

MARATHON OIL COMPANY

Drilling Operations Plan

Ohio Gov't. #3-15
Sec. 15, T28N, R11W
San Juan County, New Mexico

1. Geologic name of surface:

Nacimiento (Tertiary)

2. Estimated tops of important geologic markers:.

Est. KB		5,530
Ojo Alamo	710'	(+4,820)
Kirtland Shale	730'	(+4,800)
Farmington Sand	890'	(+4,640)
Fruitland Sand	1,310'	(+4,220)
Pictured Cliffs	1,520'	(+4,010)
Lewis Shale	1,615'	(+3,915)
TD	1,700'	(+3,830)

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

Farmington 890' - gas and water flow.
Fruitland 1,310' - gas.
Pictured Cliffs 1,520' - gas.

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#	225'	New
7-7/8"	4-1/2"	K-55	10.5#	1,700'	New

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

- 8-5/8" Surface Casing: Equip with guide shoe, insert float, and three centralizer
Cement to surface with 250 sacks of API Class "B" cement
with 2% CaCl₂.
- 4½" Production Casing: Equip with a float shoe, baffle collar, and 10 centralizer
Cement to surface with 220 sacks "Light" filler cement
followed by approximately 220 sacks of API Class "B" cement
with 10% salt. All cement to contain 0.5% friction reduce
and 2% CaCl₂.

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 rams and drill pipe rams.
Operation to be checked daily.

Test Hydraulic Operations

<u>BOP</u>	<u>Pressure</u>	<u>Time</u>	<u>Remarks</u>
Ram Type	1,000 psi	30 minutes	Test before drilling on surface casing

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'	225'	Native	8.5-9.0	--	--
225'	1,250'	Gel-Chem	9.5-10.0	*(Be ready to weight up to ppg if gas kicks are en- countered)	
1,250'	TD	Gel-Chem	10.0-11.0	vis 40 sec	10cc water loss

*Note: The Ohio Gov't 2-15 hit gas at 825' and blew out at 875'. Drilled hole from
875' to intermediate casing point at 1650' with 12.8 to 13.4 ppg mud.

7a. Type of drilling tools and auxiliary equipment:

Normal rotary tool operation require:

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

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 De</u>
0'	225'	100'	1°	1°
225'	500'	500'	3°	1°

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

Open Hole Logs: CNL/FDC/GR/Calip., DIL from TD to surface.

Cased Hole Logs: GR/CCL/CBL from PBTD to surface casing.

9. Anticipated abnormal pressures or temperatures:

Gas and water flows possible in Farmington Sand with 10 ppg mud.

Estimated top of Farmington is 890'— Maximum expected pressure is 590 psi. Normal temperature gradient is expected.

10. The anticipated starting date and duration of operation:

Starting Date: 7-26-78

Duration: 5 days

DISTRICT APPROVALS

Approved

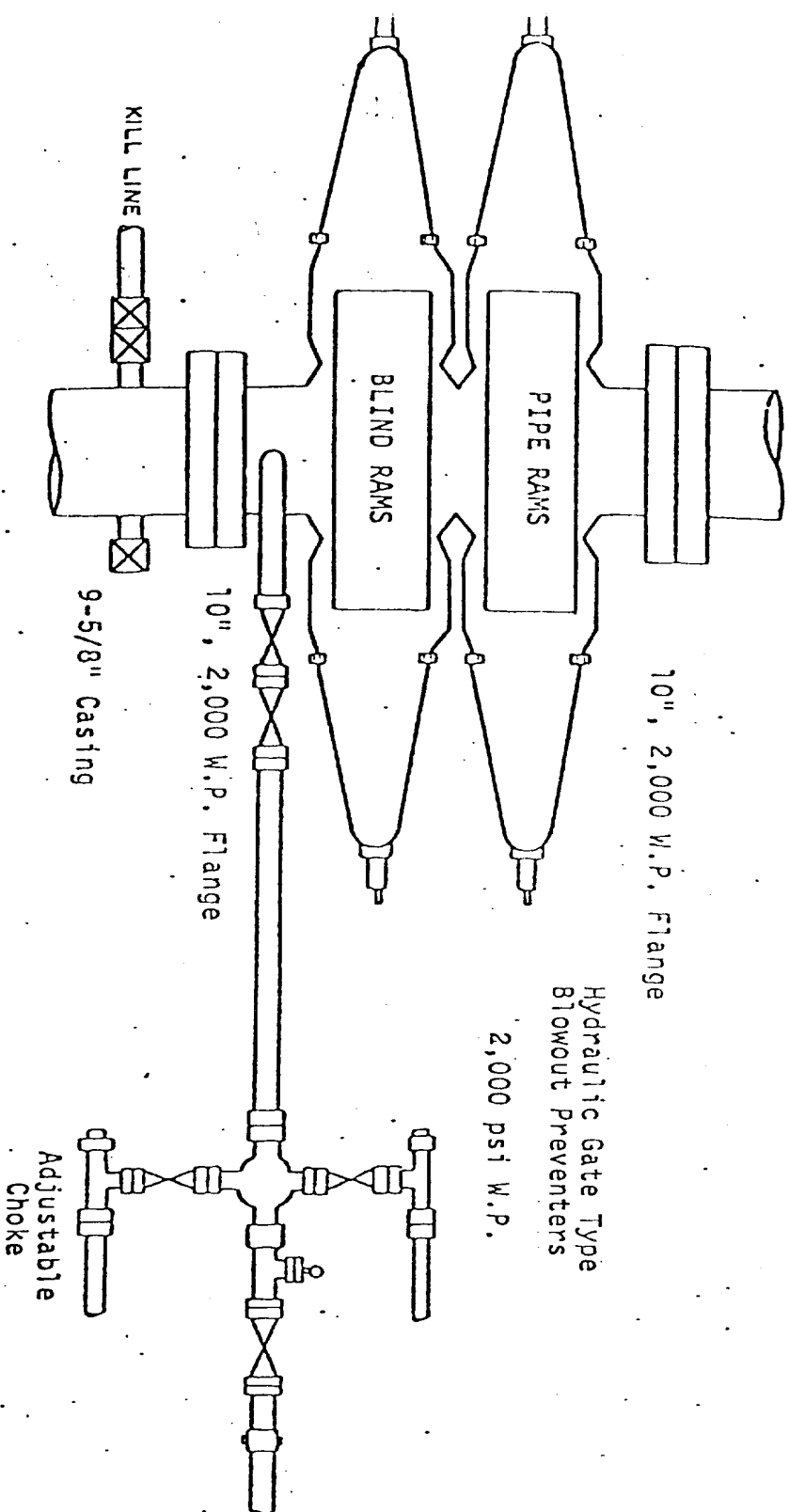
Date

M. E. O'Keefe 4/12/78
J. E. Lawrence 4/12/78
D. J. Paul 4-14-78
J. Smith 5-9-78

DIVISION APPROVALS

Approved

Date



1. 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 must be available on rig floor at all times and with proper connections. The I.D. of safety valve should be as great as I.D. of tool joint of drill pipe.
5. Kelly safety valve installed, same working pressure 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 accumulators; controls may be either on floor or around 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.
12. Chokes will be adjustable.
13. One side of casinghead may be bull plugged.

MARATHON OIL COMPANY

Surface Use and Operations Plan
Ohio Government #3-15
Section 15, T28N, R11W
San Juan County, New Mexico
5,516' G.L.

1. Existing Roads:

Highway south from Bloomfield, New Mexico, for 1-1/2 miles, turn left and follow lease road for 1 mile in a southeasterly direction. Follow lease road as it bends back southwest through Section 11 and 14, into Section 15.

2. Access Road:

The attached map shows the new access road, which will be approximately 1/16 mile long and 14' wide. Maximum grade will not exceed 1%. There will be no culverts, gates, turnouts, cattle guards, or fence cuts. The road will be staked. Rehabilitation will consist of requirements by BLM.

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.

The proposed well will have one tank, one - two-stage separator, and a 10' square by 6' deep water disposal pit. The water disposal pit will be fenced. The gathering line will be laid by the purchaser to their line.

The reserve pit will be fenced on three sides while drilling and the 4th side will be fenced after the rig moves off. The reserve pit and unused parts of the location will be graded back to contour and seeded as recommended by BLM.

All above ground equipment will be painted a color that closely matches the Federal Standard #595-36357 (sage gray)

5. Location and Type of Water Supply:

The water supply will come from the San Juan River near Bloomfield, New Mexico, and hauled to the well site by a jobber.

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:

Drill 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 of operations. A sanitation facility will be provided. There are no plans to line the reserve pit. Immediately upon completion of the well, the location will be policed and all waste materials 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:

A cross section of the drill pad is shown on the attached schematic. Location of mud tanks, reserve pit, trash burn pit, pipe racks, living facilities, soil materials and stockpiles are shown on the attached schematic. The rig will face the north with the reserve pit to the west. Parking area will be on the east side. The access road will be from the north. The location will not require a cut at the well bore.

10. Plan for Restoration to Surface:

Upon completion of this well those areas not needed for any possible production equipment will be backfilled, leveled, contoured and the topsoil replaced. The area will be reseeded according to BLM's recommendations. 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, shallow water wells, or creeks.

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:

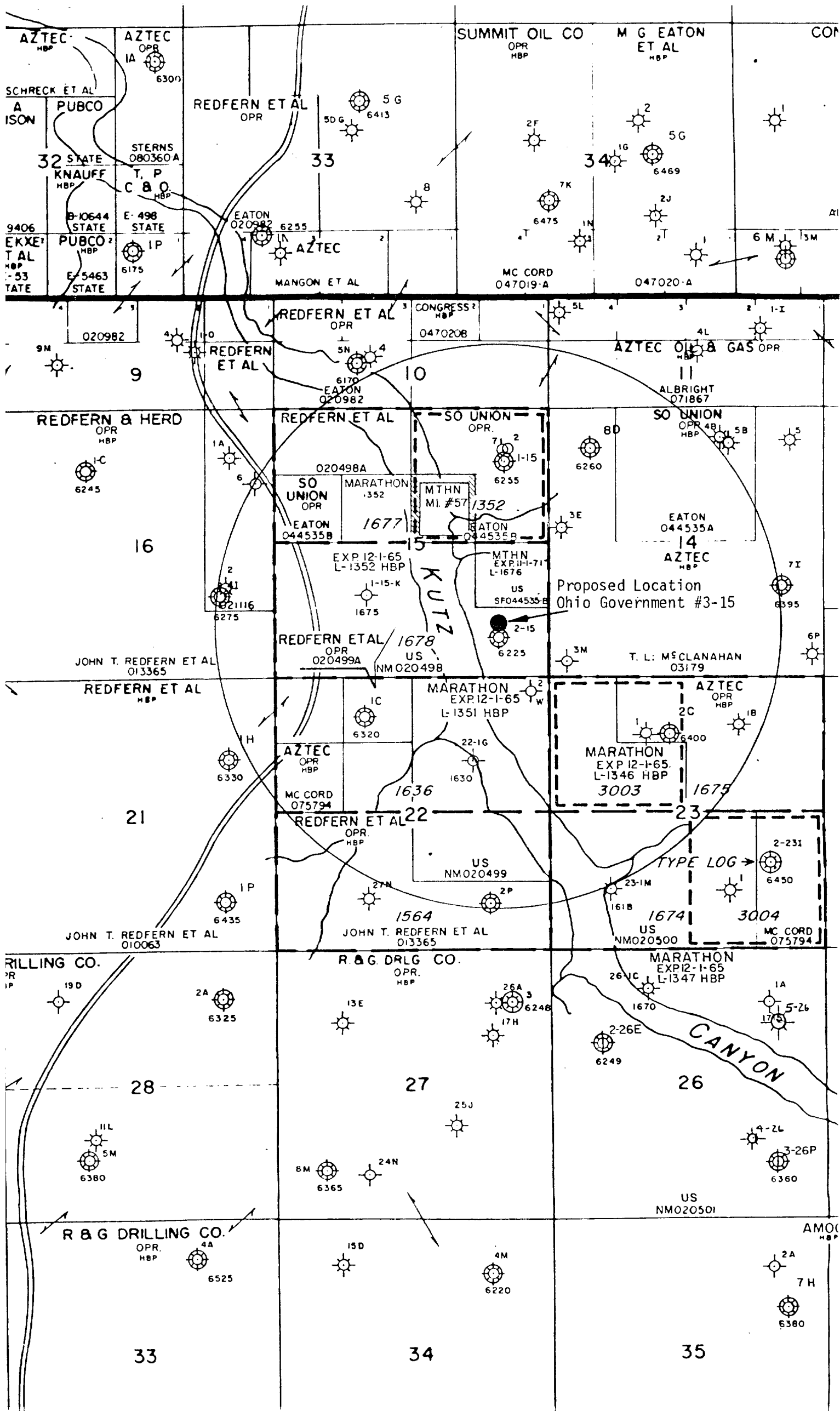
I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and, that the work associated 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.

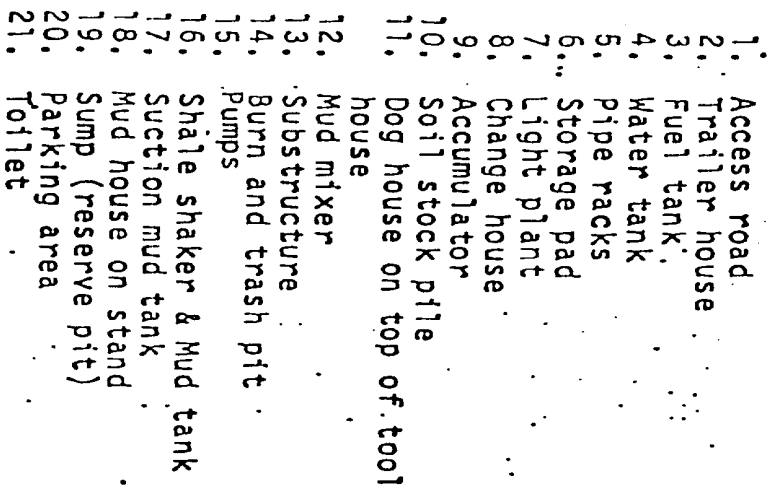
May 9, 1978
DATE

James F. Wirth
NAME
Drilling Supt.
TITLE

Offsets to the Proposed #3-15 Kutz Canyon (1 mile radius)

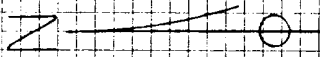
1. Pioneer Production Corporation - Ohio #1-C	Dakota	Section 22
2. Pioneer Production Corporation - Phillips #2-P	Dakota	Section 22
3. Aztec Oil & Gas Company - Hughes #2-C	Dakota	Section 23
4. Marathon - Ohio "B" Aztec #1	P.C.	Section 23
5. Aztec Oil & Gas Company - Hughes #1-B	P.C.	Section 23
6. Aztec Oil & Gas Company - Aztec #8-D	Dakota	Section 14
7. Aztec Oil & Gas Company - Aztec #3-E	P.C.	Section 14
8. Marathon - Ohio Gov't. #2-15	Dakota	Section 15
9. Marathon - Ohio Gov't. #1-15	P & A	Section 15
10. Southern Union Production Company - Eaton Fed. #1-15	Dakota	Section 15





MARATHON OIL COMPANY
OHIO GOVERNMENT #3-15
SEC. 15, T28N, R11W
SAN JUAN COUNTY, NEW MEXICO
5516' GL

CROSS SECTION OF LOCATION



WELL BORE

LOCATION IS FLAT

RESERVE PIT

6'

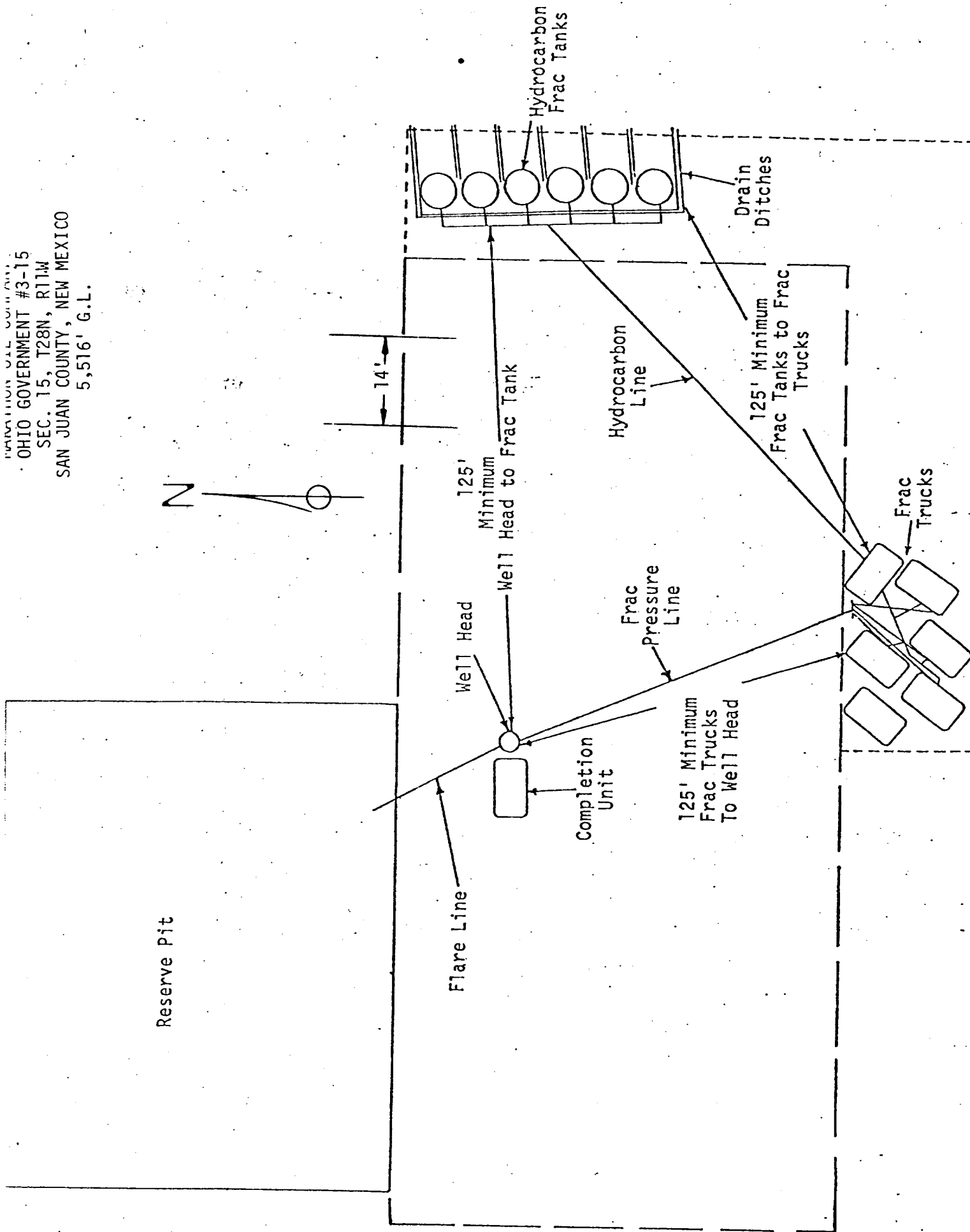
110'

60'

30'

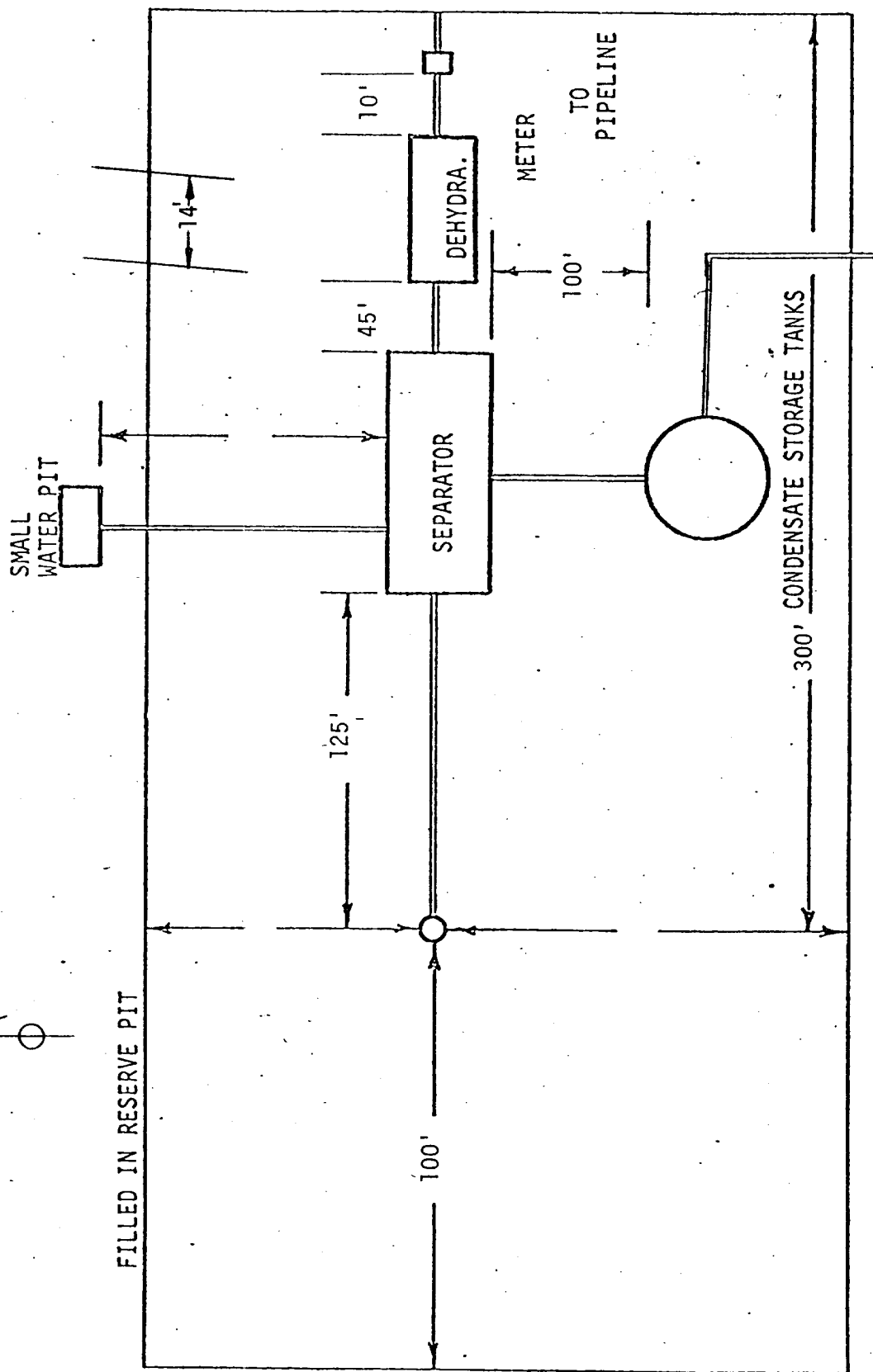
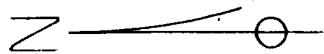
200'

OHIO GOVERNMENT #3-15
SEC. 15, T28N, R11W
SAN JUAN COUNTY, NEW MEXICO
5,516' G.L.



MAKATHUN OIL COMPANY
OHIO GOVERNMENT #3-15
SEC. 15, T28N, R11W
SAN JUAN COUNTY, NEW MEXICO
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PROPOSED PRODUCTION FACILITIES



● Water from San Juan River

T.
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N.

