

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEYRECEIVED
SUBMIT IN TRIPlicate
(Other instructions on reverse side)
SEP 15 1980Form approved.
Budget Bureau No. 42-R1425.

30-025-27066

5. LEASE DESIGNATION AND SERIAL NO.

LC-029405 (a)

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

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 ☒logging
observation
wellSINGLE
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

~~2490' FNL & 540' FEL~~ 2487' FNL & 537' 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 drlg. unit line, if any)

16. NO. OF ACRES IN LEASE

18. DISTANCE FROM PROPOSED LOCATION*
TO NEAREST WELL, DRILLING, COMPLETED,
OR APPLIED FOR, ON THIS LEASE, FT.

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.)

4014.7' GR

22. APPROX. DATE WORK WILL START*

July 1, 1981

23. 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"	28 #	800'	411 SK. CIRCULATE
7 7/8"	5 1/2"	14 #	4150'	791 SK. CIRCULATE

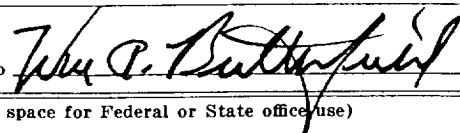
It is proposed to drill a straight hole to a TD of 4150' & complete it as a logging observation well for our Maljamar CO₂ Pilot wells. See attachments for 10-point well plan & 13-point surface use plan. This well location approved by Order No. R-6157, this well being referred to as L-1 in said order.

See Revised Location

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



TITLE

Administrative Supervisor

DATE

9/5/80

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

APPROVED BY (Orig. Sgd.) PETER W. CHESTER

TITLE ACTING DISTRICT ENGINEER

DATE

SEP 26 1980

CONDITIONS OF APPROVAL, IF ANY:

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

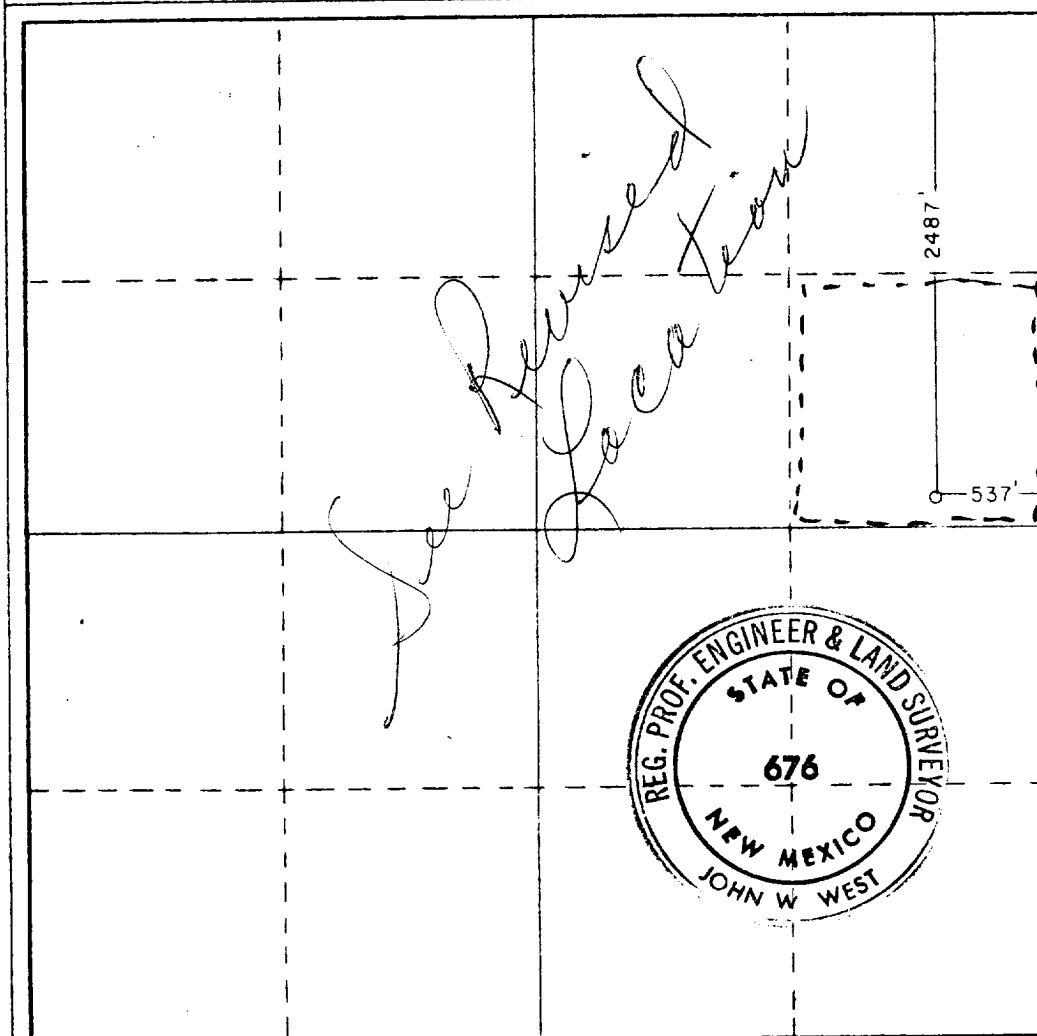
Operator CONOCO, INC.			Lease MCA UNIT		Well No. 363
Unit Letter H	Section 20	Township 17 SOUTH	Range 32 EAST	County LEA	
Actual Footage Location of Well: 2487 feet from the NORTH line and 537 feet from the EAST line					
Ground Level Elev. 4014.7	Producing Formation Grayburg/ San Andres		Pool Maljamar (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 **Wm. C. Butler, Jr.**
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 6863
Ronald J. Eidson 3239



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

Conoco Inc.
MCA Unit Nos. 363, 364
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'	8 5/8"	28#	H-40	STC
0' - 3550'	5 1/2"	14#	K-55	STC
3550' - 4150'	5 1/2"	5.95#	RFG	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 July 1, 1981 with a duration of approximately 28 days per well.

PROPOSED WELL PLAN OUTLINE

WELL NAME: MCA NO. 363 (CO₂ Pilot Logging Well) COUNTY: LEA

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

STATE: NM

Est. Elev. GL: 4010'

KB: 4020'

DEPTH	FORMATION TOPS & TYPE	DRILLING PROBLEMS	TYPE OF FORMATION EVALUATION	HOLE SIZE (IN)	CASING		(PPG) FRACTURE GRADIENT	(PPG) FORMATION PRESSURE GRADIENT	MUD	
					SIZE (IN)	DEPTH (FT)			(PPG) WEIGHT	TYPE
	Caliche & Red Beds									
	Rustler Anhy.	740'		12-1/4	28# H-40 STC	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'		Logs: 1800'-4150'		3550'					
	7th Dolo. 3790'	Possible water flows & pressured	Sonic/GR/CAL. CNL-Density w/GR/CAL		14# K-55 STC & 600' FGP					
4000	9th Dolo. 3910'	2500 psi expected at	Dual LL-MSFL Caliper w/GR	7-7/8	5-1/2	4150	12.5- 16.5	8.5- 11.5	9.0- 11.5	Salt Water Gel
	9th M. 4020'									
	T.D. 4150'	4100'	Conventional Cores 3650'-3850' 4000'-4100'							

WELL NAME MCA NO. 363 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'	7-13/16"X4-1/
2	Conventional	9th Massive	4000'-4100'	100'	7-13/16"X4-1/

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	12-1/4" & 7-7/8"	One every 250' to base salt One every 500' thereafter
0'-4150'	(7) Geolograph	12-1/4" & 7-7/8"	
1800'-4150'	(5) DLL-MSFL-GR	7-7/8"	2" & 5" Scales
1800'-4150'	(6) FDC-CNL-GR-CAL.	7-7/8"	2" & 5" Scales (caliper 800'-TD)
1800'-4150'	(6) Sonic GR-CAL	7-7/8"	2" & 5" Scales

CONOCO TO FURNISH WATER, CONTRACTOR TO FURNISH FUEL.

PROPOSED WELL PLAN

WELL NAME	MCA NO.363	FIELD	BAISH-MALJAMAR-PEARSALL	
ATTACHMENT	(CO ₂ Pilot logging well)	NO.	REQUIRED	NOT REQUIRED
CASING CENTRALIZERS, SCRATCHERS			X	
CEMENTING			X	
MUD PROGRAM			X	
WELL PLAN OUTLINE			X	
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 12-1/4" hole. Run and cement 8-5/8" casing (see cement and casing programs). WOC 18 hours. Pressure test casing to 600 psi for 30 minutes.
2. 800'-3650' - Drill a 7-7/8" hole. Drill out shoe and pressure test formation to 200 psi.
3. 3650'-3850' - Core with conventional core barrel. (7-13/16" X 4-1/4")
4. 3650'-4000' - Ream hole and drill. (7-7/8")
5. 4000'-4100' - Core with conventional core barrel. (7-13/16" X 4-1/4")
6. 4000'-4150' - Ream hole and drill. (7-7/8") Run open hole logs, run casing and cement (see casing and cement programs.)
7. Well to be used as a logging/observation well for CO₂ pilot project.

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	DRIIFT ID	WT PER FT	GRADE	THREAD	AMT	WT. IN AIR, WT. IN MUD		REMARKS
							1000 LBS	1000 LBS	
(S) 0'-800'	8-5/8"	7.892"	28#	H-40	STC	800'	22.4		
(P) 0'-3550'	5-1/2"	4.887"	14#	K-55	STC	3550'	49.7		D.V. Tool @ 7000
3550'-4150'	5-1/2"	4.80 "	5.95#	RFG	LTC	600'	3.6		Fiberglass casing Ruff-coat 600'

TYPE OF STRING	CENTRALIZERS		SCRATCHER		OTHER ACCESSORY EQUIPMENT		REMARKS
	NO. FROM-TO	INTERVAL	NO. INTERVAL	NO. FROM-TO	(SUCH AS DEGASSERS, MUD, CENTRIFUGE FLOAT COLLARS, ETC. - SPECIFY)		
Surface	(8) 0'-800'		NONE		Guide shoe and float collar	100' spacing for centr	zer
Production	(2) 700'-800'		NONE		Float shoe, float collar, D.V. Tool	2 centralizers just above	
	(20) 3550'-4150'				@2000' and 2 metal petal baskets below D.V. Tool.	8-5/8" shoe. One per joint on fiberglass.	

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.
6. Condition mud prior to cementing to reduce viscosity.

CEMENT

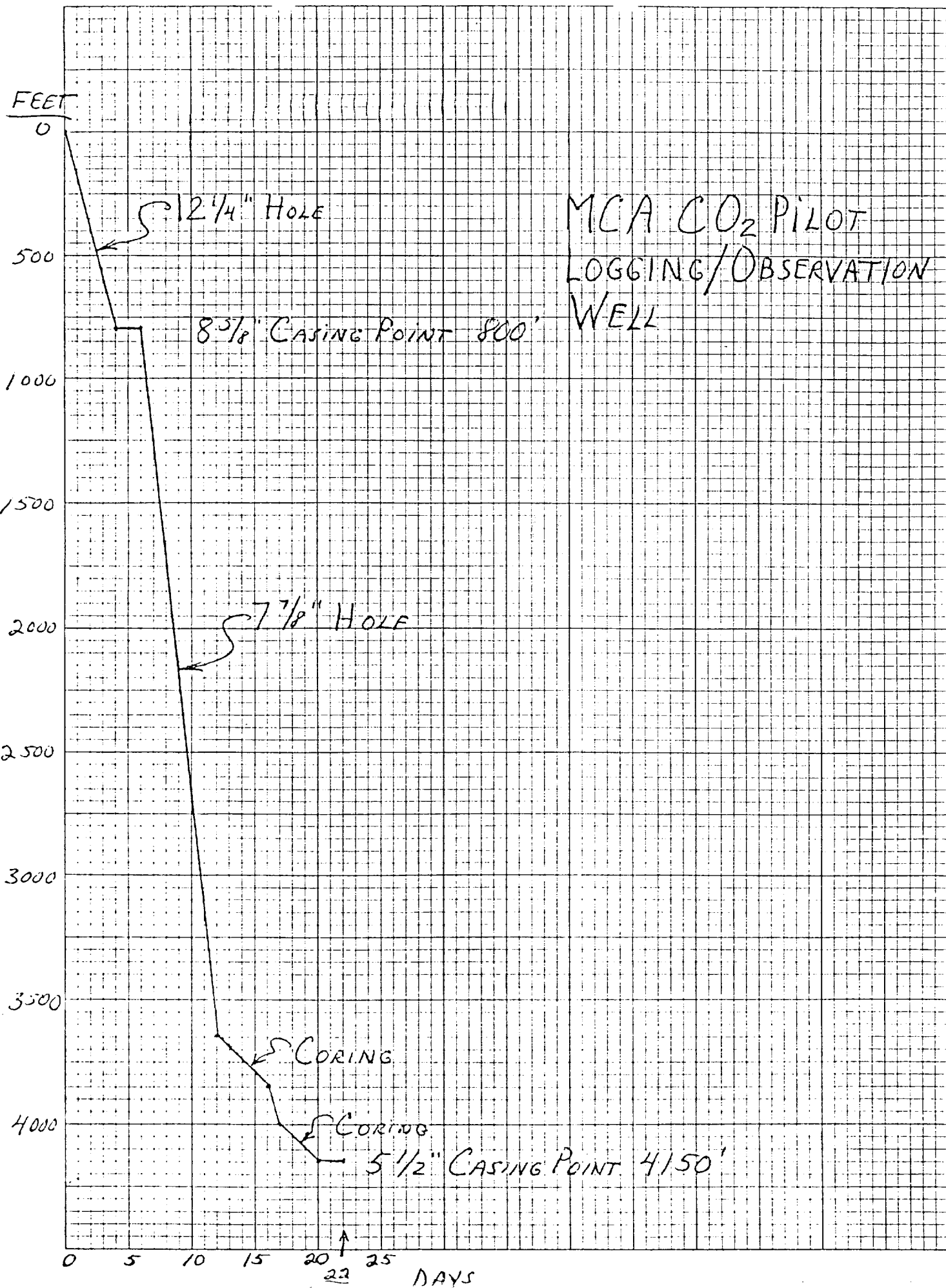
TYPE OF STRING INTERVAL (FT) FROM-TO TYPE MIX	GEL%	SALT%	CaCl ₂	SLURRY WEIGHT LB./GAL	SLURRY YIELD CF/SKX	TOTAL AMT. REQUIRED SKX/CF	FILL UP	BHT	SIZE	REMARKS
(S) 0'-800'										
Class 'C'	4%	-	2%	13.05	1.88	211/396	Circ.	70°	12-1/4"	100% excess
Class 'C'	-	-	2%	14.80	1.32	200/264				
(P) 0'-4150'										
Around Shoe										
Class 'C' Light	-	-	-	12.70	1.84	261/481	2000'	90°	7-7/8"	100% excess
Class 'C'	-	-	2%	14.80	1.32	200/264				
						$\frac{466}{390}$ 79'				
Thru D.V. Tool @ 2000'										
Class 'C'	-	18%	-	13.20	1.88	230/432	Circ.	80°	7-7/8"	100% excess
Class 'C'	-	18%	-	15.20	1.38	100/138				

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.

DELTALOG CORPORATION
MADE IN U.S.A.

MAX. 2000 IN. DELTALOG GRAPH PAPER
10 X 10 PER INCH



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SEP 30 1990

OIL CONSERVATION DIV.

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