

COMMISSIONER'S OFFICE

Phone (505) 827-5760

Fax (505) 827-5766

ADMINISTRATION

Phone (505) 827-5700

Fax (505) 827-5853

GENERAL COUNSEL

Phone (505) 827-5713

Fax (505) 827-4262

PUBLIC AFFAIRS

Phone (505) 827-1245

Fax (505) 827-5766

#2472

COMMERCIAL RESOURCES

Phone (505) 827-5724

Fax (505) 827-6157

MINERAL RESOURCES

Phone (505) 827-5744

Fax (505) 827-4739

ROYALTY MANAGEMENT

Phone (505) 827-5772

Fax (505) 827-4739

SURFACE RESOURCES

Phone (505) 827-5793

Fax (505) 827-5711

**New Mexico State Land Office
Commissioner of Public Lands
Ray Powell, M.S., D.V.M.**

September 27, 2002

Yates Petroleum Corporation
105 South 4th Street
Artesia, New Mexico 88210-2118

Attn: Ms. Bonnie Floore

Re: 2002 Plan of Development
West Loco Hills Grayburg Unit
Eddy County, New Mexico

Dear Ms. Floore:

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

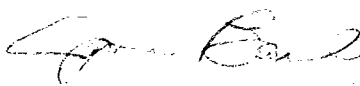
The possibility of drainage by wells outside of the unit area and the need for further development of the unit may exist. You may be contacted at a later date regarding these possibilities.

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:


JAMI BAILEY, Director
Oil, Gas and Minerals Division
(505) 827-5744

RP JB/cpm
xc: Reader File

OCD

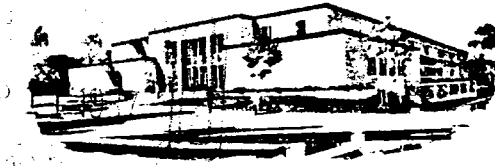
BLM

State of New Mexico

2472



W.R. HUMPHRIES
COMMISSIONER



SLO REF. NO. OG-433

Commissioner of Public Lands

September 9, 1987

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

Yates Petroleum Corporation
Attention: Janet Richardson
105 South Fourth Street
Artesia, New Mexico 88210

Re: West Loco Hills Unit
1987 Plan of Development
Eddy 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

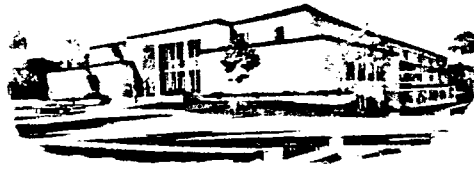
WRH/FOP/ams
enclosure
cc: Bureau of Land Management
Oil Conservation Division

State of New Mexico

#2472



JIM BACA
COMMISSIONER



Commissioner of Public Lands

January 21, 1985

Losee, Carson & Dickerson, P.A.
P. O. Drawer 239
Artesia, New Mexico 88211-0239

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

Re: Successor Unit Operator
West Loco Hills Grayburg
No. 4 Sand Unit Area
Eddy County, New Mexico

ATTENTION: Mr. Chad Dickerson

Gentlemen:

This office is in receipt of your letter dated October 30, 1984, together with duplicate originals of an instrument dated March 1, 1984, wherein our approval is requested for the selection of Yates Petroleum Corporation, as successor unit operator under the West Loco Hills Grayburg No. 4 Sand Unit Agreement, Eddy County, New Mexico. This instrument has been executed by Newmont Oil Company, as the current unit operator and Yates Petroleum Corporation, as successor unit operator.

The Commissioner of Public Lands has this date approved Yates Petroleum Corporation, as successor unit operator of the West Loco Hills Grayburg No. 4 Sand Unit Agreement. Our approval is subject to like approval by the Bureau of Land Management.

Very truly yours,

JIM BACA
COMMISSIONER OF PUBLIC LANDS

BY:
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

GOVERNOR
EDWIN L. MECHEM
CHAIRMAN

State of New Mexico
Oil Conservation Commission

LAND COMMISSIONER
E. S. JOHNNY WALKER
MEMBER



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

P. O. BOX 871
SANTA FE

January 17, 1962

Mr. Jack Campbell
Campbell & Russell
P. O. Drawer 640
Roswell, New Mexico

Re: CASE NO. 2472
ORDER NO. R-2166
APPLICANT:
Newmont Oil Company

Dear Sir:

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

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ir/

Carbon copy of order also sent to:

Hobbs OCC x
Artesia OCC x
Aztec OCC

OTHER Mr. Howard Bratton (Humble)

100-2472

NEWMONT OIL COMPANY

FORT WORTH NATIONAL BANK BUILDING

FORT WORTH 2, TEXAS

December 6, 1961

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

Attention: A. L. Porter

Re: West Loco Hills Grayburg
No. 4 Sand Unit Area
Operator - Newmont Oil Company

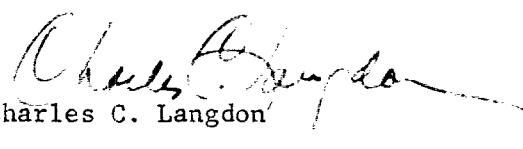
Gentlemen:

Mr. Jack Campbell of Campbell and Russell, Attorneys, Roswell, New Mexico, is preparing an application directed to your Commission for proper Orders to form the captioned Unit for waterflooding purposes.

Mr. Campbell has asked that I forward to you three copies of our proposed Unit Agreement in order that same might be filed with Mr. Campbell's application which will be filed on our behalf.

Very truly yours,

NEWMONT OIL COMPANY


Charles C. Langdon

CCL:lh

100-2472

max = 476

TELEPHONES
MAIN 2-4641
MAIN 2-4642

Oil Conservation Commission
Box 871
Santa Fe, New Mexico

Gentlemen:

Enclosed for filing please find Application of Newmont Oil Company for approval of the West Loco Hills Grayburg No. 4 Sand Unit.

Copies of the proposed Unit Agreement have heretofore been furnished to you.

Very truly yours,

Jack M. Campbell

For CAMPBELL & RUSSELL

JMC : np

Enclosure

Received of the
Hon. Secy. of the Navy
\$100.00
for the
Navy Department
June 10, 1901

#2472



COMMERCIAL RESOURCES
(505)-827-5724

SURFACE RESOURCES
(505)-827-5793

MINERAL RESOURCES
(505)-827-5744

ROYALTY
(505)-827-5772

State of New Mexico
Commissioner of Public Lands
Ray Powell, M.S., D.V.M.
310 Old Santa Fe Trail, P. O. Box 1148
Santa Fe, New Mexico 87504-1148
Phone (505)-827-5760, Fax (505)-827-5766

PUBLIC AFFAIRS
(505)-827-5765

ADMINISTRATIVE MGMT.
(505)-827-5700

LEGAL
(505)-827-5715

PLANNING
(505)-827-5752

August 12, 1998

Yates Petroleum Corporation
105 South 4th Street
Artesia, New Mexico 88210

Attn: Ms. Bonnie Floore

Re: 1998 Plan of Development
West Loco Hills Grayburg Unit
Eddy County, New Mexico

Dear Ms. Floore:

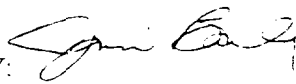
The Commissioner of Public Lands has, of this date, approved the above-captioned Plan of Development. Our approval is subject to like approval by all other appropriate agencies.

The possibility of drainage by wells outside of the unit area and the need for further development of the unit may exist. You may be contacted at a later date regarding these possibilities.

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: 
JAMI BAILEY, Director
Oil, Gas and Minerals Division
(505) 827-5744

RP/JB/cpm
pc: Reader File

OCD

BLM

"WE WORK FOR EDUCATION"

2472



COMMERCIAL RESOURCES
(505)-827-5724

SURFACE RESOURCES
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MINERAL RESOURCES
(505)-827-5744

ROYALTY
(505)-827-5772

State of New Mexico
Commissioner of Public Lands

Ray Powell, M.S., D.V.M.
310 Old Santa Fe Trail, P. O. Box 1148
Santa Fe, New Mexico 87504-1148
Phone (505)-827-5760, Fax (505)-827-5766

PUBLIC AFFAIRS
(505)-827-5765

ADMINISTRATIVE MGMT.
(505)-827-5700

LEGAL
(505)-827-5713

PLANNING
(505)-827-5752

April 8, 1997

Yates Petroleum Corporation
105 South 4th Street
Artesia, New Mexico 88210

Attn: Ms. Mecca Mauritsen

Re: 1997 Plan of Development
West Loco Hills Grayburg Unit
Eddy County, New Mexico

Dear Ms. Mauritsen:

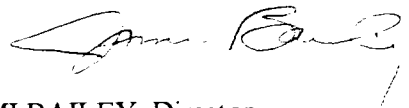
The Commissioner of Public Lands has, of this date, approved the above-captioned Plan of Development. Our approval is subject to like approval by all other appropriate agencies.

The possibility of drainage by wells outside of the unit area and the need for further development of the unit may exist. You may be contacted at a later date regarding these possibilities.

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: 
JAMI BAILEY, Director
Oil, Gas and Minerals Division
(505) 827-5744

RP/JB/cpm
cc: Reader File

OCD

BLM



2472

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

March 19, 1996

Yates Petroleum Corporation
105 South 4th Street
Artesia, New Mexico 88210

Attn: Ms. Mecca Mauritsen

Re: 1996 Plan of Development
West Loco Hills Grayburg Unit
Eddy County, New Mexico

Dear Ms. Mauritsen:

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


The possibility of drainage by wells outside of the Unit Area and the need for further development of the unit may exist. You may be contacted at a later date regarding these possibilities.

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

Commissioner's File

OCD

TRD

BLM



JIM BACA
COMMISSIONER

State of New Mexico

OFFICE OF THE

Commissioner of Public Lands

Santa Fe

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

SLO REF NO. OG-1287

April 15, 1993

Yates Petroleum Corporation
105 South 4th Street
Artesia, New Mexico 88210

Attn: Ms. Mecca Mauritsen

Re: 1993 Plan of Development
West Loco Hills Grayburg Unit
Eddy 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 other appropriate agencies.

The possibility of drainage by wells outside of the Unit Area and the need for further development of the unit may exist. You will be contacted at a later date regarding these possibilities.

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

Very truly yours,

JIM BACA
COMMISSIONER OF PUBLIC LANDS

BY:

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

JB/FOP/pm
cc: OCD
BLM

2472



JIM BACA
COMMISSIONER

State of New Mexico
OFFICE OF THE
Commissioner of Public Lands
Santa Fe

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

SLO REF NO. OG-1296

April 22, 1993

Yates Petroleum Corporation
105 South 4th Street
Artesia, New Mexico 88210

Attn: Ms. Mecca Mauritsen

Re: 1993 Plan of Development
West Loco Hills Grayburg Unit
Eddy 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 other appropriate agencies.

The possibility of drainage by wells outside of the Unit Area and the need for further development of the unit may exist. You will be contacted at a later date regarding these possibilities.

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

Very truly yours,

JIM BACA
COMMISSIONER OF PUBLIC LANDS

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

JB/FOP/pm
cc: OCD
BLM

State of New Mexico

#2472



W.R. HUMPHRIES
COMMISSIONER

Commissioner of Public Lands

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

October 18, 1990

Yates Petroleum Corporation
105 South Fourth Street
Artesia, New Mexico 88210

Attn: Janet Richardson

Re: West Loco Hills Grayburg Unit
Eddy County, New Mexico
1990 Plan of Development

Dear Ms. Richardson:

The Commissioner of Public Lands this date approved the 1990 Plan of Development for the West Loco Hills Grayburg Unit. Our approval is subject to like approval by all other appropriate agencies.

The possibility of drainage by wells outside of the Unit Area and the need for further development may exist. You will be contacted at a later date regarding these possibilities.

If we may be of further help, please do not hesitate to contact Clyde Langdale at (505) 827-5791.

Sincerely,

W. R. HUMPHRIES

BY:

Floyd O. Prando
Floyd O. Prando, Director
Oil, Gas & Minerals Division

cc: OCD
Unit Corresp.
Unit POD

MARTIN YATES, III
1912 - 1985
FRANK W. YATES
1936 - 1986



105 SOUTH FOURTH STREET
ARTESIA, NEW MEXICO 88210
TELEPHONE (505) 748-1471

S. P. YATES
CHAIRMAN OF THE BOARD
JOHN A. YATES
PRESIDENT
PEYTON YATES
EXECUTIVE VICE PRESIDENT
RANDY G. PATTERSON
SECRETARY
DENNIS G. KINSEY
TREASURER

March 9, 1990

Bureau of Land Management
P.O. Box 1397
Roswell, New Mexico 88201

Re: West Loco Hills Grayburg
Eddy County, New Mexico

Gentlemen:

Enclosed in triplicate, are plats and production histories for the wells on captioned unit.

At this time, we have no plans for further development on this unit.

Thank you.

Very truly yours,

YATES PETROLEUM CORPORATION

Janet Richardson
Landman

JR:blf

Enclosures

Plan of Development
APPROVED

APR 30 1990

Asst. DISTRICT MANAGER
BUREAU OF LAND MANAGEMENT

MSR17 MONTHLY PRODUCTION REPORT - ONE WELL
YATES PETROLEUM CORPORATION

PAGE 1
1/22/90

WELL: 56770-99 WEST LOCO HILLS UNIT

OPERATOR: 99990 YATES PETROLEUM CORPORATION

LOCATION: 99 1 185 29E EDDY NEW MEXICO FIELD: 652 LOCO HILLS QUEEN GREGG SA 567 QUEEN GRAYHUNG SAN ANDRES

YEAR	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	TOTAL
01L 75	36029	32918	35711	34189	31765	31230	31543	31372	29453	29058	28440	27749	379457
GAS 75	0	0	0	0	0	0	0	0	0	0	0	0	0
H2O 75	426650	382848	476998	460870	435436	408796	445439	444529	413399	449221	444628	474341	5271155
01L 76	28855	26309	26724	25873	25293	23803	23626	23380	22551	23521	19985	22555	292555
GAS 76	0	0	0	0	0	0	0	0	0	0	0	0	0
H2O 76	488243	449453	472274	460963	451520	440091	441966	430410	421746	448115	380354	440152	5325287
01L 77	21733	19373	21517	19831	20743	19574	19403	18875	19057	19009	19117	20053	238285
GAS 77	0	0	0	0	0	0	0	0	0	0	0	0	0
H2O 77	462817	456715	471218	429586	428845	403615	408289	411442	379516	380652	378070	349129	4959894
01L 78	19451	17268	16708	15875	15644	13917	13935	15075	12657	13533	12637	13168	179868
GAS 78	0	0	0	0	0	0	0	0	0	0	0	0	0
H2O 78	413617	358033	372159	314236	304480	283096	255472	286047	264474	267239	256745	280010	3655608
01L 79	13154	12346	12432	12269	11959	12137	9965	10923	9744	11740	8531	9008	134208
GAS 79	0	0	0	0	0	0	0	0	0	0	0	0	0
H2O 79	303102	278346	295044	283155	279109	264440	250462	192250	175823	180126	150251	153603	2805711
01L 80	9107	7053	7621	6318	6372	6719	6990	6768	6316	6219	6380	6477	82340
GAS 80	0	0	0	0	0	0	0	0	0	0	0	0	0
H2O 80	162957	152491	142389	122455	117244	111088	109067	114989	98741	85946	106759	111208	1435334
01L 81	6132	5487	5845	6154	6085	5768	5977	5359	5605	5131	4892	4881	67358
GAS 81	0	0	0	0	0	0	0	0	0	0	0	0	0
H2O 81	118773	98423	108704	110580	102860	105654	109021	105897	105501	102717	98770	92165	1259065
01L 82	5066	4971	5481	4926	5357	4943	5285	5098	4677	4779	4291	4279	59153
GAS 82	0	0	0	0	0	0	0	0	0	0	0	0	0
H2O 82	21117	191245	100500	100986	105739	96520	100672	97301	87205	96936	89033	116923	1186197
01L 83	4598	4140	4775	3481	4481	4370	4439	4498	4147	4490	4165	3948	51532
GAS 83	0	0	0	0	0	0	0	0	0	0	0	0	0
H2O 83	73118	75231	80798	80079	86761	76733	73689	79367	70147	65678	68728	68670	898999

MPER17 MONTHLY PRODUCTION REPORT - ONE WELL
YATES PETROLEUM CORPORATION

PAGE 2
1/22/90

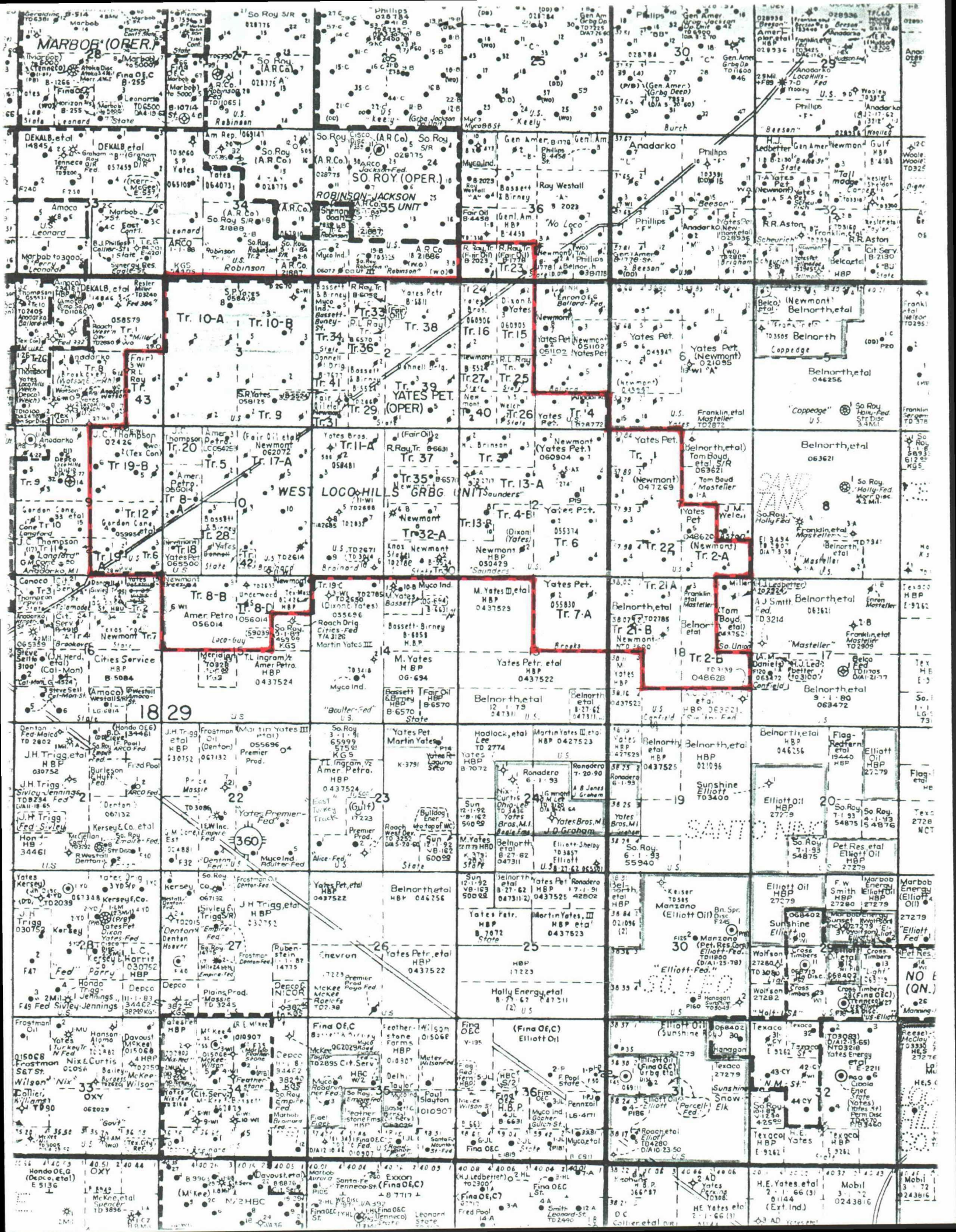
* LEASE OR WELL 56770-99 WEST LOCO HILLS UNIT (CONTINUED) 99990 YATES PETROLEUM CORPORATION

* LOCATION 99 1 185 29E ENDY NEW MEXICO 652 LOCO HILLS QUEEN GRBGR SA 567 QUEEN GRAYBURG SAN ANDRES

* OPERATOR FIELD POOL

YEAR	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	TOTAL
OIL 84	4139	3336	3749	2849	1580	1230	3275	2482	2623	2684	2579	2716	33442
GAS 84	0	0	0	0	0	0	0	0	0	0	0	0	0
H2O 84	56480	45511	37875	36652	37882	36660	37882	37882	20340	34855	24740	20260	427019
OIL 85	2846	1859	1922	2926	3235	3814	3616	3077	3001	2580	2268	1740	32886
GAS 85	0	0	0	0	0	0	0	0	0	0	0	0	0
H2O 85	32750	39750	28950	38050	54250	49500	54250	48220	49250	42750	39106	27900	504726
OIL 86	3568	2534	2967	2910	2714	2957	2581	2268	2980	2420	3162	3258	34319
GAS 86	0	0	0	0	0	0	0	0	0	0	0	0	0
H2O 86	37260	31332	38560	36161	29460	41996	45340	35435	32053	36957	43508	40785	448817
OIL 87	2956	2783	2773	2853	2440	3000	2743	2849	2726	2760	2492	2647	33022
GAS 87	0	0	0	0	0	0	0	0	0	0	0	0	0
H2O 87	40109	36025	44933	33609	32068	37955	32675	33336	27259	38061	32467	29871	418368
OIL 88	3050	3325	3292	3053	3759	2526	3009	2921	2651	2852	2841	2812	36091
GAS 88	0	0	0	0	0	0	0	0	0	0	0	0	0
H2O 88	27099	31933	33906	28937	43229	26143	26042	30065	29351	41478	42844	39619	404646
OIL 89	2704	2573	2867	2972	3237	3250	2523	2748	2615	3206	2820	0	31515
GAS 89	0	0	0	0	0	0	0	0	0	0	0	0	0
H2O 89	42809	42794	50686	46556	54084	56618	39025	55540	56860	60486	57355	0	562813

** TOTALS ** OIL - 1,686,031 BBLs GAS - 0 MCF WATER - 29,563,639 BBLs





207 SOUTH FOURTH STREET
ARTESIA, NEW MEXICO 88210

TELEPHONE (505) 748-1331

February 25, 1986

S. P. YATES
PRESIDENT
MARTIN YATES, III
VICE PRESIDENT
JOHN A. YATES
VICE PRESIDENT
B. W. HARPER
SEC. TREAS.

#2472

Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501

Re: West Loco Hills Grayburg No. 4
Sand Unit
Eddy County, New Mexico

Gentlemen:

Yates Petroleum Corporation as the operator of the West Loco Hills Grayburg No. 4 Sand Unit Agreement respectfully submits our Plan of Development for 1986.

We have attached the following for your information:

A current plat showing the unit outline and wells drilled thereon,

A status list of the unit wells,

A decline curve of the unit wells.

Summary of Operations 1984-1985

Newmont Oil Company resigned as Unit Operator and designated Yates Petroleum Corporation as successor Unit Operator effective March 9, 1984.

Since Yates Petroleum Corporation took over as successor operator we have started pumping some unit wells that had been shut in for many years. We performed casing integrity testing as per New Mexico Oil Conservation Division requirements. Due to this testing we have found that many injection wells will have to be plugged. This testing also prompted repair work on the 6-1 and 37-2 injection wells.

Yates Petroleum Corporation also repaired the 1-2 and 1-4 injection wells as part of the initiation of the CO₂ pilot flood. We have been actively evaluating for CO₂ flooding potential. (A full engineering feasibility study has been undertaken by Yates Petroleum Corporation).

Oil Conservation Division
February 25, 1986

Page 2

Yates Petroleum Corporation has made many changes on surface equipment to improve the profitability of operations in the unit.

Plan of Development - 1986

Yates Petroleum Corporation, as operator, has proposed to drill the West Loco Hills Grayburg #4 Sand Tract 10A well #8 to be located 990' FNL and 2310' FWL of Sec. 3, T18S-R29E and drilled to a depth of 3000' to test the Metex and intermediate formations.

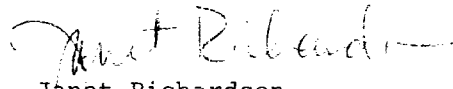
In the future we hope to conduct a CO₂ pilot flood which is not economical at this time in lieu of the recent decrease in oil prices.

We respectfully request your approval of this Plan of Development for 1986.

Thank you.

Very truly yours,

YATES PETROLEUM CORPORATION


Janet Richardson
Landman

JR/mw

Enclosures

Pumping Wells

TRACT NO.	WELL NO.	LOCATION		
1	2	Lot 2	7	T18S-R30E
1	3	Lot 3	7	T18S-R30E
10A	1	SW/4SW/4	3	T18S-R29E
10B	7	SE/4NE/4	3	T18S-R29E
11	9	SW/4SW/4	11	T18S-R29E
12	4	NW/4SE/4	9	T18S-R29E
12	5	SE/4SE/4	9	T18S-R29E
13	6	SE/4NW/4	12	T18S-R29E
13	10	NW/4SW/4	12	T18S-R29E
13	11	SE/4NE/4	12	T18S-R29E
14	2	SE/4SE/4	1	T18S-R29E
16	1	NW/4NW/4	1	T18S-R29E
17	10	NE/4SE/4	10	T18S-R29E
18-1	10	SW/4SW/4	10	T18S-R29E
19A	9	SW/4SE/4	9	T18S-R29E
19E	1	NE/4NE/4	9	T18S-R29E
19B	5	SE/4NE/4	9	T18S-R29E
2A	2	SW/4SE/4	7	T18S-R30E
21A	2	Lot 1	18	T18S-R30E
21A	3	NE/4NW/4	18	T18S-R30E
23	1	SE/4SW/4	36	T17S-R29E
28	3	NE/4SW/4	10	T18S-R29E
29	3	SE/4SW/4	2	T18S-R29E
30	1	SE/4SW/4	11	T18S-R29E
31	3	SW/4SW/4	2	T18S-R29E
32A	8	NW/4SE/4	11	T18S-R29E
39	3	NW/4SE/4	2	T18S-R29E
39	5	SE/4SE/4	2	T18S-R29E
39	6	NE/4SE/4	2	T18S-R29E
43	1	SE/4SE/4	4	T18S-R29E
5	1	NE/4NW/4	10	T18S-R29E
5	3	NE/4NW/4	10	T18S-R29E
6	2	NW/4SE/4	12	T18S-R29E
6	4	SE/4SE/4	12	T18S-R29E
8A	3	SW/4NW/4	10	T18S-R29E
8B	3	NE/4NW/4	15	T18S-R29E
9	3	SE/4SE/4	3	T18S-R29E

Shut in wells

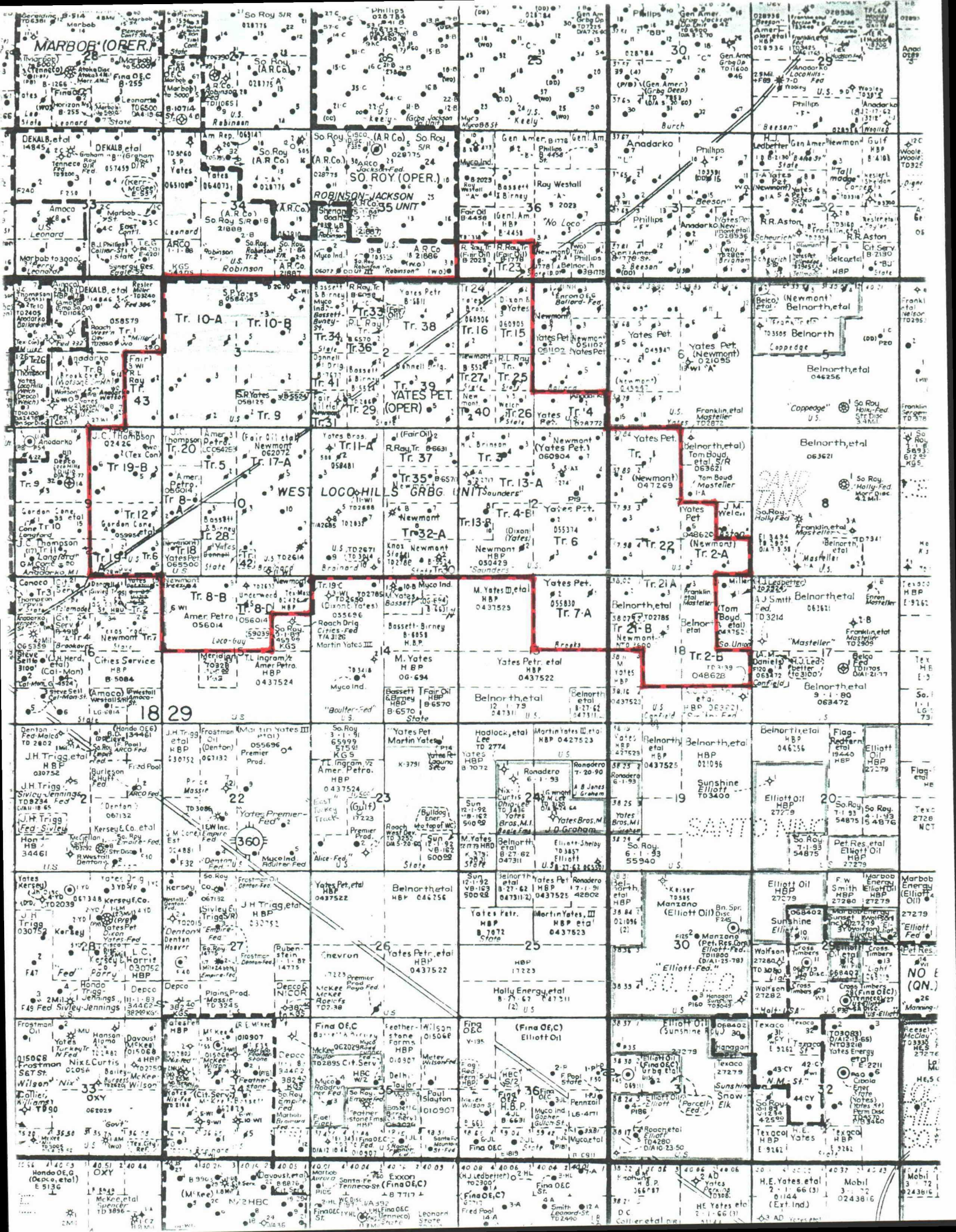
TRACT NO.	WELL NO.	LOCATION		
1	5	NE/4SW/4	7	T18S-R30E
1	6	SE/4NW/4	7	T18S-R30E
1	7	NE/4NW/4	7	T18S-R30E
1	8	Lot 2	7	T18S-R30E
10A	4	NW/4SW/4	3	T18S-R29E
10A	7	NW/4SW/4	3	T18S-R29E
10B	2	NE/4SE/4	3	T18S-R29E
10B	3	SE/4NE/4	3	T18S-R29E
11	4	SE/4NW/4	11	T18S-R29E
11	7	NE/4SE/4	11	T18S-R29E
13	2	NW/4NE/4	12	T18S-R29E
13	4	SE/4NE/4	12	T18S-R29E
13	7	NE/4NE/4	12	T18S-R29E
13	9	SW/4NE/4	12	T18S-R29E
17	2	SW/4NE/4	10	T18S-R29E
17	4	SW/4SE/4	10	T18S-R29E
17	8	NE/4NE/4	10	T18S-R29E
17	9	SW/4NE/4	10	T18S-R29E
19B	2	NW/4NE/4	9	T18S-R29E
2A	5	NW/4SE/4	7	T18S-R30E
22	1	SE/4SW/4	7	T18S-R30E
24	2	SW/4SW/4	36	T17S-R29E
25	1	NE/4SW/4	1	T18S-R29E
29	1	SE/4SW/4	2	T18S-R29E
3	2	NW/4NW/4	12	T18S-R29E
3	3	NE/4NW/4	12	T18S-R29E
3	4	NE/4NW/4	12	T18S-R29E
32A	7	NE/4SE/4	11	T18S-R29E
35	1	SW/4NE/4	11	T18S-R29E
35	2	SE/4NE/4	11	T18S-R29E
37	1	NW/4NE/4	11	T18S-R29E
38	1	SW/4NE/4	2	T18S-R29E
38	2	SE/4NE/4	2	T18S-R29E
4	1	NE/4SW/4	12	T18S-R29E
40	1	SW/4SW/4	1	T18S-R29E
40	2	SW/4SW/4	1	T18S-R29E
9	2	SW/4SE/4	3	T18S-R29E

Temporarily Abandoned Wells

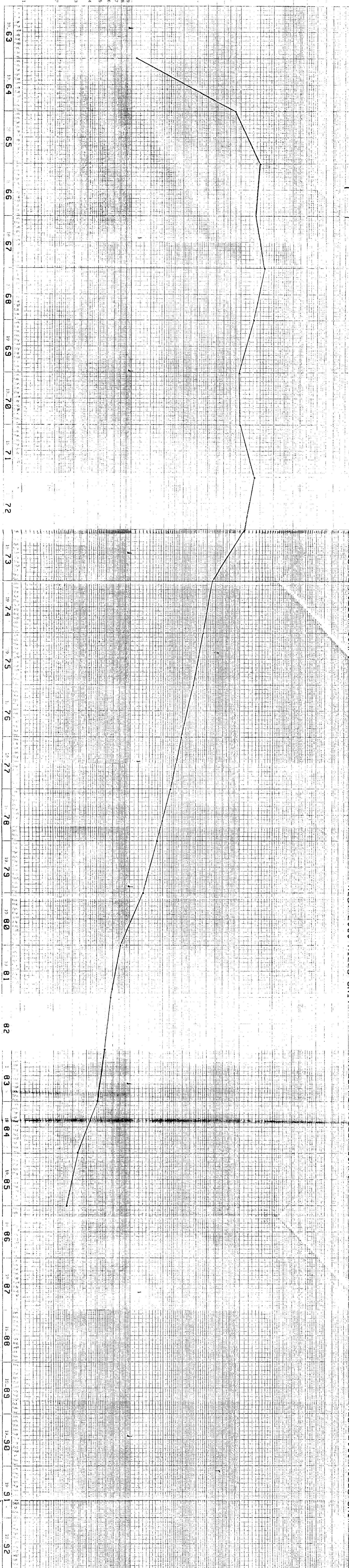
TRACT NO.	WELL NO.	LOCATION	
1	1	NW/4NW/4	7 T18S-R30E
10A	3	NE/4SW/4	3 T18S-R29E
10B	5	SW/4NE/4	3 T18S-R29E
11	3	SW/4NW/4	11 T18S-R29E
12	1	NW/4SE/4	9 T18S-R29E
12	3	SE/4SE/4	9 T18S-R29E
13	8	NW/4SW/4	12 T18S-R29E
15	3	NE/4NW/4	1 T18S-R29E
17	7	NE/4SE/4	10 T18S-R29E
19A	1	SW/4SE/4	9 T18S-R29E
19C	1	NE/4NE/4	15 T18S-R29E
25	2	NE/4SW/4	1 T18S-R29E
26	1	SE/4SW/4	1 T18S-R29E
3	1	NE/4NW/4	12 T18S-R29E
34	4	SW/4NW/4	2 T18S-R29E
36	2	SE/4NW/4	2 T18S-R29E
37	3	NE/4NE/4	11 T18S-R29E
38	4	NW/4NE/4	2 T18S-R29E
8A	1	SW/4NW/4	10 T18S-R29E

Injector Wells

1	4	SW/4SW/4	7 T18S-R30E
37	2	NE/4NE/4	11 T18S-R29E
6	1	NE/4SE/4	12 T18S-R29E



YATES PETROLEUM CORP. YEARLY PRODUCTION WEST LOCO HILLS UNIT YATES PETROLEUM CORP. WEST LOCO HILLS UNIT YATES PETROLEUM CORP. WEST LOCO HILLS UNIT



bbls OIL
PER YEAR

100,000

1,000,000

10,000,000

NEWMONT OIL COMPANY
Chart Showing

WEST LOCO HILLS UNIT

EDDY COUNTY NEW MEXICO
DAILY AVERAGE PRODUCTION BY STAGES
FROM INCEPTION

BOPD

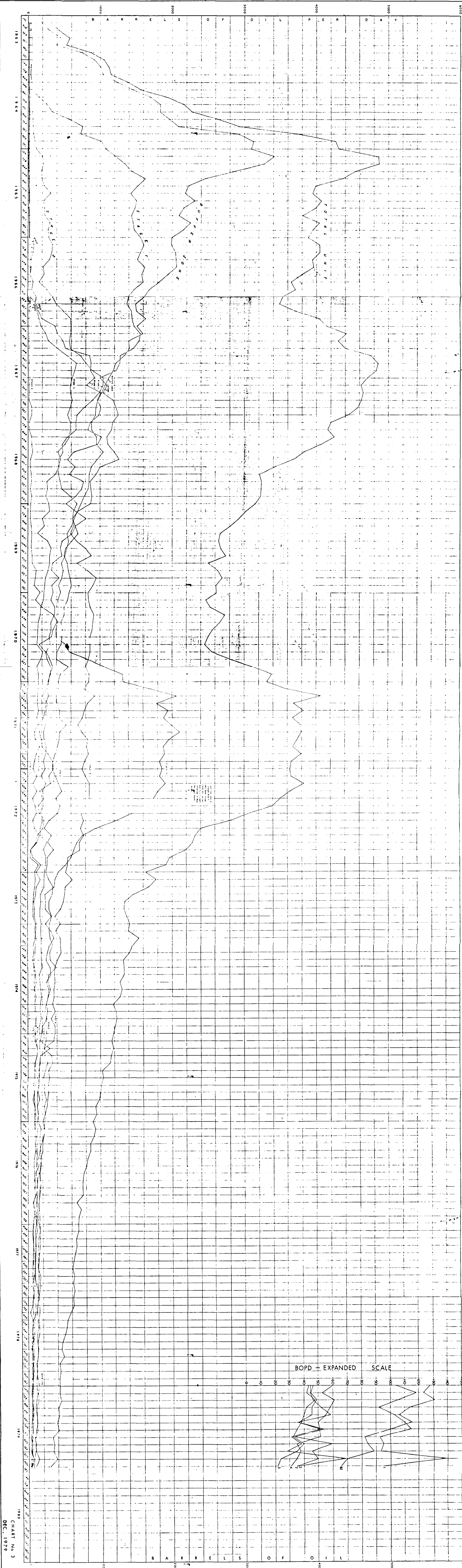


CHART No. 3
DEC. 1979

State of New Mexico



JIM BACA
COMMISSIONER

Commissioner of Public Lands

March 4, 1986

Yates Petroleum Corporation
207 South Fourth Street
Artesia, New Mexico 88210

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

Re: West Loco Hills Grayburg No. 4
Sand Unit
1986 Plan of Development
Eddy County, New Mexico

ATTENTION: Ms. Janet Richardson

Gentlemen:

The Commissioner of Public Lands has this date approved your 1986 Plan of Development for the West Loco Hills Grayburg No. 4 Sand Unit Area, Eddy County, New Mexico. Such plan proposes to drill the Unit Well No. 8, to be located 990' FNL and 2310' FWL of Section 3, Township 18 South, Range 29 East to test the Metex and intermediate formations. 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: *Floyd O. Prando*

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

JB/FOP/pm
encls.

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



TONEY ANAYA
GOVERNOR

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

March 5, 1986

50 YEARS



1935 - 1985

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-5800

Yates Petroleum Corporation
207 South Fourth Street
Artesia, New Mexico 88210

Attention: Janet Richardson

Re: West Loco Hills Grayburg No. 4
Sand Unit
Eddy County, New Mexico

Gentlemen:

The above-referenced submittal has been approved by the New Mexico Oil Conservation Division effective this date. Such approval is contingent upon like approval by the New Mexico Commissioner of Public Lands and the Bureau of Land Management.

Sincerely,

ROY E. JOHNSON,
Senior Petroleum Geologist

REJ/dr

cc: Commissioner of Public Lands - Santa Fe
Bureau of Land Management - Albuquerque
OCD District Office - Artesia

#2472



JIM BACA
COMMISSIONER

State of New Mexico
OFFICE OF THE
Commissioner of Public Lands
Santa Fe

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

SLO REF NO. OG-1066

October 31, 1991

Yates Petroleum Corp.
105 South Fourth Street
Artesia, New Mexico 88210

Attn: Attn: Ms. Mecca Mauritsen

Re: 1991 Plan of Development Plan of Development
West Loco Hills Grayburg Unit Unit
Eddy County, New Mexico, 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 other appropriate agencies.

The possibility of drainage by wells outside of the Unit Area and the need for further development of the unit may exist. You will be contacted at a later date regarding these possibilities.

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

cc: OCD
BLM

Drawer 1857
Roswell, New Mexico 88201

November 24, 1964

Newmont Oil Company
1135 Texas National Bank Building
Houston, Texas 77002

Attention: Mr. Charlie Seely

Gentlemen:

Your revised plan of development and operation dated August 3, 1964, for the West Loco Hills Grayburg No. 4 Sand unit, Eddy County, New Mexico, proposing certain changes in the water injection pattern, has been approved on this date subject to like approval by the appropriate State officials.

One approved copy of the plan is enclosed.

Sincerely yours,

(ORIGINAL TO JOHN A. ANDERSON)

JOHN A. ANDERSON
Regional Oil & Gas Supervisor

cc:
Washington (w/cy of plan)
Artesia (w/cy of plan)
NMCCC - Santa Fe (ltr. only) ✓
Com. of Pub. Lands - Santa Fe (ltr. only)

RECEIVED
OCT 14 1964

NEWMONT OIL COMPANY

1300 MAIN - AT POLK
HOUSTON, TEXAS 77002

October 12, 1964

2472

Oil Conservation Commission
State of New Mexico
Santa Fe, New Mexico

Attention: Mr. A. L. Porter, Jr.

Re: West Loco Hills- Second Enlargement
Grayburg No. 4 Sand Unit
Eddy County, New Mexico
No. 14-08-0001-8528

Gentlemen:

Attached hereto is fully executed copy of Newmont Oil Company's Application of August 10, 1964, for the Second Revision (1,118.07 acres), of the Participating Area (new total: 5,307.73 acres) under the West Loco Hills Grayburg No. 4 Sand Unit Agreement, Eddy County, New Mexico, No. 14-08-0001-8528, which was approved September 25, 1964, by R. H. Lyddan, Acting Director of the Geological Survey, effective as of September 1, 1964.

Executed copies of the enclosed instrument have this day been furnished to the United States Geological Survey and the Commissioner of Public Lands.

Very truly yours,

NEWMONT OIL COMPANY

Frank Johnson
Frank Johnson
Land Manager

FJ:vc
Attachment

August 10, 1964

In Re: West Loco Hills
Grayburg No. 4 Sand Unit.
Eddy County, New Mexico
No. 14-08-0001-8528

To: Director
United States Geological Survey

Commissioner of Public Land
State of New Mexico

Oil Conservation Commission
State of New Mexico

RECEIVED
AUG 13 1964

U. S. GEOLOGICAL SURVEY
ROSWELL, NEW MEXICO

APPLICATION FOR APPROVAL OF
SECOND EXPANSION OF THE PARTICIPATING AREA,
WEST LOCO HILLS GRAYBURG NO. 4 SAND UNIT,
EDDY COUNTY, NEW MEXICO

Comes now the undersigned, Newmont Oil Company, as Unit Operator for the West Loco Hills Grayburg No. 4 Sand Unit, originally approved by the New Mexico Oil Conservation Commission on January 17, 1963, by the Commissioner of Public Lands of the State of New Mexico on June 5, 1963, and by the Director United States Geological Survey on June 27, 1963, and being effective as of July 1, 1963, and thereafter amended by way of a first expansion of the Participating Area by the above named officials and/or Commissions on December 9, December 10, 1963 and January 17, 1964, respectively, and in accordance with the provisions of said agreement respectfully request the approval of the Director, the Commissioner and the Commission for a second expansion of the Initial Participating Area as herein set forth.

1. The Initial Participating Area was determined and established simultaneously with the approval of the Unit Agreement and contained all lands and wells within the Unit Area which at that time were deemed capable of producing unitized substances in paying quantities and which were deemed necessary to permit Unit Operator to conduct secondary recovery operations within the Unit Area. The first expansion of the Initial Participating Area was accomplished and approved on the dates hereinabove set forth for the purpose of including within the Participating Area a single tract which was by inadvertence omitted when the Participating Area was initially determined.

2. The captioned Unit has now been in constant operation since its effective date of July 1, 1963, and the operations have been successful both economically and technically since such effective date. Since commencement of operations detailed studies have been continuously made of the Unit Area (including both the Participating and Non-participating acreage) by Unit Operator as well as by other owners of working interests in the Unit. As a result of such studies working interest owners have drilled ten additional wells now and have re-entered and recompleted three old wells in Unit tracts lying outside the Participating Area, and such wells have contributed valuable information relating to the flood potential of these tracts. With such new information available from the drilling of such wells, it has been possible to prepare revised Isopachous maps indicating the flood potential of these tracts based on "pseudo cumulative" reserves assigned to such tracts. Additionally such information has given guidance to the Unit Operator in planning future Unit operations and in making determination as to proper enlargement of the Participating Area.

3. The Unit Operator, after having examined the information obtained from the drilling of the new wells in the Unit Area together with new revised maps prepared from the information developed from the

drilling of such new wells has determined that the present Participating Area should now be enlarged to encompass the whole Unit Area in order that same may be made subject to more efficient flooding operations pursuant to proper conservation practices, for the protection of the Unit as a whole from as much drainage as possible from operators owning acreage abutting the outlines of the Unit Area and finally for a greater ultimate recovery of secondary oil from the Unit Area as it now exists. Such determination on the part of the Unit Operator has been agreed to by the owners of the working interest in the specific tracts to be included in the proposed enlargement of the Participating Area.

4. It is therefore proposed that the Participating Area as it now exists be expanded to include all of the tracts presently in the Unit Area but lying outside of the present Participating Area and being the following tracts to wit: Tracts Nos. 2-C, 4-B, 7-B, 8C-1, 8C-2, 8-E, 10-C, 10-D, 11-B, 13-B, 17-B, 19-C, 21-B, 30 and 32-C.

5. The Unit Operator proposes to consolidate certain of the above enumerated tracts proposed to be included in the enlarged Participating Area since the ownership of some of the tracts presently in the Participating Area is constant with the ownerships of certain of the tracts which are proposed to be added to the Participating Area. By way of example, Tract 2-C, which is one of the tracts which is proposed to be included in the enlargement of the Participating Area has the identical ownership as Tract 2-B presently in the Participating Area. It is therefore contemplated to consolidate Tracts 2-C and 2-B and to thereafter refer to same simply as Tract 2-B. The following tabulation shows the manner in which the proposed consolidation of tracts will be accomplished.

<u>New Tracts To Be Added To Participating Area</u>	<u>Tracts Now In Participating Area To Be Consolidated</u>	<u>Tract No. Of Consolidated Tracts</u>
2-C	2-B	2-B
4-B	4-A	4
7-B	7-A	7
8-E	8-D	8-D
10-C	10-B	10-B
10-D	10-A	10-A
11-B	11-A	11
13-B	13-A	13
17-B	17-A	17
21-B	21-A	21

All of such proposed consolidations of tracts as well as the whole of the Unit Area are shown on the revised Exhibit "A" (being a plat showing all the tracts in the Unit Area) and a copy of such revised Exhibit "A" is attached hereto and made a part of this application.

6. By virtue of the credit given for the various tracts which are proposed to be added to the enlarged Participating Area it has become necessary to recalculate the participating factors for each tract in the new enlarged Participating Area. This has been done and the new participating factors are shown on an Amendment to Exhibit "B" of the Unit Agreement and a copy of each page making up such Amendment of Exhibit "B" is attached hereto and made a part of this application.

7. There is attached hereto and made a part of this application a copy of an engineering report prepared by Unit Operator's staff of engineers showing in detail the basis by which participating factors were assigned to each of the tracts which are proposed to be included in the Participating Area together with Isopachous maps, well log data and other detailed information which have in the opinion of the

Unit Operator justified the various participating factors assigned to such additional tracts. It will be noted in such engineering reports as well as on the Amendment to Exhibit "B" that "pseudo cumulative" reserves have been assigned to each of such new tracts whereas when the Initial Participating Area was originally formed the participating factors (excepting two tracts) was based on cumulative primary production.

8. The Unit Operator, Newmont Oil Company, by its signature hereto certifies that more than 75% of the voting interest within the present Participating Area have agreed to the expansion of the Participating Area as proposed above together with the participating factors which have been assigned to such tracts proposed to be included in the enlarged Participating Area. Newmont further certifies that it has complied with all the provisions of Section 16 of the Unit Agreement.

NOW THEREFORE, it is respectfully requested that the Participating Area as it now exists pursuant to the terms of the Unit Agreement be enlarged to include the hereinabove specified tracts, together with the wells and all property and equipment located on such tracts, so that hereafter the Participating Area will coincide with the presently established Unit Area. The Unit Operator, pursuant to Section 16 of the Unit Agreement has determined that such expansion will be effective as of September 1, 1964, at 7:00 AM and requests that the participating factors for all of the tracts as shown on the amended Exhibit "B" be accepted as therein set out and that the consolidation of tracts in the proposed enlarged Participating Area be accepted as set out on the attached Exhibit "A".

Respectfully submitted,

NEWMONT OIL COMPANY, OPERATOR
West Loco Hills Grayburg No. 4 Sand Unit

by Charles C. Hayden

CCL:jg

APPROVED THIS 11 day of
August, 1964.

a. l. Carter Jr. MR
Secretary-Director
New Mexico Oil Conservation Commission

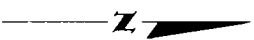
APPROVED THIS 12th day of
August, 1964.






J. J. [Signature]
Commissioner of Public Lands
State of New Mexico

APPROVED THIS 25 day of
September, 1964.

[Signature]
ACTING Director
United States Geological Survey

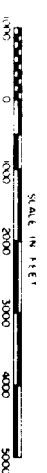
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- | | |
|---|---|
|  | FEDERAL LANDS
3,947.73 ACRES |
|  | STATE OF NEW MEXICO LANDS
1,280.00 ACRES |
|  | PATENTED (PEEL) LANDS
80.00 ACRES |
|  | JUNIT AREA - 2,307.73 ACRES (ALL PARTICIPATING) |
|  | TRACT NUMBER |

WEST LOCO HILLS GRAYBURG
NO. 4 SAND UNIT
EDDY COUNTY, NEW MEXICO

AS OF SEPTEMBER 1, 1964



AMENDMENT TO EXHIBIT "B"
WEST LOCO HILLS GRAYBURG NO. 4 SAND UNIT - EDDY COUNTY, NEW MEXICO
SCHEDULE SHOWING UNIT PARTICIPATION OF ALL TRACTS IN THE UNIT AREA

Amended as of 7:00 A.M. September 1, 1964

Tract No.	Description	Acres	Lease Number, Date Basic Royalty	Lessee of Record & Percent	Overriding Royalty & Percent	Working Interest Owners and Percent	Cumulative & Pseudo-Cumu- lative Barrels	Tract Percentage Participation in Unit
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1. *	T-18-S, R-30-E, Sec. 7: Lots 1, 2, 3, 4, & E/2 NW/4, NE/4 SW/4	271.64	LC-047269 (a) 10-1-59; Sched. "C"	For details as to Columns 5, 6, & 7, please refer to original Exhibit "B" for ownerships and percentages on the effective date of the Unit, July 1, 1963			850,440 Bbls.	8.6530%
2-A *	T-18-S, R-30-E; Sec. 7: W/2 SE/4, SE/4 SE/4	120.00	LC-048468 1-1-40; Step Scale	"	"	"	200,345	2.0384
2-B	T-18-S, R-30-E; Sec. 18: NW/4 NE/4	40.00	LC-048468 1-1-40; Step Scale	"	"	"	61,815	.6289
2-C	T-18-S, R-30-E; Sec. 18: SW/4 NE/4, N/2 SE/4	120.00	LC-048468 1-1-40; 12-1/2%	"	"	"	502	.0051
3.	T-18-S, R-29-E; Sec. 12: N/2 NW/4	80.00	LC-050429 (a) 9-1-59; Sched. "C"	"	"	"	142,760	1.4525
4.	T-18-S, R-29-E; Sec. 12: NE/4 SW/4, S/2 SW/4	120.00	LC-050429 (b) 11-1-61 Sched. "D"	"	"	"	Orig. Tr. 4-A 65,550 Orig. Tr. 4-B 14,604 <u>Consolidated 4</u> 80,154	.8155
5.	T-18-S, R-29-E; Sec. 10: E/2 NW/4	80.00	LC-054253 12-28-38 Step Scale	"	"	"	179,454	1.8259
6.	T-18-S, R-29-E; Sec. 12: SE/4	160.00	LC-055374 9-1-40 Step Scale	"	"	"	369,046	3.7549
7.	T-18-S, R-29-E; Sec. 13: NE/4 NE/4, W/2 NE/4, SE/4 NE/4	160.00	LC-055830 10-31-39 Step Scale	"	"	"	Orig. Tr. 7-A 38,542 Orig. Tr. 7-B 4,188 <u>Consolidated 7</u> 42,730	.4348

* See Page 7 of this Amendment to Exhibit "B" for note as to Tracts 1 and 2-A.

Tract No.	Description	Acres	Lease Number, Date Basic Royalty	Lessee of Record & Percent	Overriding Royalty & Percent	Working Interest Owners and Percent	Cumulative & Pseudo-Cumulative Barrels	Tract Percentage Participative in Unit
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
8-A	T-18-S, R-29-E; Sec. 10: SW/4 NW/4, NW/4 SW/4	80.00	LC-056014 5-10-39 Step Scale	For details as to Columns 5, 6, & 7, please refer to original Exhibit "B" for ownerships and percentages on the effective date of the Unit, July 1, 1963.			175,131 Bbls.	1.7819%
8-B	T-18-S, R-29-E; Sec. 15: N/2 NW/4	80.00	LC-056014 5-10-39 Step Scale	"	"	"	101,219	1.0299
8-C-1	T-18-S, R-29-E; Sec. 15: SW/4 NW/4	40.00	LC-056014 5-10-39 Step Scale	"	"	"	2,082	.0212
8-C-2 ***	T-18-S, R-29-E; Sec. 15: SE/4 NW/4	40.00	LC-056014 5-10-39 Step Scale	"	"	"	3,686	.0375
8-D	T-18-S, R-29-E; Sec. 15: NW/4 NE/4, SW/4 NE/4	80.00	LC-056014 5-10-39 Step Scale	"	"	"	Orig. Tr. 8-D 22,901 Orig. Tr. 8-E 3,386 <u>Consolidated 8-D</u> 26,287	.2675
9.	T-18-S, R-29-E; Sec. 3: S/2 SE/4	80.00	LC-058125 12-31-38 Step Scale	"	"	"	124,305	1.2648
10-A	T-18-S, R-29-E; Sec. 3: S/2 NW/4, SW/4, N/2 NW/4	320.00	LC-058480 12-28-38 Step Scale	"	"	"	Orig. Tr. 10-A 444,766 Orig. Tr. 10-D 1,054 <u>Consolidated 10-A</u> 445,820	4.5361
10-B	T-18-S, R-29-E, Sec. 3: NE/4 NE/4, S/2 NE/4, N/2 SE/4, NW/4 NE/4	240.00	LC-058480 12-28-38 Step Scale	"	"	"	Orig. Tr. 10-B 288,186 Orig. Tr. 10-C 1,254 <u>Consolidated 10-B</u> 289,440	2.9450
11.	T-18-S, R-29-E; Sec. 11: NW/4, SW/4	320.00	LC-058481 12-28-38 Step Scale	"	"	"	Orig. Tr. 11-A 351,410 Orig. Tr. 11-B 342,818 <u>Consolidated 11</u> 694,228	7.0635

*** See Page 7 of this Amendment to Exhibit "B" for note as to Tract 8-C-2.

Tract No.	Description	Acres	Lease Number, Date Basic Royalty	Lessee of Record & Percent	Overriding Royalty & Percent	Working Interest Owners and Percent	Cumulative & Pseudo-Cumulative Barrels	Tract Percentage Participating in Unit
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
12.	T-18-S, R-29-E; Sec. 9: N/2 SE/4, SE/4 SE/4	120.00	LC-059954 5-10-39 Step Scale	For details as to Columns 5, 6, & 7, please refer to original Exhibit "B" for ownerships and percentages on the effective date of the Unit, July 1, 1963.				265,287 Bbls. 2.6992%
13.	T-18-S, R-29-E; Sec. 12: NE/4, SE/4 NW/4, SW/4 NW/4, NW/4 SW/4	280.00	LC-060904 9-1-59 Sched. "C"	"	"	" Orig. Tr. 13-A 459,571 Orig. Tr. 13-B 169,378 <u>Consolidated 13</u> 628,949		6.3994
14.	T-18-S, R-29-E; Sec. 1: S/2 SE/4	80.00	LC-060905 (a) 3-1-59 Sched. "C"	"	"	"	261,976	2.6655
15.	T-18-S, R-29-E; Sec. 1: E/2 NW/4	80.00	LC-060905 (b) 5-1-59 Sched. "D"	"	"	"	225,468	2.2941
16.	T-18-S, R-29-E; Sec. 1: W/2 NW/4	80.00	LC-060906 5-1-59 Sched. "D"	"	"	"	222,503	2.2639
17.	T-18-S, R-29-E; Sec. 10: NE/4, N/2 SE/4, SW/4 SE/4	320.00	LC-062072 12-28-38 Step Scale	"	"	" Orig. Tr. 17-A 526,898 Orig. Tr. 17-B 68,957 <u>Consolidated 17</u> 595,855		6.0626
18.	T-18-S, R-29-E, Sec. 10: SW/4 SW/4	40.00	LC-065500 12-1-59 Sched. "C"	"	"	"	53,522	.5446
19-A	T-18-S, R-29-E, Sec. 9: SW/4 SE/4	40.00	NM-02426 5-10-39 Step Scale	"	"	"	88,496	.9004

Tract No.	Description	Acres	Lease Number, Date Basic Royalty	Lessee of Record & Percent	Overriding Royalty & Percent	Working Interest Owners and Percent	Cumulative & Pseudo-Cumulative Barrels	Tract Percentage Participative in Unit
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
19-B	T-18-S, R-29-E; Sec. 9: NE/4	160.00	NM-02426 5-10-39 Step Scale	For details as to Columns 5, 6, & 7, please refer to original Exhibit "B" for ownerships and percentages on the effective date of the Unit, July 1, 1963.			295,784 Bbls.	3.0095%
19-C	T-18-S, R-29-E; Sec. 15: NE/4	40.00	NM-02426 5-10-39 Step Scale	"	"	"	19,213	.1955
20.	T-18-S, R-29-E; Sec. 10: NW/4	40.00	NM-02428 5-10-39 Step Scale	"	"	"	87,058	.8858
21-A	T-18-S, R-30-E; Sec. 18: Lot 1 (NW/4 NW/4), NE/4 NW/4	78.02	NM-025614 9-1-60 Sched. "D"	"	"	"	159,966	1.6276
21-B	T-18-S, R-30-E; Sec. 18: Lot 2 (SW/4 NW/4), SE/4 NW/4, NE/4 SW/4	118.07	NM-025614 9-1-60 12-1/2%	"	"	"	33,256	.3384
22. *	T-18-S, R-30-E; Sec. 7: SE/4 SW/4	40.00	NM-025623 9-1-60 Sched. "D"	"	"	"	110,358	1.1229
23.	T-17-S, R-29-E; Sec. 36: SE/4 SW/4	40.00	B-1778-20 3-10-33 12-1/2%	"	"	"	122,470	1.2461
24.	T-17-S, R-29-E; Sec. 36: SW/4 SW/4	40.00	B-2023-8 7-10-33 12-1/2%	"	"	"	78,781	.8016
25.	T-18-S, R-29-E; Sec. 1: NE/4 SW/4	40.00	B-5084-76 10-10-35 12-1/2%	"	"	"	123,924	1.2609
26.	T-18-S, R-29-E; Sec. 1: SE/4 SW/4	40.00	B-5084-128 10-10-35 12-1/2%	"	"	"	146,480	1.4904

* See Page 7 of this Amendment to Exhibit "B" for note as to Tract 22.

Tract No.	Description	Acres	Lease Number, Date Basic Royalty	Lessee of Record & Percent	Overriding Royalty & Percent	Working Interest Owners and Percent	Cumulative & Pseudo-Cumulative Barrels	Tract Percentage Participative in Unit
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
27.	T-18-S, R-29-E; Sec. 1: NW/4 SW/4	40.00	B-5524-13 12-10-35 12-1/2%	For details as to Columns 5, 6, & 7, please refer to original Exhibit "B" for ownerships and percentages on the effective date of the Unit, July 1, 1963.			130,700 Bbls.	1.3298%
28.	T-18-S, R-29-E; Sec. 10: NE/4 SW/4	40.00	B-5524-24 12-10-35 12-1/2%	"	"	"	118,446	1.2051
29.	T-18-S, R-29-E; Sec. 2: E/2 SW/4	80.00	B-5524-24 12-10-35 12-1/2%	"	"	"	218,385	2.2220
30.	T-18-S, R-29-E; Sec. 11: S/2 SE/4	80.00	B-5524-25 12-10-35 12-1/2%	"	"	"	92,393	.9401
31.	T-18-S, R-29-E; Sec. 2: SW/4 SW/4	40.00	B-5524-26 12-10-35 12-1/2%	"	"	"	46,553	.4737
32-A	T-18-S, R-29-E; Sec. 11: NE/4 SE/4, NW/4 SE/4	80.00	B-6058-19 3-10-36 12-1/2%	"	"	"	84,184	.8565
32-C	T-18-S, R-29-E; Sec. 2: NW/4 NW/4	40.00	B-6058-19 3-10-36 12-1/2%	"	"	"	2,817	.0287
33.	T-18-S, R-29-E; Sec. 2: NE/4 NW/4	40.00	B-6058-21 3-10-36 12-1/2%	"	"	"	13,014	.1324
34.	T-18-S, R-29-E; Sec. 2: SW/4 NW/4	40.00	B-6570-19 6-10-36 12-1/2%	"	"	"	108,569	1.1046

Tract No.	Description	Acres	Lease Number, Date Basic Royalty	Lessee of Record & Percent	Overriding Royalty & Percent	Working Interest Owners and Percent	Cumulative & Pseudo-Cumulative Barrels	Tract Percentage Participation in Unit
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
35.	T-18-S, R-29-E; Sec. 11: S/2 NE/4	80.00	B-6570-23 6-10-36 12-1/2%	For details as to Columns 5, 6, & 7, please refer to original Exhibit "B" for ownerships and percentages on the effective date of the Unit, July 1, 1963.				220,574 Bbls. 2.2443 %
36.	T-18-S, R-29-E; Sec. 2: SE/4 NW/4	40.00	B-6570-25 6-10-36 12-1/2%	"	"	"	112,292	1.1425
37.	T-18-S, R-29-E; Sec. 11: N/2 NE/4	80.00	B-6631-24 8-10-36 12-1/2%	"	"	"	157,604	1.6036
38.	T-18-S, R-29-E; Sec. 2: NE/4	160.00	B-6811-10 12-10-36 12-1/2%	"	"	"	376,710	3.8329
39.	T-18-S, R-29-E; Sec. 2: SE/4	160.00	B-6846 1-11-37 12-1/2%	"	"	"	353,495	3.5967
40.	T-18-S, R-29-E; Sec. 1: SW/4 SW/4	40.00	B-7072-5 6-10-37 12-1/2%	"	"	"	130,682	1.3296
41.	T-18-S, R-29-E; Sec. 2: NW/4 SW/4	40.00	B-7677 7-11-38 12-1/2%	"	"	"	113,013	1.1499
42.	T-18-S, R-29-E; Sec. 10: SE/4 SW/4	40.00	B-7677 7-11-38 12-1/2%	"	"	"	91,549	.9315
43.	T-18-S, R-29-E; Sec. 4: E/2 SE/4	80.00	Fee	"	"	"	148,533	1.5113

RECAPITULATION OF ROYALTY OWNERSHIP

	<u>FEDERAL LANDS</u>	<u>STATE LANDS</u>	<u>FEE LANDS</u>	<u>TOTAL</u>	
<u>Tracts</u>	32	21	1	54	
<u>Acres of Land in Unit Area</u>	3,947.73	1,280.00	80.00	5,307.73	(Note: After the proposed change, the Participating Area will be identical to the original Participating Area.)
<u>Percent of Unit Area</u>	74.38%	24.12%	1.50%	100.00%	
<u>Cumulative and Pseudo-Cumulative Barrels</u>	6,837,135	2,842,635	148,533	9,828,303	

NOTE AS TO TRACTS 1, 2-A, and 22

* Note (2) of the original Exhibit "B" insofar as same relates to the overriding royalty interest in Tracts 1, 2-A, and 22 for Gertrude W. Boyd and the Estates of Fayette B. Dow and Margaret Elder Dow, deceased, is in error in as much as these interests are production payment interests which will eventually pay out and upon payout of such interests the fractional part of the Unit production from which such interests are being paid will revert to Bert Aston et al rather than to Newmont Oil Company and Curtis McBroom et al as indicated in Note (2) of the original Exhibit "B".

NOTE AS TO TRACT 8-C-2

** Since the preparation of the original Exhibit "B" it has been determined that Olen F. Featherstone owns an overriding royalty interest equal to 10% in the 40-acre tract designated as 8-C-2 and in as much as same will now become a part of the Participating Area, proper credit should be given to such overriding royalty interest.

December 6, 1963

In Re: West Loco Hills
Grayburg No. 4
Sand Unit, Eddy
County, New Mexico
No. 14-08-0001-8528

To: Director
United States Geological Survey

Commissioner of Public Lands
State of New Mexico

Oil Conservation Commission
State of New Mexico

APPLICATION FOR APPROVAL OF
FIRST EXPANSION OF THE PARTICIPATING AREA,
WEST LOCO HILLS GRAYBURG NO. 4 SAND UNIT,
EDDY COUNTY, NEW MEXICO

Comes the undersigned, Newmont Oil Company, as Unit Operator for the West Loco Hills Grayburg No. 4 Sand Unit, approved by the New Mexico Oil Conservation Commission on January 17, 1963, by the Commissioner of Public Lands of the State of New Mexico on June 5, 1963 and by the Director, United States Geological Survey, on June 27, 1963 and being effective as of July 1, 1963, and in accordance with the provisions of said Agreement respectfully requests the approval of the Director, the Commissioner and the Commission for the first expansion of the initial participating area as herein set forth.

1. The Initial Participating Area was determined and established simultaneously with the approval of the Unit Agreement and contained all lands and wells within the Unit Area deemed capable of producing unitized substances in paying quantities, or necessary for proper Unit operations, and otherwise to allow Unit Operator to conduct secondary recovery operations.

2. That Unit Operator is of the opinion that the Bassett-Birney No. 6 Well, located on the NW/4 SE/4 of Section 11, Township 18 South, Range 29 East, N.M.P.M., Unit Tract 32B, has a usable well located thereon as defined in paragraph 10.1.4 of the Unit Operating Agreement and through inadvertence this tract was not included in the original Participating Area, notwithstanding the fact that credit was given for this Well No. 6 to Bassett-Birney Well No. 7 located on the NE/4 SE/4 of said Section 11, Unit Tract 32A. The Unit Operator presently intends to use the Bassett-Birney Well No. 6 as an input well, and the plan of Development and Operation of the Unit dated June 3, 1961 will be revised to accommodate such use of this well.

3. That Unit Operator, after having examined Tract 32B in the light of the information submitted by Bassett-Birney Oil Corporation, is of the opinion that Tract 32B is necessary to the efficient operation of the Unit and that the Initial Participating Area should be expanded to include said Tract.

It is therefore proposed that the Initial Participating Area, established and approved effective as of July 1, 1963, be expanded to include said Bassett-Birney No. 6 and the land upon which such well is located, the NW/4 SE/4 Section 11, Township 18 South, Range 29 East, N.M.P.M., Tract 32B. Such first expansion of the Initial Participating Area to be effective as of July 1, 1963.

There are filed herewith six (6) revised pages of Exhibit "B" (being a schedule showing ownership and unit participation of all tracts in the unit area) and six (6) revised pages of Exhibit "A" (being a plat showing all the tracts in the unit area).

It is further proposed, and as indicated on said revised pages of Exhibit "B", that the said Tract 32B, and the well thereon, Bassett-Birney No. 6, be included in the Participating Area without any change in the participation factor for either the Participating Area or in Tract 32A, the location of the Bassett-Birney No. 7.

Tract designation 32B will be eliminated, and Tract 32A will hereafter contain 80 acres encompassing both the Bassett-Birney Wells Nos. 6 and 7 without any change in the participation of said originally numbered Tract 32A in the participating area.

It is proposed that no change be made in the participating factor for Tract 32A due to the fact that participating factor credit for Tract 32B was included in the participating factor credit for Tract 32A.

Further, the Unit Operator, Newmont Oil Company, by its signature hereto certifies that more than 75% of the voting interests within the participating area have agreed to the said expansion as proposed above and that all the provisions of Section 16 of the Unit Agreement have been complied with and adhered to.

NOW THEREFORE, it is respectfully requested that the Initial Participating Area established pursuant to the terms of the Unit Agreement be enlarged to include Tract 32B, the NW/4 SE/4 Section 11, Township 18 South, Range 29 East, together with the well and all property and equipment located thereon, with such expansion to be effective as of July 1, 1963 and with no change in the participation factor for Tract 32A, or within the participating area, and that there be no Tract 32B.

Respectfully submitted,

NEWMONT OIL COMPANY

By Charles E. Snyder

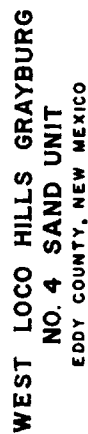
APPROVED THIS 10th day of
December, 1963.
A. H. Kester, Jr.
Secretary-Director
New Mexico Oil Conservation Commission

APPROVED this 9th day of
December, 1963.
Esmeralda
Commissioner of Public Lands
State of New Mexico

APPROVED this ____ day of
____, 1963.

Director
United States Geological Survey

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REVISÉ 12-6-63

EXHIBIT "A"

**WEST LOCO HILLS GRAYBURG
NO. 4 SAND UNIT
EDDY COUNTY, NEW MEXICO**

SCALE IN FEET

Age Group	Number of People
0-10	4800
11-20	4500
21-30	4200
31-40	3800
41-50	3500
51-60	3200
61-70	2800
71-80	2500
81-90	2200
91-100	100

NEWMONT OIL COMPANY

135 TEXAS NATIONAL BANK BUILDING

1300 MAIN • AT POLK

HOUSTON, TEXAS 77002

December 6, 1963

Director
United States Geological Survey

Commissioner of Public Lands
State of New Mexico
Attention: Mrs. Marian M. Rhea,
Supervisor Unit Division

Oil Conservation Commission
State of New Mexico

In Re: West Loco Hills Unit
Tract 32B, Well No. 6
Eddy County, New Mexico

Gentlemen:

Upon this date, Newmont Oil Company, as Operator of the West Loco Hills Grayburg No. 4 Sand Unit, has filed an Application for Approval of First Expansion of the Participating Area, West Loco Hills Grayburg No. 4 Sand Unit, Eddy County, New Mexico. This application has been directed to each of the parties to whom this letter is being directed. In connection with the well located on the captioned tract, you are advised as follows:

The subject well was drilled to a total depth of 2801' and completed on June 25, 1940, for an initial potential of 7.3 MMCF Gas per day. Prior to potential, the well was shot with 200 quarts of nitroglycerin from 2610 to 50', and 7" casing was set at 2590' with 100 sacks cement. In July, 1941, the well was converted to gas injection and was later temporarily abandoned.

The well was sand-oil fracture treated with 50,000 gallons oil and 75,000 pounds sand in March of 1956. The well was then shut-in and temporarily abandoned until an allowable was requested on July 27, 1963; however, the well was not produced. In October, 1963, Newmont Oil Company filed a New Mexico Oil Conservation Form C-115, showing the well as temporarily abandoned, which is the present status. The well is presently capable of making about one barrel oil per day.

There was no electrical or radioactivity log run in the subject well. There is enclosed herewith, however, a well record including a record of all formations encountered in the drilling of such well. You will note in such well formation record that the point where this well was completed is indicated in red. You are advised that this point of completion is in the Grayburg No. 4 Sand which is the zone being flooded in the West Loco Hills Unit.

Yours very truly,
NEWMONT OIL COMPANY

CCL/CWS:ajg

By 
Chief Engineer

Tract No.	Description	Acres	Lease No., Date Basic Royalty	Lessee of Record and Percent	Overriding Royalty and Percent	Working Interest Owners and Percent	Cum. Prod. To 12-1-60	Tract Percent Part. In Unit
30.	T-18-S, R-29-E Sec.11: S/2 SE/4	80.00	B-5524-25 12-10-35 12-1/2%	Franklin, Aston & Fair, Inc.	All Curtis McBroom Bert H. Murphy Texas Royalty Co. Harold C. Porter Mary Rainey Randall Franklin, Aston & Fair, Inc.	Newmont Oil Co. .70136(1) .70136(1) .36916(1) .20507(1) .07383(1) 21.87500(2)	All	Non-participating
31.	T-18-S, R-29-E Sec.2: SW/4 SW/4	40.00	B-5524-26 12-10-35 12-1/2%	Fair Oil Co.	All Geo. A. Laybourn Sam Bright Florence O. Hawn Alta Mae Reynolds Byrne Charley Reynolds	Fair Oil Co. 1.36719 1.36719 .45573 1.82292 .45572	All	46,553 .5133
32-A.	T-18-S, R-29-E Sec.11: N/2 SE/4	80.00	B-6058-19 3-10-36 12-1/2%	Bassett-Birney Oil Corp.	All None	Bassett-Birney Oil Corp.	All	84,184 .9283
32-C.	T-18-S, R-29-E Sec.2: NW/4 NW/4	40.00	B-6058-19 3-10-36 12-1/2%	Bassett-Birney Oil Corp.	All None	Bassett-Birney Oil Corp.	All	Non-participating
33.	T-18-S, R-29-E Sec.2: NE/4 NW/4	40.00	B-6058-21 3-10-36 12-1/2%	Fair Oil Co. R. W. Fair	67.0 33.0 100.0 R. W. Fair The R. W. Fair Foundation	Fair Oil Co. R. W. Fair 12.5 25.0	66.66667 33.33333 100.00000	13,014 .1435
34.	T-18-S, R-29-E Sec.2: SW/4 NW/4	40.00	B-6570-19 6-10-36 12-1/2%	Bassett-Birney Oil Corp.	All None	Bassett-Birney Oil Corp.	All	108,569 1.1972

Tract No.	Description	Acres	Lease No., Date Basic Royalty	Lessee of Record and Percent	Overriding Royalty and Percent		Working Interest Owners and Percent	Cum. Prod. To 12-1-60	Tract Percent Part. In Unit
30.	T-18-S, R-29-E Sec.11: S/2 SE/4	80.00	B-5524-25 12-10-35 12-1/2%	Franklin, Aston & Fair, Inc.	All Curtis McBroom Bert H. Murphy Texas Royalty Co. Harold C. Porter Mary Rainey Randall Franklin, Aston & Fair, Inc.	.70136(1) .70136(1) .36916(1) .20507(1) .07383(1) 21.87500(2)	Newmont Oil Co.	All	Non-participating
31.	T-18-S, R-29-E Sec.2: SW/4 SW/4	40.00	B-5524-26 12-10-35 12-1/2%	Fair Oil Co.	All Geo. A. Laybourn Sam Bright Florence O. Hawn Alta Mae Reynolds Byrne Charley Reynolds	1.36719 1.36719 .45573 1.82292 .45572	Fair Oil Co.	All	46,553 .5133
32-A.	T-18-S, R-29-E Sec.11: N/2 SE/4	80.00	B-6058-19 3-10-36 12-1/2%	Bassett-Birney Oil Corp.	All None		Bassett-Birney Oil Corp.	All	84,184 .9283
32-C.	T-18-S, R-29-E Sec.2: NW/4 NW/4	40.00	B-6058-19 3-10-36 12-1/2%	Bassett-Birney Oil Corp.	All None		Bassett-Birney Oil Corp.	All	Non-participating
33.	T-18-S, R-29-E Sec.2: NE/4 NW/4	40.00	B-6058-21 3-10-36 12-1/2%	Fair Oil Co. R. W. Fair	67.0 33.0 100.0 R. W. Fair The R. W. Fair Foundation	12.5 25.0	Fair Oil Co. R. W. Fair	66.66667 33.33333 100.00000	13,014 .1435
34.	T-18-S, R-29-E Sec.2: SW/4 NW/4	40.00	B-6570-19 6-10-36 12-1/2%	Bassett-Birney Oil Corp.	All None		Bassett-Birney Oil Corp.	All	108,569 1.1972

Tract No.	Description	Acres	Lease No., Date Basic Royalty	Lessee of Record and Percent	Overriding Royalty and Percent	Working Interest Owners and Percent	Cum.		Tract Percent In Unit
							Prod. To 12-1-60	Non-participating	
30.	T-18-S, R-29-E Sec.11: S/2 SE/4	80.00	B-5524-25 12-10-35 12-1/2%	Franklin, Aston & Fair, Inc.	All Curtis McBroom Bert H. Murphy Texas Royalty Co. Harold C. Porter Mary Rainey Randall Franklin, Aston & Fair, Inc.	.70136(1) .70136(1) .36916(1) .20507(1) .07383(1) 21.87500(2)	All	Non-participating	
31.	T-18-S, R-29-E Sec.2: SW/4 SW/4	40.00	B-5524-26 12-10-35 12-1/2%	Fair Oil Co.	All Geo. A. Laybourn Sam Bright Florence O. Hawn Alta Mae Reynolds Byrne Charley Reynolds	1.36719 1.36719 .45573 1.82292 .45572	All	46,553	.5133
32-A.	T-18-S, R-29-E Sec.11: N/2 SE/4	80.00	B-6058-19 3-10-36 12-1/2%	Bassett-Birney Oil Corp.	All None	Bassett-Birney Oil Corp.	All	84,184	.9283
32-C.	T-18-S, R-29-E Sec.2: NW/4 NW/4	40.00	B-6058-19 3-10-36 12-1/2%	Bassett-Birney Oil Corp.	All None	Bassett-Birney Oil Corp.	All	Non-participating	
33.	T-18-S, R-29-E Sec.2: NE/4 NW/4	40.00	B-6058-21 3-10-36 12-1/2%	Fair Oil Co. R. W. Fair	67.0 33.0 100.0	12.5 25.0	66.66667 33.33333 100.00000	13,014	.1435
34.	T-18-S, R-29-E Sec.2: SW/4 NW/4	40.00	B-6570-19 6-10-36 12-1/2%	Bassett-Birney Oil Corp.	All None	Bassett-Birney Oil Corp.	All	108,569	1.1972

Tract No.	Description	Acres	Lease No., Date Basic Royalty	Lessee of Record and Percent	Overriding Royalty and Percent	Working Interest Owners and Percent	Cum.		Tract Percent Part.
							Prod. To 12-1-60	Non-participating	
30.	T-18-S, R-29-E Sec.11: S/2 SE/4	80.00	B-5524-25 12-10-35 12-1/2%	Franklin, Aston & Fair, Inc.	All Curtis McBroome Bert H. Murphy Texas Royalty Co. Harold C. Porter Mary Rainey Randall Franklin, Aston & Fair, Inc.	.70136(1) .70136(1) .36916(1) .20507(1) .07383(1) 21.87500(2)	All	Non-participating	
31.	T-18-S, R-29-E Sec.2: SW/4 SW/4	40.00	B-5524-26 12-10-35 12-1/2%	Fair Oil Co.	All Geo. A. Laybourn Sam Bright Florence O. Hawn Alta Mae Reynolds Byrne Charley Reynolds	1.36719 1.36719 .45573 1.82292 .45572	All	46,553	.5133
32-A.	T-18-S, R-29-E Sec.11: N/2 SE/4	80.00	B-6058-19 3-10-36 12-1/2%	Bassett-Birney Oil Corp.	All None		All	84,184	.9283
32-C.	T-18-S, R-29-E Sec.2: NW/4 NW/4	40.00	B-6058-19 3-10-36 12-1/2%	Bassett-Birney Oil Corp.	All None		All	Non-participating	
33.	T-18-S, R-29-E Sec.2: NE/4 NW/4	40.00	B-6058-21 3-10-36 12-1/2%	Fair Oil Co. R. W. Fair	67.0 33.0 100.0 R. W. Fair The R. W. Fair Foundation	12.5 25.0	66.66667 33.33333 100.00000	13,014	.1435
34.	T-18-S, R-29-E Sec.2: SW/4 NW/4	40.00	B-6570-19 6-10-36 12-1/2%	Bassett-Birney Oil Corp.	All None		All	108,569	1.1972

Tract No.	Description	Acres	Lease No., Date Basic Royalty	Lessee of Record and Percent	Overriding Royalty and Percent	Working Interest Owners and Percent	Cum.		Tract Percent In Unit
							Prod. To 12-1-60	Non-participating	
30.	T-18-S, R-29-E Sec.11: S/2 SE/4	80.00	B-5524-25 12-10-35 12-1/2%	Franklin, Aston & Fair, Inc.	All Curtis McBroom Bert H. Murphy Texas Royalty Co. Harold C. Porter Mary Rainey Randall Franklin, Aston & Fair, Inc.	.70136(1) .70136(1) .36916(1) .20507(1) .07383(1) 21.87500(2)	All	Non-participating	
31.	T-18-S, R-29-E Sec.2: SW/4 SW/4	40.00	B-5524-26 12-10-35 12-1/2%	Fair Oil Co.	All Geo. A. Laybourn Sam Bright Florence O. Hawn Alta Mae Reynolds Byrne Charley Reynolds	1.36719 1.36719 .45573 1.82292 .45572	All	46,553	.5133
32-A.	T-18-S, R-29-E Sec.11: N/2 SE/4	80.00	B-6058-19 3-10-36 12-1/2%	Bassett-Birney Oil Corp.	All None	Bassett-Birney Oil Corp.	All	84,184	.9283
32-C.	T-18-S, R-29-E Sec.2: NW/4 NW/4	40.00	B-6058-19 3-10-36 12-1/2%	Bassett-Birney Oil Corp.	All None	Bassett-Birney Oil Corp.	All	Non-participating	
33.	T-18-S, R-29-E Sec.2: NE/4 NW/4	40.00	B-6058-21 3-10-36 12-1/2%	Fair Oil Co. R. W. Fair	67.0 33.0 100.0 R. W. Fair The R. W. Fair Foundation	12.5 25.0	66.66667 33.33333 100.00000	13,014	.1435
34.	T-18-S, R-29-E Sec.2: SW/4 NW/4	40.00	B-6570-19 6-10-36 12-1/2%	Bassett-Birney Oil Corp.	All None	Bassett-Birney Oil Corp.	All	108,569	1.1972

Tract No.	Description	Acres	Lease No., Date Basic Royalty	Lessee of Record and Percent	Overriding Royalty and Percent	Working Interest Owners and Percent	Cum.		Tract Percent In Unit
							Prod. To 12-1-60	Non-participating	
30.	T-18-S, R-29-E Sec. 11: S/2 SE/4	80.00	B-5524-25 12-10-35 12-1/2%	Franklin, Aston & Fair, Inc.	All Curtis McBroom Bert H. Murphy Texas Royalty Co. Harold C. Porter Mary Rainey Randall Franklin, Aston & Fair, Inc.	.70136(1) .70136(1) .36916(1) .20507(1) .07383(1) 21.87500(2)	All	Non-participating	
31.	T-18-S, R-29-E Sec. 2: SW/4 SW/4	40.00	B-5524-26 12-10-35 12-1/2%	Fair Oil Co.	All Geo. A. Laybourn Sam Bright Florence O. Hawn Alta Mae Reynolds Byrne Charley Reynolds	1.36719 1.36719 .45573 1.82292 .45572	All	46,553	.5133
32-A.	T-18-S, R-29-E Sec. 11: N/2 SE/4	80.00	B-6058-19 3-10-36 12-1/2%	Bassett-Birney Oil Corp.	None All	Bassett-Birney Oil Corp.	All	84,184	.9283
32-C.	T-18-S, R-29-E Sec. 2: NW/4 NW/4	40.00	B-6058-19 3-10-36 12-1/2%	Bassett-Birney Oil Corp.	None All	Bassett-Birney Oil Corp.	All	Non-participating	
33.	T-18-S, R-29-E Sec. 2: NE/4 NW/4	40.00	B-6058-21 3-10-36 12-1/2%	Fair Oil Co. R. W. Fair	67.0 33.0 100.0 R. W. Fair The R. W. Fair Foundation	12.5 25.0	66.66667 33.33333 100.00000	13,014	.1435
34.	T-18-S, R-29-E Sec. 2: SW/4 NW/4	40.00	B-6570-19 6-10-36 12-1/2%	Bassett-Birney Oil Corp.	None All	Bassett-Birney Oil Corp.	All	108,569	1.1972

Tract No.	Description	Acres	Lease No., Date Basic Royalty	Lessee of Record and Percent	Overriding Royalty and Percent	Working Interest Owners and Percent	Cum.	
							Prod. To 12-1-60	Tract Percent Part. In Unit
30.	T-18-S, R-29-E Sec.11: S/2 SE/4	80.00	B-5524-25 12-10-35 12-1/2%	Franklin, Aston & Fair, Inc.	All Curtis McBroom Bert H. Murphy Texas Royalty Co. Harold C. Porter Mary Rainey Randall Franklin, Aston & Fair, Inc.	.70136(1) .70136(1) .36916(1) .20507(1) .07383(1) 21.87500(2)	All	Non-participating
31.	T-18-S, R-29-E Sec.2: SW/4 SW/4	40.00	B-5524-26 12-10-35 12-1/2%	Fair Oil Co.	All Geo. A. Laybourn Sam Bright Florence O. Hawn Alta Mae Reynolds Byrne Charley Reynolds	1.36719 1.36719 .45573 1.82292 .45572	All	46,553 .5133
32-A.	T-18-S, R-29-E Sec.11: N/2 SE/4	80.00	B-6058-19 3-10-36 12-1/2%	Bassett-Birney Oil Corp.	All None		All	84,184 .9283
32-C.	T-18-S, R-29-E Sec.2: NW/4 NW/4	40.00	B-6058-19 3-10-36 12-1/2%	Bassett-Birney Oil Corp.	All None		All	Non-participating
33.	T-18-S, R-29-E Sec.2: NE/4 NW/4	40.00	B-6058-21 3-10-36 12-1/2%	Fair Oil Co. R. W. Fair	67.0 33.0 100.0 R. W. Fair The R. W. Fair Foundation	12.5 25.0	66.66667 33.33333 100.00000	13,014 .1435
34.	T-18-S, R-29-E Sec.2: SW/4 NW/4	40.00	B-6570-19 6-10-36 12-1/2%	Bassett-Birney Oil Corp.	All None		All	108,569 1.1972

Description	Acres	Lease No., Date Basic Royalty	Lessee of Record and Percent	Overriding Royalty and Percent	Working Interest Owners and Percent	Cum. Prod. To 12-1-60	Tract Percent Part. In Unit
T-18-S, R-29-E Sec. 1: SW/4 SW/4	40.00	B-7072-5 6-10-37 12-1/2%	Martin Yates, III Yates Pet. Corp.	50.0 50.0 100.0	4.16667 Yates Bros. (3)	33.33333 33.33333 33.33333 33.33334* 100.00000	1.4410
T-18-S, R-29-E Sec. 2: NW/4 SW/4	40.00	B-7677 7-11-38 12-1/2%	Continental Oil Co. (5)	None All	Donnell Drlg. Co.	All	1.2462
T-18-S, R-29-E Sec. 10: SE/4 SW/4	40.00	B-7677 7-11-38 12-1/2%	Continental Oil Co. (5)	None All	Donnell Drlg. Co.	All	1.0095
<hr/>							
Total: 21 State of New Mexico Tracts - 1,280.00 acres, 24.12% of Unit Area							
1,160.00 acres participating; 120 acres non-participating							
2,747,425 bbls. cumulative production - State Lands							
30.2957% of Unit Participation							

* This interest is subject to and bears all of the Yates Brothers' overriding royalty interest.

Description	Acres	Lease No., Date Basic Royalty	Lessee of Record and Percent	Overriding Royalty and Percent	Working Interest Owners and Percent	Cum. Prod. To 12-1-60	Tract Percent Part. In Unit
T-18-S, R-29-E Sec. 1: SW/4 SW/4	40.00	B-7072-5 6-10-37 12-1/2%	Martin Yates, III Yates Pet. Corp.	50.0 50.0 100.0	4.16667 Yates Bros. (3) Estate of Anna Witherspoon Frank- lin, Deceased Yates Pet. Corp.	33.33333 33.33333 33.33334* 100.00000	1.4410
T-18-S, R-29-E Sec.2: NW/4 SW/4	40.00	B-7677 7-11-38 12-1/2%	Continental Oil Co. (5)	None All	Donnell Drlg. Co.	All 113,013	1.2462
T-18-S, R-29-E Sec.10:SE/4 SW/4	40.00	B-7677 7-11-38 12-1/2%	Continental Oil Co. (5)	None All	Donnell Drlg. Co.	All 91,549	1.0095
<hr/>							
Total: 21 State of New Mexico Tracts - 1,280.00 acres, 24.12% of Unit Area							
1,160.00 acres participating; 120 acres non-participating							
2,747,425 bbls. cumulative production - State Lands							
30.2957% of Unit Participation							

* This interest is subject to and bears all of the Yates Brothers' overriding royalty interest.

EXHIBIT "B" - Continued

Tract No.	Description	Acres	Lease No., Date Basic Royalty	Lessee of Record and Percent	Overriding Royalty and Percent	Working Interest Owners and Percent	Cum. Prod. To 12-1-60	Tract Percent Part. In Unit
40.	T-18-S, R-29-E Sec. 1: SW/4 SW/4	40.00	B-7072-5 6-10-37 12-1/2%	Martin Yates, III Yates Pet. Corp.	50.0 50.0 100.0	4.16667 Yates Bros. (3)	33.33333 130,682	1.4410
						Martin Yates, III Estate of Anna Witherspoon Frank- lin, Deceased Yates Pet. Corp.	33.33333 33.33333 33.33334*	
							100.00000	
41.	T-18-S, R-29-E Sec. 2: NW/4 SW/4	40.00	B-7677 7-11-38 12-1/2%	Continental Oil Co. (5)	None All	Donnell Drilg. Co.	All 113,013	1.2462
42.	T-18-S, R-29-E Sec. 10: SE/4 SW/4	40.00	B-7677 7-11-38 12-1/2%	Continental Oil Co. (5)	None All	Donnell Drilg. Co.	All 91,549	1.0095
<hr/>								
Total: 21 State of New Mexico Tracts - 1,280.00 acres, 24.12% of Unit Area								
1,160.00 acres participating; 120 acres non-participating								
2,747,425 bbls. cumulative production - State Lands								
30.2957% of Unit Participation								

* This interest is subject to and bears all of the Yates Brothers' overriding royalty interest.

Description	Acres	Lease No., Date Basic Royalty	Lessee of Record and Percent	Overriding Royalty and Percent	Working Interest Owners and Percent	Cum. Prod. To 12-1-60	Tract Percent Part. In Unit
T-18-S, R-29-E Sec. 1: SW/4 SW/4	40.00	B-7072-5 6-10-37 12-1/2%	Martin Yates, III Yates Pet. Corp. 50.0 50.0 100.0	Yates Bros. (3)	4.16667 Martin Yates, III Estate of Anna Witherspoon Frank- lin, Deceased Yates Pet. Corp. 33.33333 33.33334* 100.00000	130,682	1.4410
T-18-S, R-29-E Sec. 2: NW/4 SW/4	40.00	B-7677 7-11-38 12-1/2%	Continental Oil Co. (5)	None	Donnell Drilg. Co.	113,013	1.2462
T-18-S, R-29-E Sec. 10: SE/4 SW/4	40.00	B-7677 7-11-38 12-1/2%	Continental Oil Co. (5)	None	Donnell Drilg. Co.	91,549	1.0095
<hr/>							
Total: 21 State of New Mexico Tracts - 1,280.00 acres, 24.12% of Unit Area							
1,160.00 acres participating; 120 acres non-participating							
2,747,425 bbls. cumulative production - State Lands							
30.2957% of Unit Participation							

* This interest is subject to and bears all of the Yates Brothers' overriding royalty interest.

Description	Acres	Lease No., Date Basic Royalty	Lessee of Record and Percent	Overriding Royalty and Percent	Working Interest Owners and Percent	Cum. Prod. To 12-1-60	Tract Percent Part. In Unit
T-18-S, R-29-E Sec. 1: SW/4 SW/4	40.00	B-7072-5 6-10-37 12-1/2%	Martin Yates, III Yates Pet. Corp. 50.0 50.0 100.0	Yates Bros. (3)	4.16667 Martin Yates, III Estate of Anna Witherspoon Frank- lin, Deceased Yates Pet. Corp. 33.33333 33.33334* 100.00000	130,682	1.4410
T-18-S, R-29-E Sec.2: NW/4 SW/4	40.00	B-7677 7-11-38 12-1/2%	Continental Oil Co. (5)	None	Donnell Drlg. Co.	113,013	1.2462
T-18-S, R-29-E Sec.10:SE/4 SW/4	40.00	B-7677 7-11-38 12-1/2%	Continental Oil Co. (5)	None	Donnell Drlg. Co.	91,549	1.0095
<hr/>							
Total: 21 State of New Mexico Tracts - 1,280.00 acres, 24.12% of Unit Area							
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Description	Acres	Lease No., Date Basic Royalty	Lessee of Record and Percent	Overriding Royalty and Percent	Working Interest Owners and Percent	Cum. Prod. To 12-1-60	Tract Percent Part. In Unit
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					Martin Yates, III Estate of Anna Witherspoon Frank- lin, Deceased Yates Pet. Corp.	33.33333 33.33334* 100.00000	
T-18-S, R-29-E Sec. 2: NW/4 SW/4	40.00	B-7677 7-11-38 12-1/2%	Continental Oil Co. (5)	None All	Donnell Drilg. Co.	113,013	1.2462
T-18-S, R-29-E Sec. 10: SE/4 SW/4	40.00	B-7677 7-11-38 12-1/2%	Continental Oil Co. (5)	None All	Donnell Drilg. Co.	91,549	1.0095
<hr/>							
Total: 21 State of New Mexico Tracts - 1,280.00 acres, 24.12% of Unit Area							
1,160.00 acres participating; 120 acres non-participating							
2,747,425 bbls. cumulative production - State Lands							
30.2957% of Unit Participation							

* This interest is subject to and bears all of the Yates Brothers' overriding royalty interest.

RECAPITULATION

	<u>FEDERAL LANDS</u>	<u>STATE LANDS</u>	<u>FEE LANDS</u>	<u>TOTAL</u>
<u>Tracts</u>	40	21	1	62
<u>Acres of Land in Unit Area</u>	3,947.73	1,280.00	80.00	5,307.73
<u>Percent of Unit Area</u>	74.38	24.12	1.50	100%
<u>Participating Acreage</u>	2,949.66	1,160.00	80.00	4,149.66
<u>Non-Participating Acreage</u>	998.07	120.00	0.00	1,158.07
<u>Bbls. Cumulative Production</u>	6,172,757.00	2,747,425.00	148,533.00	9,068,715.00

RECAPITULATION

	<u>FEDERAL LANDS</u>	<u>STATE LANDS</u>	<u>FREE LANDS</u>	<u>TOTAL</u>
<u>Tracts</u>	40	21	1	62
<u>Acres of Land in Unit Area</u>	3,947.73	1,280.00	80.00	5,307.73
<u>Percent of Unit Area</u>	74.38	24.12	1.50	100%
<u>Participating Acreage</u>	2,949.66	1,160.00	80.00	4,149.66
<u>Non-Participating Acreage</u>	998.07	120.00	0.00	1,158.07
<u>Bbls. Cumulative Production</u>	6,172,757.00	2,747,425.00	148,533.00	9,068,715.00

R E C A P I T U L A T I O N

	<u>FEDERAL LANDS</u>	<u>STATE LANDS</u>	<u>FEE LANDS</u>	<u>TOTAL</u>
<u>Tracts</u>	40	21	1	62
<u>Acres of Land in Unit Area</u>	3,947.73	1,280.00	80.00	5,307.73
<u>Percent of Unit Area</u>	74.38	24.12	1.50	100%
<u>Participating Acreage</u>	2,949.66	1,160.00	80.00	4,149.66
<u>Non-Participating Acreage</u>	998.07	120.00	0.00	1,158.07
<u>Bbls. Cumulative Production</u>	6,172,757.00	2,747,425.00	148,533.00	9,068,715.00

R E C A P I T U L A T I O N

	<u>FEDERAL LANDS</u>	<u>STATE LANDS</u>	<u>FEE LANDS</u>	<u>TOTAL</u>
<u>Tracts</u>	40	21	1	62
<u>Acres of Land in Unit Area</u>	3,947.73	1,280.00	80.00	5,307.73
<u>Percent of Unit Area</u>	74.38	24.12	1.50	100%
<u>Participating Acreage</u>	2,949.66	1,160.00	80.00	4,149.66
<u>Non-Participating Acreage</u>	998.07	120.00	0.00	1,158.07
<u>Bbls. Cumulative Production</u>	6,172,757.00	2,747,425.00	148,533.00	9,068,715.00

R E C A P I T U L A T I O N

	<u>FEDERAL LANDS</u>	<u>STATE LANDS</u>	<u>FEE LANDS</u>	<u>TOTAL</u>
<u>Tracts</u>	40	21	1	62
<u>Acres of Land in Unit Area</u>	3,947.73	1,280.00	80.00	5,307.73
<u>Percent of Unit Area</u>	74.38	24.12	1.50	100%
<u>Participating Acreage</u>	2,949.66	1,160.00	80.00	4,149.66
<u>Non-Participating Acreage</u>	998.07	120.00	0.00	1,158.07
<u>Bbls. Cumulative Production</u>	6,172,757.00	2,747,425.00	148,533.00	9,068,715.00

RECAPITULATION

	<u>FEDERAL LANDS</u>	<u>STATE LANDS</u>	<u>FEE LANDS</u>	<u>TOTAL</u>
<u>Tracts</u>	40	21	1	62
<u>Acres of Land in Unit Area</u>	3,947.73	1,280.00	80.00	5,307.73
<u>Percent of Unit Area</u>	74.38	24.12	1.50	100%
<u>Participating Acreage</u>	2,949.66	1,160.00	80.00	4,149.66
<u>Non-Participating Acreage</u>	998.07	120.00	0.00	1,158.07
<u>Bbls. Cumulative Production</u>	6,172,757.00	2,747,425.00	148,533.00	9,068,715.00

R 30 E

R 29 E

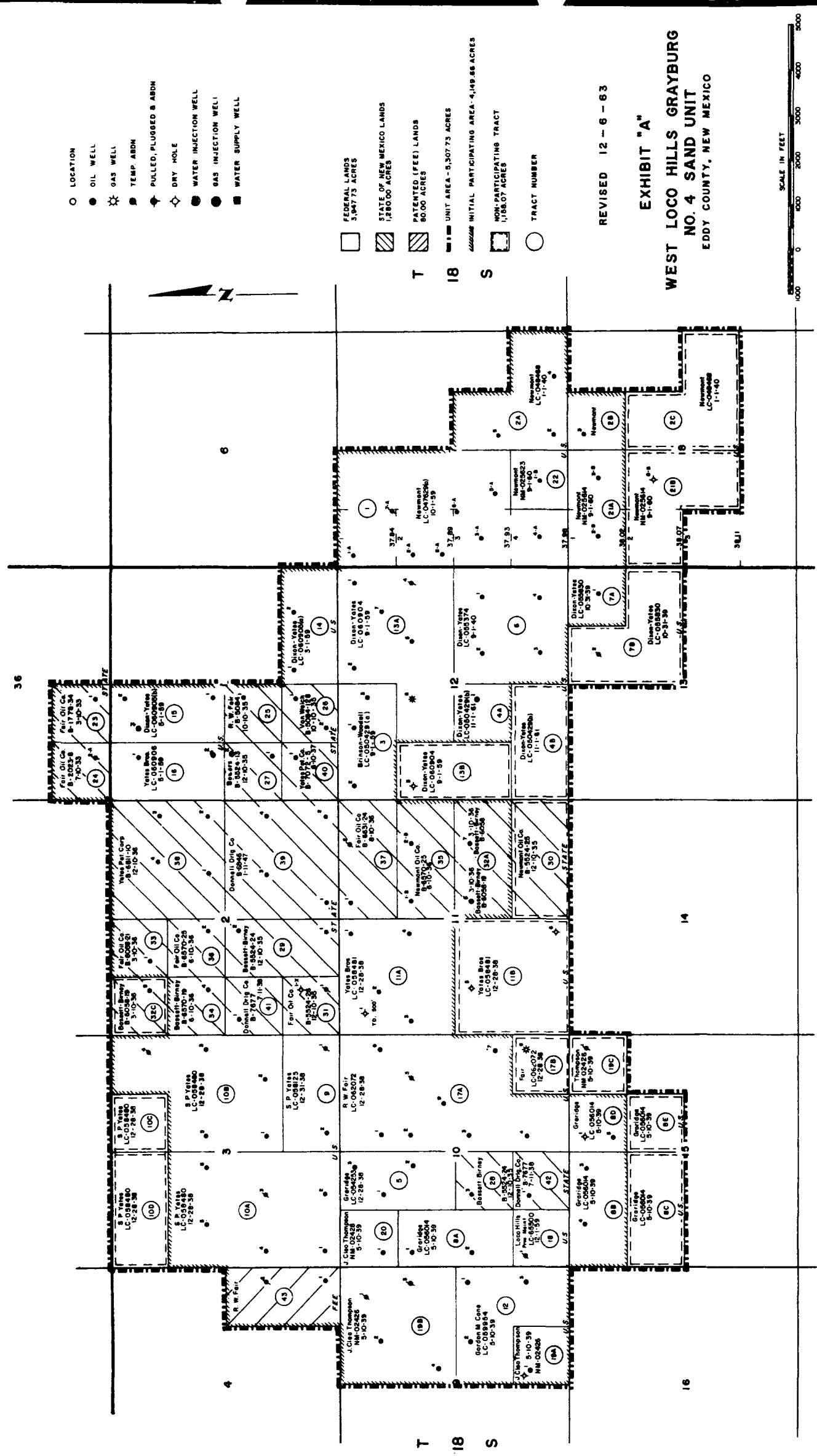


EXHIBIT "A"
WEST LOCO HILLS GRAYBURG
NO. 4 SAND UNIT
EDDY COUNTY, NEW MEXICO

REVISED 12-6-63

SCALE IN FEET
0 1000 2000 3000 4000 5000

R 30 E

R 29 E

- LOCATION
- OIL WELL
- ☆ GAS WELL
- ⊙ TEMP ABON
- ⬮ PULLED, PLUGGED & ABON
- ◇ DRY HOLE
- ⊙ WATER INJECTION WELL
- ⊙ GAS INJECTION WELL
- ⊙ WATER SUPPLY WELL

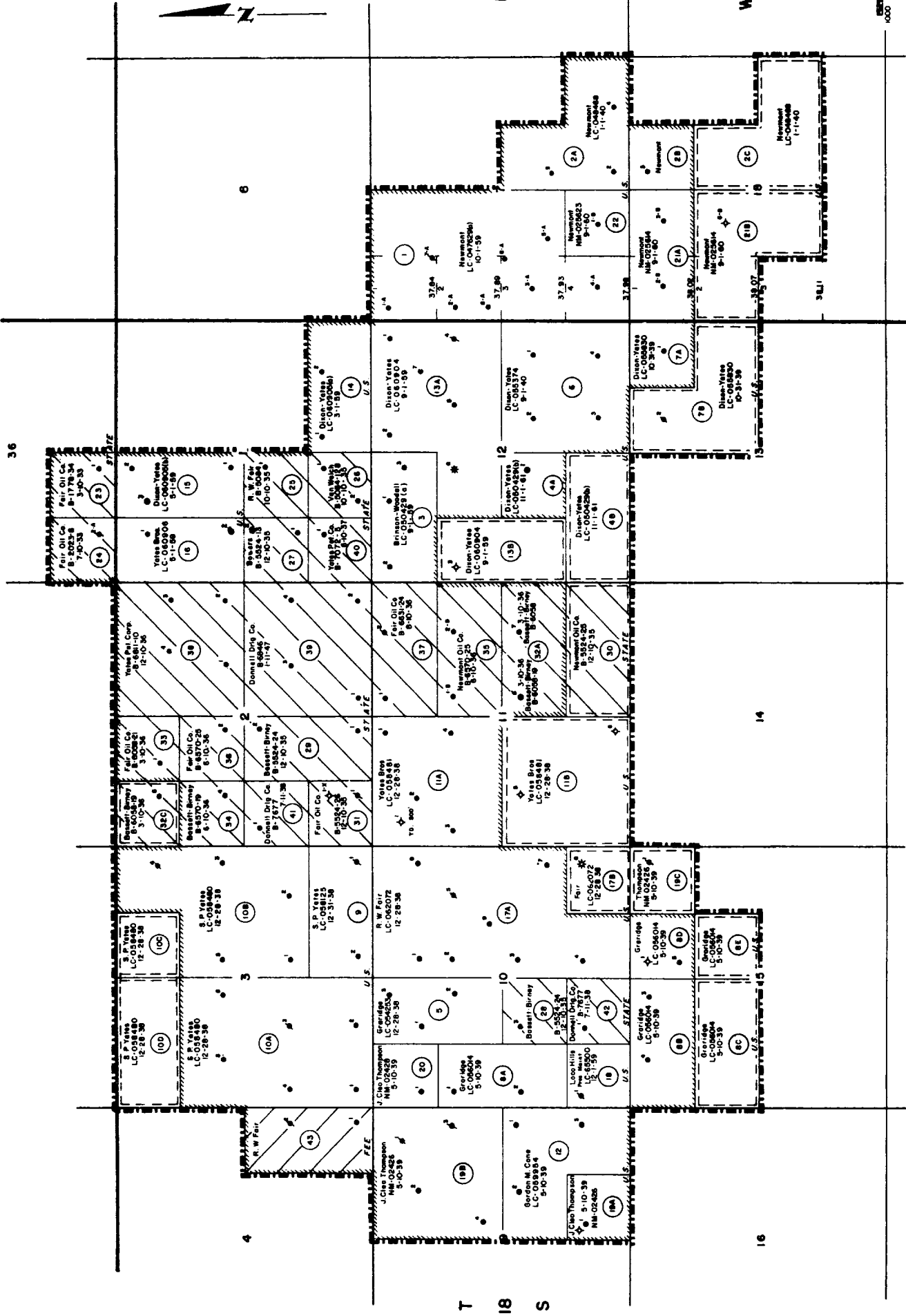
- FEDERAL LANDS
3,947.73 ACRES
- ▨ STATE OF NEW MEXICO LANDS
1,260.00 ACRES
- ▨ PATENTED (FEE) LANDS
80.00 ACRES
- ▨ UNIT AREA - 5,307.73 ACRES
- ▨ INITIAL PARTICIPATING AREA - 4,149.66 ACRES
- ▨ NON-PARTICIPATING TRACT
1,158.07 ACRES
- TRACT NUMBER

REVISED 12-6-63

EXHIBIT "A"

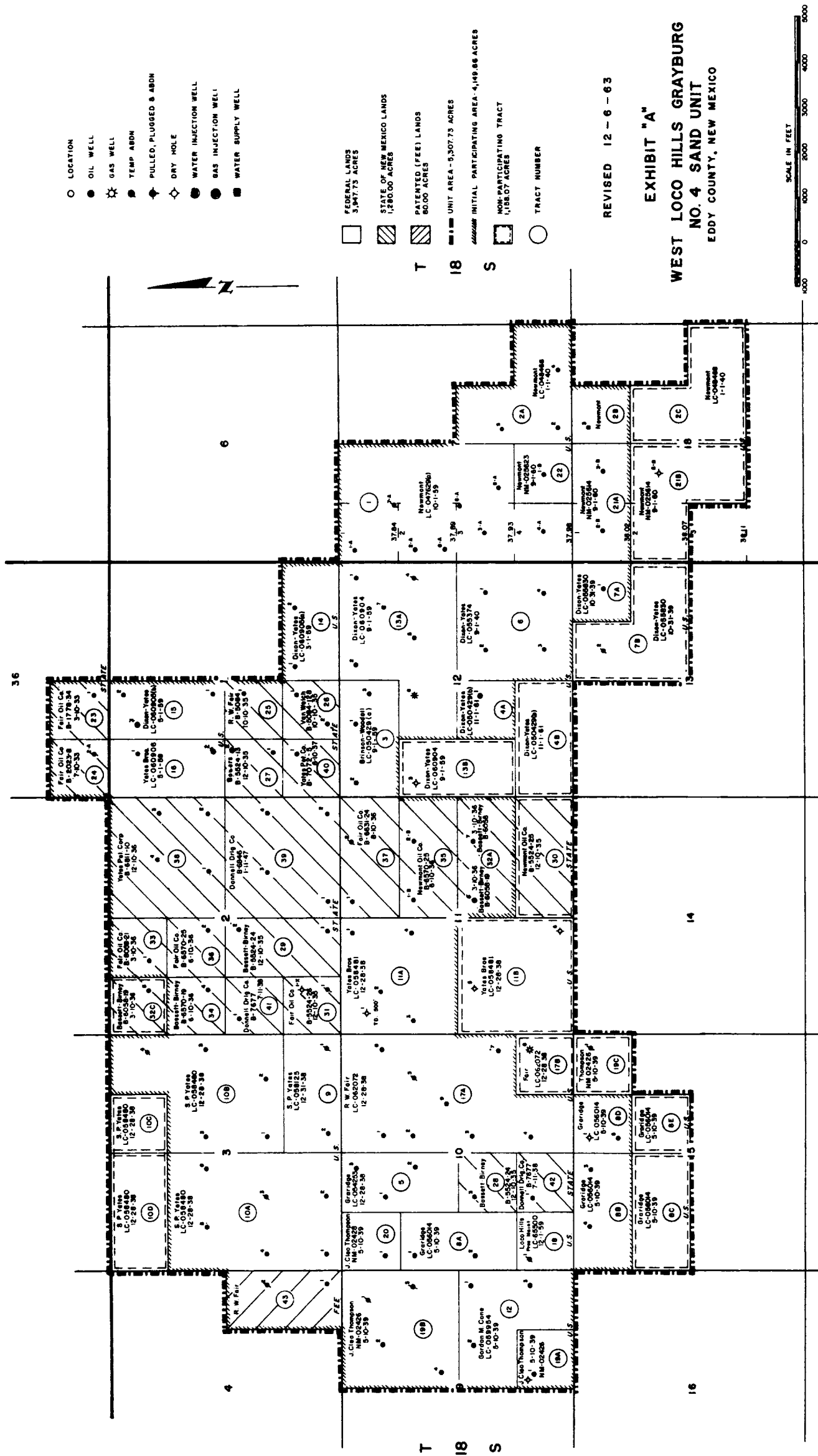
WEST LOCO HILLS GRAYBURG
NO. 4 SAND UNIT
EDDY COUNTY, NEW MEXICO

SCALE IN FEET
0 1000 2000 3000 4000 5000



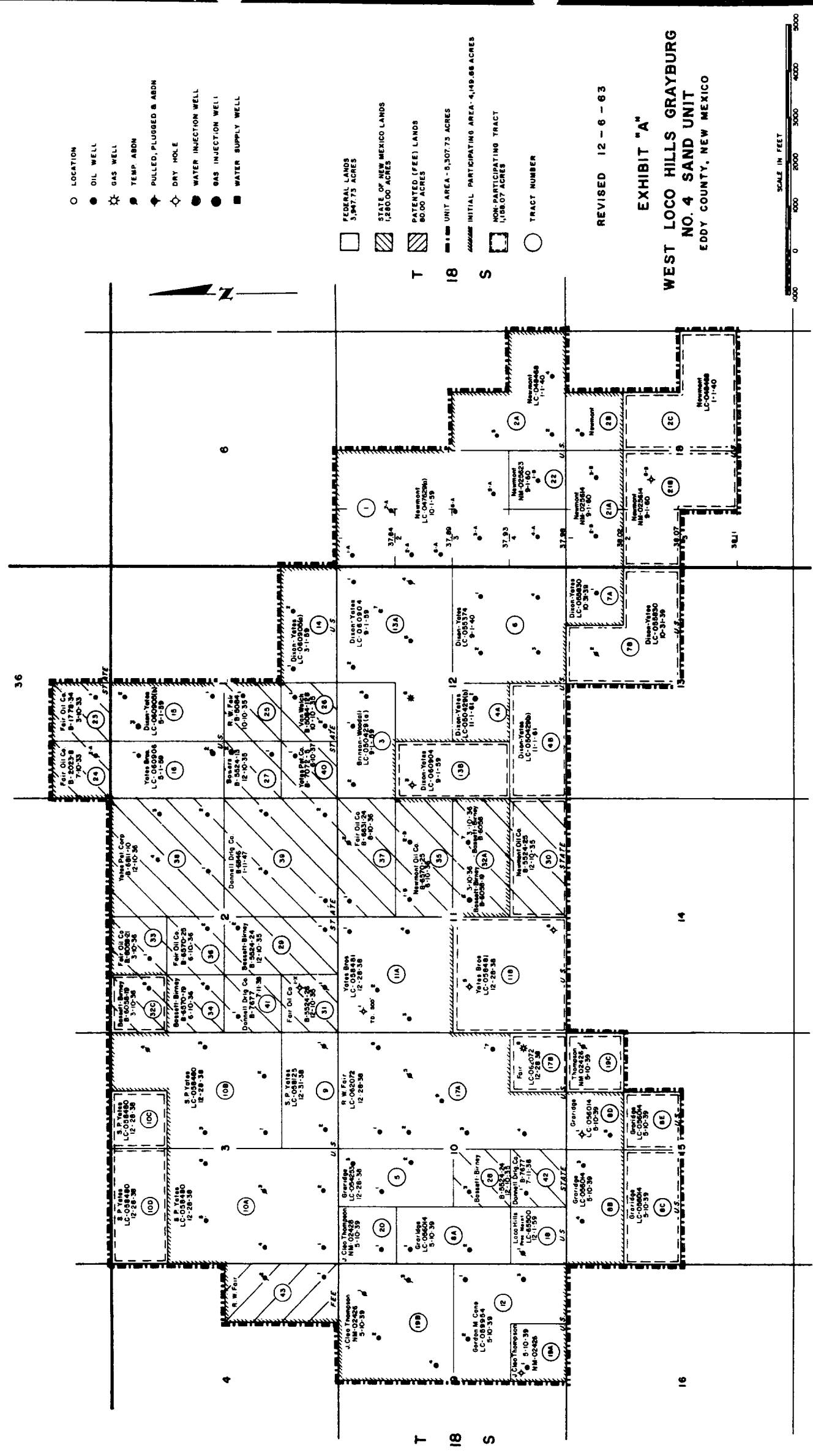
R 30 E

R 29 E



R 30 E

R 29 E



LOCATION

OIL WELL

GAS WELL

TEMP ARDN

PULLED, PLUGGED & ARDN

DRY HOLE

WATER INJECTION WELL

GAS INJECTION WELL

WATER SUPPLY WELL

FEDERAL LANDS

STATE OF NEW MEXICO LANDS

PATENTED (FEE) LANDS

UNIT AREA - 8,307.73 ACRES

INITIAL PARTICIPATING AREA - 4,149.66 ACRES

NON-PARTICIPATING TRACT

TRACT NUMBER

REVISED 12-6-63

EXHIBIT "A"

WEST LOCO HILLS GRAYBURG
NO. 4 SAND UNIT
EDDY COUNTY, NEW MEXICO

SCALE IN FEET



R 30 E

R 29 E

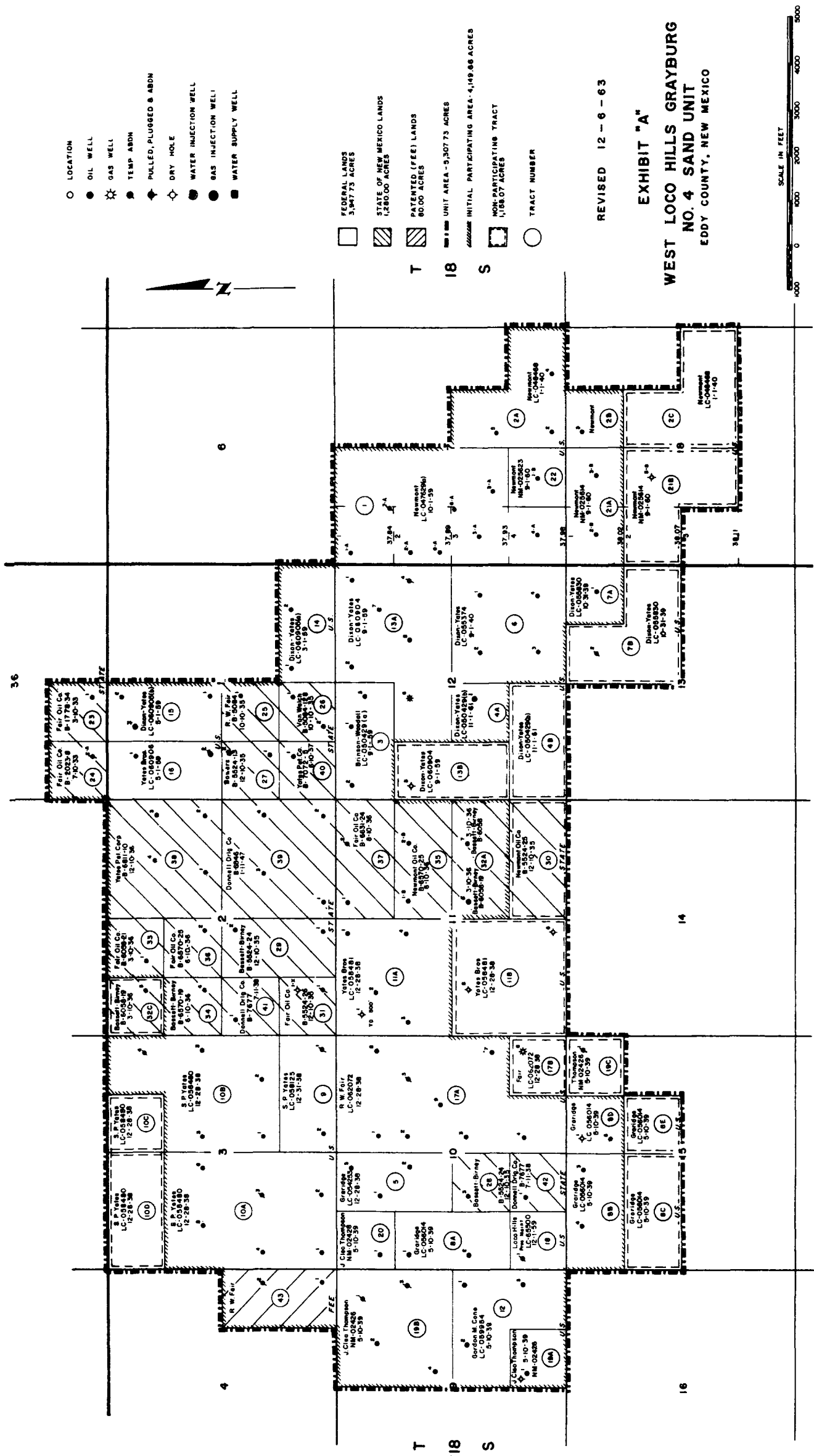


EXHIBIT "A"

WEST LOCHO HILLS GRAYBURG
NO. 4 SAND UNIT
EDDY COUNTY, NEW MEXICO

REVISED 12-6-63

SCALE IN FEET
0 1000 2000 3000 4000 5000

NEW MEXICO OIL CONSERVATION COMMISSION

WELL RECORD

Locate well correctly

ARKA 400 ACRES

Well No. 6

Section 11

Oil Sands or Zones

Important Water Sands

Casing Record

Mudding and Cementing Record

Plugs and Adapters

Record of Shooting or Chemical Treatment

Record of Drill Stem and Special Tests

Tools Used

Production

Employees

Formation Record on Other Side

Subscribed and sworn to before me this

Notary Public

My Commission expires

FORMATION RECORD				FORMATION	
FROM	TO	THICKNESS IN FEET	NO. OF CORES	DESCRIPTION	REMARKS
0	145			Red Beds	
145	270			Red Shale & Gypsum	
270	310			Gypsum	
310	350			Red Shale	
350	430			Red Rock	
430	435			Gypsum	
435	490			Salt - Anhydrite Shells	
490	555			Salt & Anhydrite	
555	615			Salt & Anhydrite Stringers	
615	730			Salt & Anhydrite	
730	740			Salt	
740	945			Anhydrite	
945	1225			Catmeal	
1225	1270			Anhydrite	
1270	1355			Red Rock	
1355	1390			Anhydrite	
1390	1925			Red Beds	
1925	1940			Red Shale	
1940	2150			Anhydrite	
2150	2155			Top red sand	
2155	2405			Red Sand	
2405	2415			Anhydrite	
2415	2415			Sand	
2415	2440			Red Rock & Anhydrite	
2440	2545			Brown lime	
2545	2575			Top line - 2440'	
2575	2618			Gray Lime	
2618	2618			Brown Lime	
2618	2640			Gray Sand	
2640	2655			Gray Sand	
2655	2734			Gray Lime	
2734	2739			Brown Sandy Lime	
2739	2742			Gray Lime	
2742	2757			Pink Lime	
2757	2762			Brown Lime	
2762	2801			Gray Lime	
2801				Total Depth	
				Plugged hole back from 2801 ft. to 2660 ft.	

ENGINEERING REPORT

Basis for Assigning Participation Factors to Non-Participating Tracts to be Brought Into Effective Limits

WEST LOCO HILLS GRAYBURG NO. 4 SAND UNIT Eddy County, New Mexico

Basis of Original Participation Factors

Due to absence of reservoir data such as porosity logs or core information on many of the wells, it was not possible to establish participation factors on the basis of reservoir volume for the various tracts when the West Loco Hills Grayburg No. 4 Sand Unit (Unit) was originally formed. An "isopachous" map was prepared by James A. Lewis Engineering, Incorporated, Reservoir Engineering Firm, and submitted in a report dated April 21, 1961, to the Loco Hills Operators' Committee. However, due to lack of information necessary for determining net pay, construction of the map was based in considerable part on cumulative production. Hence, due to the lack of reservoir volume data, it was agreed by the Operators that each tract would contribute to the secondary reserves of the Unit in proportion to its cumulative production as of December 1, 1960, and; therefore, participation factors were based 100 percent upon cumulative production. This formula of determination was subsequently approved by the appropriate administrative bodies of the State of New Mexico and the United States.

Basis of Assigning Participation Factors to Two Wells Drilled after December 1, 1960, but before Effective Date of Unitization (July 1, 1963)

An "iso-cumulative" map was prepared prior to the formation of the Unit. This map indicated two undrilled tracts had productive Loco Hills Sand. The iso-cumulative lines were planimetered for the two 40 acre tracts and, from this, iso-cumulative credit (based on the map and planimeter data) was given to the two 40 acre tracts with the stipulation that for these tracts to receive credit the Operator must contribute a usable well. This formula of determination was likewise approved by the appropriate Federal and State administrative authorities.

Need for Basis of Determining New Participation
Factors for Tracts to be Included in Enlarged Unit

It was apparent that flooding of the productive reservoir could more efficiently be accomplished and the Unit could be better protected from drainage if all of the acreage in the Unit Area is included in the Participating Area. A formula for determining such participation was suggested by the Unit Operator at a meeting of Representatives of Working Interest Owners on December 5, 1963, and this formula was revised and modified after consideration by the various Representatives in January and February.

This formula provides that if wells are drilled or re-entered on the tracts proposed for inclusion to provide reliable volumetric data, such data will be used to determine acre feet of each tract proposed for inclusion in the Participating Area. The details of the formula are set forth on the following pages.

The formula was accepted in principle by Representatives of more than 80 percent of the Working Interest Owners. Owners of tracts proposed for inclusion drilled ten new wells and re-entered and logged three old wells at their own cost, on acreage within the Unit Area but outside of that included in the original Participating Area. Logs and/or cores from these wells produced a considerable amount of good, usable reservoir data. Such data were transmitted by the various tract operators to the staff of the Unit Operator in Houston for analysis. The data were then reviewed and analyzed by the Technical Subcommittee on July 13, and 14, as follows:

- 1.) Net pay was determined in each new well on the basis of the agreed formula.
- 2.) An Isopachous map was constructed to determine reservoir volume under each tract.
- 3.) Pseudo-cumulative production and revised participation factors were then calculated.

In the following pages the procedures used are further described.

1. Determination of Net Pay in Each Recently Drilled or Re-entered Well

Calculations based on permeability variation and distribution and performance of floods in the Loco Hills Field indicated that some of the sand with lower porosity and permeability would not be swept and flooded by the time producing wells had reached their economic limit at high water cuts. This is not unique and is the case in most waterfloods. This means that some cut-off point for porosity and permeability is necessary in determining the net pay to be flooded.

After looking at recovery calculations made by the Suder-Calhoun method, Newmont recommended the following basis for determining net pay, which after consideration by Technical Representatives was approved by the Representatives of the Working Interest Owners.

<u>Credit to be Given in Counting Net Feet of Pay</u>	<u>Using Core Analysis with Minimum of 10% Porosity</u>	<u>Using Porosity as Calculated from the Log</u>
(1)	(2)	(3)
100% Credit	5 md. or Greater	15.5% or Greater
75% Credit	3.0 to 4.99 md.	14.2% to 15.49%
50% Credit	1.0 to 2.99 md.	11.5% to 14.19%

Attached as Table No. 1 is a summary of calculations of net pay by core and log data. The relationship between porosity and permeability was obtained by plotting all available core analyses from the Loco Hills Field on semilog graph paper using percentage of pore space as the horizontal co-ordinate and millidarcies of permeability as the vertical co-ordinate. A copy of the plot, attached as Figure No. 1, shows that a definite relationship between porosity and permeability exists and through the points so plotted, a straight line was drawn as closely as possible to average the porosity-permeability ratio. Where both core data and porosity logs were available on the same recently drilled wells, accuracy of determining net pay by core and by logs was found to be within two percent.

In counting net feet of pay, where core analyses were available, the higher credit was used, whether from core or from log calculations.

In determining porosity from velocity logs, a matrix velocity of 54 microseconds was used which was obtained from correlation of porosity from core analyses.

2. Determination of Reservoir Volume for Each Non-Participating Tract

After net pays of the recently drilled or re-entered wells had been established, these thicknesses were entered on the isopachous map and revisions were made in the areas now being proposed for inclusion in the enlarged Participating Area, based on the new reservoir information. In contouring the recently drilled area, proportional dividers were used so that there was minimum interpretation built into the data. The revised isopachous map is attached as Figure No. 2.

The productive acres and productive acre feet under each non-participating tract were then determined by the use of a planimeter. These determinations are shown in Table No. 2.

3. Determination of Pseudo-Cumulative Production by Tract

After the acre feet were calculated from the revised isopachous map as to each 40 acre tract offered for inclusion into the Unit, a recovery factor was applied to determine pseudo-cumulative barrels.

For each 40 acre tract with a usable well, the calculated productive acre feet were multiplied by 120 barrels per acre foot to obtain a "pseudo-cumulative recovery" for the tract. The recovery factor of 120 barrels per acre foot is approximately 2/3rds of the 174.8 barrels per acre foot primary recovery factor derived in the Lewis Report for the central, more porous and permeable portion of the Unit. Hence, this resulted in reducing the average primary recovery factor by about 1/3rd in determining "pseudo-cumulative" barrels for the drilled tracts being contributed for the Unit.

For Each Undrilled 40 acre tract, a further discount was applied. The "pseudo-cumulative" barrels for each such tract was determined by taking the greater of:

- a.) $\frac{1}{3}$ rd times 120 barrels per acre foot times the net acre feet (as calculated from the isopachous map); or
- b.) Productive acres times 120 barrels per acre foot.

All calculations used in determining the "pseudo-cumulative" barrels are shown in Table No. 2.

4. Revision of Participation Factors

Table No. 2 also shows the revised participation factor calculations. As can be seen from the tabulation, each tract either had a cumulative production as of December 1, 1960, or an assigned pseudo-cumulative production figure. Each tract was then assigned a participation factor in the total Unit based on the following calculation:

$$\text{Percentage Participation of Each Tract} = \frac{\text{Tract Cumulative or "Pseudo-Cumulative" Production}}{\text{Total Revised Participating Area Cumulative and "Pseudo-cumulative" Production}}$$

The above method of determining participation for the non-participating tracts appears to be reasonable and equitable and has been accepted by over 90% of the Working Interest Owners of the Unit.



Charlie Seely, Chief Engineer
NEWMONT OIL COMPANY

and

Chairman of Technical Sub-committee
August 3, 1964

CS:ajg

Attachments: Table No. 1
Table No. 2
Figure No. 1
Figure No. 2

TABLE 1.

NET PAY DETERMINATIONS FOR
RECENTLY COMPLETED WELLS IN
NON-PARTICIPATING AREA

West Loco Hills Grayburg No. 4 Sand Unit

<u>Well No.</u>	<u>Basis for Determining Net Pay</u>	<u>Net Pay, Ft.</u>
4B-2	Core Analysis	4.5
11B-7	Core Analysis	15.25
11B-8	Core Analysis	18.0
11B-9	Core Analysis	16.0
11B-10	Core Analysis	27.0
13B-8	Core Analysis	17.0
13B-9	Core Analysis	26.0
17B-6	Schlumberger Sonic Log	19.0
19C-1	Analogy of Caliper Log with Offset Core Analysis	6.0
21B-5	Schlumberger Sonic Log	2.5
21B-6	Lane Wells Acoustilog	8.25
30-1	Core Analysis	15.0
30-2	Core Analysis	5.75

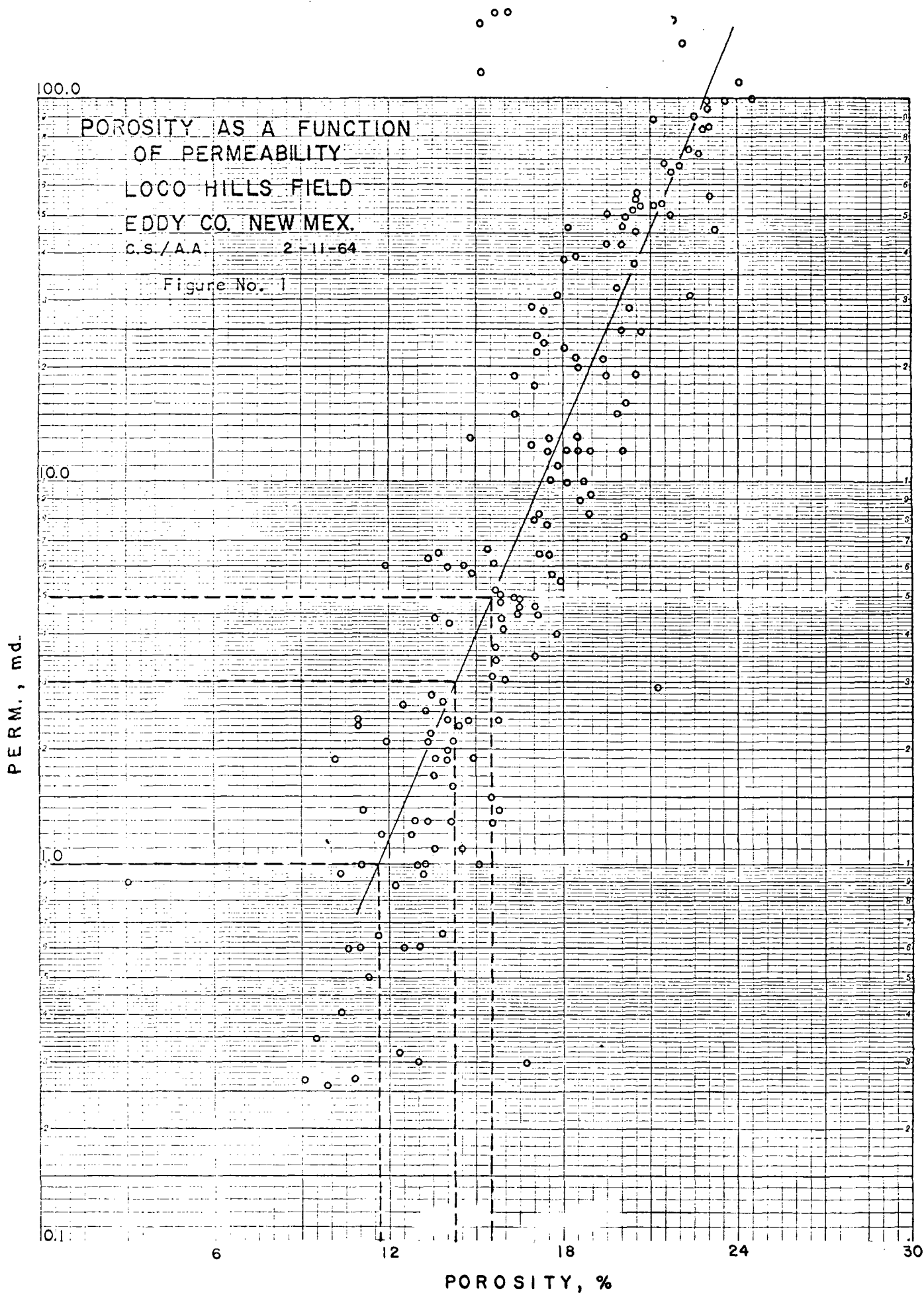


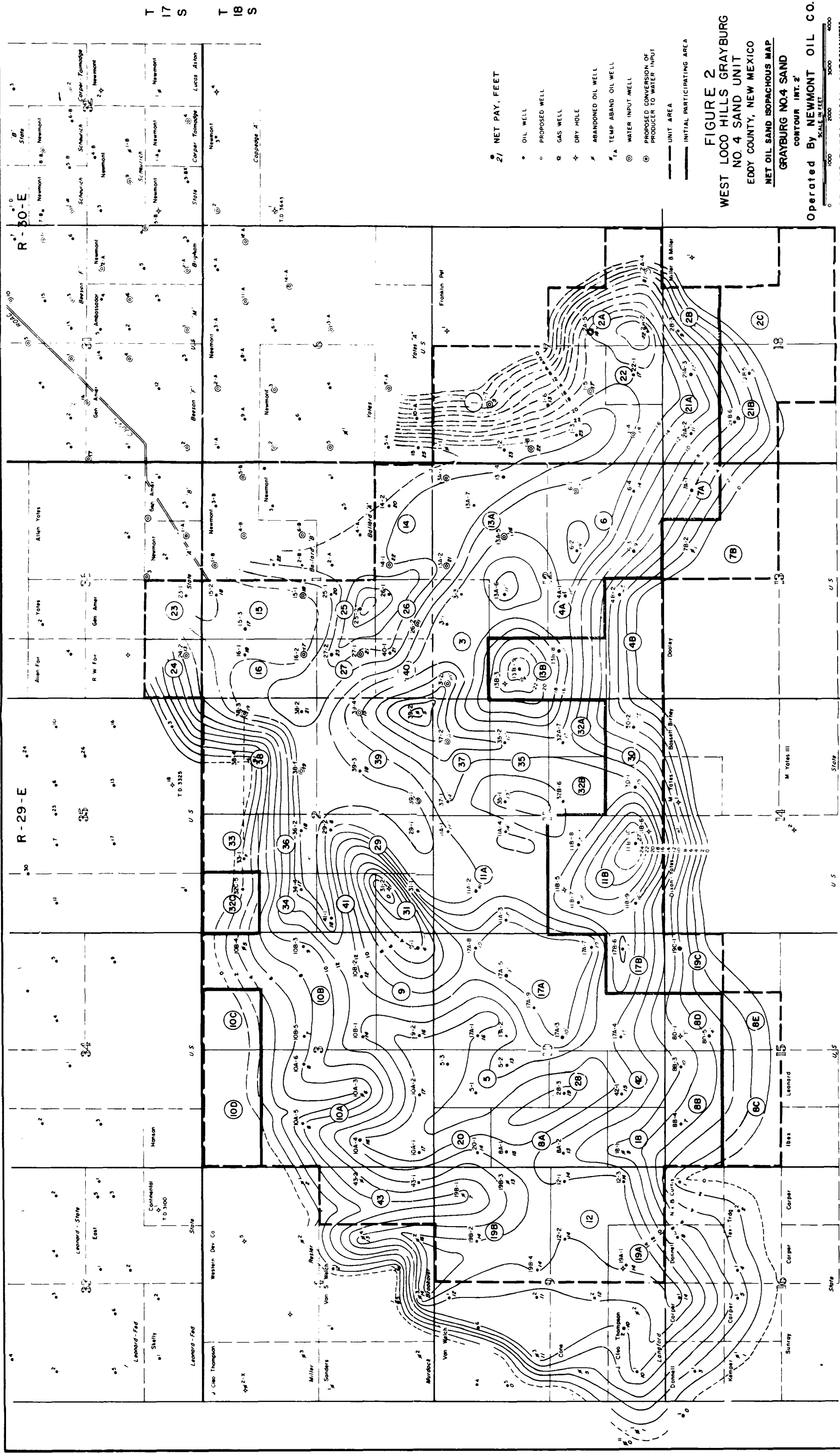
Figure No. 1

TABLE 2.

CALCULATION OF REVISED PARTICIPATION FACTORS

WEST LOCO HILLS GRAYBURG NO. 4 SAND UNIT

Tract Number	Operator	Total Acres in Tract (1)	Productive Acres in Tract (2)	Calculated Productive Acres Feet Under Tract (3)	Acres Feet X 120 B/Ac. Ft. (4)	Productive Acres X 120 B/Ac.Ft. (5)	1/3 of Column 4 (6)	Cumulative or Pseudo-Cumulative Barrels Greater of Cols. 5 or 6 (7)	Tract Participation, (8)
Undeveloped Tracts									
2-C	Newmont Oil Company	120.00	4.18	5.43	652	502	217	502	0.0051
4-B	Dixon-Yates	40.00	22.57	73.56	8,827	2,708	2,942	2,942	0.0299
7-B	Dixon-Yates	120.00	34.90	83.18	9,982	4,188	3,327	4,188	0.0426
8-C	Graridge Corporation	80.00	48.07	105.97	12,716	5,768	4,239	5,768	0.0587
8-E	Graridge Corporation	40.00	28.22	57.67	6,920	3,386	2,307	3,386	0.0344
10-C	S. P. Yates	40.00	10.45	13.17	1,580	1,254	527	1,254	0.0128
10-D	S. P. Yates	80.00	8.78	9.62	1,154	1,054	385	1,054	0.0107
32-C	Bassett-Birney Oil Corporation	40.00	22.15	70.43	8,452	2,658	2,817	2,817	0.0287
	Sub-Total	560.00	179.32	419.03	50,283	21,518	16,761	21,911	0.2229
Developed Tracts									
4-B	Dixon-Yates	40.00	26.54	97.18	11,602			11,662	0.1187
11-B	Yates Petroleum Corporation	160.00	160.00	2,856.82	342,818			342,818	3.4881
13-B	Dixon-Yates	80.00	80.00	1,411.48	169,378			169,378	1.7234
17-B	Fair Oil Company	40.00	40.00	574.64	68,957			68,957	0.7016
19-C	J. Cleo Thompson	40.00	36.37	160.11	19,213			19,213	0.1955
21-B	Newmont Oil Company	118.07	68.76	277.13	33,256			33,256	0.3384
30	Newmont Oil Company	80.00	79.00	769.94	92,393			92,393	0.9400
	Sub-Total	558.07	490.67	6,147.30	737,677			737,677	7.5057
Total to be Brought In		1,118.07	669.99	6,566.33	787,960			759,588	7.7286
Cumulative Unit Production (As of 12-1-60) as Shown on Exhibit "B" of West Loco Hills Unit Agreement					9,068,715			9,068,715	92.2714
TOTAL Cumulative plus Pseudo-Cumulative Barrels								9,828,303	100.0000



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

244
August 11, 1964

C
O
P
Y
Newmont Oil Company
1135 Texas National Bank Building
Houston, Texas 77002

Re: Revised Plan of Operations
West Loco Hills Grayburg
No. 4 Sand Unit, Eddy County

Attention: Mr. Charles C. Langdon

Gentlemen:

This is to advise that the revised plan of operations for the West Loco Hills Grayburg No. 4 Sand Unit, Eddy County, New Mexico, dated August 3, 1964, is hereby approved by the Oil Conservation Commission, subject to like approval being obtained from the Commissioner of Public Lands for the State of New Mexico and the U. S. Geological Survey.

One approved copy of said plan of operations is returned herewith.

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ALP/DSN/ir

cc: U. S. Geological Survey, Roswell, New Mexico
State Land Commissioner, Santa Fe, New Mexico

REVISED PLAN OF OPERATIONS

West Loco Hills Grayburg No. 4 Sand Unit Eddy County, New Mexico

Background

The Oil Conservation Commission of the State of New Mexico (O.C.C.) by Order No. R-2178 dated January 30, 1962, approved a Buffer Zone within the initial Participating Area of the West Loco Hills Grayburg No. 4 Sand Unit (Unit) and authorized immediate waterflood development in the Buffer Zone to be commenced immediately following the effective date of unitization. The acreage in the Buffer Zone is shown on the attached Map A. The first Order was amended by Order No. R-2178B dated June 14, 1962, so that the remainder of the Unit, except the Buffer Zone, would be governed by Rule 701 and expanded in five stages with the first stage to be put in operation January 1, 1963, and each subsequent stage to be put on at six month intervals.

Order No. R-2178C dated June 11, 1963, amended the previous Order by deleting therefrom any and all references to specific dates for commencement of any and all stages for conversion to water injection and by addition of the provision that Stage I waterflood development would not commence until six months after approval of the Unit Agreement by the Director of the United States Department of the Interior.

Newmont's initial plan of operation for the Unit was submitted by a letter dated June 3, 1963. With the necessary approvals obtained, the effective date of unitization was July 1, 1963.

Performance

Newmont Oil Company took over the operations of the Unit on the effective date of the unitization, July 1, 1963, and started water injection into five Buffer Zone wells two days later. Conversion of six additional wells in the Buffer Zone to water injection was completed in August.

In January of 1964, six months after the effective date of the unitization, eleven wells in Stage I were converted to water injection. All of the conversions in the Buffer Zone and Stage I are in accordance with the initial plan of operation.

As can be seen on the attached waterflood performance curve, oil production increased from a low of slightly over 300 barrels a day to slightly over 1,000 barrels a day in six months and is presently at the rate of over 2,300 barrels of oil per day. Due to the timing of the water injection well conversions, almost all of the present oil production and cumulative oil production is from the Buffer Zone.

As of July 1, 1964, about six million barrels of water has been injected into the West Loco Hills Unit Grayburg No. 4 Sand Reservoir.

Revised Plan of Operations

When the initial plan of operation was submitted prior to the effective date of the unitization, it was not known what type of development would take place in the non-participating acreage in the southern portion of the Unit. Since July 1, 1963, ten new wells have been drilled and three old wells have been re-entered and made usable in the non-participating acreage but within the Unit boundary. Agreement has been received from Representatives of Working Interest Owners comprising over 90% of the Unit Working Interest for inclusion of all the originally non-participating tracts into the Participating Area of the Unit. These additional wells on such tracts have necessitated a revision in the initial plan of operation. Also, the revision proposed makes use of new bore holes for injection wells wherever geometrically reasonable. A revised development pattern is shown on Map A. As can be seen from the map, development in the Buffer Zone and Stage I Areas is almost identical to the original plan; however, modifications have been made in Stages II, III, IV, and V so that fewer wells need to be converted in these latter stages.

It is believed that such a revision in pattern is desirable to prevent the possibility of reservoir waste by allowing fewer injection wells to inject at capacity and still permit producing rates to remain within the allowables permitted pursuant to the orders governing this Unit. The original pattern called for 59 water injection wells whereas under the present pattern only 49 injection wells are initially planned. This will result in efficient flooding practices but with producing rates maintained at levels commensurate with our producing authority as prescribed by the O.C.C. Except for minor modifications in the southern

area of the Unit, all wells to be converted in the expanded pattern were scheduled for conversion under the original plan. This revised plan will allow flexibility so that if it should become necessary subsequently to convert additional wells for greater injectivity purposes, producers in the center of the expanded pattern can be converted in a manner corresponding to the original pattern.

NEWMONT OIL COMPANY,
UNIT OPERATOR

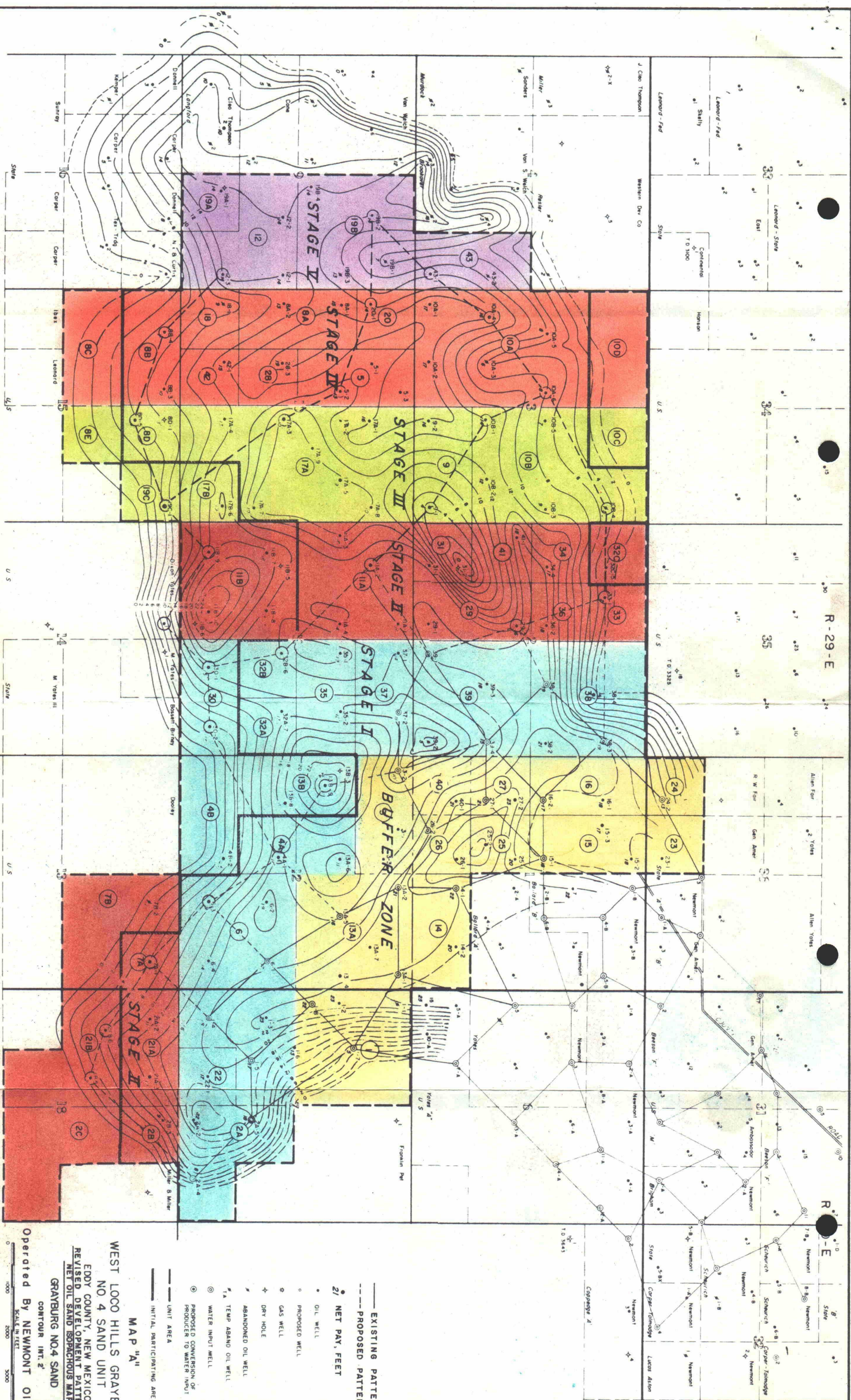
By Charlie Seely
Charlie Seely, Chief Engineer
August 3, 1964

CS:ajg
Attachments: Map A
Performance Curve

Approved August 11 1964
[Signature]
Secretary-Director

NEW MEXICO OIL CONSERVATION COMMISSION

THIS APPROVAL GRANTED SUBJECT TO LIKE APPROVAL
BEING GRANTED BY THE UNITED STATES GEOLOGICAL
SURVEY AND BY THE COMMISSIONER OF PUBLIC LANDS
OF THE STATE OF NEW MEXICO.



MAP "A"

INITIAL PARTICIPATING AREA

WEST LOCO HILLS GRAYBURG

NO. 4 SAND UNIT

EDDY COUNTY, NEW MEXICO

REVISÉ DEVELOPMENT PATTE
CDDI COONIT, NEW MEXICO

NET OIL SAND ISOPACHOUS MAP

GRAYBURG NO.4 SAND

CONTOUR INT. 2

CONTOUR INT. 2'

Operated By NEWMONT OIL CO.

REVISED BY TECHNICAL SUBCOMMITTEE

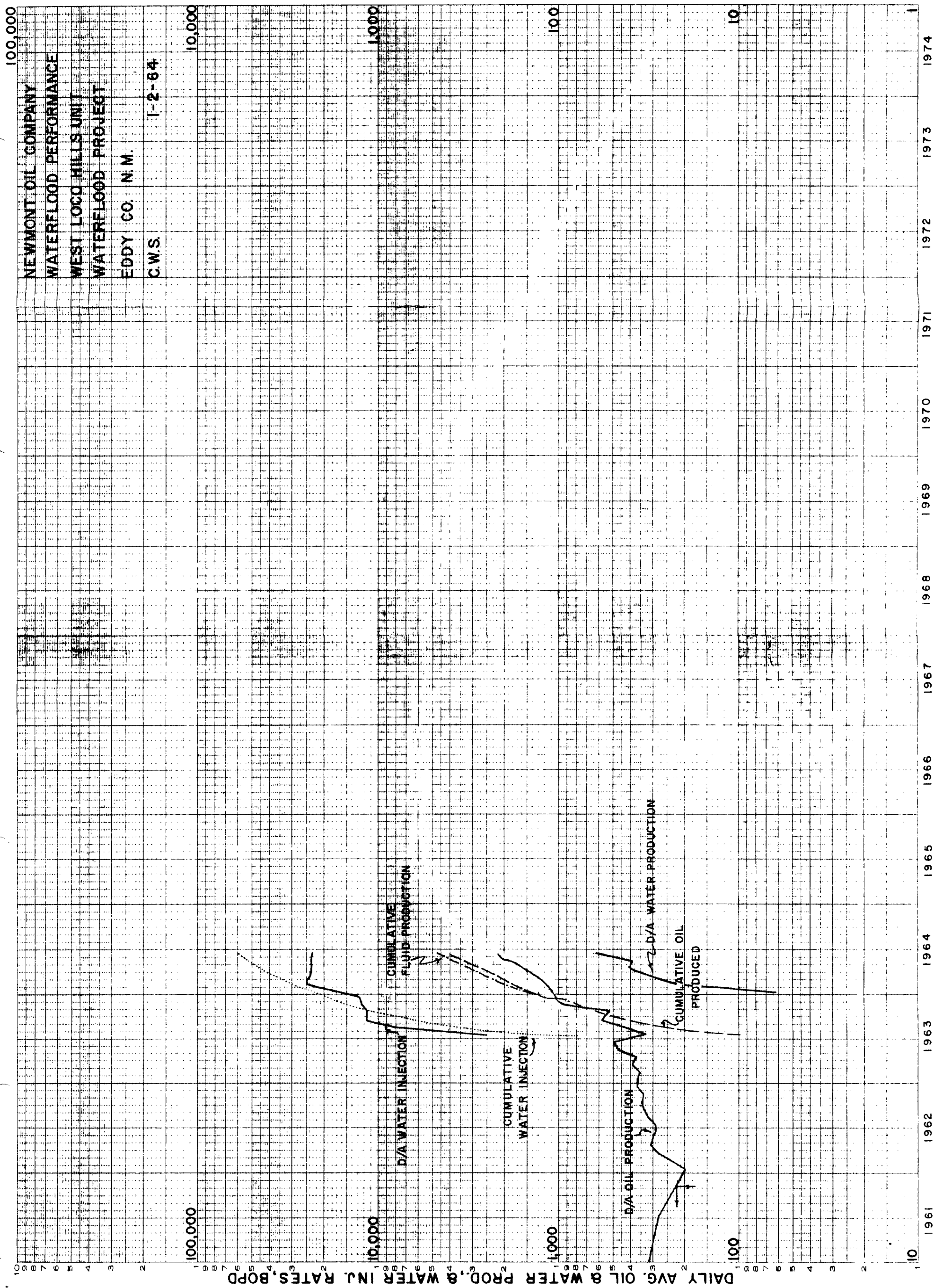
JULY 13, 1964

APPROVED BY REPRESENTATIVES OF

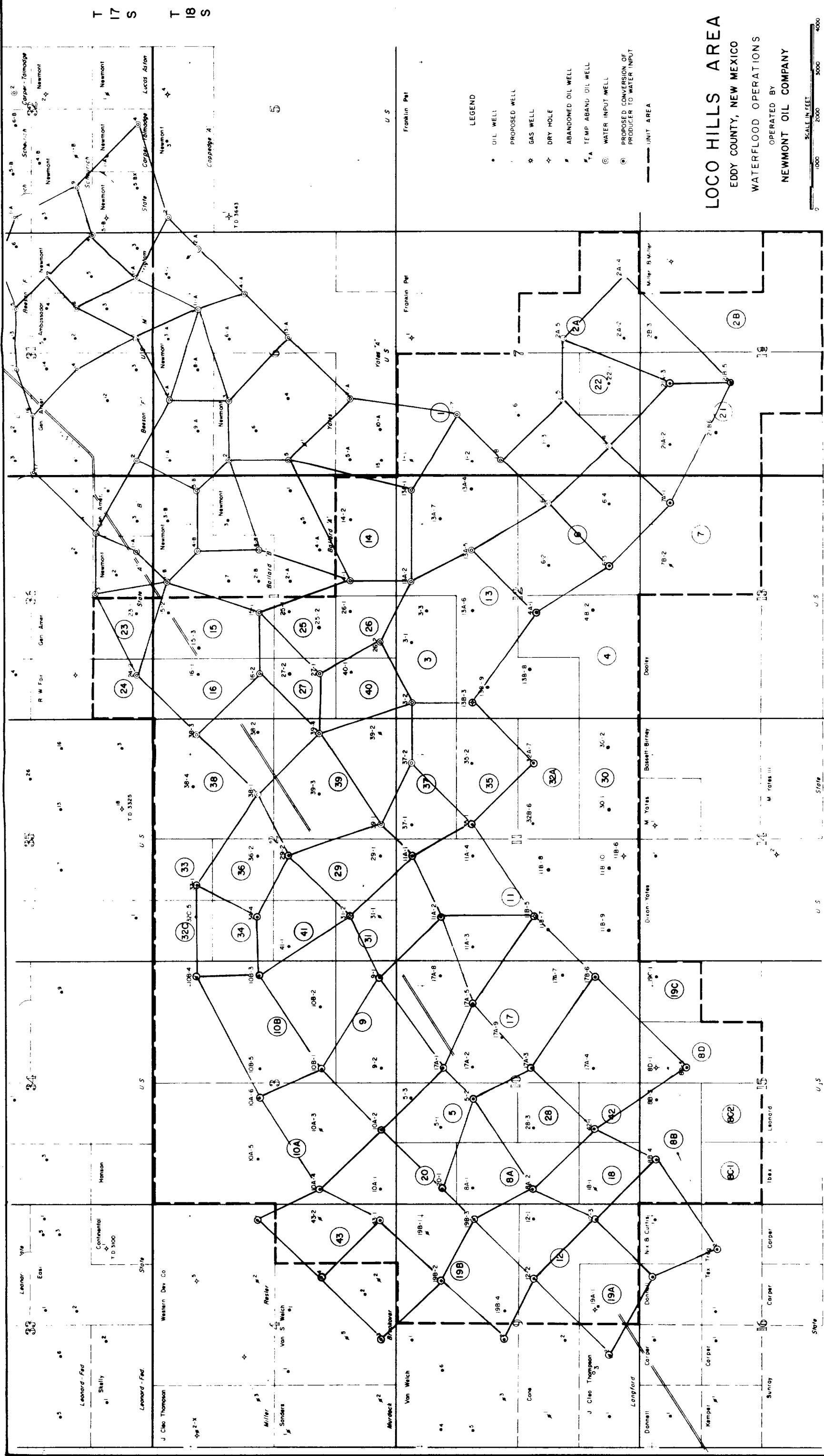
WORKING INTEREST OWNERS

JULY 14, 1964

T 17 S
T 18 S



NEWMONT OIL COMPANY
WATERFLOOD PERFORMANCE
WEST LOCO HILLS UNIT
WATERFLOOD PROJECT
EDDY CO. N.M.
C.W.S.
1-2-84



ORIGINAL PATTERN MAP

2472

RECORDED & INDEXED

August 12, 1964

Newmont Oil Company
1135 Texas National Bank Building
Houston, Texas 77002

Re: West Loco Hills Grayburg No. 4 Sand Unit
Eddy County, New Mexico
Second Expansion of the Participating Area

Attention: Mr. Charles C. Langdon

Gentlemen:

The Commissioner of Public Lands approves as of this date the Second Expansion of the Participating Area for the West Loco Hills Grayburg No. 4 Sand Unit, Eddy County, New Mexico, subject to like approval by the United States Geological Survey and the Oil Conservation Commission. We are handing eight approved copies to Mr. Charles C. Langdon.

This office wishes to thank Mr. Langdon and Mr. Seely for their courtesy and consideration in personally visiting our office to explain this complex expansion.

Very truly yours,

E. S. JOHNNY WALKER
COMMISSIONER OF PUBLIC LANDS

BY:

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

ESJW/mm/mim

Enclosures - 9

cc: United States Geological Survey - Roswell
Oil Conservation Commission - Santa Fe

2472

RECEIVED 17 JUL 1964

August 12, 1964

Newmont Oil Company
1135 Texas National Bank Building
Houston, Texas 77002

Re: West Loco Hills Grayburg No. 4 Sand Unit
Eddy County, New Mexico
Revised Plan of Operations

Attention: Mr. Charles C. Langdon

Gentlemen:

The Commissioner of Public Lands approves as of this date the Revised Plan of Operations for the West Loco Hills Grayburg No. 4 Sand Unit, Eddy County, New Mexico, dated August 3, 1964, subject to like approval by the United States Geological Survey and the Oil Conservation Commission. This revision was made necessary by the expansion of the participating area.

We are handing one approved copy to Mr. Charles C. Langdon.

Very truly yours,

E. S. JOHNNY WALKER
COMMISSIONER OF PUBLIC LANDS

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

ESJW/mmz/mim
Enclosure - 2
cc: United States Geological Survey - Roswell
Oil Conservation Commission - Santa Fe

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

24/2

August 11, 1964

C
O
P
Y

Newmont Oil Company
1135 Texas National Bank Building
Houston, Texas 77002

Re: Second Expansion of the
Participating Area, West
Loco Hills Grayburg No. 4
Sand Unit, Eddy County

Attention: Mr. Charles C. Langdon

Gentlemen:

This is to advise that the Second Expansion of the Participating Area, West Loco Hills Grayburg No. 4 Sand Unit, Eddy County, New Mexico, has this date been approved by the Oil Conservation Commission, subject to like approval being obtained from the Commissioner of Public Lands for the State of New Mexico and the U. S. Geological Survey.

Eight approved copies are returned herewith.

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ALP/DSN/ir

cc: U. S. Geological Survey, Roswell, New Mexico
State Land Commissioner, Santa Fe, New Mexico

NEWMONT OIL COMPANY

1138 TEXAS NATIONAL BANK BUILDING

1000 MAIN • AT FOLE

HOUSTON, TEXAS 77002.

CHARLES C. LANGDON
VICE PRESIDENT
LAND AND LEGAL

August 7, 1964

Supervisor
United States Geological Survey
Roswell, New Mexico

Commissioner of Public Lands
State of New Mexico

Oil Conservation Commission
State of New Mexico

In re: West Loco Hills Grayburg No. 4 Sand Unit
Eddy County, New Mexico
No. 14-08-0001-8528


Gentlemen:

Heretofore, on June 3, 1963, Newmont Oil Company, operator of the captioned Unit, furnished to each of your departments an initial plan of operation for said Unit, pursuant to Section 12 of the Unit Agreement covering the Unit.

There has now been submitted for your consideration an Application by the Operator, dated August 10, 1964 for a major expansion of the present Participating Area of the Unit and for such reason it has become necessary to make certain revisions in the initial plan of operation formerly approved by each of your departments. A copy of such revised plan of operations dated August 3rd is enclosed to you herewith and we would appreciate your returning a copy of this letter to this office indicating in the space hereinbelow provided, your approval of this revised plan of operation and returning same to this office.

Very truly yours,

NEWMONT OIL COMPANY


Charles C. Langdon

The Revised Plan of Operation for the captioned Unit dated August 3, 1964, is hereby accepted and approved, on this the _____ day of _____ 1964.

By: _____

August 10, 1964

In Re: West Loco Hills
Grayburg No. 4 Sand Unit.
Eddy County, New Mexico
No. 14-08-0001-8528

To: Director
United States Geological Survey

Commissioner of Public Land
State of New Mexico

Oil Conservation Commission
State of New Mexico

OCCU-11

APPLICATION FOR APPROVAL OF
SECOND EXPANSION OF THE PARTICIPATING AREA,
WEST LOCO HILLS GRAYBURG NO. 4 SAND UNIT,
EDDY COUNTY, NEW MEXICO

Comes now the undersigned, Newmont Oil Company, as Unit Operator for the West Loco Hills Grayburg No. 4 Sand Unit, originally approved by the New Mexico Oil Conservation Commission on January 17, 1963, by the Commissioner of Public Lands of the State of New Mexico on June 5, 1963, and by the Director United States Geological Survey on June 27, 1963, and being effective as of July 1, 1963, and thereafter amended by way of a first expansion of the Participating Area by the above named officials and/or Commissions on December 9, December 10, 1963 and January 17, 1964, respectively, and in accordance with the provisions of said agreement respectfully request the approval of the Director, the Commissioner and the Commission for a second expansion of the Initial Participating Area as herein set forth.

1. The Initial Participating Area was determined and established simultaneously with the approval of the Unit Agreement and contained all lands and wells within the Unit Area which at that time were deemed capable of producing unitized substances in paying quantities and which were deemed necessary to permit Unit Operator to conduct secondary recovery operations within the Unit Area. The first expansion of the Initial Participating Area was accomplished and approved on the dates hereinabove set forth for the purpose of including within the Participating Area a single tract which was by inadvertence omitted when the Participating Area was initially determined.

2. The captioned Unit has now been in constant operation since its effective date of July 1, 1963, and the operations have been successful both economically and technically since such effective date. Since commencement of operations detailed studies have been continuously made of the Unit Area (including both the Participating and Non-participating acreage) by Unit Operator as well as by other owners of working interests in the Unit. As a result of such studies working interest owners have drilled ten additional wells now and have re-entered and recompleted three old wells in Unit tracts lying outside the Participating Area, and such wells have contributed valuable information relating to the flood potential of these tracts. With such new information available from the drilling of such wells, it has been possible to prepare revised Isopachous maps indicating the flood potential of these tracts based on "pseudo cumulative" reserves assigned to such tracts. Additionally such information has given guidance to the Unit Operator in planning future Unit operations and in making determination as to proper enlargement of the Participating Area.

3. The Unit Operator, after having examined the information obtained from the drilling of the new wells in the Unit Area together with new revised maps prepared from the information developed from the

drilling of such new wells has determined that the present Participating Area should now be enlarged to encompass the whole Unit Area in order that same may be made subject to more efficient flooding operations pursuant to proper conservation practices, for the protection of the Unit as a whole from as much drainage as possible from operators owning acreage abutting the outlines of the Unit Area and finally for a greater ultimate recovery of secondary oil from the Unit Area as it now exists. Such determination on the part of the Unit Operator has been agreed to by the owners of the working interest in the specific tracts to be included in the proposed enlargement of the Participating Area.

4. It is therefore proposed that the Participating Area as it now exists be expanded to include all of the tracts presently in the Unit Area but lying outside of the present Participating Area and being the following tracts to wit: Tracts Nos. 2-C, 4-B, 7-B, 8C-1, 8C-2, 8-E, 10-C, 10-D, 11-B, 13-B, 17-B, 19-C, 21-B, 30 and 30-C.

5. The Unit Operator proposes to consolidate certain of the above enumerated tracts proposed to be included in the enlarged Participating Area since the ownership of some of the tracts presently in the Participating Area is constant with the ownerships of certain of the tracts which are proposed to be added to the Participating Area. By way of example, Tract 2-C, which is one of the tracts which is proposed to be included in the enlargement of the Participating Area has the identical ownership as Tract 2-B presently in the Participating Area. It is therefore contemplated to consolidate Tracts 2-C and 2-B and to thereafter refer to same simply as Tract 2-B. The following tabulation shows the manner in which the proposed consolidation of tracts will be accomplished.

<u>New Tracts To Be Added To Participating Area</u>	<u>Tracts Now In Participating Area To Be Consolidated</u>	<u>Tract No. Of Consolidated Tracts</u>
2-C	2-B	2-B
4-B	4-A	4
7-B	7-A	7
8-E	8-D	8-D
10-C	10-B	10-B
10-D	10-A	10-A
11-B	11-A	11
13-B	13-A	13
17-B	17-A	17
21-B	21-A	21

All of such proposed consolidations of tracts as well as the whole of the Unit Area are shown on the revised Exhibit "A" (being a plat showing all the tracts in the Unit Area) and a copy of such revised Exhibit "A" is attached hereto and made a part of this application.

6. By virtue of the credit given for the various tracts which are proposed to be added to the enlarged Participating Area it has become necessary to recalculate the participating factors for each tract in the new enlarged Participating Area. This has been done and the new participating factors are shown on an Amendment to Exhibit "B" of the Unit Agreement and a copy of each page making up such Amendment of Exhibit "B" is attached hereto and made a part of this application.

7. There is attached hereto and made a part of this application a copy of an engineering report prepared by Unit Operator's staff of engineers showing in detail the basis by which participating factors were assigned to each of the tracts which are proposed to be included in the Participating Area together with Isopachous maps, well log data and other detailed information which have in the opinion of the

Unit Operator justified the various participating factors assigned to such additional tracts. It will be noted in such engineering reports as well as on the Amendment to Exhibit "B" that "pseudo cumulative" reserves have been assigned to each of such new tracts whereas when the Initial Participating Area was originally formed the participating factors (excepting two tracts) was based on cumulative primary production.

8. The Unit Operator, Newmont Oil Company, by its signature hereto certifies that more than 75% of the voting interest within the present Participating Area have agreed to the expansion of the Participating Area as proposed above together with the participating factors which have been assigned to such tracts proposed to be included in the enlarged Participating Area. Newmont further certifies that it has complied with all the provisions of Section 16 of the Unit Agreement.

NOW THEREFORE, it is respectfully requested that the Participating Area as it now exists pursuant to the terms of the Unit Agreement be enlarged to include the hereinabove specified tracts, together with the wells and all property and equipment located on such tracts, so that hereafter the Participating Area will coincide with the presently established Unit Area. The Unit Operator, pursuant to Section 16 of the Unit Agreement has determined that such expansion will be effective as of September 1, 1964, at 7:00 AM and requests that the participating factors for all of the tracts as shown on the amended Exhibit "B" be accepted as therein set out and that the consolidation of tracts in the proposed enlarged Participating Area be accepted as set out on the attached Exhibit "A".

Respectfully submitted,

NEWMONT OIL COMPANY, OPERATOR
West Loco Hills Grayburg No. 4 Sand Unit

by Charles Grayson

CCL:jg

APPROVED THIS 14th day of
August, 1964.

A. L. Porter, Jr.
Secretary-Director
New Mexico Oil Conservation Commission

APPROVED THIS _____ day of
_____, 1964.

Commissioner of Public Lands
State of New Mexico

APPROVED THIS _____ day of
_____, 1964.

Director
United States Geological Survey

Original. Forwarded by Mrs. Lee

R 29 E

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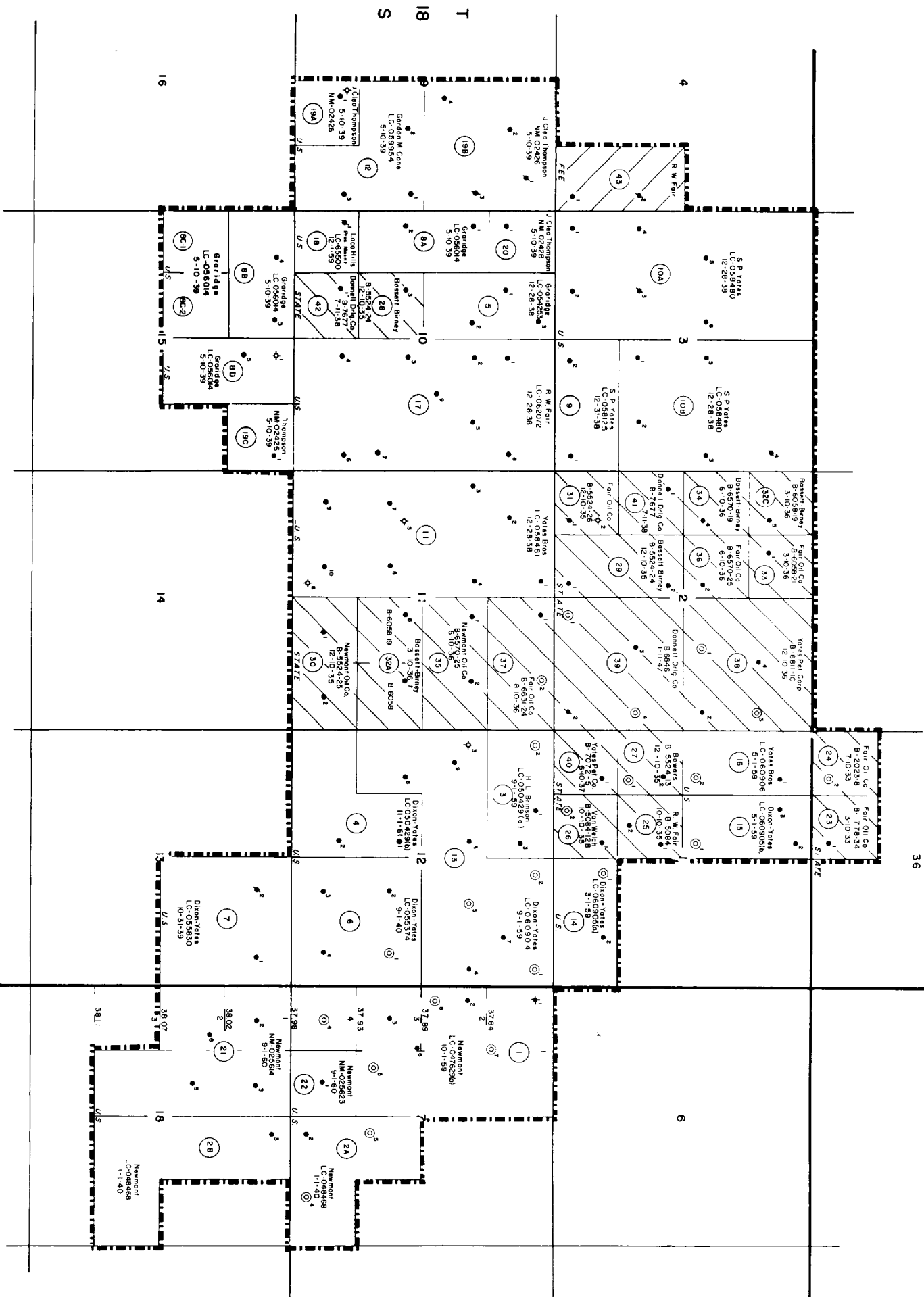


EXHIBIT "A"

WEST LOCO HILLS GRAYBURG
NO. 4 SAND UNIT
EDDY COUNTY, NEW MEXICO
AS OF SEPTEMBER 1, 1964

AMENDMENT TO EXHIBIT "B"
WEST LOCO HILLS GRAYBURG NO. 4 SAND UNIT - EDDY COUNTY, NEW MEXICO
SCHEDULE SHOWING UNIT PARTICIPATION OF ALL TRACTS IN THE UNIT AREA
Amended as of 7:00 A.M. September 1, 1964

Tract No.	Description	Acres	Lease Number, Date Basic Royalty	Lessee of Record & Percent	Overriding Royalty & Percent	Working Interest Owners and Percent	Cumulative & Pseudo-Cumu- lative Barrels	Tract Percentage Participation in Unit
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1. *	T-18-S, R-30-E, Sec. 7: Lots 1, 2, 3, 4, & E/2 NW/4, NE/4 SW/4	271.64	LC-047269 (a) 10-1-59; Sched. "C"	For details as to Columns 5, 6, & 7, please refer to original Exhibit "B" for ownerships and percentages on the effective date of the Unit, July 1, 1963			850,440 Bbls.	8.6530%
2-A *	T-18-S, R-30-E; Sec. 7: W/2 SE/4, SE/4 SE/4	120.00	LC-048468 1-1-40; Step Scale	"	"	"	200,345	2.0384
2-B	T-18-S, R-30-E; Sec. 18: NW/4 NE/4, SW/4 NE/4, N/2 SE/4	160.00	LC-048468 1-1-40; Step Scale	"	"	"	Orig. Tr. 2-B 61,815 Orig. Tr. 2-C 502 Consolidated 2-B 62,317	.6340
3.	T-18-S, R-29-E; Sec. 12: N/2 NW/4	80.00	LC-050429 (a) 9-1-59; Sched. "C"	"	"	"	142,760	1.4525
4.	T-18-S, R-29-E; Sec. 12: NE/4 SW/4, S/2 SW/4	120.00	LC-050429 (b) 11-1-61 Sched. "D"	"	"	"	Orig. Tr. 4-A 65,550 Orig. Tr. 4-B 14,604 Consolidated 4 80,154	.8155
5.	T-18-S, R-29-E; Sec. 10: E/2 NW/4	80.00	LC-054253 12-28-38 Step Scale	"	"	"	179,454	1.8259
6.	T-18-S, R-29-E; Sec. 12: SE/4	160.00	LC-055374 9-1-40 Step Scale	"	"	"	369,046	3.7549
7.	T-18-S, R-29-E; Sec. 13: NE/4 NE/4, W/2 NE/4, SE/4 NE/4	160.00	LC-055830 10-31-39 Step Scale	"	"	"	Orig. Tr. 7-A 38,542 Orig. Tr. 7-B 4,188 Consolidated 7 42,730	.4348

* See Page 7 of this Amendment to Exhibit "B" for note as to Tracts 1 and 2-A.

Tract No.	Description	Acres	Lease Number, Date Basic Royalty	Lessee of Record & Percent	Overriding Royalty & Percent	Working Interest Owners and Percent	Cumulative & Pseudo-Cumulative Barrels	Tract Percentage Participation in Unit
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
8-A	T-18-S, R-29-E; Sec. 10: SW/4 NW/4, NW/4 SW/4	80.00	LC-056014 5-10-39 Step Scale	For details as to Columns 5, 6, & 7, please refer to original Exhibit "B" for ownerships and percentages on the effective date of the Unit, July 1, 1963.				
							175,131 Bbls.	1.7819%
8-B	T-18-S, R-29-E; Sec. 15: N/2 NW/4	80.00	LC-056014 5-10-39 Step Scale	"	"	"	101,219	1.0299
8-C-1	T-18-S, R-29-E; Sec. 15: SW/4 NW/4	40.00	LC-056014 5-10-39 Step Scale	"	"	"	2,082	.0212
8-C-2	T-18-S, R-29-E; Sec. 15: SE/4 NW/4	40.00	LC-056014 5-10-39 Step Scale	"	"	"	3,686	.0375
8-D	T-18-S, R-29-E; Sec. 15: NW/4 NE/4, SW/4 NE/4	80.00	LC-056014 5-10-39 Step Scale	"	"	"	Orig. Tr. 8-D 22,901 Orig. Tr. 8-E 3,386 <u>Consolidated 8-D</u> 26,287	.2675
9.	T-18-S, R-29-E; Sec. 3: S/2 SE/4	80.00	LC-058125 12-31-38 Step Scale	"	"	"	124,305	1.2648
10-A	T-18-S, R-29-E; Sec. 3: S/2 NW/4, SW/4, N/2 NW/4	320.00	LC-058480 12-28-38 Step Scale	"	"	"	Orig. Tr. 10-A 444,766 Orig. Tr. 10-D 1,054 <u>Consolidated 10-A</u> 445,820	4.5361
10-B	T-18-S, R-29-E, Sec. 3: NE/4 NE/4, S/2 NE/4, N/2 SE/4, NW/4 NE/4	240.00	LC-058480 12-28-38 Step Scale	"	"	"	Orig. Tr. 10-B 288,186 Orig. Tr. 10-C 1,254 <u>Consolidated 10-B</u> 289,440	2.9450
11.	T-18-S, R-29-E; Sec. 11: NW/4, SW/4	320.00	LC-058481 12-28-38 Step Scale	"	"	"	Orig. Tr. 11-A 351,410 Orig. Tr. 11-B 342,818 <u>Consolidated 11</u> 694,228	7.0635

** See Page 7 of this Amendment to Exhibit "B" for note as to Tract 8-C-2.

Tract No.	Description	Acres	Lease Number, Date Basic Royalty	Lessee of Record & Percent	Overriding Royalty & Percent	Working Interest Owners and Percent	Cumulative & Pseudo-Cumulative Barrels	Tract Percentage Participation in Unit
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
12.	T-18-S, R-29-E; Sec. 9: N/2 SE/4, SE/4 SE/4	120.00	LC-059954 5-10-39 Step Scale	For details as to Columns 5, 6, & 7, please refer to original Exhibit "B" for ownerships and percentages on the effective date of the Unit, July 1, 1963.			265,287 Bbls.	2.6992%
13.	T-18-S, R-29-E; Sec. 12: NE/4, SE/4 NW/4, SW/4 NW/4, NW/4 SW/4	280.00	LC-060904 9-1-59 Sched."C"	"	"	"	Orig. Tr. 13-A 459,571 Orig. Tr. 13-B 169,378 <u>Consolidated 13</u> 628,949	6.3994
14.	T-18-S, R-29-E; Sec. 1: S/2 SE/4	80.00	LC-060905 (a) 3-1-59 Sched."C"	"	"	"	261,976	2.6655
15.	T-18-S, R-29-E; Sec. 1: E/2 NW/4	80.00	LC-060905 (b) 5-1-59 Sched."D"	"	"	"	225,468	2.2941
16.	T-18-S, R-29-E; Sec. 1: W/2 NW/4	80.00	LC-060906 5-1-59 Sched."D"	"	"	"	222,503	2.2639
17.	T-18-S, R-29-E; Sec. 10: NE/4, N/2 SE/4, SW/4 SE/4	320.00	LC-062072 12-28-38 Step Scale	"	"	"	Orig. Tr. 17-A 526,898 Orig. Tr. 17-B 68,957 <u>Consolidated 17</u> 595,855	6.0626
18.	T-18-S, R-29-E; Sec. 10: SW/4 SW/4	40.00	LC-065500 12-1-59 Sched."C"	"	"	"	53,522	.5446
19-A	T-18-S, R-29-E; Sec. 9: SW/4 SE/4	40.00	NM-02426 5-10-39 Step Scale	"	"	"	88,496	.9004

Tract No.	Description	Acres	Lease Number, Date Basic Royalty	Lessee of Record & Percent	Overriding Royalty & Percent	Working Interest Owners and Percent	Cumulative & Pseudo-Cumulative Barrels	Tract Percentage Participation in Unit
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
19-B	T-18-S, R-29-E; Sec. 9: NE/4	160.00	NM-02426 5-10-39 Step Scale	For details as to Columns 5, 6, & 7, please refer to original Exhibit "B" for ownerships and percentages on the effective date of the Unit, July 1, 1963.			295,784 Bbls.	3.0095%
19-C	T-18-S, R-29-E; Sec. 15: NE/4 NE/4	40.00	NM-02426 5-10-39 Step Scale	"	"	"	19,213	.1955
20.	T-18-S, R-29-E; Sec. 10: NW/4 NW/4	40.00	NM-02428 5-10-39 Step Scale	"	"	"	87,058	.8858
21.	T-18-S, R-30-E; Sec. 18: Lot 1 (NW/4 NW/4), NE/4 NW/4, Lot 2 (SW/4 NW/4), SE/4 NW/4, NE/4 SW/4	196.09	NM-025614 9-1-60 Sched."B"	"	"	"	Orig. Tr. 21-A 159,966 Orig. Tr. 21-B 33,256 Consolidated 21 193,222	1.9660
22. *	T-18-S, R-30-E; Sec. 7: SE/4 SW/4	40.00	NM-025623 9-1-60 Sched."B"	"	"	"	110,358	1.1229
23.	T-17-S, R-29-E; Sec. 36: SE/4 SW/4	40.00	B-1778-20 3-10-33 12-1/2%	"	"	"	122,470	1.2461
24.	T-17-S, R-29-E; Sec. 36: SW/4 SW/4	40.00	B-2023-8 7-10-33 12-1/2%	"	"	"	78,781	.8016
25.	T-18-S, R-29-E; Sec. 1: NE/4 SW/4	40.00	B-5084-76 10-10-35 12-1/2%	"	"	"	123,924	1.2609
26.	T-18-S, R-29-E; Sec. 1: SE/4 SW/4	40.00	B-5084-128 10-10-35 12-1/2%	"	"	"	146,480	1.4904

* See Page 7 of this Amendment to Exhibit "B" for note as to Tract 22.

Tract No.	Description	Acres	Lease Number, Date Basic Royalty	Lessee of Record & Percent	Overriding Royalty & Percent	Working Interest Owners and Percent	Cumulative & Pseudo-Cumu- lative Barrels	Tract Percentage Participati in Unit
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
27.	T-18-S, R-29-E; Sec. 1: NW/4 SW/4	40.00	B-5524-13 12-10-35 12-1/2%	For details as to Columns 5, 6, & 7, please refer to original Exhibit "B" for ownerships and percentages on the effective date of the Unit, July 1, 1963.			130,700 Bbls.	1.3298 %
28.	T-18-S, R-29-E; Sec. 10: NE/4 SW/4	40.00	B-5524-24 12-10-35 12-1/2%	"	"	"	118,446	1.2051
29.	T-18-S, R-29-E; Sec. 2: E/2 SW/4	80.00	B-5524-24 12-10-35 12-1/2%	"	"	"	218,385	2.2220
30.	T-18-S, R-29-E; Sec. 11: S/2 SE/4	80.00	B-5524-25 12-10-35 12-1/2%	"	"	"	92,393	.9401
31.	T-18-S, R-29-E; Sec. 2: SW/4 SW/4	40.00	B-5524-26 12-10-35 12-1/2%	"	"	"	46,553	.4737
32-A	T-18-S, R-29-E; Sec. 11: NE/4 SE/4, NW/4 SE/4	80.00	B-6058-19 3-10-36 12-1/2%	"	"	"	84,184	.8565
32-C	T-18-S, R-29-E; Sec. 2: NW/4 NW/4	40.00	B-6058-19 3-10-36 12-1/2%	"	"	"	2,817	.0287
33.	T-18-S, R-29-E; Sec. 2: NE/4 NW/4	40.00	B-6058-21 3-10-36 12-1/2%	"	"	"	13,014	.1324
34.	T-18-S, R-29-E; Sec. 2: SW/4 NW/4	40.00	B-6570-19 6-10-36 12-1/2%	"	"	"	108,569	1.1046

9-1-64

Tract No.	Description	Acres	Lease Number, Date Basic Royalty	Lessee of Record & Percent	Overriding Royalty & Percent	Working Interest Owners and Percent	Cumulative & Pseudo-Cumulative Barrels	Tract Percentage Participation in Unit
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
35.	T-18-S, R-29-E; Sec. 11: S/2 NE/4	80.00	B-6570-23 6-10-36 12-1/2%	For details as to Columns 5, 6, & 7, please refer to original Exhibit "B" for ownerships and percentages on the effective date of the Unit, July 1, 1963.			220,574 Bbls. 2.2443 %	
36.	T-18-S, R-29-E; Sec. 2: SE/4 NW/4	40.00	B-6570-25 6-10-36 12-1/2%	"	"	"	112,292	1.1425
37.	T-18-S, R-29-E; Sec. 11: N/2 NE/4	80.00	B-6631-24 8-10-36 12-1/2%	"	"	"	157,604	1.6036
38.	T-18-S, R-29-E; Sec. 2: NE/4	160.00	B-6811-10 12-10-36 12-1/2%	"	"	"	376,710	3.8329
39.	T-18-S, R-29-E; Sec. 2: SE/4	160.00	B-6846 1-11-37 12-1/2%	"	"	"	353,495	3.5967
40.	T-18-S, R-29-E; Sec. 1: SW/4 SW/4	40.00	B-7072-5 6-10-37 12-1/2%	"	"	"	130,682	1.3296
41.	T-18-S, R-29-E; Sec. 2: NW/4 SW/4	40.00	B-7677 7-11-38 12-1/2%	"	"	"	113,013	1.1499
42.	T-18-S, R-29-E; Sec. 10: SE/4 SW/4	40.00	B-7677 7-11-38 12-1/2%	"	"	"	91,549	.9315
43.	T-18-S, R-29-E; Sec. 4: E/2 SE/4	80.00	Fee	"	"	"	148,533	1.5113

	<u>FEDERAL LANDS</u>	<u>STATE LANDS</u>	<u>FEE LANDS</u>	<u>TOTAL</u>	
<u>Tracts</u>	30	21	1	52	
Acres of Land in Unit Area	3,947.73	1,280.00	80.00	5,307.73	(Note: After the proposed enlargement of the Participating Area, same will be identical to the Unit Area)
Percent of Unit Area	74.38%	24.12%	1.50%	100.00%	
Cumulative and Pseudo-Cumulative Barrels	6,837,135	2,842,635	148,533	9,828,303	

NOTE AS TO TRACTS 1, 2-A, and 22

* Note (2) of the original Exhibit "B" insofar as same relates to the overriding royalty interest in Tracts 1, 2-A, and 22 for Gertrude W. Boyd and the Estates of Fayette B. Dow and Margaret Elder Dow, deceased, is in error in as much as these interests are production payment interests which will eventually pay out and upon payout of such interests the fractional part of the Unit production from which such interests are being paid will revert to Bert Aston et al rather than to Newmont Oil Company and Curtis McBroome et al as indicated in Note (2) of the original Exhibit "B".

NOTE AS TO TRACT 8-C-2

** Since the preparation of the original Exhibit "B" it has been determined that Olen F. Featherstone owns an overriding royalty interest equal to 10% in the 40-acre tract designated as 8-C-2 and in as much as same will now become a part of the Participating Area, proper credit should be given to such overriding royalty interest.

ENGINEERING REPORT

Basis for Assigning Participation Factors to Non-Participating Tracts to be Brought Into Effective Limits

WEST LOCO HILLS GRAYBURG NO. 4 SAND UNIT Eddy County, New Mexico

Basis of Original Participation Factors

Due to absence of reservoir data such as porosity logs or core information on many of the wells, it was not possible to establish participation factors on the basis of reservoir volume for the various tracts when the West Loco Hills Grayburg No. 4 Sand Unit (Unit) was originally formed. An "isopachous" map was prepared by James A. Lewis Engineering, Incorporated, Reservoir Engineering Firm, and submitted in a report dated April 21, 1961, to the Loco Hills Operators' Committee. However, due to lack of information necessary for determining net pay, construction of the map was based in considerable part on cumulative production. Hence, due to the lack of reservoir volume data, it was agreed by the Operators that each tract would contribute to the secondary reserves of the Unit in proportion to its cumulative production as of December 1, 1960, and; therefore, participation factors were based 100 percent upon cumulative production. This formula of determination was subsequently approved by the appropriate administrative bodies of the State of New Mexico and the United States.

Basis of Assigning Participation Factors to Two Wells Drilled after December 1, 1960, but before Effective Date of Unitization (July 1, 1963)

An "iso-cumulative" map was prepared prior to the formation of the Unit. This map indicated two undrilled tracts had productive Loco Hills Sand. The iso-cumulative lines were planimetered for the two 40 acre tracts and, from this, iso-cumulative credit (based on the map and planimeter data) was given to the two 40 acre tracts with the stipulation that for these tracts to receive credit the Operator must contribute a usable well. This formula of determination was likewise approved by the appropriate Federal and State administrative authorities.

Need for Basis of Determining New Participation
Factors for Tracts to be Included in Enlarged Unit

It was apparent that flooding of the productive reservoir could more efficiently be accomplished and the Unit could be better protected from drainage if all of the acreage in the Unit Area is included in the Participating Area. A formula for determining such participation was suggested by the Unit Operator at a meeting of Representatives of Working Interest Owners on December 5, 1963, and this formula was revised and modified after consideration by the various Representatives in January and February.

This formula provides that if wells are drilled or re-entered on the tracts proposed for inclusion to provide reliable volumetric data, such data will be used to determine acre feet of each tract proposed for inclusion in the Participating Area. The details of the formula are set forth on the following pages.

The formula was accepted in principle by Representatives of more than 80 percent of the Working Interest Owners. Owners of tracts proposed for inclusion drilled ten new wells and re-entered and logged three old wells at their own cost, on acreage within the Unit Area but outside of that included in the original Participating Area. Logs and/or cores from these wells produced a considerable amount of good, usable reservoir data. Such data were transmitted by the various tract operators to the staff of the Unit Operator in Houston for analysis. The data were then reviewed and analyzed by the Technical Subcommittee on July 13, and 14, as follows:

- 1.) Net pay was determined in each new well on the basis of the agreed formula.
- 2.) An Isopachous map was constructed to determine reservoir volume under each tract.
- 3.) Pseudo-cumulative production and revised participation factors were then calculated.

In the following pages the procedures used are further described.

1. Determination of Net Pay in Each Recently Drilled or Re-entered Well

Calculations based on permeability variation and distribution and performance of floods in the Loco Hills Field indicated that some of the sand with lower porosity and permeability would not be swept and flooded by the time producing wells had reached their economic limit at high water cuts. This is not unique and is the case in most waterfloods. This means that some cut-off point for porosity and permeability is necessary in determining the net pay to be flooded.

After looking at recovery calculations made by the Suder-Calhoun method, Newmont recommended the following basis for determining net pay, which after consideration by Technical Representatives was approved by the Representatives of the Working Interest Owners.

Credit to be Given in Counting Net Feet of Pay (1)	Using Core Analysis with Minimum of 10% Porosity (2)	Using Porosity as Calculated from the Log (3)
100% Credit	5 md. or Greater	15.5% or Greater
75% Credit	3.0 to 4.99 md.	14.2% to 15.49%
50% Credit	1.0 to 2.99 md.	11.5% to 14.19%

Attached as Table No. 1 is a summary of calculations of net pay by core and log data. The relationship between porosity and permeability was obtained by plotting all available core analyses from the Loco Hills Field on semilog graph paper using percentage of pore space as the horizontal co-ordinate and millidarcies of permeability as the vertical co-ordinate. A copy of the plot, attached as Figure No. 1, shows that a definite relationship between porosity and permeability exists and through the points so plotted, a straight line was drawn as closely as possible to average the porosity-permeability ratio. Where both core data and porosity logs were available on the same recently drilled wells, accuracy of determining net pay by core and by logs was found to be within two percent.

In counting net feet of pay, where core analyses were available, the higher credit was used, whether from core or from log calculations.

In determining porosity from velocity logs, a matrix velocity of 54 microseconds was used which was obtained from correlation of porosity from core analyses.

2. Determination of Reservoir Volume for Each Non-Participating Tract

After net pays of the recently drilled or re-entered wells had been established, these thicknesses were entered on the isopachous map and revisions were made in the areas now being proposed for inclusion in the enlarged Participating Area, based on the new reservoir information. In contouring the recently drilled area, proportional dividers were used so that there was minimum interpretation built into the data. The revised isopachous map is attached as Figure No. 2.

The productive acres and productive acre feet under each non-participating tract were then determined by the use of a planimeter. These determinations are shown in Table No. 2.

3. Determination of Pseudo-Cumulative Production by Tract

After the acre feet were calculated from the revised isopachous map as to each 40 acre tract offered for inclusion into the Unit, a recovery factor was applied to determine pseudo-cumulative barrels.

For each 40 acre tract with a usable well, the calculated productive acre feet were multiplied by 120 barrels per acre foot to obtain a "pseudo-cumulative recovery" for the tract. The recovery factor of 120 barrels per acre foot is approximately 2/3rds of the 174.8 barrels per acre foot primary recovery factor derived in the Lewis Report for the central, more porous and permeable portion of the Unit. Hence, this resulted in reducing the average primary recovery factor by about 1/3rd in determining "pseudo-cumulative" barrels for the drilled tracts being contributed for the Unit.

For Each Undrilled 40 acre tract, a further discount was applied. The "pseudo-cumulative" barrels for each such tract was determined by taking the greater of:

- a.) 1/3rd times 120 barrels per acre foot times the net acre feet (as calculated from the isopachous map); or
- b.) Productive acres times 120 barrels per acre foot.

All calculations used in determining the "pseudo-cumulative" barrels are shown in Table No. 2.

4. Revision of Participation Factors

Table No. 2 also shows the revised participation factor calculations. As can be seen from the tabulation, each tract either had a cumulative production as of December 1, 1960, or an assigned pseudo-cumulative production figure. Each tract was then assigned a participation factor in the total Unit based on the following calculation:

$$\text{Percentage Participation of Each Tract} = \frac{\text{Tract Cumulative or "Pseudo-Cumulative" Production}}{\text{Total Revised Participating Area Cumulative and "Pseudo-cumulative" Production}}$$

The above method of determining participation for the non-participating tracts appears to be reasonable and equitable and has been accepted by over 90% of the Working Interest Owners of the Unit.



Charlie Seely, Chief Engineer
NEWMONT OIL COMPANY

and
Chairman of Technical Sub-committee
August 3, 1964

CS:ajg

Attachments: Table No. 1
Table No. 2
Figure No. 1
Figure No. 2

TABLE 1.

NET PAY DETERMINATIONS FOR
RECENTLY COMPLETED WELLS IN
NON-PARTICIPATING AREA

West Loco Hills Grayburg No. 4 Sand Unit

<u>Well No.</u>	<u>Basis for Determining Net Pay</u>	<u>Net Pay, Ft.</u>
4B-2	Core Analysis	4.5
11B-7	Core Analysis	15.25
11B-8	Core Analysis	18.0
11B-9	Core Analysis	16.0
11B-10	Core Analysis	27.0
13B-8	Core Analysis	17.0
13B-9	Core Analysis	26.0
17B-6	Schlumberger Sonic Log	19.0
19C-1	Analogy of Caliper Log with Offset Core Analysis	6.0
21B-5	Schlumberger Sonic Log	2.5
21B-6	Lane Wells Acoustilog	8.25
30-1	Core Analysis	15.0
30-2	Core Analysis	5.75

CWS:ajg
8-3-64

TABLE 1.

TABLE 2.

CALCULATION OF REVISED PARTICIPATION FACTORS

WEST LOCO HILLS GRAYBURG NO. 4 SAND UNIT

Tract Number	Operator	Total Acres in Tract (1)	Productive Acres in Tract (2)	Calculated Productive Acres Feet Under Tract (3)	Acres Feet X 120 B/Ac. Ft. (4)	Productive Acres X 120 B/Ac. Ft. (5)	1/3 of Column 4 (6)	Cumulative or Pseudo-Cumulative Barrels Greater of Cols. 5 or 6 (7)	Tract Participation, % (8)
Undeveloped Tracts									
2-C	Newmont Oil Company	120.00	4.18	5.43	652	502	217	502	0.0051
4-B	Dixon-Yates	40.00	22.57	73.56	8,827	2,708	2,942	2,942	0.0299
7-B	Dixon-Yates	120.00	34.90	83.18	9,982	4,188	3,327	4,188	0.0426
8-C	Graridge Corporation	80.00	48.07	105.97	12,716	5,768	4,239	5,768	0.0587
8-E	Graridge Corporation	40.00	28.22	57.67	6,920	3,386	2,307	3,386	0.0344
10-C	S. P. Yates	40.00	10.45	13.17	1,580	1,254	527	1,254	0.0128
10-D	S. P. Yates	80.00	8.78	9.62	1,154	1,054	385	1,054	0.0107
32-C	Bassett-Birney Oil Corporation	40.00	22.15	70.43	8,452	2,658	2,817	2,817	0.0287
Sub-Total		560.00	179.32	419.03	50,283	21,518	16,761	21,911	0.2229
Developed Tracts									
4-B	Dixon-Yates	40.00	26.54	97.18	11,662	11,662		11,662	0.1187
11-B	Yates Petroleum Corporation	160.00	160.00	2,856.82	342,818	342,818		342,818	3.4881
13-B	Dixon-Yates	80.00	80.00	1,411.48	169,378	169,378		169,378	1.7234
17-B	Fair Oil Company	40.00	40.00	574.64	68,957	68,957		68,957	0.7016
19-C	J. Cleo Thompson	40.00	36.37	160.11	19,213	19,213		19,213	0.1955
21-B	Newmont Oil Company	118.07	68.76	277.13	33,256	33,256		33,256	0.3384
30	Newmont Oil Company	80.00	79.00	769.94	92,393	92,393		92,393	0.9400
Sub-Total		558.07	490.67	6,147.30	737,677	737,677		737,677	7.5057
Total to be Brought In		1,118.07	669.99	6,566.33	787,960	759,588		759,588	7.7286
Cumulative Unit Production (As of 12-1-60) as Shown on Exhibit "B" of West Loco Hills Unit Agreement					9,068,715	9,068,715		9,068,715	92.2714
TOTAL Cumulative plus Pseudo-Cumulative Barrels								9,828,303	100.0000

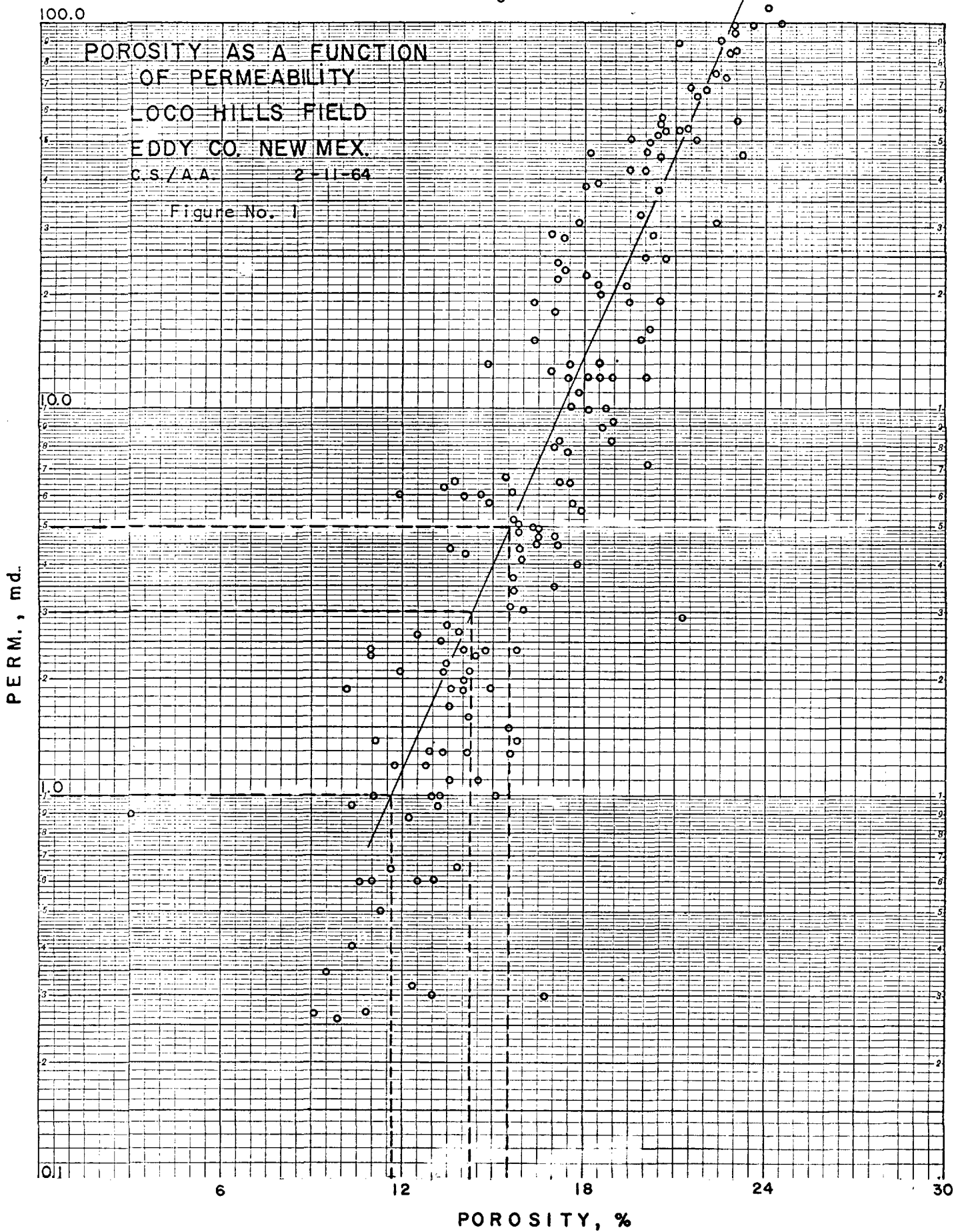
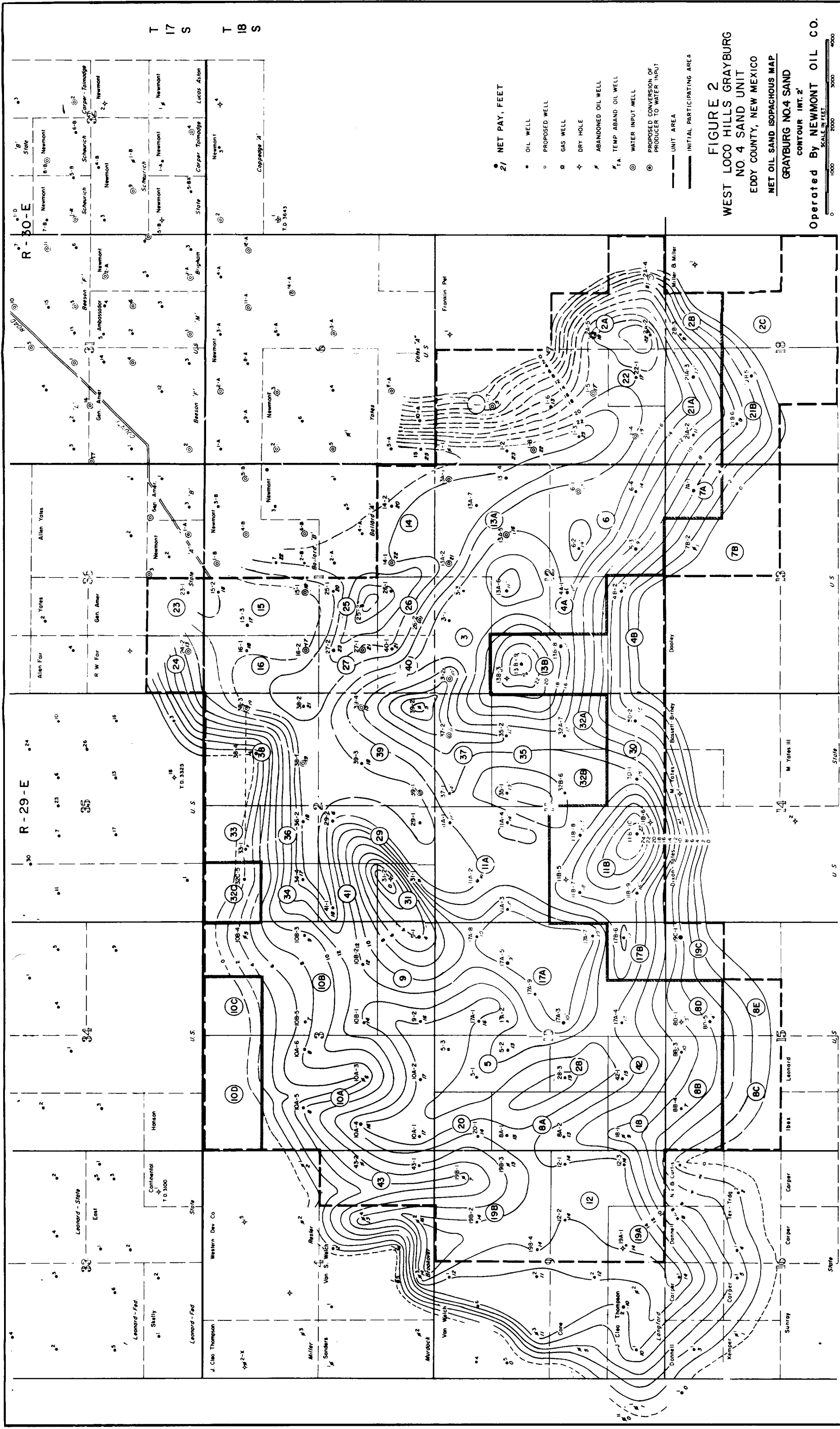


Figure No. 1



Operated By NEWMONT OIL CO.

CONTOUR INT. 2'

GRAYBURG NO.4 SAND

NET OIL SAND ISOPACHOUS MAP

EDDY COUNTY, NEW MEXICO

NO. 4 SAND UNIT

WEST LOCO HILLS GRAYBURG

FIGURE 2

JULY 14, 1964

WORKING INTEREST OWNERS

JULY 13, 1964

REVISÉ PAR LE COMITÉ TECHNIQUE

SCALE IN FEET

0 1000 2000 3000 4000

NEWMONT OIL COMPANY

1135 TEXAS NATIONAL BANK BUILDING

1300 MAIN • AT POLK

HOUSTON, TEXAS 77002

July 17, 1964

FOR EACH WORKING INTEREST OWNER

Copy for:

Re: Transmittal of Minutes of
Meeting of Representatives
of Working Interest Owners,
West Loco Hills Grayburg No. 4
Sand Unit, Eddy County, New Mexico

Transmitted for your information is a copy of the minutes of the meeting in Houston on July 14, 1964 attended by Representatives of the working interest owners with aggregate voting or participating interest of 92.4441% of the total Unit working interest. In the meeting, Newmont estimated that:

1. Rate of oil production which had increased from approximately 300 BOPD on July 1, 1963 to 2,200 BOPD on July 1, 1964 should exceed 3,000 BOPD at the end of 1964.
2. Cumulative cash flow from inception of the project (exclusive of any provisions for overriding royalties or oil payments) would total approximately \$15,000 as of July 1, 1964 (or an approximate "break-even" in one year) and should amount to about \$450,000 at the year end.

The development budget for the second half of 1964 was approved and a proposal for enlarging the Participating area of the Unit was approved. Tract operators tendered to the Unit all tracts recommended for inclusion in the enlarged Participating area except for certain tracts covering approximately 160 acres which are to be further considered by the tract owners involved.

Sincerely yours,



Robert S. Moehlman

RSM:d o'd

Enclosures

MINUTES OF THE MEETING OF REPRESENTATIVES
OF THE WORKING INTEREST OWNERS
WEST LOCO HILLS GRAYBURG NO.4 SAND UNIT
Tuesday, July 14, 1964

The meeting of the Representatives of the working interest owners of the West Loco Hills Grayburg No. 4 Sand Unit was called to order in the conference room of Newmont Oil Company in Houston, Texas at 10:00 A.M. on Tuesday, July 14, 1964 by Robert S. Moehlman, President of Newmont Oil Company acting as Chairman of the meeting. The meeting was recessed for lunch and adjourned at 4:00 P.M.

1. Representatives Present

Representatives present whose aggregate voting interest totalled 92.4441% of the total Unit working interest were as follows:

Bassett-Birney Oil Corporation	-	Martin Yates, III *
Dixon Yates Oil Company	-	Martin Yates, III *
Martin Yates, III	-	Martin Yates, III *
S. P. Yates	-	S. P. Yates *
Yates Brothers	-	S. P. Yates *
Yates Petroleum Corporation	-	S. P. Yates *
		Richard Norman
		Hugh Parry
		Peyton Yates
Donnell Drilling Company	-	Melvin Endicott *
		Herbert Swarthout
Fair Oil Company	-	Richard L. Ray *
		Gus W. Arnold
		Nat F. Goodwin
Graridge Corporation	-	Robert Harrison *
J. Cleo Thompson	-	Frank Darden *
Newmont Oil Company	-	Robert S. Moehlman *
		Charles C. Langdon
		Herman Ledbetter
		C. W. Seely
		Roland Polk
		George E. Zubrod, Jr.

* Indicates Designated Representative

2. Summary of Monthly Statements through May (Exhibit 1)

Mr. Moehlman summarized the monthly progress reports as shown on Exhibit 1. He pointed out that barrels of oil sold from the inception of the Unit on July 1, 1963 through May 31, 1964 amounted to 328,871 barrels and that the production rate at the inception of the Unit of approximately 300 BOPD had been increased to over 2,200 BOPD in July, 1964. Total expenditures, including development as well as operating costs amounted to \$847,000 through May 31, 1964 as compared with income from oil sales to the working interest, net of production tax and 1/8 royalty, of \$769,000. Thus, the Unit was "in the red" only \$78,000 as of May 31, 1964.

3. Discussion of Accounting Matters

Mr. Zubrod asked that the Representatives review certain supplemental and special year-end reports which had been prepared as of December 31, 1963, and advise the Operator whether similar, special reports at the end of 1964 would be desirable. These special reports included a Summary of Well Drilling, Work-over, and Construction Costs, and a Summary of Operating Expenses, both by location (well or tract).

Mr. Zubrod advised that the audit fee cost for the initial audit of the Unit accomplished by Arthur Andersen & Co. for the period ending December 31, 1963, which project had been approved at the meeting of the Representatives on December 5, 1963, had amounted to \$1,200. The Representatives agreed that this charge was satisfactory and should be made to the joint account.

Mr. Zubrod asked for discussion of the appropriate interpretation of Section III.3 of the accounting procedure attached to the Operating Agreement. After consideration and discussion of the problem by Messrs. Parry, Goodwin, and Zubrod, it was agreed by the Representatives that there will be seven projects within the meaning of the agreement as follows: warehouse and yard, Buffer Zone, and Stages 1 through 5.

The first \$25,000 spent for construction in each project will be charged with 5% overhead and all in excess will be charged with 2%. "Construction" will include: water supply plants, equipment and installation; centralized hydraulic pumping systems; and any facility outside the scope of usual drilling and producing operations; but will specifically exclude direct well costs, consolidation of tank batteries, and substitution or exchange of well or lease equipment.

4. Review of Work Accomplished

Mr. Herman Ledbetter described the work accomplished on the Unit to date including the installation of water injection plant #1 and water injection plant #2 (now in process), the hydraulic pumping system for the Buffer Zone,

consolidation of tank batteries, etc.

Mr. S. P. Yates asked about the quantity of water being used relative to the contract with Yucca Water Company dated April 25, 1963.

Mr. Moehlman answered that actual water use by the Unit is running well ahead of obligated minimum quantity to be purchased. It is pointed out that pursuant to the vote of Representatives at the December 5, 1963 meeting, Yucca Water Company had been asked to increase its available deliverability for the Unit to 20,000 BWPD, which involves an obligation on the part of the Unit to purchase a minimum of 18 million barrels by August, 1967. Actual water use through December 31, 1964 will be approximately 11 million barrels of water, or more than one-half of the presently obligated quantity.

5. Estimates of Production for
the Remainder of 1964

Mr. Charlie W. Seely explained a graph of oil production rates which showed an initial rate on July 1, 1963 of approximately 300 BOPD, increasing to 1,100 BOPD on December 31, 1963, then to 2,200 BOPD on July 1, 1964 and projected to 3,200 BOPD at the end of 1964.

6. Projection of Cash Flow through
the end of 1964 (Exhibit 2)

Mr. Moehlman presented the statement and estimate of expenditures versus oil sales from inception through the end of 1964 (see Exhibit 2). At the bottom of Exhibit 2, "cash flow" is shown. Total expenditures for development as well as operating costs are subtracted from oil sales after production tax and royalty (but before overriding royalty or oil payments) to give "cash flow" or (loss). On this basis, at the end of the first six months, the Unit had a (loss) of \$307,000 but at the end of one year's operation on June 30, 1964 is expected to show cumulative cash flow of approximately \$15,000. And for the second half of the year, cash flow is estimated at \$446,000, making a cumulative cash flow estimated at the end of 1964 of approximately \$461,000.

7. Proposed Overall Plan for
Water Injection

Mr. Seely and Mr. Roland Polk presented a map showing the proposed overall future pattern for input wells. It is planned that a modified peripheral pattern will be established for injection, with interior input wells to be added as required to produce the oil permitted in the staged allowable regulations of the State government.

Mr. Langdon pointed out that (assuming the proposed enlargement of the participating area is accomplished) when all five stages have been placed under flood, commencing January 1, 1966 as to Stage 5, the allowable for all five stages would total approximately 4,046 BOPD. In addition to this, the capacity allowable of the Buffer Zone would be added to the combined allowable of the five stages. This should result in a total production of the order of 5,000 BOPD in 1966.

8. Development Budget for the
Remainder of 1964 (Exhibit 3 and Map A)

Mr. Ledbetter discussed the development plans for the remainder of 1964, using a wall map for the purpose. He presented Exhibit 3 with Sub-schedule A (as attached). He first pointed out that projects previously approved and remaining to be accomplished during the second half of the year total \$264,000. Then he described and recommended to the Representatives certain additional projects specified in Lines 2 through 6 of Exhibit 3. A motion was made, seconded, and unanimously carried:

RESOLVED that the projects recommended by the Operator on Lines 2 through 6 of Exhibit 3 and totalling an estimated \$222,000 be approved.

9. Proposal for Enlarging the
Participating Area of the Unit

Mr. Moehlman reported that all of the tracts within the Unit not in the present participating area and covering an additional 1,118 acres had been recommended for inclusion in the Participating area by the Operator. Since inception of the Unit, 10 new wells have been drilled in this area and three wells have been re-entered and re-conditioned by various tract owners. The results of this work, which had been examined in detail on Monday, July 13, 1964 by a Technical Sub-committee, indicated that a substantial amount of recoverable oil remains outside of the original participating area.

The Operator recommended inclusion of the tracts in the Participating area for the following reasons:

1. The presence of recoverable oil under these tracts has been demonstrated by the various wells.
2. With the tracts included, the total oil (in the original participating area and in the area now recommended for participation) can all be swept through a planned injection pattern at lower cost and with higher recovery than would be the case with an irregular ownership line leaving much producible oil outside the Participating area.

3. If the tracts are not included it would be necessary for the Unit to protect itself against drainage at substantial additional costs.

By inclusion of most of the productive reservoir in the Participating Unit area, an operating plan can be established based fundamentally on the sub-surface requirements rather than on diversity of ownerships. Inclusion of the tracts should allow the Operator to achieve a lower per barrel cost (operating and development).

10. Report on Meeting of Technical Sub-committee

Mr. Seely reported on the meeting of the Technical Sub-committee held in Newmont's office on Monday, July 13, 1964. The all day session commencing at 10:00 A.M. was attended by engineers and/or geologists for each of the Representatives. Mr. Seely reported on the findings of the committee:

- a) Net pay thickness was determined for each of the 13 wells in the presently non-participating area.
- b) A revised isopachous map was then constructed based on the accepted net pay and using proportional dividers.
- c) The technical representatives all agreed on the net pay determinations and the isopachous map except that Mr. Frank Darden, representing J. Cleo Thompson interests, was not in agreement as to the net pay in 19-C #1 well and on the portion of the isopachous map in so far as it covered tract 19-C.
- d) The productive acres and productive acre feet in each tract was then determined by the use of a planimeter. (The planimentering method was checked by Messrs. Harrison and Darden).
- e) "Pseudo-cumulative barrels" were then determined for each of the tracts recommended for inclusion in the participating area.

In determining net pay thickness, the technical representatives made use of the formula originally proposed by Newmont on December 5, 1963 and modified in some details as subsequently set forth in Newmont's letters of January 10 and February 28, 1964 to the Representatives as a result of certain technical suggestions. Also, pursuant to this formula, the factor for determining "pseude-cumulative barrels" was taken at 120 such barrels

per acre foot (which is approximately 2/3 of the 174.8 barrels per acre foot used in calculations for the central or original participating area of the Unit). Also, a further discount (of approximately 2/3) was applied for any 40-acre tract contributed without a usable well.

11. Action Taken to Enlarge the Participating Area

Mr. Moehlman pointed out that the original cumulative or "pseudo-cumulative barrels" used to determine tract participations on Exhibit "B" of the Unit Agreement totalled 9,068,715 barrels. If all of the tracts now recommended for participation are taken into the Unit, an additional 759,588 "pseudo-cumulative barrels" would be added to give a total of 9,828,303 "pseudo-cumulative barrels".

In the meeting of working interest owners held on June 18, 1963 Newmont had suggested that "a round-number figure of 11 million barrels of oil may reasonably be used as an approximation of future Unit production". If all of the tracts recommended for inclusion are now included, and having in mind experience to date, Newmont now suggests a round-number figure of 12 million barrels may reasonably be used as an approximation of total Unit production.

After consideration of the data and of the findings of the Technical Sub-committee, a motion was duly made and seconded as follows:

RESOLVED that the net feet of pay and isopachous map (please refer to accompanying Map "A") as worked out by the Technical Sub-committee be approved; that participating factors based on this map be used to calculate the participating interest of each of the tracts now recommended for inclusion in the participating area; and that the Representatives approve on behalf of the Unit the acceptance of each such tract tendered by the tract owners with a participating factor so determined.

The Representatives present all voted in favor of the resolution except for Mr. Frank Darden, representing the J. Cleo Thompson interests, who approved all of the net pay determinations and the isopachous map except for tract 19-C. The results of the voting then were:

For the motion - - - - - 87.52%

Qualified disapproval - - - - - 4.92%

Total present and voting - - - - - 92.44%

Then the Representatives, severally and individually as to their respective tracts, approved tendering the tracts for inclusion in the participating area as follows:

Tracts 2-C, 21-B, and 30 by Newmont Oil Company;
Tracts 4-B, (developed and undeveloped), 7-B, and 13-B by
Dixon & Yates Oil Company;

Tracts 10-C and 10-E by S. P. Yates;
Tract 17-B by Fair Oil Company;

Tract 32-C by Bassett-Birney Oil Corporation (subject to confirmation after the meeting which was obtained on July 15).

Tender of Tracts 8-C and 8-E was deferred by the Representative of Graridge to obtain time for confirmation from non-operating co-owners. Tract 19-C was not tendered at the time of the meeting for J. Cleo Thompson, and is to be further studied by the principals involved.

12. Legal Considerations for Enlargement of Participating Area; Inventory Adjustment

Mr. Langdon described the process required to carry out the documentation required for enlargement of the Participating area of the Unit in accordance with governmental regulations. Newmont as Operator will set the effective date for the enlargement of the Unit not later than October 1, 1964.

Mr. Zubrod, reporting for the Accounting Sub-committee consisting of himself, Mr. Goodwin and Mr. Parry, recommended the following accounting treatment to be followed upon enlargement of the Unit, as consistent with the Unit Agreement and Operating Agreement:

1. All expenditures made for the Unit by the Operator (on an accrual basis) up to the effective date of enlargement shall be charged in accordance with the present participations.
2. All oil runs from the Unit up to the effective date of enlargement shall be paid as at present.
3. Commencing with the effective date of enlargement, both oil and gas sales and expenditures will be received and paid in accordance with the revised participations.
4. On the effective date of the proposed enlargement, an adjustment in ownership of Unit equipment will be accomplished on the books of the Operator. Equipment purchased by the Unit and charged to the Unit prior to the effective date shall be included at its book cost with no adjustment for depreciation. Equipment on the new wells contributed with the tracts included in the enlargement will be credited in accordance with the pricing procedure set forth in Exhibit "D" to the minutes of the Representatives meeting on June 18, 1963, except that if the casing set by the tract operator in the contributed well is new, it shall receive a credit of 75% of the new cost in calculating the inventory credit.

A motion was duly made, seconded and unanimously carried:

RESOLVED that the recommendation of the Accounting Subcommittee be adopted so that on the effective date of proposed enlargement of the Participating area of the Unit an adjustment in the ownership of Unit equipment will be accomplished on the books of the Operator with equipment paid for by the Unit between July 1, 1963 and the date of enlargement to be valued at book costs.

13. Other Matters

Mr. Herman Ledbetter advised the Representatives that a considerable amount of equipment in the Unit warehouse is considered surplus. The Representatives approved Mr. Ledbetter's suggestion that a detailed list of such equipment be circulated among all working interest co-owners as well as used equipment purchasers, requesting bids. It is planned to sell the equipment to the highest bidders (whether one of the co-owners or not). A motion was made, duly seconded, and unanimously carried:

RESOLVED that the Operator is authorized to dispose of surplus equipment to the highest bidder provided however that the Operator is also authorized to reject any bid considered insufficient in the opinion of the Operator.

The meeting was adjourned at 4:00 P.M.

Submitted by:



Robert S. Moehlman
Chairman of the Meeting
July 17, 1964
Houston, Texas

RSM:d o'd

Attachments:

- Exhibit 1 - Summary of Monthly Statements to May 31, 1964
- Exhibit 2 - Estimate of Expenditures & Oil & Gas Sales through end of 1964
- Exhibit 3 - Estimated Development Budget for last half of 1964
- Sub-Schedule A - Status of Previously Authorized Expenditures.

Map A - Revised Isopachous Map

EXHIBIT I

SUMMARY OF MONTHLY STATEMENTS
WEST LOCO HILLS UNIT
Inception through May 31, 1964

FOREWORD

The Unit became effective as of 7:00 A.M. Monday, July 1, 1963, Lease and well equipment was inventoried between June 24 and June 27.

On July 3, injection of water was commenced into three wells, followed on July 4 by two more wells, making a total of five wells.

Water was turned on through Yucca Water Company's new line to the West Loco Hills Unit on August 9, 1963. The production rate of all of the wells in the Unit area at the time of inception of the Unit was approximately 300 BOPD, and production during July, 1963 averaged 324 BOPD. Columns 1 and 2 below tabulate sales rather than production.

	<u>Barrels of Oil Sold</u>		<u>Gross Expenditures for the Unit</u>			<u>Sales Value</u>
	<u>BOPD</u> (1)	<u>Total</u> (2)	<u>Operating & Administrative</u> (3)	<u>Development Program</u> (4)	<u>Total Expenditures</u> (5)	<u>Net of Prod. Tax & 1/8 Royalty</u> (6)
July, 1963	99	3,071	\$ 43,183	\$ 48,984	\$ 92,167	\$ 7,338
August, 1963	414	12,850	23,578	113,958	137,536	29,656
Sept., 1963	565	16,958	25,136	29,282	54,418	39,369
October, 1963	572	17,748	23,508	51,007	74,515	41,214
November, 1963	874	26,215	21,347	73,316	94,663	61,590
December, 1963	<u>1,115</u>	<u>34,584</u>	<u>37,043</u>	<u>77,641</u>	<u>114,684</u>	<u>81,488</u>
<u>Total-Yr. 1963</u>	606	111,426	\$ 173,795	\$ 394,188	\$ 567,983	\$ 260,655
January, 1964	1,082	33,557	28,146	55,700	83,846	78,940
February, 1964	1,178	34,151	34,890	3,085	37,975	80,296
March, 1964	1,359	42,144	30,908	31,993	62,901	98,154
April, 1964	1,554	46,638	34,206	18,395	52,601	108,615
May, 1964	<u>1,966</u>	<u>60,955</u>	<u>37,619</u>	<u>4,288</u>	<u>41,907</u>	<u>142,600</u>
Cumulative Total-Inception to May 31, 1964	<u>979</u>	<u>328,871</u>	\$ <u>339,564</u>	\$ <u>507,649</u>	\$ <u>847,213</u>	\$ <u>769,260</u>

Summary from
Monthly Statements

EXHIBIT I

EXHIBIT 2

STATEMENT AND ESTIMATE OF EXPENDITURES & OIL SALES WEST LOCO HILLS UNIT

		Six Months from July 1, 1963 (1)	YEAR 1964			
			First Quarter Actual (2)	Second Quarter Est. (3)	Third Quarter Est. (4)	Fourth Quarter Est. (5)
I.	<u>OPERATING DATA</u>					
	<u>Water Purchased</u>					
	Total Bbls. of Water	1. 1,822,620	2,036,211	2,065,000	2,560,000	2,760,000
	Bbls. Water per Day	2. 9,906	22,133	22,600	28,000	30,000
	<u>No. of Wells at End of Period</u>					
	Active Wells in Dev. Area					
	Input Wells	3. 0 -- 12 *	22	22	29	35
	Producing Wells	4. 0 -- 19 *	29	30	40	45
	Sub-Total	5. 0 -- 31 *	51	52	69	80
	Primary Producers - Undev. Area	6. 73 -- 51 *	36	39	30	30
	<u>Total Wells</u>	7. 73 -- 82 *	87	91	99	110
II.	<u>EXPENDITURES</u>					
	Operating Expense	8. \$ 173,795	\$ 93,944	\$ 110,000	\$ 125,000	\$ 130,000
	Intangible Development Exp.	9. 63,904	2,603	3,000	37,000	30,000
	Capitalized Costs	10. 330,284	88,175	40,000	207,000	212,000
	<u>Total Expenditures</u>	11. \$ 567,983	\$ 184,722	\$ 153,000	\$ 369,000	\$ 372,000
III.	<u>OIL & GAS PRODUCTION & SALES</u>					
	<u>Production - Barrels</u>					
	Gross BOPD	12. 324--631 *	1,208	1,888	2,500	3,000
	Gross Bbls. During Period	13. 116,027	111,176	171,817	230,000	276,000
	Net Bbls. after 1/8 Royalty but before ORR	14. 101,524	97,279	150,340	201,250	241,500
	<u>Oil Sales - Dollars</u>					
	Gross Value of Oil Sales after Prod. Tax but before Royalty & ORR	15. \$ 297,892	\$ 294,160	\$ 460,470	\$ 616,400	\$ 739,680
	Value of Oil Sales after Prod. Tax & Royalty but before ORR	16. 260,655	257,390	402,911	539,350	647,220
IV.	<u>CASH FLOW before ORR - OR (LOSS)</u>					
	During Period	17. \$ (307,328)	\$ 72,668	\$ 249,911	\$ 170,350	\$ 275,220
	Cumulative	18. \$ (307,328)	\$ (234,660)	\$ 15,251	\$ 185,601	\$ 460,821

* NOTE: In Column (1) for the year 1963 when two figures are given for rates,
the one at the left is for the inception of the project in July, 1963
and the one at the right is for the rate during the month of December, 1963.

EXHIBIT 3

ESTIMATED DEVELOPMENT BUDGET FOR LAST HALF OF 1964

West Loco Hills Unit

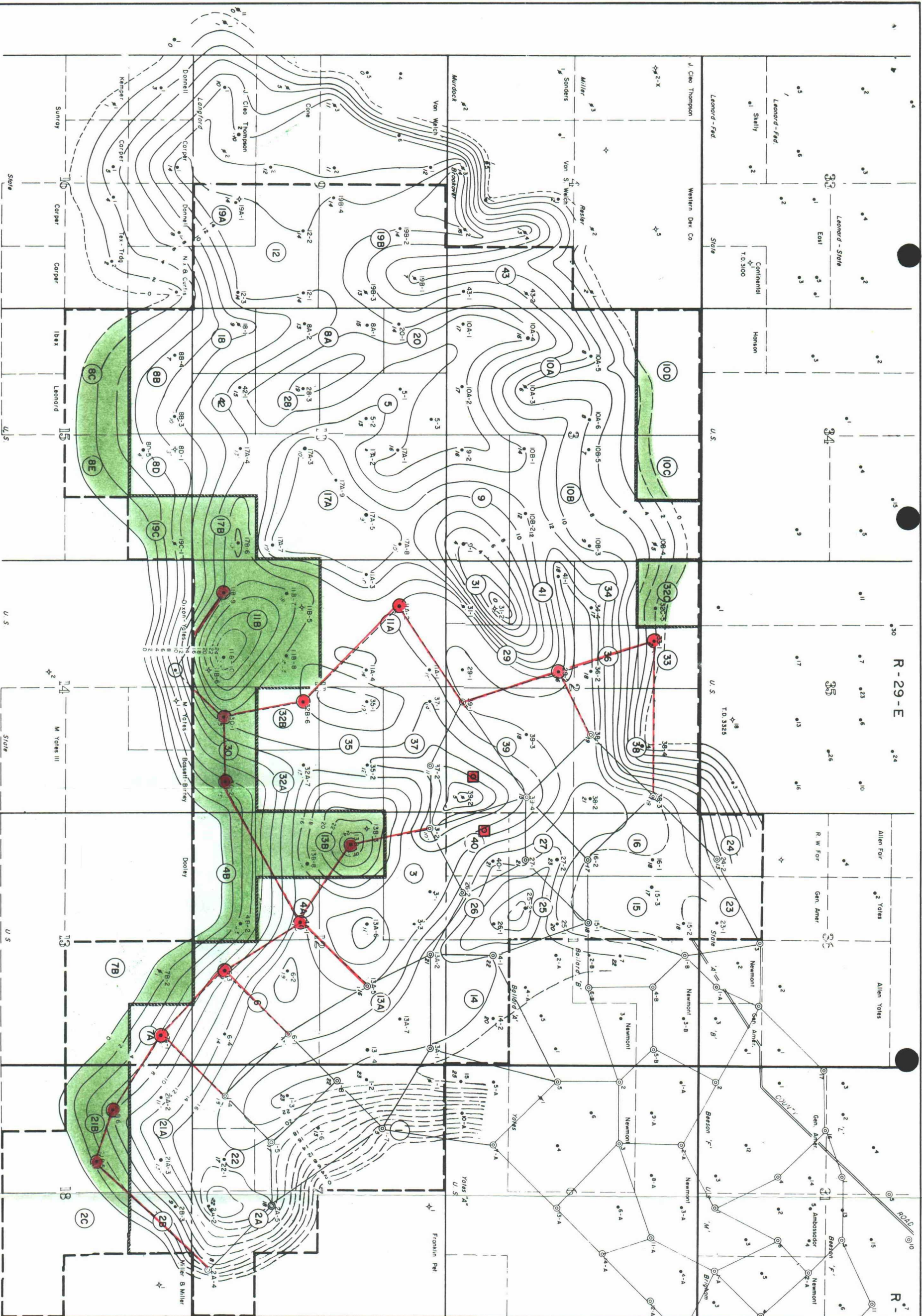
	<u>Line No.</u>	<u>Estimated Costs</u>	
		<u>Total Costs</u>	<u>Intangible Drilling</u>
I. <u>Projects Previously Approved</u> (From Line 12 of Sub-Schedule A)	1.	\$ <u>264,000</u>	\$ <u>29,000</u>
II. <u>Projects Recommended for Approval on</u> <u>July 14, 1964, for Last Half 1964</u>			
Pumping Equipment for 9 Wells (40-2, 2A-2 13A-6, 6-2, 1-3, 38-2, 39-5, 6-4, 22-1)	2.	\$ 108,000	\$ -
Drill and Complete 40-2	3.	20,000	14,000
Convert 8 Wells to Injection (32B-6, 4A-1, 11B-9, 30-1, 30-2, 13B-9, 21B-5, 21B-6)	4.	24,000	24,000
Expand Injection Plant No. 2	5.	55,000	-
Expand Water Injection Lines	6.	<u>15,000</u>	<u>-</u>
<u>Sub-Total - Recommended 7-14-64</u>	7.	\$ <u>222,000</u>	\$ <u>38,000</u>
<u>TOTAL ESTIMATED BUDGET-</u> <u>LAST HALF OF 1964</u>	8.	\$ <u>486,000</u>	\$ <u>67,000</u>

SUB-SCHEDULE A TO EXHIBIT 3

STATUS OF PREVIOUSLY AUTHORIZED EXPENDITURES

West Loco Hills Unit

	Line No.	Estimated Costs	
		<u>Total Costs</u>	<u>Intangible Drilling</u>
I. <u>Projects Approved but to be Cancelled because of Revision of Plans</u>			
a.) <u>Approved June, 1963</u> Convert Wells No. 32A-7 and 35-1	1.	\$ 6,000	\$ 6,000
b.) <u>Approved December, 1963</u> Convert Well No. 21A-3	2.	<u>3,000</u>	<u>3,000</u>
<u>Sub-Total - Cancelled Projects</u>	3.	\$ <u>9,000</u>	\$ <u>9,000</u>
II. <u>Projects Previously Approved and to be Completed in Last Half 1964</u>			
a.) <u>Approved June, 1963</u> Convert Well No. 6-3	4.	\$ 3,000	\$ 3,000
b.) <u>Approved December, 1963</u> Pumping Equipment for 7 Wells (16-1, 15-3, 25-2, 3-1, 3-3, 13A-7, 13A-4)	5.	84,000	-
Drill and Complete No. 39-5	6.	20,000	14,000
Consolidate Tank Batteries in Middle Area, Section 2 and 11	7.	30,000	-
Convert 4 Wells to Injection (33-1, 29-2, 11A-2, 7A-1)	8.	12,000	12,000
Water Supply Line to Plant No. 2	9.	20,000	-
Injection Plant No. 2	10.	75,000	-
Injection Lines	11.	<u>20,000</u>	<u>-</u>
<u>Sub-Total</u>	12.	\$ <u>264,000</u>	\$ <u>29,000</u>



ESTIMATED PRODUCTIVE AREA
PROPOSED FOR INCLUSION IN
UNIT PARTICIPATING AREA.

PROJECTS APPROVED FOR
SECOND HALF OF 1964

PRODUCER TO BE DRILLED

WELL TO BE CONVERTED TO
INJECTION, INCLUDING 30-1 AND
11B-9 CONTINGENT ON LEASE-LINE
CO-OPERATION.

- OIL WELL
- PROPOSED WELL
- * GAS WELL
- ✦ DRY HOLE
- ✦ ABANDONED OIL WELL
- ✦ TEMP ABAND OIL WELL
- ⊙ WATER INPUT WELL
- ⊙ PROPOSED CONVERSION OF PRODUCER TO WATER INPUT
- UNIT AREA
- INITIAL PARTICIPATING AREA

MAP "A"
WEST LOCO HILLS GRAYBURG
NO. 4 SAND UNIT
EDDY COUNTY, NEW MEXICO
NET OIL SAND ISOPACHOUS MAP
GRAYBURG NO. 4 SAND
CONTOUR INT. 2'
Operated By NEWMONT OIL CO.

SCALE IN FEET
0 1000 2000 3000 4000
REVISED BY TECHNICAL SUBCOMMITTEE
JULY 13, 1964
APPROVED BY REPRESENTATIVES OF
WORKING INTEREST OWNERS
JULY 14, 1964
MAP "A"

December 6, 1963

In Re: West Loco Hills
Grayburg No. 4
Sand Unit, Eddy
County, New Mexico
No. 14-08-0001-8528

To: Director
United States Geological Survey

Commissioner of Public Lands
State of New Mexico

Oil Conservation Commission
State of New Mexico

RECEIVED

DEC 11 1963

U. S. GEOLOGICAL SURVEY
ROSWELL, NEW MEXICO

APPLICATION FOR APPROVAL OF
FIRST EXPANSION OF THE PARTICIPATING AREA,
WEST LOCO HILLS GRAYBURG NO. 4 SAND UNIT,
EDDY COUNTY, NEW MEXICO

Comes the undersigned, Newmont Oil Company, as Unit Operator for the West Loco Hills Grayburg No. 4 Sand Unit, approved by the New Mexico Oil Conservation Commission on January 17, 1963, by the Commissioner of Public Lands of the State of New Mexico on June 5, 1963 and by the Director, United States Geological Survey, on June 27, 1963 and being effective as of July 1, 1963, and in accordance with the provisions of said Agreement respectfully requests the approval of the Director, the Commissioner and the Commission for the first expansion of the initial participating area as herein set forth.

1. The Initial Participating Area was determined and established simultaneously with the approval of the Unit Agreement and contained all lands and wells within the Unit Area deemed capable of producing unitized substances in paying quantities, or necessary for proper Unit operations, and otherwise to allow Unit Operator to conduct secondary recovery operations.

2. That Unit Operator is of the opinion that the Bassett-Birney No. 6 Well, located on the NW/4 SE/4 of Section 11, Township 18 South, Range 29 East, N.M.P.M., Unit Tract 32B, has a usable well located thereon as defined in paragraph 10.1.4 of the Unit Operating Agreement and through inadvertence this tract was not included in the original Participating Area, notwithstanding the fact that credit was given for this Well No. 6 to Bassett-Birney Well No. 7 located on the NE/4 SE/4 of said Section 11, Unit Tract 32A. The Unit Operator presently intends to use the Bassett-Birney Well No. 6 as an input well, and the plan of Development and Operation of the Unit dated June 3, 1961 will be revised to accommodate such use of this well.

3. That Unit Operator, after having examined Tract 32B in the light of the information submitted by Bassett-Birney Oil Corporation, is of the opinion that Tract 32B is necessary to the efficient operation of the Unit and that the Initial Participating Area should be expanded to include said Tract.

It is therefore proposed that the Initial Participating Area, established and approved effective as of July 1, 1963, be expanded to include said Bassett-Birney No. 6 and the land upon which such well is located, the NW/4 SE/4 Section 11, Township 18 South, Range 29 East, N.M.P.M., Tract 32B. Such first expansion of the Initial Participating Area to be effective as of July 1, 1963.

There are filed herewith six (6) revised pages of Exhibit "B" (being a schedule showing ownership and unit participation of all tracts in the unit area) and six (6) revised pages of Exhibit "A" (being a plat showing all the tracts in the unit area).

It is further proposed, and as indicated on said revised pages of Exhibit "B", that the said Tract 32B, and the well thereon, Bassett-Birney No. 6, be included in the Participating Area without any change in the participation factor for either the Participating Area or in Tract 32A, the location of the Bassett-Birney No. 7.

Tract designation 32B will be eliminated, and Tract 32A will hereafter contain 80 acres encompassing both the Bassett-Birney Wells Nos. 6 and 7 without any change in the participation of said originally numbered Tract 32A in the participating area.

It is proposed that no change be made in the participating factor for Tract 32A due to the fact that participating factor credit for Tract 32B was included in the participating factor credit for Tract 32A.

Further, the Unit Operator, Newmont Oil Company, by its signature hereto certifies that more than 75% of the voting interests within the participating area have agreed to the said expansion as proposed above and that all the provisions of Section 16 of the Unit Agreement have been complied with and adhered to.

NOW THEREFORE, it is respectfully requested that the Initial Participating Area established pursuant to the terms of the Unit Agreement be enlarged to include Tract 32B, the NW/4 SE/4 Section 11, Township 18 South, Range 29 East, together with the well and all property and equipment located thereon, with such expansion to be effective as of July 1, 1963 and with no change in the participation factor for Tract 32A, or within the participating area, and that there be no Tract 32B.

Respectfully submitted,

NEWMONT OIL COMPANY

By Charles C. Bayden

APPROVED THIS 10th day of
December, 1963.

A. L. Porter, Jr.
Secretary-Director
New Mexico Oil Conservation Commission

APPROVED this 9th day of
December, 1963.

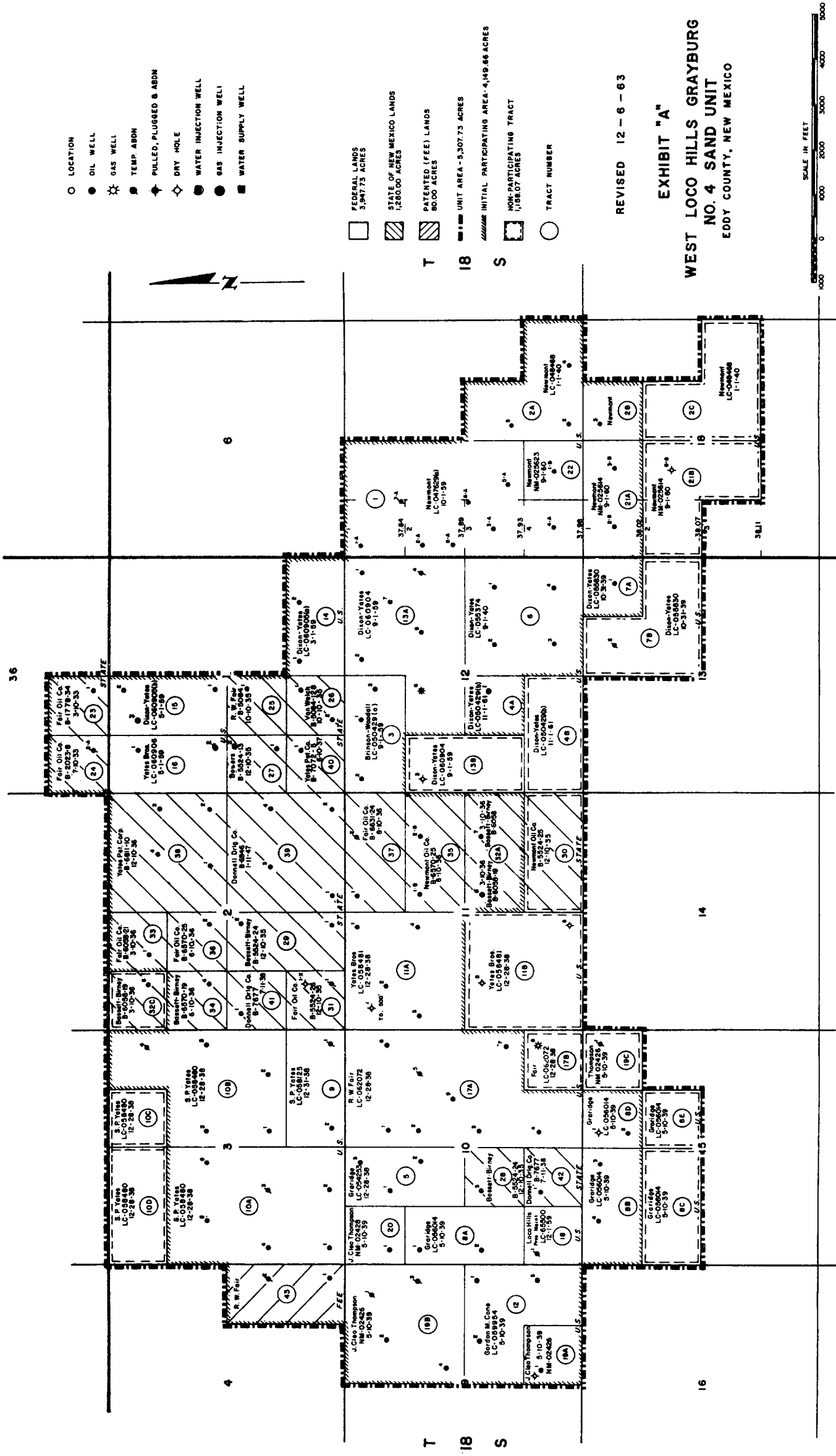
Esmeralda
Commissioner of Public Lands
State of New Mexico

APPROVED this 17 day of
January, 1964

William A. Baker
Acting Director
United States Geological Survey

R 29 E

R 30 E



R 30 E

R 29 E

- LOCATION
- OIL WELL
- ✱ GAS WELL
- TEMP. ABDN
- ◆ PULLED, PLUGGED & ABDN
- ◇ DRY HOLE
- WATER INJECTION WELL
- GAS INJECTION WELL
- WATER SUPPLY WELL

FEDERAL LANDS
3,947.73 ACRES

STATE OF NEW MEXICO LANDS
1,280.00 ACRES

PATENTED (FEE) LANDS
80.00 ACRES

UNIT AREA - 5,307.73 ACRES

INITIAL PARTICIPATING AREA - 4,149.86 ACRES

NON-PARTICIPATING TRACT
1,158.07 ACRES

TRACT NUMBER

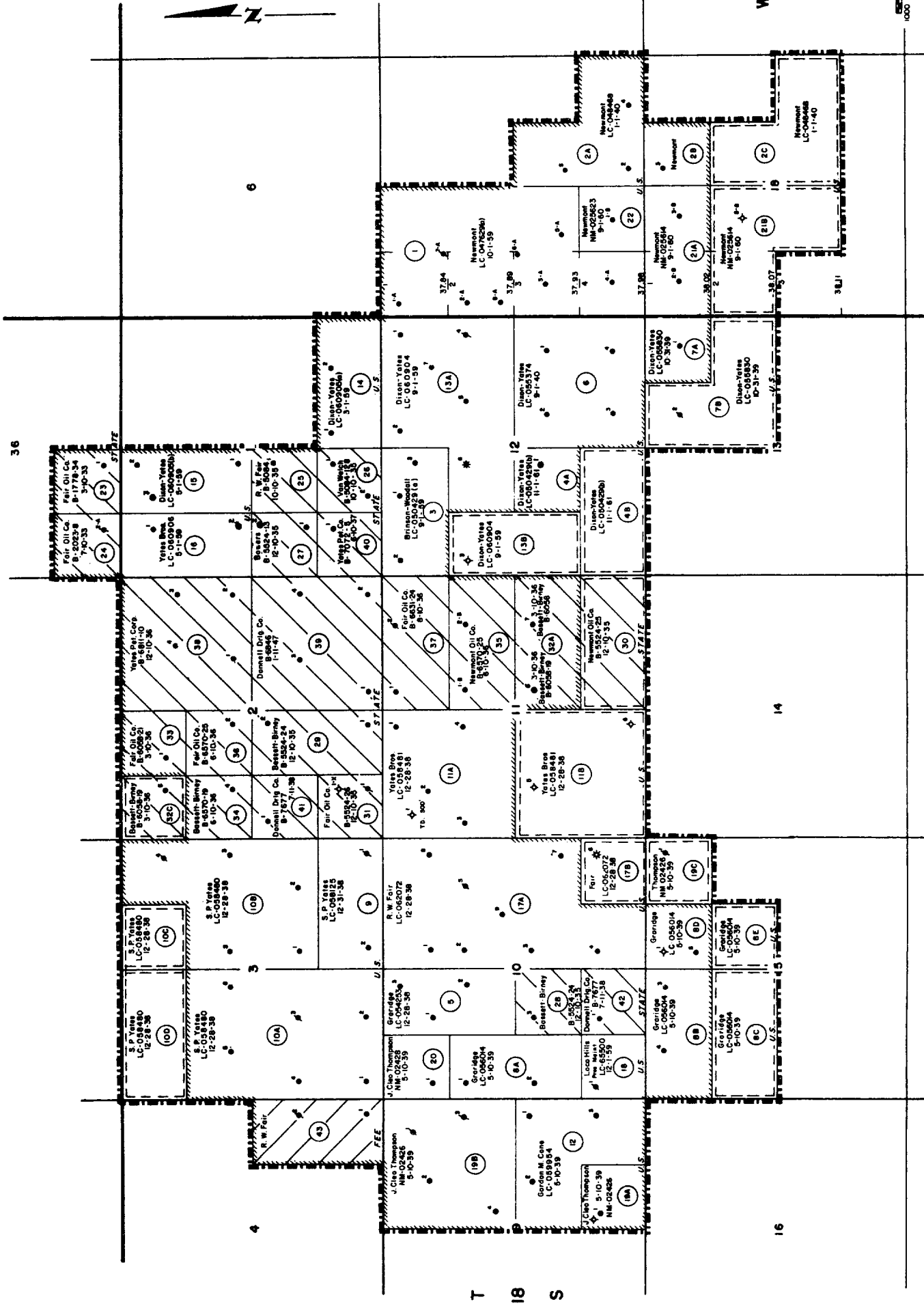
REVISED 12-6-63

EXHIBIT "A"

WEST LOCO HILLS GRAYBURG
NO. 4 SAND UNIT
EDDY COUNTY, NEW MEXICO

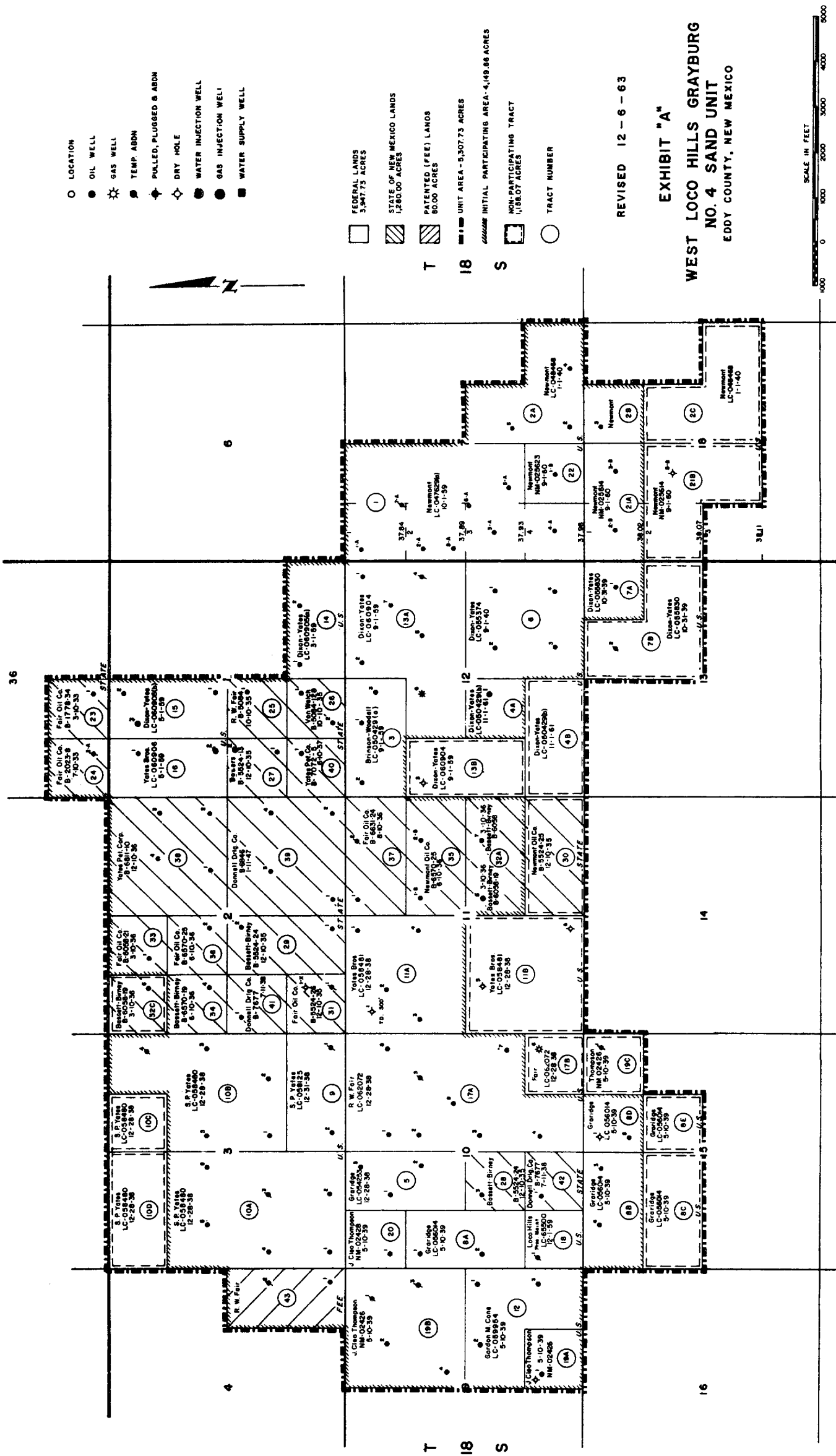
SCALE IN FEET

0 1000 2000 3000 4000 5000



R 29 E

R 30 E



REVISED 12-6-63

EXHIBIT "A"

WEST LOCO HILLS GRAYBURG
NO. 4 SAND UNIT
EDDY COUNTY, NEW MEXICO

SCALE IN FEET
0 1000 2000 3000 4000 5000

R 30 E

R 29 E

- LOCATION
- OIL WELL
- ⊙ GAS WELL
- ⊙ TEMP. ABDM
- ⊙ PULLED, PLUGGED & ABDM
- ⊙ DRY HOLE
- ⊙ WATER INJECTION WELL
- ⊙ GAS INJECTION WELL
- ⊙ WATER SUPPLY WELL

FEDERAL LANDS
3,947.73 ACRES

STATE OF NEW MEXICO LANDS
1,280.00 ACRES

PATENTED (FEE) LANDS
80.00 ACRES

UNIT AREA - 9,307.73 ACRES

INITIAL PARTICIPATING AREA - 4,149.88 ACRES

NON-PARTICIPATING TRACT
1,186.07 ACRES

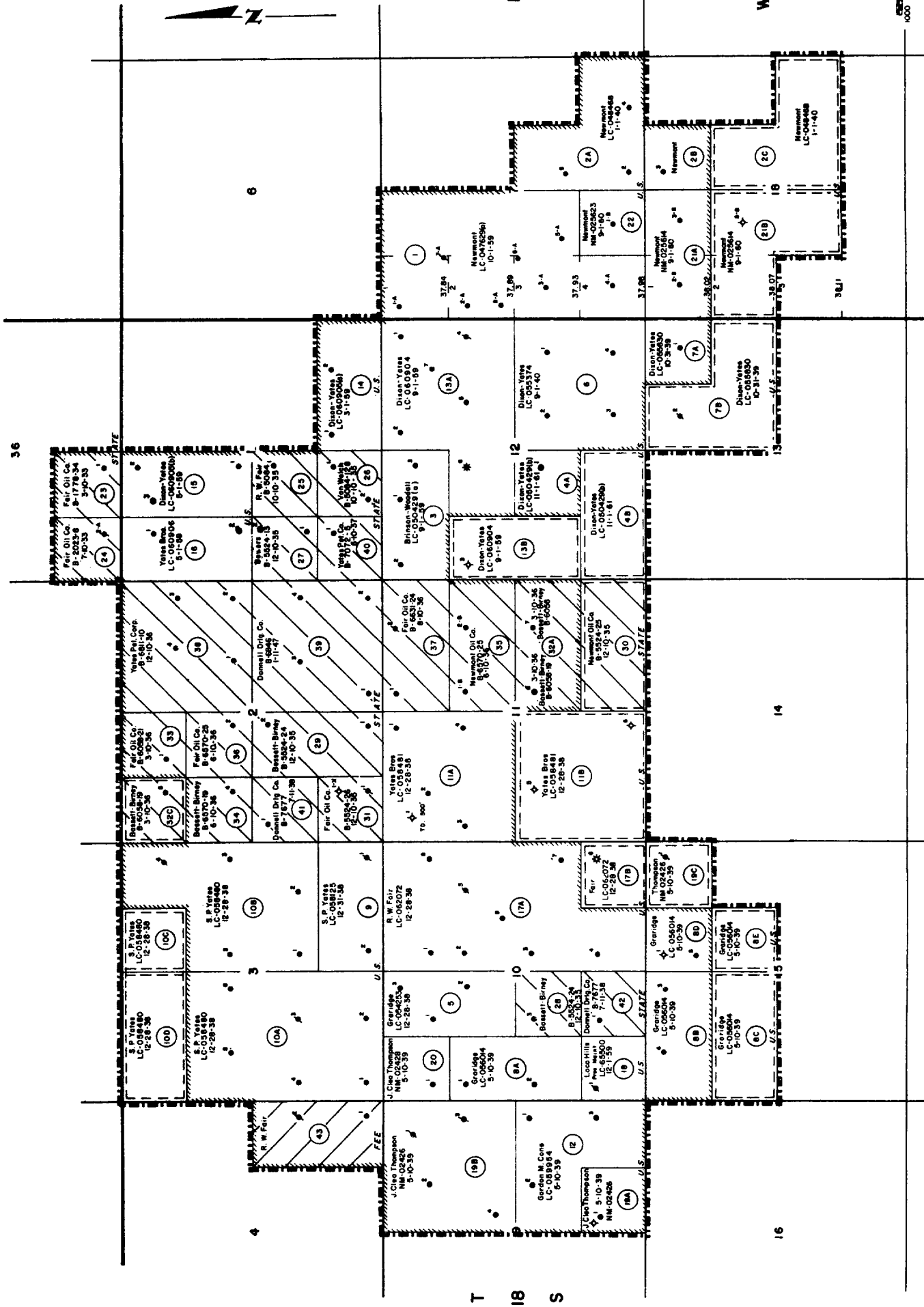
TRACT NUMBER

REVISED 12-6-63

EXHIBIT "A"

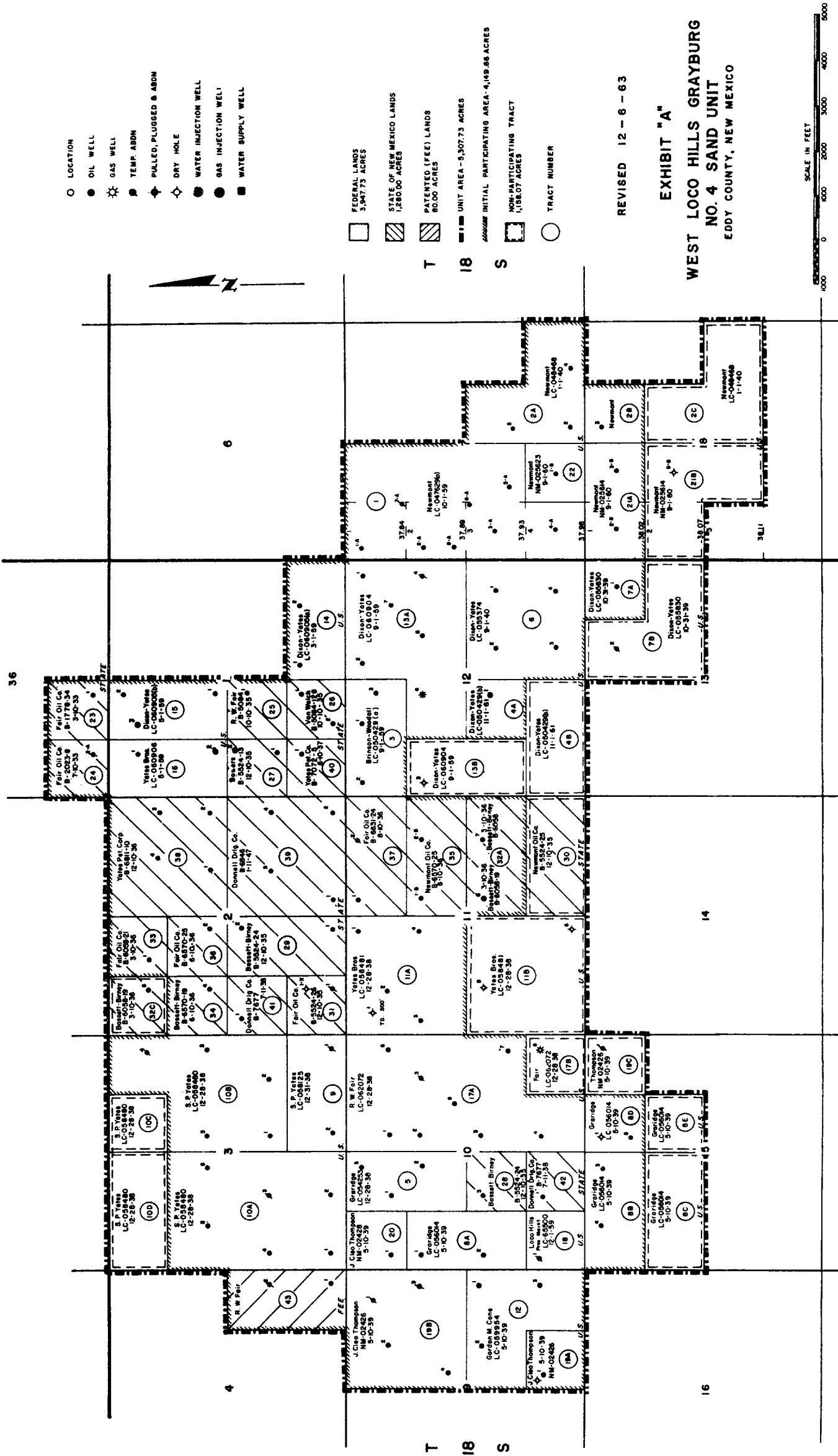
WEST LOCO HILLS GRAYBURG
NO. 4 SAND UNIT
EDDY COUNTY, NEW MEXICO

SCALE IN FEET
0 1000 2000 3000 4000 5000



R 29 E

R 30 E



R 30 E

R 29 E

- LOCATION
- OIL WELL
- ⊙ GAS WELL
- ⊙ TEMP. ABDM
- ⊙ PULLED, PLUGGED & ABDM
- ⊙ DRY HOLE
- ⊙ WATER INJECTION WELL
- ⊙ GAS INJECTION WELL
- ⊙ WATER SUPPLY WELL

FEDERAL LANDS
3,947.73 ACRES

STATE OF NEW MEXICO LANDS
1,280.00 ACRES

PATENTED (FEE) LANDS
80.00 ACRES

UNIT AREA - 5,307.73 ACRES

INITIAL PARTICIPATING AREA - 4,149.88 ACRES

NON-PARTICIPATING TRACT
1,158.07 ACRES

TRACT NUMBER

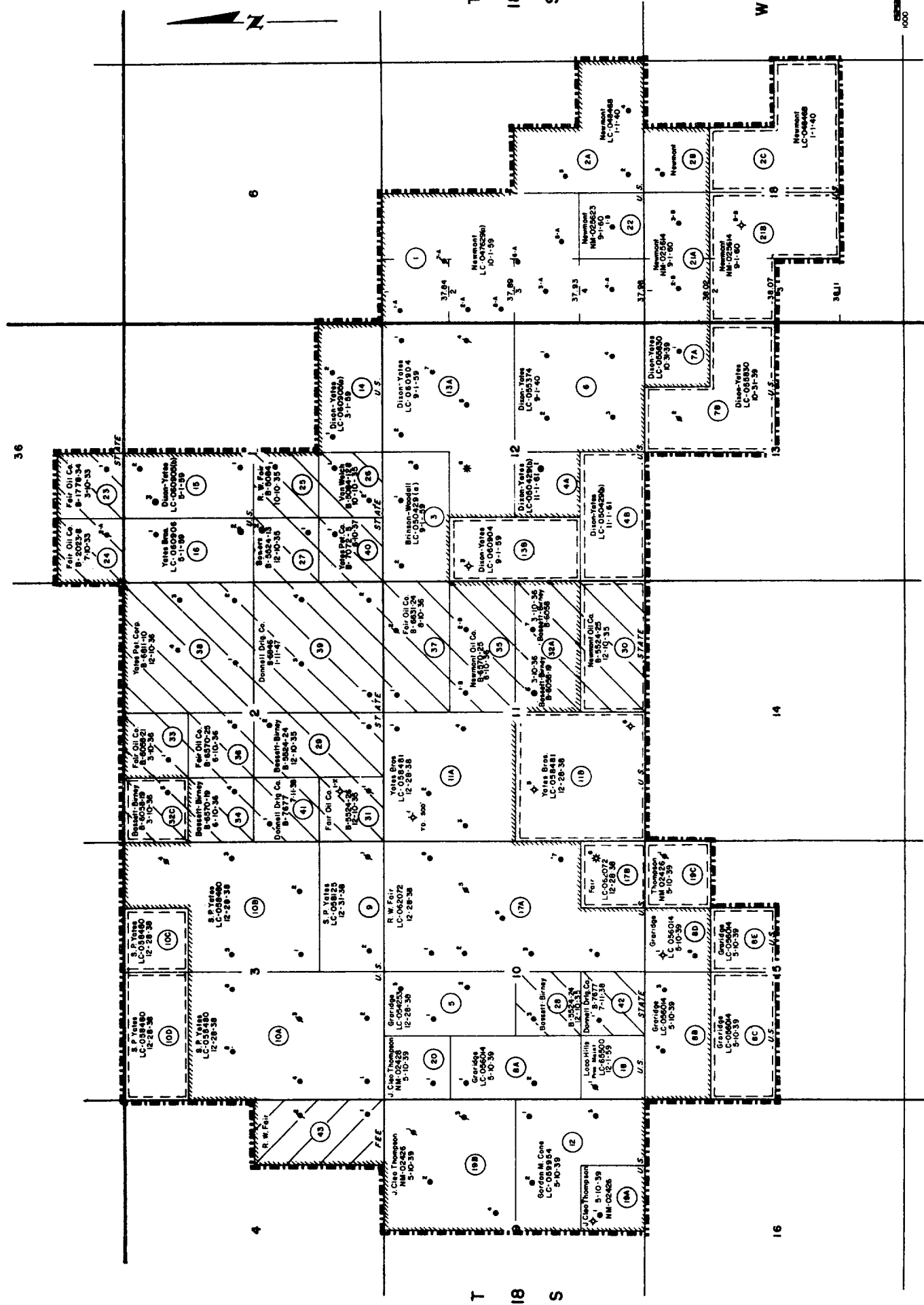
REVISED 12-6-63

EXHIBIT "A"

WEST LOCO HILLS GRAYBURG
NO. 4 SAND UNIT
EDDY COUNTY, NEW MEXICO

SCALE IN FEET

0 1000 2000 3000 4000 5000



Tract No.	Description	Acres	Lease No., Date Basic Royalty	Lessee of Record and Percent	Overriding Royalty and Percent	Working Interest Owners and Percent	Cum. Prod. To 12-1-60	Tract Percent Part. In Unit
30.	T-18-S, R-29-E Sec.11: S/2 SE/4	80.00	B-5524-25 12-10-35 12-1/2%	Franklin, Aston & Fair, Inc.	All Curtis McBroom Bert H. Murphy Texas Royalty Co. Harold C. Porter Mary Rainey Randall Franklin, Aston & Fair, Inc.	Newmont Oil Co.	All	Non-participating
							.70136(1) .70136(1) .36916(1) .20507(1) .07383(1) 21.87500(2)	
31.	T-18-S, R-29-E Sec.2: SW/4 SW/4	40.00	B-5524-26 12-10-35 12-1/2%	Fair Oil Co.	All Geo. A. Laybourn Sam Bright Florence O. Hawn Alta Mae Reynolds Byrne Charley Reynolds	Fair Oil Co.	All	.5133
							1.36719 1.36719 .45573 1.82292 .45572	
32-A.	T-18-S, R-29-E Sec.11: N/2 SE/4	80.00	B-6058-19 3-10-36 12-1/2%	Bassett-Birney Oil Corp.	All None	Bassett-Birney Oil Corp.	All	.9283
32-C.	T-18-S, R-29-E Sec.2: NW/4 NW/4	40.00	B-6058-19 3-10-36 12-1/2%	Bassett-Birney Oil Corp.	All None	Bassett-Birney Oil Corp.	All	Non-participating
33.	T-18-S, R-29-E Sec.2: NE/4 NW/4	40.00	B-6058-21 3-10-36 12-1/2%	Fair Oil Co. R. W. Fair	67.0 33.0 100.0 R. W. Fair The R. W. Fair Foundation	Fair Oil Co. R. W. Fair	66.66667 33.33333 100.00000	.1435
34.	T-18-S, R-29-E Sec.2: SW/4 NW/4	40.00	B-6570-19 6-10-36 12-1/2%	Bassett-Birney Oil Corp.	All None	Bassett-Birney Oil Corp.	All	1.1972

Tract No.	Description	Acres	Lease No., Date Basic Royalty	Lessee of Record and Percent	Overriding Royalty and Percent	Working Interest Owners and Percent	Cum. Prod. To 12-1-60	Tract Percent Part. In Unit
30.	T-18-S, R-29-E Sec.11: S/2 SE/4	80.00	B-5524-25 12-10-35 12-1/2%	Franklin, Aston & Fair, Inc.	Curtis McBroom Bert H. Murphy Texas Royalty Co. Harold C. Porter Mary Rainey Randall Franklin, Aston & Fair, Inc.	Newmont Oil Co.	All	Non-participating
					.70136(1) .70136(1) .36916(1) .20507(1) .07383(1) 21.87500(2)			
31.	T-18-S, R-29-E Sec.2: SW/4 SW/4	40.00	B-5524-26 12-10-35 12-1/2%	Fair Oil Co.	Geo. A. Laybourn Sam Bright Florence O. Hawn Alta Mae Reynolds Byrne Charley Reynolds	Fair Oil Co.	All	.5133
					1.36719 1.36719 .45573 1.82292 .45572			
32-A.	T-18-S, R-29-E Sec.11: N/2 SE/4	80.00	B-6058-19 3-10-36 12-1/2%	Bassett-Birney Oil Corp.	None	Bassett-Birney Oil Corp.	All	.9283
32-C.	T-18-S, R-29-E Sec.2: NW/4 NW/4	40.00	B-6058-19 3-10-36 12-1/2%	Bassett-Birney Oil Corp.	None	Bassett-Birney Oil Corp.	All	Non-participating
33.	T-18-S, R-29-E Sec.2: NE/4 NW/4	40.00	B-6058-21 3-10-36 12-1/2%	Fair Oil Co. R. W. Fair	R. W. Fair The R. W. Fair Foundation	Fair Oil Co. R. W. Fair	66.66667 33.33333 100.00000	.1435
					12.5 25.0			
34.	T-18-S, R-29-E Sec.2: SW/4 NW/4	40.00	B-6570-19 6-10-36 12-1/2%	Bassett-Birney Oil Corp.	None	Bassett-Birney Oil Corp.	All	1.1972

Tract No.	Description	Acres	Lease No., Date Basic Royalty	Lessee of Record and Percent	Overriding Royalty and Percent		Working Interest Owners and Percent	Cum. Prod. To 12-1-60	Tract Percent Part. In Unit
30.	T-18-S, R-29-E Sec.11: S/2 SE/4	80.00	B-5524-25 12-10-35 12-1/2%	Franklin, Aston & Fair, Inc.	All Curtis McBroom Bert H. Murphy Texas Royalty Co. Harold C. Porter Mary Rainey Randall Franklin, Aston & Fair, Inc.	.70136(1) .70136(1) .36916(1) .20507(1) .07383(1) 21.87500(2)	Newmont Oil Co.	All	Non-participating
31.	T-18-S, R-29-E Sec.2: SW/4 SW/4	40.00	B-5524-26 12-10-35 12-1/2%	Fair Oil Co.	All Geo. A. Laybourn Sam Bright Florence O. Hawn Alta Mae Reynolds Byrne Charley Reynolds	1.36719 1.36719 .45573 1.82292 .45572	Fair Oil Co.	All	46,553 .5133
32-A.	T-18-S, R-29-E Sec.11: N/2 SE/4	80.00	B-6058-19 3-10-36 12-1/2%	Bassett-Birney Oil Corp.	All None		Bassett-Birney Oil Corp.	All	84,184 .9283
32-C.	T-18-S, R-29-E Sec.2: NW/4 NW/4	40.00	B-6058-19 3-10-36 12-1/2%	Bassett-Birney Oil Corp.	All None		Bassett-Birney Oil Corp.	All	Non-participating
33.	T-18-S, R-29-E Sec.2: NE/4 NW/4	40.00	B-6058-21 3-10-36 12-1/2%	Fair Oil Co. R. W. Fair	67.0 33.0 100.0 R. W. Fair The R. W. Fair Foundation	12.5 25.0	Fair Oil Co. R. W. Fair	66.66667 33.33333 100.00000	13,014 .1435
34.	T-18-S, R-29-E Sec.2: SW/4 NW/4	40.00	B-6570-19 6-10-36 12-1/2%	Bassett-Birney Oil Corp.	All None		Bassett-Birney Oil Corp.	All	108,569 1.1972

Tract No.	Description	Acres	Lease No., Date Basic Royalty	Lessee of Record and Percent	Overriding Royalty and Percent	Working Interest Owners and Percent	Cum.	
							Prod. To 12-1-60	Tract Percent Part. In Unit
30.	T-18-S, R-29-E Sec.11: S/2 SE/4	80.00	B-5524-25 12-10-35 12-1/2%	Franklin, Aston & Fair, Inc.	All Curtis McBroom Bert H. Murphy Texas Royalty Co. Harold C. Porter Mary Rainey Randall Franklin, Aston & Fair, Inc.	.70136(1) .70136(1) .36916(1) .20507(1) .07383(1) 21.87500(2)	All	Non-participating
31.	T-18-S, R-29-E Sec.2: SW/4 SW/4	40.00	B-5524-26 12-10-35 12-1/2%	Fair Oil Co.	All Geo. A. Laybourn Sam Bright Florence O. Hawn Alta Mae Reynolds Byrne Charley Reynolds	1.36719 1.36719 .45573 1.82292 .45572	All	46,553 .5133
32-A.	T-18-S, R-29-E Sec.11: N/2 SE/4	80.00	B-6058-19 3-10-36 12-1/2%	Bassett-Birney Oil Corp.	All None	Bassett-Birney Oil Corp.	All	84,184 .9283
32-C.	T-18-S, R-29-E Sec.2: NW/4 NW/4	40.00	B-6058-19 3-10-36 12-1/2%	Bassett-Birney Oil Corp.	All None	Bassett-Birney Oil Corp.	All	Non-participating
33.	T-18-S, R-29-E Sec.2: NE/4 NW/4	40.00	B-6058-21 3-10-36 12-1/2%	Fair Oil Co. R. W. Fair	67.0 33.0 100.0 R. W. Fair The R. W. Fair Foundation	12.5 25.0	66.66667 33.33333 100.00000	13,014 .1435
34.	T-18-S, R-29-E Sec.2: SW/4 NW/4	40.00	B-6570-19 6-10-36 12-1/2%	Bassett-Birney Oil Corp.	All None	Bassett-Birney Oil Corp.	All	108,569 1.1972

Tract No.	Description	Acres	Lease No., Date Basic Royalty	Lessee of Record and Percent	Overriding Royalty and Percent	Working Interest Owners and Percent	Cum. Prod. To 12-1-60	Tract Percent Part. In Unit
30.	T-18-S, R-29-E Sec.11: S/2 SE/4	80.00	B-5524-25 12-10-35 12-1/2%	Franklin, Aston & Fair, Inc.	All Curtis McBroom Bert H. Murphy Texas Royalty Co. Harold C. Porter Mary Rainey Randall Franklin, Aston & Fair, Inc.	Newmont Oil Co. .70136(1) .70136(1) .36916(1) .20507(1) .07383(1) 21.87500(2)	All	Non-participating
31.	T-18-S, R-29-E Sec.2: SW/4 SW/4	40.00	B-5524-26 12-10-35 12-1/2%	Fair Oil Co.	All Geo. A. Laybourn Sam Bright Florence O. Hawn Alta Mae Reynolds Byrne Charley Reynolds	Fair Oil Co. 1.36719 1.36719 .45573 1.82292 .45572	All	.5133
32-A.	T-18-S, R-29-E Sec.11: N/2 SE/4	80.00	B-6058-19 3-10-36 12-1/2%	Bassett-Birney Oil Corp.	All None	Bassett-Birney Oil Corp.	All	84,184 .9283
32-C.	T-18-S, R-29-E Sec.2: NW/4 NW/4	40.00	B-6058-19 3-10-36 12-1/2%	Bassett-Birney Oil Corp.	All None	Bassett-Birney Oil Corp.	All	Non-participating
33.	T-18-S, R-29-E Sec.2: NE/4 NW/4	40.00	B-6058-21 3-10-36 12-1/2%	Fair Oil Co. R. W. Fair	67.0 33.0 100.0 R. W. Fair The R. W. Fair Foundation	Fair Oil Co. R. W. Fair 12.5 25.0	66.66667 33.33333 100.00000	13,014 .1435
34.	T-18-S, R-29-E Sec.2: SW/4 NW/4	40.00	B-6570-19 6-10-36 12-1/2%	Bassett-Birney Oil Corp.	All None	Bassett-Birney Oil Corp.	All	108,569 1.1972

Tract No.	Description	Acres	Lease No., Date Basic Royalty	Lessee of Record and Percent	Overriding Royalty and Percent	Working Interest Owners and Percent	Cum. Prod. To 12-1-60	Tract Percent Part. In Unit
30.	T-18-S, R-29-E Sec.11: S/2 SE/4	80.00	B-5524-25 12-10-35 12-1/2%	Franklin, Aston & Fair, Inc.	All Curtis McBroom Bert H. Murphy Texas Royalty Co. Harold C. Porter Mary Rainey Randall Franklin, Aston & Fair, Inc.	Newmont Oil Co.	All	Non-participating
					.70136(1) .70136(1) .36916(1) .20507(1) .07383(1) 21.87500(2)			
31.	T-18-S, R-29-E Sec.2: SW/4 SW/4	40.00	B-5524-26 12-10-35 12-1/2%	Fair Oil Co.	All Geo. A. Laybourn Sam Bright Florence O. Hawn Alta Mae Reynolds Byrne Charley Reynolds	Fair Oil Co.	All	.5133
					1.36719 1.36719 .45573 1.82292 .45572			
32-A.	T-18-S, R-29-E Sec.11: N/2 SE/4	80.00	B-6058-19 3-10-36 12-1/2%	Bassett-Birney Oil Corp.	All None	Bassett-Birney Oil Corp.	All	.9283
32-C.	T-18-S, R-29-E Sec.2: NW/4 NW/4	40.00	B-6058-19 3-10-36 12-1/2%	Bassett-Birney Oil Corp.	All None	Bassett-Birney Oil Corp.	All	Non-participating
33.	T-18-S, R-29-E Sec.2: NE/4 NW/4	40.00	B-6058-21 3-10-36 12-1/2%	Fair Oil Co. R. W. Fair	67.0 33.0 100.0 R. W. Fair The R. W. Fair Foundation	Fair Oil Co. R. W. Fair	66.66667 33.33333 100.00000	.1435
					12.5 25.0			
34.	T-18-S, R-29-E Sec.2: SW/4 NW/4	40.00	B-6570-19 6-10-36 12-1/2%	Bassett-Birney Oil Corp.	All None	Bassett-Birney Oil Corp.	All	1.1972

Tract No.	Description	Acres	Lease No., Date Basic Royalty	Lessee of Record and Percent	Overriding Royalty and Percent	Working Interest Owners and Percent	Cum. Prod. To 12-1-60	Tract Percent Part. In Unit
40.	T-18-S, R-29-E Sec. 1: SW/4 SW/4	40.00	B-7072-5 6-10-37 12-1/2%	Martin Yates, III Yates Pet. Corp. 50.0 50.0 100.0	Yates Bros. (3)	4.16667 Martin Yates, III Estate of Anna Witherspoon Frank- lin, Deceased Yates Pet. Corp. 33.33333 33.33333 33.333334* 100.00000	130,682	1.4410
41.	T-18-S, R-29-E Sec. 2: NW/4 SW/4	40.00	B-7677 7-11-38 12-1/2%	Continental Oil Co. (5)	None All	Donnell Drlg. Co.	113,013	1.2462
42.	T-18-S, R-29-E Sec. 10: SE/4 SW/4	40.00	B-7677 7-11-38 12-1/2%	Continental Oil Co. (5)	None All	Donnell Drlg. Co.	91,549	1.0095
<hr/>								
Total: 21 State of New Mexico Tracts - 1,280.00 acres, 24.12% of Unit Area								
1,160.00 acres participating; 120 acres non-participating								
2,747,425 bbls. cumulative production - State Lands								
30.2957% of Unit Participation								

* This interest is subject to and bears all of the Yates Brothers' overriding royalty interest.

Tract No.	Description	Acres	Lease No., Date Basic Royalty	Lessee of Record and Percent	Overriding Royalty and Percent	Working Interest Owners and Percent	Cum. Prod. To 12-1-60	Tract Percent Part. In Unit
40.	T-18-S, R-29-E Sec. 1: SW/4 SW/4	40.00	B-7072-5 6-10-37 12-1/2%	Martin Yates, III Yates Pet. Corp.	50.0 50.0 100.0	Martin Yates, III Estate of Anna Witherspoon Frank- lin, Deceased Yates Pet. Corp.	33.33333 33.33333 33.333334* 100.00000	130,682 1.4410
41.	T-18-S, R-29-E Sec. 2: NW/4 SW/4	40.00	B-7677 7-11-38 12-1/2%	Continental Oil Co. (5)	None All	Donnell Drilg. Co.	All 113,013	1.2462
42.	T-18-S, R-29-E Sec. 10: SE/4 SW/4	40.00	B-7677 7-11-38 12-1/2%	Continental Oil Co. (5)	None All	Donnell Drilg. Co.	All 91,549	1.0095
Total: 21 State of New Mexico Tracts - 1,280.00 acres, 24.12% of Unit Area								
1,160.00 acres participating; 120 acres non-participating								
2,747,425 bbls. cumulative production - State Lands								
30.2957% of Unit Participation								

* This interest is subject to and bears all of the Yates Brothers' overriding royalty interest.

EXHIBIT "B" - Continued

Tract No.	Description	Acres	Lease No., Date Basic Royalty	Lessee of Record and Percent	Overriding Royalty and Percent	Working Interest Owners and Percent	Cum. Prod. To 12-1-60	Tract Percent Part. In Unit
40.	T-18-S, R-29-E Sec. 1: SW/4 SW/4	40.00	B-7072-5 6-10-37 12-1/2%	Martin Yates, III Yates Pet. Corp. 50.0 50.0 100.0	Yates Bros. (3) 4.16667	Martin Yates, III Estate of Anna Witherspoon Frank- lin, Deceased Yates Pet. Corp. 33.33333 33.33334* 100.00000	130,682	1.4410
41.	T-18-S, R-29-E Sec. 2: NW/4 SW/4	40.00	B-7677 7-11-38 12-1/2%	Continental Oil Co. (5) All	None	Donnell Drilg. Co. All	113,013	1.2462
42.	T-18-S, R-29-E Sec. 10: SE/4 SW/4	40.00	B-7677 7-11-38 12-1/2%	Continental Oil Co. (5) All	None	Donnell Drilg. Co. All	91,549	1.0095
Total: 21 State of New Mexico Tracts - 1,280.00 acres, 24.12% of Unit Area 1,160.00 acres participating; 120 acres non-participating 2,747,425 bbls. cumulative production - State Lands 30.2957% of Unit Participation								

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41.	T-18-S, R-29-E Sec. 2: NW/4 SW/4	40.00	B-7677 7-11-38 12-1/2%	Continental Oil Co. (5)	None All	Donnell Drlg. Co.	All 113,013	1.2462
42.	T-18-S, R-29-E Sec. 10: SE/4 SW/4	40.00	B-7677 7-11-38 12-1/2%	Continental Oil Co. (5)	None All	Donnell Drlg. Co.	All 91,549	1.0095
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EXHIBIT 'B' - Continued

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30.2957% of Unit Participation								

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RECAPITULATION

	<u>FEDERAL LANDS</u>	<u>STATE LANDS</u>	<u>FEE LANDS</u>	<u>TOTAL</u>
<u>Tracts</u>	40	21	1	62
<u>Acres of Land in Unit Area</u>	3,947.73	1,280.00	80.00	5,307.73
<u>Percent of Unit Area</u>	74.38	24.12	1.50	100%
<u>Participating Acreage</u>	2,949.66	1,160.00	80.00	4,149.66
<u>Non-Participating Acreage</u>	998.07	120.00	0.00	1,158.07
<u>Bbls. Cumulative Production</u>	6,172,757.00	2,747,425.00	148,533.00	9,068,715.00

RECAPITULATION

	<u>FEDERAL LANDS</u>	<u>STATE LANDS</u>	<u>FEE LANDS</u>	<u>TOTAL</u>
<u>Tracts</u>	40	21	1	62
<u>Acres of Land in Unit Area</u>	3,947.73	1,280.00	80.00	5,307.73
<u>Percent of Unit Area</u>	74.38	24.12	1.50	100%
<u>Participating Acreage</u>	2,949.66	1,160.00	80.00	4,149.66
<u>Non-Participating Acreage</u>	998.07	120.00	0.00	1,158.07
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R E C A P I T U L A T I O N

	<u>FEDERAL LANDS</u>	<u>STATE LANDS</u>	<u>FEE LANDS</u>	<u>TOTAL</u>
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RECAPITULATION

	<u>FEDERAL LANDS</u>	<u>STATE LANDS</u>	<u>FEE LANDS</u>	<u>TOTAL</u>
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RECAPITULATION

	<u>FEDERAL LANDS</u>	<u>STATE LANDS</u>	<u>FEE LANDS</u>	<u>TOTAL</u>
<u>Tracts</u>	40	21	1	62
<u>Acres of Land in Unit Area</u>	3,947.73	1,280.00	80.00	5,307.73
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<u>Participating Acreage</u>	2,949.66	1,160.00	80.00	4,149.66
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2472

NEWMONT OIL COMPANY

1135 TEXAS NATIONAL BANK BUILDING

1300 MAIN • AT POLK

HOUSTON, TEXAS 77002

January 30, 1964

CHARLES C. LANGDON
VICE PRESIDENT
LAND AND LEGAL

Mr. A. L. Porter, Jr.
Oil Conservation Commission
State of New Mexico
Santa Fe, New Mexico

In re: Application for Approval of First
Expansion of the Participating Area
West Loco Hills Grayburg No. 4 Sand
Unit, Eddy County, New Mexico


Dear Mr. Porter:

For your record and file we are sending you
herewith approved copy of the application for approval
of the first expansion of the captioned unit.

You will note this has been approved by you,
the Commissioner of Public Lands and the Director of
United States Geological Survey.

Very truly yours,

NEWMONT OIL COMPANY


Charles C. Langdon

CCL:hk

NEWMONT OIL COMPANY

1135 TEXAS NATIONAL BANK BUILDING

1300 MAIN • AT POLK

HOUSTON, TEXAS 77002

December 6, 1963

Director
United States Geological Survey

Commissioner of Public Lands
State of New Mexico
Attention: Mrs. Marian M. Rhea,
Supervisor Unit Division

Oil Conservation Commission
State of New Mexico

In Re: West Loco Hills Unit
Tract 32B, Well No. 6
Eddy County, New Mexico

Gentlemen:

Upon this date, Newmont Oil Company, as Operator of the West Loco Hills Grayburg No. 4 Sand Unit, has filed an Application for Approval of First Expansion of the Participating Area, West Loco Hills Grayburg No. 4 Sand Unit, Eddy County, New Mexico. This application has been directed to each of the parties to whom this letter is being directed. In connection with the well located on the captioned tract, you are advised as follows:

The subject well was drilled to a total depth of 2801' and completed on June 25, 1940, for an initial potential of 7.3 MMCF Gas per day. Prior to potential, the well was shot with 200 quarts of nitroglycerin from 2610 to 50', and 7" casing was set at 2590' with 100 sacks cement. In July, 1941, the well was converted to gas injection and was later temporarily abandoned.


The well was sand-oil fracture treated with 50,000 gallons oil and 75,000 pounds sand in March of 1956. The well was then shut-in and temporarily abandoned until an allowable was requested on July 27, 1963; however, the well was not produced. In October, 1963, Newmont Oil Company filed a New Mexico Oil Conservation Form C-115, showing the well as temporarily abandoned, which is the present status. The well is presently capable of making about one barrel oil per day.

There was no electrical or radioactivity log run in the subject well. There is enclosed herewith, however, a well record including a record of all formations encountered in the drilling of such well. You will note in such well formation record that the point where this well was completed is indicated in red. You are advised that this point of completion is in the Grayburg No. 4 Sand which is the zone being flooded in the West Loco Hills Unit.

Yours very truly,
NEWMONT OIL COMPANY

CCL/CWS:ajg

By


Chief Engineer

Drawer 1357
Roswell, New Mexico 88201

January 21, 1964

Newmont Oil Company
1135 Texas National Bank Building
Houston, Texas

Attention: Mr. Charles C. Langdon

Gentlemen:

The first revision of the participating area for the West Loco Hills Grayburg No. 4 Sand unit, Eddy County, New Mexico, was approved on January 16, 1964, by the Acting Director, Geological Survey, effective as of July 1, 1963.

Three approved copies of the application are enclosed. It is requested that you furnish the State of New Mexico and any other interested party with appropriate evidence of this approval.

Sincerely yours,

CARL C. TRAYWICK
Acting Oil & Gas Supervisor

cc:
Washington (ltr. only)
Artesia (w/cy of appln)
BLM - Santa Fe (w/cy of appln.)
NMOCC - Santa Fe (ltr. only)
Com. of Pub. Lands - Santa Fe (ltr. only)



IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Drawer 1857
Roswell, New Mexico 88201

December 27, 1963

Newmont Oil Company
1135 Texas National Bank Building
Houston, Texas

Attention: Mr. Charles C. Langdon

Gentlemen:

We hereby acknowledge receipt of the following described ratifications and joinders to the West Loco Hills Grayburg No. 4 Sand unit, No. 14-98-0001-8528, Eddy County, New Mexico:

<u>Joinder to</u>	<u>Date Received</u>	<u>Executed by</u>
Unit agreement	December 9, 1963	J. Eustace Guest, overriding royalty owner in Federal unit tracts 2A, 2B, and 2C
Unit agreement	December 9, 1963	Estate of Fayette E. Dow, deceased, overriding royalty owner in Federal unit tracts 1, 2A, and 22
Unit agreement	December 9, 1963	Mrs. Cecil Mann, overriding royalty owner in Federal unit tracts 2A, 2B, and 2C
Unit agreement	December 9, 1963	Bert H. Murphy, overriding royalty owner in Federal unit tracts 1, 2A, 2B, 2C, 21A, 21B, and 22 and State unit tracts 30 and 35
Unit agreement	December 9, 1963	Josephine D. Hawley, overriding royalty owner in Federal unit tract 9
Unit agreement	December 9, 1963	Eudora Hawley Hailson, overriding royalty owner in Federal unit tract 9
Unit agreement	December 9, 1963	Cordellia Williamson, overriding royalty owner in Federal unit tracts 2A, 2B, and 2C

Unit agreement December 9, 1963 John Lucas, overriding royalty owner in Federal unit Tract 9

Unit agreement December 9, 1963 R. F. Travis, Sr., overriding royalty owner in Federal unit tract 9

Copies of the ratifications and joinders are being distributed to the appropriate Federal offices.

Sincerely yours,

(Orig 583) CARL C. TRAYWICK

CARL C. TRAYWICK
Acting Oil and Gas Supervisor

cc:
Washington (w/cy of joinders)
Artesia (w/cy of joinders)
BLM, Santa Fe (w/cy of joinders)
BMOCC, Santa Fe (ltr. only) ✓
Cons. of Pub. Lands, Santa Fe (ltr. only)

December 8, 1963

Mr. Charles C. Langdon
Sewmont Oil Company
Fort Worth National Bank Bldg.
Fort Worth 2, Texas

Re: West Loco Hills Grayburg
Sand No. 4 Unit
Eddy County, New Mexico

Dear Mr. Langdon:

The Commissioner of Public Lands approved as of this date the First Expansion of the Participating Area, West Loco Hills Grayburg No. 4 Sand Unit, Eddy County, New Mexico, subject to like approval by the Oil Conservation Commission and the United States Geological Survey.

Very truly yours,

E. S. JOHNNY WALKER
COMMISSIONER OF PUBLIC LANDS

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

ESW/amr/v

cc: Oil Conservation Commission
Santa Fe, New Mexico

United States Geological Survey
P. O. Drawer 1857
Roswell, New Mexico
Attention: Mr. John A. Anderson

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

August 6, 1963

Newmont Oil Company
Fort Worth National Bank Building
Fort Worth 2, Texas

Attention: Mr. C. W. Stumhoffer

Re: Initial Plan of Operation
West Loco Hills Grayburg
No. 4 Sand Unit, Eddy County,
New Mexico

Gentlemen:

This is to advise that the New Mexico Oil Conservation Commission has this date approved the Initial Plan of Operation for the West Loco Hills Grayburg No. 4 Sand Unit Eddy County, New Mexico, subject to like approval by the United States Geological Survey and the Commissioner of Public Lands of the State of New Mexico.

Three approved copies of the plan are returned herewith.

Very truly yours,

A. L. PORTER, Jr.,
Secretary-Director

ALP/JEK/og

cc: Commissioner of Public Lands
Santa Fe, New Mexico

United States Geological Survey
Roswell, New Mexico

C
O
P
Y

Drawer 1857
Roswell, New Mexico

July 18, 1963

Newmont Oil Company
Fort Worth National Bank Building
Fort Worth 2, Texas

Attention: Mr. C. W. Stumhoffer

Gentlemen:

Your initial plan of development and operation dated June 3, 1963, for the West Loco Hills Grayburg No. 4 Sand unit, Eddy County, New Mexico, proposing the conversion of twelve wells within the buffer zone to water injection status, has been approved on this date subject to like approval by the appropriate State officials.

One approved copy of the plan is enclosed.

Sincerely yours,

CARL C. TRAYNICK
Acting Oil & Gas Supervisor

Copy to: Washington (w/cy of plan)
Artesia (w/cy of plan)
NMOCC - Santa Fe (ltr. only) ✓
Com. of Pub. Lands - Santa Fe (ltr. only)

July 22, 1963

Newmont Oil Co.
Fort Worth National Bank Building
Fort Worth 2, Texas

Re: West Loco Hills Grayburg
No. 4 Sand Unit, Eddy
County, New Mexico

Attention: Mr. C. W. Stumhoffer

Gentlemen:

This office received one copy of an Initial Plan of Operation for the West Loco Hills Grayburg No. 4 Sand Unit, Eddy County, New Mexico. This was addressed only to the Supervisor of the United States Geological Survey, Roswell, New Mexico.

By copy of a letter from the United States Geological Survey dated July 18, 1963, we were advised the United States Geological Survey had approved this initial Plan of Development subject to like approval by the appropriate State Officials.

Therefore, when this office receives a proper application addressed to the Commissioner of Public Lands as well as to the Supervisor, we will be glad to take action on this application. We require two copies for our files.

Newmont Oil Co.

July 22, 1963

-page 2-

We wish to advise you that in the future unless proper cognizance is given to the Commissioner of Public Lands, this office will take no action on any application submitted.

Very truly yours,

E. S. JOHNNY WALKER
COMMISSIONER OF PUBLIC LANDS

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

ESJW/mmr/m

cc: United States Geological Survey
Roswell, New Mexico
Attention: Mr. John A. Anderson

Oil Conservation Commission
Santa Fe, New Mexico

NEWMONT OIL COMPANY

FORT WORTH NATIONAL BANK BUILDING

FORT WORTH 2, TEXAS

July 24, 1963

Mrs. Marion M. Rhea
Supervisor, Unit Division
Commissioner of Public Lands
State of New Mexico
P. O. Box 791
Santa Fe, New Mexico

Re: Initial Plan of Operation
West Loco Hills Grayburg No. 4
Sand Unit, Loco Hills Field,
Eddy County, New Mexico

Dear Mrs. Rhea:

As requested in your letter of July 22, 1963, enclosed herewith please find four copies of the Initial Plan of Operation for the West Loco Hills Grayburg No. 4 Sand Unit, Eddy County, New Mexico for your consideration and for approval.

We regret that this application was not submitted in a proper and timely manner and sincerely regret the inconvenience that this error on our part has caused you.

We appreciate the consideration which you have shown us in the past.

If you desire any further data in this matter, kindly advise and we will promptly supply same.

Very truly yours,

NEWMONT OIL COMPANY

C. W. Stumhoffer

C. W. Stumhoffer

CWS:hd

cc: United States Geological Survey
Roswell, New Mexico
Attention: Mr. John A. Anderson

Oil Conservation Commission
Santa Fe, New Mexico

NEWMONT OIL COMPANY

FORT WORTH NATIONAL BANK BUILDING

FORT WORTH 2, TEXAS

July 25, 1963

100-7-24

Mr. A. L. Porter, Jr.
Oil Conservation Commission
State of New Mexico
Santa Fe, New Mexico

Re: Initial Plan of Operation
West Loco Hills Grayburg No. 4
Sand Unit, Loco Hills Field,
Eddy County, New Mexico

Dear Mr. Porter:

Enclosed herewith, please find four copies of the initial plan of operation for the West Loco Hills Grayburg No. 4 Sand Unit, Eddy County, New Mexico for your consideration and for approval.

We regret that, through error on our part, the enclosed application was not filed concurrently at the time the Unit Agreement was filed for final approval.

If you desire any further data in this matter, kindly advise and we will promptly supply same.

Very truly yours,

NEWMONT OIL COMPANY

C. W. Stumhoffer

C. W. Stumhoffer

CWS:hd

NEWMONT OIL COMPANY

FORT WORTH NATIONAL BANK BUILDING

FORT WORTH 2, TEXAS

July 24, 1963

Oil Conservation Commission
Santa Fe, New Mexico

Attention: Mr. A. L. Porter

Re: West Loco Hills Grayburg No. 4
Sand Unit, Loco Hills Field,
Eddy County, New Mexico

Gentlemen:

Pursuant to Section 12 of the Unit Agreement covering the captioned unit, we submit to you the initial plan of operation for said unit.

The Oil Conservation Commission of the State of New Mexico by Order No. R-2178 dated January 30, 1962, approved a 'Buffer Zone' within the initial participating area of the Unit, and authorized the development of this acreage for waterflood immediately following the effective date of the Unit. This 'Buffer Zone' consists of the following described acreage:

Township 17 South, Range 29 East
Section 36: S/2 SW/4

Township 18 South, Range 29 East
Section 1: W/2 and S/2 SE/4
Section 12: NE/4 and N/2 NW/4

Township 18 South, Range 30 East
Section 7: NW/4

all of which is shown on the attached plat of the unit area.

It is our intention to develop the acreage shown in this 'Buffer Zone' as our initial plan of operation. Such acreage will be developed for waterflood by converting the wells with the dashed double circle on the attached map to water injection. Oil will be produced from the remaining wells, each of which in most cases is surrounded by four wells on water injection.

Water for this operation will be obtained from Yucca Water Company through a 10-3/4" OD pipeline to be installed to the Unit area from the Caprock by Yucca. The injection water will be pressured by

July 24, 1963

piston-type power pumps at Plant No. 1 to be located near the north-east corner of the northwest quarter of Section 12, T18S-R29E. Present plans call for water to be injected approximately 30-45 days after the effective date of the Unit into the twelve wells designated in the "Buffer Zone".

The balance of the participating area of the Unit outside the "Buffer Zone" has been approved for waterflood development by the Commission in five stages as shown on the attached map. This approval was given in OCC Order No. 2178-B dated June 14, 1962, as amended recently to change effective date to 7-1-63. Stage I will be developed for waterflood six months from the effective date of the Unit by converting the fifteen wells designated on the attached map to water injection.

The remaining four stages will be developed at six month intervals until Stage V is placed on injection on January 1, 1966. According to present plans, it is contemplated that when the Unit area is completely developed, there will be 59 water injection wells. Pressured water will be furnished to these wells from Plant No. 1 and a second plant will be installed when Stage II is placed on injection on July 1, 1964. Pressure Plant No. 2 is to be located near the northeast corner of Section 10, T-18-S-R29E.

Ultimate plans call for the Unit to have seventy producing wells of which fifteen will be in the "Buffer Zone". The fifteen "Buffer Zone" producing wells will have capacity allowables as specified in the Commission order.

The balance of the Unit area producing wells will be subject to the waterflood allowable set out in Rule 701 E of the Commission Rules and Regulations, and OCC Order No. 2178.

Very truly yours,

NEWMONT OIL COMPANY

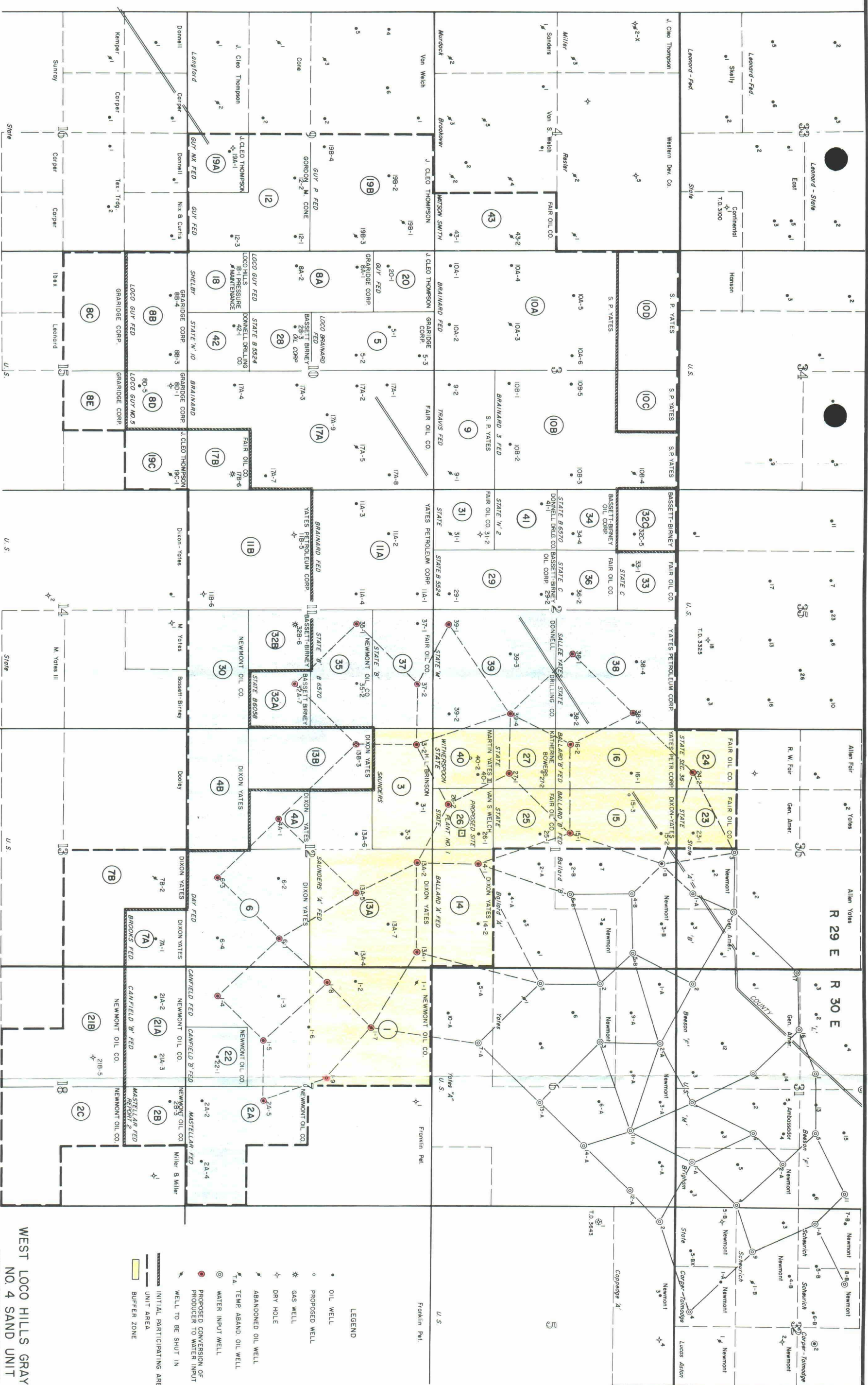
C. W. Stumhoffer

C. W. Stumhoffer
Coordinator Waterflood Operations

CWS:hd

Approved *[Signature]* 7.19.63
[Signature]
Secretary-Director

NEW MEXICO OIL CONSERVATION COMMISSION



WEST LOCO HILLS GRAYBURG
NO. 4 SAND UNIT
EDDY COUNTY, NEW MEXICO

WELLS IN 1963 BUDGET
OPERATED BY
NEWMONT OIL COMPANY

DATE: JUNE 18, 1963
MAP A