver, Colorado 80202

October 13, 1971

(Date)

(Address)

FILE IN DUPLICATE

DIVISION OF OIL & GAS CONSERVATION
OF THE STATE OF UTAH

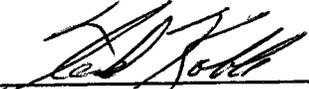
DESIGNATION OF AGENT

The undersigned producer, operator, transporter, refiner, gasoline or initial purchaser who is conducting oil and/or gas operations in the State of Utah, does, pursuant to the Rules and Regulations, and Rules of Practice and Procedure of the Division of Oil and Gas Conservation of the State of Utah, hereby appoint, Clyde Miller Sec. of State, whose address is State Capitol Bldg. Salt Lake City, Utah, ~~(his, her, or its)~~ designated agent to accept and to be served with notices from said Board, or from other persons authorized under the Oil and Gas Conservation Act of the State of Utah.

The undersigned further agrees to immediately report in writing, all changes of address of the agent, and any termination of the agent's authority, and in the latter case, the designation of a new agent or agents shall be immediately made. This designation of agent, however, shall remain in full force and effect until and unless a new designation agent is filed in accordance with said statute and said regulations.

Effective Date of Designation 10-20-71

Company MACPET Address 1200 United Bank Center, Denver, Colo. 80202

By  Ted Koble Title District Production Superintendent
(Signature)

NOTE: Agent must be a resident of Utah.

October 21, 1971

MACPET
1200 United Bank Center
Denver, Colorado 80202

Re: Well No. Federal #14-11 Pet.
Inc.
Sec. 11, T. 39 S, R. 21 E,
San Juan County, Utah

Gentlemen:

Insofar as this office is concerned, approval to drill the above mentioned well is hereby granted in accordance with the topographical exception under Rule C-3(c), General Rules and Regulations and Rules of Practice and Procedure.

Should you determine that it will be necessary for you to plug and abandon this well, you are hereby requested to immediately notify the following:

PAUL W. BURCHELL-Chief Petroleum Engineer
HOME: 277-2890
OFFICE: 328-5771

This approval terminates within 90 days if the well has not been spudded-in within said period.

Enclosed please find Form OGC-8-X, which is to be completed whether or not water sands (aquifers) are encountered during drilling.

The API number assigned to this well is 43-037-30071.

Very truly yours,

DIVISION OF OIL & GAS CONSERVATION

CEEON B. FEIGHT
DIRECTOR

CBF:sd
cc: U.S. Geological Survey

12/13/71

Howard Bush - McPet. Oil Co.
sec 11 39S 21E - In Jan Co.

dry hole / casing T.D - 5900

"H.S.G.S."

270' of 9 5/8" casing
4 1/2' of prod casing

Perfs.
5780-56
acidized
tubed 2" and
small perforations

1) 15 nb at 5750 - across perp. net @ 5900
to 5650

2) 35 nb at 4825 to 4725

squeezed in
Perf. near hb
5756-62
net -> CIB
5750
Perf 2
5714

3) 35 nb at 2 4500' or at above.
shut

4) 35 nb @ 2825 to 2925
across De Chely

5) 50 nb @ 1500 to 1650 base of
Haraji

6) Well/maker left for water well
for BLM.

Location

open hb from 20 to 1500 - water in
Haraji

PMB

STATE OF UTAH
OIL & GAS CONSERVATION COMMISSION

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

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—" for such proposals.)

<p>1. OIL WELL <input type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input checked="" type="checkbox"/> Dry</p> <p>2. NAME OF OPERATOR MACPET</p> <p>3. ADDRESS OF OPERATOR 1200 United Bank Center, Denver, Colorado 80202</p> <p>4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface 460' FSL & 460' FWL Section 11</p>		<p>5. LEASE DESIGNATION AND SERIAL NO. Utah - 074118</p> <p>6. IF INDIAN, ALLOTTEE OR TRIBE NAME</p> <p>7. UNIT AGREEMENT NAME</p> <p>8. FARM OR LEASE NAME Pet. Inc. Federal</p> <p>9. WELL NO. #14-11</p> <p>10. FIELD AND POOL, OR WILDCAT Wildcat</p> <p>11. SEC., T., R., M., OR BLE. AND SURVEY OR AREA Sec. 11, T39S-R21E</p>
<p>14. PERMIT NO.</p>	<p>15. ELEVATIONS (Show whether DF, RT, GR, etc.) 4796' GR</p>	<p>12. COUNTY OR PARISH San Juan</p> <p>13. STATE Utah</p>

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

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input checked="" type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input checked="" type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(Other) _____	

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

17. 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.)*

Proposal to plug and abandon well in the following manner:

- Plug #1 15 sax cement @ 5750'-5650'
- Plug #2 35 sax cement @ 4725'-4825'
- Plug #3 35 sax cement @ top of casing stub
- Plug #4 35 sax cement @ 2825'-2925'
- Plug #5 50 sax cement @ 1500'-1650'

Well will be capped with dry hole marker in place for use by B.L.M. as a water well.

Location to be cleaned and leveled.

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

SIGNED Howard Bush TITLE Dist. Prod. Superintendent DATE 12/13/71

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

SUBMIT IN DUPLICATE*

(See other instructions on reverse side)

STATE OF UTAH OIL & GAS CONSERVATION COMMISSION

GI
PMB
W

WELL COMPLETION OR RECOMPLETION REPORT AND LOG *

1a. TYPE OF WELL: OIL WELL GAS WELL DRY Other _____

b. TYPE OF COMPLETION: NEW WELL WORK OVER DEEP-EN PLUG BACK DIFF. RESVR. Other _____

2. NAME OF OPERATOR

MACPET

3. ADDRESS OF OPERATOR

1200 United Bank Center, Denver, Colorado 80202

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)*

At surface
460' FSL & 460' FWL Section 11
At top prod. interval reported below
Same
At total depth

14. PERMIT NO. DATE ISSUED
Same 10/18/71

5. LEASE DESIGNATION AND SERIAL NO.

UTAH-074118

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Pet. Inc. - Federal

9. WELL NO.

14-11

10. FIELD AND POOL, OR WILDCAT

Wildcat

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA

Sec. 11, T39S, R21E

12. COUNTY OR PARISH
San Juan
13. STATE
Utah

15. DATE SPUDDED 10/31/71
16. DATE T.D. REACHED 11/23/71
17. DATE COMPL. (Ready to prod.) Dry
18. ELEVATIONS (DF, RKB, RT, GR, ETC.)* 4796' Gr.
19. ELEV. CASINGHEAD 4796' Gr.

20. TOTAL DEPTH, MD & TVD 5900'
21. PLUG, BACK T.D., MD & TVD 5750'
22. IF MULTIPLE COMPL., HOW MANY*
23. INTERVALS DRILLED BY Rotary
ROTARY TOOLS CABLE TOOLS

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*

25. WAS DIRECTIONAL SURVEY MADE

No

26. TYPE ELECTRIC AND OTHER LOGS RUN

27. WAS WELL CORED

Yes

BHC Acoustic Log, Sidewall Neutron & G R., Dual Induction

28. CASING RECORD (Report all strings set in well)

CASING RECORD			CEMENTING RECORD			AMOUNT PULLED
CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE			
9-5/8"	32.3	270'	13-3/4"	140 sx reg cmt. 2% gel		None
4-1/2"	10.5	5900'	7-7/8"	250 Class "A" 10% salt		4810'

29. LINER RECORD					30. TUBING RECORD		
SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)

31. PERFORATION RECORD (Interval, size and number)		32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.	
DEPTH	INTERVAL (MD)	DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
5780'	- 86' w/ 12 holes	5780' - 86'	1000 gal B.D. acid
5756'	- 62' w/ 12 holes	5756' - 62'	1000 gal B.D. acid
5714'	- 26' w/ 24 holes	5714' - 26'	1000 gal 15% HCL
		5780' - 86'	30 sx cmt squeeze

33.* PRODUCTION 5750' Baker Mod. "N" Bridge Plug.

DATE FIRST PRODUCTION Dry PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump) WELL STATUS (Producing or shut-in)

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.) TEST WITNESSED BY

35. LIST OF ATTACHMENTS

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED Howard Bush Howard Bush TITLE Dist. Prod. Supt DATE 12/21/71

*(See Instructions and Spaces for Additional Data on Reverse Side)



CORE LABORATORIES, INC. *Petroleum Reservoir Engineering*

COMPANY MAGPET FIELD WILDCAT FILE RP-3-2510
WELL #11-11 PETROLEUM, INC. - FEDERAL COUNTY SAN JUAN DATE 11-19-71
LOCATION SW SW SEC 11-T39S-R21 E STATE UTAH ELEV. 4808'KB

CORE-GAMMA CORRELATION

These analyses, opinions or interpretations are based on observations and material supplied by the client to whom, and for whose exclusive and confidential use, this report is made. The interpretations or opinions expressed represent the best judgment of Core Laboratories, Inc. (all errors and omissions excepted); but Core Laboratories, Inc. and its officers and employees, assume no responsibility and make no warranty or representations as to the productivity, proper operation, or profitability of any oil, gas or other mineral well or sand in connection with which such report is used or relied upon.

VERTICAL SCALE: 5" = 100'

CORE-GAMMA SURFACE LOG (PATENT APPLIED FOR)

GAMMA RAY
RADIATION INCREASE
→

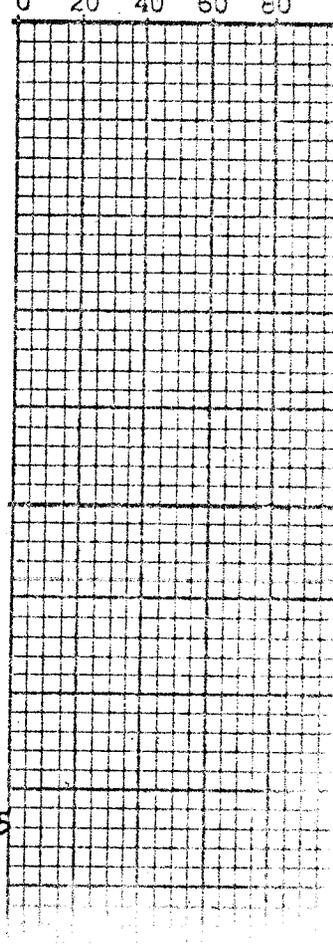
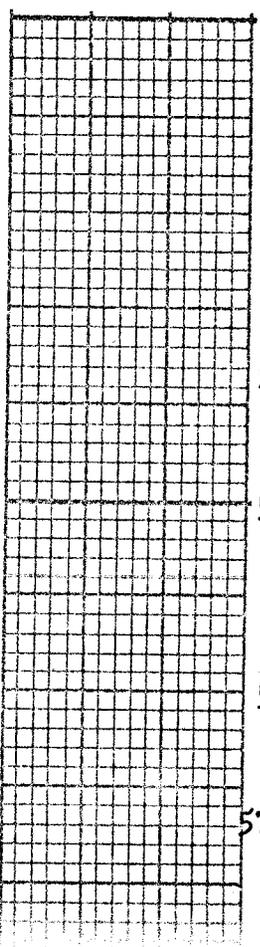
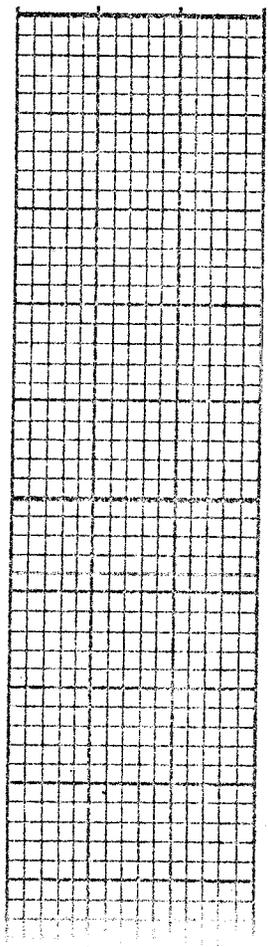
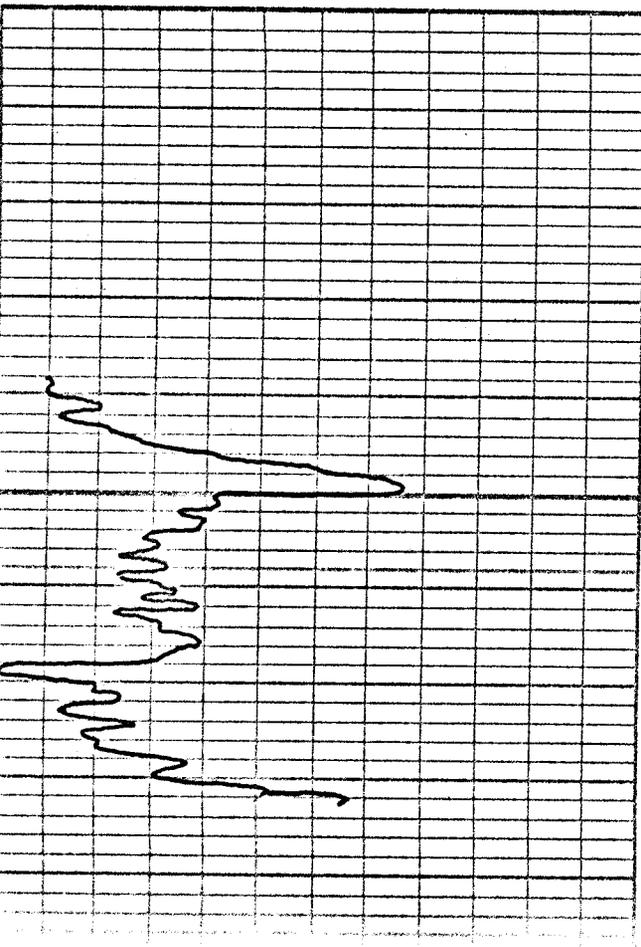
COREGRAPH

PERMEABILITY
MILLIDARCYs

POROSITY
PERCENT

TOTAL WATER
PERCENT TOTAL WATER
80 60 40 20 0

OIL SATURATION
PERCENT PORE SPACE
0 20 40 60 80



CORE ANALYSIS RESULTS

Company MACPET Formation LOWER ISMAY File RP-3-2510
 Well #14-11 PETROLEUM, INC. - FEDERAL Core Type DIAMOND 4" Date Report 11-19-71
 Field WILDCAT Drilling Fluid WATER BASE MUD Analysts RG
 County SAN JUAN State UTAH Elev. 4808'KB Location SW SW SEC 11-T39S-R21E

Lithological Abbreviations

SAND-SD SHALE-SM LIME-LM	DOLOMITE-DOL CHERT-CN GYPSUM-GYP	ANHYDRITE-ANHY CONGLOMERATE-CONG FOSSILIFEROUS-FOSS	SANDY-SDY SHALY-SHY LIMY-LMY	FINE-FN MEDIUM-MED COARSE-CSE	CRYSTALLINE-XLN GRAIN-GRN GRANULAR-GRNL	BROWN-BRN GRAY-GY VUGGY-VGY	FRACTURED-FRAC LAMINATION-LAM STYLOLITIC-STY	SLIGHTLY-SL/ VERY-V/ WITH-W/
--------------------------------	----------------------------------------	-----------------------------------------------------------	------------------------------------	-------------------------------------	-----------------------------------------------	-----------------------------------	----------------------------------------------------	------------------------------------

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCYS (KA)	POROSITY PER CENT	RESIDUAL SATURATION PER CENT PORE		SAMPLE DESCRIPTION AND REMARKS
				OIL	TOTAL WATER	

CONVENTIONAL ANALYSIS

1	5698-99	0.01	2.6	26.9	65.6	Lm Drk Gy V/Fn Xln Foss Shy	
2	5699-00	0.05	5.0	34.0	58.0	Lm Drk Gy V/Fn Xln Foss Shy	
3	5700-01	0.02	3.0	23.3	70.0	Lm Drk Gy V/Fn Xln Foss Shy	
4	01-02	0.01	1.9	26.2	68.3	Lm Drk Gy V/Fn Xln Shy	
5	02-03	<0.01	1.5	33.3	60.0	Lm Drk Gy V/Fn Xln Shy	
6	03-04	<0.01	1.0	0.0	90.0	Lm Gy V/Fn Xln	Frac
7	04-05	<0.01	1.5	33.3	60.0	Lm Drk Gy V/Fn Xln Shy Foss	
8	05-06	<0.01	1.5	33.3	60.0	Lm Drk Gy V/Fn Xln Shy Foss	
9	06-07	0.02	5.0	66.0	30.0	Lm Drk Gy V/Fn Xln Shy Foss	
10	07-08	<0.01	2.0	50.0	45.0	Lm Drk Gy V/Fn Xln Shy Foss	
11	08-09	<0.01	2.2	31.8	59.0	Lm Drk Gy V/Fn Xln Shy Foss	
12	09-10	<0.01	1.9	36.8	57.9	Lm Drk Gy V/Fn Xln Shy Foss	
13	10-11	0.01	3.2	40.7	53.1	Lm Drk Gy V/Fn Xln Shy Foss	
14	11-12	<0.01	2.1	33.2	52.3	Lm Drk Gy V/Fn Xln Shy Foss	
15	12-13	0.01	2.6	34.6	50.0	Lm Drk Gy V/Fn Xln Shy Foss	
16	13-14	<0.01	1.8	13.9	61.0	Lm Drk Gy V/Fn Xln Shy Foss	
17	14-15	0.01	2.3	30.4	65.1	Lm Drk Gy V/Fn Xln Shy Foss	
18	15-16	<0.01	2.0	35.0	55.0	Lm Drk Gy V/Fn Xln Shy Foss	
19	16-17	<0.01	4.3	67.3	23.2	Lm Drk Gy V/Fn Xln Shy Foss	
20	17-18	0.01	3.1	48.3	32.2	Lm Drk Gy V/Fn Xln Shy Foss	
21	18-19	<0.01	2.6	46.2	38.4	Lm Drk Gy V/Fn Xln Shy Foss	
22	19-20	<0.01	2.0	50.0	35.0	Lm Drk Gy V/Fn Xln Shy Foss	
23	20-21	<0.01	1.3	38.5	53.9	Lm Drk Gy V/Fn Xln Shy Foss	
24	21-22	0.01	2.3	56.5	39.1	Lm Drk Gy V/Fn Xln Shy Foss	
25	22-23	0.01	3.3	78.7	18.2	Lm Drk Gy V/Fn Xln Shy Foss	
26	23-24	<0.01	1.0	0.0	90.0	Lm Gy V/Fn Xln Sl/Shy Foss	
27	24-25	<0.01	0.9	11.1	77.9	Lm Gy V/Fn Xln Sl/Shy Foss	Frac
28	25-26	<0.01	1.1	9.1	81.9	Lm Gy V/Fn Xln Sl/Shy Foss	Frac
29	26-27	<0.01	1.4	14.3	78.6	Lm Drk Gy V/Fn Xln Shy Foss	Frac
30	27-28	<0.01	1.6	25.0	68.7	Lm Drk Gy V/Fn Xln Shy Foss	Frac
31	28-29	<0.01	1.4	14.3	78.6	Lm Drk Gy V/Fn Xln Shy Foss	Frac
32	29-30	<0.01	1.7	29.3	64.7	Lm Drk Gy V/Fn Xln Shy Foss	
33	30-31	<0.01	1.9	26.3	68.3	Lm Drk Gy V/Fn Xln Shy Foss	

These analyses, opinions or interpretations are based on observations and materials supplied by the client to whom, and for whose exclusive and confidential use, this report is made. The interpretations or opinions expressed represent the best judgment of Core Laboratories, Inc. (all errors and omissions excepted); but Core Laboratories, Inc. and its officers and employees, assume no responsibility and make no warranty or representations, as to the productivity, proper operations, or profitability of any oil, gas or other mineral well or sand in connection with which such report is used or relied upon.

Comments relative to the analysis of the pressure chart from DST #2, Interval: 5732-5790', in the MACPET, Petroleum Inc. -Federal #14-11, SW SW Section 11, T39S-R21E, San Juan County, Utah:

1. The indicated low permeability of the interval tested and the use of insufficient shut-in time for the Initial Shut-in period prevented the development of a pressure build-up curve with adequate character for reliable extrapolation results. It is indicated that "steady-state" conditions were not attained during the Initial Shut-in period.

Extrapolation of the Final Shut-in pressure build-up curve indicates a maximum reservoir pressure of 2320 psi at the recorder depth of 5780 feet. This extrapolated pressure is consistent with other pressure data from tests of the Lower Ismay in the general area of this test.

2. The calculated Average Production Rate of 14.4 BPD is based on the total liquid recovery of 0.9 barrels and the Final Flowing time of 90 minutes.
3. The calculated Damage Ratio of 0.47 indicates that no significant well-bore damage was present at the time of this formation test.
4. The calculated Effective Transmissibility of 2.71 md. -ft./cp. indicates an Average Permeability of 0.05 md./cp. for the total 58 feet of interval tested.
5. The evaluation criteria used in the Drill-Stem-Test Analysis System indicate that the results obtained in this analysis should be reliable within reasonable limits relative to the assumptions which have been made.

ROGER L. HOEGER
CONSULTING GEOLOGIST

3697 EAST FAIR PLACE

LITTLETON, COLORADO 80121

PHONE (303) 771-4753

Drill-Stem-Test Pressure Analysis Report

LOCATION: T39S - R21E, SW SW Section 11	TIME OPEN: Initial: 15 Minutes Final: 90 Minutes	FILE NUMBER: Special
COUNTY AND STATE: UTAH, SAN JUAN	INITIAL SHUT-IN TIME: 60 Minutes	I. D. NUMBER: V-2679
COMPANY: MACPET	FINAL SHUT-IN TIME: 120 Minutes	DATE COMPUTED: 11-24-71
LEASE AND WELL NUMBER: Petroleum Inc. -Federal #14-11	TEST NUMBER: 2	DATE TESTED: 11-22-71
FORMATION TESTED: Lower Ismay	INTERVAL TESTED: 5732-5790 (Straddle)	ELEVATION: KB 4808

RECOVERY:
80 ft. slightly oil- & gas-cut mud, 100 ft. heavily oil- & gas-cut mud.
No gas to surface.

HOLE, TOOL AND RECOVERY DATA

DRILL-PIPE CAPACITY (Barrels per foot)	0.0142	FEET OF MUD	80.	MUD PERCENTAGE %	44.0
DRILL-COLLAR CAPACITY (Barrels per foot)	0.0049	FEET OF WATER		WATER PERCENTAGE %	
DRILL-COLLAR FOOTAGE (Feet)	530.	FEET OF OTHER	o & gcm 100.	OTHER PERCENTAGE %	56.0
HOLE DIAMETER (Inches)	7.875	FEET OF OIL		OIL PERCENTAGE %	
PIPE FOOTAGE EQUIVALENT TO ANNULUS (Feet)	---	FEET OF CUSHION		FORMATION RECOVERY PERCENTAGE %	---
INTERVAL THICKNESS (Feet)	58.	TOTAL RECOVERY (Feet)	180.	AVERAGE PRODUCTION RATE (Barrels per day)	14.4
MUD WEIGHT (Pounds per gallon)	9.3	CAPACITY OF ANNULUS (Barrels)	3.5		
EFFECTIVE FLOWING TIME (Minutes)	90.	GROSS RECOVERY VOLUME (Barrels)	0.9		
				RECOVERY LESS THAN ANNULAR VOLUME, (X)	<input checked="" type="checkbox"/>

GAUGE SUMMARY

RECORDER NUMBER 3697	DEPTH: 5780'	DATUM: -972'
-------------------------	-----------------	-----------------

KEY POINT SUMMARY

First Flow	
INITIAL FLOWING PRESSURE: psig	65.
FINAL FLOWING PRESSURE: psig	81.
Second Flow	
INITIAL FLOWING PRESSURE: psig	102.
FINAL FLOWING PRESSURE: psig	136.
INITIAL SHUT-IN PRESSURE: psig	2121.
FINAL SHUT-IN PRESSURE: psig	2163.
INITIAL HYDROSTATIC MUD PRESSURE: psig	2848.
FINAL HYDROSTATIC MUD PRESSURE: psig	2804.

EXTRAPOLATION SUMMARY

INITIAL (t+θ)/θ CALCULATED FROM MEASURED DATA:	1.25
NUMBER OF POINTS USED FOR INITIAL CURVE-FIT:	----
SLOPE OF INITIAL BUILD-UP CURVE: psi/cycle	----
INITIAL EXTRAPOLATED PRESSURE: psig	Indeterminate
FINAL (t+θ)/θ CALCULATED FROM MEASURED DATA:	1.50
NUMBER OF POINTS USED FOR FINAL CURVE-FIT:	3.
SLOPE OF FINAL BUILD-UP CURVE: psi/cycle	865.
FINAL EXTRAPOLATED PRESSURE: psig	2320.

SUMMARY OF RESULTS

EFFECTIVE TRANSMISSIBILITY, kh/μ: md ft per cp	2.71
INDICATED AVERAGE PERMEABILITY, k/μ: md/cp	0.05 (for 58' effect. φ)
PRODUCTIVITY INDEX: Barrels per day per psi	0.007
DAMAGE RATIO:	0.47
FLOWING PRESSURE COMPARISON: %	176.1
INITIAL POTENTIOMETRIC SURFACE: feet	----
FINAL POTENTIOMETRIC SURFACE: feet	4434.
INITIAL MUD PRESSURE COMPARISON: %	98.1
FINAL MUD PRESSURE COMPARISON: %	99.7

sw sw 11, 39S-21E

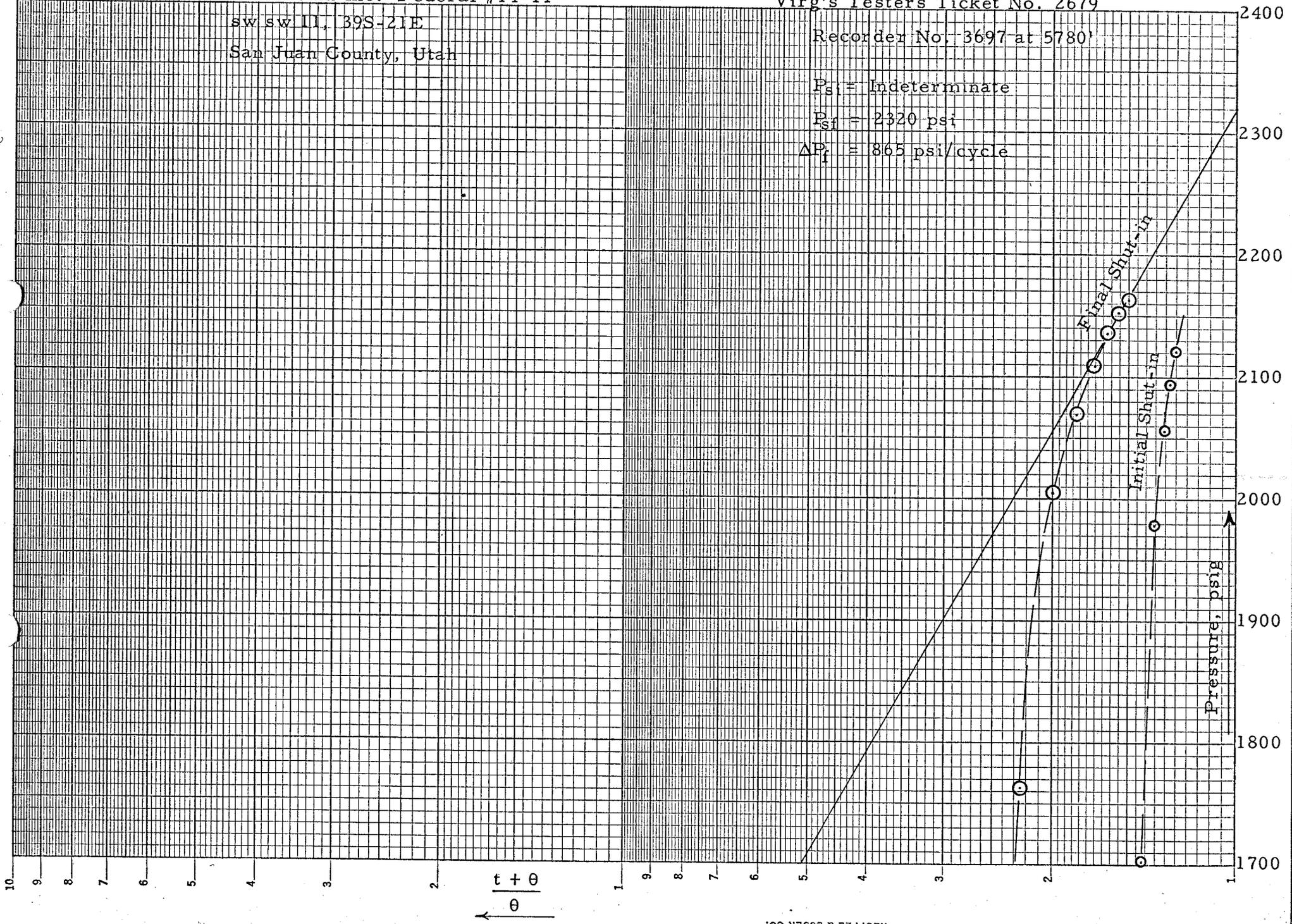
San Juan County, Utah

Recorder No. 3697 at 5780'

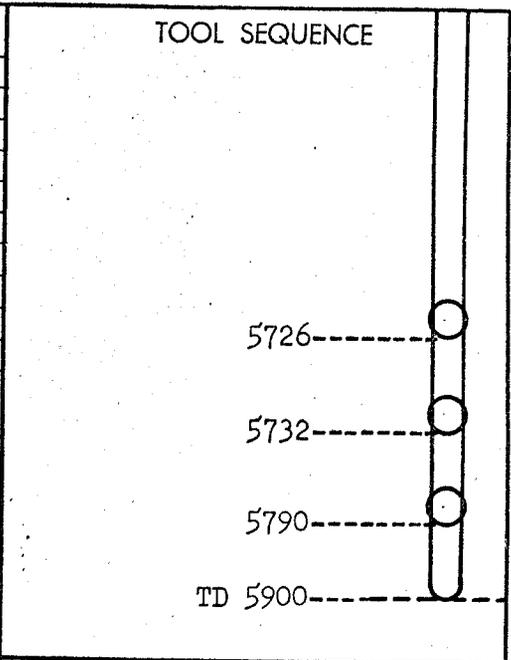
P_{si} = Indeterminate

P_{sf} = 2320 psi

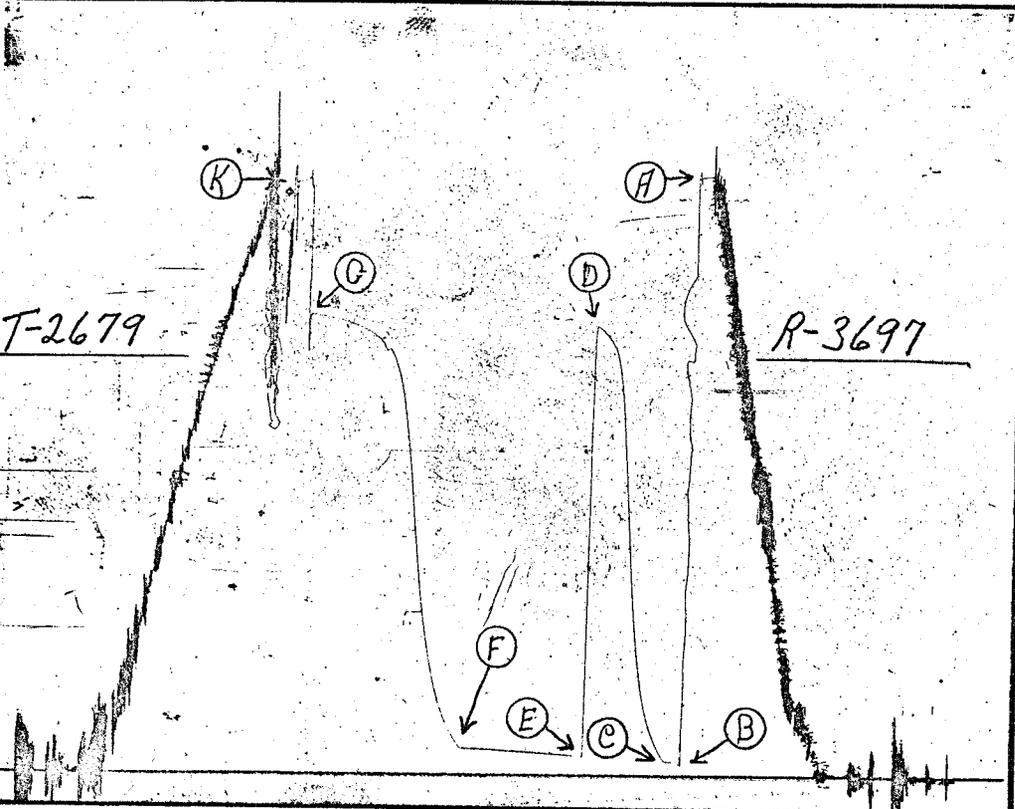
ΔP_f = 865 psi/cycle



Contractor Loffland Bros. Top Choke 1"
 Rig No. 20 Bottom Choke 9/16"
 Spot SW-SW Size Hole 7 7/8"
 Sec. 11 Size Rat Hole None
 Twp. 39 S Size & Wt. D. P. 1 1/2" 16.60
 Rng. 21 E Size Wt. Pipe None
 Field Wildcat I. D. of D. C. 2 1/4"
 County San Juan Length of D. C. 530'
 State Utah Total Depth 5900'
 Elevation 4808' K. B. Interval Tested 5732-5790
 Formation "Lower Ismay" Sand Type of Test Straddle
 Tool Open @ 12:45 P.M.
 Flow #1 15 Min. SIP #1 60 Min. Flow #2 90 Min. SIP #2 120 Min.
 Flow #3 _____ Min. SIP #3 _____ Min. Flow #4 _____ Min. SIP #4 _____ Min.
 B. H. T. 139° Gravity _____
 Mud Wt. 9.3 Viscosity 50



Operator _____
 Macept _____
 Address _____
 See Distribution _____
 Well Name and No. Petroleum-Federal #11-11
 Ticket No. 2679
 Date 11-22-71
 DST No. 2
 No. Final Copies 13



PRD Make Kuster AK-1
 No. 3697 Cap. 3700 @ 5780
 Press Field Corrected

IH	A	2814	2848
FH	K	2816	2804
Flow #1-IF	B	46	65
FF	C	83	81
SIP #1	D	2127	2121
Flow #2-IF	E	92	102
FF	F	130	136
SIP #2	G	2165	2163
Flow #3-IF	H	None	Taken
FF	I	"	"
SIP #3	J	"	"
Pressure Below Bottom Packer Bled To			2932
Our Tester:	<u>B. J. Bobbitt</u>		
Witnessed By:	<u>Joe Kirn</u>		

RECOVERY IN PIPE DID WELL FLOW - Gas No Oil No Water No

180' Total fluid
 80' Slightly oil & gas-cut mud = .39 Bbl.
 100' Heavily oil & gas-cut mud = .49 Bbl.

REMARKS:
 1st Flow - Tool opened with a weak blow, increasing to a good blow (under 5" water).
 2nd Flow - Tool opened with a weak blow, increasing to a strong blow in 5 minutes (blowing off bottom of bucket). Strong blow steady to end of test.

Corrected pressures in 6 & 12 minute increment readings on following page.

MACPET
Petroleum-Federal #14-11 DST #2 Ticket #2679

Initial Shut-in

6 mins.	143 lbs.
12 "	221 "
18 "	340 "
24 "	577 "
30 "	1040 "
36 "	1702 "
42 "	1979 "
48 "	2056 "
54 "	2094 "
60 "	2121 "

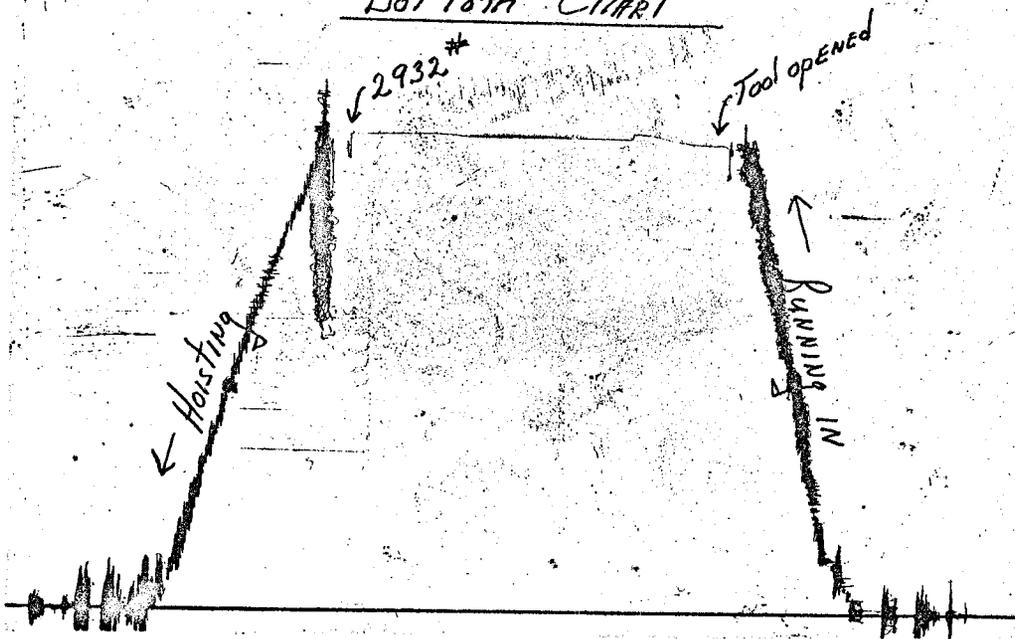
Final Shut-in

12 mins.	252 lbs.
24 "	487 "
36 "	958 "
48 "	1763 "
60 "	2005 "
72 "	2069 "
84 "	2109 "
96 "	2136 "
108 "	2152 "
120 "	2163 "

T-2679

R-3811

Bottom Chart



MACPET

Petroleum-Federal #14-11 DST #2 Ticket #2679

This recorder blanked off below the bottom packer and since pressure bled to only 2932 lbs., which is more than the shut-in pressure, the bottom packer held. Recorder No. 3811

Fluid Sample Report

Date 11-22-71 Ticket No. 2679

Company Macpet

Well Name & No. Petroleum-Federal #14-11 DST No. 2

County San Juan State Utah

Sampler No. 13 Test Interval 5732-5790

Pressure in Sampler 57 PSIG BHT 139 OF

Total Volume of Sampler:..... 2250 cc.

Sample:..... 2000 cc.

Oil:..... 150 Free Oil cc.

Water:..... None cc.

Mud:..... 1850 Heavily Oil & Gas-cut cc.

Gas:..... 1.0 cu. ft.

Other:..... None

Resistivity

Water: @ of Chloride Content ppm.

Mud Pit Sample 2.09 @ 75° of Chloride Content 2725 ppm.

Gas/Oil Ratio Gravity 47 °API @ 60 OF

Where was sample drained Location

Remarks:

.....

.....

.....

.....

.....

DISTRIBUTION OF FINAL DST REPORTS

Company Operating Well Macpet Tkt. No. 2679
Lease Petroleum-Federal Well No. 14-11 Field Wildcat
County San Juan State Utah Sec. 11 Twp. 39 S Rng. 21 E Spot SW-SW
DST. No. 2 Date of Test 11-22-71 Interval Tested 5732-5790

BE SURE AND SHOW CORRECT ADDRESS AND NUMBER OF COPIES. STATE ADDRESS TO WHICH ORIGINAL CHART WILL BE MAILED.

Original & 1 copy: Macpet, 1200 United Bank Center, Denver, Colo. 80202
2 copies: Prudential Funds, Inc., % Bartling & Assoc., 720 Executive Plaza, 4615 SW Freeway,
Houston, Texas 77027
5 copies: Petroleum, Inc., 500 Colorado State Bank Bldg., Denver, Colo. 80202
2 copies: Utah Oil & Gas Cons. Comm., 1588 West North Temple, Salt Lake City, Utah 84116
2 copies: U. S. Geological Survey, 8416 Federal Bldg., Salt Lake City, Utah 84111

Our Tester _____ Approved by _____

Contractor Loffland Bros. Top Choke 1"
 Rig No. 20 Bottom Choke 9/16"
 Spot SW-SW Size Hole 7 7/8"
 Sec. 11 Size Rat Hole None
 Twp. 39 S Size & Wt. D. P. 1 1/2" 16.60
 Rng. 21 E Size Wt. Pipe None
 Field Wildcat I. D. of D. C. 2 1/2"
 County San Juan Length of D. C. 589'
 State Utah Total Depth 5738'
 Elevation 4808' K.B. Interval Tested 5660-5738
 Formation "Lower Ismay" Sand Type of Test Straight
 Tool Open @ 10:00 P M.
 Flow #1 15 Min. SIP #1 45 Min. Flow #2 60 Min SIP #2 90 Min.
 Flow #3 _____ Min. SIP #3 _____ Min. Flow #4 _____ Min. SIP #4 _____ Min.
 B. H. T. 138° Gravity _____
 Mud Wt. 9.3 Viscosity 45

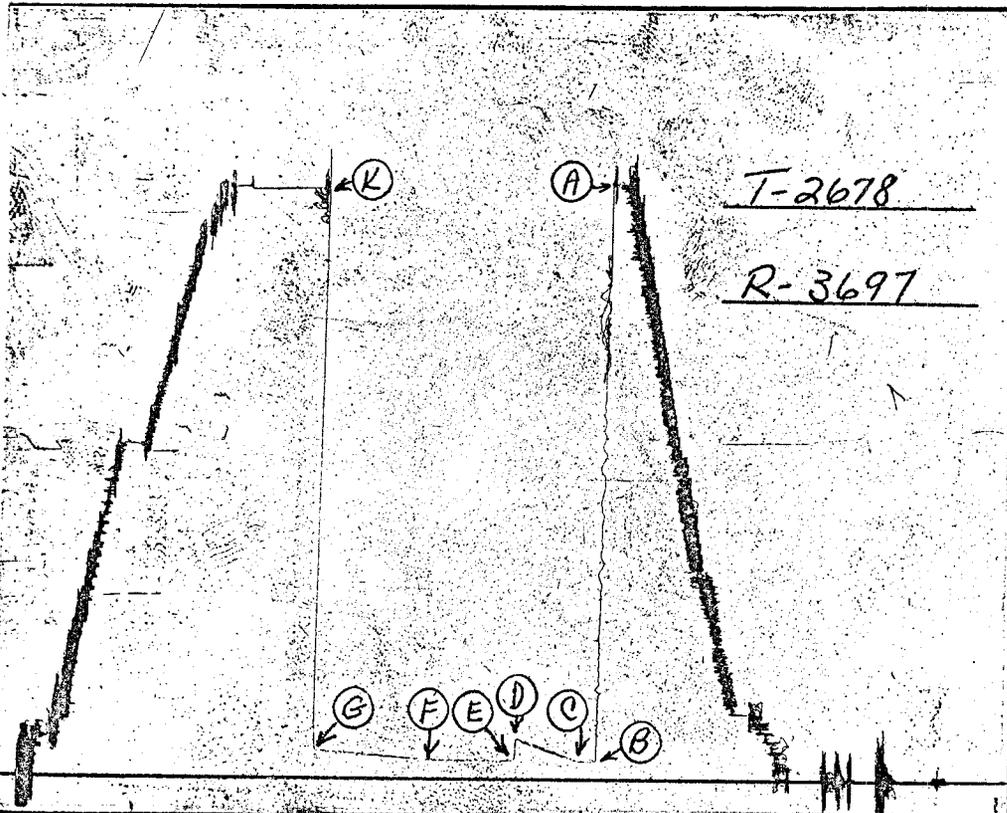
TOOL SEQUENCE

5654-----

5660-----

TD 5738-----

Operator _____
 Macpet _____
 See Distribution



PRD Make <u>Kuster AK-1</u>			
No. <u>3697</u>		Cap. <u>3700</u>	@ <u>5728</u>
Press	Field	Corrected	
IH	A	2816	2818
FH	K	2797	2788
Flow #1-IF	B	83	94
FF	C	83	92
SIP #1	D	185	197
Flow #2-IF	E	83	94
FF	F	92	94
SIP #2	G	139	139
Flow #3-IF	H	None	Taken
FF	I	"	"
SIP #3	J	"	"
Pressure Below Bottom Packer Bled To			
Our Tester: <u>B. J. Bobbitt</u>			
Witnessed By: <u>Joe Kirn</u>			

Well Name and No. Macpet-Federal #14-11
 Ticket No. 2678
 Date 11-19-71

RECOVERY IN PIPE

DID WELL FLOW - Gas No Oil No Water No

90' Drilling mud = .44 Bbl.
 No show of oil or gas

1st Flow - Weak blow throughout period (1" under water).
 2nd Flow - Very weak blow throughout test (under 1/2" water).

REMARKS:

Breakdown of Shut-in curves not practical.

DST No. 1
 No. Final Copies 13

Fluid Sample Report

Date 11-19-71 Ticket No. 2678

Company Macpet

Well Name & No. Macpet-Federal #14-11 DST No. 1

County San Juan State Utah

Sampler No. 13 Test Interval 5660-5738

Pressure in Sampler 45 PSIG BHT 138 OF

Total Volume of Sampler:..... 2250 cc.

Sample:..... 2200 cc.

Oil:..... None cc.

Water:..... None cc.

Mud:..... 2200 cc.

Gas:..... None cu. ft.

Other:..... None

Resistivity

Water: 2.20 @ 80° of Chloride Content 2250 ppm.

Mud Pit Sample 1.90 @ 70° of Chloride Content 3000 ppm.

Gas/Oil Ratio Gravity °API @ OF

Where was sample drained Location

Remarks:

.....

.....

.....

.....

.....

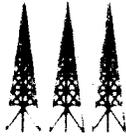
DISTRIBUTION OF FINAL DST REPORTS

Company Operating Well Macpet Tkt. No. 2678
Lease Macpet-Federal Well No. 14-11 Field Wildcat
County San Juan State New Mexico Sec. 11 Twp. 39 S Rng. 21 E Spot SW-SW
DST. No. 1 Date of Test 11-19-71 Interval Tested 5660-5738

BE SURE AND SHOW CORRECT ADDRESS AND NUMBER OF COPIES. STATE ADDRESS TO WHICH ORIGINAL CHART WILL BE MAILED.

Original & 1 copy: Macpet, 1200 United Bank Center, Denver, Colo. 80202
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Houston, Texas 77027
5 copies: Petroleum, Inc., 500 Colorado State Bank Bldg., Denver, Colo. 80202
2 copies: Utah Oil & Gas Conservation Comm., 1588 West North Temple, Salt Lake City, Utah
84116
2 copies: U. S. Geological Survey, 8416 Federal Bldg., Salt Lake City, Utah 84111

Our Tester _____ Approved by _____



MACPET

February 10, 1972

Edward A. Schmidt
Acting District Engineer
United States Department of the Interior
Geological Survey
P. O. Box 1809
Durango, Colorado 81301

Re: MACPET, Pet. Inc. Federal #14-11
SW SW Sec. 11, T39S-R21E
San Juan County, Utah

Dear Mr. Schmidt:

In response to your letter dated January 7, 1972, we return herewith five copies of the "Release of Water Well" form which has been executed by MACPET and Petroleum, Inc., along with an original and two copies of Form 9-331, Subsequent Report of Abandonment, all covering the above referenced well.

If these enclosures meet with your approval, please furnish us with a copy of the B.L.M.'s "Acceptance of Water Well" and an approved copy of the Subsequent Report of Abandonment at your convenience. Thank you.

Yours very truly,

MACPET

Ted Koble,
Division Production Superintendent

jt

Attachments

cc: State of Utah
Department of Natural Resources
Division of Oil and Gas Conservation
348 E. Temple
Salt Lake City, Utah

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL & GAS CONSERVATION
1588 West North Temple
Salt Lake City, Utah 84116

REPORT OF WATER ENCOUNTERED DURING DRILLING

Well Name & Number MACPET, Pet Inc. Federal #14-11
Operator MACPET Address 1200 United Bank Center
Denver, Colorado 80202 Phone 303-266-2358
Contractor Loffland Brothers Address Farmington, New Mexico Phone 505-325-5001
Location SW 1/4 SW 1/4 Sec. 11 T. 39 N R. 21 E San Juan County, Utah.
S W

Water Sands:

	<u>Depth:</u>		<u>Volume:</u>		<u>Quality:</u> Fresh or Salty-
	<u>From-</u>	<u>To-</u>	<u>Flow Rate</u>	<u>or Head-</u>	
1.	<u>Navajo, 1340-1540</u>		<u>Not Tested</u>		
2.	<u>De Chelly, 1770-2160</u>		<u>Not Tested</u>		
	<u>2870-3000</u>		<u>Not Tested</u>		
3.					
4.					
5.					

(Continue on reverse side if necessary)

Formation Tops:

Navajo -1340 (?) Upper Ismay-5645
DeChelly-2870 Lower Ismay-5746
Hermosa-4774 Desert Creek-5860

Remarks:

T.D. 5900'

- NOTE:
- (a) Upon diminishing supply of forms, please inform this office.
 - (b) Report on this form as provided for in Rule C-20, General Rules and Regulations and Rules of Practice and Procedure, (See back of this form)
 - (c) If a water analysis has been made of the above reported zone, please forward a copy along with this form.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN PLICATE*
(Other instructions on re-
verse side)

Form approved.
Budget Bureau No. 42-R1424.

5. LEASE DESIGNATION AND SERIAL NO.

Utah-074118

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

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—" for such proposals.)

7. UNITY AGREEMENT NAME

8. FARM OR LEASE NAME

Pet. Inc. Federal

9. WELL NO.

14-11

10. FIELD AND POOL, OR WILDCAT

Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA

Sec. 11, T39S-R21E

12. COUNTY OR PARISH

San Juan

13. STATE

Utah

1.

OIL WELL GAS WELL OTHER Dry

2. NAME OF OPERATOR

MACPET

3. ADDRESS OF OPERATOR

1200 United Bank Center, Denver, Colorado 80202

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*
See also space 17 below.)
At surface

460' FSL & 460' FWL Section 11

14. PERMIT NO.

15. ELEVATIONS (Show whether DF, RT, GR, etc.)

4796' GR

16.

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

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

FRACTURE TREAT

SHOOT OR ACIDIZE

REPAIR WELL

(Other)

PULL OR ALTER CASING

MULTIPLE COMPLETE

ABANDON*

CHANGE PLANS

SUBSEQUENT REPORT OF:

WATER SHUT-OFF

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

(Other)

REPAIRING WELL

ALTERING CASING

ABANDONMENT*

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

17. 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.)*

The above well has been plugged and abandoned in the following manner:

- Plug #1 15 sx cement @ 5750-5600'
- Plug #2 35 sx cement @ 4725-4825'
- Plug #3 35 sx cement @ top of casing stub
- Plug #4 35 sx cement @ 2825-2925'
- Plug #5 50 sx cement @ 1500-1650'

Well has been capped with dry hole marker in place for use by B.L.M. as a water well.

Location has been cleaned and leveled.

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

SIGNED

Ted Koble
Ted Koble

TITLE Division Production Supt.

DATE 2/10/72

(This space for Federal or State office use)

APPROVED BY _____

TITLE _____

DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

WELL DATA

Well Name: #14-11 MACPET, Pet. Inc., Federal

Location: 460' FWL, 460' FSL (SW SW) Section 11, T39S, R21E,
San Juan County, Utah

Elevation: 4,796' Ground, 4808' KB

Spud: October 31, 1971 at 8:00 A.M.

Surface Casing: 9-5/8" at 269', cemented with 140 SxS

Contractor: Loffland Bros. Drilling Company, Rig #20, Buddy Bowden
Toolpusher

Hole Size: 13-3/4" to 275', 7-7/8" to 5,900'

Mud Nature: Gel and Chemicals

Logs: Dresser Atlas Dual Induction Focused Log, 275' - 5,899'
Dresser Atlas Acoustilog, 3,800' - 5,892'
Dresser Atlas Sidewal Neutron Gamma Ray, 4,400' - 5,898'

Drill Stem Tests: Two, See Following Page

Cores: One, See Sample Description

Total Depth: 5,900' Driller, 5,900' Logger

Completed: Ran production casing November 23, 1971

GEOLOGICAL REPORT

MACPET

#14-11 MACPET, Pet. Inc., Federal
SW SW Section 11, T39S, R21E
San Juan County, Utah

by

JOE KIRN
Consulting Geologist
555 - 17th Street
Denver, Colorado 80202
Phone: 255-2556

WELL DATA

Well Name: #14-11 MACPET, Pet. Inc., Federal

Location: 460' FWL, 460' FSL (SW SW) Section 11, T39S, R21E, San Juan County, Utah

Elevation: 4,796' Ground, 4808' KB

Spud: October 31, 1971 at 8:00 A.M.

Surface Casing: 9-5/8" at 269', cemented with 140 SxS

Contractor: Loffland Bros. Drilling Company, Rig #20, Buddy Bowden Toolpusher

Hole Size: 13-3/4" to 275', 7-7/8" to 5,900'

Mud Nature: Gel and Chemicals

Logs: Dresser Atlas Dual Induction Focused Log, 275' - 5,899'
Dresser Atlas Acoustilog, 3,800' - 5,892'
Dresser Atlas Sidewal Neutron Gamma Ray, 4,400' - 5,898'

Drill Stem Tests: Two, See Following Page

Cores: One, See Sample Description

Total Depth: 5,900' Driller, 5,900' Logger

Completed: Ran production casing November 23, 1971

DST #1, 5,660 - 5,738, Upper Ismay

Pre-flow: Open 15 Minutes
Initial: Shut-In 45 Minutes
Open 60 Minutes
Final: Shut-In 90 Minutes

Tool opened on pre-flow with weak blow, 1" water. Second opening, very weak blow, 1/2" water, remained steady throughout test

Recovered 90 ft. of drilling mud, no show, no gas to surface.

Pressures:

Initial Hydrostatic	2,783
Final Hydrostatic	2,759
1st Opening, Initial Flow	24
Final Flow	36
2nd Opening, Initial Flow	36
Final Flow	48
Initial Shut-In	157
Final Shut-In	108

Bottom Hole Temperature 138°

DST #2, 5,732 - 5,790, Straddle Test, Lower Ismay

Pre-flow: Open 15 Minutes
Initial: Shut-In 60 Minutes
Open 90 Minutes
Final: Shut-In 120 Minutes

On pre-flow tool opened with a weak blow, increased to good, 5" water.
On second opening, tool opened with a weak blow, increased to strong,
blowing from bottom of 18" bucket in 5 minutes, remained steady through-
out test.

No gas to surface.

Recovered 180' of fluid:
80' Slightly Oil and Gas Cut Mud
100' Heavily Oil and Gas Cut Mud
No Water

Bottom Hole Sampler contained 2,000 cc fluid:

150 cc Free Oil, 47°
1,850 cc Heavily Oil and Gas Cut Mud
1 Cu. Ft. Gas
Pressure - 57 psi

Pressures:

Initial Hydrostatic	2,826
Final Hydrostatic	2,808
1st Opening, Initial Flow	17
Final Flow	34
2nd Opening, Initial Flow	68
Final Flow	86
Initial Shut-In	2,079
Final Shut-In	2,114

Bottom Hole Temperature 139°

FORMATION TOPS

<u>Formation</u>	<u>Electric Log Tops</u>
De Chelly	2,870
Hermosa	4,774
Upper Ismay	5,645
Lower Ismay	5,746
Paradox Shale	5,794
Desert Creek	5,860

SAMPLE DESCRIPTION

Sample study starts at 4,500', sample interval - 10 Ft. from surface to 5,600', 5' from 5,600' to T.D. Samples from 4,500 to T.D. delivered to Amstrat., Denver, Colorado.

- 4500' - 4570' Shale - variegated, gray, green, maroon, yellow, olive, soft beutonic, few black carbonaceous inclusions, trace of anhydrite and chert.
- 4570' - 4660' Shale as above and limestone - golden, firm, micro-xln and mottled pink-white, micro-xln.
- 4660' - 4730' As above with more limestone.
- 4730' - 4740' Shale as above and limestone - mottled purple, white, olive, dense, hard.
- 4740' - 4750' Shale and limestone as above and limestone - cream, tan, dense, some olive, sandy.
- 4750' - 4774' Shale and limestone as above with trace limestone - brown, micro-xln to dense, soft.

Hermosa 4774'

- 4774' - 4800' Limestone - cream, fragmental with variegated shale and mottled limestone as above (10% limestone).
- 4800' - 4830' Shale as above and limestone as above, 10%, trace brown-chert.
- 4830' - 4840' Limestone - white, soft, micro-granular and micro-xln, partly chalky, 20%, with shale as above-cove?
- 4840' - 4860' Limestone - white, cream, brown, vf-xln to micro-xln, hard, tite, 20%.
- 4860' - 4870' Shale - variegated red-orange, gray with 10% limestone as above.
- 4870' - 4920' Shale as above with 35% limestone - white, uf-xln and granular as above, trace of chert.

- 4920' - 4960' Limestone - cream, buff, brown, pink, micro-xln and dense, 40% with shale as above, trace of coal.
- 4960' - 4990' Limestone as above, 10-20%, with shale as above.
- 4990' - 5035' Limestone - mottled as above, 20-40%, and shale as above.
- 5035' - 5065' Shale as above and limestone - gray, brown, cream, fragmental, black carbonaceous inclusions, 10%, trace of coal.
- 5065' - 5170' Shale as above with limestone and chert as above, 20%.
- 5170' - 5220' Limestone - white, cream, dense, chalk, 30%, some gray, white, fragmental and variegated shale as above.
- 5220' - 5230' Limestone - buff, cream, brown, dense, fine-xln, trace chert, (Ls-40%) with shale as above.

Samples Mostly Shale - Above this Depth

Samples Mostly Limestone - Below this Depth

- 5230' - 5255' Limestone - white, gray, buff, dense, 90%, trace chert.
- 5255' - 5265' Limestone - as above with shale - dark gray, splintery.
- 5265' - 5310' Limestone - brown, buff, cream, dense, micro-xln, hard, tite, trace anhydrite.
- 5310' - 5340' Limestone as above partly chalky, partly fragmental.
- 5340' - 5350' Limestone - cream, buff, dense.
- 5350' - 5360' Limestone as above with shale - red, green, gray.
- 5360' - 5370' As above with shale - dark gray, soft.
- 5370' - 5450' Limestone - brown, brown black, hard, dense, some white, vf-xln and granular.
- 5450' - 5470' As above with shale - red, gray.
- 5470' - 5510' Limestone - brown, cream, buff, dense, partly micro-xln, hard, tite, pyritic, no show.
- 5510' - 5520' Limestone as above with trace dark gray shale.
- 5520' - 5530' Limestone - white, chalky, vf-xln and granular.
- 5530' - 5540' Limestone - dark brown, buff, micro-xln to dense, hard, tite, no show.

- 5540' - 5560' Shale - dark gray to black, splintery, fissil, gritty (sandy ?), very calcareous to limey, with some limestone as above.
- 5560' - 5590' Shale as above and limestone - buff, cream, brown, dense, partly fragmental, trace chert.
- 5590' - 5610' Limestone - buff, cream, dense, chalky and limestone - white, vf-granular, hard, tite, cherty, no show.
- 5610' - 5615' Shale - dark gray to black, limey, gritty (sandy ?).
- 5615' - 5645' Mostly limestone and chert as above, trace black shale.

Upper Ismay 5645'

- 5645' - 5655' Shale - black, splintery, limey grading to black, argillaceous limestone.
- 5655' - 5660' Limestone - dark brown, vf-xln and granular, soft, friable, no visible stain (?), no fluor or cut.
- 5660' - 5665' Limestone - gray, cream, dense and brown, vf-xln as above, looks tite, trace brown pelletoidal limestone, no fluor, slight ring in cut dish after sitting 30 minutes.
- 5665' - 5670' Limestone - gray, cream, dense and limestone brown as above, trace limestone gray pellet, trace white, vf-granular lime or vfg limey ss.
- 5670' - 5688' Limestone - gray, white, cream, dense, chalky, some brown, dark brown, micro-granular, very faint, slow cut, no fluor, to dark gray shale.

CORE #1, 5688 - 5738, Cored 50 Feet, Recovered 45 Feet.

Core Description

- 5688' - 5698' Limestone - gray, dense, hard, tite, no show
- 5698' - 5704' Limestone - dark brown, vf-xln to micro-xln, partly dense, coarse calcite xls included, fossil in part, hard, tite, dark brown color, looks like or residual oil, no fluor, possible visible slight cut after sitting in dish 30-40 minutes, slight sulfur odor on fresh break.
- 5704' - 5705' Limestone- gray, dense as above.
- 5705' - 5710' Limestone - dark brown as above, visible fossil, coarse calcite xls, some black calcite xls.
- 5710' - 5719' Limestone - as above with whole fossil included (brachiopod?).
- 5719' - 5720' Limestone - dark brown, micro-xln to dense, hard, tite.

- 5720' - 5722' Limestone - dark brown, vf-xln to micro-xln as above, very foss,
- 5722' - 5723' Limestone - gray, dense.
- 5723' - 5731' Limestone - dark brown, vf-xln to micro-xln
- 5731' - 5732' Shale - black, hard, vicalc to limey.
- 5732' - 5738' Lost
- 5738' - 5746' Samples mostly shale - black, limey, platey, "sooty" looking with trace limestone buff, brown, cream, dense.

Lower Ismay 5746

- 5746' - 5750' Shale - black as above with limestone, brown, vf-granular to micro-granular, soft, friable, tite, no fluor or cut.
- 5750' - 5755' Dolomite - brown, dense, limey, partly micro-xln, hard, looks tite, no fluor, brown color may be stain, no cut.
- 5755' - 5770' Dolomite as above and limestone white, cream, buff, dense to micro-xln, partly vf-xln, partly chalky, partly foss, few clusters oolites, looks tite, no fluor or cut.
- 5770' - 5785' Dolomite - brown, dark brown, some black color may be stain, no fluor, slight milky white cut after sitting 10-15 minutes.
- 5785' - 5794' Dolomite - mottled brown-white, gray, micro-xln to dense, hard, tite with brown, micro-xln dolomite as above.

NOTE: Drilling breaks occurred from 5752-60 and 5771-82.

Paradox Shale 5794

- 5794' - 5835' Dolomite - dark brown, brown-black, micro-xln, looks argillaceous, dark color probably residual oil, slight cut as above interbedded with shale - black, sooty looking, soft, platey, very calc to limey, gives a slight cut as above, probable full of residual oil.
- 5835' - 5860' Shale - black, sooty as above.

Desert Creek 5860

- 5860' - 5870' Limestone - gray to light gray, dolomitic, vf-fine granular and xln, looks tite, no fluor, questionable very weak cut.

5870' - 5875' Shale black as above and anhydrite.

5875' - 5900' Dolomite - gray, gray-brown, micro-xluⁿ, hard, tite,
no stain, fluor or cut with anhydrite - white, xluⁿ.

Log Calculations

<u>Interval</u>	<u>F-Factor</u>	<u>R_L</u>	<u>R_w</u>	<u>Porosity</u>		<u>SW</u>
				<u>Acoustilog</u>	<u>Sidewall Neutron</u>	
5756-60	270	35	.045	5%	7%	63%
5760-65	500	35	.045	3%	5%	81%
5772-74	500	68	.045	4%	5%	64%
5774-78	360	80	.045	3%	6%	50%
5778-84	200	32	.045	4%	8%	57%

Bit Record

<u>Bit #</u>	<u>Make</u>	<u>Size</u>	<u>Type</u>	<u>Serial</u>	<u>Depth Out</u>	<u>Feet</u>	<u>Hours</u>
1	Smith	13-3/4"	T3A	654683			21-1/4
2	Smith	7-7/8"	SDT	HZ234	1530	1261	28
3	Smith	7-7/8"	DT	JD400	1996	466	13-1/2
4	Smith	7-7/8"	DGJ	JC929	2748	752	20-3/4
5	Smith	7-7/8"	DGTHJ	GM864	3151	403	19
6	Security	7-7/8"	S4TGJ	333335	3567	416	18-1/2
7	Smith	7-7/8"	DGTHJ	GN899	3835	268	17-3/4
8	Reed	7-7/8"	FBCT	197459	4838	1003	63-1/2
9	Security	7-7/8"	S-88	345036	4944	106	18
10	Smith	7-7/8"	V2H	FB811	5105	161	18-1/4
11	Security	7-7/8"	M4NE	355849	5220	95	11
12	Smith	7-7/8"	3JS	HH226	5688	468	53-1/4
13	Christionsen Diamond	7-27/32"	C-2D	45554	5738	50	21
14	Reed	7-7/8"	YMG	552086	5833	95	16-1/4
15	Smith	7-7/8"	Rerun	Bit #12	5900	67	9

Well History

10-30-71 Rigging up drilled rut hole
10-31-71 Spud @ 8:00 A.M., drilled 13-3/4" hole 79'
11-1-71 Drilled to 275', ran 9-5/8" csg cemented with 140 sxs.
11-2-71 Waited on cement, drilled to 752'
11-3-71 Drilled to 1575'
11-4-71 Drilled to 2230'
11-5-71 Drilled to 2857'
11-6-71 Drilled to 3303'
11-7-71 Drilled to 3688'
11-8-71 Drilled to 3952'
11-9-71 Drilled to 4340', started mudding up @ 4280'
11-10-71 Drilled to 4725'
11-11-71 Drilled to 4885'
11-12-71 Drilled to 5013'
11-13-71 Drilled to 5172'
11-14-71 Drilled to 5236'
11-15-71 Drilled to 5441'

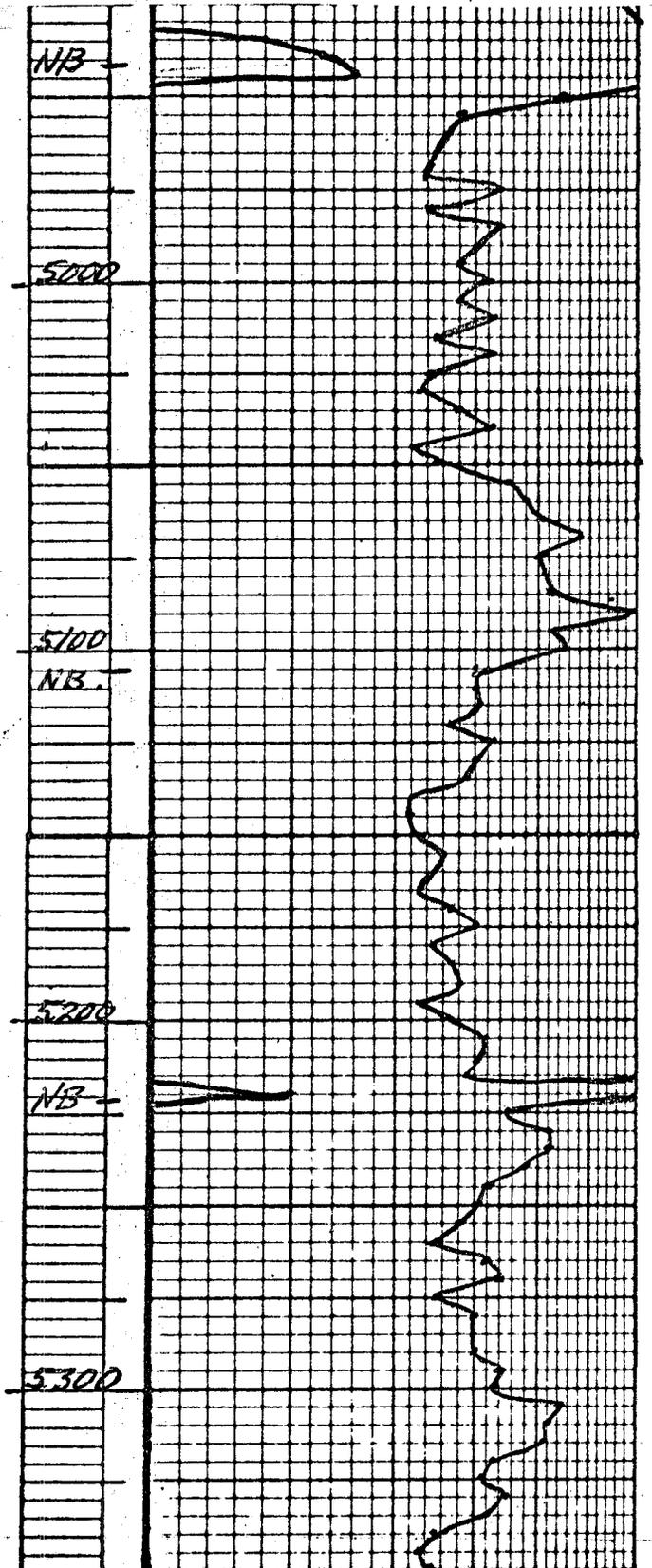
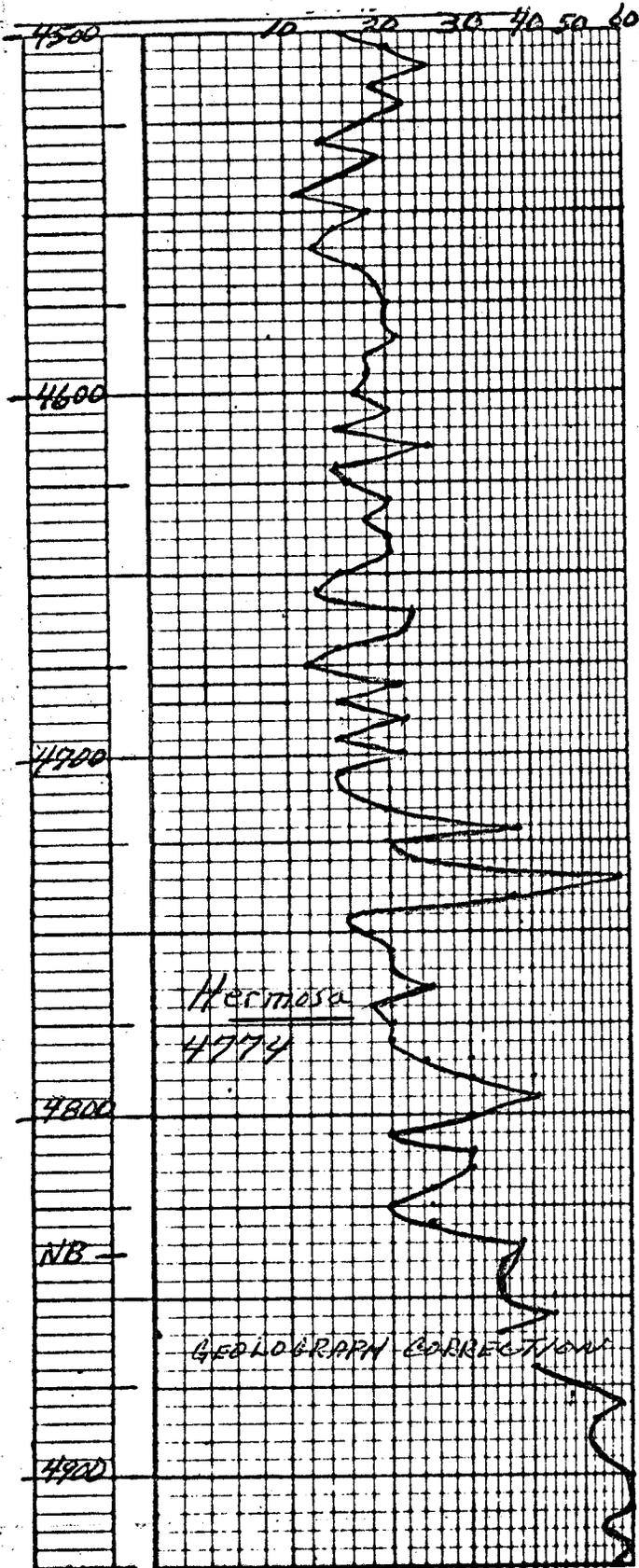
- 11-16-71 Drilled to 5661'
- 11-17-71 Drilled to 5688', circulated samples, conditioned mud for Core No. 1, broke jack shaft, waited on parts, worked on draw works.
- 11-18-71 Rig repairs, picked up core barre, cored to 5729'
- 11-19-71 Cored to 5738', core barrel jammed, pulled core barrel, laid down core, conditioned hole for DST No. 1.
- 11-20-71 Pulled test tool, drilled to 5824'
- 11-21-71 Drilled to 5900', conditioned hole for logs, started logging
- 11-22-71 Finished logging, ran DST No. 2, waited on orders
- 11-23-71 Conditioned hole, ran production casing

Coring Time

Minutes Per One Foot, 5688-5738

3-24-12-25-20-19-18-19-19-20-20-18-18-18-17-18-19-20-18-21-20-14-18-
 25-15-17-17-17-21-22-22-20-21-16-20-28-25-26-29-33-31-30-35-47-44-
 38-35-48-43-34

Drilling Time Log
Minutes per five Feet



Drilling Time Log
Minutes per Five Feet

