

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

Northwest Pipeline Corporation

3. ADDRESS OF OPERATOR

P.O. Box 90, Farmington, New Mexico 87401

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

At surface

1820 FSL and 810 FWL Sec. 33, T31N, R5W

At proposed prod. zone Same as above

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE* U. S. GEOLOGICAL SURVEY

22 Miles Northeast of Navajo Dam

15. DISTANCE FROM PROPOSED*

LOCATION TO NEAREST
PROPERTY OR LEASE LINE, FT. 810'
(Also to nearest drilg. unit line, if any)

18. DISTANCE FROM PROPOSED LOCATION*

TO NEAREST WELL, DRILLING, COMPLETED,
OR APPLIED FOR, ON THIS LEASE, FT. 3000'

16. NO. OF ACRES IN LEASE

1920 N/A?

19. PROPOSED DEPTH

8162

17. NO. OF ACRES ASSIGNED
TO THIS WELL

320

20. ROTARY OR CABLE TOOLS

Rotary

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

6531' GR

22. APPROX. DATE WORK WILL START*

November 1980

23.

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12-1/4	10-3/4	32.7#	350	185 sx
9-7/8	7-5/8	24#	3567	210 sx
6-3/4	5-1/2	17.0#	8162	300 sx

This action is subject to admin. reviewing
appeal pursuant to 30 CFR 21

Selectively perforate and stimulate the Mesa Verde and Dakota Formation
Completion plans will be determined at Total Depth.

A BOP will be installed after the surface casing is set and cemented. All subsequent
work will be conducted through the BOP's.

The South half of Section 33 is dedicated to both the Dakota and Mesa Verde wells.

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

Paul C. Thompson

TITLE

Drilling Engineer

DATE 9/26/80

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

APPROVED BY

CONDITIONS OF PERMIT

TITLE

DATE

*See Instructions On Reverse Side

OIL CONSERVATION DIVISION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

Form C-107
Revised 10-1-72

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

Operator NORTHWEST PIPELINE CORPORATION			Lease ROSA UNIT		Well No. 77
Unit Letter L	Section 33	Township 31N	Range 5W	County Rio Arriba	
Actual Footage Location of Well: 1820' feet from the South line and 810 feet from the West line					
Ground Level Elev. 6531	Producing Formation Mesa Verde / Dakota		Pool Basin Dakota Blanco Mesa Verde		Dedicated Acreage: 320 MV & DK 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 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.

		Sec.	
		33	

CERTIFICATION

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

Paul C. Thompson

Name

Paul C. Thompson

Position

Drilling Engineer

Company

Northwest Pipeline

Date

September 19, 1980

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 17, 1980

Registered Professional Engineer and Land Surveyor

Fred B. Kerr, Jr.
Fred B. Kerr, Jr.

Certificate No.

3950

Scale: 1"=1000'

NORTHWEST PIPELINE CORPORATION

DRILLING PROGNOSIS

WELL NAME: Rosa Unit #77

I. LOCATION: 1820 FSL and 810 FWL
Sec. 33, T31N, R5W
Rio Arriba County, New Mexico

DATE: September 19, 1980

FIELD: Basin Dakota and Blanco Mesa Verde

ELEVATION: 6531 GR

SURFACE: BLM

MINERALS: Federal SF-078773

II. GEOLOGY: Surface San Jose

<u>A. Formation:</u>	<u>Depth</u>	<u>Formation</u>	<u>Depth</u>
Ojo Alamo	2633	Mancos	5902
Kirtland	2765	Gallup	6655
Fruitland	3204	Greenhorn	7864
Pictured Cliffs	3463	Graneros	7899
Lewis	3567	Dakota	8042
Cliff House	5493	Total Depth	8162
Point Lookout	5695		

B. Logging Program: Gamma Ray-Induction & Density at Total Depth.

C. Natural Gauges: Gauge @ 5493', 7864', 8042', and at Total Depth.

Record all guages on daily drilling report and morning report.

Gauge all noticeable increases in gas while drilling and report.

III. DRILLING:

A. Contractor:

B. Mud Program: Mud, water and gas will be furnished by Northwest Pipeline Corporation from surface to total depth.

a) From Surface to Intermediate casing depth to be drilled with mud.

b) From Intermediate casing to Total depth to be drilled with gas.

C. While drill pipe is in use the pipe rams will be tested not less than once each day. The blind rams will be tested once each trip. All tests will be reported in the Northwest Pipeline tour reports as to time and date.

IV. MATERIALS:

A. Casing Program:

<u>Hole Size</u>	<u>Depth</u>	<u>Casing Size</u>	<u>Wt & Grade</u>
12-1/4"	350'	10-3/4"	32.7# H-40 ST&C
9-7/8"	3767'	7-5/8"	24# H-40 ST&C
6-3/4"	8162	5-1/2"	17.0# N-80 LT&C

B. Float Equipment:

a) Surface Casing: 10-3/4" - Larkin Guide Shoe and self fill insert float valve.

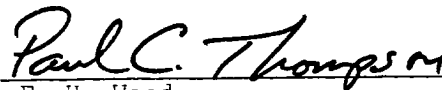
b) Inermediate Casing: 7-5/8" - Dowell Guide Shoe and Dowell self fill insert valve. Dowell centralizers five (5).

c) Production Casing: 5-1/2" - Larkin Geyser Shoe. Larkin Flapper type float collar. Five (5) centralizers across Dakota, ten (10) across Mesa Verde.

- C. Tubing:
8110' - 1-1/2", 2.9#, J-55, 10 RD, EUE tubing w/ common seating nipple above bottom joint. Baker Model D Packer for 1-1/2" tubing with locator sub (DK)
5100' - 1-1/4", 2.33#, J-55, IJ tubing (MV).
- D. Well Head Equipment: Dual completion X-mas tree assembly. Well Head representative to set slip on intermediate & production strings.

V. CEMENTING:

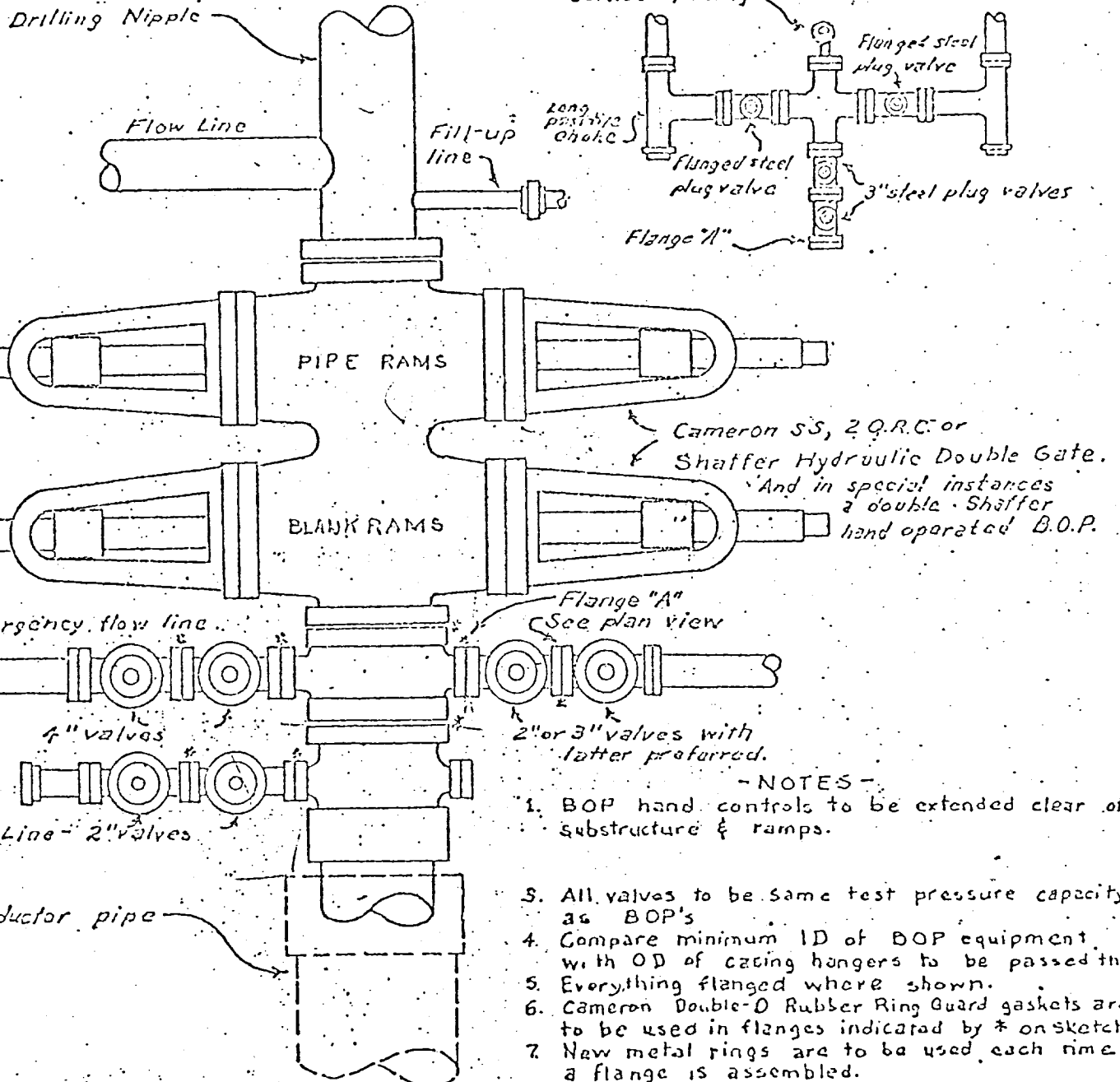
- A. Surface Casing: 10-3/4" - Use 185 sks of Cl "B" cement w/ 1/4# gel flake/sk and 3% CaCl_2 , (100% excess to circulate 10-3/4" casing). WOC 12 hrs. Test to 600 psi for 30 min.
- B. Intermediate Casing: 7-5/8" - Use 135 sks of 65/35 Cl "B" poz w/ 12% gel and 15.5 gal of water/sk. Tail in w/ 75 sks of Cl "B" w/ 2% CaCl_2 (400 cu.ft of slurry, 65% excess to cover Ojo Alamo). Use top rubber plug only. Run temp survey after 8 hrs. WOC 12 hrs. Test casing to 1200 psi for 30 min.
- C. Production Casing: 5-1/2" - Precede cement w/ 40 bbls of wtr mixed w/ 4 sks gel. Cement with 200 sks of Cl "B" cement w/ 8% gel, 12-1/2# fine gilsonite/sk and 0.4% HR-4. Tail in w/ 100 sks Cl "B" cement w/ 1/4# fine tuf-plug/sk and 0.4% HR-4/sk. (550 cu.ft of slurry). (50% excess to fill to intermediate casing). Run temperature survey after 8 hrs. Perforate after 8 hrs.


F. H. Wood

Original: Well File
sc: Regular distribution

PLAN VIEW - CHOKE MANIFOLD

Flanged cross with pressure gauge in outside opening. Screw connections are permissible but discouraged.



- NOTES -

1. BOP hand controls to be extended clear of substructure & ramps.
2. Cameron SS, 2 Q.R.C. or Shaffer Hydraulic Double Gate. And in special instances a double Shaffer hand operated B.O.P.
3. Flange "A" See plan view
4. 2" or 3" valves with latter preferred.
5. All valves to be same test pressure capacity as BOP's
6. Compare minimum ID of BOP equipment with OD of casing hangers to be passed thru.
7. Everything flanged where shown.
8. Cameron Double-O Rubber Ring Guard gaskets are to be used in flanges indicated by * on sketch.
9. New metal rings are to be used each time a flange is assembled.
10. BOP's to be well braced at all times.

If possible install head so kill line valves will be under BOP's for protection. These valves to be kept closed after BOP's tested & kill line removed (by use of quick union) to fill-up line. When used this way kill line must be high pressure.

SINGLE PIPE RAM
BLOWOUT PREVENTOR HOOKUP

1. Existing Roads: See attached topographic map. All existing roads used, shall be maintained in a serviceable condition at all times during the drilling operation.
2. Planned Access Roads: See attached topographic map. Maximum grade is approximately 1%. The road surface will not exceed twenty feet in width. Upon completion of drilling operations the access road will be adequately drained to control runoff and soil erosion. Drainage facilities may include ditches, water bars, culverts or any other measure deemed necessary. All activities will be confined to the access road and drill pad.
3. Location of Existing Wells: See attached topographic map.
4. Location of Tank Batteries; Production Facilities; and Production, Gathering and Service Lines: See attached topographic map for locations of existing and proposed gas gathering lines.
5. Location and Type of Water Supply: Water needed for the drilling operation will be hauled from the Northwest Pipeline LaJara Water Hole.
6. Source of Construction Materials: No additional materials will be needed.
7. Methods for Handling Waste Disposal: All garbage, debris, and trash will be buried at least three feet deep. A portable toilet will be supplied for human waste. After drilling operations have been completed the reserve pit will be fenced and the liquid portion will be allowed to evaporate before the location is cleaned up and leveled. The earthen pits will not be located on natural drainages and will be constructed in such a manner so that they will not leak. Any evaporator pit containing toxic liquids will be fenced.
8. Ancillary Facilities: There will be no camps or airstrips associated with the drilling of this well.
9. Well Site Layout: See attached location layout sheet.
10. Plans for Restoration of the Surface: Upon completion of drilling, the location will be cleaned, and leveled so that no cut or fill banks will be steeper than 3:1.

All of the area disturbed in connection with the drill site will be seeded as close as possible for any above ground equipment while still allowing for access to the equipment. Seeding will be done within one year after drilling is completed and during the period from July 1 through September 15. Seeding will be done with the seed mixture recommended by BLM.

All equipment above ground will be painted a non-glare, non-reflective, non-chalking color that simulates the natural color of the site.

11. Other Information: If, during operations, any historic or prehistoric ruin, monument or site, or any object of antiquity is discovered, then work will be suspended and the discovery will be reported to the District Manager of the BLM.

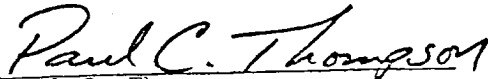
All liquids from the line will be contained at the site unless otherwise specified by the surface agency's representative.

When drilling with gas, the line used to discharge and burn off the gas will be located so as not to damage vegetation in the area, and if necessary an earthen screen will be constructed to protect the vegetation. All liquids from the line will be contained at the site unless otherwise specified by the surface agency's representative.

12. Operator's Representative: Paul C. Thompson - P.O. Box 90, Farmington, New Mexico 87401. Phone: 327-5351.

13. Certification:

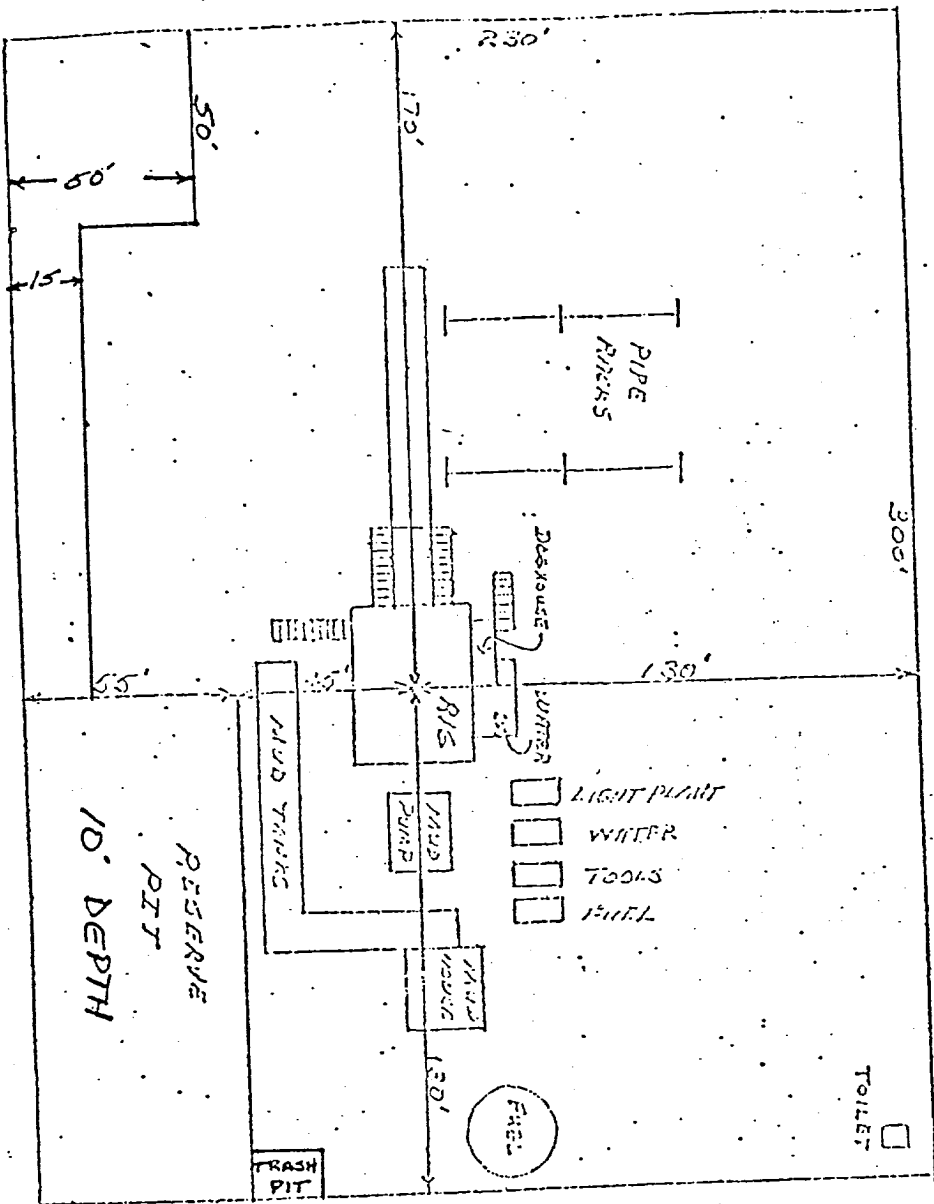
I hereby certify that I have inspected the proposed drillsite and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge true and correct; and, that the work associated with the operations proposed herein will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


Paul C. Thompson
Drilling Engineer

NORTHWEST PIPELINE UNIT

IKOTAS & MESA LEADER

Rosa Unit #77

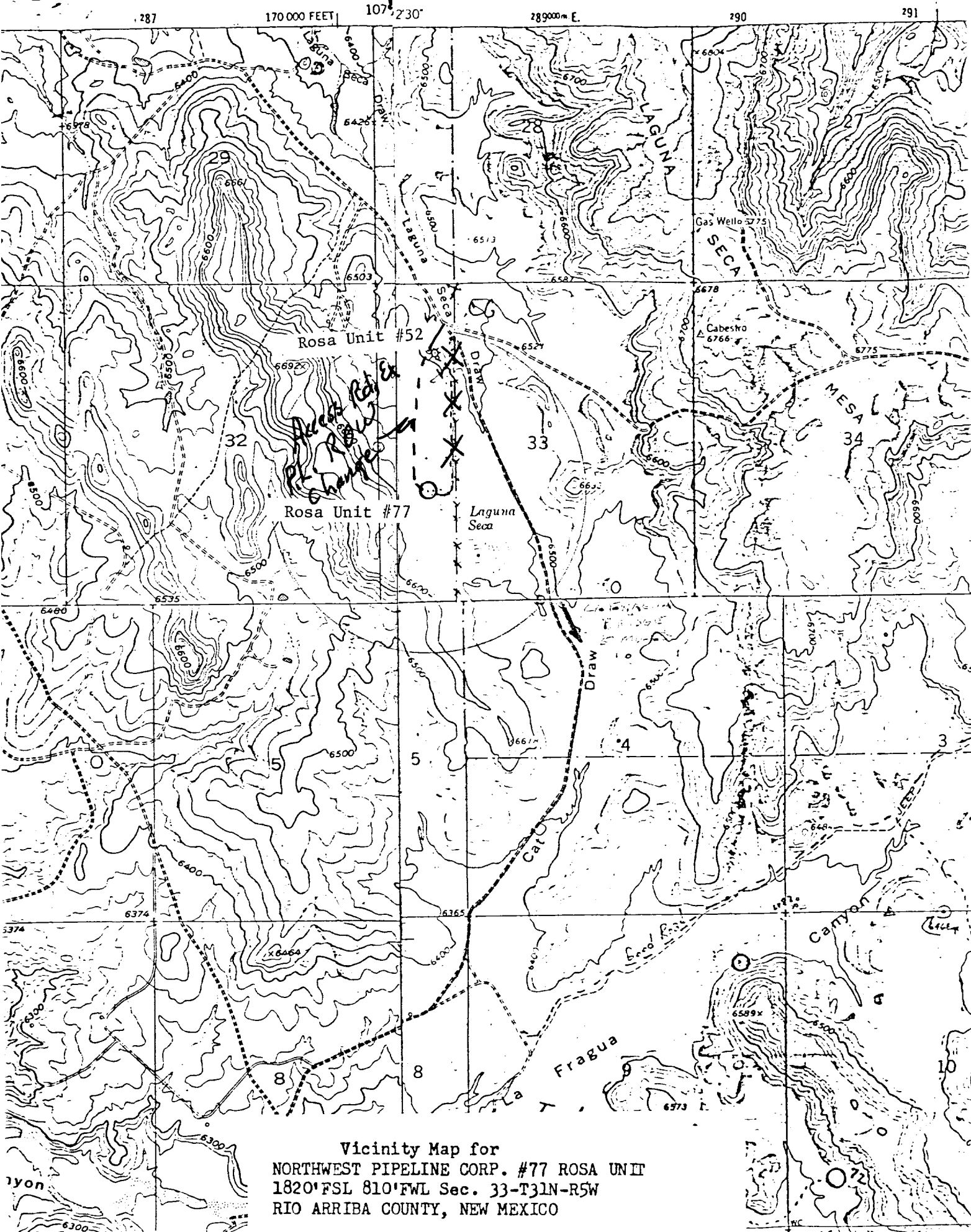


DATE: 9/24/80

SCALE: 1cm = 20'

NEW MEXICO-RIO ARriba CO.
75 MINUTE SERIES (TOPOGRAPHIC)

DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY



Vicinity Map for
NORTHWEST PIPELINE CORP. #77 ROSA UNIT
1820° FSL 810° FWL Sec. 33-T31N-R5W
RIO ARRIBA COUNTY, NEW MEXICO