Exhibit C

GULF OIL CORPORATION
BELL RAMSEY LEASE
EUNICE

	Total allow. 12-19-42 to 3-5-43	G.O.R.	TOTAL GAS	Total prod. 12-19-42 to 3-5-43	G.O.R.	TOTAL GAS
Bell Ramsey #7	2964 bbl.	1910	5,661,240 cu/ft.	4159 bbl.	1910	7,943,690
Bell Ramsey #8	1540 bbl.*108987		167,839,980 cu/ft.	Shut in		

* = assumed allowable of 20 bbl/day

Production from #7 for period 12-19-42 to 3-5-43 over and above its normal daily allowable = 1195 bbl.

Production of 1195 bbls. from #7 transferred to #8

G.O.R. #8 (108,987) x 1195 bbl. = 130,239,465 cu/ft. gas

G.O.R. #7 (1910) x 1195 bbl. = 2,282,450 cu/ft. gas

Saving in gas by transfer of all. 127,957,015 cu/ft. gas = 1,660,000 cu/ft. gas/day

Allowable from #8 transferred to #9 3-9-43 to 4-1-43 but #9 produced only 1,219 bbl. of oil during this period, or 10 bbl. in excess of its own allowable.

STANOLIND OIL & GAS COMPANY
EUNICE

Production and allowable transfer data from high to low ratio wells.
Wells with producing ratios below 7000 cu/ft/bbl.

LEASE WELL	S.T.R.	TEST RATE BBLS/DAY	PRODUCING GAS OIL RATIO
Gilluly A 3	25-20-36	48	1243
" A 5	"	53	6268
" A 6	"	48	1243
" A 8	24-20-36	74	4779
" A 10	"	47	1838
" A 11	"	14	6348
" A 13	"	24	2031
" A 14	"	67	3321

Wells with producing gas oil ratios above 7000 cu/ft/bbl.

LEASE WELL	S.T.R.	TEST RATE BBLS/DAY	PRODUCING GAS OIL RATIO	PENALIZED ALL. BBLS/DAY BASED ON LATEST TST.
Gilluly A 7	24-20-36	19	36798	7

Proposed transfer allowable plan

Transfer allowable from	Transfer Allowable To	Cu/ft. gas Conserved/day
Gilluly A 7	Gillully A 14	243339

MONUMENT

Production and allowable transfer data from high to low ratio wells
Wells with producing ratios below 6000 cu/ft/bbl

LEASE WELL	S.T.R.	TEST RATE BBLS/DAY	PRODUCING GAS OIL RATIO
Gilluly A 2	24-20-36	111	853
" A 9	"	113	403
" A 12	"	63	663

Exhibit C

STANOLIND (MONUMENT)-CONTD.
Wells with producing ratios above 6000 cu/ft/bbl.

LEASE WELL	S.T.R.	TEST RATE BBLS/DAY	PRODUCING GAS OIL RATIO	PENALIZED ALLOW. BBLS/DAY BASED ON LATEST TEST
Gilluly A 4	24-20-36	12	24335	9
" B 2	21-20-32	53	8605	27
" B 4	22-20-37	50	33647	7
" B 5	"	17	37081	6

Proposed allowable transfer plan

Transfer Allow. from	Transfer allow. to	Cu/ft. gas Conserved Day
Gilluly A 4	Gilluly A 9	215,388
Gilluly B 4	Gilluly B 2	175,294
Gilluly B 5	Gilluly B 2	170,856

OHIO OIL COMPANY
STATE HANSEN LEASE
MONUMENT

LEASE WELL	DAILY ALL. March, 1943	G.O.R. March-43	TOTAL GAS CU/FT/DAY	DAILY ALL. #4 TRANSFERRED TO NO. 1 & 2	G.O.R. TESTS @ RATE OF 70/BBL/DAY	TOTAL GAS CU/FT. DAY
St. Hansen #1	40	370	14800	52	370	19240
St. Hansen #2	41	370	15170	53	370	19610
St. Hansen #4	24	9585	230040	Shut In		
		Total gas	260,010			38850
			38,850			

Total saving of gas/day by trans. 221,160 cu/ft.

SUN OIL COMPANY
MAVEETY LEASE
MONUMENT

Maveety #5 daily allowable 23 bbl. Gas oil ratio October, 1942 = 50,500

LEASE WELL	DAILY ALLOW. APRIL-1943	G.O.R.	TOTAL GAS PER DAY	DAILY ALLOW. 4/43 (Inc. por. #5 allow.)	GOR	TOTAL GAS PER DAY
Maveety #3	31	3823	118,513 cu/ft.	42	3823	160,566 cu/ft.
Maveety #4	31	4138	128,278 "	43	4138	177,934 "
Maveety #5	23	50,500	1,161,500 "	Trans. to 3 & 4	S.I.	-
Daily total gas from 3, 4 & 5 =			1,069,291 "	Daily total gas from 3 & 4 (includes allow. from #5)		338,500 cu/ft.
			338,500 "			
Total daily gas savings			1,069,791 "			

12 bbl. per day transferred from #5 to #4
11 bbl. per day transferred from #5 to #3

Exhibit C

CONTINENTAL OIL COMPANY
MEYER A-17 LEASE
EUNICE

WELL	MARCH ALLOWABLE	FEB. 1943 G.O.R.	MARCH TOTAL GAS MCF	(if each well produced at top allowable rate)
3	1209	1507	1822	
5	1209	11200	13541	
6	1209	1790	2164	
TOTALS	3627		17527	
				(if each well produced at
3	1209	1507	1822	assigned allowable rate)
5	558	11200	6250	
6	1209	1790	2164	
TOTALS	2976		10236	
				(top allowable transferred
3	1643	1293	2124	from No. 5 to Nos. 3 & 6)
5				
6	1984	1425	2827	
TOTALS	3627		4951	

GAS SAVED DURING MARCH, 1943 (MCF)
Based on top allowable 12576
Based on penalized allowable 5285

SHELL OIL COMPANY, INC.
EUNICE

LEASE WELL	DAILY ALLOW. MARCH-1943		G.O.R.	TOTAL GAS PER DAY	DAILY ALLOWABLE 3-1943 #4 TRANS. TO 1-2-3	G.O.R.	TOTAL GAS PER DAY
State K # 1	39		11200	436800	52	11200	582400
2	39		2065	80535	52	2065	107380
3	39		9370	365430	52	9370	487240
4	39		22700	885300	S.I.	S.I.	
				1,768,065			1,177,020
				1,177,020			
Total gas savings/day =				591,045 cu/ft			
					#1 ALL. TO #2		
Coleman # 1	39		11100	432900	S.I.	S.I.	S.I.
" 2	39		980	38220	78	980	76440
				471,120			76440
				76,440			
Total gas savings/day =				394,680 cu/ft			

MONUMENT

					#4 ALL. TO # 1-2-3		
State B # 1	40		1140	45600	54	1140	61560
" 2	37		2280	84360	51	2280	116280
" 3	39		389	15171	53	389	20617
" 4	42		15400	646800	S.I.	S.I.	S.I.
				791,931			198,457
				198,457			
Total gas savings/day =				593,474 cu/ft			

CONTINENTAL OIL COMPANY
MEYER A-17 LEASE
EUNICE

WELL	MARCH ALLOWABLE	FEB. 1943 G.O.R.	MARCH TOTAL GAS MCF	(if each well produced at top allowable rate)
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LANGLIE FIELD

Surface boundaries of the Langlie Field have not been established in conformity with a variety of structural and depositional conditions within the area embraced. For example, several 40-acre units within the field are known to be producing oil from a dolomitic limestone section while others produce from sand bodies of various stratigraphic positions. Two distinct structural folds add to the complexity of problems within the field.

In order to avoid any undue confusion the Committee has deemed it advisable to exclude production data on approximately 520 acres which are included in a repressuring project within the Langlie Field.

A few observations which have been made from a study of the following data are herewith presented. It will be noted from a study of the Allowable Development Curve Graph B-5 that the field attained its maximum development about January, 1940. The average daily allowable of marginal wells, six months prior to this time had shown a pronounced decline as also had the average daily top allowable per well to a lesser degree. Immediately following this period the number of marginal wells increased sharply although the average daily allowable or potential of such wells increased only eight barrels. In as much as the daily top allowable per unit decreased some during this period while the average daily allowable of marginal wells increased only slightly it is evident that the reservoir from which the marginal wells were producing had no reserve and that such oil as remained was being rapidly withdrawn. Further evidence in support of this statement can be drawn from a study of the Production Gas-Oil Ratio Curve C-5.

The relative constant volume of gas produced per month from July, 1939 to present date, as shown on Graph C-5 when compared to the increase in gas-oil ratio for the same period might be interpreted as suggesting a decrease in the efficiency of the rate of flow except that at the same time this was occurring the total amount of oil being produced was on the decrease and the total number of marginal wells was on the increase. It is apparent that the reservoir was being voided of oil at a much greater rate than it was of gas.

Graph D-4 Production Development Curve, shows a rapid increase in the amount of water being produced after January, 1940. This fact is misleading in that it might be interpreted as reflecting a condition for the entire field where actually it is primarily the result of performance of only a few wells that produce from dolomitic limestone.

Structural and stratigraphic conditions which, in the Langlie Field, appear to be controlling factors in production problems, can perhaps best be described by the following quotation, namely, "the factors of structure and stratigraphy are heterogenous in their homogeneity". It is the opinion of the Committee that exceptions within the Langlie Field do not necessarily determine the rule. It believes, further, that in considering the field as a unit there is evidence of the existence of gas in the reservoir in quantities more than sufficient to produce the oil associated with it. The problem, therefore, resolves itself into one of surface rather than subsurface waste.

Much has been done in the past to deliver gas to a commercial market from the Langlie Field and assurance has been given that much more will be done in an effort to increase the deliveries as soon as necessary materials can be made available.

REPORT OF COMMITTEES 1 & 2

The Committee named herewith was appointed by the Lea County Engineering Committee on January 26, 1943 to work out, from an engineering standpoint, reasons for all limiting gas-oil ratios for the various fields of Lea County in excess of 2000 cubic feet per barrel of oil:

Kanneth Davis — P.D. Grommon, Jr.
George Gray — Charles P. Miller
W.D. Mitchell

The Committee met in Hobbs on February 4, 1943 and again on February 15, 1943. It is composed of two former committees which were appointed by the Sub-Advisory Engineering Committee, in Midland on November 24, 1942, to study problems relative limiting gas-oil ratios and possibility of beneficial action resulting from remedial work in fields nearing depletion. Findings of these committees are incorporated and enlarged in the report of the present Committee.

Determination of a direct mathematical solution to the problem of limiting ratios with the information at hand, has not appeared feasible. An approach to the problem, however, has been made through a study of present day reservoir conditions in the following major fields of Lea County: Hobbs, Monument, Eunice and South Eunice. Many of the Committee's conclusions are based upon evidence found in the attached graphs.

HOBBS

The Hobbs Field in December, 1942 possessed the same reservoir pressure as that which it showed in December, 1937 even though during this five year period the field had yielded 18,660,823 barrels of oil, 17,807,896 barrels of water and 35,233,059 MCF gas. It is the opinion of the Committee, therefore, that because the field has been able to maintain its reservoir pressure under present producing conditions there is no subsurface waste.

MONUMENT

The Monument Field has five years less production than the Hobbs Field and may, therefore, be expected to show slightly different reservoir conditions from those found in the Hobbs Field at the present time. The Monument Field had a calculated reservoir pressure of 1245 lbs. as of January 1, 1943. The total reservoir drop, from date of discovery, is therefore, calculated to have been 272 lbs. Forty-five pounds of the drop occurred between the dates of January 1, 1940 and January 1, 1943.

Total oil production between the date of discovery in 1935 and January 1, 1940 was 32,420,918 barrels. The reservoir pressure drop for the same period was 227 lbs. or at a rate of seven pounds per million barrels of oil produced. A total of 19,539,290 barrels of oil was produced between January 1, 1940 and January 1, 1943. Reservoir pressure drop during this period amounted to 45 lbs. and was at a rate of 2.303 lbs. per million barrels of oil produced. The productivity ratios between the two periods was, therefore, approximately one to three.

If it can be suggested that the future rate of reservoir decline in the Monument Field will be not greater than 2.303 lbs. per million barrels of oil and that the field will be producing oil when it has, for the sake of argument, reached a reservoir pressure of 600 lbs. then, on the basis of 19,720 productive acres and a future recovery of $\frac{645\#}{2.303\#} \times 1{,}000{,}000$, we can expect a future recovery of 14,202 barrels per acre. In as much as the per acre recovery as of January 1, 1943 has been 2635 barrels, the indicated total recovery per acre will be 16,837 barrels. This figure seems unduly optimistic in light of other estimates which have seldom exceeded 10,000 barrels per acre. There is, therefore, evidence to establish a belief that

flowing energy will remain in the Monument Field long after said field has attained its ultimate recovery of oil.

EUNICE

Within the Eunice Field original reservoir pressure has been estimated as having been 1525 lbs. This value had decreased to 1080 lbs. on January 1, 1940 and, during said period the field had produced 40,176,106 barrels of oil or with a pressure decline rate of 11.07 lbs. per million barrels of oil produced. The field produced 18,309,355 barrels of oil between the period of January 1, 1940 to January 1, 1943, and in so doing reflected a reservoir pressure drop of 70 lbs. The pounds pressure drop per million barrels of oil produced, was therefore, 3.90.

The reservoir has shown a very slight pressure increase during the six months period ending July, 1942. This change may reflect a decrease in oil runs or the appearance of an effective water drive or possibly a combination of both factors.

There is reason to believe that, regardless of the cause of pressure increase, under present rates of production no subsurface waste exists in the Eunice Field.

SOUTH EUNICE

A record of reservoir pressures in the South Eunice Field is limited to the period July 1, 1940 to present date. The Committee is therefore, somewhat handicapped by indefinite pressure trends in its study of reservoir conditions.

It has been found that some insight into the problem can be gained by comparing a period in the South Eunice Field wherein pressure data is available with a corresponding period in the Eunice Field. In so doing, a greater efficiency for the rate of flow in the South Eunice Field has been found than has been determined for the Eunice Field.

The increase in reservoir pressure shown in the South Eunice Field for the period February 1, 1942 to July 1, 1942 suggests that, under the rates of production then existing, water may have been entering the reservoir at a sufficient rate to produce an effective water drive. If such is the case, subsurface waste in the field cannot be admitted.

GENERAL DISCUSSION:

The Committee states again its inability to determine by a mathematical formula, a specific limiting gas-oil ratio for any field in Lea County. It feels, however, that although lacking evidence of subsurface waste it need not recommend lower limiting ratios for any field than those now in force by virtue of Oil Conservation Order No. 250.

The Committee, in approaching the problem, has considered oil to be the commodity of prime importance and gas as incidental to the production thereof. (If the opposite of this assumption is true the necessity for conserving the gas until such time as a commercial market is developed for all of it becomes of the greatest importance). The Committee believes that especially under present day conditions, oil is a commodity of prime importance and its production is essential to the national welfare. The Committee admits that with production of oil there is surface waste of gas and believes that such should be prevented. It, therefore, makes the following recommendation: that all gas produced with oil be returned to the reservoir from which it originated, or that it be sold for commercial consumption.