

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

Marathon Oil Company

3. ADDRESS OF OPERATOR

P. O. Box 2659, Casper, WY 82602

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

At surface

850' FSL & 850' FWL Sec. 27, T.26N, R.5W Unit M

At proposed prod. zone

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)

850'

16. NO. OF ACRES IN LEASE

2,560

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

19. PROPOSED DEPTH

4,100

17. NO. OF ACRES ASSIGNED
TO THIS WELL

160

20. ROTARY OR CABLE TOOLS

Rotary

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

6,674' GL

22. APPROX. DATE WORK WILL START*

June 10, 1978

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#	230'	200 sacks
7-7/8"	4-1/2"	10.5#	4,100'	400 sacks

Please see the following attachments:

1. Surveyors Plat.
2. Ten Point Drilling Program.
3. TOP Schematic.
4. Thirteen Point NTL-6.
5. Maps.

Gas is 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.

24.

SIGNED B.E. Yester TITLE District Operations Manager DATE June 2, 1978

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY _____ TITLE _____

CONDITIONS OF APPROVAL, IF ANY:

RECEIVED

DATE JUN 5 1978

U. S. GEOLOGICAL SURVEY
DURANGO, COLO.

*See Instructions On Reverse Side

**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.

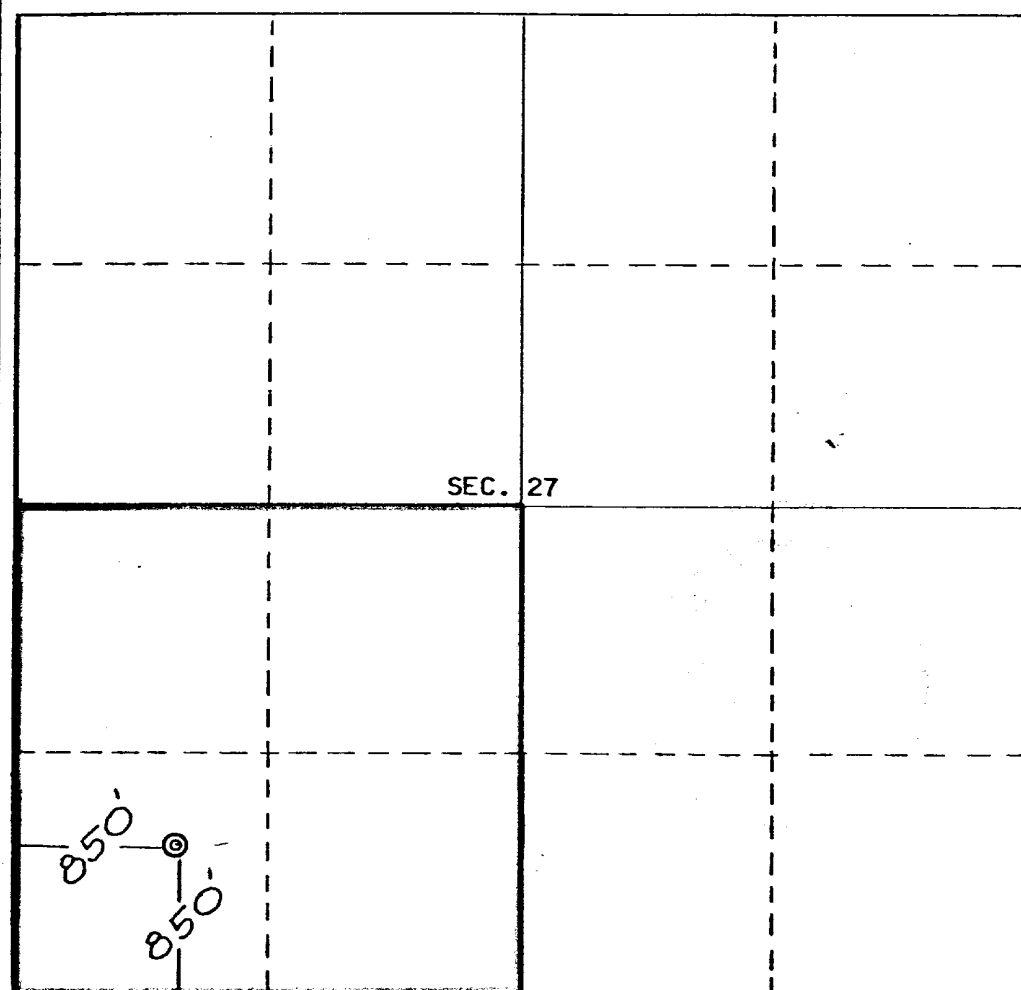
Operator Marathon Oil Company			Lease Jicarilla Apache		Well No. 20
Unit Letter M	Section 27	Township 26 North	Range 5 West	County Rio Arriba	
Actual Footage Location of Well: 850 feet from the South line and 850 feet from the West line					
Ground Level Elev. 6674	Producing Formation Pictured Cliffs		Pool So. Blanco Pictured Cliffs		Dedicated Acreage: 160 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 NA

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.

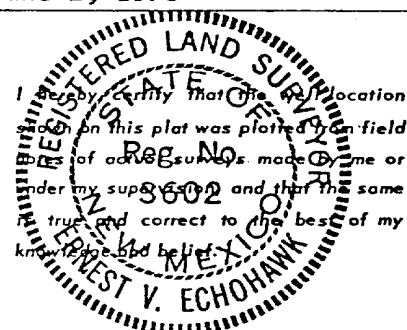
J. F. Wirth

Name
J. F. Wirth

Position
Drilling Superintendent

Company
Marathon Oil Company

Date
June 2, 1978

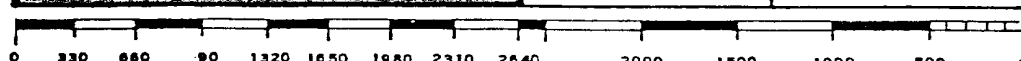


Date Surveyed
May 25, 1978

Registered Professional Engineer
and/or Land Surveyor

E. V. Ech Hawk

Certificate No. **3602**
E.V. Ech Hawk LS



MARATHON OIL COMPANY
Drilling Operations Plan
Jicarilla Apache #20
Rio Arriba County, New Mexico

1. Geologic name of surface:

Tertiary - San Juan

2. Estimated tops of important geologic markers:

Estimated K.B.		6,675'
Kirtland Shale	2,645'	(+4,030')
Fruitland Sand	2,855'	(+3,820')
Pictured Cliffs Sand	3,025'	(+3,650')
Chacra Sand	3,930'	(+2,745')
T.D.	4,100'	(+2,575')

3. Estimated depths of anticipated water, oil, gas or other mineral bearing formations:

Pictured Cliffs (gas) 3,025' (+3,650')

Chacra (gas) 3,930' (+2,745')

No other mineral bearing formations are anticipated.

4a. The casing program including the size, grade, weight, whether new or used, and a setting depth of each string:

<u>Min. Hole Size</u>	<u>Casing O.D.</u>	<u>Grade</u>	<u>Weight</u>	<u>Setting Depth</u>	<u>New or Used</u>
12-1/4"	8-5/8"	K-55	24#	230'	New
7-7/8"	4-1/2"	K-55	10.5#	4,100'	New

4b. The cementing program including type, amounts, and additives:

8-5/8" Surface String: Run a guide shoe, insert float, and three centralizers. Cement to surface with 200 sacks of Class "G" cement containing 2% CaCl_2 .

4-1/2" Production String: Run a float shoe, float collar, 20 centralizers, and 36 reciprocating scratchers. Cement to surface with 400 sacks of "Light" cement and 400 sacks of Class "G" cement, all containing friction reducer and 2% CaCl_2 .

5. B.O.P. specification and testing: (see the attached schematic diagram for size and pressure ratings):

2,000 psi WP hydraulic double ram preventer with blind and drill pipe rams. Operation to be checked daily.

Test Hydraulic Operations

<u>BOP</u>	<u>Pressure</u>	<u>Time</u>	<u>Remarks</u>
Blind Rams	1,000 psig	30 min.	Test before drilling out surface casing.
Pipe Rams	1,000 psig	30 min.	" " "

6. Mud program and anticipated pressures:

<u>From</u>	<u>To</u>	<u>Type Mud</u>	<u>Weight</u>	<u>% Oil</u>	<u>Water Loss</u>
0'	230'	Native			
230'	4,100' (TD)	Gel-Chem	9.5 or less		Less than 10 cc's

7a. Type of drilling tools and auxiliary equipment:

Normal rotary operations require:

1. Drill time and drill pipe weight will be recorded on a geolograph or equivalent instrument from surface to total depth.
2. Desilter or desander.
3. Single shot survey instrument.

7b. Deviation Control:

<u>From</u>	<u>To</u>	<u>Maximum Deviation Between Surveys</u>	<u>Maximum Deviation From Vertical</u>	<u>Maximum Change Per 100' of Depth</u>
0'	230'	100'	1°	1/2°
230'	4,100' (TD)	500'	4-1/2°	1°

8. Sample, logging, testing, and coring program:

A short trip will be made prior to logging.

An SP/Dual Induction Log and a GR/Cal/CNL/FDC Log will be run from TD to surface casing.

No cores or DST's are planned.

9. Anticipated abnormal pressures or temperatures:

No abnormal pressures or temperatures are expected.

10. The anticipated starting date and duration of operation:

Starting Date: June 10, 1978

Duration: Two Weeks

DISTRICT APPROVALS

Approved

Date

M. E. D. Kufe 4-25-78
Chapman 4-25-78
Smith 5-31-78

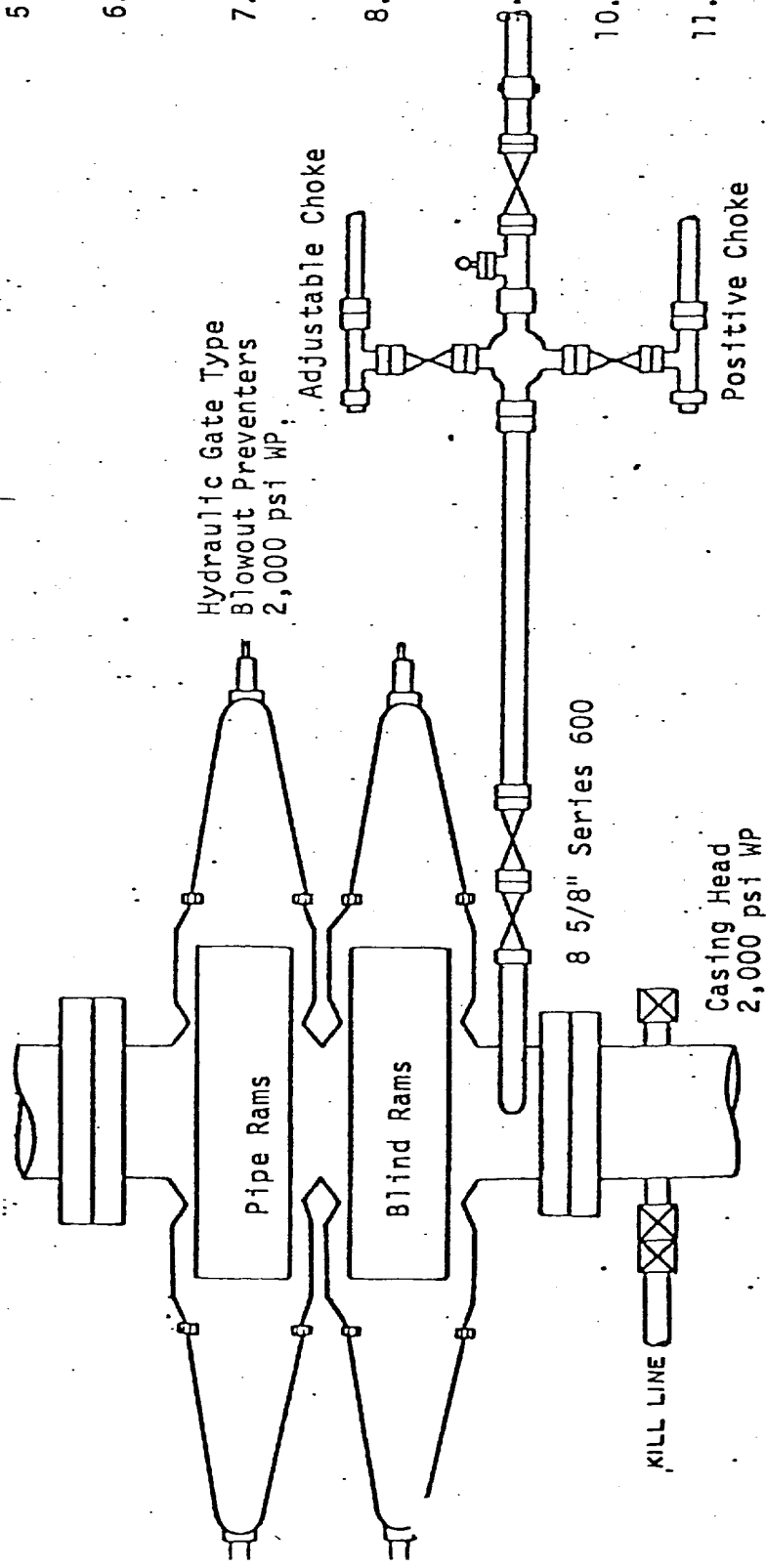
DIVISION APPROVALS

Approved

Date

Jicarilla Apache #20
850' FSL & 850' FWL
Section 27, T26N, R5W
Rio Arriba County, NM

1. Blowout preventers, master valve, plug valve and all fittings must be in good condition. Use new API Seal Rings.
2. All fittings (gates, valves, etc.) to be of equivalent pressure rating as preventers. Valves to be flanged and at least 2" unless otherwise specified. Valves next to BOP to be plug type and nominal 3".
3. Equipment through which bit must pass shall be as large as the inside diameter of the casing that is being drilled through.
4. Safety valve (Omsco or equivalent) must be available on rig floor at all times and with proper connections. The I.D. of safety valves should be as great as I.D. of tool joints on drill pipe.
5. Kelly safety valve installed, same working pressure as BOP's.
6. All lines and controls to preventers must be connected and tested before drilling out of surface pipe.
7. BOP's must be fluid operated, complete with accumulator. Controls may be either on floor or ground near steps from rig floor.
8. Fillup line tied to drilling nipple, the connection must be below and approximately 90° to the flow line.
9. Gauge will be installed for testing but removed while drilling.
10. Spool not required, but when side outlet on BOP's is used, it must be below bottom ram.
11. Casinghead and casinghead fittings to be furnished by Marathon Oil Company.



MARATHON OIL COMPANY

Surface Use and Operations Plan
Jicarilla Apache #20
850' FSL & 850' FWL
Sec. 27, T26N, R5W
Rio Arriba Co., New Mexico
6,674' G.L.

1. Existing Roads:

The proposed well site as staked is shown on the attached survey plat. The well is offset by reference stakes. The well is NE of Counselor Trading Post. From Counselor one travels 12 miles NE to the Lindrith Plant then 8 miles NE of the plant on a pipeline road. This road is shown on the attached map. After 8 miles one turns north for 1 mile then west for 130' to the location.

Existing roads within a 1 mile radius of this development well are shown on the attached map. No improvements or maintenance of existing county roads will be made. The new road will be maintained by grading when needed.

2. Access Road:

The attached map shows the new access road which is approximately 138' long, will have a width of 14', a maximum grade of 1%, will have no turnouts and no culverts will be used. Surface material will consist of native material available at the site. There will be no gates, cattle guards or fence cuts. The road is staked.

3. Location of Existing Wells:

See attached sheet.

4. Location of Production Facilities and Service Lines:

Marathon Oil Company does not own or operate any oil or gas gathering lines, injection lines or disposal lines within a 1 mile radius of the well. Each Marathon Dakota well (#8, #10 Section 27, #9 and #11 Section 28, #12 and #13 Section 33 and #14 and #16 Section 34) has one or two tanks and a gas liquid separator and connecting lines within 200' of each well. The Pictured Cliff and Chacra wells have no surface equipment.

No tanks or production facilities will be required at the proposed Well #20. The gathering line will be laid by the purchaser.

The reserve pit will be fenced to keep livestock and wildlife out. The reserve pit and unused parts of the location will be graded back to contour and reseeded as recommended by the BIA.

5. Location and Type of Water Supply:

The water supply is a water hole on the Tapicito Creek located in the NW/4 of Section 28, T26N, R5W. This is shown on the attached map. Water will be hauled by truck using the existing roads as shown on the attached map.

6. Source of Construction Materials:

All construction materials for this location and access road are to be materials accumulated during construction of the location and access road. No additional construction materials from other sources are anticipated.

7. Waste Disposal Handling:

Drilling cuttings will be covered after the reserve pit is dried up. All liquid drilling waste will be stored in the reserve pit. All burnable trash will be burned in a suitable burn pit with a steel screen across the pit. Any produced fluids will be caught in a test tank. All non-burnable refuse will be buried to a depth of 5' upon completion of drilling and completion operations. A port-a-potty will be provided to handle sewage. There are no plans to line the reserve pit. Immediately upon completion of the well, the location will be policed and all waste material will be picked up.

8. Ancillary Facilities:

There will be no proposed camps or airstrips at the location. There will be one small house trailer to be used by drilling supervisors. These are shown on the attached map.

9. Well Site Layout:

The location is in a very flat area and will require a cut of less than one foot primarily for the removal of topsoil. Location of the mud tanks, reserve, burn and trash pits, pipe racks, house trailer, and soil stockpiles are shown on the attached schematic. The rig will lay in a northwest direction with the reserve pit to the southwest and the access road from the west. The parking area will be to the west side of the location.

10. Plan for Restoration to Surface:

Upon completion of this well those areas not needed for any possible production equipment will be backfilled, levelled, contoured and the topsoil replaced. The area will be reseeded according to BIA's recommendation. At the time of rig release the reserve pit will remain fenced until proper cleanup can be made. Any oil on the reserve pit will be removed. Rehabilitation will be completed by the fall of 1979.

11. Other Information:

The attached archaeological report covers all aspects of the surface characteristics and grants clearance to construct the location and short road, which will not disturb any cultural resources.

In the immediate area there are no known occupied dwellings, archaeological, historical, cultural sites or shallow water wells.

12. Representatives:

Marathon Oil Company's representative who is responsible for compliance with the approved surface and operation plan is:

James F. Wirth
Drilling Superintendent
Marathon Oil Company
P. O. Box 2659
Casper, Wyoming 82602
1-(307) 265-7693

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 Marathon Oil Company and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved.

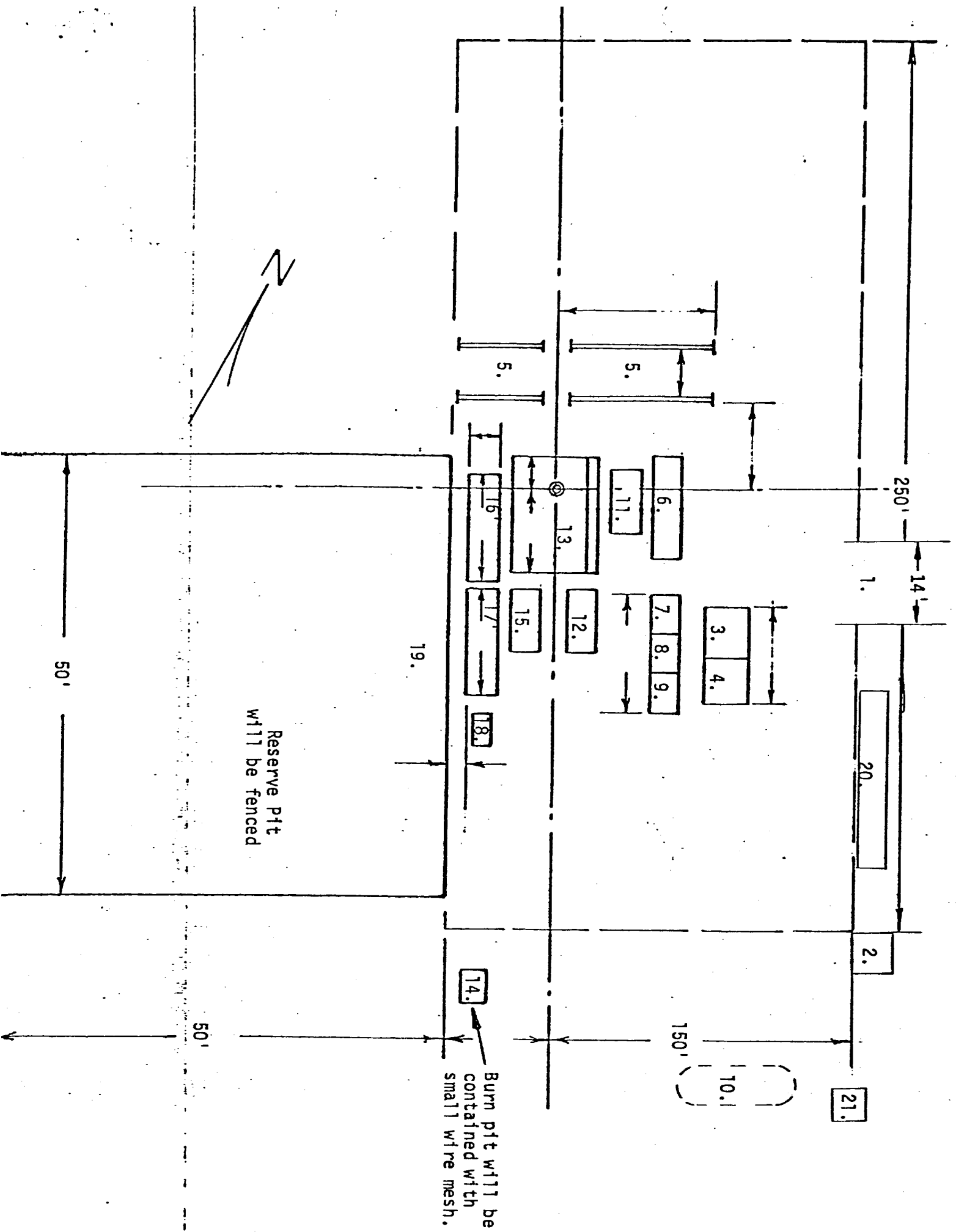
May 26, 1978
DATE

James F. Wirth
NAME
Drilling Supt.
TITLE

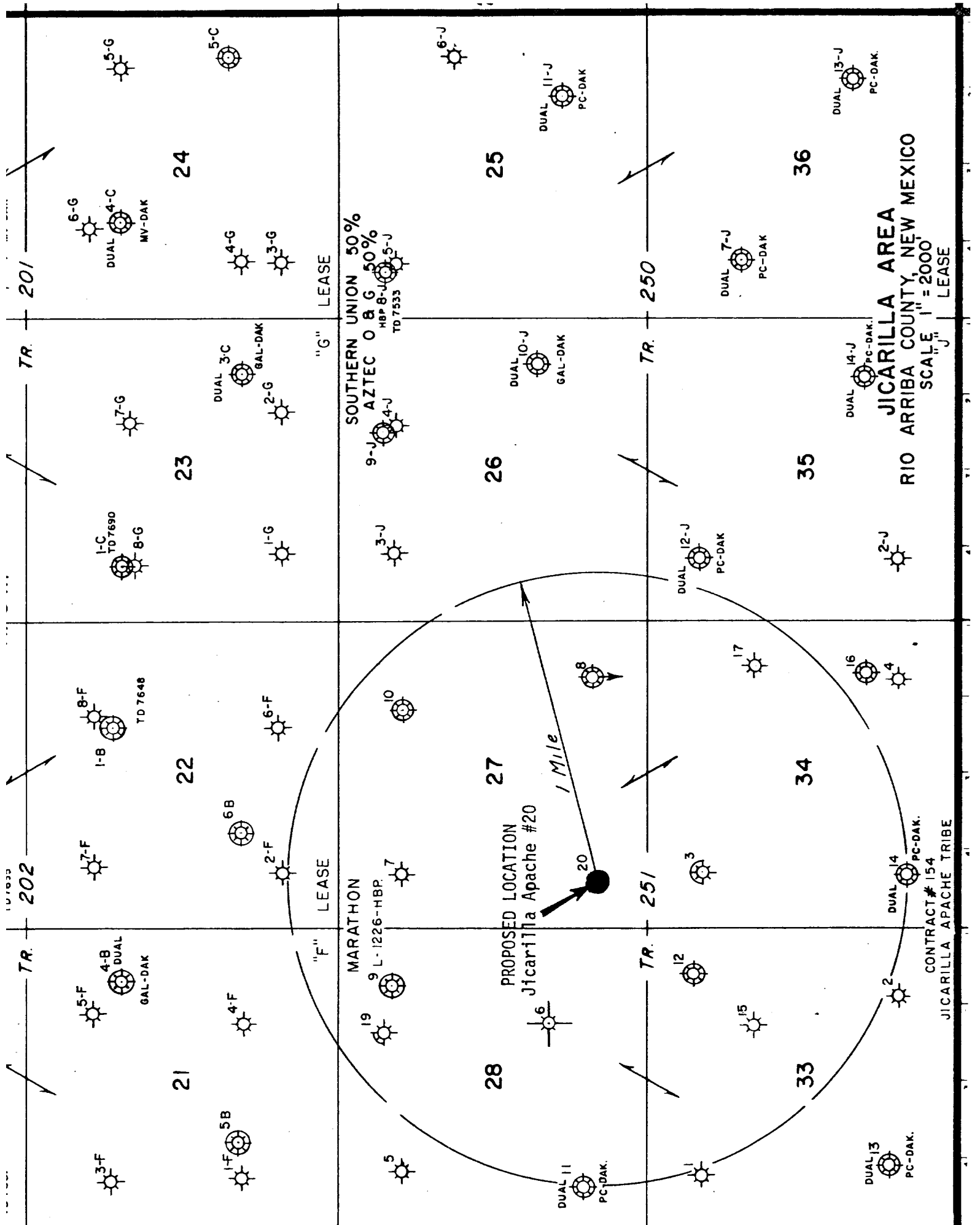
Offsets (1 mile radius) to Jicarilla Apache #20

1. Marathon Oil Company - Jicarilla Apache #10	Dakota	Section 27
2. Marathon Oil Company - Jicarilla Apache #8	Dakota	Section 27
3. Marathon Oil Company - Jicarilla Apache #7	P. Cliffs	Section 27
4. Marathon Oil Company - Jicarilla Apache #9	Dakota	Section 28
5. Marathon Oil Company - Jicarilla Apache #19	P. Cliffs- Chacra	Section 28
6. Marathon Oil Company - Jicarilla Apache #18	P. Cliffs	Section 28
7. Marathon Oil Company - Jicarilla Apache #11	Dakota- P. Cliffs	Section 28
8. Marathon Oil Company - Jicarilla Apache #12	Dakota	Section 33
9. Marathon Oil Company - Jicarilla Apache #15	P. Cliffs	Section 33
10. Marathon Oil Company - Jicarilla Apache #3	Chacra	Section 34
11. Marathon Oil Company - Jicarilla Apache #14	Dakota- P. Cliffs	Section 34
12. Marathon Oil Company - Jicarilla Apache #17	P. Cliffs	Section 34

SCHEMATIC DRAWING OF RIG LAYOUT



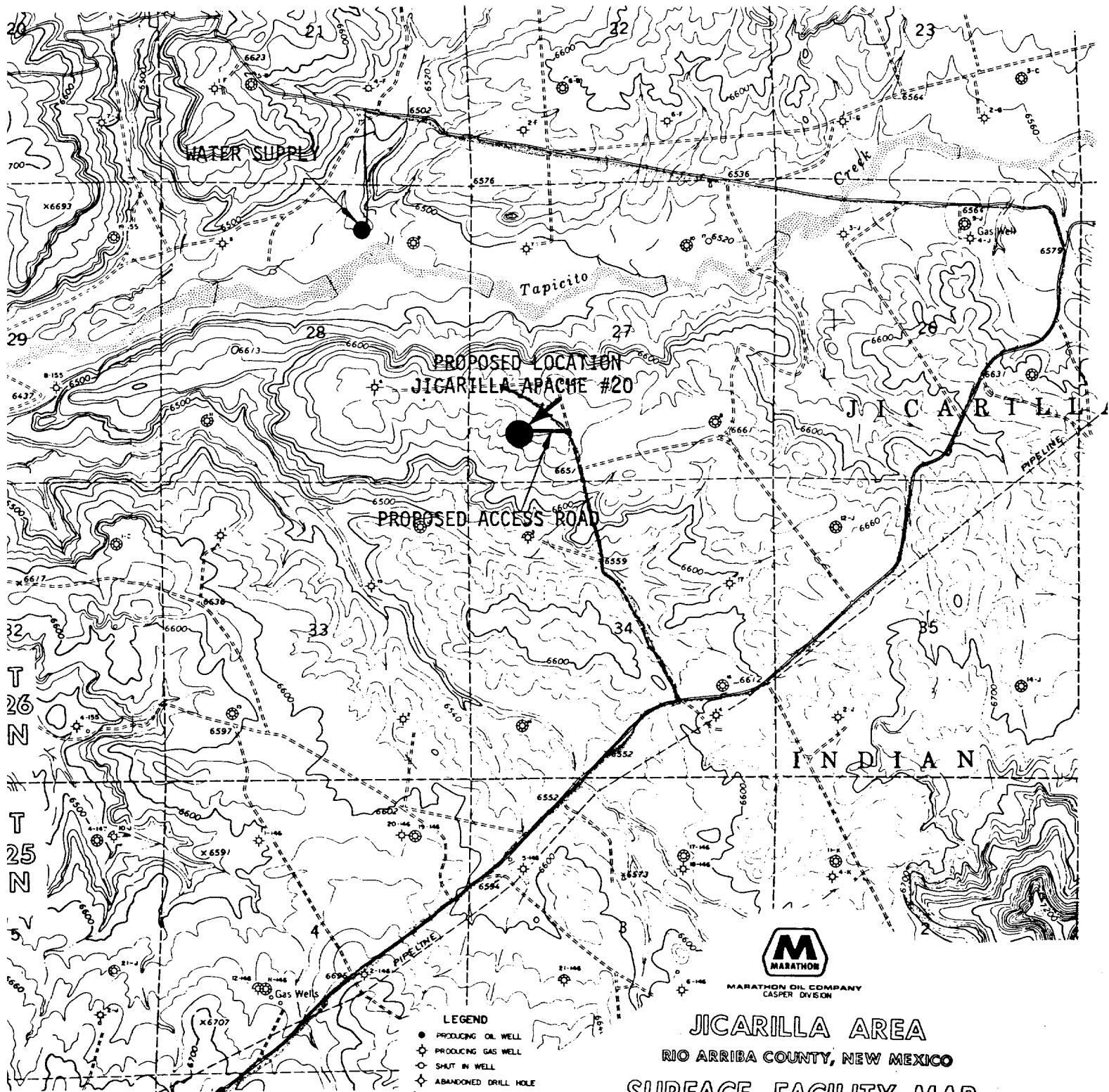
1. Access Road
2. Trailer House
3. Fuel Tank
4. Water Tank
5. Pipe Racks
6. Storage Pad
7. Light Plant
8. Change House
9. Accumulator
10. Soil Stock Pile
11. Dog House on Top of Tool house
12. Mud Mixer
13. Substructure
14. Burn & Trash Pit
15. Engines
16. Shale Shaker & Mud Tank
17. Suction Mud Tank
18. Mud House on Stand
19. Sump (Reserve Pit)
20. Parking Area
21. Toilet



JICARILLA AREA
RIO ARriba COUNTY, NEW MEXICO
SCALE 1" = 2000'

CONTRACT # 154
JICARILLA APACHE TRIBE

R 5 W



TO LINDRITH PLANT
AND COUNSELOR

- LEGEND
- PRODUCING OIL WELL
 - PRODUCING GAS WELL
 - SHUT IN WELL
 - ◇ ABANDONED DRILL HOLE
 - ▲ INJECTION WELL
 - FLOW LINES
 - TANK AND/OR TREATER INSTALLATIONS
 - EXISTING ROADS



MARATHON OIL COMPANY
CASPER DIVISION

JICARILLA AREA
RIO ARRIBA COUNTY, NEW MEXICO
SURFACE FACILITY MAP
0 1000' 2000' 3000' 4000' 5000' 1-Mile
SCALE: 1" = 4000'