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THE COMPETITION TRIBUNAL

IN THE MATTER of an application by the Director of Investigation and Research for orders pursuant to section 92 of the Competition Act R.S.C. 1985, c. C-34, as amended;

AND IN THE MATTER of the acquisition by Hillsgdown Holdings (Canada) Limited of 56% of the ^{Common shares} of Canada Packers Inc.

COPY

B E T W E E N:

THE DIRECTOR OF INVESTIGATION AND RESEARCH

COMPETITION TRIBUNAL TRIBUNAL DE LA CONCURRENCE	
FILED	Aug 2 1991 <i>RB</i>
REGISTRAR - REGISTREUR	
OTTAWA, ONT. #72	

Applicant,

COMPETITION TRIBUNAL TRIBUNAL DE LA CONCURRENCE	
FILED	<i>Proof of service Public copy</i> Aug 23 1991 <i>RB</i>
REGISTRAR - REGISTREUR	
OTTAWA, ONT. #72(a)	

Respondents

I hereby certify this to be a true copy of the original document. /
Je certifie par la présente que ceci est une copie conforme au document original.

Dated this / Faite ce 2nd day of /
pour ce August 1991

John D. ...

For Registrar, Competition Tribunal /
Pour Registraire, Tribunal de la concurrence

- and -

HILLSDOWN HOLDINGS (CANADA) LIMITED,
MAPLE LEAF MILLS LIMITED,
CANADA PACKERS INC. and
ONTARIO RENDERING COMPANY LIMITED

AFFIDAVIT OF PROFESSOR D.G. MCFETRIDGE

I, Professor D.G. McFetridge, in the City of Ottawa, in the Province of Ontario, MAKE OATH AND SAY:

1. I have been a professor in the Department of Economics at Carleton University since 1975. I have been teaching undergraduate and graduate courses and supervising Ph.D. dissertations in the field of Canadian industrial organization and public policy at Carleton and at other Canadian universities since 1972. I have written and edited numerous articles and books on industrial organization, industrial policy and competition policy. I have served as an Associate Editor of the Journal of Industrial Economics and I am currently on the Editorial Board of the Canadian Competition Policy Record.

2. I have been retained by Maple Leaf Foods Inc. to provide an opinion on whether the efficiency gains offset and are greater than the effects of any lessening of competition resulting from the acquisition of 56% of the common shares of Canada Packers Inc. (now Maple Leaf Foods Inc.) and its subsidiary Ontario Rendering Company Ltd. by Hillsgate Holdings (Canada) Ltd. which, through its subsidiary Maple Leaf Mills (now Maple Leaf Foods Inc.), operated Rothsay Rendering.

3. My ability to comment is based on my experience and knowledge in the area of industrial organization and policy and competition policy. I have also been provided with and have relied on information from Maple Leaf Foods Inc. about its rendering operations.

4. Attached hereto as Exhibit "A" to this my affidavit is a true copy of the report prepared for Maple Leaf Foods Inc. pursuant to its request.

Sworn before me at the)
City of Ottawa in the)
Province of Ontario)
this 14th day of April 1991.)

D.G. McFetridge
Professor D.G. McFetridge

Mike Braden
A Commissioner, etc.
Michael Braden

This is Exhibit "A" to the
Affidavit of Professor D.G. McFetridge,
Sworn before me on the 2nd day
of August, 1991

Mike Bradley
A Commissioner, etc.
MICHAEL BRADEN

PROFESSOR D.G. MCFETRIDGE

REPORT OF D.G.MCFETRIDGE PH.D.

1. Section 96 of The Competition Act recognizes that some mergers may be both anticompetitive and efficiency-enhancing. It provides for a balancing of efficiency gains against anticompetitive effects in these cases. Where this balancing reveals that the efficiency gains outweigh the anticompetitive effects and yield a net benefit to the Canadian economy then the efficiency gains are to prevail.
2. The purpose of this report is to explain how the possible anti-competitive effects of a merger might be estimated and balanced against efficiency gains flowing from that merger and to apply this balancing technique in the case of the acquisition of a controlling interest in Canada Packers Inc. and its subsidiary Ontario Rendering Company Ltd. (Orenco) by Hillsgate Holdings which, through its subsidiary Maple Leaf Mills, also operated a rendering business under the name Rothsay Rendering (Rothsay). Canada Packers and Maple Leaf Mills have since been amalgamated to form Maple Leaf Foods Ltd. Maple Leaf Foods now has a division, Rothsay, and a wholly owned subsidiary, Orenco.
3. The Merger Enforcement Guidelines issued in March 1991 by the Director of Investigation and Research define anticompetitive effects of a merger as follows:

...anticompetitive effects refer to the part of the total loss incurred by buyers and sellers in Canada that is not merely a transfer from one party to another, but represents a loss to the economy as a whole, attributable to the diversion of resources to lower valued uses. This loss is sometimes referred to as the deadweight loss to the Canadian economy. (p.45)

The Merger Enforcement Guidelines further state that:

Where a merger results in a price increase, it brings about both a neutral redistribution effect and a negative resource

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allocation effect on the sum of producer and consumer surplus (total surplus) within Canada. The efficiency gains ... are balanced against the latter effect, i.e., the deadweight loss to the Canadian economy. (p.49)

The Guidelines distinguish between quantitative and qualitative anticompetitive effects. Quantitative anticompetitive effects are those which result from increases in price relative to cost. Qualitative anticompetitive effects include reductions in service, quality, variety, innovation and other non-price dimensions of competition.

4. The Merger Enforcement Guidelines properly limit the quantitative anticompetitive effect of a merger to the wealth-reducing misallocation of resources (i.e. restriction of output in the relevant market) resulting from it. The redistribution of surplus between buyers and sellers remaining in the market is not regarded as an anticompetitive effect. The reasons for judging a merger on the basis of its effect on societal wealth rather than on the wealth of any one group within society are given at length by Crampton in his exhaustive study of the Competition Act.² Crampton correctly concludes that requiring that the cost savings resulting from a merger outweigh both the misallocative effects (i.e. the deadweight loss) and the redistributive effects (i.e. the transfer from "consumers" to "producers" or vice versa) of the merger would eliminate a substantial class of mergers which increase net wealth (i.e. cost savings exceed the deadweight allocative loss) but do so by an amount which is smaller than the wealth transfer involved. In Crampton's view, requiring that cost savings exceed the sum of

² Paul S. Crampton, Mergers and the Competition Act (Toronto, Carswell, 1990) Ch. 7.

[REDACTED]

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the deadweight loss and the amount of wealth redistributed:

"...would seriously compromise, if not completely frustrate, the efficiency objective, which is explicitly paramount in the merger provisions [of the Competition Act], and arguably paramount in section 1.1"²

5. Although the Guidelines do not explicitly exclude transfers of surplus from Canadians to citizens or residents of other countries from the anticompetitive effects of a merger, there are some compelling reasons for doing so. These are:

(a) As the analysis in Section 2 of the Appendix attempts to demonstrate, the determination of the identity of firms or industries which lose surplus as a result of a restriction of activity at one stage of production is not straightforward.

(b) When a Canadian firm merges with a foreign firm it is difficult to determine how much of the anticipated future profit of the merged entity is realized by Canadian shareholders in the form of capital gains. Studies of this issue find that most, if not all of the anticipated benefits of a merger are captured by the shareholders of the acquired firm.³ This would imply that in the present case the anticipated benefits of the Acquisition were captured by the (Canadian) shareholders and former shareholders of Canada Packers. If, however, a Canadian firm were to acquire a foreign-owned firm operating in Canada, the anticipated increase in profit would, on the basis of existing empirical evidence, likely go abroad. As a practical matter it will be very difficult to determine how much of a transfer stays in Canada and is, therefore,

²Ibid. p.524

³ B.E.Eckbo "Mergers and the Market for Corporate Control: The Canadian Evidence" (1986) 19 Canadian Journal of Economics 236

neutral and how much goes abroad and is, therefore, potentially part of the anticompetitive effect of a merger. On the basis of existing empirical evidence, foreigners buying Canadian firms would be treated more favorably than Canadians buying foreign-owned firms making the measurement of anticompetitive effects not only cumbersome but discriminatory.

(c) Giving surplus accruing to foreigners a zero weight in the market power-efficiency trade-off (which is the same as including transfers to foreigners in the anticompetitive effect) changes the application of the Competition Act in a profound way. Under this approach, the efficiency gains resulting from the merger of two foreign firms are not benefits to the Canadian economy. All the savings accrue to foreigner shareholders in the form of increased profits. Thus, these firms would be deprived of an efficiency defence of any kind. The extent to which efficiencies would count in favour of a merger would depend on the composition of ownership - counting fully only with full Canadian ownership on both sides. It is difficult to believe that this type of discrimination was intended or that this approach encourages efficiency and adaptability.

* The method of balancing the cost savings flowing from a merger against the deadweight loss in surplus which also flows from it is illustrated in a number of Canadian law and industrial organization texts including Crampton*, Green* and Perrakis*. The concept of

* Ibid. pp. 499-532.

* C. Green, Canadian Industrial Organization and Policy Second Edition (Toronto, McGraw Hill, 1985) pp.145-7.

[REDACTED]

evaluating mergers on the basis of their net effect on aggregate economic surplus or wealth or welfare was popularized by Professor Oliver Williamson⁷. In his advocacy of an aggregate economic surplus standard for merger evaluation Williamson can be interpreted as arguing that the principles of benefit: cost analysis which guide other public sector resource allocation decisions should also guide antitrust or competition policy. I agree with this argument. In the case of merger evaluation, the benefit is the reduction in the value of the resources required to produce a given level of output and the cost is the surplus foregone due to the monopolistic or oligopolistic restriction of output made possible by the merger. Both are potentially measureable as annual dollar flows.

7. The Director of Investigation and Research has alleged in his Notice of Application that the Acquisition, as defined in the Notice of Application, will result in a substantial prevention or lessening of competition in the rendering of noncaptive red meat by-products in Ontario and that the Acquisition has not resulted in gains in efficiency that will be greater than and will offset the effects of this prevention or lessening and is unlikely to do so.

Viewed in the context of the Merger Enforcement Guidelines and the economic literature referred to previously, the Director of Investigation and Research is alleging that the deadweight loss in surplus resulting from the Acquisition is as great as or greater

* S. Perrakis, Canadian Industrial Organization (Scarborough, Prentice Hall, 1990) pp. 253-6.

⁷ O.E. Williamson, "Economies as an Antitrust Defense: The Welfare Tradeoffs" (1968) 58 American Economic Review 18

than any cost savings that flow from the Acquisition.

8. The potential deadweight loss resulting from the Acquisition can be viewed either as resulting from the exercise of monopsony power in the market for renderable material (raw material) or from the exercise of monopoly power in the market for rendering services. The two approaches should yield the same conclusions (Appendix Section 1).

9. Renderable or raw material consists of trim fat, trim bones, beef and pork heads, feet, offals, bones, fat and blood and is obtained by renderers from slaughterhouses, abattoirs, restaurants, grocery stores and butcher shops. Raw material is picked up by renderers and taken to a rendering plant where it is sorted, graded and ultimately cooked and pressed to produce tallow and meal (animal meal). Tallow is used in the production of soaps, animal feeds, cosmetics, paints, rubbers and other products. Animal meal is used in animal feed, fertilizer and pet food.

10. Renderers pay for the raw materials they collect. They may also charge a pick-up or collection fee. Tallow and meal are sold to both domestic and international buyers. Renderers are generally regarded as price takers in the markets for tallow and meal.* The amount renderers are willing to pay for raw materials depends on tallow and meal prices and on the renderers' trucking and processing costs. This relationship can be expressed as

$$P_R = V - H$$

where P_R = price, net of pick-up charges, paid by the renderer
for raw material (per raw MT.)

* United Kingdom, Monopolies and Mergers Commission, Animal Waste (London, HMSO, 1985) pp.12-16

V = value of tallow and meal derived from a metric tonne of raw material

H = renderer's processing and transportation cost plus profit per metric tonne of raw material

11. The variable H might be termed the rendering margin or spread. The Director of Investigation and Research alleges in his Notice of Application that, as a result of the Acquisition, Rothsay-Orenco could sustain a material reduction in P_m for two years or more in a substantial part of the market. This may involve higher pick-up charges or lower payments for raw material or both. For a given V (which the renderers do not control) a lower P_m implies a higher rendering margin or spread, H.

12. A reduction in the net payments by renderers for raw material results in a transfer of economic surplus. The renderers gain surplus or profit. The raw materials suppliers and their customers and suppliers lose surplus. The excess of these losses in surplus over the renderers' gains is the deadweight loss. A deadweight loss occurs if the volume of raw materials supplied to renderers declines as a consequence of the reduction in the net price paid for them. If the volume of raw materials supplied to renderers is insensitive to the price paid for them, a reduction in this price results in a transfer of surplus but no deadweight loss. Under these circumstances the volume of material rendered is roughly the same as it was prior to the price reduction so that there has been no distortion of economic activity.

13. A measure of the responsiveness of raw material supply to changes in the net price paid for raw materials is the elasticity of raw material supply. If this elasticity is zero, supply is

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unresponsive to price changes and there is no deadweight loss. If this elasticity is infinite renderers have no control over the price they pay for raw materials and cannot, by definition, profitably reduce it. For supply elasticities lying between these two extremes a hypothetical monopsony renderer may find it profitable to reduce his buying price below that which currently prevails and this would result in a deadweight loss.

14. The magnitude of the deadweight loss resulting from a reduction in the net price paid by renderers for raw materials depends on four factors. These factors are:

- (a) the per centage reduction in the net price, P_R , paid by renderers for raw material;
- (b) the elasticity of raw material supply;
- (c) the value of payments for raw materials in the absence of the exercise of monopsony power;
- (d) the proportion of the renderers' spread that is accounted for by fixed costs and profit.

The first three of these factors are relevant to the determination of the conventional deadweight loss (Harberger) triangle employed in Williamson's initial analysis of the welfare trade-off between market power and gains in productive efficiency.* The Harberger triangle is the deadweight loss in consumers surplus (although Section 2 of the Appendix shows that more than consumers may be involved) and is represented by area A in Appendix Figures 1, 2 and 3. The fourth factor is relevant to

* See O.E.Williamson, "Economies as an Antitrust Defense: The Welfare Tradeoffs" (1968) 58 American Economic Review 18 and A.C.Harberger, "Monopoly and Resource Allocation" (1954) 44 American Economic Review 77.

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the determination of losses in any economic profit and contribution to fixed overhead suffered by renderers as a consequence of any decrease in the volume of raw materials they process.²⁰ This loss is represented by area B in Appendix Figures 1, 2 and 3 and is referred to on page 50 of the Merger Enforcement Guidelines.

There is no loss in surplus from this source if all costs are variable over the relevant time horizon and normal profits are being earned.

15. The magnitude of the reduction in the net price of raw materials which might result from this acquisition depends on the post-acquisition state of competition and potential competition and on the elasticity of raw material supply. The position of Maple Leaf Foods is, inter alia, that competition from Darling, Banner, Schneider and Couture as well as the threat by some suppliers to integrate into rendering is, in the context of a steadily declining supply of raw material, sufficient to ensure that Rothsay and Orenco would not find it profitable to reduce the price they pay for raw material by a significant and nontransitory amount. The position of the Director of Investigation and Research is that the Acquisition may result in raw material price decreases of twenty per cent or more²¹. The purpose of this report is to determine whether the deadweight loss in surplus that would occur if raw material prices were to be reduced by twenty per cent or more, as the Director alleges they will be, would be less than the value of

²⁰ O.E. Williamson "Economies as an Antitrust Defense: Reply" (1969) 59 American Economic Review 954 and P. Crampton, Mergers and the Competition Act 531

²¹ Statement of Mr. Steve Peters in examination for discovery June 17, 1991.

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the efficiency gains flowing from the Acquisition.

16. The elasticity of raw material supply depends on the elasticities of demand for beef and pork, the elasticities of supply of cattle and hogs and the respective ratios of the value of renderable material to the value of a beef or pork carcass or animal (see Appendix Section 2). In the simple case where the elasticities of supply of cattle and hogs (as well as all other slaughterhouse inputs) are infinite and the elasticities of demand for all by-products (i.e. hides, edible and inedible rendering) are infinite the (weighted average pork-beef) elasticity of raw material supply collapses to:

$$e_r = e^{dm}(P_r/P_m)$$

where e^{dm} = elasticity of demand for pork and beef (weighted average)

P_r = net price paid by renderers for inedible by-products

P_m = value of a carcass as meat

The ratio of the value of renderable material to the value of a carcass is very low. According to calculations made by Maple Leaf Foods Agribusiness Group, P_r/P_m is presently [REDACTED] for beef cattle and [REDACTED] for hogs.²² Estimated long-run elasticities of demand for beef and pork in Canada are [REDACTED] and [REDACTED] respectively.²³ The implied elasticity of raw material supply is under .01 for both beef and pork by-products. If the elasticities of supply of other

²² [REDACTED]

²³ J.R. Coleman and Karl D. Meilke, "The Influence of Exchange Rates on Red Meat Trade between Canada and the United States" (1988) 36 Canadian Journal of Agricultural Economics 401, Tables 1 and 2.

slaughterhouse inputs are less than infinite and/or the elasticities of demand for other by-products are less than infinite the elasticity of raw material supply, e., would be lower yet (see Appendix Section 2 for details).²⁴ According to the report of Deloitte & Touche, the elasticity of raw material supply is effectively zero.

17. A consequence of this low elasticity of raw material supply is that even a relatively large reduction in the price paid for raw material will not evoke much in the way of a supply reduction so that both the distortion in the allocation of resources and the deadweight loss must be relatively small. The Monopolies and Mergers Commission in the U.K. comes to the same conclusion in its 1985 report. On p.10 the Commission concludes that:

The income received by abattoirs from animal waste, while a small part of their earnings, is perceived as important by abattoir owners...The total supply of animal waste is outside the control of renderers...It is determined by the level of activity of abattoirs and the demand from other users of by-products, who have priority by virtue of their ability to offer higher prices.

On pp.99-100 the Commission concludes that:

...since abattoirs' earnings from the sale of material to renderers constitute on average a very small proportion of their total earnings and that the effect of exploitation by a renderer would be slight, it might be that it would not be sufficient to induce abattoirs to take defensive action. In these circumstances it would be possible for...any efficient renderer to make high profits...Moreover, if the adverse effect on abattoirs of exploitation by renderers would be so slight that it produced no countervailing action, it is difficult to see how any adverse

²⁴ This elasticity discussion does not explicitly consider deadstock. Deadstock supply is assumed to be governed by the same conditions that govern the supply of red meat by-products. A reduction in the price paid for deadstock reduces the farmer's expected return per animal and ultimately reduces the number of animals available for slaughter implying a higher price to consumers. The effect of a change in the deadstock price depends on the portion of the farmer's income accounted for by deadstock receipts. This is likely to be small.

effect on the public interest could be other than minimal.

18. The absolute (dollar) value of any deadweight loss resulting from a given percentage reduction in the price paid by renderers for raw materials depends on the value of raw materials purchases prior to the price reduction. The value of raw materials purchases depends on the number of tonnes of raw material purchased and on the net purchase price per tonne. The weekly volume of noncaptive red meat by-products and deadstock purchased by Ontario renderers is estimated by Maple Leaf Foods to be [REDACTED]. This implies annual purchases of [REDACTED] in 1990. According to Professor Van Duren's affidavit, the Ontario supply of renderable material from cattle is likely to decline by 4% annually and the supply of renderable material from hogs by .3% annually over the period 1991-95. This implies a weighted average annual rate of decline in the supply of non-captive raw material of 3.1%.²⁶

19. The net price paid for raw materials in 1990 is assumed to be the same as the raw materials cost of Rothsay's Toronto plant after deducting pick-up charges. According to Maple Leaf Foods, the raw material, trucking and processing costs of the Toronto plant are

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[REDACTED]

²⁶ According to Deloitte & Touche, hogs account for 52% of red meat raw material with cattle accounting for the balance.

fairly representative of noncaptive Ontario red meat rendering as a whole in the sense that the Toronto plant did not process poultry by-products and had no captive business. The 1990 raw material cost of the Rothsay Toronto plant is [redacted] per raw tonne gross of pick-up charges and [redacted] per raw tonne net of pick-up charges (see Attachment 1). This includes grease. When grease is excluded raw material cost is [redacted] gross of pick-up charges and [redacted] net of pick-up charges.²⁷

20. The raw material supply forecast described in paragraph 18 and the estimated net raw material price per tonne given in paragraph 19 together imply that net payments by Ontario renderers for raw material (excluding grease) amounted to [redacted] in 1990. According to Maple Leaf Foods, the 1990 average raw material price per tonne is as good an estimate as any of the price which is likely to prevail over the next few years. If the raw material price were to remain at its 1990 level in real terms, net payments for raw material would fall by 3.1% annually which is the forecast rate of decline in tonnage available. This would imply the following annual net payments to nonintegrated raw materials suppliers in the absence of the exercise of any monopsony power:

Year Tonnage²⁸ Net Payment for Raw Materials

[redacted]

²⁷ Using data reported in Tables 7.1 and 7.4 of the Deloitte & Touche report, a weighted average raw material cost of [redacted] can be calculated. Use of this figure would result in lower deadweight loss estimate than those reported in the text.

²⁸ The source of this supply estimate is Maple Leaf Foods (tonnage, noncaptive pork share); Professor Van Duren's affidavit (rates of decline in cattle and hog material) and; Deloitte &

	'000 M.T.	\$'000
1990	[REDACTED]	[REDACTED]
1991	[REDACTED]	[REDACTED]
1992	[REDACTED]	[REDACTED]
1993	[REDACTED]	[REDACTED]
1994	[REDACTED]	[REDACTED]
1995	[REDACTED]	[REDACTED]

21. If some rendering costs are fixed, a restriction in the volume of rendering activity due to the exercise of monopsony power in the market for raw materials results in a loss in contribution to overhead or, as economists call it, quasi-rent. This is also a deadweight loss. While the existence of fixed costs increases the deadweight loss resulting from a given reduction in raw material prices, it also reduces the renderer's incentive to lower his buying price. The reason is that, while the renderer pays less for the volume of raw material he continues to process, he foregoes a contribution to overhead (and perhaps economic profits) on the volume which is no longer supplied and processed.

22. A renderer's costs of collection and processing are generally regarded as fixed, to a considerable degree, with respect to a small per centage decrease in volume. According to the affidavit of Dr. Bisplinghoff (p.28):

If a plant is running at 80% of capacity and the throughput is reduced by 6% per year (assuming average yields) costs are normally reduced by only 2-4%.

If a 6% throughput reduction results, on average, in a 3% reduction in plant costs, this implies that 50% of plant costs are variable.

The Monopolies and Mergers Commission states in its report (p.36) that:

Touche (hog:cattle ratios, noncaptive share).

...over a fairly wide range of capacity utilisation of continuous plants energy costs rise or fall in line with amount of material rendered. but that below 30 to 40 per cent capacity utilisation energy costs per tonne of material processed begin to rise. Labour costs are relatively fixed in the short term and labour costs per tonne of material processed rise or fall in inverse proportion to throughput as does any fixed proportion of other costs.

With respect to trucking costs Dr. Bisplinghoff concludes on p. 30 of his affidavit that:

When tonnage drops 6% per annum there are very few realignments that can be made. With continued significant drops, some routes can be combined, but there is a limit since you must service customers in all directions and lockers on their kill days.

Another step could be cutting back on service and realigning routes. This means some raw material will be left in territory for longer periods of time and begins to deteriorate. There is a limit to cutting service to locker plants and custom slaughtering operations or even medium sized slaughtering facilities. State and federal inspection laws dictate that these plants must be picked up on their kill day. Many routes are designed around these large volume accounts. As their kill drops, the renderer continues servicing the same area for 25 to 50% fewer pounds. Costs accelerate and the route loses money.

According to Maple Leaf Foods, no more than [redacted] of trucking cost would be variable with respect to a small per centage change in volume.

23. The unit processing and trucking costs of Rothsay's Toronto plant are assumed to be representative of noncaptive red meat rendering in Ontario in 1990. Maple Leaf Foods is of the opinion that unit costs for the Moorefield (Rothsay) and Dundas (Orenco) plants would be less representative in that [redacted]

[redacted] The Rothsay Toronto unit costs are (in dollars per raw metric ton) as follows:²⁰

²⁰ These unit costs include grease transportation and processing. I have been unable to separate the costs of transporting and processing grease from the costs of transporting and processing other raw materials. I am, as a consequence,

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Manufacturing Costs [REDACTED]

Trucking²⁰ [REDACTED]

Administration [REDACTED]

Profit Margin [REDACTED]

Renderer's Spread (H) [REDACTED]

24. In accordance with the evidence presented in paragraph 22, one-half the cost of manufacturing and one-fifth of the cost of trucking are assumed to be variable with respect to a small change in volume. This implies that variable costs per raw tonne are

[REDACTED] while fixed costs plus profit are [REDACTED]

25. [REDACTED]

[REDACTED] In his affidavit, Professor Trebilcock correctly argues that the lessening of competition resulting from the Acquisition should be evaluated relative to the lessening that would otherwise have occurred. [REDACTED]

[REDACTED] The essence of Professor Trebilcock's argument is that the Acquisition advances the timing of the increase in concentration and any associated lessening of competition in this market. The implication of Professor Trebilcock's reasoning is that the deadweight loss which is incremental to the Acquisition is confined to the period 1992

obliged to assume that the unit costs of a non-grease operation would be the same as Rothsay Toronto's 1990 unit costs.

²⁰ Trucking costs on the Rothsay Toronto cost statement are net of pick-up charges. Estimated pick-up charges are [REDACTED]. The transportation cost estimate in the text is the sum of these.

(or the year of disposition of the case) to 1995.

26. The deadweight losses for the years 1992-1995 resulting from a hypothetical 20% decrease in the price paid by all Ontario renderers to all non-captive suppliers of raw materials at the beginning of 1992 and assuming:

- a linear raw material supply schedule;
- an elasticity of raw material supply of 0.1 (which, given the discussion in paragraph 16, is on the high side);
- raw materials payments as given in paragraph 20 and;
- unit variable costs as given in paragraph 24

are as follows (in thousands of 1990 dollars):²¹

<u>Year</u>	<u>Lost "Consumers" Surplus</u>	<u>Lost Overhead</u>	<u>Total</u>
1992	[REDACTED]	[REDACTED]	[REDACTED]
1993	[REDACTED]	[REDACTED]	[REDACTED]
1994	[REDACTED]	[REDACTED]	[REDACTED]
1995	[REDACTED]	[REDACTED]	[REDACTED]
Present Value @ 8% ²²	[REDACTED]	[REDACTED]	[REDACTED]

27. The deadweight loss in "consumers" surplus (the Harberger triangle) resulting from a 20 per cent reduction in raw material prices is trivial amounting to roughly [REDACTED] annually. The

²¹ The deadweight loss in "consumers" surplus (Harberger triangle) is calculated as:

$.5 \times e_s \times \text{payments for raw materials} \times (\% \text{ price change})^2$
where e_s is .1, % price change is .2 and payments for raw materials are as given in paragraph 18.

The deadweight loss in contribution to fixed costs and profit is calculated as:

$e_s \times \% \text{ price change} \times \text{fixed cost and profit}$
where fixed cost and profit per tonne is given in paragraph 22 and tonnage is given in paragraph 18.

Further detail is provided in the Appendix.

²² The 8% discount rate is as specified in the Merger Enforcement Guidelines p.51

reason is that the elasticity of supply of raw material is very low so that the output restriction resulting from the assumed price decrease is also very low. The bulk of the deadweight loss takes the form of lost contribution to rendering overhead. This is a consequence of the assumption that a large fraction of the costs of rendering is fixed. If some costs which are deemed fixed in the short-run could in fact be avoided over longer periods of time the loss in surplus from this source could be cut significantly.

28. The same results are obtained if the problem is analyzed as the hypothetical monopolization of the market for rendering services. As is demonstrated in Section 1 of the Appendix, a 20% reduction in the price of raw material is equivalent to an 8.9% increase in the renderers' spread. An elasticity of raw material supply of .1 is equivalent to an elasticity of demand for rendering services of .23. The Appendix (Section 5) also demonstrates that if the demand for rendering services is isoelastic with all other assumptions remaining the same the deadweight loss is somewhat smaller.

29. The joint ownership of Rothsay and Orenco has already yielded savings in administration, transportation and processing costs. That is, operating under common ownership, Rothsay and Orenco can process a given volume of material at lower cost than they could under separate ownership. According to Dr. Bisplinghoff's affidavit, savings of the sort realized by Rothsay and Orenco have also been experienced by multiplant rendering firms in the United States. This may be why noncaptive rendering in the United States appears to be dominated by multiplant firms. According to the affidavit of Dr. Bisplinghoff (p.36), Darling has 40 plants, National By-Products has 11, Griffin Industries has 16 and Baker

[REDACTED]

Commodities has 9 plants.

30. According to Maple Leaf Foods [REDACTED] administrative positions have been eliminated at Orenco since the acquisition. [REDACTED] more positions are scheduled to be eliminated upon the approval of the Acquisition. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] The total saving in wages, salaries, expenses and benefits resulting from the elimination of the [REDACTED] administrative positions at Orenco is [REDACTED] annually. The saving resulting from the proposed elimination of the additional [REDACTED] positions is [REDACTED] annually. The total saving in administrative salaries, benefits and expenses will be [REDACTED] (with rounding) annually. According to Maple Leaf Foods, the staff reduction at Orenco has not resulted in additional contracting-out and will not result in any reduction in service. Moreover, according to Maple Leaf Foods, these administrative savings would not have been realized the absence of the Acquisition. To the best of my knowledge, no specific alternative merger exists and the Merger Enforcement Guidelines state:

Efficiencies generally will not be excluded from the balancing process on the speculative basis that they could be attained by a merger with an unidentified third party. (p.47)

31. The Acquisition has also resulted in the rationalization of the overlapping raw materials collection routes of Rothsay and Orenco in western Ontario. According to Maple Leaf Foods, this route rationalization is currently yielding savings in the amount of [REDACTED] annually. This saving is comprised of: the wages and

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benefits of [redacted] employees [redacted] operating cost savings resulting [redacted] of [redacted]

[redacted] and the annualized capital cost of [redacted] trucks

[redacted]²³. It is difficult to see how Rothsay and Orenco could have combined their western Ontario routes had they remained competitors. While one firm's trucks might make collections on behalf of the other, Maple Leaf Foods does not regard this as a long term solution in that neither firm would want its customers being picked up by the other's trucks for an extended period. Dr. Bisplinghoff is of the same opinion. It might be possible for an independent hauler to service both plants. Dr. Bisplinghoff's affidavit (p.33) notes that contract haulers are common in the United States. The relevant question is whether contract haulers commonly serve two competing plants. According to Maple Leaf Foods, contract haulers generally serve a single plant. Deloitte & Touche express the same opinion in their report.

32. The Acquisition has also allowed the rationalization of at least some of the Toronto routes formerly served by the Rothsay Toronto plant and Orenco's Toronto routes. According to Maple Leaf Foods, the consolidation of the routes formerly served by Rothsay's expropriated Toronto plant with Orenco's Toronto routes has resulted in a saving of [redacted]. This saving is composed of

²³ The trucks cost [redacted] apiece and are sold after [redacted] years for an average of [redacted]. Maple Leaf Food's calculation assumes straight-line depreciation over [redacted] years plus a [redacted] cost of capital. The economic decay rate implied by the purchase and disposal prices quoted above is just under [redacted] annually. Using this decay rate plus an [redacted] cost of capital yields an implicit rental price on these trucks of [redacted] annually. This implies that the annual cost saving is some [redacted] higher than Maple Leaf Foods has claimed.

labour savings of [redacted] drivers [redacted], operating cost savings [redacted] by [redacted] and savings in the annualized capital cost of [redacted] trucks

[redacted]

[redacted] The saving involved would, according to Maple Leaf Foods, have been approximately [redacted] of the [redacted] which actually has been saved or [redacted]

33. [redacted]

34. The total cost savings made possible by the Acquisition amount

²⁴ The implicit annual rental price of [redacted] trucks given a [redacted] annual economic decay rate and an [redacted] cost of capital is [redacted] or [redacted] more than the amount claimed by Maple Leaf Foods.

to [redacted] annually on the basis of 1990 volume (Administration [redacted] Transportation [redacted] Manufacturing [redacted] This saving declines if throughput decreases but only slightly. The saving in administrative cost is a fixed cost saving. [redacted]

[redacted] so that any reduction in throughput would affect only this portion of the transportation cost saving. By similar reasoning a reduction in throughput would affect about half the manufacturing cost saving. It has been estimated that throughput will decline at the rate of 3.1% annually over the period 1990-1995 in the absence of the exercise of any monopsony power (see paragraph 18). A hypothetical 20% reduction in the raw material price would result in a further once-for-all reduction in volume of 2% if the elasticity of raw material supply were .1.

35 [redacted]
[redacted]
[redacted]
[redacted]
[redacted]
[redacted]
[redacted]

The Acquisition thus serves to advance the date at which the cost savings resulting from these forms of rationalization occur. It was argued in paragraph 21 that the Acquisition similarly advances the date at which increased renderer concentration and any associated deadweight losses occurs. Thus, the possible incremental deadweight loss and some of the incremental cost savings are zero after 1995. The administrative cost savings would not be realized after 1995 in the absence of the

Acquisition. These savings can be regarded as continuing indefinitely.

36. Given a 3.1% annual rate of decline in throughput and a hypothetical once-for-all 2% decrease in raw material supply at the beginning of 1992 and the realization of the remaining administrative economies at the beginning of 1992, the time pattern of cost savings (in thousands of 1990 dollars) resulting from the Acquisition is as follows:

<u>Year</u>	<u>Administration</u>	<u>Transportation</u>	<u>Processing</u>	<u>Total</u>
1991	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
1992	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
1993	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
1994	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
1995	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
<u>P.V. @ 8%</u>				
1992-1995	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
02-2111	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

37. Four aspects of the results reported in paragraph 36 merit further emphasis. First, although they will not be included in the trade-off calculation, cost savings are currently (as of 1991) being realized as a result of the Acquisition. These savings are not hypothetical. Second, cost savings are not sensitive to volume decreases resulting from the hypothetical exercise of monopsony power. Third, while the transportation and processing cost savings attributable to the Acquisition may be regarded as ceasing (along with any deadweight loss) after 1995, the administrative savings attributable to the Acquisition continue. Their present value over a twenty year time horizon is [REDACTED]. Fourth, if deadweight losses and cost savings were both assumed to continue for twenty years, the present value of the cost savings would increase relative to to the present value of the deadweight loss. This is

because the cost savings are less sensitive than the magnitude of the deadweight loss to the decrease in raw material supply which is expected to occur in the future.

38. The excess of cost savings over the deadweight loss resulting from a 20% reduction in raw material prices with a raw material supply elasticity of .1 has a present value value over four years of [REDACTED]. If administrative cost savings are allowed to run for twenty years (and there is no reason for terminating these savings after four years), the present value of the excess of the cost saving over the deadweight loss is [REDACTED]. The cost savings clearly outweigh the deadweight loss under these circumstances and would also do so for lower hypothetical rates of reduction in raw material prices and for lower elasticities of raw material supply. It is important to note in this regard that the cost savings outweigh the deadweight loss in "consumers" surplus (the Harberger deadweight loss triangle) thus satisfying what is known as the "naive trade-off" for even extreme raw material price reduction and supply elasticity assumptions. Most of the deadweight loss takes the form of reduced coverage of renderer fixed costs. It is difficult to believe more of these costs would not be avoidable given a permanent, albeit small, decrease in volume.

39. The Merger Enforcement Guidelines (p.50) suggest that the sensitivity of the trade-off analysis to alternative assumptions about the elasticity of raw material supply and the rate of raw material price decrease be investigated. Two alternative elasticity assumptions ($e_s = .05$ and $.2$) and one alternative price reduction assumption (30%) are investigated. The results for a

four year time horizon are as follows:

Net Change in Surplus (\$'000)

Elasticity of Raw Material Supply

.05 .1 .2

Price Reduction

20%

[REDACTED] [REDACTED] [REDACTED]

30%

[REDACTED] [REDACTED] [REDACTED]

The results for a twenty year time horizon on administrative cost savings are as follows:

Net Change in Surplus(\$'000)

Elasticity of Raw Material Supply

.05 .1 .2

Price Reduction

20%

[REDACTED] [REDACTED] [REDACTED]

30%

[REDACTED] [REDACTED] [REDACTED]

40. The Merger Enforcement Guidelines also specify (p.49) that qualitative manifestations of reduced competition such as reduced variety, quality or service be considered. According to Maple Leaf Foods, service reductions are unlikely because pick-ups are in many cases required by law and because it is in the renderer's interest to have fresh raw material for processing. According to Dr. Bisplinghoff's affidavit, service problems in the United States have been the result of declining amounts of raw material available from suppliers. Thus, what suppliers may perceive as quality problems appear to be inevitable in any event.

41. The qualitative aspects do not appear to be important. Insofar as the quantitative aspects are concerned, the cost savings which have already been realized as a result of the acquisition exceed the deadweight loss resulting from a broad range of hypothetical raw material price reductions.

42. The analysis in this report differs in a number of respects with the trade-off analysis, prepared with my assistance, submitted to Mr. R.T. Hughes, counsel to the Director of Investigation and Research, in a letter dated December 14, 1990. The principal differences and the reasons for them are as follows:

(a) The two analyses differ in their respective formats. The December 14 letter calculated the per centage cost reduction required to offset the welfare effects of a variety of hypothetical increases in the price of rendering services. This report calculates the dollar value of the welfare effects of a variety of hypothetical decreases in the price of raw material (and equivalent increases in the renderers' spread) and compares them with the dollar value of the cost savings attributable to the Acquisition. While these approaches are fundamentally the same, the approach used in this report is more flexible. It can deal more readily with different time patterns in cost savings and deadweight losses and with cost savings that are partly in fixed costs and partly in variable costs.

(b) The reports differ with respect to the time horizon adopted. The December 14 letter assumed implicitly that deadweight losses and cost savings continue indefinitely. This report recognizes that the deadweight losses and some of the cost savings resulting from the Acquisition would ultimately have been incurred in any

event as noncaptive rendering becomes more concentrated.

(c) The reports differ with respect to the elasticities of raw material supply (or demand for rendering services) assumed. The December 14 letter assumed the range of elasticities usually found in trade-off calculations published in scholarly journals. This report has the benefit of both a more detailed analysis of the factors underlying these elasticities and more evidence regarding the empirical magnitudes of these factors.

(d) The reports differ with respect to the magnitude of the cost savings they attribute to the Acquisition. [REDACTED]

[REDACTED] The savings realized by consolidating these routes with those of Orenco are attributable to the Acquisition.

APPENDIX

1. Relationship Between the Raw Materials and Rendering Services Approaches

The raw materials approach sees the problem as a monopsonistic reduction in the price paid by renderers for their raw materials. The alternative is to view the renderers as disposal agents who charge a fee for their services. This fee is the difference between the amount the renderer receives for meal and tallow and what the renderer pays for raw material. This might be termed the renderer's spread and is formally defined as:

$$H = V - P_R$$

where H = processing costs plus profit per raw tonne

V = value of rendered material per raw tonne

P_R = net payment for raw materials per raw tonne

The rendering services approach sees the problem as a monopolistic increase in H, the renderers' spread. The wealth transfer and wealth loss resulting from an increase in H must be identical to that which occurs when P_R is reduced.

There are two offsetting differences between the two calculations. The first difference is that a given percentage reduction in P_R implies a smaller percentage increase in H. Specifically:

$$dH/H = -(dP_R/P_R)(P_R/H)$$

where d stands for "change in". According to the paragraphs 17 and 21 of the text, processing and collection cost and profit per raw tonne, H, amount to [REDACTED] and raw material cost, P_R, is [REDACTED]. A 20% decrease in P_R therefore implies an 8.9% increase in H.

The second difference is that the elasticity of demand for rendering services is greater than the elasticity of supply of raw material material for rendering. Specifically:

$$e_d = (P_m/Q) dQ/dP_m = (P_m/H)(H/Q) dQ/dH = (P_m/H) e_s$$

$$\text{or } e_d = e_s (H/P_m)$$

where e_s is the elasticity of supply of raw material and e_d is the elasticity of demand for rendering services. Using the data from paragraphs 17 and 21 of the the text for H and P_m and an assumed raw material supply elasticity of .1 we get an elasticity of demand for rendering services, e_d , of .23.

It is apparent that the higher elasticity of demand just offsets the smaller per centage price change so that we get the same reduction in tonnage regardless of whether we view the problem as an increase in H or a decrease in P_m .

2. The Determinants of the Elasticities of Supply of Raw Materials and Demand for Rendering Services

The elasticity of supply of raw material, e_s , and the elasticity of demand for rendering services, e_d , depend on the underlying elasticities of demand for beef and pork and elasticities of supply of cattle and hogs. The relationships are:

$$e_s = 1 / [(P_m/P_m) / e_m + (P_s/P_m) / e_s]$$

$$e_d = 1 / [(P_m/H) / e_m + (P_s/H) / e_s]$$

where e_m = elasticity of demand for meat (pork, beef)

e_s = elasticity of supply of livestock (hogs, cattle)

P_m/P_m = receipts per animal from sale of meat/reccipts per animal

from the renderer

P_m/P_R = price per animal as livestock/receipts per animal from the renderer

P_m/H = receipts per animal from the sale of meat/renderer cost plus profit per animal

P_m/H = price per animal as livestock/renderer cost plus profit per animal.

These relationships are derived under the assumption that packers, abattoirs and butchers which supply raw materials are in competitive equilibrium so that

$$P_m(Q) + P_R = c + P_s(Q)$$

where $P_m(Q)$ = the inverse demand function for meat (pork, beef)

c = the marginal cost of slaughtering etc.

$P_s(Q)$ = the supply function of livestock (hogs, cattle)

and $dP_m/dQ < 0$, $dP_s/dQ > 0$, $dP_R/dQ = 0$ and $dc/dQ = 0$.

This derivation assumes that the respective proportions of cattle and hogs going to various uses (i.e. meat, hides, edible rendering, inedible rendering etc.) are constant. It also assumes that the demands for by-products and the supplies of inputs other than livestock to packers and abattoirs are infinitely elastic. The relaxation of the latter assumption results in the appearance of more underlying elasticities in the e_m and e_s expressions. It also results in the supply of raw materials and the demand for rendering services becoming less elastic.

If the elasticity of livestock supply is infinite the expressions for e_m and e_s collapse to

[REDACTED]

$$e_a = e_m P_m / P_a$$

and

$$e_a = e_m H / P_a$$

According to Coleman and Meilke, the elasticities of Canadian demand for beef and pork respectively are .46 and .78. The elasticity of Canadian steer and heifer slaughter is .24 and the elasticity of eastern Canadian hog slaughter is .28.²⁹

According to Maple Leaf Foods, the ratios P_m/P_a and P_h/P_a are currently [REDACTED] and [REDACTED] respectively for beef and [REDACTED] and [REDACTED] respectively for pork.

Plugging these values into the expression for e_a given above yields an elasticity of raw material supply from beef cattle slaughter of .0019 and an elasticity of raw material supply from hog slaughter of .00076. These elasticities are very low implying, for example, that the reduction in P_a to zero would reduce beef raw material supply by .2% and pork raw material supply by .08%. If cattle and hog supply were infinitely elastic the elasticities of beef and pork raw material supply would be .005 and .003 respectively. These results imply that the composite elasticities of raw material supply of .05, .1 and .2 assumed in the text are very much on the high side.

The transfer of surplus resulting from a decrease in P_a is to renderers and from any participant in the vertical chain from farmer to consumer who has a finite elasticity of supply (of an input) or a finite elasticity of demand (for an output). In the

²⁹ J.R.Coleman and K.D.Meilke "The Influence of Exchange Rates on Red Meat Trade between Canada and the United States" (1988) Canadian Journal of Agricultural Economics 36, 401, Tables 1 and 2.

████████████████████
████████████████████

model used above only meat consumers and farmers have this characteristic. The ratio of meat consumer to farmer surplus losses can be shown to be:

$$(e_c/e_m)(P_m/P_c)$$

It is because the loss in surplus is shared along the vertical chain that the discussion in the text refers to deadweight losses in consumers surplus in quotation marks. This analysis also illustrates the difficulty of determining the redistributive effects of monopoly power in a vertical chain.

3. The Deadweight Loss and Surplus Transfer Resulting from a Decrease in P_m

The wealth transfers and deadweight loss resulting from a decrease in P_m are calculated as follows:

(a) The annual supplier loss is areas A + C in Figure 1 or:

$$P_m Q dP_m / P_m (1 - .5e_c dP_m / P_m)$$

where $P_m Q$ is the total payment by all renderers for relevant raw materials in the absence of the exercise of monopsony power and dP_m / P_m is the hypothesized rate of price decrease.

(b) The annual renderer gain from lower raw material prices is areas C - B in Figure 1 or:

$$P_m Q dP_m / P_m (1 - e_c dP_m / P_m) - F Q e_c dP_m / P_m$$

where FQ is renderer fixed cost and profit.

(c) The deadweight loss is the difference between renderer gains and supplier losses which areas A + B in Figure 1 or:

$$.5e_c P_m Q (dP_m / P_m)^2 + e_c F Q dP_m / P_m$$

The deadweight loss is composed of two terms. The first is the Harberger triangle which is the deadweight loss in "consumers" surplus (area A). The second term is the lost contribution to renderer overhead and profit (area B).

4. The Deadweight Loss and Wealth Transfer Resulting from an Increase in H

The calculation for the annual deadweight loss and wealth transfer resulting from an increase in H is as follows:

(a) Suppliers and their customers and suppliers lose areas A C in Figure 2 or:

$$HQdH/H(1 - .5e_{adH/H})$$

(b) Renderers gain areas C - B in Figure 2 or:

$$HQdH/H(1 - e_{adH/H}) - FQe_{adH/H}$$

(c) The deadweight loss is areas A + B or:

$$.5HQe_{adH/H}(dH/H)^2 + FQe_{adH/H}$$

A sample calculation of areas A, B and C with Q=261,000, H= [redacted] F= [redacted] e_a=.23 and dH/H=.089 yields:

A = [redacted]
B = [redacted]
C = [redacted]

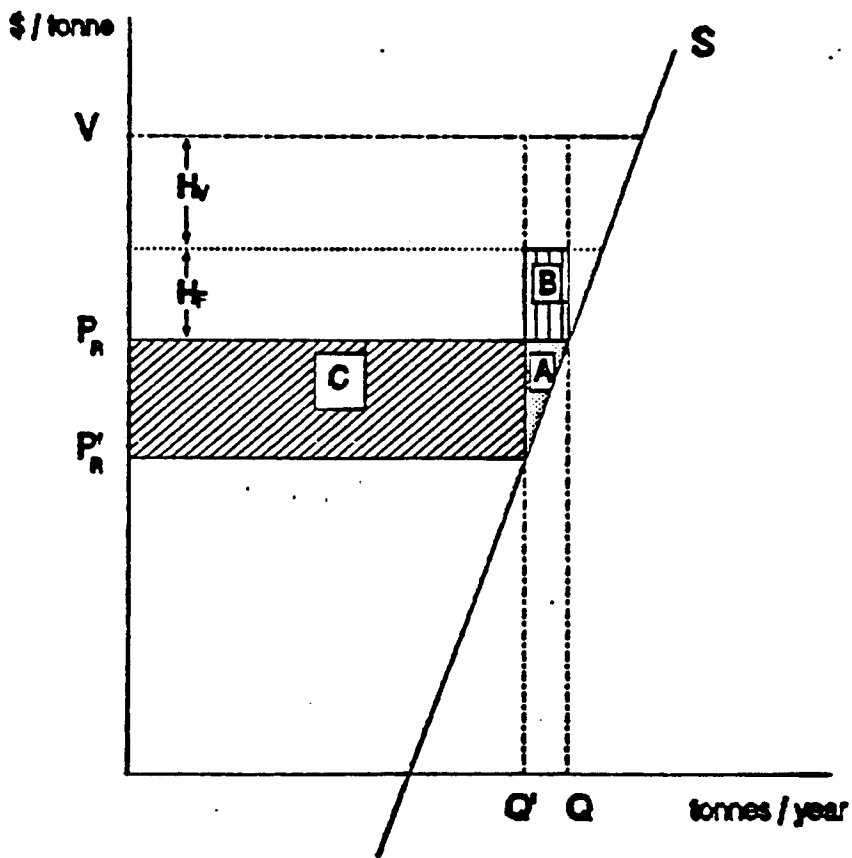
5. Deadweight Loss with an Isoelastic Demand for Rendering Services

The deadweight loss with an isoelastic demand (areas A + B in Figure 3) is:

$$HQ\{[(1+dH/H)^{-1} - 1]/(1-e) - (1+dH/H)^{-1}dH/H\} + FQ\{1 - (1+dH/H)^{-1}\}$$

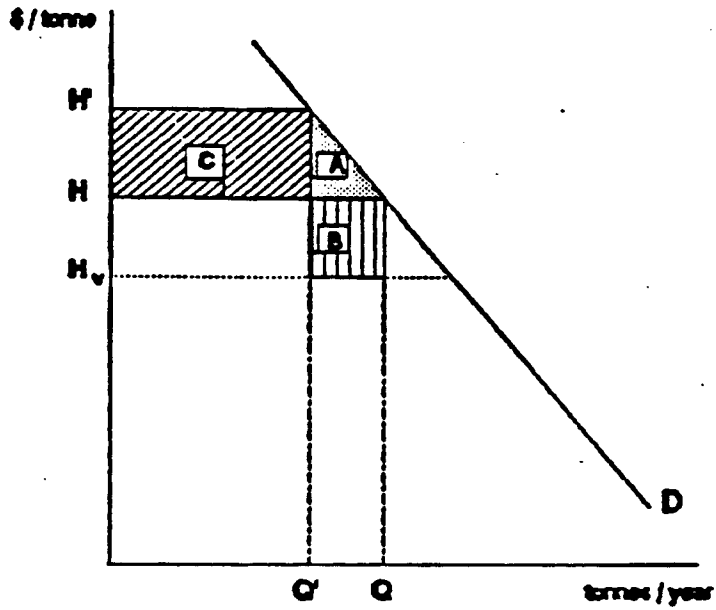
where e is the elasticity of demand for rendering services, represented as e_d in previous sections. The deadweight loss with an elasticity of .23 and an 8.9% increase in H is [REDACTED] compared with [REDACTED] in the linear case above.

Figure 1



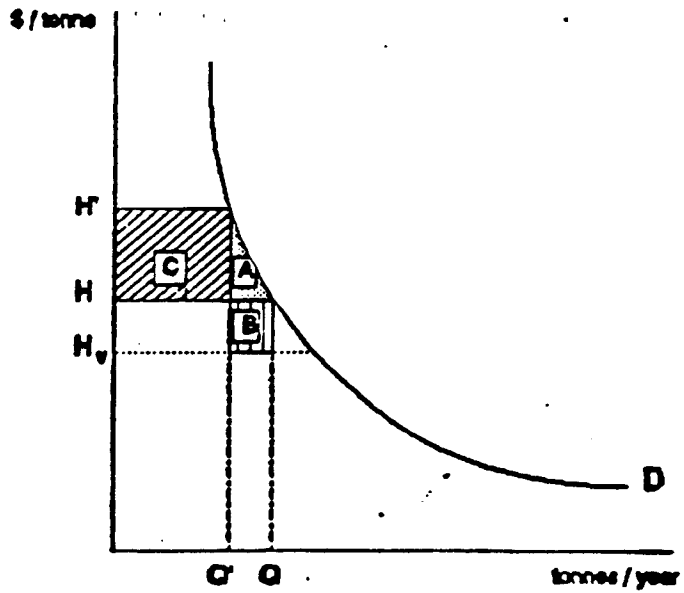
SUPPLY OF RENDERABLE MATERIAL

Figure 2



LINEAR DEMAND FOR RENDERING SERVICES

Figure 3



ISOELASTIC DEMAND FOR RENDERING SERVICES

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ATTACHMENT 1

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