

THE APPLICATION OF MESA PETROLEUM
COMPANY FOR A DUAL COMPLETION

ORDER NO. MC-2840

ADMINISTRATIVE ORDER
OF THE OIL CONSERVATION DIVISION

^E
Under the provisions of Rule 112-A Mesa Petroleum Company made application to the New Mexico Oil Conservation Division on April 27, 1981, for permission to dually complete its Federal Well No. 6M located in Unit E of Section 6, Township 29 North, Range 11 West, NMPM, San Juan County, New Mexico, in such a manner as to permit production of gas from the Crouch Mesaverde Pool and the Basin Dakota Pool.

Now, on this 18th day of May, 1981, the Division Director finds:

1. That application has been filed under the provisions of Rule 112-A of the Division's Rules and Regulation's;
2. That satisfactory information has been provided that all operators of offset acreage have been duly notified;
3. That no objections have been received within the waiting period as prescribed by said rule;
4. That the proposed dual completion will not cause waste nor impair correlative rights; and
5. That the mechanics of the proposed dual completion are feasible and consonant with good conservation practices.

IT IS THEREFORE ORDERED:

That the applicant herein, Mesa Petroleum Company, be and the same is hereby authorized to dually complete its Federal Well No. 6M located in Unit E of Section 6, Township 29 North, Range 11 West, NMPM, San Juan County, New Mexico, in such a manner as to permit production of gas from the Crouch Mesaverde Pool and the Basin Dakota Pool through parallel strings of tubing.

PROVIDED HOWEVER, That applicant shall complete, operate, and produce said well in accordance with the provisions of Rule 112-A.

PROVIDED FURTHER, That applicant shall take packer-leakage tests upon completion and annually thereafter.

IT IS FURTHER ORDERED: That jurisdiction of this cause is hereby retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

Joe D. Ramey
JOE D. RAMEY
Division Director



SEAL



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
AZTEC DISTRICT OFFICE

1000 RIO BRAZOS ROAD
AZTEC, NEW MEXICO 87410
(505) 354-8173

OIL CONSERVATION DIVISION
BOX 2088
SANTA FE, NEW MEXICO 87501

DATE 4-20-81

RE: Proposed MC X
Proposed DHC _____
Proposed NSL _____
Proposed SWD _____
Proposed WFX _____
Proposed PMX _____

Gentlemen:

I have examined the application dated 4-17-81
for the Mesa Federal #6M E-6-29-11
Operator Lease and Well No. Unit, S-T-R

and my recommendations are as follows:

Approve

Yours truly,

Frank T. Chay

NEW MEXICO OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
APPLICATION FOR MULTIPLE COMPLETION

Form C-107
5-1-61

Operator Mesa Petroleum Co.		County San Juan		Date 4/6/81
Address 1660 Lincoln St., #2800, Denver, CO 80264		Lease Federal		Well No. 6M
Location of Well E	Unit 6	Section 29N	Township Range 11W	

1. Has the New Mexico Oil Conservation Commission heretofore authorized the multiple completion of a well in these same pools or in the same zones within one mile of the subject well? YES ☒ NO ☐
2. If answer is yes, identify one such instance: Order No. _____; Operator Lease, and Well No.: _____

3. The following facts are submitted:	Upper Zone	Intermediate Zone	Lower Zone
a. Name of Pool and Formation	Mesaverde		Dakota
b. Top and Bottom of Pay Section (Perforations)	3668'-3700'		6439'-6594'
c. Type of production (Oil or Gas)	gas		gas
d. Method of Production (Flowing or Artificial Lift)	flowing		flowing

4. The following are attached. (Please check YES or NO)

Yes	No	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	a. Diagrammatic Sketch of the Multiple Completion, showing all casing strings, including diameters and setting depths, centralizers and/or turbolizers and location thereof, quantities used and top of cement, perforated intervals, tubing strings, including diameters and setting depth, location and type of packers and side door chokes, and such other information as may be pertinent.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	b. Plat showing the location of all wells on applicant's lease, all offset wells on offset leases, and the names and addresses of operators of all leases offsetting applicant's lease.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	c. Waivers consenting to such multiple completion from each offset operator, or in lieu thereof, evidence that said offset operators have been furnished copies of the application.*
<input type="checkbox"/>	<input checked="" type="checkbox"/>	d. Electrical log of the well or other acceptable log with tops and bottoms of producing zones and intervals of perforation indicated thereon. (If such log is not available at the time application is filed it shall be submitted as provided by Rule 112-A.)

5. List all offset operators to the lease on which this well is located together with their correct mailing address.

*4(d) - Logs sent prior to filing of this application

Southland Royalty Co., 410 17th Street, Suite 1000, Denver, CO 80202

Tenneco Oil Co., 720 South Colorado Blvd., Penthouse, Denver, CO 80222

Supron Energy Corp., Box 808, Farmington, NM 87401

Amoco Production Co., 501 Airport Road, Farmington, NM 87401

Texaco, Inc. Box 2100, Denver, CO 80201

6. Were all operators listed in Item 5 above notified and furnished a copy of this application? YES ☒ NO ☐ If answer is yes, give date of such notification 4/6/81

CERTIFICATE: I, the undersigned, state that I am the Division Production Super of the Mesa Petroleum Co. (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

Signature

*Should waivers from all offset operators not accompany an application for administrative approval, the New Mexico Oil Conservation Commission will hold the application for a period of twenty (20) days from date of receipt by the Commission's Santa Fe office. If, after said twenty-day period, no protest nor request for hearing is received by the Santa Fe office, the application will then be processed.

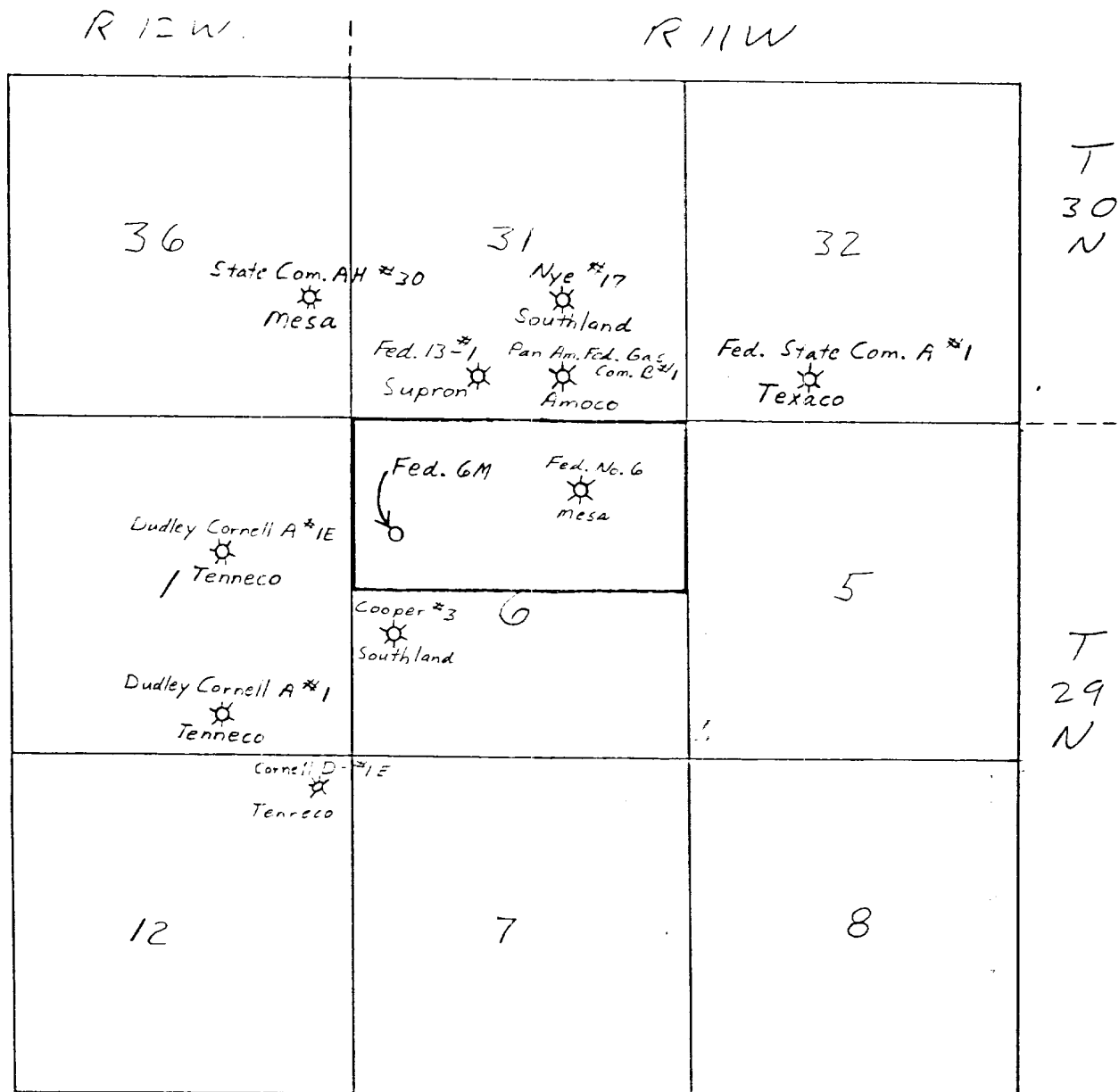
NOTE: If the proposed multiple completion will result in an unorthodox well location and/or a non-standard proration unit in one or more of the producing zones, then separate application for approval of the same should be filed simultaneously with this application.

Daniel Casper
Petroleum Landman
2575 South Lafayette
Denver, Colorado 80210
(303) 744-7500

OFFSET WELLS

Well Name: Federal No. 6M

<u>Operator</u>	<u>Well Name</u>	<u>Legal Description</u>
Mesa Petroleum Co.	Federal No. 6	6-29-11 NWNE
Mesa Petroleum Co.	State Com AH No.30	36-30-12 NESE
Southland Royalty Co.	Cooper No.3	6-29-11 NWSW
Southland Royalty Co.	Nye No. 17	31-30-11 NWSE
Tenneco Oil Co.	Dudley Cornell A No. 1E	1-29-12 SWNE
Tenneco Oil Co.	Dudley Cornell A No. 1	1-29-12 SWSE
Supron Energy Corp.	Federal 13 No. 1	31-30-11 SESW
Amoco Production Co.	Pan American Federal Gas Com B No. 1	31-30-11 SWSE
Texaco, Inc.	Federal State Com A No. 1	32-30-11 SESW
Tenneco Oil Co.	Cornell D No. 1E	12-29-12 NENE



OFFSET WELLS TO MESA
PETROLEUM CO.'S FEDERAL 6M

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE*

(See other in-
structions on
reverse side)Form approved.
Budget Bureau No. 42-R355.6.

5. LEASE DESIGNATION AND SERIAL NO.

NM 020504, SF 078813

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Federal

9. WELL NO.

6M

10. FIELD AND POOL, OR WILDCAT

Basin Dakota

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

Sec. 6-T29N-R11W

12. COUNTY OR
PARISH

San Juan

13. STATE

New Mexico

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

Mesa Petroleum Co.

3. ADDRESS OF OPERATOR

1660 Lincoln Street, Suite 2800, Denver, CO 80264

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

At surface 1750' FNL & 805' FWL

At top prod. interval reported below same

At total depth same

14. PERMIT NO.

DATE ISSUED

1/25/80

15. DATE SPUDDED 7/14/80 16. DATE T.D. REACHED 7/26/80 17. DATE COMPL. (Ready to prod.) 3/9/81 18. ELEVATIONS (DF, REB, RT, GR, ETC.)* 5808 GR ungraded 19. ELEV. CASINGHEAD 5808'

20. TOTAL DEPTH, MD & TVD 6650' 21. PLUG, BACK T.D., MD & TVD 6626' 22. IF MULTIPLE COMPL., HOW MANY* two 23. INTERVALS DRILLED BY → 0-6650' 24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)* 25. WAS DIRECTIONAL SURVEY MADE

Graneros & Dakota 6439'-6594'

26. TYPE ELECTRIC AND OTHER LOGS RUN

GR-CBL, IES

27. WAS WELL CORED

No

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

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
8 5/8"	24#	273'	12 1/4"	250 sxs Class "B"	-0-
5 1/2"	15.5#	6648'	7 7/8"	925 sxs 50/50 poz, 465	-0-
				sxs 35/65 poz	-0-

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
					2 1/16"	6424'	6233'
					1 1/2"	3669'	-0-

31. PERFORATION RECORD (Interval, size and number)

6594', 48', 46', 42', 37', 35', 32', 27',
21', 21', 6456', 42', 39', (13 holes),
.40" diameter

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
6594'-6439'	1st frac-63,800 gals x-link gel,
85,000# 20/40	sd & 15,000# 10/20 sd, 2nd frac -
21,638 gals x-link,	17,800 #10/20 sd w/600 ft ³
per bbl of N ₂	

33.*

PRODUCTION

DATE FIRST PRODUCTION		PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump)					WELL STATUS (Producing or shut-in)	
N/A		flowing					shut-in	
DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO	
4/3/81	24 hrs		————→	-0-	732	-0-	N/A	
FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)		
40 psi	0	————→	-0-	732	-0-	N/A		
34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)								
TEST WITNESSED BY								

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

Vented for test purposes only

TEST WITNESSED BY

J. Archer

35. LIST OF ATTACHMENTS

C-122, C-104 w/deviation record, C-107, well bore schematic

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

SIGNED

TITLE Division Production Supervisor DATE 4/6/81

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

INSTRUCTIONS

General: This form is designed for submitting a complete and correct well completion report and log on all types of lands and leases to either a Federal agency or a State agency, or both, pursuant to applicable Federal and/or State laws 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. See instructions on items 22 and 24, and 33, below regarding separate reports for separate completions.

If not filed prior to the time this summary record is submitted, copies of all currently available logs (drillers, geologists, sample and core analysis, all types electric, etc.), formation and pressure tests, and directional surveys, should be attached hereto, to the extent required by applicable Federal and/or State laws and regulations. All attachments should be listed on this form, see item 35.

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 18: Indicate which elevation is used as referenced (where not otherwise shown) for depth measurements given in other spaces on this form and in any attachments.

Items 22 and 24: If this well is completed for separate production from more than one interval zone (multiple completion), so state in item 22, and in item 24 show the producing interval, or intervals, top(s), bottom(s) and name(s) (if any) for only the interval reported in item 33. Submit a separate report (page) on this form, adequately identified, for each additional interval to be separately produced, showing the additional data pertinent to such interval.

Item 29: "Sacks Cement": Attached supplemental records for this well should show the details of any multiple stage cementing and the location of the cementing tool.

Item 33: Submit a separate completion report on this form for each interval to be separately produced. (See instruction for items 22 and 24 above.)

37. SUMMARY OF POROUS ZONES: SHOW ALL IMPORTANT ZONES OF POROSITY AND CONTENTS THEREOF; CORED INTERVALS; AND ALL DRILL-STEM TESTS, INCLUDING DEPTH INTERVAL TESTED, CUSHION USED, TIME TOOL OPEN, FLOWING AND SHUT-IN PRESSURES, AND RECOVERIES				38. GEOLOGIC MARKERS		
FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.	NAME	MEAS. DEPTH	TRUE VERT. DEPTH
Fruitland	1725'					
Pictured Cliffs	1984'					
Cliff House	3580'					
Menefee	3709'					
Pt. Lookout	4313'					
Mancos	4595'					
Gallup	5590'					
Greenhorn	6331'					
Graneros	6390'					
Dakota	6520'					

NEW MEXICO OIL CONSERVATION COMMISSION
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form C-122
 Revised 9-1-65

Type Test <input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special					Test Date 4- 3-81																																																																																																
Company MPC			Connection EPNG																																																																																																		
Pool BASIN DAKOTA			Formation DAKOTA		Unit E																																																																																																
Completion Date 3-19-81		Total Depth 6890.		Plug Back TD 6626.		Elevation 5308.																																																																																															
Csg. Size 5.500		Wt. 15.5	d 4.950	Set At 6626.	Perforations: From 6439. To 6594.																																																																																																
Tbg. Size 2.063		Wt. 3.2	d 1.751	Set At 6424.	Perforations: From 0. To 0.																																																																																																
Type Well - Single - Bradenhead - G.G. or G.O. Multiple FLOWING					Packer Set At 6381.																																																																																																
Producing Thru TUBING		Reservoir Temp. °F 131.8 6517.		Mean Annual Temp. °F 60.0		Baro. Press. - P _a 12.2																																																																																															
L 6517.	H 6517.	G _g 0.673	% CO ₂ 0.	% N ₂ 0.	% H ₂ S 0.	Prover 0.																																																																																															
Meter Run 0.		Taps 0.		State NM																																																																																																	
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th align="center" colspan="6">FLOW DATA</th> <th align="center" colspan="2">TUBING DATA</th> <th align="center" colspan="2">CASING DATA</th> <th align="center">Duration of Flow</th> </tr> <tr> <th>NO.</th> <th>Prover Line Size</th> <th>X</th> <th>Orifice Size</th> <th>Press. p.s.i.g.</th> <th>Diff. h_w</th> <th>Temp. °F</th> <th>Press. p.s.i.g.</th> <th>Temp. °F</th> <th>Press. p.s.i.g.</th> <th>Temp. °F</th> <th></th> </tr> <tr> <td>SI</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>1220.</td> <td>64.</td> <td></td> <td></td> <td>168.0</td> </tr> <tr> <td>1.</td> <td>1.75 X 0.750</td> <td></td> <td></td> <td>40.</td> <td>0.</td> <td>55.</td> <td>40.</td> <td>55.</td> <td>0.</td> <td>0.</td> <td>3.0</td> </tr> <tr><td>2.</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>3.</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>4.</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>5.</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>							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							1220.	64.			168.0	1.	1.75 X 0.750			40.	0.	55.	40.	55.	0.	0.	3.0	2.												3.												4.												5.											
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RATE OF FLOW CALCULATIONS																																																																																																					
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor F _t	Gravity Factor F _g	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd																																																																																														
1.	11.22	0.	52.2	1.0048	1.2190	1.0058	122.																																																																																														
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NO.	P _f	Temp. °R	T _f	Z	Gas Liquid Hydrocarbon Ratio	Mcf/bbl.
1.	0.08	515.	1.35	0.933	A.P.I. Gravity of Liquid Hydrocarbons	0.673
2.					Specific Gravity Separator Gas	0.673
3.					Specific Gravity Flowing Fluid	0.673
4.					Critical Pressure	669. P.S.I.A.
5.					Critical Temperature	381. °R

P_c 1231.0 P_c² 1515.

NO.	P _i ²	P _w	P _w ²	P _c ² - P _w ²
1	3.	164.	27.	1489.
2				
3				
4				
5				

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.0130$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.0135$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 732.$

Absolute Open Flow	732. Mcfd @ 15.025	Angle of Slope	52.1	Slope, n	0.750
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Remarks: _____

Approved By Commission:	Conducted By:	Calculated By:	Checked By: <i>[Signature]</i>
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MESA PETROLEUM CO.
FEDERAL 6M
SEC. 6 - T29N - R11W
SAN JUAN CO., NM

8 5/8" csg set @ 273'

Cmt top @ 400'

1 1/2" tbg set @ 3669'

MV Perfs: 3676' - 3700' w/2 holes/ft.
3668' - 3683' w/1 hole/ft.

5 1/2" csg set @ 6648'

2 1/16" tbg set @ 6424'

DK Perfs: 6439' - 6594' 13 holes

PBTD 6626'

TD @ 6650'