CASE 2849: Application of SKELLY for a waterflood project in Bisti Lower-Gallup Oil Pool.

Case Mo.

Replication, Transcript,
Small Exhibits, Etc.

### BEFORE THE OIL CONSERVATION COMMISSION OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HRAPING CALLED BY THE OIL COMSERVATION COMMISSION OF NEW MEXICO FOR THE PURPOSE OF CONSIDERING:

> CASE No. 2849 Order No. R-2524

APPLICATION OF SKELLY OIL COMPANY FOR A WATERFLOOD PROJECT, SAN JUAN COUNTY, NEW MEXICO.

### ORDER OF THE CONCUSSION

### BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on July 10, 1963, at Santa Fe, New Mexico, before Elvis A. Utz, Examiner duly appointed by the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission," in accordance with Rule 1214 of the Commission Rules and Regulations.

NOW, on this 17th day of July, 1963, the Commission, a quorum being present, having considered the application, the evidence adduced, and the recommendations of the Examiner, Elvis A. Utz, and being fully advised in the premises,

### FINDS:

- (1) That due public notice having been given as required by law, the Commission has jurisdiction of this causa and the subject matter thereof.
- (2) That the East Bisti Unit Agreement has been approved by the Commission by Order No. R-2521; that the East Bisti Unit Area comprises 17,812 acres, more or less, of Federal, State, and Indian lands in Townships 24 and 25 North, Ranges 9, 10, and 11 West, EMPM, San Juan County, New Mexico, as more fully described in said order.
- (3) That the applicant, Skelly Oil Company, seeks permission to institute a waterflood project in the Bisti Lower-Gallup Oil Pool in the East Bisti Unit Area by the injection of water into the Gallup formation through 34 wells located within said unit area.
- (4) That the wells in the project area are in an advanced state of depletion and should properly be classified as "stripper" wells.
- (5) That the proposed waterflood project is in the interest of conservation and should result in recovery of otherwise unrecoverable oil, thereby preventing waste.

-Z-CASE No. 2849 Order No. R-2524

(6) That the subject application should be approved and the project should be governed by the provisions of Rule 701 of the Commission Rules and Regulations.

### IT IS THEREFORE ORDERED:

(1) That the applicant, Skelly Oil Company, is hereby authorized to institute a waterflood project in the Bisti Lower-Gallup Oil Pool in the Bast Bisti Unit Area, San Juan County, New Mexico, by the injection of water into the Gallup formation through the following-described 34 wells:

Company, Lease	Well No.	Unit	section	TO	mahip	Rai	epe
Shell Gil Co., Mudge 6	12-16	E	16	25	Morth	11	West
Shall Oil Co., Mudge 6	14-16	M	16	25	Borth	11	West
Shell Oil Co., Madge 6	23-16	K	16	25	Morth	11	West
Gulf Oil Corp., Tah-Mez-Bah	1	I	21	25	Morth	11	West
Mobil Oil Co., Ah-Mus-Bah	1	K	22		Morth		
Sun Oil Co., Ka-Ma-Pah	2	B	22		Morth		
Texaco, Mavajo "C"	1	0	15		Morth		
Sunray DX Cil Co., Es-Ka-							
Hel-Hood	2	0	22	25	Morth	11	West
Sun Oil Co., Ko-Sa	Ź.	N	23	25	Morth	11	West
Mobil Oil Co., Ken-Mo-To	1	A	26	25	Morth	11	West
Gulf Oil Corp., Carson							
Pederal	3	M	24	25	Morth	11	West
Gulf Oil Corp., Carson							
Federal	4	K	24	25	Horeth	11	West
Gulf Oil Corp., Carson							
Federal	5	G	24	25	North	11	West
Sum Oil Co., H. Begay	ı	L	25	25	North	11	West
Gulf Oil Corp., Carson							
Federal	2	M	30	25	Morth	11	West
Skelly Oil Co., Lockhart "A"	<b>" 1</b>	A	31	25	North	10	West
Sungay DX Oil Co., M. Baton		P	30	25	North	10	West
El Paso Matural Gas Producti	9						
Co., Brockhaven "A"	5	E	29	25	Morth	10	West
El Paso Matural Gas Producti	8						
Co., Irish	1	F	32	25	North	10	West
Rumble Oil & Ref. Co.,							
State AY	2	P	32	25	Morth	10	West
Amerada Pet. Corp., Ye-Na-							
Pah-White	1	Ç	4	-	North		
Skelly Gil Co., L.E. Lockha		0	33		Morth		
Skally 011 Co., L.E. Lockha		I	33		North		
Monsanto Chemical Co., Atla		E	34	25	Morth	10	West
El Paso Matural Gas Product							
Co., 1955	4	₽	3	24	North	10	West
Pan American Pet. Corp.,							
State AW	1	Ŀ	2	24	Morth	10	West
Humble 011 & Ref. Co.,							
State AZ	2	F	2	24	Morth	10	West
ii ·							

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Humble Oil & Ref. Co., Bisti Oil Unit The California Co.,	1	B	2	24	North	10	West
Federal "9"	12-4	F	12	24	North	10	West
The California Co., Federal "9"	12-2	В	12	24	Morth	10	West
The California Co., Federal "9"	1-4	Þ	1	24	Morth	10	West
The California Co.,	-	_	_				
Federal "7" The California Co.,	7-3	F	Ą	24	Morth	9	West
Pederal "7"	7-6	H	7	24	North	9	West
The California Co., Federal "7"	8-2	H	8	24	Morth	9	West

- (2) That the subject waterflood project shall be governed by the provisions of Rule 701 of the Commission Rules and Regulations, including the allowable provisions thereof, and including the provisions with respect to expansion of the waterflood project
- (3) That monthly progress reports of the waterflood project herein authorized shall be submitted to the Commission in accordance with Rules 704 and 1119 of the Commission Rules and Regulations.
- (4) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

DOME at Santa Fe, New Maxico, on the day and year hereinabove designated.

STATE OF NEW MEXICO OIL CONSERVATION CONSISSION

JACK M. CAMPBELL, Chairman

E. S. WALKER, Member

A. L. PORTER, Jr., Member & Secretary

----

GOVERNOR EDWIN L. MECHEM CHAIRMAN

## State of New Wexico Oil Conservation Commission

LAND COMMISSIONER E. S. JOHNNY WALKER MEMBER



STATE GEOLOGIST
A. L. PORTER, JR.
SECRETARY - DIRECTOR

P. Q. BOX 87

Mr. Charles . White gilbert, White & Gilbert Attorneys at Law Post Office Box 787 Santa Fe, New Mexico

Gentlemen:

Enclosed herewith is Commission Order No. R- 2524, entered in Case No. 2849, approving the East Bisti Conit
Water Flood Project.

According to our calculations, when all of the authorized injection wells have been placed on active injection, the maximum allowable which this project will be eligible to receive under the provisions of Rule 701-E-3 is 1008 barrels per day.

Please report any error in this calculated maximum allowable immediately, both to the Santa Fe office of the Commission and the appropriate District proration office.

In order that the allowable assigned to the project may be kept current, and in order that the operator may fully benefit from the allowable provisions of Rule 701, it behooves him to promptly notify both of the aforementioned Commission offices by letter of any change in the status of wells in the project area, i.e., when active injection commences, when additional injection or producing wells are drilled, when additional wells are acquired through purchase or unitization, when wells have received a response to water injection, etc.

Your cooperation in keeping the Commission so informed as to the status of the project and the wells therein will be appreciated.

Very truly yours,

A. L. PORTER, Jr.

cc: OCC - Hobbs & Aztec and Geo. Selingerector

# Memo

9-4-63

From

A. R. Kendrick Engineer

### To Dan Nutter:

Your letter to Skelly Re; Southeast Bists Water Flood identified the maximum allowable to be 10,018 barrels.

We figure the following from the attached plats:

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98	unit <b>z</b>	@	104	Bb1 10	296	801	100	Mil.
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Total

10,888

Please check our figures and advixe us of our goof

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## Southeast Bioli Water Road

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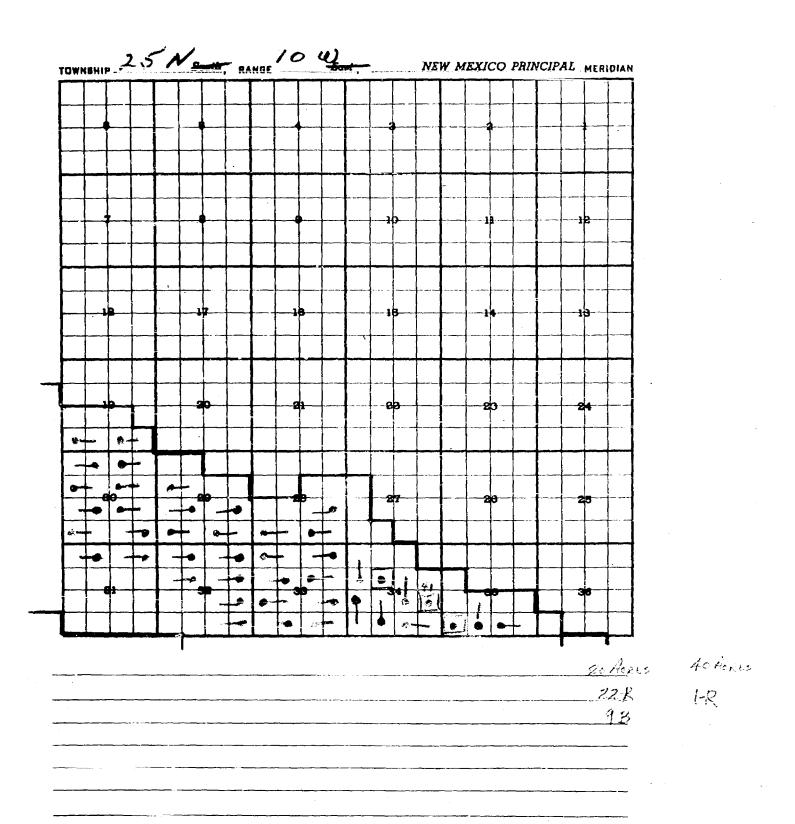
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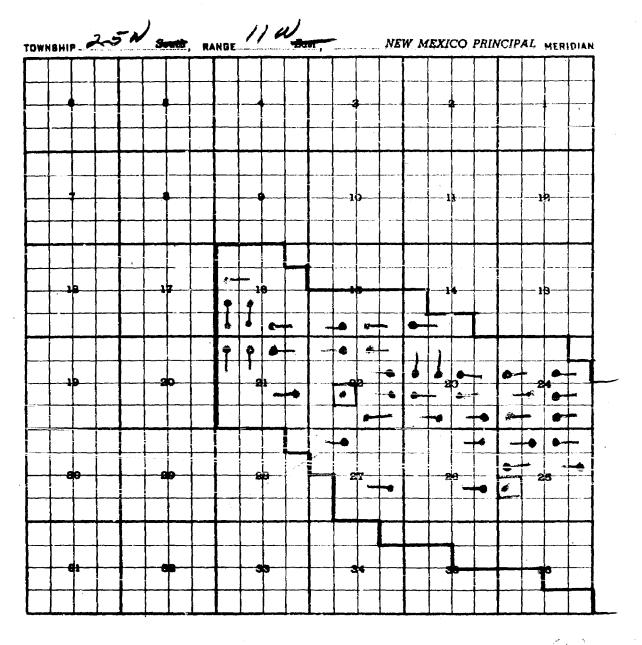
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Jos Jega



MAIN OFFICE OCC

### SKELLY OIL COMPANY AN 8: 19

TULSA 2.OKLAHOMA

PRODUCTION DEPARTMENT

C. L. BLACKSHER, VICE PRESIDENT

W. P. WHITMORE, MGR. F-HODUCTION
W. D. CARSON, MGR. TECHNICAL BERVICES
ROBERT G. HILTZ, MGR. JOINT OPERATIONS
GEORGE W. SELINGER, MGR. CONSERVATION

September 24, 1963

Re: Order No. R-2524

East Bisti Unit
Waterflooding Project
San Juan County, New Mexico

A. L. Porter, Jr.
Secretary - Director
Oil Conservation Commission
P. O. Box 871
Santa Fe, New Mexico

Dear Mr. Porter:

On July 19, 1963, you transmitted a copy of the captioned order, and also stated in your letter that according to your calculations when all the authorized injection wells have been placed on active injection, the maximum allowable which the project would be eligible to receive under the provisions of 701-E-3, would be 10,018 barrels daily. You further requested that any error in the calculated maximum allowable be reported to the Santa Fe office of the Commission and the appropriate district promation office. We have caused a study of the maximum allowable to be made and according to our calculations, the maximum allowable should be 10,880 barrels daily. So that you will be able to ascertain the acreage and method we used in arriving at our calculated figures, we are attaching a schedule listing the wells, location, "dedicated acreage" and project allowable. We hope this schedule will enable you to reconcile our differences in calculations. We are also attaching a copy of this letter with schedule attached to the Commission's Aztec office.

Vary truly yours

George W Lelenger

RJJ/ww Attach.

cc: Oil Conservation Commission 100 Rio Brazos Road Aztec, New Mexico

## EAST BISTI UNIT Dedicated Acresse and Project Allowable

T R	Sec	<u>Operator</u>	<u>Well</u>	Dedication Acreage	Project Allowable
				s/2, se/4	0
24 9	6	Pan Am.	Hairston #2	N/2, SW/4	104
	7	Std. of Texas	Fed. 7 #7-1	N/2, NI/4	104
	7	Std. of Texas	Fed. 7 #7-2	s/2, M/4	104
	7	Std. of Texas	Fed. 7 #7-3	N/2, SE/4	104
	7	Std. of Texas	Fed. 7 #7-4	N/2, NE/4	104
	7	Std. of Texas	Fed. 7 #7-5	S/2, NE/4	104
	7	Std. of Texas	Fed. 7 #7-6	s/2, NE/4	0
	8	Pan Am.	Heggie #l Fed. 8 #8-l	S/2, SE/4	104
	8	Std. of Texas	Fed 7 #8-2	s/2, sw/4	104
	8	Std. of Texas	Whitley #1	E/2, N:1/4	104
	17	So. Union Gas	Schwerdtfeger #1	SW/4, NE/4	0 💈
	17	BM&G	Fed. 9 #1-1	s/2, SW/4	104
24 10	1	Std. of Texas	Fed. 9 #1-2	s/2, NW/4	104
	1	Std. of Texas Std. of Texas	Fed. 9 #1-3	N/2, $SVI/4$	104
	ļ	Std. of Texas	Fed. 9 #1-4	s/2, SE/4	104
	1	Humble	Bisti Oil Unit #1	11/2, NE/4	106 2
	2 2	Humble	State AZ #1	N/2, $NN/4$	104
	2	Humble	State AZ #2	s/2, NW/4	104
•	2 2	Humble	State AZ #3	S/2, NE/4	104
	2	Pan Am.	State AW #1	N/2, $SN/4$	104
		Pan Am.	State AW #2	S/2, SW/4	10/;
	2	Pan Am.	State AV $\#\mathbf{l}$	N/2, SE/4	104 104
	2 2 2 3 3 3 3 3 3 3 4	Pan Am.	State AV #2	S/2, SE/4	104
	~ 3	Moore	Scott #2	N/2, NV/4	0 🕶
	<b>3</b>	Moore	Scott #3	s/2, M//4	104 104
	3	Moore	Scott #5	N/2, SW/4	104
•	. 3	EPNGP	Moss #1	N/2, NE/4	104
	<u> </u>	EPNGP	Moss #2	S/2, NE/4 N/2, SE/4	104
	3	EPNGP	Moss #3	S/2, SE/4	104
	3	EPNGP	Moss #4	NE/4, Nu/4	52 -52
	<i>L</i> <sub>+</sub>	Amerada	Ye Na Pah White #1	N/2, NE/4	104
	4	Moore	Scott #1	S/2, NE/4	104
	4	Moore	Scott #4	E/2, $NE/4$	104 104
	5	H. F. Sears	Navajo #1-5 Fed. #2-9	N/2, NE/4	0 🕶
	9	Val R. Reese	Rutter #1	N/2, $N/4$	104 104
	10	Pan Am.	Fed. 11 #11-1	N/2, NE/L	104
	11	Std. of Texas	Fed. 9 #12-1	S/2, NE/4	104
	12	Std. of Texas	Fed. 9 #12-2	N/2, $NE/4$	1.04
	12	Std. of Texas	Fed. 9 #12-3	N/2, $NU/4$	104
	12	Std. of Texas	Fed. 9 #12-4	S/2, $NN/4$	104
	12	Std. of Texas Std. of Texas	Fed. 10 #13-1	NE/4, NE/4	0 0
05.30	13		Ith Hal E Wood #1	S/2, SW/4	0 -
25 10	19	Sun Wellshi <b>re</b>	Me Ga El #2	S/2, SE/L S/2, SE/4	0 1
	19 28	Skelly	L. E. Lockhart #5	S/2, SE/4	104 104
	28	Skelly	L. E. Lockhart #6	N/2, SE/4	0 🗸
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T R	Sec	Operator	<u>Well</u>	Dedication Acreage	Project Allowable
25 10	28	Elliot & Hall	Fed. T #5	s/2, SW/4	0
	29	EPNGP	Brookhaven A #1	s/2, s/1/4	104
	29	EPNGP	Brookhaven A #2	S/2, SE/4	0
	29	EPNGP	Brookhaven A #3	N/2, SH/4	104
	29	EPNGP	Brookhaven A #4	N/2, SE/4	104 / 104
•	29	EPNGP	Brookhaven A #5	N/2, SE/4 S/2, NW/4	104
	30	Sun	Eaton #1	S/2, NW/4	0
	30	Sun	Eaton #2	N/2, N///4	0 /
	30	Atlantic	Francisco #1	s/2, NE/4	104
	30	Atlantic	Francisco #2	N/2, NE/4	3.04
	30	Gulf	Carson Fed. #1	N/2, SW/4	104
	30	Gulf	Carson Fed. #2	s/2, sw/4	104
	30	Sunray	N. Eaton #1	s/2, se/4	104
	30	Sunray	N. Eaton #2	N/2, SE/4	104
	31	Skelly	Lockhart A #1	N/2, $NE/4$	104
	31	Skelly	Lockhart A #2	N/2, $NW/4$	104 104
	32	EPNGP	Todson #1	N/2, N//4	104
	32	EPNCP	Irish #1	S/2, MW/4	104
	32	EPNGP	State Pool #1	N/2, NE/4	104
	32	EPNGP	Caltrider #1	S/2, NE/4	104
	32	Humble	State AY #1	N/2, NW/4 S/2, NW/4 N/2, NE/4 S/2, NE/4 N/2, SE/4	<u>104</u>
	32	Humble	State AY #2	5/2. SB/4	104
	33	Elliott Hall	Federal "T" #1	S/2, SW/4	104
	33	Elliott Hall	Federal "T" #2	N/2, SW/4	104
	33	Elliott Hall	Federal "T" #3	S/2, NW/4	104
	33	Elliott Hall	Federal "T" #4	N/2, NV/4	0 🗸
	33	Skelly	L. E. Lockhart #1	S/2, SE/4	104
	33	Skelly	L. E. Lockhart #2	N/2, SE/4	104
	33	Skelly	L. E. Lockhart #3	S/2, NE/4	104
	33	Skelly	L. E. Lockhart #4 Atlas #1 J 40	N/2, NE/4	104
,	34	Monsanto	Atlas #1 J 40	SW/4, NE/4 & NW/4, SE/4	
	34	Monsanto	Atlas #2 E #0	W/2, NH/4	104 -52
	34	Monsanto	Frank #1 L 20	W/2, SW/4	104 •
	34	Monsanto	Blanche #1 🦁 👌	S/2, SE/4	0
	34	Elliott	Fed. "C" #1	E/2, SW/4	104
	34	Atlas Minerals	Atlas #1 1 40	NE/4, SE/4	, 0
	34	Atlas Minerals	Atlas A #2 1 💯	SE/4, NW/4	52
	35	Atlas Minerals	Atlas A #1 M //	SW/4, SW/4	0
	35	Monsanto	Atlas #3 N 40	E/2, SW/4	104 - 52
	35	Wellshire Dev.	Federal #1	s/2. se/4	104
25 11	14	Texas Co.	Navajo "T" #1	S/2, SII/4	104 /34
	15	Sunray	Platero #1	s/2, s\(\frac{1}{4}\)	104
	15	Texas Co.	Navajo "O" #1	S/2, SE/4	104
	16	Shell	Mudge 6 #12	S/2, №/4	104
	16	Shell	Mudge 6 #13	W/2, SW/4}	139 +18
	16	Shell	Mudge 6 #14	בות מניות	330 10
	16	Shell	Mudge 6 #23	$\mathbb{E}/2$ , $\mathbb{S}\mathbb{W}/4$	139 4 18
	16	Shell	Mudge 6 #24	elo enli	101
	16	Shell	Mudge 6 #34	S/2, SE/4	104
	21	Mobil	Canuto #1	W/2, NW/4	104
	21	Mobil	Canuto #2	E/2, NW/4	104

Sec Operator  21 Skelly 21 Gulf 22 Shell 22 Sun 22 Sun 22 Mobil 22 Sunray 23 Texas Co. 23 Texas Co. 23 Sunray 23 Sunray 24 Sunray 24 Gulf 24 Gulf 24 Gulf 24 Gulf 24 Socony-Mob 24 Socony-Mob 24 Socony-Mob 24 Sunray 25 Sunray 25 Sunray 25 Sunray 26 Mobil 26 Skelly 27 Sears 27 Shell	Mavajo K #1 Tah Nez Bah #1 Mohr #21-22 Ka Na Pah #1 Ka Na iah #2 Ah Nus Bah #1 Es Ka Nel E Mood #1 Es Ka Nel E Mood #2 Navajo "M" #2 Bittoney Nez #1 Ko Sa #1 Ko Sa #2 Mar Ga Le Ta #1 Mar Ga Le Ta #2 Ki Yah De Tah #1 Carson Fed. #3 Carson Fed. #3 Carson Fed. #5 Deet So Sa #1 Deet So Sa #1 Es Ka Ba Ey #1 Es Ka Ba Ey #1 Ka Des Pah #1 Ka Des Pah #1 Navajo #1-27 Carson Shell #5	Dedication Acreage  N/2, NE/4 N/2, SE/4 N/2, NE/4 N/2, N	Project   104   10
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25 11

TOTAL 10,880

### OIL CONSERVATION COMMISSION P. O. BOX 871

SANTA FE, NEW MEXICO

April 22, 1965

skelly Oil Company P. O. Box 1650 Tulsa 2, Oklahoma

Attention: Mr. George W. Selinger

Gentlemen:

Reference is made to your letter dated April 19, 1965, wherein you request an exception to the provisions of Rule 701-E 3 which requires that each and every well outside a profeted waterflood project area which is producing into common facilities with wells inside a property waterflood project area shall be tested once each month.

Your request is that Unit Wells Nos. 50, 59, 51, 91, 97, 99, 100, 106, 107, 113, and 114 be exempted from the aforesaid testing requirement.

We concur with your reasoning that the subject wells should not at this time be required to be tested monthly. Skelly Oil Company is therefore hereby granted an exception to the monthly testing requirement as set forth in Rule 701-E 3.

Very truly yours,

A. L. Porter, Jr. Secretary-Director

ALP: DSN: 59

cc: | Oil Conservation Commission - Autoc Case File 2849





### **SKELLY OIL COMPANY**

P. O. Box 1650 TULSA 2,OKLAHOMA

#### PRODUCTION DEPARTMENT

C. L. BLACKSHER, VICE PRESIDENT

April 19, 1965

W. P. WHITMORE, MGR. PRODUCTION
W. D. CARSON, MGR. TECHNICAL SERVICES
ROBERT G. HILTZ, MGR. JOINT OPERATIONS
GEORGE W. SELINGER, MGR. CONSERVATION

Re: East Bistí Unit

San Juan County, New Mexico

Mr. A. L. Porter, Jr., Secretary-Director Oil Conservation Commission P. O. Box 2088 Santa Fe, New Mexico 87501

Dear Mr. Porter:

Rule 701(E) of the Commission's Rules and Regulations provides for monthly testing for each and every well outside a prorated waterflood project area which is producing into common facilities with wells inside a prorated waterflood project area.

Skelly Oil Company, as operator of the East Bisti Unit pursuant to the provision in the rules allowing the granting of exceptions to monthly testing, hereby respectfully requests exemption from testing non-project wells as listed below:

### Non-Project Wells Produced in Common Facilities with Project Wells

50 and 59	64, 68, and 69
51	46, 47, and 52
91	82, 83, 92, and 93
97, 99, 100, 106,	
107, 113, and 114	87

In support of our request we submit that the monthly testing is not necessary for the following reasons:

(1) The transfer allowable of approximately 3,400 BPD for the injection wells plus the allowable for the producing wells within the project area is in excess of the anticipated producing rate for the project area. Therefore, there would be no reason for purposely or inadvertently assigning project allowable to non-project wells.

Mr. A. L. Porter, Jr. April 19, 1965 Page 2

- (2) The non-project wells affected by the testing provision are located far enough from injection wells that a significant response is not expected for approximately eighteen months. Until such time as the non-project wells exceed the top unit allowable (currently 140 BPD), there would be no reason for purposely or inadvertently assigning allowable from non-project wells to project area wells. In the event a significant increase in production is experienced from non-project wells, we would pursue the provision of Rule 701 whereby the project area can be enlarged.
- (3) The only test facilities available at the present time is a portable testing unit. Until such time as consolidation of tank batteries and installation of test facilities can be justified, the frequent testing of these "stripper" wells would incur an additional operating expense.

Respectfully submitted,

SKELLY OIL COMPANY

RJJ:br

George W. Selinger



MAIN OFFICE OCC

### SKELLY OIL COMPANY

P. O. Box 1650 TULSA 2,OKLAHOMA

#### PRODUCTION DEPARTMENT

C. L. BLACKSHER, VICE PRESIDENT

October 15, 1963

W. P. WHITMORE, MGR. PRODUCTION
W. D. CARSON, MGR. TECHNICAL SERVICES
ROBERT G. HILTZ, MGR. JOINT OPERATIONS
GEORGE W. SELINGER, MGR. CONSERVATION

Mr. Daniel Nutter
New Mexico Oil Conservation Commission
P. O. Box 871
Santa Fe, New Mexico

Dear Mr. Nutter:

I am herewith attaching for your file an up-to-date map of the East Bisti Unit, San Juan County, New Mexico, showing the location of the wells and the latest correct unit well numbers.

Yours very truly,

GWS:br Attach.

### EAST BISTI UNIT Dedicated Acreage and Project Allowable

T R	Sec	Operator	<u>Well</u> .	Dedication Acreage	Project Allowable
24 9	6	Pan Am.	Hairston #2	S/2, SE/4	0
~~~	7	Std. of Texas	Fed. 7 #7-1	N/2, SH/4	104
	7	Std. of Texas	Fed. 7 #7-2	N/2, N/4	104
	7	Std. of Texas	Fed. 7 #7-3		104
				S/2, NJ/4	
	7	Std. of Texas	Fed. 7 #7-4	N/2, SE/4	104
	7	Std. of Texas	Fed. 7 #7-5	N/2, NE/4	104
	7	Std. of Texas	Fed. 7 #7-6	S/2, №/4	104
	8	Pan Am.	Heggie #1	S/2, №/4	0
	8	Std. of Texas	Fed. 8 #8-1	S/2, SE/4	104
	8	Std. of Texas	Fed 7 #8-2	S/2, S#/4	104
	17	So. Union Gas	Whitley #1	E/2, NW/4	104
0) 20	17	B M & G	Schwerdtfeger #1	SW/A, NE/A	0
24 10	ļ	Std. of Texas	Fed. 9 #1-1	S/2, SW/4	104
	Ţ	Std. of Texas	Fed. 9 #1-2	S/2, $NI/4$	104
	1	Std. of Texas	Fed. 9 #1-3	N/2, $SN/4$	104
	l	Std. of Texas	Fed. 9 #1-4	S/2, SE/4	104
	2	Humble	Bisti Oil Unit #1	N/2, $NE/4$	106
	2	Humble	State AZ #1	N/2, $MV/4$	104
	2	Humble	State AZ #2	S/2, N//4	104
	2	Humble	State AZ #3	S/2, NE/4	104
	2	Pan Am.	State AW #1	N/2, SW/4	104
•	2 2 2 2 2 2 3 3 3 3 3 3 3 3 4	Pan Am.	State AW #2	S/2, SW/4	104
	2	Pan Am.	State AV #1	N/2, SE/4	104
	2	Pan Am.	State AV #2	3/2, SE/4	104
	3	Moore	Scott #2	N/2, $NV/4$	104
	3	Moore	Scott #3	s/2, NI/4	Ó
	3	Moore	Scott #5	N/2, $SW/4$	1.04
	3	EPNGP	Moss #1	N/2, $NE/4$	104
	3	EPNGP	Moss #2	S/2, NE/4	104
	3	EPNGP	Moss #3	N/2, $SE/4$	104
	3	EPNGP	Moss #4	s/2, se/4	104
	Ĺ	Amerada	Ye Na Pah White #1	NE/4, NW/4	52
	4	Moore	Scott #1	N/2, NE/4	104
	4	Moore	Scott #4	S/2, NE/4	104
	5	H. F. Sears	Navajo #1-5	E/2, $NE/4$	104
	9	Val R. Reese	Fed. #2-9	N/2, NE/4	0
	ıó	Pan Am.	Rutter #1	N/2, NM/4	104
	11	Std. of Texas	Fed. 11 #11-1	N/2, NE/4	104
	12		Fed. 9 //12-1	S/2, NE/4	104
	12	Std. of Texas			
	12	Std. of Texas	Fed. 9 #12-2	N/2, NE/4	104
		Std. of Texas	Fed. 9 #12-3	N/2, NN/4	104
,	12	Std. of Texas	Fed. 9 #12-4	S/2, NW/4	104
25 70	13	Std. of Texas	Fed. 10 #13-1	NE/4, NE/4	0
25 10	19	Sun	Ith Hal E Wood #1	S/2, SW/4	. 0
-	19	Weilshire	Me Ga El #2	S/2, SE/4	. 0
	28	Skelly	L. E. Lockhart #5	S/2, SE/4	104
	28	Skelly	L. E. Lockhart #6	N/2, SE/4	0

	T R	Sac	Operator		Dadisanti	
	25 10	28 29 29 29 29 29 29 29 29 29 29	Elliot & Hall EPNGP EPNGP EPNGP EPNGP EPNGP Sun Sun Atlantic Atlantic Gulf Gulf Sunray Skelly Skelly EPNGP EVICH Kumble Humble Humble Elliott Hall E	Brookhaven A #2 Brookhaven A #3 Brookhaven A #4 Brookhaven A #4 Brookhaven A #4 Brookhaven A #5 Eaton #1 Eaton #2 Francisco #2 Carson Fed. #1 Carson Fed. #2 N. Eaton #1 N. Eaton #2 Lockhart A #1 Lockhart A #2 Todson #1 Irish #1 State Pool #1 Caltrider #1 State AY #2 Federal "T" #1 Federal "T" #3 Federal "T" #4 L. E. Lockhart #4 L. E. Lockhart #4 Atlas #1 Atlas #2 Frank #1 Blanche #1 Fed. "C" #1 Atlas #3 Federal #1 Navajo "T" #1 Platero #1	Dedication Acreage  \$\frac{2}{2}, \text{SW}/4 \$\frac{2}{2}, \text{SW}/	Project Allowable  O 104 O 104 104 104 104 104 104 104 104 104 104
	1 1 1 1	.6 <u>.5</u> .6 .5	Toxas Co. Shell Shell Shell	Platero #1 Navajo "0" #1 Mudge 6 #12 Mudge 6 #13 Mudge 6 #14	5/2, 5%/4 S/2, 5%/4 S/2, SE/4 S/2, N%/4 W/2, SW/4}	104 104 104 104
•	18 18 21 21	δ S S S	hell hell hell obil obil	Mudge 6 #23 Mudge 6 #24 Mudge 6 #31 Canuto #1 Canuto #2	E/2, SW/4} 5/2, SE/4 W/2, NW/L	139 139 104
				Canalo IIX	E/2, NW/4	104 104

				Dedication	Project
T R	Sec	Operator	<u>Well</u>	Acreage	Allowable
05.33		0) 23		11/2 1TP/1	104
25 11	21	Skelly	Navajo K #1	N/2, NE/4	104
	21	Gulf	Tah Nez Bah #1	N/2, SE/4	104
	22	Shell	Kohr #21-22	N/2, NN/4	
	22	Sun	Ka Na Pah #1	S/2, NE/4	104
	22	Sun	Ka Na Pah #2	N/2, NE/4	104
	22	Mobil	Ah Nus Bah #1	NE/4, $SM/4$	- 52
	22	Sunray	Es Ka Nel E Wood #1	N/2, SE/4	104
	22	Sunray	Es Ka Nel E Mood #2	S/2, $SE/4$	104
	23	Texas Co.	Navajo "K" #1	W/2, $NN/4$	104
	23	Texas Co.	Navajo "M" #2	E/2, Nv/4	0
	23	Sunray	Bittoney Nez #1	S/2, NE/4	104
	23	Sun	Ko Sa #1	N/2, $SW/4$	104
	23	Sun	Ko Sa #2	s/2, SM/4	104
	23	Sunray	Mer Ga Le Ta #1	N/2, SE/4	104
	23	Sunray	Mar Ga Le Ta #2	S/2, SE/4	104
	24	Sunray	Ki Yah De Tah #1	S/2, NW/4	104
	24	Gulf	Carson Fed. #3	s/2, sw/4	104
	24	Gulf	Carson Fed. #4	N/2, SN/4	1:04
	24	Gulf	Carson Fed. #5	S/2, $NE/4$	104
	24	Socony-Mobil	Deet So Sa #1	S/2, $SE/4$	104
	24	Socony - Mobil	Deet So Sa #2	N/2, SE/4	104
	25	Sunray	Es Ka Ba Ey #1	N/2, $NN/4$	104
	25	Sunray	Es Ka Ba Ey #2	S/2, $NI/4$	104
	25	Sunray	Ka Des Pah #1	N/2, $NE/4$	104
	25	Sunray	Ka Des Pah #2	S/2, NE/4	0
*	25	Sun	Begay #1	MV/4, $SM/4$	52
	26	Mobil	Ken No To #1	N/2, $NE/4$	104
	26	Skelly	Day a #1	N/2, $SE/4$	104
	27	Sears	Navajo #1-27	N/2, $NN/4$	104
	27	Shell	Garson Shell #5	N/2, SE/4	0
				• •	-

TOTAL 10,880

DRAFT

JMD/esr July 15, 1963

### BEFORE THE OIL CONSERVATION COMMISSION OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION COMMISSION OF NEW MEXICO FOR THE PURPOSE OF CONSIDERING:

CASE No. 2849

Order No. R-

APPLICATION OF SKELLY OIL COMPANY FOR A WATERFLOOD PROJECT, SAN JUAN

COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

#### BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on July 10 , 1963, at Santa Fe, New Mexico, before Elvis A. Utz Examiner duly appointed by the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission," in accordance with Rule 1214 of the Commission Rules and Regulations.

NOW, on this day of July , 1963, the Commission, quorum being present, having considered the application, the evidence adduced, and the recommendations of the Examiner, Elvis A. Utz , and being fully advised in the premises,

### FINDS:

- (1) That due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.
- (2) That the East Bisti Unit Agreement has been approved by the Commission by Order No. R-1521; that the East Bisti Unit Area comprises 17,812 acres, more or less, of Federal, State, and Indian lands in Townships 24 and 25 North, Ranges 9, 10, and 11, West, NMPM, San Juan County, New Mexico, as more fully described in said order.
- (3) That the applicant, Skelly Oil Company, seeks permission to institute a waterflood project in the Bisti Lower-Gallup Oil Pool in the East Bisti Unit Area by the injection of water into the Gallup formation through 34 wells located within said unit area.
- (4) That the wells in the project area are in an advanced state of depletion and should properly be classified as "stripper" wells.

- (5) That the proposed waterflood project is in the interest of conservation and should result in recovery of otherwise unrecoverable oil, Thereby preventing waste.
- (6) That the subject application should be approved and the project should be governed by the provisions of Rule 701 of the Commission Rules and Regulations.

### IT IS THEREFORE ORDERED:

(1) That the applicant, Skelly Oil Company, is hereby authorized to institute a waterflood project in the Bisti Lower-Gallup Oil Pool in the East Bisti Unit Area, by the injection of water into the Gallup formation through the following-described

34 wells: Company) Lease well No. Unit Section Township Range Shell Oil Co., Mudge 6 25 North 11 West 12-16 Е 16 shell Oil Co., Mudge 6 25 North 11 West 14-16 16 Shell Oil Co., Mudge 6 25 North 11 West 23-16 16 K Gulf Oil Corp., Tah-Nez-Bah 25 North 11 West 1 I 21 Mobil Oil Co., Ah-Nus-Bah 22 25 North 11 West Sun Oil Co., Ka-Na-Pah 25 North 11 West В 22 Texacow, Navajo "0" 1 0 15 25 North 11 West Sunray DX Oil Co., Es-Ka-Nel-E-Wood 22 25 North 11 West Sun Oil Co., Ko-Sa 23 25 North 11 West Mobil Oil Co., Ken-No-To 25 North 11 West 26 25 North 11 West Gulf Oil Corp., Carson Federal M 24 Gulf Oil Corp., Carson Federal 25 North 11 West K 24 Gulf Oil Corp., Carson Federal 5 25 North 11 West G 24 25 North 11 West Sun Oil Co., H. Begay 1 L 25 Gulf Oil Corp., Carson Federal 25 North 11 West 30 Skelly Oil Co., Lockhart "A" 25 North 10 West 31 Sunray DX Oil Co., N. Eaton 30 25 North 10 West El Paso Natural Gas Products Co. Brookhaven "A" 29 25 North 10 West El Paso Natural Gas Products Co. 32 Irish F 25 North 10 West

Humble Oil & Ref. Co., State AY	2	P	32	25	North	10	West
Amerada Pet. Corp., Ye-Na-Pah- White	1	Ċ	4	24	North	10	West
Skelly Oil Co., L.E. Lockhart	1,	0	33	25	North	10	West
Skelly Oil Co., L.E. Lockhart	2	I	33	25	North	10	West
Monsanto Chemical Co., Atlas	2	E	34	25	North	10	West
El Paso Natural Gas Products Co., Moss	4	P .	3	24	North	10	West
Pan American Pet. Corp. State AW	1	L	2	24	North	10	West
Humble Oil & Ref. Co., State AZ	2	F	2	24	North	10	West
Humble Oil & Ref. Co., Bisti Oil Unit	1	В	2	24	North	10	West
The California Co., Federal "9"	12-4	F	12	24	North	10	West
The California Co., Federal "9"	12-2	В	12	24	North	10	West
The California Co., Federal "9"	1-4	P	l	24	North	10	West
The California Co., Federal "7"	7-3	F'	7	24	North	9	West
The California Co., Federal "7"	7-6	Н	7	24	North	9	West
The California Co., Federal "7"	8-2	N	8	24	North	9	West

- (2) That the subject waterflood project shall be governed by the provisions of Rule 701 of the Commission Rules and Regulations, including the allowable provisions thereof, and including the provisions with respect to expansion of the waterflood project.
- (3) That monthly progress reports of the waterflood project herein authorized shall be submitted to the Commission in accordance with Rules 704 and 1119 of the Commission Rules and Regulations.
- (4) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

DONE at <u>Santa</u> Fe, New Mexico, on the day and year herein-above designated.

Heard. 7-10-03

Rec. 7-11-63

1. Should skelly's request for a waterflood project encompanion the East Birts until area.

2. Afferm the conserving the 34 injection wells listed on the application attached and coarected.

3. Dese usual waterflood order in accordance with Rule 701.

#### BEFORE THE NEW MEXICO OIL CONSERVATION COMMISSION

IN THE MATTER OF THE APPLICATION OF SKELLY	) CASE
OIL COMPANY FOR AUTHORITY TO INJECT FLUID	)
INTO THE GALLUP FORMATION IN THE BISTI,	) FILED
LOWER GALLUP FIELD, SAN JUAN COUNTY,	)
NEW MEXICO	) HEARING

### AMENDMENT TO APPLICATION

Comes now Skelly Oil Company on behalf of itself and others and respectfully states as follows:

- 1. That on or about May 27, 1963, it filed an application for permission to inject fluid into the Gallup Formation in the Bisti, Lower Gallup Field, San Juan County, New Mexico.
- 2. That in Paragraph 4 of said application applicant listed 34 wells for which permission to inject water is sought. That while the list of the wells is correct, the unit designation for three of the wells so listed is not correct, and that the three wells are as follows:

Shell Oil Company, Mudge 6 No. 14-16

" " , Mudge 6 No. 23-16
Sun Oil Company, Ko-Sa No. 2

3. That the proper location for these wells is as follows:

Shell Oil Co., Mudge 6 No. 14-16 " " ", Mudge 6 No. 23-16 Sun Oil Co., Ko-Sa No. 2 Unit M, Sec. 16-25N-11W Unit K, Sec. 16-25N-11W Unit N, Sec. 23-25N-11W

WHEREFORE, PREMISES CONSIDERED, applicant prays that its application in this case be amended so as to correctly reflect the locations of the previously mentioned wells.

Respectfully submitted,

SKELLY\_OIL COMPANY

Its Attorney

Of Counsel L. C. White Gilbert, White and Gilbert Santa Fe, New Mexico



# SKELLY OIL COMPANY

P. 0. Box 1650 TULSA 2. OKLAHOMA

PRODUCTION DEPARTMENT

C. L. BLACKSHER, VICE PRESIDENT

W. P. WHITMORE, MGR. PRODUCTION W. P. WHITMORE, MGR. PRODUCTION
W. D. CARSON, MGR. TECHNICAL SERVICES
ROBERT G. HILTZ, MGR. JOINT OPERATIONS
GEORGE W. SELINGER, MGR. CONSERVATION July 5, 1963

Bast Mati, Lower Gallup Area Case (2819) San Juan County, New Mexico In re:

VIA AIR MAIL

Mr. S. E. Reymolds, State Engineer P. O. Box 1079

Santa Pe, New Mexico

Skelly Oil Company has filed with the Oil Conservation Dear Mr. Reynolds: Commission an application for permission to conduct secondary recovery operations in the Bisti Field by injecting fluids into the Gallup formation. This case is scheduled to be heard at 9:00 A.M. Wednesday, July 10, 1963, before the Oil Conservation Commission in Santa Fe, New Mexico. Comission an application for permission to conduct secondary

Pursuant to the newly adopted Rule 701-B of the Counterion, we are enclosing a copy of our application in this case, along with a map showing the location of all wells completed in the area, and showing the proposed injection wells. We are, also, enclosing, so that you may have an opportunity to examine same prior to the hearing, diagrammatic sketches of the present subsurface installation of the 34 proposed injection wells. Yours very truly,

(Signea) GRORGE W. SELLINGER

Ell:pr Encl.

cc-Oil Conservation Commission P. O. Box 871 Santa Fe, New Mexico

### DOCKET: EXAMINER HEARING - WEDNESDAY - JULY 10, 1963

9 A.M. - OIL CONSERVATION COMMISSION CONFERENCE ROOM, STATE LAND OFFICE BUILDING - SANTA FE, NEW MEXICO

The following cases will be heard before Elvis A. Utz, Examiner, or Daniel S. Nutter, as alternate examiner:

CASE 2848:

Application of Skelly Oil Company for a unit agreement, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks approval of its East Bisti Unit Area comprising 17,812 acres of Federal, State and Indian lands in Townships 24 and 25 North, Ranges 9, 10, and 11 West, San Juan County, New Mexico.

CASE 2849:

Application of Skelly Oil Company for a waterflood project, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in the Bisti Lower-Gallup Oil Pool, San Juan County, New Mexico, by the injection of water into the Gallup formation through 34 wells in its East Bisti Unit Area.

CASE 2850:

Application of Shell Oil Company for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the East Pearl-Queen Unit Area comprising 2440 acres of State and Fee lands in Township 19 South, Range 35 East, Lea County, New Mexico.

CASE 2851:

Application of Shell Oil Company for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project on its East Pearl Queen Unit by the injection of water into the Queen formation through 29 wells in Sections 15, 21, 22, 26, 27, 34 and 35, Township 19 South, Range 35 East, Lea County, New Mexico.

CASE 2852:

Application of Amerada Petroleum Corporation for a triple completion and for commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the triple completion (combination) of its State NJ "A" Well No. 1 located in Unit A of Section 2, Township 25 South, Range 37 East, North Justis Field, Lea County, New Mexico, to produce oil from the McKee and Ellenburger zones through 1-½ inch tubing inside parallel strings of 3-½ inch casing and from the Montoya zone through 1-½ inch tubing inside 2-7/8 inch casing, all casing strings to be cemented in a common well bore. Applicant further seeks to add the Montoya zone to the commingling authority previously granted by Administrative Order No. PC-84.

CASE 2853:

Application of Humble Oil & Refining Company for an amendment to Order No. R-2154, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks approval of the expansion of its Cha Cha-Gallup Pressure Maintenance Project, San Juan

-2-No. 19-63

County, New Mexico, including the conversion of additional wells to water injection.

CASE 2854:

Application of Pan American Petroleum Corporation for an unorthodox location and a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the dual completion (conventional) of its SMU Well No. 15 to produce oil from the Fowler-Blinebry and Fowler-Ellenburger Pools through parallel strings of tubing, said well to be at an unorthodox location for the Fowler-Ellenburger Pool at a point 660 feet from the North and East lines of Section 22, Township 24 South, Range 37 East, Lea County, New Mexico.

CASE 2855:

Application of Pan American Petroleum Corporation for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the dual completion (conventional) of its SMU Well No. 1 located in Unit J of Section 15, Township 24 South, Range 37 East, Lea County, New Mexico, to produce oil from the Fowler-Blinebry and Fowler-Ellenburger Pools through parallel strings of tubing.

CASE 2856:

Application of Socony Mobil Oil Company for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the dual completion (conventional) of its State Bridges No. 97 well located in Unit O of Section 26, Township 17 South, Range 34 East, Lea County, New Mexico, to produce oil from the Blinebry and Glorieta formations, Vacuum Field, through parallel strings of 1.61 inch I.D. tubing.

CASE 2575:

(Reopened)
In the matter of Case No. 2578 being reopened pursuant to the provisions of Order No. R-2267, which order established temporary 80-acre oil proration units and 320-acre gas proration units for the Lybrook-Gallup Pool, Rio Arriba County, New Mexico, for a period of one year. All interested paraies may appear and show cause why said pool should not be developed on 160-acre gas and 40-acre oil spacing.

CASE 2857:

Application of Standard Oil Company of Texas for special pool rules, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks the establishment of special pool rules for the Boulder-Mancos Oil Pool, Rio Arriba County, New Mexico, including provisions for 80-acre spacing therein.

CASE 2858:

Application of Standard Oil Company of Texas for special pool rules. San Juan County, New Mexico. Applicant, in the above-styled cause, seeks the establishment of special pool rules for the La Plata-Gallup Oil Pool, San Juan County, New Mexico, including provisions for 80-acre spacing therein.

iqg/

### DOCKET: EXAMINER HEARING - WEDNESDAY - JULY 10, 1963

9 A.M. - OIL CONSERVATION COMMISSION CONFERENCE ROOM, STATE LAND OFFICE BUILDING - SANTA FE, NEW MEXICO

The following cases will be heard before Elvis A. Utz, Examiner, or Daniel S. Nutter, as alternate examiner:

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CASE 2850:

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Application of Amerada Petroleum Corporation for a triple completion and for commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the triple completion (combination) of its State NJ "A" Well No. 1 located in Unit A of Section 2, Township 25 South, Range 37 East, North Justis Field, Lea County, New Mexico, to produce oil from the McKee and Ellenburger zones through 1-½ inch tubing inside parallel strings of 3-½ inch casing and from the Montoya zone through 1-½ inch tubing inside 2-7/8 inch casing, all casing strings to be cemented in a common well bore. Applicant further seeks to add the Montoya zone to the commingling authority previously granted by Administrative Order No. PC-84.

CASE 2853:

Application of Humble Oil & Refining Company for an amendment to Order No. R-2154, San Juan County New Mexico. Applicant, in the above-styled cause, seeks approval of the expansion of its Cha Cha-Gallup Pressure Maintenance Project, San Juan

100 2844

### December 19, 1962

Skelly Oil Company P. O. Bex 1650 Tulsa 2, Oklahema

Re: Proposed East Bisti Unit, San Juan County, New Mexico

Attention: Mr. Robert J. Hilts

Gentlemen:

This office approves as to form and content the East Bists Unit Agreement.

We are verifying verbal approval which was given to your Mr. Kenneth Jones by telephone conversation December 17, 1962.

Very truly yours,

E. S. JOHNEY WALKER CONCISSIONER OF PUBLIC LANDS

BY

(Mrs.) Marian M. Rhea, Supervisor Unit Division

BSW/mmx/v

cc: U. S. Geological Survey Roswell, New Mexico

> Oil Conservation Commission Santa Fe. New Mexico

## OIL CONSERVATION COMMISSION P. O. BOX 871 SANTA FE. NEW MEXICO

Charl 2849

June 5, 1963

### DOCKET MAILED

Mr. Rom Jacobs shelly Oil CompanyDob F. O. Box 1650 Tulsa 2, Oklahoma

> Re: Hast Bisti Unit, San Jean County, New Mexico

Dear Mr. Jacobs:

Pursuant to our telephone conversation, please be advised that the first examiner hearing in July is tentatively set for July 10, 1963. We have tentatively docketed your applications concerning the above unit for the July 10 hearing.

If there should be a change in the hearing date, I will attempt to advise you immediately.

Very truly yours,

J. M. DURRETT, Jr., Attorney

JID/Jaz



1000 100 100 84 d

### SKELLY OIL COMPANY

ni

P. 0. Box 1650 TULSA 2,OKLAHOMA

#### PRODUCTION DEPARTMENT

C. L. BLACKSHER, VICE PRESIDENT

W. P. WHITMORE, MGR. PRODUCTION
W. D. CARSON, MGR. TECHNICAL SERVICES
ROBERT G. HILTZ, MGR. JOINT OPERATIONS
GEORGE W. SELINGER, MJR. CONSERVATION

May 27, 1963

Subject: East Bisti Unit

San Juan County, New Mexico

Mr. A. L. Porter, Jr., Director New Mexico Oil Conservation Commission P. O. Box 871 Santa Fe, New Mexico

Dear Mr. Porter:

We are enclosing original and three copies each of two applications pertaining to the East Bisti Area, San Juan County, New Mexico. The first application is for approval of the East Bisti Unit Agreement, and we are enclosing two copies of the Unit Agreement along with corrected Exhibits "B" and "C" to said Unit Agreement. The other application is for authority to inject fluid for secondary recovery in the East Bisti Unit Area. Attached to that application are two copies of "Exhibit 2", a map indicating the proposed injection wells, the wells, and lessees within a two-mile radius of said injection wells.

We would appreciate your setting these applications for Examiner Hearing the second week of July, which according to our calculations should be either July 10th or 11th, 1963.

For your information and use, we are also attaching a list of working interest owners within the East Bisti Unit and their addresses.

yours very truly,

RJJ:br

cc-Mr. L. C. White w/ attach. Gilbert, White and Gilbert Santa Fe, New Mexico

DOCKET MAILED

6-28 6)

CLASS OF SERVICE This is a fast message unless its deferred char-acter is indicated by the proper symbol.

## WESTERN UNIO 8 03 109 International

The filing time shown in the date line on domestic telegrams is LOCAL TIME at point of origin. Time of receipt is LOCAL TIME at point of origin. Time of receipt is LOCAL TIME at point of origin. TELEGRAM

SYMBOLS

DL = Day Letter

K DVD021 DE PBEFAX DENVER COLO 10 851A MSTE

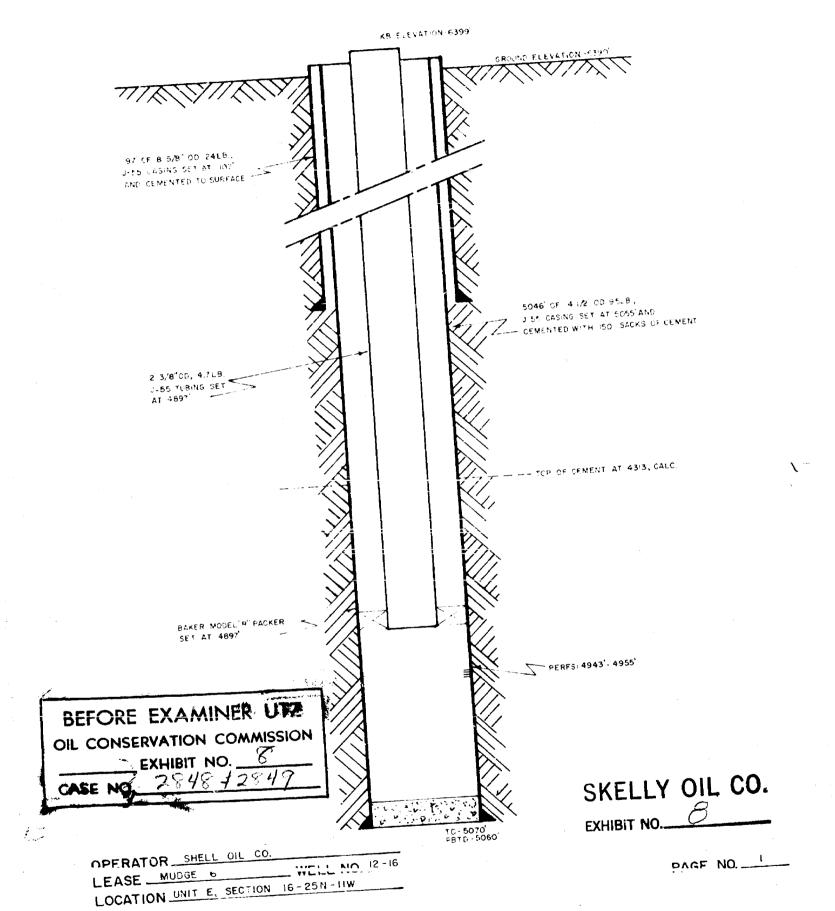
HEW HEXTED OTL CONSERVATION COMMISSION=

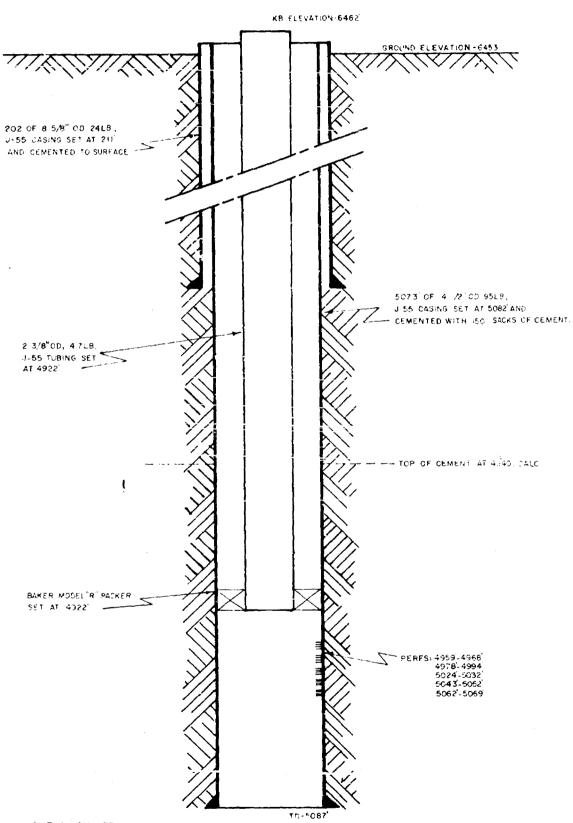
ATTN A E PORTER JR SECRETARYEDTRECTOR. RE APPLICATIONS 2848 AND 2849 HUMBLE OIL & REFINING COMPANY IS A WORKING INTEREST OWNER IN THE EAST BISTS UNITS SAN JUAN COUNTY STOP HUMBLE SUPPORTS THE APPLICATIONS OF SKEELY OTL COMPANY THENTTED ABOVE REQUESTING APPROVAL OF SATE UNIT AND REQUESTING PERMISSION TO COMMENCE WATER THUECTTON THE GALLEP FORMATTON=

HUMBLE OIL & REFINING CO BY JOHN B KNODELL JR THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

DENVER AREA ATTORNEY

# SCHEMATIC DIAGRAM PRESENT SUBSURFACE EQUIPMENT IN PROPOSED INJECTION WELLS EAST BISTI UNIT AREA SAN JUAN COUNTY, NEW MEXICO

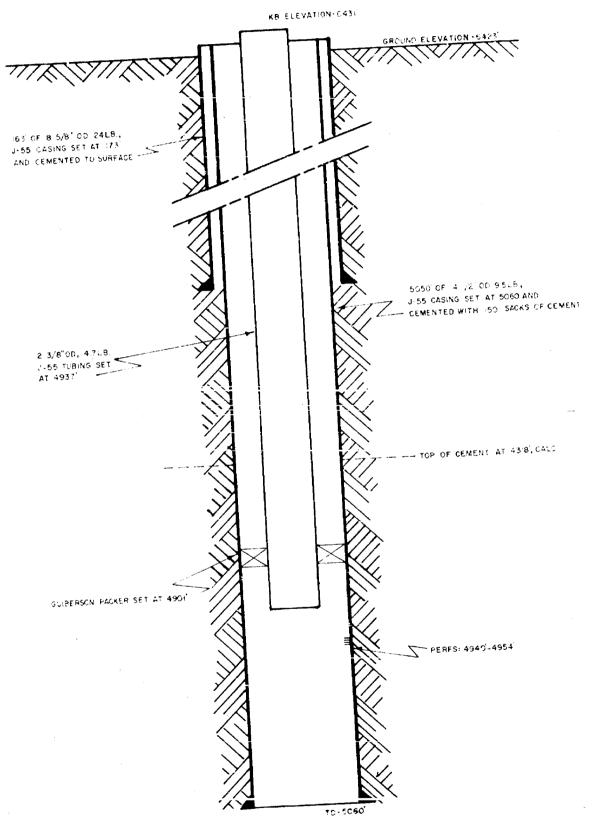




OPERATOR SHELL OIL CO.

LEASE MJDGE 6 WELL NO. 14-16

LOCATION UNIT M. SECTION 16-25N-11W

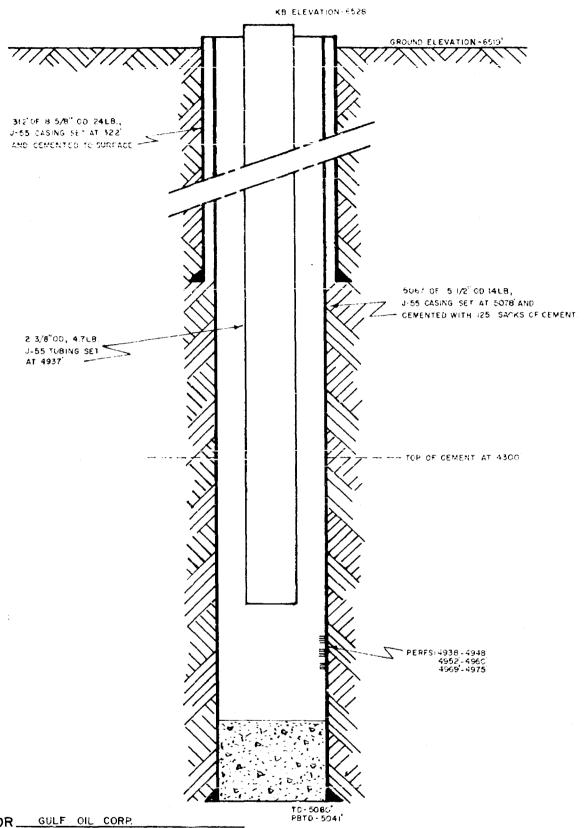


OPERATOR SHELL OIL CO

LEASE MUDGE 6 WELL NO. 23-16

LOCATION UNIT K, SECTION 16 - 25N - 11W

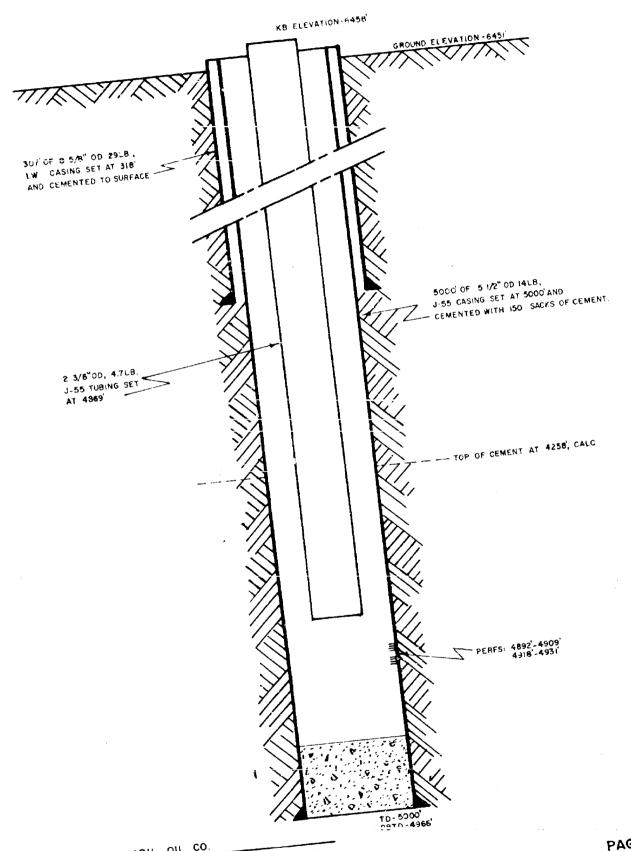
PAGE NO. \_3



OPERATOR GULF OIL CORP.

LEASE TAH-NEZ-BAH WELL NO I

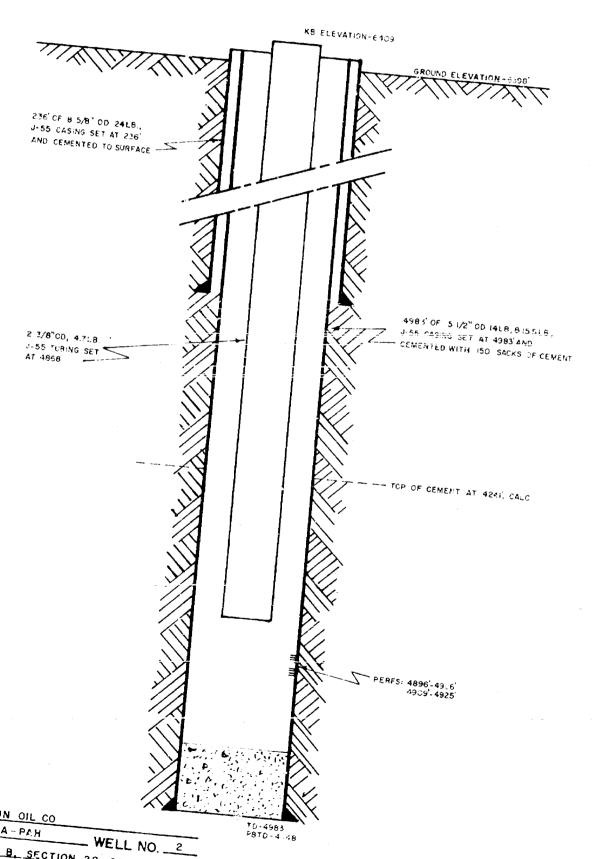
LOCATION UNIT I, SECTION 21-25N-IIW



OPERATOR MOBIL OIL CO.

LEASE AH-NUS-BAH WELL NO. 1

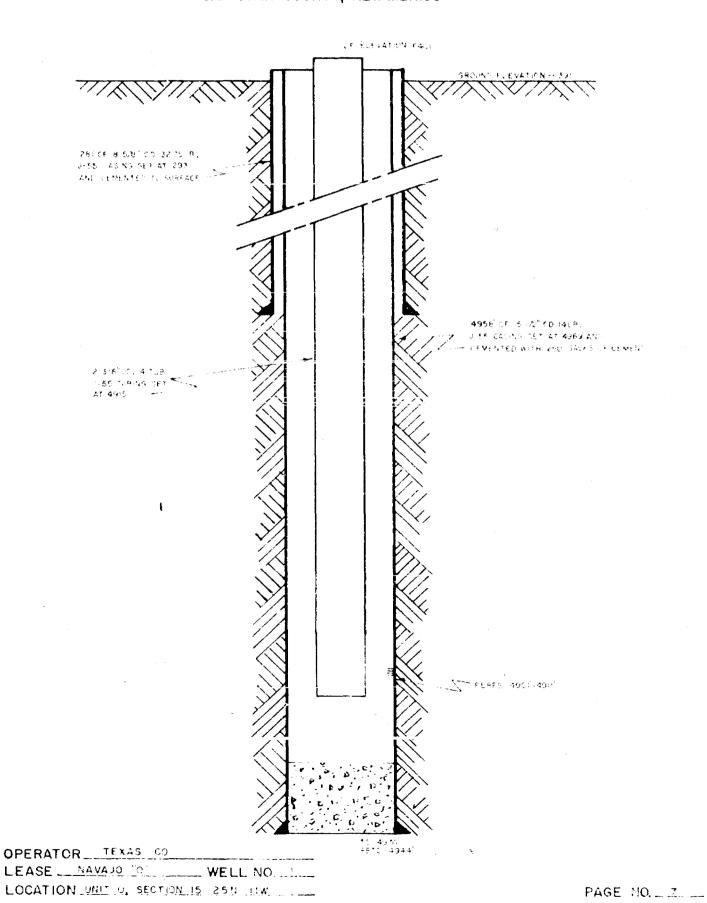
LOCATION UNIT K, SECTION 22-25N-11W

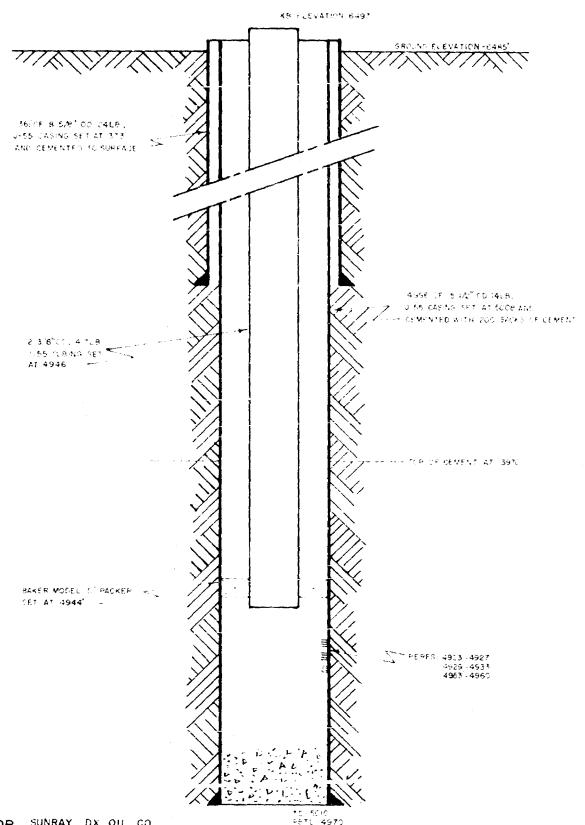


OPERATOR SUN OIL CO

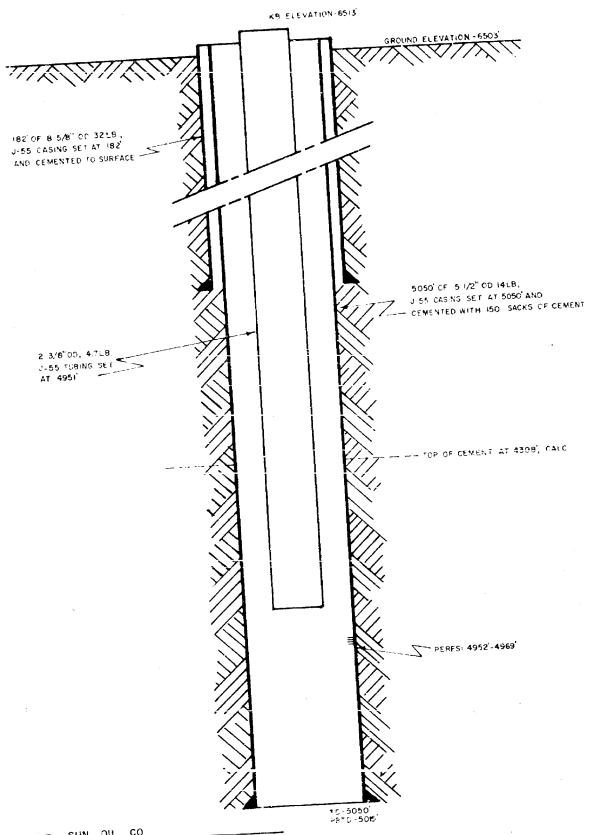
LEASE KA-NA-PAH WELL NO. 2

LOCATION UNIT B. SECTION 22-25N-IIW





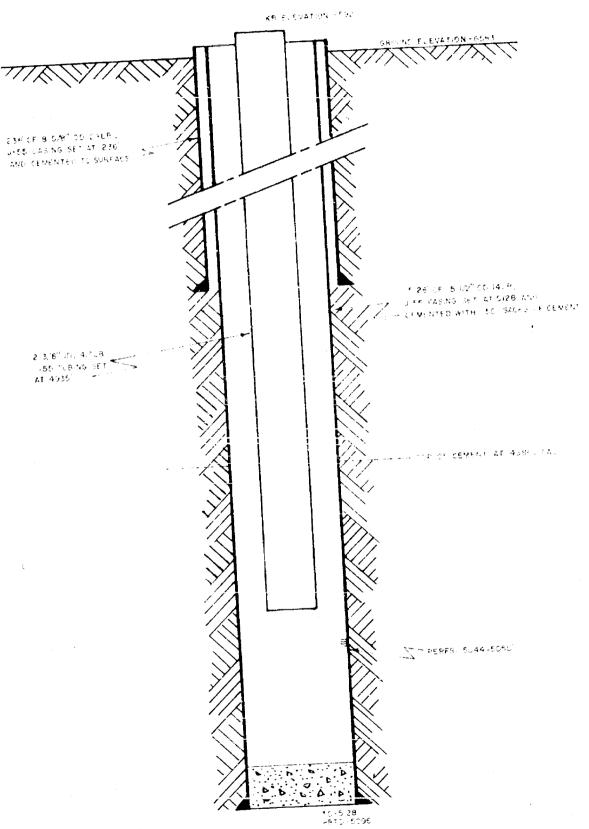
OPERATOR SUNRAY DX OIL CO
LEASE ES - KA - NEL - E - WOOD WELL NO. 2
LOCATION UNIT O. SECTION 22 - 25N - HW



OPERATOR SUN DIL CO

LEASE KO-SA WELL NO. 2

LOCATION UNIT N. SECTION 23 - 25 N-11W



OPERATOR MOBIL OIL CO

LEASE KEN - NO - TO WELL NO. I

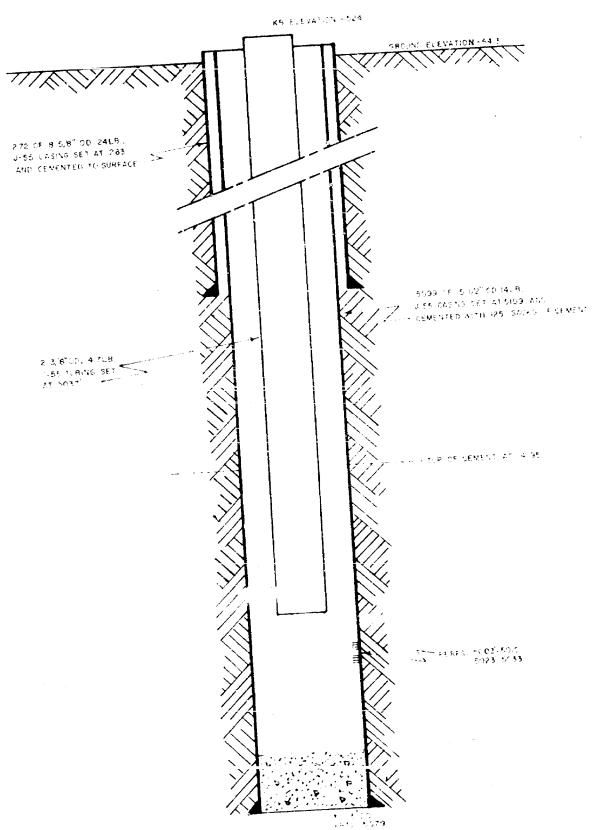
LOCATION UNIT A SECTION 26 - 25N 11W

SCHEMATIC IN PROPOSED TO WELLS

SCHEMATIC IN PROPOSED TO UNIT NEW MEXICO

SAN JUAN COUNTY, NEW MEXICO

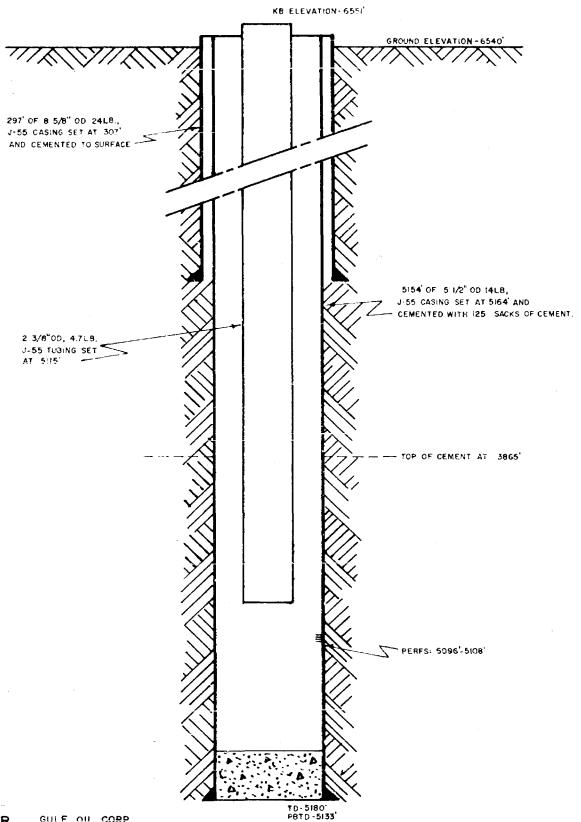
SAN JUAN COUNTY, NEW MEXICO Stable Litely Mich 186 Bishop Prices 240 CENENTED TO GORE TOE 545 OF P 218, 20 TO GORE TOE PAGE NO. \_! OPERATOR JARSON FEUERIL NO. 3
LEASE JULY SECTION 34-25N-11W
LOCATION JULY M. SECTION 34-25N-11W



OPERATOR GULF OIL SORP

LEASE CARSON FEDERAL WELL NO. 3

LOCATION ONLY M. SECTION 24 - 25N-11W

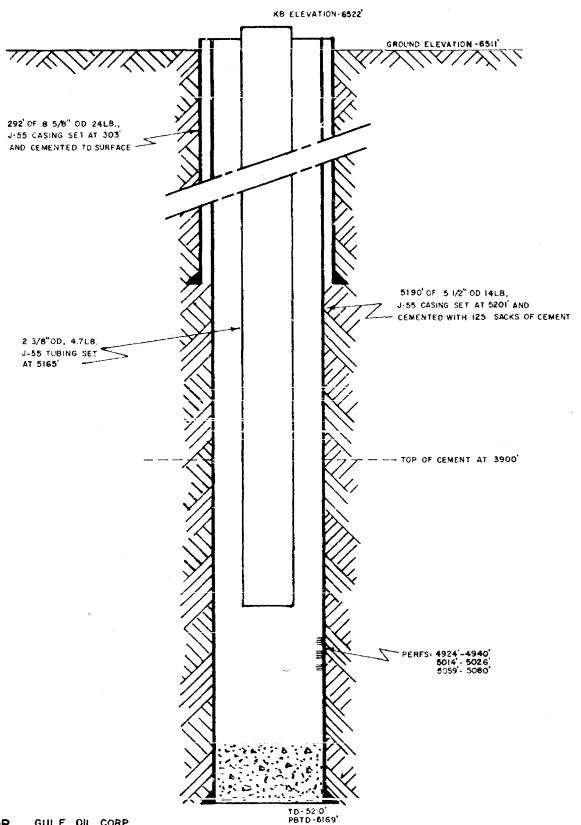


OPERATOR GULF OIL CORP

LEASE CARSON FEDERAL WELL NO. 4

LOCATION UNIT K, SECTION 24-25N-11W

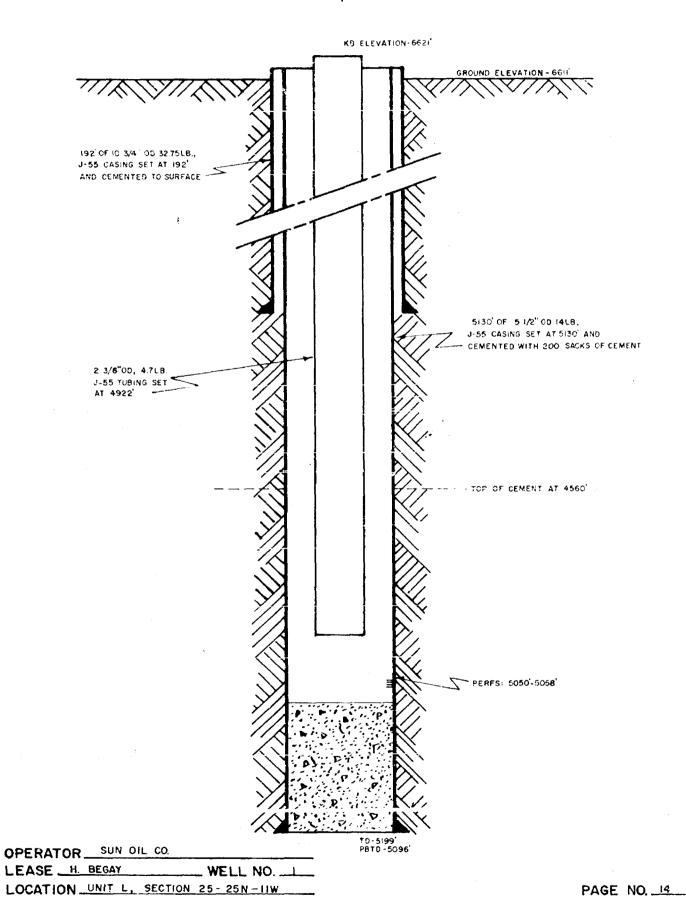
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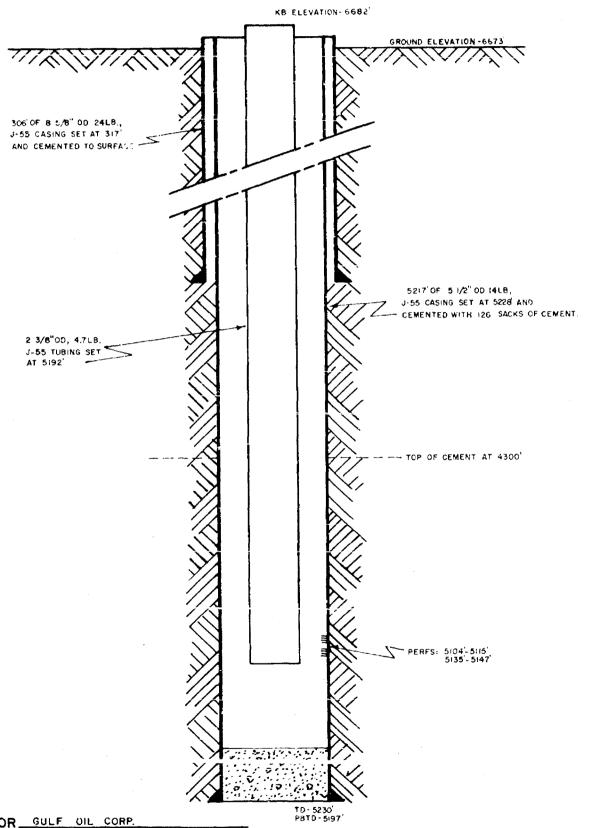


OPERATOR GULF OIL CORP.

LEASE CARSON FEDERAL WELL NO. 5

LOCATION UNIT G, SECTION 24 - 25 N - 11 W

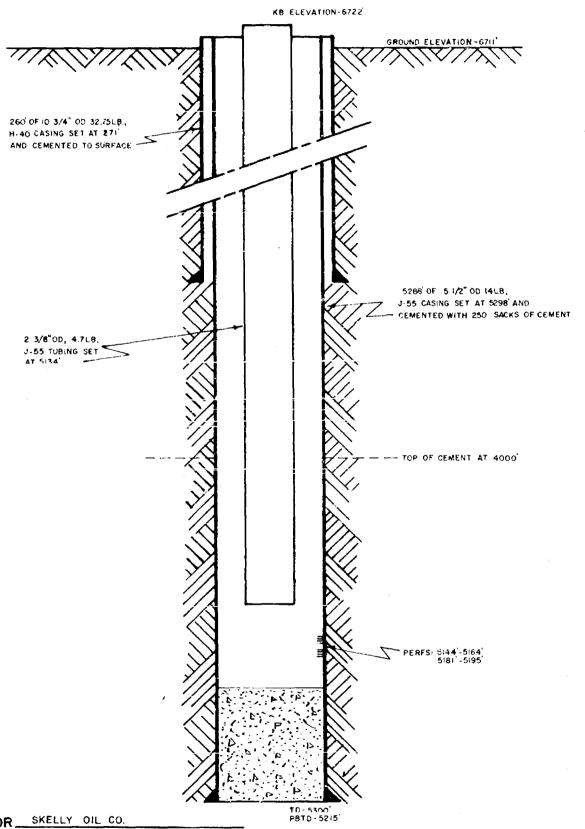




OPERATOR GULF OIL CORP.

LEASE CARSON FEDERAL WELL NO. 2

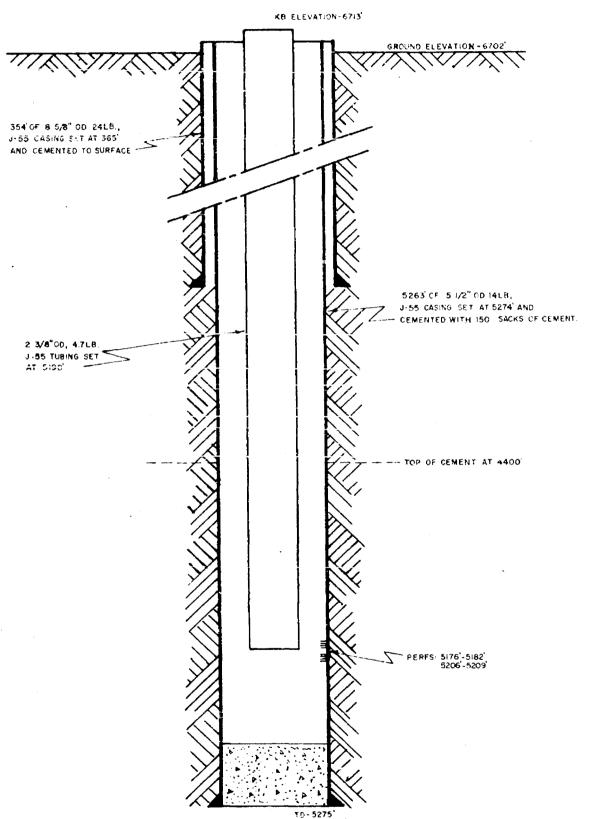
LOCATION UNIT M, SECTION 30-25N-IIW



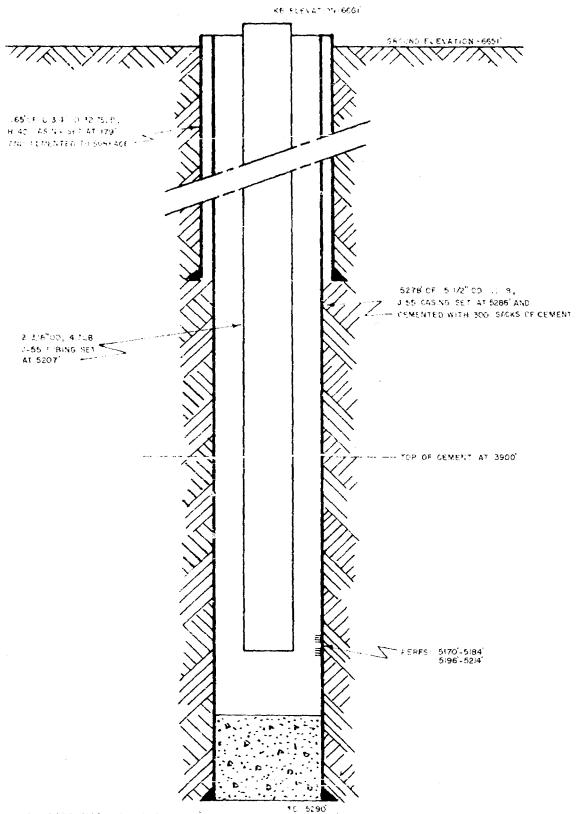
OPERATOR SKELLY OIL CO.

LEASE LOCKHART "A" WELL NO. 1

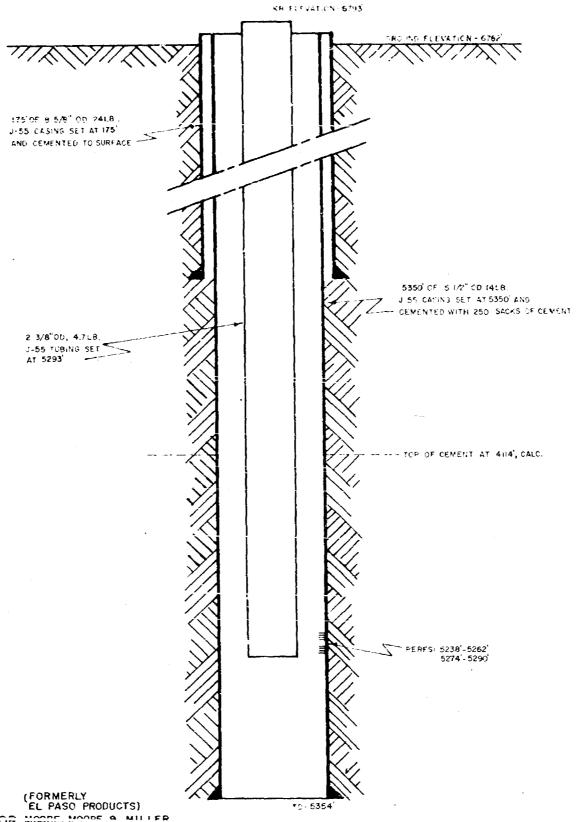
LOCATION UNIT A, SECTION 31 - 25N-KW



OPERATOR SUNRAY DX OIL CO
LEASE N. EATON WELL NO. |
LOCATION UNIT P. SECTION 30-25N-10W



OPERATOR EL PASO NATURAL GAS PRODUCTS CO.
LEASE BROOKHAVEN "A" WELL NO. 5
LOCATION UNIT E, SECTION 29-25N-IOW



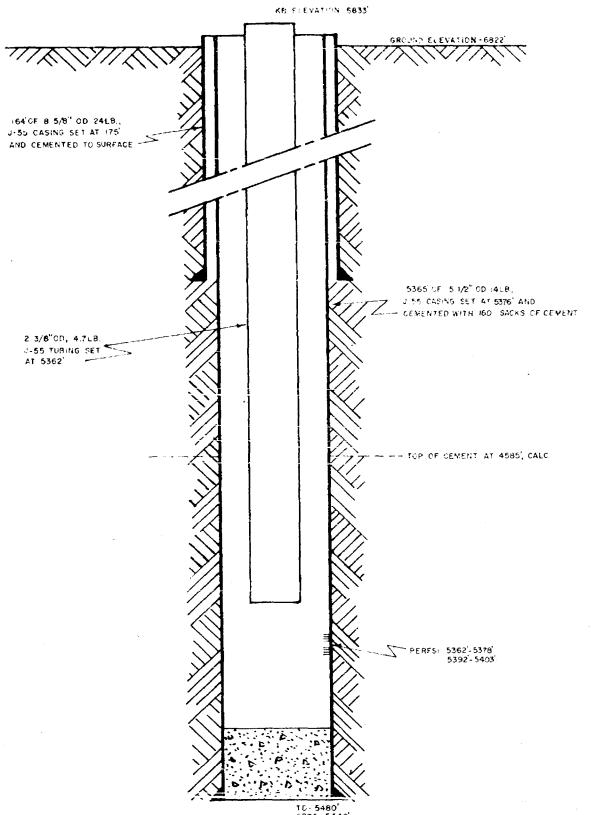
(FORMERLY
EL PASO PRODUCTS)

OPERATOR MODE & MILLER

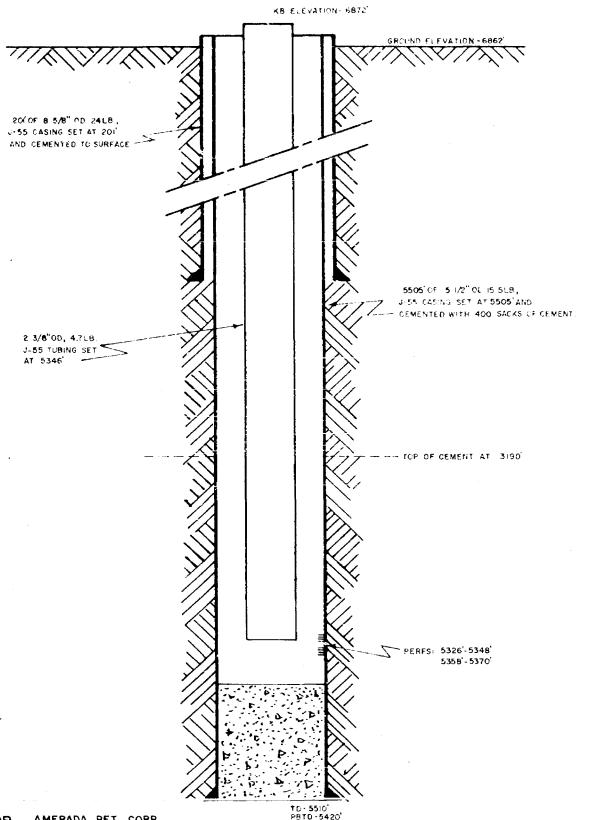
LEASE IRISH WELL NO. 

LOCATION UNIT F, SECTION 32-25N-10W

PAGE NO. \_\_19\_\_\_\_



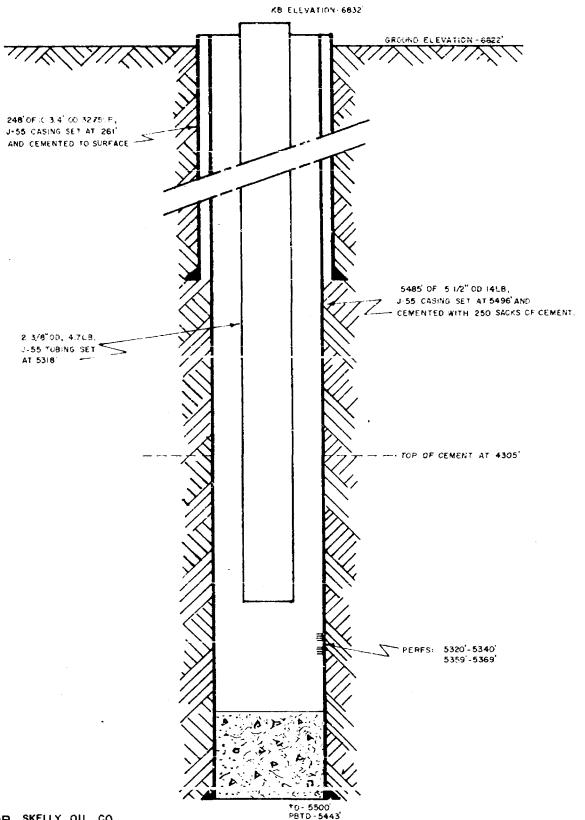
OPERATOR HUMBLE OIL & REF. CO
LEASE \_\_STATE "AY" \_\_\_ WELL NO. \_2
LOCATION UNIT P, SECTION 32 -25N - IOW



OPERATOR \_\_AMERADA PET. CORP.

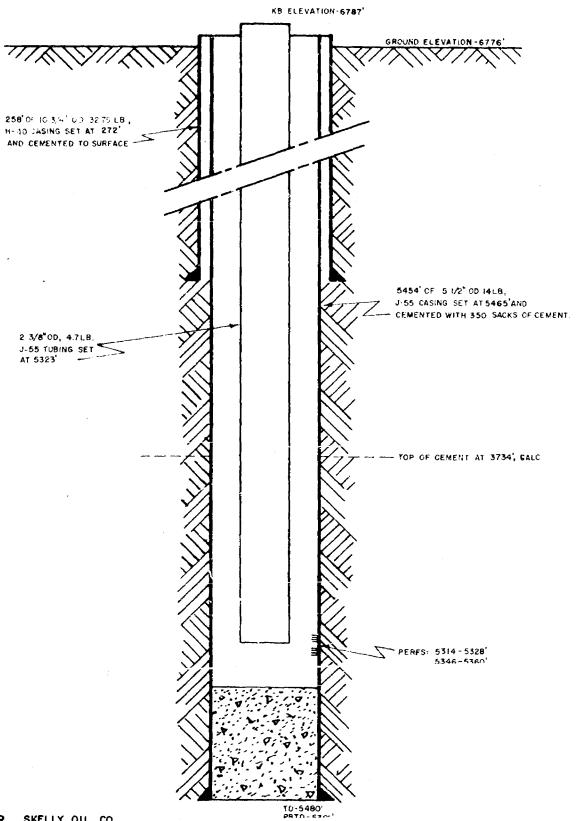
LEASE \_YE-NA-PAH-WHITE WELL NO. \_ |

LOCATION UNIT C, SECTION 4-24N-10W

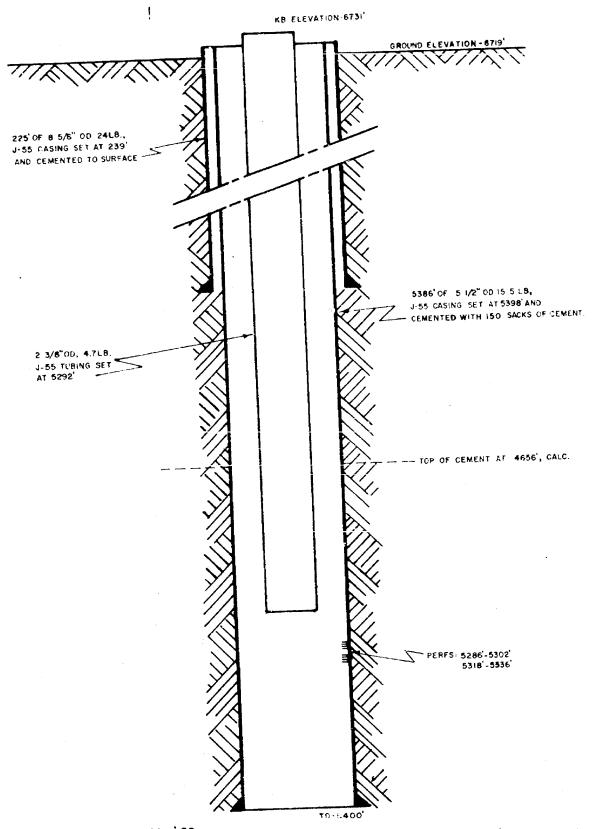


OPERATOR SKELLY OIL CO.
LEASE L. E. LOCKHART WELL NO. 1

LOCATION UNIT O, SECTION 33-25N-10W



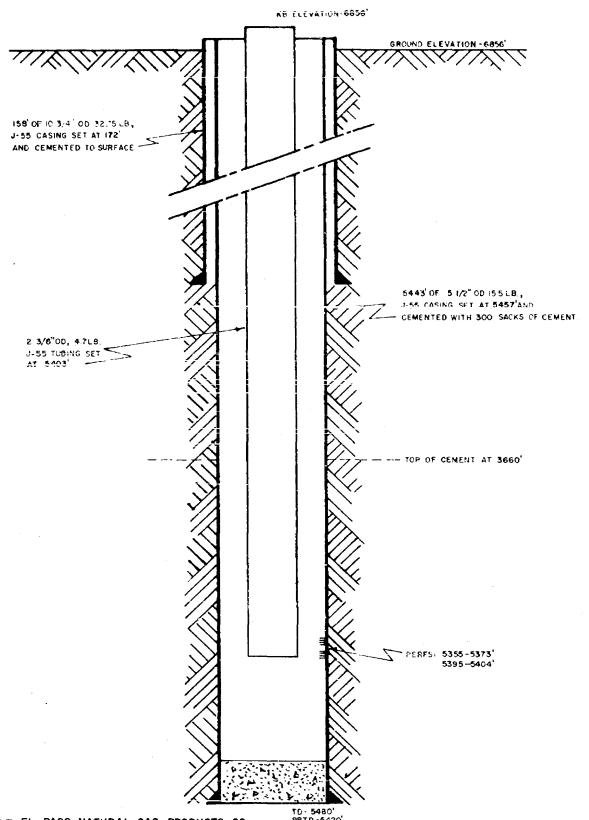
LEASE L.E. LOCKHART WELL NO. 2
LOCATION UNIT 1, SECTION 33-25N-10W



OPERATOR MONSANTO CHEMICAL CO.

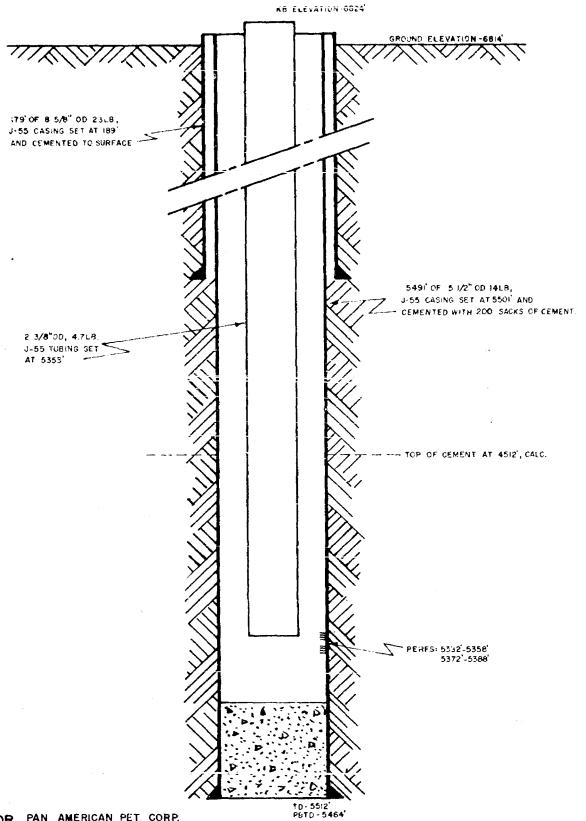
LEASE ATLAS WELL NO. 2

LOCATION UNIT E, SECTION 34-25N-10W



OPERATOR EL PASO NATURAL GAS PRODUCTS CO.
LEASE MOSS WELL NO. 4

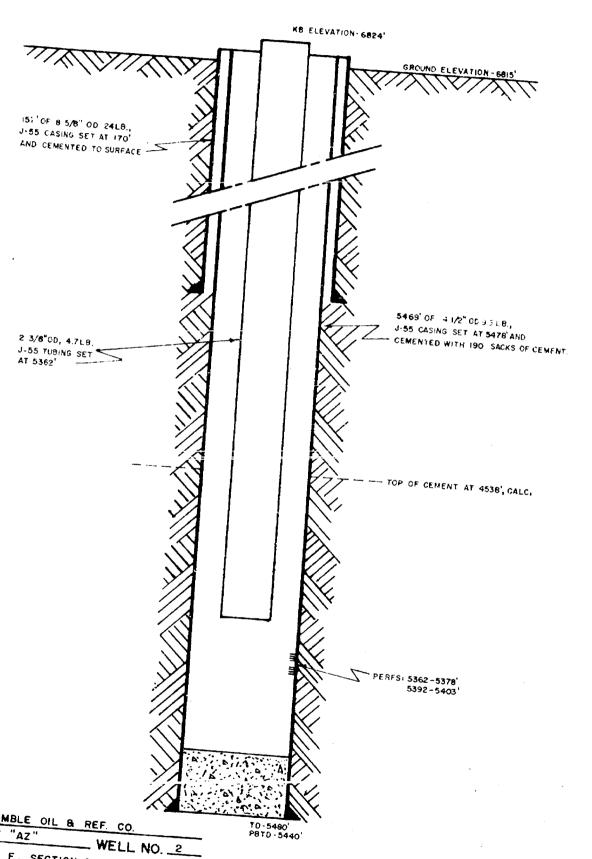
LOCATION UNIT P. SECTION 3-24N-10W



OPERATOR PAN AMERICAN PET CORP.

LEASE STATE "AW" WELL NO. 1

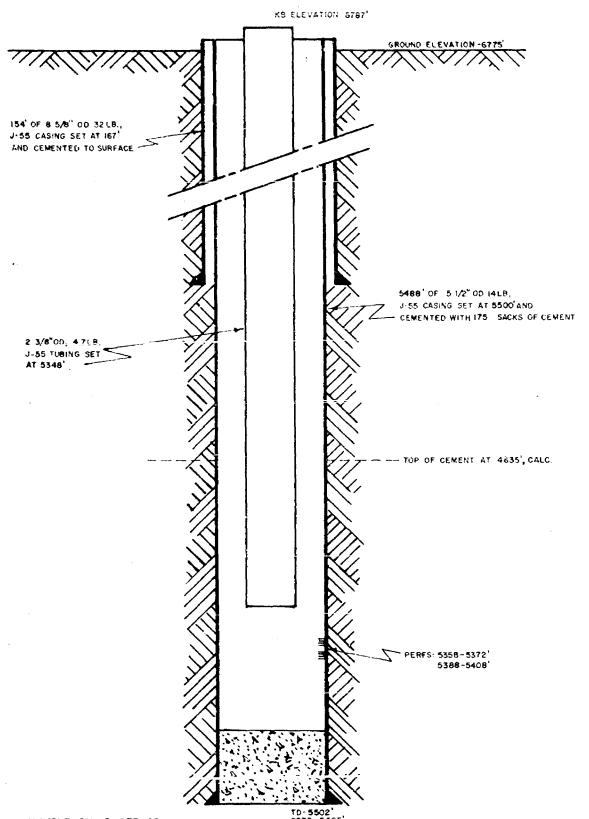
LOCATION UNIT L, SECTION 2-24 N-10W



OPERATOR HUMBLE OIL & REF. CO.

LEASE \_\_STATE "AZ" \_\_\_ WELL NO. 2

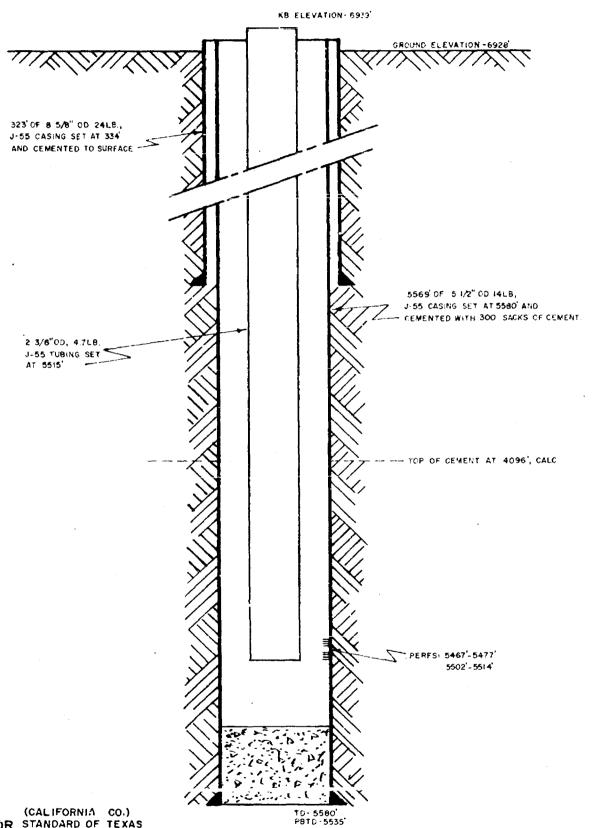
LOCATION UNIT F. SECTION 2-24N-10W



OPERATOR HUMBLE OIL & REF. CO.

LEASE BISTI OIL UNIT WELL NO. |

LOCATION UNIT B, SECTION 2-24N-10W

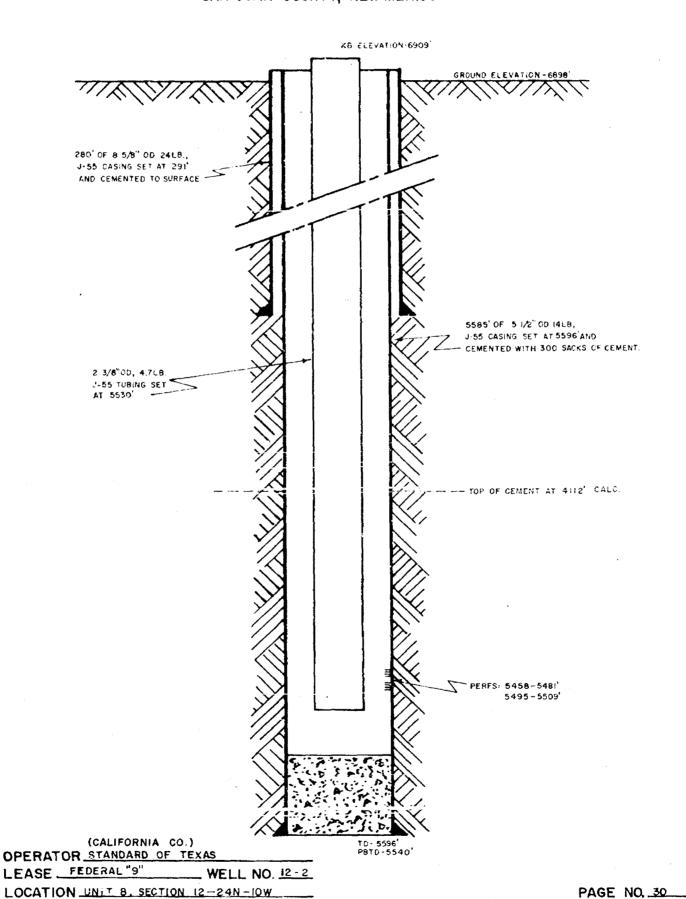


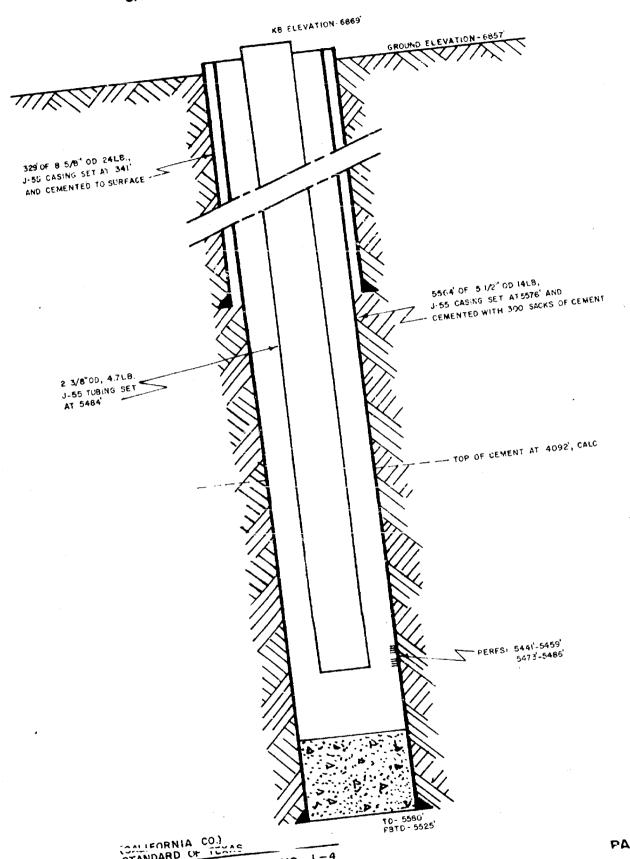
(CALIFORNIA CO.)

OPERATOR STANDARD OF TEXAS

LEASE FEDERAL "9" WELL NO. 12-4

LOCATION UNIT F, SECTION 12-24N-10W

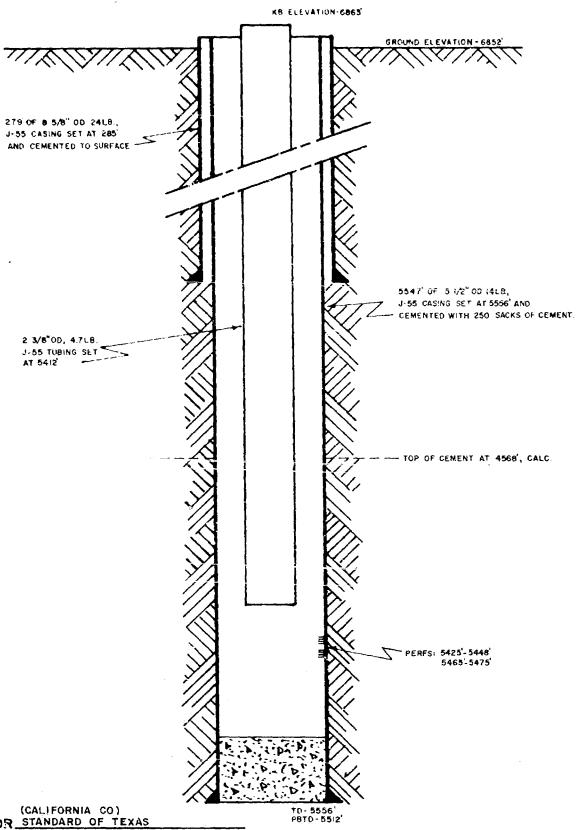




OPERATOR STANDARD OF TEXAS

LEASE FEDERAL "9" WELL NO. 1-4

LOCATION UNIT P, SECTION 1-24N-10W

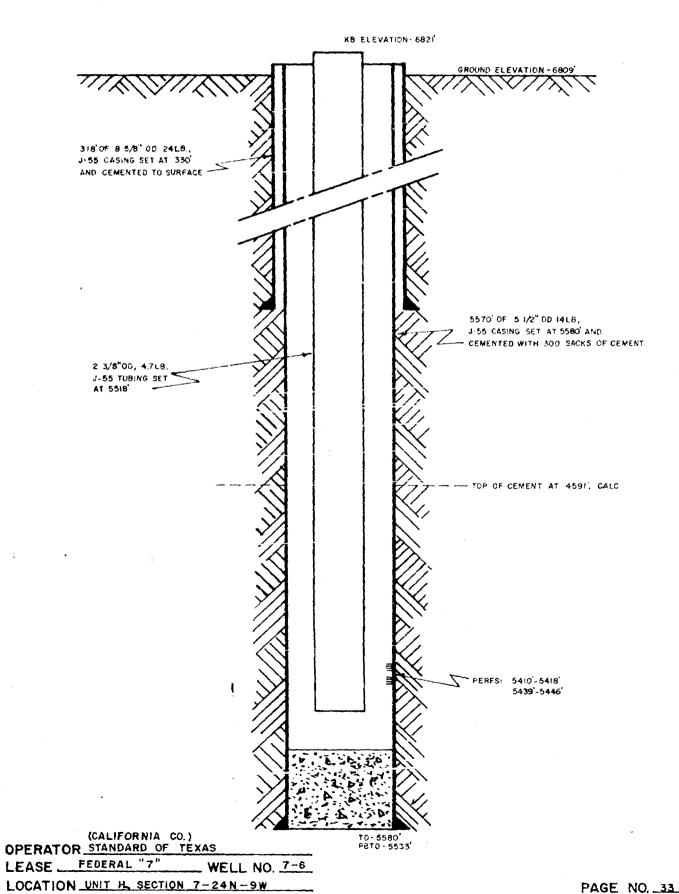


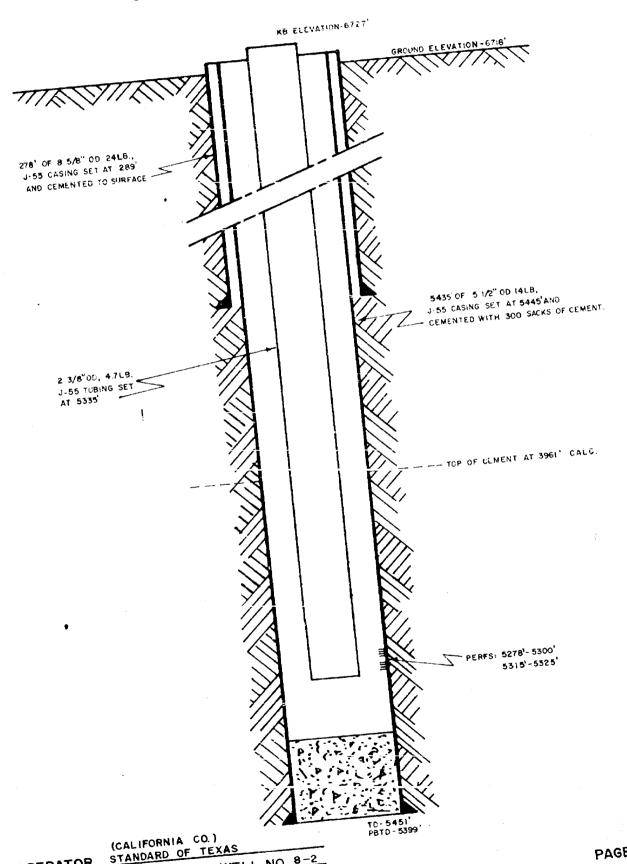
(CALIFORNIA CO)
OPERATOR STANDARD OF TEXAS

LEASE \_FEDERAL "7"

\_\_\_ WELL NO. 7-3\_

LOCATION UNIT F. SECTION 7-24N-9W





OPERATOR STANDARD OF TEXAS

LEASE FEDERAL "7" WELL NO. 8-2

LOCATION UNIT N, SECTION 8-24N-9W



#### STATE OF NEW MEXICO

#### STATE ENGINEER OFFICE SANTA FE

S. E. REYNOLDS STATE ENGINEER July 12, 1963

ADDRESS CORRESPONDENCE TO: STATE CAPITOL SANTA FE, N. M.

Mr. A. L. Porter, Jr. Secretary-Director Oil Conservation Commission State Land Office Building Santa Fe, New Mexico

Dear Mr. Porter:

This is to advise you that the State Engineer has no objection to the casing program as proposed by Shelly Oil Company in OCC case No. 2849.

Very truly yours,

S. E. Reynolds State Engineer

D. E. Gray, Engineer Water Rights Division

DEG:cl

#### OIL CONSERVATION COMMISSION P. O. BOX 871 SANTA FE. NEW MEXICO

July 19, 1963

Mr. Charles White Gilbert, White & Gilbert Attorneys at Law Post Office Box 787 Santa Fe. New Mexico

Dear Sir:

Enclosed herewith is Commission Order No. R-2524, entered in Case No. 2849, approving the East Bisti Unit Waterflood Project.

According to our calculations, when all of the authorized injection wells have been placed on active injection, the maximum allowable which this project will be eligible to receive under the provisions of Rule 701-E-3 is 10,018 barrels per day.

Please report any error in this calculated maximum allowable immediately, both to the Santa Fe Office of the Commission and the appropriate district provation office.

In order that the allowable assigned to the project may be kept current, and in order that the operator may fully benefit from the allowable provisions of Rule 701, it behooves him to promptly notify both of the aforementioned Commission offices by letter of any change in the status of wells in the project area, i.e., when active injection commences, when additional injection or producing wells are drilled, when additional wells are acquired through purchase of unitisation, when wells have received a response to water injection, etc.

### OIL CONSERVATION COMMISSION P. O. BOX 871 SANTA FE. NEW MEXICO

-2-

Mr. Charles White Gilbert, White & Gilbert Attorneys at Law Post Office Box 787 Santa Fe, New Mexico

July 19, 1963

Your cooperation in keeping the Commission so informed as to the status of the project and the wells therein will be appreciated.

Very truly yours,

A. L. PORTER, Jr. Secretary-Director

alp/it

Enclosure (1)

981

Mr. George Selinger Shelly Oil Company Box 1650 Tulsa 2, Oklahoma

Oil Conservation Commission: Hobbs Astec

IN THE MATTER OF THE APPLICATION OF )	CASE 2849	
SKELLY OIL COMPANY FOR AUTHORITY TO ) INJECT FLUID INTO THE GALLUP FORMATION)	FILED	
IN THE BISTI, LOWER GALLUP FIELD, SAN ) JUAN COUNTY, NEW MEXICO.	HEARING	

### APPLICATION

Comes now Skelly Oil Company on behalf of itself and others and respectfully states as follows:

- 1. That it is an owner and operator of oil and gas wells in the Bisti, Lower Gallup Field, San Juan County, New Mexico.
- 2. That it desires to conduct secondary recovery operations in this field by injecting fluids into the Gallup Sand formation, which formation shall be described and construed to mean the formation and reservoir encountered in the drilling by Standard Oil Company of Texas in its Federal 9 Lease Well No. 12-1 between the depths of 5,260 feet and 5,845 feet as shown by the electric log of said well, which well is located in the SE/4 of the NE/4 of Section 12, Township 24 North, Range 10 West, San Juan County, New Mexico.
- 3. That applicant proposes to conduct secondary recovery operations by injection of fluids into the Gallup Sand formation, above described, in an area known as the East Bisti Unit, which unit consists of portions of Sections 14 thru 16, 21 thru 28, and 34 thru 36, Township 25 North, Range 11 West, Sections 19, and 27 thru 36, Township 25 North, Range 10 West, Sections 1 thru 5 and 9 thru 13, Township 24 North, Range 10 West, and Sections 5 thru 8, 17, and 18, Township 24 North, Range 9 West, San Juan County, New Mexico, containing an area of 17,811.79 acres, more or less, which area is more specifically set out on a map entitled "Exhibit 2" attached hereto and made a part hereof by reference.
- 4. That initially applicant proposes to inject fluid into 34 wells as follows:

```
Location
                                               Unit E, Sec. 16-25N-11W
Shell Oil Co., Mudge 6 No. 12-16
       # # 14-16"
# 23-16
                                               N Sec. 16-25N-11W
Gulf Oil Corp., Tah-Nez-Bah No. 1
                                                    " I, Sec. 21-25N-11W
                                                    " K, Sec. 22-25N-11W
Mobil Oil Co., Ah-Nus-Rah No. 1
Sun Oil Co., Ka-Na-Pah No. 2
Texas Co., Navajo "O" No. 1
                                                    " B, Sec. 22-25N-11W
                                                " O, Sec. 15-25N-11W
Sunray DX Oil Co., Es-Ka-Nel-E-Wood No. 2
Sun Oil Co., Ko-Sa No. 2
Mobil Oil Co., Ken-No-To No. 1
                                                    " 0, Sec. 22-25N-11W
                                                / 5 F, Sec. 23-25N-11W
Gulf Oil Corp., Carson Federal No. 3

" A, Sec. 23-25N-11W

" A, Sec. 26-25N-11W

" M, Sec. 24-25N-11W

" K, Sec. 24-25N-11W
                                                    " L, Sec. 25-25N-11W
Sun Oil Co., H. Begay No. 1
                                                    " M, Sec. 30-25N-11W
Gulf Oil Corp., Carson Federal No. 2
Skelly Oil Co., Lockhart "A" No. 1 -
                                                     " A, Sec. 31-25N-10W
Sunray DX O11 to., N. Poton No. 1
                                                    " P, Sec. 30-25N-10W
El Paso Natural Gas Products Co.,
                 Brookhaven "A" No. 5
                                                    " E, Sec. 29-25N-10W
                 Irish No. 1
                                                    " F, Sec. 32-25N-10W
Humble Oil & Ref. Co., State AY No. 2
                                                     " P, Sec. 32-25N-10W
Amerada Pet. Corp., Ye-Na-Pah-White No. 1
Skelly Oil Co., L. E. Lockhart No. 1

" No. 2

Monsanto Chemical Co., Atlas No. 2
                                                     " C, Sec. 4-24N-10W
                                                     " 0, Sec. 33-25N-10W
                                                        I, Sec. 33-25N-10W
                                                     Ħ
                                                     " E, Sec. 34-25N-10W
El Paso Matural Gas Products Co.,
                                                     m P, Sec.
                                                                   3-24N-10W
                  Moss No. 4
Pan American Pet. Corp., State AW No. 1
Humble Oil & Ref. Co., State AZ No. 2
                                                     " L, Sec.
                                                                   2-2411-1011
                                                     " F, Sec.
                                                                   2-24N-10W
                   " , Bisti Oil Unit No. 1 " B, Sec. 2-24N-10W
```

### DOVERNOR JACK M. CAMPBELL CHAIRMAN

### State of New Mexico

### Bil Conserbation Commission



LAND DOMMISSIONER E. S. JOHNNY WALKER MEMBER

SANTA FE

July 17, 1963

STATE SCOLOGIST A L PORTER UR.

Mr.	Charles White
Gill	bert, White & Giller
-	t Office Box 787 ta Fe, New Mexico

2849 Case No.\_ Res K-2524 order Mo.\_ Applicants Skelly Oil Company

Dear Sire

Enclosed herewith are two copies of the above-referenced Commission order recently entered in the subject case.

Very truly yours,

A. L. PORTER, Jr. Secretary-Director

ir/ Carbon copy of order also sent to: Bobbs occ \_\_x Artesia OCC\_ Astec OCC \_\_\_X

Mr. George Selinger OTHER,

Note: Letter setting allowable for this project will follow.

**CASE 2848** 

CASE 2849

BEFORE THE OIL CONSERVATION COMMISSION Santa Fe, New Mexico July 10, 1963

### **EXAMINER HEARING**

IN THE MATTER OF:

Application of Skelly Oil Company for a unit agreement, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks approval of its East Bisti Unit Area comprising 17,812 acres of Federal, State and Indian lands in Townships 24 and 25 North, Ranges 9. 10, and 11 West, San Juan County, New Mexico.

IN THE MATTER OF:

Application of Skelly Oil Company for a waterflood project, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in the Bisti Lower-Gallup Oil Pool, San Juan County, New Mexico, by the injection of water into the Gallup formation through 34 wells in its East Bisti Unit Area.

BEFORE: Elvis A. Utz, Examiner

### TRANSCRIPT OF HEARING

MR. UTZ: Case 2848.

MR. DURRETT: Application of Skelly Oil Company for a unit agreement, San Juan County, New Mexico.

MR. JACOBS: Entering an appearance, Ronald J. Jacobs and George W. Selinger for Skelly Oil Company; and as counsel, L. C. White of Gilbert, White and Gilbert. This case and the following case, 2849, both deal with the East Bisti Area, San Juan



### REPORTING DEARNLEY-MEIER

. .

BANTA FE, N. M. PHONE 88A.3971

ALBUQUERQUE, N. M PHONE 243-6691

County, one for the unit agreement and one for permission to inject. If there's no objection, we would move that these two cases be consolidated for the purpose of taking testimony.

MR. UTZ: Without objection, Cases 2848 and 2849 will be consolidated for the purposes of testimony only. Separate orders will be written on each case.

MR. JACOBS: We have one witness we ask be sworn at this time.

(Witness sworn.)

MR. UTZ: Any other appearances to be made in either of these cases?

> (Whereupon, Skelly's Exhibits Nos. 1 through 8 marked for identification.)

### JOHN B. CHAMBERS

called as a witness, having been first duly sworn, testified as follows:

### DIRECT EXAMINATION

### BY MR. JACOBS:

- Q Will you please state your name for the record?
- John B. Chambers. Α
- You are employed by what company? Q
- Α Skelly Oil Company.
- Q In what capacity?
- As a unitization engineer. Α
- Have you previously testified before this Commission as Q



N. M.

# SANTA FE, N. M. PHONE 983.3971

a petroleum engineer?

I have.

Q Are you familiar with the applications of Skelly Oil Company in these two cases and the unit agreement and the plans to inject into the East Bisti Area in San Juan County, New Mexico?

I am.

MR. JACOBS: We ask that his qualifications be accepted. MR. UTZ: Yes, sir, they are acceptable.

Q (By Mr.Jacobs) I hand you what has been marked for identification as Exhibit 1, and ask that you state what that is, please.

Exhibit 1 is the unit agreement for the development and operation of the East Bisti Unit Area, County of San Juan, State of New Mexico.

Q Is there attached to that exhibit exhibits in the back of that unit agreement?

Α Yes, there are.

Particularly Exhibit A, what does that show?

Exhibit A is a map showing the boundaries or boundary Α of the Unit and the leases and tracts therein.

Q Is this area colored with various shadings?

Yes, there are three shadings. The area that is not colored depicts Federal lands, that in a light shading depicts allotted Navajo Indian lands, and the dark shading is the State of New Mexico lands.



BE REFORITIVE

SAN'A FE, N. M.

BLOWE 662 507

MAMINGTON, N. M.

Q So there are no fee lands involved in this Unit, is that right?

A There are no fee lands involved.

Q I direct your attention now to what has been marked for identification as Exhibit 3 and ask that you state what that is, please.

A Exhibit 3 is a map showing the Gallegos-Gallup Field and the Bisti Field in San Juan County, and in the various colors are the secondary recovery units presently in existence, with the exception of the blue color to the southeastern portion of the map, which is the proposed East Bisti Unit.

Q Would you identify these by colors?

A The one in green to the north is the Gallegos-Gallup Sand Unit, the West Bisti Unit in a red color, the Central Bisti Unit in yellow, and the Carson Unit in brown.

Q Are all of these areas except the East Bisti Area at the present time under some authorized project by the Commission?

A They are.

Q Then with the approval of the secondary recovery project in the East Bisti Area, this will put the entire Bisti Field under some sort of secondary recovery project?

A Yes.

O Without going into detail into the unit agreement, Mr. Chambers, in general, what type of an agreement is it?

A It's a Federal-type contract.

ALBUQUERQUE, N. M. PMONE 243.6691

### REPORTING SERVICE, DEARNLEY-MEIER

Has this agreement been previously submitted to various other parties such as royalty owners?

Yes, it has been submitted to all the working interest and royalty interest owners.

- Q Have you received approval from these various parties?
- We presently have approval from 93 percent of the working interest, 90 percent of the overriding royalty, and 100 percent of the allotted Navajo Indians.
- Q Has this agreement been submitted to the State and to the U.S.G.S.?
  - Yes.
  - Have you received any type of approval?
- We received preliminary approval from both the State Land Commissioner and the U.S.G.S.
- Q Attached to the unit agreement is Exhibit B; what is that?
- Exhibit B is a list on which is shown the individual tracts, the exact acreage in each, the lessees of record, and the working interest and royalty interest owners in each tract, to the best of our knowledge.
  - Q What is Exhibit C?
- Exhibit C is in actually four parts. Exhibit C-1, part 1, is a list of the individual tracts showing the phase one participation by tracts. Exhibit C-1, part 2, shows the participation for working interest owners in the unit under phase one



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C-2, part 1, shows the individual tract participation under the phase two participation; and Exhibit C-2, part 2, shows the working interest participation under phase two.

Q You say phase one and phase two, Mr. Chambers, what does that mean?

A The unit is being formed on a split participation formula.

Q What is the cut-off point as to the break-off from phase one to phase two?

A Actually the cut-off was 5,750,000 barrels; as soon as that volume of oil had been produced, phase two was to become effective. At this time there has already been in excess of 5,750,000 barrels produced, so the unit will be formed through participation.

Q Do you feel that the formation of this unit for the purposes stated in the unit agreement, that is, the secondary recovery projects, is necessary to protect the correlative rights of all the interested parties therein?

A Yes, I do.

MR. JACOBS: That's all the questions we have on the unit agreement. We will go on to the other phase of it, the injection, unless there is some particular questions you wish to ask now on the unit agreement.

MR. UIZ: Why don't we proceed, and we will ask questions on both phases of the testimony later.

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MR. JACOBS: All right.

Q I call your attention to what has been marked for identification as Exhibit 2. What is that exhibit, Mr. Chambers?

A Exhibit 2 is a map of the unit area on which we have indicated with red circles the proposed injection wells that will be utilized in this waterflood.

- Q Have you also shown on there the unit boundary?
- A Yes, the unit boundary is shown.
- Q Does this map also show the lessees and all the wells completed in the Bisti Field?
  - A It does.
  - Q That is, to the East Bisti Area?
  - A Yes.
- Q Does it show all the lessees within a two-mile radius of the proposed injection wells or the limits of the field?
  - A Yes, it does.
  - Q What type of a pattern would you call this, Mr. Chambers?
- A This would be a modified line drive with additional wells for injection along the gas-oil contact in the northwestern portion of the unit.
- Q Are you familiar with the application that has been filed in this case?
  - A Yes, I am,
- Q In paragraph 4 of the application there is listed some thirty-four wells. Do these thirty-four wells as listed in the

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application coincide with the thirty-four wells that are circled in red on this Exhibit No. 2?

The thirty-four wells as listed do coincide; however, there are incorrect locations, specific locations, given for three of these wells.

MR. JACOBS: Mr. Examiner, inadvertently, the exact location of three of the wells was incorrect. The section, township, and range is correct of the unit designation; that is, for instance, in the second well listed on the application, Shell Oil Company Mud 6 No. 14-16 is shown as being located in Unit K, Section 16, 25, 11. The truth and fact, that should be Unit M. With your permission we've prepared an amended application which corrects this typographical error; there are three.

MR. UTZ: Paragraph 3 is the proper locations on your amended application?

MR. JACOBS: Yes, it corrects these three errors, the Shell Oil Company Mud 6, 14-16; Shell Oil Company Mud 6 No. 23-16 which should be K instead of M; and Sun Oil Company Kosaw No. 2, which should be N instead of P.

MR. UTZ: These corrections or amendments to the previous application will be accepted as part of the record.

Q (By Mr. Jacobs) What is the proposed source of the fluid to be injected into the Gallup formation in this unit area?

The present proposed source of fluid will be the Allison Menefee formation which is located at a depth of approximately



3200 feet, within the unit area.

What type of a fluid is this?

It's a brine water.

Are there any other possibilities that are being contemplated by the operators for the source of fluid?

We have considered the possibility of a water sand called the Ojo-Alamo Sand. It is actually located in the vicinity north of the Gallegos-Gallup Unit at a depth of 700 feet. This is a fresh water sand. We are working on the possibility of water rights there and contemplating the possibility of using that water for injection purposes.

Q What volume of fluid are you anticipating to inject?

We're presently anticipating between twenty-three and thirty thousand barrels of water per day.

Q That would be an average of approximately how many barrels per well per day?

Well, I would say approximately 600 barrels per day. The maximum volume of 30,000 barrels would most likely be in the event we get all thirty-four wells converted to injection.

Q Now I hand you what has been marked for identification as Exhibit No. 4 and ask that you state what that is, please.

Exhibit No. 4 is an electric log of the Standard Oil Company of Texas Well No. 9-12-1, which we're using for a type log to show the interval we wish to unitize in the Gallup formation.

Q What is the exact location of that well, Mr. Chambers?



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The well is located in the Southeast Quarter of the Northeast Quarter, Section 12, Township 24 North, Range 19 West, San Juan County.

The depths that are marked, you say, are 5260 feet and 5845 feet?

That is correct.

Is that the same interval and the same definition that is included in the unit agreement as a definition of the formation to be unitized?

That's correct.

What is the present status of the producing wells in the East Bisti Area?

Well, the field is essentially 95 percent depleted under primary at the present time.

Approximately what is the productivity or rate of production of these wells?

I would estimate the most prolific well possibly produced in the neighborhood of 35 to 40 barrels of oil per day. the most marginal well probably around half a barrel a day.

Q With an approximate average of about what?

Around 700 barrels per day for the field.

Q For this part of the field?

For this portion of the field, yes.

You said it was 95 percent depleted. Would you consider Q this in the nature of a stripper-type operation?



**;** --;

- A At the present time, yes.
- Q Are you familiar with the Commission's Rule 701 with reference to the classification of a waterflood project or pressure maintenance project?
  - I am.
- Would you classify the proposed injection and secondary recovery project as a waterflood or pressure maintenance?
  - A waterflocd.
- And this primarily because of the productivity, stripper type production presently in the East Bisti Field area?
  - That is correct.
- Do you have an idea of the approximate pressure in this portion of the field?
- I would estimate the reservoir pressure currently to be in the neighborhood of 300 pounds.

MR. UTZ: What was it initially?

- The original pressure was approximately 1540 pounds.
- Do you feel that the proposed injection and waterflood project will recover oil that would not otherwise be recovered?
  - I do.
- Do you feel that the waterflood project in the East Bisti Unit Field Area is feasible?
  - Yes.
- I call your attention to what has been marked for identification as Exhibits 5, 6, and 7, and ask that you state what that



is, please.

Those are electric logs on three proposed injection wells which are owned and operated by Skelly Oil Company.

These electric logs are from the wells, the three Skelly-operated wells that are going to be proposed for injection

That is right.

These are the electric logs of the wells that you had G available to you?

That is correct.

I call your attention to what has been marked for identification as Exhibit No. 8, and ask that you state what that is, please.

Exhibit No. 8 is a group of schematic diagrams, thirtyfour in all, one schematic diagram for each of the proposed injection wells, showing the subsurface equipment and the completion program on each individual well.

That is the present condition of these wells, is that right?

Yes, this is the present condition.

What type of work do you anticipate doing to convert these wells to injection?

Basically, we will pull the tubing in these wells, run plastic-coated tubing with a packer set immediately above the unitized formation.

Will the setting of this packer be below the top of the Q

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cement?

- Yes.
- In your opinion, will the setting of a packer below the top of the cement and the injection through the tubing protect any and all possible fresh water sands or other formations that may be in existence in this area?
  - Yes, very definitely.
- In each of the cases, you have either the top of the Q cement or the calculated top of the cement, do you not?
  - Yes.
- Are you familiar, Mr. Chambers, with the recent Rule 701-B, recently enacted by the Commission?
  - A I am.
- Does this rule call in part 5 for the sending of the application complete with all attachments to the State Engineer's Office?
  - It does.
  - Was this caused to be done?
  - Yes.
- Q In fact, the application, the map, and the diagrammatic or schematic sketches were sent to the State Engineer?
  - Α Yes, they were.
  - MR. JACOBS: We offer in evidence, Mr. Examiner, Exhibits
- 1 through 8, inclusive.



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MR. UTZ: Without objection, the Exhibits 1 through 8 will be entered into the record of these cases. Which exhibits were in Case 2848?

MR. JACOBS: Mr. Examiner, we actually consolidated the two and numbered them concurrently. Really, Exhibit 1 and Exhibit 3 more or less applied to the unit agreement, which was the first one, 2848. The remainder of the exhibits, 2, 4, 5, 6, 7, and 8, referred primarily to 2849, the case for permission to inject.

MR. UTZ: We will accept them into the record in that order, then.

> (Whereupon, Skelly's Exhibits Nos. 1 through 8, inclusive, received in evidence.)

MR. UTZ: Are there questions of the witness? MR. DURRETT: Yes, sir, I have a question or two. CROSS EXAMINATION

### BY MR. DURRETT:

Q Did you give a figure on primary production that's been recovered to date?

I didn't give the exact primary production; as of 6-1-63 it was 5,811,731 barrels, to be exact.

Q One other question. Did you receive any correspondence or any communication whatsoever from the State Engineer's Office concerning your application for the flood?

Α Not to my knowledge.



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ALBUGUERBUR, N. M. PHONE 243.6691 Q They just haven't said anything one way or another, then?

A Not to my knowledge.

MR. UTZ: Are there other questions?

### BY MR. PORTER:

I have one question in connection with this total cumulative on primary of 5.8 million, or something like that. Have you made any calculations as to what you would expect to recover under this waterflood project?

A Yes, sir. The Engineering Committee for the Unit made an estimation of 5,947,000 barrels secondary.

Q In other words, about as much as you have already recovered?

A It's very similar, almost one to one ratio, although it was not set up on that basis.

Q This area represents approximately one-third, or maybe a little more than that, of the total area in the pool?

A Yes, sir.

Q I believe the cumulative production in that pool is something over 15 million so apparently that represents about one-third of the production, too?

A Yes, sir.

MR. PORTER: That's all the questions I have.

### BY MR. UTZ:

Q Mr. Chambers, did I understand you to say that the



entire horizontal limits of the Bisti Pool is now under some type of secondary recovery?

- A With the exception of the East Bisti Unit, yes, sir.
- Q These wells down to the southwest -- southeast, rather, for example, the Gulf Kinebeto in Section 21 and the Gulf Largo Federal "B" in Section 22, are they not a part of this pool?
- A To the best of my knowledge, those wells have either been considered non-commercial or have been plugged and abandoned at the present time.
- Q That would go also for the Gulf Largo Federal in Section 14?
  - A Yes, sir.
- Q As well as the Gulf South Huerfano No. 1 in the Southwest Quarter of Section 15?
  - A Yes, sir.
- Q That area is, however, a part of the horizontal limits of the Bisti Pool?
  - A Yes, sir, it is.
- Now there's a well up here in 25, 11, in the Southwest of the Northwest of Section 15; it is my understanding that that well is now on pump, pumping from seven to eight barrels per day, there been any consideration of getting that in this unit?
- A Certainly consideration could be given to that. I was unaware that the well had been recompleted, been reopened.
  - Q It is my understanding that it has. You'd be willing

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I don't believe that would be a decision that Skelly Oil Company would be able to make. I believe that would be

necessarily left up to a vote of the working interest owners participating in this unit as to whether or not the well would come in.

to accept that in the unit, would you not, if the operator

MR. SELINGER: That would involve an enlargement and I don't believe we are in a position to say that should be enlarged or not.

Q (By Mr. Utz) What type of drive did you say that this was going to be?

The waterflood, the injection program is set up on a modified line drive.

Q So that you have these water blocks or line drives every so often down your trend?

Yes, sir, basically, attempting to flood in a northwesterly - southeasterly direction as far as setting up a flood bank is concerned.

Do you have any type agreement between yourself, line agreement between yourself and the Carson Unit? Was that agreed upon as far as your spacing and injection wells?

Verbally, yes, this has been agreed to. There is no line agreement, to my knowledge, that has been drawn up on paper at this time.

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- But they're happy, as well as you?
- A They are very contented at the present time, yes, sir.
- Q Could you tell me how many wells are producing from 35 to 40 barrels in this unit, proposed unit?
- I could do no more than guess at such a figure. I would say there probably are not over ten or twelve wells producind at that volume.
- Q Ten or twelve wells. For the record, what is the normal unit allowable in this pool?
  - I believe at the present time it's 94 barrels.
- Q So even at 35 or 40 barrels, this would be considered marginal?
  - Α Yes, sir.
- Q What is the total number of wells in the proposed unit that are producing the 700 barrels per day?
  - A Would you repeat the question, please?
- Q What is the total number of wells in the proposed unit that are producing the 700 barrels per day?
  - Α There are 128 wells within the unit boundary.
- Q That's a pretty low average. Of course, I believe you have stated that you expect this unit to operate under Rule 701?
  - Yes, sir.
  - That is your request?
  - Yes, sir.

MR. UTZ: Are there any other questions of the witness?



If not, the witness may be excused.

(Witness excused.)

MR. UTZ: Are there any other statements in this case?

MR. DURRETT: We have received a telegram from Mr.

John D. Nodell, Jr., Denver Area Attorney for Humble Oil and

Refining Company, stating that they support the applications of

Skelly in both of these cases. This telegram will be placed in

the file if anyone would like to consider it in its entirety.

MR. UTZ: On question, if I may. What do you expect your injection pressures to be?

MR. CHAMBERS: We would estimate it, presently, we would estimate our pressures to be in the neighborhood of a thousand to thirteen or fourteen hundred pounds.

MR. JACOBS: This is the wellhead injection pressure?

MR. CHAMBERS: This would be the wellhead injection

pressure, yes, sir.

MR. McGANNON: R. L. McGannon, Standard of Texas. We support the application of the unit agreement and the waterflood.

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FARMINGTON, N. M. PHONE 325-1182 DEARNLEY-MEIER REPORTING SERVICE, Inc. SANTA FE, N. M. PHONE 983-3971 STATE OF NEW MEXICO SS COUNTY OF BERNALILLO

I, ADA DEARNLEY, Notary Public in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me, and that the same is a true and correct record of the said proceedings, to the best of my knowledge, skill, and ability.

WITNESS my Hand and Seal this 17th day of July, 1963.

My Commission Expires: June 19, 1967.



NEW MEXICO OIL CONSERVATION COMMISSION  EXAMINER HEARING				
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### NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARING

SANTA FE , NEW MEXICO

### REGISTER

HEARING DATE JULY 10, 1963 TIME: 9 A.M.

NAME: LOCATION: REPRESENTING: