

KAISER-FRANCIS OIL COMPANY
APPLICATION FOR DIRECTIONAL DRILLING PERMITS
NMOCD Case No. 10887

STATE EXAMINER STOCKER
Oil Conservation Division
Exhibit No. 2
10887

PURE GOLD WELL LOCATIONS

Well: Pure Gold A-7

Surface: 1950' FSL x 200' FEL (Unit I) Sec 20

BHL: 2043' FNL x 456' FWL (Unit E) Sec 21

Well: Pure Gold A-8

Surface: 10' FSL x 1935' FWL (Unit N) Sec 16

BHL: 1947' FNL x 1789' FWL (Unit F) Sec 21

Well: Pure Gold A-9

Surface: 10' FSL x 280' FWL (Unit M) Sec 16

BHL: 480' FNL x 480' FWL (Unit K) Sec 21

Well: Pure Gold A-10

Surface: 10' FSL x 1800' FWL (Unit N) Sec 16

BHL: 480' FNL x 1800' FWL (Unit C) Sec 21

Well: Pure Gold A-13

Surface: 10' FSL x 2025' FEL (Unit O) Sec 16

BHL: 2012' FNL x 2176' FEL (Unit G) Sec 21

Well: Pure Gold A-14

Surface: 10' FSL x 2160' FEL (Unit O) Sec 16

BHL: 480' FNL x 2160' FEL (Unit B) Sec 21

Well: Pure Gold B-7

Surface: 2100' FSL x 1600' FEL (Unit J) Sec 20

BHL: 1988' FNL x 1834' FEL (Unit G) Sec 20

Well: Pure Gold B-8

Surface: 1950' FSL x 335' FEL (Unit I) Sec 20

BHL: 1957' FNL x 505' FEL (Unit H) Sec 20

Well: Pure Gold B-9

Surface: 10' FSL x 1960' FEL (Unit O) Sec 17

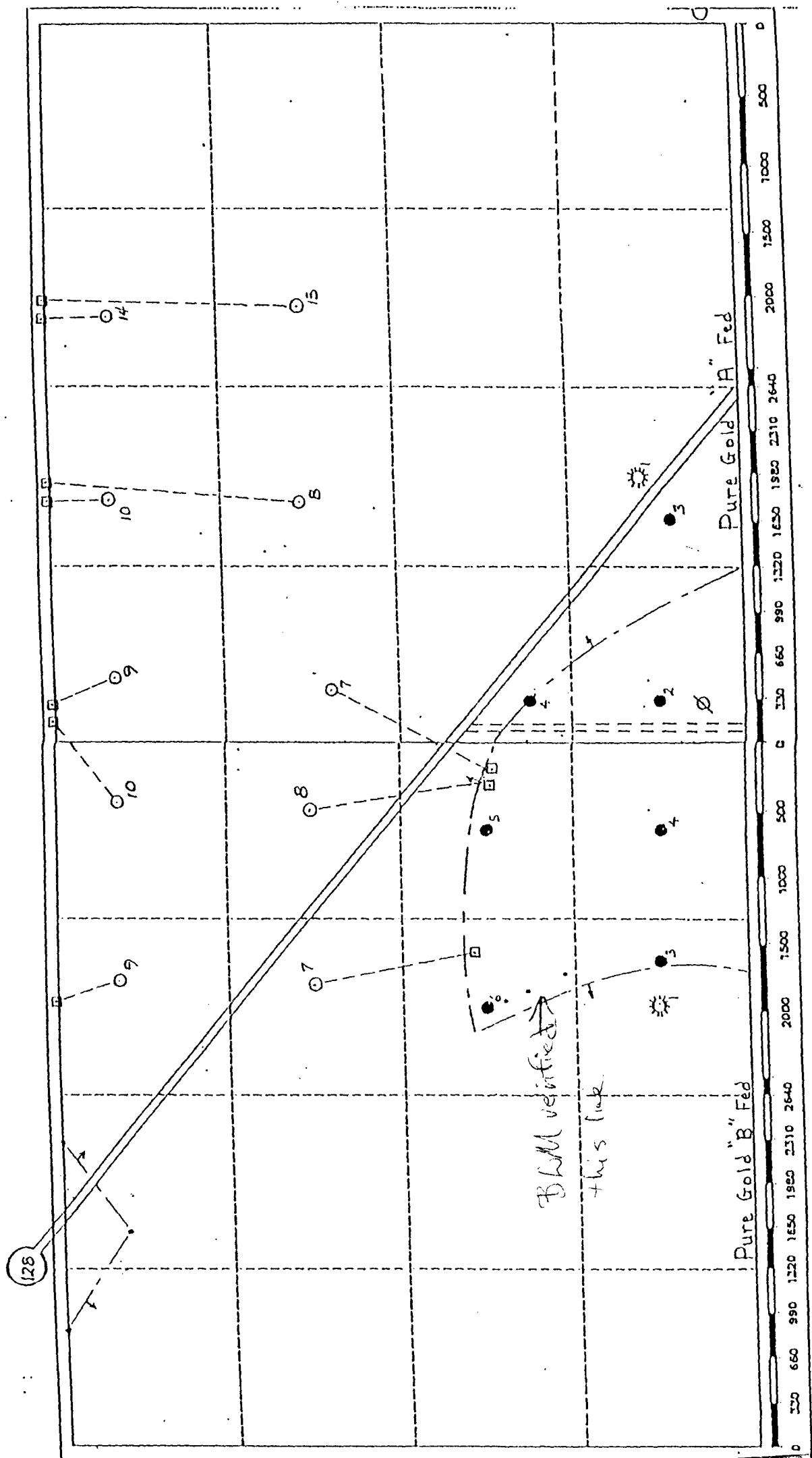
BHL: 480' FNL x 1800' FEL (Unit B) Sec 20

Well: Pure Gold B-10

Surface: 10' FSL x 145' FWL (Unit M) Sec 16

BHL: 480' FNL x 480' FEL (Unit A) Sec 20

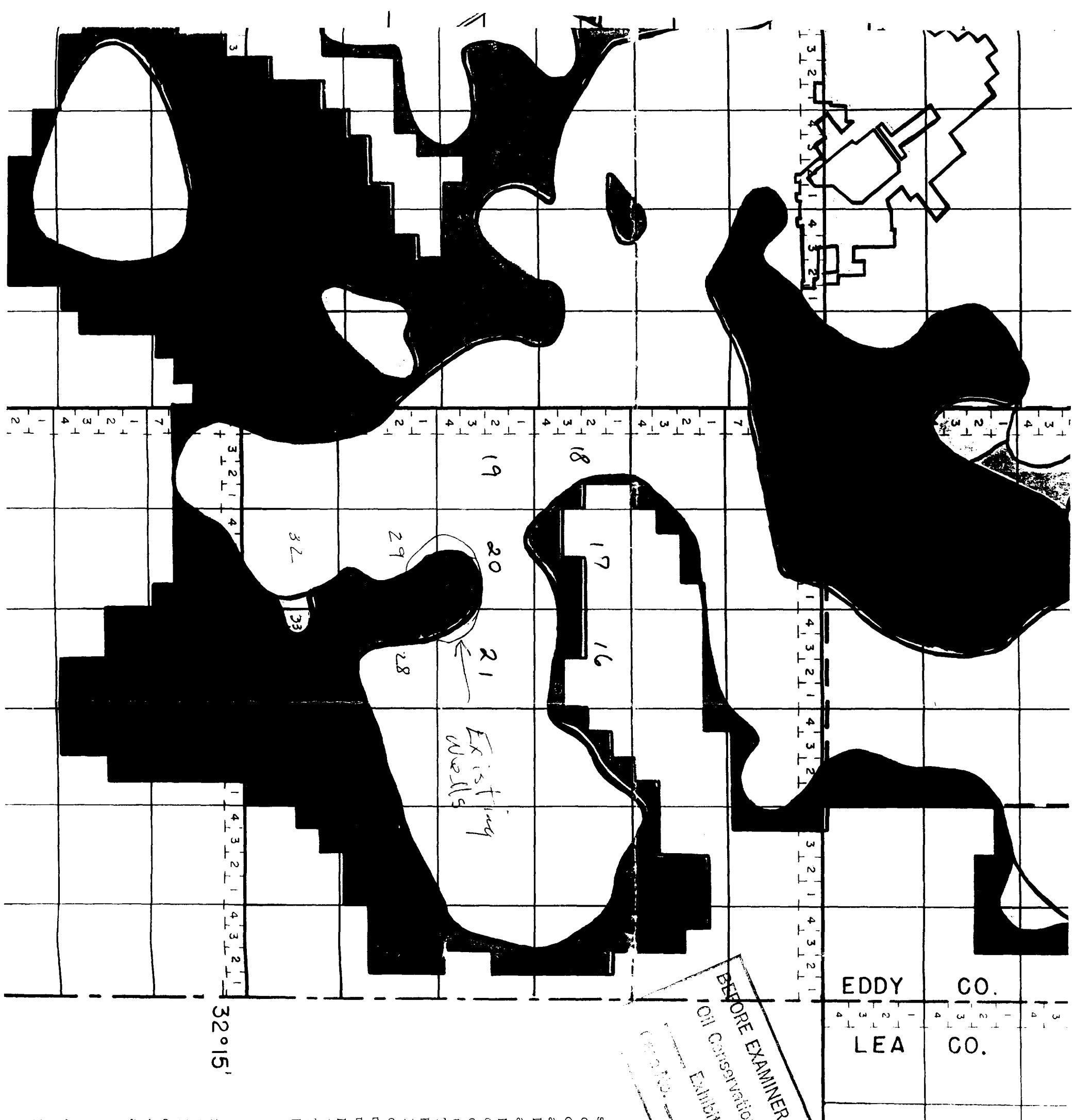
KAISER-FRANCIS OIL COMPANY
APPLICATION FOR DIRECTIONAL DRILLING PERMITS
T 23 S, R 31 E, Eddy County, NM



U.S. GORE EXAMINER STONE
Innovation Division

Exhibit No. 4

10867



ECONOMIC GEOLOGY

The potash deposits in the Carlsbad

southeastern New Mexico are about 15 miles (24 km) from the city of Carlsbad. The deposits occur within the Salado Formation (McNutt, 1939, p. 1691) of the Salado age. The McNutt zone is 150 feet (45 m) to 500 feet (150 m) deep to the Salado in the district, ranges from along the western margin to 2,000 feet (610 m) portion. The main Potash ore minerals are sylvite, which is predominant. Potash ore zones, which range from a few inches to thickness, with no one ore zone extending over 12 inches. These zones were named by Jones, Bowles, and Eleven. The ore zones occur within the McNutt zone. The 12th ore zone lies in the upper part of the Salado. Of the 12 ore zones have been mined by one modified long-wall method is used in one mine; this method is used in the remaining mines. In the first percent of the ore is removed during the first pass. The areas on the map designated as second-mined are left in pillars to be extracted during a second pass. The areas on the map designated as second-mined have been totally mined or lost during mining of a single pass.

DELINeATION AUTHORITY AND CRITERIA

As part of the Bureau of Land Management responsibility, potash reserves have been identified by the Secretary of the Interior dated November 5, 1973 (Part III, D.). Minimum quality and thickness compilation are:

4 feet of 10 percent K_2O as sylvite or a combination of langbeinite or an equivalent combination of

Aguilar, P.C., Cheeseman, R.J., and Sanderson, Preliminary map showing distribution of potash in the Eddy and Lea Counties, New Mexico. Survey Open-File Report 76-554, scale 1:62,500.

REFERENCES CITED



IMC FERTILIZER, INC.

P.O. Box 121468
Tulsa, Oklahoma 74121-1468

AN EQUAL OPPORTUNITY EMPLOYER

October 19, 1993

Milton Griffin
Kaiser-Frances Oil Company
P.O. Box 121468
Tulsa, OK 74121-1468

RE: Pure Gold "A" Federal #9, 10'FSL, 280'FWL
Sec.16, T23S, R31E NMPM
Pure Gold "A" Federal #10, 10'FSL, 1800'FWL
Sec.16, T23S, R31E NMPM
Pure Gold "A" Federal #14, 10'FSL, 2160'FEL
Sec.16, T23S, R31E NMPM
Pure Gold "B" Federal #10, 10'FSL, 145'FWL
Sec.16, T23S, R31E NMPM

Dear Sir:

IMC Fertilizer, Inc. has received your notification that Kaiser Frances Oil Company intends to drill Pure Gold "A" Federal #9, 10, 14, and Pure Gold "B" Federal #10. IMC has no objection to Kaiser Frances' drilling these wells due to the fact that they are outside the 1/4 mile of IMCF's LMR.

The current LMR and the buffer zone are determined from the best available information. As more information becomes available, the LMR can change and may be modified and adjusted. This is reflected in the yearly update of the LMR. The relationship of any well location relative to the LMR can change. Therefore, please consider the "objection offered" or "no objection offered" to a well location to be valid for one year only. If you are still considering a well location that a potash operator has or has not objected to more than one year prior, notify us again at that time so we can make the decision on information current at that time. Do not consider a "no objection offered" or an "objection offered" decision to be permanent.

Sincerely,

Dan Morehouse

Dan Morehouse
Supt. of Mine Engineering

DM:tmh

cc: Dick Manus Walt Thayer Monte Jordan
Leslie Cone Charlie High Tony Herrell

ILLEGIBLE



FERTILIZER, INC.

November 18, 1993

Milton Griffin
Kaiser-Francis Oil Company
P. O. Box 21468
Tulsa, OK 74121-1468

RE: Pure Gold "A" Federal No. 7	(1950'FSL, 200'FEL, Section 20, T23S, R31E)
Pure Gold "A" Federal No. 8	(10'FSL, 1935'FWL, Section 16, T23S, R31E)
Pure Gold "A" Federal No. 13	(10'FSL, 2025'FEL, Section 16, T23S, R31E)
Pure Gold "B" Federal No. 7	(2100'FSL, 1600'FEL, Section 20, T23S, R31E)
Pure Gold "B" Federal No. 8	(1950'FSL, 335'FEL, Section 20, T23S, R31E)

Dear Mr. Griffin:

IMC Fertilizer, Inc. has received your notification that Kaiser-Francis Oil Company intends to drill the above referenced well locations. IMC Fertilizer has no objection to Kaiser-Francis drilling these wells no deeper than the base of the Delaware at these locations as they are further than 1/4 mile from IMC Fertilizer's current LMR.

The current LMR and the buffer zone are determined from the best available information. As more information becomes available, the LMR can change and may be modified and adjusted. This is reflected in the yearly update of the LMR. The relationship of any well location relative to the LMR can change. Therefore, please consider the "objection offered" or "no objection offered" to a well location to be valid for one year only. If you are still considering a well location that a potash operator has or has not objected to more than one year prior, notify us again at that time so we can make the decision on information current at that time. Do not consider a "no objection offered" or an "objection offered" decision to be permanent.

IMC Fertilizer, Inc. submits this letter in lieu of the forms requested.

Sincerely,

Dan Morehouse

Dan Morehouse
Supt. Mine Engineering

DM:tmh

CC: Dick Manus	Walt Thayer
Leslie Cone	William Caulkins
Charlie High	Tony Herrell

KAISER-FRANCIS OIL COMPANY

PO. BOX 21468

TULSA, OKLAHOMA 74121-1468

6733 South Yale Ave.
(918) 494-0000

December 6, 1993

IMC Fertilizer, Inc.
Attn: Dan Morehouse
P.O. Box 71
Carlsbad, New Mexico 88220

Re: Pure Gold "B" Federal No. 9
Section 20, T23S, R31E
Eddy County, New Mexico

Gentlemen:

This is to advise you that Kaiser-Francis proposes to drill the referenced well in an area which is within a 1 mile radius of your potash lease and to request that you grant approval to drill at the proposed location.

The surface location is in an area outside presently calculated and mapped potash resources and is within 150' of the existing Enron - Pure Gold "B" No. 2 deep gas well. It is proposed to drill a vertical hole to 4070', to set and cement intermediate casing and to drill a directional hole under the potash deposits and onto a standard location for the Delaware formation in Section 20.

A copy of the Well Location and Acreage Dedication Plat for this well is enclosed.

Your cooperation in this matter is appreciated.

Sincerely,

KAISER-FRANCIS OIL COMPANY

Milton Griffin
Milton Griffin

MG:klw
Enclosures
cc: Wayne Fields
Tony Herrell
Jim Wakefield

Submit to the Appropriate
District Office
State Lease - 4 copies
Fee Lease - 3 copies

State of New Mexico
Energy, Minerals, and Natural Resources Department

Form C-102
Revised 1-1-89

DISTRICT I
P. O. Box 1980
Hobbs, NM 88240

OIL CONSERVATION DIVISION
P. O. Box 2088
Santa Fe, New Mexico 87504-2088

DISTRICT II
P. O. Drawer DD
Artesia, NM 88210

DISTRICT III
1000 Rio Brazos Rd
Aztec, NM 87410

WELL LOCATION AND ACREAGE DEDICATION PLAT

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

Operator	Lease			Well No.
Unit Letter	Section	Township	Range	9
KAISER - FRANCIS OIL COMPANY	17	23 SOUTH	31 EAST, N.M.P.M.	EDDY
Actual Footage Location of Well				
Ground Level Elev.	Producing Formation	Pool		Acre

- Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.
- If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
- If more than one lease of different ownership is dedicated to the well, have the interest of all the owners been consolidated by communityization, unitization, forced-pooling, etc.?

Yes No If answer is "yes", type of consolidation _____
If the answer is "no", list the owners and tract descriptions which have actually been consolidated. (Use the reverse side of this form if necessary.) _____

No allowable will be assigned to the well until all interests have been consolidated (by communityization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interest, has been approved by the division.

Bottomhole Location: 667' FNL & 1800' FEL

The acreage dedicated to this well is the
NW 1/4 NE 1/4 Sec 20, T23S, R31E

OPERATOR CERTIFICATION

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

Signature *Milton Griffin*
Printed Name Milton Griffin

Position Operations Engineer
Company Kaiser-Francis Oil Co.

Date December 6, 1993

SURVEYOR CERTIFICATION

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 *NOVEMBER 22, 1993*

Signature and Seal of Professional Surveyor
B. L. Bezner

Certificate No. V. L. BEZNER R.P.S. #7920
100-110740 / 10-05 MILC

10' 1960'

BEFORE EXAMINER STOGNER

Oil Conservation Division

Exhibit No. 6Case No. 10887

Typical
Well all 10.

KAISER-FRANCIS OIL COMPANY
P. O. BOX 21468
TULSA, OKLAHOMA 74121-1468

AUTHORITY FOR EXPENDITURE

LEASE AND WELL NO. Pure Gold "A" Fed. #8 LEASE ID NO. DATE 6-4-93

LOCATION Surf. Loc. 10' FSL & 1900' FWL BII 1650' FNL & 1650' FWL
Section 16-23S-31E Section 21-23S-31E

FIELD COUNTY STATE NM

ESTIMATED DEPTH 8100' TVD OBJECTIVE ZONE Delaware EST DAYS
PURPOSE: Drill & Complete

TANGIBLE EQUIPMENT			EXPENDITURE COST	
	QUANTITY	SIZE	DRY HOLE	PRODUCER
700 CONDUCTOR	40'	20"	3,000	3,000
701 SURFACE CASING	700'	13-3/8"	12,900	12,900
702 INTERMEDIATE CSG	4100'	8-5/8"	34,500	34,500
703 LINER				
706 PRODUCTION CSG	8600'	5-1/2"		55,500
710 TUBING	8600'	2-7/8"		25,600
720 WELL HEAD EQUIPMENT			8,000	20,000
724 PACKERS & DOWNHOLE EQUIP				3,000
765 TANK BATTERY				25,000
768 PUMPING EQUIPMENT				40,000
774 TRANSPORTATION & FREIGHT			5,000	10,000
778 NON-CONTROLLABLE EQUIPMENT				10,000
TOTAL TANGIBLES			\$63,400	\$239,500

INTANGIBLES				
500/600 LOCATION & ROAD EXPENSE			18,000	21,000
502/602 LOCATION DAMAGES				
504/604 RIG COST			#####	#####
##### FOOTAGE FT @ \$ /FT				
##### DAYWORK 26 DAYS @ \$ 4600 /DAY			119,600	119,600
##### COMPLETION RIG				8,000
506/606 RIG MOVE			20,000	20,000
508 BITS & REAMERS			22,800	22,800
510/610 FUEL & POWER				
512 WATER			14,000	16,000
514 MUD & CHEMICALS			7,000	7,000
516/616 TOOL & EQUIPMENT RENTAL			73,300	73,300
518/618 TRANSPORTATION & LOADING			4,000	6,000
520 DST - CORING & ANALYSIS			6,000	6,000
522/622 LOGGING & PERFORATING			9,000	19,000
524/624 CEMENTING & SQUEEZING			20,000	40,000
526/626 CASING & CREWS & EQUIPMENT			5,000	8,000
528/628 PLUGGING & ABANDONMENT			8,000	
630 STIMULATION				45,000
532/632 GEOLOGICAL & ENGINEERING			12,500	12,500
536/636 MISCELLANEOUS LABOR			2,000	20,000
542/642 COMBINED FIXED RATE			4,000	8,000
544/644 MISCELLANEOUS			2,000	8,000
TOTAL INTANGIBLES			\$347,200	\$460,200
TOTAL DRY HOLE			\$410,600	
TOTAL COMPLETED				\$699,700

APPROVED:

DATE:

THIS AFE IS AN ESTIMATE ONLY AND NON-OPERATOR, BY EXECUTION OF
SAME COMMITS TO PAY ITS PROPORTIONATE SHARE OF ACTUAL COSTS.

Avg cost for greatest deviation well:
10
R 621,000

13-Dec-93

Interest

of: EVAL DRILLING PROPOSAL
USE AVERAGE WELL

1,2,3-PETROLEUM EVALUATION
as-of:
12.1993

Lease: PURE GOLD A & B LEASES
Fld/Zone: SAND DUNES DELAWARE
ST/Co: NM, EDDY
Oper: KFOC
Legal: SEC 20 & 21 23S-31E

	WI	NRI	Cum=	Oil, bbl	Gas, MCF		Life, yrs=	27.00
Initial:	1.000000	0.840000	Res=	150928	873459	Reversion Point, yrs=	1.06	
Final:	1.000000	0.840000	Ult=	150928	873459			

Yr Ends	---Gross Reserves---		---Net Reserves---		--Back Calc. Avg.--		--Production Taxes--		--Net Rev Post Tax--		
	Oil, bbl	Gas, MCF	Oil, bbl	Gas, MCF	Oil, \$/bbl	Gas, \$/MCF	Oil (\$)	Gas (\$)	Oil (\$)	Gas (\$)	
12.1993	5610	5610	4712	4712	14.14	1.790	4724	598	61909	7837	
11.1994	49250	102879	41370	86418	14.41	1.856	42255	11371	553724	149015	
11.1995	21240	80468	17842	67593	15.15	2.000	19164	9585	251137	125607	
11.1996	12878	63246	10818	53126	15.92	2.161	12208	8138	159984	106643	
11.1997	9779	56335	8214	47321	16.73	2.335	9742	7835	127657	102678	
11.1998	7823	51628	6572	43368	17.56	2.522	8183	7754	107231	101609	
11.1999	6259	46048	5257	38680	18.44	2.723	6874	7468	90074	97863	
11.2000	5007	39061	4206	32811	19.38	2.943	5778	6845	75720	89702	
11.2001	4405	37053	3700	31125	20.35	3.178	5337	7013	69943	91899	
11.2002	3964	35635	3330	29933	21.36	3.432	5044	7284	66096	95451	
11.2003	3568	34044	2997	28597	22.43	3.707	4766	7515	62460	98484	
11.2004	3211	32330	2697	27157	23.55	4.003	4504	7708	59025	101010	
11.2005	2890	30539	2428	25652	24.73	4.324	4256	7863	55779	103045	
11.2006	2601	28707	2185	24114	25.97	4.669	4022	7983	52711	104614	
Sub-Total	132875	637972	111615	535896	16.70	2.747	132135	104364	1731540	1367619	
Remaining	18053	235487	15164	197809	35.16	7.852	37808	110118	495447	1443032	
TOTAL	150928	873459	126779	733706	18.91	4.123	169942	214482	2226987	2810650	

Yr Ends	Net Rev.	Ad Valorem	Operating	Future Net	Capital	Salvage	--Net Cash Flow--		-Discount @ 8.00%--	
	Total (\$)	Taxes (\$)	Costs (\$)	Income (\$)	Costs (\$)	Costs (\$)	Annual	Cumulative	Annual	Cumulative
12.1993	69746	1674	1500	66572	699700	0	-633128	-633128		
11.1994	702739	16866	27389	658485	699700	0	-41215	-41215	-61520	-61520
11.1995	376744	9042	31825	335877	0	0	335877	294662	298840	237320
11.1996	266627	6399	33416	226811	0	0	226811	521473	186129	423450
11.1997	230335	5528	35087	189720	0	0	189720	711193	143531	566981
11.1998	208840	5012	36841	166987	0	0	166987	878179	116630	683611
11.1999	187937	4510	38683	144743	0	0	144743	1022923	93331	776942
11.2000	165421	3970	40614	120837	0	0	120837	1143760	71840	848782
11.2001	161842	3884	42644	115313	0	0	115313	1259073	63285	912067
11.2002	161546	3877	44777	112893	0	0	112893	1371965	57193	969261
11.2003	160945	3863	47015	110067	0	0	110067	1482032	51474	1020735
11.2004	160035	3841	49366	106828	0	0	106828	1588860	46119	1066854
11.2005	158824	3812	51835	103177	0	0	103177	1692037	41118	1107972
11.2006	157325	3776	54426	99123	0	0	99123	1791160	36465	1144437
Sub-Total	3099159	74380	533919	2490860	699700	0	1791160	1791160	1144437	1144437
Remaining	1938478	46523	1120015	771940	0	0	771940	771940	189077	189077
TOTAL	5037637	120903	1653934	3262800	699700	0	2563100	2563100	1333514	1333514

BEFORE EXAMINER STOGNER

Oil Conservation Division

Exhibit No. 7Case No. 10887

Discounted Net Cash Flow @	10.00%	1166388
	12.00%	1029118
	15.00%	864412
	20.00%	663672
	75% PW 8.00%	1000136

KAISSER-FRANCIS OIL COMPANY

EDDY COUNTY, NM

NET SAND ISOPACH MAP

CI: 10'

X-1 of B.C.

Per 05-1
200

ft.
low est

STOGNER
EXAMINER BEFORE
EXAMINER DIVISION
Conservation No.
Oil Exhibit 1087
Case No.

W. Alan Benson
12/93

1" = 2000'

