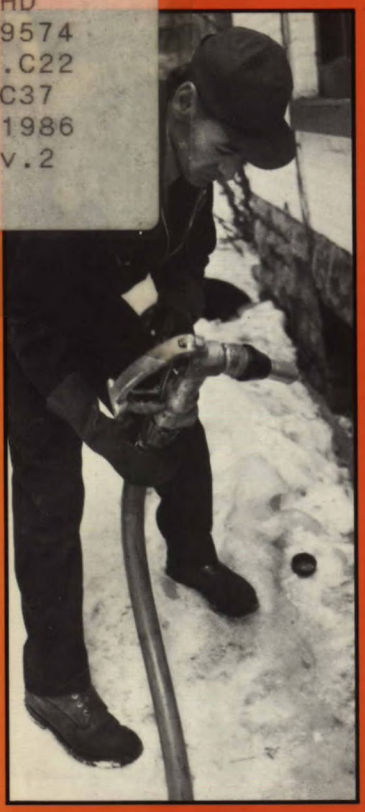

Competition in the Canadian Petroleum Industry

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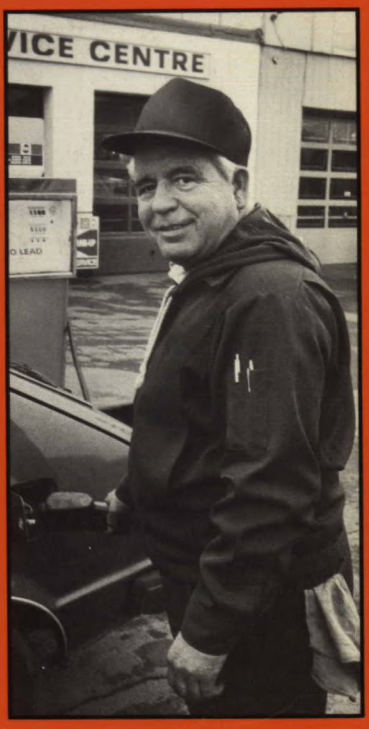

Restrictive Trade Practices Commission

Canada

Competition in the Canadian Petroleum Industry

Appendices C to M

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Canada

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C

The Usefulness of Statistics Canada Data to Compare Wholesale Prices During the National Oil Policy Period

Until 1964 Statistics Canada combined (for reasons of confidentiality) refined product shipments for Quebec and the Atlantic Provinces. A consistent pattern is displayed in the average per-barrel value of refinery product shipments of each of the major products: the values in Ontario increased relative to those in the Atlantic Provinces plus Quebec. In the case of motor gasoline, before the NOP the per-barrel value of shipments in Quebec plus the Atlantic Provinces was the same as that in Ontario, and the average for 1968-69 of the value of per-barrel shipments was 44¢ higher in Ontario than in the provinces to the east. With respect to light fuel oil, the value of per-barrel shipments started at 6¢ more in Ontario than in the Eastern Provinces, with the differential widening to 58¢ for 1968-69, an increase in the differential of 52¢. From virtual parity, heavy fuel oil went to a 58¢ differential. Figures are also available to compare Quebec and Ontario shipment values between 1964 and 1972. The average values during these years are compared below for the three principal products. The differences are virtually the same for the three products. They are also extremely close to the difference between the crude oil costs to a refinery in Toronto and to one in Montreal, an average of 52¢.[1]

	Ontario	Quebec	Difference
Motor Gasoline	5.11	4.58	0.53[2]
Light Fuel Oil	4.25	3.71	0.54
Heavy Fuel Oil	2.71	2.20	0.51

Source: Tables 49 to 51, Volume II of the Green Book.

1. See Green Book, Volume I, Table A-9. The 15¢ transportation cost allowed for in Table A-9 has been excluded to arrive at the 52¢ figure.
2. The difference is understated because much more premium gasoline was sold in Quebec than in Ontario.

These figures suggest that the exact difference in crude oil costs was passed on in the shipment value of each product. One difficulty with this interpretation is that it runs counter to expectations about differences in market forces among the products. It is difficult to imagine a persistent difference in prices, net of transportation costs, of heavy fuel oil. It is effectively a homogeneous product. Buyers are well informed and their actions in concert with those of middlemen could be expected to eliminate any price differences not caused by moving product from one market to another. Additionally, it is difficult to believe that the Ontario Government would have acceded to a policy which resulted in such a direct increase in the costs of its industrial base.

In the case of light fuel oil, trademarks appear to have been of less importance than they were in the case of gasoline, and the location of sellers would have been unlikely to enter into the buying decisions of consumers. In spite of numerous acquisitions of independent resellers of light fuel oil by refiners, independents appear to have held a larger share of the light fuel oil market in Eastern and Central Canada than did independent marketers of gasoline. Thus the size of the market open to sales by importers and other brokers was large and could not be surrendered by refiner-marketers to imported product without considerably cost. Although little is known about the price information and the price sensitivity of small retail buyers of light fuel oil, many large industrial and commercial buyers would be likely to respond to small price differences. If they were to hold their market share, refiner-marketers would be under great pressure to meet the prices of other sellers.

Gasoline was a different story. The wholesale market consisted primarily of sales to franchised outlets. The extent to which prices at the DTW level would have to fall in order to meet lower-cost sources of supply would depend on the ability of those using such sources to expand. As discussed in the earlier section on marketing, many independents sold at much lower prices than those found at the majors' franchised outlets. Only a small part of the price difference could be explained by differences in the wholesale cost of gasoline. Whether due to the product differentiation advantages of the franchised outlets, or to the ability of the majors to counter the price competition of the independents through geographically limited price reductions (e.g., by means of support programs), the market share of the independents in Ontario was still modest by the end of the 1960s. Any advantages the independents derived from using imported supply were only a small part of their overall cost advantage and would have been relatively unimportant to their market position. While wholesale prices could not be expected to be immune to the cost of imported product to independents, the market characteristics suggest that the price sensitivity would have been less

in the case of gasoline than in that of light fuel oil, and markedly less in comparison with heavy fuel oil.

It is possible that the coincidence of the differences of each of the products and of crude oil is more a reflection of the reporting practices of the companies to Statistics Canada than of differences between Ontario and Quebec in the wholesale prices of the products. As noted in the Green Book,

> The problem with refinery realizations as reported to Statistics Canada under the category of "value of shipments of own manufacture" is that they may not relate to realizations but rather to costs because of the reporting methods allowed. (Volume II, p. 87, note)

Since crude oil was by far the most important source of cost differences between Ontario and Quebec, reporting based on costs rather than on wholesale prices would simply reflect differences in the cost of crude oil. Contrary to the opinion stated in the Green Book,[3] no weight can be given to the Statistics Canada data in trying to determine the effect of the NOP on product prices in Ontario.

3. "Even if there are distortions in the wholesale realizations because of [the reporting methods allowed], as long as the distortions *do not differ over time*, a comparison across markets will permit an evaluation of relative performance." (Emphasis added.) (Vol. II, page 87) The difficulty here is precisely that crude oil costs were following different time paths.

D

Evidence Regarding Pass-On of "Overcharge"

One of the most ambitious responses to the pass-on portion of the Director's overcharge allegation consisted of a study by Professor David Shaw, Faculty of Business Administration, University of Western Ontario. This study was financed by Gulf Canada, but it did not participate in its preparation. The approach taken by Professor Shaw was to measure the cost of capital to Gulf and Imperial (the two majors for whom adequate data were considered to be available) and to compare the actual returns with those that would have been required to meet the cost of capital.

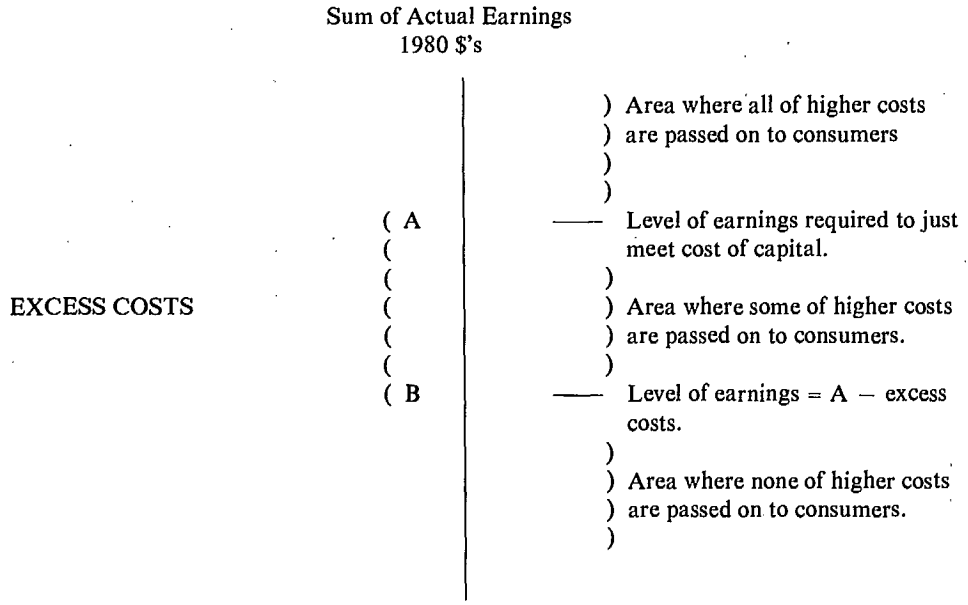
For the purposes of his study, Professor Shaw took the Director's estimate of alleged excess cost to be accurate. It was also assumed that the industry was competitive and that, in the absence of the alleged excess costs, earnings in the long run would just equal those required to meet the costs of capital. Three possible situations followed from the foregoing. They are represented in Figure I.

1. The level of earnings was equal to those required to just meet the cost of capital less the alleged higher costs (shown as "B" in Figure I). At this level of earnings, or below, none of the alleged higher costs were passed on.
2. The level of earnings was higher than in (1), but did not exceed the level of earnings required to meet the cost of capital. (The latter is shown as "A" in Figure I). In this range of earnings (between "A" and "B") part or all of the excess costs were taken to have been passed on, depending on where earnings fell between "A" and "B".
3. The level of earnings was in excess of those required to meet the cost of capital. This would mean that consumers were paying prices even higher than those required to pass on all of the higher costs.

In the results originally presented by Professor Shaw, Gulf's earnings fell below "B" and Imperial's were slightly above that level. In terms of the

FIGURE D-1

Pictorial Representation of the Three Hypotheses Tested by Professor Shaw's Model



approach taken, this meant that even if higher costs had been incurred by Gulf none of them were passed on in higher prices, and in the case of Imperial only a small part of any higher costs would have been passed on. If convincing, these are very strong results. In the case of Gulf, and virtually so in the case of Imperial, they deny that the consumer was penalized in the form of higher prices by any higher costs that might have been incurred. If higher consumer prices were all that was at stake, then there would be no need to examine further the allegations of higher cost.

Professor Shaw's basic model, but not his results, was accepted by the Director. An absence of agreement on approach would have allowed a briefer discussion of Professor Shaw's evidence. After cross-examination, a lengthy argument by the Director and several rounds of rebuttal and reply argument, there were two major differences between the parties, as well as others which were not pressed by the Director.

The principal difference between the Director and Professor Shaw relates to his estimates of the cost of capital for Gulf and Imperial. The estimates for equity capital were made through the use of the capital-asset pricing model. Two key steps are required in applying the model. First, the average cost of equity capital must be established and then the extent to which the value of a particular company's shares move with or against an index of share prices

must be established. Shares which move counter to the index will benefit from a lower-than-average cost of equity because an investment in their shares permits diversification of portfolios.

The estimates arrived at by Professor Shaw were considerably higher than those actually used by the companies in their decision making, as shown by documentary evidence for both companies, and as confirmed by oral testimony in the case of Imperial.[1] Documentary evidence on the rates used by Shell also supports the conclusion that Professor Shaw's estimates exceeded the rates used by petroleum companies in making investment decisions. The Director has argued that the rates used by the companies in their investment decisions are the appropriate ones to use, and, paraphrasing broadly, not those estimated and subject to error.

It must be recognized that the rates used by management might also be in error. A great deal of judgement enters into the decision regarding the appropriate cost of capital to use in investment decisions. In considering the possibility that management was in error, it must be taken into account that Gulf's and Imperial's major shareholders, their U.S. parents, must have known and approved of the rates used by them. Another factor to consider is that, if management erroneously used too low a rate over as long a period as covered by Shaw's study (1958-1973), this error should have shown up, everything else equal, in a secular decline in share prices.

The effect of using a lower cost of capital is to move line "A" down in Figure I, with a corresponding reduction in "B". The level of earnings above which part or all of the pass-on of excess costs could have occurred is reduced. When Professor Shaw's model was reworked using the rates employed by each of the companies, the actual level of earnings corresponded to 73 per cent of the alleged excess costs being passed on to the consumer in the case of Gulf, and to 85 per cent in the case of Imperial. If the rate used by Imperial, which was higher than Gulf's, is applied to Gulf, then the extent of the pass-on by Gulf is reduced to 57 per cent.

The second major difference between the Director and Professor Shaw concerns the treatment of the alleged overpayment for crude oil and shipping services. The Director has argued that these excess payments were the equivalent of after-tax profits received by the parent, since the parents were able to avoid paying taxes on these receipts of income. In a detailed explanation accompanying his rebuttal argument on remedies, the Director

1. Gulf's attempt in writing to reconcile the documentary evidence on Gulf's rate with Professor Shaw's estimate was not convincing.

has shown how, in his view, this argument can be incorporated into the calculation of the percentage of alleged excess costs which were passed on. Nevertheless, the Commission considers the matter to be unresolved and the suggested modifications are not accepted.

The fact that earnings fall above "B" in Figure I does not necessarily support the Director's argument that there were excess costs and that they were passed on. The study by Professor Shaw assumed that there were excess costs and that they were at the level estimated by the Director. In terms of Figure I, the effect of a conclusion that excess costs were less (more) than estimated by the Director would be to raise (lower) the level of "B".

There are a number of shortcomings in the application of the model which, in the view of the Commission, vitiates its usefulness for the purposes of the present report. The most serious is that, due to data deficiencies Professor Shaw combined upstream and downstream activities, although all of the overcharges are alleged to have impacted the downstream sector. The results are thus seriously clouded since it is not known what the results would have been if the downstream sector could have been studied separately.[2] Apart from this critical consideration, the accounting treatment of crude oil and natural gas is not easily reconciled with that used for other types of capital with respect to exploration expenses and "depreciation". As a consequence the usefulness of the results are weakened even on a combined basis.

It was a mistake for Professor Shaw to have accepted the Green Book's estimates of the alleged excess costs as a working hypothesis. It entailed a serious error of fact regardless of the actual level of alleged excess costs. In the model employed by Professor Shaw all of the alleged excess costs are assumed to have a direct effect on the oil firms' accounts. This is not always so. The allegation of excess costs and a pass-on to consumers is not equivalent to the hypothesis that all of the alleged excess costs were directly incurred by the oil companies and were then passed on to consumers. In marketing, much of the alleged higher costs of the integrated marketers were, as analyzed by the oil companies, due to higher retail markups and, only to some extent, to higher wholesale costs incurred by oil companies. Whatever the cause of the

2. It might be argued that the upstream sector is competitive and that the earnings from that sector should, in the long run, just meet the cost of capital. (Different costs of capital apply upstream and downstream due to differences in risk.) This may be a reasonable position for the period of the study, which is relatively brief from the viewpoint of exploration activities, if aggregate industry results are being considered. It is much less reasonable for individual firms, and particularly one such as Imperial, which had already enjoyed considerable success in Canada by 1958.

level of retail markups (e.g., low volumes, mix of inputs), retail costs were incurred by the operators of the retail outlets, and not by the oil companies.[3] These costs fall outside the framework of the model and, therefore, it cannot be used to test whether the alleged higher costs resulted in higher consumer prices. Additionally, only a part of the alleged higher costs resulting from product imports would have appeared in the accounts of the oil companies, because they imported only part of the total.

The model also presents other problems. One is the assumption of long-run competitive equilibrium. The degree of competition was not uniform across the country. If market power in some regions resulted in higher-than-"competitive" returns, this would show up as a pass-on of excess costs. Additionally, the assumption is inconsistent with persisting unused capacity in the retail networks and in crude oil production.

Although pass-on is stressed in the Green Book, it is not the sole issue raised by the alleged excess costs where they entail the use of additional resources and not just a transfer of income. The important questions in marketing, which involve speed of adjustment to changing consumer requirements, are begged by assuming long-run competitive equilibrium.

Apart from the problems already discussed, the amount of work in applying the model and the need to make assumptions at a number of points further reduces confidence in the results. The estimate of the cost of capital was only a part of the work that involved estimates and was subject to error. Considerable manipulation of accounting data is entailed in estimating the level of earnings required to meet the cost of capital. In particular, the capital stock on which the required rate of return is to be earned must be estimated or calculated, with evident problems in applying the methodology to crude oil reserves. There are also remaining disagreements between the Director and Professor Shaw on the appropriate tax rate to be applied (marginal versus average) and on the treatment of deferred taxes. While some of the problems discussed could be overcome with considerable effort, others cannot.

3. It might be argued that if retail costs had been lower the oil companies might have been able to raise their wholesale prices, or, where they were landlords, their rents. Whatever the validity of this line of reasoning, it is not the approach of Professor Shaw.

E

Standards Used To Evaluate Prices Paid By Canadian Companies For Imported Crude Oil

(The background information, sources and methodology used in the derivation of third-party prices contained in Tables F-1 to F-12 of Appendix F are reviewed in this Appendix.)

1. Net Offshore Subsidiary Prices

The calculation of the net offshore FOB and CIF prices[1] estimated for Petrofina, Murphy, Irving and Ultramar were based on several assumptions. First, this methodology assumed that the offshore subsidiary's crude oil trading or transportation activities were solely with its parent Canadian company. Only in this manner was it possible to associate its net income and dividends with the markup imposed on crude oil imported into Canada. The net income figure, where available, was more reliable because it represented the markup for a particular year while the dividend figure might include income earned in the previous year(s).[2]

Secondly, these calculations assumed that the markup per year was the same for all the crude oils which were imported during that year. It was also assumed that the markup was constant for all the months within that year; that is, the reliability of the calculations for any one company would tend to be inversely related to the increasing number of crude oils imported and to the number of (monthly) prices reported per year. The latter was not a factor in the 1960s because primarily annual prices were reported.

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1. All prices and freight rates are in American dollars as per international convention, unless otherwise stated.
2. Any extraordinary income gains or losses by the offshore subsidiary, such as exchange rate profits or losses or profits on the sub-chartering of vessels, etc., where identifiable, have been deleted from the net income figure because they do not concern the markup over third-party prices.

Thirdly, the calculation of net offshore FOB prices assumed that there was no markup on freight rates or transportation costs. In other words, the offshore subsidiary's markup to its Canadian parent-customer represented a markup on FOB third-party prices only. To the extent that transportation services were also subject to a markup, the estimates of net offshore FOB prices are too low and, therefore, any observable differences between these third-party prices and transfer prices dealing with parent-subsidiary transactions are overstated. Thus, comparisons involving offshore CIF prices are more reliable than those involving offshore FOB prices, except where evidence existed of the actual offshore third-party FOB prices being paid (i.e., Ultramar and Murphy).

Finally, the methodology assumes that the price paid by the offshore subsidiary did not also contain a markup over the third-party price originally paid by the multinational parent corporation. If it did, then these calculations would not reflect the lowest prices available to the non-integrated petroleum companies studied.

(a) The Petrofina Group

Third-party price data were calculated for Petrofina Canada Limited concerning:

(a) Lagomedio/MarLago for 1960 to 1973,

(b) Kuwait 31° API for 1960 and 1979,

(c) Iranian Heavy 31° API for 1961, 1969, 1970, and 1973 to 1976,

(d) Arab Medium 31° API for 1974 and 1981,

(e) Agha Jari/Iranian Light for 1960, 1970 to 1977 and 1979,

(f) Arabian Light for 1970, 1974 to 1976 and 1981 to 1982,

(g) Miscellaneous Venezuelan light crude oils, such as, Lama 32° API for 1960 to 1962; Tia Juana Light 31° API for 1961 and 1965 to 1968; Lago Treco 30° API for 1969 to 1970 and 1981 to 1982,

(h) Nigerian Medium 27° API for 1972 and 31° API Forcados Export Blend for 1974, and

(i) Trinidad 30° API crude oil for 1972.[3]

3. Similar price data were also available for various years from 1960 to 1982 for crude oils not covered in Tables F-1 to F-12. These were: Bachaquero, Tobias, Libyan Light, Basrah, Murban, Qatar, Zakum, Safaniya (Arabian Heavy), Arzew, Berrie (Arabian Extra-Light), Isthmus, Kirkuk, Maya and Rumaila. References in this Appendix and in Tables F-5, F-6 and F-12 to MarLago price data for Petrofina also appear under the name Lagomedio/Lagomar.

The data reported for 1960 to 1974 in Exhibit I-16H were the marked-up Canadian purchase or import prices paid by Petrofina Canada rather than the third-party prices actually paid by its parent corporation, Petrofina S.A. (Belgium). The crude oil Petrofina S.A. purchased on a third-party basis was sent to Canada via Pannac Limited of the Bahamas, a wholly owned subsidiary of Petrofina Canada.[4]

Table E-1 contains a breakdown of the revenues of Pannac Limited and dividend/net income per barrel calculations for 1960 to 1975.[5] The dividend and net income per barrel figures were fairly close to each other, with the greatest variation being 6.6¢ in 1967. (The net income figures were not available for 1960 to 1965.) The revenue breakdown, however, shows that sales to Petrofina Canada only accounted for 46 to 57 per cent of Pannac Limited's Gross Income from 1966 to 1972. It was only in 1974 and 1975 that the proportion rose to 81 and 92 per cent, respectively. This would appear to suggest that the Pannac dividend (or net income) per barrel figures, based on world-wide sales activities, could not be used to calculate offshore or third-party prices for the crude oil shipped to Petrofina Canada. However, other evidence indicates that this is not the case.

In Exhibit I-355 (Tab 1) Pannac Limited is described as being used by the Petrofina Group for its world-wide crude oil and petroleum product trading, exchanges and processing deals, etc. According to Exhibit I-355, Petrofina S.A. obtained crude oil at a substantial discount off posted price, but charged Pannac Limited an inflated (i.e., marked-up) price for the Lagomedio which Pannac Limited then resold to Petrofina Canada at the same price. Although Pannac did not realize any profit from this transaction, it obtained profits from its other world-wide activities. The tax-free dividends which it remitted to its parent, Petrofina Canada, were set at a level which represented the profit or markup that Petrofina S.A. realized on the crude oil which was sent to Canada.

The reliability of the Exhibit I-355 evidence was supported by the following information concerning Petrofina Canada's offshore prices for 1966 to 1970.

A parallel decline was observed in both Petrofina Canada's per barrel landed prices (33¢) or FOB prices (31¢) and Pannac Limited's net income

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4. Pannac Limited which was incorporated in December 1959, was also used to ship crude oil to Europe, as well as for other activities. See Transcript Volume 155, p. 28217.

5. Table E-1 also contains 1970 to 1975 data on the "Pannac Spread" which was mentioned in Exhibit I-324 at Tabs 1 and 9. The Petrofina witnesses were unable to explain the meaning of these figures.

TABLE E-1

Financial Data for Pannac Limited, 1960 to 1975

	(US $ Millions)					(Barrels)	(US Cents Per Barrel)		
	Pannac Limited								
		Revenues[b] from		Pannac Dividends	Pannac Limited's	Petrofina Canada's	Pannac Limited		
Year	Gross Income[a]	Petrofina Canada	Other Sources	to Petrofina Canada[c]	Profit or Net Income[a]	Crude Imports[d]	Dividends Per Barrel	Net Income Per Barrel[e]	Spread Per Barrel[f]
1960	n.a.			1.405	n.a.	9,659,210	14.6	n.a.	n.a.
1961	n.a.			9.135	n.a.	10,256,083	89.1	n.a.	n.a.
1962	n.a.			8.200	n.a.	10,626,647	77.2	n.a.	n.a.
1963	n.a.			8.550	n.a.	12,150,352	70.4	n.a.	n.a.
1964	n.a.			9.200	n.a.	11,597,994	79.3	n.a.	n.a.
1965	n.a.			9.750	n.a.	12,275,683	79.4	n.a.	n.a.
1966	84.726	38.752	45.974	11.300	11.627	13,359,667	84.6	87.0	n.a.
1967	82.319	40.500	41.819	8.850	8.061	15,738,985	56.2	51.2 (49.6)	n.a.
1968	95.550	45.095	50.455	9.200	9.619	17,668,969	52.1	54.4	n.a.
1969	96.384	48.938	47.446	10.730	10.973	19,243,365	55.8	57.0	n.a.
1970	98.110	53.659	44.451	12.200	11.928	20,853,415	58.5	57.2	18.6
1971	102.953	65.016	37.937	12.762	13.003	21,480,614	59.4	60.5	34.3
1972	122.788	70.113	52.675	14.100	14.606	21,143,699	66.7	69.1	40.3
1973	n.a.	92.886	n.a.	20.200	20.501	22,141,057	91.7	92.6	55.6
1974	226.085	182.755	43.330	9.900	8.852	16,405,365	60.3	54.0	56.1
1975	324.365	298.013	26.352	7.500	6.709	24,471,067	30.6	27.4	30.0

Notes and Sources:

(a) For Pannac Limited's Gross Operating Income and Profit or Net Income see Exhibit I-324 at Tabs 2 to 8 and Exhibit I-326 (for 1973).

(b) For Pannac's Revenues from Canadian Petrofina see Exhibit I-16H. These revenues were calculated by multiplying the laid down cost or CIF value of each crude oil (converted to US dollars) by the volume imported and summing across the crude oils imported per year. For 1975, see the PCB data found in Exhibit I-126; the loaded volume figures were used to maximize the revenue data.

(c) For Pannac's Dividends to Petrofina Canada see Exhibit I-324 at Tab 1 and Exhibit I-326 (for 1975).

(d) For the number of barrels of crude oil imports by Petrofina Canada see Exhibit I-16H for 1960 to 1974 and Exhibit I-126 for 1975.

(e) The 1967 net income per barrel figure in parentheses reflects an adjustment to deduct an exchange rate profit from net income. See Exhibit I-324 at Tab 2.

(f) The "Pannac Spread" figures for 1970 to 1975 appear in Exhibit I-324 at Tab 1, Serial number 195215 and at Tab 9, serial number 194947.

per barrel (36¢) or dividend/barrel (28¢) from 1966 to 1967. This 1967 price/dividend/net income decline apparently resulted from the Department of National Revenue's adoption in 1967 of the posted price minus 12 per cent formula for determining the fair market value of crude oil imports.

In a December 15, 1968 internal memo[6] on competitive crude oil costs in 1967 and 1968, Imperial Oil reported that it had been informed by its parent corporation that Petrofina had rejected its bid to supply T.J. Medium (26° API) at $1.60 per barrel FOB. The successful bid was believed to have been $1.58 to $1.59 per barrel. The equivalent Lagomedio (32° API) price was believed to be about $1.70. (The addition of 12 cents reflected the usual 2¢ per API degree adjustment between 26° and 32° API crude oils.) The derived offshore FOB prices for Lagomedio imported by Petrofina Canada in 1967 to 1969 were $1.68, $1.71 and $1.68, respectively. These derived prices match Imperial Oil's information of third-party prices available to the Petrofina Group when one considers that the superior credit terms available to Petrofina were estimated by Imperial Oil to be worth about 4¢ per barrel.[7] In a February 7, 1969 memo,[8] Imperial Oil reported that an examination of individual competitor's supply costs indicated that both Petrofina and Ultramar had an advantage of over 30¢ per barrel. Since Imperial Oil's cost for Ceuta 32° API crude oil was $1.98 per barrel in 1969, then Petrofina's comparative price for Lagomedio 32° API crude oil would have been about $1.68. As noted above, the Petrofina derived offshore Lagomedio prices for 1968 and 1969 were $1.71 and $1.68 per barrel. This 30¢ per barrel differential for 1969 was also referred to in Imperial Oil's Eastern Canada study of September 1970 which reported that it had been reduced to 20¢ for early 1970.[9] Imperial Oil's lower Ceuta 32° API crude oil price of $1.88, effective April 1970, when reduced by 20¢, yields a comparative third-party price of $1.68 which is only slightly higher than the $1.65 offshore price derived for Petrofina in 1970.

Therefore, based on the above evidence, reliable estimates of the original third-party prices paid by Petrofina S.A. could be calculated by deducting the Pannac Limited dividend per barrel figures from the Canadian purchase prices reported by Petrofina Canada [in Exhibit I-16H]. Table E-2 provides an example of the calculation of CIF and FOB prices for Lagomedio crude oil from 1960 to 1973. The prices derived for 1961 to 1970 should be

6. See Exhibit I-70, p. 113255.
7. *Ibid.*, pp. 113244 and 113273 to 113274.
8. Exhibit I-56, p. 123685.
9. Exhibit I-68, pp. 106593 and 106946.

TABLE E-2

Estimation of Net Offshore FOB and CIF Third-Party Prices for Lagomedio[a] (32.0 to 32.9° API) Crude Oil Paid by the Petrofina Group, 1960 to 1972 (U.S. $ Per Barrel)

	Canadian Purchase Price			Pannac Limited[b]			Net Offshore Prices (32.0 to 32.9°)					
							CIF			FOB		
Year	API	CIF	FOB	Dividends Per Barrel	Net Income Per Barrel	Spread	(1)–(3)	(1)–(4)	(1)–(5)	(2)–(3)	(2)–(4)	(2)–(5)
1960	33.5	2.908	2.609	0.146	n.a.	n.a.	2.742	n.a.	n.a.	2.443	n.a.	n.a.
1961	33.6	2.973	2.607	0.891	n.a.	n.a.	2.062	n.a.	n.a.	1.696	n.a.	n.a.
1962	33.3	2.966	2.601	0.772	n.a.	n.a.	2.174	n.a.	n.a.	1.809	n.a.	n.a.
1963	33.3	2.920	2.559	0.704	n.a.	n.a.	2.196	n.a.	n.a.	1.834	n.a.	n.a.
1964	33.0	2.920	2.549	0.793	n.a.	n.a.	2.107	n.a.	n.a.	1.736	n.a.	n.a.
1965	33.1	2.921	2.560	0.794	n.a.	n.a.	2.107	n.a.	n.a.	1.746	n.a.	n.a.
1966	33.3	2.914	2.571	0.846	0.870	n.a.	2.048	2.024	n.a.	1.681	1.681	n.a.
1967	33.1	2.586	2.262	0.562	0.512	n.a.	2.004	2.054	n.a.	1.680	1.730	n.a.
					(0.496)			(2.070)			(1.746)	
1968	32.9	2.552	2.227	0.521	0.544	n.a.	2.013	2.008	n.a.	1.706	1.683	n.a.
1969	32.8	2.544	2.238	0.558	0.570	n.a.	1.97	1.974	n.a.	1.680	1.668	n.a.
1970	32.8	2.548	2.232	0.585	0.572	0.186	1.947	1.976	2.362	1.647	1.660	2.026
1971	32.5	2.990	2.278	0.594	0.605	0.343	2.386	2.385	2.647	1.684	1.672	1.934
	26.7	2.604*	2.278*				2.116*	2.119	2.381	1.790*	1.792	2.054
1972	26.7	3.897*	2.523*	0.667	0.691	0.403	2.336*	2.326	2.614	1.962*	1.952	2.240
1973	26.8	7.408*	6.699*	0.912	0.926	0.556	6.600*	6.602	6.972	5.891*	5.893	6.263
Column		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)

Notes and Sources:

(a) The Canadian purchase or import prices for Lagomedio paid by Petrofina Canada Limited are from Exhibit I-16H. The Lagomedio prices and the *asterisked* price figures for MarLago 26.7° API in 1971/1972 and 26.8° API in 1973 were adjusted to 32.0 to 32.9° API using the 2¢ per API degree adjustment formula. The Lagomedio prices for 1960 to 1967 were reduced by 2¢ while those for MarLago were increased by 12¢.

(b) The Pannac Limited Dividend/Net Income/Spread per barrel figures are from Table 1.

regarded as the most reliable because Lagomedio accounted for most of the crude oil delivered to Petrofina Canada in those years and because of the above evidence supporting the levels of Petrofina's offshore prices for 1966 to 1970.

In December 1974, Petrofina Canada officials noted that the Petroleum Compensation Board (PCB) authorities[10] were considering whether they should require Petrofina Canada to change its practice of reporting the FOB prices charged by Petrofina S.A. to Pannac Limited rather than the prices which Pannac charged Petrofina Canada. The Commission does not know whether Petrofina Canada changed its reporting practice in 1974/1975.[11] However, the PCB prices for those years, when reduced by the Pannac dividend per barrel, are comparable to other third-party prices. The net offshore figures calculated from the annual 1974 price data found in Exhibit I-16H did not match the monthly PCB data for 1974 even when it was reduced by the Pannac dividend/barrel. Accordingly, the usefulness of that particular Exhibit I-16H information is questionable.

It was only possible to identify actual freight costs for 1967. In Exhibit M-529 (Tab 1, p. 201998), a Petrofina Canada official is reported to have stated that its transportation costs from Punta de Palmas, Venezuela to Portland were 19¢ or Intascale[12] less 42 per cent.[13] However, the freight costs billed to Petrofina Canada by Pannac were reported at 31¢ [in Exhibit I-16H]. Therefore, Petrofina Canada's reported freight costs also contained a significant markup over third-party freight rates paid by the Petrofina Group in 1967. However, the above evidence concerning the reliability of 1966 to 1970 offshore prices for Lagomedio indicated that the calculations of FOB prices for that crude oil derived by deducting the dividend per barrel received from Pannac were not affected.

Aside from the estimates of offshore prices for 1960 to 1975 for Lagomedio and the other crude oils listed above, FOB, freight and CIF data

10. At that time, the Oil Import Compensation Program was directed by the Energy Supplies Allocation Board. Over much of the succeeding period, the Petroleum Compensation Board administered the program. See Exhibit I-324 at Tab 8, p. 194880.

11. The Petrofina witnesses suggested that there was little difference between the two sets of prices because of the crude oil market pricing situation at that time. See Transcript Volume 155, p. 28262.

12. See Section 4(a) below for an explanation of Intascale.

13. In its December 1965 Annual Report, Petrofina Canada noted that it planned to start using larger ships of 60,000 tons in 1966.

reported to the PCB were available.[14] Since Pannac Limited was mentioned on the PCB data sheets up to 1979, it appears that offshore trading activity persisted until 1978. The Petrofina Canada witnesses were uncertain about the impact this might have had on Petrofina Canada's prices. According to its supply contract with Pannac, Petrofina Canada from July 1, 1973 to December 1978 was to pay the higher of (a) the posted price, or (b) its supplier's costs plus 2 per cent. Therefore it was possible that Pannac added a service fee of 2 per cent on the third-party prices it paid or the transfer prices it was charged by Petrofina S.A.[15]

In summary, the net offshore prices for the Petrofina Group in which the Commission had the greatest confidence for its purposes were for 1961 to 1970 for Lagomedio (see Tables F-5, F-6 and F-12).[16] The estimates for Lagomedio in 1960 and MarLago in 1971 to 1973 and for other crude oil types in 1960 to 1970 might be considered less reliable because they were based not only on data involving many crude oil types, but also because they involved crude oil types from both Venezuela and the Middle East. Because freight costs for Middle East crude oil represented a larger proportion of the total delivered cost at Portland than for Venezuelan crude oil, any general dividend-based markup, when used to derive reduced net offshore prices in such circumstances, would produce Venezuelan crude oil CIF and FOB prices which were biased downwards and Middle East crude oil prices which were biased upwards. (Because a relatively high price was derived for Lagomedio in 1960, it was also included in tables in the body of the Report.) From 1971 to 1975, Venezuelan imports were so low that the Middle East net offshore estimates for these years were less affected by this problem. However for 1971 to 1973 the greater number of price changes within a year made comparisons difficult between Petrofina's average annual price data and monthly prices reported by other companies. For 1974 to 1982, monthly prices were available from the data which Petrofina filed with the PCB. The 1974 to 1975 PCB prices need to be adjusted by deducting the Pannac dividend per barrel to derive the offshore third-party price. For 1976 to 1978, a service fee of 2 per cent should be deducted if PCB prices are in excess of posted price or Official Government Selling Price (OGSP).

14. See Exhibits I-126 for 1974 to 1979 and I-114 Confidential for 1980 to 1982 (May).

15. See Exhibit I-324 at Tab 11.

16. The prices calculated in 1961 to 1970 for other Venezuelan crude oils, such as Lama, T.J. Light and MarLago should be considered only slightly less reliable than Lagomedio.

(b) The Murphy Oil Group

Third-party price data involving the Murphy Oil Group of companies[17] were available concerning:

(a) Iranian Light for 1965 to 1974 and 1976 to 1977,

(b) Lagomedio and Lot 17 Venezuelan light crude oil for 1970, and

(c) Nigerian Forcados Export Blend for 1973.[18]

Tables F-3 and F-4 contain three sets of third-party prices for Iranian Light crude oil for the Murphy Oil Group. One set followed the prices found in the CIF contracts with the BP Group from 1965 to 1973. Another set of prices were based on BP and Esso International FOB prices and third-party freight costs paid by Murphy for 1968 to 1970. The third set of prices were net offshore prices which were derived from the reported Canadian purchase prices paid by Murphy Oil Quebec Limited (renamed Spur Oil Ltd. as of 1976) by subtracting either the dividend/barrel or the net income/barrel figure reported for 1970 to 1975 by Tepwin Company Limited, the offshore crude oil trading subsidiary. Tables F-5, F-6 and F-9 contain similar data for Lagomedio and Lot 17, a Venezuelan light crude oil and Nigerian Forcados Blend for February and March 1970 and November 1973, respectively.

(i) BP and Esso International Contract Third-Party Prices

Murphy Oil Quebec Limited initially purchased Iranian Light crude oil on a Montreal CIF basis from BP Canada Ltd. under a five-year contract running from May 1, 1965 to April 1970.[19] (The crude oil was processed at BP's Montreal refinery under a corresponding five-year processing agreement with an evergreen clause allowing the period to be extended to April 30, 1979.) Under these crude oil sales and processing agreements, Murphy had the option of substituting its own proprietary Middle East crude

17. The Murphy Oil Group of companies has Murphy Oil Corporation (of Eldorado, Arkansas) as the parent corporation. Murphy Oil Trading Company (of Delaware) was a wholly owned subsidiary engaged in crude oil trading activities. Murphy Oil Company Ltd. (of Calgary) was owned 78 per cent by the parent company. It, in turn, owned 100 per cent of Murphy Oil Quebec Ltd. (renamed Spur Oil Ltd. in January 1976) and Tepwin Company Limited (of Bermuda). After the establishment of Tepwin, Murphy Oil Trading was split up into Murphy Oil (Western) Trading Co. and Murphy Oil (Eastern) Trading Co. for U.S. and European crude oil trading activities, respectively.

18. Similar price data are also available, for various years between 1970 and 1975, on crude oils not covered in Tables F-1 to F-12. These are: Sassan, Zakum, Safaniya and Murban. See Exhibit I-375D.

19. See Exhibit I-289, Tabs 7 and 8.

oil (i.e., Sassan or Iranian Offshore Light crude oil), or any crude oil which was exchanged for this proprietary crude oil. It could also either transport that crude oil in its own tankers or have the BP Group do so at Intascale less 45 per cent. The initial Montreal delivered price was $2.1425, made up of $2.11[20] plus Montreal wharfage and harbour dues of $0.0325 ($0.035 Canadian). The FOB component was $1.35 and was fixed to April 30, 1968. A May 3, 1968[21] interim agreement allowed Murphy to purchase a fixed quantity of Iranian Light on an FOB basis at $1.33 from June 1 to October 31, 1968 if its proprietary Sassan crude oil was not yet available for shipment to Canada. On October 23, 1968, this price change was formalized in an amendment to the original five-year contract.[22] As of December 1, 1967 the Montreal CIF and FOB prices were reduced to $2.09 (or $2.1225 including harbour dues) and $1.33, respectively.

In anticipation of shipping the Murphy Oil Group's own crude oil to Canada, Murphy Oil Trading Company (of Delaware), on March 28, 1968, entered into a contract of affreightment with an Esso International company called Associated Bulk Carriers Ltd. (of Bermuda) for the period July 1, 1968 to December 30, 1970.[23] The contract called for tanker transportation to Portland at Intascale less 62.5 per cent from the Persian Gulf[24] and Intascale less 57.5 per cent from North Africa for tankers of 35,000 to 65,000 tons. On August 2, 1968[25] Murphy Oil Trading agreed to supply Murphy Oil Quebec with Iranian Light oil or suitable substitute crude oils at a Portland CIF price of $1.9876[26] (plus any subsequent increases in Host Government Take) for the period August 1, 1968 to April 30, 1973, with ocean loss, insurance, wharfage and harbour dues and any penalties incurred under the provisions of the BP processing agreement being paid by Murphy Oil Trading.[27]

It is not altogether clear when direct tanker shipments of crude oil to Montreal were superseded by shipments via the Portland pipeline. For

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20. The $2.11 price covered insurance and ocean loss.
21. See Tab 15 of Book I of Exhibits in *Spur Oil Ltd. v. the Queen*, 81 DTC 5168. (Federal Court, Trial Division)
22. *Ibid.*, Tab 22 of Book I of Exhibits.
23. *Ibid.*, Tab 12 of Book I of Exhibits.
24. The lifting ports mentioned were Kharg Island and Lavan Island (i.e., for Iranian Light and Sassan Offshore Light crude oil, respectively).
25. See Exhibit I-302.
26. This was lower than the CIF Portland price of $2.02 available from BP. This was derived from the CIF Montreal price of $2.1225 by deducting the pipeline fees from Exhibit I-161.
27. This contract was superseded by the Tepwin contract of February 1, 1970. See Exhibit I-375D, item 8.

comparative purposes, an equivalent Portland CIF price was calculated by subtracting the terminal (i.e., wharfage and harbour dues) and pipeline tariffs[28] from BP's $2.1425 and $2.1225 Montreal CIF prices effective, respectively, prior to December 1, 1967 and thereafter to April 30, 1970 (see Table F-4). It was also not clear whether BP did in fact sell crude oil to Murphy on a CIF basis from July 1, 1968 to April 1970.[29] Since Murphy's own transportation costs under its contract of affreightment, at Intascale less 62.5 per cent or 49.9¢ in 1968 and 57.4¢ in 1969/1970,[30] was lower than the implicit freight rate of 68.1¢ under the BP CIF contract and that contract's freight option at Intascale less 45 per cent, Murphy had an incentive to transport crude oil itself. Murphy's 1969/1970 volumes of crude oil imports also closely matched the contracted tanker capacity under its contract of affreightment. Moreover, an exhibit prepared for the tax reassessment litigation involving Murphy[31] shows Iranian Light FOB prices of $1.32, $1.33, $1.31 from April to July 1969 and $1.27[32] from August 1969 to March 7, 1970. Freight rates were consistently given at $0.574 or $0.575. This evidence and the statements of Murphy Oil witnesses indicate that Murphy was buying on FOB terms from BP Trading up to July 1969 and then from Esso International from August 1969 to 1970, likely on a swap basis for its Sassan crude oil.[33] Murphy Oil relied on Iranian Light because its Sassan crude oil was found to be unacceptable to BP Canada after a few cargoes were imported in late 1968 and early 1969.

Several crude oil-producing companies had made offers to Murphy in 1969/1970.[34] Esso International offered to purchase 7000 b/d of Murphy's Sassan crude oil at $1.22 FOB if Murphy would purchase 14,000 b/d of its Iranian Light at $1.27 FOB from June to November 1969. BP initially offered Murphy Iranian Light at $1.27 FOB in April 1970. At the same time, Shell offered a CIF Portland price of $1.97 for Iranian Light (or $2.10 for Libyan Es Sider crude) from January 1971 to June 30, 1973. In May 1970, BP proposed CIF Portland prices of $2.09 from January 1, 1971 to June 30, 1971; $2.05 from July 1, 1971 to June 30, 1972 and $2.07 from July 1, 1972 to April 30, 1973 with a renegotiable price for the May 1, 1973 to

28. See Exhibit I-161

29. *Op.cit.*, *Spur Oil Ltd. v. The Queen*, at Tab 21.2 of Book I of Exhibits reports that Murphy accepted a shipment of Iranian Light at $2.13 CIF Montreal for September 1968 at BP's request.

30. The 1968 freight figure of 49.9¢ is based on using the Intascale flat rate from Ras Tanura (see section 4(b)). The figure of 57.4¢ was reported in *ibid.*, Tab 178 of Book III of Exhibits.

31. *Ibid.*, Tab 178 of Book III of Exhibits.

32. There was also one price of $1.28 in November 1969.

33. See Transcript Volume 102 at pp. 19206-19207.

34. *Ibid.*, Tabs 28, 65, 68 and 71 of Book I of Exhibits.

1976 period. Shell (via Asiatic Petroleum) in June 1970 was prepared to sell Abu Dhabi (Murban, 39.0 to 39.9° API) crude oil for $1.45 FOB Jebel Dhanna or $2.10 CIF Portland from July 1970 to December 1976.

Following these negotiations between BP and Murphy, an agreement was arrived at on June 4, 1970 whereby the "third-party FOB market" price for Iranian Light was set at $1.246. Negotiations were not finalized until September 17, 1971 at which time an agreement covering the period January 1, 1971 to December 31, 1975[35] was signed. The FOB price was to be the June 4, 1970 "negotiated market price" plus any subsequent increases in Host Government Take reported for Zakum crude oil while the freight rate was fixed at $0.812 (or current Worldscale 65) until April 30, 1973[36] and at whatever level Worldscale 65 was at in May 1973, thereafter.[37] The contract also recognized that Murphy had exercised its option in November 1970, to request the right to lift an extra 625,860 barrels of crude oil per year under the June 4, 1970 price formula, but stipulated in turn, that the freight rate for the first 625,860 barrels lifted between May 1971 and April 30, 1972 and in the same period for 1972 to 1973 would be transported at Worldscale 100 or $1.249/barrel in order to take account of the increase in freight rates that had occurred in late 1970.[38] It should be noted that under this new contract Iranian Light was almost completely replaced after early 1972 by other crude oils which were more suitable to the sulphur content restrictions imposed by the City of Montreal and also to the product output mix desired by Murphy Oil. The crude oil was delivered on a C&F (i.e. excluding insurance) basis to Portland by the BP Group.

For the 1971 to April 1973 BP contract FOB prices on Table F-3, the June 4, 1970 "negotiated FOB market" price for Iranian Light was adjusted

35. See Exhibit I-375A. This was subsequently extended to December 31, 1976. The processing agreement had been also extended on April 6, 1971 to April 30, 1973. In the Murphy Oil Company (Calgary) Annual Report for December 31, 1971, it was stated that this agreement had been extended three years to April 1976. The 1973 Annual Report stated that an extension to April 1978 was effective May 1, 1974.

36. The ocean freight component could be increased subject to increases in port dues at Portland or the loading ports. An increase of 1.6¢ in port dues for October 1, 1972 was reported in *op.cit.*, *Spur Oil Ltd. v. The Queen*, Tab 191 of Book III of Exhibits.

37. See Section 4(a) below for an explanation of Worldscale.

38. Since Zakum crude oil was imported prior to Iranian Light crude oil in 1971 and 1972, the Worldscale 100 freight rate was applicable to only a negligible volume of the Iranian Light imported (i.e., in June to August of 1971). These Worldscale 100 prices reflected spot freight rates which were regarded as temporary (i.e., to be in effect only to April 30, 1973) because Worldscale 65 was to be in effect thereafter until the end of 1975.

for increases in Zakum's Host Government Take.[39] The corresponding CIF Portland prices on Table F-4 were calculated by adding on the freight rate of $0.812 plus any increases in port dues ($0.016 on October 1, 1972) and allowing for 1 per cent of the C&F price for insurance costs.[40] Calculations for May 1, 1973 to 1976 were not possible due to a lack of evidence on the FOB prices and freight rates negotiated between the Murphy Oil and BP Groups for this period.

(ii) Estimated CIF Third-Party Prices for the Murphy Group Based on Contract FOB Prices and Third-Party Freight Costs

The second set of prices reported for the Murphy Oil Group were based on adding third-party freight costs to the FOB prices available from BP and Esso International. From July 1968 to March 1970, it was possible to calculate CIF Portland prices for Iranian Light oil (see Table F-4) by adding the Murphy Oil Group's own transportation costs[41] to the BP FOB contract price for 1968 to 1970 and the Esso International FOB price for August 1969 to 1970 and by including 1 per cent of the C&F price for insurance costs. For Lagomedio 32.3° API and Lot 17 34.8° API light Venezuelan crude oils, similar price data are available for February and March 1970, respectively (see Tables F-5, F-6 and F-12). Under the July 1, 1968 to December 31, 1970 contract of affreightment, the ocean freight rate to Portland from the Persian Gulf (Kharg Island) for Iranian Light 34° API was 57.4¢ (Intascale less 62.5 per cent or Worldscale 46.6). From Punta de Palmas, Venezuela, the rates given in February and March 1970 were 22.5¢ and 22.2¢ for Lagomedio 32.3° API and Venezuelan Lot 17 34.8° API, respectively (Intascale less 57.5 per cent or Worldscale 81). The actual monthly FOB prices and transportation costs incurred by Murphy Oil Trading Company in supplying Murphy Oil Quebec for 1969 to March 1970 were reported, as mentioned above, in an exhibit filed during the tax reassessment litigation involving Murphy. From April to October 1970, the $1.27 FOB price was used for Iranian Light while for November/December it was increased by the Host Government Take (HGT) adjustment for Iranian Light[42] to $1.36.

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39. The increases in Host Government Take (HGT) for Zakum were given in *op.cit.*, *Spur Oil Ltd. v. The Queen*, Tab 191 for November 1970 to January 21, 1972. The changes for January and April 1973 were based on changes for Murban crude oil and Umm Shaif crude oil, also originating from Abu Dhabi, as reported in *International Crude Oil and Product Prices* (ICOPP).

40. As suggested by Newton. See Section 4(b) below.

41. One cargo was imported in September 1969 at a freight rate of 99¢ for a CIF price of $2.28. A freight rate of $1.279 for a February 1969 cargo of Sassan was also reported for 1969.

42. The earlier BP contract allowed for price changes based on HGT changes in Iranian Light; it is assumed that the Esso International contract also had this provision.

(iii) Estimated Offshore Third-Party Prices for the Murphy Group

From February 1970 to 1975, Tepwin Company Limited, a wholly owned Bermuda subsidiary of Murphy Oil Company Ltd., Calgary, acted as an intermediary between Murphy Oil Quebec and the Murphy Oil Group companies for crude oil and transportation services.

Table E-3 contains the financial data on Tepwin's income and dividends for 1970 to 1975, along with calculations on a per barrel basis. Table E-4 provides an example of the manner in which Canadian purchase or import prices for Iranian Light were converted to net offshore prices by subtracting the net income or dividend/barrel and reported markup per barrel.[43] Unlike the Petrofina Canada/Pannac situation, Tepwin's only revenue source was Murphy Oil Quebec.[44] Therefore, Tepwin's income and dividends would appear to have entirely reflected the markup which that offshore subsidiary put on the third-party prices and freight rates originally paid by the Murphy Oil Group. Moreover, the markup appears to have been applied equally across all types of crude oils.[45]

However, for 1970 there appears to have been an additional markup of 12¢ on the Iranian Light FOB price charged by Murphy Oil Trading to Tepwin. On February 1, 1970, Tepwin entered into a sub-chartering agreement[46] with Murphy Oil Trading for 12 to 20 voyages commencing on February 1, 1970.[47] The freight rates to Portland from the Persian Gulf were to be at Worldscale 46.6 while those from Venezuela were to be at Worldscale 81.0. On the same date, these two parties signed a crude oil sales agreement[48] for February 1, 1970 to December 31, 1970, with FOB prices of $1.39 for Iranian Light and $1.75 for both Lagomedio and Lot 17 Venezue-

43. The dividend figures were taken from Exhibit I-301 while the number of barrels imported by Murphy Oil Quebec are from Exhibit I-375D (see Table E-1). The net income figures come from *op.cit., Spur Oil Ltd. v. The Queen*, Tab 175 of Book II of Exhibits and were converted from Canadian dollar data. The Canadian purchase prices are CIF Portland prices found also in Exhibit I-375D. On page 3 of the October 13, 1983 responses to undertakings (I-375D) Murphy Oil reported that the Tepwin markup was about 25¢ in 1970, 52¢ in 1971/1972 and 77¢ in 1973 to 1975. See Table E-3 for a comparison with net income per barrel and dividend per barrel figures calculated using Tepwin financial data.

44. The one exception was a profit of $838,545 earned in February 1971 on a tanker sub-charter which was received by Murphy Oil (Calgary) in the form of dividends.

45. This observation is based on calculations using 1970/1971 data found in *op.cit., Spur Oil Ltd. v. The Queen*, Tab 7 of Separate Book of Exhibits.

46. *Op.cit., Spur Oil Ltd. v. The Queen*, Tab 42 of Book I of Exhibits.

47. This contract of affreightment was extended to February 28, 1971 by a letter of agreement between Murphy Oil Trading Co. (Western) and Tepwin on December 4, 1970. See *ibid*, list of exhibits for appeal decision.

48. *Ibid.*, Tab 43, Book I of Exhibits.

TABLE E-3

Financial Data for Tepwin Company Limited, 1970 to 1975[d]

	(U.S. dollars)				(U.S. Cents Per Barrel)		
	Gross Income	Net Income[a]	Dividends Paid to Murphy Oil[d]	Number of Barrels Imported into Canada[b]	Gross Income Per Barrel	Net Income Per Barrel	Dividend Per Barrel[c]
1970	1,546,864	1,540,111	1,600,283	5,492,182	28.2	28.1	29.1 (25)
1971	2,911,873	2,899,935	3,522,818	6,011,091	48.4	48.4	58.6 (52) 44.7*
1972	3,550,395	3,537,712	3,396,952	7,180,938	49.4	49.3	47.3 (52)
1973	3,861,854	3,823,982	3,922,867	6,601,184	58.5	57.9	59.4 (77)
1974	4,261,828	4,207,745	4,038,000	5,894,957	72.3	71.4	68.5 (77)
1975	4,060,829	3,996,198	n.a.	6,487,390	62.6	61.6	(77)

Notes and Sources:

(a) Net Income is Gross Income net of General and Administrative Expenses.

(b) The number of barrels of crude oil imported were taken from Exhibit I-375D. In 1970, imports of 1,275,265 barrels of crude oil under the previous Murphy Oil Trading Corporation contract were excluded. The imports shown above concern the Tepwin contract only.

(c) The figures in parentheses are those reported in Exhibit I-375D, page 3 of the October 13, 1983 responses to undertakings. The *asterisked* figure for 1971 is the dividend per barrel figure adjusted to subtract the $838,545 profit on a tanker sub-charter which was received in the form of dividends by Murphy Oil (Calgary).

(d) The dividend figures are from Exhibit I-301. The remaining Tepwin financial data are from Exhibit 175 (Book II of Exhibits) in *Spur Oil Ltd. v. The Queen*, Federal Court, Trial Division, 81 DTC 5168; these were originally in Canadian dollars.

lan crude oil (plus any increases in Host Government Take). This $1.39 FOB price is 12¢ above the $1.27 price which Murphy Oil Trading paid to Esso International from August 1969 to October 1970. (The Worldscale freight rates match the Intascale rates negotiated with Associated Bulk Carriers Ltd.) If the same markup were applied to the Venezuelan crude oil, then the original offshore price to the Murphy Group would be $1.63 for Lagomedio in 1970.

Table E-4 also contains a comparison of the estimated net offshore prices with the prices calculated using the Esso International FOB prices and the Murphy Oil Group's transportation costs to Portland from the Persian Gulf for 1970 and the BP contract CIF prices for 1971 to April 1973. The net offshore prices were higher than the original third-party contract prices in 1970 reflecting the 12¢ per barrel markup mentioned above. The June to August 1, 1971 offshore prices were also higher but only because they incorporated the Worldscale 100 freight rate of $1.249 as stipulated under the BP contract for a limited volume of crude oil; that is, if BP contract prices ($2.924) with the Worldscale 100 rate ($1.249) were also used, higher offshore prices would not be observed for these months. The August 7 to November 1971 and January/February 1972 estimated offshore delivered prices were actually slightly lower than the contract prices. This anomaly was likely due to errors caused by reconverting Canadian to American dollars.

Of the various methods used in Table E-4 to derive net offshore prices, the subtraction of the net income per barrel generally provided prices which more closely matched the BP contract prices for 1971 to 1972. The dividend per barrel method also produced close approximations while the markup per barrel method based on Murphy Oil's own estimates provided more divergent prices. Accordingly the prices derived using the net income per barrel method were used in Tables F-3 and F-4 for Iranian Light and Table F-9 for Nigerian Forcados Export Blend. The net offshore CIF prices for Iranian Light were converted to FOB prices by deducting the freight rate of $0.574 for 1970, $0.812 for 1971 to September 1971 and $0.828 (including the increase in port dues of $0.016 in October 1972) for October 1972 to April 1973. The February and March 1974 FOB prices were derived from CIF prices using the freight data ($2.04 and $2.45) reported to the PCB. For 1974, the FOB price reported to the PCB[49] was reduced by the Tepwin net income per barrel figure for that year. No freight data were available to calculate the FOB offshore price for Nigerian Forcados in November 1973.

For 1976/1977, third-party price data for Iranian Light were available from the CIF and FOB price information which Murphy filed with the

49. See Exhibits I-114 Confidential and I-126.

TABLE E-4

Comparison of Murphy Oil's Estimated Net Offshore CIF Prices, Portland With Contract CIF Prices For Iranian Light Crude Oil, 1970 to 1974 (U.S. $ Per Barrel)

Delivery Dates	Canadian Purchase CIF Price[a]	Tepwin[c]			Net Offshore Prices				Contract CIF Prices[d]	Markup Over Contract Prices[e]			
		Net Income	Dividend	Markup	(1)–(2)	(1)–(3)	(1)–(4)	(1)–(3)*		(5)–(9)	(6)–(9)	(7)–(9)	(8)–(9)*
1970[b]													
February									1.862				
March													
April 15	2.25	0.281	0.291	0.25	1.969	1.959	2.00			0.107	0.097	0.138	
May 4	"	"	"	"									
June 4	"	"	"	"									
June 30	"	"	"	"									
July 31	"	"	"	"									
Aug. 19	"	"	"	"									
Sept. 20	"	"	"	"									
Oct. 8	"	"	"	"									
Nov. 14	"	"	"	"					1.949	0.020	0.010	0.051	
Dec. 5	"	"	"	"									
1971													
January									2.145				
February									2.418				
March													
April													
May 26	2.894	0.484	0.586	0.52	2.410	2.308	2.374	2.447		(0.008)	(0.111)	(0.044)	0.029
June 3	3.330	"	(0.447*)	"	2.846	2.744	2.81	2.883	2.483*	0.428	0.326	0.392	0.465
July 20	3.311	"	"	"	2.827	2.725	2.791	2.864	(2.924)	0.344	0.242	0.308	0.381
Aug. 1	3.196	"	"	"	2.712	2.61	2.676	2.749		0.229	0.127	0.193	0.266
Aug. 7	2.956	"	"	"	2.472	2.37	2.436	2.509		(0.011)	(0.113)	(0.047)	0.026
Sept. 12	2.957	"	"	"	2.473	2.371	2.437	2.510		(0.010)	(0.112)	(0.046)	0.027
Oct. 7	2.968	"	"	"	2.484	2.382	2.448	2.521		(0.001)	(0.101)	(0.035)	0.038
Oct. 23	"	"	"	"	"	"	"	"		"	"	"	"
Nov. 21	"	"	"	"	"	"	"	"		"	"	"	"
Column	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)

TABLE E-4 (cont'd)

Comparison of Murphy Oil's Estimated Net Offshore CIF Prices, Portland With Contract CIF Prices For Iranian Light Crude Oil, 1970 to 1974 (U.S. $ Per Barrel)

Delivery Dates	Canadian Purchase CIF Price[a]	Tepwin[c]			Net Offshore Prices				Contract CIF Prices[d]	Markup Over Contract Prices[e]			
		Net Income	Dividend	Markup	(1)–(2)	(1)–(3)	(1)–(4)	(1)–(3)*		(5)–(9)	(6)–(9)	(7)–(9)	(8)–(9)*
1972													
Jan. 19	2.968	0.493	0.473	0.52	2.475	2.495	2.448		2.483*	(0.008)	0.012	(0.035)	
Jan. 21	"	"	"	"	"	"	"		2.604	"	"	"	
Feb. 13	2.975	"	"	"	2.482	2.502	2.455		2.604	(0.001)	(0.019)	(0.028)	
March													
April													
May													
June													
July													
August													
September													
October									2.620				
November													
December													
1973													
January									2.69				
February													
March													
April									2.784				
May													
June													
July													
August													
September													
October													
November													
Dec. 19	6.231	0.579	0.594	0.77	5.652	5.637	5.461		n.a.				
Column	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)

Delivery Dates	Canadian Purchase CIF Price[a]	Tepwin[c]			Net Offshore Prices				Contract CIF Prices[d]	Markup Over Contract Prices[e]			
		Net Income	Dividend	Markup	(1)–(2)	(1)–(3)	(1)–(4)	(1)–(3)*		(5)–(9)	(6)–(9)	(7)–(9)	(8)–(9)*
1974													
Jan. 10	6.171	0.714	0.685	0.77	5.457	5.486	5.401		n.a.				
Feb. 26	12.080	"	"	"	11.366	11.395	11.31						
Mar. 12	12.482	"	"	"	11.768	11.797	11.712						
April													
May													
June													
July													
August													
September													
October													
November													
December													
Column	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)

Notes and Sources:

(a) The Portland CIF Canadian purchase or import prices paid by Murphy Oil Quebec are from Exhibit I-375D.

(b) In 1970, imports of 1,275,265 barrels under the previous Murphy Oil Trading Corporation contract were excluded.

(c) The Tepwin Net Income/Dividend/Markup per barrel figures are from Table 3. Column 3 contains a dividend per barrel figure for 1971 which has been adjusted to remove the $838,545 profit on a tanker sub-charter which was apparently remitted in the form of dividends to Murphy Oil (Calgary).

(d) The CIF contract prices for January to May 1970 are based on FOB price ($1.27) and transportation cost ($0.574) information, reported in *Spur Oil Ltd. v. The Queen*, Federal Court, Trial Division, 81 DTC 5168, at Tab 178 of Book II of Exhibits, which were extended to October and adjusted in November for the $0.065 increase in Host Government Take for Zakum as per the BP contract price adjustment clause, plus 1 per cent of the C&F price for insurance. For 1971 to April 1973, the BP Contract C&F prices found in Exhibit I-375A were similarly adjusted for increases in the Zakum Host Government Take and port dues and 1 per cent of the C & F price was added for insurance. Since the dates for the Canadian purchase prices reported are delivery dates, the comparisons are actually made with the BP Contract prices in effect in the previous month (i.e., the month of loading at Kharg Island in the Persian Gulf). *Asterisks* are used to denote those monthly BP Contract prices for which this procedure applies in 1971 and 1972.

(e) If the BP Contract prices for June to August 3, 1971 were calculated using the Worldscale 100 freight rate (i.e. $1.249) charged to Murphy for these initial cargoes, then negative markup figures would also be observed with the higher price of $2.924.

PCB.[50] These closely matched the prices found in the Murphy Oil Group's contracts with Marc Rich & Co. A.G. (of Switzerland).[51] Under the terms of these contracts, Murphy Oil provided Iranian Light to Marc Rich on an FOB Kharg Island basis while Marc Rich supplied Spur Oil Ltd. (formerly Murphy Oil Quebec) on a Portland CIF basis. The Marc Rich contracts therefore also provided some third-party freight data. The freight rates quoted in the contracts were $0.925[52] for 1976 and Worldscale 52.5 or $1.196[53] for 1977 for shipments between Kharg Island and Portland. These rates were used in combination with FOB prices (i.e., the OGSP, and U.S. DOE third-party maximum prices) found on Table F-3 to generate CIF prices for Table F-4 in 1976/1977.[54]

(c) The Irving Oil Group

A 1970 "negotiated market" price and offshore prices calculated for 1971 to 1975 for the Irving Oil Group of companies could be treated as if they were of a third-party nature even though Irving's ultimate crude oil and transportation service supplier (since 1960) was Standard Oil Company of California (SOCAL) which initially, through its subsidiary Standard Oil of British Columbia, held a 51 per cent interest in Irving Refining Limited and a 49 per cent interest in Irving Oil Company, Limited (the marketing and distribution corporation for the Irving Group). By amalgamation in June 1973, Irving Oil Limited became the holding corporation of the Irving Group, with SOCAL's total ownership interest being reduced to 48.9 per cent in 1976. The Irving family interests were held through private companies. Irving California Oil Company Limited (IRVCAL) of Bermuda was a "shelf" company[55] under the name of Bomag International Ltd. when it was purchased in 1971. It was initially equally owned by Irving Refining Limited and Irving Oil Company, Limited. As a result of the 1973 amalgamation, IRVCAL became a wholly owned subsidiary of Irving Oil Limited.[56] It was set up as an offshore trader to share non-Canadian crude oil

50. See Exhibits I-114 Confidential and I-126.

51. See Exhibit I-375A, item 6.

52. This freight rate was derived by subtracting the FOB price of $11.62 and the implicit 1 per cent insurance element of the CIF price from the $12.67 CIF price quoted in the contract.

53. The $1.20 freight rate cited was for 33.3° API. For 34° API, this would be $1.196.

54. On Table F-2 for Arabian Light and Table F-11 for Iranian Heavy and Kuwait 31° API, these Murphy freight rates were also used in combination with similar third-party FOB data to generate CIF prices.

55. See Transcript Vol. 83, p. 15813.

56. See Exhibit I-14, pp. 2 to 3. SOCAL's interests were held through Standard Oil Company of British Columbia (Chevron Canada Limited as of 1975).

production and transportation profits, related to supplying the Irving refinery, between SOCAL and Irving.[57]

From 1960 to July 1971, Irving Refining Limited was supplied on a CIF Saint John, New Brunswick basis under the terms of a twenty-year agreement signed in 1957 between it and California Transport Corporation (a SOCAL company) in which the CIF price of $2.712 was to vary with any changes in the July 1, 1956 posted prices of Arabian Light ($1.93) and Iranian Light ($1.91).[58] By the end of 1960,[59] the CIF contract prices for these crude oils had fallen to $2.58. They remained at that level, except for Iranian Light which rose to $2.59 in 1965, until July 1971, inclusive. On August 9, 1971, Irving Refining Limited signed a total requirements supply agreement[60] with recently acquired Bomag International Limited for Arabian Light and Iranian Light at a CIF price of $2.90 subject to increases in (a) Host Government Take and (b) the August 1, 1971 AFRA LR-2 freight rate of $1.05 for shipments between the Persian Gulf and Irving's deep water Mispec Terminal facilities.[61] (The contractual relationships between the Irving importing companies and the offshore trader were continued in several contracts in 1972, 1980 and 1981).[62]

In 1971, at the same time as it agreed to supply Irving, Bomag signed a parallel supply agreement with Chevron Oil Sales Company (a Delaware Corporation affiliated with SOCAL) in which the CIF Saint John price was set at $2.104[63] subject to Host Government Take increases, as well as increases in various factors associated with freight costs. Therefore a markup of 79.6¢[64] was imposed on the CIF price of Irving's imports on August 9,

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57. See Transcript Vol. 83, p. 15816.
58. See Exhibit I-318A. The term of the agreement was to be from August 14, 1957 to 20 years after the opening of the refinery. The agreement only allowed a price formula review at the end of 10 years of operation (i.e., 1970), but could be terminated on one year's notice. Chevron Transportation Corporation subsequently acquired California Transportation's rights under this agreement.
59. The Saint John refinery opened in 1960.
60. The previous supply agreement also contained a total requirements clause.
61. See Exhibit I-257 at Tab 2.
62. See Exhibit I-374 Confidential for the 1972, 1980 and 1981 contracts.
63. See Exhibit I-374 Confidential at Tab 1 which is a December 26, 1972 agreement between the same parties (except that Bomag has become IRVCAL) in which the August 9, 1971 price of $2.104 was reported as covering the first 120,000 barrels per calendar day requirements of the refinery until 100 million barrels were sold and then $2.243 thereafter, with prices of $2.393 and $2.493 for extra sales of 20,000 and 80,000 barrels per day. Since the maximum volume ever imported was 55 million barrels, only the $2.104 price was relevant (see Exhibit I-259). See also Exhibit I-14, p. 4.
64. That is, $2.90 minus $2.104.

1971 by means of an offshore trading company. In an Irving Oil financial document dated April 1973, an offshore price of $2.667 is compared to a reported price of $3.272 for Arabian and Iranian Light.[65] This represents a markup of 60.5¢.

Evidence of an earlier "negotiated market" price was found in a September 1, 1970 draft of an unsigned agreement between Irving Refining Limited and Chevron Oil Sales Company which contained a CIF price of $2.025 for Arabian Light and Iranian Light crude oils, with similar FOB price and freight cost adjustment clauses, in comparison to the $2.58/$2.59 CIF prices being paid.[66]

In order to calculate net offshore transaction prices for 1971 onwards, net income per barrel and dividend per barrel figures were derived from financial data available for Bomag-IRVCAL. Table E-5 is limited to 1971 to 1975 data. The Commission does not have any information for 1976 to 1981. Net offshore prices would also have to be calculated for 1976 to 1981 because Irving Oil reported that IRVCAL had always made an overall profit on its sales to Irving Oil.[67] (No dividends were reported to have been received in 1982.[68]) The net income rather than dividend per barrel figures were used because they represented the actual markup charged per year whereas an examination of the dividends declared over the 1971 to 1975 period shows lags in distribution. There were with no dividends in 1971 and low (high) dividends in 1973 (1974/1975) relative to the net income earned in those years.

Table E-6 provides an example of the calculation of net offshore CIF and FOB prices for Arabian Light for 1971 to 1975 using net income per barrel figures to reduce the Saint John CIF and FOB purchase or import prices paid by Irving Refining Limited. Similar CIF and FOB prices are found on Tables F-3 and F-4 for Iranian Light (1971 to 1974) and on Tables F-10 and F-11 for Iranian Heavy (1973 to 1974). It was not possible to calculate net offshore prices for (a) 1976 to 1981 for Arabian Light, (b) 1976 to 1978 for Iranian Light and (c) 1980 and 1981 for Arabian Medium 31° API. The FOB and Saint John CIF purchase or import prices used in the above calculations were taken from Exhibit I-394 Confidential (for the annual 1971

65. See Exhibit I-272 Confidential.

66. See Exhibit I-257 at Tab 1. The $2.90 August 9, 1971 price added Arabian and Iranian Light Host Government Take increases in November 1970 and 1971 to the 1970 CIF prices of $2.58/$2.59.

67. Mr. Arthur Irving confirmed that IRVCAL's only source of income was the markup it put on its sales to Irving Oil. See Transcript Vol. 83A, pp. 42-43.

68. See Exhibits I-318A, 318B and 318C, all Confidential and Transcript Vol. 83, p. 15826.

TABLE E-5

Financial Data for Irving California Oil Company Limited (IRVCAL), 1971-1975

Year	(U.S. dollars)		Number of Barrels Imported Into Canada[c]	(U.S. Cents Per Barrel)	
	Net Income[b]	Dividends[b]		Net Income Per Barrel[a]	Dividends Per Barrel
1971	10,829,245	Nil	27,657,991	39.2* (79.6)	Nil
1972	21,550,218	25,600,000	33,819,804	63.7	75.7
1973	42,549,629	11,800,000	39,850,191	107.0**(60.5)	29.6
1974	48,735,987	63,300,000	36,722,252	132.7	172.4
1975	18,361,558	36,400,000	38,654,567	47.5	94.2

Notes and Sources:

(a) The Net Income Per Barrel figure with a *single asterisk* represents the average annual markup calculated by dividing net income by the total number of barrels imported. However, IRVCAL (previously called Bomag) only began selling to Irving Refining Limited on August 9, 1971 — with a markup of 79.6¢. Therefore the net income per barrel markup of 39.2¢ is useful only in calculating the net cost to Irving for the year 1971. The Net Income Per Barrel figure with a *double asterisk* is the average annual markup across all crude oils in 1973. In Exhibit I-272 Confidential, an offshore markup of 60.5¢ for Arabian and Iranian Light crude oils is indicated for April 1973.

(b) The net income and dividend figures are from Exhibit I-14, Schedule A.

(c) The number of barrels imported are from Exhibit I-259.

TABLE E-6

Estimation of 100 Per Cent Net Offshore Prices for Arabian Light Crude Oil Paid by Irving Oil, 1971 to 1975
(U.S. $ Per Barrel)

DATE	CANADIAN PURCHASE PRICE[a]		IRVCAL'S NET INCOME PER BARREL[b]	NET OFFSHORE PRICE[c]	
	CIF	FOB		CIF (1)–(3)	FOB (2)–(3)
1971	2.80	1.69	0.392	2.41	1.30
January	2.58	1.80	n.a.	n.a.	n.a.
August 19	2.90	1.85	0.796	2.104	1.054
1972	2.89	1.95	0.637	2.25	1.31
1973	3.57	2.33	1.07	2.50	1.26
April	3.272	n.a.	0.605	2.667	n.a.
1974	11.91	10.01	1.327	10.58	8.68
January	11.63	9.64		10.30	8.31
February	11.74	9.97		10.41	8.64
March	11.80	9.79		10.47	8.46
April	11.90	9.87		10.57	8.54
May	—	—		—	—
June	11.84	9.90		10.51	8.57
July	—	—		—	—
August	11.84	9.97		10.51	8.64
September	11.78	10.05		10.45	8.72
October	11.99	10.39		10.66	9.06
November	12.43	n.a.		11.10	n.a.
December	12.51	10.74		11.18	9.41
COLUMN	(1)	(2)	(3)	(4)	(5)

DATE	CANADIAN PURCHASE PRICE[a]		IRVCAL'S NET INCOME PER BARREL[b]	NET OFFSHORE PRICE[c]	
	CIF	FOB		CIF (1)–(3)	FOB (2)–(3)
1975			0.475		
January	11.92	n.a.		11.45	n.a.
February	11.85	10.83		11.38	10.36
March	11.84	n.a.		11.37	n.a.
April	—	—		—	—
May	11.17	n.a.		10.70	n.a.
June	11.86	n.a.		11.39	n.a.
July	—	—		—	—
August	11.84	10.62		11.37	10.15
September	11.85	10.63		11.38	10.16
October	12.90	11.70		12.43	11.23
November	12.79	11.59		12.32	11.12
December	—	—		—	—
COLUMN	(1)	(2)	(3)	(4)	(5)

Notes and Sources:

(a) For the Canadian purchase prices see Exhibit I-257 at Tab 2 for August 19, 1971, Exhibit I-272 Confidential for April 1973, Exhibit I-394 Confidential for the annual 1971 to 1974 figures and Exhibits I-265 and I-266 for the monthly 1974 and 1975 figures.

(b) The IRVCAL net income per barrel figures are from Table 5.

(c) Tables F-1 and F-2 also show 50 per cent offshore prices which were calculated because the profits of the offshore subsidiary were reported to have been intended to be shared equally between SOCAL and Irving. See Transcript Volume 83, p. 15813.

to 1974 FOB and CIF prices), Exhibit I-257, Tab 2 (for the August 9, 1971 CIF price), Exhibit I-274 Confidential (for the April 1973 CIF price) and Exhibits I-265, 266, 267 Confidential and 268 Confidential (for 1974 to 1981 monthly data).[69] The Commission has no information regarding Irving's 1982 CIF or FOB prices of imported crude oil.

Supply contracts with non-SOCAL corporations[70] were not in evidence so it could not be determined whether the markup represented by the net income per barrel was the same for all crude oils, independent of source. The evidence of differences in the annual and April markups for Arabian Light and Iranian Light in 1973 suggests that markups may also have varied per month for crude oil.

Only the CIF "negotiated market" price for 1970 and the CIF offshore prices of Arabian Light and Iranian Light for 1971 were similar to those observed for third-party transactions. The FOB offshore prices calculated for 1972 to 1975 appear to have been biased downward by a markup on ocean shipping freight rates because they were often below tax paid cost levels. For 1972 to 1974, both FOB and CIF offshore prices calculated for Irving were found to be substantially below prices reported by other Canadian companies, either on a transfer price or third-party price basis. In 1975, the Irving offshore prices were also lower than other companies' prices, but not to such an extent as that observed in prior years. For these reasons, the Irving "negotiated market" or offshore CIF price data can only be relied on for 1970 to 1971. The prices reported for 1960 to 1969 were negotiated in 1957 when posted prices represented transaction prices. Between 1960 and 1969, however, posted prices lost their relevance as market price standards.

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69. Irving Oil filed its own FOB, freight and CIF records for 1974 to 1981 (see Exhibits I-265 and I-268 Confidential). For various months, some FOB or freight data were not available. Other data were available from the above sources on crude oils not mentioned in Tables F-1 to F-12. These included Arabian Heavy (1975 to 1980), Boscan (1971 to 1975 and 1980 to 1981), Maya and Isthmus (1980 to 1981) and Arabian Extra Light (1973 and 1981). In 1974, the annual net offshore figures for Iranian Light were about $1.50 less than the minimum monthly (FOB or CIF) net offshore price calculated. This was not found to be the case with other crude oils. This anomaly was likely the result of the 1974 annual subsidized crude oil costs being reported as the imported cost in the Irving exhibit.

70. The list of exhibits in Irving's tax reassessment litigation (see Exhibit I-14) indicated contracts with (a) Asiatic Petroleum (Shell), September 21, 1972 and January 3, 1973, (b) Sun Oil International Inc., March 9, 1972, and (c) Esso International Inc., September 14, 1972.

(d) The Ultramar Group

Third-party price data were available from the Ultramar Group for the following crude oil types found in Tables F-1 to F-12:[71]

(a) Tia Juana Medium 26° API for 1961 to 1974,

(b) Arabian Light for 1974 to 1975, 1977, 1979 and 1980,

(c) Iranian Light for 1975, 1977 and 1978,

(d) Lagomedio for 1966 to 1968 and 1972,

(e) Nigerian Light for 1974,

(f) Iranian Heavy for 1975 to 1979,

(g) Kuwait 31° API for 1976, and,

(h) Venezuelan light crude oils, such as: Mesa 33° API for 1966, 1967, 1970 and 1971; Lagotreco for 1967 and 1970; MarLago for 1967 and 1968; Lago Cinco 33° API for 1969 to 1973; Tia Juana Light for 1970; Centro Lago for 1972; and Mercedes 31° API for 1972.[72]

For 1961 to 1966, it was reported in Exhibit I-263 that Golden Eagle Canada had a twenty-year term contract for 5,000 b/d of T.J. Medium with its parent Ultramar Company Ltd. (England) at the posted price minus 40 cents.[73] Since the posted price was $2.27 ex La Salina (or $2.30 ex Amuay),

71. See Exhibits I-335, I-126 and I-114 Confidential. Data were also available for crude oil types not mentioned on Tables F-1 to F-12. See Exhibits I-329 and I-337 Confidential for 1960 to 1982 summary lists of crude oil imported.

72. The API levels of most crude oils were not identified in Exhibit I-335.

73. This was a March 7, 1963 Irving Oil memo summarizing a conversation with Arnold Lorbeer of Ultramar concerning the Holyrood, Newfoundland refinery's financing and crude oil sources. The refinery was largely financed through a mortgage given by Esso International and backed by a crude oil purchase agreement. There was also a twenty-year commitment by the Newfoundland Government to purchase its petroleum products from this refinery. The financing was channelled through the Canadian and Caribbean Oil Company which was created for this purpose and which was granted a 50 per cent equity interest in the refinery. Later, Ultramar repurchased the 50 per cent equity interest and refinanced the mortgage loan on the refinery. See page 117 of *A Golden Adventure: The First 50 Years of Ultramar* (London: Hurtwood Press 1985). In Exhibit I-78A Confidential, at Tab C-4/C-5 there is a reference to the Esso International contract with Ultramar as starting in June 1962. This suggests that Canadian and Caribbean Oil Company was also used to supply the Esso International crude oil in 1961 and early 1962. The volume of crude oil under the original contract increased to 17,000 b/d in 1968, 15,000 b/d in 1969, 25,000 b/d in 1970, but dropped to 14,000 b/d in 1971 (see I-78A). However, in 1971, a second contract was signed for shipments of 30,000 to 50,000 b/d to the new Quebec refinery as well as for some shipments to Newfoundland to match the volumes of Venezuelan proprietary crude oil which Ultramar used at the Quebec refinery (see M-675 and I-330).

then this formula's prices of $1.87 ex La Salina or $1.90 ex Amuay match closely the prices supplied by Imperial Oil for third-party Esso International sales to Ultramar in Exhibits I-50 and I-50A. The 3¢ variation from the lowest price of $1.93 was likely due to confusion with the loading ports used by Ultramar.

From 1960 to 1966, Ultramar imported some third-party T.J. Medium 26° API crude oil,[74] but mainly relied on its own proprietary crude oils (Oritupano 24° and Mercedes 31°),[75] as well as several other Venezuelan types. Canadian and Caribbean Oil Company Limited, which briefly in 1961 held a 50 per cent equity interest in Golden Eagle Refining Company of Canada, as well as being a mortgage holder, was reported[76] to have been one source of third-party crude oil shipped to Ultramar's Holyrood, Newfoundland refinery in the early 1960s. From 1963 to 1974, Ultramar Liberia Ltd. supplied the crude oil shipped to Canada on an FOB basis while Golden Eagle Liberia Ltd. provided transportation services.[77] In 1975, Ultramar Panama Inc. became the offshore trader.[78] All these offshore companies were owned by the multinational parent (Ultramar Company Ltd.),[79] except for 1966 to 1974 when Ultramar Liberia Ltd. was a wholly owned subsidiary of Golden Eagle Canada Limited (Ultramar Canada Inc. as of 1979)[80] to which it remitted dividends based on its FOB price markups. Esso International was the Ultramar Group's primary source of third-party crude oil on a term basis until the late 1970s, at which time purchases were made from the producer government petroleum corporations.[81]

For 1961 to 1965, as mentioned above, only price data for T.J. Medium imports were available. For 1966 to November 1974, however, Canadian purchase or import prices and offshore prices were found in Exhibit I-335.

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74. Although the T.J. Medium was being sent to the Refineria de Panama in which Ultramar had a one-third interest, the volumes imported in 1962 and 1967 were a significant proportion of imports to Canada.

75. See Exhibit I-329 and Transcript Vol. 98, p. 18419.

76. See Exhibit I-263, the 1961 and 1962 Annual Reports of Ultramar Company Ltd., and Transcript Vol. 98, p. 18414.

77. See Transcript Vol. 98, p. 18439. The tankers used were either owned or spot chartered. For Holyrood, spot chartering was initially used because the low volumes imported didn't justify term chartering until 1967. See *A Golden Adventure*, p. 227.

78. See Transcript Vol. 98, pp. 12519 to 12521.

79. Ultramar Company Ltd. was an investment company. American Ultramar Limited acted as the management corporation for the Group (see Transcript Vol. 98, p. 18462 and Vol. 99, p. 18600).

80. See Transcript Vol. 98 at pp. 18415, 18429 and 18520. Ultramar Liberia was sold in 1980 to an affiliated company.

81. See Transcript Vol. 98, pp. 18416 to 18417 and 18425.

The PCB records for Ultramar, filed by the Director,[82] provide 1974 to May 1982 data. It was, therefore, not necessary to calculate the offshore subsidiary's prices. Table E-7 provides an example of the two sets of FOB ex La Salina[83] prices for T.J. Medium from 1967 to 1974 for Holyrood and St-Romuald. However, FOB contract prices between Esso International and Ultramar Panama (M-675) and between Ultramar Panama and Ultramar Liberia, the offshore subsidiary (I-330), show that an additional markup existed in the prices which the offshore subsidiary paid to Ultramar Panama. In 1971, the only year for which data were available, the markups were 20¢ and 9¢ for shipments to the Quebec and Newfoundland refineries under the second contract signed for the new Quebec refinery (see Table F-7). As noted above, some shipments to the Newfoundland refinery were covered under this second contract. Sales to Newfoundland under the original contract would not bear this additional markup. It is not known whether the additional markups under the second contract remained at the same levels for 1972 to 1974. Accordingly, the offshore prices shown for 1972 to 1974 on Table F-7 may be overstated. It may be noted that a markup on transportation services was also reported to have been charged by Golden Eagle Liberia. However, its level was unknown because Ultramar Canada Inc. could not obtain access to that affiliate's corporate records. Freight data for Venezuela to Portland were only found for 1968 to 1970 in the Annual Reports of Golden Eagle Canada Ltd.[84]

The level of the offshore subsidiary markup on FOB prices was relatively low before 1967 (e.g., 10¢ in 1966 for Lagomedio and 0¢ for Mesa). By 1967, the markup was 30¢ for T.J. Medium and all other imported crude oils. It was[85] at that level until June 1971 when it rose slightly to 30.4¢, but was reduced to 19.4¢ for T.J. Medium going to the new St-Romuald, Quebec refinery which opened in October 1971.[86] In 1972, the markup for both refineries was at 19.4¢ to July and 14¢ for the rest of the year. For 1973, the

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82. See Exhibit I-114 Confidential and I-126.

83. For Table F-7, the FOB La Salina prices were converted to ex Amuay by the addition of 3¢.

84. These marked-up freight rates for Venezuela to Portland were 26¢, 29¢ and 28¢. See Exhibit M-537 for the financial statements of this corporation. Ultramar's freight rates would have been higher than refiners using Portland or Halifax/Dartmouth because the relatively low volumes of crude oil refined at Holyrood, coupled with the shallower water at its docking facilities, precluded the use of larger tankers employed by other Canadian refiners.

85. In August 1969 it increased briefly to 32¢.

86. The higher FOB price to Newfoundland reflected higher relative freight costs because of the more limited draft of the tankers that could dock at Holyrood. As noted above, additional markups of 20¢ and 9¢ were paid by the offshore subsidiary to Ultramar Panama which purchased the crude oil from Esso International.

TABLE E-7

Net Offshore FOB Prices[a] for Tia Juana Medium (24.0 to 26.9° API) Crude Oil Imported by the Ultramar Group, 1967 to 1974 (U.S. $ Per Barrel, ex La Salina)

	NEWFOUNDLAND REFINERY IMPORTS				QUEBEC REFINERY IMPORTS			
Date	API	Canadian Purchase Price[b]	Net Offshore Price[c]	Markup/ Margin[d]	API	Canadian Purchase Price[b]	Net Offshore Price[c]	Markup/ Margin[d]
1967								
June	25.5	1.85	1.55	0.30		—	—	—
August	"	"	"	"				
September	"	"	"	"				
October	"	"	"	"				
November	"	"	"	"				
December	"	"	"	"				
1968								
February	26.0	1.86	1.56	0.30		—	—	—
April	26.0,27.0	1.86,1.88	1.56,1.58	"				
May	26.0	1.86	1.56	"				
June	"	"	"					
July	"	"	"	"				
August	"	"	"	"				
September	"	"	"	"				
October	"	"	"	"				
November	"	"	"	"				
December	"	"	"	"				
1969								
January	26.0	1.86	1.56	0.30		—	—	—
February	"	"	"	"				
March	"	"	"	"				
April	"	"	"	"				
May	"	"	"	"				
June	"	"	"	"				
July	"	"	"	"				

TABLE E-7 (cont'd)

Date	NEWFOUNDLAND REFINERY IMPORTS				QUEBEC REFINERY IMPORTS			
	API	Canadian Purchase Price[b]	Net Offshore Price[c]	Markup/ Margin[d]	API	Canadian Purchase Price[b]	Net Offshore Price[c]	Markup/ Margin[d]
August	26.0,25.0	1.86	1.56,1.54	0.32,0.30				
September	26.0	1.86	1.56	0.30				
October	"	"	"	"				
November	"	"	"	"				
December	"	"	"	"				
1970								
January	26.0	1.86	1.56	0.30		—	—	—
February	"	"	"	"				
March	"	"	"	"				
April	27.0	1.88	1.58	"				
May	27.0,26.0	1.88,1.86	1.58,1.56	"				
June	26.0	1.86	1.56	"				
July	"	"	"	"				
August	"	"	"	"				
September	24.0	1.82	1.52	"				
October	26.0	1.86	1.56	"				
November	"	"	"	"				
December	"	"	"	"				
1971								
January	26.0	1.97	1.67	0.30				
February	26.0	1.97	1.67	"				
March	26.0	1.97,2.331	1.67,2.031	"				
April	26.0	2.331	2.031	"				
May	26.0	2.331	2.031	"				
June	26.0,27.0	2.331,2.339	2.031,2.039	"	24.0	2.52	2.326	0.194
July	26.0	2.535	2.231	0.304		"	"	"
August	27.0,24.0	2.5425,2.52	2.2385,2.216	"		"	"	"
September	26.0	2.535	2.231	"		"	"	"
October	26.0,27.0	2.535,2.5425	2.231,2.2385	"	25.0	2.5275	2.3335	"
November	26.0	2.535	2.231	"		"	"	"
December	26.0	"	"	"		"	"	"

Date	NEWFOUNDLAND REFINERY IMPORTS				QUEBEC REFINERY IMPORTS			
	API	Canadian Purchase Price[b]	Net Offshore Price[c]	Markup/ Margin[d]	API	Canadian Purchase Price[b]	Net Offshore Price[c]	Markup/ Margin[d]
1972								
January		—	—	—		—	—	—
February	25.6	2.703	2.509	0.194	25.6	2.703	2.509	0.194
March	"	2.703	2.509	0.194	"	2.703	2.509	0.194
April	n.a.	2.686	2.492	0.194	n.a.	2.686	2.492	0.194
May	"	2.686,2.738	2.492,2.544	0.194	"	2.686	2.492	0.194
June	"	2.678	2.484	0.194	"	—	—	—
July	"	2.674	2.480	0.194	"	2.674	2.480	0.194
August	"	2.512,2.528	2.372,2.388	0.140	"	2.52	2.38	0.140
September	"	2.528,2.512	2.38,2.372	0.148,0.14	"	2.52	2.38	0.140
October	"	2.52	2.38	0.14	"	2.52	2.38	0.140
November	"	2.512	2.372	0.14	"	2.52	2.38	0.140
December	"	2.512,2.52	2.372,2.38	0.14	"	"	"	"
1973								
January	"	2.577	2.487	0.09	"	2.561	2.471	0.09
February	"	2.561,2.603	2.481,2.513	0.09	"	2.603,2.635	2.513,2.545	0.09
March	"	2.727,2.805	2.637,2.715	0.09	"	2.603,2.74	2.513,2.65	0.09
April	"	2.805	2.715	0.09	"	2.727,2.805	2.637,2.715	0.09
May	"	2.805	2.715	0.09	"	2.805	2.715	0.09
June	"	2.805	2.715	0.09	"	2.805	2.715	0.09
July	"	3.094	2.894	0.20	"	3.094	2.894	0.20
August	"	3.329	3.129	0.20	"	3.329	3.129	0.20
September	"	3.546	3.346	0.20	"	2.546,3.466	3.346,3.266	0.20
October	"	3.796	3.596	0.20	"	3.796,3.716	3.596,3.516	0.20
November	"	3.796,5.147, 5.36	3.596,4.947, 5.16	0.20	"	5.147,5.36	4.947,5.16	0.20
December	"	—	—	—	"	—	—	—
1974								
January	n.a.	—	—	—	n.a.	—	—	—
February	"	9.644	9.444	0.20	"	9.544	9.444	0.10
March	"	9.644	9.444	0.20	"	9.544	9.444	0.10
April	"	9.65	9.45	0.20	"	9.55,9.544, 9.7312	9.55,9.444, 9.5312	0.10 0.20
May	"	9.65	9.45	0.20	"	9.544,9.538,9.55 9.964	9.444,9.438,9.45, 9.764	0.10 0.20
June	"	9.656	9.456	0.20	"	9.544,9.55,9.556, 9.7026,9.964	9.444,9.45,9.456, 9.5026,9.764	0.10 0.20
July	"	9.836	9.636	0.20	"	9.836,9.873,9.725, 9.688,9.8396	9.636,9.673,9,525, 9.488,9.6396	0.20 0.20

TABLE E-7 (cont'd)

Date	NEWFOUNDLAND REFINERY IMPORTS				QUEBEC REFINERY IMPORTS			
	API	Canadian Purchase Price[b]	Net Offshore Price[c]	Markup/ Margin[d]	API	Canadian Purchase Price[b]	Net Offshore Price[c]	Markup/ Margin[d]
1974								
August	"	9.193	8.993	0.20	"	—	—	—
September	"	—	—	—	"	9.5253,9.3554, 9.3148	9.2253,9.0554, 9.0148	0.20 0.20
October	"	—	—	—	"	—	—	—
November	"	—	—	—	"	—	—	—

Notes and Sources:

(a) The price data are from Exhibit I-335. For 1974, the price data shown for February to August in Exhibit I-335 were subject to several retroactive adjustments made in the last months of 1974.

(b) The Canadian purchase or import prices represent the prices which Golden Eagle Canada Ltd. (Ultramar Canada Inc. as of 1979) paid to its wholly owned subsidiary, Ultramar Liberia Limited.

(c) The net offshore prices are the prices which Ultramar Liberia paid to its suppliers. Over the 1967 to 1974 period, these included Ultramar Panama and Esso International, but the Tia Juana Medium crude oil was ultimately obtained from Esso International.

(d) Table F-7 also shows the 1971 Esso International contract prices for T.J. Medium 24°, 25° and 26° crude oil (from M-675). These indicate that the offshore prices shown in this table for Quebec refinery imports include a 20¢ markup for June to December 1971. The markup for the Newfoundland refinery was 9¢. It was not possible to determine whether these markups were maintained at these levels to the end of 1974.

markup fell to 9¢ until it rose to 20¢ for July to November. By 1974 it fell to 10¢ for Quebec but rose again to 20¢ in July. (No data were available from August 1974 onwards.)

The level of markup varied considerably by type of crude oil. For some, like Bachaquero Reconstituted or Bachaquero it was 0¢ from 1968 to January 1970, but 20¢ in 1973 and 1974. For Brega it went from 10¢ in August 1971 to October 1972 to 35¢ or 30¢ in late 1972 and to 20¢ and 10¢ thereafter. On Lagomedio, the markup started at 10¢ in 1966 and rose to 30¢ in 1968 before falling to 6.5¢ in 1972. On its own proprietary crude oils,[87] the markup was 30¢ and 20¢ in 1967 and 1971 for Oritupano (0¢ in 1972) and 19.4¢ in September 1972 for Mercedes. Only limited information was available on whether Ultramar Panama imposed a similar markup on crude oil imports from 1975 to 1982. The Ultramar witnesses stated[88] that FOB prices were set at Official Government Selling Prices (OGSP) in its various term contracts with Ultramar Panama. However, comparisons made by the Director's witnesses, Brant/Davidson, found that Ultramar's prices for Arabian Light and Iranian Light in 1974 and 1975 were 20¢ to 30¢ above OGSP.[89] (Ultramar had ceased importing T.J. Medium after 1974.) On the other hand, the Ultramar Group was able to offset some of these extra costs by engaging in back-hauling[90] of heavy fuel oils and iron ore to the U.S. East Coast and Europe, respectively. However, the use of AFRA rates in the contracts of affreightment for Canada[91] showed that these savings were not passed on to the Canadian operating companies by means of lower contracted freight rates. They could not be passed on in the form of tax free dividends because these offshore transportation companies were never owned by the Canadian-based companies.

In summary, the net offshore FOB prices available for 1961 to 1974 for T.J. Medium 26° API and for 1966 to 1971 concerning the other crude oils found in Tables F-1 to F-12 were reliable figures because they were provided directly by Ultramar (except for 1961 to 1965 for which there is evidence that is considered less reliable). For 1972 to 1974 and 1975 to 1981 it was not possible to determine whether any additional markups were being applied

87. The Mercedes proprietary crude oil was sold to Texaco Inc. at the end of 1972 while the other Venezuelan crude oil interests were nationalized at the end of 1975. See the 1972 and 1975 Annual Reports of the Ultramar Company Ltd.

88. See Transcript Vol. 98, p. 18506.

89. See Exhibits I-79 and I-113 (both Confidential) and Vol. 99, pp. 18608 to 18609.

90. See Transcript Vol. 98, p. 18493 and Annual Reports of the Ultramar Company Limited (renamed Ultramar PLC in January 1982).

91. AFRA rates were found from September 1975 onwards in the various contracts of affreightment (see Exhibits I-332 to 334 and I-343 and 344, both Confidential).

on FOB offshore prices or FOB term contract prices and freight rates, respectively because in the former period Esso International contract price data were not available while in the latter period spot market purchases may account for any FOB divergencies with OGSP while Ultramar's unique transportation circumstances made comparisons with third-party freight rates reported for shipments to Portland difficult.

2. Other Third-Party Price Data

Transaction prices concerning third-party sales/purchases were also available for the Newfoundland Refining Company Limited, Esso International/Exxon and the Sun Oil Group, as well as from various trade, academic and government publications.

(a) The Newfoundland Refining Company

No actual price information was filed as evidence for the Newfoundland Refining Company which began operating at Come-by-Chance in 1973 and closed down in 1976. Some information about its levels of third-party FOB prices did, however, appear from certain contracts with various crude oil suppliers. For example, a contract with BP Trading Limited,[92] signed April 17, 1970, established "market" prices of $1.275 for Iranian Light 34° API and $1.21 for Kuwait 31° API. These April 1970 prices were subject to increases in Tax Paid Cost[93] and increases of $0.005 every July 1, starting in 1971. On Tables F-3 and F-10, these base prices were so adjusted to produce a series of FOB prices for 1970 to 1972. No attempt was made to calculate 1973 to 1976 prices because no information was available on the formula required to deal with the participation (i.e., partial nationalization) costs which began in 1973. Another contract, with Petromin (the Saudi Arabian Government Corporation), was signed May 9, 1973 for deliveries from June 1973 to the end of 1975. It set the FOB price of Arabian Light at 7 per cent less than the Official Government Selling Price (see Table F-1).[94]

(b) Esso International/Exxon

Imperial Oil provided the Commission with the FOB prices which Esso International/Exxon received on its third-party transactions between 1960 and 1975 for medium (24.0° to 26.0° API) and light (31.0° to 35.0° API) Venezuelan crude oils. At the Commission's request, the transaction price data per individual buyer/company were segregated into integrated and

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92. See Exhibit I-299 and I-322.

93. ICOPP, for various years, provided Tax Paid Cost data. See Tables F-3 and F-10.

94. See Exhibit I-322. For Arabian Extra Light and Arabian Heavy, the discounts were 3.28 and 7.30 per cent, respectively.

non-integrated buyers.[95] "Integrated" petroleum company buyers were defined as having access to significant foreign crude oil supplies either of their own or through affiliates for at least some period of time between 1960 and 1975.

The minimum and maximum prices reported per year for non-integrated buyers were used to calculate price ranges on Tables F-5 and F-6 (Lagomedio 32° API), F-7 (T.J. Medium 26° API), and F-12 (Guanipa 30°, T.J. Light 31°, Lagomedio 32° and Oficina 33° and 34° API).

The Esso International/Exxon price range data were more useful for 1960 to 1970 because the numerous price changes observed from 1971 to 1975 made the annual price range data unusable for comparisons with monthly prices reported in other sources. The Venezuelan Medium crude oil price range was based on a large number of transactions. However, the Venezuelan Light crude oil price ranges were based on only a few transactions and therefore were considered to be of limited use.[96]

(c) Sun Oil Group

Two sets of third-party prices were available from the Sun Oil Group. Estimates of FOB market prices, called alternate values, were found in various Sun Canada documents for Lagomedio/ Lagomar 32° API (1961 to 1971) and Arabian Light 34° API (1969 to 1971).[97] They were apparently developed to demonstrate how the transfer prices charged to Sun Canada were in excess of prices which the Sun Group could have expected to obtain in sales to third-party customers in Europe and Latin America.[98] In addition to the 1962 to 1971 alternate values listed in I-188, which are shown on Tables F-1, F-5 and F-12, a third-party price range was available from other references to arm's length or market prices made by Sun Oil Group officials. These also appear on Tables F-1, F-5 and F-12.[99]

Sun Oil also provided the Commission with monthly purchase/sales prices between the Sun Oil Group and third-party sellers/buyers for January to

95. See Exhibits I-78A Confidential, I-50, Appendix 3 and I-50A.

96. In some years, only one transaction was observed; in other years, no Venezuelan light crude oil transactions occurred.

97. See Exhibits I-16, Appendix 2, I-188, I-194 and I-196.

98. These calculations were designed to show that Sun Canada's transfer prices actually provided the Sun Oil Group with significant profits on its crude oil sales to Canada and that these profits had to be included in any rate of return analysis of Sun Canada's financial performance.

99. See Table F-5, note 10 for references cited.

August 1974.[100] These prices were also broken down into integrated and non-integrated petroleum company categories at the request of the Commission.[101] (It was not however possible for the Sun Oil Group to categorize several of the prices.) The prices reported on transactions involving non-integrated petroleum companies are shown on Tables F-3, F-8, F-10 and F-12.

(d) Adelman, Newton and Blair Price Surveys

Third-party transaction price data are also available in price surveys carried out by M. A. Adelman, W. I. Newton and J. M. Blair. In *The World Petroleum Market*,[102] Adelman provided price data for 1958 to May 1967 and for April 1968 to 1970 on African, Middle East and Venezuelan crude oil transactions which involved large third-party buyers. The data were based on press reports and generally originated as CIF prices which Adelman converted to FOB prices by deducting the cost of the freight and credit services provided by the seller. The prices of the various crude oils, listed in *The World Petroleum Market*, were standardized to 31° API and adjusted for sulphur differentials to allow comparisons with Iranian Heavy 31° API crude oil. The prices shown on Tables F-1, F-3, F-8 and F-10 were obtained by reversing the standardization procedures used by Adelman. Adelman's price surveys only provided limited information on Venezuelan crude oil sales.

Newton, in a 1969 report to the U.S. Senate also provided similar third-party FOB price data for the 1960 to 1968 period for Middle East and African crude oils.[103] In the same report Blair provided some additional information on third-party prices, including 1964 to 1966 purchase prices for Venezuelan 35° API crude oil reported by Petrobras of Brazil.[104]

The prices found in these surveys were typically for contracts covering large volumes for at least six months and generally for one year or more. Therefore they provide a good source of term third-party price range data.

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100. See Exhibit I-347.

101. See Exhibit I-351 Confidential.

102. See M.A. Adelman, *The World Petroleum Market* (Baltimore, The John Hopkins University Press: 1972), pp. 384 to 397 and pp. 417 to 421. See also Exhibit I-51A at Tab II-4 for the 1958 to May 1967 survey.

103. See statements of Walter I. Newton and John M. Blair in United States Senate, Hearings before the Subcommittee on Antitrust and Monopoly of the Committee on the Judiciary, Ninety-First Congress, First Session, *Governmental Intervention in the Market Mechanism: The Petroleum Industry*, April 1969, pp. 41 to 76 (Exhibit I-51A, at Tab II-5).

104. *Ibid.*, pp. 75 to 76.

(e) United States Department of Energy Import Prices

Data were also available on third-party monthly prices of imports to the United States for October 1973 to 1976 and 1979. Two sets of term prices were calculated from petroleum company reports filed with the U.S. Department of Energy (DOE).[105] The representative (or weighted median) price was defined as the lowest price at which 50 per cent or more (by volume) of arm's length transactions took place. The maximum price was defined as the higher of:

(a) the lowest price, plus 10¢ per barrel, at which 50 per cent or more (by volume) of arm's length transactions took place per month, or

(b) the lowest price at which 65 per cent or more (by volume) of arm's length transactions took place.

The representative prices were used for Arabian Light (Table F-1); Iranian Light (Table F-2); Tia Juana Medium (Table F-7); Nigerian Light 34° API (Table F-8); Iranian Heavy, Kuwait 31° API and Arabian Medium 31° API (Table F-10) and Venezuelan Light 34° API crude oils (Table F-12). Representative prices when not available for October 1973 to 1974 were derived by subtracting 10¢ from the maximum price. These figures, because of the definition of the maximum price, provided an estimate of the maximum value possible for the representative price.

Because these prices were based on term arm's length transactions involving large buyers, they also provide a good source of comparative information on market prices. For Venezuelan crude oils, prices were based on summaries of prices of all crude oil imports in wide API ranges of, for example, 29° to 36° API for 34° API prices. They thus may be less reliable price standards because of the assumptions used to adjust for variations in sulphur content and API levels. Problems of this nature were not found with the Middle East or African crude oil price data. For those months in which OSP and related prices were changed, the above prices may be biased up or downwards depending on the day on which the price change occurred.

(f) Spot and Official Prices

Petroleum Intelligence Weekly (PIW) provided 1960 to 1980 data on spot and official prices for Arabian Light, Nigerian Bonny Light 37° API

105. See Exhibit I-87 for an explanation of the data collected by the DOE. The sources of the price data were the *U.S. Federal Register*, Vol. 40, pp. 27058 to 27060, Vol. 42, pp. 22190 to 22192, Vol. 43, pp. 34186 to 34191, Vol. 44, pp. 30720 to 30725 and Vol. 45, pp. 21342 to 21344 and 82699 to 82702.

and Kuwait 31° API.[106] Spot prices were defined as representing prices of single cargoes traded on the open market. Since the spot market was reported, by PIW, to have not fully emerged until the late 1960s, all available open market sales prices to third parties were used for earlier periods. Official prices referred to the prices found on long-term contracts which accounted for the bulk of crude oil flows. With nationalization in 1973 to 1975, governments began setting Official Government Selling Prices (OGSP). For the post 1972 period, PIW provided official prices that were OGSP prices adjusted for any discounts or premiums applicable to all clients. The data were available on an annual basis for 1960 to 1970, a semi-annual basis for 1971 to 1972 and a quarterly basis for 1973 to 1980.

For Iranian Light, BP Canada provided the Commission with 1960 to 1968 spot prices.[107] Adelman also provided 1968 to 1970 spot prices for Iranian Light and 1968/1969 spot prices for Iranian Heavy.[108]

Official Government Selling Prices[109] were obtained from various issues of *International Crude Oil and Petroleum Products*. Posted prices were found in various issues of the OPEC *Statistical Bulletin*, Adelman's *The World Petroleum Market* and Jacoby's *Multinational Oil*.[110]

3. Production and/or Acquisition Cost Data

Only limited cost data were available for certain types of crude oil shown on Tables F-1 to F-12. The usefulness of many of the cost measures developed depended on the assumptions on which they were based.

(a) Tax Paid Cost

Tax paid cost refers to the cost of equity crude oil[111] and consisted of the sum of production costs and Host Government Take (i.e., royalties and taxes). Production costs included all costs relevant for the exploration, development and operation of the crude oil fields. While Host Government Take was constant, production cost could vary by company within a country

106. See Exhibits I-18 and I-23 or I-51A, Tab II-6 and I-51D, Tab VII-8.

107. See Exhibit I-290.

108. See *op.cit.*, *W.P.M.*, pp. 417 to 421.

109. For Venezuela, the OGSP prices were called Minimum Export Values to 1975, inclusive, and Minimum Sales Prices thereafter.

110. Neil H. Jacoby, *Multinational Oil* (New York, MacMillan Publishing Co. Inc.; 1974).

111. That is, crude oil which individual companies owned through possession of crude oil field concessions in Venezuela, the Middle East, and Africa, etc.

for the same type of crude oil (e.g., for drilling onshore or offshore). Tax paid cost figures[112] provided an estimate of the acquisition cost or average variable cost to the crude oil producing company and thus indicated the lowest level at which it could sell crude oil without incurring a loss. Such measures were useful in verifying the levels of third-party prices. Any calculated net offshore prices below tax paid cost would be questionable. The third-party prices reported on Tables F-1 to F-12 (excluding the exceptions noted above for Petrofina and Irving) allowed the crude oil producing companies a large enough profit margin over tax paid cost to cover their opportunity cost of invested capital. The Director's witnesses, Brant and Davidson, used tax paid cost data to calculate 1964 to 1981 "competitive supply prices" for Arabian Light which included an estimate of the margin required for a 10 per cent and a 15 per cent rate of return on invested capital.[113] The largest margin required to cover capital costs was 8.2¢ (in 1973).[114] Their evidence of the "competitive supply price" indicates that third-party prices were not the result of distress sales, i.e., below short-run average variable costs or historical average total long-run costs.

(b) Weighted Average Cost

With increased frequency of nationalizations in 1973, it became necessary for petroleum companies to buy increasing proportions of their crude oil supplies from host governments at Official Government Selling Prices. Weighted average cost was developed to provide an estimate of each company's average combined cost of equity crude oil (at tax paid cost) and producer government crude oil (at OGSP). The weighting formula used depended on the percentage of crude oil assets nationalized by each crude oil producing country. The percentage generally went from 25 per cent in 1973 to 60 per cent in 1974 and 100 per cent in 1975/1976. Even after complete nationalization in some countries, other countries still allowed some companies to keep certain levels of equity crude oil (e.g., Nigeria and Libya). Therefore, weighted average cost would still be relevant in those countries after 1976. Weighted average cost data were only calculated for Arabian Light (Table F-1).

112. The data shown on Tables F-1 to F-12 were found in *ICOPP*, Exhibit I-16 and OPEC *Statistical Bulletins*.

113. See Exhibit I-79 Confidential or I-80.

114. Table F-1 only showed 1960 to 1972 figures on "competitive supply prices" because the semi-annual figures were not as useful when making comparisons with monthly prices after 1970.

(c) U.S. Department of Energy Acquisition Costs

The acquisition cost data were found in Exhibit I-80.[115] According to witnesses Brant and Davidson, the data were taken from term arm's length cost figures reported monthly to the U.S. Department of Energy (DOE) between 1974 and 1981. Where more than one cost figure per crude oil was available per month the witnesses chose the highest figure. If more than one figure was reported per month by any company, only the latest or revised figure reported by that company was considered.[116] The costs could be tax paid cost or weighted average cost depending upon the ownership nature of the crude oil types imported into the U.S. An examination of the DOE source documents showed that increases in Host Government Take or participation costs (i.e., resulting from changes in the level of partial nationalization) in 1974 were responded to differently by various companies. For example, while Texaco Inc.'s costs were adjusted on the date of any change, Exxon only adjusted costs after a lag of several months because of the substantial inventory it maintained in its Caribbean transshipment terminals and on board its fleet of tankers.

(d) International Crude Oil and Petroleum Product (ICOPP) Acquisition Costs

ICOPP's estimates of market prices were derived by adjusting reported OGSP prices for any discounts or premiums applicable to all buyers.[117] For example, any service charges or fees which the host governments paid to the companies were treated as discounts if they were unrelated to actual services rendered. Where equity crude oil interests were still available, weighted average costs rather than OGSP prices were chosen as the relevant acquisition cost figure.

4. Third-Party Transportation Cost Data

Only very limited evidence was available on actual third-party costs for ocean term charter and spot freight rates and insurance costs involved in shipping crude oil from the producing countries to Canadian ports such as, Halifax, Montreal, Saint John, St-Romuald, Holyrood, Point Tupper and Come-by-Chance or to the Portland, Maine terminus of the pipeline to Montreal.[118] However, it was possible to derive estimates of third-party term

115. See Exhibit I-85 for the raw data sheets which Brant obtained from the U.S. DOE. The collection system utilized by the DOE was explained in Exhibit I-87.

116. See Transcript Volume 71, p. 13348.

117. See Exhibit I-79 Confidential and I-80.

118. The pipeline tariffs for 1956 to 1981 can be found in Exhibit I-161.

charter and spot transportation costs for 1958 to 1976/1977 because of information provided by Imperial Oil and material found in other sources.

(a) Ocean Freight Rates Reported for Third-Party Shipments to Eastern Canada

For 1965 to November 1967 and December 1967 to 1970, implicit term charter transportation costs in the CIF contract between Murphy and the BP Group were $0.671 and $0.681, respectively. These were for shipments from the Persian Gulf.[119] In 1965/1966 and 1967/1968, BP also agreed to ship the Murphy Group's proprietary crude oils from either Venezuela or the Persian Gulf at Intascale less 45 per cent. (These were equivalent to transportation costs of $0.663 in 1965/1966 and $0.828 in the second half of 1967 and $0.732 in 1968.) For July 1968 to April 1973, and 1976 to 1977 other term charter freight rate data were also available from the Murphy Oil Group.[120] Spot freight rate data were also available from the Murphy Oil Group for 1969 and 1970.[121]

For voyages between Venezuela and Portland, the actual freight rate data in evidence were even more limited. In 1967, a Petrofina internal memo reported its actual freight costs as being Intascale less 42 per cent or 19¢ for shipments of Lagomedio whereas its reported freight costs for that year were 31¢.[122] Murphy Oil reported third-party rates for February 1970 of $0.222 and $0.225 for Lagomedio (32.3° API) and Lot 17 (34.8° API) Venezuelan crude oil. These rates at Worldscale 81 were effective from February 1970 to February 1971 between Punta de Palmas and Portland. For 1968 to 1970, Ultramar reported rates of 26¢, 29¢ and 28¢ for crude oil of 26° API.[123] However, these were not third-party rates because they included a markup imposed by Golden Eagle Liberia Ltd.

As noted above, freight rates were often cited in terms of discounts (or premiums) off Intascale flat or Worldscale 100 rate levels (e.g., Intascale less 45 per cent or Worldscale 65).[124] Worldscale, the current standard freight

119. These were derived by subtracting the FOB prices of $1.35 and $1.33, as well as the pipeline fees found in I-161 from the CIF Montreal contract prices.

120. See Section 1(b) above for sources. The rates were $0.574 for 1968 to 1970, $0.812 for 1971 to September 1972, $0.828 for October 1972 to April 1973, $0.925 for 1976 and $1.196 for 1977.

121. The spot freight rates were $1.279 for February 1969 and $0.99 for September 1969 and $1.249 for 1970.

122. Exhibit M-529, Tab 1, p. 201998.

123. For 32° API crude oil, the rates would be $0.251, $0.279 and $0.270. These figures were used to calculate the CIF prices shown in Table F-6.

124. Exhibit I-49, pp. IV-5 to IV-6.

scale, represents the Worldwide Tanker Nominal Freight Scale for round trip voyages between ports by various categories of ship size. Worldscale is revised and published semi-annually. In 1970, it replaced Intascale (International Tanker Nominal Freight Scale).

(b) Estimates of Ocean Freight Rates Used to Derive Delivered Third-Party Crude Oil Costs

Imperial Oil provided evidence on annual five-year term charter and annual spot rates for shipments to Portland, Maine for 1960 to 1974.[125] These were taken from H. Clarkson and Company Limited and Adelman.[126] Imperial Oil selected Adelman's freight estimates for 1960 to the first half of 1967, an adjusted version of the Clarkson rates for the second half of 1967 to 1969 and the Clarkson rates for 1970 to 1974 as being representative of annual term charter market freight rates.[127] (For shipments from Venezuela, the higher rates reported from 1963 to 1969 by Clarkson were also used by the Commission because they took into account the smaller tankers more frequently used from Venezuelan ports). For spot rates, the 1960 to 1975 rates cited by Clarkson were used.[128] Since these rates were cited in terms of Intascale or Worldscale, it was necessary to derive cents per barrel figures by applying the Intascale/Worldscale rate levels to the flat rates or Worldscale 100 rate levels also provided by Imperial Oil.[129] Freight rate figures were calculated for 34° API crude oil in Tables F-2 and F-4, 32° API crude oil in Table F-6 and 31° API crude oil in Table F-11. The term charter ocean freight rates used to calculate the estimates of third-party delivered costs shown in these Appendix F tables are given in Table E-8 (for shipments from the Persian Gulf) and Table E-9 (for shipments from La Salina, Venezuela). The spot ocean freight rates used to calculate estimates of third-party spot delivered costs shown on Tables F-2, F-4 and F-11 are given in Table E-10 (for shipments from the Persian Gulf).[130]

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125. See Exhibits I-49, pp. IV-15 to IV-26 and IX-16 to IX-20, I-50, Appendix 2, pp. I-11 to I-25 and Appendix 4, pp. 1 to 18.

126. See *op. cit.*, *W.P.M.*, pp. 109, 110 and 112.

127. See I-49, p. IX-17 and I-50, Appendix 4, p. 8.

128. See I-49, p. IX-19 and I-50, Appendix 4, p. 9.

129. See I-50, Appendix 4, pp. 6, 13 and 19 for shipments between Ras Tanura, Saudi Arabia and Portland, pp. 12 and 18 and Appendix 2, p. 21 for shipments to Portland from Puerto La Cruz and La Salina, Venezuela, respectively. The freight rates based on Ras Tanura Intascale or Worldscale flat rates tend to slightly underestimate actual rates from Iran and Kuwait up to 1974. For 1976 to 1977, separate freight rates from Kharg Island were derived from the Murphy Oil contracts.

130. Spot freight costs were not calculated for shipments from Venezuela because spot FOB price data were not available.

TABLE E-8

Estimates(a) of Term Charter Ocean Freight Rates from the Persian Gulf to Portland 1958 to 1977 (in U.S. dollars per barrel)

Date	34° API	31° API
1958	0.880*(N)	0.896*(N)
1959	0.880 (N)	0.896 (N)
1960	0.663	0.675
1961	0.663	0.675
1962	0.639	0.650
1963	0.639 – 0.680 (N)	0.650 – 0.692 (N)
1964	0.555	0.564
1965	0.555 – 0.671 (M)	0.564 – 0.683 (M)
1966	0.543 – 0.671 (M)	0.552 – 0.683 (M)
1967		
1st half	0.518 – 0.700 (A)	0.528 – 0.712 (A)
2nd half	0.828 (M) – 0.843	0.843 (M) – 0.858
1968	0.499 (M) – 0.732	0.508 (M) – 0.745
1969	0.593 (F) – 0.692	0.603 (F) – 0.704
1970	1.235	1.257
1st half	0.660 (M) – 0.902	0.671 (M) – 0.917
2nd half	1.249 (M) – 1.581	1.271 (M) – 1.609
1971	1.191	1.212
1st half	1.417	1.442
2nd half	1.016	1.033
1972	0.925	0.942
1st half	0.925	0.942
2nd half	0.939	0.955
1973	1.649	1.679
1974	1.850	1.883
1975	n.a.	n.a.
1976[b]	0.848 (M)	0.941 (M)
1977[b]	1.118 (M)	1.217 (M)

Notes:

(a) The letters in parentheses identify the estimates based on data from Newton (N), Murphy (M), Adelman (A) and the Federal Trade Commission (F). The other data were based on Imperial Oil's selection of representative term charter market freight rates. (See text of appendix for complete reference.)

(b) For 1976/1977, the rates for shipments from Kharg Island, Iran were 0.925 (34°), 1.196 (34°).

* For 1958, the 1959 rate reported by Newton (N) was also used.

TABLE E-9

Estimates[a] of Term Charter Ocean Freight Rates from La Salina, Venezuela to Portland, 1960 to 1972 (in U.S. dollars per barrel)

Date	32° API Crude Oil
1960	0.181
1961	0.181
1962	0.174
1963	0.174 – 0.194 (C)
1964	0.151 – 0.197 (C)
1965	0.151 (M) – 0.190 (C)
1966	0.148 – 0.190 (C)
1967	
1st half	0.141 – 1.190 (C)
2nd half	0.181 – 0.226 (C)
1968	0.108 (M) – 0.196 (C)
1969	0.128 (F) – 0.187 (C)
1970	0.226 – 0.278
1st half	0.203 – 0.226
2nd half	0.278 – 0.356
1971	0.275
1st half	0.234 – 0.327
2nd half	0.327
1972	0.210
1st half	0.210
2nd half	0.213

Note:

(a) The letters in parentheses identify the estimates based on data from Clarkson (C), Murphy (M) and the Federal Trade Commission (F). The other data were based on Imperial Oil's selection of representative term charter market freight rates. (See text of Appendix for complete reference.)

TABLE E-10

Estimates[a] of Spot Ocean Freight Rates from the Persian Gulf to Portland 1960 to 1974 (in U.S. dollars per barrel)

Date	34° API	31° API
1960	0.663	0.675
1961	0.639	0.650
1962	0.711	0.724
1963	0.784 (N) – 0.856	0.797 (N) – 0.871
1964	0.772	0.785
1965	0.723	0.736
1966	0.651	0.663
1967	1.288 (N) – 1.469	1.311 (N) – 1.495
1st half	0.603	0.613
2nd half	2.334	2.376
1968	1.251 – 1.265 (N)	1.273 – 1.287 (N)
1969	0.982 (D) – 1.279 (M)	0.999 (D) – 1.302 (M)
1970	2.340 (D) – 2.363	2.381 (D) – 2.405
1st half	1.556	1.584
2nd half	2.939	2.991
1971	1.166	1.187
1st half	1.429	1.454
2nd half	0.903	0.919
1972	1.020	1.038
1st half	0.776	0.789
2nd half	1.279	1.301
1973	3.026	3.080
1974	1.988	2.023

Note:

(a) The letters in parentheses identify the estimates based on data from Newton (N), Murphy (M) and Dietze (D). The other data were based on the Clarkson estimates of spot ocean freight rates provided by Imperial Oil. (See text of appendix for complete reference.)

The freight rate data shown on these tables were supplemented by the information in Section (a) above, as well as from material available from the following sources.

Third-party term freight rates from the Persian Gulf to Portland, Maine were available from Newton for 1959, 1963, and 1966.[131] Freight rates for

131. The rates for these years (88¢, 68¢, and 55¢ to 60¢) were for shipments to the U.S. East Coast North of Cape Hatteras, which was equivalent to shipments to Portland. See Exhibit S-5E and Exhibit I-51A, Tab II-5.

certain years were available from the 1969 U.S. Senate Report on *Government Intervention in the Market Mechanism: The Petroleum Industry*.[132] For example, term charter ocean freight rates of 60¢ and 62¢ were reported for 1968 by Shell and BP Trading. Adelman, in the above report cited term charter freight rates of 70¢ for early 1967 and for 1968 while the FTC estimated costs at 59¢ in 1969.

These supplementary freight rates were combined with the Imperial Oil estimates to derive a range of freight rates which were used with the FOB term third-party prices to generate C&F prices which were converted to CIF prices by adding 1 per cent (of the C & F price) for insurance. According to Newton, 1 per cent was the typical level of insurance premiums in the 1960s.[133] Newton also reported average annual spot ocean freight rates in 1959 (Intascale less 57.5 per cent), 1963 (Intascale less 35 per cent) and 1967/1968 (Intascale less 5 per cent). Spot Persian Gulf rates for 1969 ($0.982) and 1970 ($2.34) from Dietze were found in the Murphy tax case exhibits.[134] These were similarly used with the Murphy and Imperial Oil data to generate C&F and CIF spot prices.

Ocean freight rate data from other sources were used to supplement the Imperial Oil estimates only for those years in which the freight rates were initially agreed to. For example, while Murphy's contract with Associated Bulk Carriers Ltd. was for 1968 to 1970, the Intascale minus 62.5 per cent rate was used for 1968 only because only for that year would it be reliably representative of contracts of affreightment.

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132. *Op.cit., U.S. Senate Report*, March 11, 12, and 25, 1969, p. 7 (for Adelman); pp. 171 to 172 (for Blair's survey of prices from BP and Shell), and pp. 601-602 (for the FTC freight estimate).

133. See Exhibit I-51A, Tab 11-5, p. 69.

134. See *op.cit.*, Book III, tab 192.

F

FOB and CIF Prices Paid by Canadian Companies for Imports of Selected Crude Oils, 1958 to 1982

(Tables F-1 to F-12 in this Appendix were reviewed in Chapter VII, Imported Crude Oil and Refined Petroleum Products, 1958-1973 and in Chapter IX, Import of Crude Oil After 1973.)

TABLE F-1

Comparative FOB Costs of Imported Arabian Light (34.0 — 34.9° API) Crude Oil, 1958 to 1982
(US $ per barrel, Ras Tanura, Unless Otherwise Specified)

DATE	IRVING Saint John	GULF	SUN	IMPERIAL Portland	IMPERIAL Dartmouth	IMPERIAL Average	TEXACO	BP	PETRO-FINA	IRVING Offshore 50%	IRVING Offshore 100%	Term Third-Party Price Range (Sun Alternate Values)	Spot Third-Party	Competitive* Supply Price 10%	Competitive* Supply Price 15%	Official Selling Price*	Tax Paid Cost	Posted Price*
1958	—	n.a.	n.a.	—	—	—	n.a*	—	n.a.		—	n.a.	n.a.			n.a.	1.09	2.08
1959	—		n.a.	—	—	—	"	—	n.a.		—	1.60	n.a.			n.a.	1.00	1.92
Jan. 1							"				—							2.08*
Mar. 1							"				—							1.90
July 1		1.90					"				—							
1960			n.a.	—	—	—	"	—	—		—		1.63			1.86	0.95	1.86
Jan. 1	1.90	1.90					"				—							1.90
Aug. 9	1.80	1.80					"				—	1.33 - 1.59						1.80
1961	1.80	1.68	n.a.	—	—	—	"	—	—		—	1.62 - 1.66	1.57			1.80	0.95	1.80
1962	1.80	1.68	—	—	—	—	"	—	—		—	1.36	1.52			1.80	0.95	1.80
Jan. 1							"				—							
Aug. 1	1.80						"				—							
1963	"	—	—	—	—	—	"	—	—		—	1.40 - 1.67	1.50			1.80	0.95	1.80
1964	"	—	—	n.a.	n.a.	1.65	"	—	—		—	1.35 - 1.54	1.45	1.11	1.13	1.80	1.06	1.80
1965	"	—	—	1.61	1.65	1.62	"	—	—		—	1.35 - 1.58	1.42	1.11	1.13	1.66	1.06	1.80
1966	"	—	—	1.44*	—	1.44*	"	—	—		—	1.30 - 1.46	1.36	1.11	1.14	1.53	1.06	1.80
1967	"	—	—	1.47	—	1.47	"	—	—		—	1.34 - 1.55	1.33	1.11	1.14	1.50	1.06	1.80
1968	"	—	—	—	—	—	"	—	—		—	1.28 - 1.35	1.32	1.11	1.14	1.45	1.06	1.80
1969	"	—	1.58	—	—	—	"		—		—	1.18 - 1.30(1.30)	1.27	1.11	1.13	1.40	1.06	1.80
1970	"	—	1.58	—	—	—	"	1.35*	0.967*			1.25 -(1.30)	1.21	1.10	1.12	1.35	1.06	1.80
Sept.							"				n.a.							
1971	1.69*	—		—	—	—	"	—	—	1.49	1.30	(1.65)*- (1.70)*	1.69	1.45	1.47	1.75	1.374	2.19
Jan. 1	1.80		1.58				"				—	(1.29) - (1.30)	1.64	1.42	1.44	1.75	1.099	1.80
Feb. 15							"				—						1.371	2.18
June 1			1.92				"				—	(2.00)*- (2.10)*	1.74*	1.48	1.50	1.75	1.435	2.285
Aug. 1	1.85						"			1.45	1.05							
Nov. 14			1.75				"											
1972	1.95*	—	1.89	—	—	—	"	—	—	1.63	1.31		1.82	1.61	1.63	1.90	1.542	2.48
Jan. 1							"				—		1.77			1.90	1.435	2.285
Jan. 20							"				—						1.548	2.479
July 1							"				—		1.87			1.90	1.548	2.479

TABLE F-1 (cont'd)

DATE	IRVING Saint John	GULF	SHELL PCB	IMPERIAL Company	IMPERIAL PCB	TEXACO Company Portland	TEXACO PCB	ULTRAMAR PCB	PETRO-FINA	IRVING Offshore 50%	IRVING Offshore 100%	Nfld.* Refining Company Contract	DOE Third-Party Rep.	Spot Third-Party	Weighted Average Cost	DOE Acq. Cost	Official Selling Price
1973	2.33*	—	—	—	—	n.a.*	—	—	—	1.79*	1.26*			2.81		n.a.	2.64
Jan.														2.08	1.778		2.10
Feb.															"		
March																	
April	n.a.									n.a.	n.a.			2.35	1.848		2.25
May															"		
June												2.70			1.922		
July												2.75		2.70	1.948		2.55
August												2.85			2.000		
Sept.												2.85			2.123		
Oct. 1												2.80	3.84	4.10	2.085		3.65
Oct. 16												4.76			3.520		
Nov.												4.81	3.84		3.559		
Dec.												4.68	3.81		3.464		

DATE	IRVING Saint John	GULF Company	SHELL PCB	IMPERIAL Company	IMPERIAL PCB	TEXACO Company Portland	TEXACO PCB	ULTRAMAR PCB	PETRO-FINA Company	IRVING Offshore 50%	IRVING Offshore 100%	Nfld.* Refining Company Contract	DOE Third-Party Rep.	Spot Third-Party	Weighted Average Cost	DOE Acq. Cost	Official Selling Price
1974	10.01*	10.39*		10.16	10.29	n.a.*			9.786*	9.35*	8.68*			10.98			9.56
Jan.	9.64						10.52			8.98	8.31	10.84	9.55	13.00	9.278	9.29	8.65
Feb.	9.97						12.14			9.31	8.64	"	9.59		"	9.56	
March	9.79						12.13			9.13	8.46	"	9.70		"	9.36	
April	9.87						10.74		PCB	9.21	8.54	"	9.70	10.60	"	9.44	9.60
May	—						9.84			—	—	"	9.75		"	9.60	
June	9.90						9.83		9.80	9.24	8.57	"	9.75		"	9.47	
July	—						9.89			—	—	"	9.88	10.00	9.322	9.51	9.60
August	9.97						9.90			9.31	8.64	"	9.88		"	9.46	
Sept.	10.05	PCB					9.90		9.80	9.39	8.72	"	9.88		"	9.47	
Oct.	10.39				10.14		10.18	10.42	10.30	9.73	9.06	"	10.28	10.30	9.802	9.84	10.40
Nov.	n.a.	10.51					10.37	10.76		n.a.	n.a.	10.46	10.46		10.237	10.36	
Dec.	10.74	10.51	10.45		10.46		10.38	10.76		10.08	941	"	10.46		"	10.36	

TABLE F-1 (cont'd)

DATE	IRVING	TEXACO		SUN		GULF	IMPERIAL		ULTRAMAR	PETRO-FINA	IRVING Offshore		Nfld.* Refining Company Contract	DOE Third-Party Rep.	Spot Third-Party	Weighted Average Cost	DOE Act. Cost	OGSP
	Saint John	Company Portland	PCB	Company	PCB	PCB	Company	PCB	PCB	PCB	50%	100%						
1975		n.a.*				—	10.46	10.44										
Jan.	n.a.		10.38						10.75		n.a.	n.a.	10.46	10.47	10.42	10.244	10.36	10.463
Feb.	10.83		10.38	10.46					10.76		10.59	10.36	"	10.46		"	10.37	"
March	n.a.			10.46	10.45				10.69		n.a.	n.a.	"	10.46		"	10.37	"
April	—				10.46			10.45	10.66		—	—	"	10.46	10.42	"	10.26	"
May	n.a.		10.36	10.46	10.46			10.43	10.66		n.a.	n.a.	"	10.46		"	10.24	"
June	n.a.		10.42	10.46				10.44	10.66		n.a.	n.a.	"	10.46		"	10.26	"
July	—		10.42	10.46-.49	10.44						—	—	"	10.44	10.43	"	"	"
August	10.62		10.43	10.47	10.47						10.38	10.15	"	10.44		"	"	"
Sept.	10.63		10.42	10.51	10.51						10.39	10.16	"	10.46		"	"	"
Oct.	11.70		10.95	11.54	10.53						11.46	11.23	11.51	11.48	10.46	11.267	11.28	11.510
Nov.	11.59		11.48						11.69		11.35	11.12	"	11.48		"	"	"
Dec.	—		11.50	11.52-.54	11.52					11.52	—	—	"	11.49		"	"	"
1976		n.a.					—	—	—		n.a.	n.a.	—		11.63			11.510
Jan.	11.55		11.50	11.54	11.54									11.51	11.51	11.30	11.28	"
Feb.	11.64		11.51	11.54	11.53									11.51		"	"	"
March	—		11.51											11.49		"	"	"
April	11.63		11.50											11.49	11.51		"	"
May	11.64		11.50			11.52								11.50		"	"	"
June	11.59		11.50											11.49		"	11.26	"
July	—		11.50											11.49	11.60	"	11.28	"
August	11.55		11.49											11.50		"	"	"
Sept.	11.65		11.50											11.49		"	"	"
Oct.	11.54		11.50											11.51	11.90	"	"	"
Nov.	11.57		11.50	11.86	11.84									11.51		"	"	"
Dec.	11.64		11.51							11.44				11.51		"	"	"

TABLE F-1 (cont'd)

DATE	SHELL	IRVING	SUN		GULF	TEXACO		ULTRAMAR	DOE Third-Party Rep.	Spot Third-Party	Weighted Average Cost	DOE Acq. Cost	OGSP
						Company							
	PCB	Saint John	Company	PCB	PCB	Portland	PCB	PCB					
1977	—				—	n.a.*				12.57			12.40
Jan.		12.27					12.07		12.09	12.50	11.88	11.82	12.09
Feb.		12.20					12.09	12.10	12.09		"	"	"
March		12.31					12.04	12.08	12.09		"	"	"
April	12.96	12.34			12.08		12.03	12.06	12.09	12.45	"	"	"
May		12.23	12.09	12.10			12.05	12.11	12.09		"	"	"
June		12.24	12.92					12.08	12.09		"	"	"
July		—					12.68		12.70	12.63	12.49	12.42	12.70
August		12.83					12.62		"		"	"	"
Sept.		12.85					12.68		"		"	"	"
Oct.		12.94	12.73	12.73			12.69		"	12.68	"	"	"
Nov.		12.88					12.69		"		"	"	"
Dec.		12.46	12.73	12.73			12.69	12.70	"		"	"	"
1978	—				—			—		12.91			12.704
Jan.		12.78				13.65*	12.70		12.70	12.66	12.494	12.42	"
Feb.		12.76					12.70		"		"	12.43	"
March		12.80					12.69		"		"	"	"
April		12.74	12.62-.63	12.63			12.69		12.69	12.70	"	"	"
May		12.83	12.72						12.70		"	"	"
June		12.80	12.72	12.70			12.68		"		"	"	"
July		11.79							"	12.79	"	"	"
August		12.84					12.72		"		"	"	"
Sept.		12.79					12.69		12.71		"	"	"
Oct.		12.84					13.00		12.70	13.50	"	"	"
Nov.		12.78					12.69		"		"	"	"
Dec.		12.80					12.68		"		"	"	"

TABLE F-1 (cont'd)

DATE	IRVING	SUN		GULF	TEXACO		IMPERIAL		ULTRAMAR	DOE Third-Party Rep.	Spot Third-Party	Weighted Average Cost	DOE Acq. Cost	OGSP Adj.*	OGSP
					Company										
	Saint John	Company	PCB	PCB	Portland	PCB	Company	PCB	PCB						
1979		—	—				n.a.								
Jan.	13.69				13.68*	13.33				13.42	18.35	13.044	13.51	13.48	13.339
Feb.	13.60				14.50*	13.41				13.50		"	13.47		"
March	13.63				14.62**	13.51				13.50		"	13.49		"
April	14.71				15.56*	15.52			14.54	14.55	27.35	14.251	14.50	16.15	14.546
May	"					15.52		14.53		14.55		"	14.55		"
June	18.10					17.97				17.93		"	18.00		18.00
July	18.06				19.04*			17.97	17.98	18.00	32.90	17.705	"	18.89	"
August	18.12									18.00		"	"		"
Sept.	18.08					17.97		17.99		17.95		"	"		"
Oct.	18.05			23.04	18.00*	17.97		17.99		18.00	38.17	"	"	22.84	"
Nov.	24.01				24.00*	23.97		23.99		24.00		23.705	22.86		24.00
Dec.	24.00					23.97		23.99		24.00		"	24.00		"
1980				—	n.a.					n.a.					
Jan.	26.02					25.99		25.99			36.58	25.44	26.00	27.17	26.00
Feb.	25.96					25.99		25.99				"	"		"
March	26.03					25.98		25.99				"	"		"
April	28.04					27.98	28.00	27.99			35.52	27.684	28.00	28.82	28.00
May	28.79					27.97		27.98				"	"		"
June	28.06					27.97		27.98				"	"		"
July	28.09		29.53			27.97		28.89	27.97		33.30	"	"	30.21	"
August	30.84					29.97		30.00				"	29.25		30.00
Sept.	31.64	n.a.				29.98		30.00				"	30.00		"
Oct.	31.69					29.98		31.99				"	"		"
Nov.	30.40					31.98						"	32.00		32.00
Dec.	32.00					31.98		31.99				"	"		"

DATE	SUN Company	SUN PCB	IRVING Saint John	TEXACO Company Portland	TEXACO PCB	IMPERIAL Company	IMPERIAL PCB	PETRO-FINA PCB	DOE Third-Party Max.	Spot Third-Party	Weighted Average Cost	DOE Acq. Cost	OGSP
1981				n.a.		n.a.		—	n.a.	n.a.			
Jan.			32.00		31.94		31.98				31.62	32.00	32.00
Feb.	n.a.		32.05		31.98						"	"	"
March		37.53	32.00				32.00				"	"	"
April	n.a.		"		31.98						"	"	"
May	n.a.	n.a.	"		31.97			32.11			"	"	"
June	n.a.		"		31.97		31.99				"	"	"
July	n.a.		"		31.97		31.99	n.a.			"	"	"
August	n.a.	33.36	"		32.76		31.99	32.01			"	32.03	"
Sept.			"		32.46		32.00				"	32.06	"
Oct.	n.a.		—		33.99		34.00				33.62	34.09	34.00
Nov.		34.93	34.00								"	34.12	"
Dec.	34.25	34.26	34.03					34.19			"	34.13	"
1982			n.a.	n.a.					n.a.	n.a.	n.a.		
Jan.		—				—	—					34.16	34.00
Feb.		n.a.			33.99	"	"						"
March		—				"	"	34.01					"
April	n.a.	—			33.99	"	"						"
May		n.a.			n.a.	n.a.	n.a.	n.a.					"
June		"			"	"	"	"					"
July		"			"	"	"	"					"
August		"			"	"	"	"					"
Sept.		"			"	"	"	"					"
Oct.		"			"	"	"	"					"
Nov.		"			"	"	"	"					"
Dec.		"			"	"	"	"					"

Column Notes:

1. *Irving*: From 1960 to the January to July 1971 price of $1.80, the figures shown under the Irving Saint John column reflect the August 14, 1957 agreement with SOCAL in which the FOB component of the CIF price is the posted price (see I-318A). The August 19, 1971 FOB price was derived by deducting from the CIF price of $2.90 the freight costs of $1.05 reported in I-257, tab 2. The monthly 1974 to 1981 prices were taken from exhibits I-265 to I-268. The *asterisked* average annual figures for 1971 to 1974 are from I-394. For August 1971 to 1975, annual (*asterisked*) and monthly offshore prices are calculated by deducting the net income per barrel per year earned by the offshore subsidiary from the Canadian purchase prices. These are listed as 100 per cent offshore prices. The 50 per cent offshore prices reflect Mr. Arthur Irving's statement that the offshore subsidiary's net income was to be shared evenly with SOCAL (see Appendix E for references and calculations). These prices were calculated by only deducting one half of the offshore subsidiary's net income per barrel from the purchase price on imports into Canada. The offshore figures for 1976 to 1981 are not available as the net income figures for the offshore subsidiary for these years were not provided by Irving Oil.

2. *Gulf*: The 1959 to 1961 prices are taken from the contracts (see I-16E, Nos. 19 and 21) covering those years which had price clauses which used posted prices (1959, 1960) or posted prices minus 12¢ (1961). Prices are shown for 1960 and 1961 because Exhibit I-360, Tab 1 shows imports for those years. The annual figure shown for 1974 was reported by Gulf in I-16E.

3. *Sun*: The 1969 to 1972 prices are the 34° prices reported in I-315B, tab 3 respecting imports reported in I-161. The first set of prices for 1975 to 1982 are 34° contract prices from I-315B. The other 1975 to 1982 prices are those reported to the PCB; their API levels have not been standardized to 34°.

4. *Imperial Oil*: The 1966 figures are based on FOB ex Sidon prices from which the Tapline pipeline charge of 37¢ has been deducted to convert the prices to FOB ex Ras Tanura. The 1974 and 1975 annual figures reported by Imperial are simple annualized monthly data while the annual PCB data are weighted (by volume) averages.

TABLE F-1 (cont'd)

Notes to Table F-1 on Comparative FOB Costs of Imported Arabian Light (34.0 — 34.9° API) Crude Oil, 1958 to 1982

Column Notes:

5. *Texaco*: For the years marked by *n.a.**, Texaco provided information on ocean loss and AFRA freight rates which could be used to derive FOB prices from the CIF prices in Table 2. These are not shown because AFRA freight rates produce FOB prices which are biased low. The 1978 and 1979 figures reported by Texaco in Exhibit I-158 are FOB Caribbean transshipment point. The figure shown for March 1979 is for February 5.

6. *BP*: For 1970, the figure shown is based on an FOB price ex Sidon ($1.72) from which the Tapline pipeline charge of 37¢ has been deducted to convert the price to FOB ex Ras Tanura. The price effective for January 1, 1969 reported on an October 27, 1969 price sheet in I-289, tab 4 was used for 1970. Imports via the Portland pipeline to Montreal were only reported for 1970 in I-291; I-289, tab 4 shows that imports directly to Montreal by ship also did not occur in 1969.

7. *Petrofina*: The *asterisked* figures shown for 1970 and 1974 are the average annual Canadian purchase or import prices (of 34.3° and 33.4° crude oil, respectively) reduced by the Pannac (i.e., offshore subsidiary) dividend per barrel. No API adjustments were required as the gravity of the imports were within the contract margin for variations (33.0 to 34.9°). PCB figures are also shown in 1974 as well as in 1975, 1976 and 1981.

8. *Term Third-Party Price Range*: The minimum and maximum values shown here represent term transactions prices from several sources. Some 1960 to 1967 prices are found in Adelman's 1958 to 1967 survey in *The World Petroleum Market* (*W.P.M.*), pp. 384 to 397 (see Exhibit I-51A, Tab II-4). The original Adelman price data had been standardized to 31.0 API and adjusted for sulphur levels using 1.5¢ per API degree and 1¢ per barrel. respectively for Arabian light 34.0° crude oil. The prices shown here were obtained by reversing the procedure used by Adelman; that is, by adding 5.5¢ per barrel. Adelman's FOB calculations were further corrected for rounding errors whenever actual discount levels from posted prices were reported. Some 1968 to 1969 figures are taken from Blair's evidence to the U.S. Senate (see Appendix E for references). Certain 1969 and 1970 prices are from Adelman's price survey for 1968 to 1970 in *W.P.M.* at pp. 417-421. For 1959 to 1969, prices are also taken from those reported by Newton to the U.S. Senate (see Exhibit S-5E, as well as I-51A, Tab II-5). For 1969 to 1970, Sun Alternate Values from Exhibit I-188 dated May 10, 1971 are also available and are shown in parentheses. Other third-party or alternate value price estimates for 1969 to 1971 were found in Sun Exhibits I-16A, tab 5, pp. 84108-84109; I-188, p. 83927 and I-198, p. 83917. When these are added to the Sun alternate values in I-188, the price ranges are: $1.25 to $1.40 (for 1969); $1.26 to $1.30 (for 1970); $1.29 to $1.30 (for the first half of 1971); $2.00 to $2.10 (for the second half of 1971) and $1.65 to $1.70 (the average annual price for the year 1971). It may be noted that the estimates for 1971 were reported in memos dated in April and May of that year. Accordingly the *asterisked* figures for 1971 were less reliable. The $1.40 value for 1969 is not used because it was revised downwards in subsequent memos. For 1973 to 1979, US DOE representative or median prices provide a source of third-party prices reported by US corporations.

9. *Spot Third-Party*: These represent prices on sales involving single cargoes, but in the early 1960s the coverage was greater. For 1971, the price shown for June 1 is for July to December. See I-18 and I-23.

10. *Competitive Supply Price*: These are the Director's estimates of the minimum price required to cover the costs of production, including return on capital, and tax paid cost (see I-79).

11. *Tax Paid Cost*: This refers to the cost of equity crude oil. It includes operating/production costs and the host government's taxes and royalties (see Appendix E).

12. *Official Selling Price*: For 1958 to 1974, the prices reflect the long-term contract prices under which the bulk of crude oil was sold; from 1975 onwards the figures are official government prices (OGSP) applicable to sales to third-party buyers.

13. *Posted*: The price shown for March, 1959 is actually for February 13. The posted price for Sidon was the Ras Tanura price plus 37¢ (for pipeline costs) from 1958 to 1967 (see Appendix E for references).

14. *Newfoundland Refining Company Contract*: The prices shown for 1973 to 1975 are based on a contract with Petromin (the Saudi Arabian government's petroleum corporation) with prices to be set at posted price minus 7 per cent.

15. *DOE Third-Party Rep*: Representative price was defined by the United States Department of Energy (DOE) as being the lowest price at which 50 per cent or more (by volume) of third-party (i.e. arm's-length) transactions took place per month. That is, the weighted median price. See I-84 and the U.S. Federal Register references listed in Appendix E.

16. *Weighted Average Cost*: From 1973 to 1981, the weighted average cost figures reflect the acquisition costs in addition to tax paid cost resulting from nationalization. Weighted average cost calculations became necessary in 1973 when crude oil production was partially nationalized (i.e. by 25 per cent). Aside from their 75 per cent equity share of production, the companies were obligated to buy back 22.5 percentage points of the government's 25 per cent share; the remaining 2.5 percentage points were sold to third-party buyers by the government. The buy-back price was set at $2.32/barrel until September, 1973 when it was fixed at 93 per cent of the posted price. In calculating the weighted average cost of crude oil supplies per company, the weights for the equity (at tax paid cost) and buy-back crude oil were 73.68 and 26.32 per cent, respectively. (These figures were obtained by taking 75 and 22.5 as a percentage of 97.5, the proportion of total crude oil production which moved through company channels.) When nationalization or participation increased to 60 per cent in 1974, the companies were obliged to buy 55 percentage points of the government's 60 per cent share, the remainder again being sold to third-party buyers by the government. Therefore, the respective weights for the 1974 and 1975 weighted average cost calculations became 42.1 and 57.9 per cent (i.e. 40 and 55 as a percentage of 95). For 1976 to 1981, the figures are from *International Crude Oil and Product Prices* (see Exhibit I-80). The ICOOP figures are adjusted for discounts or premiums applicable to former concession owners.

17. *DOE Acquisition Cost*: These are taken from Exhibit I-80. According to the testimony of Brant/Davidson, the data were taken from term arm's-length acquisition cost figures reported to the U.S. Department of Energy (DOE). Where more than one figure was available per month, Brant testified that the highest figure was chosen. If more than one figure per month was reported per company, only the latest or revised figure reported by that company was considered (see TS Vol. 7, p. 13348).

18. *OGSP Adjusted*: For 1979 and 1980, the figures shown represent official government selling prices adjusted for any discounts or premiums applicable to all buyers (see I-18 and I-23).

TABLE F-2

Comparative Delivered (CIF) Costs of Imported Arabian Light (34.0 — 34.9° API) Crude Oil, 1958 to 1982 (US $ per barrel, Portland, Unless Otherwise Specified)

	IRVING	TEXACO			SUN	IMPERIAL			GULF	BP	PETROFINA	IRVING		Term Third-Party Price Range (Sun Alternate Values)	Spot Third-Party Price Range
DATE	Saint-John	Portland	Halifax	Average		Portland	Dartmouth	Average				Offshore 50%	Offshore 100%		
1958	—	3.00	—	3.00	n.a.	—	—	—	n.a.	—	n.a.	—	—	n.a.	n.a.
1959	—	2.81	—	2.81	n.a.	—	—	—	n.a.	—	n.a.			2.51	n.a.
Jan.1		3.00	—	3.00		—	—	—				—	—		
Mar.1		2.86	—	2.86		—	—	—							
Apr.15		2.79	—	2.79		—	—	—							
May 1		2.76	—	2.76		—	—	—							
1960	2.682	2.68	—	2.68	n.a.	—	—	—	n.a.	—	—	—	—	2.01-2.28	2.32
Aug.9	2.582		—			—	—	—							
1961	2.58	2.59	—	2.59	n.a.	—	—	—	n.a.	—	—	—	—	2.31-2.35	2.23
Jan.1		2.68	—	2.68		—	—	—		—	—				
Feb.1		2.58	—	2.58		—	—	—		—	—				
1962	2.58	2.51	—	2.51	—	—	—	—	n.a.	—	—	—	—	2.02	2.25
Jan.1		2.58	—	2.58	—	—	—	—		—	—				
Aug.1		2.43	—	2.43	—	—	—	—		—	—				
1963	2.58	2.43	—	2.43	—	—	—	—	—	—	—	—	—	2.06-2.37	2.31-2.38
1964	2.58	2.43	—	2.43	—	n.a.	n.a.	2.27	—	—	—	"	"	1.92-2.12	2.24
1965	2.58	2.33	2.35	2.33	—	2.26	2.22	2.25	—	—	—	"	"	1.92-2.27	2.16
1966	2.58	2.33	—	2.33	—	2.29	—	2.29	—	—	—	"	"	1.86-2.15	2.03
1967	2.58	2.33	2.33	2.33	—	2.19	—	2.19	—	—	—	"	"		2.64-2.83
Jan.														1.88-2.27	1.95
July														2.19-2.42	3.70
1968	2.58	2.33	2.33	2.33	—	—	—	—	—	—	—	"	"	1.80-2.10	2.60-2.61
1969	2.58	2.33	2.33	2.33	2.33	—	—	—	—	—	—	"	"	1.79-2.01 (2.01)	2.28-2.57
1970	2.58	2.28	2.28	2.28	2.39	—	—	—	—	2.00*	2.71*	—	—	2.51-(2.56)	3.59-3.61
Jan.														1.93-(2.22)	2.79
July														2.52-(2.91)	4.19
Sept.1												2.30*	2.025*		

TABLE F-2 (cont'd)

DATE	IRVING Saint-John	TEXACO Portland	TEXACO Halifax	TEXACO Average	SUN	IMPERIAL Portland	IMPERIAL Dartmouth	IMPERIAL Average	GULF	BP	PETROFINA	IRVING Offshore 50%	IRVING Offshore 100%	Term Third-Party Price Range (Sun Alternate Values)	Spot Third-Party Price Range
1971	2.80*	2.91	2.95	n.a.		—	—	—	—	—	—	2.60*	2.41*	(2.87)*-(2.92)*	2.89
Jan. 1	2.58	2.69	2.69	2.69	2.39	—	—	—		—	—	—	—	(2.73)-(2.74)	3.10
Feb. 15		2.96	2.96	2.96		—	—	—		—	—				
June 1		3.03	3.03	3.03	2.73	—	—	—		—	—				
July														(3.05)*-(3.15)*	2.67
Aug.	2.90											2.502	2.104		
Nov. 14					2.56										
1972	2.89*	2.93	3.00	n.a.	2.70	—	—	—	—	—	—	2.57*	2.25*	n.a.	2.87
Jan. 1		3.03	3.03	3.03		—	—	—		—	—				2.57
Jan. 20		3.145	3.145	3.145		—	—	—		—	—				
July 1		2.90	2.90	2.90		—	—	—		—	—				3.18

	IRVING	TEXACO				SHELL		GULF		IMPERIAL	ULTRAMAR	PETROFINA	IRVING			
		Company											Offshore		Term	Spot
DATE	Saint John	Portland	Halifax	St-Romuald	PCB	Company	PCB	Company	PCB	Company	PCB	PCB	Company	PCB	50%	100%	Third-Party	Third-Party
1973	3.57*	3.27	3.38		—	—	—	—	—	—	—	—	—	—	3.03*	2.50*		5.89
Jan.		3.075	3.08															5.16
Feb.		"	"															
March		"	"															
April	3.272	3.170	3.17												2.97	2.667		5.43
May		"	"															
June		3.268	3.27															5.78
July		3.939	3.88	4.33														
August		4.009	3.95	4.399														
Sept.		4.120	4.06	4.510														
Oct. 1		4.437	4.37	5.047													5.54	7.20
Oct.16		5.873	5.803	6.483														
Nov.		5.913	5.843	6.523													5.54	
Dec.		5.816	5.746	6.426													5.51	
1974	11.91*					n.a.		n.a.		11.65	10.69		11.32*		11.25*	10.58*		13.10
Jan.	11.63	12.091	12.001	12.891*	11.22										10.97	10.30	11.51	15.14
Feb.	11.74	"	"	"	13.06										11.08	10.41	11.55	
March	11.80	"	"	"	13.01										11.14	10.47	11.67	
April	11.90	11.76	11.70	11.79*	12.09										11.24	10.57	11.67	12.71
May		"	"		11.61												11.72	
June	11.84	"	"	"	11.61									11.25	11.18	10.51	11.72	
July		11.71	11.65	11.74*	11.53												11.85	12.11
August	11.84	"	"	"	11.58										11.18	10.51	11.85	
Sept.	11.78	"	"	"	11.56									11.10	11.12	10.45	11.85	
Oct.	11.99	11.96	11.90	11.99*	11.90						10.57	12.87		11.55	11.33	10.66	12.25	12.41
Nov.	12.43	12.14	12.08	12.17*	11.95				11.55			12.80			11.77	11.10	12.43	
Dec.	12.51	12.14	12.08	12.17*	11.99		12.05		10.98		10.82	12.91			11.85	11.18	12.43	

TABLE F-2 (cont'd)

DATE	SUN OIL		TEXACO				IRVING	GULF		IMPERIAL		ULTRA-MAR	PETROFINA		IRVING			
			Company												Offshore		Term Third-Party	Spot Third-Party
	Company	PCB	Portland	Halifax	St-Romuald	PCB	Saint John	Company	PCB	Company	PCB	PCB	Company	PCB	50%	100%		
1975	n.a.				—			—	—	11.75	10.83						n.a.	n.a.
Jan.			12.04	11.98	—	11.92	11.92					12.91			11.68	11.45		
Feb.	n.a.		"	"	—	11.91	11.85					12.92			11.61	11.38		
March	n.a.	13.50	"	"	—		11.84					12.67			11.60	11.37		
April		11.70	12.08	12.03	—		—				10.84	12.59			—	—		
May	11.70	11.70	"	"	—	11.94	11.17				10.82	12.59			10.93	10.70		
June	11.70		"	"	—	11.95	11.86				10.83	12.59			11.62	11.39		
July	11.70-.73	13.49	12.05	12.01	—	11.84	—								—	—		
August	n.a.	12.34	"	"	—	11.93	11.84								11.60	11.37		
Sept.	n.a.	12.69	"	"	—	11.78	11.85								11.61	11.38		
Oct.	n.a.	12.85	13.17	13.13	—	12.47	12.90								12.66	12.43		
Nov.			"	"	—	13.02	12.79					13.27			12.55	12.32		
Dec.	n.a.	12.84	"	"	—	12.99	—							12.77	—	—		
1976								n.a.		—	—	—	n.a.		n.a.			12.68
Jan.	n.a.	12.86	13.00	13.01	13.11	13.01	12.88										12.48	12.56
Feb.	n.a.	12.87	"	"		13.01	12.88										12.48	
March			"	"		13.00	—										12.46	
April			"	"		13.00	12.90										12.46	12.56
May			"	"		12.99	12.85		12.80								12.47	
June			"	"		12.99	12.88										12.46	
July			12.77	12.74		12.73	—										12.46	12.65
August			"	"		12.75	12.85										12.47	
Sept.			"	"		12.75	12.86										12.46	
Oct.			12.86	12.87		12.85	12.83										12.48	12.95
Nov.	n.a.	12.98	"	"		12.85	12.78										12.48	
Dec.			"	"		12.87	12.80							12.34			12.48	

TABLE F-2 (cont'd)

DATE	TEXACO Company Portland	TEXACO Company Halifax	TEXACO PCB	IRVING Saint John	SUN OIL Company	SUN OIL PCB	SHELL Company	SHELL PCB	GULF Company	GULF PCB	ULTRAMAR PCB	Term Third-Party	Spot Third-Party
1977							n.a.		n.a.				13.91
Jan.	13.39	13.56	13.52	13.45								13.34	13.84
Feb.	"	"	13.38	13.79							13.75	"	
March	"	"	13.34	13.48							13.91	"	
April	"	"	13.34	13.51				13.26		13.03	14.04	"	13.79
May	"	"	13.42	13.48	n.a.	13.08					14.05	"	
June	"	"		13.45	n.a.						14.15	"	
July	14.00	14.17	13.98	—								13.96	13.97
August	"	"	14.10	14.02								"	
Sept.	"	"	14.16	14.03								"	
Oct.	"	"	14.17	14.00	n.a.	13.68						"	14.02
Nov.	"	"	14.02	"								"	
Dec.	"	"	14.03	"	n.a.	13.66					14.53	"	
1978							—	—	—	—	—	n.a.	n.a.
Jan.	13.99	14.08	13.99	13.99									
Feb.	"	"	13.98	13.94									
March	"	"	13.99	14.04									
April	"	"	13.92	14.01	n.a.	13.51							
May	"	"		"	n.a.								
June	"	"	13.99	13.98	n.a.	13.66							
July	"	"		14.03									
August	"	"	14.01	"									
Sept.	"	"	13.95	14.02									
Oct.	"	"	14.31	14.12									
Nov.	"	"	14.23	14.15									
Dec.	"	"	14.18	14.33									

TABLE F-2 (cont'd)

	SUN OIL		IRVING	TEXACO				GULF		IMPERIAL		ULTRA-MAR
				Company								
DATE	Company	PCB	Saint John	Portland	Halifax	St-Romuald	PCB	Company	PCB	Company	PCB	PCB
1979	—	—				—		n.a.		n.a.		
Jan.			15.43	14.22			14.91					
Feb.			15.32	15.04			14.92					
March			15.21	15.16*	15.33		14.82					
April			16.38	16.10			17.06					16.18
May			16.46	"			17.05				16.07	
June			19.89	"			19.59					
July			19.90	19.58							19.65	18.67
August			20.10	"								
Sept.			20.41	"			19.68				19.80	
Oct.			20.38	19.91			19.95		24.86		19.84	
Nov.			26.26	25.71			25.52				25.98	
Dec.			26.30	"			26.10				25.90	
1980					n.a.	n.a.		—	—	n.a.		
Jan.			28.46				27.96				27.99	
Feb.			28.56				27.97				27.75	
March			28.54				28.04				27.94	
April			30.38				29.91				29.83	
May			30.35				29.80				29.70	
June			30.31				29.85				29.60	
July		31.41	30.36				29.68				30.89	29.98
August			32.07				31.97				31.92	
Sept.	31.07*		31.87				31.93				32.37	
Oct.			32.05				32.01				34.25	
Nov.			32.42				34.19					
Dec.			34.79				34.26				34.29	

DATE	TEXACO Company Portland	TEXACO Company Halifax	TEXACO Company St-Romuald	TEXACO PCB	IMPERIAL Company	IMPERIAL PCB	IRVING Saint John	SUN OIL Company	SUN OIL PCB	PETROFINA Company	PETROFINA PCB
1981	n.a.	n.a.	n.a.		n.a.					n.a.	
Jan.				34.14		34.29	34.07				
Feb.				34.19			34.32	37.32*			
March						34.18	34.23		37.83		
April				34.38			33.97	37.54*			
May				34.00			34.07	34.27	n.a.		33.87
June				34.08		33.79	34.04	34.27			
July				34.00		34.17	33.96	34.22			n.a.
August				34.82		34.11	33.87	33.77	33.68		33.99
Sept.				34.45		34.63	33.97				
Oct.				36.02		36.38	—	33.35*			
Nov.							36.03		35.41		
Dec.							36.04	n.a.	35.78		36.17
1982	n.a.	n.a.	n.a.		—	—	n.a.	n.a.		n.a.	
Jan.									—		
Feb.				35.95					n.a.		
March									—		35.51
April				n.a.				31.82	—		
May	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
June	"	"	"	"	"	"	"	"	"	"	"
July	"	"	"	"	"	"	"	"	"	"	"
August	"	"	"	"	"	"	"	"	"	"	"
Sept.	"	"	"	"	"	"	"	"	"	"	"
Oct.	"	"	"	"	"	"	"	"	"	"	"
Nov.	"	"	"	"	"	"	"	"	"	"	"
Dec.	"	"	"	"	"	"	"	"	"	"	"

TABLE F-2 (cont'd)

Notes to Table F-2 on Comparative Delivered (CIF) Costs of Imported Arabian Light (34.0 — 34.9° API) Crude Oil, 1958 to 1982

Column Notes:

1. *Irving*: From 1960 to the January to July 1971 price of $2.58, the Saint John purchase or import CIF prices are based on the August 14, 1957 contract with SOCAL (Exhibit I-318A) in which the $2.712 price was to vary with changes in the posted FOB price of $1.93 as of July 1, 1956. For the August 1971, the April 1973, the annual (*asterisked*) prices for 1971 to 1974 and the monthly prices for 1974 to 1981, see Exhibits I-257, Tab 2, I-272, I-394, I-265, I-266, I-267 and I-268. For 1971 to 1975, 100 per cent and 50 per cent net offshore prices were derived by deducting the net income per barrel of Bomag-Irvcal (i.e. the offshore subsidiary). See note to Table 1 for the rationale. The offshore figure for September 1970 is based on a negotiated $2.025 market price found in a draft agreement between Irving Refining Limited and Chevron Oil Sales Company (SOCAL) which was reported to have never been signed (see Exhibit I-257 at Tab 1). The $2.30 price shown is the mid point between the $2.025 and $2.58 prices. The offshore figures for 1976 to 1981 are incomplete because net income figures for the offshore subsidiary were not available.

2. *Gulf*: Freight costs were not available to add to the FOB prices in Table 1 for 1959 to 1962.

3. *Sun*: See note on Table 1. The CIF 34° prices shown for 1969 to 1972 are based on 34° FOB prices from Table 1 and freight costs reported in I-161. For 1971, the average of the 1970 and 1972 freight costs was used. The first set of prices for 1975 to 1982 are 34° contract prices from I-315B; the *asterisked* figures in 1980 and 1981 are FOB prices at the Caribbean transshipment terminal (i.e., Curacao, Freeport or Aruba). The PCB prices for 1975 to 1982 have not been standardized to 34°.

4. *Imperial*: The annual company figures shown for 1974 and 1975 are simple annualized monthly prices based on CIF Montreal prices from which the pipeline tariff has been deducted; the annual PCB figures are weighted (by volume) averages.

5. *Texaco*: The 1970 prices are based on a 33° price of $2.26 shown on I-158. For 1974, no imports were reported for St-Romuald; for 1979, the March figure is for February 5.

6. *BP*: See note in Table 1.

7. *Petrofina*: The 1970 and 1974 *asterisked* figures are the average annual Canadian purchase or import prices reduced by the Pannac (i.e., offshore subsidiary) dividend per barrel. PCB figures are also shown in 1974, as well as, in 1975, 1976 and 1981.

8. *Term Third-Party Price Range*: These figures represent the minimum and maximum CIF prices calculated by adding to the FOB Term Third-Party Price Range data of Table 1 the term charter transportation cost estimates cited in Appendix E. Insurance costs at 1 per cent of the C & F price were also included. For 1973, 1974 and 1976 to 1977, US DOE third-party representative or median term prices were also used as FOB prices to calculate CIF prices.

9. *Spot Third-Party Price Range*: These figures were calculated by adding to the Spot third-party price data of Table 1, the spot transportation cost estimates cited in Appendix E and including one per cent of the laid down cost to cover insurance.

TABLE F-3

Comparative FOB Costs of Imported Iranian Light (34.0 – 34.9° API) Crude Oil, 1958 to 1980
(US $ per barrel)

DATE	IRVING	GULF	IMPERIAL	SUN	SHELL	TEXACO	BP	PETRO-FINA	MURPHY			Term Third-Party Price Range	Spot Third-Party	Tax Paid Cost	Posted
									Esti-mated Offshore	BP and (Esso) Contracts	Nfld. Refining Company*				
	Saint John														
1958	—	n.a.	n.a.	n.a.	—	—	—	n.a.	—	—	—	1.79	n.a.	n.a.	2.04
1959						n.a.*							"	"	2.04
Feb.	—	n.a.	n.a.	n.a.	—		n.a.	n.a.	—	—	—	1.56	"	"	1.86
1960	1.86					n.a.*	1.79*							"	1.86
August	1.78	—	n.a.	n.a.	—		1.68*	1.71*	—	—	—	1.43-1.56	1.79	"	1.78
						n.a.*								"	
1961	1.78	—	—	n.a.	—		1.43*	—	—	—	—	1.43	1.60	"	1.78
1962	1.78	—	—	—	n.a.	n.a.*	1.43*	—	—	—	—	1.38-1.43	1.55	"	1.78
1963	1.78	1.66	—	—	n.a.	—	1.43*	—	—	—	—	1.38-1.52	1.50	"	1.78
1964	1.78	1.66	1.60	—	—	—	1.43*	—	—	—	—	1.29-1.53	1.45	"	1.78
1965	1.78	1.47							—	1.35		1.27-1.55		"	1.78
Nov.	1.79	1.45	—	—	—	—	1.42*	—			—		1.40	"	1.79
1966	1.79	—	—	—	—	n.a.*	1.42*	—	—	1.35	—	1.07-1.50	1.28	"	1.79
1967										1.35		1.18-1.54			
Dec.	1.79	1.44	—	—	—	n.a.*	1.42*	—	—	1.33	—		1.28	0.95	1.79
1968	1.79	1.44	—	—	—	n.a.*	1.42*	—	—	1.33	—	1.18-1.43	1.27-1.35	0.96	1.79
1969	1.79	—	—	—	—	n.a.*	1.30	—	—	1.33	—	1.24-1.35			1.79
Jan.													1.31-1.34		
April										1.32					
May										1.33					
June										1.31					
July										1.31					
August										(1.27)					
Sept.										(1.27)					
Nov. 2										(1.28)					
Nov. 20										(1.27)					
1970	1.79	—	—	—	—	n.a.*	1.30	0.95*		1.33		1.14 to 1.28		1.017	1.79
Jan.										(1.27)			1.28		
March										(1.27)					
April									1.395		1.275			1.103	
June												1.25*-1.28*			
Nov.									1.395	1.36	1.361	1.31*-1.36*			

TABLE F-3 (cont'd)

DATE	IRVING	GULF	BP	TEXACO	SUN		PETRO-FINA	MURPHY		IRVING Offshore					
	Saint John					Nfld. Refining Compnay*		Esti-mated Offshore	BP Trading Contracts	50%	100%	Term Third-Party	Spot Third-Party	Tax Paid Cost	Posted
1971	1.68*	1.82		n.a.*	n.a.		1.34*			1.48*	1.29*	n.a.	n.a.		
Jan.	1.79	1.455	1.37			1.361			1.312	—	—			1.103	1.79
Feb. 15		1.75	1.65			1.628			1.582					1.370	2.17
May								1.598							
June		1.81	1.72			1.691		1.597	1.646					1.433	2.274
July						1.696		1.578	"						
August	1.85							1.463-1.66	"	1.65	1.46				
Sept.								1.661	"						
Oct.								1.672	"						
Nov.								1.672	"						
Dec.									"						
1972	1.95*	1.89		n.a.*	—		1.51*			1.63*	1.31*	n.a.	n.a.		
Jan.		1.81	1.72			1.696		1.663	1.646					1.433	2.274
Jan. 20		1.93	1.84			1.813			1.766					1.550	2.467
Feb.								1.67							
March															
April															
May															
June															
July						1.818									

TABLE F-3 (cont'd)

DATE	GULF Company	GULF PCB	TEXACO Company	TEXACO PCB	SUN OIL Company	SUN OIL PCB	IRVING Saint John	BP Company	BP PCB	Nfld. Refining Company*	PETRO-FINA Company	MURPHY Estimated Offshore	MURPHY BP Contract	IRVING Offshore 100%	IRVING Offshore 50%	DOE Third-Party Rep.	Acq. Cost	DOE Cost	OGSP
1973	—	—	—	—	2.90	—	2.48*	2.84	—		1.61*			1.41	1.94*	—	n.a.	n.a.	—
Jan.								2.05		1.885			1.835						
Feb.																			
March																			
April							n.a.	2.14		1.976			1.928	n.a.	n.a.				
May					2.20														
June					n.a.			2.24		2.071									
July					"			2.28		2.11									
August					"			2.35		2.176									
Sept.					"														
Oct. 1					"					2.143						4.28			
Oct. 16					"			4.06		3.565									
Nov.					"			4.06		3.601						4.28			
Dec.					"			3.96		3.512		n.a.				4.23			
1974			n.a.*		(Third-Party*) 10.80		PCB 8.43*			n.a.	(PCB) 7.64*		Murphy PCB*		7.10*7.77*				
Jan.	10.28			10.49			—	9.17	10.02		(9.81)*	n.a.	9.31			10.57	9.606	9.56	11.163
Feb.	"	10.38		"	(9.94*)	10.33	9.86	9.44*	"		(9.81)*	9.326	9.29	8.53	9.20	11.62	"	"	"
March	"	"		"			9.90		10.00			9.318		8.57.	9.24	10.62	"	"	"
April	"			10.06	(10.97*)	11.30	—		9.92		(9.81)*			—	—	11.09	"	9.63	"
May	"	10.38		10.05			9.84		9.88					8.51	9.18	10.94	"	"	"
June	10.41	9.93		"	(9.93*)		"							"	"	10.90	"	9.62	11.263
July	10.01*			10.20	(10.11*)	10.37	10.02	9.44						8.69	9.36	10.68	9.702	9.66	"
August	10.55	10.49			(10.11*)	10.27	—				(9.95)*			—	—	10.46	"	"	"
Sept.				10.20			10.20				(9.95)*			8.87	9.54	10.29	"	9.62	"
Oct.				10.39			—	9.19	9.06					—	—	10.50	10.037	9.98	11.044
Nov.	11.59*	10.83		10.57	10.52	10.52	—	n.a.	10.80					—	—	10.64	10.45	10.42	10.672
Dec.	11.02*	10.88		"	10.525	10.42	—	n.a.	10.73					—	—	10.70		10.44	"

TABLE F-3 (cont'd)

DATE	IRVING Saint John	TEXACO Company	TEXACO PCB	BP Company	BP PCB	SHELL PCB	SUN OIL Company and PCB	GULF Company	GULF PCB	MUR-PHY PCB	ULTRA-MAR PCB	PETRO-FINA PCB	IRVING Offshore 100%	IRVING Offshore 50%	DOE Third-Party Rep.	Acq. Cost	DOE Cost	OGSP
1975		n.a.*						n.a.		—								
Jan.	10.86			10.77	10.78				10.68			10.68*	10.39	10.62	10.68	10.452	10.55	10.672
Feb.	10.74		10.57						"			"	10.27	10.50	10.67	"	10.50	"
March	n.a.		10.57		10.68		10.67		"		11.00	"	n.a.	n.a.	10.68	"	10.49	"
April	—			10.76	10.60	10.67	"		"			"	—	—	10.60	"	10.46	"
May	—				10.60		"		10.46			"	—	—	10.65	"	10.47	"
June	n.a.		10.69		10.64	10.67	10.67*		10.68		10.92	"	n.a.	n.a.	10.64	"	10.49	"
July	—		10.67		10.76								—	—	10.62	"	10.47	"
August	—			10.74	10.74								—	—	10.63	"	"	"
Sept.	—												—	—	10.61	"	"	"
Oct.	11.84			11.62	11.62							11.63*	11.37	11.60	11.53	11.40	11.62	11.620
Nov.	11.86				"							11.63*	11.39	11.62	11.59	"	11.42	"
Dec.	11.78				"		11.63					11.63*	11.31	11.54	11.56	"	"	"

1976		n.a.	n.a.					n.a.		PCB (Contract)	—		n.a.					
Jan.	11.78			11.62	11.62				11.56			11.63			11.56	11.40	11.40	11.62
Feb.	—			"	"		11.50		"			11.62			11.56	"	11.42	"
March	11.86			"	"		11.61		11.55			"			11.56	"	"	"
April	11.69			"	11.61										11.57	"	"	"
May	—			"	11.62		11.61		11.56	(11.62)		11.60			11.59	"	"	"
June	—			"	11.60	11.60	11.64		"	11.63					11.58	"	"	"
July	—			"											11.55	"	"	"
August	—			"			11.54			11.63					11.56	"	"	"
Sept.	11.84			"						11.63					11.56	"	11.40	"
Oct.	11.77			"											11.57	"	"	"
Nov.	—			"						11.56					11.62	"	11.42	"
Dec.	11.73			"											11.59	"	"	"

DATE	IRVING Saint John	SUN OIL Company	SUN OIL PCB	GULF PCB	MURPHY PCB	MURPHY Contract Prices	PETRO-FINA PCB	ULTRAMAR PCB	DOE Third-Party Rep.	Acq. Cost	DOE Cost	OGSP
1977												
Jan.	—				12.82				12.77	12.59	12.81	12.81
Feb.	12.98	12.81		12.79	"		12.80		12.78	"	"	"
March	—	12.78			"				"	"	12.62	"
April	12.92		12.81						"	"	12.64	"
May	—				12.82			12.66*	12.79	"	"	"
June	—	12.91			"				12.78	"	"	"
July	—		12.91			12.81			12.76	"	"	"
August	—					"			12.76	"	"	"
Sept.	—					"			12.75	"	12.81	"
Oct.	—				12.82	"			"	"	"	"
Nov.	—				12.80	"			"	"	12.63	"
Dec.	—				12.82	"			"	"	"	"

DATE	BP Company	BP PCB	PETRO-FINA PCB	Acq. Cost	DOE Cost	OGSP
1979						
Jan.	13.45			13.23	19.21	13.45
Feb.				"	"	"
March		17.63		"	"	"
April				16.57	16.81	16.57
May				"	17.49	17.17
June				"	20.21	18.47
July			22.10	22.00	21.99	22.00
August				"	22.11	"
Sept.				"	28.74	"
Oct.			23.78	"	29.44	23.71
Nov.				"	31.40	"
Dec.				"	"	28.71

DATE	IRVING Saint John	SUN OIL Company	SUN OIL PCB	GULF PCB	MURPHY PCB	MURPHY Contract Prices	PETRO-FINA PCB	ULTRAMAR PCB	DOE Third-Party Rep.	Acq. Cost	DOE Cost	OGSP
1978				—	—	—	—	—				
Jan.	—								12.75	12.59	12.81	12.81
Feb.	—								12.77	"	"	"
March	—								12.74	"	"	"
April	12.99								12.76	"	12.67	"
May	—							12.80	12.74	"	12.69	"
June	12.88	12.62	12.62					12.80	12.73	"	12.59	"
July	—								12.70	"	12.66	"
August	12.93		12.59						12.72	"	"	"
Sept.	12.91		12.65						12.75	"	"	"
Oct.	—	n.a.							12.72	"	"	"
Nov.	—								12.81	"	12.69	"
Dec.	—								12.81	"	12.66	"

DATE	BP Company	BP PCB	PETRO-FINA PCB	Acq. Cost	DOE Cost	OGSP
1980	—	—	—	n.a.	n.a.	
Jan.						30.37
Feb.						"
March						"
April						35.37
May						"
June						"
July						"
August						"
Sept.						"
Oct.						"
Nov.						"
Dec.						"

Column Notes:

1. *Irving:* For 1960 to the January to July 1971 price of $1.79, the figures shown under the Saint John column reflect the August 14, 1957 agreement with SOCAL in which the FOB component of the CIF price is the posted price. For August 1971 to 1975, annual (asterisked) and monthly 100 per cent and 50 per cent offshore prices are calculated by deducting the net income (or half of the net income) per barrel per year earned by the offshore subsidiary from the Canadian purchase prices. The offshore figures for 1976 to 1981 are incomplete as the net income figures for the offshore subsidiary were not provided by Irving Oil. See note to Table 1 and Appendix E for references and further details.

2. *Gulf:* The contract (see I-16E, No. 22) price for 1964 (at posted minus 12¢) is shown because Exhibit I-360, Tab 1, shows imports for that year. The 1967 to 1974 prices were standardized to 34° using the 2¢ per API formula to 1973 and 1.5¢ for 1974. The monthly prices shown for 1971 and 1972 are contract prices for Iranian Light 34° from the International Sector documents filed by the Director (see Book 6, tab 240, p. 78768). The July 1974 figure is for June; the prices shown in November and December 1974 apply to both months.

3. *Sun:* The average annual prices for 1973 and 1974 are from I-161 and were standardized to 34° using $0.0015 per 0.1° API variation. For February to August 1974, the asterisked figures are third-party purchase prices paid by the Sun Group to non-integrated petroleum companies as reported in Exhibit I-383. The May 1973 and November and December 1974 company prices are contract prices from I-315B, tabs 3 to 5. Contract prices from the same source are also shown for 1975 to 1978. In 1975 these included the asterisked figures plus the PCB prices shown. In 1976, the contract prices were $11.50 (February), $11.55 and $11.62 (March), $11.64 (May) and $11.65 (June). From June 1978 onwards the contract prices shown include a 2¢ per barrel agency or handling fee paid to Sun International.

4. *Texaco:* Although estimates of (a) 1958, 1959, 1962 and 1966 to 1969 prices can be derived by subtracting the AFRA freight rate from Ras Tanura to Portland reported by Texaco from the Table 4 CIF price at Portland and (b) 1970 to 1975 prices can be derived using the AFRA rates for voyages from Iran to Portland, these are not shown because the use of AFRA rates produces FOB prices that are biased low. Imports for 1976 to 1978 were reported by Texaco on I-158 but no PCB price data were available for these years.

TABLE F-3 (cont'd)

Notes to Table F-3 on Comparative FOB Costs of Imported Iranian Light (34.0 — 34.9° API) Crude Oil, 1958 to 1980 (cont'd)

Column Notes:

5. *BP:* For 1960 to 1968, the actual FOB prices paid by BP Canada to BP Trading were not available. The prices shown were obtained from the records of BP Trading (see I-290), which were stated to represent price offers to all customers including BP Canada. In this event, the prices shown for BP Canada prior to 1969 would represent another set of third-party prices as well as prices to BP Canada. The FOB prices taken from I-290 for 1960 and 1966 match those calculated using the CIF contract prices in effect for those years (see I-289, tab 1 and tab 2) minus the freight rates on I-290 which were reported to be the actual transportation costs of BP Canada. The figure shown for February 1974 is for January 10th.

6. *Petrofina:* The asterisked figures shown for 1960 and 1970 to 1975 are Canadian purchase or import prices which have been reduced by the Pannac (i.e., offshore subsidiary) dividend per barrel. No API standardization was required because the imports of crude oil were within the margins for API variations (33.0 to 34.9°) allowed for in the contracts for 1970 to 1974.

7. *Murphy:* Two sets of prices are shown. The estimated offshore prices for 1970 are derived by deducting from the Canadian import price, the Tepwin (i.e., offshore subsidiary) net income/barrel and the freight rate of $0.574 reported in exhibits filed in the Tax Reassessment case involving Murphy Oil Quebec (Spur Oil Ltd). See the Appendix E section on the Murphy Oil Group for the references cited. For 1971 to 1972, the net offshore prices were estimated by deducting from the Canadian purchase or import prices the Tepwin net income/barrel and the fixed freight rate of $0.812 for 1971 (with $1.249 for June, July and August 1, 1971) and $0.812 for 1972. Freight rate data were not available to calculate net offshore prices for December 1973 and January 1974. However for February and March 1974, the freight rates ($2.04 and $2.45) reported by the PCB were used to calculate estimates of the offshore prices for these months. The BP Contract prices for 1965 to 1970 are found in Tab 7 of Exhibit I-289 and Tab 22 of Book II of Spur Oil Ltd. v. The Queen, 81 DTC 5168. For January 1971 to April 1973, the negotiated June 4, 1970 market price of $1.246 found in Exhibit I-375A was adjusted for increases in Host Government Take (HGT) for Zakum 40° (from Abu Dhabi) as per the price adjustment clause in the BP contract. The changes in HGT were found in Tab 191 of Book III of op.cit., Spur Oil v. The Queen for 1971 to 1972. For 1973, the changes found in ICOPP for Murban 39° (also from Abu Dhabi) were used. For December 1973 and 1974, no evidence was available on the terms of the contract price renegotiated between BP and the Murphy Oil Group. The Esso International contract prices for August 1969 to May 1970 were found in Tab 191 of Book III (op.cit. Spur Oil v. The Queen). These were extended to the end of 1970 by adding on the November increase in Host Government Take (i.e., $0.086) for Iranian Light. The February and March 1974 prices reported by the PCB were reduced by the Tepwin net income per barrel figure and therefore also represent estimates of offshore prices for these months. For 1976 and 1977, the FOB prices reported to the PCB and the prices reported in the Marc Rich contracts are both shown (see I-126 and I-375A, item 6). See Appendix E for more details. Any comparison of offshore and contract prices must note that changes in contract prices would take a few months before appearing in the offshore prices of imports unloaded at Portland. That is, the offshore prices shown for imports into Canada represent purchases of crude oil loaded in the Middle East several months before. It was also determined that a markup of 12¢ per barrel was put on the price of the Iranian Light (from Esso International) which the Murphy Oil Group sold to Tepwin (the offshore subsidiary). This accounts for the difference noted for 1970 between the contract and offshore prices.

8. *Newfoundland Refining Company:* The prices shown from 1970 to 1973 are based on the contract with B.P. Trading which established a base market price of $1.275 for April 1970 which would escalate with increases in the tax paid cost plus 0.5¢ every July 1st, beginning on July 1, 1971. The Newfoundland Refining Company was in operation from 1973 to 1976 but prices are not shown for 1974 to 1976 because it was not possible to determine the effect of partial nationalization on the price adjustment clause in the BP contract.

9. *Term Third-Party Price Range:* For 1958 to 1970, the minimum and maximum values are based on prices reported by Adelman, Newton and Blair (see note to Table I for references). The Adelman price data for 1960 to 1967 had been standardized to 31.0° API using 1.5¢ per API degree. The prices used for this table were obtained by reversing the procedure used by Adelman; that is, by adding 4.5¢ per barrel. Corrections to Adelman's data were also made for rounding errors when discounts off posted prices were identifiable; the lowest price reported in 1960 was not used (see explanation in Adelman, The World Petroleum Market, pp. 385 to 386). The *asterisked* figures for 1970 are the market prices which BP negotiated with Murphy and the Newfoundland Refining Company. (See Appendix E for further details).

10. *Spot Third-Party:* The prices for 1960 to 1967 and the lower price in 1968 are those reported by BP in Exhibit I-290. The highest price in 1968 and the 1969 to 1970 prices were found in Adelman, W.P.M., pp. 417 to 421.

11. *Tax Paid Cost:* This refers to the cost of equity crude oil. It covered costs of production plus host government taxes and royalties, but excludes any rate of return on the producing company's investment capital.

12. *Posted:* Until early 1965, Iranian light was posted ex Bandar Mashur. In November 1965, the posting was changed to Kharg Island.

13. *DOE Third-Party Rep.:* Representative price was defined by the United States DOE as being the lowest price at which 50 per cent or more (by volume) of third-party transactions took place per month. That is, the weighted median price. These figures were taken from I-83 and the U.S. Federal Register sources cited in Appendix E. For October 1973 to September 1974, the figures shown represent estimates based on the maximum prices reported by the DOE from which 10¢ was deducted. The maximum prices were defined to be the highest of (a) the lowest price plus 10¢ per barrel, at which 50 per cent more (by volume) of third-party transactions took place per month or (b) the lowest price at which 65 per cent (by volume) or more of third-party transactions took place.

14. *Acquisition Cost:* These figures are from International Crude Oil and Product Prices (ICOPP) (see Exhibit I-80) and reflect any discounts from OGSP that are applicable to former concession-owning petroleum companies.

15. *DOE Cost:* These are taken from Exhibit I-80. According to the testimony of Brant/Davidson, the data were taken from term arm's length acquisition cost figures reported to the United States Department of Energy (DOE). Where more than one figure was available per month, Brant testified that the highest figure was chosen. Where more than one figure was reported per month by any company, only the latest or revised figure reported by that company was considered (see TS Vol. 71, p. 13348).

16. *OGSP:* These are prices applicable to sales between government and third-party buyers. For 1982, the prices shown in February to April are actually for February 5, 12, and 21.

17. *Ultramar:* For 1977 the price is for Sassan or offshore Iranian light crude oil.

TABLE F-4

Comparative Delivered Costs (CIF) of Iranian Light (34.0 – 34.9° API) Crude Oil, 1958 to 1980
(US $ per barrel, Portland, Unless Otherwise Specified)

DATE	IRVING	TEXACO	SHELL	IMPERIAL	GULF	BP	PETRO-FINA	MURPHY			Term Third-Party Price Range	Spot Third-Party Price Range
	Saint John							Estimated Offshore	BP Trading CIF Contract	Esso or (BP) FOB Plus Freight		
1958	—	—	—	n.a.	n.a.	—	n.a.	—	—	—	2.70*	n.a.
1959	—		—	n.a.	n.a.		n.a.	—	—	—	2.46	n.a.
Jan.		3.00				n.a.						
May 1		2.76										
1960	2.661	2.68	—	n.a.	—	2.58*	2.494*	—	—	—	2.11 – 2.25	2.48
Aug.	2.58					2.48*						
1961	2.58		—	—	—	2.18*	—	—	—	—	2.11	2.26
Jan.		2.68										
Feb. 1		2.58										
1962	2.58	2.58	2.20	—	—	2.18*	—	—	—	—	2.04 – 2.09	2.28
			2.61*									
1963	2.58	—	2.20	—	2.72	2.11*	—	—	—	—	2.04 – 2.22	2.31 – 2.38
1964	2.58	—	—	2.24	2.70	2.11*	—	—	—	—	1.86 – 2.11	2.24
				(2.20)*								
1965	2.58	—	—	—	2.13	2.10*	—	—	2.02	—	1.84 – 2.24	2.14
	2.59											
1966	2.59	2.33	—	—	—	2.02*	—	—	2.03	—	1.63 – 2.19	1.95
1967	2.59	2.33	—	—	2.31	2.02*	—	—	2.03	—		2.59 – 2.78
Jan.											1.72 – 2.26	1.90
July											2.39 – 2.41	3.65
Dec. 1									2.01			
1968	2.59	2.33	—	—	2.07	2.02*	—	—	2.02	—	1.70 – 2.18	2.55 – 2.64
July										(1.923)		
1969	2.59	2.33	—	—	—	1.96	—			(1.923)	1.85 – 2.06	
Jan.									2.02			2.32 – 2.65
Feb.									2.02			
April										(1.913)		
May									—	(1.923)		
June									—	(1.903)		
July									—	(1.904)		
Aug.									—	1.862		
Sept.									—	1.862		
Nov. 2									—	1.874		
Nov. 20									—	1.862		

TABLE F-4 (cont'd)

DATE	IRVING	TEXACO	SHELL	IMPERIAL	GULF	BP	PETRO-FINA	IRVING Offshore		MURPHY			Term	Spot	SUN
	Saint John							50%	100%	Estimated Offshore	BP Trading CIF Contract	Esso or (BP) FOB Plus Freight	Third-Party Price Range	Third-Party Price Range	
1970	2.59	2.28*	—	—	—	1.96	1.98*	—	—		2.02	(1.923)	2.40 -2.54	3.66 – 3.68	—
Jan.												1.862	1.93*-2.20*	2.86	
April										1.969		1.862			
June										1.969		1.862			
July										1.969		1.862	2.58*-2.97*	4.26	
Sept.	2.59							2.31	2.025	1.969		1.862			
Nov. 14										1.969		1.949			

DATE	IRVING	GULF	TEXACO	BP	SUN	PETRO-FINA	IRVING Offshore		MURPHY		Term	Spot
	Saint John	Portland	Portland				50%	100%	Estimated Offshore	BP Trading CIF Contract	Third-Party	Third-Party
1971	2.76*	2.50			n.a.	2.496*	2.56*	2.37*			n.a.	n.a.
Jan.	2.59	2.14	2.28*	2.39			—	—		2.145		
Feb. 15		2.43		2.67						2.418		
May									2.410			
June		2.49	3.03	2.74					2.409-.846	2.483-.924		
July									2.390-.827	2.483-.924		
Aug.	2.90						2.502	2.104	2.275-.712	2.483-.924		
									2.472	2.483		
Sept.									2.473			
Oct.									2.484			
Nov.									2.484			
		Pt. Tupper										
1972	2.90*	2.54			—	2.725*	2.58*	2.26*			n.a.	n.a.
Jan.		2.43	3.03	2.74					2.475	2.483		
Jan. 20		2.55	3.14							2.604		
Feb.				2.86					2.482			
June		2.57										
Oct.										2.620		

TABLE F-4 (cont'd)

DATE	TEXACO Company Portland	TEXACO Company Halifax	TEXACO Company St-Romuald	BP PCB	BP Company	BP PCB	SUN OIL Company	SUN OIL PCB	IRVING Saint John	GULF Company	GULF PCB	PETROFINA Company	PETROFINA PCB	MURPHY Estimated Offshore	MURPHY BP Trading Contract	MURPHY PCB*	IRVING Offshore 50%	IRVING Offshore 100%	Term Third-Party
1973		—		—	3.90	—	3.86*		3.70*	—	—	3.132*	—			—	3.16*	2.63*	
Jan.					3.03									—	2.69				
Feb.																			
March																			
April					3.12				3.272					—	2.784		2.97	2.667	
May							3.17												
June					3.22														
July	4.09*				3.26														
August	4.159*				3.33														
Sept.	4.261*																		5.99
Oct. 1	4.588*																		
Oct. 16	6.185*				5.04														5.99
Nov.	6.227*				5.04														5.94
Dec.	6.124*		6.734*		4.94									5.652	n.a.				
1974							12.34*		10.44*	Pt. Tupper		9.275*			n.a.		9.78*	9.11*	
Jan.	12.679	12.60	13.509	13.37	10.61	11.53			—	11.42-.43*		10.90*	11.50	5.457		11.35			12.54
Feb.	"	"	"	"	11.10*	11.18	12.83	12.76	11.77		11.44	10.71*	11.31	11.366		11.74	11.107	10.44	13.60
March	"	"	"	"		11.65			12.04		11.42			11.768			11.38	10.71	12.59
April	12.02	11.96	12.05	11.88		11.56		13.43				10.70*	11.30				—	—	13.07
May	"	"	"	11.89		11.52			12.08		11.51						11.42	10.75	12.92
June	"	"	"	"					11.98	11.55-.56*	11.03						11.32	10.65	12.88
July	12.06	12.00	12.08	11.93	11.03			12.81	12.05	11.15-.16*							11.39	10.72	12.66
August	"	"	"					12.71	—		11.59	10.73*	11.33				—	—	12.43
Sept.	"	"	"	11.93					11.97			10.69*	11.29				11.31	10.64	12.26
Oct.	12.21	12.15	12.23	12.08	10.78*	10.58			—								—	—	12.47
Nov.	12.39	12.33	12.41	12.28		12.32	12.05	11.66	—	11.69-.70*	11.88						—	—	12.61
Dec.		"		12.27		12.28	12.06	12.64	—	12.16-.17*	11.96						—	—	12.68

TABLE F-4 (cont'd)

DATE	BP		IRVING	TEXACO			SHELL	GULF		SUN OIL		ULTRA-MAR	PETROFINA		IRVING Offshore		MURPHY		Term Third-Party
				Company															
	Company	PCB	Saint John	Portland	St-Romuald	PCB	PCB	Company	PCB	Company	PCB	PCB	Company	PCB	50%	100%	Contract	PCB	
1975								n.a.		n.a.							—	—	n.a.
Jan.	12.27	12.28	12.15	12.29	12.31				11.77				11.70*	12.01	11.91	11.68			
Feb.	12.29		12.06	"		12.17			11.81				11.62*	11.93	11.82	11.59			
March	12.31	12.29	12.10	"		12.18			11.85	11.60	11.50	13.25	11.63*	11.94	11.86	11.63			
April	12.29	12.14	—	12.31			11.94		"	11.85	11.85		11.62*	11.93	—	—			
May	12.30	"	—	"					11.63		11.80		11.65*	11.96	—	—			
June	12.31	12.16	12.12	"			11.94		11.85	11.60		12.85	11.53*	11.84	11.88	11.65			
July	12.31	12.31	—	12.32		12.20									—	—			
August	12.36	12.35	—	"		12.13									—	—			
Sept.	12.34		—	"											—	—			
Oct.	13.21	13.22	13.09	"									12.61*	12.92	12.85	12.62			
Nov.	13.21	"	13.05	"									12.58*	12.89	12.81	12.58			
Dec.	13.22	13.23	13.10	"							12.99		12.61*	12.92	12.86	12.63			
1976					n.a.	—		n.a.		n.a.		—	n.a.		n.a.				
Jan.	12.99	12.98	13.11	13.04*					12.43					12.94					12.61
Feb.	"	"	—						12.44		12.84			12.89					"
March	"	"	13.16						12.43		12.76			12.84					"
April	"	12.97	13.14																12.62
May	"	12.98	—						12.42		12.64			12.82					12.64
June	"	12.96	—				13.05		12.41		12.65						12.67	12.65	12.63
July	"		—																12.60
August	"		—								12.64							12.59	12.61
Sept.	"		13.08															12.65	"
Oct.	"		13.07																12.62
Nov.	"		—															12.68	12.67
Dec.	"		13.01																12.64

DATE	IRVING	BP		SUN OIL		GULF	TEXACO	ULTRAMAR	PETROFINA	MURPHY			DATE	BP		PETROFINA
	Saint John	Company	PCB	Company	PCB	PCB	PCB	PCB	PCB	Contract	PCB	Term Third-Party		Company	PCB	PCB
1977		—	n.a.			n.a.	—						1979			
Jan.	—	14.20*									13.94	14.11	Jan.	14.91		
Feb.	14.34	"				13.73			14.06		14.00	14.12	Feb.			
March	—	"			13.78						"	"	March		19.28	
April	14.34	"										"	April			
May	—	"						14.74*			13.99	14.13	May			
June	—	"			13.91						13.89	14.12	June			
July	—	"										14.10	July			23.90
August	—	"								14.01		"	August			
Sept.	—	"								"		14.09	Sept.			
Oct.	—	"								"	14.02	"	Oct.			25.11
Nov.	—	"								"	14.00	"	Nov.			
Dec.	—	"								"	14.05	"	Dec.			
1978			—			—	n.a.		—	—	—	n.a.	1980	—	—	—
Jan.	—	14.20*											Jan.			
Feb.	—												Feb.			
March	—												March			
April	14.23												April			
May	—							14.43					May			
June	14.23				13.58			14.60					June			
July	—												July			
August	14.25				13.55								August			
Sept.	14.25				13.61								Sept.			
Oct.	—	14.29*		13.735									Oct.			
Nov.	—												Nov.			
Dec.	—												Dec.			

Columns Notes:

1. *Irving*: For 1960 to the January to July 1971 price of $2.59, the Saint John purchase or import CIF prices are based on the August 14, 1957 contract between Irving Refining Limited and SOCAL (Exhibit I-318A) in which the $2.712 price was to vary with changes in the posted FOB price of $1.91 as of July 1, 1956. For the August 1971, the April 1973, the annual (*asterisked*) prices for 1971 to 1974 and the monthly 1974 to 1978 prices, see Exhibits I-257, Tab 2, I-274, I-394, I-265, I-266, I-267 and I-268. For 1971 to 1975, 100 per cent and 50 per cent net offshore prices were derived by deducting the net income (or half the net income) per barrel of Bomag-Irvcal (i.e. the offshore subsidiary). The offshore price for September 1970 is based on a negotiated $2.025 market price found in a draft agreement between Irving Refining Limited and Chevron Oil Sales Company (SOCAL) which was reported to have never been signed (see Exhibit I-257, Tab 1). The $2.31 price is the mid-point between the $2.59 and $2.025 prices. The offshore figures for 1976 to 1978 are not available because net income figures for the offshore subsidiary were not provided by Irving Oil. See note to Table 3 and Appendix E for further details.

2. *Texaco*: The 1970 and January 1971 figures are 33° API prices of $2.26 which were adjusted to 34°API. No imports were made at the contract prices reported for January 1971 and 1973. For 1976 to 1978 imports were reported for Montreal in I-158 but no PCB data were reported.

3. *Shell*: The second price shown in 1962 represents a spot purchase.

4. *Imperial Oil*: For 1964, two prices are shown. The first is the sum of the FOB price plus the average freight rate on shipments of crude oil from the Middle East to Portland. The second price in parentheses uses the average freight rate of shipments from the Middle East to Dartmouth.

Notes to Table F-4 on Comparative Delivered Costs (CIF) of Iranian Light (34.0 — 34.9° API) Crude Oil, 1958 to 1980 (cont'd)

Column Notes:

5. *Gulf*: The 1972 and 1974 *asterisked* figures are for Point Tupper. For 1972, it was possible to derive a CIF price by calculating a transportation cost figure of 64.7¢ (which is similar to the 64.6¢ figure reported for Iranian Heavy in the Green Book, Vol. III, p. 134) by adding ocean loss and insurance estimates (based on I-361, tab 6, p. 65320) and the pollution levy of 2.28¢ effective February 1972 to an ocean freight figure of 60.7¢ found in the International Sector Documents filed by the Director at Book 9, Tab 282, p. 63047. For 1974, the figure reported in the Green Book for Iranian Heavy was used. The July 1974 figure is for June while the prices shown in November/December 1974 are for both of these months. The PCB figures for 1974 onwards are for shipments to both Portland and Point Tupper. For May 1982, the PCB data sheets show volumes imported but no prices.

6. *Sun Oil*: The 1973 and 1974 *asterisked* average annual figures are from I-16H; the company monthly 1973 and 1974 CIF prices use FOB prices in I-315B, tabs 3 to 5. The other set of 1974 monthly prices are from the PCB. Contract prices are also shown for 1975 to 1978. In October 1978, the price includes a 2¢ agency fee paid to Sun International.

7. *BP*: See note on Table 3. For 1974, the February price is actually for January 10 while the October price is an estimate using the previous month's freight rate. For 1977 and 1978 no imports were made at these contract prices.

8. *Petrofina*: The 1960 and 1970 to 1975 *asterisked* figures are Canadian purchase or import prices which have been reduced by the Pannac (i.e., offshore subsidiary) dividend per barrel.

9. *Murphy*: Three sets of prices are shown. For April 1970 to 1974, net offshore prices were estimated by subtracting from the Canadian purchase or import price the Tepwin (i.e., offshore subsidiary) net income per barrel. The BP CIF contract prices for 1965 to 1970 were taken from I-289, tabs 7 and 8, and Tab 22 of Book I of Exhibits in *Spur Oil Ltd. v. The Queen*, 81 DTC 5168. They were derived from CIF Montreal prices by deducting the pipeline fees shown in I-161. For 1971 to April 1973, the June 4, 1970 negotiated FOB price of $1.246 was adjusted for increases in Host Government Take of Zakum (see note to Table 3) and then combined with the fixed freight rate of $0.812 for 1971 to September 1972 and $0.824 for October 1972 to 1973 (i.e., to take into account the $0.016 increase in port dues effective October 1972). For both the offshore BP contract CIF prices in June to early August 1971, two sets of prices are shown but the higher price based on a freight rate of $1.249 was applicable because shipments for these months represented extra quantities to the original agreement of terms arrived at in mid 1970 between the two parties; these were to be shipped at a premium freight rate to take into account the increase in transportation rates that occurred in late 1970. Freight rate data and FOB price data were not available to calculate BP contract CIF prices for December 1973 and early 1974. Insurance at 1 per cent of the C&F price was then added. The third set of prices for July 1968 to 1970 are the sum of the Murphy Group's own transportation costs plus FOB prices from Esso International reported in *Spur Oil Ltd. v. The Queen* 81 DTC 5168 at Tab 22 of Book I and Tab 178 of Book II and the BP contract FOB prices plus one per cent of the C&F price for insurance. For 1974, the CIF Price reported to the PCB is shown. Offshore prices were also calculated for 1974 from the PCB prices by deducting the net income/barrel figure from Tepwin. For 1976/1977, the prices reported to the PCB and the prices found in the Marc Rich contracts are both shown (see I-126 and I-375A, item 6). For 1971, some transactions involving Murphy are shown under the Spot Third-Party Column. See note to Table 3 and Appendix E for more details.

10. *Term Third-Party Price Range*: The prices shown for 1958 to 1960, 1963 and 1966 to 1970 are the sum of the Term Third-Party FOB price range data in Table 3, estimates of transportation costs cited in Appendix E and one per cent of the delivered price for insurance. US DOE representative or median FOB prices were also combined with these transportation cost estimates and one per cent of the C&F price for insurance to generate CIF prices for 1973 to 1974 and 1976 to 1977.

11. *Spot Third-Party Price Range*: These are calculated using the Spot Third-Party FOB price data in Table 3 and the spot transportation costs cited in Appendix E. For insurance, one per cent of the C&F price was also added.

12. *Ultramar*: For 1977, the price shown is for imports of Sassan offshore Iranian light crude oil.

TABLE F-5

Comparative FOB Cost of Imported Lagomar[1]/Lagomedio[2] (31.0 to 32.9° API)[3] Crude Oils, 1958 to 1982 (U.S. $ per barrel, ex La Salina equivalent ports)[4]

DATE	SUN[2,1] 32°	TEXACO[2] 32°			IMPERIAL[2] 32°	GULF[1,2] 32°	SHELL[1] 32°	PETROFINA[2,1] 32°	ULTRAMAR[2,1]	SUN 32° Alternate Value	Third-Party Price Range 32°	Tax Paid Cost (31° API)	Posted 31° API Lagomar	Posted 32° API Lagomedio
		Portland	Halifax	Average										
1958	n.a.	2.79[1]	—	2.79[1]	—	n.a.	—	n.a.	—	n.a.	2.00*	1.62	2.77	2.79
1959	n.a.	2.73	—	2.73	—	n.a.	—	n.a.	—	n.a.	n.a.	1.48	2.77 2.62	2.79 2.64
1960	n.a.	2.44	—	2.44	—	n.a.	—	2.44	—		1.41-1.80*			2.64
Nov.					2.14		—			n.a.		1.39	2.52	2.54
1961	2.10	2.44	—	2.44	2.14	2.19[1]	—	1.70	—	n.a.	n.a.	1.43	2.52	2.54
1962	2.48 (2.24)	2.38	—	2.38	2.14	2.19[1] (2.09)[1]	2.11* 2.06*	1.81	—	1.60	1.60-2.34	1.47	2.52	2.54
Jan. 1		2.44		2.44										
Aug. 1		2.29		2.29										
1963	2.48 (2.24)	2.29	—	2.29	2.14	—	2.11 2.08*	1.83	n.a.	1.60	1.60-2.25	1.49	2.52	2.54
1964	2.28 (2.24)	2.23* (2.29)	—	2.23*	2.14 (1.75)*	—	2.11 2.08*	1.74 (1.79)[1]	n.a.	1.63	1.60-2.54	1.45	2.52	2.54
1965	2.28 (2.24)	2.19*	—	2.19*	2.14	—	2.11 2.08*	1.75	n.a.	1.63	1.60-2.18	1.45	2.52	2.54
1966	2.21	2.19	—	2.19	2.14	—	2.11 2.08*	1.68	1.53	1.63	1.58-2.18	1.45	2.52	2.54
1967	2.24	2.19	2.19	2.19	—	—		1.68	1.63	1.63	1.63-1.64	1.48	2.52	2.54
Jan.							2.11							
							2.08*		(1.55*)[1]					
Sept.							2.00							
1968	2.24	2.19	2.19	2.19	—	1.89[2]	2.00	1.71	1.70 (1.55*)[1]	1.80	1.70-1.80	n.a.	2.52	2.54
1969	2.24 2.23[1]	2.19	2.19	2.19	—	—	2.00 2.00[2]	1.68	—	1.70	1.65-1.80	n.a.	2.52	2.54

TABLE F-5 (cont'd)

DATE	SUN[2,1] 32°	GULF[2,1] 32°	IMPERIAL[2] 32°	TEXACO[2] 32°	SHELL[1] 32°	ULTRAMAR[2]	MURPHY[1]	PETROFINA[2] 32°	SUN 32° Alternate Value	Third-Party Price Range 32°	Tax Paid Cost (31° API)	Posted 31° Lagomar	Posted 32° Lagomedio
1970	2.23[1]	—		n.a.*	2.00	—	1.75*	1.65[2]	1.70	1.70-	1.663	2.52	2.54
Jan.			2.04				(1.63)			2.04			
April			1.94										
Sept.20			2.15										
1971		2.54[2]	—	n.a.*	2.21	—	—	1.68[2],1.79[1]			1.925	2.52	2.54
Jan. 1	2.24[2]	2.00[2]			2.00				1.70	1.70-	1.676		
Feb. 1		2.22[2]								2.04			
Mar. 18	2.87[2]	2.54			2.00				2.87*	2.87*	1.990		
Apr. 1					2.33								
July 1					2.34								
Oct. 1					2.32								
Dec. 20		2.45[2]											
1972		2.66[2]	2.62	n.a.*	2.54	—	—	1.96[1]	n.a.	n.a.	2.192	2.52	2.54
Jan. 1	2.80[1]	2.69[2]			2.56						2.212		
Apr. 1		2.67[2]			2.54						2.194		
May		2.68[1]											
June		2.65[1]											
July 1		2.60[2]			2.53						2.180		
Oct. 1						2.59							
Dec.		2.56[1]											

DATE	(32°) SUN OIL[1] Company		(32°) GULF[2] Company		(32°) TEXACO[1] Company		SHELL[1] Company 32°		PETRO-FINA Mar-Lago 32°	DOE Acq. Cost	Tax Paid Cost	Tax Paid Cost	Min. Tax Value
1973	3.76	—		—	n.a.*	—	Below 80,000 tons	Above 80,000 tons	5.89	32°API	31°API	32°API	31°API
Jan.	2.95						2.678	2.644		n.a.	2.305		3.249
Feb.							2.724	2.689		"			
Mar.			2.84				2.897	2.862		"	2.517		3.610
April							2.975	2.806		"	2.594		3.744
May										"			
June										"			
July 1			3.06				3.107	2.710		"	2.749		3.972
July 15							3.105	2.875		"			
August							3.363	3.133		"	3.007		4.410
Sept.	4.80		3.55				3.568	3.339		"	3.203		4.760
Oct. 1							3.840	3.440		"	3.493		5.203
Oct. 16										"			
Nov. 1							5.208	4.808		"	5.090	5.457	7.563
Nov. 22							5.457	5.057		"			
Dec.			5.55				5.574	5.174		"	5.206	5.70	7.762

1974	12.20	PCB		PCB	n.a.*	PCB	Sulphur Premiums and Bar Tolls Out	In	PCB	—			
Jan.	13.40	13.41				11.14	9.195	9.30	9.28	9.84	9.259	9.79	14.356
Feb.		13.41	10.43	10.51		11.86	9.646	9.75	9.77	10.46	9.672	10.41	
March		13.41	"			11.43			9.71	"	"	"	
April		13.40	"			11.20			9.73	"	"	"	
May	12.80	12.74	"			11.29			9.73	"	"	"	
June	12.60	12.54	"	10.49		11.12			9.73	"	"	"	
July	12.00	11.94	10.82	10.82		11.07	9.967	10.11	10.04	10.80	10.01	10.79	14.906
August	11.50	11.50							10.07	"	"	"	
Sept.	11.25	—	10.79*			11.07	10.182	10.32	10.18	10.75	"	"	
Oct.	"	11.21	10.79*			11.38	10.335	10.47	10.45	11.42	"	"	
Nov.		11.25				11.08			10.48	"	"	"	
Dec.	11.20	11.14				11.05			10.50	"	"	11.72	

TABLE F-5 (cont'd)

DATE	(32°) TEXACO[2] Company	PCB	SUN OIL[1,2] 32° LAGOMAR Company	PCB	SHELL 1 PCB	2 PCB	DOE Acq. Cost	Tax Paid Cost	Tax Paid Cost	Min. Tax Value
1975	n.a.*					—	31°API	32°API	31°API	
Jan.		11.41	11.20	—	10.73		11.18	10.573	11.18	14.134
Feb.		11.41	11.10	11.05	10.84		11.18			"
March		11.35	11.10	11.05	10.75		11.17		11.08	
April		11.31	"	11.05	10.78		11.19			
May		11.31			10.76		11.17			
June		11.24			10.76		11.18			
July					10.79		"			
August		11.19			10.77		"			
Sept.		11.18			10.75			"		
Oct.		12.32			11.82		12.23	11.608		15.579
Nov.		12.31			11.83		"			
Dec.		12.31			11.80		"			

1976	n.a.*	LAGOMEDIO 32°			—			LAGOMEDIO Min. Sales Price 32°API
Jan.				12.32		12.226	11.608	12.40
Feb.	12.41			12.24		"		
March	12.49			12.27		"		
April	12.45			12.34		12.49		
May	12.44			12.34		"		
June	12.42			12.29	12.36	"		
July	12.46			12.27		12.46		
August	12.44			12.26		"		
Sept.	12.49			12.24		"		
Oct.	12.50	12.58	12.65	12.26		12.53		12.45
Nov.	12.46			12.33		"		
Dec.	12.50		12.81	12.27	12.81	"		

	SUN OIL[1,2]		TEXACO[2]			SHELL[1]			
	LAGOMAR		32° Company					DOE Acq.	Min. Sales
DATE	Company	PCB	Portland	Halifax	Avg.	PCB	PCB	Cost	Price
1977	—	—			n.a.				32°API
Jan.			13.64	13.64		13.67	13.58	13.70	13.64
Feb.			"	"		13.68	13.58	"	
March			"	"		13.48	13.57	"	
April			"	"		13.70	13.58	"	
May			"	"		13.70	13.57	"	
June			"	"		13.64	"	"	
July			"	"		13.71	"	13.72	
August			"	"		13.71	13.56	"	
Sept.			"	"		13.72	13.58	"	
Oct.			"	"		13.71	13.58	13.73	
Nov.			"	"		13.71	13.57	"	
Dec.			"	"		13.69	13.57	"	
	LAGOMEDIO								
1978	32°				n.a.				
Jan.			13.64	13.64		13.69	13.56	13.75	13.64
Feb.			"	"		"	13.57	"	
March			"	"		13.68	13.58	"	
April			"	"		"	13.57	13.72	
May			"	"		13.65	"	"	
June			"	"		13.66	13.56	"	
July			"	"		"	13.56	13.71	
August			"	"		13.69	"	"	
Sept.			"	"		13.65	13.57	"	
Oct.			"	"		"	13.56	"	
Nov.	14.25	14.26	"	"		"	"	"	
Dec.			"	"		13.66	13.57	"	

TABLE F-5 (cont'd)

DATE	TEXACO[2] 32° Company Portland	TEXACO[2] 32° Company Halifax	TEXACO[2] Avg.	SHELL[1] PCB	SHELL[1] PCB	SHELL[1] DOES Acq. Cost	SHELL[1] Min. Sales Price	DATE	TEXACO[2] 32° Company	SHELL[1] PCB	SHELL[1] PCB	SHELL[1] DOE Acq. Cost	SHELL[1] Min. Sales Price
1979			n.a.				32°API	1981	n.a.			n.a.	32°API
Jan.	14.32	14.32		14.34	14.24	14.40	14.32	Jan.		36.70	36.74	"	36.32
Feb.	"	"		14.36	"	14.38		Feb.		36.63	36.67	"	
March	"	"		14.33	"	14.44		March		36.85	36.68	"	
April	n.a.	16.81		16.81	16.73	16.86	16.81	April		36.44	36.70	"	
May	"	17.41		17.20	17.14	17.29	17.41*	May		36.74	36.74	"	
June	"	"		17.44	17.34	17.48		June			36.63	"	
July	21.32	21.32		21.34	21.00	21.28	21.32	July		36.81	36.69	"	
August	"	"		21.35	21.13	21.40		August		36.77	36.64	"	
Sept.	"	"		"	21.00	21.49		Sept.		36.81	36.67	"	
Oct.	"	"		21.34	21.06	21.30		Oct.		36.85	36.58	"	
Nov.	"	"		21.35	21.08	21.26		Nov.		35.81	35.30	"	35.32
Dec.	n.a.	25.22		25.23	22.68	22.72	25.22	Dec.		35.81	35.32	"	35.32
1980	n.a.	n.a.	n.a.			n.a.		1982	n.a.			n.a.	
Jan.				27.23	27.19		27.22	Jan.	"	35.83	35.28	"	35.32
Feb.				29.34	29.15		29.22*	Feb.	"	35.88	35.30	"	
March				"	29.24			March	"		35.23	"	
April				"	29.24			April	"	35.85		"	
May				31.07	29.59		32.72*	May	"		35.20	"	
June				33.23	32.53			June	n.a.	n.a.	n.a.	"	
July				33.80	33.12		33.32	July	"	"	"	"	35.32
August				33.71	33.18			August	"	"	"	"	
Sept.				33.74	33.17			Sept.	"	"	"	"	
Oct.				33.77	33.19			Oct.	"	"	"	"	
Nov.				33.53	33.21			Nov.	"	"	"	"	
Dec.				33.59	33.16			Dec.	"	"	"	"	

Notes to Table F-5 on Comparative FOB Costs of Imported Lagomar/Lagomedio (31.0 to 32.9° API) Crude Oils, 1958 to 1982

General Notes:

1. Companies with data for Lagomar crude oil are identified with the number 1 in the column headings or in the body of the table.
2. Companies with data for Lagomedio crude oil are similarly identified with the number 2.
3. The column headings provide details on the range of API levels of the crude oil imported by each company. The company price data for 1960 to 1972 have been standardized to 32.0°API using the 2¢ per degree API adjustment formula. No API information was available for Ultramar.
4. The FOB prices reported for Imperial, Texaco, Gulf and Sun, as well as the posted prices are for ports equivalent to La Salina (i.e. Puerto Miranda for Sun's Lagomar and Punta de Palmas for Imperial, Gulf, Texaco, Petrofina, Murphy and Sun's Lagomedio). The FOB prices reported by Shell were ex Cardon. Since this port is near Amuay, these prices were reduced by 3¢ for making FOB comparisons. No information was available on the loading ports used by Ultramar, but the prices shown assume these are for La Salina equivalent ports.

Column Notes:

1. *Sun:* The 31° to 33° prices reported by Sun were converted to 32°. The prices shown for 1961 to 1965 come from Exhibit I-197 pertaining to the Department of National Revenue's tax reassessment for the early 1960's. The 1966 to 1969 prices are based in I-187, I-161 and I-315B, tab 3. The 1970 to 1974 prices are based on I-161, I-187, I-200, tab 1 and I-349. The company monthly prices for 1973 to 1978 are contract prices while the average annual prices come from I-161 and data provided by Sun Oil. In S-41, Table I, Sun Oil noted that the prices shown for 1962 to 1965 were reduced to $2.24 because Income Tax Reassessments forced its supplier to make a refund. The $2.24 price is shown in parentheses.
2. *Texaco:* The 1961 to 1968 figures are based on 31° prices. The 1958 price is for Lagomar and was therefore reduced by 3¢ to make it equivalent to an ex La Salina price. The 1959 price was obtained by subtracting reported pipeline fees (11.1¢) and freight costs (30¢) from the CIF Montreal price of $3.12 (see I-161 and I-16G). In 1964, Texaco Canada requested and received a reduction of 7.5¢ per barrel on its volume of imports of Lagomedio to Montreal exceeding 2.7 million barrels. This reduction was to compensate it for the cost penalties incurred when extra volumes of Lagomedio and Lama were used to replace the Arabian Light crude oil which the Montreal refinery was specifically designed to process. The price shown for 1964 reflects an average reduction of 6¢ across the total volume of Lagomedio imported by the Montreal refinery. The price in parentheses was the Montreal contract price for that year. The Halifax contract price in 1964 remained at $2.29 (32°), but no imports were reported in that year. For 1965 no imports were reported for the contract price shown. For 1970 to 1976, Texaco provided ocean loss and AFRA freight rate data to enable FOB prices to be derived from the Lagomedio CIF prices shown on Table 6. These are not shown because the use of AFRA freight rates produces FOB prices that are biased low. For 1974 to 1982, PCB prices are shown along with some FOB prices reported by Texaco for 1977 to 1979 (see I-158).
3. *Imperial Oil:* The 1960 to 1966 figures were converted to 32° API using Exhibit I-51C, tab VI-32 and I-49, p. IX-14. The 1960 price is also based on a price reported in a contract between Imperial and the Sohio Petroleum Company for shipments starting in November of that year (in the International Sector C Document # C-14). The 1964 figure in parentheses represents a spot purchase. The 1970 to 1972 figures are the prices paid by the offshore subsidiary as reported in I-51C, tab 40, p. 113799.
4. *Gulf:* The 32° 1961 and 1962 figures are based on 27° contract prices for MarLago ex San Lorenzo an equivalent La Salina port (see I-380, tabs 5 and 6); the second 1961 figure in parentheses was converted from a 31° price of $2.09 reported in I-353. The 1968 to 1974 prices for Lagomedio 32° were converted from average annual prices in I-16E and monthly contract prices (see I-380, tabs 19, 21, 24, 30, 32, 33, 39, 40 and 46 and International Sector Documents Book 8, tab 240, p. 78774) as well as monthly import prices reported in I-16E. In 1972, monthly import prices for MarLago are also shown. The PCB prices in 1974 were also standardized to 32°.
5. *Shell:* The 1962 to 1971 figures are based on 31° Lagomar prices FOB ex Cardon. The original prices reported by Shell were reduced by 3¢ to make them equivalent to FOB La Salina prices but they were also raised 2¢ for the API adjustment; the net price adjustment involved a 1¢ reduction. The 1972 price being already 32° was reduced by 3¢. No adjustment for API variation or port of exit was assumed to be required for the Lagomedio 32° price shown for 1969 because that crude oil was typically loaded at fresh water ports equivalent to La Salina. The 1962 figures are for April 24 and 30th and are based on spot and contract prices for a Lagomar/Bachaquero blend (at 30° API) of $2.07 and $2.02, respectively. The *asterisked* figures for 1963 to 1967 represent price reductions available for imports exceeding 50,000 barrels per day. The second 1969 price is for Lagomedio. For 1973 two sets of figures are shown for shipments in vessels below and above 80,000 tons.The first column of 1974 prices are those reported by Shell (Exhibit I-16), excluding sulphur premiums of approximately 10¢ for Lagomar effective January 1 and bar tolls of 3.8¢ for Puerto Miranda effective June 12. The second column of prices for 1974 includes these premiums as suggested by Shell in I-16, note 15. The third column are the prices reported by the PCB.
6. *Murphy:* The 1970 *asterisked* price is from *Spur Oil Ltd. v. the Queen,* 81 DTC 5168 at Tab 178 of Book III. The second 1970 price in parentheses represents the above price minus the 12¢ markup which was observed for Iranian light prices in early 1970 between Murphy Oil Trading Company and Tepwin, the offshore subsidiary.
7. *Petrofina:* The figures shown for 1960 to 1971 and 1973 are Canadian purchase or import prices which have been reduced by the Pannac (i.e., offshore subsidiary) dividend per year. The second 1971 price and the 1972 and 1973 prices are based on MarLago crude oil at 26.7° and 26.8° API converted to 32°.
8. *Ultramar:* The 1966 to 1968 and 1972 prices are net of the offshore subsidiary FOB markup but not of any markup that may have been placed on transportation services. The 1967 and 1968 figures in parentheses are for MarLago. If these prices are of 26° API Gravity, the 32° prices would be $1.67.
9. *Sun Alternate Value:* These are estimates of FOB market prices which Sun Oil Canada developed based on information concerning the prices which its parent organization could obtain on its third-party sales of Lagomedio crude oil into Europe and South America as well as market prices for Lagomar which it purchased from the Shell Oil Group. The figures shown are from I-188 which was dated May 10, 1971. Margin notes on this exhibit indicate that the Venezuelan crude oil (i.e., Lagomedio and Lagomar) column of prices was for 32° API for 1962 to 1970. The price for 1971 on I-188 was the tax reference price for 31° Lagomar crude oil (see I-315B, tab 3 for its mention as the contract price effective January 1, 1972). It was converted to 32° by the addition of 2¢ per barrel.

Notes to Table F-5 on Comparative FOB Costs of Imported Lagomar/Lagomedio (31.0 to 32.9° API) Crude Oils, 1958 to 1982 (cont'd)

Column Notes:

10. *Third-Party Price Range:* Aside from the 1962 to 1971 alternate value prices in I-188, previous references to arm's length or market prices by Sun Oil Group officials were found in I-16B, tab 5 for 1966; I-205, p. 83116 for 1966 and 1967; I-189 and I-16B, tab 3 for 1968; I-198 and I-201, p. 83914 for 1969; and I-16A, tab 5 for 1968 to 1971. A 1962 to 1966 list of prices for the Sun Oil Group's sales of Lagomedio to third-party buyers was also available from I-194, I-196 and I-16B, tab 5. The prices found in I-188 and the sources listed above were used to develop the price range figures shown. In 1964, the maximum price comes from a series of Lagomedio third-party prices paid to Esso International by non-integrated buyers in 1964 and 1965 provided in I-50A. (The 1964 and 1965 Esso International sales prices were $2.12 to $2.54 and $2.12, respectively.) The highest Sun Group price in 1964 was $2.23. The minimum prices for 1964 to 1966 were obtained by deducting a 60¢ per barrel freight rebate from the prices reported in I-196 for sales to Wesseling, a refiner in Germany, as per information in I-194. (Prices to Petrobras in Brazil were reduced by a freight rebate of 37¢. The resulting reduced prices were almost identical to 32° prices derived from the 35° prices of Petrobras purchases of Venezuelan crude oil from the Shell and Sun Groups and Atlantic Richfield Co. in 1964 to 1966 which were reported in Exhibit I-51A, tab II-5, p. 76, which gives the evidence of Blair before the U.S. Senate. The March 18, 1971 price, as mentioned in Note 19, was derived from a 31° price by adding 2¢. The 1970 data were used for 1971 prior to March 18. The prices taken from I-196 were limited to sales to non-integrated buyers and also excluded any prices reported for sales to the U.S. or to Puerto Rico. (If sales to Commonwealth in Puerto Rico were included, the maximum prices in 1963, 1964 and 1966 would increase to $2.39, $2.37 and $2.37, respectively.) Some third-party prices for sales to buyers inside Venezuela were also given in I-194. For example, a price of $1.40 to a non-integrated buyer (Space Petroleum) was cited for late 1965 or early 1966. The lowest inside Venezuelan sales price was reported to be $1.13 (versus a production cost of about $1.00), but the identity of the buyer and the year of the sale were not indicated. Inside buyers who purchased for resale outside Venezuela were required to get the approval of the Venezuelan government for their outside selling price. Although no information was available on the prices required by the government, 10 per cent off the posted price for Tia Juana Light was suggested as the highest price required because that crude oil was reported to be close to Lagomedio in character. Sun Oil in its Argument (S-41, p. 18) also cited a discount of 75¢ in 1962 to Petrobras of Brazil which was reported in I-192. Adelman in *The World Petroleum Market*, (p. 388) provided FOB prices of Lake Maracaibo crude oil for $2.00 and $1.80 for sales to Brazil in late 1958 and the second half of 1960, respectively. For 1974, Sun provided the Commission (see I-383) with third-party sales prices for Lagomedio of $12.48 (June) and $12.80 (July). Since it was not possible to determine whether these transactions involved integrated or non-integrated buyers, these figures were not shown in the table.

11. *Tax Paid Cost:* The data for 31°API between 1958 and 1967 are average company costs in I-16, Table VIII for T.J. light 31° API. Sun Oil (TS Vol. 39, pp. 8271-72 and I-16B, tab 5) indicated that its tax paid costs for Lagomedio were higher (i.e., $1.58 as shown in I-16B, tab 5) because its royalty rate was 21 per cent (versus 16.6 per cent for other petroleum companies). No data were available for 1968 and 1969. For 1970 to 1976, the 31° tax paid cost figures shown are based on I-107 which includes freight premiums, but excludes any applicable sulphur premiums. The 1973 to 1975 data for 32° API are from the acquisition cost information sheets which Sun Oil filed with the United States Department of Energy (see I-85, I-226 and I-348).

12. *Posted:* The data for Lagomar 31.0°API are derived by converting the posted prices for Shell's Lagomar ex Cardon (near Amuay) to an equivalent ex La Salina price by subtracting 3¢ per barrel. The data for Lagomedio 32.0°API are obtained by converting the posted prices for T.J. light 31° La Salina to 32° by adding 2¢ per barrel. See I-187, I-51C, tab VI-35, Director's Green Book, Vol. III, p. 152, I-51D, tab IX-2, and International Crude Oil and Product Prices (ICOPP).

13. *DOE Acquisition Cost:* These figures are from the Brant/Davidson Exhibit I-80. The data are term third-party acquisition cost figures reported to the U.S. Department of Energy (DOE). Where more than one figure was reported per month, Brant testified that the highest figure was chosen. However, if several figures were reported from the same company in any single month, then only the latest or revised figure reported by that company was considered (TS Vol. 71, p. 13348).

14. *Minimum Export Tax Value:* These are tax reference prices set by the Venezuelan government. They include the applicable freight and sulphur premiums for 31.0°API crude oil from 1973 to 1975.

15. *Minimum Sales Prices:* The figures for 1976 to 1982 are equivalent to official government selling prices for 32.0°API Lagomedio crude oil. The *asterisked* prices shown in 1979 and 1980 were effective May 16, 1979 and February 9 and May 26, 1980.

16. *Irving Oil:* Imports were reported in I-259 for 1968 to 1971, but no information was available on the prices being paid. Imports of Lagomedio may also have occurred prior to 1968.

17. *BP:* Some imports of Lagomar were reported in I-289, tab 4 for 1963 but no price data were available.

TABLE F-6

Comparative Delivered (CIF) Costs of Imported Lagomar[1]/Lagomedio[2] (31.0 — 32.9° API)[3] Crude Oils, 1958 to 1982 (US $ per barrel, Portland, Unless Otherwise Specified)[4]

DATE	SUN[2,1] 32°	TEXACO[2] (32°) Portland	TEXACO[2] (32°) Halifax	TEXACO[2] (32°) Average	IMPERIAL[2] (32°) Portland	IMPERIAL[2] (32°) Dartmouth	IMPERIAL[2] (32°) Average	SHELL[1] 32°	GULF[1,2] 32°	IRVING[2] Saint John	MURPHY[2]	PETRO-FINA[2,1] 32°	ULTRA-MAR[2,1] Holyrood	Sun 32° Alternate Value	Third-Party Price Range
1958	n.a.	3.08[1]	—	3.08[1]	—	—	—	—	n.a.	—	—	n.a.	—	n.a.	n.a.
1959	n.a.	3.01	—	3.01	—	—	—	—	n.a.	—	—	n.a.	—	n.a.	"
1960	n.a.	2.78	—	2.78	2.39*	2.35*	2.37*	—	n.a.	n.a.	—	2.74	—	n.a.	1.61-2.00
1961	n.a.	2.74	—	2.74	2.39	2.35	2.36	—	n.a.	n.a.	—	2.06	—	n.a.	n.a.
1962 Jan. 1 Aug. 1	2.63* (2.39)	2.71 2.77 2.62	—	2.71 2.77 2.62	2.37	2.34	2.36	2.39,* 2.34*	n.a.	n.a.	—	2.17	—	1.79	1.79-2.54
1963	2.60 (2.36)	2.64*	—	2.64*	2.38	2.36	2.37	2.39 2.36*	—	n.a.	—	2.20	n.a.	1.79-1.81	1.79-2.47
1964	2.42 (2.38)	2.46	—	2.46	2.35	2.35	2.35 (1.96)*	2.36 2.33*	—	n.a.	—	2.11 (2.16[1])	n.a.	1.80-1.85	1.77-2.76
1965	2.45 (2.41)	2.45*	—	2.45*	—	2.35	2.35	2.37 2.34*	—	n.a.	—	2.11	n.a.	1.80-1.84	1.77-2.39
1966	2.39	2.40	—	2.40	—	2.38	2.38	2.36 2.33*	—	n.a.	—	2.05	n.a.	1.80-1.84	1.75-2.39
1967 Jan. July Sept.	2.53	2.39	2.40	2.39	—	—	—	2.33, 2.30* 2.22	—	n.a.	—	2.00	n.a.	1.79-1.84 1.83-1.87	1.79-1.85 1.83-1.88
1968	2.53	2.39	2.40	2.39	—	—	—	2.22	2.04[2]	n.a.	2.03*	2.03	1.90 (1.82)	1.93-2.02	1.83-2.02
1969	2.55 2.54[1]	2.39	2.43	2.40	—	—	—	2.21 2.26[2]	—	n.a.	—	1.99	—	1.85-1.91	1.80-2.01
1970 Jan. Feb. March July	2.55[1]	2.23	2.23	2.23	2.27 2.17 2.38	2.28 2.18 2.39	2.27 2.17 2.38	2.20	—	n.a.	1.99 (1.87)	1.96	—	1.95-2.00 1.92-1.95 2.00-2.08	1.95-2.34 1.92-2.29 2.00-2.42

TABLE F-6 (cont'd)

DATE	SUN[2,1] 32°	TEXACO[2] (32°)			IMPERIAL[2] (32°)			GULF[1,2] 32°	SHELL[1] 32°	IRVING[2]	PETRO-FINA[1,2] 32°	ULTRA-MAR[2] Holyrood	SUN 32° Alternate Value	Third-Party Price Range
		Portland	Halifax	Average	Portland	Dartmouth	Average							
1971		n.a.	n.a.	n.a.	—	—	—	2.71[2]	2.50	n.a.	2.40,[2](2.12)[1]	—		
Jan. 1	2.55[1]	2.46	2.46	2.46				2.17[2]	2.24				1.95-2.05	1.95-2.39
Feb.1								2.39[2]						
Mar.18	3.20[1]	2.77	2.77	2.77				2.71[2]	2.24				3.14-3.23	3.14-3.23
Apr.1		2.76	2.76	2.76					2.57					
July 1		2.76	2.76	2.76					2.58				3.23	3.23
Oct. 1		2.76	2.76	2.76					2.56					
Dec.20								2.62[2]						
1972		n.a.	n.a.	n.a.	2.92	2.92	2.92	2.84		—	2.34[1]	n.a.	n.a.	n.a.
Jan. 1	3.13[1]	3.01	3.01	3.01				2.86[2]	2.80					
April 1		3.01	3.01	3.01				2.85[2]	2.78					
May								2.86[1]						
June								2.83[1]						
July 1		2.90	2.90	2.90				2.77[2]	2.77					
Dec.								2.73[1]						

TABLE F-6 (cont'd)

DATE	SUN OIL[1]		TEXACO[2]			GULF[2] (32°)			SHELL[1] (32°)		PETRO-FINA	
			32° Company									
	32° Company		Portland	Halifax	St-Romuald	Company			Company		Mar-Lago 32°	
									Below 80,000 tons	Above 80,000 tons		
1973	4.13										6.60	
Jan.	3.32		3.02	3.02	n.a.				2.93	2.89		
Feb.			3.06	3.06	"				2.97	2.94		
March			3.23	3.23	"	3.10			3.15	3.11		
April			3.31	3.31	'				3.23	3.06		
May			"	"	"							
June			"	"	"				3.36*	2.96*		
July			4.39	4.40	"	3.32			3.36*	3.13*		
August			4.65	4.66	"				3.61	3.38		
Sept.	5.17		4.85	4.86	"	3.81			3.82	3.59		
Oct. 1			5.52	5.53	"				4.09	3.69		
Oct.16			"	"	"				5.46*	5.06*		
Nov.			6.89	"	7.17				5.71*	5.31*		
Dec.			7.01	7.02	7.29	5.81			5.82	5.42		
									Sulphur Premiums and Bar Tolls			
1974	12.64	PCB				PCB		PCB	Out	In	PCB	—
Jan.	13.84	13.73	11.33	11.33	11.71	11.64			9.59	9.69	9.58	
Feb.		"	11.74, 11.96*	11.74, 11.96*	12.12, 12.34*	12.52	11.01	11.11	10.04	10.14	10.11	
March		"	11.74, 11.96*	11.74, 11.96*	12.12, 12.34*	11.98	"				10.08	
April		12.49	11.43	11.44	11.54	11.69	"				10.21	
May	13.24	13.05	"	"	"	11.75	"				10.13	
June	13.04	12.84	"	"	"	11.59	"	11.07			10.12	
July	12.44	12.24	11.49	11.50	11.60	11.51	11.36	11.37	10.36	10.50	10.40	
August	11.94	11.80	"	"	"						10.40	
Sept.	11.69		"	"	"	11.49	11.34*		10.57	10.71	10.53	
Oct.	"	11.55	11.48	11.49	11.59	11.99	11.39*		10.73	10.87	10.82	
Nov.	"	11.56	"	"	"	11.48					10.91	
Dec.	11.64	11.45	"	"	"	11.43					10.99	

TABLE F-6 (cont'd)

	SUN OIL[1,2]		TEXACO[2]			SHELL		
	LAGOMAR		Company					
DATE	Company	PCB	Portland	Halifax	St-Romuald	PCB	1 PCB	2 PCB
1975	32°				n.a.			
Jan.	n.a.		11.82	11.83		11.79	11.22	
Feb.	n.a.	11.47	"	"		11.76	11.41	
March	n.a.	"	"	"		11.71	11.30	
April	n.a.	"	11.70	11.70		11.68	11.19	
May			"	"		11.67	11.15	
June			"	"		11.58	11.26	
July			11.61	11.61			11.21	
August			"	"		11.61	11.12	
Sept.			"	"		11.57	11.18	
Oct.			12.75	12.75		12.74	12.21	
Nov.			"			12.67	12.22	
Dec.			"			12.72	12.18	
	LAGOMEDIO							
1976	32°				n.a.			
Jan.			12.77	12.78			12.72	
Feb.			"	"		12.78	12.65	
March			"	"		12.87	12.66	
April			"	"		12.88	12.80	
May			"	"		12.85	12.78	
June			"	"		12.81	12.64	12.75
July			12.76	12.77		12.82	12.79	
August			"	"		12.80	12.92	
Sept.			"	"		12.86	12.54	
Oct.	n.a.	13.10	12.82	12.83		12.87	12.86	
Nov.			"			12.83	12.83	
Dec.		13.28	"			12.88	12.77	12.80

TABLE F-6 (cont'd)

	SUN OIL[1,2]		TEXACO[2]		SHELL[1]	
	LAGOMAR		Company			
DATE	Company	PCB	Portland	Halifax	PCB	PCB
1977	—	—				
Jan.			14.03	14.16	14.10	14.06
Feb.			"	"	14.19	13.94
March			"	"	13.91	13.97
April			"	"	14.18	13.97
May			"	"	14.22	13.96
June			"	"	14.09	14.02
July			"	"	14.15	13.96
August			"	"	14.15	13.96
Sept.			"	"	14.17	13.97
Oct.			"	"	14.13	13.97
Nov.			"	"	14.14	13.96
Dec.			"	"	14.02	13.91
	LAGOMEDIO					
1978	32°					
Jan.			14.03	14.13	14.12	13.99
Feb.			"	"	14.08	13.95
March			"	"	14.25	14.01
April			"	"	14.21	13.96
May			"	"	14.10	13.94
June			"	"	14.08	13.93
July			"	"	14.08	14.10
August			"	"	14.14	14.07
Sept.			"	"	14.04	14.07
Oct.			"	"	14.07	14.10
Nov.	n.a.	15.45	"	"	14.06	14.07
Dec.			"	"	14.20	14.07

	TEXACO[2]		SHELL[1]	
	Company			
DATE	Portland	Halifax	PCB	PCB
1979				
Jan.	14.97	15.23	15.12	14.81
Feb.	"	"	15.27	14.88
March	"	"	15.03	14.89
April	n.a.	17.72	17.93	17.46
May	"	18.32	18.19	17.92
June	"	"	18.11	18.11
July	21.97	22.23	22.39	21.72
August	"	"	22.39	21.89
Sept.	"	"	22.41	21.75
Oct.	"	"	22.08	21.81
Nov.	"	"	22.13	21.90
Dec.	n.a.			
1980	n.a.	n.a.		
Jan.			28.66	28.15
Feb.			30.29	30.16
March			30.65	30.21
April			30.09	30.16
May			32.21	30.74
June			33.91	33.49
July			34.48	34.38
August			34.38	34.36
Sept.			34.44	34.26
Oct.			34.42	34.34
Nov.			34.70	34.41
Dec.			34.42	34.37

	TEXACO[2]		SHELL[1]	
	Company			
DATE	Portland	Halifax	PCB	PCB
1981	n.a.	n.a.		
Jan.			37.96	37.89
Feb.			37.55	37.91
March			37.62	37.87
April			37.74	37.87
May			37.51	37.87
June				37.75
July			37.73	37.76
August			37.48	37.85
Sept.			37.44	37.87
Oct.			37.59	37.78
Nov.			36.57	36.39
Dec.			36.48	36.36
1982	n.a.	n.a.		
Jan.			36.59	36.13
Feb.			36.54	36.13
March				36.05
April			36.66	
May				35.93
June			n.a.	n.a.
July			"	"
August			"	"
Sept.			"	"
Oct.			"	"
Nov.			"	"
Dec.			"	"

Notes to Table F-6 on Comparative Delivered (CIF) Costs of Imported Lagomar/Lagomedio (31.0 — 32.9° API) Crude Oils, 1958 to 1982

General Notes:

1. Companies with data for Lagomar crude oil are identified with the number 1 in the *column* headings or in the body of the table.
2. Companies with data for Lagomedio crude oil are similarly identified with the number 2.
3. The column headings provide details on the range of API levels of the crude oil imported by each company. The company price data for 1960 to 1972 have been standardized to 32.0°API using the 2¢ per degree API adjustment formula. No API information was available for Ultramar.
4. The FOB prices reported for Imperial, Texaco, Gulf and Sun, as well as the posted prices are for ports equivalent to La Salina (i.e. Puerto Miranda for Sun's Lagomar and Punta de Palmas for Imperial, Gulf, Texaco, Petrofina, Murphy and Sun's Lagomedio). The FOB prices reported by Shell were ex Cardon. Since this port is near Amuay, these prices were reduced by 3¢ for making FOB comparisons. No information was available on the loading ports used by Ultramar, but the prices shown assume these are for La Salina equivalent ports.

Column Notes:

1. *Sun:* See Table 5 for the FOB prices and I-161 for the transportation costs used. For 1962 to 1966 the transportation costs represented direct deliveries to Montreal; equivalent Portland prices were derived by deducting the pipeline fees shown in I-161. For 1971 the average transportation cost in 1970 and 1972 was used (i.e., 33¢).
2. *Texaco:* See note in Table 5. For 1963, the price shown is the sum of the crude oil price of $2.29 and the freight cost (35¢) reported on shipments of Mata 30° crude oil to Portland. The *asterisked* prices shown in February/March 1974 are ex Punta de Palmas (see I-16G); the other prices are ex La Estacada from I-158. See Table 5 note for the 1970 Lagomar price shown.
3. *Imperial Oil:* The 1960 to 1966 figures are based on the FOB contract price of $2.14 per 32° API plus the freight rates and ocean loss reported in I-78 and I-62. The 1960 figure uses the 1961 freight rates to Portland and Dartmouth and their simple average. For 1961 to 1966, a weighted average freight rate, including ocean loss, (based on the volume imported) is also used. The 1964 figure in parentheses represents a spot purchase by Imperial to which the average freight rate was added. The 1970 to 1972 figures are the prices paid by the offshore subsidiary (see note to Table 5) to which the freight rates in I-62 were added. For 1972, the prices were estimated by deducting the tax reassessments per barrel from the prices paid by Imperial Oil and adding the freight rate from I-62.
4. *Shell:* See note to Table 5. The 1962 to 1971 figures were based on 31° Lagomar prices converted to 32° by the addition of 2¢. Unlike the FOB prices in Table 5 it was not necessary to make a 3¢ reduction in the CIF prices for the port of exit since the FOB adjustment reflected the higher transportation costs of exports from Lake Maracaibo ports. No adjustment was required for the 32° Lagomedio price shown for 1969. For 1973, the prices shown for June, July, October 16 and November are actually for July 1, July 15, November 1 and November 15. For 1974, the first column of prices exclude applicable sulphur premiums and bar tolls for Puerto Miranda; the second column includes these premiums. The third column are the prices reported by the PCB.
5. *Gulf:* See note to Table 5. The FOB prices from I-16E were combined with the freight rates also reported there as well as the corrections noted in I-353. The FOB prices from I-380 and International Sector Documents Book 8, tab 240, p. 78774 were combined with the freight rates shown in I-16E. All prices have been standardized to 32°, including the PCB data for 1974.
6. *Irving:* See note to Table 5.
7. *Murphy:* The 1968 *asterisked* figure is based on an offer by BP for a cargo of Lagomedio to be delivered in September at $2.13 CIF Montreal. This was converted to a CIF Portland price by deducting the Portland terminal and pipeline fees. The figure for 1970 is from *Spur Oil Ltd. v. the Queen*, 81 DTC 5168 at Tab 178 of Book III which gives a CIF price of $1.975 to which was added 1 per cent for insurance. The price in parentheses is the above price minus the 12¢ markup which Murphy Oil Trading added in early 1970 to its Iranian Light third-party prices from Esso International.
8. *Petrofina:* These figures are Canadian purchase or import prices which have been reduced by the Pannac (i.e., offshore subsidiary) dividend per barrel. The second price in 1964, 1971 and the 1972 and 1973 prices are based on 31.4°, 26.7°, 26.8° and 26.8° API MarLago prices converted to 32° API.
9. *Ultramar:* See Appendix E for the transportation cost data used along with an additional one per cent of the C&F price for insurance. An offshore subsidiary markup may be included in the freight costs.
10. *Sun Alternate Value:* The Venezuelan transportation costs cited in Appendix E were added to the FOB prices in Table 5 with an additional one per cent of the C&F price for insurance.
11. *Term Third-Party Price Range:* The Venezuelan transportation costs cited in Appendix E were added to the FOB price range data in Table 5 with an additional one per cent of the C&F price for insurance.

TABLE F-7

Comparative FOB Costs of Imported T.J. Medium[1] (24.0 to 26.9° API) Crude Oil, 1960 to 1982 (U.S. $ per barrel, Ex Amuay Unless Otherwise Specified)[2]

	GULF	TEXACO	IMPE-RIAL	BP	ULTRAMAR GROUP				Exxon Third-Party Price Range	26° Posted Price
					Reported Offshore Prices for Imports to Newfoundland			Esso International Contract Prices		
DATE	26°	26°	26°	26°	API	Price	26° API	26° API	Non-Integrated Buyers	
1960	2.30	2.20*	—	—	n.a.	n.a.	n.a.	n.a.	2.04 — 2.20	2.30
1961	2.10	—	—	—	n.a.	n.a.	n.a.	1.93	1.93 — 2.30	2.30
1962						n.a.	n.a.	1.93	1.93 — 2.18	2.30
Jan.	2.10	2.20	2.05	—	n.a.		n.a.			
Aug.		2.05					n.a.			
1963	2.10	—	—	—	n.a.	n.a.	n.a.	1.93	1.93 — 2.18	2.30
1964	2.10	1.99*	2.03	—	n.a.	n.a.	n.a.	1.93	1.91 — 1.95	2.30
1965	2.10	—		—	n.a.	—	n.a.	1.93 (1.90)	1.90 — 1.93	2.30
Jan.1			2.03							2.30
Feb.1			1.95							2.30
1966	2.10	1.95	1.95	—	—	—	—	1.91	1.88 — 1.96	2.30
1967	2.01	—		—					1.59 — 2.25	2.30
Jan.1			1.95		n.a.	n.a.	n.a.	1.91		2.30
March					n.a.	n.a.	n.a.			
Apr.1			1.91		—	—	—			2.30
May					—	—	—			
June					25.5	1.58	1.59	1.59		2.30
Dec.					25.5	1.58	1.59	1.59		2.30
1968	2.01	—	1.91	1.68					1.56 — 2.02	2.30
Jan.					—	—	—	91.59 (1.56)		2.30
Feb.					26.0	1.59				
April					26.0,27.0	1.59,1.61	1.59			
May					26.0	1.59	1.59			
Nov.										2.30
Dec.					26.0	1.59	1.59			

TABLE F-7 (cont'd)

DATE	GULF 26°	TEXACO 26°	IMPE-RIAL 26°	BP 26°	ULTRAMAR GROUP: Reported Offshore Prices for Imports to Newfoundland API	Price	ULTRAMAR GROUP: Esso International Contract Prices 26° API	26° API	Exxon Third-Party Price Range: Non-Integrated Buyers	Tax Paid Cost 26°API	26° Posted Price
1969		2.10*		1.74					1.56 — 1.87	1.24	2.30
Jan.	2.01		1.91	1.74	26.0	1.59	1.59	1.59			2.30
Feb.					26.0	1.59	1.59	(1.56)			
March					26.0	1.59	1.59	(1.56)			
Apr.			1.89		26.0	1.59	1.59	1.59			2.30
May					26.0	1.59	1.59	(1.56)			
June					26.0	1.59	1.59	1.59			
July					26.0	1.59	1.59	1.59			
Aug.					26.0	1.59,1.57	1.59,1.57	1.59			2.30
Sept.	2.01				26.0	1.59	1.59	1.59			2.30
Nov.	2.01			1.74	26.0	1.59	1.59	1.59			2.30
Dec.					26.0	1.59	1.59	1.59			
1970	2.01			1.74					1.56 — 1.94	1.55	2.01
Jan.		1.80*	1.89		26.0	1.59	1.59	1.59 (1.56)	(1.56 — 1.89)*		
Feb.					26.0	1.59	1.59				
March					26.0	1.59	1.59	1.59 (1.56)			
Apr.			1.79		27.0	1.61	1.59	"			
May					27.0,26.0	1.61,1.59	1.59	"			
June					26.0	1.59	1.59	"			
July					26.0	1.59	1.59	"			
Aug.					26.0	1.59	1.59	"			
Sept.20			2.01		24.0	1.55	1.59	"			
Oct.					26.0	1.59	1.59	"			
Nov.				1.74				"			
Dec.17					26.0	1.59	1.59	1.70 (1.67)	(1.67 — 1.94)*		

Date	GULF	IMPE-RIAL	BP	ULTRAMAR GROUP						Esso International Contract Prices Per			Exxon Third-Party 26° Price Range	Tax Paid Cost	26° Posted Price
				Reported Offshore Prices for Imports to											
				Newfoundland			Quebec						Non-Integrated Buyers		
	26°	26°	26°	API	Price	26° API	API	Price	26° API	24° API	25°API	26°API		26°API	
1971	2.43												1.63 — 2.67		
Jan.1	2.09*	2.01	1.85	26.0	1.70	1.70	—	—	—	1.66	1.68	1.70	(1.63 — 2.37)*	1.559	2.09
Feb.				26.0	1.70	1.70	—	—	—						
March 1				26.0	1.70	1.70	—	—	—	1.66	1.68	1.70			
Mar. 18	2.66*		2.22	26.0	2.061	2.061	—	—	—	2.046	2.054	2.061	(1.99 — 2.67)*	1.935	2.665*
Apr.1		2.44		26.0	2.061	2.061	—	—	—						2.647
May				26.0	2.061	2.061	—	—	—	2.156	2.164	2.171			
June 1				26.0,27.0	2.061,2.069	2.061	24.0	2.356	2.371	2.156	2.164	2.171			2.647
July 1				26.0	2.261	2.261	24.0	2.356	2.371	2.156	2.164	2.171			2.625
Aug. 1				27.0,24.0	2.2685,2.246	2.261	24.0	2.356	2.371	2.156	2.164	2.171			2.625
Sept.				26.0	2.261	2.261	24.0	2.356	2.371	2.156	2.164	2.171			
Oct. 1				26.0,27.0	2.261,2.2685	2.261	25.0	2.3635	2.371	2.156	2.164	2.171			2.640
Nov.				26.0	2.261	2.261	25.0	2.3635	2.371	2.156	2.164	2.171			
Dec.				26.0	2.261	2.261	25.0	2.3635	2.371	2.156	2.164	2.171			
1972													2.22 — 2.62		
Jan.	2.61	2.63	2.22	—	—	—		—	n.a.	n.a.	n.a.		(2.25 — 2.62)*		2.951
Feb.			2.42*	25.6	2.539	2.542	25.6	2.539	2.542					2.128	
March				25.6	2.539	2.542	25.6	2.539	2.542				(2.22 — 2.52)*		
Apr.	2.59	2.44		n.a.	2.522	n.a.		2.522	n.a.					2.11	2.921
May				n.a.	2.522,2.574	n.a.	n.a.	2.522	n.a.						
June	2.58			n.a.	2.514	n.a.	n.a.	—	n.a.						
July				n.a.	2.510	n.a.	n.a.	2.51	n.a.					2.095	
Aug.	2.58			n.a.	2.402,2.418	n.a.	n.a.	2.41	n.a.						
Sept.	2.58			n.a.	2.41,2.402	n.a.	n.a.	2.41	n.a.						
Oct.	2.58			n.a.	2.41	n.a.	n.a.	2.41	n.a.						
Nov.	2.58			n.a.	2.402	n.a.	n.a.	2.41	n.a.						
Dec.	2.58			n.a.	2.402,2.41	n.a.	n.a.	2.41	n.a.						

TABLE F-7 (cont'd)

DATE	GULF 26° Company	GULF PCB	IMPERIAL 26° Company	IMPERIAL PCB	ULTRAMAR GROUP Reported Offshore Prices for Imports to Newfoundland API	Newfoundland Price	Newfoundland 26° API	Quebec API	Quebec Price	Quebec 26°API	Esso International Contract Prices Per 24° API	Esso International Contract Prices Per 26° API
1973		—		—	n.a.		n.a.	n.a.		n.a.	n.a.	n.a.
Jan.	2.69*		2.56			2.517			2.501			
Feb.	2.72		n.a.			2.511,2.543			2.543,2.575			
March	2.87*		n.a.			2.667,2.745			2.543,2.68			
April	2.94		2.88			2.745			2.667,2.745			
May	2.94		n.a.			2.745			2.745			
June	2.94		n.a.			2.745			2.745			
July			n.a.			2.924			2.924			
August			n.a.			3.159			3.159			
Sept.	3.46		n.a.			3.376			3.376,3.296			
Oct.1			n.a.			3.626			3.326,3.546			
Nov.	5.29		n.a.			3.626,4.977			4.977,5.19			
						5.19						
Dec.			5.49									
1974										n.a.	n.a.	n.a.
Jan.	9.46		9.16	9.16	n.a.	—	n.a.	n.a.	—			
Feb.	9.46	9.52	9.58		n.a.	9.474	n.a.	n.a.	9.474			
March	9.46				n.a.	9.474	n.a.	n.a.	9.474			
April		9.52	9.64	9.61	n.a.	9.48	n.a.	n.a.	9.58,9.474,9.5612			
May				9.62	n.a.	9.48	n.a.	n.a.	9.474,9.468,9.48,9.794			
June					n.a.	9.486	n.a.	n.a.	9.474,9.48,9.486, 9.5326,9.794			
July			9.98		n.a.	9.666	n.a.	n.a.	9.666,9.703,9.555, 9.518,9.6696			
August			10.38	10.39	n.a.	9.023	n.a.	n.a.	—			
Sept.					n.a.	—	n.a.	n.a.	9.2553,9.0854,9.0448			
Oct.			10.51		n.a.	—	n.a.	n.a.	—			
Nov.					n.a.	—	n.a.	n.a.	—			
Dec.					n.a.	n.a.	n.a.	n.a.	n.a.			

DATE	EXXON 26° Third-Party Price Range for Non-Int	DOE 26° Third-Party Rep. Price	Tax Paid Cost 26° API	Min. Tax Value 26°
1973	2.44 — 5.49			
Jan.			2.210	3.094
Feb.				
March			2.382	3.390
April			2.460	
May				
June				
July			2.614	3.752
August			2.857	4.163
Sept.			3.057	4.492
Oct. 1		5.21	3.323	4.925
Nov.		5.21	4.894	7.261
Dec.		5.40	5.011	7.462
1974	9.01 — 10.45			
Jan.		9.21	9.055	13.706
Feb.		9.56	9.4684	
March		9.81		
April		9.51		
May		9.52		
June		9.52		
July		9.92	9.798	14.242
August		9.99		
Sept.		10.19		
Oct.		10.38		
Nov.		10.19		
Dec.		10.38		

TABLE F-7 (cont'd)

DATE	IMPERIAL Company	IMPERIAL PCB	EXXON 26° Third-Party Price Range for Non-Int	DOE 26° Third-Party Rep. Price	Tax Paid Cost 26° API	Min. Tax Value 26°
1975			10.62 — 11.12			
Jan.	10.95	10.91		11.27	10.341	13.471
Feb.				11.05		
March				10.82		
April	10.85	10.86		10.82		
May		10.86		10.80		
June		10.80		10.68		
July	10.65	10.61		10.48		
August				10.48		
Sept.		10.68		10.52		
Oct.	11.35	11.31		11.17	11.137	14.573
Nov.				11.25		
Dec.		11.32		11.25		
1976			n.a.			Min. Sales Price
Jan.	11.12			11.09	11.137	11.12
Feb.		11.16		11.12		
March		11.16		11.08		
April	11.22	11.23		11.18		11.22
May		11.25		11.19		
June		11.25		11.17		
July	11.32	11.34		11.27		11.32
August		11.35		11.22		
Sept.		11.35		11.25		
Oct.	11.65	11.62		11.46		11.65
Nov.		11.66		11.49		
Dec.		11.66		11.46		

DATE	GULF Company	GULF PCB	TEXACO PCB	IMPERIAL Company	IMPERIAL PCB	Min.Sales Price 26°
1977	n.a.		—			
Jan.				12.72	12.74	12.72
Feb.					12.72	
March					12.73	
April					12.77	
May						
June					12.76	
July						
August					12.73	
Sept.						
Oct.		12.81		12.82		12.82
Nov.					12.83	
Dec.					12.85	
1978	—	—	n.a.			
Jan.				12.82	12.86	12.82
Feb.					12.85	
March					12.84	
April				12.72	12.83	12.72
May					12.72	
June					12.78	
July						
August					12.75	
Sept.						
Oct.						
Nov.						
Dec.					12.75	

DATE	TEX-ACO PCB	IMPERIAL Actual	IMPERIAL PCB	Third-Party DOE Rep. Price Leona Mix 25°	Third-Party DOE Rep. Price Leona Mix 26°	Min.Sales Price	DATE	Min.Sales Price 26°
1979								1981
Jan.	13.35*	13.36	13.78	13.16	13.22	13.36	Jan.	32.88
Feb.			13.86	13.16	13.22		Feb.	
March			13.35	13.17	13.23		March	
April		15.76	15.75	15.54	15.60	15.76	April	
May		16.36	16.35	16.14	16.20	16.36	May	
June			16.35	16.12	16.18		June	
July		19.31	19.30	19.17	19.23	19.31	July	
August			19.29	19.18	19.24	19.48	August	
Sept.			19.36	19.17	19.23		Sept.	
Oct.		19.48	19.49	19.45	19.51		Oct.	
Nov.			19.52	19.43	19.49		Nov.	
Dec.		23.48	23.50	23.58	23.64	23.48	Dec.	
1980	—			n.a.	n.a.		1982	32.88
Jan.		25.20				25.20	Jan.	
Feb.						26.78	Feb.	
March							March	
April							April	
May						29.28	May	
June			29.69				June	
July		29.88	30.22			29.28	July	
August			29.83				August	
Sept.			29.93				Sept.	
Oct.			30.01				Oct.	
Nov.			29.74				Nov.	
Dec.			29.71				Dec.	

Notes to Table F-7 on Comparative FOB Costs of Imported T.J. Medium (24.0 — 26.9° API) Crude Oil, 1960 to 1982

General Notes:

1. For all companies, except for certain years for Ultramar for which specific API characteristics were not available, the prices shown have been standardized to 26.0° API using 2¢ per degree from 1958 to 1973, 6¢ for 1974 to 1976, 10¢ from 1977 to 1978 and 6¢ thereafter. For certain companies data on Venezuelan Medium crude oils other than T.J. Medium were used; these were mostly for crude oils with API's ranging from 24.0 to 28.0°. The Petroleum Compensation Board (PCB) prices shown for 1974 to 1982 were not standardized to 26° API. Variations in API plus any variations in sulphur content likely accounts for the differences observed between PCB prices and prices available from other sources which have been standardized.

2. The data for Imperial Oil, Gulf and Texaco are ex Amuay or equivalent ports (i.e., Puerto La Cruz). Prices ex La Salina for Ultramar were converted to ex Amuay by the addition of 3¢ per barrel. No information is available on the specific loading port used consistently by BP. It is assumed to be ex Amuay. If it is La Salina, the prices shown are understated by 3¢.

Column Notes:

1. *Gulf:* The 1960 price is taken from the contract price for that year, which was the posted price. The January and April 1972 prices are contract prices for T.J. Medium 26° ex Amuay from the International Sector documents filed by the Director in Book 6, tab 240, p. 78766. In I-16E, a price of $2.65 was reported for 26.8° imports for January to March 1972; this would be $2.64 for 26°. For September, 1969 and August to December, 1972, the figures are based on FOB Prices ex La Salina. The addition of 3¢ converts these prices to FOB prices ex Amuay. The *asterisked* prices for January 1 and March 20, 1971 are the tax reference prices in effect in that year; the contract prices were reported to be at these prices. The *asterisked* prices in January and March 1973 are from I-361, tab 22, p. 78431. The PCB prices have been standardized to 26° from prices of $9.53 (26.2°) in both February and March 1974 and $12.85 (26.4°) in 1977.

2. *Texaco:* The 1960 price is for Sylvestre crude oil at 26° API. In 1962 imports were reported at the price of $2.20, but on August 7, the contract price was lowered to $2.05. The 1964 price reflects on average reduction of 6¢ per barrel on the contract price of Venezuelan crude oil shipped to Montreal (see note on Table 5). The 1969 and 1970 prices are based on $2.14 and $1.84 prices for Mesa 28° API adjusted to 26°. The Mesa 28° price used for 1970 was found by subtracting pipeline fees (10.4¢) and freight costs (24.9¢) from the $2.194 CIF price at Montreal (see I-16G). For January, 1979 the price shown was for a 24° T.J. Medium price adjusted to 26° by adding 10¢ per API; the 1978 API formula was used because the cargo was loaded in 1978.

3. *Imperial Oil:* For 1968 to 1972, the figures shown are the offshore subsidiary's purchase prices.

4. *BP:* There is some evidence to suggest that BP purchased T.J. Medium from Esso International in exchange for purchases by Esso of Iranian Light crude oil from BP Trading Co. Ltd. See Exhibit I-289. The 1968 price is ex Amuay. The price shown for February 1972 is actually for January 20th.

5. *Ultramar:* The prices shown were converted from FOB ex La Salina to FOB ex Amuay by the addition of 3¢ per barrel. Two sets of prices are shown. (a) Offshore Prices: The offshore prices for June 1967 to November 1974 were reported by Ultramar in I-335. Although the API levels were not given in I-335, those shown reflect the API levels for the lowest prices reported in I-50, Appendix 3 which gives information on third-party sales by Esso International, the source of the Ultramar Group's crude oil supplies. In S-30, (at pp. I-9 to I-11), Imperial reported that the lowest prices for 1968 to 1972 in I-50 were for the Ultramar Group. In 1974 there were several retroactive price adjustments reported in I-335. Only the last update reported in I-335 is shown. Some sales to the Newfoundland and Quebec refineries in 1974 were invoiced in August or September, respectively, although the offshore supplier (Ultramar Liberia) first reported its original purchases of those crude oil shipments in March 1974. (Appendix Table E-7 provides more information on offshore prices). (b) Contract Prices: The Esso International contract prices for 1961 to 1965 are based on an Irving Oil exhibit (I-263) which reported that Ultramar had a 20-year term contract at the posted price minus 40¢ (see Appendix E for more details). With posted prices at $2.30 ex Amuay and $2.27 ex La Salina, the net prices would be $1.90 or $1.87. The discrepancy between the $1.93 price shown and $1.90 is likely due to confusion with the loading ports used by Ultramar. The $1.93 price was the lowest price found in the I-50, Appendix 3 list of third-party prices for T.J. Medium from 1960 to 1963. In 1964/1965 lower prices than $1.93 are reported, but information from I-78 (tabs C4 and C5) suggests that for 1965, as well as for 1968 to 1970, Esso International sometimes sold crude oil to Ultramar ex Amuay at the lower La Salina prices. These prices are shown in parentheses. The 1966 to December 17, 1970 contract prices are based on I-78A. The January to March 1, 1971 prices are also based on I-78A for some of the shipments to the Newfoundland refinery, while the March 18 to December 1971 prices (for shipments to the Quebec refinery and also for some of the shipments to Newfoundland) are based on M-675 and I-330 which contain contracts for the new Quebec refinery for T.J. Medium 24.0 to 24.9° between (i) Esso International and Ultramar Panama, (ii) Ultramar Panama and Ultramar Liberia and (iii) Ultramar Liberia and Golden Eagle Canada (now called Ultramar Canada). Under these contracts, Ultramar Panama could also supply volumes of T.J. Medium to the Newfoundland refinery at the same terms available to the Quebec refinery to replace equivalent volumes of the Ultramar Group's proprietary crude oils (i.e., Oritupano and Mercedes) which were used at Quebec. Exhibit I-335 reports imports to Quebec

Notes to Table F-7 on Comparative FOB Costs of Imported T.J. Medium (24.0 — 26.9° API) Crude Oil, 1960 to 1982 (cont'd)

Column Notes:

of Oritupano in August 1971 (180,775b), February 1972 (175,704b), March 1972 (1,015,981b) and of Mercedes in December 1972 (243,633b). Therefore, the prices reported under the Quebec refinery contract are also applicable to Newfoundland refinery imports for 1971 and 1972. The contract with Esso International included provisions for price changes to reflect changes in Host Government Take. It was to last until December 31, 1980, but prices could be renegotiated at any time after December 31, 1974, with any changes to take effect on January 1, 1976. Ultramar ceased imports of T.J. Medium at the end of 1974. (c) Offshore versus Contract Prices: The contract prices show that the offshore prices reported by the Ultramar Group in I-335 from July 1971 to December 1971 also included markups of 20 and 9¢ for imports to Quebec and Newfoundland, respectively. The markup for shipments to Newfoundland was lower because of the higher freight costs that were incurred due to the use of smaller tankers. Information on whether the level of the additional markup remained the same, changed or disappeared between 1972 to 1974 is not available. When comparing the offshore and contract prices one must remember there was often a lag of several months between the offshore import price and contract price changes. This reflected the fact the imports in any month represented loadings in a prior month in Venezuela. The 120 days of credit provided to Ultramar by Esso International (see M-675 and I-78A) may also have delayed the implementation of any contract price change on the offshore invoice price of imports into Canada. (For example, while the contract price increased in May 10, 1971, prices reported on imports to Newfoundland only changed in July.) (d) API Adjustment Formulae: For 1960 to March 1, 1971, variations in API levels were adjusted using the traditional 2¢ per degree rule. For March 18 to December 1971, variations in offshore prices were made using $0.0075 per degree following the contract provisions between Ultramar Liberia and Golden Eagle Canada (M-330). This formula was also used for the Esso International contract price because M-675, while stating that the 2¢ rule was in effect, also indicated that the API gravity adjustment provisions could be changed if the Venezuelan government imposed changes. This in fact occurred in early 1971 when the 1.5¢ per degree rule was adopted. The $0.0075 formula was used because it matched the changes in prices being reported. The API levels for 1972 were only given (in I-335) for February and March. It was therefore not possible to identify the API levels of the offshore prices for April 1972 to November 1974. They could range from 24 to 27 degrees based on the previous API levels of imports.

6. *Exxon Third-Party Price Range:* These figures are the minimum and maximum prices paid to Esso International by non-integrated third-party purchasers. The 1970 figures in parentheses represent a breakdown of the two sets of prices shown per buyer in 1970; I-78A at Tab C4 and C5 gives a date of December 17 for the price increase on sales to the Ultramar Group. For 1971 to 1975, the data represent annual and sub yearly price ranges only. It was not possible to present more relevant monthly price range data for this period. The 1971 and 1972 sub-yearly price ranges were taken from I-78A, tab 6b, pp. 7 to 10 which listed prices for January to March 17 and March 18 to December 31, 1971 as well as January to March and April to December 1972. These data were adjusted with the price information in I-50 to obtain the prices shown in parentheses. Reconciliation of the prices from the two sources required the conversion of La Salina prices to FOB ex Amuay prices by adding 3¢. Although the prices shown mainly concern sales of T.J. Medium, some prices represent sales of other Venezuelan medium crude oils such as Tigre and LaRosa, both at 24° API. The prices for these two crude oils were converted to 26° using the 2¢ rule to 1973 and 6¢ for 1974 to 1975. The LaRosa prices were also adjusted by the addition of 3¢ to convert from FOB ex La Salina to FOB ex Amuay. The Tigre prices were ex Puerto La Cruz and therefore were the same as ex Amuay prices. If sales of these two extra crude oils were excluded, the maximum annual prices in 1960, 1968, 1969 and 1970 would be lower (at $2.04, $1.92, $1.63 and $1.87) while both minimum and maximum prices in 1966 would be $1.91. The subperiod maximum prices in 1970 would fall to $1.87 and $1.76, respectively. In 1974, the minimum prices would be higher ($9.20).

7. *Tax Paid Cost:* This is the cost of equity crude oil. It covers production costs plus host government taxes and royalties (see Director's Green Book, Volume III, p. 42 for 1969 and Exhibit I-107 for 1970 to 1976). It includes freight premiums, but excludes premiums for low sulphur content.

8. Posted Price: The price shown for March 18, 1971 is actually for March 20th. The 1970 to 1975 figures are the minimum tax export values including applicable freight premiums.

9. *DOE Third-Party Representative Price:* Representative price was defined by the U.S. Department of Energy (DOE) as being the lowest price at which 50 per cent (by volume) of third-party transactions took place per month. That is, it was the weighted median price. For October 1973 to September 1974, the figures shown were obtained by subtracting 10¢ from the DOE maximum price. Given the definition of the maximum price, these figures provide the maximum value that the representative price could be in these months (see notes to Table 1 for more details). The 1979 figures were not available for T.J. Medium; the values published for Leona mix, assumed to be 25° API, are converted to 26° for comparative purposes.

10. *Minimum Tax Export Value:* These are tax reference values used by the Venezuelan government from 1973 to 1975. They include freight premiums, but exclude any applicable sulphur premiums.

11. *Minimum Sales Price:* The figures shown for 1976 onwards are equivalent to official government selling prices.

TABLE F-8

Comparative FOB Costs of Imported Nigerian (24.0 — 37.0° API)[1] Crude Oils, 1965-1982
(U.S. $ per barrel)

DATE	GULF		IMPERIAL		TEXACO	BP		PETROFINA		Term Third-Party Prices Adj. to Gulf API	Nigerian Bonny Light					
											37° API			Adjusted to Gulf API		
	API	Price	API	Price		API	Price	API	Price	Range (Average)	Official	Spot	Posted	Official	Spot	Posted
1965	34.0	1.75	—	—	—	—	—	—	—	1.33-1.94 (1.68)	2.00	1.68	2.23	1.94	1.62	2.17
1966	34.0	1.70	—	—	—	33.0	n.a.	—	—	1.53-1.77 (1.68)	1.90	1.63	2.23	1.84	1.57	2.17
1967	34.0	1.70	32.6	1.81	—	33.0	n.a.	—	—	1.70-1.73 (1.72)	1.95	1.76	2.23	1.89	1.70	2.17
1968	35.0	1.72	—	—	—	—	—	—	—	1.65-1.80 (1.72)	2.00	1.88	2.23	1.96	1.84	2.19
1969	35.0	1.80	—	—	—	29.0	1.75*	—	—	n.a.	1.95	1.83	2.23	1.91	1.79	2.19
						24.0	1.65*									
1970	35.0	1.80	—	—	n.a.	29.0	1.75	—	—	n.a.	2.10	2.26	2.23	2.06	2.22	2.19
						24.0	1.65									
1971			—	—	—			28.9	2.25*	n.a.	2.35	2.66	2.64	2.31	2.62	2.60
Jan.	35.0	2.10				29.0	1.88				2.65	2.58		2.61	2.54	
						24.0	1.78									
Mar. 20	35.0	2.72				29.0	2.52									
						24.0	2.42									
Apr.																
May																
June											2.05	2.75		1.99	2.69	
Sep. 10						30.3	2.52									
						24.8	2.42									
1972			—	—	n.a.			26.9	2.21*	n.a.	2.80	2.70	3.39	2.77	2.67	3.36
Jan. 1	36.0	2.74				30.3	2.52				2.80	2.66		2.77	2.63	
						24.8	2.42									
Jan. 20	36.0	2.90														
Feb.15						30.3	2.685									
July											2.80	2.73		2.77	2.70	
Sept.	36.0	2.85				30.3	2.685									

TABLE F-8 (cont'd)

	GULF				BP				TEXACO		PETROFINA		ULTRAMAR		SUN OIL					
	Company		PCB		Company		PCB		PCB		Company		PCB		Third-Party Non-Integrated		DOE Third-Party Rep. Price 34°		Bonny Light 37° API	
Date	API	Price	API	Price	API	Price	API	Price	API	Price	API	Price	API	Price	API	Price	34°	Official	Spot	Posted
1973			—	—	30.3		—	—	36.0	n.a.	—	—	—					3.20	3.40	4.75
Jan.	36.0	3.02				2.80				"								3.10	3.05	
Feb.	"	"								"										
March	"	"								"										
April	"	3.15				3.21				"								3.30	3.75	
May	"	"								"										
June	37.3	3.47				3.35				"										
July	"	3.55				3.43				"								3.85	4.50	
Aug.	36.8	3.62*				3.53				"										
Sept.	"	3.62*				3.53				"										
Oct.1	"	6.40				3.52				"							7.07	5.90	7.00*	
Oct. 20	"					6.02				"										
Nov.	36.4	6.46				6.02				"							7.07			
Dec.	36.8	6.65				5.88				"							7.10			
1974	36.2	10.48			30.3						31.0	8.60*						11.40	12.92	14.19
Jan.						10.86	31.1	10.87									16.94	10.75	15.50*	
Feb.			36.4	9.95													16.47			
March			35.7	9.95			30.8	10.85									12.54			
April			36.4	9.95													14.59	11.55	13.00	
May																	13.52			
June													40.2	10.45*			13.26			
July															30.0	13.04	12.80	11.55	11.50	
Aug.															37.-40.0	14.22	12.50			
Sept.							30.8	11.61									12.18			
Oct.						11.10*											11.70	11.75	11.70	
Nov.							30.7	n.a.									11.93			
Dec.							31.5	12.10	31.3	11.77							11.85			
							25.5	11.96												

TABLE F-8 (cont'd)

	GULF		TEXACO				BP								
	Company		PCB		PCB		Company		PCB		DOE Third-Party Rep. Price	Bonny Light 37-40° API			Forcados 31°
Date	API	Price	API	Price	API	Price	API	Price	API	Price	34°	Official	Spot	OGSP	OGSP
1975	36.0*	12.00*										11.61	11.50		n.a.
Jan.	"	"					30.3	11.90			11.74	11.80	11.50		
Feb.	"	"						"	31.0	11.91	11.75				
March	"	"					31.0	"	30.9	n.a.	11.81				
April					30.9	11.66		11.66			11.62	11.80	11.40		
May					31.2	11.66		"			11.63				
June								"	30.1	11.66	11.36				
July					30.7	11.39		11.59			11.23	11.43	11.50	11.43	
Aug.								11.41			11.23				
Sept.			36.6	11.37				"	30.9	11.41	11.33				
Oct.								12.56			12.55	11.43	11.60	12.70	
Nov.			35.5	12.76	31.1	12.64		"	30.9	12.56	12.61				
Dec.					31.3	12.64		"	31.3	12.57	12.61				
1976	36.0	12.91*			37.3	12.92*						12.97	13.14		
Jan.			30.5	12.84	31.0	12.74	31.0	12.70			12.76	12.84	12.90	12.70	n.a.
Feb.			30.6	12.84	30.6	12.73			30.8	n.a.	12.78				
March			36.9	12.93					31.0	12.71	12.82				
April									31.1	"	12.86	12.84	12.95	12.89	12.71
May									30.9	12.70	12.82				
June									31.0	12.71	12.89				
July								12.90			13.07	13.10	13.15	13.10	12.92
Aug.									30.9	12.90	13.03				
Sept.											13.05				
Oct.								13.05			13.25	13.10	13.56	13.25	13.07
Nov.									30.6	13.04	13.27				
Dec.									30.5	"	13.42				

TABLE F-8 (cont'd)

	BP						IMPERIAL							OGSP	
	PCB		Bonny Light 37-40° API			Forcados 31°	PCB		DOE Third-Party Rep. Price	Bonny Light 37-40° API			Forcados 31°	Nigerian Medium 26°
Date	API	Price	Official	Spot	OGSP	OGSP	Date	API	Price		Official	Spot	OGSP		
1977	30.7	14.09	14.48	14.30			1979	—	—						
Jan.			14.33	14.45	14.31	14.08	Jan.			15.21	14.84	21.05	14.80	14.44	14.23
Feb.							Feb.			15.12					
March							March			15.12					
April	30.5	14.24	14.33	14.45	14.61	14.40	April			18.72	19.52	29.90	18.50	18.10	17.50
May							May 16			20.98			20.96	20.60	20.00
June							June			21.40					
July			14.63	14.28	14.28	14.40	July			24.27	23.41	35.75	23.47	23.10	22.00
Aug.							Aug.			25.60					
Sept.							Sept.			26.76					
Oct.			14.63	14.05			Oct.			25.87	26.14	40.33			
Nov.							Nov. 6			31.26			26.24	25.87	24.77
Dec.							Dec. 17			32.00			29.97	29.80	28.70
1978	—	—	14.10	14.21			1980			n.a.					
Jan.			14.33	14.00	14.31	14.01	Jan.				34.67	38.92	29.97	29.80	28.70
Feb.							Feb. 4						34.18	34.01	32.91
March							March								
April			14.33	13.89	13.93*	13.58*	April				36.72	38.15	34.69	34.52	33.42
May							May 22						36.69	36.52	35.42
June							June	29.5	36.21						
July			13.87	13.98	13.85*	13.55*	July	25.4*	36.09*		37.73	34.77	37.00	36.83	35.73
Aug.							Aug.								
Sept.							Sept.								
Oct.			13.87	15.00	14.10	13.60*	Oct.								
Nov.							Nov.								
Dec.							Dec.								

TABLE F-8 (cont'd)

Date	GULF PCB API	GULF PCB Price	UNTRAMAR PCB API	UNTRAMAR PCB Price	IMPERIAL PCB API	IMPERIAL PCB Price	OGSP Bonny Light 37° API	OGSP Nigerian Medium 26 °
1981	—	—			—	—		
Jan.							40.00	38.70
Feb.								
March			34.9	36.76				
April	37.7	40.04						
May								
June								
July								
Aug. 26							36.00	34.70
Sept.								
Oct.							34.50	33.20
Nov.							36.50	35.20
Dec.								
1982								
Jan.							36.50	33.75
Feb.								
Mar. 20							35.50	33.50
April								
May					25.1	33.51		
June								
July							35.50	33.50
Aug.								
Sept.								
Oct.								
Nov.								
Dec.								

Notes to Table F-8 on Comparative FOB Costs of Imported Nigerian (24.0 — 37.0° API) Crude Oils, 1965-1982

General Notes:

1. Since Gulf was the main importer of Nigerian crude oil from 1965 to 1976, the price data for other importers, as well as third-party sources, may be adjusted to reflect the API levels of the Gulf Canada imported Nigerian crude oil. Following international convention, prior to March 20, 1971, 2¢ per barrel per API degree was the adjustment formula used. From March 20, 1971 to 1973, 3¢ per barrel per API degree was used. For 1974, the 6/3¢ formula involved using 6¢ above 34° API and 3¢ below 34° API. For 1975 to 1982, the formula followed was 3¢ per API degree. Although expressed here in cents per degree API, the formulae used from 1971 onwards involved adjustments for variations of one tenth of one degree API.

   The above API adjustment formulae were taken from the various international agreements between OPEC and the petroleum companies. The adjustment formulae followed internally by Gulf, BP and Texaco after March 20, 1971 were found to be too divergent to attempt a comparison on this table. For example, BP from March 20, 1971 to June 30, 1975 indicated that 1¢ per API degree would be used for any variations in API levels (Exhibit I-289, Tab 4). This likely reflected the fact that the tax paid cost of the crude oil to its parent company only varied by approximately 1¢ per API degree over much of that period. On the other hand, Gulf's contracts kept the traditional 2¢ per API degree formula until the end of 1973 (see Exhibit I-380). When BP adopted the 3¢ per degree formula on July 1, 1975, Gulf was using 6¢ per API degree. It is only in 1976 that both companies used the same (i.e. 3¢ per API degree) formula. Texaco used the 1.5¢ formula from 1971 to 1973, the 6/3¢ formula for 1974 and 1975 and the 3¢ formula for 1976. Such wide divergences in adjustment formulae between companies are understandable inasmuch as companies are typically concerned with limited variations (i.e. of less than 2 degrees) in their imported crude oil API levels. Simple inertia to the adoption of new formulae or the need to honor existing contractual relationships may also have resulted in the observed delays in their implementation by individual petroleum companies.

   The API formulae used to make adjustments for variations of at least one tenth of a degree in API levels were generally not found in Canadian petroleum company contracts until several years after their introduction in the Teheran, Tripoli and Lagos agreements of 1971 with OPEC. Gulf in its Exhibit I-16E appears to have retroactively applied the practice to its crude oil prices for 1966 to 1974. The API figures shown for BP are the lower levels of the ranges found in Exhibits I-289, tab 4 and I-314. This range was 0.9 degrees API prior to March 1975 and 0.09 thereafter.

Column Notes:

1. *Gulf:* The API levels and prices shown from 1966 to April 1973 inclusive are taken from the contracts in effect (see I-380) rather than from I-16E which often indicates the prices of imports for the average API level of the Nigerian crude oil imported per year or for several months within a year. The exception is the price shown in September 1972 which was estimated by extrapolation from the weighted (by volume) average of the prices of $2.927 and $2.871 for March to August and September to December in I-16E which at $2.90 for 37° matches the 36° price of $2.88 reported as the cost of Nigerian crude oil for the last half of 1972 (see I-361, tab 22, p. 78431). That is, since the contract 36° price was $2.90 (or $2.92 at 37°) in January 20, it must have been reduced to $2.85 for 36° (or $2.87 for 37°) in September. It must also be noted that Gulf Canada was to have paid the contract prices for only the first 10,000 barrels per day of Nigerian crude oil imported in 1972. The second 10,000 b/d was to have been at a Ceuta 31° equivalent or reduced price of $2.578 because the extra Nigerian crude oil was to replace the volume of less costly Ceuta 31° crude oil shipments that were not supplied for the Montreal refinery. However, Gulf Canada reported in I-361, tab 13, pp. 65297-98 that its affiliated supplier (Gulf Oil Trading Company) had reneged on this arrangement for the second half of 1972. (As shown in I-16E its supplier subsequently also reneged on this commitment for the first half of 1972.) The average September price of $2.85 actually represented a discount of 10¢ since the discount only applied to the second 10,000 b/d of imports. Nevertheless, it was still much lower than the 32.6¢ discount which had been originally agreed upon (see I-361, tab 8, pp. 62991 and 62995-98; tab 11, p. 65302). A similar 10¢ reduction appeared in the Ceuta 31° contract price on December 20th to give recognition to the cost savings available because of the transshipping made possible using Very Large Crude Oil Carriers (VLCC's) to Pt. Tupper and smaller tankers to Portland. The August/September prices are an average price reported in I-16E for these two months. For 1974, the annual price is from I-16E. The *asterisked* figures shown for 1975 and 1976 are contract API levels and prices; monthly PCB prices are also shown for 1974 to 1976 and 1981.

2. *BP:* From 1969 to January 20, 1972, BP reported identical price data for 34° or 36.2° API Nigerian Light and 29.0 or 31.2° API Forcados (Nigerian Export Blend) crude oil (see Exhibit I-289, Tab 4). Since Forcados was the crude oil imported, only the 29.0 or 31.2° contract prices are shown. Although imports were reported in 1966 and 1967, FOB data for these years are not available. For 1969, no imports were made at the prices shown. The figure shown for October 1974 was an authorized FOB price for provisional payments before expected increases in tax paid cost and participation charges were finalized. The two sets of PCB figures for December, 1974 represent imports of two different types of Nigerian crude in that month. For 1982 no FOB data were available for the CIF price reported in Table 9.

Notes to Table F-8 on Comparative FOB Costs of Imported Nigerian (24.0 — 37.0° API) Crude Oils, 1965-1982 (cont'd)

Column Notes:

3. *Petrofina:* The figures for 1971, 1972 and 1974 are Canadian purchase or import prices net of the Pannac (i.e., Offshore Subsidiary) Dividend per barrel. The figures for 1974 reported by Petrofina (see Exhibit I-16H) were not found in the PCB records filed by the Director (Exhibit I-114).

4. *Term Third-Party Prices:* These represent the range and simple average of prices observed by Adelman and Newton from 1965 to 1968 (see Exhibit I-51A, Tab II-4 and Tab II-5, respectively). The Adelman Nigerian crude oil data originally had been adjusted for API and sulphur content variations to compare with Iranian heavy (31° API) crude oil. The procedure followed by Adelman was reversed to obtain the price observations that were used along with the Newton data to obtain the figures shown on this table. These prices were then adjusted to match the Gulf API levels of 34° for 1965 to 1967 and 35° for 1968, using the 2¢ adjustment formula.

5. *Official, Spot, Posted, OGSP:* (a) The first set of figures for Nigerian Bonny Light 37.0° API are from Exhibit I-18 for the 1965 to 1976 annual data and I-23 or I-51D, Tab VII-8 for the 1970 to 1980 semi-annual or quarterly data. The posted prices for 1965 and 1966 may be extrapolations by Petroleum Intelligence Weekly, the source of these figures, because Nigerian crude was officially posted in 1967 only. (At that time, the posted prices were set by BP and Shell at $2.17 for 34° API crude and $2.03 for 27° API crude. The figures found in the Petroleum Intelligence Weekly Exhibits had been retroactively adjusted by 2¢ per API degree, to 37°). (b) The second set of figures reflect adjustments to the relevant Gulf API levels in the years 1965 to 1972. For API adjustments, the 2¢ formula was used until March 20, 1971. Thereafter the 3¢ rule was applied to the end of 1972. No adjustments were made for 1973 to 1980 as the Gulf API levels were close to 37° API. Gulf was not the major importer after 1976. (c) It may be noted that the official prices represent the prices that were paid on term contracts to the end of 1974. For 1975 and 1976, they include any premiums or discounts, respecting official government selling (OGSP) prices, which are applicable to all buyers. The *asterisked* OGSP figures for 1978 reflect discounts off the OGSP price of $14.10 for Bonny Light and $13.70 for Forcados. The *asterisked* spot prices for the fourth quarter of 1973 and the first quarter of 1974 were reported to have covered only a very small number of transactions.

6. *Ultramar:* The figure shown for June 1974 is the Canadian import or purchase price net of the offshore subsidiary's FOB markup, but it is not net of any offshore markup on transportation costs.

7. *Texaco:* FOB prices were not available for 1970, 1972 and 1973; the 1974 to 1976 prices are from the PCB. The two sets of figures shown for January, 1976 represent imports of two different types of Nigerian crude oil in that month.

8. *Sun Third-Party:* These figures represent arm's length sales and purchase prices for July and August, respectively, between unintegrated petroleum companies and the Sun Group as reported in Exhibit I-383. The API level of the August price for Nigerian Light was assumed to be 37° to 40°.

9. *Third-Party DOE Rep. Price:* Representative Price was defined by the United States Department of Energy (DOE) as being the lowest price at which 50 per cent or more (by volume) of arm's length term transactions took place per month. That is, the weighted median price. The DOE only published price data on 34° API Nigerian crude oil for 1973 to 1976 and Bonny Light for 1979. The October 1973 to September 1974 prices were estimated by deducting 10¢ from the DOE maximum price. Because of the definition of the maximum price, this estimate provides an upper limit for the representative price. That is, the actual representative price may be lower.

10. *Imperial Oil:* The *asterisked* figure shown for July 1980 is actually for June.

TABLE F-9

Comparative Delivered (CIF) Costs of Imported Nigerian (24.0 – 37.0° API)[1] Crude Oils, 1965-1982
(U.S. $ per barrel, Portland Unless Otherwise Specified)

DATE	GULF		IMPERIAL (Dartmouth)		TEXACO		BP		SHELL		PETROFINA	
	API	Price	API	Price	API	Price	API	Price	API	Price	API	Price
1965	34.0	2.17	—	—	—	—	—	—	—	—	—	—
1966	34.0	2.04	—	—	—	—	33.0	2.27	36.0	2.20	—	—
1967	34.0	2.04	32.6	2.28	—	—	33.0	2.27*	—	—	—	—
1968	35.0	2.06	—	—	—	—	—	—	—	—	—	—
1969	35.0	2.14	—	—	—	—	29.0 24.0	2.08* 2.00*	—	—		—
1970	35.0	2.14	—	—	34.0	2.30	29.0 24.0	2.08 2.00	—	—	—	—
1971			—	—	—	—			—	—	28.9	2.88*
Jan.	35.0	2.47			34.0*	2.80*	29.0	2.35				
							24.0	2.29				
Mar. 20	35.0	3.09					29.0	2.99				
							24.0	2.93				
Apr.												
Sept. 10							30.3	2.99				
							24.8	2.93				
1972			—	—	—	—			—	—	26.9	2.85*
Jan. 1	36.0	3.12					30.3	2.99				
							24.8	2.93				
Jan. 20	36.0	3.28										
Feb. 15		3.31					30.3	3.155				
July					36.0	3.29						
Sept.	36.0	3.23										

TABLE F-9 (cont'd)

	GULF				TEXACO				BP				MURPHY		ULTRAMAR		PETROFINA	
	Company		PCB		Company		PCB		Company		PCB		Estimated Offshore		PCB		Company	
Date	API	Price	API	Price	API	Price	API	Price	API	Price	API	Price	API	Price	API	Price	API	Price
1973		—	—	—	36.0		—	—	30.3		—	—	—	—	—	—		
Jan.	36.0	3.46				3.49				3.24								
Feb.	"	"																
March	"	"																
April	36.0	3.59				3.62				3.65								
May	"	"																
June	37.3	3.91				3.92				3.79								
July	"	3.99				4.85				3.87								
Aug.	36.8	4.06*				4.94				3.97								
Sept.	"	4.06*								"								
Oct. 1	36.8	6.84				6.66				3.96								
Oct. 20	"					8.92				6.46								
Nov.	36.4	6.90				8.97				"			31.3	6.98*				
Dec.	36.8	7.09				8.94				6.32								
1974	36.2	11.24			34.0				30.3				—	—			31.0	10.65*
Jan.						13.90				11.51-	31.1	11.62						
Feb.			36.4	10.77						11.61								
March			35.7	10.74							30.8	11.60						
April			36.4	10.57		13.80												
May																		
June															40.2	11.50		
July						13.26												
Aug.																		
Sept.											30.8	12.30						
Oct.						12.64			11.85*									
Nov.											30.7	n.a.						
Dec.							31.3	12.47			31.5	12.79						
											25.5	12.71						

TABLE F-9 (cont'd)

	GULF				BP				TEXACO				ULTRAMAR	
	Company		PCB		Company		PCB		Company		PCB		PCB	
Date	API	Price	API	Price	API	Price	API	Price	API	Price	API	Price	API	Price
1975					30.3				36.0					
Jan.	36.0*	n.a.				12.58				12.69				
Feb.	"	"				"	31.0	12.59						
March	"	"			31.0	12.59	30.9	n.a.						
April						12.35				12.60	30.9	12.38		
May						"					31.2	"		
June						12.36	30.1	12.36						
July						12.29				12.22	30.7	12.06		
Aug.						12.13								
Sept.			36.6	12.16		"	30.9	12.13						
Oct.						13.28				13.49				
Nov.			35.5	13.44		12.27	30.9	13.27			31.1	13.03	36.9	13.66
Dec.						12.28	31.3	13.29			31.3	13.15		
1976	36.0*	n.a.			31.0				31.0		37.3	13.71*		
Jan.			30.5	13.60		13.30				13.49	31.0	13.49*		
Feb.			30.6	13.60			30.8	n.a.		"	30.6	13.49		
March			36.9	13.65			31.0	13.30		"				
April							31.1	"		"				
May							30.9	"		"				
June							31.0	13.29		"				
July						13.50				"				
Aug.							30.9	13.49		"				
Sept.										"				
Oct.						13.64				"				
Nov.							30.6	13.63		"				
Dec.							30.5	"		13.49				

TABLE F-9 (cont'd)

	BP			IMPERIAL			GULF		ULTRAMAR		IMPERIAL		BP	
	PCB			PCB			PCB		PCB		PCB		Company	
Date	API	Price	Date	API	Price	Date	API	Price	API	Price	API	Price	API	Price
1977			1979	—	—	1981					—	—		
Jan.	30.7	14.70	Jan.			Jan.								
Feb.			Feb.			Feb.								
March			March			March			34.9	37.39				
April	30.5	14.85	April			Apri.	37.7	41.49						
May			May			May								
June			June			June								
July			July			July								
Aug.			Aug.			Aug.								
Sept.			Sept.			Sept.								
Oct.			Oct.			Oct.								
Nov.			Nov.			Nov.								
Dec.			Dec.			Dec.								
1978	—	—	1980			1982								
Jan.			Jan.			Jan.								
Feb.			Feb.			Feb.								
March			March			March								
April			April			April							43.0	30.40
May			May			May					25.1	34.23		
June			June	29.5	37.51	June								
July			July	25.4*	36.20*	July								
Aug.			Aug.			Aug.								
Sept.			Sept.			Sept.								
Oct.			Oct.			Oct.								
Nov.			Nov.			Nov.								
Dec.			Dec.			Dec.								

Notes to Table F-9 on Comparative Delivered (CIF) Costs of Imported Nigerian (24.0 — 37.0° API) Crude Oils, 1965-1982

General Notes:

1. Since Gulf was the main importer of Nigerian crude oil from 1965 to 1976, the price data for other importers, as well as third-party sources, may be adjusted to reflect the API levels of the Gulf Canada imported Nigerian crude oil. Following international convention, prior to March 20, 1971, 2¢ per barrel per API degree was the adjustment formula used. From March 20, 1971 to 1973, 3¢ per barrel per API degree was used. For 1974, the 6/3¢ formula involved using 6¢ above 34° API and 3¢ below 34° API. For 1975 to 1982, the formula followed was 3¢ per API degree. Although expressed here in cents per degree API, the formulae used from 1971 onwards involved adjustments for variations of one tenth of one degree API.

   The above API adjustment formulae were taken from the various international agreements between OPEC and the petroleum companies. The adjustment formulae followed internally by Gulf, BP and Texaco after March 20, 1971 were found to be too divergent to attempt a comparison on this table. For example, BP from March 20, 1971 to June 30, 1975 indicated that 1¢ per API degree would be used for any variations in API levels (Exhibit I-289, Tab 4). This likely reflected the fact that the tax paid cost of the crude oil to its parent company only varied by approximately 1¢ per API degree over much of that period. On the other hand, Gulf's contracts kept the traditional 2¢ per API degree formula until the end of 1973 (see Exhibit I-380). When BP adopted the 3¢ per degree formula on July 1, 1975, Gulf was using 6¢ per API degree. It is only in 1976 that both companies used the same (i.e. 3¢ per API degree) formula. Texaco used the 1.5¢ formula from 1971 to 1973, the 6/3¢ formula for 1974 and 1975 and the 3¢ formula for 1976. Such wide divergences in adjustment formulae between companies are understandable inasmuch as companies are typically concerned with limited variations (i.e. of less than 2 degrees) in their imported crude oil API levels. Simple inertia to the adoption of new formulae or the need to honor existing contractual relationships may also have resulted in the observed delays in their implementation by individual petroleum companies.

   The API formulae used to make adjustments for variations of at least one tenth of a degree in API levels were generally not found in Canadian petroleum company contracts until several years after their introduction in the Teheran, Tripoli and Lagos agreements of 1971 with OPEC. Gulf in its Exhibit I-16E appears to have retroactively applied the practice to its crude oil prices for 1966 to 1974. The API figures shown for BP are the lower levels of the ranges found in Exhibits I-289, tab 4 and I-314. This range was 0.9 degrees API prior to March 1975 and 0.09 thereafter.

Column Notes:

1. *Gulf*: See note in Table 8 for the FOB prices and I-16E and I-353 for the transportation costs used for 1966 to 1974. The 1965 price is taken from the Green Book, Volume III, p. 142 which has a CIF Montreal price of $2.29 which becomes $2.17 after subtracting pipeline fees of 12¢. It is unclear as to which API level this price of $2.17 pertains. It is assumed to be 34° because of the reference in I-353. In the notes to Table 8 it was reported that Gulf Canada's extra imports of Nigerian crude oil in 1972, which were to replace supplies of the less costly Ceuta 31° originally intended for the Montreal refinery, were to be at the equivalent Ceuta price of $2.578 FOB or $2.979 CIF Portland. However, as mentioned in Table 8, Gulf Canada's supplier (Gulf Oil Trading Company) reneged on this commitment. The transportation costs found in I-16E do not include costs associated with ocean loss. In 1972 and 1973, (I-361, tab 8, p. 63002) these amounted to 1.62¢ per barrel. For 1975 and 1976, CIF contract prices were not available, but the price reported by the PCB are shown.

2. *Texaco*: See note to Table 8. No imports were reported at the January 1971 contract price shown.

3. *BP*: See note in Table 8. The price shown for February 1974 is actually for January 10. The figure for October 1974 is based on an authorized FOB estimate and the January 10th freight rate. In I-314, BP reported a spot purchase of 43° Brass River Nigerian crude oil at a price of $30.40 CIF Portland which included a 5¢ wholesaler fee. No PCB data were reported for this transaction.

4. *Petrofina*: See note in Table 8. The *asterisked* figures are Canadian purchase or import prices net of the Pannac (i.e., offshore subsidiary) Dividend per barrel.

5. *Ultramar*: The June 1974 price is the import or Canadian purchase price net of the offshore trader (Ultramar Liberia Ltd.) FOB markup, but is not net of any markups on transportation costs by Golden Eagle Liberia Ltd.

6. *Murphy*: The November 1973 figure is an estimated offshore price obtained by subtracting the Tepwin offshore subsidiary's net income per barrel of 57.9¢ from the Canadian purchase or import price of $7.556.

7. *Imperial Oil*: The *asterisked* figure shown for July 1980 is actually for June.

TABLE F-10

Comparative FOB Costs of Imported Kuwait,[1] Iranian Heavy[2] and Arabian Medium[3] (31° – 31.9° API) Crude Oils, 1958-1982 (U.S. $ per barrel)

DATE	SHELL	GULF		BP				PETROFINA		Term Third-Party Price range		Kuwait 31°		Iran H.	Kuwait 31°	Iran H.	Kuwait 31°	Iran Heavy 31°	
																		Posted	
	Kuwait 31°	Kuwait 31°	Iran Heavy 31°	Kuwait API	Kuwait Price	Iran Heavy API	Iran Heavy Price	Kuwait[1]/Iran Heavy[2] API	Kuwait[1]/Iran Heavy[2] Price	Kuwait 31°	Iranian Heavy 31°	Official Term	Spot Third-Party	Spot	Tax Paid Cost	Tax Paid Cost	Posted	Abadan	Kharg Is.
1958	1.85	n.a.	n.a.	—	—	—	—	n.a.	n.a.	1.56-1.86	—	n.a.	n.a.	n.a.	n.a.		1.85	1.80	
1959	1.68	n.a.	n.a.	—	—	—	—	n.a.	n.a.	1.47-1.59	—	n.a.	n.a.	n.a.	n.a.				
Jan.	1.85																1.85	1.80	
Feb. 13	1.67																1.67	1.62	
1960	1.63		—	—	—	—	—	31.5	1.55*[1]	1.24	—	1.64	1.46	n.a.					
Jan.	1.67									1.47-1.28							1.64		
July		1.67								1.45							1.67	1.62	
Aug. 1																			1.67
Aug. 9	1.59	1.59								1.24-1.47							1.59	1.56	
Aug. 16																			1.63
Sept. 14																		1.58	
1961	1.59	1.47	—	—	—	—	—	31.4	0.71*[2]	1.34-1.59	1.26	1.59	1.41	n.a.	n.a.		1.59	1.58	1.63
1962	1.59	1.47	—	—	—	—	—			1.29-1.43	—	1.59	1.38	n.a.	n.a.		1.59	1.58	1.63
1963	—	1.47	1.51	—	—	—	—			1.16-1.44	1.42-1.48	1.59	1.35	n.a.	n.a.		1.59	1.58	1.63
1964	—	1.47	1.51	—	—	—	—			1.24-1.45	1.35-1.48	1.59	1.33	n.a.	n.a.		1.59	1.58	1.63
1965	—	1.34	1.34	—	—	—	—			1.06-1.45	1.23-1.47	1.45	1.31	n.a.	n.a.		1.59	1.58	1.63
1966	—	1.34	1.34	n.a.	n.a.	n.a.	n.a.			1.17-1.43	1.30-1.44	1.38	1.28	n.a.	n.a.		1.59		1.63
1967	—	1.34	1.34	n.a.	n.a.	n.a.	n.a.			1.05-1.40	1.28-1.44	1.35	1.27	n.a.	n.a.	0.91	1.59		1.63
1968	—	1.26	1.31	31.0	1.20*, 1.30*	31.0	1.30*			1.15-1.37	1.20-1.38	1.32	1.24	1.25-1.27	0.88	0.92	1.59		1.63
1969	—	1.26	1.31	31.0	1.20*	31.0	1.24	30.9	0.93*[2]	1.15-1.20	1.20-1.23	1.30	1.20	1.23-1.27	0.89	0.94	1.59		1.63

TABLE F-10 (cont'd)

DATE	GULF		BP				PETROFINA		Nfld. Ref. Co.	Term Third-Party Price Range		Kuwait 31°		Kuwait 31°	Iran H.	Kuwait 31°	Iran Heavy 31°
	Kuwait 31°	Iran Heavy 31°	Kuwait API	Kuwait Price	Iran Heavy API	Iran Heavy Price	Kuwait[1]/Iran Heavy[2] API	Price	Kuwait 31°	Kuwait	Iran Heavy	Official Term	Spot Third-Party	Tax Paid Cost	Tax Paid Cost	Posted	Posted Kharg Is.
1970	1.30	—	31.0	1.20	31.0	1.24	30.6	0.88*[2]		1.15-1.34	1.20-1.25	1.30	1.15				
Jan.	1.26			1.20		1.24				1.15-1.34	n.a.			0.886	0.94	1.59	1.63
April									1.21	"	n.a.						
Nov. 14	1.35								1.342	1.34	1.20-1.25			1.018	1.06	1.68	1.72
1971	—						—	—		1.34-1.68		1.68	1.61				
Jan.		1.43	31.0	1.32	31.0	1.36			1.342	1.34		1.68	1.59	1.018	1.06	1.68	1.72
Feb. 15		1.71		1.596		1.647			1.615	1.62				1.291	1.28	2.085	2.125
March																	
June		1.77		1.661		1.712			1.677	1.68				1.353	1.34	2.187	2.228
July									1.682	1.68		1.68	1.62				
Aug.																	
Sept. 10				1.663													
Oct.																	
Nov.																	
Dec.																	
1972	1.76		31.0		31.0		—	—		1.68-1.80	n.a.	1.80	1.71			2.37	
Jan. 1	1.68	1.77		1.663		1.712			1.682	1.68		1.80	1.65	1.353	1.34	2.187	2.228
Jan. 20	1.773	1.885		1.773		1.872			1.795	1.80				1.466	1.52	2.373	2.417
March																	
June		1.83										1.80	1.77				
July		"							1.80	1.80							
Nov.		"															

TABLE F-10 (cont'd)

	GULF				IRVING				PETROFINA			TEXACO								
	Iranian Heavy/Arab Medium[3]				Iranian Heavy Saint John		Iranian Heavy Offshore		Iranian Heavy/ Arab Medium[3]			Iranian Heavy 31°		US DOE Third-Party Representative Price			Kuwait 31°		Kuwait	Iran H.
	Gulf Co.		Total																	Posted
Date	API	Price	Leonard	PCB	API	Price	50%	100%	API	Price	PCB	API	Price	Kuwait 31°	Arab Med. 31°	Iran Heavy 31°	Official Term	Spot third-Party	31° Posted	Kharg Is.
1973			—	—	n.a.	2.10*	1.564*	1.03*	30.6	2.58*	—	—	—				2.04	2.07	3.12	
Jan.	31.0	1.99															1.97	1.94	2.48	2.53
Feb.		"																		
March		"																		
April	31.0	2.09															2.10	2.20	2.63	2.67
May		"																		
June																			2.78	2.83
July	31.1	2.21															2.40	2.55	2.83	2.88
Aug.	31.2	2.28																	2.94	2.99
Sept.	"	"																		
Oct. 1	"	"												3.78	n.a.	n.a.	3.50	3.90*	2.88	2.94
Oct. 16		"													n.a.	n.a.			4.90	4.99
Nov.	31.3	3.62												3.78	n.a.	n.a.			4.96	5.05
Dec.														3.70	n.a.	n.a.			4.82	5.01

	Company		PCB					Company		PCB							OGSP	OGSP
1974					n.a.	9.88*	9.22*	8.55*	31.2	9.46*	9.63*[3]	API	PCB				9.44	10.25		
Jan.	31.0	9.57	10.13	9.81					"	9.01*	9.61			9.55	n.a.	n.a.	8.57	11.00*	10.852	10.937
Feb.	"	"	"	9.69					31.0	"	"			9.70	n.a.	n.a.				
March	"	"	"	9.75					"	"	"	31.0	10.49	"	n.a.	n.a.				
April	"	"	"						31.1	"	"			9.75	n.a.	n.a.	9.51	10.00		
May	"	"	"	9.73	—	—	—	—						10.00	n.a.	n.a.				
June	30.9	9.71	10.21	9.75	31.0	9.81	9.15	8.49	30.8	9.01*	9.61			"	n.a.	n.a.			10.95	11.035
July	30.8	9.78		9.72	31.1	9.87	9.20	8.54	30.4	9.09*[3]	9.69[3]			9.75	n.a.	n.a.	9.51	9.80		
		9.70,[3]		9.69,[3]																
Aug.	30.9	9.78	10.36	9.91	—	—	—	—	30.7	9.15*	9.75			9.94	n.a.	n.a.				
Sept.	"	9.78		9.72	32.0	9.85	9.19	8.52						9.95	n.a.	n.a.				
Oct.	"	10.24[3]		10.02[3]	—	—	—	—						10.16	10.19	10.33	10.17	10.20	10.737	10.821
Nov.	"		11.37	11.22	—	—	—	—	31.0	10.07*	10.67			10.46	10.37	10.50			10.365	10.449
				10.50,[3]																
Dec.	"		"	11.22	—	—	—	—	31.1	10.07*	10.67			10.46	10.39	10.54				

TABLE F-10 (cont'd)

	GULF						ULTRAMAR			PETROFINA						OGSP				
	Iranian Heavy			Kuwait/ Arabian Medium[3]			Iranian Heavy			Iranian Heavy			US DOE Third-Party Representative Price			Kuwait 31°				
	Company			Company			PCB			Company										
Date	API	Price	PCB	API	Price	PCB	API	Price	Price	API	Price	PCB	Kuwait 31°	Arab Medium 31°	Iran H 31°	Official Term	Spot Third-Party	Kuwait 31°	Iranian Heavy 31°	Arab Medium 31°
1975																10.37	10.35			
Jan.				30.3	10.38*	10.37[3]				31.1	10.14*	10.45	10.33	10.38	10.46	10.37	10.35	10.365	10.449	10.380
Feb.	31.1	10.46*	10.46	31.3		10.39							10.34	10.39	"					
March	31.0		"	31.2		10.39							"	10.45	10.45					
April	30.9		"										10.37	10.38	"	10.37	10.35			
May	30.8		"										"	10.44	10.44					
June	30.9		"	30.8		10.38	30.7		10.45				n.a.	10.38	10.45					
July	32.0		10.53										"	10.35	10.42	10.37	10.35			
Aug.													"	"	"					
Sept.	30.9		10.46										"	10.36	"					
Oct.	30.8		n.a.	31.0		10.38							"	11.29	11.41	10.37	10.35	11.30	11.495	11.331
Nov.							30.8		n.a.				"	"	11.45					
Dec.										31.3	11.16*	11.47	"	11.30	11.45					
1976					—	—		(Kuwait) PCB	Iranian Heavy PCB				n.a.			11.26	11.25			
Jan.							31.0	11.53	11.72				"	11.33	11.41	11.30	11.18	11.30	11.495	11.331
Feb.							31.2	(31.4°)	11.65	31.1	n.a.	11.47	"	"	11.36				11.400	
March							31.3		11.62				"	11.30	"					
April													"	11.33	11.35	11.30	11.18			
May										31.0	n.a.	11.40	"	11.31	11.34					
June							30.7	11.51	11.54	30.6	n.a.	11.32	"	11.28	11.30			11.23	11.330	11.280
July								(30.8°)					"	"	11.28	11.23	11.25			
Aug.													"	11.25	11.25					
Sept.	30.8		11.29										"	11.24	11.30					
Oct.	31.0		11.30										"	11.29	"	11.23	11.40			
Nov.	30.9		"										"	11.28	"					
Dec.	31.1		11.41										"	"	11.32					

TABLE F-10 (cont'd)

	GULF				TEXACO		ULTRAMAR					
	Iranian Heavy		Kuwait		Arabian Medium		Iranian Heavy		Kuwait 31°		Official Gov't Selling Price	
Date	API	PCB	API	PCB	API	PCB	API	PCB	Official Adjusted Price	Spot Third-Party	Kuwait 31°	Iran Heavy 31°	Arab Medium 31°
1977									12.37	12.23	12.37	12.49	11.690
Jan.	31.6	12.48			—	—	31.4	12.50	"	12.30			
Feb.									"				
March	31.0	12.47							"				
April	31.2	12.47							"	12.30			
May	30.8	n.a.							"				
June	30.9	12.46					31.1	12.49	"				
July									"	12.20			12.320
Aug.									"				
Sept.	30.7	12.46	31.2	12.28			30.9	12.49	"				
Oct.	30.9	12.46	31.2	12.28			30.8	n.a.	"	12.12			
Nov.	30.7	12.47							"				
Dec.	31.1	12.47					30.8	12.50	"				
1978									12.27	12.26			
Jan.	31.0	12.46*					31.1	12.51	"	12.10	12.27	12.49	12.323
Feb.	31.4	12.47							"				
March	31.1	12.47					31.1	12.48	"				
April	31.1	12.47							"	12.07	12.22		
May	30.9	12.46							"				
June	30.9	12.46					31.0	12.50	"				
July									"	12.13			
Aug.					30.5	12.31			"				
Sept.							30.6	12.48	"				
Oct.							31.0	12.49	"	12.75			
Nov.							30.9	12.49	"				
Dec.									"				

	GULF				TEXACO		PETROFINA		(BP) ULTRAMAR									
	Iranian Heavy		Kuwait		Arabian Medium		Kuwait		Iranian Heavy		Arabian Medium		Kuwait 31°		DOE Third-Party Representative Price		Official Gov't Selling Prices		
													Official Adjusted	Spot Third-	Arab Medium	Kuwait	Kuwait	Iran Heavy	Arab Medium
Date	API	PCB	API	PCB	API	PCB	API	PCB	API	PCB	API	PCB	Price	Party	31°	31°	31°	31°	31°
1979																			
Jan.			31.1	12.86									13.08	16.90	13.03	12.79	12.83	13.060	12.886
Feb.			33.0	12.85											13.08	12.77	14.03*		
March															13.04	13.96			
April	31.3	16.07							31.5	16.06			16.29	25.70	14.05	15.72	15.80	16.040	14.052
May	31.1	16.06	31.5	15.82											"	16.27	16.40*	16.640*	
June			31.2	19.01	30.5	17.53									17.54	19.00	19.00**	17.740	17.547
July	30.0	19.93					31.1	19.56	31.1	19.91	30.1	17.53	18.96	29.80	17.55	19.49	19.49	19.900	
Aug.															17.54	"			
Sept.	30.7	20.25	31.0	19.66	30.2	17.56	31.0	20.35	(30.4)	(20.30)					17.45	"			
Oct.	30.8	23.01											23.32	34.50	17.44	29.84	21.43	22.980	
Nov.	31.1	23.01			31.1	23.55									23.54	25.50	25.50		23.547
Dec.					31.3	23.52									23.55	25.50		27.98	

									Irving-Arab Medium										
									Saint John		Offshore								
1980	—	—				—	—		API	Price					n.a.	n.a.			
Jan.			31.6	27.53									27.90	33.75			27.50	29.64	25.454
Feb.					31.6	25.46													
March			31.4	27.52	31.5	25.47													
April			31.1	27.51									29.22	33.88				34.37	27.454
May					30.5	27.44											29.50		
June			31.1	29.51	31.0	27.43													
July													30.81	32.08			31.50		
Aug.																			29.454
Sept.																			
Oct.																			
Nov.			32.2	31.70	30.9	31.45			31.1	31.49	n.a.								31.454
Dec.					30.9	31.45													

TABLE F-10 (cont'd)

	GULF		TEXACO		IRVING			PETROFINA				
					Arab Medium					Official Govt't Selling Prices		
	Kuwait		Arab Medium		Saint John		Offshore	Arab Medium		Kuwait	Iran Heavy	Arab Medium
Date	API	PCB	API	PCB	API	Price		API	PCB	31°	31°	31°
1981												
Jan.					—	—	—			35.50	36.00	31.454
Feb.			31.0	31.45	"	"	"					
March	30.9	35.56			"	"	"					
April					"	"	"					
May					"	"	"					
June	30.8	35.57			"	"	"					
July			31.0	31.45	"	"	"					
Aug.					"	"	"	30.2	31.16			
Sept.					"	"	"					
Oct.					"	"	"					33.00
Nov.					"	"	"			33.00	33.40	
Dec.			31.3	33.01	30.9	32.99	n.a.					
1982	—	—	—	—	n.a.	n.a.	n.a.	—	—			
Jan.	"	"	"	"	"	"	"	"	"	32.30	32.30	32.40
Feb.	"	"	"	"	"	"	"	"	"		31.30*	
March	"	"	"	"	"	"	"	"	"		30.30*	
April	"	"	"	"	"	"	"	"	"		28.30*	
May	"	"	"	"	"	"	"	"	"			
June	n.a.	n.a.	n.a.	n.a.	"	"	"	n.a.	n.a.			
July	"	"	"	"	"	"	"	"	"	32.30	29.30	32.40
Aug.	"	"	"	"	"	"	"	"	"			
Sept.	"	"	"	"	"	"	"	"	"			
Oct.	"	"	"	"	"	"	"	"	"			
Nov.	"	"	"	"	"	"	"	"	"			
Dec.	"	"	"	"	"	"	"	"	"			

Notes to Table F-10 on Comparative FOB Costs of Imported Kuwait, Iranian Heavy and Arabian Medium (31 — 31.9° API) Crude Oils, 1958 — 1982

General Notes:

1,2,3. Data for Kuwait, Iranian Heavy and Arabian Medium crude oil are identified in the body of the table by the numbers 1, 2 and 3, respectively whenever more than one of these crude oils is listed in any column. The Kuwait and Arabian Medium crude oils are less valuable than Iranian Heavy crude oil because of their relatively higher sulphur content (2.5 and 2.4 versus 1.66 per cent). Until late 1973, Iranian Heavy generally was priced four to five cents higher. After late 1973, the differentials widened and varied considerably. Both Kuwait and Arabian Medium were posted at the same price until 1974 when a differential of 2 to 5 cents in favour of Arabian Medium developed between their respective Official Government Selling Prices. From early 1979 to October 1981 Kuwait was priced significantly higher than Arabian Medium. Thereafter a premium of 10 cents in favour of Arabian Medium was observed.

Column Notes:

1. *Shell*: For 1958 to 1962, Shell's contract price was set at the posted price; the annual prices represent the average annual price paid for imported crude per year.

2. *Gulf*: (a) *Kuwait*: Contract prices are shown for 1960, 1961 and 1964 (irrespective of I-353 which only reported the prices shown for 1962 and 1965) because I-360, tab 1, shows imports occurred in those years. The contract price in 1960 was the posted price (see I-16E, #19). In 1961 to 1967, it was the posted price minus 12¢. The 1968 to 1970 prices are based on information in I-357, tab 3, pp. 65544 and 65448 which showed that the discount off posted price was 33¢ during that period. The average annual price for 1970 is from I-16E. The 1972 prices are from I-361, tab 8, p. 63004. Prices reported by the PCB are shown in 1975, 1977 and 1979 to 1981. (b) *Iranian Heavy*: The contract price for 1964 (at posted price Kharg Island minus 12¢) is shown because of I-360, tab 1 information on imports. The 1963 and 1965 prices are found in I-353. The 1966 to 1967 prices are based on the contract price of 31° posted minus 12¢ rather than the I-16E prices of imports at varying API levels within each year. The 1968 to 1969 prices, as in the case of Kuwait above, are based on information in I-357, tab 3, pp. 65544 and 65448 which indicated that the contract price was 32¢ off the posted 31° price. The 1971 to January 1972 prices are from I-380, tabs 18, 23, 26 and 35. The June to November price is an average price for that period from I-16E. It reflects an arrangement (see I-361, tab 8, p. 62997) whereby mixed cargoes of Kuwait and Iranian Heavy were to be priced as if the proportion of Kuwait in the blend was a minimum 25 per cent. (At the prices in effect on January 20, 1972, the weighted average price would be $1.857). The price of $1.83 reported indicates that the proportion of Kuwait in the blend was about 50 per cent. The January and April 1973 prices, are from I-355, tab 10, p. 63740. The remaining 1973 and the 1974 prices are from I-16E. The Total Leonard prices shown for 1974 were part of a swap arrangement whereby Gulf Canada purchased Iranian Heavy while Total Leonard purchased Canadian crude oil from Gulf Canada (see I-380, tabs 44 and 45). The prices reported by the PCB also are shown for 1974 and 1975 to 1979. The *asterisked* figures for 1975 and for January 1978 are contract prices from I-380, tabs 50 and 62. (c) *Arabian Medium*: Two sets of prices are shown in 1974. The first set for August and October are from I-16E and were for imports at 30.3° and 30.9° API. The second set are prices reported by the PCB in August, October and December for imports at 30.3°, 30.9° and 30.5° API. The January 1975 price was also reported by the PCB for imports at 30.3° API.

Column Notes:

3. *BP*: The figures shown for 1968 were taken from I-293, p. 11176 which contains estimates of the Kuwait and Iranian Heavy prices based on BP Trading's tender prices in February of $1.20 and $1.30, respectively. The price of $1.30 also shown for Kuwait in 1968 was taken from Book 22, Tab 481, p. 9322 (see International Sector, B Documents filed by the Director) which contains an estimate of CIF and FOB prices dated July 11, 1968, from which freight costs of 60¢ were derived. The CIF values for Kuwait and Iranian Heavy in Table 11 were calculated using this freight cost figure. The 1969 to February 14, 1971 prices for both Kuwait and Iranian Heavy are contract prices for 31.0 to 31.9° API ranges as reported in I-289, tab 4. On February 15, 1971, the contract API ranges and prices changed to 30.3° to 31.2° for Iranian Heavy and 31.4° to 32.3° for Kuwait, the Kuwait range subsequently changed to 31.2° to 32.1° on September 10, 1971. The prices shown for February 15, 1971 onwards were converted to 31° using 1¢ per API degree used by BP. This conversion was carried out for variations of tenths of a degree off the standard 31° API level for both crude oils, even though the BP contract price sheets only called for changes in price when the variations in API levels were one full degree or more from the contract API range points in order to standardize adjustments across companies. The August 1979 price was reported by the PCB and is shown in parentheses under the Ultramar column.

4. *Petrofina*: The *asterisked* figures shown for 1960, 1961, 1969, 1970 and 1973 to 1975 are Canadian purchase or import prices (or monthly PCB prices for 1974 to 1975) net of the Pannac (i.e., offshore subsidiary) Dividend Per Barrel. Two sets of monthly PCB figures are shown for 1974 and 1975 because of Petrofina's assertion in Exhibit I-324, Tab 8, p. 194880 that it reported net offshore prices under the Oil Import Compensation Program. It is unclear, however, whether Petrofina discontinued this practice in late 1974 or 1975 at the urging of the Energy Supplies Allocation Board which was administering the Program (see Exhibit I-324, Tab 8, p. 194880). Accordingly, both sets of prices — adjusted (the first set) and unadjusted (the second set) — are reported.

5. *Term Third-Party Price Range*: The figures shown represent the minimum and maximum prices reported in surveys conducted by Adelman (see Exhibit I-51A, Tab 11-4 and pp. 186, 417-421 of *The World Petroleum Market*) and Newton (see Exhibit I-51A, Tab 11-5). The Adelman price data for Kuwait had been standardized with Iranian Heavy by adding 5¢ to allow for the sulphur content differential. The process was reversed to generate the price data used in this table. The Adelman data were corrected for rounding errors whenever stated discounts off posted prices were indicated. The lowest Kuwait prices for 1960 and 1963 were not used because of the reasons cited by Adelman in *W.P.M.*, pp. 386 to 387. The Blair data reported for Kuwait 24° to 26° prices on p. 75 of the Newton exhibit were not used. However a price for Kuwait ($1.15) reported by Shell to the U.S. Government for December 1968 was used because it was for long term contracts involving large purchases (see p. 173 of Newton exhibit reference). The 1966 to 1967 prices ($1.18 to $1.23) quoted by Adelman for Iranian Heavy (page 186) were not used as these are obviously based on the prices of other crude oils, that is, they are price equivalents not actual prices. For 1970 to 1972, the prices calculated for the Newfoundland Refining Company contract with BP Trading are also used.

6. *Official Term/Official Adjusted Price/Official Government Selling Price (OGSP)*: Official term prices represent the long term contract prices under which the bulk of crude oil was sold until 1975 when producing country governments began to sell significant quantities of their nationalized crude oil at official government selling prices. From 1975 onwards, official adjusted price figures include any discounts or premiums concerning official government selling prices which were applicable to all buyers. The Iranian Heavy OGSP figure for May 1979 is actually for May 15. The Kuwait OGSP figures for February and May 1979 are for February 20 and May 15. The Kuwait June 1979 figure consists of the reported OGSP price plus the $2.60 surcharge imposed for that month. The Iranian heavy OGSP figures shown for February to March 1982 are actually for February 5, 12 and 21.

Notes to Table F-10 on Comparative FOB Costs of Imported Kuwait, Iranian Heavy and Arabian Medium (31 – 31.9° API) Crude Oils, 1958 – 1982 (cont'd)

Column Notes:

7. *Spot Third-Party Prices*: The spot prices are for single cargo purchases and were taken from I-18 and I-23 for Kuwait and from Adelman (*W.P.M.*, pp. 417 to 421) for Iranian Heavy. The *asterisked* prices for Kuwait in the fourth quarter of 1973 and the first quarter of 1974 were reported to have been only observed for a very small number of transactions.

8. *Iranian Heavy Posted Price*: Two sets of figures are shown until 1965 when Kharg Island took over as the main export terminal from Abadan.

9. *Newfoundland Refining Company*: The Kuwait prices shown for 1970 to 1972 reflect the April, 1970 market price of $1.21 negotiated with B.P. Trading (see Exhibit I-299); with escalations based on tax paid cost increases, as well as, increases of 0.5 cents every July 1st commencing in 1971. The 1973 and 1974 prices are not shown because it was not possible to obtain information on the effect which partial nationalization (i.e. participation) would have had on these contract prices.

10. *Irving*: The Iranian Heavy annual (*asterisked*) Saint John or Canadian import prices for 1973 and 1974 are from Exhibit I-394 while the monthly 1974 Iranian Heavy prices and the 1980/1981 Arabian Medium prices are from Exhibits I-265, I-266, I-267 and I-268. Net offshore 100% and 50% prices were calculated for 1973 and 1974 by deducting the net income (or half the net income) per barrel of the offshore subsidiary (Bomag-Irveal). See Appendix E for further details. No net offshore prices were calculated for 1980/1981 because net income per barrel figures were not available.

11. *US DOE Third-Party Representative Price*: The representative price was defined by the United States Department of Energy (DOE) as being the lowest price at which fifty per cent (by volume) of arm's length transactions took place. That is the weighted median price. For October 1973 to September 1975, the representative price figure for Kuwait is an estimate based on the DOE maximum price minus 10¢ per barrel. Because of the definition of the maximum price (see note to Table 3) these estimates provide the maximum value that the representative price would have been in those months.

TABLE F-11

Comparative Delivered (CIF) Costs of Imported Kuwait,[1] Iranian Heavy[2] and Arabian Medium[3] (31° — 31.9° API) Crude Oils, 1958 — 1982
(U.S. $ per barrel, Portland, Unless Otherwise Specified)

DATE	SHELL	GULF		BP				PETROFINA		THIRD-PARTY PRICE RANGES			
										Term		Spot	
	Kuwait 31°	Kuwait 31°	Iran Heavy 31°	Kuwait API	Kuwait Price	Iran Heavy API	Iran Heavy Price	Kuwait[1] API	/Iran Heavy[2] Price	Kuwait 31°	Iranian Heavy 31°	Kuwait 31°	Iranian Heavy 31°
1958	2.84	n.a.	n.a.	—	—	—	—	n.a.	n.a.	2.48-2.78*	n.a.	n.a.	
1959	2.66*	n.a.	n.a.	—	—	—	—	n.a.	n.a.	2.39-2.51	n.a.	n.a.	
Jan.	2.83												
Feb. 13	2.65												
1960	2.61*	2.54	—	—	—	—	—	31.5	2.33*[1]	1.93-2.17	n.a.	2.16	n.a.
Jan.	2.65									1.98-2.15			
July										1.93-2.17			
Aug. 9	2.57												
Sept 14													
1961	2.57	2.40*	—	—	—	—	—	31.4	1.55*[2]	2.04-2.29	1.95	2.08	n.a.
1962	2.57	2.40	—	—	—	—	—			1.96-2.10	n.a.	2.13	n.a.
1963	—	2.23	2.59	—	—	—	—			1.83-2.15	2.09-2.19	2.17-2.24	n.a.
1964	—	2.22	2.57	—	—	—	—			1.82-2.03	1.93-2.06	2.14	n.a.
1965	—	1.99	2.08	—	—	—	—			1.64-2.15	1.81-2.17	2.07	n.a.

TABLE F-11 (cont'd)

DATE	SHELL	GULF		BP				PETROFINA		THIRD-PARTY PRICE RANGES			
										Term		Spot	
	Kuwait 31°	Kuwait 31°	Iran Heavy 31°	Kuwait API	Kuwait Price	Iran Heavy API	Iran Heavy Price	Kuwait[1] API	/Iran Heavy[2] Price	Kuwait 31°	Iranian Heavy 31°	Kuwait 31°	Iranian Heavy 31°
1966	—	1.99	1.99	n.a.	n.a.	31.0	1.92			1.74-2.13	1.87-2.14	1.96	n.a.
1967												2.61-2.79	
Jan.	—	1.98	2.14	n.a.	n.a.	n.a.	n.a.			1.59-2.13	1.83-2.17	1.90	n.a.
July										1.91-2.28	2.14-2.32	3.68	n.a.
1968	—	1.92	1.97	31.0	1.80*, 1.90*	31.0	1.90*			1.67-2.14	1.73-2.15	2.53-2.55	2.55-2.56
1969	—	1.99	2.12	31.0	1.87*	31.0	1.90	30.9	1.96*[2]	1.77-1.92	1.82-1.95	2.22-2.53	2.25-2.60

TABLE F-11 (cont'd)

DATE	BP				GULF				PETROFINA		THIRD-PARTY PRICE RANGES			
					Kuwait 31°		Iranian Heavy 31°				Term		Spot	
	Kuwait API	Kuwait Price	Iran Heavy API	Iran Heavy Price	Portland	Pt. Tupper	Portland	Pt. Tupper	Kuwait[1]/ API	Iran H.[2] Price	Kuwait	Iran Heavy	Kuwait	Iran Heavy
1970	31.0	1.87	31.0	1.90	2.21	—	—	—	30.6	1.95*[2]	2.43-2.62		3.57-3.59	n.a.
Jan.		1.87		1.90	2.17						1.84-2.15	n.a.	2.76	
April												n.a.		
June													4.18	
July											2.64-2.98	2.50-2.89		
Nov. 14					2.26									
1971					—	—	—	2.38	—	—	2.58-2.92	n.a.	2.82	n.a.
Jan.	31.0	2.36	31.0	2.40				2.04			2.81-3.09		3.07	
Feb. 14		2.636		2.687				2.32						
				2.752										
March														
June		2.701						2.38						
July											2.74		2.56	
Aug.														
Sept. 10		2.703												
Nov.														
Dec.														
1972	31.0		31.0		2.59(2.54)	2.41		2.48	—	—	2.65-2.77	n.a.	2.78	n.a.
Jan. 1		2.703		2.752	2.51(2.44)	2.31	2.60(2.53)	2.40			2.65-2.76		2.46	
Jan. 20		2.813		2.852	2.61(2.54)	2.41	2.72(2.65)	2.52						
Feb. 15					(2.56)	2.43	(2.67)	2.54						
March							2.66(2.62)	2.49						
June														
July											2.78	3.10		
Nov.														

TABLE F-11 (cont'd)

	TEXACO		GULF				IRVING				PETROFINA						
	Iranian Heavy		Iranian Heavy/Arab Medium[3]				Iranian Heavy				Iranian Heavy/Arab Medium[3]			THIRD-PARTY PRICE RANGES 31[a]			
			Gulf Co.		Total		Saint John		Offshore		Company			Term			Spot
Date	API	PCB	API	Price	Leonard	PCB	API	Price	50%	100%	API	Price	PCB	Kuwait	Iran Heavy	Arab Medium	Kuwait
1973					—	—	n.a.	3.10	2.56	2.03	30.6	4.28*	—		n.a.	n.a.	5.20
Jan.			31.0	2.70													
Feb.				"										n.a.			5.07
March				"													
April			31.0	2.80													
May				"													5.33
June																	
July			31.1	2.94													
Aug.			31.2	3.01													5.69
Sept.			"	"													
Oct. 1			"	"													
Oct. 16				"										5.51			7.05
Nov.			31.3	4.35													
Dec.														5.51			
														5.43			
1974							n.a.	11.89	11.23	10.56	31.2	11.10*	11.18*[3]				12.40
Jan.			31.0	10.71	11.27	10.87					"	10.73	11.33	11.55	n.a.	n.a.	
Feb.			"	"	"	10.77					31.0	10.54	11.14	11.70			13.15
March	31.0	13.37	"	"	"	10.81					"	10.51	11.11	11.70			
April			"	"	"						31.1	10.52	11.12	11.75			
May			"	"	"	10.88	—	—	—				—	12.00			12.14
June			30.9	10.85	11.35	10.89	31.0	11.84	11.18	10.51	30.8	10.51	11.11	12.00			
July			30.8	10.92		10.88	31.1	11.91	11.25	10.59	30.4	10.46*[3]	11.06*[3]	11.75			
				10.84[3]		10.82,[3]											11.94
Aug.			30.9	10.92	11.50	11.03	—	—	—		30.7	10.55	11.15	11.94			
Sept.			"	10.92		10.82	32.0	11.84	11.18	10.51				11.95			
Oct.			"	11.38[3]		11.12[3]	—	—	—					12.16	12.34	12.19	12.35
Nov.			"		12.51	12.28	—	—	—		31.0	11.42	12.02	12.47	12.51	12.38	
						11.60,[3]											
Dec.			"		"	12.32	—	—	—		31.1	11.44	12.04	12.47	12.55	12.40	

TABLE F-11 (cont'd)

	GULF				ULTRAMAR		PETROFINA									
	Iranian Heavy		Kuwait/[3] Arabian Medium		Iranian Heavy		Iranian Heavy			Third-Party Price Range 31°						
										Term			Spot			
Date	API	PCB	API	PCB	API	PCB	API	Price	PCB	Kuwait	Arab Medium	Iranian Heavy	Kuwait	Arab Medium	Iranian Heavy
1975										n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Jan.			30.3	11.49[3]			31.1	11.44*	11.75						
Feb.	31.1	11.60													
March	31.0	11.65	31.3	11.58											
April	30.9	11.66	31.2	11.59											
May	30.8	11.63													
June	30.9	11.65	30.8	11.57	30.7	12.38									
July	32.0	11.69													
Aug.															
Sept.	30.9	11.70	31.0	11.63											
Oct.	30.8	n.a.													
Nov.					30.8	n.a.									
Dec.							31.3	12.40*	12.71						
1976			—	—		(Kuwait) PCB	Iran H. PCB							12.30	n.a.	n.a.
Jan.					31.0	13.23	13.46				n.a.	12.39	12.47	12.23		
Feb.					31.2	(31.4°)	13.32	31.1	n.a.	12.81		"	12.42			
March					31.3		13.31					12.36	"			
April												12.39	12.41	12.23		
May								31.0	n.a.	12.57		12.37	12.40			
June					30.7	13.21	13.23	30.6	n.a.	12.47		12.34	12.36			
July						(30.8°)						"	12.34	12.30		
Aug.												12.31	12.31			
Sept.	30.8	12.24										12.30	12.36			
Oct.	31.0	12.25										12.35	"	12.45		
Nov.	30.9	12.26										12.34	"			
Dec.	31.1	12.28										"	12.38			

TABLE F-11 (cont'd)

	GULF				TEXACO		ULTRAMAR							
									Third-Party Price Range 31°					
	Iranian Heavy		Kuwait		Arabian Medium		Iranian Heavy		Term			Spot		
Date	API	PCB	API	PCB	API	PCB	API	PCB	Kuwait	Arab Medium	Iranian Heavy	Kuwait	Arab Medium	Iranian Heavy
1977					—	—	31.4	14.44				13.56	n.a.	n.a.
Jan.	31.6	13.37							13.72	13.04	13.84	13.64		
Feb.									"		"			
March	31.0	13.37							"		"			
April	31.2	13.43							"		"	13.64		
May	30.8	n.a.							"		"			
June	30.9	13.36					31.1	14.47	"		"			
July									"	13.67	"	13.53		
Aug.									"		"			
Sept.	30.7	13.36	31.2	13.21			30.9	14.47	"		"			
Oct.	30.9	13.37	31.2	13.21			30.8	n.a.	"		"	13.45		
Nov.	30.7	13.54*							"		"			
Dec.	31.1	13.56					30.8	14.40	"		"			
1978			—	—					n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Jan.							31.1	14.24						
Feb.	31.4	13.29												
March	31.1	13.29					31.1	14.29						
April	31.1	13.29												
May	30.9	13.28												
June	30.9	13.34					31.0	14.16						
July														
Aug.					30.5	13.65								
Sept.							30.6	14.12						
Oct.							31.0	14.13						
Nov.							30.9	14.36						
Dec.														

TABLE F-11 (cont'd)

	GULF				TEXACO		IRVING			PETROFINA		ULTRAMAR				BP
							Arabian Medium									
	Iranian Heavy		Kuwait		Arabian Medium		Saint John			Kuwait		Iranian Heavy		Arabian Medium		Iranian Heavy
Date	API	PCB	API	PCB	API	PCB	API	Price	Offshore	API	PCB	API	PCB	API	PCB	PCB
1979																30.4°
Jan.			31.1	13.77												
Feb.			33.0	13.77												
March																
April	31.3	17.06										31.5	17.80			
May	31.1	17.12	31.5	16.89												
June			31.2	20.28	30.5	19.27										
July	30.0	21.20								31.1	21.36	31.1	20.61	30.1	19.41	
Aug.																22.47
Sept.	30.7	21.52	31.0	20.93	30.2	19.30				31.0	21.38					
Oct.	30.8	24.31														
Nov.	31.1	24.39			31.1	25.13										
Dec.					31.3	26.21										
1980	—	—								—	—	—	—	—	—	
Jan.			31.6	28.97												
Feb.					31.6	27.48										
March			31.4	28.91	31.5	27.59										
April			31.1	28.90												
May					30.5	29.33										
June			31.1	31.14	31.0	29.37										
July																
Aug.																
Sept.																
Oct.																
Nov.			32.2	33.57	30.9	33.54	31.1	33.33	n.a.							
Dec.					30.9	33.76										

TABLE F-11 (cont'd)

	GULF		IRVING			TEXACO		PETROFINA	
			Arabian Medium						
	Kuwait		Saint John			Arabian Medium		Arabian Medium	
Date	API	PCB	API	Price	Offshore	API	PCB	API	PCB
1981			—	—	—				
Jan.			"	"	"				
Feb.			"	"	"	31.0	33.71		
March	30.9	37.83	"	"	"				
April			"	"	"				
May			"	"	"				
June	30.8	37.55	"	"	"				
July			"	"	"	31.0	33.64		
Aug.			"	"	"			30.2	33.14
Sept.			"	"	"				
Oct.			"	"	"				
Nov.			"	"	"				
Dec.			30.9	35.06	n.a.	31.3	34.93		
1982	—	—	n.a.	n.a.	n.a.	—	—	—	—
Jan.	"	"	"	"	"	"	"	"	"
Feb.	"	"	"	"	"	"	"	"	"
March	"	"	"	"	"	"	"	"	"
April	"	"	"	"	"	"	"	"	"
May	"	"	"	"	"	"	"	"	"
June	n.a.	n.a.	"	"	"	n.a.	n.a.	n.a.	n.a.
July	"	"	"	"	"	"	"	"	"
Aug.	"	"	"	"	"	"	"	"	"
Sept.	"	"	"	"	"	"	"	"	"
Oct.	"	"	"	"	"	"	"	"	"
Nov.	"	"	"	"	"	"	"	"	"
Dec.	"	"	"	"	"	"	"	"	"

Notes to Table F-11 on Comparative Delivered (CIF) Costs of Imported Kuwait, Iranian Heavy and Arabian Medium (31° — 31.9° API) Crude Oils, 1958-1982

General Notes:

1,2,3. Data for Kuwait, Iranian Heavy and Arabian Medium crude oil are identified in the body of the table by the numbers 1, 2 and 3, respectively whenever more than one of these crude oils is listed in any column.

The Kuwait and Arabian Medium crude oils are less valuable than Iranian Heavy crude oil because of their relatively higher sulphur content (2.5 and 2.4 versus 1.66 per cent). Until late 1973, Iranian Heavy generally was priced 4 to 5¢ higher. After late 1973, the differentials widened and varied considerably. Both Kuwait and Arabian Medium were posted at the same price until 1974 when a differential of 2 to 5¢ in favor of Arabian Medium developed between their respective Official Government Selling Prices. From early 1979 to October 1981 Kuwait was priced significantly higher than Arabian Medium. Thereafter a premium of 10¢ in favor of Arabian Medium was observed.

Column Notes:

1. *Shell:* For 1959 to 1962, the CIF figures shown are based on contract FOB prices which were set at the posted price and/or average annual prices found in I-16F plus the contract fee of 98¢ for ocean loss, transportation costs and insurance.

2. *Gulf:* (a) *Kuwait:* The 1960, 1962 to 1970 and 1972 average annual delivered prices are taken from the Green Book, Vol. III, p. 142 which shows CIF Montreal prices from which CIF Portland prices were derived by subtracting the pipeline fees shown in I-161. For 1961, the 1962 transportation costs were used to calculate CIF prices since the FOB prices were identical and imports were reported in I-360, tab 1. For 1966 to 1970, the sum of the FOB prices in Table 10 and the transportation costs reported in I-16E yield delivered prices slightly lower than those shown because they do not include an allowance for ocean loss. The January and November 1970 prices are based on FOB transportation cost totals to which 2¢ were added for ocean loss. The 1972 prices are for (i) shipments directly to Portland, (ii) shipments to Portland via Pt. Tupper (as shown in parentheses) and (iii) shipments to Pt. Tupper. The February 15th price increase reflects a pollution levy of 2.3¢ imposed at that time on Very Large Crude Oil Carriers (VLCC's) (see I-361, tab 1, p. 79857; tab 6, pp. 65320 to 65321 and tab 8 pp. 63002 and 63004). The average annual price for shipments to Portland is based on the average FOB price in I-16E and the implicit transportation costs found in I-361. The 1975, 1977 and 1979 to 1981 prices are those reported by the PCB. It is unclear whether these concern shipments to both Portland and Pt. Tupper or to only one of these landing ports. (b) Iranian Heavy: The 1963 to 1969 average annual prices are based on CIF Montreal prices reported in the Green Book, Vol. III, p. 142 from which pipeline fees have been deducted. The 1971 and 1972 average annual CIF Pt. Tupper prices also came from this source. As noted above for Kuwait, the combination of FOB prices from Table 10 and transportation costs reported in I-16E yields lower 1966 to 1969 CIF prices due to the exclusion of ocean loss costs. The 1971 prices are based on the FOB prices in Table 10 and the freight costs of 61.4¢ reported in the Green Book, Vol. III, p. 134. The 1972 prices are for (i) shipments directly to Portland, (ii) shipments to Portland via Pt. Tupper (as shown in parentheses) and (iii) shipments to Pt. Tupper. See explanation and sources cited for Kuwait above. The 1973 and 1974 prices are obtained by using the FOB prices in Table 10 and the freight costs of 73¢ and $1.14 as reported in the Green Book, Vol. III, p. 134. The 1974 prices also include the sum of FOB prices and freight costs reported by the PCB; other information reported by the PCB are shown for 1975 to 1979. It is unclear as to which port or ports the PCB data relate to. The November 1977 figure represents the CIF Portland price for a spot cargo (see I-380, tab 61). (c) Arabian Medium: For 1974, the first set of CIF prices use the FOB prices for August and October in Table 10 with the freight cost used for Iranian Heavy ($1.14). The second set of 1974 prices are those reported by the PCB. The 1975 price is from the PCB records.

3. *BP:* See note to Table 10. The 1966 price was taken from I-289, tab 2 which gave the CIF contract price for Iranian Heavy as 28¢ off the Qatar base price of $2.20 CIF.

4. *Petrofina:* The *asterisked* figures for 1960, 1961, 1969, 1970 and 1973 to 1975 are net of the Pannac (i.e., offshore subsidiary) dividend per barrel. Two sets of monthly PCB figures — adjusted and unadjusted — are shown for 1974 and 1975 because it is unclear when Petrofina discontinued its practice of reporting net offshore prices under the Oil Import Compensation Program (see Exhibit I-324, Tab 8 at page 194880). That is, the first set of PCB figures shown for these years have also been reduced by the Pannac dividend per barrel.

5. *Third-Party Price Ranges:* See Table 10 for the Term and Spot FOB price data used for 1958 to 1971. For the 1976 term prices, DOE representative prices were used. In 1977, the OGSP prices were used for the term prices. The Spot Price Range for 1968 and 1969 are based on spot FOB prices reported by Adelman in W.P.M. See Appendix E for the transportation costs used. Insurance, at 1 per cent of the delivered price was added.

6. *Irving:* See note on Table 10.

TABLE F-12

Comparative FOB Costs of Imported Venezuelan Light and Trinidadian (30.0 – 34.0° API)[1] Crude Oils, 1958 to 1982 (U.S. $ per barrel ex La Salina or equivalent ports)[2]

DATE	TEXACO			IMPERIAL OIL				SHELL				GULF		
	Mata 30°	Lago-medio (Lama) 32°	Guanipa (Trini-dad) 30°	Guanipa 30°	T.J. Light 31°	Ceuta 31°	Oficina 34° to 1963, Mesa 33° to 1971	Avg. Vene-zuelan 33°	Mesa 30°	Lago-treco 31°	Lagomar 32°	Ceuta 31°	Mesa 30° 1961 33° 1965	East Vene-zuelan 34°
1958	2.84		(2.63)	n.a.	2.77*	n.a.	2.98	2.76	—	—	—	n.a.	n.a.	3.24
Jan.	2.85	2.79	2.75											
Nov. 15	2.75													
1959	2.54		(2.38)		2.44*	n.a.		2.56	—	—	—	n.a.	n.a.	3.12
Jan.	2.75	2.73	2.75	2.60	2.62*		2.85							
Feb. 13	2.60			2.42	2.44*									
Apr. 4	2.50		2.50	2.42	2.44*									
July							2.45							
1960		2.44	(2.43)			n.a.		2.38	2.50	2.37	—	—	n.a.	3.12
Jan.	2.40			2.42	2.44*		2.38							
April				2.35	2.27*									
July							2.33							
Aug. 9				2.25	2.17*									
1961	2.40	2.44	(2.43)	2.25	2.17*	n.a.	2.33	2.10	2.50	2.37	—	2.30*	2.27	2.50
March			2.25											
April									2.17	2.11				
								30°						
1962	2.34	2.38				2.17	2.33	2.09	2.17	2.11		—	n.a.	
Jan.	2.40			2.25	2.17*									
April											2.11*			
May		2.44			2.17						2.06*			2.31
Aug.	2.25	2.29	2.25											

TABLE F-12 (cont'd)

DATE	TEXACO			IMPERIAL OIL				SHELL				GULF		
	Mata 30°	Lago-medio (Lama) 32°	Guanipa (Trini-dad) 30°	Guanipa 30°	T.J. Light 31°	Ceuta 31°	Oficina 34° to 1963, Mesa 33° to 1971	Avg. Vene-zuelan 33°	Mesa 30°	Lago-treco 31°	Lagomar 32°	Ceuta 31°	Mesa 30° 1961 33° 1965	East Vene-zuelan 34°
1963			—			2.17		2.09	2.17			—	n.a.	2.18
Jan.	2.25	2.29		2.23	2.15		2.33			2.11				
July							2.28							
Nov.							Mesa 33°		2.10	2.00	2.11,2.08*			
1964	2.23	2.23*	—	2.23	2.15	2.15	2.26	2.02	2.10	2.00	2.11,	—	n.a.	n.a.
July							2.16				2.08*			
		(2.23*)											Mesa 33°	
1965		2.19*	—				2.16	2.01	2.10	2.00	2.11,	—	2.33	—
Jan.	2.15			2.23	2.15	2.15					2.08*			
Feb.				2.15	2.10	2.10								
1966	2.15	2.19	—	2.15	2.10	2.10	2.16	2.01	2.10	2.00	2.11, 2.08*	—	n.a.	n.a.

TABLE F-12 (cont'd)

DATE	PETROFINA		ULTRAMAR		BP	SUN	Exxon Third-Party Price Range		Third-Party Price Range	
	Lago-medio (Mar Lago) 32°	T.J. Light 31° (Lama 32°)	Lago-medio (Mar Lago)	Mesa	Trini-dad Blend 30°	Alter-nate Value 32°	Non-Integrated Buyer		Lagomedio/Lagomar 32°	Oficina 34° to 1964, 33° 1965, 1966
							Guanipa 30°	T.J. Light 31°		
1958 Jan. Nov. 15	n.a.	n.a.	—	—	n.a.	n.a.	n.a.	n.a.	2.00*	n.a.
1959 Jan. Feb. 13 Apr. 4 July	n.a.	n.a.	—	—	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1960 Jan. April July Aug. 9	2.44	(2.51)	n.a.	n.a.	n.a.	n.a.	2.23-2.53	2.52	1.41-180*	2.75
1961 March April	1.70	(1.71) 2.19* 1.59	n.a.	n.a.	n.a.	n.a.	2.23	—	n.a.	2.49
1962 Jan. April May Aug.	1.81	(1.74)	n.a.	n.a.	n.a.	1.60	2.23	—	1.60-2.34	2.49
1963 Jan. July Nov.	1.83	—	n.a.	n.a.	n.a.	1.60	—	—	1.60-2.25	—

TABLE F-12 (cont'd)

DATE	PETROFINA		ULTRAMAR		BP	SUN	Exxon Third-Party Price Range		Third-Party Price Range	
	Lago-medio (Mar Lago) 32°	T.J. Light 31° (Lama 32°)	Lago-medio (Mar Lago)	Mesa	Trini-dad Blend 30°	Alter-nate Value 32°	Non-Integrated Buyer		Lagomedio/Lagomar 32°	Oficina 34° to 1964, 33° 1965, 1966
							Guanipa 30°	T.J. Light 31°		
1964 July	I.74 (1.79)	—	n.a.	n.a.	n.a.	1.63	—	2.10	I.60-2.54	1.73*
							Mesa 30°			33° API
1965 Jan. Feb.	I.75	1.75	n.a.	n.a.	n.a.	1.63	2.08	2.10	1.60-2.18	1.68*-2.31
1966	1.68	1.70	1.53	1.80	1.76	1.63	—	2.10	1.58-2.18	1.68*

TABLE F-12 (cont'd)

DATE	TEXACO			IMPERIAL OIL				SHELL				GULF	
	Mata 30°	Mesa 33°	Lago-medio 32°	Guanipa 30°	T.J. Light 31°	Ceuta 31°	Mesa 33° to 1971	Avg. Vene-zuelan 30°	Lago-treco 31°	Lagomar 32°	Ceuta 31°	Mesa 33°	East Vene-zuela 33°
1967										2.11,			1.88
Jan.	2.15	—	2.19	2.15	2.10	2.10	2.08	2.01	2.00	2.08*	2.01	—	
Apr.				2.03	2.02	1.96							
July										2.00			
Sept.													
1968	2.15	—	2.19	2.03	2.02	1.96	2.08	2.01	2.00	2.00	1.89	—	1.90
												1.87	1.88
1969	2.15*	2.21	2.19	2.03	2.02	1.96	2.08	2.01	2.00	2.00			
Jan.											1.78		
Aug.											1.83		
1970	n..a.*	1.94	n.a.*	2.01				2.01	2.00	2.00	1.82		—
Jan.				2.03	2.02	1.96	2.08						
March												1.93	
April				1.93	1.92	1.86							
June												1.86	
July													
Aug.													
Sept. 20				2.14	2.15	2.10							
Nov.							2.13						

TABLE F-12 (cont'd)

DATE	TEXACO				IMPERIAL OIL			SHELL				GULF	
	Mata 30°	Mesa 33°	Lago-medio 32°	Guanipa 30°	T.J. Light 31°	Ceuta 31°	Mesa 33° to 1971	Avg. Venezuelan 30°	Lago-treco 31°	Lagomar 32°	Ceuta 31°	Mesa 33°	East Venezuela 33°
1971	n.a.*	—	n.a.*	2.43				2.27				—	—
Jan.				2.14	2.15	2.10	2.13	2.01	2.00	2.00	2.00		
Feb.											2.22		
Mar.											2.22		
Mar. 16							2.53				2.54		
April				2.52	2.52	2.48					2.54		
June								2.34	2.35	2.33	2.54		
July								2.34	2.35	2.34	2.54		
Oct.								2.33	2.34	2.32	2.54		
Dec. 20											2.45		

TABLE F-12 (cont'd)

DATE	BP		ULTRAMAR		PETROFINA		SUN	EXXON THIRD-PARTY PRICE RANGE		THIRD-PARTY PRICE RANGE
								Non-Integrated Buyer		
	Trinidad Blend 30°	Mesa (Lagocinco) 33°	Lagomedio (Mar-Lago)	Misc.	Lagomedio (Mar-Lago) 32°	T.J. Light (Lagotreco) 31°	Alternate Value 32°	Guanipa 30°	T.J. Light 31°	Lagomedio/Lagomar 32°
1967	1.76	—	1.63	Mesa 1.63	1.68	1.66	1.63	—	1.60-2.10	1.63-1.64
Jan.										
Apr.				Lagotreco						
July										
Sept.			(1.55)	1.57						
1968	1.76	—	1.70 (1.55)	—	1.71	1.73	1.80	—	—	1.70-1.80
1969	1.76	1.75*	—	—	1.68	(1.69)	1.70	—	—	1.65-1.80
Jan.		(1.81*)								
Aug.										
1970	1.76		—	Lagotreco	1.65*	(1.45)	1.70	—	1.66	1.70-2.04
Jan.	Murphy	1.75								
March	Lagomedio	(1.81)		1.61*						
April										
June	1.75									
July	(1.63)			T.J.						
Aug.				Light						
Sept. 20				1.64						
Nov.		(1.79)								

DATE	BP		ULTRAMAR		PETROFINA		SUN	EXXON THIRD-PARTY PRICE RANGE		THIRD-PARTY PRICE RANGE
								Non-Integrated Buyer		
	Trinidad Blend 30°	Mesa (Lagocinco) 33°	Lagomedio (Mar-Lago)	Misc.	Lagomedio (Mar-Lago) 32°	T.J. Light (Lagotreco) 31°	Alternate Value 32°	Guanipa 30°	T.J. Light 31°	Lagomedio/Lagomar 32°
1971	—	1.83	—	—	1.68*	—	2.87	2.65-	—	
Jan.		(1.87)			(1.79)			2.66		1.70-2.04
Feb.										
Mar.										
Mar. 16										2.87*
April										
June										
July										
Oct.										
Dec. 20										

DATE	TEXACO		GULF			IMPERIAL OIL			SHELL		ULTRAMAR		PETROFINA		EXXON THIRD-PARTY PRICE RANGE	
															Non-Integrated Buyer	
	Mata 30°	Lagomedio 32°	Ceuta 31°	Mesa 32°	Lagotreco 31°	Guanipa 30°	T.J. Light 31°	Ceuta 31°	Lagotreco 31°	Lagomar 32°	Lagomedio (Mercedes)	Misc. (Trinidad)	Lagomedio (Mar-Lago) 32°	Trinidad 30°	Guanipa 30°	T.J. Light 31°
1972	n.a.*	n.a.*				2.72							(1.96)	2.36	2.83-	2.58-
Jan.			2.69	2.66*	2.69*	2.74	2.75	2.71	2.58	2.56		Centro			2.86	2.83
Feb.			2.69									Lago				
Mar.			2.69	2.65	2.69											
April			2.69	2.65*	2.69	2.71	2.65	2.65	2.56	2.54		(2.46)				
May			2.69	2.61	2.69							2.65				
June			2.69	2.51	2.65							2.68				
July			2.60						2.55	2.53	(2.57)	2.37				
Aug.			2.60	2.51	2.60							Lago-				
												cinco				
Sept.			2.60	2.51								2.63*				
Oct.			2.60								2.59*	(2.36)				
Nov.			2.60													
Dec.			2.60								(2.45)					

TABLE F-12 (cont'd)

DATE	SUN	TEXACO		IMPERIAL			SHELL		GULF			PETRO-FINA	EXXON THIRD-PARTY Price Range							
	Lago-mar 32°	Mata 30°	Lago-medio 32°	Guanipa 30°	T.J. Light 31°	Ceuta 31°	Lago-treco 31°	Lago-mar 32°	Ceuta 31°	Mesa 32°	Lago-treco* (Lago-medio) 32°	Mar-Lago 32°	Non-Integrated Buyers			DOE Third-Party Rep. Price	DOE Acq. Cost 32°	Tax Paid Cost Ceuta 30°	Tax Paid Cost T.J. Light 31°	Tax Paid Cost Lagomedio 32°
													T.J. Light 31°	Lago-medio 32°	Oficina 34°					
	Company	Company		Company			Company		Company											
1973	3.76	n.a.*	n.a.*									5.89	3.65-5.79	—	—					
Jan.	2.95			2.84	2.77	2.77	2.64	2.64	2.62				n.a.						2.305	
Feb. 1				n.a.	2.86	n.a.														
Feb. 19					2.91		2.68	2.69	2.66	2.60										
March				"	3.08	"	2.85	2.86	2.82				"						2.517	
April				3.29	3.20	3.22	2.80	2.81	2.90				"						2.594	
May				n.a.	"	n.a.							"							
June				"	3.35*	"	2.70*	2.71*					"							
July				"	3.35*	"	2.86*	2.88*	3.04				"						2.749	
Aug.				"	3.81	"	3.12	3.13	3.31				"						3.007	
Sept.	4.80			"	n.a.	"	3.33	3.34	3.52				"						3.203	
Oct. 1				"	"	"	3.43	3.44	3.79	3.78			"						3.493	
Oct. 16				"	"	"	4.80*	4.81*												
Nov.				"	"	"	5.04*	5.06*	5.17				"						5.09	5.457
Dec.				5.91	5.80	5.82	5.16	5.17	5.52				"						5.206	5.70

TABLE F-12 (cont'd)

DATE	SUN	TEXACO		IMPERIAL			SHELL		GULF			PETRO-FINA	EXXON THIRD-PARTY Price Range							
	Lago-mar 32°	Mata 30°	Lago-medio 32°	Guanipa 30°	T.J. Light 31°	Ceuta 31°	Lago-treco 31°	Lago-mar 32°	Ceuta 31°	Mesa 32°	Lago-treco* (Lago-medio) 32°	Mar-Lago 32°	Non-Integrated Buyers			DOE Third-Party Rep. Price	DOE Acq. Cost 32°	Tax Paid Cost Ceuta 30°	Tax Paid Cost T.J. Light 31°	Tax Paid Cost Lagomedio 32°
													T.J. Light 31°	Lago-medio 32°	Oficina 34°					
	Company	Company		Company			Company		Company											
1974	Company* PCB 12.20*	—	PCB							10.88	10.30*	—	EXXON 11.00	—	11.25		Lago-medio			
Jan.	13.41		11.14	9.89	9.62	9.64	9.29	9.30	10.16				SUN THIRD-PARTY				9.84	9.52	9.259	9.79
Feb.	"		11.86	10.31	10.04	10.06	9.74	9.75	10.37		10.51*			Lago-	Centro-		10.46	9.93	9.672	10.41
March	"		11.43						"					cinco 32°	lago 34°		"	9.93	"	"
April	13.40		11.20		10.13*				"		(10.50)			14.10			"	n.a.	"	"
May	12.74		11.29						"								"	"	"	"
June	12.54		11.12						"		(10.49)						"	"	"	"
July	11.94		11.07	10.68	10.41*	10.43	10.10	10.11	10.89		(10.82*)						10.80	10.27	10.01	10.79
Aug.	11.50			11.08	10.81*	10.83			"	10.87*					13.47-		"	"	"	"
Sept.			11.07				10.33	10.32	"						13.48		10.75	"	"	"
Oct.	11.21		11.38	11.18	10.96*	10.98	10.48	10.47	"							10.64	11.42	"	"	"
Nov.	11.25		11.08						"							10.67	"	"	"	"
Dec.	11.14		11.05						"							10.61	"	"	"	11.72

TABLE F-12 (cont'd)

DATE	TEXACO		GULF	IMPERIAL				SHELL			BP	SUN	EXXON						
	Lago-medio 32°	Ceuta	Mesa 32°	Ofi-cina 34°	Guanipa 30°	T.J. Light 31°	Ceuta 31°	Lago-treco	Lago-mar	Lago-medio 32°	Lago-treco 32°	Lago-mar 32°	Third-Party T.J. Light 31°	DOE Third-Party Rep. Price 34°	DOE Acq. Cost T.J. Light 31°	DOE Acq. Cost Lago-medio 32°	Tax Paid Cost Ceuta 30°	Tax Paid Cost 31°	Tax Paid Cost Lago-medio 32°
	PCB			Company															
1975		PCB	PCB	PCB				PCB	PCB	PCB	PCB	PBC	11.10-11.30						
Jan.	11.41	11.26		11.70	11.54	11.29*	11.31	10.72	10.73					11.75	10.94	11.18	10.75	10.573	11.18
Feb.	"	11.23		11.67				10.82	10.84			11.05		11.45	10.94	"	"		11.18
March	11.35	11.25		11.65				10.79	10.75			"		11.15	10.93	11.17	"		11.08
April	11.31	11.23		"	11.37	11.10	11.12	10.82	10.78			"		11.10	10.82	11.19	"		
May	"	11.25		"				10.80	10.76					11.16	10.88	11.17	n.a.		
June	11.24	11.24						10.79	10.76					11.17		11.18	10.75		
July		11.04						10.80	10.79					11.10	10.93	"	"		
Aug.	11.19	11.05						10.86	10.77					10.88		"	10.79		
Sept.	11.18	11.04						10.84	10.75					11.11		"	"		
Oct.	12.32	12.04			12.26	12.05	11.95	11.92	11.82					12.18		12.23	11.80	11.608	
Nov.	12.31	12.05	12.25*					11.89	11.83		11.94			11.82		"	"		
Dec.	12.31	12.05						11.86	11.80					11.92		"	"		

1976	PCB									(Ceuta) 31°		Lago-medio 32°	n.a.		T.J. Light Min.S. Prices 31°		Ceuta Min. Sales Price 30°		Lagomedio Min. Sales Price 32°
			—	—							—								
Jan.		12.17			12.40	12.30	12.26	12.30	12.32					12.13	12.30	12.26	12.20	11.608	12.40
Feb.	12.41	12.20						12.28	12.24					12.21	"	"	"		"
March	12.49	12.25						12.32	12.27	12.20*				12.11	"	"	"		"
April	12.45	12.24					—	12.28	12.34					12.11	"	12.49	"		"
May	12.44	12.25					"	12.30	12.34					12.23	"	"	"		"
June	12.42	12.29					"	12.33	12.29	(12.31*)				12.17	"	"	"		"
July	12.46	12.24					"	12.29	12.27					12.13	"	12.46	"		"
Aug.	12.44	12.23					"	12.32	12.26					12.12	"	"	"		"
Sept.	12.49	12.20					"	12.23	12.24					12.12	"	"	"		"
Oct.	12.50	12.18				12.35	"	12.27	12.26			12.65		12.31	12.35	12.53	"		12.45
Nov.	12.46	"					"	12.23	12.33					12.26		"	"		"
Dec.	12.50	"					"	12.30	12.27	(12.76*)		12.81		12.31		"	"		"

TABLE F-12 (cont'd)

DATE	SUN	TEXACO		IMPERIAL		SHELL		GULF				
		Lagomedio 32°		Guanipa 30°	T.J. Light 31°				DOE Acq. Cost	Minimum Sales Prices		
	Lago-medio 32°	Company	PCB	Company		Lago-treco	Lago-mar	Ceuta	Lago-medio 32°	Ceuta 30°	T.J. Light 31°	Lago-medio 32°
1977	—					PCB	PCB	PCB				
Jan.		13.64	13.67	13.59	13.54	13.55	13.58	13.38	13.70	13.39	13.54	13.64
Feb.			13.68			13.55	13.58	13.37	"	"	"	"
March			13.48			13.56	13.57	"	"	"	"	"
April			13.70			13.60	13.58	13.38	"	"	"	"
May			13.70			13.55	13.57	13.37	"	"	"	"
June			13.64			13.60	"	"	13.72	"	"	"
July			13.71			13.52	"	13.38	"	"	"	"
Aug.			13.71			13.62	13.56	13.48	"	"	"	"
Sept.			13.72			13.57	13.58	13.42	13.73	"	"	"
Oct.			13.71			13.59	13.58	13.38	"	"	"	"
Nov.			13.71			13.59	13.57		"	"	"	"
Dec.			13.69			13.55	13.57	13.42	"	"	"	"
1978	PCB											
Jan.		13.64	13.69	13.59	13.54	13.58	13.56	13.43	13.75	13.39	13.54	13.64
Feb.			13.69			13.57	13.57	13.44	"	"	"	"
March			13.68			13.56	13.58		"	"	"	"
April			13.68			13.57	13.57	13.05	13.72	"	"	"
May			13.65			13.55	"	13.39	"	"	"	"
June			13.66			13.54	13.56	13.32	"	"	"	"
July			13.66		13.39		"		13.71	"	"	"
Aug.			13.69				"	13.06	"	"	"	"
Sept.			13.65				13.57	"	"	"	"	"
Oct.			13.65				13.56	13.10	"	"	"	"
Nov.	14.26		13.65				"	13.04	"	"	"	"
Dec.			13.66			13.54	13.57	13.05	"	"	"	"

TABLE F-12 (cont'd)

DATE	TEXACO		IMPERIAL		SHELL		GULF					
	Lagomedio 32°		Guanipa 30°	T.J. Light 31°					DOE Acq. Cost Lago-medio 32°	Minimum Sales Prices		
	Company	PCB	Company		Lago-treco	Lago-mar	Ceuta	DOE Third-Party Rep. Price Ceuta 31°		Ceuta 30°	T.J. Light 31°	Lago-medio 32°
1979					PCB	PCB	PCB					
Jan.	14.32	14.34	14.27	14.22	14.22	14.24	13.82	13.98	14.40	14.06	14.22	14.32
Feb.	"	14.36				"		14.12	14.38			
March	"	14.33				"	14.07	13.97	14.44			
April	16.81	16.81		16.70		16.73	16.53	16.51	16.86	16.53	16.70	16.81
May	17.41	17.20		17.30	17.31	17.14		16.93	17.29	17.13	17.30	17.41
June	"	17.44			17.28	17.34	17.11	17.00	17.48			
July	21.32	21.34		20.90	21.24	21.00	20.60	20.47	21.28	20.58	20.90	21.32
Aug.	"	21.35			21.30	21.13	20.59	20.42	21.40			
Sept.	"	"			21.24	21.00	20.62	20.37	21.49			
Oct.	"	21.34			20.93	21.06	20.57	20.46	21.30			
Nov.	"	21.35			20.93	21.08	20.57	n.a.	21.26			
Dec.	25.22	25.23	25.52	24.90	21.83	22.68	20.58	24.37	22.72	24.58	24.90	25.22
1980	Company	PCB	PCB	PCB			—	n.a.	n.a.			
Jan.	n.a.	27.23	27.52*	26.90*	27.01	27.19				26.58	26.90	27.22
Feb.		29.34	29.46	28.78	28.47	29.15				28.48	28.90	29.22
March		"	29.46	29.36	29.21	29.24						
April		"	29.59	29.27	29.43	"						
May		31.07	29.46	29.30	29.13	29.59				31.98	32.40	32.72
June		33.23		32.82	32.27	32.53						
July		33.80	33.52*	33.00*		33.12				32.58	33.00	33.32
Aug.		33.71	33.56	33.53		33.18						
Sept.		33.74		33.56		33.17						
Oct.		33.77	33.59	33.53		33.19						
Nov.		33.53	33.56	33.52		33.21						
Dec.		33.59	33.56	33.65		33.16						

TABLE F-12 (cont'd)

DATE	TEXACO		IMPERIAL	SHELL	PETROFINA	GULF			
							Minimum Sales Prices		
	Lago-medio 32°	Guanipa 30°	T.J. Light 31°	Lago-mar	Lago-treco 32°	Ceuta	Ceuta 30°	T.J. Light 31°	Lago-medio 32°
1981	PCB	PCB	PCB	PCB	PCB	—			
Jan.	36.70		36.60	36.74			35.58	36.00	36.32
Feb.	36.63		36.70	36.67					
March	36.85	36.56	36.48	36.68					
April	36.44		36.64	36.70					
May	36.74		36.73	36.74					
June			36.54	36.63					
July	36.81		36.39	36.69					
Aug.	36.77		36.45	36.64					
Sept.	36.81		36.42	36.67					
Oct.	36.85		36.60	36.58	36.49		34.58	35.00	35.32
Nov.	35.81		35.52	35.30	35.26				
Dec.	35.81		35.60	35.32	35.64				
1982						PCB			
Jan.	35.83		35.59	35.28	34.99	34.63	34.58	35.00	35.52
Feb.	35.88		35.72	35.30	35.93	34.91	"	"	"
March			35.62	35.23	35.06	34.87	"	"	"
April	35.85		35.79			34.87	"	"	"
May		35.90	35.43	35.20	35.06	34.72	"	"	"
June	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	"	"	"
July	"	"	"	"	"	"	"	"	"
Aug.	"	"	"	"	"	"	"	"	"
Sept.	"	"	"	"	"	"	"	"	"
Oct.	"	"	"	"	"	"	"	"	"
Nov.	"	"	"	"	"	"	"	"	"
Dec.	"	"	"	"	"	"	"	"	"

TABLE F-12 (cont'd)

Notes to Table F-12 on Comparative FOB Costs of Imported Venezuelan Light and Trinidadian (30.0 — 34.0° API) Crude Oils, 1958 to 1982

General Notes

1. The FOB price data shown on this table mainly concern Venezuelan light crude oils with API levels ranging from 30 to 34°. In certain cases, it was necessary to convert price data reported for API levels outside this range. To make comparisons across companies, the prices of certain crude oils were standardized to the same API level. The adjustment formula used was 2¢ per degree until 1973, 6¢ for 1974 to 1976, 10¢ for 1977 to 1978 and 6¢ thereafter.

   Lagomar/Lagomedio (31.0 to 32.9° API) crude oils were examined in detail in Tables 5 and 6. The data for such crude oils were also used in this table whenever a company's other Venezuelan light crude price data were insufficient to allow meaningful comparisons. This was the case with Texaco, Shell, Petrofina and Ultramar.

   For 1958 to 1975 inclusive, the API levels are shown in the column headings. For 1976 to 1982 the API levels reported in the monthly PCB data are not shown because of their variation per month.

2. The FOB prices shown are ex La Salina or equivalent loading ports. Company FOB prices reported ex Amuay or equivalent ports (i.e., Puerto La Cruz, Cardon) were converted to La Salina equivalent prices by subtracting 3¢ per barrel.

Column Notes:

1. *Texaco*: The Mata, Guanipa, Oficina/Mesa and Mesa prices to 1969 were converted to equivalent FOB ex La Salina prices by subtracting 3¢ per barrel from the original Puerto La Cruz prices reported. (a) *Mata*: The January 1958 price is based on a 32° price of $2.89. For 1964, the figure shown is a weighted (by volume) average of the FOB prices (at $2.25 and $2.19) for imports to Halifax and Portland. The 1969 figure is based on a 32° API price of $2.19. For 1970 to 1973, Texaco provided ocean loss and AFRA freight rate data to enable FOB prices to be derived from the CIF contract prices in I-158. These are not shown because the use of AFRA freight rates produces FOB prices that are biased low. (b) *Guanipa*: The 1958 price is based on a 31° API price of $2.77. The March 1961 and August 1962 figures were purchases from Imperial Oil (see International Sector Documents, Book 2, Tab 10, pp. 57572 and 74. (c) *Lagomedio/Lama*: The 1960 to 1968 figures are based on 31° prices. The 1964 price is for January. No imports were reported for the 1965 contract price shown. For 1970 to 1976 FOB prices derived from CIF prices using ocean loss and AFRA freight rate data provided by Texaco were not shown because the prices which resulted were biased low. See notes to Tables 5 and 6 for more details. The Lagomedio and Lama prices shown in 1964 reflect a 6¢ per barrel reduction that was given on imports to the Montreal refinery. The imports to Halifax were at the contract price of $2.29 (see Table 5 for Lagomedio). (d) *Mesa*: The 33° API figure shown for 1969 is based on a 28° API price of $2.14. The 1970 price is for Oficina 33° API crude; it was derived from CIF price data in I-16G, using the pipeline fee (10.4¢) and the freight rate (24.9¢) from I-161 and I-16G, respectively.

2. *Gulf*: The prices shown for 1958 to 1973 for Mesa, Oficina and East Venezuelan crude oils were converted from FOB Ex Puerto La Cruz to FOB prices La Salina by subtracting 3¢. (a) *Ceuta*: The 1961 figure is based on a 29° contract price of $2.26; there were no imports made at this price (see I-360, tab 1). The 1967 to 1974 prices were standardized to 31° from average annual and monthly prices reported in I-16E and monthly contract prices found in I-380, tabs 20, 22, 25, 31, 33, 39, 40 and 46. According to I-36I, tab 8, p. 62992, Gulf Canada was to receive lower prices than its January 1972 contract price of $2.69 for volumes of Ceuta 31° used to replace its supplies of Kuwait 31° and Iranian Heavy 31°; these two crude oils were less costly due to lower transportation costs and lower middle east FOB prices. Gulf Canada estimated that equivalent Ceuta 31° prices to replace Kuwait 31° and Iranian Heavy 31° were $2.37 and $2.67 in April/May 1972. In December 1972 a reduction of 10¢ was accorded Gulf Canada to give recognition to the cost savings available because of the transshipping made possible using Very Large Crude Oil Carriers (VLCC's) to Pt. Tupper and smaller tankers to Portland; the price went from $2.69 to $2.59. The monthly PCB prices for 1974 converted to 31° were: $10.02, $10.46, $10.46, $10.49, $10.47, $10.47, $10.83, $10.84, $10.82, $10.79, $10.82 and $10.79. The PCB prices shown for 1975 to 1982 were not standardized to 31°. (b) *Mesa*: The prices shown have been standardized to 30° for 1961, 33° for 1965 to 1970 and 32° for 1972 to 1975. The *asterisked* PCB prices for October 1974 and November 1975 were also converted to 32° from prices of $10.78 (30.5°) and $12.28 (32.4°). The *asterisked* 1972 prices are from the International Sector Documents, Book 8, Tab 240, p. 78774. (c) *East Venezuelan/Oficina*: For 1958 to 1961 the prices are for Oficina standardized to 34° (see I-16E contract #3 and I-353). The 1962/1963 prices are for East Venezuelan blend converted from 33° to 34° (see I-353). For 1967 to 1969 the prices of East Venezuelan blend were standardized at 33°. The April 1974 PCB price was converted to 31° from a price of $10.44 (31.4°). The Oficina prices for 1975 have been standardized to 34° API to allow comparisons with the DOE third-party representative prices for 34° API Venezuelan crude oil. (d) *Lagotreco*: The prices shown have been standardized to 31° API. The *asterisked* January 1972 price is from the International Sector documents, Book 8, Tab 240, p. 78774. (e) *Lagomedio*: The monthly PCB prices shown in parentheses were standardized at 32° from prices of $10.57 (33°), $10.57 (33.4°) and $10.90 (33.3°).

Notes to Table F-12 on Comparative FOB Costs of Imported Venezuelan Light and Trinidadian (30.0 — 34.0° API) Crude Oils, 1958 to 1982

Column Notes:

3. *Imperial Oil*: (a) *Guanipa*: The original 1958 to 1973 FOB prices ex Puerto La Cruz were converted to FOB La Salina prices by deducting 3¢. The annual figures for 1970 to 1973 are time weighted averages using the number of months per price as the weights. For 1980, the *asterisked* figures represent the prices as reported by Imperial in Exhibit I-49, p. IX-6; the PCB price for January 1980 was $26.55; (b) *T.J. Light*: For 1958 to January 1962, the price figures shown have been adjusted from the original ex Amuay FOB prices reported by Imperial, to ex La Salina FOB prices by reducing the price by 3¢ per barrel. The May 1962 to 1982 prices are all original ex La Salina prices. From July 1974 to January 1975 inclusive, the prices are converted from the 34° prices that were available. The 34° prices for the corresponding months shown on the table were $10.31, $10.68, $11.08, $11.23 and $11.50, respectively. For 1980, the *asterisked* figures represent the prices as reported by Imperial in Exhibit I-49, p. IX-6; the PCB prices for January and July were $27.17 and $33.24; (c) *Ceuta*: The 31° prices shown are based on a 35° price in 1963 (I-51C, tab VI-32) and 31° prices in I-49 for 1968 to 1976. I-51C, Tab VI-40 has price data for 1968 to 1970 that indicates that the I-49 prices listed at 32° for those years are actually 31° prices; the 1971 to January 1972 prices were also assumed to be erroneously listed as 32°; (d) *Oficina*: The original FOB prices ex Puerto La Cruz were converted to FOB La Salina by deducting 3¢. The 1958 and 1959 price figures were obtained from contracts at C-16 to C-14 of the C Documents and by deducting from the posted prices in effect in that year, those price allowances or discounts which were available to Imperial Oil from Esso Export (see Exhibit I-51C, Tab VI-29); (e) *Mesa*: The original FOB prices ex Puerto La Cruz were converted to FOB La Salina by deducting 3¢. The 1967 price for 33° is based on the reported 30° price of $2.05 ex Puerto La Cruz in I-49; (f) *Albury Offshore Subsidiary Prices*: For 1968 to 1972, the prices shown are net of the offshore subsidiary's markup.

4. *Shell*: For Oficina 33° prices reported under the average Venezuelan 33° column from 1958 to 1961, Mesa 30° prices from 1960 to 1966 and Lagomar 30° prices from 1962 to 1971 and 32° in 1972, the figures shown reflect a reduction of 3¢ per barrel to convert the Puerto La Cruz or Cardon prices found in the Shell exhibits to FOB prices ex La Salina or equivalent ports. (a) *Average Venezuelan*: According to Exhibit I-16F, Shell imported Oficina 33° API crude exclusively from 1958 to March 1960. From April 1960 to March 1961 inclusive, other unidentified Venezuelan crude oils were also increasingly imported. From April 1961 to March 1962, these substitute crude oils were Mesa 30° API and Lagotreco 28° API. By April 30, 1962, no Oficina 33° crude oil was imported, but a new substitute, Lagomar/Bachaquero 30° API blend was available. On May 28, 1963 another substitute crude blend, Lagotreco/Lagomar 30° was added. The average Venezuelan prices shown from 1958 to 1961 are for 33° API while the prices for 1962 and thereafter are for 30° API crude oil blends. (b) *Mesa*: The prices for 1958 to March 1961 and for April 1, 1962 to October 1963 reported in I-234, Appendices A and B, relate to 30° API crude oil ex Puerto La Cruz. The same gravity level is assumed to prevail for the prices noted for November 1963 to 1966 (see I-234, p. 15). (c) *Lagotreco*: The 31° prices shown for 1960 to March, 1971 are based on 28° prices reported by Shell ex Puerto Miranda. For April to December 1971, the prices found in I-16F at exhibit C were determined (by comparison to the 31° prices for Lagomar) to be 29° prices and converted to 31° prices. The notes to exhibit C identified the 1972 and 1973/1974 prices from that source as 31° and 32°, respectively; the 1973/1974 prices were converted to 31°. The *asterisked* figures in 1973 are actually for July 1, July 15, November 1 and November 15, respectively. The PCB prices for 1975 to 1980 have not been standardized to 31°. (d) *Lagomar*: See Table 5 note. The 32° API prices for 1962 are based on prices reported for a spot sale of 30° API Lagomar/Bachaquero blend at $2.10 on April 24th and the April 30th contract price of $2.05 for the same blend. The *asterisked* figures shown from 1963 to January 1967 represent the lower price available to Shell when liftings of Lagomar crude oil exceeded 50,000 barrels per day. The *asterisked* figures in 1973 are for July 1, July 15, November 1 and November 15, respectively. Higher prices for shipments in tankers of less than 80,000 tons are shown in Table 5. (e) *Lagomedio*: See Table 5 note. The 32° API prices shown for 1976 are based on 32.9° API prices of $12.36 and $12.81, respectively. (f) *Ceuta*: The 31° API price shown for 1976 is based on a 30.5° API price of $12.17. (g) *Sulphur Premiums and Bar Tolls*: The prices shown in 1974 for Lagotreco and Lagomar include sulphur premiums of 15 and 10¢, respectively, as suggested by Exhibit I-16F at note 14 plus Bar Tolls of 3.8¢ effective June 12 for crude oil loading at Puerto Miranda (see note 15 of Exhibit I-16F). The monthly 1974 PCB prices for Lagotreco converted to 32° are $9.37, $9.82, $9.84, $9.82, $9.81, $9.81, $10.14, $10.11, $10.23, $10.52, $10.51, $10.50. The unconverted PCB prices for Lagomar are shown on Table 5.

5. *Petrofina*: The figures represent Canadian purchase or import prices net of the Pannac (i.e., offshore subsidiary) dividend per barrel. (a) *Lagomedio (MarLago)* 32°: See note on Table 5. (b) *T.J. Light 31°*: The T.J. Light prices shown for 1961 were converted from 32° prices. The *asterisked* price represents a purchase from Imperial Oil in March 1961 (see International Sector Documents, Book 2, tab 10, p. 57573). Both 1961 and 1962 prices were based on prices ex Amuay which were reduced by 3¢ per barrel to make them equivalent to FOB ex La Salina. The 1965 to 1968 T.J. Light prices were assumed to be FOB La Salina. (c) *Lagotreco 31°*: The prices for 1969 and 1970 were converted from 30° prices; the 1981 and 1982 prices shown for Lagotreco have been standardized to 32° API using price data found in the Petroleum Compensation Board records. (d) *Trinidad 30°*: The price shown is based on a 29° price. The 1981 and 1982 prices shown for Lagotreco have been standardized to 32° API using price data found in the Petroleum Compensation Board records.

6. *Ultramar*: The prices shown are net of the crude oil purchasing offshore subsidiary (Ultramar Liberia Ltd.) price markup but not of any markup that may have been added by the offshore subsidiary (Golden Eagle Liberia Ltd.) handling freight. There was no information available on the API levels of the Venezuelan and Trinidadian crude oils imported by Ultramar.

Notes to Table F-12 on Comparative FOB Costs of Imported Venezuelan Light and Trinidadian (30.0 — 34.0° API) Crude Oils, 1958 to 1982

Column Notes:

7. *BP*: (a) *Trinidad Blend 30°*: Prices are shown for Trinidad 30° crude oil because of its reported similarity to Guanipa 30° and Mata 30° imported by Imperial and Texaco. The prices are based on contract CIF prices of $1.91 for 1966 to 1968 from which an estimated FOB price of $1.76 was taken from suggestions found in I-296. With the CIF price of $1.91 only increasing to $1.92 in the 1969 contract it was reasonable to assume that FOB prices were constant over that period. The 1969 FOB contract price was $1.70 for 27° or $1.76 for 30° as shown. According to the 1960 contract, the CIF Portland prices for 30° Trinidad Blend would have been $2.50 in February and $2.40 in August 1960. In 1960, Texaco reported CIF prices for Mata 30° of $2.78. Imperial Oil reported FOB prices for Guanipa 30° of $2.42 (January), $2.35 (April) and $2.25 (August) which when added to the average freight rate (21¢) in effect in the early 1960s for Guanipa (see I-49, p. IX-2) results in CIF prices of $2.63, $2.56 and $2.46, respectively. In 1961 Texaco imported Trinidad 30° at $2.43 FOB and $2.69 CIF. These figures were based on FOB prices of $2.476 for 32.3° (see International Sector Documents Book 2, tab 10, p. 57513). (b) *Mesa 33°*: The prices shown were based on Puerto La Cruz prices which were reduced by 3¢ per barrel to convert them to FOB La Salina equivalent prices. No imports were reported to Montreal via the Portland Pipeline in 1969. The Mesa 33° API prices for 1969 to 1971 are based on 28°, 32° and 32° prices of $1.68, $1.76 and $1.84 found in I-289, tab 4. (c) *Lagocinco 33°*: The 33° API prices for 1969 to 1971 are based on 34°, 35° and 35° prices of $1.83, $1.83 and $1.91. No imports were reported in 1969. (d) *Lagotreco 32°*: The 1975 Lagotreco price was standardized to 32° API from a PCB 31.5° price of $11.91.

8. *Sun Alternate Value*: See Table 5 note. The alternate value figures are the arm's length or market value estimates for Lagomedio/Lagomar 32° found in I-188. The 1974 *asterisked* Lagomar price is from I-161 while the monthly prices are from the Petroleum Compensation Board records. The February, June and July prices are for Lagomedio crude oil.

9. *Exxon Third-Party Price Range*: These figures represent the prices realized (ex La Salina) on third-party sales to Non-Integrated Buyers. The *asterisked* price for 1970 is for Ceuta 31°.

10. *Third-Party Price Range for Lagomedio/Lagomar 32°*: These represent sales to non-integrated buyers. See note to Table 5.

11. *Third-Party Price Range for Oficina 34°/33°*: These represent sales to non-integrated buyers by Esso International (I-50 Appendix 3, I-50A and I-78A) and 1964 to 1966 sales to Petrobras by the Sun Oil and Shell Groups and Atlantic Richfield Co. (see I-51A, tab II-5, p. 76). The Petrobras purchase prices, which are *asterisked*, were derived from 35° prices which were assumed to be Oficina, ex Puerto La Cruz. Therefore, they were reduced by 3¢ per barrel to make them equivalent to La Salina FOB prices.

12. *Murphy*: The 1970 prices for Lagomedio 32° are shown under the BP Trinidad Blend 30° column. For an explanation of the 1970 prices see note to Table 5.

13. *Sun Third-Party*: These figures represent the Sun Oil Group's third-party transaction prices with non-integrated petroleum companies as reported in I-347, tab 6.

14. *Tax Paid Cost* refers to the cost of equity crude oil. It is the sum of taxes and royalties imposed by the host country government plus production costs. The data for 1970 onwards include freight premiums, but exclude any applicable sulphur premiums (see Exhibit I-107).

15. *DOE Acquisition Cost*: These figures are from the Brant/Davidson Exhibit I-80. The data are term third-party acquisition cost figures reported to the United States Department of Energy (DOE). Where more than one figure was reported per month, Brant testified that the highest figure was chosen. However, if several figures were reported from the same company in any month, then only the latest or revised figure reported by that company was considered (TS Vol. 71, p. 13348).

15. *Minimum Sales Prices*: These figures are equivalent to official government selling prices.

16. *DOE Third-Party Representative Price*: Representative price was defined by the United States Department of Energy (DOE) as being the the lowest price, at which 50 per cent or more (by volume) of arm's length transactions took place per month. That is, the weighted median price. The DOE only published data on Light Venezuelan crude oil of 34° API from October 1974 to 1976. No information is available on the exact API level of the 1979 Ceuta representative price data. It is assumed to be 31° because of the information in I-87, p. 18279.

G

Statistics and Other Material Related to Petroleum Refining

TABLE G-1

Refinery Yields of Petroleum Products in Canada, 1952-1984
(Per Cent)

Year	Motor Gasoline	Heavy Fuel Oil (Nos.4-6)	Light Fuel Oil (Nos.2-3)	Diesel Fuel Oil	Petro-Chem Feed-stock	Aviation Fuel*	Others
1952	42.0	19.9	11.1	7.1	0.6	1.1	18.2
1955	39.6	20.1	16.6	6.8	1.0	1.7	14.2
1960	36.2	16.5	19.9	8.4	2.2	2.1	14.7
1965	36.1	17.1	19.9	8.6	2.8	2.3	13.2
1967	36.0	17.3	15.8	11.4	1.9	2.7	14.9
1968	35.6	17.8	15.9	11.6	1.7	2.7	14.7
1969	35.8	17.9	15.8	11.5	1.9	2.9	14.2
1970	35.1	18.2	15.6	11.8	2.1	3.3	13.9
1971	32.8	20.5	15.5	11.9	2.1	3.4	13.8
1972	33.0	22.0	14.9	11.5	2.4	3.4	12.8
1973	32.9	21.4	15.0	11.4	2.0	3.7	13.6
1974	32.9	21.5	14.4	11.2	1.6	3.9	14.5
1975	35.4	20.2	13.4	11.6	1.4	4.2	13.8
1976	35.7	18.6	13.5	12.2	2.1	4.3	13.6
1977	34.3	19.1	13.3	12.6	3.6	4.1	13.0
1978	34.8	18.2	12.4	12.9	4.7	4.5	12.5
1979	35.0	17.6	14.6	13.2	4.7	4.5	10.4
1980	36.1	16.4	14.5	13.6	4.6	4.6	10.2
1981	37.4	15.7	12.6	14.1	5.0	4.7	10.5
1982	39.5	13.6	12.1	14.6	5.3	4.8	10.1
1983	39.3	11.1	10.5	16.1	5.1	4.8	13.1
1984	40.9	10.7	10.3	18.8	4.9	4.9	9.5

Note: * Includes aviation gasoline and turbo fuel — kerosene and naphtha type.

Source: Canadian Petroleum Association, *Statistical Handbook*, Section VIII, Table 7.

TABLE G-2

Distribution of Petroleum Refinery Capacity by Refinery Size — Canada, U.S., Japan, Western Europe, 1970 and 1984

Size Class Barrels/Day	% of Total Refinery Capacity							
	Canada		U.S.		Japan		W. Europe	
	1970	1984	1970	1984	1970	1984	1970	1984
0 – 24,999	17.4	3.7	8.7	5.5	1.7	1.2	2.1	1.4
25,000 – 49,999	26.4	12.1	13.5	11.8	10.1	3.7	4.6	2.0
50,000 – 74,999	26.8	13.5	11.6	9.0	19.6	7.9	10.5	5.3
75,000 – 99,999	12.6	23.1	12.0	7.5	—	8.1	20.4	11.9
100,000 – 149,000	16.8	24.9	13.2	17.1	37.1	39.4	21.6	19.0
150,000 +	—	22.7	41.1	49.1	31.5	39.7	40.6	60.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Energy, Mines and Resources Canada files and *Petroleum Processing in Canada. Petroleum Times: World Refineries Survey 1984*, (March 1984.)

TABLE G-3

Canada — Per Cent of Petroleum Refinery Capacity by Size Class, Selected Years, 1960 — 1984

Size Class Barrels/Day	Nos. of Refineries				Per Cent of Capacity			
	1960	1970	1980	1984	1960	1970	1980	1984
0 – 24,999	30	20	12	8	29.0	17.4	7.8	3.7
25,000 – 49,999	9	10	6	6	34.4	26.4	10.8	12.1
50,000 – 74,999	3	6	5	3	18.6	26.8	12.9	13.5
75,000 – 99,999	2	2	7	5	18.0	12.6	37.4	23.1
100,000 – 149,000	—	2	3	4	—	16.8	11.8	24.9
150,000 +	—	—	2	2	—	—	19.3	22.7
Total	44	40	35	28	100.0	100.0	100.0	100.0

Sources: For 1960, 1970, 1980, Energy, Mines and Resources Canada, *Petroleum Processing in Canada*, Issues for Jan. 1961, Jan. 1971, Dec. 1979. For 1984, Energy, Mines & Resources files.

TABLE G-4

Canadian Petroleum Refineries — Selected Data, 1947-1984

Year	Capacity Utilization (%)	Canadian as % Total Crude Oil
1947	80.2	8.8
1948	77.4	13.4
1949	78.7	21.4
1950	84.2	24.4
1951	85.5	36.2
1952	84.5	41.7
1953	84.6	46.0
1954	84.8	54.7
1955	86.3	55.7
1956	87.5	53.9
1957	85.5	53.2
1958	77.8	55.6
1959	83.8	56.6
1960	81.0	54.1
1961	84.7	54.1
1962	82.3	56.2
1963	89.3	56.0
1964	88.4	58.1
1965	89.2	59.2
1966	91.2	58.1
1967	86.2	57.9
1968	88.6	57.2
1969	88.3	56.0
1970	91.4	55.4
1971	84.4	51.9
1972	90.9	48.6
1973	90.6	48.9
1974	86.9	54.1
1975	81.5	51.6
1976	79.3	57.4
1977	83.8	62.8
1978	81.0	65.6
1979	87.3	68.6
1980	87.8	70.7
1981	81.4	70.7
1982	72.0	77.2
1983	76.7	82.4
1984	76.3	82.8

Source: For Capacity Utilization, Canadian Petroleum Association, *Statistical Handbook*, Section VIII, Table 6, June 1985. For Canadian as % Total Crude Oil, Energy, Mines and Resources Canada, *Petroleum Processing in Canada*, various issues.

TABLE G-5

Canadian Petroleum Refineries — Number of Operating Refineries and Capacities by Province in (A) Barrels and (B) Cubic Meters Per Calendar Day, 1940 — 1984

YEAR	NEWFOUND-LAND		NOVA SCOTIA		NEW BRUNS-WICK		QUEBEC		ONTARIO		MANITOBA		SASKATCHE-WAN		ALBERTA		B.C./NWT		CANADA	
	Nos.	Cap.	Nos.	Cap.	Nos.	Cap.	Nos.	Cap.	Nos.	Cap.	Nos.	Cap.	Nos.	Cap.	Nos.	Cap.	Nos.	Cap.	Nos.	Cap.
1940			1	A) 32,500 B) 5165.3	1	A) 250 B) 39.7	4	A) 64,500 B) 10251.1	5	A) 57,500 B) 9138.6	4	A) 4,150 B) 659.6	10	A) 16,220 B) 2577.9	9	A) 16,850 B) 2678.0	4	A) 25,300 B) 4021.0	38	A) 217,270 B) 34531.1
1941			1	A) 34,500 B) 5403.7	1	A) 250 B) 39.7	4	A) 67,000 B) 10648.4	5	A) 68,000 B) 10807.4	4	A) 4,150 B) 659.4	9	A) 17,300 B) 2749.5	7	A) 16,250 B) 2582.6	4	A) 25,340 B) 4027.3	35	A) 232,290 B) 36918.3
1942			1	A) 34,000 B) 5403.7	1	A) 250 B) 39.7	4	A) 67,000 B) 10648.4	5	A) 68,000 B) 10807.4	4	A) 4,150 B) 659.4	8	A) 16,775 B) 2666.1	8	A) 18,100 B) 2876.7	4	A) 25,340 B) 4027.3	35	A) 233,615 B) 37128.9
1943			1	A) 34,000 B) 5403.7	1	A) 250 B) 39.7	4	A) 67,000 B) 10648.4	6	A) 76,250 B) 12118.6	4	A) 4,150 B) 659.4	8	A) 17,025 B) 2705.8	7	A) 18,400 B) 2924.3	4	A) 25,340 B) 4027.3	35	A) 242,415 B) 38527.5
1944			1	A) 34,000 B) 5403.7	1	A) 250 B) 39.7	4	A) 63,000 B) 10012.7	6	A) 76,250 B) 12118.6	3	A) 3,900 B) 619.8	7	A) 17,075 B) 2713.8	6	A) 19,300 B) 3067.4	4	A) 25,340 B) 4027.3	32	A) 238,865 B) 37963.3
1945			1	A) 34,000 B) 5403.7	1	A) 250 B) 39.7	4	A) 59,000 B) 9377.0	6	A) 75,450 B) 11991.4	3	A) 4,500 B) 715.2	7	A) 18,075 B) 2872.7	4	A) 18,100 B) 2876.7	4	A) 21,840 B) 3471.1	30	A) 231,215 B) 36747.5
1946			1	A) 34,000 B) 5403.7	1	A) 300 B) 47.7	4	A) 71,000 B) 11284.2	6	A) 77,950 B) 12388.7	3	A) 4,500 B) 715.2	7	A) 18,175 B) 2888.6	4	A) 17,300 B) 2749.5	4	A) 22,640 B) 3598.2	30	A) 245,865 B) 39075.8
1947			1	A) 34,000 B) 5403.7	1	A) 300 B) 47.7	4	A) 73,000 B) 11602.0	6	A) 87,950 B) 13978.1	3	A) 4,500 B) 715.2	7	A) 17,475 B) 2777.3	6	A) 21,300 B) 3385.2	4	A) 23,400 B) 3719.0	32	A) 261,925 B) 41628.2
1948			1	A) 25,000 B) 3973.3	1	A) 300 B) 47.7	4	A) 107,000 B) 17005.7	6	A) 88,700 B) 14097.3	3	A) 4,500 B) 715.2	7	A) 26,475 B) 4207.7	7	A) 35,750 B) 5681.8	4	A) 27,750 B) 4410.4	33	A) 315,475 B) 50139.1
1949			1	A) 22,000 B) 3496.5	1	A) 300 B) 47.7	4	A) 124,000 B) 19707.6	5	A) 83,700 B) 13302.6	3	A) 7,300 B) 1160.2	7	A) 26,475 B) 4207.7	7	A) 43,200 B) 6865.9	4	A) 26,650 B) 4235.5	32	A) 333,625 B) 53023.7
1950			1	A) 22,000 B) 3496.5	1	A) 300 B) 47.7	4	A) 143,000 B) 22727.3	4	A) 75,200 B) 11951.7	3	A) 7,800 B) 1239.7	8	A) 33,575 B) 5336.1	7	A) 46,900 B) 7453.9	4	A) 30,100 B) 4783.8	32	A) 358,875 B) 57036.7
1951			1	A) 22,000 B) 3496.5	1	A) 300 B) 47.7	4	A) 160,000 B) 25429.1	4	A) 79,400 B) 12619.2	4	A) 20,500 B) 3258.1	10	A) 47,500 B) 7549.3	11	A) 61,750 B) 9814.0	4	A) 30,100 B) 4783.8	39	A) 421,550 B) 66997.8
1952			1	A) 22,000 B) 3496.5	1	A) 300 B) 47.7	4	A) 164,000 B) 26064.8	5	A) 104,500 B) 16608.4	4	A) 19,700 B) 3131.0	10	A) 50,300 B) 7994.3	9	A) 68,000 B) 10807.4	4	A) 29,600 B) 4704.4	38	A) 458,400 B) 72854.4
1953			1	A) 18,000 B) 2860.8	1	A) 300 B) 47.7	4	A) 176,000 B) 27972.0	6	A) 135,000 B) 21455.8	4	A) 20,000 B) 3178.6	10	A) 58,100 B) 9233.9	10	A) 69,150 B) 10990.1	4	A) 47,100 B) 7485.7	40	A) 523,650 B) 83224.7

TABLE G-5 (cont'd)

YEAR	NEWFOUND-LAND	NOVA SCOTIA	NEW BRUNS-WICK	QUEBEC	ONTARIO	MANITOBA	SASKATCHE-WAN	ALBERTA	B.C./NWT	CANADA
	Nos. Cap.	Nos. Cap.	Nos. Cap.	Nos. Cap.	Nos. Cap.	Nos. Cap.	Nos. Cap.	Nos. Cap.	Nos. Cap.	Nos. Cap.
1954		1 A) 18,000 B) 2860.8	1 A) 300 B) 47.7	4 A) 171,500 B) 27256.8	6 A) 142,300 B) 22616.0	4 A) 20,000 B) 3178.6	10 A) 67,300 B) 10696.1	10 A) 68,600 B) 10902.7	5 A) 56,750 B) 9019.4	41 A) 544,750 B) 86578.2
1955		1 A) 18,000 B) 2860.8	1 A) 300 B) 47.7	5 A) 210,000 B) 33375.7	6 A) 148,800 B) 23649.1	4 A) 29,800 B) 4736.2	9 A) 66,300 B) 10537.2	10 A) 77,500 B) 12317.2	6 A) 67,750 B) 10767.6	42 A) 618,450 B) 98291.5
1956		1 A) 42,000 B) 6675.1	1 A) 300 B) 47.7	5 A) 247,000 B) 39256.2	6 A) 159,700 B) 25381.4	4 A) 30,800 B) 4895.1	9 A) 69,350 B) 11021.9	11 A) 79,350 B) 12611.2	6 A) 71,550 B) 11371.6	43 A) 700,050 B) 111260.3
1957		1 A) 44,000 B) 6993.0	1 A) 300 B) 47.7	5 A) 255,800 B) 40654.8	6 A) 198,510 B) 31549.6	4 A) 33,220 B) 5279.7	9 A) 68,975 B) 10962.3	11 A) 85,540 B) 13595.0	6 A) 75,550 B) 12007.3	43 A) 761,895 B) 121089.5
1958		1 A) 49,000 B) 7787.7	1 A) 300 B) 47.7	5 A) 264,800 B) 42085.2	7 A) 228,822 B) 36367.1	3 A) 33,220 B) 5279.7	8 A) 67,875 B) 10787.5	10 A) 85,290 B) 13555.3	7 A) 98,100 B) 15591.2	42 A) 827,407 B) 131501.4
1959		1 A) 49,000 B) 7787.7	1 A) 300 B) 47.7	5 A) 265,000 B) 42117.0	7 A) 254,272 B) 40411.9	3 A) 33,220 B) 5279.7	6 A) 63,610 B) 10109.7	10 A) 90,960 B) 14456.4	7 A) 96,900 B) 15400.5	40 A) 853,262 B) 135610.6
1960		1 A) 49,000 B) 7787.7	2 A) 47,800 B) 7596.9	6 A) 297,000 B) 47202.8	7 A) 260,820 B) 41452.6	3 A) 36,120 B) 5740.6	6 A) 64,250 B) 10211.4	11 A) 95,070 B) 15109.7	8 A) 100,200 B) 15925.0	44 A) 950,260 B) 151026.7
1961	1 A) 8,500 B) 1350.9	1 A) 49,000 B) 7787.7	2 A) 47,800 B) 7596.9	6 A) 297,000 B) 47202.8	7 A) 260,820 B) 41452.6	3 A) 37,420 B) 5947.2	6 A) 70,750 B) 11244.4	10 A) 90,670 B) 14410.4	7 A) 98,800 B) 15702.5	43 A) 961,760 B) 152854.4
1962	1 A) 8,500 B) 1350.9	1 A) 50,000 B) 7946.6	2 A) 45,300 B) 7199.6	6 A) 304,500 B) 48394.8	7 A) 279,170 B) 44369.0	3 A) 37,420 B) 5947.2	6 A) 69,720 B) 11080.7	10 A) 94,560 B) 15028.6	7 A) 98,800 B) 15702.5	43 A) 987,970 B) 157019.9
1963	1 A) 8,500 B) 1350.9	1 A) 50,000 B) 7946.6	2 A) 45,300 B) 7199.6	6 A) 305,000 B) 48474.2	8 A) 305,470 B) 48548.9	3 A) 40,420 B) 6424.0	6 A) 70,010 B) 11126.8	8 A) 88,800 B) 14113.1	7 A) 99,200 B) 15766.0	42 A) 1012,700 B) 160950.4
1964	1 A) 8,500 B) 1350.9	2 A) 50,000 B) 7946.6	1 A) 45,000 B) 7151.9	6 A) 318,700 B) 50651.6	7 A) 306,900 B) 48776.2	3 A) 41,300 B) 6563.9	6 A) 70,010 B) 11126.8	7 A) 86,700 B) 13779.4	7 A) 103,400 B) 16433.6	40 A) 1052,510 B) 167277.5
1965	1 A) 8,500 B) 1350.9	2 A) 72,000 B) 11443.1	1 A) 45,000 B) 7151.9	6 A) 328,700 B) 52240.9	7 A) 322,400 B) 51239.7	3 A) 41,300 B) 6563.9	6 A) 69,650 B) 11069.6	7 A) 93,300 B) 14828.3	7 A) 102,300 B) 16258.7	40 A) 1083,150 B) 172147.2
1966	1 A) 8,500 B) 1350.9	2 A) 72,000 B) 11443.1	1 A) 45,000 B) 7151.9	6 A) 373,700 B) 59392.9	7 A) 324,400 B) 51557.5	3 A) 43,000 B) 6834.1	6 A) 75,550 B) 12007.3	7 A) 95,300 B) 15146.2	7 A) 102,300 B) 16258.7	40 A) 1138,750 B) 180983.8
1967	1 A) 11,500 B) 1827.7	2 A) 72,000 B) 11443.1	1 A) 45,000 B) 7151.9	6 A) 401,200 B) 63763.5	7 A) 352,400 B) 56007.6	3 A) 43,000 B) 6834.1	6 A) 74,550 B) 11848.4	7 A) 98,000 B) 15575.3	8 A) 111,800 B) 17768.6	41 A) 1209,450 B) 192220.2
1968	1 A) 13,000 B) 2066.1	2 A) 70,100 B) 11141.1	1 A) 45,000 B) 7151.9	6 A) 400,400 B) 63636.4	7 A) 359,100 B) 57072.5	3 A) 44,300 B) 7040.7	6 A) 75,950 B) 12070.9	7 A) 100,000 B) 15893.2	8 A) 114,300 B) 18165.9	41 A) 1222,150 B) 194238.7
1969	1 A) 13,000 B) 2066.1	2 A) 74,600 B) 11856.3	1 A) 45,000 B) 7151.9	6 A) 449,600 B) 71455.8	7 A) 367,000 B) 58328.0	2 A) 47,600 B) 7565.2	6 A) 77,150 B) 12261.6	7 A) 109,500 B) 17403.0	8 A) 114,400 B) 18181.8	40 A) 1297,850 B) 206269.8
1970	1 A) 13,000 B) 2066.1	2 A) 77,100 B) 12253.6	1 A) 45,000 B) 7151.9	6 A) 460,600 B) 73204.1	7 A) 389,200 B) 61856.3	2 A) 47,500 B) 7549.3	6 A) 79,350 B) 12611.2	7 A) 112,000 B) 17800.4	8 A) 128,500 B) 20422.7	40 A) 1352,250 B) 214915.7

TABLE G-5 (cont'd)

YEAR	NEWFOUND-LAND		NOVA SCOTIA		NEW BRUNS-WICK		QUEBEC		ONTARIO		MANITOBA		SASKATCHE-WAN		ALBERTA		B.C./NWT		CANADA	
	Nos.	Cap.	Nos.	Cap.	Nos.	Cap.	Nos.	Cap.	Nos.	Cap.	Nos.	Cap.	Nos.	Cap.	Nos.	Cap.	Nos.	Cap.	Nos.	Cap.
1971		A) 13968.2		A) 160257.2		A) 119988.4		A) 577416.8		A) 389160.2		A) 48511.3		A) 65248.0		A) 172149.1		A) 128577.0		A) 1675245.0
	1	B) 2,220	3	B) 25,470	1	B) 19,070	7	B) 91,770	7	B) 61,850	2	B) 7,710	4	B) 10,370	7	B) 27,360	8	B) 20,435	40	B) 266,250
1972		A) 13968.2		A) 178441.1		A) 119988.4		A) 587421.1		A) 410741.8		A) 48511.3		A) 65248.0		A) 173596.2		A) 132100.5		A) 1730048.3
	1	B) 2,220	3	B) 28,360	1	B) 19,070	7	B) 93,360	7	B) 65,280	2	B) 7,710	4	B) 10,370	7	B) 27,590	8	B) 20,995	40	B) 274,960
1973		A) 114011.0		A) 179951.2		A) 119988.4		A) 608373.5		A) 413636.0		A) 48511.3		A) 65248.0		A) 174225.4		A) 133107.2		A) 1857020.8
	2	B) 18,120	3	B) 28,600	1	B) 19,070	7	B) 96,690	7	B) 65,740	2	B) 7,710	4	B) 10,370	7	B) 27,690	8	B) 21,155	41	B) 295,140
1974		A) 114011.0		A) 180454.6		A) 119988.4		A) 646503.0		A) 522613.5		A) 48385.4		A) 67890.6		A) 177937.7		A) 145880.0		A) 2023003.8
	2	B) 18,120	3	B) 28,680	1	B) 19,070	7	B) 102,750	7	B) 83,060	2	B) 7,690	4	B) 10,790	7	B) 28,280	8	B) 23,185	41	B) 321,520
1975		A) 114011.0		A) 181775.9		A) 119988.4		A) 643986.2		A) 540231.1		A) 30012.8		A) 37500.3		A) 262376.4		A) 152864.1		A) 2082652.0
	2	B) 18,120	3	B) 28,890	1	B) 19,070	7	B) 102,350	7	B) 85,860	1	B) 4,770	3	B) 5,960	7	B) 41,700	8	B) 24,295	38	B) 331,000
1976		A) 114011.0		A) 181964.6		A) 249918.2		A) 645685.0		A) 549543.2		A) 30012.8		A) 40268.8		A) 269675.1		A) 166832.3		A) 2247942.8
	2	B) 18,120	3	B) 28,920	1	B) 39,720	7	B) 102,620	7	B) 87,340	1	B) 4,770	2	B) 6,400	6	B) 42,860	8	B) 26,515	37	B) 357,270
1977		A) 114011.0		A) 184859.0		A) 249918.2		A) 645685.0		A) 537920.8		A) 30012.8		A) 40268.8		A) 276659.2		A) 167964.9		A) 2247299.7
	2	B) 18,120	3	B) 29,380	1	B) 39,720	7	B) 102,620	7	B) 85,520	1	B) 4,770	2	B) 6,400	6	B) 43,970	8	B) 26,695	37	B) 357,195
1978		A) 13968.2		A) 184859.0		A) 249918.2		A) 618126.1		A) 647178.1		A) 30012.8		A) 53293.2		A) 281063.6		A) 184575.8		A) 2262995.0
	1	B) 2,220	3	B) 29,380	1	B) 39,720	7	B) 98,240	8	B) 102,890	1	B) 4,770	2	B) 8,470	6	B) 44,670	8	B) 29,335	37	B) 359,695
1979		A) 13968.2		A) 184859.0		A) 249918.2		A) 617308.1		A) 587989.2		A) 30012.8		A) 53293.2		A) 280371.5		A) 171394.0		A) 2189114.2
	1	B) 2,220	3	B) 29,380	1	B) 39,720	7	B) 98,110	7	B) 93,480	1	B) 4,770	2	B) 8,470	6	B) 44,560	8	B) 27,240	35	B) 347,950
1980		A) 14975.0		A) 101993.3		A) 249918.2		A) 619195.7		A) 587863.4		A) 30012.8		A) 49266.3		A) 281378.2		A) 171394.0		A) 2105996.9
	1	B) 2,380	2	B) 16,210	1	B) 39,720	7	B) 98,410	7	B) 93,460	1	B) 4,770	2	B) 7,830	6	B) 44,720	8	B) 27,240	35	B) 334,740
1981		A) 14975.0		A) 101993.3		A) 237617.4		A) 590063.8		A) 585536.1		A) 30012.8		A) 49266.3		A) 285593.8		A) 175987.2		A) 2071045.7
	1	B) 2,380	2	B) 16,210	1	B) 37,765	7	B) 93,780	7	B) 93,090	1	B) 4,770	2	B) 7,830	6	B) 45,390	8	B) 27,970	35	B) 329,185
1982		A) 13968.2		A) 104321.4		A) 249981.2		A) 533687.4		A) 580818.6		A) 30012.8		A) 54174.1		A) 347230.3		A) 179447.8		A) 2093641.8
	1	B) 2,220	2	B) 16,580	1	B) 39,730	6	B) 84,820	7	B) 92,340	1	B) 4,770	2	B) 8,610	7	B) 55,186	8	B) 28,520	35	B) 332,776
1983		—		A) 104321.4		A) 249981.2		A) 387083.9		A) 521906.5		—		A) 54174.1		A) 382528.4		A) 174665.9		A) 1874661.4
		—	2	B) 16,580	1	B) 39,730	4	B) 61,520	6	B) 82,974		—	2	B) 8,610	6	B) 60,796	7	B) 27,760	28	B) 297,970
1984		—		A) 106930.0		A) 250342.0		A) 387464.0		A) 528989.0		—		A) 49062.0		A) 412624.0		A) 173604.0		A) 1909015.0
		—	2	B) 17,000	1	B) 39,800	4	B) 61,600	6	B) 84,100		—	2	B) 7,800	6	B) 65,600	7	B) 27,600	28	B) 303,500

Notes: Data for 1940 to 1970 published in barrels per day, and for 1971 to 1984 in cubic meters per day. Conversion to the other measure is made by dividing or multiplying by 6.292. Original published figures for total refining capacity in Canada do not add up to the published sum of the provincial figures in thirteen years. Differences are always less than 2 per cent and original published figures have been used.

Sources: For 1940 to 1981, *Petroleum Processing in Canada*, Ottawa, Energy, Mines and Resources, and previous publication *Operators List No. 5* from same department, various issues, 1955 to 1981. Petrosar is excluded from 1977. For 1982 and 1983, Canadian Petroleum Association, *Statistical Handbook*, Calgary, CPA, updated annually. For 1984, data supplied by Energy, Mines and Resources.

TABLE G-6

Refinery Crude Oil Runs*, Product Imports and Product Exports as a Per Cent of the Apparent Canadian Consumption of Crude Oil and Products (ACCOP) 1947-1984

Year	Refinery Crude Oil Runs	Product Imports	Product Exports
	ACCOP %	ACCOP %	ACCOP %
1947	83.6	17.6	1.3
1948	81.3	20.7	1.9
1949	85.3	15.4	0.7
1950	84.4	15.6	0.3
1951	82.3	17.7	—
1952	86.3	14.5	0.8
1953	87.6	12.4	—
1954	90.1	10.1	0.2
1955	84.0	16.4	0.4
1956	87.0	13.9	1.0
1957	88.3	12.8	1.1
1958	89.5	10.9	0.4
1959	88.0	12.7	0.7
1960	89.5	11.5	1.0
1961	91.4	9.1	0.6
1962	92.3	9.0	1.3
1963	92.4	9.1	1.5
1964	90.7	11.6	2.3
1965	86.3	14.3	0.6
1966	87.0	13.6	0.6
1967	85.7	15.0	0.7
1968	85.6	15.3	1.0
1969	86.0	14.8	0.8
1970	87.6	13.5	1.1
1971	92.3	10.1	2.4
1972	97.0	8.9	5.9
1973	99.6	7.2	6.8
1974	101.4	4.7	6.2
1975	102.8	2.4	5.2
1976	101.3	2.1	3.5
1977	101.8	2.6	4.3
1978	104.6	2.9	7.5
1979	104.4	1.7	6.1
1980	104.6	2.4	7.0
1981	104.7	2.6	7.2
1982	103.1	3.1	6.2
1983	105.3	4.0	9.3
1984	103.5	6.5	10.0

Note: *Includes condensate and pentanes plus propane/butane/ mixes.

Source: Canadian Petroleum Association, *Statistical Handbook*, Section VII, Table 1.

TABLE G-7

Canadian Energy Consumption and Percentage Share of Petroleum, 1950-1984

Year	Canadian Energy Consumption Petajoules	Petroleum Share of Canadian Energy Consumption %
1950	2898	28.6
1955	3555	42.3
1960	4045	45.1
1965	5186	48.4
1970	7069	46.7
1975	8412	45.0
1980	9839	41.4
1984	9635	33.0

Source: Canadian Petroleum Association, *Statistical Handbook*, Section VII, Table 4, June 1985.

TABLE G-8

Rank Position of the four Majors and Other Leading Refiners by Capacity, Canada & Regions, Selected Years, 1950 — 1984

CANADA

Firm	Rank Position 1950	1960	1970	1980	1984
Imperial Oil	1	1	1	1	1
Gulf(a)	2	2	2	3	2
Texaco(b)	3	4	(5)	(5)	(7)
Shell	4	3	3	2	3
BP(d)			4		
Irving				4	4
Petro-Canada					(5)

ATLANTIC

Firm	Rank Position 1960	1970	1980	1984
Imperial Oil	1	1	2	2
Irving	2	2	1	1
New Brunswick Oil	3			
Texaco		3		3
Ultramar(c)		4		4

TABLE G-8 (cont'd)

QUEBEC

Firm	Rank Position			
	1960	1970	1980	1984
Imperial Oil	1	2	4	
Shell	2	1	1	1
Texaco	3			
Gulf	4	4	4	
BP(d)		3		
Ultramar			2	2
Petrofina(d)			3	
Petro-Canada				3

ONTARIO

Firm	Rank Position			
	1960	1970	1980	1984
Imperial Oil	1	1	1	1
Gulf	2	3	4	
Canadian Oil(e)	3			
Texaco	4	4	3	2
Shell		2	2	
Suncor				3
Petro-Canada				4

PRAIRIES

Firm	Rank Position			
	1960	1970	1980	1984
Imperial Oil	1	1	1	1
Gulf	2	2	2	2
Shell(f)	3	3	4	3
Consumers' Co-operative	4	4	3	4

TABLE G-8 (cont'd)

BC/NWT(g)

Firm	Rank Position			
	1960	1970	1980	1984
Imperial Oil	1	2	2	1
Shell	2	3	4	4
Gulf(h)	3	1	1	2
Chevron	3	4	3	3

Notes:

(a) Gulf is represented through British American Oil in which it had minority ownership in 1946 and majority ownership by 1966. The name change took place in 1968.

(b) Texaco is represented through McColl Frontenac in which it had a controlling interest by 1938. The name was changed to Texaco Canada Ltd. in 1959. Texaco owned Regent Refining Ltd. in Ontario from 1957.

(c) Known as Golden Eagle in early years.

(d) Acquired by Petro-Canada.

(e) Acquired by Shell.

(f) Shell represented by North Star in 1960 which Shell later acquired.

(g) Includes Imperial's Norman Wells refinery in the NWT.

(h) Gulf refinery was 49 per cent owned by Petro-Canada between 1982 and 1985.

H

Comparison of Market Shares of Independents

(This appendix relates to Tables 3 and 4 in Chapter XIV, Structure of Retail Marketing)

Several witnesses stated that the independent marketers did particularly well outside the larger cities. These observations could be easily tested if Tables 3 and 4 in Chapter XIV were directly comparable. They differ, however, apart from the obvious differences in geographic coverage, in that the shares in Table 3 relate to sales by retail outlets whereas those in Table 4 relate to all gasoline sales, of which those through retail outlets represent about 84 per cent. It is likely that the independents' share of sales to the farm sector and to commercial and industrial customers is far less than their share through retail outlets. The independents' market shares with respect to total gasoline sales (Table 4) should, therefore, be lower than those for sales through retail outlets (Table 3). The market shares in Table 4 can be converted to estimated market shares of sales through retail outlets by assigning market shares to the independents for farm, commercial and industrial customers. Assuming that these shares are zero provides an upper estimate of the independents' market shares of sales through retail outlets. This estimate for Canada in 1984 is 15.2 per cent (12.8/0.842), which is somewhat higher than the comparable figure, 14.5 per cent, in Table 3, and suggests that the independents' market shares in the 12 cities for which Kent Marketing Services data were placed in evidence (see Appendix Tables J-1 to J-3) are, taken as a whole, representative of their overall share of Canadian sales. Furthermore, the information in Tables 3 and 4 suggests that over the period 1981 through 1984 the independents appear to have lost ground outside of the 12 urban centers covered in Table 3.

I

Growth in Capacity of Retail Networks

(This appendix relates to Chapter XIV, Structure of Retail Marketing)

Kent Marketing Services data on six large urban areas for 1974 to 1980 (see Appendix Table J-11) show that the increase in pump capacity of self-serve outlets required to keep total industry capacity constant ranged from 1.5 to 2.7 times that of full-service outlets being replaced, with the median city increase required being 1.7. The major refiner-marketers' required median city pump capacity increase was slightly higher at 2.0; with Imperial Oil at 3.1 and Gulf at 2.8, and Shell and Texaco both at 1.7. For the industry, excluding these four majors, it was 1.3 because of the relatively smaller number of outlets closed by this group of marketers.

These figures suggest that the closure of full-service outlets and their replacement by the development of larger self-serve facilities has resulted in the expansion of capacity to sell gasoline in large urban areas between 1974 and 1980 rather than the expected contraction.

J

Tabular Material Related to Retail Gasoline Market

(The tables presented in this appendix are discussed in Chapter XIV, The Retail Gasoline Market).

TABLE J-1

Retail Gasoline Market Shares in Twelve Urban Areas, 1974[12]

	St. John's	Halifax-Dartmouth	Saint John	Montreal	Hull	Ottawa	Oshawa-Whitby	Greater Toronto[1]	Winnipeg	Regina	Edmonton	Vancouver	Total (Wgt. Avg.)
Imperial[2]	40.5	24.5	18.0	17.5	13.5	12.2	12.2	15.8	17.9	22.1	26.2	23.0	18.4
Shell[3]	1.3	17.0	13.2	17.2	17.9	17.0	15.6	19.0	21.4	14.9	14.2	12.9	16.7
Gulf[4]	17.4	12.8	5.8	9.1	3.4	6.5	9.1	13.7	18.0	18.1	16.2	14.4	12.5
Texaco[5]	10.8	14.1	6.8	16.0	18.1	11.0	11.0	10.8	10.6	11.2	10.2	7.1	11.9
4 Majors[13]	70.0	68.4	43.8	59.7	53.0	46.7	47.9	59.3	68.0	66.4	66.9	57.4	59.6
BP				12.6	12.4	9.4	13.4	13.3					8.6
Sunoco[6]				6.5	7.2	6.6	4.9	7.4					4.7
Fina		16.5	4.2	8.1	4.8	3.2	1.9	3.3					4.0
Chevron[7]												19.2	2.4
Irving	15.7	14.5	48.9	2.1									1.7
Pacific Pet[9]									4.6	3.7	5.9	4.9	1.4
Ultramar[10]	14.4			1.9	6.0	0.8	2.7	1.3					1.3
Co-op[8]									3.5	10.2	3.2	0.3	0.7
Husky									1.1	1.7	3.0		0.3
Union Oil											0.6	1.0	0.2
Petro-Canada													
Turbo[11]													
Regionals[13]	30.1	31.0	53.1	31.3	30.5	20.0	22.9	25.4	9.2	15.6	12.7	25.5	25.1
Independents	—	0.7	3.1	9.0	16.6	33.3	29.2	15.3	22.8	18.0	20.4	17.2	15.3
Total[13]	100.1	100.1	100.0	100.0	100.1	100.0	100.0	100.0	100.0	100.0	100.0	100.1	100.0

Notes:

1. Greater Toronto includes Metro Toronto, Ajax/Pickering, Vaughan/Markham, Brampton/Bramalea, Mississauga.
2. Imperial includes Esso, Econo, Gain, Champlain, Home.
3. Shell includes Beaver, Gas Mart, Savex, Allouette.
4. Gulf includes Royalite and Henderson.
5. Texaco includes Regent, Independent.
6. Sunoco includes Pronto, Baron.
7. Chevron includes Standard.
8. Co-op (in the West) includes Tempo.
9. Pacific Pet includes Discount Gas (in Winnipeg, Edmonton and Vancouver).
10. Ultramar includes Golden Eagle, Arrow.
11. Turbo was included with the independents until it opened its refinery in 1982.
12. The above data are based on ownership information effective December 31, 1974.
13. The subtotals for Majors and Regionals and the Total may not add to the sum of their component parts due to rounding.

Source: Kent Marketing Services Limited data found in Exhibit M-77B.

TABLE J-2

Retail Gasoline Market Shares in Twelve Urban Areas, 1980[13]

	St. John's	Halifax-Dartmouth	Saint John	Montreal	Hull	Ottawa	Oshawa-Whitby	Greater Toronto[1]	Winnipeg	Regina	Edmonton	Vancouver	Total (Wgt. Avg.)
Imperial[2]	38.0	25.9	18.3	15.3	8.1	12.0	14.9	20.0	18.6	23.0	24.8	23.8	19.3
Shell[3]	—	13.1	7.2	16.7	13.4	15.0	12.0	19.8	22.1	12.1	15.1	14.7	16.9
Gulf[4]	17.7	10.6	5.3	8.7	3.2	8.0	6.7	12.5	16.9	16.5	14.7	14.9	11.8
Texaco[5]	8.5	12.2	3.6	13.9	19.1	12.6	19.8	10.2	7.8	9.7	7.4	4.8	10.5
4 Majors[14]	64.2	61.8	34.4	54.6	43.8	47.6	53.4	62.6	65.4	61.2	62.0	58.1	58.4
BP				12.6	14.2	12.3	11.9	12.5					8.1
Sunoco[6]				7.1	6.7	4.9	8.4	6.3					4.2
Fina		18.4	3.0	7.7	8.0	4.1	1.9	4.0					4.1
Chevron[7]												22.1	2.9
Irving	19.1	18.2	54.5	1.4									1.7
Pacific Pet													
Ultramar[9]	14.0			2.8	4.4	0.7	5.8	1.2					1.6
Co-op[8]									6.7	9.2	4.3	0.5	1.2
Husky[11]									2.3	2.4	4.5	0.8	0.7
Union Oil													
Petro-Canada[10]									6.7	6.0	8.1	5.1	1.9
Turbo[12]													
Regionals[14]	33.1	36.6	57.5	31.6	33.3	22.0	28.1	24.0	15.7	17.6	16.9	28.5	26.4
Independents	2.7	1.6	8.0	13.8	22.9	30.4	18.4	13.4	18.9	21.2	21.1	13.4	15.2
Total[14]	100.0	100.0	99.9	100.0	100.0	100.0	99.9	100.0	100.0	100.0	100.0	100.1	100.0

Notes:

1. Greater Toronto includes Metro Toronto. Ajax/Pickering, Vaughan/Markham, Brampton/Bramalea, Mississauga.
2. Imperial includes Esso, Econo, Gain, Champlain, Home.
3. Shell includes Beaver, Gas Mart, Savex, Allouette.
4. Gulf includes Royalite and Henderson.
5. Texaco includes Regent, Independent.
6. Sunoco includes Pronto, Baron.
7. Chevron includes Standard.
8. Co-op (in the West) includes Tempo.
9. Ultramar includes Golden Eagle, Arrow and XL.
10. Petrocan includes Pacific Pet and Discount Gas (in Winnipeg, Edmonton and Vancouver).
11. Husky includes Roco.
12. Turbo was included with the Independents until it opened its refinery in 1982.
13. The above data are based on ownership information effective December 31, 1980.
14. The subtotals for Majors and Regionals and the Total may not add to the sum of their component parts due to rounding.

Source: Kent Marketing Services Limited data found in Exhibit M-77B.

TABLE J-3

Retail Gasoline Market Shares in Twelve Urban Areas, 1984[13]

	St. John's	Halifax-Dartmouth	Saint John	Montreal	Hull	Ottawa	Oshawa-Whitby	Greater Toronto[1]	Winnipeg	Regina	Edmonton	Vancouver	Total (Wgt. Avg.)
Imperial[2]	32.8	22.2	16.2	13.7	4.1	9.5	8.1	14.5	15.1	21.7	22.0	17.2	15.4
Shell[3]	—	13.7	8.7	15.5	13.1	15.9	10.6	20.3	23.4	15.0	15.6	16.0	17.1
Gulf[4]	17.0	9.3	1.9	8.4	5.6	10.2	6.9	12.0	14.2	13.9	14.8	14.0	11.3
Texaco[5]	7.3	10.7	1.8	12.5	13.1	11.6	17.3	9.3	6.7	8.4	8.9	5.1	9.6
4 Majors[14]	57.1	55.8	28.6	50.2	36.0	47.3	42.9	56.1	59.4	59.0	61.3	52.4	53.5
BP													
Sunoco[6]				8.0	6.3	7.0	5.3	7.9					5.1
Fina													
Chevron[7]												24.4	3.3
Irving	22.4	20.5	55.2	1.1									1.7
Pacific Pet													
Ultramar[9]	15.4			6.3	11.6	1.2	2.5	1.8					2.4
Co-op[8]									3.9	6.9	2.0	0.4	0.5
Husky[11]									1.8	1.6	3.2	0.8	0.5
Union Oil													
Petro-Canada[10]	4.9	23.5	8.4	21.3	21.7	18.5	15.9	19.8	9.8	8.7	11.1	11.3	17.2
Turbo[12]									3.8	17.5	6.5	1.4	1.3
Regionals[14]	42.8	44.0	63.6	36.8	39.6	26.7	23.7	29.5	19.3	34.6	22.7	37.9	32.2
Independents	0.1	0.2	7.8	13.0	24.3	26.0	33.4	14.3	21.4	6.4	16.0	9.7	14.3
Total[14]	100.0	100.0	100.0	100.0	99.9	100.0	100.0	99.9	100.1	100.0	100.0	100.0	100.2

Notes:

1. Greater Toronto includes Metro Toronto, Ajax/Pickering, Vaughan/Markham, Brampton/Bramalea, Mississauga.
2. Imperial includes Esso, Econo, Gain, Champlain, Home.
3. Shell includes Beaver, Gas Mart, Savex, Allouette.
4. Gulf includes Royalite and Henderson.
5. Texaco includes Regent, Independent.
6. Sunoco includes Pronto, Baron.
7. Chevron includes Standard.
8. Co-op (in the West) includes Tempo.
9. Ultramar includes Golden Eagle, Arrow, XL, Lyle and Spur in Quebec and Ottawa.
10. Petrocan includes Pacific Pet and Discount Gas (in Edmonton and Vancouver), Merit, Pay-N-Save, BP and Fina.
11. Husky includes Roco.
12. The Turbo outlets in Ontario which were sold to Alberta Gas Chemicals Ltd. in December, 1984 are included with the Independents.
13. The above data are based on ownership information effective December 31, 1984.
14. The subtotals for Majors and Regionals and the Total may not add to the sum of their component parts due to rounding.

Source: Kent Marketing Services Limited data found in Exhibit M-783.

TABLE J-4

Average Annual Sales by Major-Brand and Second-Brand Outlets, 1973 (000's of gallons)

	Major Second-Brand Outlets	Major-Brand Outlets
Montreal	188	278
Greater Toronto	517	336
Winnipeg	352	269
Regina	643*	276
Edmonton	402	276
Vancouver	302	240

* Indicates that 1974 data was used.

Source: Kent Marketing Services Limited data found in Exhibit M-77.

TABLE J-5

Suncor Second-Brand Outlets, 1972-1982

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
Outlets	19	35	40	43	47	42	43	37	38	42	59
Total Volume (million gallons)	0.4	15.6	27.3	26.0	25.1	24.9	31.9	27.8	25.0	30.3	30.8

Source: Exhibit M-560, Table 6.

TABLE J-6

Volume of Industry Retail Gasoline Sales, 1950-1980

	1950	1960	1970	1980
Millions of gallons	1062	2452	4510	6933
Average annual growth in demand during decade		8%	6%	4%

Sources: Imperial Oil Limited estimates, 1950-1960. Statistics Canada, Catalogue No. 45-208, 1970. Statistics Canada, Catalogue No. 57-003, 1980, (Exhibit R-17, Vol. C, Book II, Tab X-6).

TABLE J-7(a)

Number of Outlets and Average Volume By Category of Retail Gasoline Outlet in Six Urban Markets, 1974, 1980 and 1984 (Thousands of gallons)

	Major Brands		Major Second-brands		Regional Refiners		Regional Second-brands		Independents		Industry	
	(#)	Vol.	(#)	Vol.	(#)	Vol.	(#)	Vol.	(#)	Vol.	(#)	Vol.
Montreal												
1974	(901)	309	(73)	186	(626)	239	(4)	920	(213)	206	(1817)	269
1980	(740)	473	(11)	652	(589)	343	(4)	1018	(231)	391	(1575)	415
1984	(668)	386	(9)	358	(503)	334	(71)	328	(265)	255	(1516)	343
Ottawa												
1974	(130)	328	(10)	422	(90)	223	(—)	—	(65)	515	(295)	340
1980	(115)	447	(5)	267	(74)	330	(—)	—	(69)	490	(263)	422
1984	(104)	496	(4)	355	(76)	382	(2)	409	(70)	415	(256)	437
Toronto												
1974	(647)	368	(28)	722	(313)	299	(4)	976	(119)	540	(1111)	378
1980	(440)	630	(48)	788	(267)	398	(10)	428	(115)	562	(880)	557
1984	(389)	574	(45)	736	(216)	455	(39)	667	(119)	564	(808)	554
Winnipeg												
1974	(279)	286	(8)	502	(39)	290	(—)	—	(74)	380	(400)	308
1980	(165)	548	(5)	688	(67)	321	(8)	119	(46)	591	(291)	493
1984	(155)	498	(—)	—	(75)	320	(4)	254	(44)	631	(278)	468
Edmonton												
1974	(242)	335	(7)	645	(51)	320	(—)	—	(66)	396	(366)	350
1980	(174)	705	(3)	592	(47)	678	(5)	417	(67)	632	(296)	678
1984	(198)	527	(—)	—	(75)	489	(4)	507	(68)	400	(345)	493
Vancouver												
1974	(419)	263	(77)	319	(226)	258	(1)	1554	(77)	525	(800)	294
1980	(285)	596	(18)	731	(169)	516	(7)	436	(84)	504	(563)	561
1984	(263)	546	(7)	538	(167)	593	(16)	462	(57)	478	(510)	551
Total												
1974	(2618)	317	(203)	350	(1345)	260	(9)	1015	(614)	385	(4789)	312
1980	(1919)	553	(90)	719	(1213)	390	(34)	425	(612)	491	(3868)	495
1984	(1777)	483	(65)	639	(1112)	409	(136)	445	(623)	395	(3713)	447

Notes:

1. Toronto covers Metro Toronto only.

2. *Majors* are Imperial, Gulf, Shell and Texaco.

3. *Regional Refiners* include Petro-Canada.

Source: Kent Marketing Services Limited data found in Exhibits M-77A, M-77B and M-783.

TABLE J-7(b)

Number of Outlets and Average Volume By Category of Retail Gasoline Outlet, Adjusted for Closed Outlets and Outlets with Unreported Volumes, in Six Urban Markets, 1974 and 1980 (Thousands of gallons)

	Major Brands		Major Second-brands		Regional Refiners		Regional Second-brands		Independents		Industry	
	(#)	Vol.	(#)	Vol.	(#)	Vol.	(#)	Vol.	(#)	Vol.	(#)	Vol.
Montreal												
1974	(818)	336	(30)	357	(559)	261	(4)	920	(179)	245	(1590)	301
1980	(708)	490	(11)	652	(571)	353	(3)	1075	(214)	416	(1507)	430
Ottawa												
1974	(124)	342	(8)	502	(83)	238	(—)	—	(63)	528	(278)	358
1980	(106)	479	(4)	318	(71)	343	(—)	—	(60)	557	(241)	456
Toronto												
1974	(582)	402	(26)	743	(297)	311	(3)	1302	(102)	617	(1010)	408
1980	(426)	648	(46)	811	(256)	411	(9)	487	(105)	615	(842)	579
Winnipeg												
1974	(250)	312	(6)	522	(36)	313	(—)	—	(73)	385	(365)	330
1980	(161)	560	(5)	688	(61)	347	(4)	226	(41)	660	(272)	525
Edmonton												
1974	(220)	396	(7)	645	(46)	350	(—)	—	(61)	424	(334)	400
1980	(166)	732	(2)	822	(45)	707	(5)	417	(56)	750	(274)	726
Vancouver												
1974	(385)	280	(73)	335	(215)	270	(1)	1554	(72)	562	(746)	311
1980	(278)	611	(17)	761	(160)	540	(7)	436	(75)	563	(537)	586
Total												
1974	(2379)	346	(150)	441	(1236)	278	(8)	1142	(550)	426	(4323)	342
1980	(1739)	572	(85)	750	(1164)	404	(28)	487	(551)	541	(3673)	518

Notes:

1. Toronto covers Metro Toronto only.

2. *Majors* are Imperial Oil, Gulf, Shell and Texaco.

3. *Regional Refiners* include Petro-Canada.

Source: Kent Marketing Services Limited data found in Exhibits M-77A, M-77B and M-783.

TABLE J-8

Major-Brand and Industry Retail Gasoline Outlets: Total and Self-Serve in 1970, 1973, 1975, 1980 and 1982

		1970	May 1973	Nov. 1975	1980	1982
Imperial	Total	6,752	n.a.	5,457	4,386	n.a.
	Self-serve	—	6	230	478	527
Shell	Total	5,856	n.a.	4,609	3,626	n.a.
	Self-serve	6	40	269	520	536
Gulf	Total	5,723	n.a.	4,451	2,770	n.a.
	Self-serve	n.a.	14	92	335	396
Texaco	Total	4,600*	n.a.	4,444	3,538	n.a.
	Self-serve	n.a.	1	192	461	472
4 Majors	Total	22,931	n.a.	18,961	14,320	n.a.
	Self-serve	n.a.	61	783	1,794	1,931
Industry	Total	35,703	n.a.	29,986	23,952	n.a.
	Self-serve	n.a.	93	1,231	2,758	2,961

* Estimate

n.a. Not Available.

Sources: 1. Exhibit S-5H, Table 2 which is based on data found in *National Petroleum News Factbook* and *Oilweek*.
2. *Automotive Marketer*, various issues, as reported in Exhibit M-451, Vol. C, Book II at Tab X-7.

TABLE J-9

Retail Gasoline Outlets: Total and Self-Serve, By Company in 1976 and 1981

		1976	1981	% inc. or(dec.)	Self-serve as % outlets
		(#)	(#)	(%)	1981 (%)
Gulf	Total	4,451	2,765	(38)	
	Self-Serve	178	361	103	13
Imperial	Total	5,457	4,125	(24)	
	Self-Serve	298	496	66	12
Shell	Total	4,599	3,675	(20)	
	Self-Serve	365	536	47	15
Texaco	Total	4,444	3,005	(32)	
	Self-Serve	340	493	45	16
4 Majors	Total	18,951	13,570	(28)	
	Self-Serve	1,181	1,886	60	14
BP	Total	1,879	1,658	(12)	
	Self-Serve	176	230	31	14
Chevron	Total	436**	343	(21)**	
	Self-Serve	37	58	57	17
Fed. Co-op	Total	397	404	2	
	Self-Serve	60	96	60	24
Husky	Total	261	326	25	
	Self-Serve	22	29	32	9
Pacific Petroleum* - Petro-Canada	Total	400	363	(9)	25
	Self-Serve	61	91	(49)	
Petrofina*	Total	1,462	941	(36)	
	Self-Serve	32	104	225	11
Sunoco	Total	1,105	921	(17)	
	Self-Serve	157	194	24	21
Ultramar	Total	610	875	43	
	Self-Serve	18	14	(22)	2
Total Regional Refiners	Total	6,550	5,831	(11)	
	Self-Serve	563	816	45	14

TABLE J-9 (cont'd)

Retail Gasoline Outlets: Total and Self-Serve, By Company in 1976 and 1981

		1976	1981	% inc. or(dec.)	Self-serve as % outlets
		(#)	(#)	(%)	1981 (%)
Caloil	Total	133	80	(40)	
	Self-Serve	2	2	0	3
Canadian Tire	Total	62	72	16	
	Self-Serve	39	59	51	82
Mohawk	Total	196	257	31	
	Self-Serve	18	31	72	12
Pioneer	Total	37	60	62	
	Self-Serve	13	6	(54)	10
Top Valu	Total	16	107	569	
	Self-Serve	n.a.	4	n.a.	4
Turbo	Total	219	289	32	
	Self-Serve	9	3	(67)	1
Total Reporting Independents	Total	663	865	30	
	Self-Serve	81	105	30	12

* Petro-Canada acquired Pacific Petroleum in 1979 and Petrofina in 1981.

** In this case 1977 data was used.

Source: See Exhibit R-94, pp. 104-105 which is based on various editions of *Automotive Marketer*.

TABLE J-10

Imperial Oil's Estimate of Equilibrium Price[1] Differentials in 1978, 1981 (3rd Quarter) to 1982 (1st Quarter) and 1983

	Cents Per Litre			Cents Per Gallon		
Offering	1978	1981/82	1983	1978	1981/82	1983
Private-Brand Self-Serve/ and Second-Brand Self-Serve[2]	X	X	X	X	X	X
Private-Brand Served/ and Second-Brand Served	X+0.22	X+0.1	X+0.1	X+1	X+0.455	X+0.455
Major-Brand Self-Serve	X+0.44	X+0.2	X+0.2	X+2	X+0.91	X+0.91
Major-Brand Served	X+0.88 to 1.1	X+0.8 to 1.2	X+0.7	X+4 to 5	X+3.64 to 5.46	X+3.18

Notes:

1. All prices are quoted relative to the price at retail for private-or-second-brand self-serve outlets which is indicated by X.
2. Imperial Oil reported that private-brand (PBD) self-serve outlets in Montreal priced the same as PBD full-service outlets because there were only a few PBD self-serve outlets in that city.

Source: Exhibit M-451, XIV-40 for 1978, Exhibit M-462, Tab 1, pp. 1592-1593 for Third Quarter 1981 to First Quarter 1982 and Exhibit M-617, tab 32 for 1983.

TABLE J-11

Implicit Increase in Pump Capacity of Self-Serve Outlets Required to Keep the Total Retail Capacity of Major Refiner Marketers — Individually and as a Group — and Other Marketers of Gasoline Constant In Selected Urban Areas, 1974 to 1980

	Montreal	Metro Toronto	Ottawa	Winnipeg	Edmonton	Vancouver
Imperial Oil	3.3	1.8	3.2	2.9	2.1	3.5
Shell	1.4	2.3	1.0	2.0	1.3	2.0
Gulf	1.6	3.6	1.2	4.4	2.0	3.7
Texaco	1.4	1.5	1.1	2.8	1.9	2.9
Majors' sub-total	1.9	2.1	1.5	2.9	1.8	3.1
Industry excl. Majors	0.8	1.4	1.4	1.1	1.0	2.1
Industry Total	1.5	1.9	1.5	2.5	1.5	2.7

Note: The above figures were derived by dividing the number of outlets (excluding self-serve) which were closed between December 31, 1974 and December 31, 1980 by the number of self-serve outlets that were opened after the end of 1974 and which remained in operation at the end of 1980.

Source: Kent Marketing Services Limited data found in Exhibit M-77B.

TABLE J-12

Volume[1] of Retail Motor Gasoline Sales In Selected Urban Areas 1974 and 1980 (In 000's of litres)

	1974	1980	Percentage (%) Change[2] 1974-80
Montreal	2,175,713	2,945,912	30.1
Metro Toronto	1,873,353	2,235,440	17.6
Ottawa	452,445	499,597	9.9
Winnipeg	547,577	647,945	16.8
Edmonton	607,358	911,800	40.1
Vancouver	1,054,720	1,440,338	30.9
Total	6,711,166	8,681,032	25.6

Notes:

1 The volume of sales are based on Kent data which have been adjusted to remove the volume of outlets which closed during the years 1974 and 1980.

2 The percentage change is calculated by taking the difference between 1980 and 1974 as a percentage of the average of the volumes in both years.

Source: Kent Marketing Services Limited Data found in Exhibit M-77B.

TABLE J-13

Number and Market Share of "Unbranded" Outlets: 1974, 1980 and 1984

	1974		1980		1984	
	(#)	%	(#)	%	(#)	%
St. John's	—	—	(1)	1.5	(1)	0.1
Halifax/ Dartmouth	—	—	—	—	—	—
Saint John	—	—	—	—	—	—
Montreal	(38)	1.6	(44)	1.7	(52)	2.0
Hull	(3)	1.5	—	—	(1)	0.3
Ottawa	(32)	12.1	(24)	9.1	(16)	4.7
Oshawa/ Whitby	(8)	7.2	(6)	4.3	(2)	0.4
Greater Toronto	(73)	6.2	(56)	4.1	(36)	2.0
Winnipeg	(8)	4.3	(14)	2.8	(4)	0.8
Regina	(7)	3.7	(6)	3.1	(3)	0.3
Edmonton	(8)	2.1	(1)	—	(11)	2.8
Vancouver	(8)	1.3	(20)	1.4	(7)	0.6

Source: Kent Marketing Services Limited data found in Exhibits M-77B and M-783.

K

Gross Margins Available to Independent/Private-Brand Resellers of Heating Oil and Motor Gasoline

This Appendix provides an explanation of the data and methodology used to derive the annual (1973 to 1982) and monthly (1979 to 1983) gross margins available to independent/private-brand resellers of home heating oil and motor gasoline as shown in Appendix Tables L-1 to L-18. These tables are discussed in Chapter XVI, The Pricing of Gasoline and Chapter XVIII, The Heating Oil Sector. The annual gross margins represent the difference between retail prices and simple averages of refiner sales realizations from independent resellers. The monthly gross margins were not only based on simple average realizations data, but also on weighted (by volume) sales realizations data. Both the annual and monthly gross margin tables were converted to constant 1981 figures to adjust for inflation. The gross margins are shown in the tables in nominal and constant dollars. Annual averages of the monthly gross margins were also calculated to allow comparisons with the set of annual gross margin tables.

1. Annual Gross Margins (Tables L-1 to L-6)

This section describes the information that was used to estimate the annual gross margins available to the average reseller of home heating oil and motor gasoline in Quebec/Atlantic Canada and Ontario for 1973 to 1982. The sources of the data used are listed on Tables L-1 to L-6.

(a) Description of Data

(i) *Home heating oil or furnace oil* data on sales realizations to independent/private-brand resellers were reported by Shell and Gulf for 1973 to 1982 and by Imperial Oil for 1977 to 1980. Average annual sales realizations for the two sectors, as reported by Shell and Gulf for Ontario

and Quebec/Atlantic Canada,[1] are shown on Table L-2. (The 1977 to 1980 data for Imperial Oil are not included for reasons of historical continuity. Inclusion of these data would have produced almost identical gross margin results.) The gross margins represent the difference between the annual average of Statistics Canada's monthly residential[2] retail price in the metropolitan areas of Toronto and Montreal for No. 2 furnace oil and sales realizations. These annual prices are weighted average monthly prices calculated by Statistics Canada.

The inflation-adjusted commercial/industrial (C/I) sector sales realizations data were further adjusted by deducting 1.1 in constant 1981 cents per litre for the delivery and related costs,[3] assumed to be included in C/I sector realizations, to allow comparisons with the reseller (PBD) sales realizations figures. This was necessary because the PBD figures represent FOB sales prices at the refinery rack or terminal/distribution point while the C/I sector realizations data are CIF or delivered sales prices. These adjusted figures were used to estimate the implicit wholesale margins available to independent resellers on sales of heating oil to the C/I sector. The C/I "market" consists of consumers such as large manufacturing plants, commercial buildings, institutions at all levels of government, and apartment buildings.

(ii) *Motor gasoline* sales realizations data for the regular leaded grade were reported by Shell and Gulf for 1973 to 1982, Suncor for 1974 to 1982 and Imperial Oil for 1977 to 1980. The gross margin estimates for regular leaded gasoline in 1973 to 1982 (and various sub-periods) represent the difference between retail prices for selected types of gasoline outlets in the metropolitan areas of Toronto and Montreal and the sales realizations data noted above for Ontario and Quebec/Atlantic Canada.[4] (The Imperial Oil data were excluded for historical continuity reasons. Inclusion of these data would have produced almost identical results.) The selected retail prices include: (a) Statistics Canada's annual weighted average of its monthly full-service and self-serve prices for 1973 to 1982 and 1976 to 1982, respectively and (b) simple annual averages of the Kent Marketing Services Limited retail price information obtained for Energy, Mines and Resources Canada

1. Western Canadian reseller data were not examined because the reseller complaints were from Eastern Canada. Natural gas has been the primary heating fuel in the West.
2. Residential sales probably represented over 70 per cent of resellers' heating oil sales.
3. The June 1979 Energy, Mines and Resources Canada task force study on heating oil (see Exhibit C-198B) estimated that the delivery and marketing costs included in C/I sector realizations in 1979 amounted to 0.88 cents per litre or 1.1 in 1981 cents per litre. This was comparable to delivery costs reported by several resellers.
4. Although some complaints were received from resellers in British Columbia, the data were only sufficient to examine the gross margins of resellers in Eastern Canada.

(Kent/EM&R) in 1973 to 1979[5] for outlets categorized as (i) national refiner major-brand self-serve, (ii) national refiner second-brand full-service and (iii) independent reseller full-service. The Kent price surveys were carried out at a rate of two to six times per year. It is impossible to say whether this number of samples is adequate without knowing whether prices were volatile. The price and realizations data were adjusted to include only federal sales tax in order to standardize the data received from all companies and to allow comparisons between provinces/regions.[6]

Sales realizations data for commercial/industrial accounts and independent reseller accounts were reported by Shell and Gulf for regular leaded and regular unleaded gasoline.[7] The inflation-adjusted commercial/industrial sector sales realizations figures were further adjusted by deducting 0.4 in constant 1981 cents per litre for delivery costs[8] to allow comparisons with reseller sales realizations figures. This was required because the latter figures represent FOB refinery or storage terminal prices while the former figures are CIF or delivered prices.

Annual gross margin estimates for regular unleaded gasoline are not shown because of the lack of sufficient historical data for trend analysis.

2. Monthly Gross Margins (Tables L-7 to L-18)

Data were received from Imperial Oil, Shell, Gulf, Texaco, Petro-Canada and Suncor in response to the Commission's January 23, 1984 request for information (see Exhibit M-727) on sales to each of the smallest and largest independent/private-brand resellers of heating oil and motor gasoline (all three grades)[9] from 1979 to 1983 in Greater Toronto and Greater Montreal.

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5. The 1980 data, available to August only, are not used because they are not comparable to the full year data for 1973 to 1979.
6. The Gulf realizations data had to be adjusted by adding the federal sales tax. For 1973 to March 1, 1977, the tax was calculated as 1.107 times the Gulf realizations figure. From March 2, 1977 to April 21, 1980, the tax was at a flat rate of 1.1 cents per litre. On April 22, 1980 it became an *ad valorem* of 9 per cent on the refiner's sales price.
7. Comparative realizations data for these two sets of accounts were only reported by Shell, Gulf and Imperial Oil. However, Shell reported no data prior to 1978 for regular unleaded gasoline because its sales prior to that data were nil or negligible. The Imperial Oil data were not used in order to maintain historical continuity. Therefore, the 1973 to 1977 realizations data for regular unleaded gasoline are for Gulf only.
8. This estimate for delivery costs is based on evidence reported by several refiners and resellers on delivery costs within large urban centers, such as, Toronto and Montreal.
9. Tables for premium unleaded gasoline are not shown here.

A third category of buyer was added ("grouped") when all refiners were not able to provide the required size breakdown. The sources of the data are listed at the end of Table 1.

The simple average gross margins represent the difference between the mean/average net residential heating oil prices (or for gasoline the self-serve pump prices net of all taxes, except the federal sales tax) and the simple average sales realizations or wholesale prices paid by each of the reseller categories for heating oil (or, for each of the grades of gasoline). The nominal gross margins were converted into constant 1981 cents per litre using the monthly consumer price indices for Toronto and Montreal.

The sales volume data provided by all companies was used to derive gross margins based on weighted average realizations for the three categories of resellers. These provide a more representative industry figure given the uneven distribution of reseller sales observed among petroleum companies.

(a) Description of Data

(i) *Respecting home heating or furnace oil*, residential prices (net of any discounts or allowances) were reported by Imperial Oil, Shell, Gulf, Texaco and Petro-Canada[10] (the latter for 1981 and 1983 only). However, sales realization data, and corresponding volume data, on each of the largest two resellers in both metropolitan areas were only provided by Texaco for 1979 to 1983 and by Petro-Canada for 1981 to 1983. Gulf also provided these data for Montreal, but the data in Toronto were for the largest reseller only. For each of the smallest two resellers, complete information was available from Gulf (for Montreal only), and Petro-Canada (for Toronto in 1982 and 1983 and for Montreal in 1981 to 1983). Texaco provided data on its smallest reseller only. Imperial Oil and Shell reported data on average or grouped reseller realizations and volume covering sales to all their resellers (that is, for resellers as a group).[11]

The definitions of the market area which the above data covered also varied by company. Imperial Oil provided information on total transactions with resellers in both Ontario and Quebec. Estimated transportation costs were subtracted from this realization data to net the numbers back to the

10. Suncor did not provide price or sales realizations data for heating oil. See Table 1 for the heating oil sample composition by category of reseller per city for each of the years 1979 to 1983.

11. Single reseller data reported by Gulf for the largest two reseller category were also included under the grouped reseller category in metropolitan Toronto because it represented the totality of Gulf's reseller sales in that city for 1979 to 1983.

supplying refinery.[12] (Large spot sales were also excluded from these data.[13]) According to Imperial Oil, the large reseller accounts it supplied only picked up a portion of their total provincial liftings in Toronto and Montreal, respectively (with considerable variations from month to month).

Shell indicated that its reseller base was too small to allow for any meaningful breakdown of its realization data into categories of resellers. Its market areas were Toronto/Oakville and Montreal. Gulf, Texaco and Petro-Canada reported data for Greater Toronto and Greater Montreal.

The range of monthly realizations data or wholesale prices were very close to the range of wholesale prices published for Toronto and Montreal by *Oil Buyers' Guide* as well as the occasional wholesale prices reported by several resellers during the hearings.

Some refiners argued in their response that a straight monthly comparison of net residential prices and sales realization or wholesale rack prices may provide misleading gross margin estimates because resellers generally hold on to their heating oil for several months[14] before selling it at retail. Accordingly, several refiners suggested that it might be more appropriate to compare lagged sales realization data with current monthly residential prices. This suggestion was not acted upon because an examination of monthly volume purchases by the independent resellers generally showed that heating oil liftings from the refiners were mostly during the fall and winter. That is, the amount of heating oil purchased in the off-season months of May to August was not significant enough to warrant such a lagged price analysis.

The smallest resellers' annual volume of purchases from refiners was generally below 2.1 million litres which is less than one half of the required minimum efficient volume for a heating oil distributor with a single tanker truck (see Table 2). Such low-volume sales figures may represent a situation where the purchaser is buying from more than one supplier (either another reseller or another refinery). The small average volume size of resellers in Quebec in particular, but in Ontario as well, however, allows for the possibility that the resellers were buying from a single supplier.

(ii) *Respecting gasoline*, the Commission decided, after the petroleum companies reported that it would not be feasible to provide retail price data

12. These were Sarnia and Montreal.

13. Overlapping annual data for 1979/1980 from other Imperial data indicated that this exclusion lowered Imperial Oil's average realization figures by 0.4 cents per litre.

14. That is, they would fill up their storage tanks in summer (or early fall) for sales commencing in the fall (or over the winter).

on their second-brand networks in Toronto/Montreal, to request monthly pump prices at company controlled self-serve outlets. The prices were requested for regular leaded, regular unleaded and premium unleaded. (The retail pump prices reported by most companies had to be adjusted to remove provincial taxes and/or federal excise taxes to make them comparable to the sales realizations data[15] also requested on gasoline sales to resellers).

Imperial Oil was only able to provide prevalent pump prices for regular leaded gasoline for Toronto/Montreal. Its prevalent prices were defined to be the most commonly occurring prices at its Esso self-serve outlets on a specific day per month. Shell reported price data for the larger markets of Southern Ontario and the St. Lawrence River Valley of Quebec because of (a) the need to match the pump price data with realizations data which were only available (net of price support) for the larger market and (b) the observation that while resellers might pick up at Toronto or Montreal they also delivered to points outside those cities and as a result average pump prices over these wider areas would be more representative of competitive pump price levels. Although the Shell price data covered both its full-service and self-serve company-operated outlets, the use of these data was necessary for statistical reasons because of the limited number of companies reporting price data for unleaded grades of gasoline.[16] This inclusion of full-service outlets creates some upward bias to the measured gross margins of independents relative to self-serve outlets.

Gulf provided the average monthly prices at 17 and 23 of its company-operated (Servico) self-serve outlets in Toronto and Montreal, respectively. These individual outlet prices were averaged by Commission staff to obtain mean prices for Toronto and Montreal. Petro-Canada provided the average monthly sales price at its company-operated outlets (i.e., 10 and 10 car wash facilities with self-serve pumps in Toronto and Montreal, respectively), but only for 1981 to 1983. No pump price data were available from Texaco and Suncor.

Availability of information on gasoline sales realizations and volume of sales, by category of reseller, varied considerably by company.[17] Data on the

15. This was requested net of any price supports available to resellers and on a federal sales tax inclusive basis only in order to standardize the data received from all companies and to allow comparisons between cities in Ontario and Quebec.
16. While Statistics Canada monthly self-serve pump prices were available they were found to be less comparable to this sample's average prices for the 1982 to 1983 price war period.
17. The following sample descriptions pertain to the availability of regular leaded gasoline data. For the two other gasoline grades, similar sample characteristics were observed. See Table 1 for the sample composition for each grade of gasoline.

largest two resellers were reported by Gulf (for Toronto, the data were only for one large reseller from 1981 to 1983), Texaco (for 1979 to May 1980 in Toronto and for 1983 in Montreal, the data were for only one large reseller) and Petro-Canada for 1981 to 1983 (for Montreal, the data were reported for one reseller from 1979 to May 1981, inclusive and then for two resellers for the remainder of the period). For the smallest two resellers, data were provided by Gulf (for 1979 to 1983 in Montreal and for 1979 to 1980 in Toronto), Texaco (on the smallest reseller only) and Petro-Canada for 1982 to 1983 (in Toronto only).

Imperial Oil, Shell and Suncor only provided average realizations data on their sales to resellers as a group.[18] Imperial Oil's data excluded large spot sales. Overlapping annual data for 1979/1980 from other Imperial data indicated that this exclusion lowered Imperial's realization figures by 1.1 to 0.44 cents per litre. The Imperial Oil and Suncor data had to be adjusted by adding the federal sales tax[19] in order to make their figures comparable to other company data.

Gulf in its response to the Commission (exhibit M-728) had stated that its monthly sales realizations for gasoline included federal tax. These data were therefore combined as reported with other company figures to generate the average realizations data used to calculate the gross margins shown in Tables L-11 to L-18. It was later discovered that these realizations figures matched wholesale prices reported elsewhere by Gulf (see item 5 of exhibit M-615) for 1982 and 1983 which were identified as being on a tax exclusive basis. The Commission was subsequently informed by Gulf that the notation in exhibit M-728 was incorrect and that the monthly realizations data reported therein were on a tax exclusive basis for 1979 to 1983 (see exhibit M-806). However, the addition of federal sales tax to these monthly realizations for 1979 to mid-1981 produced figures which greatly exceeded those reported by other refiners. Moreover the annual average of the monthly gross margins calculated with unadjusted Gulf data was found to be comparable to that shown on the annual gross margin table. Therefore, while the use of the unadjusted Gulf data has produced wide variations in monthly margins it does not appear to have greatly affected the annual average calculated from these monthly margins.

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18. Single reseller data reported by Gulf and Petro Canada for the largest two reseller category were also included under the grouped reseller category in Toronto and Montreal, respectively, when these companies indicated that these data represented the totality of their reseller sales for a particular month or year.

19. From 1979 to April 21, 1980 the federal sales tax was set on a per unit basis, while from April 22, 1980 onwards it was a nine per cent ad valorem tax on the manufacturer's sales price. The per unit tax data per grade of gasoline were obtained from Energy, Mines and Resources Canada.

The small volumes (see Table 2) purchased by the smallest category of gasoline resellers possibly indicate that these sales concerned small spot transactions or even purchases by individual retail outlets rather than the volume of purchases expected from resellers performing a wholesale and retail function.

TABLE K-1

Sample Composition for Sales Realizations Data Averages

(a) HOME HEATING OIL		
(1) Greater Toronto/Ontario		
— Largest Two:	1979 to 1980:	Gulf (1), Texaco (2)
	1981 to 1983:	Gulf (1), Texaco (2), Petro-Canada (2)
— Smallest Two:	1979 to 1981:	Texaco (1)
	1982 to 1983:	Texaco (1), Petro-Canada (2)
— Grouped Resellers:	1979 to 1983:	Imperial, Shell, Gulf (1)
(2) Greater Montreal/Quebec		
— Largest Two:	1979 to 1980:	Gulf (2), Texaco (2)
	1981 to 1983:	Gulf (2), Texaco (2), Petro-Canada (2)
— Smallest Two:	1979 to 1980:	Gulf (2), Texaco (1)
	1981 to 1983:	Gulf (2), Texaco (1), Petro-Canada (2)
— Grouped Resellers:	1979 to 1983:	Imperial, Shell
(b) REGULAR LEADED GASOLINE		
(1) Greater Toronto/Ontario		
— Largest Two:	1979:	Gulf (2), Texaco (1)
	1980:	Gulf (2), Texaco (2)
	1981 to 1983:	Gulf (1), Texaco (2), Petro-Canada (2)
— Smallest Two:	1979 to 1980:	Gulf (2), Texaco (1)
	1981:	Texaco (1)
	1982 to 1983:	Petro-Canada (2), Texaco (1)
— Grouped Resellers:	1979 to 1980:	Imperial, Shell, Suncor
	1981 to 1983:	Imperial, Shell, Suncor, Gulf (1)

TABLE K-1 (cont'd)

(2) Greater Montreal/Quebec

— Largest Two:	1979 to 1980:	Gulf (2), Texaco (2)
	1981 to 1982:	Gulf (2), Texaco (2), Petro-Canada (2)
	1983:	Gulf (2), Texaco (1), Petro-Canada (2)
— Smallest Two:	1979 to 1983:	Gulf (2), Texaco (1)
— Grouped Resellers:	1979 to 1980:	Imperial, Shell, Suncor
	1981 to 1983:	Imperial, Shell, Suncor,

(c) REGULAR UNLEADED GASOLINE

(1) Greater Toronto/Ontario

— Largest Two:	1979:	Gulf (2), Texaco (1)
	1980:	Gulf (2), Texaco (2)
	1981 to 1983:	Gulf (1), Texaco (2), Petro-Canada (2)
— Smallest Two:	1979 to 1980:	Gulf (2)
	1981:	Texaco (1)
	1982 to 1983:	Petro-Canada (2)
— Grouped Resellers:	1979:	Imperial, Shell, Suncor, Texaco (1)
	1980:	Imperial, Shell, Suncor, Texaco (1), Gulf (1)
	1981:	Imperial, Shell, Suncor, Gulf (1)
	1982 to 1983:	Imperial, Shell, Suncor, Texaco (1), Gulf (1)

(2) Greater Montreal/Quebec

— Largest Two:	1979 to 1980:	Gulf (2), Texaco (2)
	1981 to 1982:	Gulf (2), Texaco (2), Petro-Canada (2)
	1983:	Gulf (2), Texaco (1), Petro-Canada (2)
— Smallest Two:	1979 to 1983:	Gulf (2), Texaco (1)
— Grouped Resellers:	1979 to 1980:	Imperial, Shell, Suncor
	1981 to 1983:	Imperial, Shell, Suncor

(d) PREMIUM UNLEADED GASOLINE

(1) Greater Toronto/Ontario

— Largest Two:	1979:	Gulf (2), Texaco (1)
	1980:	Gulf (2), Texaco (2)
	1981 to 1983:	Gulf (1), Texaco (2), Petro-Canada (2)
— Smallest Two:	1979 to 1980:	Gulf (2)
	1981:	n.a.
	1982 to 1983:	Petro-Canada (2)
— Grouped Resellers:	1979 to 1980:	Imperial, Shell, Suncor, Texaco (1), Gulf (1)
	1981 to 1982:	Imperial, Shell, Suncor, Gulf (1)

TABLE K-1 (cont'd)

	1983:	Imperial, Shell, Suncor, Texaco (1), Gulf (1)
(2) Greater Montreal/Quebec		
— Largest Two:	1979 to 1980:	Gulf (2), Texaco (2)
	1981 to 1982:	Gulf (2), Texaco (2), Petro-Canada (2)
	1983:	Gulf (2), Texaco (1), Petro-Canada (2)
— Smallest Two:	1979 to 1983:	Gulf (2), Texaco (1)
— Grouped Resellers:	1979 to 1980:	Imperial, Shell, Suncor
	1981 to 1983:	Imperial, Shell, Suncor

Notes:

1. The figures in parentheses indicate whether the company concerned reported data for its (2) largest or smallest resellers or for only (1) large or small reseller.
2. Volume data were generally available for the samples described above, except for the summer months for heating oil when no sales volumes were often observed.

Sources:

(a) Imperial Oil — Exhibit M-734 and Exhibit M-735 Confidential.

(b) Shell — Exhibits M-738 Confidential and M-759 Confidential.

(c) Gulf — Exhibits M-724 for 1979 to 1981, M-728 Confidential for 1982 to 1983 and M-806.

(d) Texaco — Exhibits M-726 for 1979 to 1980, M-730 Confidential for 1981 to 1983 and M-771 Confidential for 1979 to 1983.

(e) Petro-Canada — Exhibit M-742 Confidential

(f) Suncor — Exhibits M-672, item 12 for 1979 to 1981 and M-673 Confidential for 1982 to 1983.

TABLE K-2

Volumes of Heating Oil and Motor Gasoline Purchased By Each of The Smallest Two Resellers (000's of litres)

	A. HEATING OIL				
	Gulf		Texaco	Petro-Canada	
	(1)	(2)	(1)	(1)	(2)
			A. Montreal		
1979	154	423	2,480	n.a.	n.a.
1980	171	490	2,056	n.a.	n.a.
1981	160	338	1,532	1,808	580
1982	115	211	1,267	1,984	375
1983	248	415	1,362	2,002	516
			B. Toronto		
1979	—	—	2,044	n.a.	n.a.
1980	—	—	2,007	n.a.	n.a.
1981	—	—	1,776	n.a.	n.a.
1982	—	—	1,553	1,959	1,299
1983	—	—	1,470	1,069	1,110
	B. MOTOR GASOLINE				
	Gulf		Texaco	Petro-Canada	
	(1)	(2)	(1)	(1)	(2)
			A. Montreal		
1979	592	1,475	1,125	n.a.	n.a.
1980	528	1,171	1,454	n.a.	n.a.
1981	397	705	1,114	n.a.	n.a.
1982	1,045	750	848	—	—
1983	606	937	51	—	—
			B. Toronto		
1979	6,266	8,667	274	n.a.	n.a.
1980	5,341	2,902	240	n.a.	n.a.
1981	—	—	250	n.a.	n.a.
1982	—	—	184	3,050	2,279
1983	—	—	97	777	594

Source: See the sources listed for Gulf, Texaco and Petro-Canada in Table 1.

L

Tabular Data Related to Analysis of Gross Margins

TABLE L-1

Annual Gross Margins Available to Independent Resellers of Heating Oil, 1973 to 1982, In Nominal and Constant 1981 Cents Per Litre

	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
A. Gross Margin Derived by Deducting from the Average Annual Residential Price (b), the Simple Average of Sales Realizations as Reported by:										
1. Shell(c) and Gulf(d) for Ontario	1.94	2.47	2.16	2.82	3.09	3.23	2.75	2.60	4.45	6.00
2. Shell and Gulf for Quebec/Atlantic Canada	2.05	2.00	2.32	3.04	2.99	3.46	2.54	2.88	4.80	7.46
B. Gross Margin(a) in Constant 1981 Cents Derived by Deducting from the Average Annual Residential Price (b), the Simple Average of Sales Realizations as Reported by:										
1. Shell and Gulf for Ontario	4.03	4.64	3.67	4.46	4.54	4.37	3.41	2.93	4.45	5.39
2. Shell and Gulf for Quebec/Atlantic Canada	4.29	3.76	3.93	4.83	4.38	4.68	3.15	3.24	4.80	6.69

Notes and Sources:

(a) The gross margin figures in Part A were adjusted to remove the effect of inflation. For Ontario and the Quebec/Atlantic Canada region, the Toronto and Montreal CPI indices were used.

(b) The average annual residential prices used in the above calculations are for Toronto and Montreal. These were obtained from the Prices Division of Statistics Canada.

(c) For Shell, the data are from Exhibit M-664, Tab 25714 for 1973 to 1980 and Exhibit M-664A Confidential, Tab 25714 for 1981 to 1982.

(d) For Gulf, the data are from Exhibits M-614 and M-615 Confidential for 1973 to 1980, and 1981 to 1982, respectively.

TABLE L-2

Annual Realizations by Refiners on Sales of Heating Oil to Commercial/Industrial (CI) Accounts and to Independent Resellers (PBD), 1973 to 1982, In Nominal and Constant 1981 Cents Per Litre

	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
A. The Simple Average of CI/PBD Sales Realizations as Reported by:										
1. Shell(c) and Gulf(d) for Ontario	3.98	5.81	7.24	7.90	8.68	9.99	11.82	15.36	21.30	24.94
	3.76	4.73	5.98	6.78	7.91	9.37	11.28	14.25	19.85	23.70
2. Shell and Gulf for Quebec/Atlantic Canada	4.64	6.64	7.99	8.68	9.69	10.84	12.80	16.87	23.50	26.78
	3.85	5.70	6.18	6.76	8.11	9.14	11.86	14.42	20.10	22.98
B. The Simple Average of CI/PBD Sales Realizations(a) in Constant 1981 Cents as Reported by:										
1. Shell and Gulf for Ontario	8.27	10.92	12.29	12.50	12.75	13.52	14.65	17.28	21.30	22.41
	7.82	8.89	10.15	10.73	11.62	12.68	13.98	16.03	19.85	21.29
2. Shell and Gulf for Quebec/Atlantic Canada	9.71	12.48	13.54	13.78	14.21	14.67	15.88	18.96	23.50	24.00
	8.05	10.71	10.48	10.73	11.89	12.37	14.72	16.20	20.10	20.59
C. The Simple Average of CI Sales Realizations (Minus Delivery Costs)(b) and PBD Sales Realizations in Constant 1981 Cents as Reported by:										
1. Shell and Gulf for Ontario	7.17	9.82	11.19	11.40	11.65	12.42	13.55	16.18	20.20	21.31
	7.82	8.89	10.15	10.73	11.62	12.68	13.98	16.03	19.85	21.29
2. Shell and Gulf for Quebec/Atlantic Canada	8.61	11.38	12.44	12.68	13.11	13.57	14.78	17.86	22.40	22.90
	8.05	10.71	10.48	10.73	11.89	12.37	14.72	16.20	20.10	20.59

Notes and Sources:

(a) The average annual realizations in Part A were adjusted to remove the effect of inflation. For Ontario and the Quebec/Atlantic Canada region, the Toronto and Montreal CPI indices were used.

(b) The inflation adjusted average annual realizations for commercial/industrial accounts in Part B were further adjusted by deducting 1.1 in constant 1981 cents per litre for delivery costs based on the estimate of 0.88 cents per litre for 1979 in the June 1979 Department of Energy, Mines and Resources Canada task force study at Table IV, note 2 of Exhibit C-198B.

(c) For Shell, the data are from Exhibit M-664, Tab 25714 for 1973 to 1980 and Exhibit M-664A Confidential, Tab 25714 for 1981 to 1982.

(d) For Gulf, the data are from Exhibits M-614 and M-615 Confidential for 1973 to 1980 and 1981 to 1982, respectively.

TABLE L-3

Selected Annual Gross Margins Available to Independent Resellers of Regular Leaded Gasoline, 1973 to 1982, In Cents Per Litre

	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
Gross Margin Derived by Deducting the Simple Average of Sales Realizations to Independent Resellers Reported by (i) Shell and Gulf(c) and (ii) Shell, Gulf and Suncor(c) From Selected Annual Retail Pump Prices(d)										
A. TORONTO PRICES — ONTARIO SALES REALIZATIONS										
1. Statistics Canada — Full-Service(a)										
a) Shell and Gulf	3.71	3.63	3.34	3.55	3.60	3.87	4.13	4.70	6.59	7.29
b) Shell, Gulf and Suncor	n.a.	3.36	3.21	3.40	3.57	3.77	4.09	4.47	6.54	7.48
2. Statistics Canada — Self-Serve(a)										
a) Shell and Gulf	n.a.	n.a.	n.a.	2.41	2.37	2.94	3.23	3.05	4.49	4.99
b) Shell, Gulf and Suncor	n.a.	n.a.	n.a.	2.31	2.34	2.87	3.19	2.87	4.44	5.18
3. Kent/EMR—National Major Refiner Self-Serve(b)										
a) Shell and Gulf	2.29	2.27	1.83	2.13	2.26	3.07	3.46	n.a.	n.a.	n.a.
b) Shell, Gulf and Suncor	n.a.	1.98	1.70	2.03	2.23	3.00	3.42	n.a.	n.a.	n.a.
4. Kent/EMR—National Major Refiner Second Brand Full-Service(b)										
a) Shell and Gulf	1.65	1.99	1.54	1.67	1.64	2.49	2.73	n.a.	n.a.	n.a.
b) Shell, Gulf and Suncor	n.a.	1.70	1.41	1.57	1.61	2.39	2.69	n.a.	n.a.	n.a.
5. Kent/EMR — Ind. Reseller Full-Service(b)										
a) Shell and Gulf	1.90	2.20	1.54	1.91	2.02	2.65	2.86	n.a.	n.a.	n.a.
b) Shell, Gulf and Suncor	n.a.	1.91	1.41	1.81	1.99	2.58	2.82	n.a.	n.a.	n.a.
B. MONTREAL PRICES — QUEBEC/ATLANTIC CANADA SALES REALIZATIONS										
1. Statistics Canada — Full-Service(a)										
a) Shell and Gulf	2.90	2.77	2.52	3.00	3.03	3.27	3.64	4.29	5.75	6.29
b) Shell, Gulf and Suncor	n.a.	2.96	2.53	2.82	2.97	3.42	3.51	3.87	5.57	6.04
2. Statistics Canada — Self-Serve(a)										
a) Shell and Gulf	n.a.	n.a.	n.a.	2.54	2.61	2.91	3.24	3.65	4.85	5.69
b) Shell, Gulf and Suncor	n.a.	n.a.	n.a.	2.41	2.55	3.06	3.11	3.27	4.67	5.44
3. Kent/EMR—National Major Refiner Self-Serve(b)										
a) Shell and Gulf	1.95	2.04	1.70	2.31	2.59	2.74	3.00	n.a.	n.a.	n.a.
b) Shell, Gulf and Suncor	n.a.	2.16	1.74	2.18	2.53	2.89	2.87	n.a.	n.a.	n.a.
4. Kent/EMR—National Major Refiner Second Brand Full-Service(b)										
a) Shell and Gulf	1.59	1.78	1.38	2.05	2.31	2.24	2.45	n.a.	n.a.	n.a.
b) Shell, Gulf and Suncor	n.a.	1.90	1.42	1.92	2.25	2.39	2.32	n.a.	n.a.	n.a.

TABLE L-3 (cont'd)

	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
5. Kent/EMR—Ind. Reseller Full-Service(b)										
a) Shell and Gulf	1.97	2.11	1.62	2.35	2.68	2.49	2.53	n.a.	n.a.	n.a.
b) Shell, Gulf and Suncor	n.a.	2.23	1.66	2.22	2.62	2.64	2.40	n.a.	n.a.	n.a.

Notes and Sources:

(a) The Statistics Canada (Prices Division) annual full-service and self-serve retail pump prices used in the above gross margin calculations are for the metropolitan areas of Toronto and Montreal. The annual price is a weighted average of monthly prices.

(b) The Kent/EMR annual price data were based on surveys of retail pump prices of individual gasoline marketing outlets in Metro Montreal and Toronto which were carried out by Kent Marketing Services Limited at a rate of two to six times per year. The individual outlet data per survey date were provided to the Director of Investigation and Research by Energy, Mines and Resources Canada in the form of a weighted (by volume) average for various categories of marketing outlet, including the three used in this table. See Green Book, Volume VI, pp. 461 to 462 and 467 to 477. The annual prices used for the above calculations are simple averages of the two to six survey prices available per year.

(c) The annual average sales realizations data were reported by Shell and Gulf for 1973 to 1982 and Suncor for 1974 to 1982. For Shell, see Exhibits M-664, Tab 25714 for 1973 to 1980 and M-664A, Confidential, Tab 25714 for 1981 to 1982. For Gulf, see Exhibits M-614 for 1973 to 1980 and M-615 Confidential for 1981 to 1982. For Suncor, see Exhibits M-672, item 12 for 1973 to 1981 and M-673 Confidential for 1982.

(d) The price and realizations data were adjusted to include only federal sales tax in order to allow comparisons between provinces/regions.

TABLE L-4

Selected Annual Gross Margins Available to Independent Resellers of Regular Leaded Gasoline, 1973 to 1982, In Constant 1981 Cents Per Litre(a)

	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
Gross Margin Derived by Deducting the Simple Average of Sales Realizations to Independent Resellers Reported by (i) Shell and Gulf(d) and (ii) Shell, Gulf and Suncor(d) From Selected Annual Retail Pump Prices(e)										
A. TORONTO PRICES — ONTARIO SALES REALIZATIONS										
1. Statistics Canada — Full-Service(b)										
a) Shell and Gulf	7.71	6.82	5.67	5.62	5.29	5.24	5.12	5.29	6.59	6.55
b) Shell, Gulf and Suncor	n.a.	6.32	5.45	5.38	5.24	5.11	5.07	5.03	6.54	6.72
2. Statistics Canada — Self-Serve(b)										
a) Shell and Gulf	n.a.	n.a.	n.a.	3.81	3.48	3.98	4.00	3.43	4.49	4.48
b) Shell, Gulf and Suncor	n.a.	n.a.	n.a.	3.66	3.44	3.89	3.95	3.23	4.44	4.65
3. Kent/EMR —National Major Refiner Self-Serve(c)										
a) Shell and Gulf	4.76	4.27	3.11	3.37	3.32	4.15	4.29	n.a.	n.a.	n.a.
b) Shell, Gulf and Suncor	n.a.	3.73	2.89	3.21	3.28	4.05	4.24	n.a.	n.a.	n.a.
4. Kent/EMR —National Major Refiner Second Brand Full-Service(c)										
a) Shell and Gulf	3.43	3.74	2.62	2.64	2.41	3.37	3.38	n.a.	n.a.	n.a.
b) Shell, Gulf and Suncor	n.a.	3.20	2.39	2.48	2.36	3.23	3.33	n.a.	n.a.	n.a.
5. Kent/EMR — Ind. Reseller Full-Service(c)										
a) Shell and Gulf	3.95	4.14	2.62	3.02	2.97	3.58	3.54	n.a.	n.a.	n.a.
b) Shell, Gulf and Suncor	n.a.	3.59	2.39	2.86	2.92	3.49	3.49	n.a.	n.a.	n.a.
B. MONTREAL PRICES — QUEBEC/ATLANTIC CANADA SALES REALIZATIONS										
1. Statistics Canada — Full-Service(b)										
a) Shell and Gulf	6.07	5.21	4.27	4.76	4.44	4.43	4.52	4.82	5.75	5.64
b) Shell, Gulf and Suncor	n.a.	5.56	4.29	4.48	4.36	4.63	4.36	4.35	5.57	5.41
2. Statistics Canada — Self-Serve(b)										
a) Shell and Gulf	n.a.	n.a.	n.a.	4.03	3.83	3.94	4.02	4.10	4.85	5.10
b) Shell, Gulf and Suncor	n.a.	n.a.	n.a.	3.83	3.74	4.15	3.86	3.67	4.67	4.88
3. Kent/EMR —National Major Refiner Self-Serve(c)										
a) Shell and Gulf	4.07	3.84	2.88	3.67	3.80	3.71	3.72	n.a.	n.a.	n.a.
b) Shell, Gulf and Suncor	n.a.	4.07	2.95	3.46	3.71	3.91	3.56	n.a.	n.a.	n.a.

TABLE L-5 (cont'd)

	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
4. Kent/EMR —National Major Refiner Second Brand Full-Service(c)										
a) Shell and Gulf	3.33	3.34	2.34	3.25	3.39	3.03	3.04	n.a.	n.a.	n.a.
b) Shell, Gulf and Suncor	n.a.	3.57	2.41	3.05	3.30	3.23	2.88	n.a.	n.a.	n.a.
5. Kent/EMR — Ind. Reseller Full-Service(c)										
a) Shell and Gulf	4.12	3.97	2.75	3.73	3.93	3.36	3.14	n.a.	n.a.	n.a.
b) Shell, Gulf and Suncor	n.a.	4.19	2.81	3.52	3.84	3.57	2.98	n.a.	n.a.	n.a.

Notes and Sources:

(a) The gross margin figures in Table 3 were adjusted to remove the effect of inflation. For Ontario and the Quebec/Atlantic Canada region, the Toronto and Montreal CPI indices were used.

(b) The Statistics Canada (Prices Division) annual full-service and self-serve retail pump prices used in the above gross margin calculations are for the metropolitan areas of Toronto and Montreal. The annual price is a weighted average of monthly prices.

(c) The Kent/EMR annual price data were based on surveys of retail pump prices of individual gasoline marketing outlets in Metro Montreal and Toronto which were carried out by Kent Marketing Services Limited at a rate of two to six times per year. The individual outlet data per survey date were provided to the Director of Investigation and Research by Energy, Mines and Resources Canada in the form of a weighted (by volume) average for various categories of marketing outlet, including the three used in this table. See Green Book, Volume VI, pp. 461 to 462 and 467 to 477. The annual prices used for the above calculations are simple averages of the two to six survey prices available per year.

(d) The annual average sales realizations data were reported by Shell and Gulf for 1973 to 1982 and Suncor for 1974 to 1982. For Shell, see Exhibits M-664, Tab 25714 for 1973 to 1980 and M-664A, Confidential, Tab 25714 for 1981 to 1982. For Gulf, see Exhibits M-614 for 1973 to 1980 and M-615 Confidential for 1981 to 1982. For Suncor, see Exhibits M-672, item 12 for 1973 to 1981 and M-673 Confidential for 1982.

(e) The price and realizations data were adjusted to include only federal sales tax in order to standardize the data received from all companies and to allow comparisons between provinces/regions.

TABLE L-5

Annual Realizations by Refiners on Sales of Regular Leaded Gasoline to Commercial/Industrial (CI) Accounts and to Independent Resellers (PBD), 1973 to 1982, In Nominal and Constant 1981 Cents Per Litre

	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
A. The Simple Average of CI/PBD Sales Realizations as Reported by:										
1. Shell(c) and Gulf(d) for Ontario	4.51	6.95	8.32	9.27	10.48	11.79	13.45	17.66	25.15	29.00
	4.43	6.45	7.57	8.24	9.73	10.56	12.68	16.20	22.85	27.41
2. Shell and Gulf for Quebec/Atlantic Canada	4.84	7.62	8.87	9.60	11.06	12.14	13.84	18.24	26.20	30.39
	4.54	7.12	7.78	8.11	9.53	10.56	13.06	16.41	22.98	27.75
3. Shell and Gulf for B.C. and the Prairies	5.12	6.98	8.68	9.99	11.38	12.70	14.20	17.89	25.98	30.28
	4.25	6.34	7.41	8.30	9.89	11.14	12.52	15.15	23.19	27.51
B. The Simple Average of CI/PBD Sales Realizations in Constant 1981 Cents(a) as Reported by:										
1. Shell and Gulf for Ontario	9.38	13.06	14.13	14.67	15.39	15.95	16.67	19.87	25.15	26.06
	9.21	12.12	12.85	13.04	14.29	14.29	15.71	18.22	22.85	24.63
2. Shell and Gulf for Quebec/Atlantic Canada	10.13	14.32	15.03	15.24	16.22	16.43	17.17	20.49	26.20	27.23
	9.50	13.38	13.19	12.87	13.97	14.29	16.20	18.44	22.98	24.87
3. Shell and Gulf for B.C. and the Prairies	10.81	13.35	14.91	15.76	16.56	17.05	17.58	20.15	25.98	27.13
	8.97	12.12	12.73	13.09	14.40	14.96	15.50	17.06	23.19	24.65
C. The Simple Average of CI Realizations (Minus Delivery Costs) and PBD Sales Realizations in Constant 1981 Cents(b) as Reported by:										
1. Shell and Gulf for Ontario	8.98	12.66	13.73	14.27	14.99	15.55	16.27	19.47	24.75	25.66
	9.21	12.12	12.85	13.04	14.29	14.29	15.71	18.22	22.85	24.63
2. Shell and Gulf for Quebec/Atlantic Canada	9.73	13.92	14.63	14.84	15.82	16.03	16.77	20.09	25.80	26.83
	9.50	13.38	13.19	12.87	13.97	14.29	16.20	18.44	22.98	24.87
3. Shell and Gulf for B.C. and the Prairies	10.41	12.95	14.51	15.36	16.16	16.65	17.18	19.75	25.58	26.73
	8.97	12.12	12.73	13.09	14.40	14.96	15.50	17.06	23.19	24.65

Notes and Sources:

(a) The annual realizations in Part A were adjusted to remove the effect of inflation. For Ontario and the Quebec/Atlantic Canada region, the Toronto and Montreal CPI indices were used. For B.C. and the Prairies, an average of the CPI indices for Vancouver, Calgary, Regina and Winnipeg was used.

(b) The inflation adjusted average annual realizations for commercial/industrial accounts in Part B were further adjusted by deducting 0.4¢ per litre for delivery costs based on estimates reported by refiners and resellers.

(c) For Shell, the data are from Exhibit M-664, Tab 25714 for 1973 to 1980 and Exhibit M-664A Confidential, Tab 25714 for 1981 to 1982.

(d) For Gulf, the data are from Exhibit M-614 and Exhibit M-615 Confidential for 1973 to 1980 and 1981 to 1982, respectively.

TABLE L-6

Annual Realizations by Refiners on Sales of Regular Unleaded Gasoline to Commercial/Industrial (CI) Accounts and to Independent Resellers (PBD), 1973 to 1982[a], In Nominal and Constant 1981 Cents Per Litre

	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
A. The Simple Average of CI/PBD Sales Realizations as Reported by:										
1. Shell(d) and Gulf(e) for Ontario	7.15	9.01	9.14	10.13	11.27	11.93	13.69	18.52	26.00	30.04
	5.50	7.30	7.34	8.88	10.20	11.33	13.64	17.65	24.62	28.88
2. Shell and Gulf for Quebec/Atlantic Canada	7.56	9.41	9.42	10.21	11.64	12.64	14.91	19.90	27.67	32.01
	4.31	8.24	8.27	8.99	10.16	11.05	14.01	17.80	24.06	28.98
3. Shell and Gulf for B.C. and the Prairies	6.58	8.41	9.74	10.95	12.50	13.18	14.81	18.68	27.79	31.70
	—	7.63	8.28	9.11	10.60	11.79	13.27	16.23	24.83	28.82
B. The Simple Average of CI/PBD Sales Realizations in Constant 1981 Cents(b) as Reported by:										
1. Shell and Gulf for Ontario	14.87	16.94	15.52	16.03	16.55	16.14	16.96	20.83	26.00	26.99
	11.44	13.72	12.46	14.05	14.98	15.33	16.90	19.85	24.62	25.95
2. Shell and Gulf for Quebec/Atlantic Canada	15.82	17.69	15.97	16.21	17.07	17.10	18.50	22.36	27.67	28.68
	9.02	15.49	14.02	14.27	14.90	14.95	17.38	20.00	24.06	25.97
3. Shell and Gulf for B.C. and the Prairies	13.89	16.08	16.73	17.27	18.20	17.70	18.33	21.04	27.79	28.41
	—	14.59	14.22	14.37	15.43	15.83	16.43	18.28	24.83	25.82
C. The Simple Average of CI Realizations (Minus Delivery Costs) and PBD Sales Realizations in Constant 1981 Cents(c) as Reported by:										
1. Shell and Gulf for Ontario	14.47	16.54	15.12	15.63	16.15	15.74	16.56	20.43	25.60	26.59
	11.44	13.72	12.46	14.05	14.98	15.33	16.90	19.85	24.62	25.95
2. Shell and Gulf for Quebec/Atlantic Canada	15.42	17.29	15.57	15.81	16.67	16.70	18.40	21.96	27.27	28.28
	9.02	15.49	14.02	14.27	14.90	14.95	17.38	20.00	24.06	25.97
3. Shell and Gulf for B.C. and the Prairies	13.49	15.68	16.33	16.87	17.80	17.30	17.93	20.64	27.39	28.01
	—	14.59	14.22	14.37	15.43	15.83	16.43	18.28	24.83	25.82

Notes and Sources:

(a) The figures for 1973 to 1977 are for Gulf only. Shell reported that its sales prior to 1978 were nil or negligible.

(b) The average annual realizations in Part A were adjusted to remove the effect of inflation. For Ontario and the Quebec/Atlantic Canada region, the Toronto and Montreal CPI indices were used. For B.C. and the Prairies, an average of the CPI indices for Vancouver, Calgary, Regina and Winnipeg was used.

(c) The inflation adjusted average realizations for commercial/industrial accounts in Part B were further adjusted by deducting 0.4¢ per litre for delivery costs based on estimates reported by refiners and resellers.

(d) For Shell, the data are from Exhibit M-664, Tab 25714 for 1973 to 1980 and Exhibit M-664A Confidential, Tab 25714 for 1981 to 1982.

(e) For Gulf, the data are from Exhibit M-614 and Exhibit M-615 Confidential for 1973 to 1980 and 1981 to 1982, respectively.

TABLE L-7

Monthly Gross Margins Available to the Largest Two, Smallest Two and Grouped Resellers of Heating Oil, 1979 to 1983, In Cents Per Litre

	Year	January	February	March	April	May	June	July	August	September	October	November	December	Ave.
							(a) Greater Toronto/Ontario							
	1979	3.8	3.5	3.4	3.9	3.3	3.3	3.3	3.2	2.9	3.0	3.0	2.9	3.3
Largest	1980	3.0	3.1	3.1	3.0	3.0	2.9	3.1	2.5	2.8	3.4	3.6	3.6	3.1
Two	1981	3.5	3.8	3.8	3.5	2.2	3.5	3.8	2.7	4.3	4.9	5.3	5.7	3.9
Resellers	1982	5.9	6.0	6.0	6.2	6.3	6.1	5.5	4.6	6.5	7.6	7.7	7.8	6.4
	1983	7.6	7.5	8.1	7.7	7.8	6.3	7.0	7.3	7.5	7.5	8.0	7.9	7.5
	1979	3.4	3.1	2.9	3.3	2.7	2.7	2.5	2.1	2.6	2.8	2.8	2.7	2.8
Smallest	1980	2.9	2.9	2.9	2.9	2.9	2.8	n.a.	n.a.	2.6	2.9	3.1	3.2	2.9
Two	1981	3.1	3.2	3.3	3.0	2.4	2.8	2.8	2.3	2.2	3.5	3.7	3.9	3.0
Resellers	1982	5.1	5.5	6.8	7.0	7.3	7.0	6.2	5.6	7.7	8.1	8.3	8.6	6.9
	1983	7.4	7.4	9.1	9.4	9.3	7.9	8.6	8.6	6.9	7.1	7.2	7.2	8.0
	1979	4.0	3.5	3.5	4.1	3.5	3.7	3.5	3.4	2.9	2.6	3.0	2.8	3.4
Grouped	1980	3.0	3.0	3.1	3.1	2.8	3.0	3.4	2.8	2.9	3.4	3.0	3.0	3.0
Resellers	1981	2.9	2.8	2.9	2.9	3.7	4.2	3.5	2.6	2.6	4.4	4.7	5.1	3.5
	1982	5.1	5.2	5.8	5.9	6.7	6.1	5.4	4.5	7.6	8.4	7.8	7.2	6.3
	1983	6.7	6.7	8.2	7.5	7.4	6.1	8.0	6.1	7.5	8.0	6.7	6.8	7.1
							(b) Greater Montreal/Quebec							
	1979	2.6	3.2	2.6	2.9	2.6	2.8	2.7	2.6	2.3	2.4	2.5	2.4	2.6
Largest	1980	2.9	2.3	2.3	2.4	2.4	2.4	2.8	2.3	2.5	2.9	2.9	3.0	2.6
Two	1981	2.9	2.9	3.7	3.1	3.3	3.8	3.7	4.4	5.0	5.7	5.7	5.9	4.2
Resellers	1982	5.8	6.2	7.6	7.4	7.3	7.4	7.4	7.3	7.5	7.8	7.9	7.3	7.2
	1983	7.2	7.3	8.2	7.0	7.2	6.8	7.0	6.9	6.4	6.4	6.4	6.2	6.9
	1979	2.6	2.7	2.4	2.5	2.3	2.6	2.6	2.5	2.2	2.2	2.5	2.3	2.5
Smallest	1980	1.9	2.0	2.0	2.2	2.3	2.4	2.6	2.3	2.3	3.2	3.0	2.7	2.4
Two	1981	2.5	2.8	3.2	2.6	2.4	3.3	3.3	4.0	4.0	4.4	4.7	5.3	3.5
Resellers	1982	5.9	6.2	7.3	6.8	6.8	6.6	5.7	5.8	7.0	7.1	7.2	6.9	6.6
	1983	6.3	7.0	7.4	5.9	6.5	6.5	6.7	6.3	5.5	5.9	5.7	6.1	6.3
	1979	3.4	3.4	2.9	2.9	3.0	2.6	3.0	2.9	2.7	2.2	2.5	2.7	2.9
Grouped	1980	2.4	2.5	2.6	2.4	2.4	2.5	2.7	3.2	2.8	2.9	2.6	2.3	2.6
Resellers	1981	2.3	2.4	2.6	2.6	3.2	3.2	3.0	3.3	4.3	4.7	4.9	5.9	3.5
	1982	5.5	5.7	6.4	6.4	7.0	7.4	6.2	6.1	6.9	6.9	6.9	6.3	6.5
	1983	6.2	6.0	6.2	5.9	5.9	5.8	7.2	6.0	5.2	5.4	5.4	4.9	5.8

TABLE L-8

Monthly Gross Margins Available to the Largest Two, Smallest Two and Grouped Resellers of Heating Oil, 1979 to 1983, In Constant 1981 Cents Per Litre

	Year	January	February	March	April	May	June	July	August	September	October	November	December	Ave.
							(a) Greater Toronto/Ontario							
	1979	4.9	4.5	4.3	4.9	4.1	4.1	4.1	3.9	3.5	3.6	3.6	3.4	4.1
Largest	1980	3.6	3.6	3.6	3.5	3.4	3.3	3.5	2.8	3.1	3.7	3.9	3.9	3.5
Two	1981	3.7	4.0	3.9	3.6	2.2	3.5	3.8	2.7	4.2	4.7	5.1	5.5	3.9
Resellers	1982	5.6	5.6	5.5	5.7	5.7	5.4	4.9	4.1	5.7	6.7	6.7	6.8	5.7
	1983	6.6	6.5	6.9	6.6	6.7	5.3	5.9	6.1	6.3	6.3	6.7	6.6	6.4
	1979	4.4	4.0	3.7	4.2	3.4	3.4	3.1	2.6	3.2	3.4	3.3	3.2	3.5
Smallest	1980	3.4	3.4	3.4	3.3	3.3	3.2	n.a.	n.a.	2.9	3.2	3.4	3.4	3.3
Two	1981	3.3	3.4	3.4	3.1	2.4	2.8	2.8	2.3	2.2	3.4	3.6	3.7	3.0
Resellers	1982	4.9	5.2	6.3	6.4	6.6	6.2	5.5	5.0	6.8	7.1	7.2	7.5	6.2
	1983	6.4	6.4	7.8	8.1	8.0	6.7	7.2	7.2	5.8	5.9	6.0	6.0	6.8
	1979	5.2	4.5	4.4	5.2	4.4	4.6	4.3	4.2	3.5	3.1	3.6	3.3	4.2
Grouped	1980	3.6	3.5	3.6	3.6	3.2	3.4	3.8	3.1	3.2	3.7	3.3	3.2	3.4
Resellers	1981	3.1	2.9	3.0	3.0	3.8	4.2	3.5	2.6	2.5	4.2	4.5	4.9	3.5
	1982	4.9	4.9	5.4	5.4	6.1	5.4	4.8	4.0	6.7	7.4	6.8	6.2	5.7
	1983	5.8	5.8	7.0	6.5	6.4	5.1	6.7	5.1	6.3	6.7	5.6	5.6	6.1
							(b) Greater Montreal/Quebec							
	1979	3.4	4.1	3.3	3.7	3.3	3.5	3.3	3.2	2.8	2.9	3.0	2.9	3.3
Largest	1980	3.4	2.7	2.7	2.8	2.7	2.7	3.1	2.5	2.7	3.2	3.1	3.2	2.9
Two	1981	3.1	3.0	3.8	3.2	3.4	3.8	3.7	4.3	4.9	5.5	5.5	5.6	4.2
Resellers	1982	5.5	5.8	7.0	6.8	6.6	6.6	6.6	6.4	6.6	6.8	6.8	6.3	6.5
	1983	6.3	6.3	7.1	6.0	6.2	5.8	5.9	5.8	5.4	5.3	5.3	5.2	5.9
	1979	3.4	3.5	3.1	3.1	2.9	3.3	3.2	3.1	2.7	2.7	3.0	2.7	3.1
Smallest	1980	2.2	2.3	2.3	2.5	2.6	2.7	2.9	2.5	2.5	3.5	3.2	2.9	2.7
Two	1981	2.6	2.9	3.3	2.7	2.4	3.3	3.3	3.9	3.9	4.3	4.5	5.0	3.5
Resellers	1982	5.6	5.8	6.7	6.2	6.1	5.9	5.1	5.1	6.1	6.2	6.2	6.0	5.9
	1983	5.5	6.1	6.4	5.1	5.6	5.5	5.7	5.3	4.6	4.9	4.7	5.1	5.4
	1979	4.4	4.4	3.7	3.7	3.8	3.6	3.7	3.6	3.3	3.1	3.0	3.2	3.6
Grouped	1980	2.8	2.9	3.0	2.8	2.7	2.8	3.0	3.5	3.1	3.2	2.8	2.5	2.9
Resellers	1981	2.4	2.5	2.7	2.7	3.2	3.2	3.0	3.3	4.2	4.6	4.7	5.6	3.5
	1982	5.2	5.3	5.9	5.9	6.3	6.6	5.5	5.4	6.1	6.0	6.0	5.5	5.8
	1983	5.4	5.2	5.3	5.1	5.0	4.9	6.1	5.1	4.4	4.5	4.5	4.1	5.0

TABLE L-9

Monthly Gross Margins (Based on Weighted Average Realizations Data) Available to the Largest Two, Smallest Two and Grouped Resellers of Heating Oil, 1979 to 1983, In Cents Per Litre

	Year	January	February	March	April	May	June	July	August	September	October	November	December	Ave.
							(a) Greater Toronto/Ontario							
	1979	4.0	3.8	3.6	4.0	3.3	3.2	3.3	3.5	2.9	2.9	3.0	2.9	3.4
Largest	1980	3.0	3.0	3.1	3.0	3.0	2.9	3.0	2.6	2.8	3.5	3.8	3.7	3.1
Two	1981	3.3	4.2	4.0	3.4	2.2	3.4	3.6	3.1	4.4	4.8	5.4	5.8	4.0
Resellers	1982	5.9	6.2	6.1	6.3	6.8	6.8	6.5	6.8	6.6	7.8	8.0	7.7	6.8
	1983	8.0	7.6	7.8	8.7	8.5	7.4	8.0	8.1	8.7	7.2	8.2	8.1	8.0
	1979	3.4	3.1	2.9	3.3	2.7	2.7	2.5	2.1	2.6	2.8	2.8	2.7	2.8
Smallest	1980	2.9	2.9	2.9	2.9	2.9	2.8	n.a.	n.a.	2.6	2.9	3.1	3.2	2.9
Two	1981	3.1	3.2	3.3	3.0	2.4	2.8	2.8	2.3	2.2	3.5	3.7	3.9	3.0
Resellers	1982	5.1	5.6	6.9	7.2	7.5	7.5	4.7	5.5	7.3	7.4	8.2	8.6	6.8
	1983	7.4	7.4	8.8	9.1	8.9	8.5	9.3	6.1	6.6	7.0	7.1	7.1	7.8
	1979	4.1	3.7	3.8	4.3	3.7	4.0	3.7	3.6	2.9	2.7	3.0	3.0	3.5
Grouped	1980	3.1	3.1	3.2	3.1	2.3	3.0	3.6	2.9	3.3	3.6	3.4	3.2	3.2
Resellers	1981	3.2	3.2	3.6	3.6	4.5	5.2	3.5	3.0	2.6	4.6	4.3	4.8	3.8
	1982	4.8	5.3	4.9	6.1	6.6	5.7	5.5	4.9	9.0	8.9	8.6	8.2	6.5
	1983	7.1	7.2	7.5	8.7	9.0	6.8	9.1	5.4	8.4	8.3	6.0	7.2	7.6
							(b) Greater Montreal/Quebec							
	1979	2.2	3.2	2.6	2.9	2.5	2.8	2.8	2.7	2.4	2.4	2.5	2.4	2.6
Largest	1980	3.0	2.4	2.3	2.4	2.4	2.4	2.6	2.3	2.5	2.9	2.9	3.1	2.6
Two	1981	2.9	3.1	4.2	3.3	3.3	4.6	3.9	4.3	5.0	5.8	5.8	6.2	4.4
Resellers	1982	6.3	6.5	8.2	7.5	7.6	7.6	7.3	7.6	7.7	7.8	7.8	7.3	7.4
	1983	7.2	7.3	8.5	7.0	7.2	6.8	7.0	6.9	6.5	6.6	6.5	6.4	7.0
	1979	1.8	3.0	2.3	2.3	2.2	2.6	2.6	2.6	2.4	2.1	2.2	2.2	2.4
Smallest	1980	1.4	1.3	2.0	2.0	2.1	2.4	2.6	2.2	2.4	2.5	2.7	2.6	2.2
Two	1981	2.5	2.8	3.8	2.7	2.5	4.0	3.6	4.5	4.3	4.7	4.9	5.7	3.8
Resellers	1982	6.2	6.7	7.7	7.2	6.8	7.1	5.4	5.4	7.2	7.5	7.4	7.1	6.8
	1983	6.8	7.0	7.6	6.3	6.7	6.6	6.5	6.6	5.6	6.0	5.9	6.1	6.5
	1979	3.4	3.4	2.9	3.0	3.0	2.9	3.0	2.8	2.8	2.7	2.6	2.8	2.9
Grouped	1980	2.5	2.5	2.6	2.6	2.6	2.7	3.1	3.2	2.9	3.0	2.7	2.4	2.7
Resellers	1981	2.3	2.4	2.8	2.7	3.1	3.4	3.4	3.1	4.5	4.8	4.8	6.1	3.6
	1982	5.4	5.7	6.4	6.3	6.9	7.5	6.0	6.1	6.9	6.8	7.4	6.4	6.5
	1983	6.2	5.7	6.4	5.9	6.2	5.7	7.1	6.2	4.5	5.8	5.6	5.4	5.9

TABLE L-10

Monthly Gross Margins (Based on Weighted Average Realizations Data) Available to the Largest Two, Smallest Two and Grouped Resellers of Heating Oil, 1979 to 1983, In Constant 1981 Cents Per Litre

	Year	January	February	March	April	May	June	July	August	September	October	November	December	Ave.
							(a) Greater Toronto/Ontario							
	1979	5.2	4.9	4.6	5.1	4.1	4.0	4.1	4.3	3.5	3.5	3.6	3.5	4.2
Largest	1980	3.6	3.5	3.6	3.5	3.4	3.3	3.4	2.9	3.1	3.8	4.1	4.0	3.5
Two	1981	3.5	4.4	4.1	3.5	2.2	3.4	3.6	3.1	4.3	4.6	5.2	5.6	4.0
Resellers	1982	5.6	5.8	5.6	5.8	6.1	6.1	5.8	6.0	5.8	6.8	7.0	6.7	6.1
	1983	7.0	6.6	6.7	7.5	7.3	6.2	6.7	6.8	7.3	6.0	6.8	6.7	6.8
	1979	4.4	4.0	3.7	4.2	3.4	3.4	3.1	2.6	3.2	3.4	3.4	3.2	3.5
Smallest	1980	3.4	3.4	3.4	3.3	3.3	3.2	n.a.	n.a.	2.9	3.2	3.4	3.4	3.3
Two	1981	3.3	3.4	3.4	3.2	2.4	2.8	2.8	2.3	2.2	3.4	3.6	3.7	3.0
Resellers	1982	4.9	5.3	6.4	6.6	6.8	6.7	4.2	4.9	6.4	6.5	7.1	7.5	6.1
	1983	6.4	6.4	7.5	7.8	7.7	7.2	7.8	5.1	5.5	5.8	5.9	5.9	6.6
	1979	5.3	4.8	4.8	5.4	4.6	5.0	4.6	4.4	3.5	3.3	3.6	3.6	4.4
Grouped	1980	3.7	3.6	3.7	3.6	2.6	3.4	4.0	3.2	3.6	3.9	3.7	3.4	3.5
Resellers	1981	3.4	3.4	3.7	3.7	4.6	5.2	3.5	3.0	2.5	4.4	4.1	4.6	3.8
	1982	4.6	5.0	4.5	5.6	6.0	5.1	4.9	4.3	7.9	7.8	7.5	7.1	5.9
	1983	6.2	6.2	6.4	7.5	7.7	5.7	7.7	4.5	7.0	6.9	5.0	6.0	6.4
							(b) Greater Montreal/Quebec							
	1979	2.9	4.1	3.3	3.7	3.1	3.5	3.5	3.3	2.9	2.9	3.0	2.9	3.3
Largest	1980	3.6	2.8	2.7	2.8	2.7	2.7	2.9	2.5	2.8	3.2	3.1	3.3	2.9
Two	1981	3.1	3.2	4.3	3.4	3.4	4.6	3.9	4.2	4.9	5.6	5.6	5.9	4.3
Resellers	1982	5.9	6.1	7.6	6.9	6.9	6.8	6.5	6.7	6.8	6.8	6.8	6.3	6.7
	1983	6.3	6.4	7.3	6.0	6.2	5.8	5.9	5.8	5.5	5.5	5.4	5.3	6.0
	1979	2.3	3.9	2.9	2.9	2.8	3.3	3.2	3.2	2.9	2.5	2.6	2.6	2.9
Smallest	1980	1.7	1.5	2.3	2.3	2.4	2.7	2.9	2.4	2.6	2.7	2.9	2.8	2.4
Two	1981	2.6	2.9	3.9	2.8	2.5	4.0	3.6	4.4	4.2	4.6	4.7	5.4	3.8
Resellers	1982	5.8	6.2	7.1	6.6	6.2	6.3	4.8	4.8	6.3	6.6	6.4	6.2	6.1
	1983	5.9	6.1	6.5	5.4	5.7	5.6	5.5	5.6	4.7	5.0	4.9	5.1	5.5
	1979	4.4	4.4	3.7	3.8	3.8	3.6	3.7	3.4	3.4	3.3	3.1	3.3	3.7
Grouped	1980	3.0	2.9	3.0	3.0	3.0	3.1	3.5	3.5	3.2	3.3	2.9	2.6	3.1
Resellers	1981	2.4	2.5	2.9	2.8	3.2	3.4	3.4	3.1	4.4	4.7	4.6	5.8	3.6
	1982	5.1	5.3	5.9	5.8	6.2	6.7	5.3	5.4	6.1	5.9	6.4	5.6	5.8
	1983	5.4	5.0	5.5	5.1	5.3	4.8	6.0	5.2	3.8	4.8	4.7	4.5	5.0

TABLE L-11

Monthly Gross Margins Available to the Largest Two, Smallest Two and Grouped Resellers of Regular Leaded Gasoline, 1979 to 1983, In Cents Per Litre

	Year	January	February	March	April	May	June	July	August	September	October	November	December	Ave.
							(a) Greater Toronto/Ontario							
	1979	2.8	1.7	2.1	2.2	1.7	1.6	1.9	2.5	2.0	2.4	2.5	2.5	2.2
Largest	1980	2.2	2.2	2.0	2.5	2.1	3.1	3.3	3.6	3.8	4.7	4.8	4.6	3.2
Two	1981	4.2	4.2	4.1	4.5	4.6	4.6	5.0	5.4	5.6	5.5	5.5	5.5	4.9
Resellers	1982	5.2	5.4	4.5	4.9	5.9	4.9	5.6	6.9	6.1	4.8	6.5	6.9	5.6
	1983	6.2	8.0	9.2	3.2	5.4	9.4	8.7	8.1	7.8	5.7	5.2	8.3	7.1
	1979	3.2	3.2	1.9	1.7	2.2	1.3	1.6	2.1	2.4	2.1	2.0	2.2	2.2
Smallest	1980	2.0	2.0	1.7	1.7	1.6	1.7	2.6	1.9	2.4	1.9	2.9	2.9	2.1
Two	1981	2.9	2.9	3.0	3.1	3.1	3.1	3.1	3.4	3.0	3.0	2.6	1.6	2.9
Resellers	1982	2.9	2.6	2.3	3.4	4.3	3.7	4.2	6.0	5.7	2.4	4.5	4.8	3.9
	1983	2.0	2.4	5.8	(2.5)	(5.0)	5.9	5.4	6.5	5.6	2.7	1.1	4.7	2.9
	1979	3.4	3.4	3.2	3.3	2.7	2.8	2.9	3.3	2.7	3.1	3.1	3.2	3.1
Grouped	1980	2.8	2.7	2.8	2.7	2.9	2.8	3.0	3.0	3.4	3.1	3.0	3.2	3.0
Resellers	1981	3.7	3.7	3.9	3.9	4.3	4.3	4.4	4.9	4.6	4.8	4.9	4.6	4.3
	1982	4.6	4.9	4.5	4.6	5.3	4.0	5.1	6.3	5.4	3.6	5.9	6.3	5.0
	1983	4.0	5.7	9.2	1.7	0.0	14.4	10.7	8.2	7.7	6.2	4.9	9.6	6.9
							(b) Greater Montreal/Quebec							
	1979	2.0	2.7	3.1	3.3	2.6	3.2	3.1	3.0	2.4	2.7	3.0	2.6	2.8
Largest	1980	3.6	2.8	2.6	2.9	3.1	3.7	4.4	3.8	4.8	3.7	3.7	4.0	3.6
Two	1981	3.7	3.9	4.0	3.3	3.6	5.8	5.6	5.8	6.3	6.4	7.0	5.7	5.1
Resellers	1982	5.6	4.5	4.9	6.4	6.2	6.4	6.8	7.0	6.5	7.1	5.9	5.9	6.1
	1983	5.3	3.2	9.1	4.0	3.8	6.9	7.6	7.5	5.4	6.5	4.0	9.7	6.1
	1979	1.5	1.5	2.3	2.2	1.3	2.1	2.1	1.9	1.3	1.4	1.8	1.6	1.8
Smallest	1980	1.8	1.4	1.3	1.6	1.6	1.7	2.3	1.6	2.8	1.3	1.6	1.5	1.7
Two	1981	2.1	1.6	1.6	1.1	3.6	2.7	1.9	3.6	2.1	1.6	2.9	1.3	2.2
Resellers	1982	0.1	(0.1)	0.1	4.8	2.3	5.3	2.3	4.3	4.3	3.2	2.6	1.6	2.6
	1983	1.4	(0.2)	4.9	1.3	(0.5)	3.8	2.9	3.6	4.3	3.7	1.3	6.3	2.7
	1979	3.2	3.0	3.3	3.6	2.2	3.0	3.8	4.4	4.5	3.1	3.4	3.1	3.4
Grouped	1980	3.0	2.9	2.9	3.0	3.2	3.1	3.8	3.6	4.5	3.4	3.3	3.6	3.4
Resellers	1981	3.8	3.6	3.6	3.5	4.0	4.5	4.8	4.7	5.5	5.6	6.3	5.2	4.6
	1982	4.8	3.4	3.3	5.4	6.2	5.1	5.7	6.9	7.0	6.4	6.2	6.5	5.6
	1983	5.3	2.6	7.6	3.6	2.9	8.3	6.8	6.9	5.0	6.0	2.9	9.6	5.6

TABLE L-12

Monthly Gross Margins Available to the Largest Two, Smallest Two and Grouped Resellers of Regular Leaded Gasoline, 1979 to 1983, In Constant 1981 Cents Per Litre

	Year	January	February	March	April	May	June	July	August	September	October	November	December	Ave.
							(a) Greater Toronto/Ontario							
	1979	3.6	2.2	2.7	2.8	2.1	2.0	2.3	3.1	2.4	2.9	3.0	3.0	2.7
Largest	1980	2.6	2.6	2.3	2.9	2.4	3.5	3.7	4.0	4.2	5.1	5.2	4.9	3.6
Two	1981	4.4	4.4	4.2	4.6	4.7	4.6	4.9	5.3	5.5	5.3	5.3	5.3	4.9
Resellers	1982	4.9	5.1	4.2	4.5	5.3	4.4	5.0	6.1	5.4	4.2	5.6	6.0	5.1
	1983	5.4	6.9	7.9	2.8	4.6	7.9	7.3	6.8	6.5	4.8	4.3	6.9	6.0
	1979	4.2	4.1	2.4	2.1	2.7	1.6	2.0	2.6	2.9	2.5	2.4	2.6	2.7
Smallest	1980	2.4	2.3	2.0	2.0	1.8	1.9	2.9	2.1	2.6	2.1	3.1	3.1	2.4
Two	1981	3.1	3.0	3.1	3.2	3.2	3.1	3.1	3.3	2.9	2.9	2.5	1.5	2.9
Resellers	1982	2.8	2.4	2.1	3.1	3.9	3.3	3.7	5.3	5.0	2.1	3.9	4.2	3.5
	1983	1.7	2.1	5.0	(2.2)	(4.3)	5.0	4.6	5.4	4.7	2.3	0.9	3.9	2.4
	1979	4.4	4.4	4.1	4.2	3.4	3.5	3.6	4.1	3.3	3.8	3.7	3.8	3.9
Grouped	1980	3.3	3.2	3.2	3.1	3.3	3.2	3.4	3.3	3.7	3.4	3.2	3.4	3.3
Resellers	1981	3.9	3.9	4.0	4.0	4.4	4.3	4.4	4.8	4.5	4.6	4.7	4.4	4.3
	1982	4.4	4.6	4.2	4.2	4.8	3.6	4.5	5.3	4.8	3.2	5.1	5.5	4.5
	1983	3.5	4.9	7.9	1.5	0.0	12.1	9.0	6.9	6.4	5.2	4.1	8.0	5.8
							(b) Greater Montreal/Quebec							
	1979	2.6	3.5	3.9	4.2	3.3	4.0	3.8	3.7	2.9	3.3	3.6	3.1	3.5
Largest	1980	4.3	3.3	3.0	3.4	3.5	4.2	4.9	4.2	5.3	4.0	4.0	4.3	4.0
Two	1981	3.9	4.1	4.1	3.4	3.7	5.8	5.6	5.7	6.2	6.2	6.7	5.4	5.1
Resellers	1982	5.3	4.2	4.5	5.9	5.6	5.7	6.0	6.2	5.7	6.2	5.1	5.1	5.5
	1983	4.6	2.8	7.8	3.4	4.2	5.9	6.4	6.3	4.5	5.4	3.3	8.1	5.1
	1979	2.0	1.9	2.9	2.8	1.6	2.6	2.6	2.3	1.6	1.7	2.2	1.9	2.2
Smallest	1980	2.1	1.6	1.5	1.9	1.8	1.9	2.6	1.8	3.1	1.4	1.7	1.6	1.9
Two	1981	2.2	1.7	1.7	1.1	3.7	2.7	1.9	3.5	2.1	1.6	2.8	1.2	2.2
Resellers	1982	0.1	(0.1)	0.1	4.4	2.1	4.7	2.0	3.8	3.8	2.8	2.3	1.4	2.3
	1983	1.2	(0.2)	4.2	1.1	(0.4)	3.2	2.5	3.0	3.6	3.1	1.1	5.2	2.3
	1979	4.2	3.9	4.2	4.5	2.8	3.8	4.7	5.4	5.5	3.7	4.1	3.7	4.2
Grouped	1980	3.6	3.4	3.4	3.5	3.7	3.5	4.2	4.0	4.9	3.7	3.5	3.9	3.8
Resellers	1981	4.0	3.8	3.7	3.6	4.1	4.5	4.8	4.6	5.4	5.4	6.1	4.9	4.6
	1982	4.5	3.2	3.0	4.9	5.6	4.6	5.1	6.1	6.1	5.6	5.4	5.6	5.0
	1983	4.5	2.3	6.5	3.1	(2.5)	7.0	5.8	5.8	4.2	5.0	2.4	8.0	4.8

TABLE L-13

Monthly Gross Margins Available to the Largest Two, Smallest Two and Grouped Resellers of Regular Unleaded Gasoline, 1979 to 1983, In Cents Per Litre

	Year	January	February	March	April	May	June	July	August	September	October	November	December	Ave.
							(a) Greater Toronto/Ontario							
	1979	3.6	2.3	2.9	2.8	2.5	2.3	2.6	2.8	2.7	2.9	2.9	3.0	2.8
Largest	1980	2.6	2.6	2.4	2.6	2.5	3.3	3.4	3.4	3.2	4.9	4.7	5.0	3.4
Two	1981	4.5	4.5	4.7	5.0	4.5	5.0	5.4	5.4	5.9	5.7	6.0	6.6	5.3
Resellers	1982	5.7	5.9	5.8	5.5	6.6	5.7	5.6	6.8	7.7	6.3	6.8	7.0	6.3
	1983	6.7	8.7	9.4	5.2	7.9	9.3	8.6	8.2	8.4	5.5	4.5	8.1	7.5
	1979	n.a.	n.a.	2.1	1.8	2.6	1.4	1.7	2.1	2.5	1.7	2.0	1.6	2.0
Smallest	1980	2.0	1.9	1.2	0.8	0.9	0.8	(1.7)	0.6	2.4	1.1	2.8	n.a.	1.2
Two	1981	n.a.	n.a.	n.a.	2.8	n.a.	n.a.	n.a.	2.8	n.a.	n.a.	2.3	n.a.	2.6
Resellers	1982	3.9	3.2	4.2	4.6	5.6	5.2	4.8	6.4	8.1	4.4	5.4	4.9	5.1
	1983	1.5	2.7	6.4	0.2	(1.0)	7.8	5.9	6.7	6.2	2.6	0.2	4.3	3.6
	1979	4.0	4.0	3.8	3.8	3.5	3.3	3.6	3.7	3.4	3.9	3.9	3.8	3.7
Grouped	1980	3.1	3.0	2.9	2.9	3.2	3.0	3.1	3.0	3.0	3.5	3.2	3.4	3.1
Resellers	1981	3.9	4.0	4.1	4.2	4.3	4.3	4.6	4.7	4.8	5.0	5.0	5.3	4.5
	1982	5.1	5.4	5.4	5.6	6.0	4.6	4.9	6.0	6.4	5.1	6.2	6.1	5.6
	1983	4.4	6.3	8.6	3.4	1.6	12.0	10.2	7.9	8.2	5.6	4.3	9.1	6.8
							(b) Greater Montreal/Quebec							
	1979	2.7	3.3	4.2	3.6	2.7	3.5	3.3	3.4	3.1	3.3	3.3	3.4	3.3
Largest	1980	3.9	4.0	3.3	3.5	3.6	3.7	3.7	4.1	3.7	4.3	4.6	4.7	3.9
Two	1981	4.4	4.7	4.7	4.1	4.8	6.6	6.5	6.6	7.3	7.4	7.0	6.9	5.9
Resellers	1982	7.4	6.0	5.8	6.8	7.2	7.5	7.6	7.4	7.6	7.8	7.9	6.8	7.2
	1983	5.8	4.3	9.8	4.7	6.8	7.9	8.6	7.5	7.0	6.3	5.1	6.9	6.7
	1979	2.3	2.3	3.6	2.5	1.6	2.3	2.4	2.4	2.5	2.6	2.6	1.9	2.4
Smallest	1980	3.4	2.7	2.5	2.5	2.4	2.6	2.6	2.2	2.5	2.3	3.6	2.8	2.7
Two	1981	2.3	4.4	4.9	3.7	5.9	3.4	3.4	3.4	4.0	3.5	3.9	3.0	3.8
Resellers	1982	4.0	2.2	2.3	3.1	5.8	4.7	4.6	4.6	8.1	6.8	6.3	3.5	4.7
	1983	4.3	0.3	7.7	3.8	4.6	5.0	3.3	3.8	5.3	3.2	2.8	5.9	4.2
	1979	4.0	3.9	4.4	3.2	2.5	3.9	4.2	5.0	6.3	4.1	4.0	4.1	4.1
Grouped	1980	4.0	4.2	3.9	3.9	4.0	3.9	4.0	4.2	4.1	4.0	4.5	4.5	4.1
Resellers	1981	4.4	4.6	4.2	4.6	5.1	5.1	5.6	5.5	6.3	6.4	6.1	6.1	5.3
	1982	6.6	5.1	3.9	5.8	6.8	5.9	6.3	7.4	8.0	7.3	7.8	7.4	6.5
	1983	5.4	3.7	8.1	4.1	4.7	8.5	7.4	6.9	6.0	5.5	3.9	7.6	6.0

TABLE L-14

Monthly Gross Margins Available to the Largest Two, Smallest Two and Grouped Resellers of Regular Unleaded Gasoline, 1979 to 1983, In Constant 1981 Cents Per Litre

	Year	January	February	March	April	May	June	July	August	September	October	November	December	Ave.
							(a) Greater Toronto/Ontario							
	1979	4.7	3.0	3.7	3.5	3.1	2.9	3.2	3.4	3.3	3.5	3.5	3.6	3.5
Largest	1980	3.1	3.0	2.8	3.0	2.9	3.7	3.8	3.8	3.5	5.3	5.1	5.4	3.8
Two	1981	4.8	4.7	4.9	5.1	4.6	5.0	5.3	5.3	5.8	5.5	5.8	6.3	5.3
Resellers	1982	5.4	5.5	5.4	5.0	6.0	5.1	5.0	6.0	6.8	5.5	5.9	6.1	5.6
	1983	5.8	7.5	8.0	4.5	6.8	7.8	7.2	6.9	7.0	4.6	3.8	6.7	6.4
	1979	n.a.	n.a.	2.6	2.3	3.2	1.7	2.1	2.6	3.0	2.1	2.4	1.9	2.4
Smallest	1980	2.4	2.2	1.4	0.9	1.0	0.9	(1.9)	0.7	2.6	1.2	3.0	n.a.	1.3
Two	1981	n.a.	n.a.	n.a.	2.9	n.a.	n.a.	n.a.	2.8	n.a.	n.a.	2.2	n.a.	2.6
Resellers	1982	3.7	3.0	3.9	4.2	5.1	4.6	4.3	5.7	7.1	3.9	4.7	4.2	4.5
	1983	1.3	2.3	5.5	0.2	(0.9)	6.6	5.0	5.6	5.2	2.2	0.2	3.6	3.1
	1979	5.2	5.1	4.8	4.8	4.4	4.1	4.4	4.5	4.1	4.7	4.7	4.5	4.6
Grouped	1980	3.7	3.5	3.4	3.3	3.6	3.4	3.5	3.3	3.3	3.8	3.5	3.6	3.5
Resellers	1981	4.1	4.2	4.2	4.3	4.4	4.3	4.5	4.6	4.7	4.8	4.8	5.1	4.5
	1982	4.9	5.1	5.0	5.1	5.4	4.1	4.4	5.3	5.6	4.5	5.4	5.3	5.0
	1983	3.8	5.4	7.4	2.9	1.4	10.1	8.6	6.6	6.9	4.7	3.6	7.6	5.8
							(b) Greater Montreal/Quebec							
	1979	3.5	4.2	5.3	4.5	3.4	4.4	4.1	4.2	3.8	4.0	4.0	4.0	4.1
Largest	1980	4.6	4.7	3.8	4.1	4.1	4.2	4.1	4.5	4.1	4.7	4.9	5.0	4.4
Two	1981	4.6	4.9	4.9	4.2	4.9	6.6	6.5	6.5	7.1	7.2	6.7	6.5	5.9
Resellers	1982	7.0	5.6	5.4	6.2	6.5	6.7	6.7	6.5	6.7	6.8	6.8	5.9	6.4
	1983	5.1	3.7	8.4	4.0	5.8	6.7	7.3	6.3	5.9	5.3	4.2	5.7	5.7
	1979	3.0	3.0	4.6	3.1	2.0	2.9	3.0	2.9	3.0	3.1	3.1	2.3	3.0
Smallest	1980	4.0	3.2	2.9	2.9	2.7	2.9	2.9	2.4	2.7	2.5	3.9	3.0	3.0
Two	1981	2.4	4.6	5.1	3.8	6.0	3.4	3.3	3.3	3.9	3.4	3.8	2.8	3.8
Resellers	1982	3.8	2.0	2.1	2.8	5.2	4.2	4.1	4.1	7.1	5.9	5.5	3.0	4.2
	1983	3.8	0.3	6.6	3.3	3.9	4.2	2.8	3.2	4.5	2.7	2.3	4.9	3.5
	1979	5.2	5.0	5.6	4.0	3.1	4.9	5.2	6.1	7.7	4.9	4.8	4.9	5.1
Grouped	1980	4.7	4.9	4.5	4.5	4.6	4.4	4.5	4.6	4.5	4.4	4.8	4.8	4.6
Resellers	1981	4.6	4.8	4.3	4.7	5.2	5.1	5.6	5.4	6.2	6.2	5.9	5.8	5.3
	1982	6.2	4.7	3.6	5.3	6.1	5.3	5.6	6.5	7.0	6.4	6.8	6.4	5.8
	1983	4.7	3.2	7.0	3.5	4.0	7.2	6.3	5.8	5.0	4.6	3.2	6.3	5.1

TABLE L-15

Monthly Gross Margins (Based on Weighted Average Realizations Data) Available to the Largest Two, Smallest Two and Grouped Resellers of Regular Leaded Gasoline, 1979 to 1983, In Cents Per Litre

	Year	January	February	March	April	May	June	July	August	September	October	November	December	Ave.
							(a) Greater Toronto/Ontario							
	1979	3.1	2.1	2.4	2.5	1.8	1.8	2.1	2.9	2.3	2.7	3.0	3.2	2.5
Largest	1980	2.9	2.6	2.7	3.0	3.0	4.0	4.2	4.2	3.8	4.4	4.3	4.4	3.6
Two	1981	4.3	4.1	4.5	4.6	4.6	4.5	4.5	5.3	5.1	5.1	5.0	5.0	4.7
Resellers	1982	4.8	5.2	3.7	4.9	5.5	4.3	5.1	6.9	6.4	5.6	6.6	7.6	5.6
	1983	5.4	7.6	9.4	3.3	4.0	10.2	9.6	8.0	7.8	6.7	7.3	9.5	7.4
	1979	3.2	3.2	1.5	1.2	2.9	0.9	1.2	1.8	1.8	2.2	1.8	2.1	2.0
Smallest	1980	1.7	1.6	1.5	1.0	0.7	0.9	2.6	1.1	1.7	1.2	2.9	2.9	1.7
Two	1981	2.9	2.9	3.0	3.1	3.1	3.1	3.1	3.4	3.0	3.0	2.6	1.6	2.9
Resellers	1982	3.4	4.0	3.2	4.2	4.8	4.5	5.0	6.8	6.9	3.1	5.2	5.2	4.7
	1983	1.9	2.3	6.7	(1.8)	(4.5)	6.5	5.6	6.7	5.5	2.6	1.2	4.7	3.1
	1979	3.4	3.4	3.3	3.3	2.8	2.9	3.0	3.4	2.7	3.2	3.1	3.2	3.1
Grouped	1980	2.8	2.8	2.8	2.7	3.0	2.8	3.0	3.0	3.5	3.2	3.1	3.2	3.0
Resellers	1981	3.6	3.5	3.8	3.8	4.0	4.0	3.9	4.5	4.3	4.5	4.6	4.4	4.1
	1982	4.3	4.7	4.1	5.0	5.0	3.8	4.8	6.0	5.2	3.4	5.8	6.1	4.9
	1983	4.2	5.9	8.7	2.0	0.3	13.5	10.2	8.3	7.6	6.0	4.6	8.6	6.6
							(b) Greater Montreal/Quebec							
	1979	2.3	2.8	3.2	3.7	2.6	3.5	3.3	3.2	3.3	3.0	3.1	2.7	3.1
Largest	1980	4.1	2.9	2.9	3.1	3.5	3.9	4.7	4.0	5.1	4.1	4.2	4.3	3.9
Two	1981	4.0	3.6	5.0	3.5	3.7	5.6	5.7	5.5	6.4	6.4	7.0	5.4	5.2
Resellers	1982	5.2	4.2	5.2	6.7	6.8	6.0	6.6	7.1	6.2	6.7	6.1	5.4	6.0
	1983	4.7	2.5	8.4	4.4	3.7	8.3	8.8	8.7	6.6	7.5	4.5	10.8	6.6
	1979	1.6	1.4	2.3	2.3	1.6	2.1	2.4	2.1	1.3	1.5	1.8	1.8	1.9
Smallest	1980	1.8	2.3	1.7	1.8	2.7	1.7	3.3	2.1	3.2	2.2	2.2	2.0	2.3
Two	1981	2.5	2.3	3.5	2.0	2.7	3.1	2.4	2.8	2.6	2.2	3.8	2.1	2.7
Resellers	1982	1.1	0.5	1.8	5.5	3.8	4.4	4.6	5.0	5.8	5.1	3.1	2.4	3.6
	1983	1.9	0.3	4.7	3.1	1.4	3.6	3.3	3.2	4.6	3.9	2.8	7.0	3.3
	1979	3.4	3.1	3.6	3.9	2.9	3.7	3.8	4.2	3.4	3.2	3.3	3.1	3.5
Grouped	1980	3.2	2.9	3.0	2.9	3.3	3.2	3.8	3.4	4.3	3.3	3.2	3.4	3.3
Resellers	1981	4.1	3.6	3.6	3.5	4.1	4.8	5.2	5.1	5.6	5.8	6.4	5.4	4.8
	1982	4.9	3.8	3.5	5.5	6.2	5.3	5.9	7.0	6.9	6.2	6.0	6.4	5.6
	1983	5.3	2.2	7.5	3.6	2.5	7.6	6.7	6.7	4.8	5.8	3.0	9.6	5.4

TABLE L-16

Monthly Gross Margins (Based on Weighted Average Realizations Data) Available to the Largest Two, Smallest Two and Grouped Resellers of Regular Leaded Gasoline, 1979 to 1983, In Constant 1981 Cents Per Litre

	Year	January	February	March	April	May	June	July	August	September	October	November	December	Ave.
							(a) Greater Toronto/Ontario							
	1979	4.0	2.7	3.0	3.2	2.2	2.2	2.6	3.6	2.8	3.3	3.6	3.8	3.1
Largest	1980	3.4	3.0	3.1	3.5	3.4	4.5	4.7	4.7	4.2	4.8	4.7	4.7	4.1
Two	1981	4.6	4.3	4.6	4.7	4.7	4.5	4.5	5.2	5.0	4.9	4.8	4.8	4.7
Resellers	1982	4.6	4.9	3.4	4.5	5.0	3.8	4.5	6.1	5.6	4.9	5.7	6.6	5.0
	1983	4.7	6.6	8.0	2.8	3.4	8.6	8.1	6.7	6.5	5.6	6.1	7.9	6.3
	1979	4.2	4.1	1.9	1.5	3.6	1.1	1.5	2.2	2.2	2.7	2.2	2.5	2.5
Smallest	1980	2.0	1.9	1.7	1.2	0.8	1.0	2.9	1.2	1.9	1.3	3.1	3.1	1.8
Two	1981	3.1	3.0	3.1	3.2	3.2	3.1	3.1	3.3	2.9	2.9	2.5	1.5	2.9
Resellers	1982	3.2	3.8	3.0	3.8	4.3	4.0	4.4	6.0	6.1	2.7	4.5	4.5	4.2
	1983	1.7	2.0	5.7	(1.5)	(3.9)	5.5	4.7	5.6	4.6	2.2	1.0	3.9	2.6
	1979	4.4	4.4	4.2	4.2	3.5	3.6	3.7	4.2	3.3	3.9	3.7	3.8	3.9
Grouped	1980	3.3	3.3	3.2	3.1	3.4	3.2	3.4	3.3	3.9	3.5	3.4	3.4	3.4
Resellers	1981	3.8	3.7	3.9	3.9	4.1	4.0	3.9	4.4	4.2	4.3	4.4	5.8	4.2
	1982	4.1	4.4	3.8	4.6	4.5	3.4	4.3	5.3	4.6	3.0	5.0	5.3	4.4
	1983	3.7	5.1	7.4	1.7	0.3	11.4	8.6	7.0	6.4	5.0	3.8	7.1	5.6
							(b) Greater Montreal/Quebec							
	1979	3.0	3.6	4.1	4.7	3.3	4.4	4.1	3.9	4.0	3.6	3.7	3.2	3.8
Largest	1980	4.9	3.4	3.4	3.6	4.0	4.4	5.3	4.4	5.6	4.5	4.5	4.6	4.4
Two	1981	4.2	3.8	5.2	3.6	3.8	5.6	5.7	5.4	6.3	6.2	6.7	5.1	5.1
Resellers	1982	4.9	3.9	4.8	6.1	6.1	5.4	5.9	6.3	5.4	5.9	5.3	4.7	5.4
	1983	4.1	2.2	7.2	3.8	3.2	7.0	7.5	7.3	5.5	6.3	3.7	9.0	5.6
	1979	2.1	1.8	2.9	2.9	2.0	2.6	3.0	2.6	1.6	1.8	2.2	2.1	2.3
Smallest	1980	2.1	2.7	2.0	2.1	3.1	1.9	3.7	2.3	3.5	2.4	2.4	2.1	2.5
Two	1981	2.6	2.4	3.6	2.0	2.7	3.1	2.4	2.8	2.5	2.1	3.7	2.0	2.7
Resellers	1982	1.0	0.5	1.7	5.0	3.4	3.9	4.1	4.4	5.1	4.5	2.7	2.1	3.2
	1983	1.7	0.3	4.0	2.7	1.2	3.1	2.8	2.7	3.9	3.3	2.3	5.8	2.8
	1979	4.4	4.0	4.6	4.9	3.6	4.6	4.7	5.2	4.1	3.9	3.9	3.7	4.3
Grouped	1980	3.8	3.4	3.5	3.4	3.8	3.6	4.2	3.8	4.7	3.6	3.4	3.6	3.7
Resellers	1981	4.3	3.8	3.7	3.6	4.2	4.8	5.2	5.0	5.5	5.6	6.2	5.1	4.8
	1982	4.6	3.5	3.2	5.0	5.6	4.7	5.2	6.2	6.1	5.4	5.2	5.6	5.0
	1983	4.6	1.9	6.5	3.1	2.1	6.5	5.7	5.6	4.0	4.8	2.5	8.0	4.6

TABLE L-17

Monthly Gross Margins (Based on Weighted Average Realizations Data) Available to the Largest Two, Smallest Two and Grouped Resellers of Regular Unleaded Gasoline, 1979 to 1983, In Cents Per Litre

	Year	January	February	March	April	May	June	July	August	September	October	November	December	Ave.
							(a) Greater Toronto/Ontario							
	1979	3.9	2.9	3.3	3.1	2.8	2.8	2.8	3.2	3.1	3.1	3.5	3.8	3.2
Largest	1980	3.6	3.3	3.1	3.4	3.7	4.7	4.4	4.2	3.6	4.8	4.8	4.9	4.0
Two	1981	4.9	4.7	5.1	5.3	4.9	5.1	5.2	5.4	5.5	5.6	5.4	6.2	5.3
Resellers	1982	5.5	5.9	5.1	5.4	6.2	5.2	5.1	6.6	7.7	7.3	7.1	7.7	6.2
	1983	6.2	8.3	8.9	5.2	6.6	9.9	9.6	8.1	8.5	6.6	6.7	9.3	7.8
	1979	n.a.	n.a.	2.2	2.0	3.0	1.4	1.7	2.1	2.5	1.5	2.3	1.6	2.0
Smallest	1980	2.3	2.0	1.2	0.8	0.9	0.8	(1.7)	0.6	2.3	1.1	2.8	n.a.	1.2
Two	1981	n.a.	n.a.	n.a.	2.8	n.a.	n.a.	n.a.	2.8	n.a.	n.a.	2.3	n.a.	2.6
Resellers	1982	4.1	3.1	4.2	4.5	5.6	5.2	4.7	6.3	8.1	4.4	5.4	4.9	5.0
	1983	1.5	n.a.	6.4	0.2	(0.9)	7.8	5.9	6.7	6.2	2.6	0.8	4.9	3.8
	1979	4.0	4.0	3.9	3.8	3.5	3.4	3.7	3.7	3.4	3.9	3.9	3.9	3.8
Grouped	1980	3.2	3.2	3.0	2.9	3.2	3.0	3.2	3.1	3.1	3.5	3.2	3.4	3.2
Resellers	1981	3.9	3.9	4.0	4.1	4.1	4.1	4.2	4.3	4.5	4.7	4.7	5.1	4.3
	1982	4.8	5.3	5.0	5.0	5.6	4.3	4.7	5.4	6.1	4.8	5.9	5.9	5.2
	1983	4.2	6.5	8.1	3.8	2.3	10.3	9.6	7.7	7.9	5.4	4.0	8.3	6.5
							(b) Greater Montreal/Quebec							
	1979	3.2	3.4	4.4	4.0	2.6	4.0	3.7	3.5	4.1	3.9	3.5	3.8	3.7
Largest	1980	4.5	4.0	3.5	3.8	4.2	4.5	4.6	4.5	4.7	4.7	5.1	5.0	4.4
Two	1981	4.8	4.5	5.0	4.0	4.4	5.9	6.8	6.4	7.6	7.6	7.1	6.8	5.9
Resellers	1982	6.7	5.8	5.4	7.4	9.1	6.8	7.4	7.5	7.2	7.7	8.0	6.2	7.1
	1983	5.2	3.4	9.2	5.1	7.0	8.4	8.8	8.3	7.9	7.0	5.5	7.8	7.0
	1979	2.6	2.0	3.5	2.4	1.5	2.0	2.1	2.3	2.3	2.3	2.2	0.7	2.2
Smallest	1980	2.8	2.2	1.9	1.9	2.1	2.1	2.1	1.9	2.0	2.0	4.0	2.6	2.3
Two	1981	1.8	4.4	4.8	3.6	7.2	2.7	3.4	3.3	4.1	3.5	3.7	2.7	3.8
Resellers	1982	4.0	2.3	2.3	3.0	7.8	4.0	4.0	3.9	n.a.	8.8	8.4	3.3	4.7
	1983	6.3	1.0	9.0	7.4	7.4	4.7	3.4	3.5	6.1	2.8	3.4	6.0	5.1
	1979	4.0	3.9	4.7	4.1	3.3	4.3	4.2	4.4	4.2	4.2	3.9	4.2	4.1
Grouped	1980	4.1	4.2	3.9	4.2	4.0	4.0	4.3	4.0	4.0	3.8	4.4	4.3	4.1
Resellers	1981	4.8	5.1	4.1	4.3	4.9	5.5	6.2	6.0	6.2	6.5	6.4	6.4	5.5
	1982	6.8	5.2	4.2	5.9	7.3	6.3	6.5	7.5	7.9	7.3	7.7	7.3	6.7
	1983	5.3	3.6	8.2	3.8	4.6	7.7	6.9	6.7	5.8	5.3	3.9	7.4	5.8

TABLE L-18

Monthly Gross Margins (Based on Weighted Average Realizations Data) Available to the Largest Two, Smallest Two and Grouped Resellers of Regular Unleaded Gasoline, 1979 to 1983, In Constant 1981 Cents Per Litre

	Year	January	February	March	April	May	June	July	August	September	October	November	December	Ave.
							(a) Greater Toronto/Ontario							
	1979	5.1	3.7	4.2	3.9	3.5	3.5	3.4	3.9	3.8	3.7	4.2	4.5	4.0
Largest	1980	4.3	3.9	3.6	3.9	4.2	5.3	4.9	4.7	4.0	5.2	5.2	5.3	4.5
Two	1981	5.2	4.9	5.3	5.4	5.0	5.1	5.1	5.3	5.4	5.4	5.2	5.9	5.3
Resellers	1982	5.2	5.5	4.7	4.9	5.6	4.6	4.5	5.8	6.8	6.4	6.2	6.7	5.6
	1983	5.4	7.2	7.6	4.5	5.7	8.3	8.1	6.8	7.1	5.5	5.6	7.7	6.6
	1979	n.a.	n.a.	2.8	2.5	3.7	1.7	2.1	2.6	3.0	1.8	2.7	1.9	2.5
Smallest	1980	2.7	2.3	1.4	0.9	1.0	0.9	(1.9)	0.7	2.5	1.2	3.0	n.a.	1.3
Two	1981	n.a.	n.a.	n.a.	2.9	n.a.	n.a.	n.a.	2.8	n.a.	n.a.	2.2	n.a.	2.6
Resellers	1982	3.9	2.9	3.9	4.1	5.1	4.6	4.2	5.6	7.1	3.9	4.7	4.2	4.5
	1983	1.3	n.a.	5.5	0.2	(0.8)	6.6	5.0	5.6	5.2	2.2	0.7	4.1	3.2
	1979	5.2	5.1	4.9	4.8	4.4	4.2	4.6	4.5	4.1	4.7	4.7	4.6	4.7
Grouped	1980	3.8	3.8	3.5	3.3	3.6	3.4	3.6	3.4	3.4	3.8	3.5	3.6	3.6
Resellers	1981	4.1	4.1	4.1	4.2	4.2	4.1	4.2	4.2	4.4	4.5	4.5	4.9	4.3
	1982	4.7	5.0	4.6	4.6	5.1	3.8	4.2	4.8	5.4	4.2	5.1	5.1	4.7
	1983	3.7	5.6	6.9	3.3	2.0	8.7	8.1	6.4	6.6	4.5	3.3	6.9	5.5
							(b) Greater Montreal/Quebec							
	1979	4.2	4.4	5.6	5.0	3.3	5.0	4.6	4.3	5.0	4.7	4.2	4.5	4.6
Largest	1980	5.3	4.7	4.1	4.4	4.8	5.1	5.2	5.0	5.2	5.1	5.5	5.4	5.0
Two	1981	5.1	4.7	5.2	4.1	4.5	5.9	6.7	6.3	7.4	7.3	6.8	6.5	5.9
Resellers	1982	6.3	5.4	5.0	6.8	8.2	6.1	6.6	6.6	6.3	6.7	7.0	5.4	6.4
	1983	4.5	3.0	7.9	4.4	6.0	7.1	7.4	7.0	6.6	5.8	4.6	6.5	5.9
	1979	3.4	2.6	4.5	3.0	1.9	2.5	2.6	2.8	2.8	2.8	2.6	0.8	2.7
Smallest	1980	3.3	2.6	2.2	2.2	2.4	2.4	2.4	2.1	2.2	2.2	4.3	2.8	2.6
Two	1981	1.9	4.6	5.0	3.7	7.3	2.7	3.4	3.2	4.0	3.4	3.6	2.6	3.8
Resellers	1982	3.8	2.1	2.1	2.7	7.1	3.6	3.6	3.5	n.a.	7.7	7.3	2.9	4.2
	1983	5.5	0.9	7.7	6.4	6.3	4.0	2.9	2.9	5.1	2.3	2.8	5.0	4.3
	1979	5.2	5.0	6.0	5.2	4.1	5.4	5.2	5.4	5.1	5.1	4.7	5.0	5.1
Grouped	1980	4.9	4.9	4.5	4.9	4.6	4.5	4.8	4.4	4.4	4.1	4.8	4.6	4.6
Resellers	1981	5.1	5.3	4.2	4.4	5.0	5.5	6.1	5.9	6.1	6.3	6.1	6.1	5.5
	1982	6.4	4.8	3.9	5.4	6.6	5.6	5.8	6.6	7.0	6.4	6.7	6.3	6.0
	1983	4.6	3.1	7.1	3.3	3.9	6.5	5.8	5.6	4.9	4.4	3.3	6.1	4.9

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The Heating Oil Difficulties in Eastern Canada During the Winter of 1978-1979

During the period from late January until late February 1979, the supply of residential heating oil was very tight in relationship to demand in the province of Quebec and parts of eastern Ontario. These developments led to complaints to the Commission from some resellers that the refiners had deliberately reduced or held back supply to them so as to drive them from the marketplace. This analysis is intended to address these matters.

The market area chiefly affected was that served by the Montreal refineries and Ultramar's refinery at St-Romuald, east of Quebec City. In areas where there were marine storage terminals, such as Chicoutimi, Lac St-Jean, Abitibi and Sept-Isles, there were no supply problems since inventories had been brought in during the summer. Shortages were reported in an EMR study to be temporary and localized rather than continuous and widespread.[1] Several refiners were forced to put their customers (including resellers) on quota while other refiners had insufficient product to maintain sales to their resellers for a number of days. According to Mr. Servais, Director of the Distribution Branch of the Department of Energy and Resources of Quebec, no consumer in Quebec went without heating oil during the crisis, but some resellers without firm contractual commitments had to obtain supply through a central clearing house system run by the Quebec Energy and Resources Department, which brought supply-short resellers and refiners together, or to pick up product from suppliers in Ontario.

The supply difficulties were caused by a series of operating and other problems experienced by refineries in Montreal and Quebec City which resulted in the loss of over 180 million litres of fuel oil production at a time of

1. *The Report on the Investigation of Marketing Practices for Petroleum Products* (June 1979, see Exhibit C-198B) was prepared by a task force composed of private consultants and officials of Energy, Mines and Resources Canada.

increased demand brought on by a prolonged period of abnormally cold weather in January/February 1979.[2] Gulf's Montreal East refinery experienced an explosion and major fire on February 13, 1979 resulting in a shutdown which lead to a production loss of 285 million litres of petroleum products, including 123 million litres of heating oils. Shell lost its hydrocracker unit for one week in January and for 10 days in February resulting in the loss of 19 million litres of stove oil. The problem was localized however and Shell did not experience an overall shortage of product. Imperial Oil experienced mechanical trouble which reduced its Montreal refinery capacity to 60 per cent for a period of 13 days in late February.[3] The total loss of furnace and stove oil production for Imperial Oil was about 40 million litres. An unexpected emergency shut-down in the first week of December reduced Texaco's inventories so that while it was able to serve its own customers, it was unable to assist other marketers in a substantial way. Ultramar had a crude oil shortfall at its St-Romuald refinery. Its crude oil sources were all offshore and as a result of the upheavals associated with the overthrow of the Iranian monarchy it lost 40 per cent of its crude oil supply between November 1978 and February 1979. Petrofina and BP also reported slowdowns in refinery production in January 1979 because of the loss of some offshore crude oil supplies, as well as domestic crude oil supply problems caused by capacity constraints in the Interprovincial Pipeline.

The most severe product shortfalls were experienced by Ultramar and Gulf. Ultramar placed its branded dealers on allocation and reduced its sales to resellers. Gulf entered into an emergency processing agreement with Ultramar to have Ultramar process 700,000 barrels of Gulf's crude oil for Gulf at St-Romuald, and used spare capacity at its refineries in Ontario and Nova Scotia to reinforce inventory at Montreal. Imperial Oil also had 450,000 barrels of crude oil processed by BP. In February and March 1979, 19 million litres were exchanged between Texaco and other refiners for future delivery while Texaco's Ottawa market requirements were met by their Ontario refinery.

Imperial Oil, Shell, Gulf and Texaco arranged to bring into Quebec over 123 million litres of distillates, including furnace oil, from adjoining provinces and *via* imports. Murphy Oil (Spur) secured 3.2 million litres of furnace oil from Irving Oil in New Brunswick and also moved 4.5 million

2. Moreover, as the market tightened many resellers were reported by refiners to have lifted much more than their usual monthly volumes. As a result, refiners were faced with the need to meet greater than normal demand for their product from these resellers.
3. Imperial Oil also had some operating problems with its Sarnia, Ontario refinery in February.

litres of furnace oil by the Trans-Northern pipeline to Ottawa, of which 909,000 litres was shipped on to Montreal. Other Quebec resellers also brought in product from suppliers in Ontario.

In response to complaints that their policies respecting supply to the reseller sector were not equitable during this period of tight supply, the refiners, including Imperial Oil, Shell, Gulf and Texaco, provided evidence which showed that the percentage of their sales of heating oils to resellers in fact rose rather than fell in early 1979.

Imperial Oil's sales to resellers in Quebec in the first and second quarters of 1979 were 9.6 and 40.4 per cent, respectively, higher than in 1978.[4] Shell's fuel oil sales to resellers during the crisis doubled in volume in comparison to the previous 1977/1978 period, while the percentage of its total 1979 heating oil sales to resellers, at 25.3 per cent, was 5.3 percentage points higher than 1978.[5] During the height of the crisis, Shell reported however that it made product available to new customers only when temporary surpluses occurred. Gulf was able to maintain supply to its contracted resellers in Montreal on a quota or allocation basis and also supplied 13.6 million litres of spot supplies to 16 non-contract resellers at the request of Mr. Servais and Federal Government authorities. While Gulf's total sales of heating fuels in Quebec and Atlantic Canada fell by 50 million litres from 1978 to 1979, its sales to resellers in 1979 rose by approximately 55 million litres.[6] Texaco put all its customers (including resellers) on a quota system in February and March 1979. However, it reported that in Quebec between November 1978 and February 1979, its sales to resellers increased in comparison to the previous 1977/1978 period and also that the rate of increase of its sales to resellers was greater than the rate of increase in Texaco's overall sales to the residential market.[7]

Suncor indicated that 65 per cent of its distillate sales in 1979 went to the reseller sector.[8] While this was 9 percentage points lower than in 1978, it still represented the majority of Suncor's sales.

No detailed information on the 1978/1979 tight supply period was provided by Petrofina and BP (which were subsequently acquired by Petro-Canada). However, several heating oil resellers in Quebec complained about

4. See Exhibit M-451, pp. XVIII — 20 to 21.
5. See Exhibit S-32A, Volume 2, p. 7.133 and Exhibit M-399.
6. See Exhibit M-347, pp. 25 to 28, Exhibit C-189A and Transcript, pp. 23992 to 23996.
7. See Exhibit R-94, pp. 191 to 196.
8. See Exhibit M-560, Table 7.

the manner in which Petrofina operated its supply/allocation/quota system.[9] They testified that resellers were not treated equally because Petrofina did not impose restrictions on its own branded heating oil dealers. In contrast, other refiners, such as BP, were reported to have allowed some resellers to borrow on their quotas for future months in the critical February to April period.[10]

Ultramar reported that it reduced its branded dealer sales as well as its reseller business.[11] In February 1979, it ceased supplying any resellers that had not purchased product from it in January 1979.[12] Those customers who had been purchasing from Ultramar previously were put on allocation for February and March. Also, Ultramar: (a) put the branded outlets which it owned or had under term contract on allocation, (b) stopped taking on any new business, especially commercial accounts and (c) sometimes did not renew contracts with resellers. For example, in Ontario, nine heating oil distributors were advised, well in advance, that Ultramar would not renew their contracts because of supply problems.[13] All of them subsequently obtained product elsewhere. Ultramar assisted a number of them in obtaining alternative supplies.

Irving Oil Limited has consistently had a policy of not supplying resellers. However, during the crisis, it did supply Spur Oil with 3.2 million litres of furnace oil at the request of the National Energy Board[14] and, through Gulf Canada, eight resellers from the Shawinigan region with 909,000 litres of heating oils and 159,000 litres of stove oil at the request of the Government of Quebec.[15]

The EMR study's comparison of 1978/1979 sales volumes with 1977/1978 indicated that on average major and regional refiners had increased their share of the retail market for furnace oil in Quebec by 3 and 1 per cent, respectively. The EMR study concluded that this was not specifically related to the supply problems experienced in the winter of 1979, but rather was part of a continuing trend in the industry. As to the

9. These included: Mr. Nino Ravenda of Ravenda Incorporée in Transcript Volume 25, pp. 5539 ff.; Mr. Michel Bellemare in Transcript Volume 25, pp. 5587 ff. and 5596 ff. and Exhibit C-200; Mme Louise Dubé of Verne et Laurin Inc., in Transcript Volume 25, pp. 5943 ff.
10. See Volume 25, pp. 5551 ff. for the testimony of Mr. Nino Ravenda.
11. Transcript, pp. 18452 to 58, 18510 to 19, 28415 to 16, 28424 to 26, 28428 to 28517.
12. See Exhibit M-536 for a list of these resellers.
13. Transcript, p. 28428.
14. See Exhibit C-198B, p. 10.
15. Transcript, Vol. 97, pp. 18166 to 70 and 18274 to 75.

anomalous situation of the major refiners increasing their market shares while reporting higher percentage sales to resellers, the EMR study also indicated that the refiners had obtained sales in the commercial/industrial sector at the expense of resellers. Moreover, there was no relative sales data in evidence for BP, Petrofina or Ultramar.

The foregoing evidence suggests that refiners as a group did not take advantage of the tight supply period to squeeze resellers out of the residential heating oil market. Indeed, several refiners made special efforts to supply resellers. However, without the role played by both the Federal and Quebec governments in assuring that resellers received any surplus supplies held by refiners and other resellers the impact of the tight supply period on some of the resellers would no doubt have been greater.

Mr. Servais said that in his opinion the resellers were able to meet the demands of their customers during the period of tight supply although they were not always able to obtain the volumes they wished to have. He attributed much of the difficulty encountered to lack of contractual supply arrangements. He advised the Commission that in 1979/1980 his office wrote to resellers urging them to arrange contracts with suppliers, but that most resellers appeared to have ignored this advice — choosing instead to face the risk of future supply disruptions in exchange for the advantages of using the spot market.

Resellers who appeared before the Commission complained that light fuel oil was exported from Quebec in the face of a local tightness of supply. The greater part of these exports was in late 1978, particularly in November. The EMR task force examined these exports on the basis of information supplied by the refiners and the terminal operators. The report set forth statistics on exports of middle distillates from Eastern Canada from November 1978 to February 1979. It is apparent that the major refiners (Imperial Oil, Shell and Texaco) were responsible for very little of this activity; Ultramar along with two terminal operators (Canadian Fuel Marketers and Metropolitan Petroleum), were the principal exporters. The Ultramar Group of companies exported 332 million litres of middle distillates during the tight supply period pursuant to contracts entered into before the supply difficulties developed. The only substantial refiner exports from Atlantic Canada were those of Irving Oil from Saint John, New Brunswick.

The report also noted that export licences were approved by the National Energy Board much earlier than the shipment date. It concluded that there were "no unusual occurrences relating to these exports". However the task force recommended that the National Energy Board make export licences conditional on Canadian supply adequacy at the time of shipment rather than only at the time of granting of the licence.

The supply dynamics of the period can be examined in Statistics Canada's monthly net supply and net sales data for Nos. 2 and 3 light fuel oils and for kerosene and stove oil, respectively, in Quebec for the periods September 1977 to April 1978, and September 1978 to April 1979.[16]

The key indicator of the tightness of supply was the change of inventory levels that was observed between the two periods. The refiners of light fuel oil in Quebec started the 1978/1979 heating season with a September inventory position about 15 per cent lower than the previous year and contractual commitments for exports that amounted to 10 per cent of inventory levels for November 1978. As production levels fell in November 1978, (*versus* November 1977) the refiners were forced to draw down inventories a month earlier and to a greater extent than the previous year, in order to maintain net supply for the Quebec market, as well as for export markets. With production levels continuing to fall in January and February 1978 due to refinery equipment breakdowns, inventory levels went to about 50 per cent of the previous year's inventory figures. Inventories at the end of April, 1979 were 49 per cent lower than they were at the end of April 1978.

Inventory levels of kerosene and stove oil at the beginning of September 1978 were 13 per cent lower than those in September 1977. By the end of November and December, they had fallen 19 and 32 per cent below the previous year's levels as production decreased in those months. Inventories at the beginning of April 1979 were 30 per cent lower than they were in April 1978. A comparison of the relative size of the volumes of production, inventories, inter-product transfers and net supply suggests that decreases in net supply occurred because kerosene and stove oil were used by refiners to increase the supply of other petroleum products.

16. See the relevant monthly issues for 1977 to 1979 of Statistics Canada, *Refined Petroleum Products* (Catalogue No. 45-004).

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