Form 9-331 C
(May 1963)

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1425.

30-025-26606

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK: DRILL [X] DEEPEN [ ] PLUG BACK [ ]

b. TYPE OF WELL: OIL WELL [X] GAS WELL [ ] OTHER — SINGLE ZONE [X] 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: 2600' FNL & 660' FEL
At proposed prod. zone: same

RECEIVED
OCT 23 1979
U.S. GEOLOGICAL SURVEY
HOBBS, NEW MEXICO

5. LEASE DESIGNATION AND SERIAL NO.: LC-029405(a)

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME: MCA

8. FARM OR LEASE NAME: MCA Unit

9. WELL NO.: 358

10. FIELD AND POOL, OR WILDCAT: Grayburg San Andres

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 20, T-17S, R-32E

12. COUNTY OR PARISH: Lea

13. STATE: N.M.

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:

17. NO. OF ACRES ASSIGNED TO THIS WELL: 40

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

19. PROPOSED DEPTH: 4150'

20. ROTARY OR CABLE TOOLS: Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.): 4037.8 GR

22. APPROX. DATE WORK WILL START*: December 14, 1979

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
14 3/4"	10 3/4"	45.5#	750'	520 SX.
9 1/2"	7 5/8"	26.4#	4150'	1425 SX.

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

This well, to be initially test pumped, will ultimately be converted to CO_2 injection.

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

DRILLING OPERATIONS AUTHORIZED ARE SUBJECT TO COMPLIANCE WITH ATTACHED "GENERAL REQUIREMENTS"

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: W. A. Betterfield TITLE: Admin. Supervisor DATE: 10/19/79

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

APPROVED
DEC 18 1979
ACTING DISTRICT ENGINEER

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

USGS-6
MCA-4
FILE
JFB

See Instructions On Reverse Side

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

Conoco Inc.

MCA Unit No. 358
Sec. 20, T17S, R32E
Lea County, New Mexico

1. The geologic name of the surface formation is Quaternary 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:
   0-750'-10 3/4", 45.5#, J-55, ST&C
   0-4150'-7 5/8", 26.4#, C-75, LT&C

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:
   0-750' 8.5-9.0 ppg fresh water
   750-4150' 9.0-10.0 ppg salt water gel

7. The auxiliary equipment to be used is:

   (1) kelly cocks
   (2) floats at the bit

8. It is propsed 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 December 14, 1979 with a duration of approximately 10 days.

KJH/kks

PROPOSED WELL PLAN OUTLINE

WELL NAME: MCA No. 358 (CO_2 Pilot Well) COUNTY: Lea

LOCATION: 660' FEL & 2600' FSL STATE: New Mexico

Sec. 20-T17S-R-32E

EST. KB: 4020'

EST. GL: 4010'

DEPTH 50/div.	FORMATION TOPS & TYPE	DRILLING PROBLEMS	TYPE OF FORMATION EVALUATION	HOLE SIZE	CASING SIZE	CASING DEPTH	FRACTURE GRADIENT	FORMATION PRESSURE GRADIENT	MUD WEIGHT	MUD TYPE
							PPG.		8.5-9.5	Fresh Water
	Caliche & Red Beds		Geolograph 0-TD							
	Rustler Anhy. 740'		10' Samples 1800'-TD	14 3/4	10 3/4	750	12.2	8.5		
	Salado Salt 850'									
1000		Possible Water Flows								
	Salt									
	Tansill Anhy. 1900'		LL-9 GR-SNP 1800'-4150'							
2000	Yates ss. 2070'									
			Core 3650'-3770' 3800'-50' 4020'-4120'				16.0-17.0	less 9.0	9.0-10.0	Salt Gel
3000	Queen ss. 3050'									
	Grayburg Dolo. 3420'	Possible Water Flow Possibly pressured 2500 psi expected at 3700 ±								
	6th Dolo. 3700'									
	7th Dolo. 3790'									
4000	9th dolo. 3980'						16.0-	13.0-	13.5-	Salt
	9th M. 4040'									

WELL NAME MCA No. 358 FIELD Baish-Maljamar-Pearsall DATE 9/20/79

AFE NO. ELEV. Est. GRD 4010 KB 4020 PROPOSED TD 4150

LOCATION (SURF.) 660' FEL & 2600' FNL OF SEC 20 T 17S R 32E

COUNTY Lea STATE New Mexico SPACING

LOCATION (BOTTOM HOLE)

GEOLOGICAL ESTIMATES

ZONE	TOP	THICKNESS	CONTENT	ZONE	TOP	THICKNESS	CON
Rustler Anhy.	740'			Grayburg			
Salado Salt	850'			1st	3420'		
Tansill Anhy.	1900'			6th	3700'		
Yates ss.	2070'			San Andres			
Queen ss.	3050'			7th	3790'		
				9th	3980'		
				9th M.	4040'		

CORING NO.	TYPE	HORIZON	INTERVAL FROM-TO	FOOTAGE	REMARKS
1.		GSA - 6th	3650-3770	120'	
2.		GSA - 7th	3800-3850	50'	
3.		GSA - 9th M	4020-4120	100'	

DRILL STEM TESTS

NUMBER	HORIZON	NUMBER	HORIZON	NUMBER	HORIZON
None.					

WATER SHUT OFF TESTS

NUMBER	HORIZON	NUMBER	HORIZ

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-TD	(2) Deflection		Every 250' to base of salt Every 500' thereafter
0-TD	(7) Geolograph		
1800-TD	(5) DLL	9 1/2"	
1800-TD	(6) GR-SNP	9 1/2"	
800-TD	(10) CBL	7 5/8" Casing	

FUEL AND WATER (SOURCE)

Fuel supplied by contractor, water supplied by Conoco.

PROPOSED WELL PLAN

WELL NAME MCA No. 358 FIELD Baish-Maljamar-Pearsall

ATTACHMENT	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. 0-750 — 14 3/4" hole. Set & cement 10 3/4" J-55 STC Casing. Pressure test & drill out after 18 hr.

2. 750-4150 — 9 1/2" hole. Pressure test to 500 psi after drilling out shoe. Run OH logs. Set & cement 7 5/8" C-75 LTC Casing.

3. Detailed completion from OH log analysis.

CASING, CENTRALIZERS & SCRATHERS

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	ID	WT PER FT	GRADE	THREAD	AMT	WT. IN AIR, 1000 LBS	WT. IN MUD 1000 LBS	REMARKS
(S) 0-750'	10 3/4"	9.950	45.5	J-55	STC	750'	34.1	27.7	9# mud assumed
(P) 0-4150'	7 5/8"	6.625	39.0	C-75	LTC	4150'	162	127	14.5# mud assumed

TYPE OF STRING	CENTRALIZERS INTERVAL NO. FROM-TO	SCRATCHER INTERVAL NO. FROM-TO	OTHER ACCESSORY EQUIPMENT (SUCH AS DEGASSERS, MUD. CENTRIFUGE FLOAT COLLARS, ETC. - SPECIFY)	REMARKS
(S) 0-750'	(8) 0-750'	None	Guide shoe, float collar	Centralizer 100' apart
(P) 0-4150'	(27) 3400-4150'	(40) 3400-4150'	Float shoe, float collar DV tool at approx. 2200' Note: Additional DV tool may be needed in salt zone if lost circulation is encountered when drilling. 2 metal pedal baskets just below DV tool.	Centralizers every joint 3400'-4150' Centralizers every other joint 200'-3400' Scratchers 15' apart

MUD PROGRAM

DEPTH INTERVAL FROM-TO	WEIGHT LBS/GAL	TYPE	OIL %	pH	WATER LOSS (cc)	VIS. (sec.)	YEILD POINT	THINNING AGENTS	WATER LOSS AGENTS
0-750	8.5-9.0	Fresh Water							
750-4150	9.0-10.0	Salt Gel*			Less than 10	34-38**			Gel & Starch (non-caustic)

REMARKS

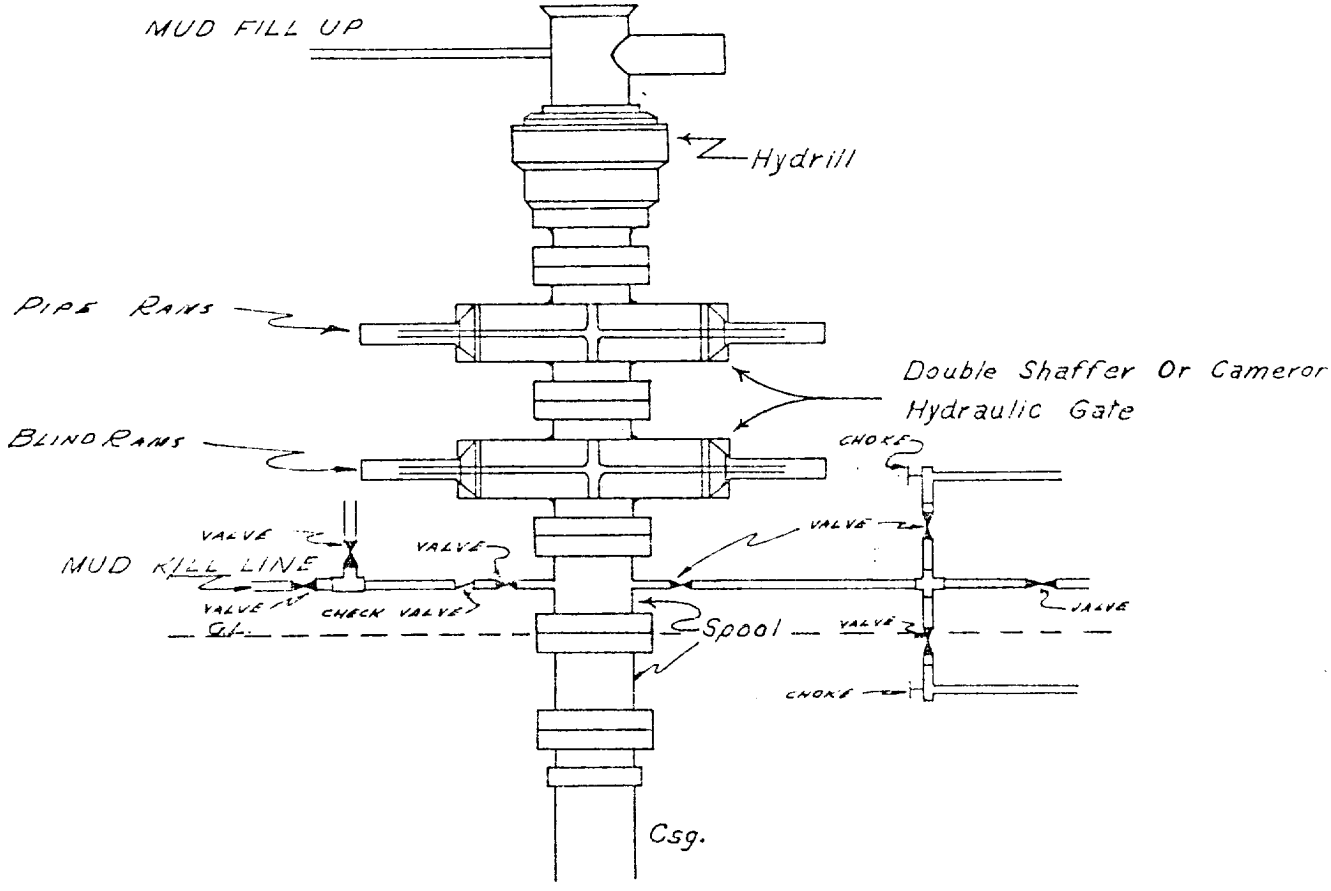
* Drill out with brine water
** Below 3000'

CEMENT

TYPE OF STRING INTERVAL (FT) FROM-TO TYPE MIX	GEL%	SALT%	CaCl2	SLURRY WEIGHT LB./GAL	SLURRY YIELD OF/SKX	TOTAL AMT. REQUIRED SKX/CF	FILL UP	BHT	SIZE	REMARKS
(S) 0-750' Class C	4%		2%	13.05	1.88	300/460	Circ		14 3/4	100% excess
Class C			2%	14.80	1.32	220/280			14 3/4	Add 1/4# Flocele per sack if lost circulation occurs.
(P) 2100'-4150'										
Class C	4%	3#/sk	2%	13.05	1.88	375/675	2100		9 1/2	150% excess
Class C			2%	14.80	1.32	175/225			9 1/2	Add 1/4# Flocele per sack if lost circulation occurs.
(P) 0-2100' Class C	4%	18%		13.05	1.88	875/1600	Circ.		9 1/2	300% excess*

NOTE: When cementing production casing.
(1) Reciprocate casing.
(2) Use a minimum pump rate of 11.5 BPM for turbulent flow.
(3) Use top and bottom plugs.
(4) DV tool at 2200'.
* (5) Revised cementing program will be made from caliper log if necessary.
(6) Two external casing packers should be used if waterflow is encountered. One above and one below flow.

CONTINENTAL OIL COMPANY
Blow-out Preventer Specifications



API Series 900

NOTE:

Manual and Hydraulic controls with closing unit no less than 75' from well head. Remote controls on rig floor.

DUE TO SUBSTRUCTURE CLEARANCE, HYDRILL MAY OR MAY NOT BE USED.

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	Lease	Well No.
CONOCO, INC.	MCA UNIT	358

Unit Letter	Section	Township	Range	County
H	20	17 SOUTH	32 EAST	LEA

Actual Footage Location of Well:
2600 feet from the NORTH line and 660 feet from the EAST line

Ground Level Elev.	Producing Formation	Pool	Dedicated Acreage:
4037.9	Grayburg - San Andres	Maljamar Grayburg/San Andres	40 Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.

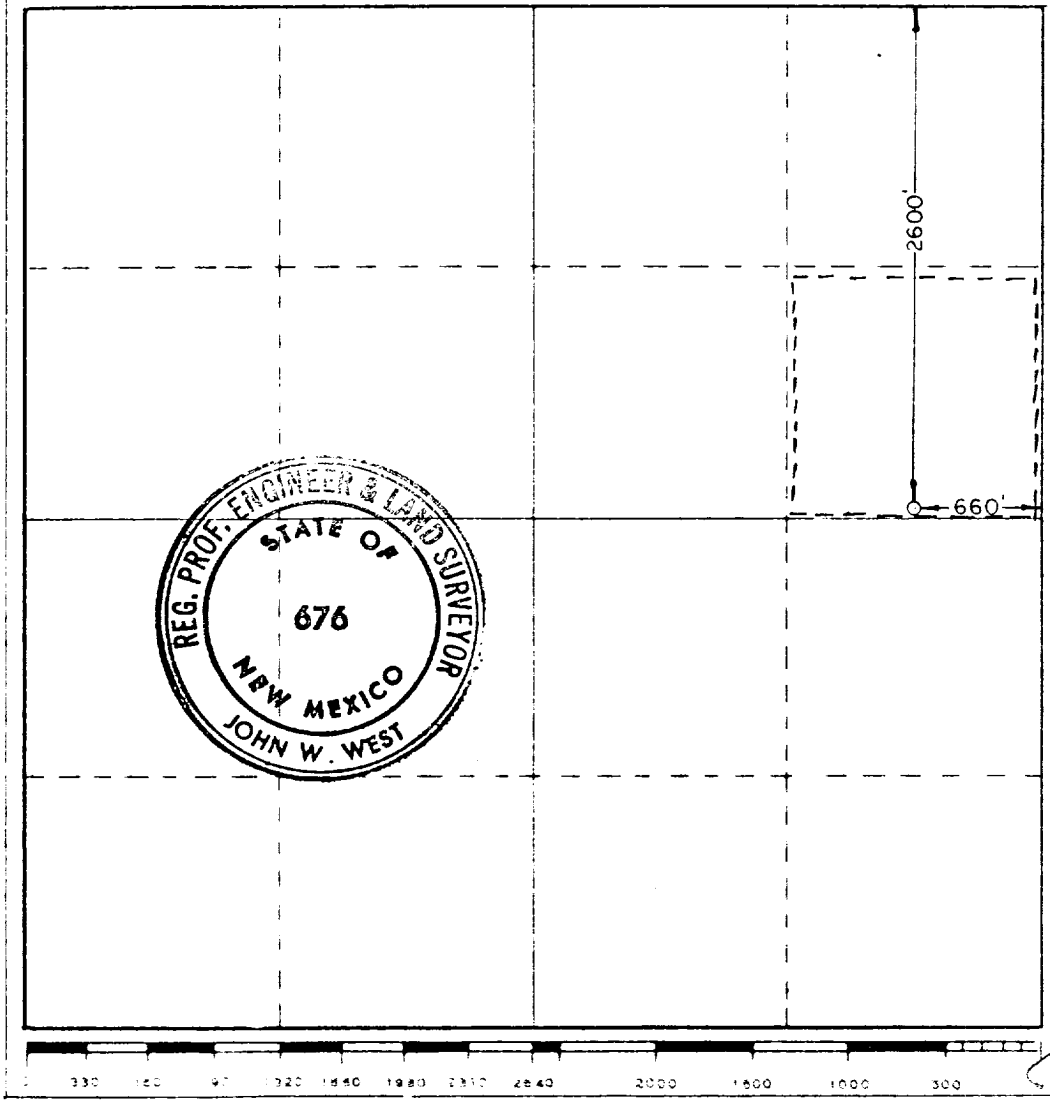
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

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.



330 660 990 1320 1650 1980 2310 2640 2000 1500 1000 500

CERTIFICATION

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

Name: Wm R. Butterfield

Position: Administrative Supervisor

Company: Conoco Inc.

Date: 10/19/79

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: SEPTEMBER 14TH, 1979

Registered Professional Engineer and/or Land Surveyor: John W. West

Certificate No. John W. West 676
Ronald J. Eidson 3239

SURFACE USE PLAN
Conoco Inc.
MCA Unit No. 358

The plan is to accompany "Application for Permit to Drill" the subject well. The following is a discussion of pertinent information concerning possible effect which the proposed drilling of the well may have on the environment of the well and road sites and surrounding acreage. A copy will be posted on the derrick floor so all contractors and sub-contractors will be aware of all items of this plan.

1. EXISTING ROADS

   A. The proposed well site is 2600' FNL & 660' FEL, Section 20, T17S, R32E. Lea County, New Mexico.

   B. Exhibit "A" is a portion of a New Mexico road map showing existing roads. Directions to the location are as follows: From Maljamar, travel 3 miles south, 1.2 miles west, and ¼ mile north. See Exhibit "B" for lease roads to location.

   C. Access roads are shown on Exhibits "B" and "C".

   D. No improvement or maintenance is anticipated for the existing roads.

2. PLANNED ACCESS ROADS

   A. No new roads are required.

   B. Turnouts: Two required to go around pad as pad lies in the middle of an existing road.

   C. Culverts, Cuts, and Fills: None required.

   D. Surfacing Material: Six inches of caliche, bladed, watered and compacted.

   E. Gates, Cattleguards and Fences: None required.

3. LOCATION OF EXISTING WELLS

   See Exhibit "C".

4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES

   A. Tank Batteries: No new tank batteries are required. Existing batteries are spotted on Exhibit "C".

   B. Producing Facilities: No new producing facilities are required.

C. Oil Gathering Lines: Flow lines will lay on the surface alongside the road right-of-way.

D. Other Lines: Electrical distribution lines will be constructed on 330' spans as shown on Exhibit "E"

E. Rehabilitation: Pits will be backfilled and leveled as soon as practical to original condition. Commencement of rehabilitation operations will immediately follow removal of drilling and completion equipment from location. Rehabilitation of the surface is planned to be completed within 45 days from commencement.

5. WATER SUPPLY

Water will be hauled from the MCA Unit fresh water supply system.

6. SOURCE OF CONSTRUCTION MATERIALS

Caliche will be hauled over existing roads from a pit in the NE/NE, Section 23, T17S, R32E.

7. METHODS FOR HANDLING WASTE DISPOSAL

Waste Disposal: Well cuttings will be disposed in reserve pit. Barrel trash containers to be in accessible locations within drill site area during drilling and completion procedures. All detrimental waste will be hauled away, burned or buried with a minimum cover of 24" of dirt. See Exhibit "D" for location of pits. If well is productive, maintenance waste will be placed in special trash cans and hauled away periodically. Any produced water will be collected in tanks until hauled to an approved disposal system, or separate disposal applications will be submitted to the survey for appropriate approval.

8. ANCILLARY FACILITIES

None.

9. WELL SITE LAYOUT

Exhibit "D" shows the relative location and dimensions of the well pad, mud pit, reserve pit, etc. The reserve pit will be lined with plastic. The pad and pits are staked.

10. PLANS FOR RESTORATION OF SURFACE

Pits will be backfilled and leveled as soon as practical to original condition. Commencement of rehabilitation operations will immediately follow removal of drilling and completion equipment from location and rehabilitation of the surface is planned to be completed within 45 days from commencement.

11. OTHER INFORMATION

A. Terrain: Flat

B. Soil: Sandy

C. Vegetation: Shinnery

D. Surface Use: Grazing

E. Ponds and Streams: None within one mile

F. Water Wells: None within one mile

G. Residences and Buildings: None within one mile

H. Arroyos, Canyons, Etc.: None

I. Well Sign: Sign identifying and locating well will be maintained at drill site with the spudding of the well.

J. Open Pits: All pits containing mud or other liquids will be fenced.

K. Archaeological Resources: None observed.

12. OPERATOR'S REPRESENTATIVE

Field personnel who can be contacted concerning compliance of this Surface Use Plan are as follows:

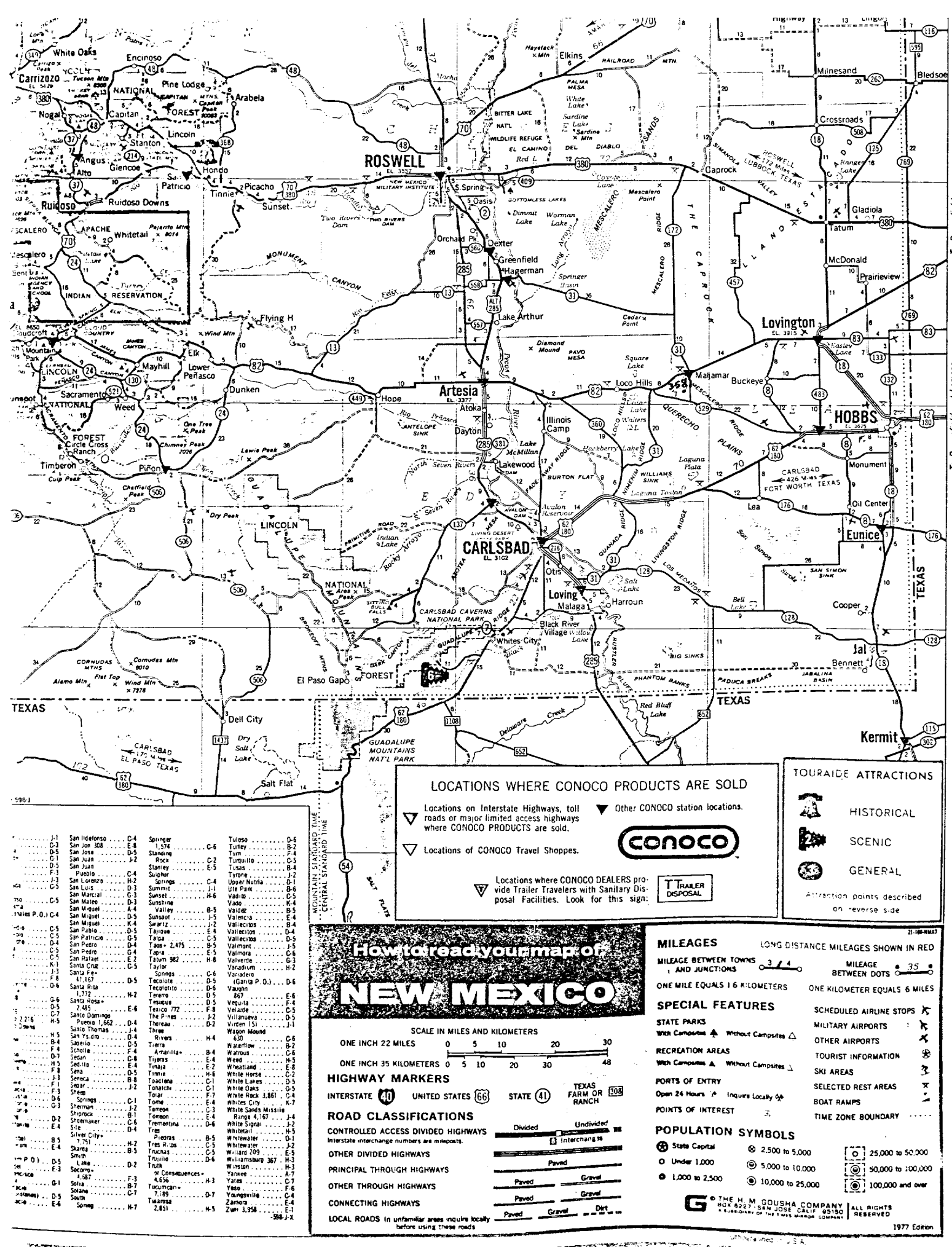
Production and Drilling
P.R. DeFoe or H.C. Pokrandt
1001 North Turner
Hobbs, New Mexico 88240
Phone: 393-4141

13. CERTIFICATION

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed by Continental Oil Company and its contractors and sub-contractors in conformity with this plan and the terms and conditions under which it is approved.

9/21/79
Date

H.C. Pokrandt
Production Superintendent



LOCATIONS WHERE CONOCO PRODUCTS ARE SOLD

- Locations on Interstate Highways, toll roads or major limited access highways where CONOCO PRODUCTS are sold.
- Other CONOCO station locations.
- Locations of CONOCO Travel Shoppes.
- Locations where CONOCO DEALERS provide Trailer Travelers with Sanitary Disposal Facilities. Look for this sign: TRAILER DISPOSAL

CONOCO

TOURAIDE ATTRACTIONS

- HISTORICAL
- SCENIC
- GENERAL

Attraction points described on reverse side

21-108-NMX7

How to read your map of NEW MEXICO

SCALE IN MILES AND KILOMETERS

ONE INCH 22 MILES 0 5 10 20 30

ONE INCH 35 KILOMETERS 0 5 10 20 30 48

HIGHWAY MARKERS

INTERSTATE 40 UNITED STATES 66 STATE 41 TEXAS FARM OR RANCH 308

ROAD CLASSIFICATIONS

CONTROLLED ACCESS DIVIDED HIGHWAYS (Interstate interchange numbers are mileposts.)	Divided / Undivided, Interchange 118
OTHER DIVIDED HIGHWAYS	Paved
PRINCIPAL THROUGH HIGHWAYS	Paved / Gravel
OTHER THROUGH HIGHWAYS	Paved / Gravel
CONNECTING HIGHWAYS	Paved / Gravel
LOCAL ROADS In unfamiliar areas inquire locally before using these roads	Paved / Gravel / Dirt

MILEAGES

LONG DISTANCE MILEAGES SHOWN IN RED

MILEAGE BETWEEN TOWNS AND JUNCTIONS 3 1/4

MILEAGE BETWEEN DOTS 35

ONE MILE EQUALS 1.6 KILOMETERS

ONE KILOMETER EQUALS 6 MILES

SPECIAL FEATURES

STATE PARKS With Campsites ▲ Without Campsites △

RECREATION AREAS With Campsites ▲ Without Campsites △

PORTS OF ENTRY Open 24 Hours Inquire Locally

POINTS OF INTEREST

SCHEDULED AIRLINE STOPS

MILITARY AIRPORTS

OTHER AIRPORTS

TOURIST INFORMATION

SKI AREAS

SELECTED REST AREAS

BOAT RAMPS

TIME ZONE BOUNDARY

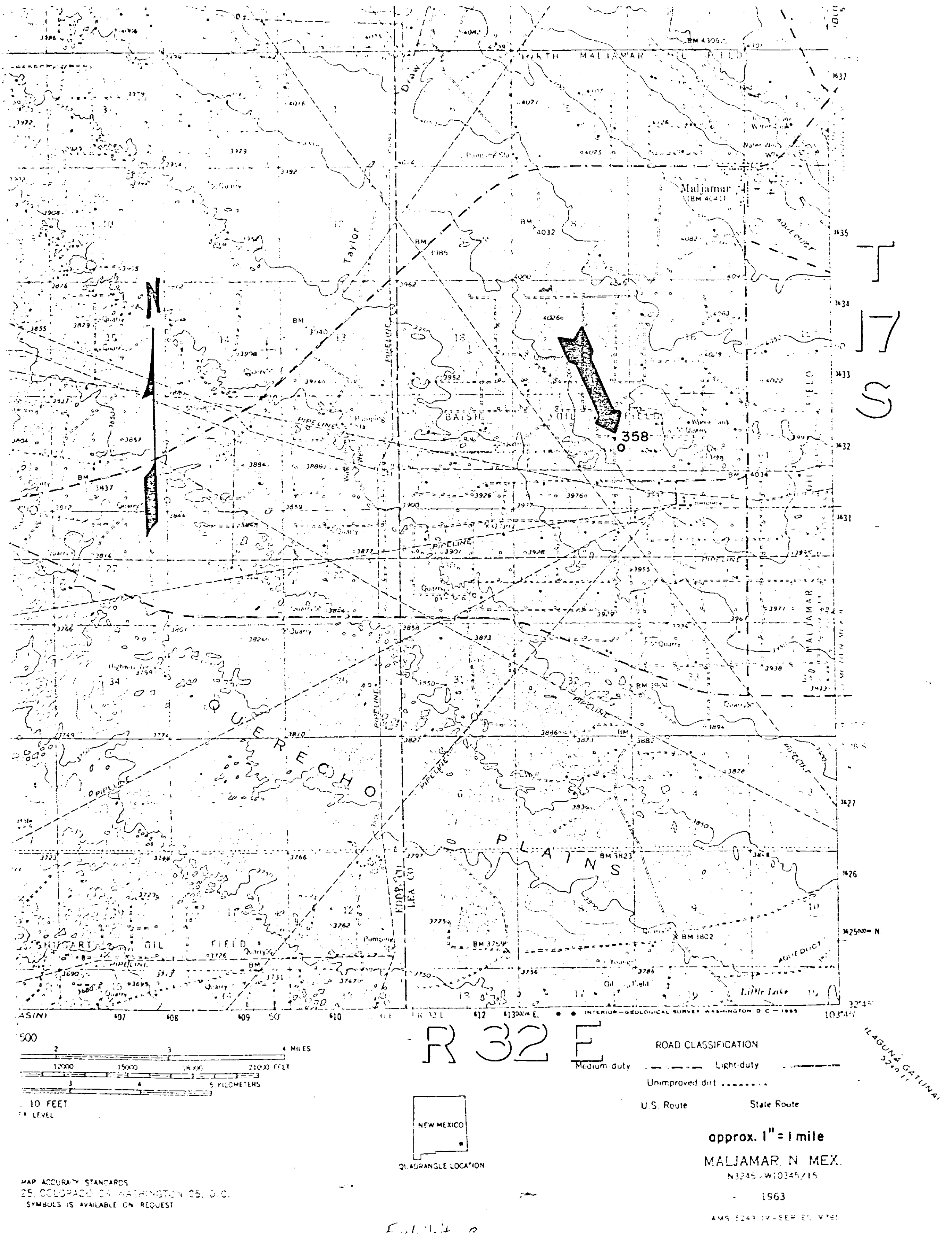
POPULATION SYMBOLS

- State Capital
- Under 1,000
- 1,000 to 2,500
- 2,500 to 5,000
- 5,000 to 10,000
- 10,000 to 25,000
- 25,000 to 50,000
- 50,000 to 100,000
- 100,000 and over

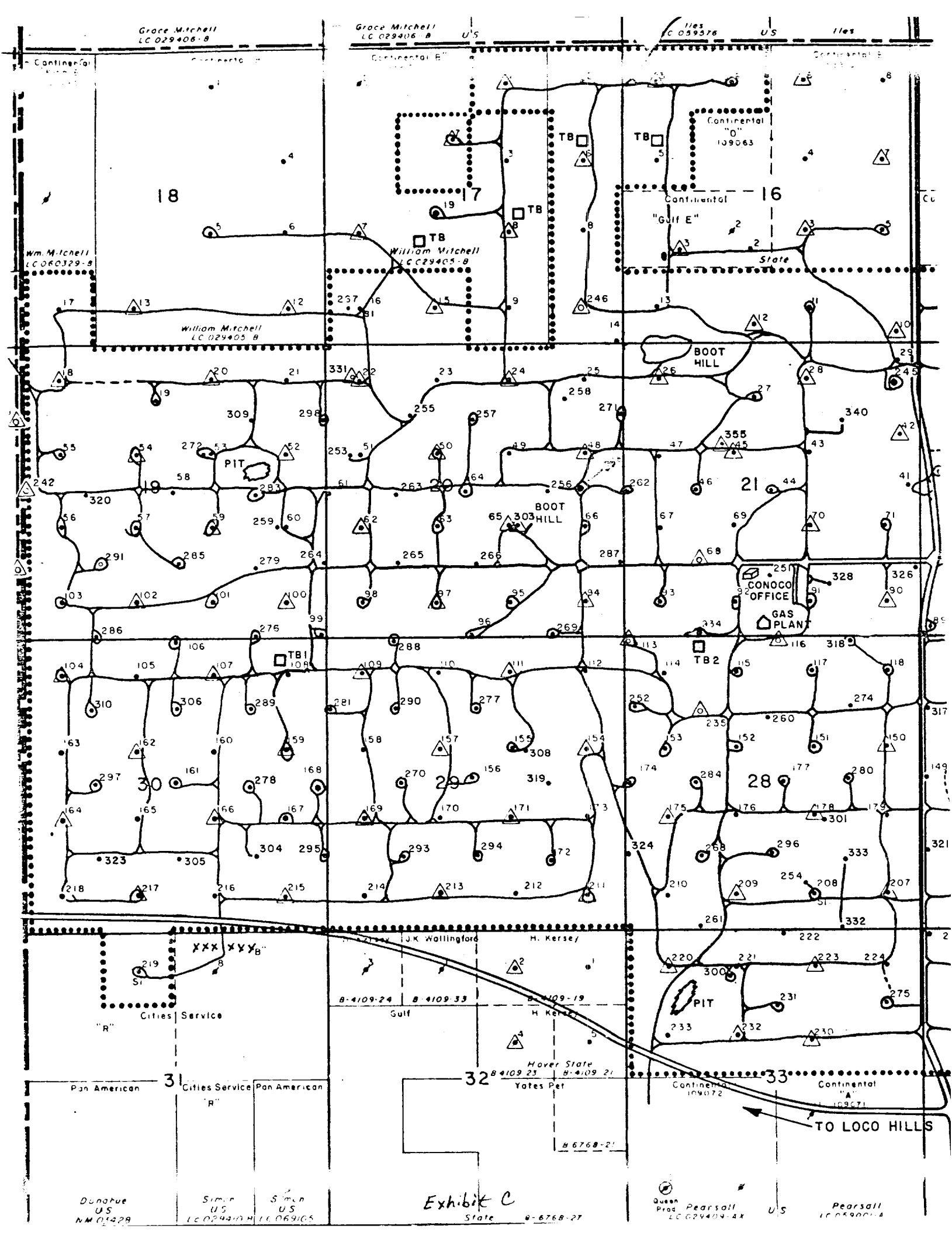
1977 Edition

598-J

Exhibit "A"



NORTH MALJAMAR OIL FIELD
Maljamar
(BM 4041)
Taylor Draw
BAISH OIL FIELD
358
T 17 S
QUERECHO PLAINS
SHUGART OIL FIELD
Little Lake
EDDY CO
LEA CO
PIPELINE
AQUEDUCT
MALJAMAR
3625000m N.
32°45'
103°45'
INTERIOR—GEOLOGICAL SURVEY WASHINGTON D C —1965
R 32 E
ROAD CLASSIFICATION
Medium-duty
Light-duty
Unimproved dirt
U.S. Route
State Route
4 MILES
21000 FEET
5 KILOMETERS
10 FEET
NEW MEXICO
QUADRANGLE LOCATION
approx. 1" = 1 mile
MALJAMAR, N. MEX.
N3245—W10345/15
1963
AMS 5243 IV—SERIES V781
MAP ACCURACY STANDARDS
25, COLORADO OR WASHINGTON 25, D.C.
SYMBOLS IS AVAILABLE ON REQUEST


Grace Mitchell LC 029406-B
Grace Mitchell LC 029406-B
Iles LC 059576
Iles
Continental "O" 109063
Continental "Gulf E"
Wm. Mitchell LC 060329-B
William Mitchell LC 029405-B
William Mitchell LC 029405-B
State
BOOT HILL
BOOT HILL
PIT
PIT
CONOCO OFFICE
GAS PLANT
TB
TB1
TB2
18
17
16
19
20
21
30
29
28
31
32
33
Cities Service "R"
Gulf
H. Kersey
J.K. Wallingford
Pan American
Yates Pet
Continental "A" 109071
Continental 109072
Hover State
B-4109-24
B-4109-33
B-4109-19
B-6768-21
TO LOCO HILLS
Donahue US NM 01428
Simon US LC 029403-H
Simon US LC 069105
Exhibit C
State B-6768-27
Queen Prod.
Pearsall LC 029409-AX
Pearsall