SUBMIT IN TRIPLICATE*

Form approved. Budget Bureau No. 42-R1425.

UNITED STAT DEPARTMENT OF THE INTERIOR

	(Other instructions
TES	reverse side)

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	DL 1 7111 1111 1111 1111 1111 1111 1111 1				1	3. LEASE DESIGNATION	AND SERIAL NO.
	GEOLO	GICAL SURVE	Y			Contract 15	54
APPLICATION	FOR PERMIT 1	O DRILL, DI	EEPEN. OR	PLUG B	ACK	6. IF INDIAN, ALLOTTE	E OR TRIBE NAME
1a. TYPE OF WORK		<u> </u>				Jicarilla A	pache
DRII	L L 🛛	DEEPEN [] P	LUG BAC	K 🗌	7. UNIT AGREEMENT N	AME
b. TYPE OF WELL OIL GAS WELL WE	S OTHER		SINGLE ZONE	MULTIPI ZONE	LE	S. FARM OR LEASE NA	ME
2. NAME OF OPERATOR						Jicarilla A	lpache -
Ma	rathon Oil Com	pany				9. WELL NO.	
3. ADDRESS OF OPERATOR						9E	
Р.	0. Box 2659, Ca	asper, Wyomi	ing 82602			10. FIELD AND POOL,	OB WILDCAT
4. LOCATION OF WELL (Re At surface	Basin Dakot	a					
1,	11. SEC., T., R., M., OR AND SURVEY OR A	BLK. REA					
At proposed prod. zone	:					Sec. 28, T2	26N, R5W
14. DISTANCE IN MILES A	ND DIRECTION FROM NEAD	BEST TOWN OR POST	OFFICE*		-	12. COUNTY OR PARISE	
Approximately	10 miles sout	heast of Cou	unselor, New	/ Mexico		Rio Arriba	New Mexico
15. DISTANCE FROM PROPOS LOCATION TO NEAREST PROPERTY OR LEASE LI (Also to nearest drlg.	SED*		2560		17. No. o	F ACRES ASSIGNED HIS WELL	
18. DISTANCE FROM PROPO TO NEAREST WELL, DR			19. PROPOSED DEPT	н	20. ROTAL	RY OR CABLE TOOLS	
OR APPLIED FOR, ON THIS	3 LEASE, FT. 3	,430'	7,579'		Rota	ary	
21. ELEVATIONS (Show when						22. APPROX. DATE W	OBK WILL START*
	6	,684' GL				1st Quart	er, 1981
23.	I	PROPOSED CASING	G AND CEMENTI	NG PROGRA	M		
SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOO	OT SETTIN	G DEPTH		QUANTITY OF CEME	NT
Please see Iter	ı#4 of 10 Poin	t Program fo	or Complete	Casing	& Ceme	nting Program	
		-					
TO NEAREST WELL, DR OR APPLIED FOR, ON THIS 21. ELEVATIONS (Show whet) 23. SIZE OF HOLE	SIZE OF CASING	,430' ,684' GL PROPOSED CASING	7,579 G AND CEMENTI	NG PROGRA	Rota	ary 22. APPROX. DATE WO 1st Quart QUANTITY OF CEME	er, 19

Please see the following attachments:

- 1. Surveyor's Plat
- 2. Ten-Point Drilling Program
- 3. BOP Schematic
- Thirteen-Point Surface Plan
- Maps & Diagrams



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.

(This space for Federal or State office use) APPROVED BY CONDITIONS OF

*See Instructions On Reverse Side

OIL CONSERVATION DIVISION

STATE OF NEW MEXICO ENERGY AND MINERALS DEPARTMENT

P. O. BOX 2088 SANTA FE, NEW MEXICO 87501

Form C-107 Revised 10-1-78

1: 4.46

All distances must be from the cuter froundaries of the Section.

Operator	Lease Well No.				o				
MARATHON O	IL COMPANY		JICARILIA APACHE 9E						
Unit Letter	Section	Township	Range		County				
0	28	26N		5W	Rio	Arriba			
Actual Footage Loc	0	. 43	3.696			T1 b			
1040 Ground Level Elev:	feet from the SOI		1689	D feet	from the	East	line		
6684	Producing For Dakota	mation	Pool Raci	in Dakota			Dedicated Acr	- I	
							32		
1. Outline th	ie acreage dedica	ted to the subject w	ell by co	lored pencil o	or hachur	e marks on t	the plat belo	w.	
	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).								
		ifferent ownership is initization, force-pool		d to the well,	have the	interests o	of all owners	been consoli-	
Yes	No If a	nswer is "yes," type	of consoli	idation		N/A			
	_								
		owners and tract des	criptions	which have a	ctually b	een consolie	dated. (Use i	everse side of	
	f necessary.)								
	-	ed to the well until al				•			
•	ling, or otherwise	or until a non-standa	rd unit, el	liminating suc	ch interes	sts, has bee	n approved b	y the Commis-	
sion.									
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MARATHON OIL COMPANY DRILLING OPERATIONS PLAN

DATE: December 1, 1980

WELL NAME: Jicarilla Apache #9-E

LOCATION: 1,040' FSL & 1,685' FEL, Unit O, Sec. 28, T26N, R5W, Rio Arriba Co., New Mexico

1. Geologic name of the surface formation: Tertiary - Undifferentiated

2. Estimated tops of important geological markers:

Formation	<u>Depth</u>	<u>Da tum</u>	<u>Formation</u>	Depth	<u>Datum</u>
Undifferentiated Kirtland Fruitland Pictured Cliffs Chacra Cliffhouse Menefee Mancos	2,639' 2,844' 3,049' 3,939' 4,749' 4,889' 5,444'	Surface (+4,045') (+3,840') (+3,635') (+2,745') (+1,935') (+1,795') (+1,240')	Niobrara Basal Noibrara Sanastee Greenhorn Graneros Dakota Morrison T.D.	6,376' 6,599' 6,834' 7,149' 7,199' 7,319' 7,469' 7,579'	(+308') (+ 85') (-150') (-465') (-515') (-635') (-785') (-895')

3. Estimated depths at which oil, water, gas or other mineral bearing formations are expected to be encountered:

Formation	Depth	<u>Datum</u>	Content
Fruitland Pictured Cliffs Chacra Cliffhouse Graneros Dakota	2,844' 3,049' 3,939' 4,747' 7,199' 7,319'	(+3,840') (+3,635') (+2,745') (+1,935') (- 515') (- 635')	Gas Gas Gas Gas Gas - Primary Objective

DRILLING OPERATIONS PLAN PAGE TWO MARATHON OIL COMPANY

. The proposed Casing Program:

Casing Design

	Surface Production	CASING STRING
	13-3/4" 7-7/8"	SIZE HOLE
	0' - 500' 500' - 6,500' 6,500' - 7,579'	INTERVAL
	500' 6,500' 1,079'	SECTION
0 5/0" (75:50	9-5/8" 4-1/2" 4-1/2"	SIZE
24:35	36.0#, K55, 10.5#, K55, 11.6#, K55,	WEIGHT AND
		WEIGHT, GRADE AND JOINT
	STC New STC New STC New	NEW OR USED
	8.5-9.0 8.5-9.0 8.5-9.0	MEIGHT
	18,000# 81,000# 13,000#	TENS ION LOAD
	10 1.80 10	SEt
	10 7.96 1.80 1.18 10 1.39	SF _C SF _b
	10 1.36 1.50	SFb

9 Casing

Cement Program:

Cement Volume: 500 ft. x .5259 cu. ft./ft x 2.0 excess = 525 cu.ft.

Slurry: 500 ft. calculated plus 100% excess - 450 sacks of class "B" cement containing 2% CaCl₂. Slurry Yield: 1.18 cu. ft./SK Slurry Density: 15.6 1b/gal.

Water Requirement: 5.2 gal/SK Casing Equipment: Guide shoe, insert flapper valve, 3 centralizers. WOC time will be a minimum insert valve holds, closed-in pressure after completion of cement job is not recommended. WOC time will be a minimum of 6 hours.

4½" Casing

1st Stage
Cement Volume: 3475 ft. x .2278 cu.ft./ft. x 1.20 excess = 950 cu.ft.

Lead Slurry: 2900 ft. calculated plus 20% excess from logs - 430 sacks of high yield (BJLite, Halliburton Lite, etc.) containing 0.8% fluid loss additive (D-19, Halad 9, etc.)
 Slurry Yield: 1.85 cu.ft./SK
 Slurry Density: 12.7 lb/gal.
Water Requirement: 9.9 gal./SK

Tail Slurry: 575' calculated plus 20% excess from logs - 100 sacks of class "B" cement containing .8% fluid loss additive (D-19, Halad 9, etc.)

2nd Stage

Cement Volume: 1600 ft. x .2278 cu.ft/ft. x 1.2 excess = 440 ft³ Slurry: 1600 ft. calculated plus 20% excess from logs - 350 sacks of 50/50 pozzplan cement containing 2% bentonite, 6% KCL, 0.6% dispersant (D-31, CFR-2, etc.) and 1.0% fluid loss additive (D-19, Halad 9, etc.)

Slurry Yield: 1.26 cu.ft./SK Slurry Density: 14.15 lb/gal. Water Requirement: 5.75 gal/SK

Cement Program cont.:

Casing Equipment: Locate stage collar at 4,100 ft. A guide shoe, flapper type float collar, 2 cement baskets, and 8 centralizers will be used. If float holds, closed-in pressure after completion of cement job is not recommended. Set casing on slips as soon as possible following cement job.

Slurry Preflush: 1st Stage - 800 gal. 2nd Stage - 800 gal.

5. Pressure Control Equipment:

BOP equipment will include a double-ram type preventer with pipe and blind rams and a rotating head (API arrangement SRdG). All equipment will have a 3,000 psi or greater working pressure. Rams, valves, lines, choke manifold and casing will be tested to 1,000 psi for 5 minutes prior to drilling out from under 9 5/8" surface casing. After drilling casing shoe and 5 ft. of additional hole, a shoe test will be performed to 11.0 ppg equivalent mud weight or leakoff, which ever occurs first. The accumulator should be of a sufficient capacity to meet the following requirements:

- 1. Ability of immediate closure to all members of the stack without recharging.
- 2. A total of 50% of the original fluid should remain as a reserve after accumulator activation.
- 3. A minimum pressure of 1,200 psi is required to insure that the preventers remain closed.

Visual checks of the equipment will be made tourly. Function pipe rams daily and blind rams on trips.

6. <u>Drilling Mud Program</u>:

From	То	Type Mud	Weight	<u>% 0i1</u>	<u>Water Loss</u>
0'	500'	Spud	8.5 - 9.0	0	No control
500'	T.D.	Gel & Soltex	8.5 - 9.0	0	12 cc

The Fruitland, Pictured Cliffs, and Chacra formations may require additional mud weight to control gas influx. Sufficient barite should be on location in order to increase mud weight to 10.5 ppg if required. The anticipated maximum bottom-hole pressure is 2800 psi.

7. Auxillary Equipment Required:

A drilling rate recorder, calibrated to record drilling time for each one foot interval will be used.

The mud system will include a desander/desilter, gas buster or degasser, and pit level monitor. Both a remote adjustable and manual choke will be used.

A kelly cock will be used and a full opening manual safety valve will be available on the rig floor. A vented flapper valve will be in use at all times while drilling under surface casing.

A single shot drift indicator will be used.

From	То	Maximun Distance Between Surveys	Maximum Deviation From Vertical	Maximum Change Per 100' of Deptn
0'	500'	250 '	1 ⁰	1 ⁰
500'	T.D.	500 '	50	10

8. Testing, Logging, Coring and Fracing Program:

From I.D. to 500 ft. run: SP-DIL, CNL, FDC, Caliper From T.D. to surface run: GR Samples will be taken every 60 ft. from 500 ft. to 6,500 ft. Samples will be taken every 30 ft. from 6,500 ft. to T.D.

No DST's or cores are anticipated.

MARATHON OIL COMPANY DRILLING OPERATIONS PLAN PAGE FOUR

8. <u>Testing</u>, <u>Logging</u>, <u>Coring and Fracing Program</u> (cont'd):

Fracing Program:

After the casing is run and cemented, the zones of interest will be perforated. If stimulation is necessary, the well will be fraced with felled water and sand. Fracing with volatile liquids is not planned.

See Diagram "E"

9. Abnormal Conditions:

A normal pressure gradient is anticipated, however, abnormal pressure requiring mud weight as high as 10.5 ppg is possible in the Fruitland, Pictured Cliffs, and Chacra formations.

A normal temperature gradient is anticipated.

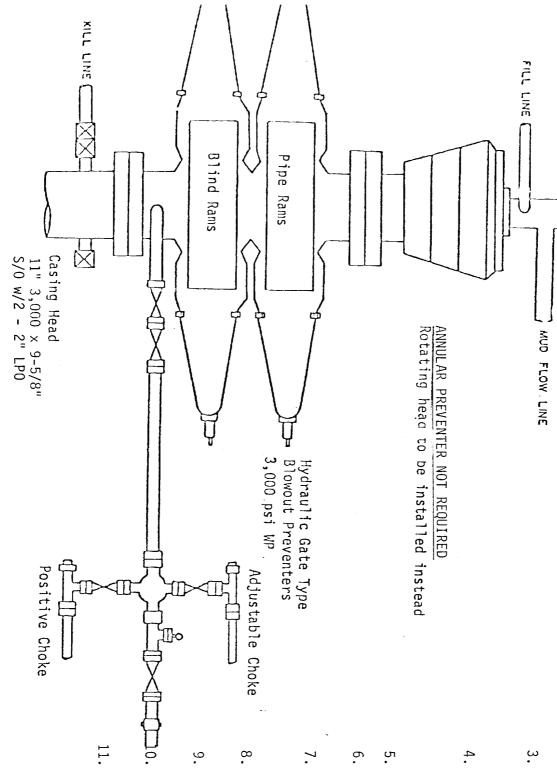
10. Anticipated starting date and duration:

Starting	Date:	1st	Quarter,	1981
Duration:		18 (days	

Name ME Knight.

Title Qulling Supt.

Date 12-3-80



- Blowout preventers, master valve, plug valve and all fittings must be in good condition. Use new API Seal Rings.
- 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".

 Equipment through which bit must pass shall be as large as

Drilling Nipple

Rio Aribba County, New Mexico Elevation: 6,684' K.B.

2

Section 28, T36N, R5W

Jicarilla Apache #9E Unit 0 1,040' FSL, 1,685' FEL

- the inside diameter of the casing that is being drilled through.
- 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.
- Kelly safety valve installed, same working pressure as BOP's.
- All lines and controls to preventers must be connected and tested before drilling out of surface pipe.
- BOP's must be fluid operated, complete with accumulator. Controls may be either on floor or ground near steps from rig floor.
- Fillup line tied to drilling nipple, the connection must be below and approximately $90^{\rm o}$ to the flow line.
- Gauge will be installed for testing but removed while drilling.
- Spool not required, but when side outlet on ${\tt BOP's}$ is used, it must be below bottom ram.
- Casinghead and casinghead fittings to be furnished by Marathon Oil Company.

9-5/8", 24.0#, K55 Casing to 500'

MARATHON OIL COMPANY SURFACE USE & OPERATIONS PLAN

DATE: November 24, 1980

WELL NAME: Jicarilla Apache #9-E

LOCATION: 1,040' FSL & 1,685' FEL, Unit O, Sec. 28, T26N, R5W, Rio Arriba Co., New Mexico

#1 Existing Roads:

A. Proposed well site as staked. (Actual staking should include two each 200-foot directional reference stakes).

See attached survey plat.

B. Route and distance from nearest town and locatable reference point to where well access route leaves main road.

See attached map Diagram "A".

- C. Access road(s) to location color-coded or labeled. See attached map Diagram "A" color coded green.
- D. If exploratory well, all existing roads within a 3-mile radius (including type of surface, conditions, etc.).

Not applicable.

E. If development well, all existing roads within a 1-mile radius of well site.

See diagram "A".

F. Plans for improvement and/or maintenance of existing roads.

Blade and gravel where needed.

#2 Planned Access Roads:

Map showing all necessary access roads to be constructed or reconstructed, showing:

- (1) Width
- 16'
- (2) Maximum grades 0% 3%
- (3) Turnouts None required
- (4) Drainage design Ditched and crowned
- (5) Location and size of culverts and brief description of any major cuts and fills.

There will be no cuts, fills or culverts on access road.

(6) Surfacing material

Gravel where needed.

(7) Necessary gates, cattleguards, or fence cuts.

None required

(8) (New or reconstructed roads are to be center-line flagged at time of location staking). New access road is center-line flagged w/hot blue & orange flagging material and walked 50' on each side by an archeologist from San Juan College, Farmington, NM.

#3 Location of Existing Wells:

Two-mile radius map if exploratory, or l-mile radius map if development well, showing and identifying existing:

(1) Water wells

None

(2) Abandoned wells

None

(3) Temporary abandoned wells None

(4) Disposal wells

None

(5) Drilling wells

None

(6) Producing wells

See map Diagram "A"

(7) Shut-in wells

See map Diagram "A"

(8) Injection wells

None

(9) Monitoring or observation wells for other resources.

None

#4 Location of Existing and/or Proposed Facilities:

A. Within 1-mile radius of location show the following existing facilities owned or controlled by lessee/operator:

(1) Tank Batteries

See map Diagram "A"

(2) Production Facilities

See map Diagram "A"

(3) Gathering Lines

None

(4) Gas Gathering Lines

None

(5) Injection Lines (Indicate if any of the above lines are buried).

None

(6) Disposal Lines

None

B. If new facilities are contemplated, in the event of production, show:

(1) Proposed location and attendant lines by flagging if off of well pad.

Adjacent to the road-and as close to the proposed drill site as possible without setting on any fill. See Diagram "B".

(2) Dimensions of Facilities

See Diagram "B"

(3) Construction methods and materials £

Good engineering practices will be used in the construction of these facilities and materials will be obtained through local vendors and contractors.

- B. If new facilities are contemplated, in the event of production, show: (cont'd)
 - (4) Protective measures and devices to protect livestock and wildlife.

Woven wire fences of the pit areas and flagging, if necessary.

- C. Plans for rehabilitation of disturbed areas no longer needed for operations after construction completed.
 Restoration of the drill site and tank battery areas will be reshaped to conform with the topography. The top soil will be redistributed at the proper time. The sites will be reseeded as per the recommended seed mixture.
- mixture. #5 Location and Type of Water Supply:
 - A. Show location and type of water supply either on map or by written description.
 Water supply is a water hole on the Tapicito Creek, located in the NW/4 of Sec. 28, T26N, R5W. See map Diagram "A", color coded blue.
 - B. State method of transporting water, and show any roads or pipelines needed.
 Water will be hauled by truck to the well site. See map Diagram "A" color coded <u>blue</u> for water haul route.
 - C. If water well is to be drilled on lease, so state. (No APD for water well necessary, however, unless it will penetrate potential hydrocarbon horizons). No water well will be drilled.

#6 Source of Construction Materials:

- A. Show information either on map or by written description.

 Construction materials will be native soil or purchased from a Jobber and hauled to the well site by same.
- B. Identify if from Federal or Indian Land. None.
- C. Describe where materials, such as sand, gravel, stone and soil material, are to be obtained and used.

Any needed materials will be purchased from a Jobber and hauled to the well site.

D. Show any needed access roads crossing Federal or Indian Lands under Item 2.
None

#7 Methods of handling Waste Disposal:

Describe methods and location of proposed containment and disposal of waste material, including:

(1) Cuttings

Reserve Pit

(2) Drilling fluids

Reserve Pit

(3) Produced fluids (oil, water) Frac Tanks

#7 Methods of Handling Waste Disposal: (cont'd)

- (4) Sewage Porta Poty
- Garbage and other waste material (Trash pits will be completely contained with small mesh wire to prevent wind scattering trash before being burned or buried).

There will be a 10' x 10' burn pit on the drill site, and it will be fenced.

Statement regarding proper cleanup of well site area when rig moves out.

At the completion of drilling, the site and surrounding area will be cleaned up and all burnable material will be put in the burn pit and burned. All foreign material will be buried.

#8 Ancillary Facilities:

Identify all proposed camps and airstrips on a map as to their location, area required and construction methods. (Camp center and airstrip center lines to be staked on the ground).

None

#9 Wellsite Layout:

A plat (not less than 1" = 50') showing:

(1) Cross sections of drill pad with cuts and fills.

See Diagram "C:

Location of mud tanks, reserve, burn and trash pits, pipe racks, living facilities and soil material stockpiles.

See Diagram "D"

(3) Rig orientation, parking areas and access roads.

See Diagram "D"

(4) Statement as to whether pits are to be lined or unlined. (Approval as used in this section means field approval of location. All necessary staking of facilities may be done at time of field inspection). A registered surveyor is not mandatory for such operations.

Pits will not be lined.

#10 Plans for Restoration of Surface:

State restoration program upon completion of operations, including:

 Backfilling, leveling, contouring and waste disposal; segregation of spoils materials as needed.
The drill site will be cleaned and waste material will be put in the trash burn pit, which will be covered at the finish of the drilling operation. The reserve pit will be back filled as soon as it is dry.

Revegetation and rehabilitation - including access roads (normally per BLM recommendations). The top soil will be redistributed and at the proper season and a seed mixture of BLM requirements will be drilled planted.

#10 Plans for Restoration of Surface: (cont'd)

(3) Prior to rig release, pits will be fenced and so maintained until cleanup.

The reserve pit will be fenced on 3 sides during drilling. At the completion of the drilling, all pits will be fenced on the one remaining side.

- (4) If oil on pit, remove oil or install overhead flagging. If there is oil on the reserve pit, it will be removed or flagged with overhead flagging.
- Timetable for commencement and completion of rehabilitation operations.

Depending upon climatic conditions, restoration should be completed from six months to one year after spud date.

#11 Other Information:

General Description of:

Topography, soil characteristics, geologic features, flora and fauna. Topo is sagebrush and scrub pine covered hills, occasionally dissected by drainage features.

Flora is pinon, juniper sage, prickly pear cacti, galleta, Indian rice grass.

Fauna is deer, rabbits, fox, cattle and sheep.

(2) Other surface use activities and surface ownership of all involved lands. The drill site and access road are owned by the Jicarilla Apache Nation.

(3) Proximity of water, occupied dwellings, archeological, historical

or cultural sites. There is no water or occupied dwellings in the area. Archeological performed by San Juan College, Farmington, NM. services were

#12 Lessee's or Operator's Representative:

Mr. Mike E. Krugh Marathon Oil Company P.O. Box 2659 Casper, WY 82602 (307) 235-2511 Ext. 484

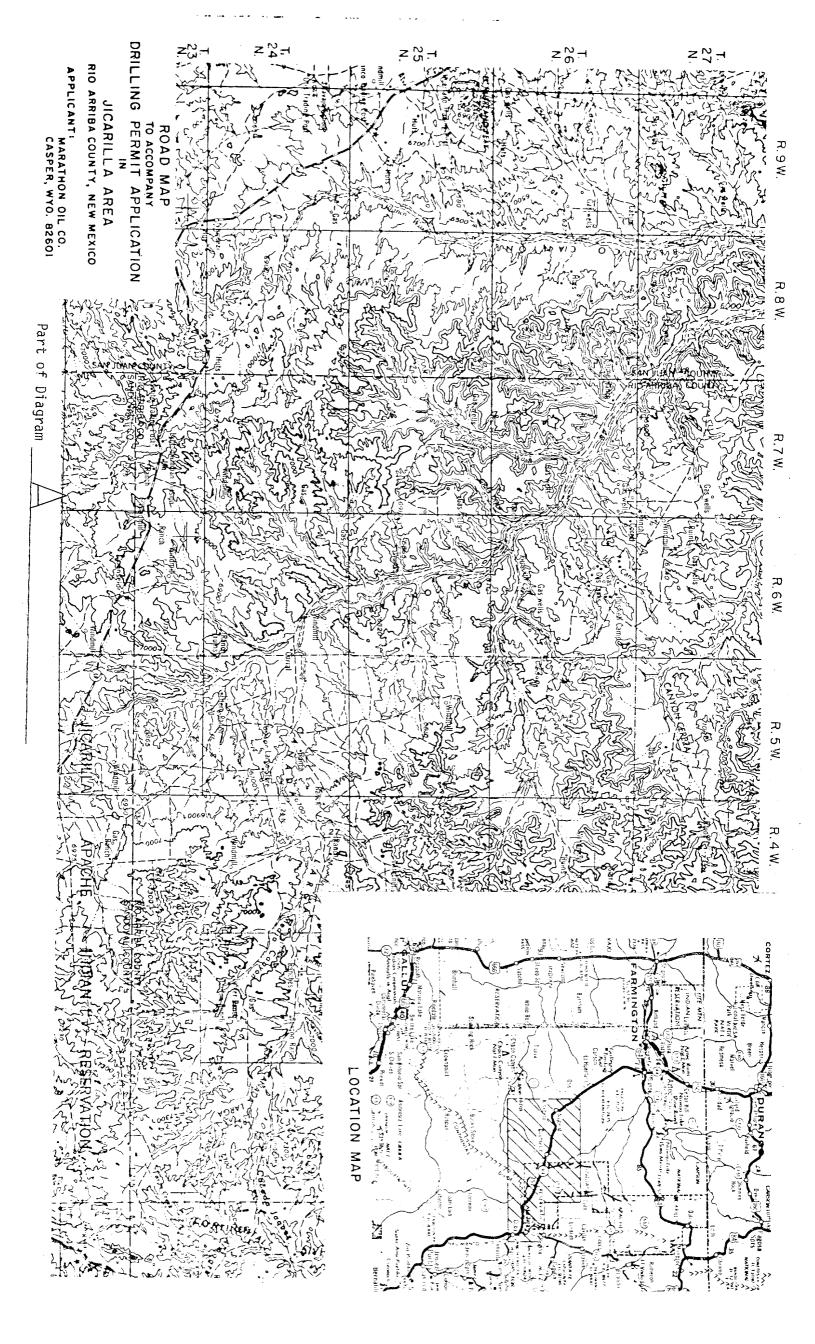
Certification: The following statement is to be incorporated in #13 the plan and must be signed by the lessee's or operator's field representative who is identified in item No. 12 of the plan:

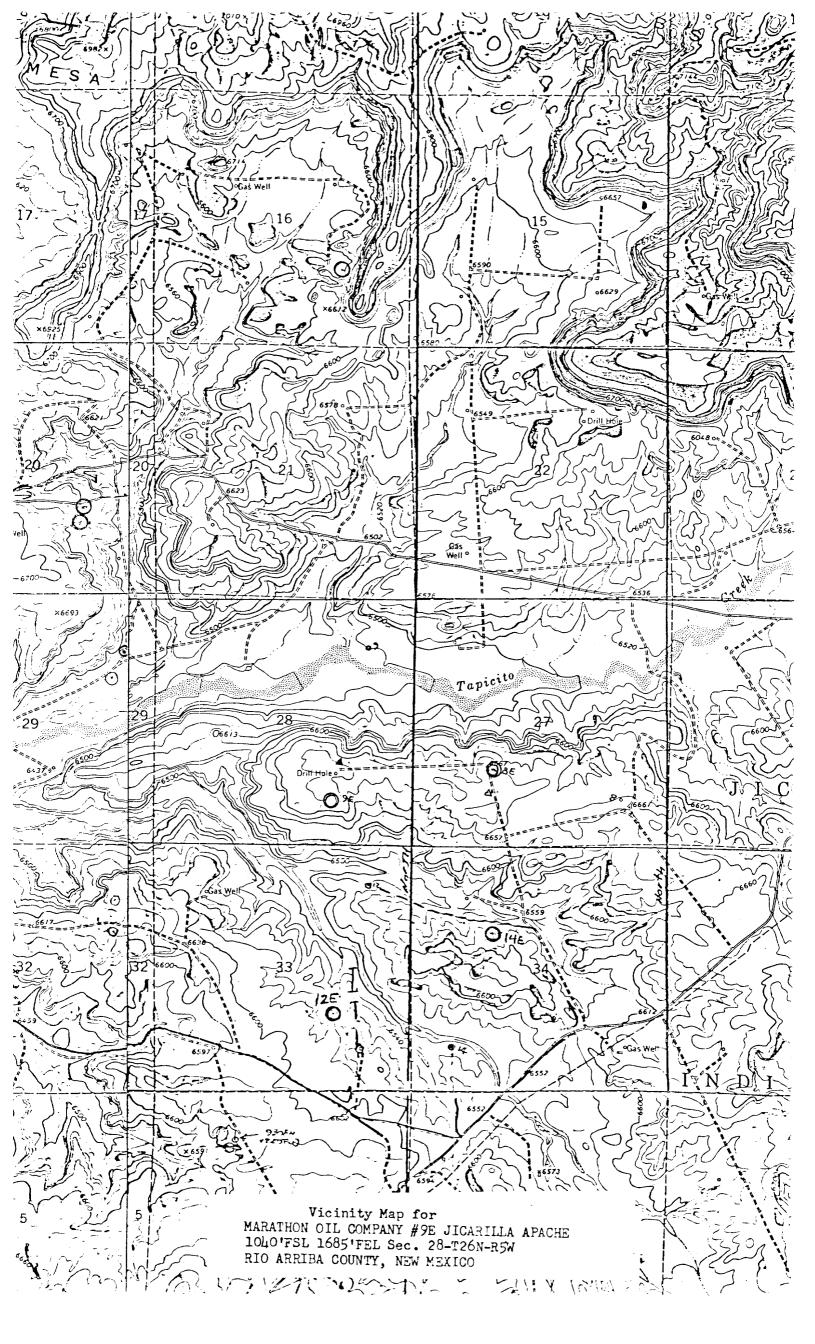
> I hereby certify that I, or persons under mydirect supervision, have inspected the proposed drillsite and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and, that the work associated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

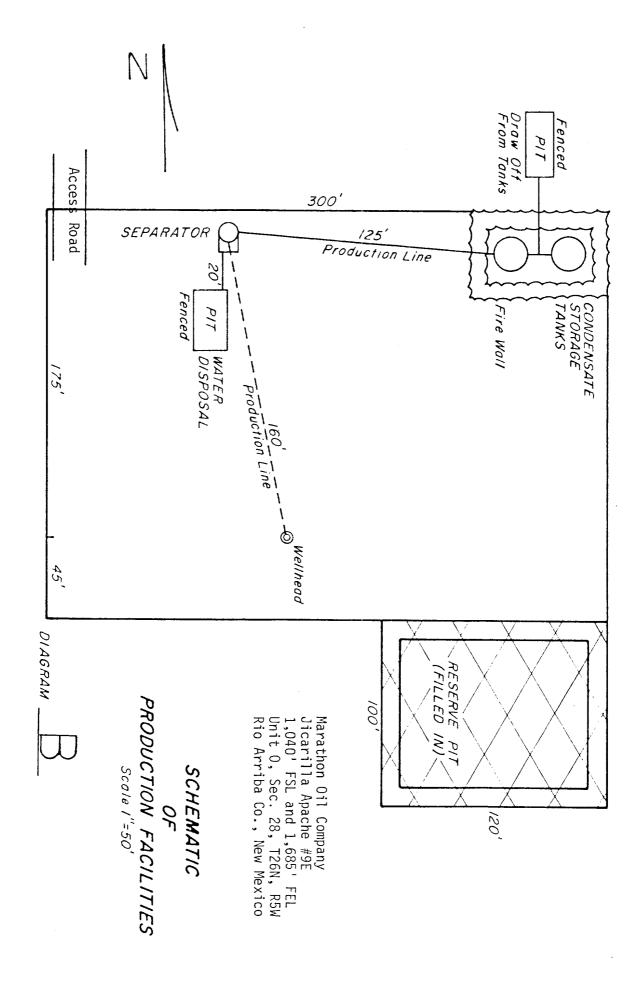
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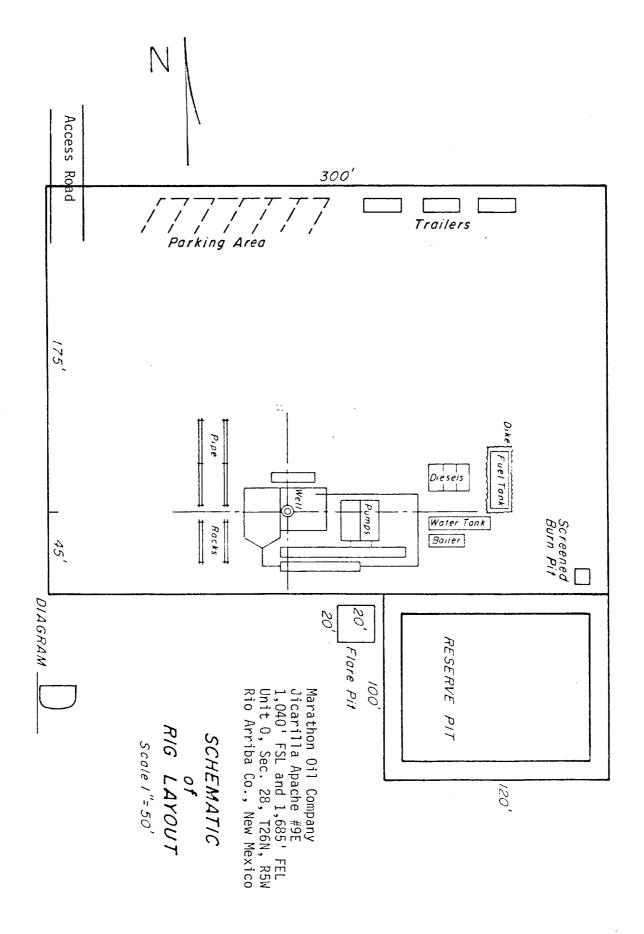
Dilling Supt.

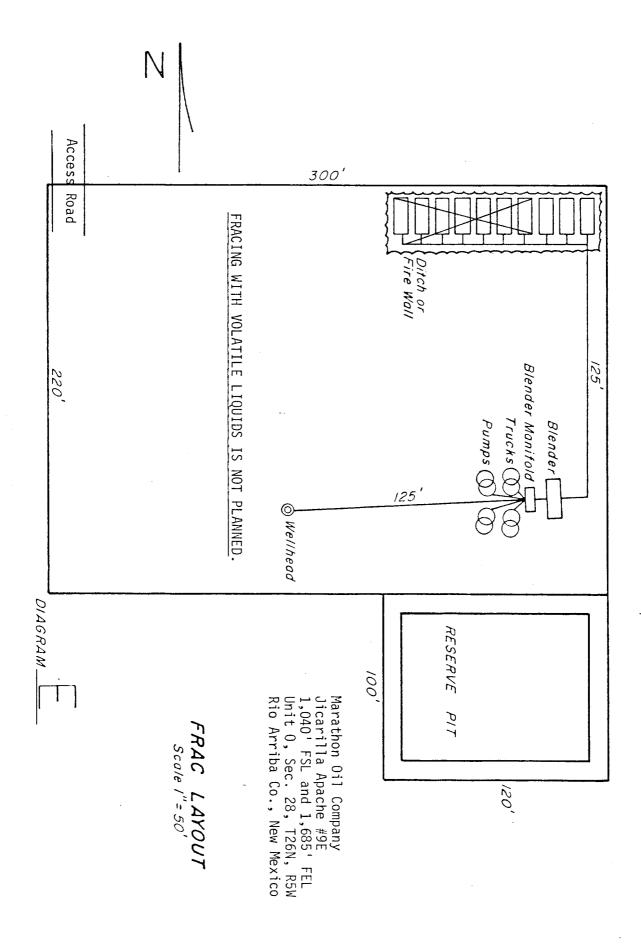
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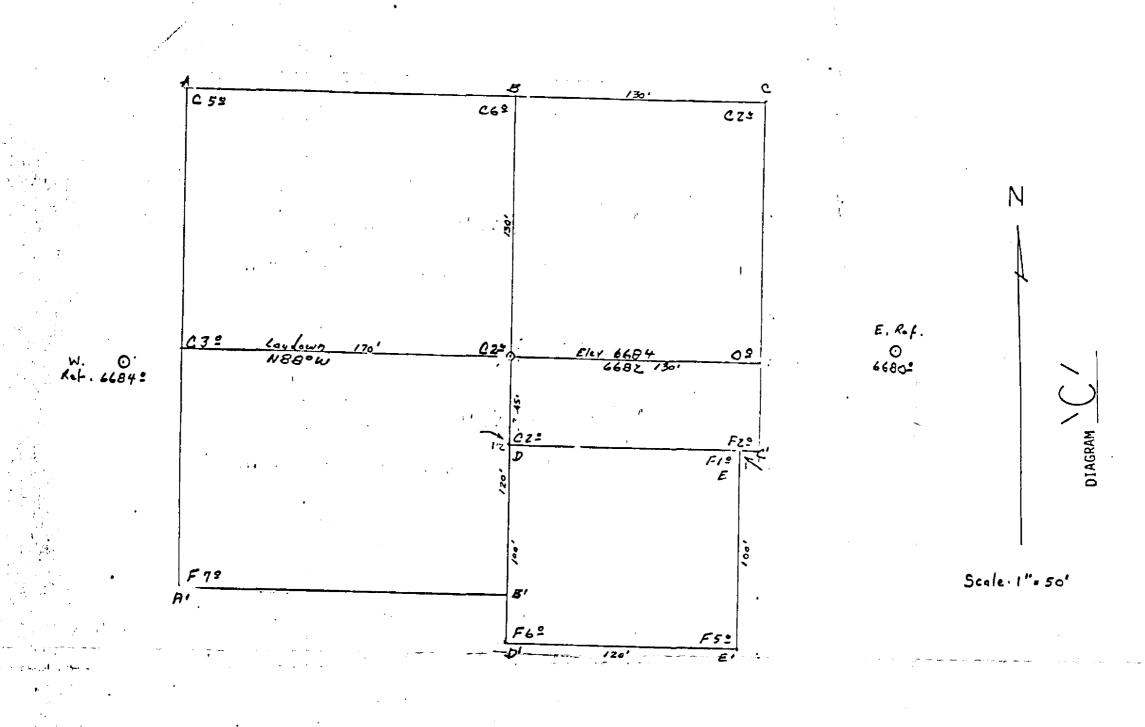






N Reference

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Vartical: 1"-20: A-A' (Horiz, 1"-100: Vartical: 1"-20: C-C' (Horiz, 1"-100: 469.)

669.

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B-B:

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