

PAUL BACA PROFESSIONAL COURT REPORTERS

OIL CONSERVATION DIVISION

EXHIBIT

4

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

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AUG 11 1964

U.S. GEOLOGICAL SURVEY
ALBUQUERQUE, NEW MEXICO

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

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STATE LAND
SANTA FE, N.M.

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

Oil Conservation Division

Case No.

Exhibit No.

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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.

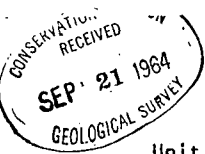
5. The Unit Operator proposes to consolidate certain of the above enumerated tracts proposed to be included in the enlarged Participating Area since the ownership of some of the tracts presently in the Participating Area is constant with the ownerships of certain of the tracts which are proposed to be 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. Hays

CCL:jg

APPROVED THIS 11 day of
August, 1964.

A. L. Carter MR
Secretary-Director
New Mexico Oil Conservation Commission

APPROVED THIS 13th 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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ROSWELL, NEW MEXICO

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ROSWELL, NEW MEXICO

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- LOCATION
- OIL WELL
- ⊙ GAS WELL
- ⊙ TEMP ADON
- ⊙ PULLED, PLUGGED & ABANDONED
- ⊙ DRY HOLE
- ⊙ WATER INJECTION WELL

- FEDERAL LANDS
5,947.73 ACRES
- ▨ STATE OF NEW MEXICO LANDS
1,280.00 ACRES
- ▨ PATENTED (FEED) LANDS
800.00 ACRES

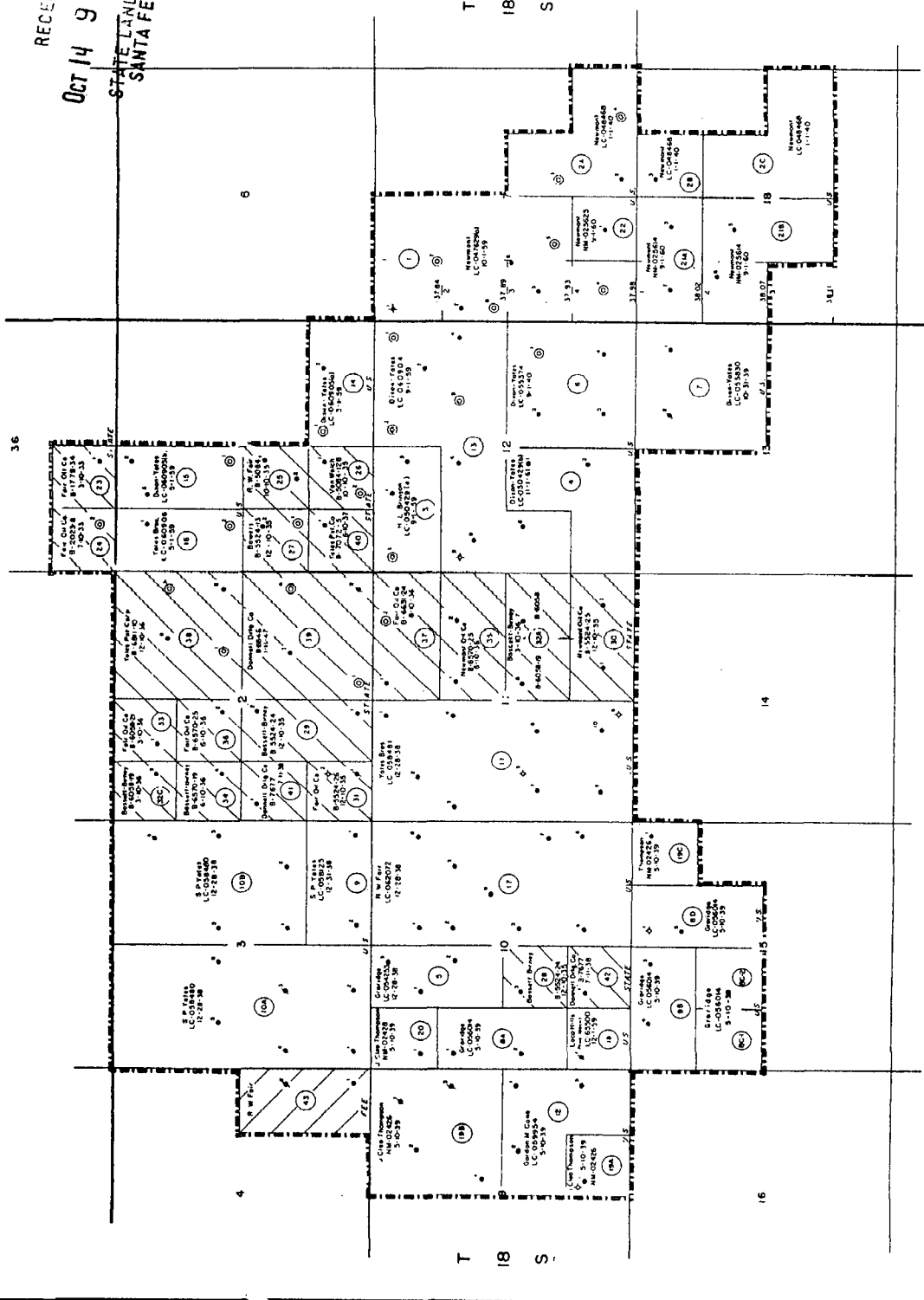
UNIT AREA - 3,607.73 ACRES (ALL PARTICIPATING)

TRACT NUMBER

EXHIBIT "A"

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

SCALE IN FEET



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. (1)	Description (2)	Acres (3)	Lease Number, Date Basic Royalty (4)	Lessee of Record & Percent (5)		Overriding Royalty & Percent (6)		Working Interest Owners and Percent (7)		Cumulative & Pseudo-Cumu- lative Barrels (8)	Tract Participation in Unit (9)		RECEIVED OCT 14 9 17 AM '64 STATE LAND OFFICE SANTA FE, N. M.
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.

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Tract No.	Description	Acres	Lease Number, Date Basic Royalty	Lessee of Overriding		Working Interest Owners and Percent	Cumulative & Pseudo-Cumu- lative Barrels in Unit	Tract Percentage Participation
				Record & Percent	Royalty Percent			
(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 Consolidated 8-D 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 Consolidated 10-A 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 Consolidated 10-B 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 Consolidated 11 694,228	7.0635

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

Tract No. (1)	Description (2)	Acres (3)	Lease Number, Date Basic Royalty (4)	Lessee of		Working Interest Owners and Percent (7)	Cumulative & Pseudo-Cumu- lative Barrels in Unit (8)	Percentage Participation in Unit (9)
				Record & Percent (5)	Overriding Royalty & Percent (6)			
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. (1)	Description (2)	Acres (3)	Lease Number, Date Basic Royalty (4)	Lessee of Overriding Record & Royalty & Percent (5)		Working Interest Owners and Percent (7)		Cumulative & Pseudo-Cumu- lative Barrels in Unit (8)	Tract Participation in Unit (9)
				Percent	Percent	Percent	Percent		
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-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 (2)	Acres (3)	Lease Number, Date Basic Royalty (4)	Lessee of Record & Percent (5)		Overriding Royalty & Percent (6)		Working Interest Owners and Percent (7)		Cumulative & Pseudo-Cumu- lative Barrels (8)	Tract Percentage Participation in Unit (9)
				Percent	Percent	Percent	Percent	Percent	Percent		
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

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Tract No. (1)	Description (2)	Acres (3)	Lease Number, Date Basic Royalty (4)	Lessee of Record & Percent (5)	Overriding Royalty & Percent (6)	Working Interest Owners and Percent (7)	Cumulative & Pseudo-Cumulative Barrels (8)	Tract Participation in Unit (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

	FEDERAL LANDS	STATE LANDS	FEE LANDS	TOTAL
Tracts	32	21	1	54
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 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.