

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

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

SINGLE
ZONE ☐MULTIPLE
ZONE ☒

2. NAME OF OPERATOR

Grace Petroleum Corporation

3. ADDRESS OF OPERATOR

3 Park Central, Suite 200, Denver, Colorado 80202

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

At surface

K 1650' FWL, 1880' FSI
At proposed prod. zone
Same as above

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)

18. DISTANCE FROM PROPOSED LOCATION*

TO NEAREST WELL, DRILLING, COMPLETED,
OR APPLIED FOR, ON THIS LEASE, FT. 2600' completed

16. NO. OF ACRES IN LEASE

19. PROPOSED DEPTH

5950'

17. NO. OF ACRES ASSIGNED
TO THIS WELL

20. ROTARY OR CABLE TOOLS

Rotary

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

6974 upgraded

22. APPROX. DATE WORK WILL START*

July 10, 1979

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	24#	300'	Cement to surface
7 7/8	5 1/2	14#	TD	300 sx

It is proposed to drill and test the Gallup formation at the above location. The total depth will be approximately 5950'.

A 5 1/2" production string will be run and cemented or the well will be plugged and abandon which ever test indicates. See attached for other pertinent data.



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

Stacy G. Smith

TITLE District Operations Manager DATE 5-25-79

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

APPROVED BY

CONDITIONS OF APPROVAL, IF ANY:

ch Smith

TITLE

MAY 31 1979

OIL CONSERVATION DIVISION

STATE OF NEW MEXICO

P. O. BOX 2088

EXHIBIT 8

Form C-102
Revised 10-1-78

ENERGY AND MINERALS DEPARTMENT

SANTA FE, NEW MEXICO 87501

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

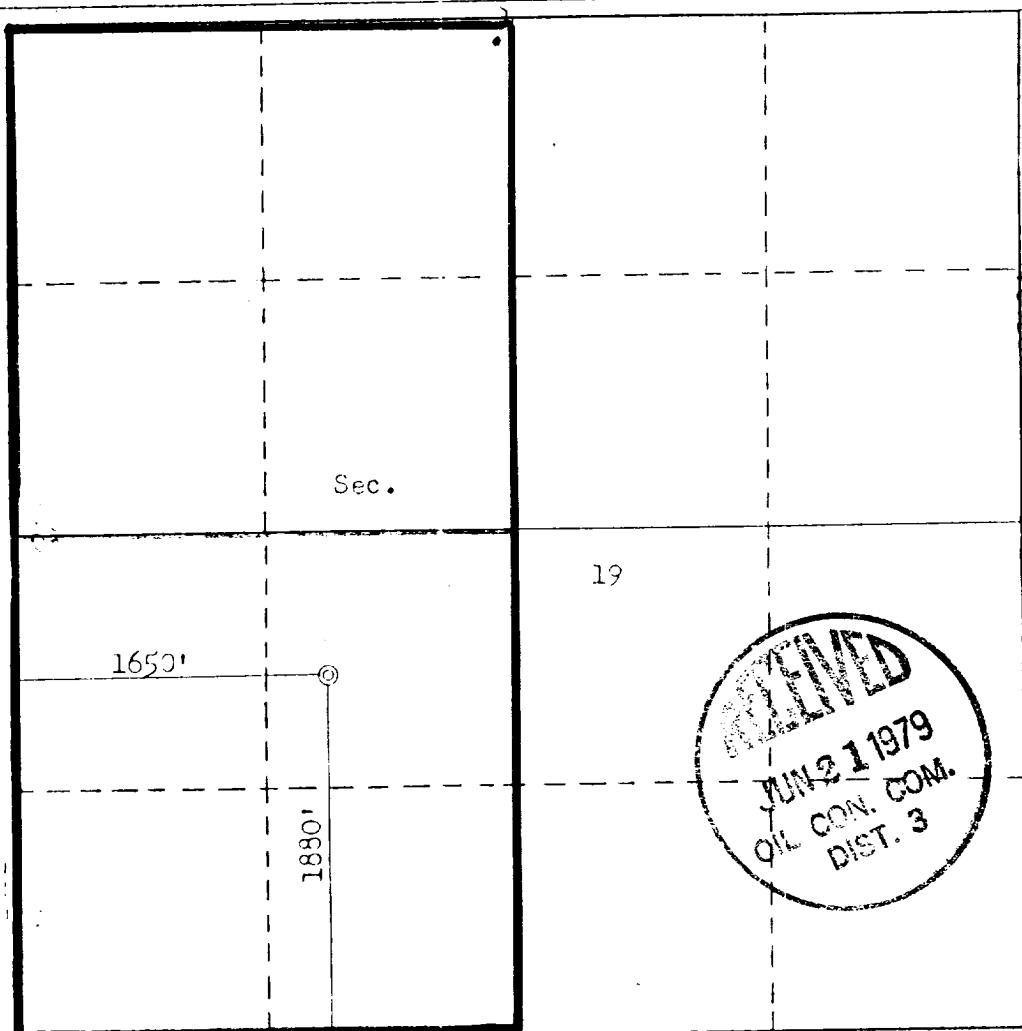
Operator Grace Petroleum Corporation		Lease GRACE-FEDERAL 19		Well No. 1
Unit Letter K	Section 19	Township 24 N	Range 6W	County Rio Arriba
Actual Footage Location of Well: 1880 feet from the South line and 1650 feet from the West line				
Ground Level Elev. 6974	Producing Formation Gallup	Pool Devils Fork	Dedicated Acreage: 160 320 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 _____

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.

Scotty A. Smith

Name

Scotty A. Smith

Position

District Operations Manager

Company

Grace Petroleum Corporation

Date

June 11, 1979

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

April 26, 1979

Registered Professional Engineer
and/or Licensed Surveyor

Fred B. Smith
Fred B. Smith
Certificate No. 2

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

NTL-6 ENVIRONMENTAL STATEMENT

SURFACE USE PLAN

OPERATOR: Grace Petroleum Corporation
LEASE & WELL NAME: Grace Federal 1-19
LOCATION: (1650' FWL, 1880' FSL) NESW, Section 19, T24N, R6W
COUNTY & STATE: Rio Arriba County, New Mexico

TO: United States Geological Survey (USGS) and the Bureau of Land Management. (BLM).

The following information, maps, plats, and descriptions of various surface characteristics should fulfill the requirements of the various agencies as to the environmental commitment of the operator at the above named well site.

Geologic Name of the Surface Formation

1. The Well will be spudded tertiary sandy clay loam.

Estimated Tops of Important Geologic Markers

2. The estimated formation tops are as follows:

<u>FORMATION</u>	<u>DEPTH</u>
San Jose	Surface
Ojo Alamo	1560'
Kirkland-Fruitland Undivided	1910'
Picture Cliffs	2320'
Lewis	2420'
Chacra Zones	2790-2890'
Cliffhouse	3140'
Menefee	3220'
Point Lookout	4620'
Mancos	4820'
Gallup	5620'

Estimated Depths at which Anticipated Water, Oil, Gas or Other Mineral-Bearing Formations are Expected to be Encountered

3. Possible oil and/or gas zones are the Pictured Cliffs, Chacra Zones, Cliffhouse, Menefee and Gallup.

Proposed Casing Program (including the size, grade, and weight-per-foot of each and whether new or used)

4. Casing program as per Section 23 of Form 9-331C. All casing will be new.

(continued)

Lessee's or Operator's Minimum Specifications for Pressure Control Equipment which is to be used, a Schematic Diagram thereof Showing Sizes, Pressure Ratings (or API series), and the Testing Procedures and testing Frequency

5. B.O.P.E. will be as shown in Exhibit 3 attached hereto; the Blind and pipe rams will be tested to 2000 psi and held for 20 minutes for each set of rams before the surface casing shoe is drilled out. During drilling, the pipe rams will be closed once a day and a check made for seating, fluid loss, and operation. On each trip, the blind rams will be closed and a check made for seating, fluid loss, and operation.

Type and Characteristics of the Proposed Circulating Medium or Mediums to be Employed for Rotary Drilling and the Quantities and Type of Mud and Weighting Material to be Maintained

6. The hole will be drilled with rotary tools to total depth. 12- $\frac{1}{4}$ inch surface hole will be drilled with gel and lime mud to set 8 $\frac{5}{8}$ " surface casing. 7 $\frac{7}{8}$ " hole will then be drilled to total depth with a gel, starch, and CMC system weighing 8.8 to 9.0 ppg with a fluid loss of 10 cc or less.

Auxiliary Equipment to be Used (such as kelly cocks, floats at the bit, monitoring equipment on the mud system, a sub on the floor with a full opening valve to be stabbed into the drill pipe when the kelly is not in the string, etc.)

7. A kelly cock will be used on the kelly, and a bottom hole float will also be installed. A full opening safety valve subbed to drill pipe threads will be on the floor at all times, monitoring of the mud system will be performed using floats and daily measurements by a mud engineer.

Testing, Logging, and Coring Programs to be Followed with Provision Made for Required Flexibility

8. Drill stem tests will be run if samples, shows in the mud or drilling breaks indicate hydrocarbons. The logging program will consist of dual induction lateral logs from TD to bottom of surface casing and a neutron and density log will be run across zones of interest. A 60' core may be taken across the Gallup sandstone. If the well is determined to be commercial, 5 $\frac{1}{2}$ " casing will be run and cemented. The Gallup will be perforated between approximately 5750' and 5850' and fracture treated with approximately 50,000 gal of fluid with 80,000 of sand. After the well has been cleaned up, it will be placed on rod pump and produced.

Any Anticipated Abnormal Pressures of Temperatures Expected to be Encountered or Potential Hazards such as Hydrogen Sulfide Gas, Along with Plans for Migrating Such Hazards

9. No abnormal pressures or temperatures are anticipated. Also, no potentially hazardous hydrogen sulfide gas is expected.

Anticipated Starting Date and Duration of the Operations

10. Anticipated spud date is in the first part of July 1979, with subsequent drilling and completion operations lasting 30 days.

(continued)

The Grace Petroleum Corporation
Multi-point Surface Use Plan
For
Well Location Grace Federal 1-19
(1650' FWL, 1880' FSL) Section 19, T24N, R6E
Rio Arriba County, New Mexico

1. A Legible Map Showing Existing Roads (See Exhibit 1):

Location 1-19 is shown on the attached topographic map (Exhibit 1). The routes to the location are in green (existing roads). To reach the Grace-Federal 1-19 location from Bloomfield, New Mexico, go south-east on New Mexico highway 44 for approximately 53 miles. Turn left immediately past Lybrook gas plant (North) on existing dirt road and go approximately 5 miles. Turn west onto existing road and go to top of mesa approximately 1 mile to location. The existing road will be improved by the installation of a cattle guard on the section line between Sections 19 and 20.

A. Plans for improvement and/or maintenance of existing roads:
The existing road will be improved by the installation of a cattle guard on the section line between Sections 19 and 20.

2. Map Showing All Necessary or Planned Access Roads to be Constructed or Reconstructed (See Exhibit 1):

All access roads are by existing roads. A cattle guard will be installed between Sections 19 and 20.

3. Location of Existing Wells (See Exhibit 2):

A two-mile radius map, if exploratory, or a 1-mile radius map, if development well, showing and identifying existing (1) water wells, (2) abandoned wells, (3) temporarily abandoned wells, (4) disposal wells, (5) drilling wells, (6) producing wells, (7) shut-in wells, (8) injection wells, and (9) monitoring or observation wells for other resources is attached.

Exhibit 2 shows the existing wells within a 1 mile radius of the proposed location. There are 3 active and 1 plug and abandoned well, 2 oil and 1 gas, all operated by Petroleum Consultants, Inc. The Killarney 1-24 and Goff 5-30 are oil wells producing in the Gallup zone. The Lybrook 1-19 is a dually completed gas well producing in the Dakota and Gallup zones. The Redfern-Herd No. 3 is an abandoned gas well.

4. Location of Existing and/or Proposed Facilities

There are no existing lessee/operator owned facilities that we will be able to use for the proposed location. In the event of gas production a heated separator, flow lines, condensate, and water storage will be installed on the existing well pad (150' x 200'). In the event of oil production a separator and tank (heated 2 phase) and 2 - 400 barrel tanks will be installed (150' x 200'). Actual production facilities will require approximately 150' x 100'.

Any construction will utilize soil materials native to the site. Construction methods will be employed to assure no drainage flows are impounded. Construction will be performed to prevent loss of any hydrocarbon from the site. This will be done in a manner to facilitate rapid recovery and cleanup.

Any pits constructed will be fenced and flagged. The pumping unit will be furnished with guards.

(continued)

4. (continued)

Following completion of construction, those areas not required for continued production, will be graded to provide drainage and minimum erosion. Those areas unnecessary for use will be graded to conform with the surrounding terrain and reseeded per B.L.M.'s recommendation.

(3) Protective measures to protect livestock & wildlife:

Fences will be installed around all pits to protect wildlife and livestock.

C. Rehabilitation of Disturbed Areas Unnecessary for Production:

Rehabilitation of disturbed areas will follow guidelines set out in Section 10 of this report.

5. Location and Type of Water Supply

Water needed for this operation will be hauled by truck from stock tanks. The stock tanks to be used are located 3 miles east of the 1-19 location.

6. Source of Construction Materials

A. Materials: The location will be built by taking a 3' cut from the south and west sides of the location and used as fill dirt on the north and east sides as required to level the location.

B. Land Ownership: All minerals and surface are owned by Bureau of Land Management.

C. Materials Foreign to Site: None.

D. Access Roads: All access roads will be existing roads. Any private road used for access to this site will be approved by surface owner.

7. Methods for Handling Waste Disposal

A diked reserve pit, as shown on the attached well site diagram, will be built for the well cuttings and drilling fluid. Produced fluids will be stored in tanks on the location and hauled off the location by truck.

A small pit will be provided for garbage and trash, to hold it temporarily until it can be hauled to the nearest sanitary landfill. A portable toilet will be provided for human waste.

The clean-up of this location will proceed after the rig moves off, as outlined in Section 10 of this report.

8. Ancillary Facilities

No ancillary facilities will be required.

(continued)

9. Well Site Layout

The attached diagram shows the proposed well site layout (Exhibit 6). The location will be built by taking a 3' cut from the south and west sides of the location and used as fill dirt on the north and east sides as required to level the location. The completion phase well site layout is attached (Exhibit 9).

10. Plans for Restoration of Surface

Within two months after the rig is moved off the location, those areas not needed for production facilities or for the rig required to abandon a dry hole will be cleared of temporary structures, the pits filled and the approximate natural contour of the ground restored. Trash will be hauled to the nearest sanitary landfill, permanent structures will be painted as recommended by the U. S. Geological Survey and the Bureau of Land Management, the stockpiled topsoil will be spread over the disturbed areas, and the area will be reseeded with the seed mixture selected by U.S.G.S. and the B.L.M.

Prior to rig release, pits will be fenced and so maintained until clean-up. If it is determined there is oil on the pit, the oil will be removed or overhead flagging will be installed.

11. Other Information

A. Surface Description (Topography, Soil Characteristics, Geologic Features, Flora and Fauna):

Topographically, the proposed location is Rolling Mesa top with easterly drainage, alluvial surface deposits and sandstone outcrops. Topsoil is a sandy clay loam. Principle vegetation is Juniper, Pinion, Sagebrush, Blue Grama, Three Awn, Galleta, Winterfat and Tumbleweed. Indigenous fauna to the area are deer, jackrabbit, quail and high plains animals.

B. Surface Ownership and Use:

For all lands to be affected by the construction of this location the surface ownership of record is Bureau of Land Management.

C. Proximity of Water, Dwellings, Historical Sites:

(1) Water:

Nearest source of water is the area ranches stock tanks located 3 miles east of proposed 1-19 location.

(2) Occupied Dwellings:

Several occupied houses can be found 5 miles south of the proposed 1-19 location.

(continued)

3. Sites:

There are no known historical or cultural sites at this location. The area has been examined by a qualified Archeologist from New Mexico State University and their report is attached. Report No. 79-SJC-067 (Exhibit 7).

12. Operators Field Representative

Scotty A. Smith
Three Park Central
1515 Arapahoe Street
Suite 200
Denver, Colorado 80202

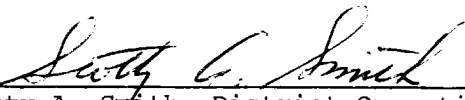
Work Phone: 303/825-8193, Ext 211
Home Phone: 303/771-4562

Benjamin C. Stromberg
Three Park Central
1515 Arapahoe Street
Suite 200
Denver, Colorado 80202

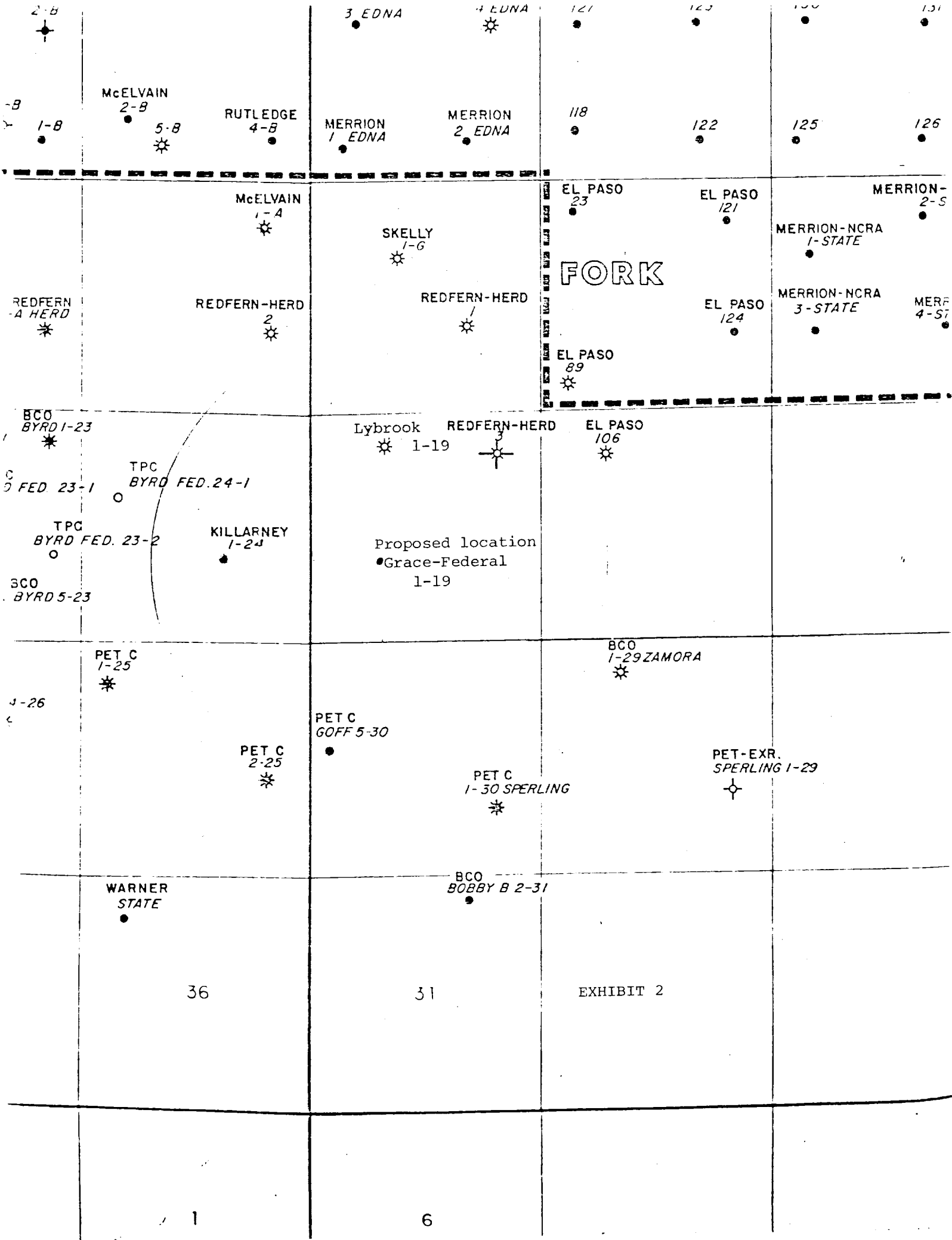
Work Phone: 303/825-8193, Ext 257
Home Phone: 303/753-1036

13. Certification

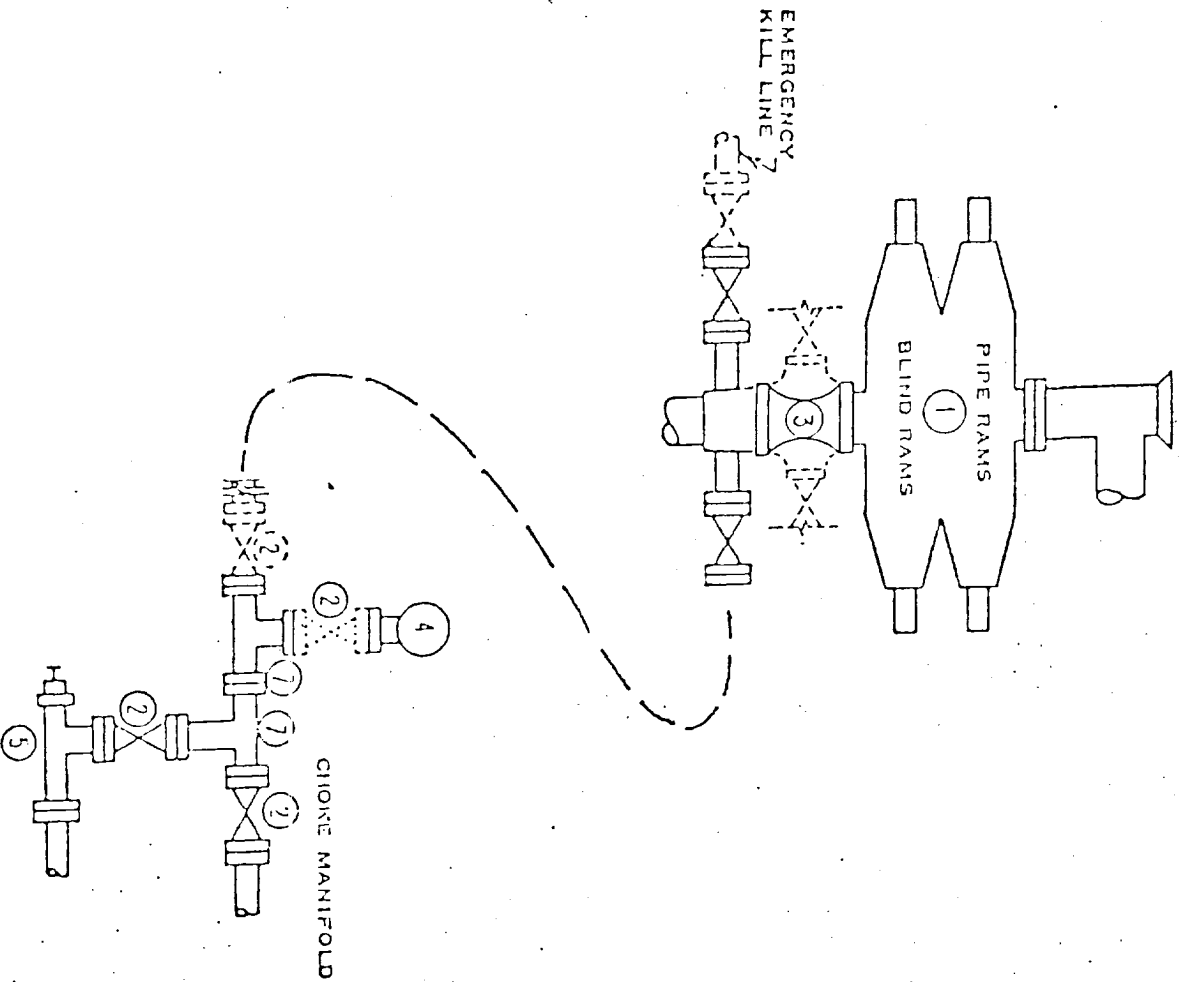
I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and, that the work associated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



Scotty A. Smith, District Operations Manager
Southern Rockies



DOUBLE PREVENTER



- ① SERIES 900 RAM-TYPE BOP
- ② 2" SERIES 900 VALVE
- ③ SERIES 900 DRILLING SPOOL
- ④ 2" MUD PRESSURE GAUGE
- ⑤ 2" SERIES 900 CHOKE
- ⑥ 2" SERIES 900 CHECK VALVE
- ⑦ 2" SERIES 900 STEEL TEE

NOTES:

1. 3000 PSI WP CLAMP
HUBS MAY BE SUBSTITUTED
FOR FLANGES
2. VALVES MAY BE EITHER HAND OR POWER
OPERATED BUT, IF POWER OPERATED,
THE VALVES FLANGED TO THE BOP RUN
MUST BE CAPABLE OF BEING OPENED AND
CLOSED MANUALLY OR CLOSE ON POWER
FAILURE AND BE CAPABLE OF BEING
OPENED MANUALLY

..... OPTIONAL EQUIPMENT

3000 PSI WORKING PRESSURE
BLOWOUT PREVENTER HOOK-CP

(04-02-76)
WY060-3109-3REHABILITATION PLANLease No.: SF 078562; Well Name and No.: Grace Federal #1-19;
Location: 1880' E 34 & 1450' W 1, Sec. 19, T. 24 N., R. 6 W.Grace Petr. Oil Company intends to drill a well on
surface owned by BLM. The lessee/operator
agrees to complete the following rehabilitation work if the well is a producer:☒ Yes ☐ No Maintain access road and provide adequate drainage to road.☒ Yes ☐ No Reshape and reseed any area not needed for maintenance of the
pump and support facilities.Other requirements: CONSTRUCT PLUGS UPSTREAM ACROSS ARROYOS IF
CONSTRUCTION NECESSARY IN AREA

The following work will be completed when the well is abandoned:

☒ Yes ☐ No Pit will be fenced until dry, then filled to conform to
surrounding topography.☒ Yes ☐ No Water bars will be constructed as deemed necessary.☒ Yes ☐ No Site will require reshaping to conform to surrounding topography.☒ Yes ☐ No Entire disturbed area will be reseeded. If yes, the following
seed mixture will be used:BLM Mixture No. 2☒ Yes ☐ No Access road will be closed, rehabilitated and reseeded using
the same seed mixture as above.☐ Yes ☒ No Access road will remain for surface owner's use.☒ Yes ☐ No Water bars will be constructed on the access road as deemed
necessary.Other requirements: CATTLE GUARD TO BE INSTALLED IN
SEC. 19 & SEC. 20 SWSurface Owner:** Name: Homer C. Berry dba Berry Land & Cattle
Address: Box 407
City: Dexter
State: New Mexico
Telephone: 505/734-5897 or 505/568-4422
Date: _____Operator/LesseeName: Grace Petr. Corp
Co. Address: 1515 Arapahoe St
City: Denver CO
State: Colorado
Telephone: 303-425-8193
Date: 5-3-71

I CERTIFY rehabilitation has been discussed with me, the surface owner.

**BLM is actual surface owner, but we will be
using Mr. Berry's access roads.H C Berry
(Surface owner's signature)This plan covers rehabilitation requirements only and does not affect any other
agreements between the lessee/operator and surface owner.



Grace Petroleum Corporation
Subsidiary of W.R. Grace & Co.

Three Park Central Suite 200
1515 Arapahoe Street
Denver, Colorado 80202
Phone (303) 825-8193

EXHIBIT 5

TO WHOM IT MAY CONCERN:

I, H. C. Berry representing Berry Land & Cattle Co., Inc.
acknowledge that I was contacted by a representative of Grace Petroleum Corporation,
Three Park Central, Suite 200, 1515 Arapahoe Street, Denver, Colorado 80202. This
contact was made for the purpose of approval to survey and stake the following oil
and/or gas well drilling location. Approval of the surface land owner to survey and
stake the location specified is signified by signature in the space provided below.

WELL LOCATION: Section: 19, Township: 24N, Range: 6W,
County Rio Arriba, State N. Mex.

It is also requested that the following questions be answered by the surface
owner:

1. The length of time this tenant has been on the property? 16 YEARS
2. To your knowledge, are there any mining claims or active mines on this
property? Not to owner's knowledge
3. To your knowledge, are there any buried lines on the property, such as
hydrocarbon, telephone or missile base lines? No

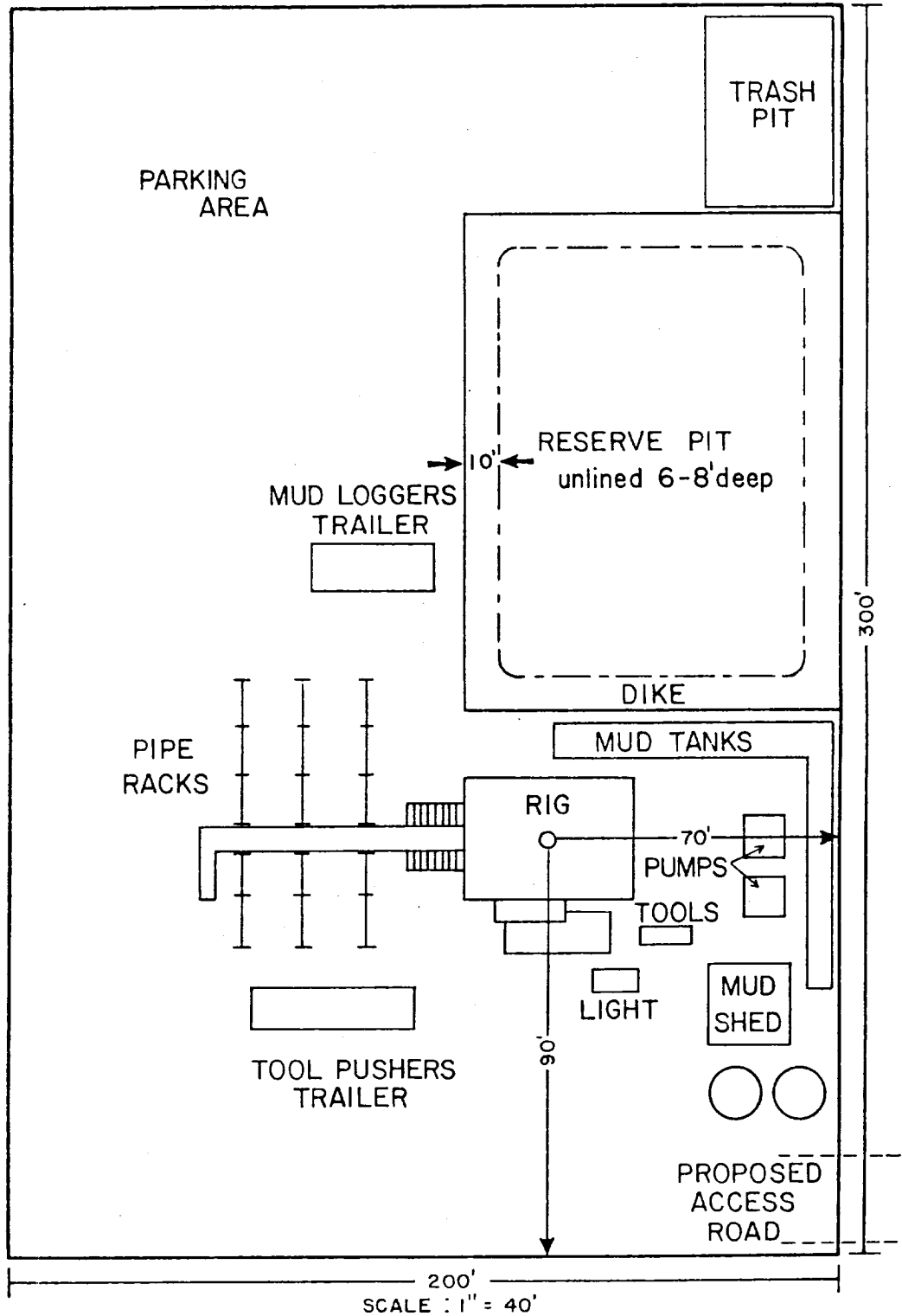
If this location is suitable for a drilling site a Grace representative will
contact you for the purpose of negotiating a reasonable surface damage fee and for
the usage of any roads that we may use in drilling and completing this well.

APPROVAL: H. C. Berry

Signature

DATE: 5-3-79

EXHIBIT 6



GRACE FEDERAL 1-19
NE SW SEC. 19, 24N-6W
RIO ARRIBA CO., NEW MEXICO



GRACE Petroleum Corp.

Rocky Mountain Region
1515 Arapahoe Suite 200 Three Park Central
Denver, Colorado 80202 (303) 825-8193

DRAFTING: PFEIFFENBERGER
5/16/79

Report 79-SJC-067
Permit 78-NM-102

EXHIBIT 7

An Archaeological Clearance Survey of
Two Proposed Well Locations & Access Roads
Conducted for Grace Petroleum Company

Dabney Ford
Cultural Resource Management
San Juan Campus
N. M. State University

11 May 1979

An Archaeological Clearance Survey of
Two Proposed Well Locations & Access Roads
Conducted for Grace Petroleum Company

On May 3, 1979, Dabney Ford from the Cultural Resource Management Program, NMSU, San Juan Campus, conducted an archaeological clearance survey at the request of Mr. Scott Smith from Grace Petroleum Company. Present during the inspections were Mr. Smith, Mr. Gerald Rodgers, Construction Contractor, Mr. Don Englishman from the U. S. Geological Survey, Durango, Colorado, office, and Mr. Russell Pigors from the U. S. Bureau of Land Management, Farmington office. The proposed wells and access roads are on Bureau of Land Management lands and were surveyed under Federal Antiquities permit 78-NM-102.

METHODOLOGY

Each well location was inspected by walking parallel transects, 75 feet apart, over the 300 X 300 foot easements. The access roads were surveyed by walking the length of the flagged route from the take-off of an existing road to the well.

GENERAL RECOMMENDATIONS

No cultural resources were found and full archaeological clearance is recommended.

Proposed Well: GRACE FEDERAL #1-19

Land Status: Bureau of Land Management

Location: The location is in the NW $\frac{1}{4}$ of the NE $\frac{1}{4}$ of the SW $\frac{1}{4}$ of Section 19, Township 24 North, Range 6 West, N.M.P.M., in Rio Arriba County, New Mexico. The well will be 1880 feet from the South line and 1650 feet from the West line of Section 19. (Figure 1)

Access: The south and east edge of the location borders on existing roads.

Area surveyed: 2.10 acres.

Terrain: Rolling mesa top with easterly drainage, alluvial surface deposits, and sandstone outcrops.

Soil: Sandy clay loam.

Vegetation: Juniper, piñon, sagebrush, blue grama, three awn, galleta, winterfat, tumbleweed.

Cultural Resources: None found.

Recommendations: Clearance is recommended.

Proposed Well: GRACE FEDERAL #1-21

Land Status: Bureau of Land Management

Location: The location is in the SW $\frac{1}{4}$ of the NE $\frac{1}{4}$ of the SW $\frac{1}{4}$ of Section 21, Township 24 North, Range 7 West, N.M.P.M., in Rio Arriba County, New Mexico. The well will be 1650 feet from the South line and 1730 feet from the West line of Section 21. (Figure 1)

Access: 4000 feet long and 20 feet wide, approaching the well from the west/southwest.

Area surveyed: 3.9 acres.

Terrain: Broken terraces top and slope with easterly drainage, alluvial surface deposits, and sandstone outcrops.

Soil: Rocky clay loam.

Vegetation: Juniper, piñon, sagebrush, shadscale, blue grama, alkali sacaton, prickly pear, Indian paintbrush, snake-weed, rabbitbrush, locoweed, cholla, Indian ricegrass, narrow leaf yucca, galleta, cheatgrass, and greasewood.

Cultural Resources: None found.

Recommendations: Clearance is recommended.

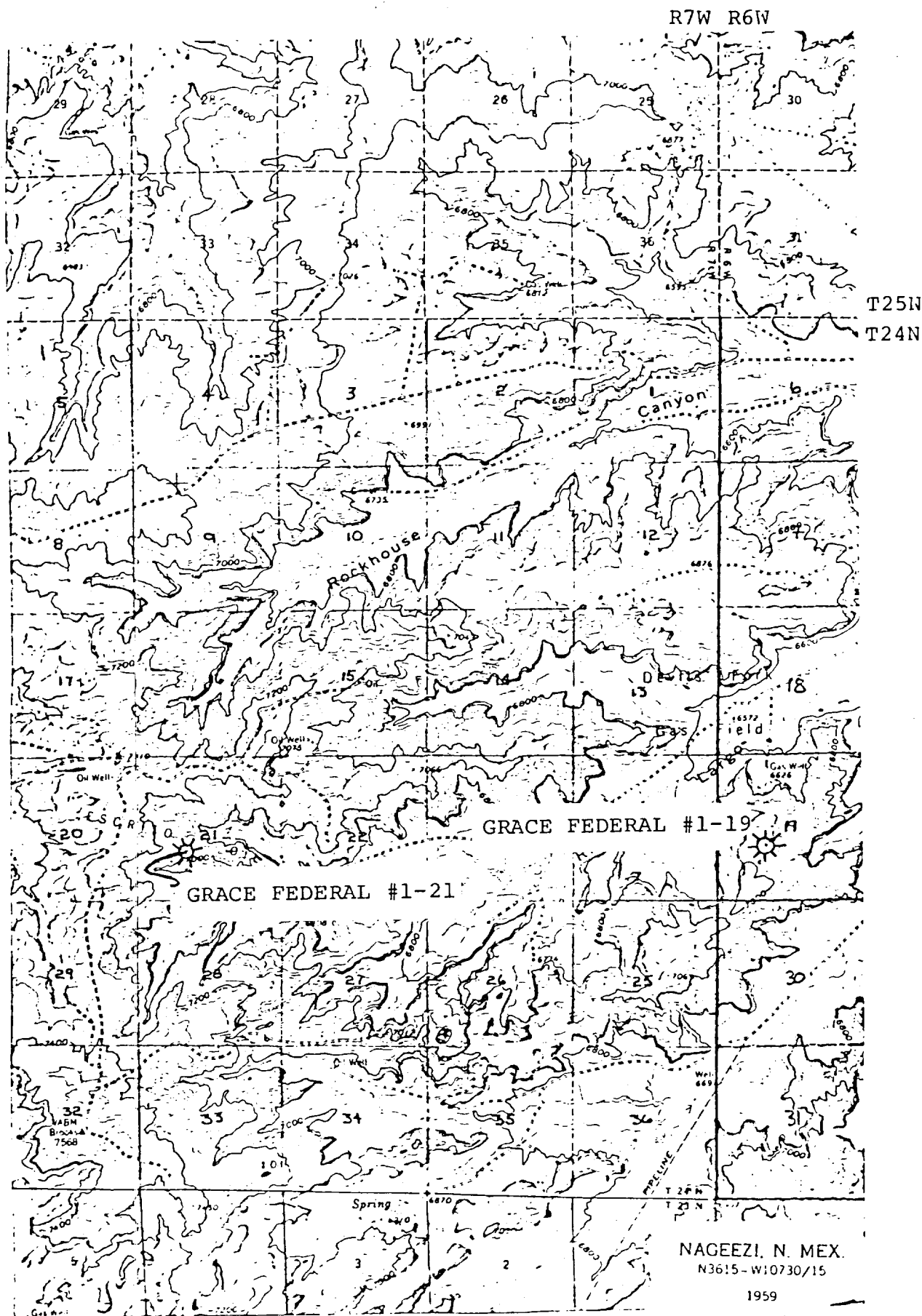
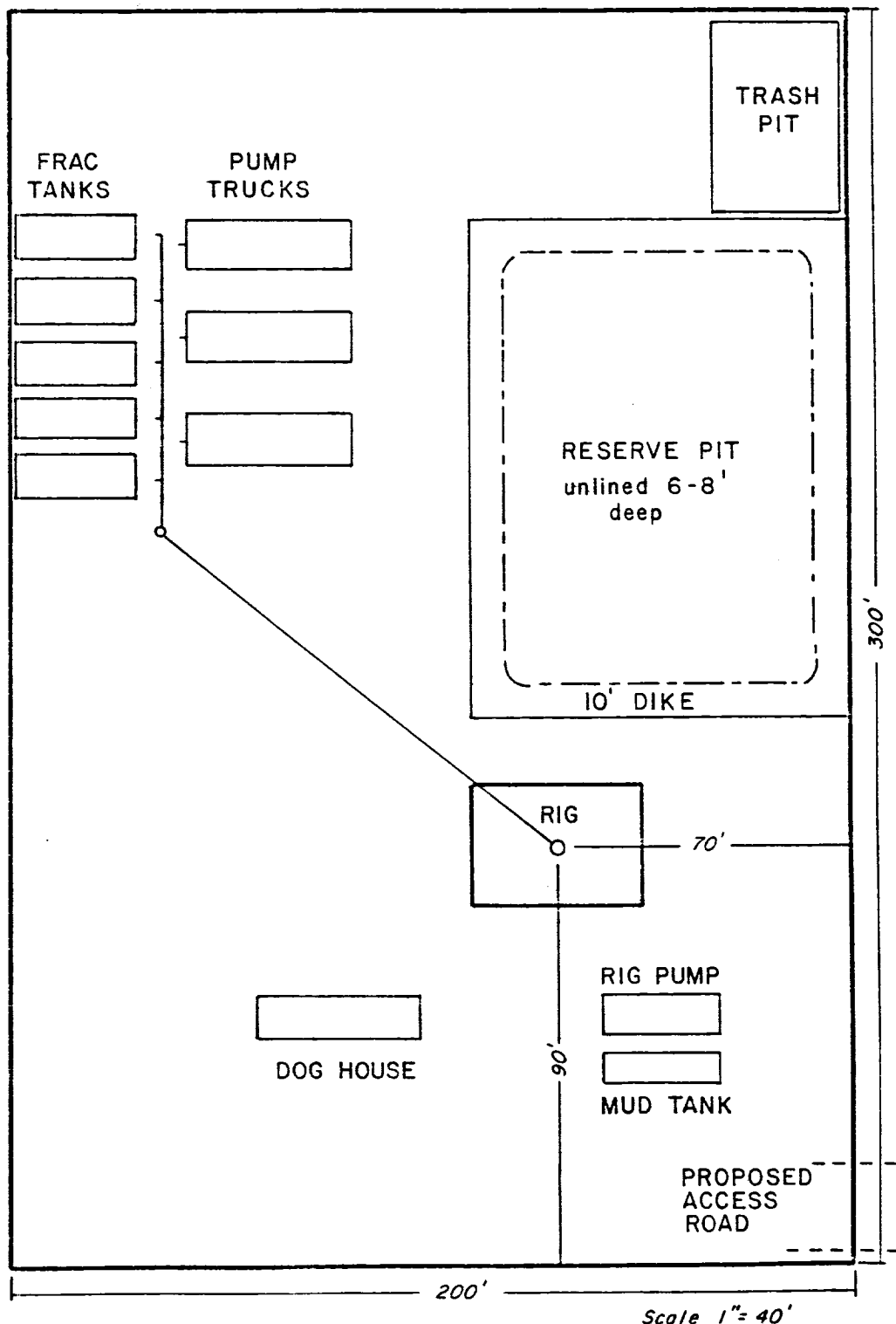


Figure 1



GRACE FEDERAL 1-19
NE SW, Sec. 19 - 24N - 6W
RIO ARRIBA CO., NEW MEXICO



GRACE Petroleum Corp.

Rocky Mountain Region
1515 Arapahoe Suite 200 Three Park Central
Denver, Colorado 80202 (303) 825-8193

5-23-79

Exhibit 9