

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEYRECEIVED
(Other instructions on reverse side)

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK

DRILL ☒DEEPEN ☐U. S. GEOLOGICAL SURVEY
HOBBS, NEW MEXICO

b. TYPE OF WELL

OIL WELL ☒ GAS WELL ☐ OTHER ☐SINGLE ZONE ☐ MULTIPLE ZONE ☒

2. NAME OF OPERATOR

CONOCO INC.

3. ADDRESS OF OPERATOR

P. O. Box 460, Hobbs, N.M. 88240

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

At surface ~~2449' FSL & 891' FEL~~ 2449' FSL & 891' FEL

At proposed prod. zone Same

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*

15. DISTANCE FROM PROPOSED*

LOCATION TO NEAREST
PROPERTY OR LEASE LINE, FT.
(Also to nearest drig. unit line, if any)

18. DISTANCE FROM PROPOSED LOCATION*

TO NEAREST WELL, DRILLING, COMPLETED,
OR APPLIED FOR, ON THIS LEASE, FT.

16. NO. OF ACRES IN LEASE

19. PROPOSED DEPTH

4150'

17. NO. OF ACRES ASSIGNED
TO THIS WELL

40

20. ROTARY OR CABLE TOOLS

Rotary

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

4007.6' GR

22. APPROX. DATE WORK WILL START*

December 17, 1980

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
17 1/2"	13 3/8"	48"	800'	651 SK CIRCULATE
12 1/4"	8 5/8"	32"	4150'	1791 SK CIRCULATE

It is proposed to drill a straight hole to a TD of 4150' & complete it as a Grayburg San Andres oil well.

See attachments for 10-point well plan & 13-point surface well plan.

This well location approved by Order No. R-6157, this well being referred to as P-3 in said order.

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

Wm A. Butterfield

TITLE

Administrative Supervisor

DATE

9/5/80

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

(Orig. Bgr.) GEORGE H. STEWART

APPROVED BY

TITLE

CONDITIONS OF APPROVAL, IF ANY:

DATE

SEP 26 1980

RECEIVED

SEP 30 1980

ORLONSERXXNUN'DRV.

NEW MEXICO OIL CONSERVATION COMMISSION
WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102
Supersedes C-128
Effective 1-1-65

All distances must be from the outer boundaries of the Section.

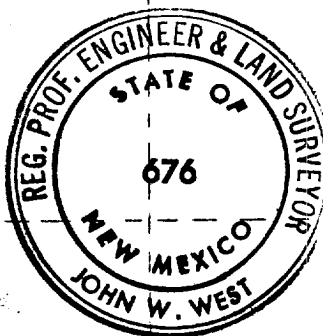
Operator CONOCO, INC.		Lease MCA UNIT		Well No. 361	
Unit Letter I	Section 20	Township 17 SOUTH	Range 32 EAST	County LEA	
Actual Footage Location of Well:					
2449		feet from the SOUTH line and 891		feet from the EAST line	
Ground Level Elev. 4007.6	Producing Formation Gayburg/San Andres		Pool Maljamar (G/SA)		Dedicated Acreage: 40 Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☐ Yes ☐ No If answer is "yes," type of consolidation _____

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.



CERTIFICATION

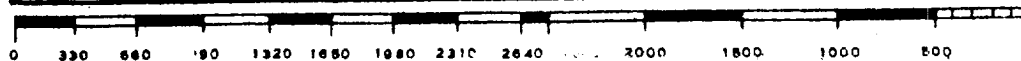
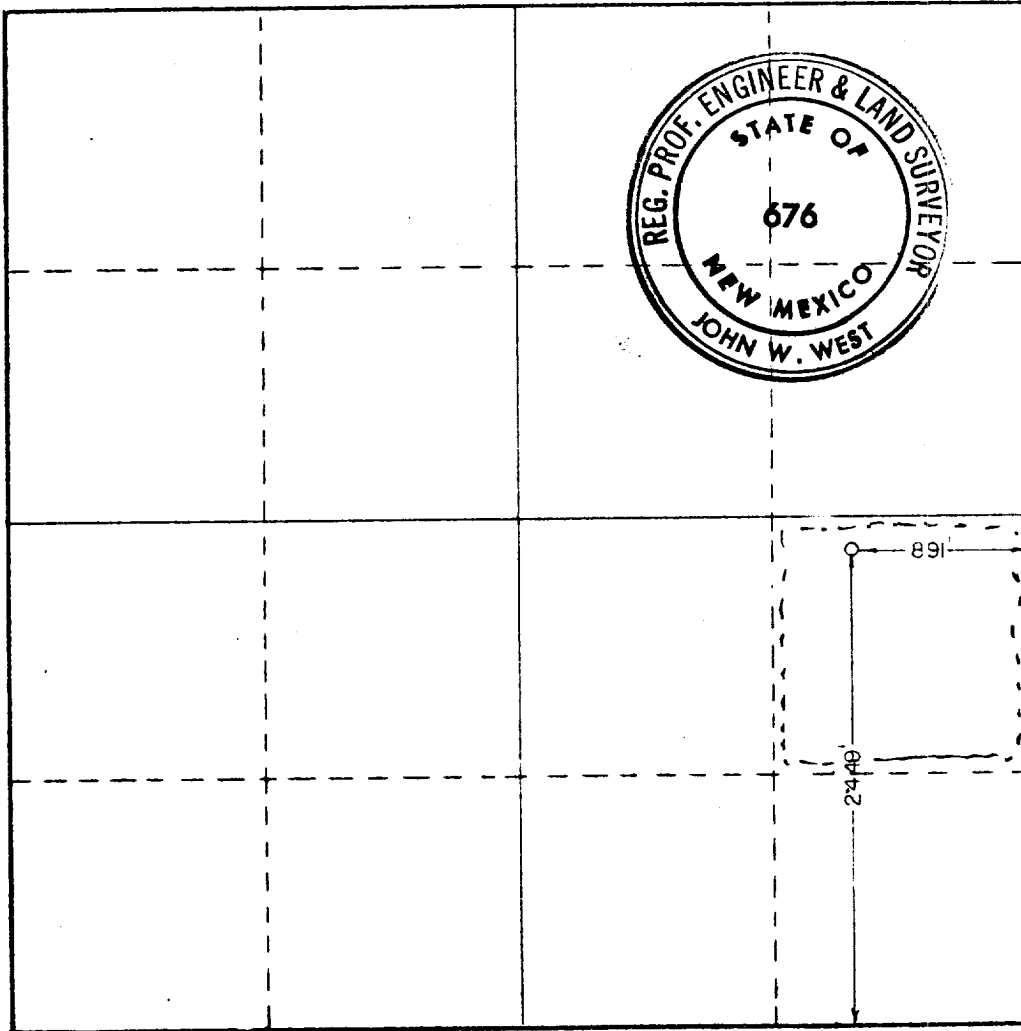
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Name John W. West
Position Administrative Supervisor
Company CONOCO INC.
Date 9/12/80

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

Date Surveyed 9-3-80
Registered Professional Engineer and/or Land Surveyor

John W. West
Certificate No. JOHN W. WEST 676
PATRICK A. ROMERO 6668
Ronald J. Eldon 3239



ATTACHMENT TO FORM 9-331 C
APPLICATION FOR PERMIT TO DRILL

Conoco Inc.
MCA Unit Nos. 359, 360, 361, 362
Sec. 20, T-17S, R-32E
Lea County, New Mexico

1. The geologic name of the surface formation is Recent Sand.
2. The estimated tops of important geologic markers are shown on the attached Proposed Well Plan.
3. The estimated depths at which anticipated water, oil, gas or other mineral-bearing formations to be encountered are shown on attached Proposed Well Plan.
4. The proposed casing program is as follows:

0' - 800'	13 3/8",	48#,	H-40, STC
0' - 4150'	8 5/8",	32#,	K-55, STC
5. A drawing of an API Series 900 Blowout Preventer Specification is attached. Pipe rams and blinds will be checked to 1,000 PSI for 30 minutes when BOP is installed. BOP will be checked when casing string is set and operated daily for checks.
6. The proposed mud program is as follows:

0' - 800'	8.5 - 9.5 ppg	spud mud
800' - 4150'	9.0 - 11.5 ppg	salt water gel
7. The auxiliary equipment to be used is:
 - (1) kelly cocks
 - (2) floats at the bit
8. It is proposed to run GR CAL CNL FDC PDC logs at selected intervals.
9. No abnormal pressures or temperatures are expected to be encountered in this well.
10. The anticipated starting date is October 24, 1980 with a duration of approximately 28 days per well.

PROPOSED WELL PLAN OUTLINE

WELL NAME: MCA NO. 361 (CO₂ Pilot Producer)

COUNTY: LEA

LOCATION: Sec. 20, T-17S, R-32E

STATE: NM

Elev. Est. GL: 4010'
KB: 4020'

DEPTH	FORMATION TOPS & TYPE	DRILLING PROBLEMS	TYPE OF FORMATION EVALUATION	HOLE SIZE (IN)	CASING		(PPG) GRAVITY FLUID	(PPG) PRESSURE GRAVITY FLUID	MUD	
					SIZE (IN)	DEPTH (FT)			(PPG) WEIGHT	TYPE
	Caliche & Red Beds									
	Rustler Anhy.	740'		17-1/2	48# H-40 STC 13-3/8	800	12.2	8.5	8.5- 9.5	Fresh Spud Mud
1000	Salado Salt	850'								
	Salt	Possible water flows from 850' to 1900'								
		Possible air & water flow from 2350' to 2450'	10' samples 1800'-4150'							
2000	Tansill Anhy.	1900'								
	Yates SS.	2070'								
3000	Queen SS	3040'								
	Grayburg Dolo.	3420'								
	6th Dolo. 3680'									
	7th Dolo. 3790'	Possible water flows & pressured	Logs: 1800'-4150' Sonic/GR/CAL. CNL-Density w/GR/CAL Dual LL-MSFL Caliper w/GR Conventional							
4000	9th Dolo. 3910'	2500 psi expected at			32# K-55 STC		12.5-	8.5-	9.0-	Salt Water
	9th M. 4020'	4100'		12-1/4	8-5/8	4150	16.5	11.5	11.5	Gel
	T.D. 4150'									
			Cores 3650'-3850' 4000'-4100'							
			PDC - 3000'-4150'							

WELL NAME MCA NO. 361 FIELD BAISH-MALJAMAR- DATE 5-21-80
 ELEVATION EST. GRD 4010' KB 4020' PROPOSED T.D. 4150'
 LOCATION (SURFACE) & OF SECTION 20 T-17S R-32E
 COUNTY LEA STATE NM SPACING

GEOLOGICAL ESTIMATES

ZONE	TOP	CONTENT
RUSTLER ANHY.	740'	-
SALADO SALT	850'	-
TANSILL ANHY.	1900'	-
YATES SS.	2070'	O,W,G
QUEEN SS.	3040'	O,W,G
GRAYBURG DOLO.	3420'	O,W,G
6th DOLO.	3680'	O,W,G
7th DOLO.	3790'	O,W,G
9th DOLO.	3910'	O,W,G
9th MASSIVE	4020'	O,W,G

CORING NO.	TYPE	HORIZON	INTERVAL FROM-TO	FOOTAGE	REMARKS
1	Conventional	6th & 7th Grayburg	3650'-3850'	200'	8-3/4"X4-
2	Conventional	9th Massive	4000'-4100'	100'	8-3/4"X4-

WELL SURVEYS - (List types by code numbers as follows: Directional and/or Deviation (1); Deflection (2); Caliper (3); Temperature (4); Electrical (5); Radioactive (6); Geolograph (7) Photoclinometer (8); Mudlogging (9); Other (10) and name of that type)

DEPTH POINTS	TYPE	HOLE SIZE	REMARKS
0'-4150'	(1) Deviation	17-1/2" & 12-1/4"	One every 250' to base salt One every 500' thereafter
0'-4150'	(7) Geolograph	17-1/2" & 12-1/4"	
1800'-4150'	(5) DLL-MSFL-GR	12-1/4"	2" & 5" Scales
1800'-4150'	(6) FDC-CNL-GR-CAL.	12-1/4"	2" & 5" Scales (caliper 800'-TD)
1800'-4150'	(6) Sonic GR-CAL	12-1/4"	2" & 5" Scales
3000'-4150'	(6) PDC (GR-COLLAR)	8-5/8" Casing	Depth Control

CONOCO TO FURNISH WATER, CONTRACTOR TO FURNISH FUEL.

PROPOSED WELL PLAN

WELL NAME <u>MCA NO. 361</u>		FIELD <u>BAISH-MALJAMAR-PEARSALL</u>		
<u>ATTACHMENT</u>		<u>(CO₂ Pilot Producer)</u>		
	<u>NO.</u>	<u>REQUIRED</u>	<u>NOT REQUIRED</u>	
CASING CENTRALIZERS, SCRATCHERS	_____	<u>X</u>	_____	
CEMENTING	_____	<u>X</u>	_____	
MUD PROGRAM	_____	<u>X</u>	_____	
WELL PLAN OUTLINE	_____	<u>X</u>	_____	
PORE PRESSURE - FRAC GRADIENT	_____	_____	_____	
PROJECTED PROGRESS	_____	_____	_____	
CROSS SECTION OR WELL COURSE	_____	_____	_____	
HYDRAULICS PROGRAM	_____	_____	_____	
BIT PROGRAM	_____	_____	_____	
VENDER USAGE LIST	_____	_____	_____	

DRILLING AND COMPLETION PROCEDURE

1. 0'-800' - Drill a 17-1/2" hole. Run and cement 13-3/8" casing (see cement and casing programs). WOC 18 hours. Pressure test casing to 600 psi for 30 minutes.
2. 800'-3650' - Drill a 12-1/4" hole. Drill out shoe and pressure test formation to 200 psi.
3. 3650'-3850' - Core with conventional core barrel. (8-3/4" X 4-1/4")
4. 3650'-4000' - Ream hole and drill. (12-1/4")
5. 4000'-4100' - Core with conventional core barrel. (8-3/4" X 4-1/4")
6. 4000'-4150' - Ream hole and drill. (12-1/4") Run open hole logs, run casing and cement (see casing and cement programs.)
7. Detailed completion procedure to be prepared after open-hole logs are analyzed. To be completed as a producing well in CO₂ pilot.

LIST TYPE OF STRING BY CODE LETTERS, i.e. CONDUCTOR (C); SURFACE (S); INTERMEDIATE (I); PRODUCTION (P); LINER (L); PERFORATIONS (PP)

TYPE OF STRINGS &

INTERVAL (FT)

FROM-TO	OD	DRIFT ID	WT PER FT	GRADE	THREAD	AMT	WT. IN AIR, WT. IN MUD		REMARKS
							1000 LBS	1000 LBS	
(S) 0'-800'	13-3/8"	12.559"	48#	H-40	STC	800'	36		
(P) 0'-4150'	8-5/8"	7.796"	32#	K-55	STC	4150'	132.8		Ruff-coat bottom 550' D.V. Tool @ 2000'

TYPE OF STRING	CENTRALIZERS		SCRATCHER		OTHER ACCESSORY EQUIPMENT (SUCH AS DEGASSERS, MUD. CENTRIFUGE FLOAT COLLARS, ETC. - SPECIFY)		REMARKS
	INTERVAL		NO. INTERVAL				
	NO. FROM-TO	NO. FROM-TO	NO. FROM-TO	NO. FROM-TO			
Surface	(8)	0'-800'		NONE	Guide shoe and float collar		100' spacing for centralizers
Production	(2)	700'-800'	(33)	3650'-4150'	Float shoe, float collar and D.V. Tool @ 2000' and 2 metal petal baskets below D.V. Tool		40' spacing for centralizers with 2 just above 13-3/8" shoe.
	(18)	3650'-4150'					15' spacing for scratchers.

DEPTH INTERVAL FROM-TO	WEIGHT LBS/CAL	TYPE	OIL %	pH	WATER LOSS (cc)	VIS. (sec.)	YIELD POINT	THINNING AGENTS	WATER LOSS AGENTS
0'-800'	8.5-9.5	Spud	-	-	-	-	-	-	As needed
800'-3650'	9.0-11.5	Salt Gel	-	-	-	-	-	-	As needed
3650'-4150'	9.0-11.5	Salt Gel	-	±9.0	5-10	34-36	-	-	As needed

REMARKS

1. Below 800' drill with saturated brine to keep hole enlargement to a minimum.
2. Add gel as required to carry cuttings.
3. Pressure surges should be kept to a minimum.
4. Maintain mud weight to be able to control water flows.
5. Control water loss for coring.
5. Condition mud prior to cementing to reduce viscosity.

CEMENT

TYPE OF STRING INTERVAL (FT) FROM-TO TYPE MIX	GEL%	SALT%	CaCl ₂	SLURRY WEIGHT LB./GAL	SLURRY YIELD CF/SKX	TOTAL AMT. REQUIRED SKX/CF	FILL UP	BHT	SIZE	REMARKS
0'-800'										
Class 'C'	4%	-	2%	13.05	1.88	451/847	Circ.	70°	17-1/2"	100% excess
Class 'C'	-	-	2%	14.80	1.32	200/264				
0'-4150'										
<u>Around Shoe</u>										
Class 'C' Light	-	-	-	12.70	1.84	678/1246	2000'	90°	12-1/4"	100% excess
Class 'C'	-	-	2%	14.80	1.32	400/528				
<u>Thru D.V. Tool @ 2000'</u>										
Class 'C' Light	-	18%	-	13.20	1.92	513/985	Circ.	80°	12-1/4"	100% excess
Class 'C'	-	18%	-	15.20	1.38	200/276				

NOTE:

1. Add 1/4#/sack Flocele to cement if necessary for lost circulation.
2. Reciprocate production casing while cementing.
3. Precede cement with 500 gallons mud flush.
4. Re-calculate cement volumes for production casing after open hole caliber is run.
5. Lab test production casing cement slurries prior to cementing.
6. Utilize top and bottom plugs. Pump top plug with TFW.
7. Condition mud to have low plastic viscosity and yield strength.

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OIL CONSERVATION DIV.

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WELLBORE TEMPERATURE
MADE IN U.S.A.

WELLBORE TEMPERATURE
10 X 10 PER INCH

FEET

MCA CO₂ PILOT
PRODUCING WELL

17 1/2" HOLE

13 3/8" CASING POINT 800'

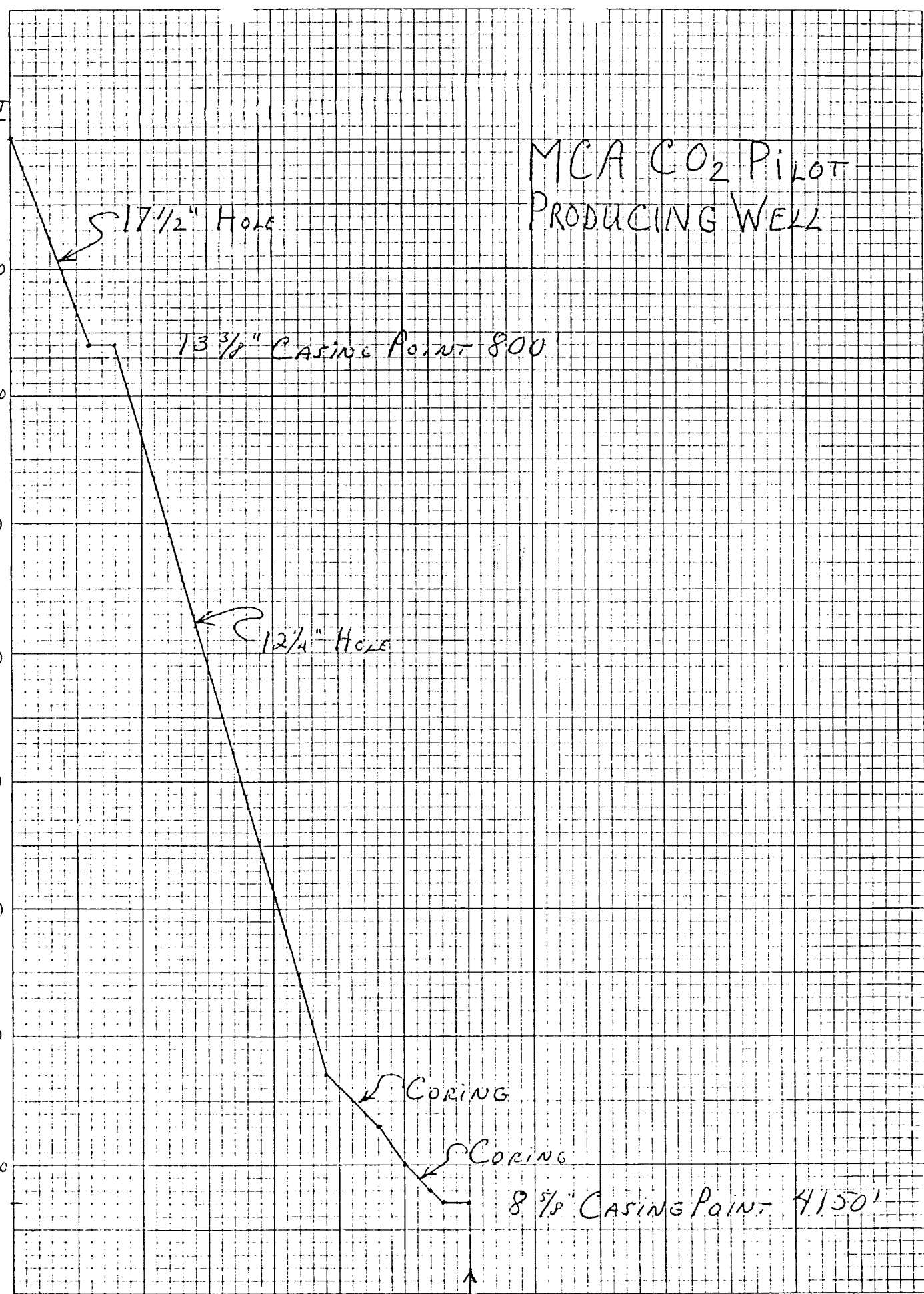
12 1/4" HOLE

CORING

CORING

8 5/8" CASING POINT 4150'

DAYS



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