

OIL CONSERVATION DIVISION
RECEIVED



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State of New Mexico
Commissioner of Public Lands

RAY POWELL, M.S., D.V.M.
COMMISSIONER
October 31, 1995

310 OLD SANTA FE TRAIL P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148

(505) 827-5760
FAX (505) 827-5766

Saga Petroleum LLC of Colorado
415 West Wall
Suite 835
Midland, Texas 79701

Attention: Mr. J. Charles Farmer

Re: Resignation/Designation of Successor Unit Operator
Todd Lower San Andres Unit
Roosevelt County, New Mexico

Dear Mr. Farmer:

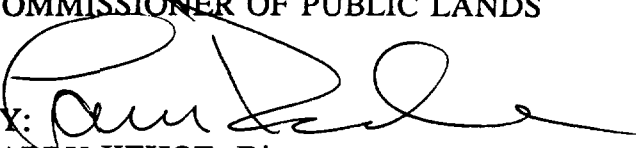
This office is in receipt of a letter dated October 26, 1995, from Plains Petroleum Operating Company, wherein Plains Petroleum Operating Company has resigned as unit operator of the Todd Lower San Andres Unit and designated Saga Petroleum LLC of Colorado as the successor unit operator of the Todd Lower San Andres Unit Area, Roosevelt County, New Mexico.

We cannot approve Saga Petroleum LLC of Colorado as the successor unit operator until a \$20,000 Surface Improvement Damage Bond is filed with this office. Please submit, within thirty (30) days a \$20,000 Surface Improvement Bond. Instructions for filing the required bond are enclosed.

If you have any questions, or if we may be of further help, please contact Pete Martinez at (505) 827-5791.

Very truly yours,

RAY POWELL, M.S., D.V.M.
COMMISSIONER OF PUBLIC LANDS

BY: 
LARRY KEHOE, Director
Oil, Gas and Minerals Division
(505) 827-5744

RP/LK/cpm

Enclosure

cc: Reader File

Plains Petroleum Operating Company

TRD

OCD

BLM



Oil, Gas and Minerals Division
RECEIVED

1995 DE 4 PM 8 52

RAY POWELL, M.S., D.V.M.
COMMISSIONER

State of New Mexico
Commissioner of Public Lands

310 OLD SANTA FE TRAIL P.O. BOX 1148

SANTA FE, NEW MEXICO 87504-1148

(505) 827-5760
FAX (505) 827-5766

December 7, 1995

Saga Petroleum LLC of Colorado
415 West Wall -- Suite 835
Midland, Texas 79701

Attention: Mr. J. Charles Farmer

Re: Resignation/Designation of Successor Unit Operator
Todd Lower San Andres Unit
Roosevelt County, New Mexico

Dear Mr. Farmer:

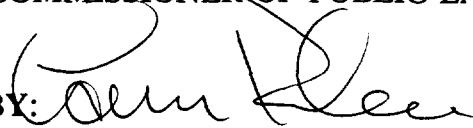
This office is in receipt of a designation of successor unit operator, wherein Plains Petroleum Operating Company has resigned as unit operator of the Todd Lower San Andres Unit and designated Saga Petroleum LLC of Colorado as the successor unit operator of the Todd Lower San Andres Unit Area, Roosevelt County, New Mexico.

The Commissioner of Public Lands has this date approved the resignation of Plains Petroleum Operating Company and the designation of Saga Petroleum LLC of Colorado as the successor unit operator of this unit. This change in operators is effective September 1, 1995. In accordance with this approval, Saga Petroleum LLC of Colorado is now responsible for all operations and the reporting of all production from the unit. Our approval is subject to like approval by the Bureau of Land Management.

If you have any questions, or if we may be of further help, please contact Pete Martinez at (505) 827-5791.

Very truly yours,

RAY POWELL, M.S., D.V.M.
COMMISSIONER OF PUBLIC LANDS

BY: 
LARRY KEHOE, Director
Oil, Gas and Minerals Division
(505) 827-5744

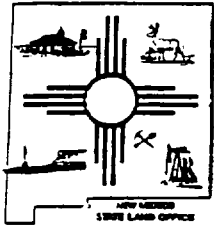
RP/LK/cpm
Enclosure

cc: Reader File Plains Petroleum Operating Company
Commissioner's File

BLM

OCD

7201



State of New Mexico
Commissioner of Public Lands

W. R. Humphries
COMMISSIONER

March 16, 1990

Advisory Board

George Clark
Chairman

Kristin Conniff
Vice Chairman

Melvin Cordova

Joe Kelly

Robert Portillos

Nancy Lynch Vigil

Rex Wilson

Murphy Operating Corporation
P.O. Box 2648
Roswell, New Mexico 88202-2648

ATTN: Ms. Jo McInerney

Plains Petroleum Operating Company
415 West Wall Street, Suite 2110
Midland, Texas 79701

ATTN: Mr. J. Charles Farmer

RE: ~~Todd Lower San Andres Unit~~
Unit Operator

Gentlemen:

We received your correspondence regarding the resignation of Murphy Operating Corporation and the designation of Plains Petroleum Operating Company as the Operator of the Todd Lower San Andres Unit.

The Commissioner of Public Lands has this date approved the resignation of Murphy Operating Corporation as Unit Operator and the designation of Plains Petroleum Operating Company as the successor Unit Operator. This resignation/designation is effective upon the approval of both the Commissioner of Public Lands and the BLM. Please advise all interested parties.

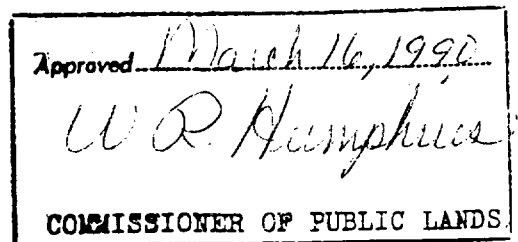
If you have any questions, please contact Susan Howarth at (505) 827-5791.

Very truly yours,

W.R. HUMPHRIES,
COMMISSIONER OF PUBLIC LANDS

BY:

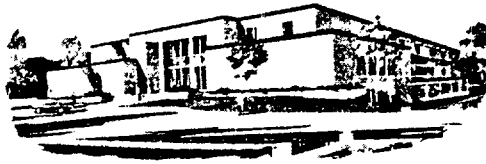
Floyd G. Prando
FLOYD G. PRANDO, Director
Oil and Gas Division
(505) 827-5744



State of New Mexico



W.R. HUMPHRIES
COMMISSIONER



Commissioner of Public Lands

P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148

June 2, 1989

Murphy Operating Corporation
P.O. Box 2648
Roswell, New Mexico 88202-2648

ATTN: Mark Murphy

RE: 1989 Plan of Development
Todd Lower San Andres Unit
Roosevelt County, New Mexico

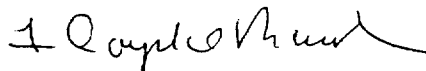
Gentlemen:

The Commissioner of Public Lands has this date approved the above captioned 1989 Plan of Development. Our approval is subject to like approval by all other appropriate agencies.

Enclosed is an approved copy for your files. If we may be of further help, please do not hesitate to contact us.

Very truly yours,

W.R. HUMPHRIES
COMMISSIONER OF PUBLIC LANDS

BY: 
FLOYD O. PRANDO, Director
Oil and Gas Division
(505) 827-5749

cc: OCD - Santa Fe, New Mexico
BLM
Unit Correspondence File

WRH/FOP/SMH



MURPHY OPERATING CORPORATION
UNITED BANK FLAZA, SUITE 300
400 NORTH PENNSYLVANIA AVENUE
POST OFFICE BOX 2648
ROSWELL, NEW MEXICO 88202-2648

TELEPHONE
505 623-7210

May 26, 1989

Mr. Francis R. Cherry, Jr., District Manager
United States of America
Department of the Interior
Bureau of Land Management
Post Office Box 1397
Roswell, New Mexico 88202-1397

Attention: Mr. Joe Lara
Assistant District Manager of Minerals

Mr. Floyd O. Prando
Director, Oil and Gas Division
State of New Mexico
Commissioner of Public Lands
Post Office Box 1148
Santa Fe, New Mexico 87504-1148

Mr. William J. LeMay, Director
State of New Mexico
Energy and Minerals Department
Oil Conservation Division
Post Office Box 2088
Santa Fe, New Mexico 87504-2088

Re: Plan of Operation 1989-1990
Todd Lower San Andres Unit ("the Todd Unit")
Roosevelt County, New Mexico

Gentlemen:

Pursuant to the provisions of Section 11 of the Unit Agreement, Murphy Operating Corporation ("MOC") Unit Operator of the Todd Lower San Andres Unit, Roosevelt County, New Mexico respectfully submits for your consideration and approval, this plan of operation for the secondary recovery of oil by waterflood on the subject unitized land.

I. Review of 1988.

Injection into six (6) injection wells (#29-13, #30-9, #30-10, #30-16, #31-3, and #32-3) continued uninterrupted from January through December, 1988. Injection into Well #31-10 occurred from January through March, 1989. Injection into Well #32-7 occurred during the months of June and July, 1988. Injection into four (4) injection wells (#31-7, #31-8, #32-5, and #32-12) occurred from January through July, 1988. In June, 1988, injection was initiated into three (3) wells (#35-1, #35-5, and #36-1) and has continued uninterrupted to date. These modifications were required due to evidence of premature water breakthrough along certain preferential permeability (fracture) trends. Currently, injection is occurring along certain fracture trends and increased oil production is occurring due to the sweeping of oil perpendicular to these trends. This oil is being recovered from nearby producing wells.

MOC drilled four (4) new wells (#29-11, #29-12, #30-7, and #30-11) during 1989. These wells were all drilled as producers and three (3) of these wells (#29-11, #29-12, and #30-7) are currently active.

II. Proposed Plan of Operation.

MOC has determined that there are two significant areas of waterflood response. These areas are referred to as the "east-side", primarily Section 29, T7S-R36E and the extreme eastern edge of Section 30, T7S-R36E. The other area is referred to as the "west-side", primarily Sections 35 and 36, T7S-R35E.

On the east-side, there are currently four (4) active injectors (Wells #29-13, #29-15, #30-9, and #32-3) and five (5) active producers (Wells #29-11, #29-12, #29-14, #29-16, and #30-7). Waterflood response is currently being realized in Wells #29-11, #29-12, #29-14, and #29-16.

On the west-side, there are currently three (3) active injectors (Wells #35-1, #35-5, and #36-1) and one (1) active producer (Well #35-7). MOC believes that a very slight waterflood response is occurring at Well #35-7. We will continue to monitor this response.

III. Further Development.

Assuming waterflood response on the east-side continues, MOC plans to drill at least one (1) additional well in late 1989. This well is planned as a producer and would be located in Unit J of Section 29, T7S, R36E.

Based upon the preliminary waterflood response currently being realized on the west-side at Well #35-7, MOC plans to convert four (4) additional wells to injectors (Well #31-5, #31-12, #35-8, and #36-2). We plan to convert these wells sometime in early July, 1989. In late 1989 or early 1990 depending upon the west-side response, MOC may recommend the drilling of two (2) additional wells. The proposed status and legal location of these wells are listed below:

<u>Location</u>	<u>Status</u>
Township 7 South, Range 35 East, NMPM Roosevelt County, New Mexico	
Unit G, Section 36	Injector
Unit H, Section 36	Producer

MOC will continue its policy of periodic step-rate tests and injection profiles as well as daily rate and pressure checks on all active injection wells. MOC will also continue its policy of monthly production and fluid level tests for all active producing wells.

IV. Modification.

Subject to your approval, this plan of operation may be modified or supplemented during the year to meet changed conditions and to protect the interests of all parties to the Unit Agreement.

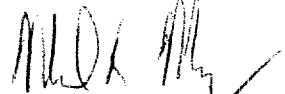
I have enclosed herewith for your information and file the following exhibits:

- Exhibit 1: Todd Lower San Andres Unit Well Location and Status Map;
- Exhibit 2: Todd Lower San Andres Unit Reservoir Performance Curve;
- Exhibit 3: Todd Lower San Andres Unit 1988 Tabulated Production and Injection Data.

Should you have any questions or comments, please contact me.

Sincerely,

MURPHY OPERATING CORPORATION



Mark B. Murphy
President and Chief Operating Officer

MBM/js

Enclosures: as stated.

cc: Mr. Jerry E. Sexton
State of New Mexico
Energy and Minerals Department
Oil Conservation Division
Post Office Box 1980
Hobbs, New Mexico 88240

MURPHY OPERATING CORPORATION

TODD LOWER SAN ANDRES UNIT
ROOSEVELT CO., N.M.

WELL LOCATIONS

STATUS

EXPLANATION

- Prod. Loc.
- Inj. Loc.
- Dry & Aband.
- Gas Well
- Prod.
- Inj.
- PEA
- Orig. Disposal Well
- Proposed Inj. Well

R35E 24 R36E

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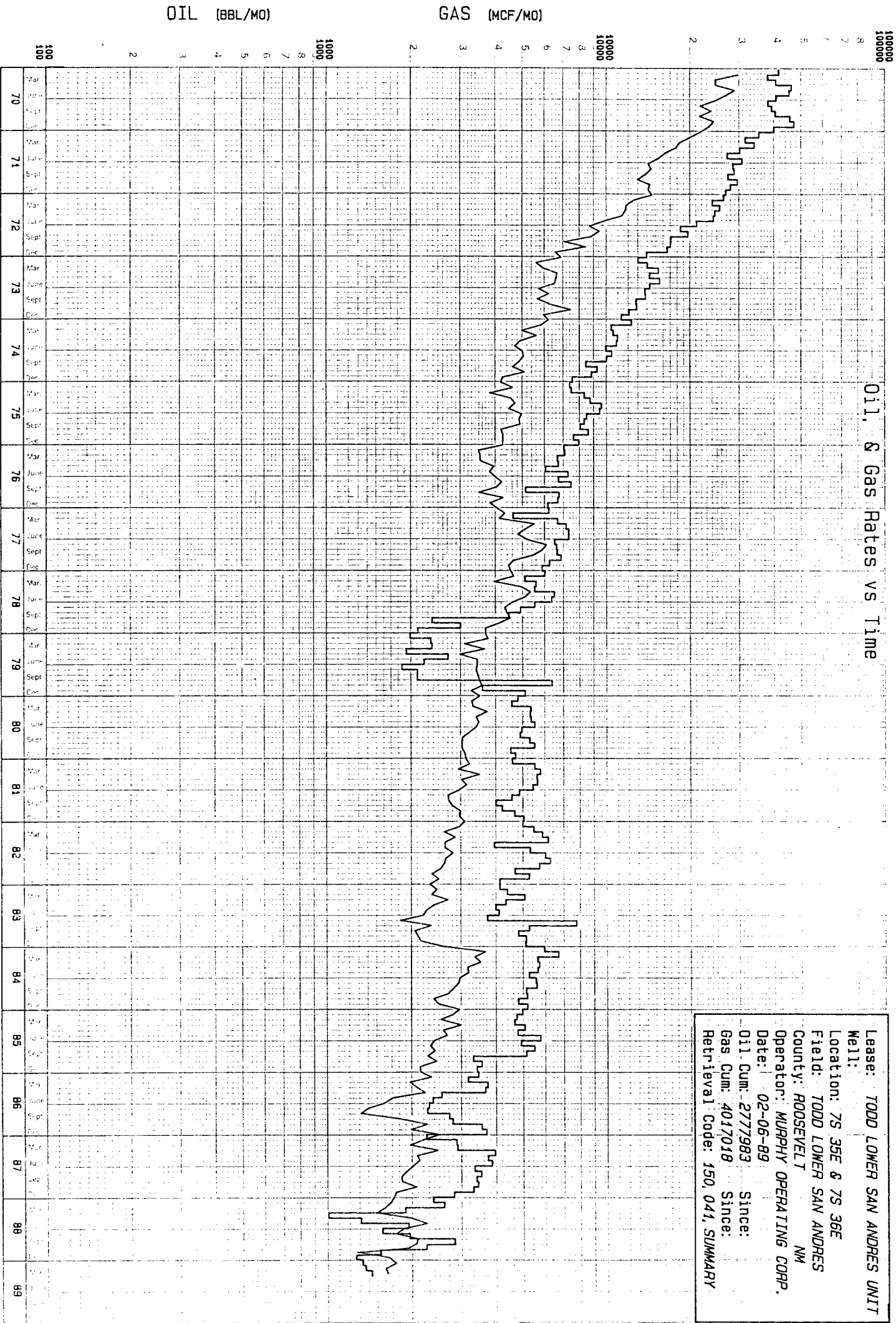
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MURPHY OPERATING CORPORATION
4TH QUARTER PRODUCTION REPORT
JANUARY 01, 1989

[illegible]

MURPHY OPERATING CORPORATION
4TH QUARTER PRODUCTION REPORT
JANUARY 01, 1989

TODD LOWER SAN ANDRES UNIT

PRODUCTION																					
TODD LOWER SAN ANDRES (ASSOCIATED) POOL																					
Computer LEASE NAME, Well #						CUMULATIVE THRU 12/31/87						1988									
WELL	S	T	R	STATUS		JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	1988 TOTAL	CUM. TOTALS		
TLSAU SEC.29 (LACT UNIT)(TODD STORAGE SYSTEM)(LACT #1) continued: Peterson Federal Lease																					
000000	3	E		29-T7S-R36E	P&A	OIL													95		
						GAS													24		
						WAT													910		
210052	11	K		29-T7S-R36E	P	OIL							525	588	636	594	593	2,936	2,936		
						GAS							0	0	0	0	0	0	0		
						WAT							72	627	201	195	369	1,464	1,464		
210053	12	L		29-T7S-R36E	P	OIL			345	717	613	542	457	502	406	265	283	4,130	4,130		
						GAS			0	0	0	0	0	0	0	0	0	0	0		
						WAT			0	6456	6086	5579	6043	3761	2207	2147	3157	35,436	35,436		
210006	13	M		29-T7S-R36E	I	OIL		0	0	0	0	0	0	0	0	0	0	0	0		
						GAS		0	0	0	0	0	0	0	0	0	0	0	0		
						WAT		0	0	0	0	0	0	0	0	0	0	0	0		
						INJ		6436	15798	12165	16209	12065	13089	16846	14847	20395	17058	179,382	599,622		
								@951	@1244	@1133	@1433	@1323	@1345	@1641	@1590	@1620	@1625				
210007	14	N		29-T7S-R36E	P	OIL		191	183	242	164	175	134	172	162	202	228	2,205	39,779		
						GAS		319	415	364	281	137	360	1005	613	535	312	4,929	69,333		
						WAT		86	73	59	73	160	503	1066	1253	1219	947	5,616	43,164		
210008	15	O		29-T7S-R36E	I	OIL		166	142	320	106	57	0	0	0	0	0	1,005	114,802		
						GAS		0	0	0	0	0	0	0	0	0	0	0	122,126		
						WAT		0	0	0	725	1737	0	0	0	0	0	3,435	34,730		
						INJ		42	0	309	622			2812	12481	23809	21286	60,388	60,388		
														@0	@432	@745	@853				
210009	16	P		29-T7S-R36E	P	OIL		161	216	149	188	175	229	172	150	202	243	2,234	127,952		
						GAS		0	0	0	0	0	0	0	0	0	0	0	91,027		
						WAT		0	39	0	0	80	576	815	1354	1317	789	5,058	40,662		
TLSAU SEC. 30																					
210011	16	P		30-T7S-R36E	I	OIL		0	0	0	0	0	0	0	0	0	0	0	75,496		
						GAS		0	0	0	0	0	0	0	0	0	0	0	98,767		
						WAT		0	0	0	0	0	0	0	0	0	0	0	67,309		
						INJ		9023	13827	11999	17728	17995	11824	11948	16905	15553	11712	14147	159,861	211,909	
								@1044	@1237	@1131	@1366	@1495	@1365	@1327	@1608	@1560	@1495	@1310			
#1 LACT LEASE TOTAL						OIL	435,343	518	527	554	711	988	949	1345	1354	1263	1347	12,510	447,853		
(Peterson #4; Spradley #1;						GAS	457,493	319	415	418	364	170	137	360	1005	613	535	312	4,929	462,422	
Solsbery #1 & Livaudais #5)						WAT	176,963	128	91	78	368	6916	7556	7194	6269	5015	4878	5262	51,009	227,972	
						INJ	472,288	15459	24819	29635	24164	34583	23889	25037	42881	55916	52491	399,641	871,929		

MURPHY OPERATING CORPORATION
4TH QUARTER PRODUCTION REPORT
JANUARY 01, 1989

TODD LOWER SAN ANDRES UNIT

PRODUCTION																												
TODD LOWER SAN ANDRES (ASSOCIATED) POOL											CUMULATIVE 1988																	
Computer LEASE NAME, Well # WELL S T R STATUS THRU 12/31/87											JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	1988 TOTAL	CUM. TOTALS				
BATTERY #14																												
TLSAU SEC. 30 (Livaudais Fed.) I OIL											1,572	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,572	
210010 9 I 30-T7S-R36E GAS											625	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	625
WAT											2,441	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,441	
INJ											206,296	5190	10117	11200	8824	13427	10688	7459	17824	15494	14200	27077	14716	156,216	362,512			
											@1008	@1292	@1356	@1175	@1371	@1318	@1360	@1486	@1493	@1499	@1595	@1352						
Batt.#14 LEASE TOTAL OIL											1,572	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,572	
(Livaudais Fed. new inj well) GAS											625	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	625	
WAT											2,441	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,441	
INJ											206,296	5190	10117	11200	8824	13427	10688	7459	17824	15494	14200	27077	14716	156,216	362,512			

BATTERY #15																				
TLSAU SEC.30 (Val State) BATTERY #15																				
210012	2 B	30-T7S-R36E					25	0	55	77	27	67	52	0	0	0	0	0	303	128,501
							0	0	0	0	0	0	0	0	0	0	0	0	0	186,719
							100	0	157	24	97	92	131	0	0	0	0	0	601	37,258
														2309	4676	10144	27455	20245	64,829	
														@73	@37	@0	@0	@0		
210054	7 G	30-T7S-R36E	P							436	291	229	184	206	148	136	0	90	1,720	1,720
										0	0	0	0	0	0	0	0	0	0	0
										575	263	187	488	679	763	412	0	1256	4,623	4,623
210013	10 J	30-T7S-R36E	I				0	0	0	0	0	0	0	0	0	0	0	0	0	105,813
							0	0	0	0	0	0	0	0	0	0	0	0	0	94,982
							0	0	0	0	0	0	0	0	0	0	0	0	0	38,489
							3260	0	114	9644	6566	7071	10081	11875	9890	10747	842	0	70,090	95,716
							@800	@0	@600	@100	@0	@766	@1012	@1299	@856	@1366	@846	@847		
BATTERY #19																				
TLSAU SEC. 19 (Hobbs "Z")																				
210014	15 O	19-T7S-R36E	P				50	102	22	0	52	0	0	33	0	0	0	0	259	33,631
							0	0	0	0	0	0	0	0	0	0	0	0	0	21,767
							134	1704	44	0	0	0	0	192	0	0	0	0	2,074	13,017
BATTERY #30																				
TLSAU SEC.30 (Livaudais Fed.) P																				
210015	3 C	30-T7S-R36E					12	0	22	0	28	0	56	0	0	0	0	0	118	14,064
							0	0	0	0	0	0	0	0	0	0	0	0	0	39,913
							33	0	33	0	0	0	155	0	0	0	0	0	221	45,145

MURPHY OPERATING CORPORATION
4TH QUARTER PRODUCTION REPORT
JANUARY 01, 1989

TODD LOWER SAN ANDRES UNIT

[illegible]

MURPHY OPERATING CORPORATION
4TH QUARTER PRODUCTION REPORT
JANUARY 01, 1989

TODD LOWER SAN ANDRES UNIT

TODD LOWER SAN ANDRES UNIT																				
TODD LOWER SAN ANDRES (ASSOCIATED) POOL											CUMULATIVE 1988									
Computer LEASE NAME,											THRU 12/31/87									
Well #	WELL	S	T	R	STATUS	THRU 12/31/87	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	1988 TOTAL	CUM. TOTALS
TLSAU SEC.35 (N.M. "CT" State) BATTERY #1 (continued)																				
210037	6 F	35-T7S-R35E			P	OIL	73,194	43	0	0	81	34	45	25	47	85	4	34	453	73,647
						GAS	92,567	181	117	93	126	147	163	124	166	202	40	0	1,535	94,102
						WAT	73,136	127	0	0	1038	181	325	827	224	759	0	307	4,148	77,284
210038	7 G	35-T7S-R35E			P	OIL	67,026	100	141	103	40	81	91	91	94	112	3	58	996	68,022
						GAS	80,143	125	81	64	87	109	120	91	123	152	30	0	1,104	81,247
						WAT	87,368	1035	326	653	256	672	698	430	435	822	0	579	6,461	93,829
210039	8 H	35-T7S-R35E			P	OIL	39,388	146	69	87	80	115	116	111	46	0	0	45	897	40,285
						GAS	42,347	285	185	146	198	219	242	183	245	0	0	0	1,981	44,328
						WAT	39,824	398	1033	267	128	787	601	334	660	0	0	818	5,386	45,210
210040	9 I	35-T7S-R35E			T	OIL	96	0	0	0	0	0	0	0	0	0	0	0	0	96
						GAS	64	0	0	0	0	0	0	0	0	0	0	0	0	64
						WAT	226	0	0	0	0	0	0	0	0	0	0	0	0	226
Batt. #1 LEASE TOTAL																				
						OIL	228,513	304	210	190	201	230	252	227	187	197	7	137	2,416	230,929
						GAS	320,549	696	450	356	482	475	525	398	534	354	70	0	5,017	325,566
						WAT	330,195	1592	1359	920	1422	1640	1624	1591	1319	1581	0	1704	16,253	346,448
(N.M. "CT" #1, #7, #3, #6, #2 & #5)																				
						INJ						4713	20359	21469	17775	22278	25790	30123	142,507	142,507

TLSAU SEC.36 (N.M.State "AY") BATTERY #2																				
210041	1 A	36-T7S-R35E			I	OIL	37,695	28	0	0	0	0	0	0	0	0	0	0	28	37,723
						GAS	49,596	112	63	0	0	0	0	0	0	0	0	0	293	49,889
						WAT	68,258	141	340	0	0	0	0	0	0	0	0	0	743	69,001
						INJ						2553	8289	9885	6162	11627	8734	11337	58,587	58,587
210042	2 B	36-T7S-R35E			P	OIL	67,641	28	56	39	0	0	0	0	0	0	0	0	173	67,814
						GAS	160,280	203	113	25	0	0	0	0	0	0	0	0	554	160,834
						WAT	72,819	2084	1400	1096	0	0	1836	2944	0	0	0	0	10,759	83,578
210043	5 E	36-T7S-R35E			P	OIL	65,870	8	0	0	0	0	24	51	74	62	0	0	269	66,139
						GAS	214,419	90	50	10	0	0	0	0	0	0	0	0	244	214,663
						WAT	52,389	35	0	0	0	53	412	613	473	414	0	0	2,146	54,535
210044	6 F	36-T7S-R35E			P	OIL	71,778	84	55	16	53	94	24	30	48	0	0	0	454	72,232
						GAS	297,420	427	238	49	82	272	222	296	321	305	233	0	2,894	300,314
						WAT	65,940	212	339	213	177	196	187	245	444	0	0	0	2,100	68,040
210045	9 I	36-T7S-R35E			P	OIL	88,060	84	55	80	13	92	120	65	74	61	0	52	746	88,806
						GAS	294,638	68	38	8	22	68	55	74	80	76	58	571	1,189	295,827
						WAT	57,824	0	42	213	209	463	487	553	722	335	0	174	3,198	61,022

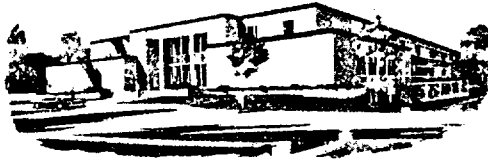
MURPHY OPERATING CORPORATION
4TH QUARTER PRODUCTION REPORT
JANUARY 01, 1989

PRODUCTION				TODD LOWER SAN ANDRES UNIT													
TODD LOWER SAN ANDRES (ASSOCIATED) POOL				CUMULATIVE		1988											
Computer LEASE NAME,				THRU 12/31/87													
Well #	WELL	S T R	STATUS	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	1988 TOTAL	CUM. TOTALS
TLSAU SEC.36 (N.M.State "AY") BATTERY #2 (continued)																	
210046	10 J	36-T7S-R35E	P	OIL	26	0	0	153	62	94	151	125	157	0	35	832	125,539
				GAS	236	126	24	239	794	647	863	936	888	680	380	6,038	444,062
				WAT	1020	0	0	1224	1068	824	1779	1139	845	0	3300	12,259	134,788
Batt. #2 LEASE TOTAL				OIL	226	166	135	219	248	262	297	321	280	0	87	2,502	458,253
(N.M. State "AY" #2, #1, #5,				GAS	1181	628	116	343	1134	924	1233	1337	1269	971	951	11,212	1,465,589
#3, #6 & #4)				WAT	2914	2121	1522	1610	1780	3746	6134	2778	1594	0	3474	31,205	470,964
				INJ				2553	8289	9885	6162	11627	8734	11337	58,587	58,587	
TODD LOWER SAN ANDRES				OIL	1626	1516	2368	2291	1904	1779	2127	2099	1972	1270	1666	22,319	2,762,276
UNIT TOTAL				GAS	2637	1913	1017	1332	1969	1586	1991	2876	2236	1576	1263	22,799	4,007,842
				WAT	89712	72236	24189	44472	32508	16088	15948	11792	10455	4878	12808	421,403	4,530,440
				INJ	160981	156820	124926	138889	170125	152432	157013	153134	205232	269545	244096	2,086,737	6,216,057
AVERAGE BBLS/WELL				61	71	75	145	115	105	99	142	140	164	212	151		



W.R. HUMPHRIES
COMMISSIONER

State of New Mexico



Commissioner of Public Lands

7201

SLO REF NO OG-757

P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148

April 20, 1988

Murphy Operating Corporation
Attn: Mr. Mark B. Murphy
P. O. Box 2648
Roswell, NM 88202-2648

Re: 1988 Plan of Development
Todd Lower S/A Unit
Roosevelt County, New Mexico

Gentlemen:

The Commissioner of Public Lands has this date approved your 1988 Plan of Development for the above captioned unit area.

Our approval is subject to like approval by all other appropriate agencies.

Enclosed is an approved copy for your files.

If we may be of further help please do not hesitate to call on us.

Very truly yours,

W. R. HUMPHRIES
COMMISSIONER OF PUBLIC LANDS

BY: *Floyd O. Prando*
FLOYD O. PRANDO, Director
Oil and Gas Division
(505) 827-5744

WRH/FOP/pm
encls.
cc: OCD
BLM



MURPHY OPERATING CORPORATION
UNITED BANK PLAZA, SUITE 300
400 NORTH PENNSYLVANIA AVENUE
POST OFFICE BOX 2648
ROSWELL, NEW MEXICO 88202-2648

TELEPHONE
505 623-7210

April 8, 1988

Mr. Francis R. Cherry, Jr., District Manager
United States of America
Department of the Interior
Bureau of Land Management
Post Office Box 1397
Roswell, New Mexico 88202-1397
Attention: Mr. Joe Lara,
Assistant District Manager of Minerals

Mr. Floyd O. Prando
Director, Oil & Gas Division
State of New Mexico
Commissioner of Public Lands
Post Office Box 1148
Santa Fe, New Mexico 87504-1148

✓ Mr. William J. Lemay, Director
State of New Mexico
Energy and Minerals Department
Oil Conservation Division
Post Office Box 2088
Santa Fe, New Mexico 87504-2088

Re: Plan of Operation 1987-1988,
Todd Lower San Andres Unit
Roosevelt County, New Mexico

Gentlemen:

Pursuant to the provisions of Section II of the Unit Agreement, Murphy Operating Corporation ("MOC"), Unit Operator of the Todd Lower San Andres Unit, Roosevelt County, New Mexico respectfully submits for your consideration and approval, this plan of operation for the secondary recovery of oil by waterflood on the subject unitized land.

I. Review of 1987. Injection into nine (9) injection wells (#29-13, #30-9, #30-15, #31-1, #31-3, #31-7, #31-9, #32-3 and #32-5) located in the pilot waterflood area began in October 1984 and has continued essentially uninterrupted to November 1987. MOC resumed injection into Well #30-10 in November 1986 and into Well #25-15 in January 1987. Due to evidence of premature water breakthrough, the injection pattern was modified to incorporate certain preferential permeability (fracture) trends. Two major preferential permeability trends have been identified and are shown on Exhibit 1. These preferential permeability (fracture) trends were identified through analysis of certain data and utilization of various testing procedures (evidence of premature water breakthrough, modification of the injection rates in certain injection wells together with evaluation of the effects of these pressure and rate changes in certain producing wells and utilization of bottom hole pressure and step-rate injection tests). MOC's studies indicate strongly that these fractures should be "pressured up" to sweep unrecovered oil into nearby producing wells. Therefore, the injection pattern has been modified by the conversion of the following wells from producers to injectors: wells #30-10, #30-16, #31-8 and #32-12. Injection into these wells commenced in December 1987 and is continuing to date. In addition to the above conversions, MOC also converted certain injection wells to producers (wells #30-15, #31-1 and #31-9). The conversion of these wells from injection to producing status is necessary to recover reserves being swept to these locations by the current injection wells. This injection pattern should improve and enhance the waterflood response currently being realized.

II. Proposed Plan of Operation 1988. MOC proposes to continue to maintain the existing injection pattern (as shown on Exhibit 1) but may adjust this pattern as needed on a well-by-well basis to insure a proper and efficient flood pattern thereby minimizing the risk of bypassing remaining reserves.

MOC will continue to monitor all injection wells through daily rate and pressure checks. Tracer surveys have been run on all injection wells indicating excellent injection profiles with no indication of water channeling. The annuluses of all injection wells have been filled with inert ("packer") fluid containing corrosion inhibiting chemicals. In addition to monthly water analyses, MOC performs weekly fluid level and production tests on all producing wells.

III. Further Development. MOC proposes to expand the existing injection pattern by converting the nine (9) wells from producers to injectors (wells #29-15, #30-2, #30-6, #30-12, #31-11, #32-7, #35-1, #35-5 and #36-1). The conversion of these wells should maximize the sweep efficiency of the flood front currently moving perpendicular to the previously-described preferential permeability (fracture) trends and will permit further development of this unit on a five (5) spot injection pattern where appropriate. An application to convert these wells to injection status (OCD State Form #C-108) is being prepared for submittal to the Oil Conservation Division. Upon receipt of approval, the conversion process will begin.

In addition to the conversion of the nine (9) wells from producing to injection status, MOC plans to drill at least five (5) new wells in 1988. The proposed status and legal location of these wells are listed below.

<u>LOCATION</u>	<u>PROPOSED STATUS</u>	<u>REMARKS</u>
T-7-S, R-36-E, NMPM Roosevelt County, New Mexico		
Unit K, Section 29	Injector	To be drilled 6/88
Unit L, Section 29	Producer	Drilled 4/88
Unit G, Section 30	Producer	Drilled 2/88
Unit K, Section 30	Producer	Currently drilling
Unit N, Section 30	Producer	To be drilled 6/88

IV. Modification. Subject to approval, this plan of operation may be modified or supplemented during the year to meet changed conditions and to protect the interests of all parties to the Unit Agreement.

For your information and file, I have enclosed herewith as Exhibits 1, 2 and 3 respectively a map of "Well Locations and Probable Fracture Areas", a reservoir performance curve, and tabulated production and injection data. Should you have any questions or comments, please contact the undersigned at the telephone number listed above.

Sincerely,

MURPHY OPERATING CORPORATION

Mark B. Murphy / TMS

Mark B. Murphy
President and Chief Operating Officer

MBM/msl

Enclosures: Todd Lower San Andres Unit Well Status Map;
Todd Lower San Andres Unit Reservoir Performance Curve; and
Todd Lower San Andres Unit 1987 Tabulated Production and
Injection Data.

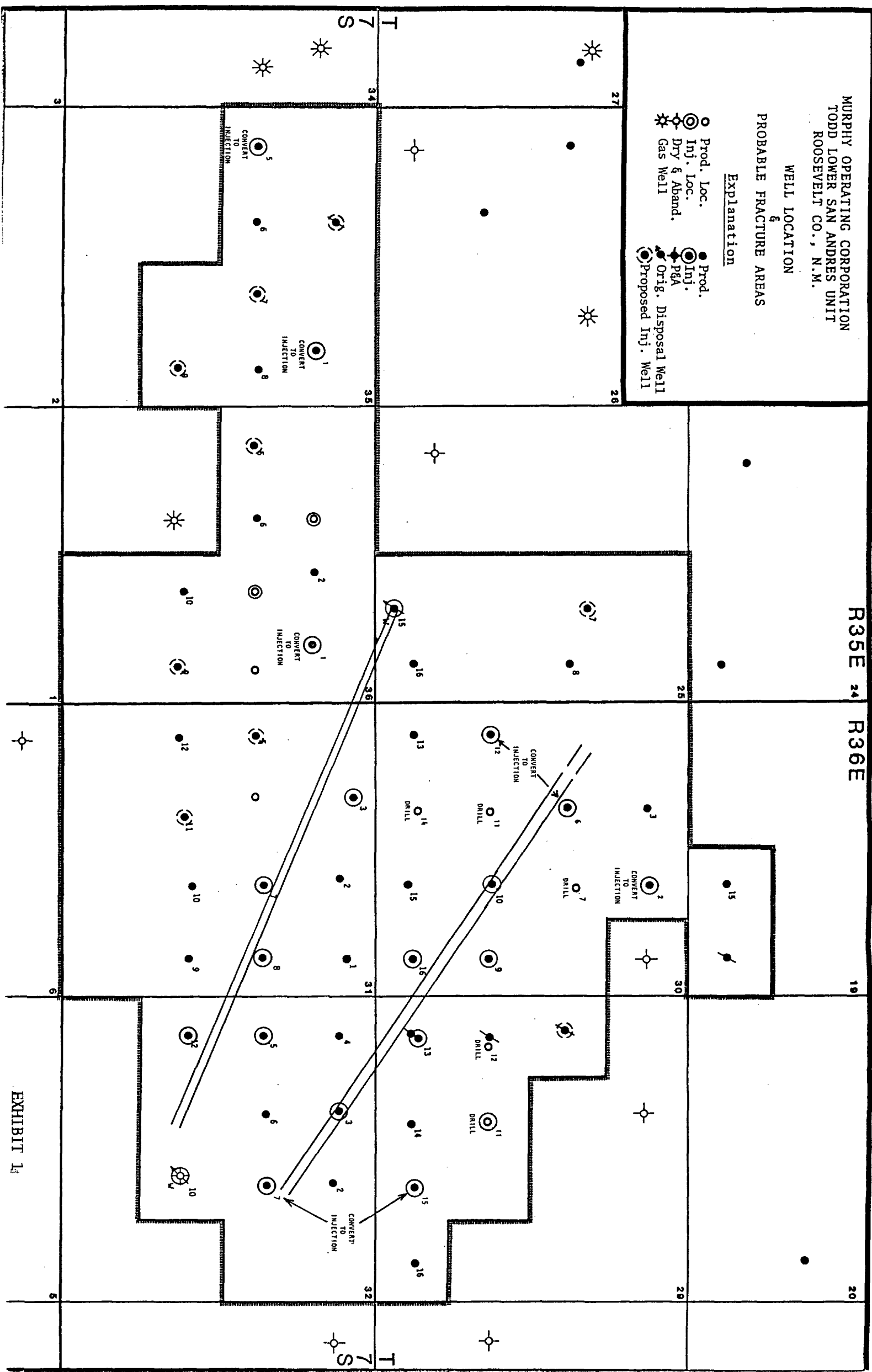
cc: Mr. Jerry E. Sexton
State of New Mexico
Energy and Minerals Department
Oil Conservation Division
Post Office Box 1980
Hobbs, New Mexico 88240

MURPHY OPERATING CORPORATION
TODD LOWER SAN ANDRES UNIT
ROOSEVELT CO., N.M.

WELL LOCATION
&
PROBABLE FRACTURE AREAS

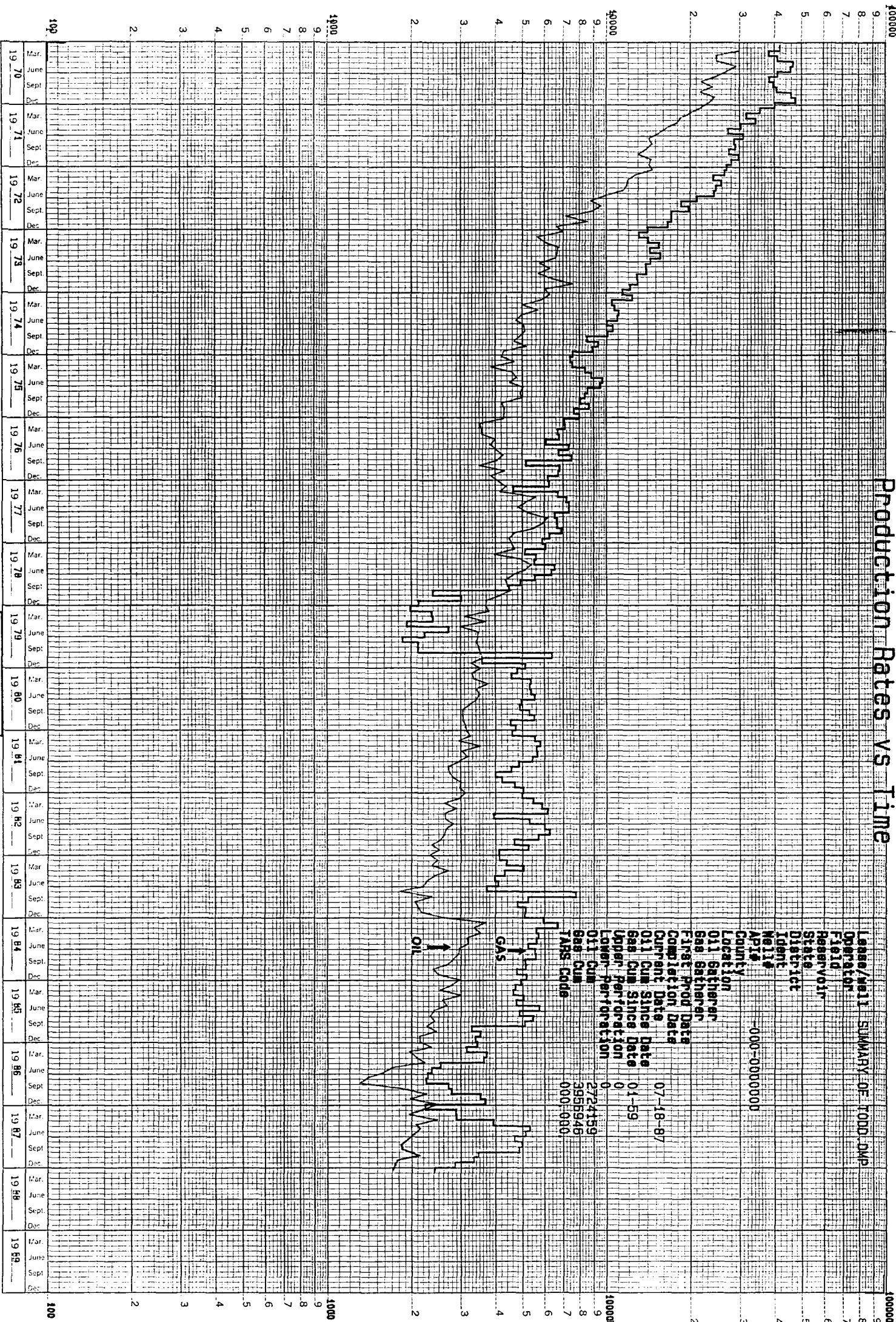
- Explanation
- Prod. Loc.
 - ⊙ Inj. Loc.
 - ⊙ Dry & Aband.
 - ⊙ Gas Well
 - Prod.
 - ⊙ Inj.
 - ⊙ P&A
 - ⊙ Orig. Disposal Well
 - ⊙ Proposed Inj. Well

R35E 24 R36E



MONTHLY OIL PRODUCTION (BBL/MO)

Production Rates vs Time



MONTHLY GAS PRODUCTION (MCF/MO)

MURPHY OPERATING CORPORATION
4TH QUARTER PRODUCTION REPORT
JANUARY 01, 1988

PRODUCTION
TODD LOWER SAN ANDRES (ASSOCIATED) POOL

TODD LOWER SAN ANDRES UNIT

Computer LEASE NAME, Well # WELL S T R STATUS				CUMULATIVE THRU 12/31/86	1987 JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	1987 TOTAL	CUM. TOTALS	
TL\$AU SEC.25 (Mark Fed.) BATTERY #12																			
210001	7 G	25-T7S-R35E	P	OIL	6,972	27	0	0	0	0	0	0	0	12	30	31	28	128	7100
				GAS		0	0	0	0	0	0	0	0	0	0	0	0	0	
				WAT		216	0	0	0	0	0	0	167	875	282	126	1666		
210002	8 H	25-T7S-R35E	P	OIL	36,638	14	37	18	1	1	0	0	10	19	63	28	192	36830	
				GAS		0	0	0	0	0	0	0	0	0	0	0	0	0	
				WAT		70	185	251	93	61	125	142	186	566	459	169	2307		
210047	15 O	25-T7S-R35E	I	OIL	6,865	0	0	0	0	0	0	0	0	0	0	0	0	0	6865
				GAS		0	0	0	0	0	0	0	0	0	0	0	0	0	
				WAT		0	0	0	0	0	0	0	0	0	0	0	0	0	
				INJ	0*	2625	4837	8002	8128	6624	8161	10308	10751	13168	1232	6627	4270	84733	84733
						@267	@522	@719	@745	@736	@822	@962	@1010	@724	@425	@485	@657		
210003	16 P	25-T7S-R35E	P	OIL	46,704	0	0	23	28	23	18	0	0	5	42	0	0	139	46843
				GAS		0	0	0	0	0	0	0	0	0	0	0	0	0	
				WAT		566	28	261	530	83	171	264	10	1286	0	0	3199		
TL\$AU SEC.30 (Livaudais)																			
210004	12 L	30-T7S-R36E	P	OIL	55,241	0	8	1	1	1	1	0	0	5	26	0	0	43	55284
				GAS		0	0	0	0	0	0	0	0	0	0	0	0	0	
				WAT		471	359	213	55	64	131	0	284	1440	1660	1517	6194		
210005	13 M	30-T7S-R36E	P	OIL	40,000	0	17	1	1	1	1	0	0	5	19	0	0	45	40045
				GAS		0	0	0	0	0	0	0	0	0	0	0	0	0	
				WAT		94	326	350	101	70	143	121	334	977	1130	295	3941		
Batt.#12 LEASE TOTAL																			
				OIL	192,420	41	62	43	31	26	21	0	0	37	136	94	56	547	192967
				GAS		0	0	0	0	0	0	0	0	0	0	0	0	0	
				WAT		1417	898	1075	779	278	570	0	527	981	5144	3531	2107	17307	
Livaudais Fed. #2 & #1)																			
				INJ	0	2625	4837	8002	8128	6624	8161	10308	10751	13168	1232	6627	4270	84733	84733
TL\$AU SEC.29 (LACT UNIT)(TODD STORAGE SYSTEM)(LACT #1)																			
000000	1 M	29-T7S-R36E	P&A	OIL	42,275	Peterson Federal Lease											42275		
000000	2 L	29-T7S-R36E	P&A	OIL	37,835	Peterson Federal Lease											37835		
000000	3 F	29-T7S-R36E	P&A	OIL	95	Peterson Federal Lease											95		
210006 13 M 29-T7S-R36E I																			
				OIL	2,553	0	0	0	0	0	0	0	0	0	0	0	0	0	2553
				GAS		0	0	0	0	0	0	0	0	0	0	0	0	0	
				WAT		0	0	0	0	0	0	0	0	0	0	0	0	0	
				INJ	279,365	11428	10031	12594	12338	10487	12357	12607	10828	10808	12597	12205	12595	140875	420240
						@317	@451	@409	@513	@609	@617	@950	@897	@958	@971	@1049	@1118		

* being calculated, P-3 zone opened

MURPHY OPERATING CORPORATION
4TH QUARTER PRODUCTION REPORT
JANUARY 01, 1988

TODD LOWER SAN ANDRES UNIT

PRODUCTION
TODD LOWER SAN ANDRES (ASSOCIATED) POOL

Computer LEASE NAME, Well # WELL		S	T	R	STATUS	THRU 12/31/86	1987 JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	1987 TOTAL	CUM. TOTALS
TUSAU SEC.29 (LACT UNIT)(TODD STORAGE SYSTEM)(LACT #1) continued:																				
210007	14	N	29-T7S-R36E	P	OIL	34,677	288	191	251	254	223	252	241	263	251	257	203	223	2897	37574
					GAS		54	64	138	71	79	85	78	44	69	299	461	396	1838	
					WAT		1582	0	18	36	66	14	74	135	194	86	10	79	2294	
210008	15	O	29-T7S-R36E	P	OIL	111,659	208	163	251	187	223	222	225	198	85	87	144	145	2138	113797
					GAS		0	0	0	0	0	0	0	0	0	0	0	0	0	
					WAT		1615	0	3	6	65	14	36	66	0	0	0	40	1845	
210009	16	P	29-T7S-R36E	P	OIL	124,014	174	111	158	124	156	111	132	123	137	140	148	190	1704	125718
					GAS		0	0	0	0	14	0	0	0	0	0	0	0	14	
					WAT		1696	0	1	2	0	0	0	0	130	0	0	12	1841	
210011	16	P	30-T7S-R36E	I	OIL	75,496	0	0	0	0	0	0	0	0	0	0	0	0	0	75496
					GAS		0	0	0	0	0	0	0	0	0	0	0	0	0	
					WAT		9564	0	0	0	0	0	0	0	0	0	0	0	9564	
					INJ										13789 @433	18252 @724	20007 @969		52048	52048

#1 LACT LEASE TOTAL					OIL	428,604	670	465	660	565	602	585	598	584	473	484	495	558	6739	435343
(Peterson #4; Spradley #1;					GAS		54	64	138	71	93	85	78	44	69	299	461	396	1852	
Solsbery #1 & Liवादais #5)					WAT		14457	0	22	44	131	28	110	201	324	86	10	131	15544	
					INJ	279,365	11428	10031	12594	12338	10487	12357	12607	10828	10808	26386	30457	32602	192923	472288

TLSAU SEC. 30 (Liवादais Fed.)					BATTERY #14															
210010	9	I	30-T7S-R36E	I	OIL	1,572	0	0	0	0	0	0	0	0	0	0	0	0	0	1572
					GAS		0	0	0	0	0	0	0	0	0	0	0	0	0	
					WAT		0	0	0	0	0	0	0	0	0	0	0	0	0	
					INJ	117,168	9945 @467	5762 @118	6694 @123	9508 @639	8801 @824	3363 @828	9479 @997	9440 @1088	9353 @312	8047 @982	4817 @1043	3919 @1127		206296

Batt.#14 LEASE TOTAL					OIL	1,572	0	0	0	0	0	0	0	0	0	0	0	0	0	1572
(Liवादais Fed. new inj well)					GAS		0	0	0	0	0	0	0	0	0	0	0	0	0	
					WAT		0	0	0	0	0	0	0	0	0	0	0	0	0	
					INJ	117,168	9945	5762	6694	9508	8801	3363	9479	9440	9353	8047	4817	3919	89128	206296

MURPHY OPERATING CORPORATION
4TH QUARTER PRODUCTION REPORT
JANUARY 01, 1988

TODD LOWER SAN ANDRES UNIT

PRODUCTION

TODD LOWER SAN ANDRES (ASSOCIATED) POOL

Computer LEASE NAME, Well # WELL S T R STATUS				CUMULATIVE THRU 12/31/86												1987	1987 CUM.		
				JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	TOTAL	TOTALS		
TLSAU SEC.30 (Val State) BATTERY #15																			
210012	2 B	30-T7S-R36E	P	OIL	127,535	120	42	65	43	45	36	60	46	54	36	92	24	663	128198
				GAS		0	0	0	0	0	0	0	0	0	0	0	0	0	
				WAT		1086	406	247	443	274	11	73	118	152	153	139	456	3558	
210013	10 J	30-T7S-R36E	I	OIL	105,811	0	0	1	1	0	0	0	0	0	0	0	0	2	105813
				GAS		0	0	0	0	0	0	0	0	0	0	0	0	0	
				WAT		3159	119	1915	1646	0	0	0	0	0	0	0	0	6839	
				INJ														25626	
TLSAU SEC. 19 (Hobbs "Z")																			
210014	15 O	19-T7S-R36E	P	OIL	32,897	0	0	81	48	59	36	30	46	54	47	45	29	475	33372
				GAS		0	0	0	0	0	0	0	0	0	0	0	0	0	
				WAT		0	0	260	412	533	0	37	31	97	206	139	28	1743	
TLSAU SEC.30 (Livaudais Fed.)																			
210015	3 C	30-T7S-R36E	P	OIL	13,473	0	113	81	48	45	24	30	24	36	48	0	24	473	13946
				GAS		0	0	0	0	0	0	0	0	0	0	0	0	0	
				WAT		0	64	344	348	0	22	36	29	107	206	173	228	1557	
210016	6 F	30-T7S-R36E	P	OIL	41,738	0	0	94	54	30	47	30	23	36	48	0	0	362	42100
				GAS		0	0	0	0	0	0	0	0	0	0	0	0	0	
				WAT		0	0	540	317	807	22	36	29	152	332	705	2135	5075	
Batt.#15 LEASE TOTAL																			
				OIL	321,454	120	155	322	194	179	143	150	139	180	179	137	77	1975	323429
				GAS		0	0	0	0	0	0	0	0	0	0	0	0	0	
				WAT		4245	589	3306	3166	1614	55	182	207	508	897	1156	2847	18772	
Hobbs "Z" #1;																			
				INJ	0	0	0	0	0	0	0	0	0	0	3717	10689	11220	25626	
Livaudais Fed. #3 & #4)																			

TLASAU SEC.31 (Atlantic Smith) BATTERY #5																				
210017	9 I	31-T7S-R36E	P	OIL	100,646	0	0	0	0	0	0	0	0	0	0	0	0	7	7	100653
				GAS		0	0	0	0	0	0	0	0	0	0	0	0	0	0	
				WAT		0	0	0	0	0	0	0	0	0	0	0	0	0	39291	
				INJ	111,553	6700	5071	0	0	0	0	0	0	0	0	0	0	0	11771	123324
						@0	@781	@0	@0	@0	@0	@0	@0	@0	@0	@0	@0	@0		
210018	10 J	31-T7S-R36E	P	OIL	99,660	65	58	15	15	0	0	0	0	0	0	0	0	0	153	99813
				GAS		143	185	253	496	402	0	0	0	0	0	0	55	59	1593	
				WAT		6446	106	1670	2253	0	0	0	0	0	8459	10085	13718	12019	54756	

MURPHY OPERATING CORPORATION
4TH QUARTER PRODUCTION REPORT
JANUARY 01, 1988

PRODUCTION

TODD LOWER SAN ANDRES (ASSOCIATED) POOL

TODD LOWER SAN ANDRES UNIT

Computer LEASE NAME, Well # WELL		S	T	R	STATUS	THRU 12/31/86	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	1987 TOTAL	CUM. TOTALS
TLSSAU SEC.31 (Atlantic Smith) BATTERY #5 continued:																				
TLSSAU SEC.31 (Atlantic State & was BATT.#4)																				
210026	11 K	31-T7S-R36E	P	OIL			51,845	0	0	30	21	31	37	46	0	0	0	0	165	52010
				GAS			0	0	0	0	0	198	0	20	0	0	0	0	218	
				WAT			132	0	668	250	1344	1291	3845	2991	3626	5997	8303	9289	37736	
TLSSAU SEC.32 (Cook State)																				
210019	12 L	32-T7S-R36E	I	OIL			36,201	0	0	0	0	0	0	0	0	0	0	0	0	36201
				GAS			0	0	0	0	0	0	0	0	0	0	0	0	0	
				WAT			805	0	0	0	0	0	0	0	0	0	0	0	805	
				INJ			604,001	0	0	0	0	0	0	0	0	0	9829	15586	25415	629416
Batt.#5 LEASE TOTAL							288,352	65	58	45	36	31	37	46	0	0	0	7	325	288677
(Atlantic Smith #2 & #1;							GAS	143	185	253	496	402	198	0	0	0	55	59	1811	
& Cook State #1)							WAT	7383	106	2338	2503	1344	1291	3845	2991	12085	27258	36101	132588	
							INJ	715,554	6700	5071	0	0	0	0	0	0	9829	15586	37186	752740

TLSSAU SEC.31 (Skelly Smith) BATTERY #9																				
210020	1 A	31-T7S-R36E	P	OIL			180,276	0	0	0	0	0	0	0	0	8	0	0	8	180284
				GAS			0	0	0	0	0	0	0	0	0	29	0	0	29	
				WAT			0	0	0	0	0	0	0	0	0	9686	9563	5872	25121	
				INJ			133,985	6453	5650	6319	7305	5539	9840	13619	8759	2192	0	0	65676	199661
							@0	@0	@0	@0	@0	@0	@0	@0	@0	@0	@0	@0	@0	
210021	2 B	31-T7S-R36E	P	OIL			119,263	1	12	5	0	15	57	22	35	34	8	0	0	189
				GAS			11	17	31	57	14	3	73	54	74	32	0	0	366	119452
				WAT			310	259	17415	16259	6543	6012	6802	5749	10668	5650	4782	4748	85197	
TLSSAU SEC.31 (Hobbs "R")																				
210022	3 C	31-T7S-R36E	I	OIL			42,852	0	0	0	0	0	0	0	0	0	0	0	0	42852
				GAS			0	0	0	0	0	0	0	0	0	0	0	0	0	
				WAT			0	0	0	0	0	0	0	0	0	0	0	0	0	
				INJ			111,225	5691	2952	4989	5708	4579	5130	6383	8151	8079	23187	20983	23900	119732
							@0	@0	@0	@0	@0	@0	@0	@0	@0	@0	@0	@0	@0	230957
210023	7 G	31-T7S-R36E	I	OIL			36,362	0	0	0	0	0	0	0	0	0	0	0	0	36362
				GAS			0	0	0	0	0	0	0	0	0	0	0	0	0	
				WAT			0	0	0	0	0	0	0	0	0	0	0	0	0	
				INJ			230,900	3502	5816	6691	6622	5594	9474	8029	12314	15033	25691	25277	23864	378807
							@413	@0	@0	@0	@0	@0	@88	@96	@129	@165	@0	@0	@0	

TODD LOWER SAN ANDRES UNIT

[illegible]

MURPHY OPERATING CORPORATION
4TH QUARTER PRODUCTION REPORT
JANUARY 01, 1988

PRODUCTION

TODD LOWER SAN ANDRES (ASSOCIATED) POOL

TODD LOWER SAN ANDRES UNIT

Computer LEASE NAME, Well # WELL S T R STATUS						CUMULATIVE THRU 12/31/86												1987	CUM.		
						JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	TOTAL	TOTALS		
TSLAU SEC.32 (Gates State) BATTERY #8																					
210029	3 C	32-T7S-R36E		I	OIL	56,183	0	0	0	0	0	0	0	0	0	0	0	0	0	56183	
					GAS	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
					WAT	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
					INJ	196,661	4960	4563	4974	4444	8577	12926	11716	6459	6788	9157	14566	20216	109346	306007	
						@0	@0	@0	@0	@0	@0	@0	@0	@130	@0	@0	@0	@0	@0		
210030	4 D	32-T7S-R36E		P	OIL	102,493	98	118	118	138	127	110	117	186	113	194	152	119	1590	104083	
					GAS	155	153	153	89	129	143	214	131	163	124	236	142	68	1747		
					WAT	1570	2697	4283	3629	2966	4464	6715	8993	4860	6595	7324	9779	63875			
210031	5 E	32-T7S-R36E		I	OIL	24,822	0	0	0	0	0	0	0	0	0	0	0	0	0	24822	
					GAS	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
					WAT	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
					INJ	255,208	5919	4998	6448	6808	5746	9461	12543	12708	14810	24344	25483	26055	155323	410531	
						@0	@0	@0	@0	@0	@0	@75	@141	@130	@256	@429	@0	@0	@0		
210032	6 F	32-T7S-R36E		P	OIL	9,035	251	274	236	225	259	244	58	146	211	268	202	277	2651	11686	
					GAS	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
					WAT	5600	10077	11467	12867	13513	9547	13634	11103	11341	15388	15565	18562	148664			
Batt. #8 LEASE TOTAL						192,533	349	392	354	363	386	354	175	332	324	462	354	396	4241	196774	
(Gates State #2, #1, #4, #3)							155	153	89	129	143	214	131	163	124	236	142	68	1747		
					WAT	7170	12774	15750	16496	16479	14011	20349	20096	16201	21983	22889	28341	212539			
					INJ	451,869	10879	9561	11422	11252	14323	22387	24259	19167	21598	33501	40049	46271	264669	716538	

TSLAU SEC.32 (Roosevelt State "AN") BATTERY #7																						
210033		2 B	32-T7S-R36E			P	OIL	122,030	260	249	363	295	298	245	162	62	85	94	73	30	2216	124246
							GAS	253	332	402	369	327	267	169	102	142	137	114	42	2656		
							WAT	14410	6972	8426	7624	9003	9030	13989	12605	11472	13759	15043	14327	136660		
210034		7 G	32-T7S-R36E			P	OIL	72,736	97	66	56	69	65	90	99	62	57	63	48	16	788	73524
							GAS	224	212	141	208	168	227	233	239	213	206	172	62	2305		
							WAT	1815	1769	1621	1673	1466	1434	1554	2582	5651	3881	4750	2935	31131		
210051		10 J	32-T7S-R36E			I	OIL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
							GAS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
							WAT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
							INJ	510,314	12771	10828	14375	14080	10148	11053	14755	14534	13378	16868	17195	11624	161609	671923
								@302	@168	@200	@254	@298	@424	@561	@521	@517	@673	@575	@575			
Batt. #7 LEASE TOTAL																						
							OIL	194,766	357	315	419	364	363	335	261	124	142	157	121	46	3004	197770
							GAS	477	544	543	577	495	494	402	341	355	343	286	104	4961		
							WAT	16225	8741	10047	9297	10469	10464	15543	15187	17123	17640	19793	17262	167791		
							INJ	510,314	12771	10828	14375	14080	10148	11053	14755	14534	13378	16868	17195	11624	161609	671923

#3)

MURPHY OPERATING CORPORATION
4TH QUARTER PRODUCTION REPORT
JANUARY 01, 1988

PRODUCTION

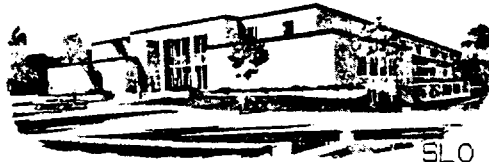
TODD LOWER SAN ANDRES (ASSOCIATED) POOL

TODD LOWER SAN ANDRES UNIT

Computer LEASE NAME, Well # WELL				S	T	R	STATUS	THRU 12/31/86	1987 JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	1987 TOTAL	CUM. TOTALS
TL.SAU SEC.36 (N.M.State "AY") BATTERY #2 continued:																						
210044	6 F	36-T7S-R35E	P	OIL	70,787	97	49	144	40	83	70	103	81	70	87	85	82	991	71778			
		GAS			482	995	1140	832	1212	1189	1055	903	741	723	759	516	10547					
		WAT			1283	2128	423	581	785	243	356	332	269	488	823	198	7909					
210045	9 I	36-T7S-R35E	P	OIL	87,061	64	38	51	30	102	72	153	123	85	79	85	117	999	88060			
		GAS			28	63	46	63	128	180	238	199	132	95	106	82	1360					
		WAT			396	2258	463	367	962	269	384	309	168	798	1257	66	7697					
210046	10 J	36-T7S-R35E	P	OIL	123,893	84	43	98	65	46	48	76	120	67	75	85	7	814	124707			
		GAS			158	332	289	502	255	432	409	705	362	330	395	272	4441					
		WAT			2477	2311	716	887	785	328	631	504	168	798	1213	1119	11937					
Batt. #2 LEASE TOTAL				OIL	452,122	278	271	376	232	231	190	332	324	370	394	314	317	3629	455751			
(N.M. State "AY" #2, #1, #5, #3, #6 & #4)				GAS	689	1579	1520	1570	1595	1801	1702	1807	1647	1572	1518	1360	18360					
				WAT	4417	12807	2539	3058	2532	840	1371	1145	3366	4434	4333	6583	47425					
				INJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
TODD LOWER SAN ANDRES				OIL 2,715,592	2226	1995	2512	2115	2158	2042	1948	1860	1872	2108	1780	1749	24365	2739957				
UNIT TOTAL				GAS	2274	2923	2941	4007	3773	3905	3379	3575	3429	3485	3345	2850	39885					
				WAT	61708	45340	54314	53570	41127	34941	50065	47851	63026	106069	117520	121459	796980					
AVERAGE BBLs/WELL				INJ 2,816,393	77308	66240	77119	81455	71497	90211	111996	106189	101639	150556	188093	190624	1312927	4129320				
					77	77	90	73	86	82	93	78	65	70	61	56						

State of New Mexico

7201



SLO REF. NO. OG-396

W.R. HUMPHRIES
COMMISSIONER

Commissioner of Public Lands

September 3, 1987

P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148

Murphy Operating Corporation
Attention: Mark B. Murphy
P. O. Box 2648
Roswell, New Mexico 88208-2648

Re: Todd Lower San Andres Unit
1987 Plan of Development
Roosevelt County, New Mexico

Gentlemen:

The Commissioner of Public Lands has this date approved the above captioned Plan of Development. Our approval is subject to like approval by all appropriate agencies.

If we may be of further help, please do not hesitate to call on us.

Very truly yours,

W. R. HUMPHRIES
COMMISSIONER OF PUBLIC LANDS

BY: *Floyd O. Prando*
FLOYD O. PRANDO, Director
Oil & Gas Division
(505) 827-5744

WRH/FOP/ams
enclosure
cc: Bureau of Land Management
Oil Conservation Division



MURPHY OPERATING CORPORATION

UNITED BANK PLAZA, SUITE 300
400 NORTH PENNSYLVANIA AVENUE
POST OFFICE BOX 2648
ROSWELL, NEW MEXICO 88202-2648

TELEPHONE
505 623-7210

#7201

March 17, 1987

Mr. Francis R. Cherry, Jr., District Manager
United States of America
Department of the Interior
Bureau of Land Management
Post Office Box 1397
Roswell, New Mexico 88202-1397

Mr. Pete Martinez
State of New Mexico
Commissioner of Public Lands
Oil & Gas Division
Post Office Box 1148
Santa Fe, New Mexico 87504-1148

Mr. William J. LeMay, Director ← THIS COPY IS FOR
State of New Mexico
Energy and Minerals Department
Oil Conservation Division
Post Office Box 2088
Santa Fe, New Mexico 87504-2088

Re: Plan of Operation 1986 - 1987,
Todd Lower San Andres Unit
Roosevelt County, New Mexico.

Gentlemen:

Pursuant to the provisions of Section 11 of the Unit Agreement, Murphy Operating Corporation ("MOC"), operator of the Todd Lower San Andres Unit, Roosevelt County, New Mexico respectfully submits for your consideration and approval, this plan of operation for the secondary recovery of oil by waterflood on the subject unitized land.

I. Review of 1986. Injection into the nine (9) injection wells (#29-13, #30-9, #30-15, #31-1, #31-3, #31-7, #31-9, #32-3 and #32-5) located in the pilot waterflood area began in October, 1984 and has continued essentially uninterrupted. Injection into Wells #30-9, #31-1 and #31-3 was discontinued intermittently to monitor the effect upon offset producing wells. By November, 1986 continuous injection had been resumed into all injection wells. The fluctuation of the injection rates of these wells has assisted MOC in confirming the probability of a general northwest-southeast preferential permeability (fracture) trend. Due to the probability of this preferential permeability trend, MOC has resumed injection into two (2) previously approved salt water disposal wells, Wells #25-15 and #32-10. It is believed that the reinstatement of these injectors should improve and enhance the waterflood response currently appearing in the following producing locations: Wells #29-14, #31-10, #31-11, #32-2, #32-4, #32-6 and #32-7.

II. Proposed Plan of Operation 1987. MOC proposes to continue to maintain the existing injection pattern (as described hereinabove) but may adjust this pattern as needed on a well by well basis to insure a proper flood pattern and to reduce the risk of bypassing remaining reserves.

MOC will continue to monitor all injection wells through daily rate and pressure checks. Tracer surveys have been run on all injection wells indicating excellent injection profiles with no indication of water channeling. Surface injection pressures are currently being limited to 800 psi (0.2 psi per foot or less) in each of the active injection wells. The annuluses of all injection wells have been filled with inert ("packer") fluid containing corrosion inhibiting chemicals.

In addition to monthly water analyses, MOC performs weekly fluid level and production tests on all producing wells.

III. Further Development. Because of the probability of a preferential permeability trend, MOC may propose at some time in the future to convert certain injectors to producers and vice versa. MOC is currently performing bottom-hole pressure tests and plans to use step-rate injection tests to assist it in more accurately identifying the precise location(s) of the preferential fractures.

As the proper flood pattern is ascertained, it may be necessary to drill additional wells at legal locations. Until such time as the precise location of the preferential fractures are identified, it is extremely difficult to know whether each respective well will be designated a producer or an injector. For this reason, the "proposed status" listed below reflects our current plan, subject to revision.

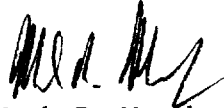
<u>LOCATION</u>	<u>PROPOSED STATUS</u>
T-7-S, R-36-E, NMPM Roosevelt County, New Mexico	
Unit J, Section 29	Injector
Unit L, Section 29	Producer
Unit F, Section 30	Injector
Unit K, Section 30	Injector
Unit N, Section 30	Producer
Unit O, Section 31	Injector
Unit A, Section 32	Injector

IV. Modification. With your approval, this plan of operation may be modified or supplemented during the year to meet changed conditions or to protect the interests of all parties to the Unit Agreement.

Should you have any questions or comments, please contact the undersigned.

Sincerely,

MURPHY OPERATING CORPORATION

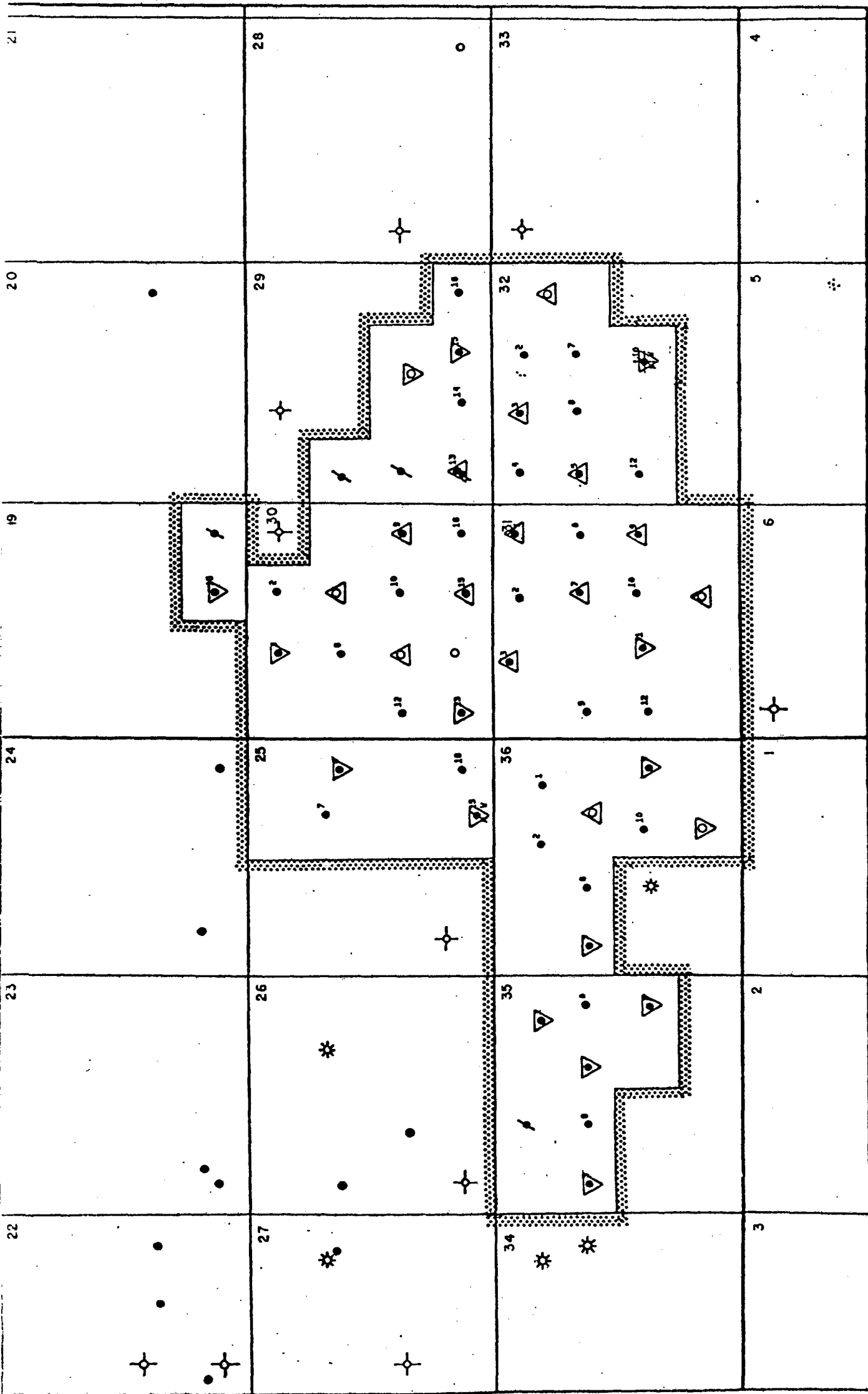


Mark B. Murphy
President and Chief Operating Officer

AJM:MBM:fnr

Enclosures: Todd Lower San Andres Unit Well Status Map;
Todd Lower San Andres Unit Reservoir Performance Curve; and
Todd Lower San Andres Unit 1986 Tabulated Production and
Injection Data.

cc: Mr. Jerry E. Sexton
State of New Mexico
Energy and Minerals Department
Oil Conservation Division
Post Office Box 1980
Hobbs, New Mexico 88240



PROPOSED WELL STATUS MAP

R.35 E. R.36 E.

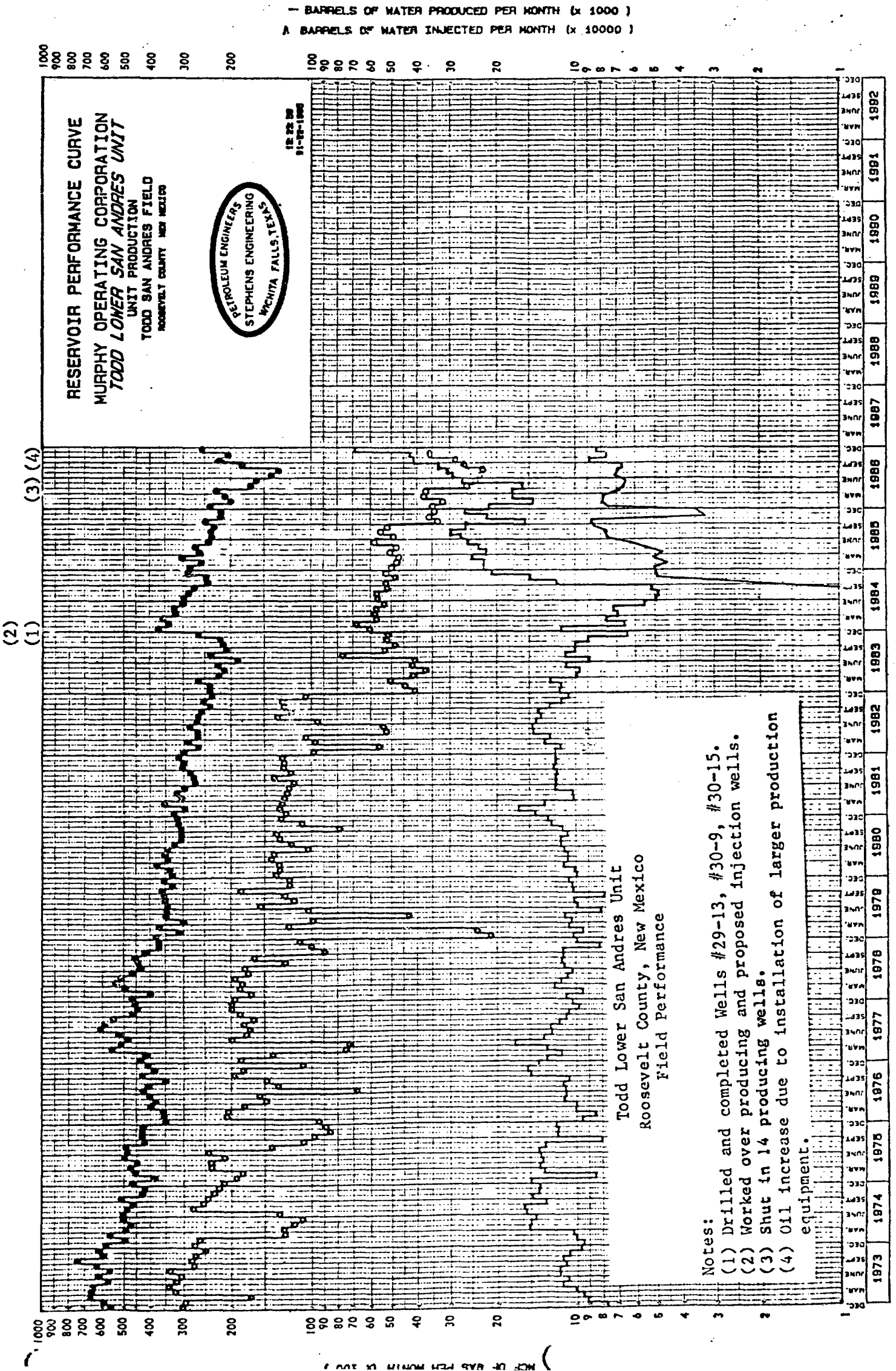
MURPHY OPERATING CORPORATION

TODD LOWER SAN ANDRES UNIT

ROOSEVELT CO., NM

T.7 S.
T.8 S.

T.7 S.
T.8 S.



TODD LOWER SAN ANDRES (ASSOCIATED) POOL																			TODD LOWER SAN ANDRES UNIT									
LEASE NAME,										CUMULATIVE										1986								
WELL	S	T	R	STATUS	THRU 12/31/85	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	1986 TOTAL	CUM. TOTALS									
TLSSAU SEC.25 (Mark Fed.) BATTERY #12																												
7	G	25-T7S-R35E	P	OIL	6,657	53	34	31	34	7	17	29	16	17	15	17	45	315	6,972									
				GAS		0	0	0	0	0	0	0	0	0	0	0	0	0										
				WAT		96	96	87	95	103	224	44	101	488	1431	75	1192	4,032										
8	H	25-T7S-R35E	P	OIL	36,466	14	15	11	3	65	12	8	11	7	5	8	13	172	36,638									
				GAS		0	0	0	0	0	0	0	0	0	0	0	0	0										
				WAT		92	94	69	18	1	224	43	73	270	1193	42	1137	3,256										
15	O	25-T7S-R35E	I	OIL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0									
				GAS		0	0	0	0	0	0	0	0	0	0	0	0	0										
				WAT		0	0	0	0	0	0	0	0	0	0	0	0	0										
				INJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0										
TLSSAU SEC.30 (Livaudais)																												
16	P	25-T7S-R35E	S	OIL	46,627	23	19	19	16	0	0	0	0	0	0	0	0	77	46,704									
				GAS		0	0	0	0	0	0	0	0	0	0	0	0	0										
				WAT		40	23	23	19	0	0	0	0	0	0	0	0	105										
TLSSAU SEC.30 (Livaudais)																												
12	L	30-T7S-R36E	S	OIL	54,988	42	28	63	43	7	29	8	13	12	8	0	0	253	55,241									
				GAS		0	0	0	0	0	0	0	0	0	0	0	0	0										
				WAT		58	52	117	80	197	381	110	132	287	1191	0	0	2,605										
13	M	30-T7S-R36E	S	OIL	39,958	23	6	4	9	0	0	0	0	0	0	0	0	42	40,000									
				GAS		0	0	0	0	0	0	0	0	0	0	0	0	0										
				WAT		74	69	46	104	0	0	0	0	0	0	0	0	293										
#12 (Mark Fed.) LSE, TOTAL						184,696	155	102	128	105	79	58	45	40	36	28	25	58	859	185,555								
				GAS		0	0	0	0	0	0	0	0	0	0	0	0	0	0									
				WAT		360	334	342	316	301	829	197	306	1045	3815	117	2329	10,291										
				INJ		0	0	0	0	0	0	0	0	0	0	0	0	0	0									
TLSSAU SEC.29 (LACT UNIT)(TODD STORAGE SYSTEM)(LACT #1)																												
1	M	29-T7S-R36E	P&A	OIL	42,275														42,275									
2	L	29-T7S-R36E	P&A	OIL	37,835														37,835									
Peterson Federal Lease																												
Peterson Federal Lease																												
13	M	29-T7S-R36E	I	OIL	2,553	0	0	0	0	0	0	0	0	0	0	0	0	0	2,553									
				GAS		0	0	0	0	0	0	0	0	0	0	0	0	0										
				WAT		0	0	0	0	0	0	0	0	0	0	0	0	0										
				INJ		104,333	18103	18781	16876	14777	15776	13971	14926	11787	10676	15586	10883	12890	279,365									
						@128	@390	@193	@152	@ 326	@229	@268	@	@	@	@	@	@										

MURPHY OPERATING CORPORATION
4TH QUARTER PRODUCTION REPORT
JANUARY 01, 1987

TODD LOWER SAN ANDRES UNIT

[illegible]

MURPHY OPERATING CORPORATION
4TH QUARTER PRODUCTION REPORT
JANUARY 01, 1987

TODD LOWER SAN ANDRES UNIT

PRODUCTION

TODD LOWER SAN ANDRES (ASSOCIATED) POOL

LEASE NAME,			CUMULATIVE		1986												1986		CUM.	
WELL	S	T	R	STATUS	THRU 12/31/85	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	TOTAL	TOTALS	
TLSAU SEC.30 (Val State) BATTERY #15																				
2	B			30-T7S-R36E	P	OIL	79	0	75	63	125	83	92	100	118	127	68	130	1,060	127,535
						GAS	0	0	0	0	0	0	0	0	0	0	0	0	0	
						WAT	203	0	1921	1937	3326	3329	322	525	692	1399	386	1596	15,636	
10	J			30-T7S-R36E	P	OIL	44	42	8	0	0	9	4	0	0	0	25	0	132	105,811
						GAS	0	0	0	0	0	0	0	0	0	0	0	0	0	
						WAT	931	1534	881	360	0	347	154	0	0	531	2511	3852	11,101	
TLSAU SEC. 19 (Hobbs "Z")																				
15	O			19-T7S-R36E	T	OIL	2	15	20	24	0	0	0	0	0	0	0	0	61	32,897
						GAS	0	0	0	0	0	0	0	0	0	0	0	0	0	
						WAT	85	71	1362	1787	0	0	0	0	0	0	0	0	3,305	
TLSAU SEC.30 (Livaudais Fed.)																				
3	C			30-T7S-R36E	S	OIL	18	46	23	39	0	0	0	0	0	0	0	0	126	13,473
						GAS	0	0	0	0	0	0	0	0	0	0	0	0	0	
						WAT	115	150	2198	1716	0	0	0	0	0	0	0	0	4,179	
6	F			30-T7S-R36E	S	OIL	40	46	37	31	0	0	0	0	0	0	0	0	154	41,738
						GAS	0	0	0	0	0	0	0	0	0	0	0	0	0	
						WAT	189	207	1029	1382	0	0	0	0	0	0	0	0	2,807	
#15 (Val State) Lse.Total																				
					OIL		183	149	163	157	125	92	96	100	118	127	93	130	1,533	321,454
					GAS		0	0	0	0	0	0	0	0	0	0	0	0	0	
					WAT		1523	1962	7391	7182	3326	3676	476	525	692	1930	2897	5448	37,028	
					INJ		0	0	0	0	0	0	0	0	0	0	0	0	0	

TLSAU SEC.31 (Atlantic Smith) BATTERY #5

9 I	31-T7S-R36E	I	OIL	0	0	0	0	0	0	0	0	0	0	0	0	0	100,646
			GAS	0	0	0	0	0	0	0	0	0	0	0	0	0	
			WAT	0	0	0	0	0	0	0	0	0	0	0	0	0	
			INJ	1882	1894	1299	1108	1265	1488	2330	2878	3153	3215	4103	7566	32,181	111,553
				@404	@469	@457	@453	@ 560	@555	@371	@0	@0	@0	@0	@0		
10 J	31-T7S-R36E	S	OIL	21	11	0	6	10	13	0	0	0	0	0	0	61	99,660
			GAS	126	56	67	124	1585	8	11	30	0	0	0	0	2,007	
			WAT	134	111	399	320	16	1959	146	4614	0	0	0	0	7,699	

TODD LOWER SAN ANDRES UNIT																			
PRODUCTION																			
TODD LOWER SAN ANDRES (ASSOCIATED) POOL																			
LEASE NAME,				CUMULATIVE 1986															
WELL	S	T	R	STATUS	THRU 12/31/85	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	1986 TOTAL	CUM. TOTALS
TLSAU SEC.31 (Atlantic Smith) BATTERY #5 continued:																			
TLSAU SEC.32 (Cook State)																			
12 L	32-T7S-R36E	T	OIL	36,179	7	3	6	6	0	0	0	0	0	0	0	0	0	22	36,201
			GAS		0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			WAT		158	117	128	30	0	0	0	0	0	0	0	0	0	0	
#5 (Atl.Sm.)	Lse. Total		OIL	236,424	28	14	6	12	10	13	0	0	0	0	0	0	0	83	236,507
			GAS		126	56	67	124	16	8	11	30	0	0	0	0	0	438	
			WAT		292	228	527	350	1585	1959	146	4614	0	0	0	0	0	9,701	
			INJ	79,372	1882	1894	1299	1108	1265	1488	2330	2878	3153	3215	4103	7566	32,181	111,553	
TLSAU SEC.31 (Skelly Smith) BATTERY #9																			
1 A	31-T7S-R36E	I	OIL	180,276	0	0	0	0	0	0	0	0	0	0	0	0	0	0	180,276
			GAS		0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			WAT		0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			INJ	104,301	0	0	0	0	0	0	0	0	0	4168	9605	8304	7607	29,684	133,985
					@0	@0	@0	@0	@0	@0	@0	@0	@0	@0	@0	@0	@0	@0	
2 B	31-T7S-R36E	P	OIL	119,260	0	0	0	0	0	0	0	0	0	0	0	0	3	3	119,263
			GAS		70	43	3	0	0	0	0	0	0	0	0	0	0	116	
			WAT		5580	2287	0	0	0	0	0	0	0	0	6174	6997	21,038		
TLSAU SEC.31 (Hobbs "R")																			
3 C	31-T7S-R36E	I	OIL	42,852	0	0	0	0	0	0	0	0	0	0	0	0	0	0	42,852
			GAS		0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			WAT		0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			INJ	104,656	1660	0	0	0	0	0	0	0	0	0	0	0	1071	3838	6,569
					@0	@0	@0	@0	@0	@0	@0	@0	@0	@0	@0	@0	@0	@0	111,225
7 G	31-T7S-R36E	I	OIL	36,362	0	0	0	0	0	0	0	0	0	0	0	0	0	0	36,362
			GAS		0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			WAT		0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			INJ	74,441	15484	15278	15680	14487	13170	13649	14119	14580	13193	13726	7728	5365	156,459	230,900	
					@225	@0	@0	@0	@0	@0	@0	@0	@0	@0	@0	@0	@0	@0	
8 H	31-T7S-R36E	P	OIL	772	0	0	0	0	0	0	0	0	0	0	0	3	3	775	
			GAS		29	17	11	0	0	0	0	0	0	0	0	0	0	57	
			WAT		8768	6526	0	0	0	0	0	0	0	0	6689	6759	28,742		

TODD LOWER SAN ANDRES UNIT

[illegible]

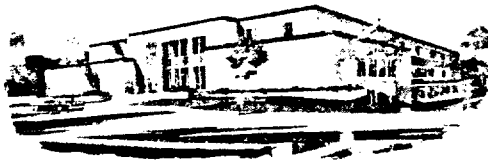
MURPHY OPERATING CORPORATION
4TH QUARTER PRODUCTION REPORT
JANUARY 01, 1987

TODD LOWER SAN ANDRES UNIT																									
PRODUCTION													TODD LOWER SAN ANDRES (ASSOCIATED) POOL												
LEASE NAME, WELL													CUMULATIVE THRU 12/31/85												
S	T	R	STATUS	1986									1986												
				JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	TOTAL	CUM.								
				BATTERY #1													TOTALS								
1 A	35-T7S-R35E	S	OIL	52	49	39	40	0	0	0	0	0	60	49	0	116	405	31,014							
			GAS	86	120	52	146	0	0	0	0	0	135	153	0	242	934								
			WAT	136	37	29	30	0	0	0	0	0	477	1477	0	1555	3,741								
5 E	35-T7S-R35E	S	OIL	56	39	153	146	128	99	66	68	53	49	0	0	0	857	16,616							
			GAS	272	287	662	160	773	494	347	303	145	179	0	0	0	3,622								
			WAT	171	89	349	333	292	1725	463	537	1013	1834	0	0	0	6,806								
6 F	35-T7S-R35E	P	OIL	92	73	23	43	0	0	0	1	45	101	120	153	651	72,411								
			GAS	235	275	52	332	0	0	0	6	97	293	557	605	2,452									
			WAT	110	31	9	17	0	0	0	1	762	1506	874	2044	5,354									
7 G	35-T7S-R35E	P	OIL	115	129	125	107	157	95	132	117	131	154	180	133	1,575	66,090								
			GAS	186	311	179	385	316	266	391	296	193	319	579	362	3,783									
			WAT	156	85	82	70	102	1688	925	1039	1322	1874	1224	1842	10,409									
8 H	35-T7S-R35E	S	OIL	84	60	51	59	0	0	0	0	86	53	0	0	393	38,580								
			GAS	458	203	105	306	0	0	0	0	396	331	0	0	1,799									
			WAT	135	72	61	71	0	0	0	0	1277	1584	0	0	3,200									
9 I	35-T7S-R35E	T	OIL	0	0	0	0	0	0	0	0	0	0	0	0	0	96								
			GAS	0	0	0	0	0	0	0	0	0	0	0	0	0									
			WAT	0	0	0	0	0	0	0	0	0	0	0	0	0									
#1 (NM CT)	Lse. Total		OIL	399	350	391	395	285	194	198	186	375	406	300	402	3,881	224,807								
			GAS	1237	1196	1050	1329	1089	760	738	605	966	1275	1136	1209	12,590									
			WAT	708	314	530	521	394	3413	1388	1577	4851	8275	2098	5441	29,510									
			INJ	0	0	0	0	0	0	0	0	0	0	0	0	0									
BATTERY #2																									
1 A	36-T7S-R35E	T	OIL	0	0	0	0	0	0	0	0	0	0	0	0	0	37,554								
			GAS	0	0	0	0	0	0	0	0	0	0	0	0	0									
			WAT	0	0	0	0	0	0	0	0	0	0	0	0	0									
2 B	36-T7S-R35E	T	OIL	0	18	14	13	0	0	0	0	0	0	0	0	0	67,206								
			GAS	0	0	39	12	0	0	0	0	0	0	0	0	45									
			WAT	50	49	38	35	0	0	0	0	0	0	0	0	172									
5 E	36-T7S-R35E	S	OIL	93	37	37	31	0	0	0	0	56	31	0	0	285	65,621								
			GAS	50	83	220	30	0	0	0	0	79	38	0	0	500									
			WAT	112	44	44	37	0	0	0	0	502	788	0	0	1,527									

TODD LOWER SAN ANDRES (ASSOCIATED) POOL																			TODD LOWER SAN ANDRES UNIT									
LEASE NAME,					CUMULATIVE					1986										CUM.								
WELL	S	T	R	STATUS	THRU 12/31/85	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	TOTAL	TOTALS									
TSLAU SEC.36 (N.M.State "AY") BATTERY #2 continued:																												
6	F	36-T7S-R35E	P	OIL	69,808	73	67	69	50	51	80	64	69	69	96	123	168	979	70,787									
				GAS		300	231	658	114	230	282	259	323	382	446	1490	1318	6,033										
				WAT		189	97	100	72	73	1538	1118	1226	628	1098	561	1580	8,280										
9	I	36-T7S-R35E	S	OIL	86,703	87	55	49	55	0	0	0	1	48	63	0	0	358	87,061									
				GAS		46	51	129	192	0	0	0	4	79	89	0	0	590										
				WAT		157	71	63	71	0	0	0	1	1130	1221	0	0	2,714										
10	J	36-T7S-R35E	P	OIL	122,684	93	128	118	113	103	115	42	56	94	63	128	156	1,209	123,893									
				GAS		21	97	245	251	50	89	39	58	118	64	350	270	1,652										
				WAT		153	65	60	57	52	2142	2349	2407	878	1599	1405	1931	13,098										
#2	(NM AY) Lse. Total					346	305	287	262	154	195	106	126	267	253	251	324	2,876	452,122									
				OIL	449,246	417	462	1291	599	280	371	298	395	658	637	1840	1588	8,836										
				GAS		661	326	305	272	125	3680	3467	3634	3138	4706	1966	3511	25,791										
				INJ		0	0	0	0	0	0	0	0	0	0	0	0	0										
TODD LOWER SAN ANDRES																												
				OIL	2,685,099	2381	1997	2109	2261	1732	1610	1412	1332	1854	2297	2014	2534	23,533	2,708,632									
UNIT TOTAL						3495	3198	3772	3694	2576	2399	2327	2294	2759	2829	3596	3733	36,672										
				WAT		21491	14555	17340	17218	15899	26941	29228	30591	32561	43222	45868	68916	363,830										
				INJ		823,617	79355	78140	69998	65929	64691	70978	69651	68601	88567	76068	83156	891,398	1,715,015									
AVERAGE BBLS/WELL						70	59	62	67	91	85	74	63	93	109	112	133											

State of New Mexico

7201



JIM BACA
COMMISSIONER

Commissioner of Public Lands

April 2, 1985

P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148
Express Mail Delivery Uses:
310 Old Santa Fe Trail
Santa Fe, New Mexico 87501

Murphy Operating Corp.
P. O. Drawer 2648
Roswell, New Mexico 88201

Re: 1984-1985 Plan of Operations
Todd Lower San Andres Unit
Roosevelt County, New Mexico

ATTENTION: Mr. Mark B. Murphy

Dear Sir:

The Commissioner of Public Lands has this date approved your 1984-1985 Plan of Operations for the Todd Lower San Andres Unit Area, Roosevelt County, New Mexico. Such plan proposes the following:

1. Continue injection and monitoring of all injection and producing wells.
2. When a flood response is realized you will drill 5 produces and 4 injectors at legal locations in Sections 29 30, 31 and 32 in Township 7 South, Range 36 East, in the 3rd or 4th Quarter of 1985.
3. At approximately the same time as the commencement of drilling operations, the Well Nos. 30-13, 31-05, 31-11 and the 32-07 will be converted to injection service.

Our approval is subject to like approval by the New Mexico Oil Conservation Division and the Bureau of Land Management.

Enclosed is an approved copy for your files.

Very truly yours,

JIM BACA
COMMISSIONER OF PUBLIC LANDS

BY: *Ray D. Graham*
RAY D. GRAHAM, Director
Oil and Gas Division
AC 505/827-5744

JB/RDG/pm
encls.
cc:

OCD-Santa Fe, New Mexico
BLM-Albuquerque, New Mexico Attn: Fluids Branch
BLM-Roswell, New Mexico Attn: Mr. Armando Lopez



MURPHY OPERATING CORPORATION

ROSWELL PETROLEUM BUILDING

ROSWELL, NEW MEXICO 88201

MAILING ADDRESS
P. O. DRAWER 2648

TELEPHONE
505. 623-7210

January 7, 1985

7201

Ms. Sue Umshler
Mr. Robert Kent
Unit Agreement - MS430
Bureau of Land Management
505 Marquette, Suite 815, N.W.
Albuquerque, New Mexico 87102

Mr. Joe D. Ramey, Director
State of New Mexico
Energy and Minerals Department
Oil Conservation Division
Post Office Box 2088
Santa Fe, New Mexico 87501

Mr. Ray Graham
Mr. Pete Martinez
State of New Mexico
Commissioner of Public Lands
Oil and Gas Division
Post Office Box 1148
Santa Fe, New Mexico 87504-1148

Ms. Melba Carpenter
Oil Conservation Division
Post Office Box 1980
Hobbs, New Mexico 88240

Re: Plan of Operations for 1984-1985
Todd Lower San Andres Unit
Roosevelt, County, New Mexico

Gentlemen:

Pursuant to the provisions of Section 11 of the Unit Agreement, Murphy Operating Corporation, operator of the Todd Lower San Andres Unit Area, Roosevelt County, New Mexico, respectfully submits for your consideration and approval this plan of operation for the secondary recovery of oil by waterflood on the subject unitized land.

I. Modifications of 1983 Plan of Operation (copy attached).

The 1983 Plan of Operation proposed the initiation of a 320-acre pilot injection program during the second half of 1983. This plan included the conversion from producing to injection of Wells #31-03, 32-03, 31-09, and the drilling of injection Well #30-09. In addition, the plan included the drilling of two producing wells, Well #29-13 and Well #30-15. The drilling of these three wells (29-13, 30-09 and 30-15) was commenced in late November and December of 1983. The wells were completed by mid-January of 1984. In an effort to more effectively drain the respective drilling units, all of the new wells were produced until it became necessary to convert them to injection.

A satisfactory water source was developed by the drilling of two water supply wells in the SW $\frac{1}{4}$ of Section 26, T7S-R36E. The water wells tested between 90-110 GPM for an approximate combined capacity of 6000-7000 BWPd to provide ample water for the project even at the full flood development stage. Two (2) 3" polyurethane pipelines connect the water wells to the injection plant located in the NW $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 31, T7S, R36E.

Pursuant to a request from Amoco Production Company's Engineering Department, and after approval by all the signatory parties to the Unit Agreement and the Unit Operating Agreement, and after lengthy discussions with the unit's independent engineering consulting firm, Stephens Engineering, the decision was made to add the five (5) wells (marked in red on the attached plan) to the original four (4) injection wells (marked in blue) for the current injection pattern. This nine (9) well pattern is more compatible with the ultimate injection pattern than our original four (4) well pattern and will allow Murphy Operating Corporation and Stephens Engineering to monitor the flow patterns and flood characteristic in a more efficient manner. Also, this new pattern should shorten significantly the flood response time and more efficiently drain the pilot waterflood area.

Injection began on October 9, 1984 and has continued essentially uninterrupted. Currently, well head pressures are minimal and flood response is not anticipated to occur until May or possibly as late as June of 1985.

II. Proposed Plan of Operation for 1984-1985:

- A. Murphy Operating Corporation proposes to continue injection as previously discussed above and to monitor all injection and producing wells. This monitoring process includes semi-monthly well tests on producing Well #'s 30-16, 31-02, 31-08, and 32-04, monthly to bi-monthly production tests on all other producing wells located within unit and daily rate and pressure checks on all injection wells.

III. Further Development:

- A. When a flood response is realized, Murphy Operating Corporation will propose the immediate drilling of the following wells at legal locations in T7S,R36E, Roosevelt County, New Mexico:

	<u>LOCATION</u>	<u>PROPOSED WELL STATUS</u>
1.	Unit Letter L Section 29	Producer
2.	Unit Letter G Section 30	Injector
3.	Unit Letter H Section 30	Producer
4.	Unit Letter K Section 30	Injector
5.	Unit Letter N Section 30	Producer
6.	Unit Letter D Section 31	Producer
7.	Unit Letter F Section 31	Producer
8.	Unit Letter A Section 32	Injector
9.	Unit Letter K Section 32	Injector

Depending on the time of flood response, the drilling of the above listed wells will begin in the 3rd or 4th Quarter of 1985.

- B. At approximately the same time as the commencement of drilling operations, the following wells (all located in T7S,R36E, Roosevelt County, New Mexico) will be converted to injection service:

<u>WELL NUMBER</u>	<u>LOCATION</u>
1. 30-13	Unit Letter M Section 29
2. 31-05	Unit Letter E Section 31
3. 31-11	Unit Letter K Section 31
4. 32-07	Unit Letter G Section 32

IV. Modifications:

- A. This plan of operation may be modified or supplemented during the year with your approval to meet changed conditions or to protect the interest of all parties to the Unit Agreement.

We would greatly appreciate your assistance in expediting the approval of our Plan of Operation. Should you have any questions or comments please contact the undersigned.

Sincerely,

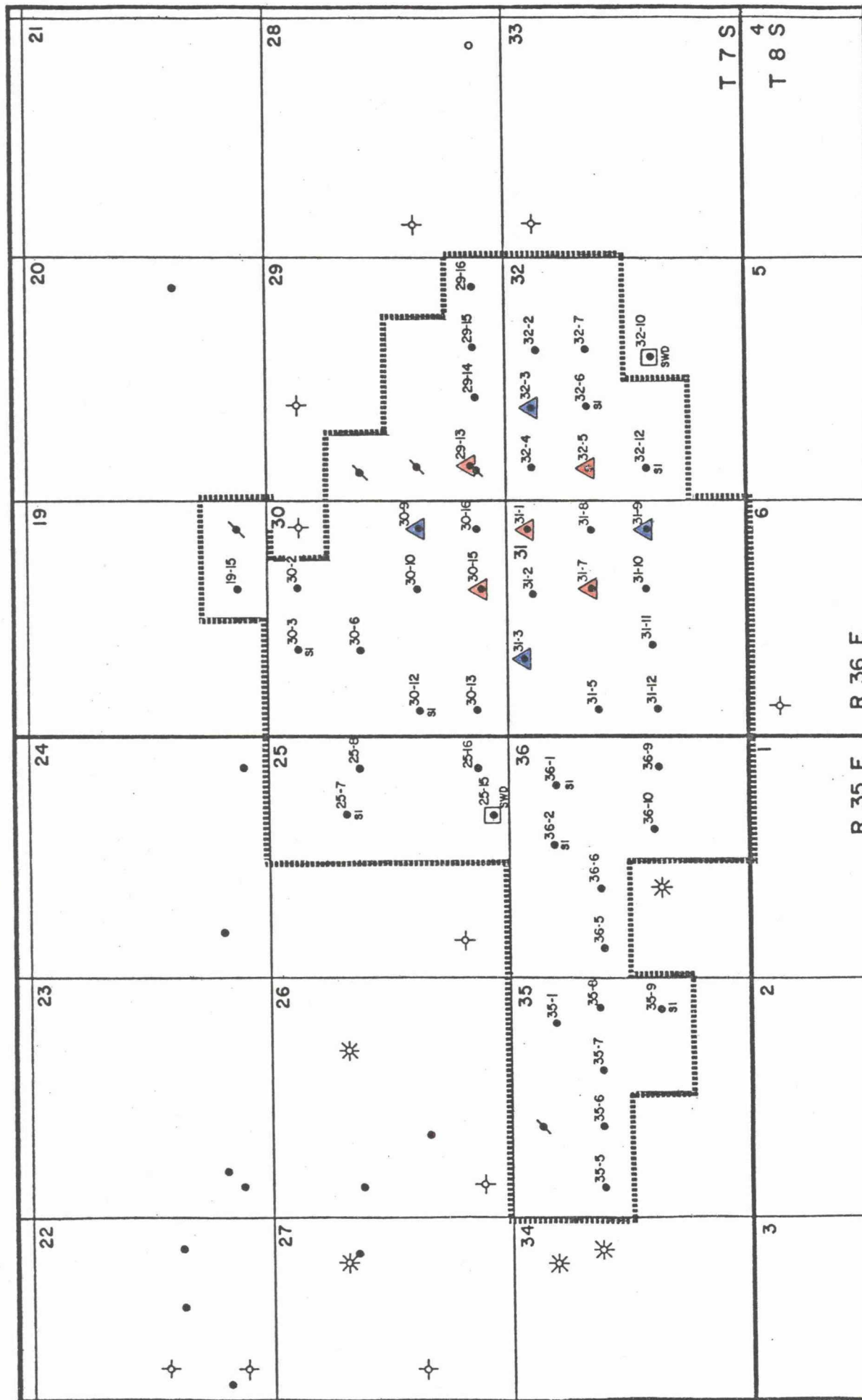
MURPHY OPERATING CORPORATION

Mark B. Murphy
Vice President

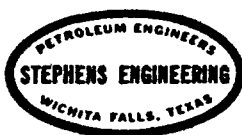
MBM/bjf

Enclosures: 1983 Plan of Operation

Correspondence from Stephens Engineering dated January 22, 1985



TELEPHONE - 817-723-2166



POST OFFICE BOX - 2249

WICHITA FALLS, TEXAS
76307

January 22, 1985

Murphy Operating Corporation
Roswell Petroleum Building
P. O. Drawer 2648
Roswell, New Mexico 88201

Re: Secondary Reserves Calculation
Todd Lower San Andres Unit
Roosevelt County, New Mexico

Dear Mark:

As per your request from letter dated January 4, 1985, included herewith is a production versus time graph from January, 1965 through December, 1984, and a production versus time graph showing oil, gas and water from January, 1973 through December, 1984. Secondary reserve calculations were based on volumetrics using an average net pay from the new gamma ray-neutron logs and porosities, water saturations, and formation volume factors from previous reservoir studies. The conclusion from these volumetric reserve calculations showed that each one of the infill wells drilled as a producer would produce an ultimate primary reserve of approximately 21,000 barrels of oil each. Secondary reserves for each of these infill producing wells was calculated to be 42,500 barrels of oil; therefore, ultimate recovery for all 40 acre spacing infill producing wells will be 63,500 barrels of oil. The additional reserves attributable to each of the new injection wells should be 42,500 barrels of oil each.

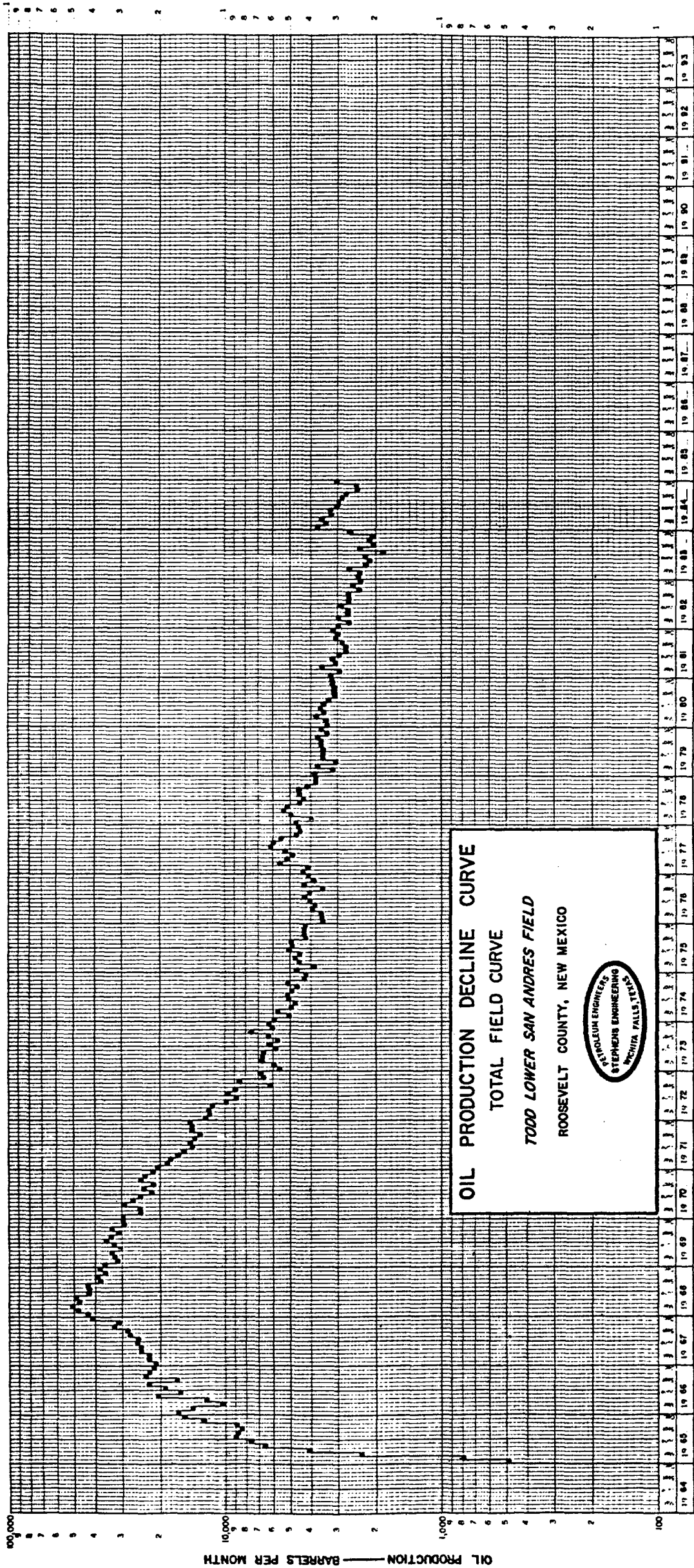
If you have any questions concerning these reserve calculations, please do not hesitate to contact me.

Sincerely,

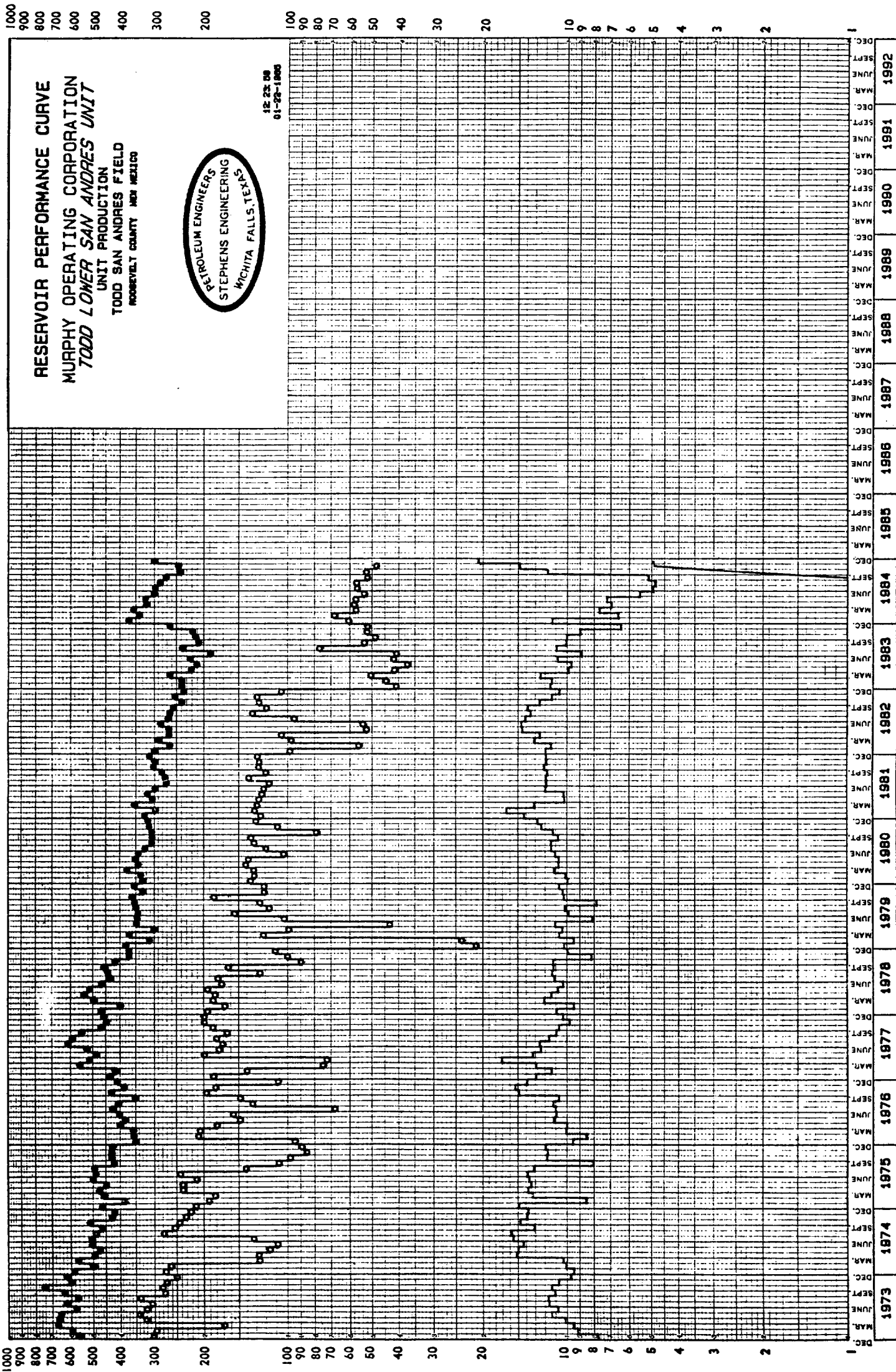
STEPHENS ENGINEERING

DeWayne Travelstead

DT/dk



- BARRELS OF WATER PRODUCED PER MONTH (x 1000)
A BARRELS OF WATER INJECTED PER MONTH (x 10000)





MURPHY OPERATING CORPORATION

ROSWELL PETROLEUM BUILDING

ROSWELL, NEW MEXICO 88201

MAILING ADDRESS
P. O. DRAWER 2648

TELEPHONE
505 623-7210

Ms. Sue Umshler
Mr. Robert Kent
Unit Agreements - MS430
Bureau of Land Management
505 Marquette, Suite 815, N.W.
Albuquerque, New Mexico 87102

Mr. Joe D. Ramey, Director
State of New Mexico
Energy and Minerals Department
Oil Conservation Division
Post Office Box 2088
Santa Fe, New Mexico 87501

Mr. Ray Graham
Mr. Pete Martinez
State of New Mexico
Commissioner of Public Lands
Oil and Gas Division
Post Office Box 1148
Santa Fe, New Mexico 87504-1148

Re: Todd Lower San Andres Unit
Roosevelt County, New Mexico

Gentlemen:

Murphy Operating Corporation, as operator for the Todd Lower San Andres Unit Area, Roosevelt County, New Mexico, pursuant to the provisions of Section 11 of the Unit Agreement, respectfully submits for your consideration and approval this plan of operation for the secondary recovery of oil by waterflood on the subject unitized land.

I. Proposed Plan of Operation for 1983

We propose the initiation of a 320-acre pilot injection program during the second half of 1983. This plan which is set out on the attached map ("Supplemental Waterflood Survey, Todd Lower San Andres Field") includes:

1. Development of a satisfactory water source.
2. Construction of necessary production and injection facilities.
3. Drilling of three wells at the following approximate locations in T-7-S, R-36-E (marked in red):
 - (a) 1980' FSL & 660' FEL Sec. 30 as injector
 - (b) 660' FSL & 1980' FEL Sec. 30 as producer
 - (c) 660' FSL & 700' FWL Sec. 29 as producer
4. Conversion of the following wells to injection service (marked in blue):
 - (a) Murphy Operating Corporation - Hobbs "R" No. 1
 - (b) Murphy Operating Corporation - Atlantic-Smith State No. 2
 - (c) Murphy Operating Corporation - Gates State No. 2

II. Further Development

Additional development will be proposed as dictated by results of the pilot.

III. Modifications

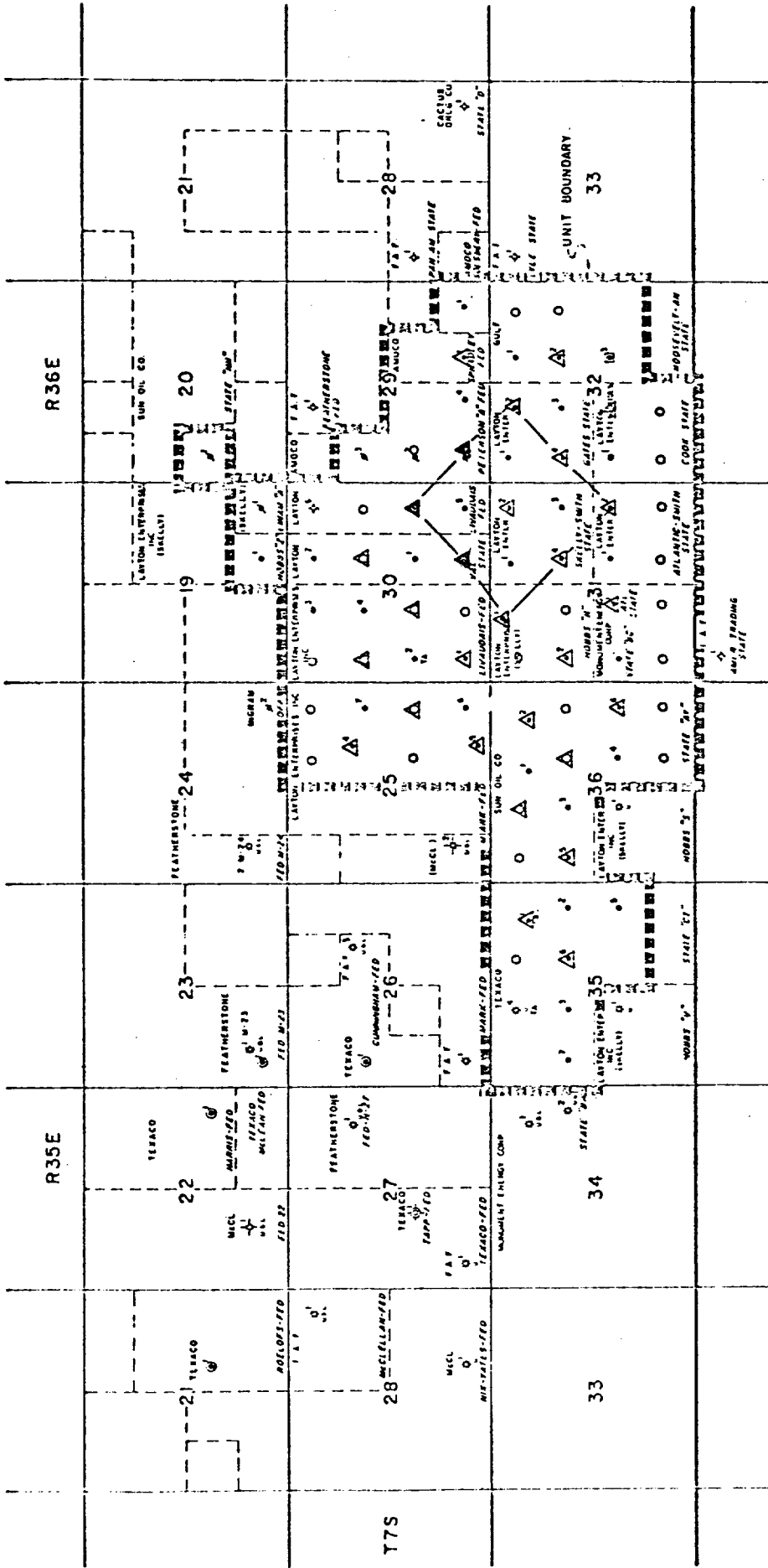
This plan of operation may be modified or supplemented during the year with your approval to meet changed conditions or to protect the interest of all parties to the Unit Agreement.

We would greatly appreciate your assistance in expediting the approval of our Plan of Operation. Should you have any questions or comments, please contact the undersigned.

Very truly yours,

MURPHY OPERATING CORPORATION

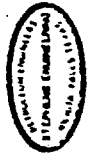
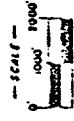
A. J. Murphy



SUPPLEMENTAL WATERFLOOD SURVEY
TODD LOWER SAN ANDRES FIELD
HOUSEVELY COUNTY, NEW MEXICO

○ Proposed Drilling Wells
△ Proposed Drilling Wells

- LEGEND —
- LOWER SAN ANDRES OIL WELL
 - △ SAN ANDRES GAS WELL
 - (W) WOLFCAMP COMPLETION
 - PLUGGED & ABANDONED
 - DRY HOLE
 - PROPOSED INJECTION WELL
 - PROPOSED WELL
 - NOTE: SUBSIDIES & DEMOSIES UPPER
 - IMPROVED UNIT BOUNDARY



Attachment 1



MURPHY OPERATING CORPORATION

ROSWELL PETROLEUM BUILDING

ROSWELL, NEW MEXICO 88201

MAILING ADDRESS
P. O. DRAWER 2648

TELEPHONE
505 623-7210

#7201

January 7, 1984

Ms. Sue Umshler
Mr. Robert Kent
Unit Agreements - MS430
Bureau of Land Management
505 Marquette, Suite 815, N.W.
Albuquerque, New Mexico 87102

Mr. Joe D. Ramey, Director
State of New Mexico
Energy and Minerals Department
Oil Conservation Division
Post Office Box 2088
Santa Fe, New Mexico 87501

Mr. Ray Graham
Mr. Pete Martinez
State of New Mexico
Commissioner of Public Lands
Oil and Gas Division
Post Office box 1148
Santa Fe, New Mexico 87504-1148

Mr. Jerry Sexton
Oil Conservation Division
Post Office Box 1980
Hobbs, New Mexico 88240

Re: Todd Lower San Andres Unit
Roosevelt County, New Mexico

Gentlemen:

Murphy Operating Corporation, as operator for the Todd Lower San Andres Unit Area, Roosevelt County, New Mexico, pursuant to the provisions of Section 11 of the Unit Agreement, a plan of operation for the secondary recovery of oil by waterflood on the subject unitized land is in the process of being prepared. Murphy Operating Corporation is currently waiting on the production decline curves and other reservoir and production information currently being prepared by an outside engineering consulting firm. This material is expected to be completed in the very near future and their data along with the plan of operation narrative will be submitted to your office as soon as possible. This should occur prior to February 1, 1985.

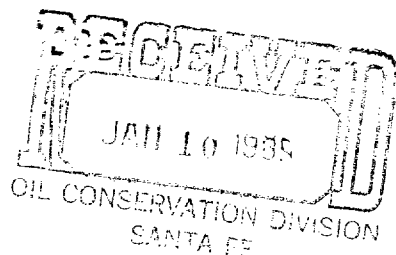
Best regards.

Sincerely,

MURPHY OPERATING CORPORATION

Mark B. Murphy
Vice President

MBM/bjf



State of New Mexico

7201



JIM BACA
COMMISSIONER

Commissioner of Public Lands

August 12, 1983

P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148

Murphy Operating Corporation
P. O. Drawer 2648
Roswell, New Mexico 88201

Re: Todd Lower San Andres Unit
Roosevelt County, New Mexico

ATTENTION: Nadine Reed

Gentlemen:

This office is in receipt of your letter dated July 28, 1983, together with revised pages 4 and 11 of Exhibit "B" for the above captioned Unit Agreement.

These revised pages have been accepted and substituted in the Exhibit "B" previously submitted.

Very truly yours,

JIM BACA
COMMISSIONER OF PUBLIC LANDS

BY:
FLOYD O. PRANDO, Assistant Director
Oil and Gas Division
AC 505/827-5744

JB/FOP/pm
cc:

OCD-Santa Fe, New Mexico
BLM-Albuquerque, New Mexico
BLM-Roswell, New Mexico

State of New Mexico



JIM BACA
COMMISSIONER



Commissioner of Public Lands
September 15, 1983

P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148

Murphy Operating Corporation
P. O. Drawer 2648
Roswell, New Mexico 88201

Re: Todd Lower San Andres Unit
Roosevelt County, New Mexico

ATTENTION: Nadine Reed

Gentlemen:

This office is in receipt of your redesignation of the well names and well numbers for the Todd Lower San Andres Unit Agreement.

Please be advised that the above mentioned material has this date been accepted and filed in our unit file.

Very truly yours,

JIM BACA
COMMISSIONER OF PUBLIC LANDS

BY:
Floyd O. Prando, Assistant Director
Oil and Gas Division
AC 505/827-5744

JB/FOP/pm
cc:

OCD-Santa Fe, New Mexico
BLM-Albuquerque, New Mexico
BLM-Roswell, New Mexico



MURPHY OPERATING CORPORATION

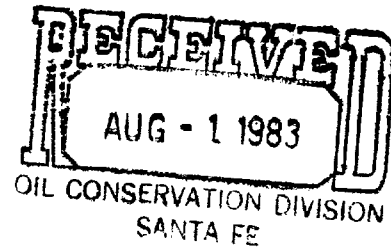
ROSWELL PETROLEUM BUILDING
ROSWELL, NEW MEXICO 88201

MAILING ADDRESS
P. O. DRAWER 2648

TELEPHONE
505 623-7210

July 28, 1983

Mr. Joe D. Ramey, Director
State of New Mexico
Energy and Minerals Department
Oil Conservation Division
Post Office Box 2088
Santa Fe, New Mexico 87501



Re: Todd Lower San Andres Unit
Roosevelt County, New Mexico
Case No. 7201
Order No. R-6642

Dear Mr. Ramey:

It has come to our attention that an error exists in Exhibit B to the captioned Unit Agreement. The legal description for Tract 6 (Skelly Smith State) and Tract 6-A (Hobbs R State) appear in reverse order. We have determined that the error is typographical and is of no consequence to the unit participation factor.

Enclosed please find revised pages 4 and 11 of Exhibit B. We request that these pages be substituted in the Exhibit B previously submitted.

If I may assist you in this matter, please do not hesitate to contact me.

Sincerely,

MURPHY OPERATING CORPORATION

Nadine Reed
Legal Department Manager

Enclosures

EXHIBIT "B" TO UNIT AGREEMENT
TODD LOWER SAN ANDRES UNIT
ROOSEVELT COUNTY, NEW MEXICO

Lease Name, Tract Description of Land No. and No. Acres		Serial No. & Lease Date	Lessee of Record	Basic Roy. & Percent.	Overriding Royalty Owner or Production Payment Interest (PPI) ship	Percent Owner-	Lower San Andres Production W.I. Ownership BEFORE PAYOUT*	W. I. Percent Ownership	BEFORE PAYOUT* Percent Unit Participation
STATE LEASES:									
6.	Skelly-Smith 7S-36E Sec. 31: NE/4 (160)	E-8948 4/19/55	Getty Oil Company	State NM 12.5%	Getty Oil Co. Grant M. Smith	12.5% 1%	Hanover Petroleum Corp. *(25% of 87.5%) Trinity Resources, Inc. *(58.75% of 87.5%) Harvard & LeMay Explor. Ltd. 1976-A *(6.25% of 87.5%) Murphy Operating Corp. *(10% of 87.5%) Trinity Resources, Inc. (100% of 11.25%) LaDora Lucas (100% of 1.25%) *Verna Drilling Co.	- - - - - - - - - - -	2.3402012813 5.4994730109 0.5850503203 0.9360805125 1.2035320875 0.1337257875 0.0000000000 <u>10.6980630000</u>
6-A.	Hobbs "R" 7S-36E Sec. 31: Lots 1,2 E/2NW/4 (154.09)	E-8948 4/19/55	Getty Oil Company	State NM 12.5%			Hanover Petroleum Corp. (25% of 100.00%) Trinity Resources, Inc. (58.75% of 100.00%) Harvard & LeMay Explor. Ltd. 1976-A (6.25% of 100.00%) Murphy Operating Corp. (10% of 100.00%)	- - - - - - -	0.25000000 0.58750000 0.1138183750 0.1821094000 <u>1.8210940000</u>
7.	State "AY" 7S-35E Sec. 36: N/2, SE/4 (480)	E-10047 5/15/56	Sun Oil Co.	State NM 12.5%	None		Sun Exploration & Production Company	-	15.7711890000
8.	State "BC" 7S-36E Sec. 31: Lots 3,4 (74.11)	OG-174 9/18/56	Atlantic Richfield Company	State NM 12.5%			Monument Resources, Inc. Southwestern, Inc.	- -	0.3700415000 <u>0.3700415000</u> <u>0.7400830000</u>

*RETAINED INTEREST BEFORE PAYOUT IN ACCORDANCE WITH TERMS
OF RECORDED CONVEYANCE AND ASSIGNMENT DATED 10-17-75

Lease Name, Tract Description of Land		Serial No. & Lease Date	Lessee of Record	Basic Roy. & Percent.	Overriding Royalty Owner or Production Payment Interest (PPI) ship	Percent Owner-	Lower San Andres Production W.I. Ownership AFTER PAYOUT*	W. I. Percent Ownership	AFTER PAYOUT Percent Unit Participation
STATE LEASES:									
6.	Skelly-Smith 7S-36E Sec. 31: NE/4 (160)	E-8948 4/19/55	Getty Oil Company	State NM 12.5%	Getty Oil Co. Grant M. Smith	12.5% 1%	Hanover Petroleum Corp. *(25% of 81.25%) Trinity Resources, Inc. *(58.75% of 81.25%) Harvard & LeMay Explor. Ltd. 1976-A *(6.25% of 81.25%) Murphy Operating Corp. *(10% of 81.25%) LaDora Lucas (100% of 1.25%) Trinity Resources, Inc. (100% of 11.25%) Verna Drilling Co. *(100% of 6.25%)	0.20312500 0.47734375 0.05078125 0.08125000 0.01250000 0.11250000 0.06250000 1.00000000	2.1730440469 5.1066535102 0.5432610117 0.8692176188 0.1337257874 1.2035320875 0.6686289375 10.6980630000
6-A.	Hobbs "R" 7S-36E Sec. 31: Lots 1,2 E/2NE/4 (159.09)	E-8948 4/19/55	Getty Oil Company	State NM 12.5%			Hanover Petroleum Corp. (25% of 100.00%) Trinity Resources, Inc. (58.75% of 100.00%) Harvard & LeMay Explor. Ltd. 1976-A (6.25% of 100.00%) Murphy Operating Corp. (10% of 100.00%)	0.25000000 0.58750000 0.06250000 0.10000000 1.00000000	0.4552735000 1.0698927250 0.1138183750 0.1821094000 1.8210940000
7.	State "AY" 7S-35E	E-10047 5/15/56	Sun Oil Co.	State NM 12.5%	None	-	Sun Exploration & Production Company	1.00000000	15.7711890000

*RETAINED INTEREST AFTER PAYOUT IN ACCORDANCE WITH TERMS
OF RECORDED CONVEYANCE AND ASSIGNMENT DATED 10-17-75



MURPHY OPERATING CORPORATION

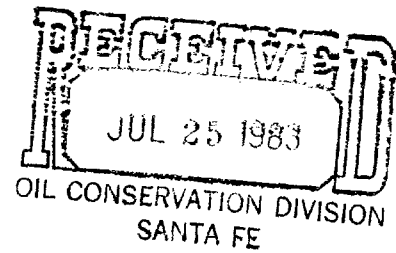
ROSWELL PETROLEUM BUILDING

ROSWELL, NEW MEXICO 88201

MAILING ADDRESS
P. O. DRAWER 2648

TELEPHONE
505 623-7210

July 21, 1983



Mr. Joe D. Ramey, Director
State of New Mexico
Energy and Minerals Department
Oil Conservation Division
Post Office Box 2088
Santa Fe, New Mexico 87501

Re: Todd Lower San Andres Unit
Roosevelt County, New Mexico
Case No. 7201
Order No. R-6642

Dear Mr. Ramey:

In accordance with a request by the Commissioner of Public Lands dated June 29, 1983, Section 4 of the Unit Agreement for the captioned unit has been amended to include language requiring the Commissioner of Public Lands' approval in unit related expansion actions.

Enclosed for substitution in your copy of the captioned Operating Agreement, please find revised Page 4.

Please contact us if we may assist you in this matter.

Sincerely,

MURPHY OPERATING CORPORATION

Nadine Reed
Legal Department Manager

Enclosure

in said schedule or map shall be construed as a representation by any party hereto as to the ownership of any interest other than such interest or interests as are shown in said map or schedule as owned by such party. Exhibit "C" attached hereto is the provisions of paragraphs 1 through 7 of Section 202 of Executive Order 11246. Exhibits "A" and "B" shall be revised by the Unit Operator whenever changes render such revision necessary or when requested by the Deputy, and copies of such revision shall be filed with the Land Commissioner, and not less than seven copies shall be filed with the Deputy.

SECTION 4. EXPANSION. The above described Unit Area may, with the approval of the Director and the Land Commissioner, when practicable be expanded to include therein any additional Tract or Tracts regarding as reasonably necessary or advisable for the purposes of this Agreement. Such expansion shall be effected in the following manner:

(a) The Working Interest Owner or Owners of a Tract or Tracts desiring to bring such Tract or Tracts into this unit, shall file an application therefor with Unit Operator requesting such admission.

(b) Unit Operator shall circulate a notice of the proposed expansion to each Working Interest Owner in the Unit Area and in the Tract proposed to be included in the unit, setting out the basis for admission, the Tract Participation to be assigned to each Tract in the enlarged Unit area and other pertinent data. After negotiation (at Working Interest Owners' meeting or otherwise) if at least three Working Interest Owners having in the aggregate eighty percent (80%) Unit Participation then in effect have agreed to inclusion of such Tract or Tracts in the Unit Area, then Unit Operator shall:

(1) After obtaining preliminary concurrence by the Director, prepare a notice of proposed expansion describing the contemplated changes in the boundaries of the Unit Area, the reason therefor, the basis for admission of the additional Tract or Tracts, the Tract Participation to be assigned thereto and the proposed effective date thereof; and

(2) Deliver copies of said notice to the Land Commissioner, the Deputy, each Working Interest Owner and to the lessee and lessor whose interests are affected, advising such parties that thirty (30) days will be allowed for submission to the Unit Operator of any objection to such proposed expansion; and

(3) File, upon the expiration of said thirty (30) day period as set out in (2) immediately above with the Land Commissioner and Deputy the following: (a) evidence of mailing or delivering copies of said notice of expansion; (b) an application for approval of such expansion; (c) an instrument containing the appropriate joinders in compliance with the participation requirements of Section 14, and Section 34, infra; and (d) a copy of all objections received along with the operator's response thereto.

The expansion shall, after due consideration of all pertinent information and approval by the Land Commissioner and the Deputy, become effective as of the date prescribed in the notice thereof, preferably the first day of a month subsequent to the date of notice. The revised Tract Participation of the respective Tracts included within the Unit Area prior to such enlargement shall remain in same ratio one to another.

SECTION 5. UNITIZED LAND. All land committed to this Agreement as to the Unitized Formation shall constitute land referred to herein as "Unitized Land" or "Land subject to this Agreement". Nothing herein shall be construed to unitize, pool, or in any way affect the oil, gas and other minerals contained in or that may be produced from any formation other than the Unitized Formation as defined in Section 2 (h) of this Agreement.



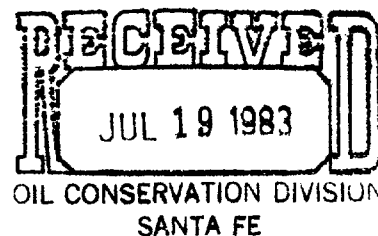
MURPHY OPERATING CORPORATION

ROSWELL PETROLEUM BUILDING
ROSWELL, NEW MEXICO 88201

MAILING ADDRESS
P. O. DRAWER 2648

TELEPHONE
505 623-7210

July 18, 1983



Mr. Joe D. Ramey, Director
State of New Mexico
Energy and Minerals Department
Oil Conservation Division
Post Office Box 2088
Santa Fe, New Mexico 87501

Re: Todd Lower San Andres Unit
Roosevelt County, New Mexico
Case No. 7201
Order No. R-6642

Dear Mr. Ramey:

Pursuant to the captioned order of the Division, dated April 7, 1981, item number 3, enclosed please find one copy of the Unit Agreement for the captioned unit, along with original ratification forms executed by the committed parties.

Also enclosed please find our proposed plan of operation for 1983.

Murphy Operating Corporation received final approval from the Commissioner of Public Lands and the Department of the Interior on June 28 and June 29 respectively. Enclosed please find evidence of such approval, indicating the unit effective date of July 1, 1983.

We hereby respectfully request the Division's approval of the aforementioned items. If we may assist you in any manner, please do not hesitate to contact us.

Sincerely,

MURPHY OPERATING CORPORATION

Nadine Reed
Legal Department Manager

Enclosures



MURPHY OPERATING CORPORATION

ROSWELL PETROLEUM BUILDING

ROSWELL, NEW MEXICO 88201

July 18, 1983

MAILING ADDRESS
P. O. DRAWER 2648

TELEPHONE
505 623-7210

Joe D. Ramey, Director
State of New Mexico
Energy and Minerals Department
Oil and Gas Division
Post Office Box 1180
Santa Fe, New Mexico 87501

Re: 1983 Plan of Operation
Todd Lower San Andres Unit
Roosevelt County, New Mexico

Dear Mr. Ramey:

Murphy Operating Corporation, as operator for the Todd Lower San Andres Unit Area, Roosevelt County, New Mexico, pursuant to the provisions of Section 11 of the Unit Agreement, respectfully submits for your consideration and approval this plan of operation for the secondary recovery of oil by waterflood on the subject unitized land.

I. Proposed Plan of Operation for 1983

We propose the initiation of a 320-acre pilot injection program during the second half of 1983. This plan which is set out on the attached map ("Supplemental Waterflood Survey, Todd Lower San Andres Field") includes:

1. Development of a satisfactory water source.
2. Construction of necessary production and injection facilities.
3. Drilling of three wells at the following approximate locations in T-7-S, R-36-E (marked in red):
 - (a) 1980' FSL & 660' FEL Sec. 30 as injector
 - (b) 660' FSL & 1980' FEL Sec. 30 as producer
 - (c) 660' FSL & 700' FWL Sec. 29 as producer
4. Conversion of the following wells to injection service (marked in blue):
 - (a) Murphy Operating Corporation - Hobbs "R" No. 1
 - (b) Murphy Operating Corporation - Atlantic-Smith State No. 2
 - (c) Murphy Operating Corporation - Gates State No. 2

II. Further Development

Additional development will be proposed as dictated by results of the pilot.

III. Modifications

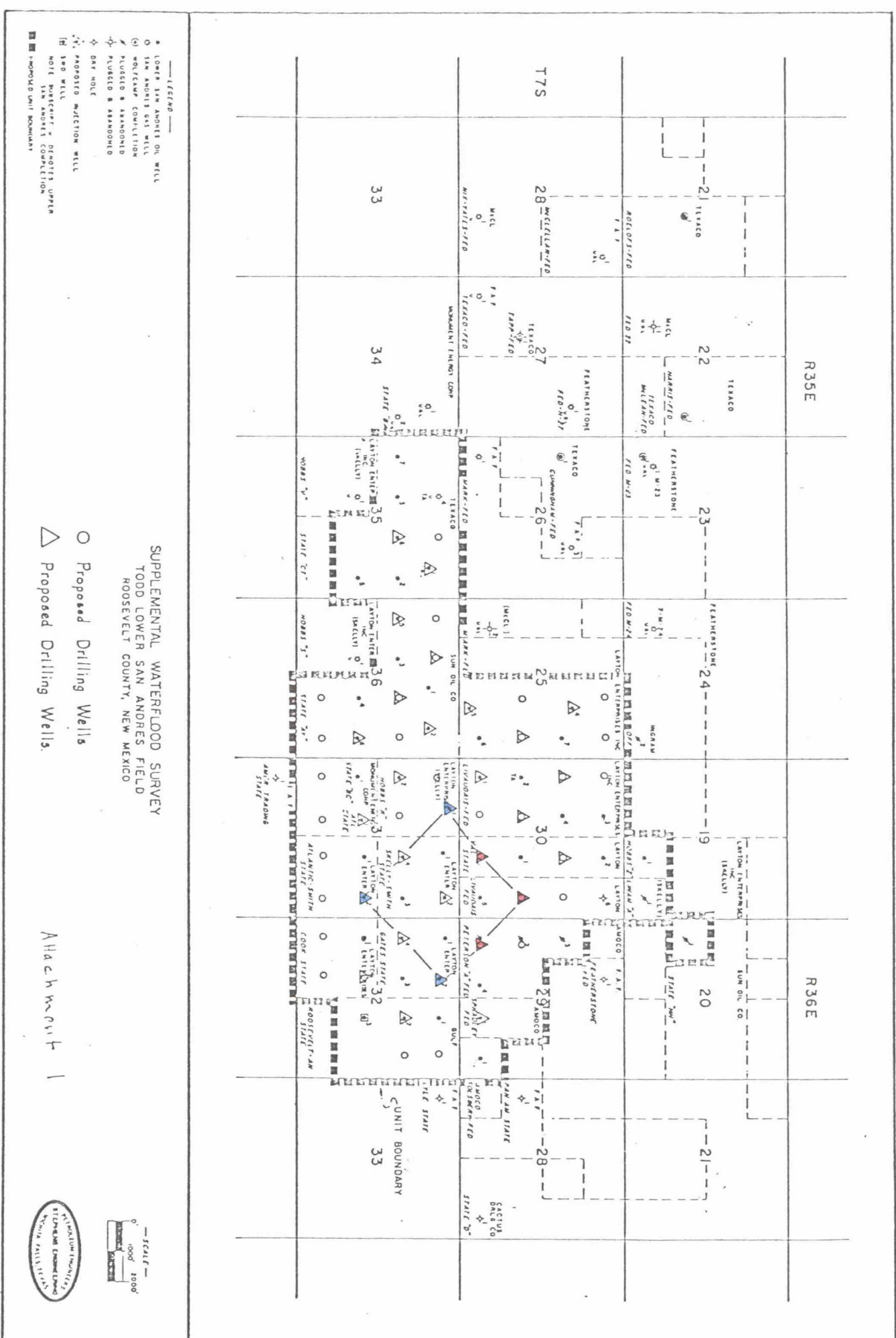
This plan of operation may be modified or supplemented during the year with your approval to meet changed conditions or to protect the interest of all parties to the Unit Agreement.

We would greatly appreciate your assistance in expediting the approval of our Plan of Operation. Should you have any questions or comments, please contact the undersigned.

Very truly yours,

MURPHY OPERATING CORPORATION

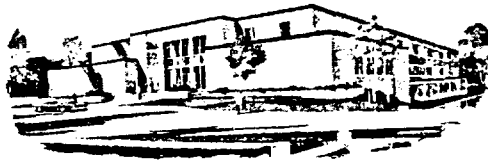
A. J. Murphy
A. J. Murphy
President



State of New Mexico



JIM BACA
COMMISSIONER



Commissioner of Public Lands

June 30, 1983

P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148

Murphy Operating Corporation
P. O. Drawer 2648
Roswell, New Mexico 88201

Re: Todd Lower San Andres Unit
Roosevelt County, New Mexico

ATTENTION: Mr. A. J. Murphy

Gentlemen:

The Commissioner of Public Lands has this date approved the Todd Lower San Andres Unit, Roosevelt County, New Mexico, along with the Initial Plan of Operations. Our approval is subject to like approval the the Bureau of Land Management and the New Mexico Oil Conservation Division.

Our approval is given with the understanding that Tract No. 14 is not to be committed to the unit agreement and Tract No. 8-A is only 50% committed at this time.

Enclosed are Five (5) Certificates of Approval.

Your filing fee in the amount of Ninety (\$90.00) Dollars has been received.

Very truly yours,

JIM BACA
COMMISSIONER OF PUBLIC LANDS

BY: *Ray D. Graham*
RAY D. GRAHAM, Director
Oil and Gas Division
AC 505/827-5744

JB/RDG/pm
encls.

cc: OCD-Santa Fe, New Mexico
BLM-Albuquerque, New Mexico
BLM-Roswell, New Mexico



NEW MEXICO STATE LAND OFFICE

CERTIFICATE OF APPROVAL

COMMISSIONER OF PUBLIC LANDS, STATE OF NEW MEXICO

TODD LOWER SAN ANDRES UNIT

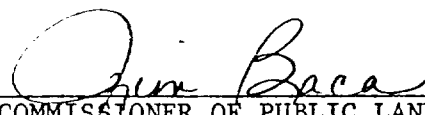
ROOSEVELT COUNTY, NEW MEXICO

There having been presented to the undersigned Commissioner of Public Lands of the State of New Mexico for examination, the attached Agreement for the development and operation of acreage which is described within the attached Agreement, dated March 1, 1983, which has been executed, or is to be executed by parties owning and holding oil and gas leases and royalty interests in and under the property described, and upon examination of said Agreement, the Commissioner finds:

- (a) That such agreement will tend to promote the conservation of oil and gas and the better utilization of reservoir energy in said area.
- (b) That under the proposed agreement, the State of New Mexico will receive its fair share of the recoverable oil or gas in place under its lands in the area.
- (c) That each beneficiary Institution of the State of New Mexico will receive its fair and equitable share of the recoverable oil and gas under its lands within the area.
- (d) That such agreement is in other respects for the best interests of the State, with respect to state lands.

NOW, THEREFORE, by virtue of the authority conferred upon me under Sections 19-10-45, 19-10-46, 19-10-47, New Mexico Statutes Annotated, 1978 Compilation, I, the undersigned, Commissioner of Public Lands of the State of New Mexico, for the purpose of more properly conserving the oil and gas resources of the State, do hereby consent to and approve the said Agreement, and any leases embracing lands of the State of New Mexico within the area shall be and the same are hereby amended to conform with the terms thereof, and shall remain in full force and effect according to the terms and conditions of said Agreement. This approval is subject to all of the provisions of the aforesaid statutes.

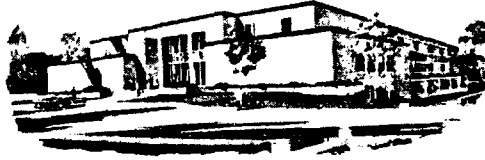
IN WITNESS WHEREOF, this Certificate of Approval is executed, with seal affixed, this 30th day of June, 19 83.


COMMISSIONER OF PUBLIC LANDS
of the State of New Mexico

State of New Mexico



Case #
7201



JIM BACA
COMMISSIONER

Commissioner of Public Lands

June 30, 1983

P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148

Murphy Operating Corporation
P. O. Drawer 2648
Roswell, New Mexico 88201

*originally
Layton Enterprises*

Re: Todd Lower San Andres Unit
Roosevelt County, New Mexico

ATTENTION: Mr. A. J. Murphy

Gentlemen:

The Commissioner of Public Lands has this date approved the Todd Lower San Andres Unit, Roosevelt County, New Mexico, along with the Initial Plan of Operations. Our approval is subject to like approval the the Bureau of Land Management and the New Mexico Oil Conservation Division.

Our approval is given with the understanding that Tract No. 14 is not to be committed to the unit agreement and Tract No. 8-A is only 50% committed at this time.

Enclosed are Five (5) Certificates of Approval.

Your filing fee in the amount of Ninety (\$90.00) Dollars has been received.

Very truly yours,

JIM BACA
COMMISSIONER OF PUBLIC LANDS

BY: *Ray D. Graham*
RAY D. GRAHAM, Director
Oil and Gas Division
AC 505/827-5744

JB/RDG/pm
encls.

cc: OCD-Santa Fe, New Mexico
BLM-Albuquerque, New Mexico
BLM-Roswell, New Mexico



IN REPLY
REFER TO:

United States Department of the Interior

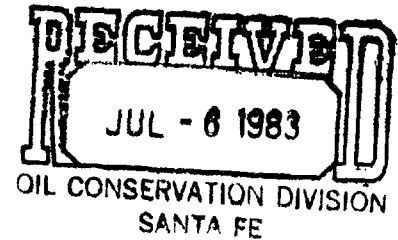
3100 (01037)

BUREAU OF LAND MANAGEMENT
505 Marquette Avenue N. W., Suite 815
Albuquerque, New Mexico 87102

#7201

80 JUN 1983

Murphy Operating Corporation
Attention: Ms. Ann Murphy
P. O. Drawer 2648
Roswell, New Mexico 88201



Gentlemen:

An approved copy of the Todd Lower San Andres Unit Agreement, Roosevelt County, New Mexico, is enclosed. Such agreement has been assigned No. 14-08-0001-19582 and is effective July 1, 1983.

Your proposed plan of operation for the Todd Lower San Andres unit which was submitted with the unit agreement has also been approved on this date subject to like approval by the New Mexico Oil Conservation Division.

You are requested to furnish the state of New Mexico and all other interested principals with appropriate evidence of the approval of this unit.

Sincerely yours,
JAMES W. SHELTON

James W. Shelton
Assistant District Manager
for Minerals

Enclosure

cc:
BLM, Santa Fe (w/encl.)
Comm. of Public Lands
NMOCD ✓



IN REPLY
REFER TO:

United States Department of the Interior

3100 (01037)

BUREAU OF LAND MANAGEMENT
505 Marquette Avenue N. W., Suite 815
Albuquerque, New Mexico 87102

Murphy Operating Corporation
Attention: Ms. Ann Murphy
P. O. Drawer 2648
Roswell, New Mexico 88201

30 JUN 1983

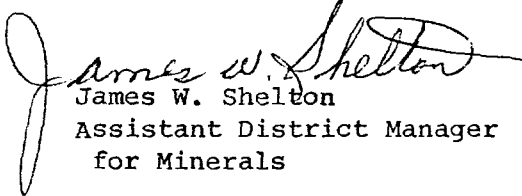
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James W. Shelton
Assistant District Manager
for Minerals

Enclosure

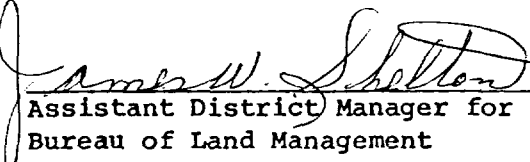
CERTIFICATION--DETERMINATION

Pursuant to the authority vested in the Secretary of the Interior, the act approved February 25, 1920, 41 Stat. 437, as amended, 30 U.S.C., secs. 181, et seq., and delegated to the Assistant District Manager for Minerals, Bureau of Land Management, I do hereby:

A. Approve the attached agreement for the development and operation of the Todd Lower San Andres unit area, state of New Mexico.

B. Certify and determine that the unit plan of development and operation contemplated in the attached agreement is necessary and advisable in the public interest for the purpose of more properly conserving the natural resources.

C. Certify and determine that the drilling, producing, rental, minimum royalty, and royalty requirements of all Federal leases committed to said agreement are hereby established, altered, changed, or revoked to conform with the terms and conditions of this agreement.


Assistant District Manager for Minerals
Bureau of Land Management

30 JUN 1983

Date

14-08-0001-19582

Contract No.