

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

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 Form 9-331-C for such proposals.)

1. oil ☐ well gas ☒ well other ☐

2. NAME OF OPERATOR
MESA PETROLEUM CO. ✓

3. ADDRESS OF OPERATOR
P O BOX 2009/AMARILLO TX 79189

4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.)
AT SURFACE: 1485' FNL 660' FWL
AT TOP PROD. INTERVAL: Same
AT TOTAL DEPTH: Same

16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

REQUEST FOR APPROVAL TO:

TEST WATER SHUT-OFF ☐
FRACTURE TREAT ☐
SHOOT OR ACIDIZE ☐
REPAIR WELL ☐
PULL OR ALTER CASING ☐
MULTIPLE COMPLETE ☐
CHANGE ZONES ☐
ABANDON* ☐

(other) Retest

SUBSEQUENT REPORT OF:

☐
☐
☐
☐
☐
☐
☐
☐

5. LEASE
NM-18831

6. IF INDIAN, ALLOTTEE OR TRIBE NAME
MAY 22 1984

7. UNIT AGREEMENT NAME
C. C. D.

8. FARM OR LEASE NAME
DEPCO FEDERAL

9. WELL NO.
2

10. FIELD OR WILDCAT NAME
DIAMOND MOUND ATOKA-MORROW

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
SEC. 4, T16S, R28E

12. COUNTY OR PARISH
EDDY

13. STATE
NM

14. API NO.

15. ELEVATIONS (SHOW DF, KDB, AND WD)
3650' GR

(NOTE: Report results of multiple completion or zone change on Form 9-330.)

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.)*

Please file for record the attached C122 for the retest of subject well subsequent to the fracture treatment of the Morrow zone from 9022'---9092'.

Subsurface Safety Valve: Manu. and Type _____

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

SIGNED R. E. Martin TITLE Regulatory Coordinator DATE 2-6-84

ACCEPTED FOR RECORD

PETER W. CHESTER

APPROVED BY
CONDITIONS OF APPROVAL

MAY 16 1984

TITLE _____

DATE _____

XC: BLM-R(0+6), CEN RCDS, ACCTG, RES ENG, GAS CONT, WELL FILE, MIDLAND, ROSWELL, PARTNERS

*See Instructions on Reverse Side

RECEIVED
FEB 7 10 32 AM '84
BUREAU OF LAND MANAGEMENT
ROSWELL DISTRICT

Instructions

General: This form is designed for submitting proposals to perform certain well operations, and reports of such operations when completed, as indicated, on Federal and Indian lands pursuant to applicable Federal law and regulations, and, if approved or accepted by any State, on all lands in such State, pursuant to applicable State law and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office.

Item 4: If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

Item 17: Proposals to abandon a well and subsequent reports of abandonment should include such special information as is required by local Federal and/or State offices. In addition, such proposals and reports should include reasons for the abandonment; data on any former or present productive zones, or other zones with present significant fluid contents not sealed off by cement or otherwise; depths (top and bottom) and method of placement of cement plugs; mud or other material placed below, between and above plugs; amount, size, method of parting of any casing, liner or tubing pulled and the depth to top of any left in the hole; method of closing top of well; and date well is conditioned for final inspection looking to approval of the abandonment.

OIL CONSERVATION DIVISION

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENTP. O. BOX 2088
SANTA FE, NEW MEXICO 87501Form C-122
Revised 10-1-78

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test ☒ Initial RETEST ☐ Annual ☐ Special						Test Date 2-1-84			
Company MESA PETROLEUM CO.				Connection UNCONNECTED					
Pool DIAMOND MOUND AFOKA-MORROW				Formation MORROW				Unit	
Completion Date 11-26-83		Total Depth 9330		Plug Back TD 9137'		Elevation 3650		Farm or Lease Name DEPCO FEDERAL	
Coq. Size 4 1/2	Wt. 11.6# & 13.5#	d 3.795	Set At 9234	Perforations: From 9022 To 9092		Well No. 2			
Thq. Size 2 3/8	Wt. 4.7#	d 1.995	Set At 8888	Perforations: From OPEN ENDED To		Unit E		Sec. 4	Twp. 16S
Type Well - Single - Brdenhead - G.C. or G.O. Multiple SINGLE				Packer Set At 8888		County EDDY			
Producing Thru TUBING		Reservoir Temp. °F 144 @ 9311		Mean Annual Temp. °F 60		Baro. Press. - P _a 13.2		State NEW MEXICO	
L 8888	H 8888	G _g .640	% CO ₂ 1	% N ₂ 1	% H ₂ S	Prover 2" CRITICAL FLOW PROVER		Meter Run	Taps

FLOW DATA						TUBING DATA		CASING DATA		Duration of Flow	
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. h _w	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.		Temp. °F
SI							1320				+72 hr SI
1.	2" x 1/4"			215		82	1255	56			1 hr
2.	2" x 5/16"			965		87	1180	64			1 hr
3.	2" x 3/8"			790		78	1145	67			1 hr
4.	2" x 7/16"			720		78	1019	69			1 hr
5.											

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor F _g	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1	1.087	FLOW PROVER	228	.9795	1.260		305
2.	1.672	FLOW PROVER	978	.9785	1.260		2016
3	2.378	FLOW PROVER	803	.9831	1.260		2365
4.	3.408	FLOW PROVER	733	.9831	1.260		3094
5.							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl.
1					A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.
2.					Specific Gravity Separator Gas _____ XXXXXXXXXX
3.					Specific Gravity Flowing Fluid _____ XXXXX
4.					Critical Pressure _____ P.S.I.A. _____ P.S.I.A.
5.					Critical Temperature _____ R _____ R

NO.	P _r	P _w	P _r ²	P _w ²	P _r ² - P _w ²
1	1575	1257	1580	162	
2	1392	1220	1488	254	
3	1311	1200	1440	302	
4	1038	1150	1322	420	
5					

(1) $\frac{P_r^2}{P_r^2 - P_w^2} = 4.1476$

AOF = Q $\left[\frac{P_r^2}{P_r^2 - P_w^2} \right]^n = 10,500$

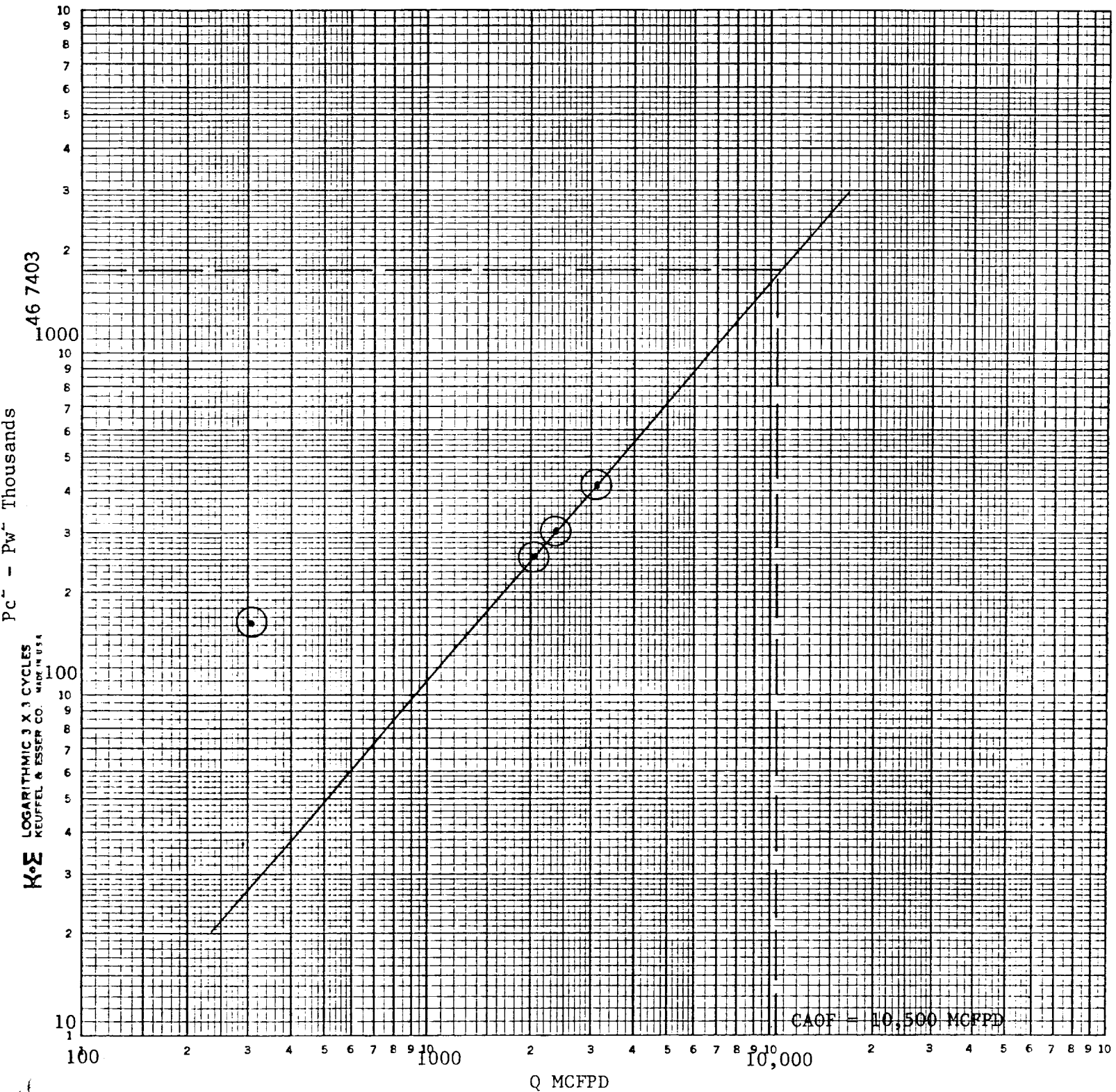
(2) $\left[\frac{P_r^2}{P_r^2 - P_w^2} \right]^n = 3.3986$

Absolute Open Flow _____ 10,500 _____ Mcfd @ 15.025	Angle of Slope Θ _____ 49°	Slope, n _____ .86
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Remarks: Well was fraced after the initial test was run. This retest reflects the higher CAOF resulting from fracture stimulating the well.

Approved By Division	Conducted By: JIM CRAIG	Calculated By: <u>2-3-84</u> E. L. BUTTROSS, JR.	Checked By:
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MESA PETROLEUM CO.
 PCO FEDERAL #2
 EDDY COUNTY, NEW MEXICO
 2-1-84



$$N = 1/\text{Slope} = \frac{\log Q_2 - \log Q_1}{\text{Cycle}} = \frac{\log 6700 - \log 920}{\text{Cycle}} = \frac{3.82 - 2.96}{1} = .86$$

$$\theta = 49^\circ$$