CONDITIONS OF APPROVAL, IF ANY:

COPY TO O. C. SCHMIT IN TRIP-TE

(Other instructi reverse side)

Form approved. Budget Bureau No. 42-R1425.

HNILED STATES

	DEPARTMENT	LD SIVIE		NUB	Biuc)		
				(IOI)		5. LEASE DESIGNATION	AND SERIAL NO.
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	theast of Capro	ck, New Mex				Lea County	New Mexico
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PROPERTY OR LEASE I (Also to nearest dri	g. unit line, if any)	660'					
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ון ו	8-5/8"	24#		<u>3500'</u>		00 c.f.	
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24.				_			70
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PERMIT NO.				APPROVAL DATE	AP	PROVED	
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ADDDOUGH BY		do to	PT.E	1	/~\	DATE	1

*See Instructions On Reverse Side

DISTRICT ENGINEER

NEW TRICO OIL CONSERVATION COMMISSION WELL LALATION AND ACREAGE DEDICATION PLAT

All distances must be from the outer boundaries of the Section

Operator	· 	All distances must be from	de euter boundaries e	the section				
•	PETROLEUM DEV	ELOPMENT CORP.		-Mokay Erospa:	Well No.			
Unit Letter	Section	Township	Range	-MCKAY FEDERAL				
J	26	9 South	32 EAST	LEA				
	Actual Footage Location of Well:							
1980	feet from the	SOUTH line and	1980 te	at from the EAST	line			
Ground Level Elev	1				Dedicated Acreage:			
4319.7	Devonia	an	Wildcat		40 Acres			
2. If more t		ated to the subject well and dedicated to the well, o			the plat below.			
dated by Yes If answer this form	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 allowa forced-poo sion.	ble will be assig	ned to the well until all in: e) or until a non-standard u	terests have been on the state of the state	consolidated (by constitution of the consolidated consolidated (by constitution of the consolidated (by cons	mmunitization, unitization, n approved by the Commis-			
	!		1		CERTIFICATION			
	i ! !		1 1 1	tained h	certify that the information con- erein is true and complete to the my knowledge and belief.			
	1		1	Name	Layd & Wayse			
	+			1 1	G. Wayne			
			1	Position				
1			!	Vice P	resident			
	ļ ļ		l	Company PETROL	EUM DEVELOPMENT CORP.			
	1	NN 15000	1	Date				
	1	NM 159.03	-A !	11-21-	78			
			<u> </u>					
	NGINEER & CARD	Ç		shown or notes of under my is true	r certify that the well location in this plat was plotted from field actual surveys made by me or r supervision, and that the same and correct to the best of my ge and belief.			
REG.	MAN W WEST	700 ,0861		 	BER 7,1978 Professional Engineer			
				2 Septificate				
0 330 460	190 1320 1680 16	80 2810 2640 2000	1500 1000 B	0	Ronald J. Eidson 3239			



PETROLEUM DEVELOPMENT CORPORATION

9720-B CANDELARIA, NE ALBUQUERQUE, NEW MEXICO 87112 TELEPHONE (505) 293-4044

MULTI-POINT DRILLING PLAN

Petroleum Development Corporation
Flying M-McKay Federal
1980' FEL, 1980' FSL, Sec. 26, T9S, R32E
Lea County, New Mexico
Lease: NM 15903-A
(160 acres)

This supplemental plan is submitted with the Application to Drill the above-described well in compliance with NTL-6 of the United States Department of the Interior.

- 1. The surface is composed of fine-grained sand, quaternary in age.
- 2. Estimated top of primary geologic markers are:

Rustler	1630	(+2709)
Yates	2235	(+2104)
San Andres	3460	(+ 879)
Glorietta	4900	(- 561)
Tubb	6350	(-2011)
Abo	7200	(-2861)
Wolfcamp	8350	(-4011)
Bough "C"	8940	(-4601)
Strawn	9830	(-5491)
Atoka	10100	(-5761)
Mississippian	10700	(-6361)
Devonian	11200	(-6861)

Estimated KB Elevation: 4339

3. The estimated depths at which anticipated water, oil or gas bearing formations are to be encountered are:

4200-4500'	oil	San Andres
8900-9000'	oil	Bough "C"
9800-9900'	oil	Strawn Lime
10700-10800'	gas	Atoka Sand
	oil	Devonian

- 4. Proposed casing program: See Form 9-331C.
- 5. Pressure control equipment: See schematic, Exhibit "D". Before drilling the Wolfcamp formation, the BOP and related control equipment shall be pressure-tested to rated working pressures by an independent service company. The district office shall be notified in time to witness the tests. Pipe rams and the annular-type preventer shall be actuated at least once each 24 hrs. and the blind rams each time the drill pipe is

- 5. (continued)
 out of the hole. Accumulators shall maintain a pressure capacity reserve at
 all times to provide for repeated operation of hydraulic preventers. Blowout
 prevention drills shall be conducted as necessary to insure that each drilling
 crew is properly trained to carry out emergency duties.
- 6. Mud program: See Exhibit "E".
- 7. Auxiliary equipment to be used:
 - (1) Kelly cock.
 - (2) Bit float.
 - (3) Pit volume totalizer system before reaching Wolfcamp.
 - (4) Flow line flow sensor before reaching Wolfcamp.
 - (5) Mud gas separator before reaching Wolfcamp.
 - (6) Rotating head before reaching Wolfcamp.
 - (7) Full-opening drill string safety valve on floor at all times before reaching Wolfcamp (valve in "open" position).
- 8. Testing, coring and logging program:
 - (1) All significant shows of oil or gas will be drill-stem tested. Testing procedure will involve use of dual packers, jars and safety joint. Duration of test, shut-in times, etc. will be determined by company engineer in charge.
 - (2) No coring is anticipated.
 - (3) The following logs will be run:
 - a. CNL density log with gamma ray.
 - b. Dual laterolog.
- 9. No abnormal pressures are expected. The Devonian formation can be controlled with a 9.0#/gallon mud. No abnormal temperatures or free hydrogen sulfide gases are known to exist in the area.
- 10. Anticipated spud date is December 1, 1978. Drilling operations will require approximately 50 days; completion operations will require an additional two to three weeks.



PETROLEUM DEVELOPMENT CORPORATION

9720-B CANDELARIA, NE ALBUQUERQUE, NEW MEXICO 87112 TELEPHONE (505) 293-4044

MULTI-POINT SURFACE USE AND OPERATIONS PLAN

Petroleum Development Corporation Flying M-McKay Federal #1 1980' FEL & 1980' FSL, Sec. 26, T9S, R32E Lea County, New Mexico (40 acres)

Lease: NM 15903-A (160 acres)

This plan is submitted with the Application for Permit to Drill the above described well. The purpose of the plan is to describe the location of the proposed well, the proposed construction activities and operations plan, the magnitude of necessary surface disturbance involved, and the procedures to be followed in rehabilitating the surface after completion of the operation so that a complete appraisal can be made of the environmental effects associated with the operation.

1. EXISTING ROADS:

- A. Exhibit "A" is a portion of a highway map showing the location of the proposed well, as staked. A paved county road runs north-south, .75 miles west of the location of this well, along the west side of Sec. 26. The paved road connects 10 miles south with Highway 380, 3 miles southeast of Caprock. An existing lease road junctures with the paved county road in the northwest quarter of Section 26, T9S, R32E, goes easterly approximately 1/2 mile to Lario Amerada Federal #1, which is the juncture point for the new road.
- B. Exhibit "B" is a plat showing all existing roads within a one-mile radius of the wellsite and the planned access.
- C. The existing lease road is serviceable. Minor repairs and periodic grading will maintain the caliche topping. See Exhibits "A" and "B".

2. PLANNED ACCESS ROADS:

- A. <u>Length and width</u>: The access road, from the existing lease road, will be 12' wide and 1900' long. See Exhibit "C".
- B. Surfacing material: eight inches of caliche; watered, compacted and graded.
- C. Maximum grade: three percent.
- D. <u>Turnouts</u>: two equally-spaced passing turnouts will be used.
- E. <u>Drainage design</u>: new road will have a drop of six inches from center line on each side.
- F. <u>Culverts</u>: none necessary.

2. PLANNED ACCESS ROADS (continued):

- G. Cuts and fills: none required; only general leveling of sand rolls.
- H. Gates, cattleguards: None required.

3. LOCATION OF EXISTING WELLS:

A. Location of existing wells within a one-mile radius are shown on Exhibit "B".

4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES:

- A. Existing tank batteries are located at the Marg B Com. #1 well, located at C36,T9S, R32E, the Marg A Com. #1 well, located at K26, T9S, R32E, and Marg C Com. #1 well, located at N24, T9S, R32E.
- B. If the well is productive, the tank battery and flow lines will be located on the well pad and no additional surface disturbance will occur.

5. LOCATION AND TYPE OF WATER SUPPLY:

A. Water will be purchased and trucked to the wellsite over the existing and proposed roads shown on Exhibits "A" and "B".

6. SOURCE OF CONSTRUCTION MATERIALS:

A. Caliche for surfacing the road and well pad will be obtained from existing pits on BLM land in Section 11, T10S, R32E.

7. METHODS OF HANDLING WASTE DISPOSAL:

- A. Drill cuttings will be disposed of in the drilling pits.
- B. Drilling fluids will be allowed to evaporate in the drilling pits until pits are dry.
- C. Water produced during tests will be disposed of in the drilling pits. Oil produced during tests will be stored in test tanks until sold.
- D. Current laws and regulations pertaining to the disposal of human waste will be complied with.
- E. Trash, waste paper, garbage, and junk will be buried in a separate trash pit and covered with a minimum of 24 inches of dirt. All waste material will be contained to prevent scattering by the wind. Location of trash pit is shown on Exhibit "D".
- F. All trash and debris will be buried or removed from the wellsite within 30 days after finishing drilling and/or completion operations.

8. ANCILLARY FACILITIES:

A. None required.

9. WELLSITE LAYOUT:

- A. Exhibit "D" shows the relative location and dimensions of the well pad, mud pits, reserve pit, trash pit, and location of major rig components.
- B. Only minor levelling of the wellsite will be required. No significant cuts and fills will be necessary.
- C. The reserve pit will be plastic-lined.
- D. The pad and pit area has been staked and flagged.

10. PLANS FOR RESTORATION OF THE SURFACE:

- A. After completion of drilling and/or completion operations, all equipment and other material not needed for operations will be removed. Pits will be filled and location cleaned of all trash and junk to leave the wellsite in an aesthetically pleasing condition as possible.
- B. Any unguarded pits containing fluids will be fenced until they are filled.
- C. After abandonment of the well, any special rehabilitation and/or revegetation requirements of the surface management agency will be complied with and accomplished as expeditiously as possible. All pits will be filled and levelled within 90 days after abandonment.

11. OTHER INFORMATION:

- A. <u>Topography</u>: Land surface is undulating to gently rolling and duny. From an elevation of 4320 feet at the wellsite, the land surface slopes gently toward the south at about 50 feet per mile.
- B. Soil: Soil is a deep fine sand and underlain by caliche.
- C. Flora and Fauna: The vegetative cover is generally sparse and consists of mesquite, yucca, shinnery oak, sandsage and perennial native range grases. Wildlife in the area is that typical of semi-arid desert land and includes coyotes, rabbits, rodents, reptiles, dove, quail and an occasional antelope.
- D. <u>Ponds and Streams</u>: There are no rivers, streams, lakes or ponds in the area.
- E. <u>Residences and Other Structures</u>: The nearest occupied dwelling is a Ranch Home 2 miles southeast of the wellsite. The nearest water well is a windmill .75 miles northeast.

Page 4
Multi-Point Surface Use and Operations Plan
Petroleum Development Corporation
Flying M-McKay Federal #1, Lea County, New Mexico

11. OTHER INFORMATION (continued):

- F. Archeological, Historical and Cultural Sites: None observed in the area.
- G. Land Use: Grazing and hunting in season.
- H. Surface Ownership: Wellsite and the access road in NW ¼ of the SE ½ of Section 26 is on John McGuffin's Ranch. The access road running from the county road through the NW ¼ of Section 26 is owned by Yeager and Armstrong.

12. OPERATOR'S REPRESENTATIVES:

The field representatives responsible for assuring compliance with the approved surface use and operations plan are as follows:

Charles W. Sanders
3204 Candlelight Drive, NE
Albuquerque, New Mexico 87111
Office Phone: (505) 293-4044
Residence: (505) 294-7538

Lloyd G. Wayne 3834 Westerfeld Drive, NE Albuquerque, New Mexico 87111 Office Phone: (505) 293-4044 Residence: (505) 298-1081

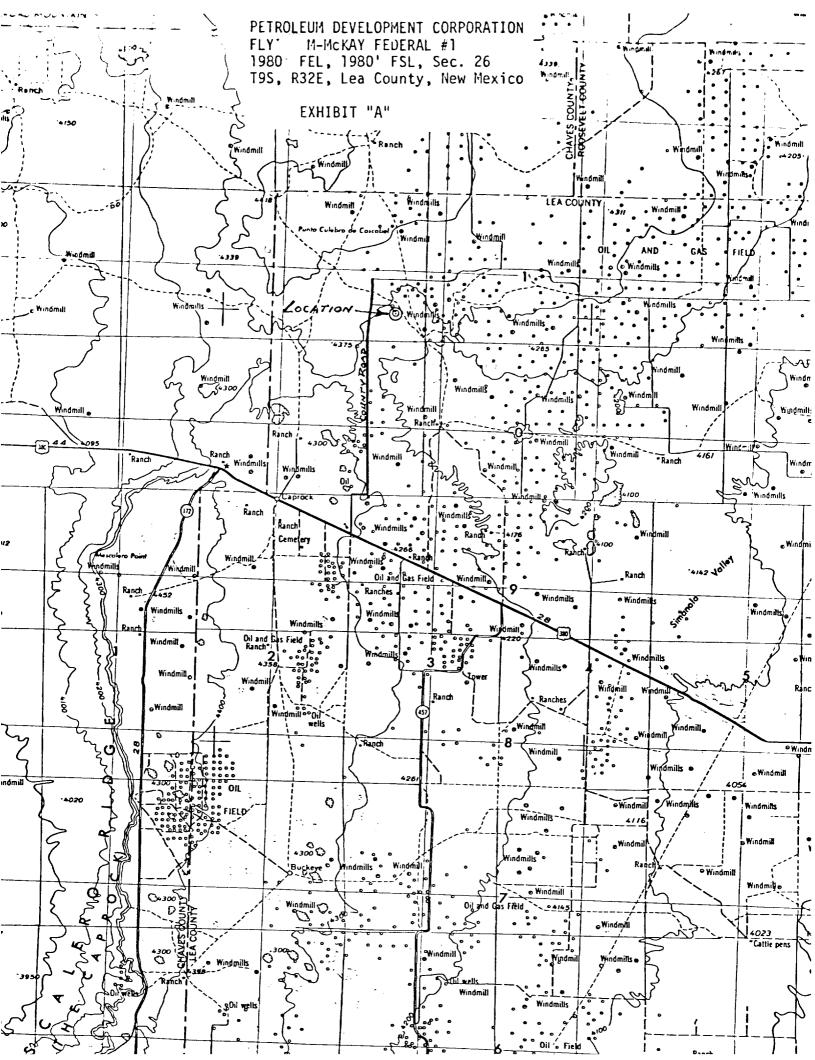
13. <u>CERTIFICATION</u>:

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drillsite and access route; that I am familiar with the conditions which presently exist; that the statement 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 Petroleum Development Corporation and its contractors and sub-contractors in conformity with this plan and the terms and conditions under which it is approved.

November 14, 1978

Llay S. Wayne Lloyd G. Wayne Vice President

LGW/pb

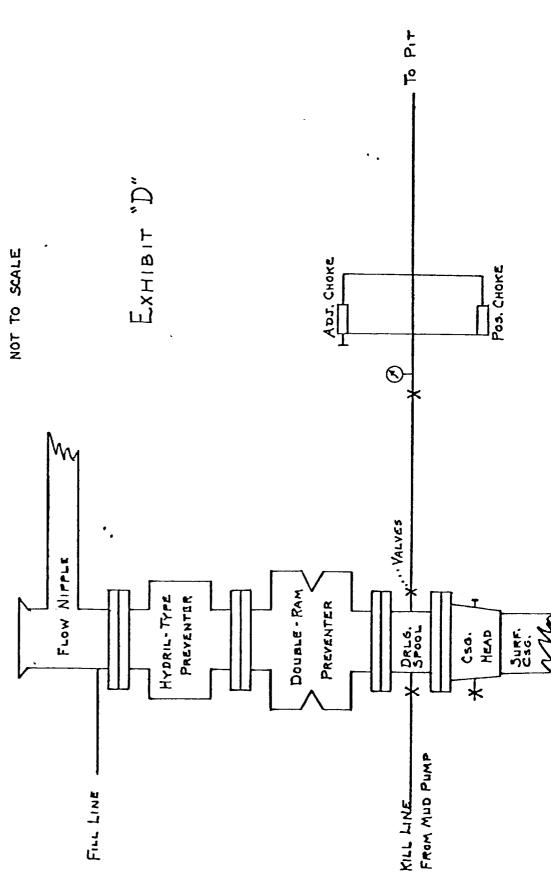


PETROLEUM DEVELOPMENT CORPORATION -FL G M-McKAY FEDERAL #1 Fl G M-McKAY FEDERAL #1
1980' FEL, 1980' FSL, Sec. 26
T9S, R32E, Lea County, New Mexico

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EXHIBIT C.

B.O.P. & CHOKE MANIFOLD SCHEMATIC SERIES 1500 TO MEET SPECS. OF API BUL. D-13



PETROLEUM DEVELOPMENT CORPORATION FLYING M-MCKAY FEDERAL #1 1980' FEL, 1980' FSL, Sec. 26 T9S, R32E, Lea County, New Mexico

EXHIBIT "E"

MUD PROGRAM

Surface: 0-400'. Fresh water gel and lime spud mud. No problems anticipated.

<u>Intermediate</u>: 400-3500'. Drill 50' into San Andres Formation for setting 8-5/8" intermediate casing. Use the surface "spud mud", converting to a native mud as drilling progresses. Maintain 33-35 second viscosity because of troublesome redbed section. Add Mud Seal (paper) and 3-4% oil to the system. For any unexpected hole trouble, fishing or testing, take fluid loss control and maintain mud as follows:

Weight: 10.0 - 10.4#/gal. Visc.: 34 - 37 sec. Water Loss: 15 cc. or less

<u>Production</u>: 3500-12,000'. Drill out below intermediate casing with fresh water. Circulate the reserve pit, use Caustic Soda for pH control of 10-10.5. At 7000' (about 150' above Abo) mud up with low solids salt gel drilling fluid with following characteristics:

Weight: 8.9 - 10.0#/gal. Visc.: 38-40 sec. Water Loss: No Control Oil Content: 5-7%

At about 8700' (or 200' above Bough "C") take water loss control and increase viscosity, the mud to have the following characteristics:

Weight: 9.0-10.0#/gal. Visc.: 45-50 sec. Water Loss: 10 cc. or less

Oil Content: 5-7%

Preservative Content: ¼#/bbl.

Circulate the reserve pit until 8700', use steel pits after mudding up at 8700'. After drilling the Bough "C" and its shale sections, allow water loss to drift back to the 25-30 cc. range. Again, at about 10,000' and 11,100' water loss should be reduced as before for drilling the Atoka and Devonian. Water loss can be allowed to drift back to the 25-30 cc. range after drilling the Pennsylvanian shales.