

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK

DRILL ☒ (Re-enter) DEEPEN ☐ PLUG BACK ☐

b. TYPE OF WELL

OIL ☐ GAS ☐ OTHER ☐SINGLE ZONE ☐ MULTIPLE ZONE ☐

2. NAME OF OPERATOR

Laguna Petroleum Company

3. ADDRESS OF OPERATOR

Box 100, Santa Fe, New Mexico 87500

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

At surface

At proposed prod. zone

3720'

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

10.2 miles east and south from Box 100, New Mexico

15. DISTANCE FROM PROPOSED*

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

100.2'

18. DISTANCE FROM PROPOSED LOCATION*

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

None

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

3720' ±

22.

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
10 1/2"	10 1/2"	Casing already set at 3021'	3021'	Amount of 1100 lbs.
* 8 1/2"	8 1/2"	11.6# and 10.5#	3500'	2.0 cu class 80' + 2% gel
		8-15		

* The need for an intermediate string of casing is not anticipated. However, if it is needed, it would be 8-5/8" and would be set at 1080'. See attached letters dated 8/11/78 and 10/10/78 from Meyer & Associates, Inc.

Laguna Petroleum Company proposes to re-enter J. C. Williamson (State Federal Well No. 1) and to test the Mississippian formation.

Well Program: See attached letter dated 8/1/78 from Laguna Petroleum Company.

GR Program: See Exhibit 2.

If the well is productive, Laguna Petroleum Company will apply to the U.S. Geological Survey for approval of unorthodox location.

All sales are not dedicated.

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.

23.

SIGNED

Edward N. [Signature]

TITLE

Agent for Laguna
Petroleum Company

DATE

10/11/78

(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

Filed
10-14-78
Re-Entry
10-20-78



NMOCC COPY

United States Department of the Interior

GEOLOGICAL SURVEY
P. O. Drawer U
Artesia, New Mexico 88210

October 12, 1978

Laguna Petroleum Company
One Park Central, Suite 635
Denver, Colorado 80202

LAGUNA PETROLEUM COMPANY Malmstrom Federal No. 1 2310 FNL 2195.8 FWL Sec. 19, T12S, R29E Chaves County Lease No. NM-16107
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Above Data Required on Well Sign

Gentlemen:

Your APPLICATION FOR PERMIT TO RE-ENTER the above-described well to a depth of 8,600 feet to test the Mississippian is hereby approved subject to compliance with the OIL AND GAS OPERATING REGULATIONS (30 CFR 221) and the following conditions:

1. Drilling operations authorized are subject to compliance with the attached General Requirements for Oil and Gas Operations on Federal Leases, dated July 1, 1978.
2. Prior to commencing construction of road, pad, or other associated developments, operator will provide the dirt contractor with a copy of the Surface Use Plan and these Conditions of Approval including the attached General Requirements.
3. Submit a Daily Report of Operations from spud date until the well is completed and the Well Completion Report (form 9-330) is filed. The report should be not less than 8" x 5" in size and each page should identify the well.
4. All permanent above-ground structures and equipment shall be painted in accordance with the attached Painting Guidelines. The color used should simulate sandstone brown (Federal Standard Color No. 595A, color 20318 or 30318).

Sincerely yours,

(Orig. Sgd.) ALBERT R. STALL

Albert R. Stall
Acting District Engineer

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 Laguna Petroleum Company		Lease MALMSTROM Laguna Petroleum Federal		Well No. 1
Well Letter F1	Section 10	Township T12S	Range 120E	County Chaves
Actual Portage Location of Well: 230 feet from the north line and 2125.8 feet from the west line				
Ground Level Elev. 3711.1	Producing Formation Mississippian	Pool Wildcat	Dedicated Acreage: 320 Acres	

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

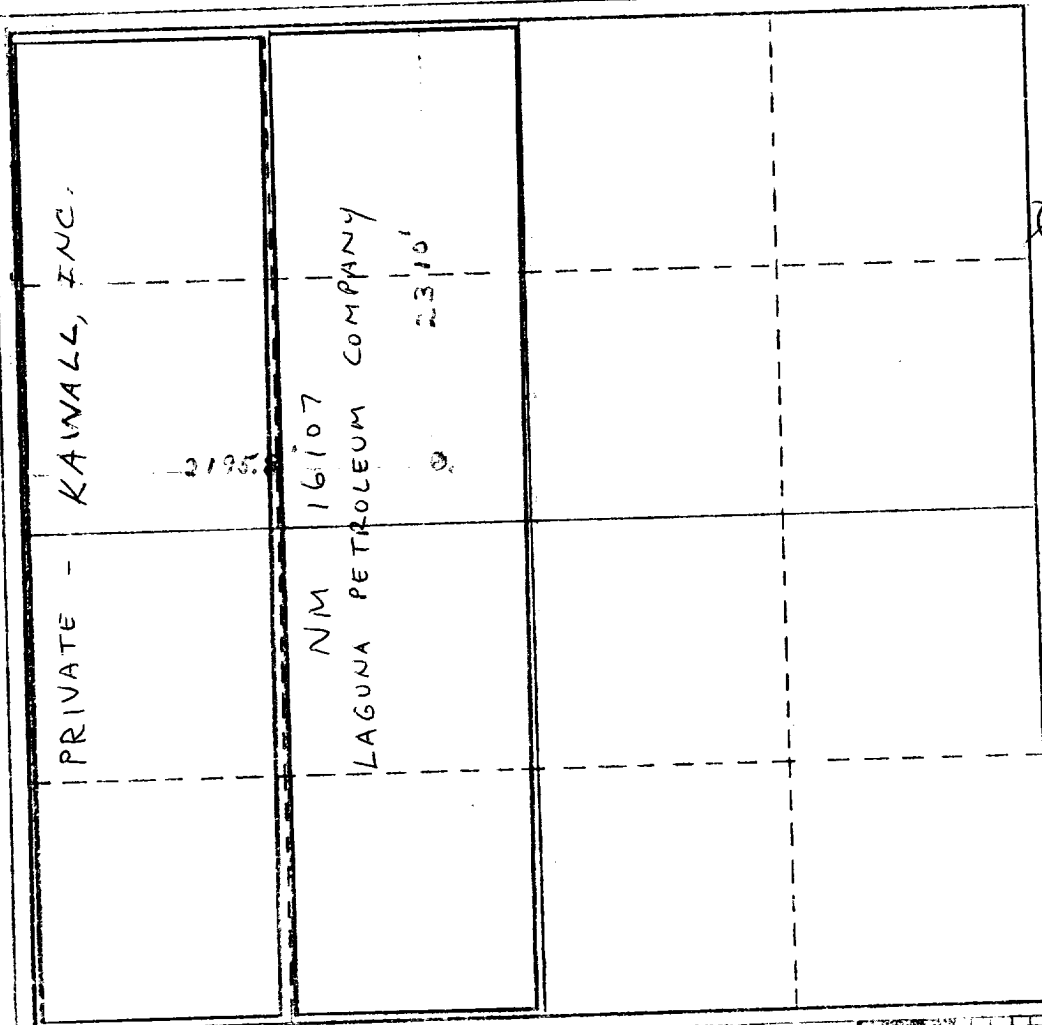
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

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 Will be communitized

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.



RECEIVED
JUL 29 1959
ARTESIA, NEW MEXICO
CERTIFICATION

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

Edward N. Lucking
Name

Edward N. Lucking

Position

Agent for

Company

Laguna Petroleum Company

Date

8/29/59

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.

Refer to original plat,

Date Surveyed

dated 10/20/59, prepared by John H. 1098

Registered Professional Engineer and/or Land Surveyor (copy attached)

Certificate No.

NEW MEXICO OIL CONSERVATION COMMISSION

WELL LOCATION AND ACREAGE DEDICATION PLAT

FORM C-128
Revised 5/1/57

SEE INSTRUCTIONS FOR COMPLETING THIS FORM ON THE REVERSE SIDE

SECTION A

Operator J. C. Williamson		Lease Sohio - Federal		Well No. 1
Unit Letter K	Section 19	Township 12 S	Range 29 E	County Chaves
Actual Footage Location of Well: 2195.8 feet from the West line and 2310 feet from the North line				
Ground Level Elev. 3743.8	Producing Formation Devonian	Pool Undesignated		Dedicated Acreage 360 Acres

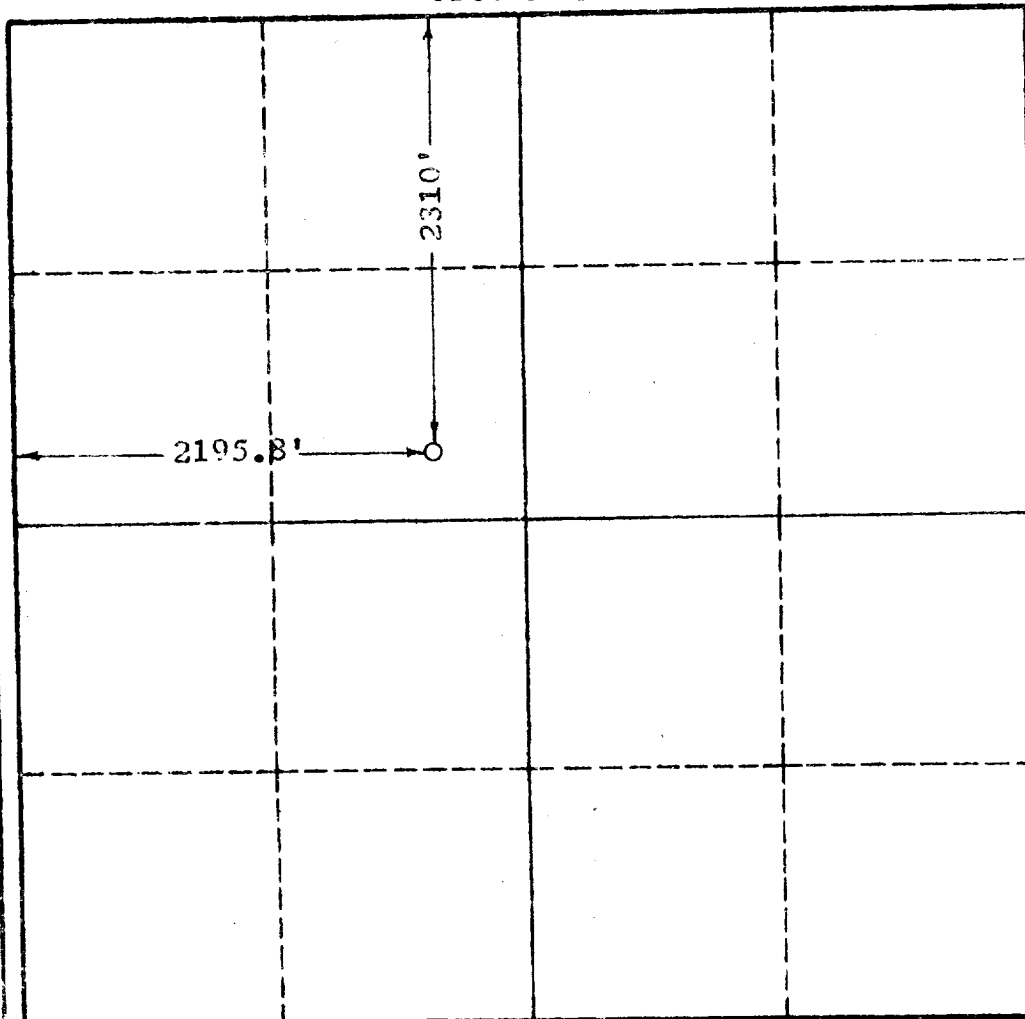
1. Is the Operator the only owner in the dedicated acreage outlined on the plat below? YES ☒ NO ☐ ("Owner" means the person who has the right to drill into and to produce from any pool and to appropriate the production either for himself or for himself and another. (65-3-29 (e) NMSA 1935 Comp.)
2. If the answer to question one is "no," have the interests of all the owners been consolidated by community agreement or otherwise? YES ☐ NO ☐ If answer is "yes," Type of Consolidation **COMMUNITY AGREEMENT**
3. If the answer to question two is "no," list all the owners and their respective interests below:

Owner	Land Description

NOV 2 - 1959

U. S. GEOLOGICAL SURVEY
ROSWELL, NEW MEXICO

SECTION B



I hereby certify that the information in SECTION A above is true and complete to the best of my knowledge and belief.

Name John W. West
Position Superintendent
Company J. C. WILLIAMSON
Date October 22, 1959

I hereby certify that the well location shown on the plat in SECTION B 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 10-20-59
Registered Professional Engineer and/or Land Surveyor, JOHN W. WEST
Certificate No. N.M. - P.E. & L.S. NO. 676

0 330 660 990 1320 1650 1980 2310 2640 2000 1500 1000 500 0

**APPLICATION FOR DRILLING
(RE-ENTRY)**

Laguna Petroleum Company
~~MALMSTROM~~ ~~Laguna Petroleum~~ Federal Well No. 1 ~~1~~
Section 19-T12S-R29E
Cheves County, New Mexico

In conjunction with Form 9-3310, Application for Permit to Drill subject well, Laguna Petroleum Company submits the following ten items of pertinent information:

1. The geologic surface formation is quaternary alluvium and talus deposits and other surficial deposits.

2. The estimated tops of geologic markers are as follows:

Yates	706'	Abo	5575'
Guerrero	1320'	Wolfcamp	6595'
San Andres	1980'	Atoka	8000'
Glorieta	3322'	Mississippian	8195'
Foothills	4760'	Devonian	8372'

3. The depths at which anticipated water, oil or gas formations are expected to be encountered:

Water: Perhaps none. If any, probably in small quantities and of poor quality at 600-700 feet.

Oil or Gas: Scattered porosity zones in the Mississippian between 8300 feet and 8600 feet.

4. Proposed casing program: See Form 9-3310 and attached letter dated 5/21/78 from Meyer & Associates, Inc.

5. Pressure control equipment: See Exhibit D.

6. Mud program: See attached letter dated 8/1/78 from Mustang Mud Incorporated.

7. Auxiliary equipment: Blowout preventer, Inside blowout preventer, Kelley cock.

8. Testing, logging and coring programs:

No drill stem tests or coring is planned.
Logging: GR/Neutron w/collar locator.

9. No abnormal pressures or temperatures are anticipated.

10. Anticipated starting date: As soon as possible after approval.

MEYER & ASSOCIATES, INC.

P. O. BOX 7764 • PHONE (915) 682-3751

MIDLAND, TEXAS 79701

Consulting Petroleum Engineer

October 10, 1978

Lease Management

Laguna Petroleum Corporation
One Marienfeld Place, Suite 370
Midland, Texas 79701

Attn: Bill Barnes

Gentlemen:

This letter is to supplement our letter of August 12, 1978.

As outlined in the previous letter we plan to set 4-1/2" csg. at 8500'. This casing well be 11.6# & 10.5# K-55 csg. We plan to cement it with 750 sx class "C" cement + 2% gel., unless hole conditions call for more cement.

We plan to attach the BOP equipment shown in Exhibit "D" of Laguna application directly to the 13-3/8" csg.

MEYER & ASSOCIATES, INC.



Jerry I. Moritz

MEYER & ASSOCIATES, INC.

P. O. BOX 7764 • PHONE (915) 682-3751

MIDLAND, TEXAS 79701

Consulting Petroleum Engineer

Lease Management

August 21, 1978

Laguna Petroleum Corp.
One Marienfield Place, Suite 370
Midland, Texas 79701

Attn: Bill Barnes

Gentlemen:

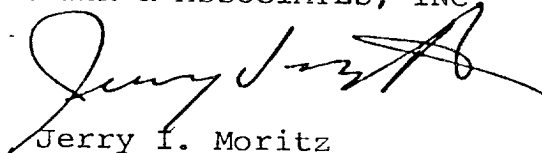
This is to advise you of the casing program to be used in the re-entry of J. C. Williamson's - Sohio- Federal #1, Sec. 19, TRS-R29E, Chaves County, N. M.

This well already has 13-3/8" casing set at 302' and cemented w/285 sx. The program calls for cleaning the well out to 8500' and attempting a completion in the Mississippian. The need of an intermediate string of casing is not anticipated, however if it is needed it would be 8-5/8" and would be set at 1980'. The production string of casing would be 4½" OD and set at 8500'.

The 8-5/8" would be cemented so as to tie into the surface casing and the 4½" would be cemented with sufficient cement so as to cover the Abo formation at 5500'.

The size pad for a rig of this size would be 300' X 180' and the reserve pit would be 200' X 150' and would ajoin the pad.

MEYER & ASSOCIATES, INC.



Jerry I. Moritz

Mustang Mud Incorporated

110 WILCO BLDG.

(915) 682-7918

MIDLAND, TEXAS 79701

August 1, 1978

Laguna Petroleum Co.
Gihls Tower West
Midland, Texas 79701

Attention: Bill Barnes

Gentlemen:

The following is a suggested mud program on your Sohio-Federal #1 Re-entry, located in the Southeast part of Chaves County, 20 miles Southwest of Caprock, Sec. 19-12S-29E, Chaves County, New Mexico.

TO DRILL CEMENT PLUGS:

1. Suggest you build additional volume using Salt Gel and Oil, using the fluid that is already in the hole, with the following characteristics:

Viscosity	38 - 45 sec/1000 cc
Weight	9.4 - 9.7 lbs/gal.
Water Loss	N. C.
Filter Cake	2/32 or less
Oil Content	6 - 8%
pH	9.5 - 10.5

2. Cement plugs should be drilled and bottom hole plug set with this type fluid. If hole problems are encountered, suggest you lower water loss to 10 cc or less with Starch before running pipe.
3. The Weight and viscosity may need to be altered upward as the hole conditions dictate.

ESTIMATED COSTS: (\$1,500.00 to \$3,000.00)

The above costs do not include loss circulation,
pressure problems, fishing jobs, etc., which
would naturally increase the mud cost.

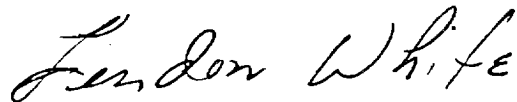
SERVICE ENGINEERS:

1. Glen Harris, Hobbs, NM Ph:505 392-7102
2-Way Radio Unit #128
2. Steve Palmer, Carlsbad, N.M. Ph:505 887-7151
2-Way Radio Unit #131
Hobbs 2-Way Radio Phone 505 393-8709 (24 Hour No.)
Hobbs Warehouse 505 393-6421

I trust the foregoing information will be of benefit to
you and if we may be of any further service, please do
not hesitate to call.

Yours very truly,

MUSTANG MUD, INC.



Lendon White

LW:cm

encl.

MULTI-POINT SURFACE USE AND OPERATIONS PLAN

Laguna Petroleum Company
~~MALMSTROM~~ ~~Laguna Petroleum~~ Federal Well No. 1
2310' INL and 2195.8' INT.
Section 19-T21S-R29E
Chaves County, New Mexico
(Exploratory Well)
(Re-Entry)

RECEIVED

SEP 20 1976

U. S. GEOLOGICAL SURVEY
ARTESIA, NEW MEXICO

This plan is submitted with Form 9-331C, Application for Permit to Drill, covering the above described well. The purpose of this plan is to describe the location of the proposed well, the proposed construction activities and operations plan, the magnitude of necessary surface disturbance involved, and the procedures to be followed in rehabilitating the surface after completion of the operations, so that a complete appraisal can be made of the environmental effects associated with the operation.

1. EXISTING ROADS.

A. Exhibit A is a portion of a map of the area surrounding the proposed wellsite, on a scale of approximately one-quarter inch to a mile, showing in red the route of the existing roads to the location, from Highway 380, east of Roswell, New Mexico. The proposed drilling location is situated at a driving distance of approximately 14.3 miles east and south from Roswell, and can be reached as follows:

- (1) From the intersection of Highways 380 and 285 (Second Street and Main Street) in Roswell, proceed approximately 30.1 miles east on Highway 380.
- (2) Turn right (south) on the first road east of highway mile marker no. 185. This is a county-maintained road.
- (3) Approximately 3.5 miles after entering this road, pass an existing caliche pit on the west side of the road.
- (4) Approximately 5.75 miles beyond the caliche pit, the road passes through a fence with an existing gate. A cattleguard will be installed adjacent to this gate.
- (5) Continue 0.45 miles beyond this fence/gate location to a point on the west side of the road, marked by red surveyor ribbons. This is the beginning point of a new by-pass road which will be only 0.35 miles in length, and the route is clearly visible and marked by red surveyor ribbons. The path of this road lies west of the ranch yard of the Malmstrom ranch and passes through a fence. A cattleguard will be installed through this fence.
- (6) The new 0.35 mile road mentioned above rejoins the existing ranch road, just south of the Malmstrom ranch yard. Continue south 0.9 miles beyond this point, then turn right (west) on a ranch trail road. The route from this point is clearly visible and flagged with red surveyor ribbons.

- (7) After turning west on the trail road, continue 3.25 miles on this road, which will terminate at the southeastern corner of the drilling pad. The route of this road is clearly visible and marked with red surveyor ribbons.
 - (8) A portion of the access route crosses private surface owned by rancher Orville E. Malmstrom, and an agreement has been reached between Laguna Petroleum Company and Mr. Malmstrom concerning the use of his privately owned surface as access to the drilling location.
- B. Turnouts will be constructed at normal intervals over the length of the existing trail road leading to the drillsite. No fences are involved and no cattleguards will be necessary, other than those mentioned in paragraphs 1A(4) and 1A(5), above.
 - C. The trail road will have a driving surface of 12 feet in width. The surface will be blade scraped and caliche will be added only at points where it is considered necessary to reinforce the surface. Drainage cuts will be installed periodically along the route of the road.
 - D. The route of the trail road crosses a relatively level surface, with occasional gently rolling undulations. The surface is fairly solid, with only occasional areas needing caliche reinforcement.
 - E. The by-pass road mentioned above in paragraph 1A(5) will also be 12 feet wide (driving surface) and will be caliche-topped as necessary.
 - F. Some work will be required to up-grade portions of the existing county road north of the Malmstrom ranch. This will encompass some blade scraping, the addition of caliche topping in several soft or sandy areas, and widening at a few points which are presently too narrow for the passage of the truck carrying the drilling rig.
2. PLANNED ACCESS ROAD.
- A. No new access road will be required, other than as mentioned above. No new road will be necessary in the immediate area of the drilling pad.
3. LOCATION OF EXISTING WELLS.
- A. There is no production within two or more miles of the proposed location. There are plugged and abandoned wells in Sections 26 and 35-T12S-R28E and in Section 33-T12S-R29E (in addition to the plugged and abandoned well in Section 19-T12S-R29E which Laguna Petroleum Company proposes to re-enter).
4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES.
- A. There are no production facilities on this lease at the present time.
 - B. In the event that the well is productive, the necessary production facilities will be installed on the drilling pad. If the well is

MALMSTROM

productive of oil, a gas or diesel self-contained unit will be used to provide the necessary power. No power will be required if the well is productive of gas.

5. LOCATION AND TYPE OF WATER SUPPLY.

- A. It is planned to drill the proposed well with a fresh water system. The water will be obtained from privately owned or commercial sources and will be hauled to the location by truck over the existing and proposed roads described in paragraph 1, above.

6. SOURCE OF CONSTRUCTION MATERIALS.

- A. Caliche for road and drilling pad surfaces will be obtained, in part or totally, either from the existing caliche pit mentioned above in paragraph 1A(3) or from a new pit to be opened on private surface, owned by rancher Malmstrom. Arrangements have been made between Laguna Petroleum Company and Mr. Malmstrom for the opening of such a pit on his private surface, at a location to be mutually selected, relatively close to the drillsite.

7. METHODS OF HANDLING WASTE DISPOSAL.

- A. Drill cuttings will be disposed of, in the reserve pits, which will be plastic lined.
- B. Drilling fluids will be allowed to evaporate in the reserve pits until the pits are dry.
- C. All pits will be fenced with normal fencing material to prevent livestock from entering the area.
- D. Water produced during operations will be collected in tanks until hauled to an approved disposal system, or a separate disposal application will be submitted to the USGS for approval.
- E. Oil produced during operations will be stored in tanks until sold.
- F. Current laws and regulations pertaining to the disposal of human waste will be complied with.
- G. Trash, waste paper, garbage and junk will be buried in a separate trash pit and covered with a minimum of 24 inches of dirt. All waste materials will be contained to prevent scattering by the wind.
- H. All trash and debris will be buried or removed from the drillsite within 30 days after finishing drilling and/or completion operation.

8. ANCILLARY FACILITIES.

- A. None required.

MALMSTROM

Laguna Petroleum Company
~~Laguna Petroleum Fed. #1~~
page 4

9. WELLSITE LAYOUT.

- A. Exhibit C shows the relative location and dimensions of the well pad and reserve pits.
- B. The ground surface at the wellsite is relatively level, although some cut and fill will be necessary. There are three mounds, north and northeast of the drillsite, which were evidently left following drilling activities in connection with J. C. Williamson Sand Federal Well No. 1 in 1959. These mounds, which are about ten feet high, will be leveled and the material thus removed, used as fill in the drilling pad area. Cuts of about two feet and four feet will be necessary on the north and northwest edge, respectively, of the pad area. Fill of approximately one-and-a-half to two feet will be required on the south edge of the pad area. The pit area slopes downward toward the north and fill will be required in this area. The pit walls will be reinforced to prevent leakage.
- C. The reserve pits will be plastic-lined.
- D. The pad and pit area has been staked and flagged.

10. PLANS FOR RESTORATION OF THE SURFACE.

- A. After finishing drilling and/or completion operations, all equipment and other material not needed for further operations will be removed. Pits will be filled and the location cleaned of all trash and junk, so as to leave the wellsite in as aesthetically pleasing a condition as possible.
- B. Any unguarded pits containing fluids will be fenced until they have been filled.
- C. If the proposed well is non-productive, all rehabilitation and/or vegetation requirements of the BLM and the USFS will be complied with and will be accomplished as expeditiously as possible. All pits will be filled and leveled within 90 days after abandonment.

11. OTHER INFORMATION.

- A. The proposed wellsite is located in a relatively level area, with gently rolling undulations. This also applies to the route of the access road to the location.
- B. The topsoil at the wellsite consists generally of moderately soft sandy loam.
- C. Flora and Fauna: The vegetation cover at the proposed location is moderately sparse, consisting of grass, yucca plants, miscellaneous prairie weeds and flowers, a few cactus plants, and some mesquite a short distance from the wellsite. No wildlife was observed other than lizards and jackrabbits, but it is likely that other typical semi-arid desert wildlife inhabit the area, which is used for cattle grazing.
- D. There are no ponds, lakes, or flowing streams or rivers in the vicinity of the wellsite.

- D. The nearest occupied dwelling is the Malmstrom ranch house, about three miles northeast of the location. The closest mineral is approximately two miles east and north of the drillsite.
- E. The wellsite is on federally owned surface, with federal ownership of minerals.
- F. There is no evidence of any significant archeological, historical or cultural sites in the area of the proposed location. An archeological survey has been conducted by the Agency for Conservation Archaeology, Eastern New Mexico University, Portales, New Mexico.

12. OPERATOR'S REPRESENTATIVES.

The representatives of Laguna Petroleum Company responsible for assuring compliance with the approved surface use plan are:

W. D. Barnes and E. M. Brice
Laguna Petroleum Company
One Marienfeld Place - Suite 370
Midland, Texas 79701
Phone: 915-683-5505

Courtney Barnes
Laguna Petroleum Company
One Park Central - Suite 635
1515 Arapahoe
Denver, Colorado 80202
Phone: 303-573-7919

13. CERTIFICATION.

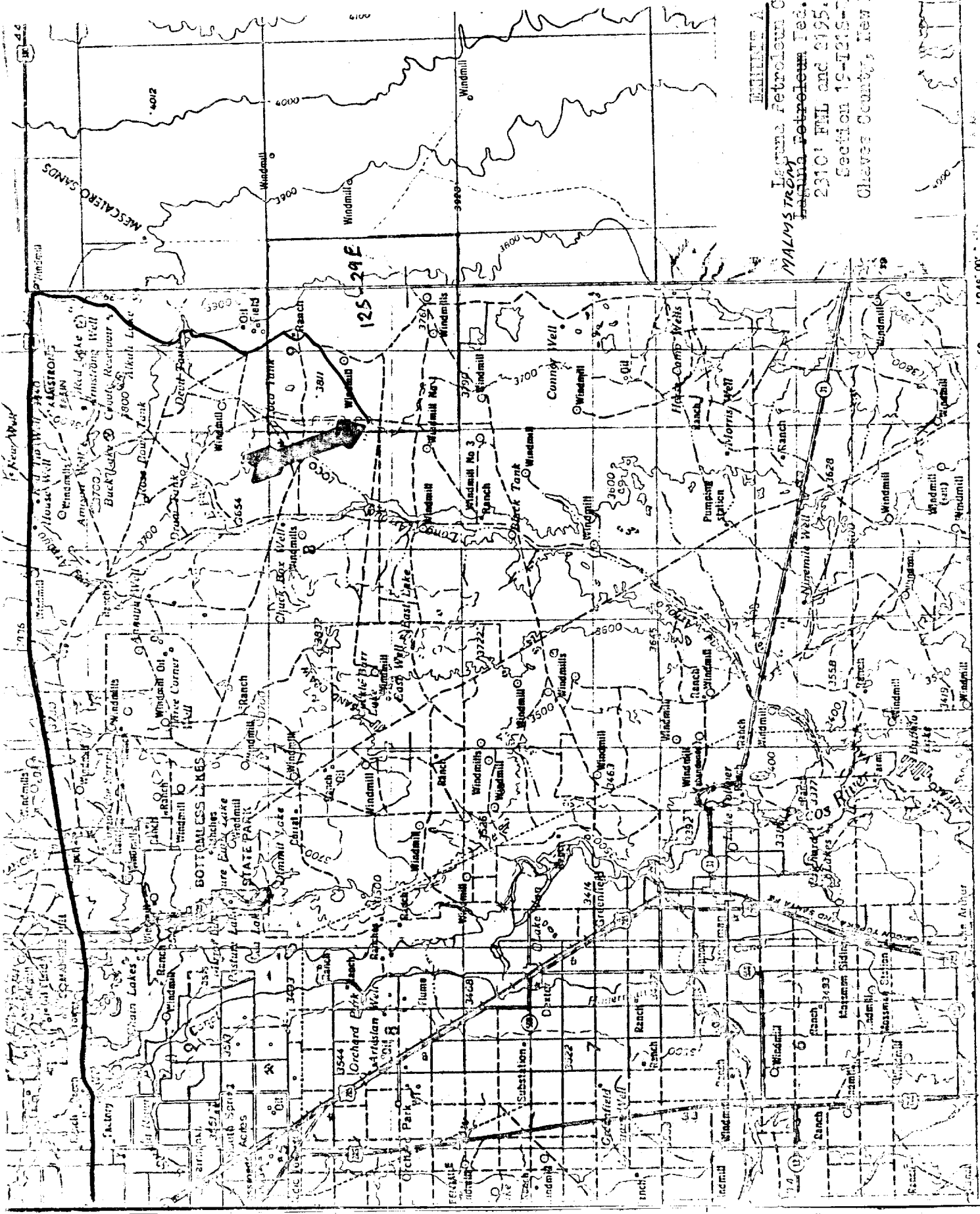
I hereby certify that I, or persons under my direct supervision, have inspected the proposed drillsite and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are to the best of my knowledge true and correct; and that the work associated with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

9/20/78

Date

Edward N. Lucking

Edward N. Lucking
Agent for Laguna Petroleum Company



SECTION 19-T218-7297

MALMSTRONG
Laramie Petroleum Company
Laramie Petroleum Fed. Well #117
2310' FWL and 2495.0' FWL
Section 19-T218-7297
Chaves County, New Mexico

55 56 57 58 59 104° 00'

BLOWOUT PREVENTER

EXHIBIT I

Logans Petroleum Company

MALMSTROM

Logans Petroleum Company

2310 11th and 24th St. S.E. OKLA.

Section 19-21S-72E

Charles County, New Mexico

