	Form 9-331 C (May 1963)	N	N. M. O. C	. C. C	OPY		CATE		ing to sit
					(Other instructions on				rea. au No. 42–R1425.
			UNITED STATES		reverse side)			30-015-	20942
/		DEPARTMENT	OF THE I	NTERIO	R			5. LEASE DESIGNATION	
		GEOLO	GICAL SURVI	ΞY		~	1	NM0555293	
	APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK							6. IF INDIAN, ALLOTTE	CE OB TRIBE NAME
	1a. TYPE OF WORK		DEEPEN [CEI		JG BACK		7. UNIT AGREEMENT	NAME
	b. TYPE OF WELL OIL GA WELL W		SE		973	MULTIPLE ZONE		8. FARM OR LEASE NA	ME
	2. NAME OF OPERATOR							Sun Federal	
	The Petroleum Corporation \checkmark occ							9. WELL NO.	
	3. ADDRESS OF OPERATOR							1	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)								O. FIELD AND POOL, OR WILDCAT	
							× Wildcat		
	At surface Unit Letter G, 1980 from North Line & 1980 from							11. SEC., T., B., M., OR BLK. AND SURVEY OR AREA	
	At proposed Frod. zone							Sag 22 T	DC - D 2017
	Strawn, Atoka and Morrow							Sec. 33, T	
	14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*							Eddy	
	17 miles northeast of Carlshad, New Mexico						7 NO 0	F ACRES ASSIGNED	New Mexico
	LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. 1980 feet							θ 320	
	(Also to nearest drig, unit line, if any) 1700 IEEL 18. DISTANCE FROM PROPOSED LOCATION*				SED DEPTH		20 8074	ARY OR CABLE TOOLS	
	TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.							OBATY	
	OR APPLIED FOR, ON THIS LEASE, FT. III, (CATICCC 21. ELEVATIONS (Show whether DF, RT, GR, etc.) 22. APPROX. DATE WORK WILL START*								OBK WILL START*
								1 1072	
GL 3298 September 1, 1973									
	SIZE OF HOLE	SIZE OF CASING	WEIGHT PER F	<u>тос</u>	SETTING D	EPTH		QUANTITY OF CEMI	INT
	15"	11 3/4"	42		600			circulate	<u> </u>
		8.5/8"	24 and 3		4200			ulate with D.	V. tool —
	7 7/8''	5 1/2"	17 and 2	20 1	1,500		500	SXS	

Pouble ram blowout preventors will be used from 600 feet to total depth along with appropriate choke manifold.

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IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive sone 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.

<u>ريم</u>

SIGN Sarry Clas	Fetroleum Engineer DATE Ugust 24,	<u>1973</u>
(This space for Federal or State office use)	AUG 31 1973	
	DISTRICT ENGINEER DATE AUG 3 1 19	73
CONDITIONS OF APPROVAL, IF ANY. Despille // Control Rega		5. 2
*See	nstructions On Reverse Side	

Instructions

General: This form is designed for submitting proposals to perform certain well operations, as indicated, on all types of lands and leases for appropriate action by either a Federal or a State agency, or both, pursuant to applicable Federal and/or State laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office.

Item 1: If the proposal is to redrill to the same reservoir at a different subsurface location or to a new reservoir, use this form with appropriate notations. Consult applicable State or Federal regulations concerning subsequent work proposals or reports on the well.

Item 4: If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

Item 14: Needed only when location of well cannot readily be found by road from the land or lease description. A plat, or plats, separate or on this reverse side, show-ing the roads to, and the surveyed location of, the well, and any other required information, should be furnished when required by Federal or State agency offices.

Items 15 and 18: If well is to be, or has been directionally drilled, give distances for subsurface location of hole in any present or objective production zone. Item 22: Consult applicable Federal or State regulations, or appropriate officials, concerning approval of the proposal before operations are started

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REDEIVED

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NE AEXICO OIL CONSERVATION COMMISSI WELL LOCATION AND ACREAGE DEDICATION PLAT

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		WELL LOCATION AND	ACREAGE DEDIC	CATION PLAT	Form C-102 Supersedes C- Effective 1-1-1
		All distances must be fro	a the outer boundaries	of the Section.	_
rator		1	.ease		Well Nc.
THE PE	TROLEUM CORP		SUN FED	ERAL	
Letter	Section	Township	Range	County	
G	33	19 SOUTH	29 EAST	EDDY	
al Footage Loca					
1980		DRTH line and		et from the EAST	line
nd Level Elev. 3298.4	Producing For		ool Willeat		Dedicated Acreage:
J270.4	M	DRROW	UNDESIG	NATED	E1 320 Act
. Outline the	e acreage dedica	ted to the subject well	l by colored pencil	or hachure marks on t	he plat below.
interest an If more tha dated by co Yes If answer i this form if	nd royalty). none lease of d ommunitization, u No If an s "no," list the necessary.)	ifferent ownership is de initization, force-pooling nswer is "yes," type of owners and tract descri	dicated to the well g.etc? consolidation ptions which have a	, have the interests o netually been consolid	thereof (both as to worki f all owners been conso ated. (Use reverse side munitization, unitizatio
forced-pool sion.	1 ng, or otherwise)	or until a non-standard	unit, eliminating su	I hereby tained he	CERTIFICATION CERTIFICATION certify that the information co trein is true and complete to the ty knowledge and belie
				Date	AGENT AGENT ETROLEUM CORPORATION IGUST 24, 1973
HEST BOX	OL NEW OF	//////////////////////////////////////		under my is true a knowledge Date Survey	this play 20 played indian action of the played indian supervision of the way the som and correct to the best fitter m and belief. ed SUST 21, 1973 Professional Engineer
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Oilfield Products Division

DRESSER INDUSTRIES, INC.

P.O. BOX 1312 ODESSA, TEXAS 79760

August 29, 1973

Mr. Larry C. Shannon The Petroleum Corporation 33()3 Lee Parkway Da las, Texas 75219

Mr. Shannon:

The following is a suggested drilling fluid and casing program with estimated mud cost for your Sun Federal #1 to be drilled in the Northeast quarter of Section 33-19S-29E, Eddy County, New Mexico.

SURFACE: 600' of 11 3/4"

Suggest spudding with a fresh water, Magcogel and Lime type drilling fluid with a 40 to 60 sec/1000 cc viscosity and pretreating the system with loss circulation material.

COMMENT:

1. There is a possibility you may encounter loss circulation while drilling surface hole. If loss circulation occurs and one pit of mud loaded with loss circulation material does not restore circulation, suggest dry drilling to casing point and run casing.

INTERMEDIATE: 4,200' of 8 5/8"

Suggest drilling out from under surface with brine water (10.0 lbs/gal.), using Lime for pH control (10 to 11 pH).

This type drilling fluid should be sufficient to drill to 4,200'.

Prior to running 8 5/8" casing, suggest running a 50 to 100 barrel Visquik, Salt Gel sweep through hole.

COMMENTS:

1. Some operators in this area drill out below surface with fresh water, letting the system saturate from drilled native salt section.

- 2. There is a slight possibility you may encounter loss circulation from 900' to 2,500'. In the event you encounter loss circulation and one pit of mud loaded with loss circulation material does not restore circulation, suggest dry drilling on to casing point, pump a Visquik sweep through hole and run 8 5/8" casing.
- 3. Suggest circulating a portion of the reserve pit while drilling with brine water, returning to steel pits in the event mudding up becomes necessary.
- 4. For corrosion protection, suggest maintaining a constant 10 to 11 pH with Lime.

PRODUCTION: 11,500' of 5 1/2"

Suggest drilling out with fresh water, using Lime for pH control (10.0 to 11.0 pH).

This type drilling fluid should be sufficient to drill to 9,000'.

COMMENT:

1. There is a good possibility you may encounter a seepage to mild loss circulation while drilling with fresh water down to 9,000'. In the event seepage or loss occurs, suggest slug batching loss circulation material through pump suction as seepage or loss occurs (10 to 25 sacks per batch).

At 9,000' suggest displacing the fresh water system with a 9.8 to 10.0 lbs/ gal. brine water system.

NOTE: Suggest a 50 barrel slug of loss circulation material (10 to 20 lbs/ bbl. L.C.M.) ahead of the brine water system.

This type drilling fluid should be sufficient to drill to 10,7000' or prior to top of Morrow Section.

At 10,700' (or prior to top of Morrow Section), suggest mudding up with a brine water, KCL, XC - Polymer, Mylojel, Caustic Soda, Soda Ash type drilling fluid with the following characteristics.

Weight:	9.8 to 10.0 lbs/gal.
Viscosity:	30 to 34 sec/1000 cc
Water Loss:	10 cc or Less
pH:	8.0 to 9.0

This type drilling fluid should be sufficient to drill to 11,500' with exception of weight and viscosity which may need altering as hole conditions dictate.

COMMENTS:

L. Suggest circulating a portion of the reserve pit, returning to steel pits at mud up depth.

- 2. There is a possibility the Lower Wolfcamp Section will carry a high pressure, low volume gas. Suggest installing a drilling head, Swaco choke manifold, and gas separator prior to drilling below 9,000'.
- 3. There is a possibility you may encounter seepage off and on while drilling with the brine water system down to 11,500'. In the event seepage occurs, suggest slug batching loss circulation material through pump suction as seepage occurs (10 to 25 sacks per batch).

GENERAL COMMENTS:

- 1. The proper use of drilling head equipment, Swaco's gas separator, d-gasser, adjustable chokes, etc. is very important from 9,000' to total depth. All of this equipment is necessary in the drilling of this well.
- 2. The following Swaco blowout control equipment will aid you in drilling under balance, successfully control gas kicks after trips, detecting gas kick and loss of drilling fluids: mud-gas separator, d-gasser, adjustable or super choke, pit volume totalizer, and flow sensor.

ESTIMATED MUD COST: \$6,000.00 to \$8,000.00

The above costs are under normal operating conditions and do not include any extensive loss circulation, gas problems, fishing jobs, etc. This cost is also based on a normal drilling rate per day; therefore, any excessive time spent on drilling due to crooked hole, testing, breakdown, etc. would increase mud cost.

I hope the above information will be of benefit to you and if we may be of further service, please do not hesitate to call.

Yours very truly,

MAGCOBAR

R. F. Parker Tech Service Engineer

RFP:jb

ENGINEERS:

WAREHOUSE:

Olin Stewart Hobbs, New Mexico Phone: 393-5337 (505)

Travis Young Hobbs, New Mexico Phone: 393-6141 (505) Lovington, New Mexico Phone: 396-4747 (505)

THE PETROLEUM CORPORATION 3303 Lee Parkway DALLAS, TEXAS 75219

August 24, 1973

Geological Survey U. S. Department of Interior P. O. Drawer U Artesia, New Mexico 88210

Attention: Mr. Robert L. Beekman Acting District Engineer

> Re: Request for Permit to Drill Sun-Federal No. 1 Section 33-19S-29E Eddy County, New Mexico



Gentlemen:

We are enclosing eight (8) copies of Form 9-331C and three (3) copies of Form 9-1123 for the subject well. The surveyor, under separate cover, will mail the Form C-102 and a map of the existing roads that apply to this request. In accordance with your directive of May 9, 1972, the following are our answers to the 12 parts of the development plan:

1. Existing Road please refer to the survey plat mailed under separate cover.

2. Planned Access Roads - please refer to the survey plat mailed under separate cover.

3. Location of Wells - please refer to the survey plat mailed under separate cover.

4. Lateral Roads to Well Locations - please refer to the survey plat mailed under separate cover.

Geological Survey August 24, 1973 Page Two

5. Location of Tank Batteries and Flowlines - currently, there are none on this lease. If a well is completed, all production facilities will be installed on the location site and the oil trucked to market.

6. Locations and Types of Water Supply - there is no fresh water that we are aware of on this lease. All water required for drilling and production will be trucked to the location.

7. Methods for Handling Waste Disposal - the drill cuttings will be placed in a reserve pit to dry. then leveled with a bulldozer after completing drilling operations.

8. Location of Camps - there will be none.

9. Location of Airstrips - there will be none.

10. Location Layout - a rotary rig will require a location pad of approximately 300 feet by 300 feet square with the well in the middle.

11. Plans for Restoration of the Surface - all debris will be removed and the location leveled after completion of the drilling operations.

12. Additional Information - none.

We would appreciate your early approval of this permit, as we have certain time limits we would like to fulfill. Please call collect if we can be of assistance as we would like to spud the first of September.

Yours very truly.

THE PETROLEUM CORPORATION

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Larry C. Shannon

LCS:dd Enclosures



