



United States Department of the Interior

GEOLOGICAL SURVEY
P. O. Drawer 1857
Roswell, New Mexico 88201

April 5, 1976

RECEIVED

APR 12 1976

Mesa Petroleum Company
904 Gibbs Tower West
Midland, Texas 79701

Gentlemen:

D. C. C.,
ARTESIA, OFFICE

Your Application for Permit to Drill well No. 3-Hash Unit in the NE1/4 sec. 12, T. 23 S., R. 29 E., N.M.P.M., Eddy County, New Mexico, lease New Mexico 0556859-A, to a depth of 14,000 feet to test the Morrow formation in the Petash Area, is hereby approved.

Drilling of the well must be in compliance with the enclosed "Drilling Well Control Requirements for Deep Wells Drilled on Federal Oil and Gas Leases in the Artesia District" dated June 22, 1973.

One copy of the Application is returned herewith. Please notify the District Engineer, Geological Survey, Post Office Drawer U, Artesia, New Mexico, 88210, in sufficient time for a representative to witness all cementing operations. The office phone number is Area Code 505-746-4841.

Sincerely yours,

(ORIG. SGD.) CARL C. TRAYWICK

CARL C. TRAYWICK
Acting Area Oil and Gas Supervisor

Attachment

cc:

Regional Manager, Denver
Mining Branch (2)
BLM, Roswell (w/cy Notice)
✓ NMDCG-Artesia (2) (w/2 cys Notice)
Artesia (w/cy Notice)
Roswell (2) (w/cy Notice)
Roswell (chrono.)

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APR 13 1964

U.S. DEPT. OF JUSTICE
FEDERAL BUREAU OF INVESTIGATION

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UNITED STATES
DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK DRILL <input checked="" type="checkbox"/> DEEPEN <input type="checkbox"/> PLUG BACK <input type="checkbox"/>		5. LEASE DESIGNATION AND SERIAL NO. NM 0556859-A	
b. TYPE OF WELL OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER <input type="checkbox"/> SINGLE ZONE <input type="checkbox"/> MULTIPLE ZONE <input checked="" type="checkbox"/>		6. IF INDIAN, ALLOTTEE OR TRIBE NAME Nash Unit	
2. NAME OF OPERATOR Mesa Petroleum Co. ✓		7. UNIT AGREEMENT NAME Nash Unit	
3. ADDRESS OF OPERATOR 904 Gihls Tower West, Midland, TX 79701		8. FARM OR LEASE NAME Nash Unit	
4. LOCATION OF WELL (Report location clearly and in accordance with any State regulations.) At surface 1980' FSL & 1980' FWL of Section 12 At proposed prod. zone Same as above		9. WELL NO. 3	
10. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE* 17 miles southeast of Carlsbad		11. FIELD AND POOL, OR WILDCAT Nash Draw, Morrow	
11. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any) 1980'		12. COUNTY OR PARISH Eddy	
12. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT. N.A.		13. STATE New Mexico	
13. NO. OF ACRES IN LEASE 320		14. NO. OF ACRES ASSIGNED TO THIS WELL 320 S/2	
14. PROPOSED DEPTH 14,000		15. ROTARY OR CABLE TOOLS Rotary	
21. ELEVATIONS (Show whether DF, RT, GR, etc.) 2977 GR		22. APPROX. DATE WORK WILL START* Upon Approval	

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
26	20	94	300	500 SX
17-1/2	13-3/8	54.5 - 61	3,400	3,000 SX
12-1/4	9-5/8	40 - 47	11,000	3,500 SX
8-1/2	7" liner	32	10,700-14,000	500 SX

Propose to drill to 14,000' with rotary tools. BOP's will not be used to drill 26" hole to 300'. A temporary bradenhead will be nipped up on the 20" casing and a 20" API 2000 psi WP BOP will be utilized while drilling 17-1/2" hole to 3400'. After the 13-3/8" casing has been set, the 20" temporary bradenhead will be removed and a permanent bradenhead will be installed on the 13-3/8" casing. Thereafter, either 12" API 3000 psi WP or 10" API 5000 psi WP BOP's will be used as appropriate. Cement will be circulated on 20", 13-3/8", and 9-5/8" casing strings in order to comply with Rule 111-A. See attached plan of development for details.

Dedicated to Transwestern

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 Michael P. [Signature] TITLE Division Engineer DATE Feb 20, 1976

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions On Reverse Side

XC: 1-JLF, 1-MEC, 1-LMC, 10-Partners, 1-RHN, 1-JWH, 6-USGS

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

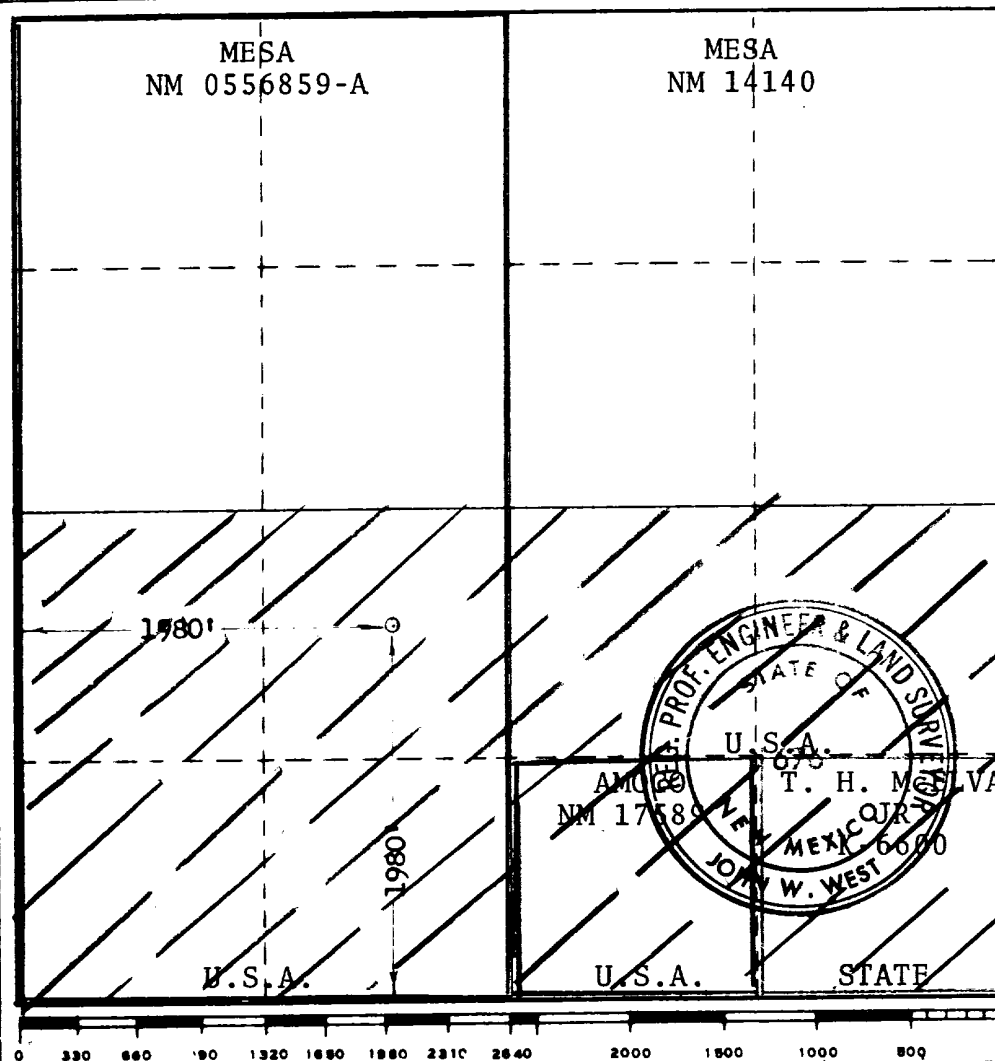
Operator MESA PETROLEUM CO.			Lease Nash Unit		Well No. 3
Unit Letter K	Section 12	Township 23 South	Range 29 East	County Eddy RECEIVED	
Actual Footage Location of Well: 1980 feet from the south line and 1980 feet from the west line FEB 18 1976					
Ground Level Elev. 2977.1	Producing Formation Morrow	Pool Nash Draw		Dedicated Acreage: S$\frac{1}{2}$ 320 Acres	

1. Outline the acreage dedicated to the subject well by colored pencil or hatchure 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 Unitization

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.

Michael P. Houston

Name

Michael P. Houston

Position

Division Engineer

Company

Mesa Petroleum Co.

Date

February 20, 1976

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

Feb. 15, 1976

Registered Professional Engineer and/or Land Surveyor

John W. West

Certificate No.

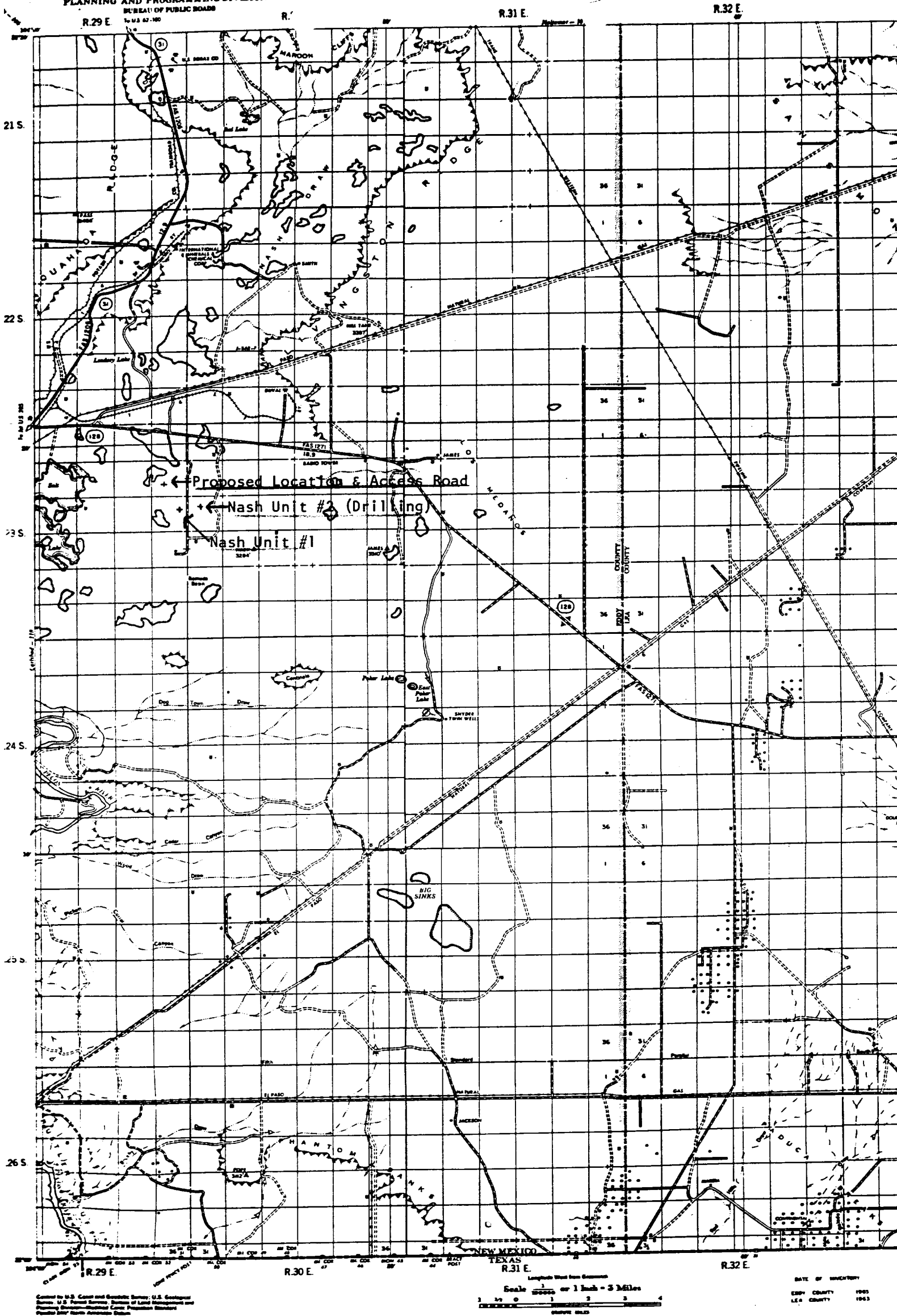
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DEVELOPMENT PLAN

Mesa Petroleum Co.
Nash Unit #3
1980' FSL & 1980' FWL
Sec 12, T23S, R29E
Eddy County, New Mexico

1. Attached plat depicts existing road network. Access road between existing road and location will be approximately 1100 yards. There is a road in the south part of the sections that previously served the drilling of two potash core holes - located at (1) 2260' FSL & 1021' FWL and (2) C of the section. This road will be widened and new road construction will be less than 50 yards. Drilling contractor will probably be McVay Drilling Company - Hobbs.
2. There is one Morrow producing well within one mile of the proposed location, and it is the Mesa Petroleum Co. Nash Unit #1, located 1980' FNL & 660' FEL of Sec 13, T23S, R29E. A second well is being drilled slightly more than one mile away. That well, Mesa Petroleum Co. - Nash Unit #2 is located 1350' FNL & 1980' FWL of Sec 18, T23S, R30E. Present depth is 13,675+.
3. Battery facilities will be located at the well site.
4. Both brine and fresh water for drilling well will be obtained from nearest commercial source.
5. Earthen pits will be provided for containing drill cuttings and waste drilling fluids. These pits will be plastic lined. Pits will be backfilled and leveled after sufficient drying. Trash and garbage will be contained in a separate earthen pit and burned as practical, then later backfilled.
6. Approximately 1-3/4 acres will be required for the rig and pit location. The terrain at the well location is rolling with sparse native grass and scrub greasewood. Also, the location is approximately 100 yards from a potash wastewater lake. Any top soil removed will be stockpiled for future use in restoring the disturbed area to original grade and contour. The disturbed area will be reseeded with appropriate grasses after completion.
7. Surface casing program: 20" OD 94# H-40 new casing will be set on bottom at approximately 300'. Cement will be circulated to the surface. A 20" - API 2000 psi WP bradenhead will be temporarily welded to the surface casing and a 20" - API 2000 psi WP BOP will be employed while drilling to approximately 3400'.
8. Intermediate casing program: 13-3/8" OD 54.5# & 61# K-55 & S-80 new casing will be set at approximately 3400'. Cement will be circulated to the surface. A 12" API 3000 psi WP permanent bradenhead will be installed. Afterwards, 12" - API 3000 psi WP BOP's (hydraulic double - pipe ram and blind ram) and 12" - API 3000 psi WP bag type BOP. Pit level indicators, flow sensors, rotating head, mud-gas separator, drilling choke, etc., will be in prime working order prior to reaching 9-5/8" casing seat and thereafter. BOP's and choke and kill lines will be tested to working pressure prior to drilling out 13-3/8" casing shoe.

9. Production casing: 9-5/8" OD 40-47# S-95 casing will be set at 11,100'. After the 9-5/8" casing is set, 10" API 5000 psi WP BOP's will be used to drill to total depth (see attached diagram of BOP's.) BOP's will include one pipe and one blank set of rams. Also a 10" API 5000 psi WP annular - bag type preventer will be used.
10. Production liner: 7" OD 32# S-95 casing will be set and cemented at total depth.
11. The drilling rig will be equipped with safety devices such as kelly cock, drill pipe float, full opening stabbing valve, inside drill pipe BOP, etc. Operational tests will be run weekly and results noted on tour sheets.
12. Maximum anticipated bottom hole pressure is 7500 psi in the Strawn at approximately 12,000', based on the offset wells. This pressure will be encountered after the 9-5/8" production string has been set. Mud of 12.0 PPG will be required to hydrostatically balance this formation pressure. Slightly underbalance drilling will be utilized to increase penetration rate and partially reduce the high pressured condition of the Wolfcamp zone.
13. Brine and polymer brine gel mud will be used to drill to 11,100'. Mud weight will probably not exceed 10.1 PPG. A weighted brine polymer mud will be used to drill the hole for the 7" production liner. Mud weight of 10.2-10.4 will be used to drill to approximately 12,000' with special attention to the Wolfcamp interval. Thereafter 12 PPG mud weight will probably be required as indicated in item 12.

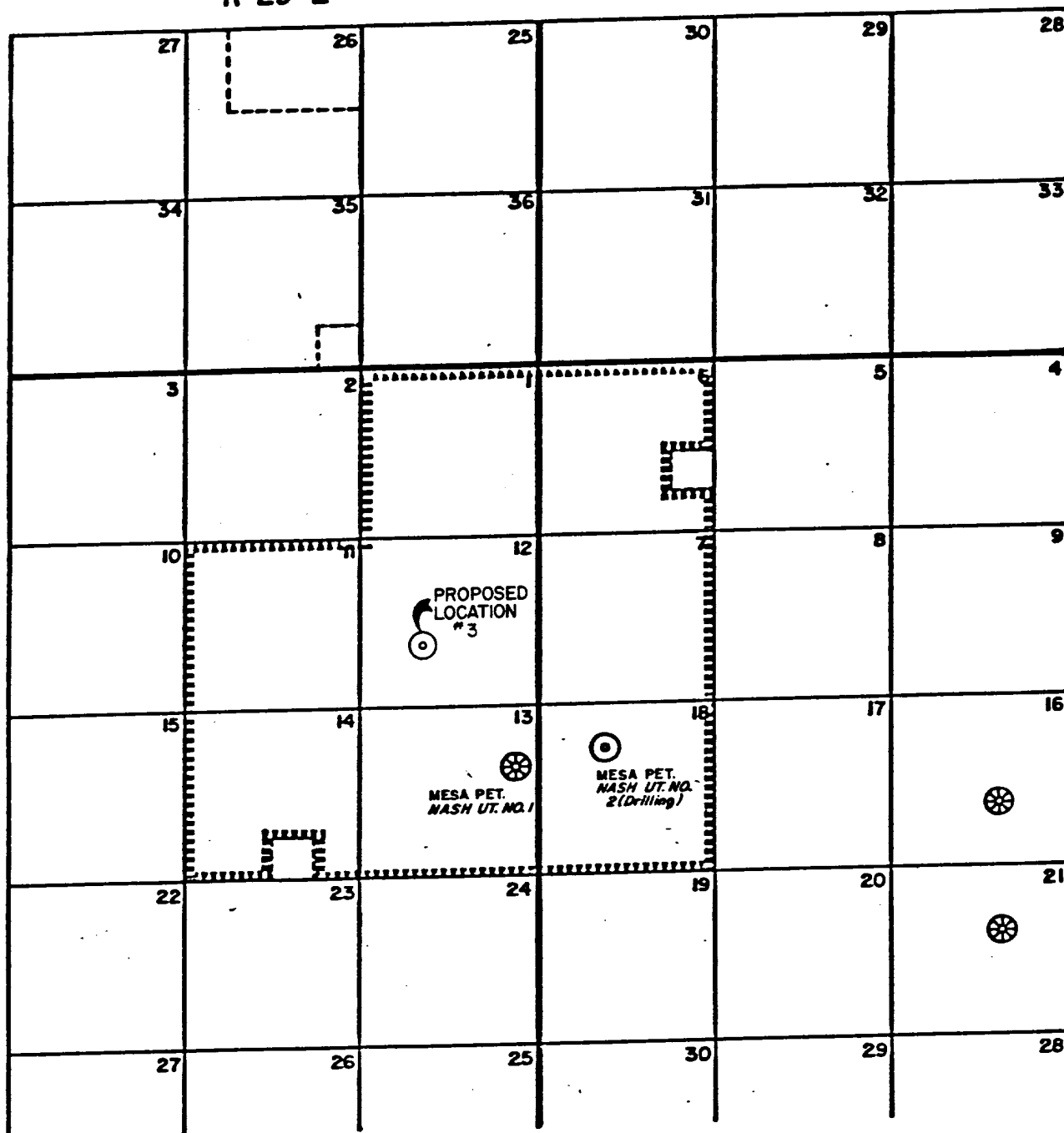


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R-30-E

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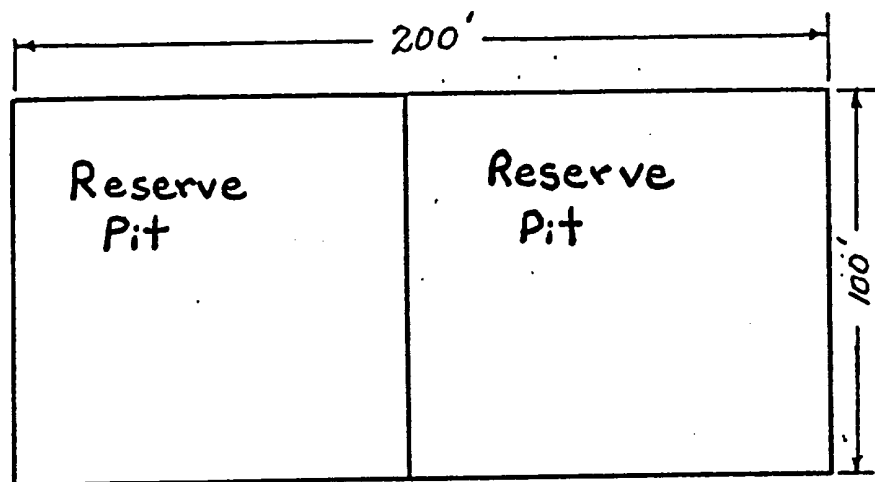
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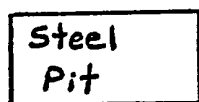
POTASH PROSPECT
NASH UNIT
Eddy County, New Mexico



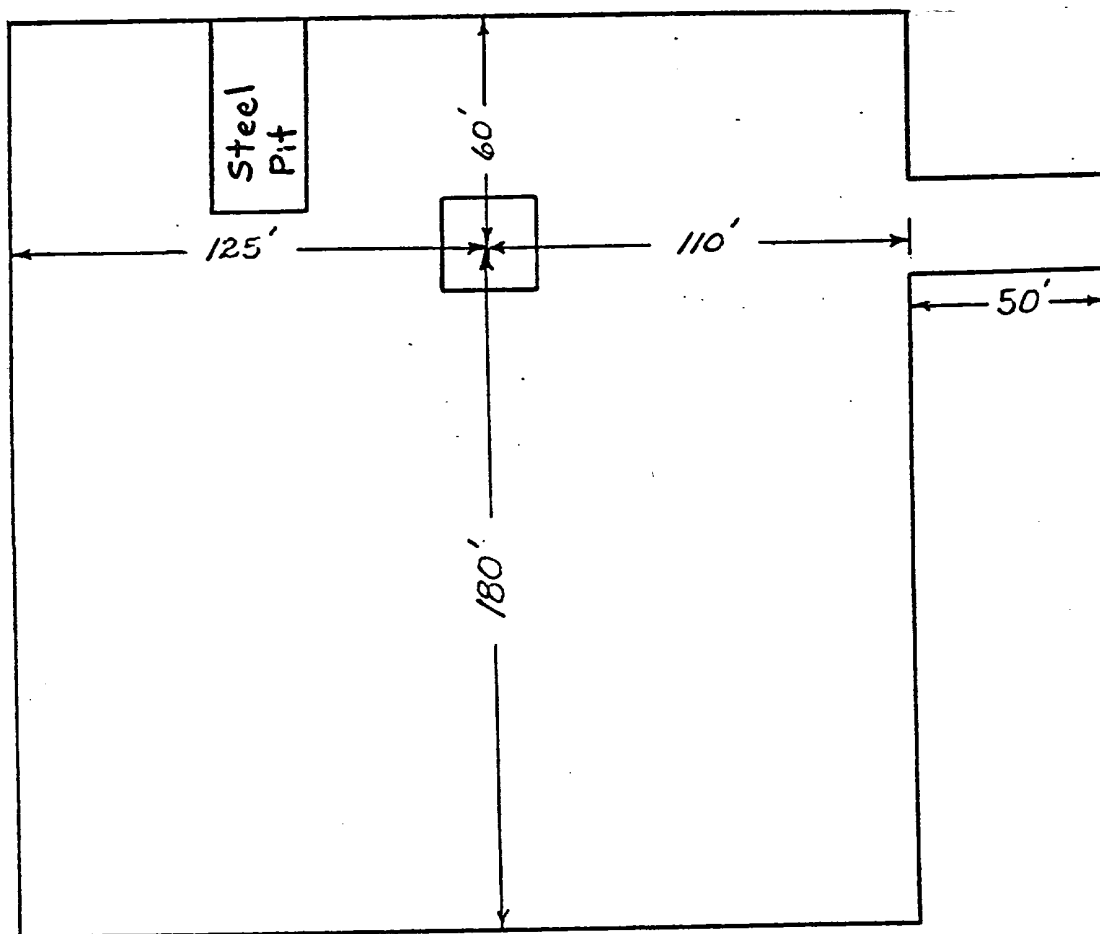
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Burn Pit



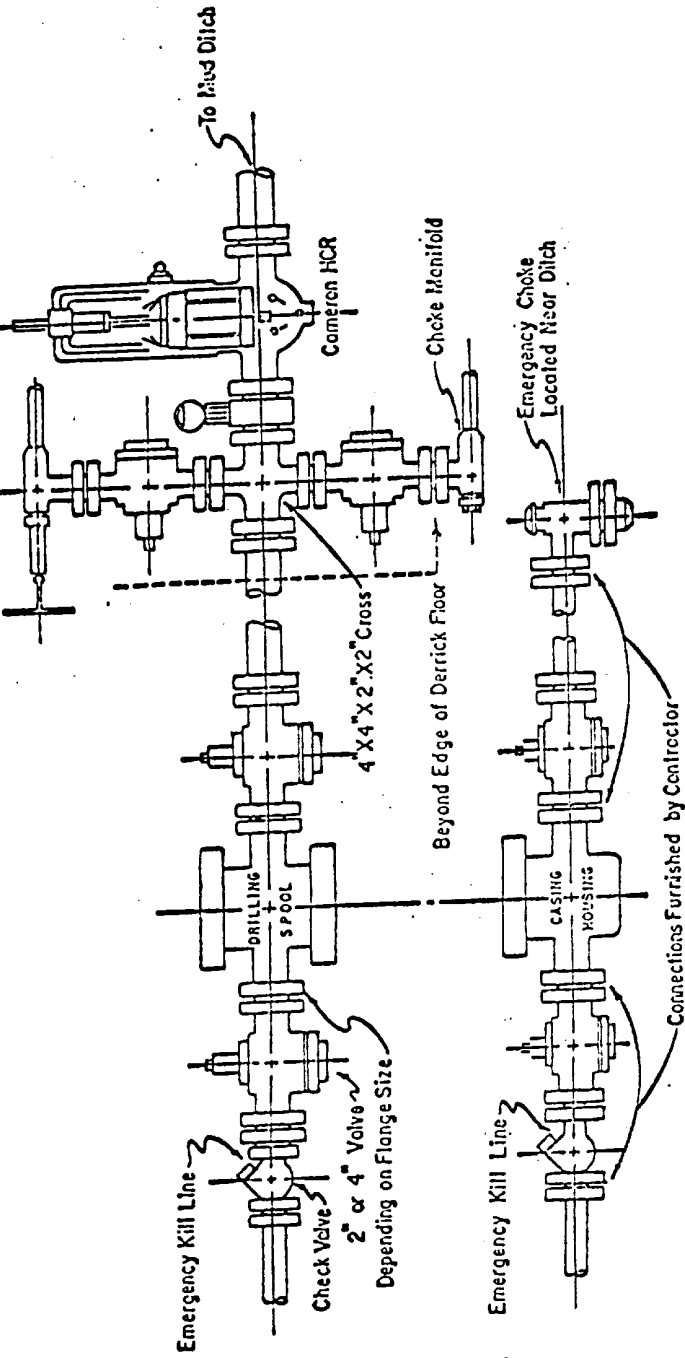
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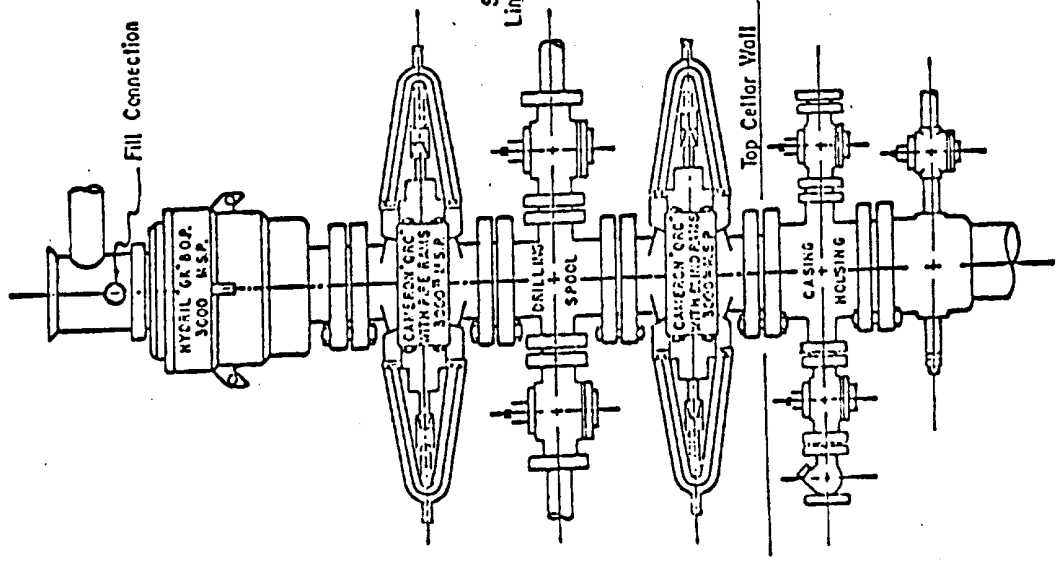
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Blow-out-preventers hydril and choke manifold all 1500 Series.



**5,000 PSI WORKING PRESSURE
KILL, CHOKES, AND FILL CONNECTIONS
API Series 1500 Flanges or Better
DETAIL OF 4" FLOW LINE CHOKES ASSEMBLY**

Minimum assembly for 5,000 PSI working pressure will consist of three preventors. The bottom and middle preventors may be Cameron.



See Detail of 4" Flow Line and Choke Assembly

**5,000 PSI WORKING PRESSURE
BLOWOUT PREVENTER HOOK-UP
Series 1500 Flanges or Better**