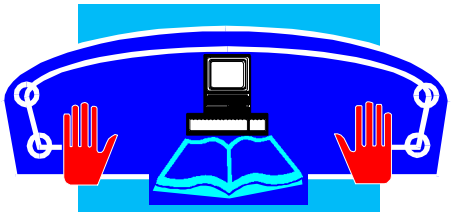

Arctic Ice Water Ltd. - Business Development Options And Business Plan
Type of Study: Plans/strategies Arctic Foods, Food Marketing/prod Development
Date of Report: 1986
Author: Treeline Planning Services
Catalogue Number: 2-3-38

Arctic Ice Water Ltd.
Business Development Options
and
Business Plan

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September 1 986

Executive Summary

This study was undertaken for Matonabee Transport Ltd. in reference to a potential new business enterprise named Arctic Ice Water Ltd. It was conducted with financial support provided under the Opportunity Identification Program of the Domestic Market Development sub-agreement of the Economic Development Agreement , funded jointly by the Government of Canada Department of Regional Economic Expansion, and the Government of the Northwest Territories Department of Economic Development and Tourism.

The study concludes the following:

-with a strongly expanding market, the bottled water options would be the best first thrust of a northern water export business. Packaging done in a southern contract bottling situation (sub-option A-2) would minimize investment risk while the initial product established a market position.

-positive cash flow would begin in the third year of operation for sub-option A-2.

-positive economic benefits of 23 person-years of northern employment, and $174,000 of savings in truck rates are possible with sequential expansion of the proposed enterprise from bottled water (sub-option A-2), followed by ice packaging (sub-option B-1) and beer making (sub-option C-1), exclusive of economic multiplier effects.

-more detailed feasibility studies should be performed on the second and third stages of enterprise expansion.

As it is currently envisaged, southern-based packaging of northern water would occur at first. As the market became a proven one, a greater emphasis would be placed on northern processing plant locations. Beyond the more specific benefits mentioned above, this would bring additional diversification advantages in the form of a strengthened manufacturing sector in an economy dominated by the Government and mining activities.

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Introduction

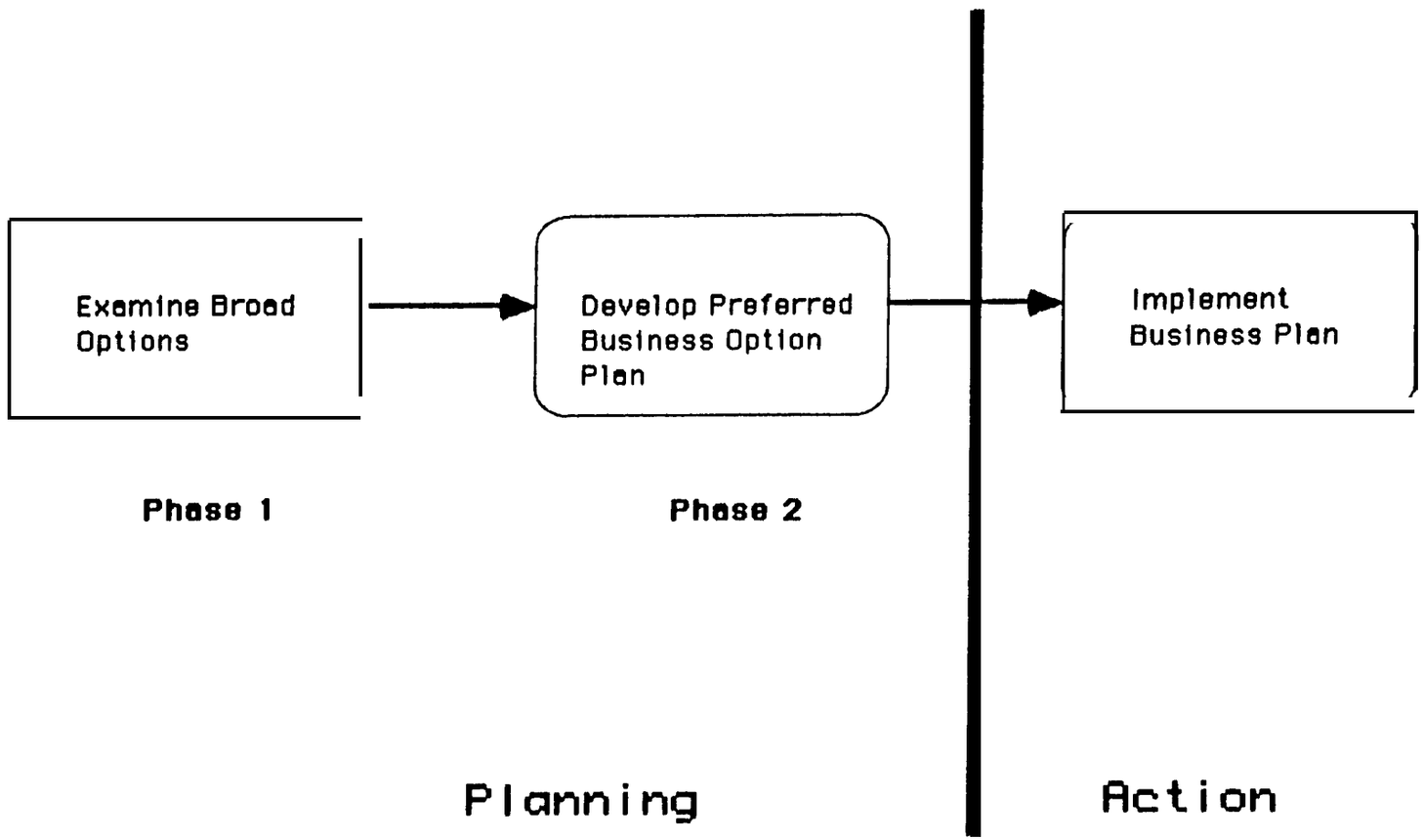
This document has been prepared for, and in close co-operation with, Matonabee Transport Ltd. as the first and second phases of an emerging plan of action for new business (see Diagram A). The intent of the exercise was to broadly examine the feasibility of various business options for packaging water to be exported from the Northwest Territories. This new business would operate under the name **Arctic Ice Water Ltd.** (AIW) As the study has moved forward, the outline of the various development concepts have become clearer as constraints and opportunities have shaped the direction of investigation. The results of other parallel investigations in water quality and bottled water marketing are integrated with this study.

This activity has been made possible by a cost-sharing grant from the Federal-Territorial Economic Development Agreement.

This document is for internal planning purposes only, and is not to be released.

Diagram A

Phases of Arctic Water Feasibility Project



Chapter 1 - The Source

Ongoing water quality research over a period of months in early 1986 has identified a number of high quality water sources in the general area of Yellowknife. Some of these, however, were accessible only by air or winter road, which rendered the notion of a packaged water industry economically impractical.

The optimal combination of good water quality and all-season road access occurs on the Ingraham Trail at the Yellowknife River. All of the options considered in this study share this common source location. See Diagram B for a schematic map showing the source in relation to the City of Yellowknife.

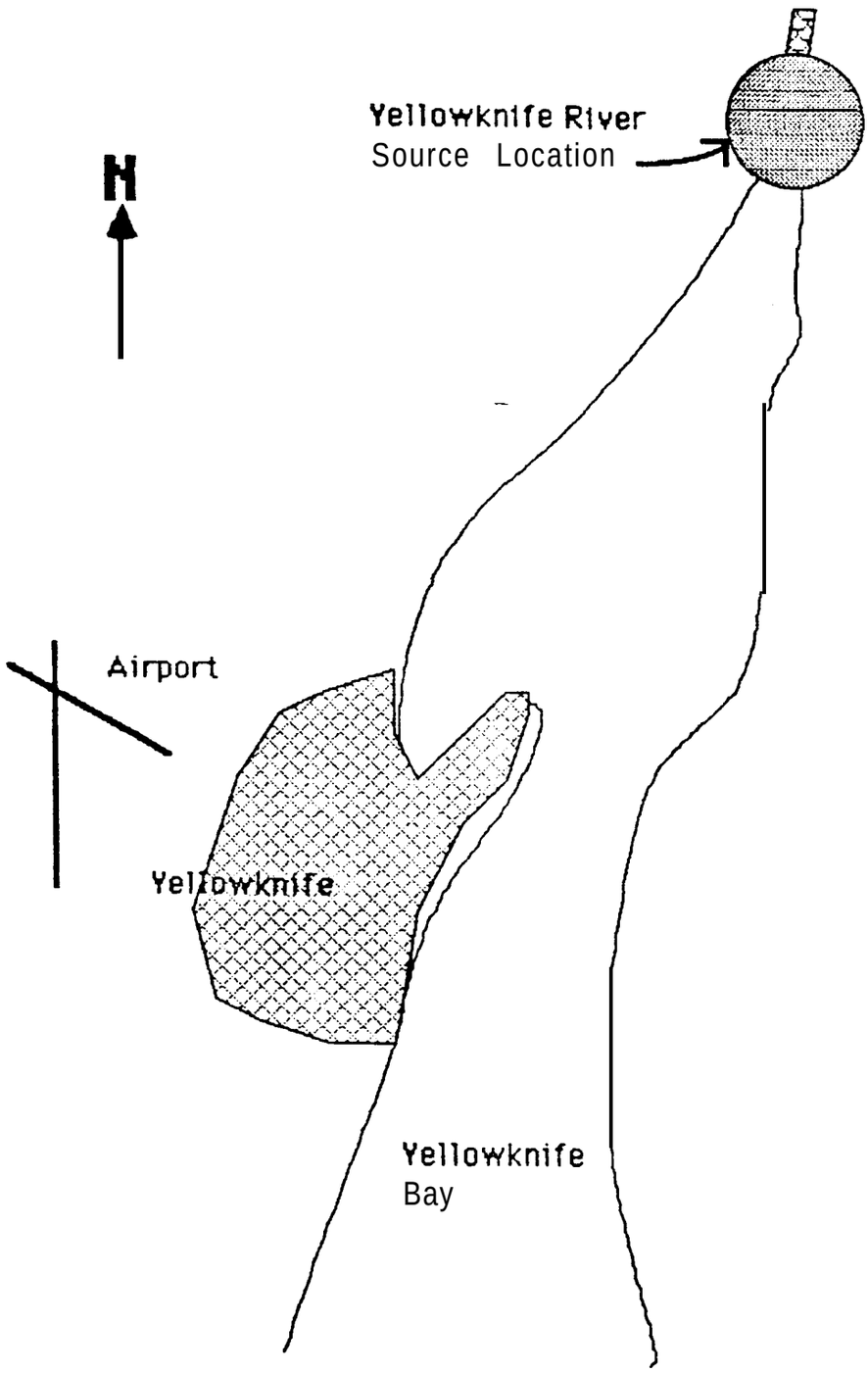


Diagram B: Schematic map of Yellowknife Area

Chapter 2 - The Market

The likely target market for these products will be southern Canadian and U.S. urban areas where there are current consumer trends to a healthier lifestyle (See **Perrier** pamphlets in Appendix A) involving more exercise, with less sugar, caffeine, salt, fat, and food additives. A strong concurrent market force is the urban middle-class "upscale" consumption preference for products from exotic locations. These ideas are further reinforced by a growing concern about the evidence of chemical contaminants in food chains and municipal water supplies (See selected newspaper articles in Appendix B). As a result of these trends evident in southern Canada and in the United States, there are a growing number of new products in the supply of bottled water, and "cottage-brewery" beer.

With the distinct "High Latitude Image" (See sketches of proposed labels in Appendix C) advantage of the Arctic Ice Water products, it is thought that consumers in the southern marketplace will quickly confirm the appeal of products from the hinterland.

The "bottled water" market is one which has been enjoying substantial growth since the mid-seventies in the U.S., according to American sources. Business Trend Analysis Inc. indicates that mid to upper level income groups are providing the largest puchasing potential for these types of products. As in many other trends, trade publications and merchandising firms in Canada now indicate that the Canadian market is also undergoing an substantial 20% annual growth rate for this product.

It. is thought that the "packaged ice" market could follow the same general theme described above, and continue to play upon the romantic image of a source located in Canada"s North While it is recognized that an "upscale " packaged ice product. appealing to the middle -class market would effectively be a new product, industry sources have indicated that a "packaged ice" product would be challenging, but could possibly be built upon an initial market penetration by a similarly -identif ied bottled water product.

The success of cottage brewing in Southern Canada is a phenomenon that has enjoyed much popularity over the past f ew years. A northern "brewed product" option could share the strong purity and quality theme of the other product options., but would also offer a northern uniqueness of no other brewed product. As with existing cottage breweries, the quality-conscious purchaser would be the target customer for this product.

In addition to this southern market, the western N.W.T. market (estimated to be 3 to 4 million litres per year) may absorb considerable product volumes due to the stong regional loyalties that. brewing tends to create. See Tables 1A and 1B with recent and historical consumption estimates for the western N.W.T. market,

L.

Table 1A - Current Estimate of Western N.W.T. Beer Consumption • •

Format	Gallons Quantities		Litres Quantities
cans & bottles	848,620		3,857,903
kegs	10,329		46,957
total	858,949	-	3,904,859

* - Source: N.W.T. Liquor Commission, Hay River, N. W. T., 4 September 1986

• - figures indicate beer sales for the western N.W.T., calculated as the total N.W.T. sales minus Frobisher Bay sales

Table 1 B - Historical N.W.T. Beer Sales from Two Sources

Source 1: GNWT Statistics Quarterly

Year	1982	1983	1984	1985*
Volume in Litres	3,563,000	3,867,000	4,143,000	4,370,000
Value in $	$7,791,000	$8,957,000	$9,824,000	$10,S59,00CI

*- projected

If it is assumed that N.W.T. consumption is proportional to population, and that 1981 Census proportions prevail, then projected 1985 sales could be as follows:

	1981 Census Population	% of Total	Projected litre Volume	Projected Value in $
Fort Smith Region	22250	48.86	2,135,335	5,306,0s9
Inuvik Region	7470	16.40	716,897	1,781,41s
Kitikmeot Region	3245	7.13	511.,423	775,854
Sub-total	32965	72.39	3,163,655	7,861,558
Total N.W.T.	45535	100.00	4,370,000	10,859,DD0

Source 2: Annual Reports of the NWT Liquor Commission

Year	Beer Sales Volume in litres
1984-85	4,153,890
1983-84	3,948,570
1982-83	3,603,100
1981-82	3,422,427
1980-81	3,239,266

Chapter 3 - Description of Options

Three broad options have been considered in the context of this planning exercise. They involve the packaging of N.W.T. water as a "bottled water" product, a "packaged ice" product, or a "brewed" product. (see Diagram C). Two sub-options for each broad option are examined, and these relate the ultimate "Northern" or "Southern" (Albertan) manufacturing sites. Diagram C shows in a simplified way the options and sub-options that are under consideration in this study.

In summary, the resulting option and sub-option combinations are as follows:

A-1 - Bottled Water, Northern processing

A-2 - Bottled Water, Southern processing

B-1 - Packaged Ice, Northern processing

B-2 - Packaged Ice, Southern processing

C-1 - Beer production, Northern processing

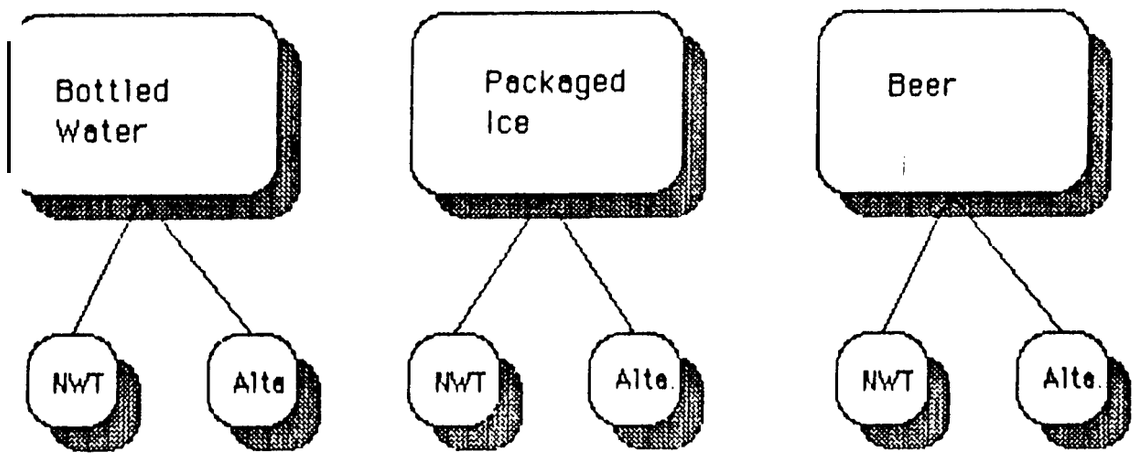
C-2 - Beer production, Southern processing.

Option A - Bottled Water Product

The product. envisioned is one that has been discussed with marketing and distribution consultants. It is their opinion that water could be most advantageously presented as a high quality product in a desirable market format: packaged in an attractive lightly-tinted glass 750 millilitre bottle, carbonated, in regular and flavoured versions.

Diagram C

Arctic Ice Water Ltd.
Options



A- 1 - Bottled Water, Northern processing

This option would see the water processed and bottled in the Northwest Territories, adjacent to the Yellowknife River source site (taking into consideration the requirements of the Yellowknife Watershed Development Area Regulations), or possibly at a plant in the Yellowknife industrial area that would receive bladder or tanker loads from the source. This would require a considerable capital investment in land, buildings, and bottling works at the outset of the business, as there are no suitable contract bottling facilities offering process microscreening and ultraviolet light treatment This sub-option would have the effect of partly undercutting the original intent of the proposers, by placing additional volume pressure on northward bound truck-freight, to deliver empty retail containers (glass containers have been recommended for retail sale purposes) and other materials to the processing site. The obvious advantage of this option would be the employment that the construction and operation of a processing plant could create in the Northwest. Territories.

Establishing a new product. in the market at the outset of this enterprise, under this sub-option, could prove to be quite challenging. The initial uncertainty that comes with the launching of a new product, coupled with the lack of scale economies in a specialized bottling plant could make this scenario option less attractive. Until a critical volume demand for the product is developed through the first years of market. history, it is unlikely that manufacturing plant volumes would be sufficient. to warrant the capital outlay required and the attendant investment risk.

A-2 - Bottled Water, South Processing

This sub-option would see water from the Yellowknife River source being hauled in large bladders (approximately 2000 gallons each) mounted on trucks which are now "deadheading" south with empty trailers.

The bladders are reusable and would be emptied, cleaned and bundled at the southern contract bottling plant for return to the North on the first available truck. See Appendix D on bladders.

A contract bottling plant in Edmonton would process (moving water through a microscreen filter and under an ultraviolet light source) and bottle the water. Rigourous quality control checks would be performed on a batch basis to ensure that all health regulations (particularly Division 12 regulations of the Food and Drug Act administered by National Health and Welfare Canada) were being met.

Preliminary marketing studies indicate that initial saleable volumes of this product are probably in the range of 1,000,000 litres per year.

This sub-option would not produce an large amount of northern employment at the outset of the venture. However, it might permit a low-risk entry to the beginnings of a new packaged water industry which could ultimately spawn future benefits to the community as product lines expanded and industrial momentum gathered.

Option B -Packaged Ice Product

The product envisioned is a small freezable plastic pouch (nominal 100 millilitres) which would be packed 10 to a plastic container bag. The final product would look not unlike children's "freezy-pops" which can be found in retail grocery stores today. Given that the product itself would not be freeze-sensitive, the packaged items could be shipped either frozen or unfrozen, depending upon the season. The retailer or consumer would place them in a freezer compartment for several hours before use.

The specific market success of such a product has not been tested directly to date, but informal discussion with an industry source indicates that such a product should probably be able to create a market niche for itself in the growing "upscale" market. It would probably be beneficial to arrange for distribution of this product via existing grocery wholesalers and retailers network, rather than depending upon the the current gas station, convenience store, and vending machine retailing for common packaged ice.

The N.W.T. Pavillion at Expo'86 successfully demonstrated that ice from the Northwest Territories does have appeal. Over 8000 pounds of the polar sea ice were issued to visitors at the Pavillion restaurant "Icicles"over the period of the event. The polar ice product was apparently well received by the average fair-goer. It was billed as glacier ice, reputedly blue in colour, and was to have popped and fizzled in the glass, producing a visual and auditory experience. The envisioned "packaged ice" product marketed by Arctic Ice Water Ltd. would be similar in that it would play upon its image, and appeal to the curiosity that many urban North Americans have for things Northern.

B-1 - Packaged Ice, Northern Processing

This sub-option would see water from the Yellowknife River source injected into retail packaging and boxed at a local self-owned plant. The raw water would be microscreened and treated with ultraviolet light prior to injection into flexible plastic pouchess.

The particular advantages of this option would relate to the relatively low capital investment in land, buildings and equipment required; the relative ease of transport in bringing north the flexible plastic container and packaging material; the temperature insensitivity of the retail-read;? product; and finally the number of northern jobs created in operating the facility.

B-2 - Packaged Ice, Southern processing

This sub-option would see northern water trucked in large bladders to a southern plant for packaging, similar to option A-2. One critical difference would be that the southern plant would be wholly-owned by Arctic Ice Water Ltd. This plant would operate on lower capital and labour costs than the northern plant envisioned in sub-option B-1. The product would be identical to the one described above.

This sub-option would have an advantage over some options of avoiding the northward transport of any re-shippable materials destined for southern markets. The principal disadvantage with this sub-option is that it effectively would export northern jobs with the raw water.

Option C - Beer product

The product envisioned is a premium quality product, produced in a micro-brewery with quality ingredients and pure northern water into a unique brew with its own "character", and quite possibly sold at. a premium price after export from the Northwest Territories

As with all the products considered in this study, it is felt that there is an opportunity to export the "Romance of the North" in a properly marketed package. This kind of product would appeal especially to the affluent urban middle-class individual with an above-average disposable income that appreciates an "experience" in consumption, or who is possibly making a statement about his level of sophistication by the commodity he chooses to consume.

There are now nine small "micro-breweries", "boutique breweries" or "cottage breweries" operating in various Canadian provinces, especially in British Columbia and Ontario. The product is not manufactured in the massive batches prepared by the big three Canadian breweries, but rather in smaller amounts under 300,000 litres per year. The beer produced is usually promoted as a high quality premium beer, and priced accordingly. See Appendix E for some typically recent British Columbia price lists for operating micro-breweries.

C-1 - Brewed product, Northern processing

This sub-option would see a cottage brewery established in Yellowknife along the lines of the Okanagan Spring Brewery at Vernon, B.C., or the Granville Island Brewery in Vancouver, B.C. In both these micro breweries, German-trained brewmasters have been engaged to manage the plants. Time-tested German style processes, ingredients, and taste are a natural consequence of this decision. In the case of Granville Island, German-made machinery is also used extensively because the brewmaster felt most comfortable with equipment he had trained with and used before.

Additional marketing studies would determine whether custom bottles would be necessary for such a product. If custom bottles are deemed not necessary, there may be an opportunity to refill the considerable number of empty beer bottles that are now returned in that state to the southern breweries.

This sub-option would require the greatest capital infusion of all in order to be implemented. Start-up costs for cottage breweries in British Columbia over the past few years are reported to range from $710,000 through to $2,900,000

C-2 - Brewed product, Southern processing

This option would also see Northern water trucked in large bladders to a Southern Arctic Ice Water Ltd.-owned destination plant for brewing and packaging, similar to sub-options A-2 and B-2. The product would be the same as described above under Option C-1, but would be brewed and bottled in an self-owned cottage brewery located in Alberta.

This sub-option would have the disadvantage of effectively exporting potential jobs from the N.W.T. On the other hand, this option would have the advantage of allowing business to startup with a marginally lower investment and operational cost levels, while using a northern-supplied ingredient. This sub-option would also avoid a northward haul of materials (especially custom glass bottles) which would ultimately be re-shipped South to market, creating an additional cost which would ultimately be reflected in profitability figures

All Options and sub-options

Tables 2A, 2B, and 2C describe the broad numerical relationships of the the options and sub-options listed shown in Diagram C. The tables were created to demonstrate the large-line relationships for each sub-option that would exist between the variables (Net Profit/Loss, Employment, and Trucking Rate Adjustment) of interest to Arctic Ice Water Ltd. and Government.

Table 2A shows the elements of a net income/loss for an average year of operation under each of the sub-options. In all cases, it is assumed that the figures are for the initial year of operation, including upfront charges for feasibility studies, marketing, and merchandising. The numbers presented are therefore "conservative" in nature, with no economies of scale reflected in them. It is likely that the Net Loss position described for a couple of the sub-options could become positive in time, but this would only become clearer with more detailed studies.

Option A integrates more specific information gleaned from a separate partial feasibility study done on the bottled water market. For Options B and C, it was decided to present Capital estimates for all options with preliminary sales and production figures developed from assumptions detailed in Table 2Ai for the Ice Market and Table 2Aii for the Beer Market. For this exercise, profitability figures were difficult to guage accurately without the benefit of more precise sales revenue and production cost figures which normally flow from a comprehensive marketing study and production program.

Competitive pricing against existing brands are assumed in these tables. In reality, there may be some opportunity to sell quality products at a premium price. The liklihood of of premium prices would be confirmed as an integral part of a more detailed marketing study done prior to implementation of future investment plans. A premium price would yield larger income figures, and push some of the sub-options into a Net Profit position.

Table 2B shows the northern and southern employment pattern that would probably result from each of the sub-optional developments, and the relative number of dollars that would be injected into the northern and southern economies. This table shows only the direct employment of Arctic Ice Water Ltd., and does not reflect employees that might be taken on by AIW sub-contractors in sub-option A-2.

TABLE 2A - All Options - Net Income/Loss

	Water North Option A-1 Self-Owned	Water South Option A-2 Contract bottler	Ice M Option Self-O
Capital Equipment:			
Bladders [5]			
Bladders$	$4,343'	$26,05$	$
Office Equip.	$18,300	$18,300	$1
Hoses	$1,000	$1,000	$
Pump & light truck	$10,000	$10,000	$1
Building	$250,000	$0	$15
Production Machinery	$350,000	$0	$2
Sub-Total	$635,643	$55,358	$20
Working Capital			
Cash	$150,000	$150,000	$15
Sub-total	'3150,000	$150,000	$15
Capital Investment Total:	$783,643	$205,358	$35
Equity Investment	$200,000	$200,000	$20
Borrowed Capital	$583,643	$5,358	$15
Estimated Annual Income			
Sales	$703,464	$703,464	$9
Total	$703,464	$703,464	$9
Estimated Annual Operating Expenses:			
Salaries and Benefits	$260,000	$104,000	$18
Land Lease - North	$100	$100	
Land Lease - South	$0	$0	
Production Costs	$550,000	$692,000	$6
Shipping	$38,187	$27,277	$1
Selling Expenses	$40,000	$40,000	$4
Interest Expenses	$64,317	$590	$1
Depreciation Expenses	$209,102	$18,268	$6
Miscellaneous	$0	$0	
Total	$1,161,707	$882,235	$386
Profit before taxes	($458,243)	($178,771)	($28
Taxes	$0	$0	
Net Income/(Loss)	($458,243)	($178,771)	($288,

+ - Borr

Table 2Ai - Ice Market Calculations

Base prices, quantities from Red Rooster stores Edmonto $1.09 for a 2.5 kilogram plastic bag

$Price per kilogram=	0436
with 1 kg=2.2046226 lbs	
therefore $Price per pound=	0.19776628
with 10 lbs to the gallon	
therefore $Price per gallon=	1.97766275
with 4.54609 litres to the gallon	
therefore $Price per litre is=	0.43502499
with margin of 22% for retailer	
therefore wholesaler's Price/litre=	0.33931949
with 3.5% wholesaler's upcharge	
therefore $Price to wholesaler/litre:	0.32744331
with 12 litres to a case	
therefore AIW's price to '.~'bolt:,'r: =	3.92931971

with annual AIW production at varying amounts
therefore annual and monthly revenue would be as follows:

ann.production	300000	600000	900000 in litres
ann. rev.$	$98,233	$196,466	$294,699
monthly rev.$	$8,186	$16,372	$24,558

Estimated Ice Production $costs/12 litre case

plastic pouch-100ml X 120	$1.20
plastic bag X 12	$0.60
carton	$0.68
labels	$0.13
distribution	$0.09
advertising	$0.03
total	$2.73

therefore production costs per 12 litre case exclusive of labour would be:

ann.production	300000	600000	900000 in litres
ann.cost.$	$68,250	$136,500	$204,750
monthly cost. $	$5,688	$11,375	$17,063

Table ZAii - Beer Market Calculations

Base prices and quantities from GNWT Liquor Board staff

The normal taxation expressed in % is =	50
An normal price per case is =	$11.60
therefore the GNWT per case purchase $ =	$5.80
with 341 millilitres per bottle and 12 bottles to the case	
number of litres in a case=	4.092
and $ per litre is=	0.70551724

with annual AIW production at varying amounts
therefore annual and monthly revenue would be as follows:

ann. production (in litres)	300000	600000	900000	1200000
ann.production (in cases of 12)	73,314	146,628	219,941	293,255
ann. rev.$	$425,220	$850,440	$1,275,660	$1,700,880
monthly rev.$	$35,435	$70,870	$106,305	$141,740

Beer Production Costs/case of 12:	$$$$$$$$$$
Hops	0.10
Yeast	0.01
Water	0.03
Malt	0.10
Glass bottles	1.00
carton	0.68
labels	0.13
closure	0.17
warehouse	0.07
misc.	0.80
distribution	0.09
advertising	0.03
Total	$3.21

therefore production costs per case of 12 bottles or 4.092 litres (exclusive of labour) would be:

ann. production (in litres)	300000	600000	900000	1200000
ann.production (in cases of 12)	73,314	146,628	219,941	293,255
ann. cost.$	$235,337	$470,674	$706,012	$941,349
monthly cost.$	$19,611	$39,223	$58,834	$78,446

TABLE 2B ~ Options - Staffing & Benefits Cost Estimates

	Water North Option A-1 Self-Owned	*Water South Option A-2 Contract Bottler*	*Ice North Option B-1 Self-Owned*	*Ice South Option B-2 Self-owned*	*Beer North Option C-1 Self-Owned*	*Beer South Option C-2 Self-owned*
Northern						
Senior #	1	0.5	0.5	0	1	0
Senior $/yr.	$60,000	$60,000	$60,000	$60,000	$60,000	$60,000
Senior $$	$60,000	$30,000	$30,000	$0	$60,000	$0
Junior #	2	0.5	1	0.5	2	0.5
Junior $/yr.	$48,000	$48,000	$48,000	$48,000	$48,000	$48,000
Junior $$	$96,000	$24,000	$48,000	$24,000	$96,000	$24,000
Clerical #	1	0.5	1	0	1	0
Clerical $/yr.	$36,000	$36,000	$36,000	$36,000	$36,000	$36,000
Clerical $$	$36,000	$18,000	$36,000	$0	$36,000	$0
Trainee #	2	0.5	2	0	2	0
Trainee $/yr.	$24,000	$24,000	$24,000	$24,000	$24,000	$24,000
Trainee $$	$48,000	$12,000	$48,000	$0	$48,000	$0
Sub-total #	6	2	4.5	0.5	6	0.5
Sub-total $	$240,000	$84,000	$162,000	$24,000	$240,000	$24,000
Southern						
Senior #	0	0	0	0.5	0	1
Senior $/yr.	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000
Senior $$	$0	$0	$0	$25,000	$0	$50,000
Junior #	0.5	0.5	0.5	1	0.5	2
Junior $/yr.	$40,000	$40,000	$40,000	$40,000	$40,000	$40,000
Junior $$	$20,000	$20,000	$20,000	$40,000	$20,000	$80,000
Clerical #	0	0	0	1	0	1
Clerical $/yr.	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000
Clerical $$	$0	$0	$0	$30,000	$0	$30,000
Trainee #	0	0	0	2	0	2
Trainee $/yr.	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000
Trainee $$	$0	$0	$0	$40,000	$0	$40,000
Sub-total #	0.5	0.5	0.5	4.5	0.5	6
Sub-total $	$20,000	$20,000	$20,000	$135,000	$20,000	$200,000
Total Staff #	6.5	2.5	5	5	6.5	6.5
Total Staff $	$260,000	$104,000	$182,000	$159,000	$260,000	$224,000

TABLE 2C - All Options- Interest Calculations and Trucking Rate Adjustment

	Water North Option A-1 Self-Owned	*Water South Option A-2 Contract bottler*	*Ice North Option B-1 Self-Owned*	*Ice South Option B-2 Self-owned*	*Beer North Option C-1 Self-Owned*	*Beer South Option C-2 Self-owned*
Interest Expense Calculation						
Amount borrowed=	$583,643	$5,358	$155,643	$125,358	$1,933,643	$1,775,350
Interest % rate=	10.00	1000	1000	1000	1000	1000
Borrowing period in years=	30	30		30	30	30
Annual Expense Amount=	$64,317	$590	$17,15³:	$13,814	$213,087	$195,644
Trucking Rate Adjustment Estimate						
# Backhaul loads used =	70	50	20	17	20	17
%of4100 avail. backhauls =	1 71	1 22	0 4a	041	049	041
$/Van ii-S trip =	$3,200	$3,200	$0	$0	$0	SO
AIW payment $.03/litre =	$546	$546	$546	$546	$546	$546
New North trip $ =	$2,654	$2,654	($546)	($546)	($546)	($546)
Estimated Total $ Saving -	$38,187	$27,277	$10,911	$9,274	$10,911	$9,274

Table 2C demonstrates the Interest Expense Calculation for borrowed monies, and also projects the amounts of cash that would be "placed in the pockets of Northerners" via the trucking transport business. While not every one of these estimated saving dollars would find their way into the average consumer's pocket (see Chapter 6 on The Northern Trucking Rate Adjustment), normal competitive forces of the market would cause the bulk of the savings to lower the transport component of most prices for goods and services delivered in the Western N.W.T. The effect of lowered truck transport prices would be greatest for on-highway communities, but there would also be some marginal benefits for those Arctic Coast communities using a combination of truck and air freight for shipment purposes.

As indicated in the Table 2A, sub-option A-2 would have the advantage of getting an product into a rapidly growing market with a minimum investment, with a sizable portion of processing and handling done by a southern sub-contractor. Selection of this sub-option at the outset of the AIW enterprise would minimize the risk of sinking capital into a geographic area where value recovery in the event of a business failure could be difficult.

Table 3- Canadian Bottled Water Prices & Formats - June to August 1986

Store Name	Location	Brand	type	Origin	Container	Quantity(l.)	Price $	$/litre
Steinberg's	Montréal	Caledon Hills	still	Canada	plastic	400	1.39	0.35
Steinberg's	Montréal	Caledon Hills	still	Canada	plastic	10.00	389	039
Safeway	Tsawassen,B.C.	Precision	distilled	B C.	plastic	3.78	1.89	050
A.E.Price	Ottawa	Labrador	still	Canada	glass	1.50	0.89	059
Steinberg'S	Montréal	Steinberg's	carbonated	Canada	glass	075	059	079
Steinberg's	Montréal	Evian	still	F--ante	plastic	1.50	1.19	0.79
Safeway	Surrey, B C.	Bouresse Falls	still	EIC.	plastic	1 50	1.25	0.83
Safeway	Surrey, B C.	Perron	carbonated	B C.	glass	075	0.65	0.87
Safeway	Surrey, B C.	Nanton	carb+flavours	Alberta	glass	0,75	0.69	0.92
Safeway	Tsawassen,BC.	Nanton	carb+flavours	Alberta	glass	075	069	0.92
Woodward's	Calgary	Nanton	carbonated	Alberta	glass	0.75	0.73	0,97
Steinberg's	Montréal	Aygal	carbonated	Canada	glass	0 7s	0.75	1.00
A.E.Price	Ottawa	Evian	still	France	plastic	1 50	1.69	1,13
A.E.Price	Ottawa	Yittel	still	France	plastic	1.50	1.69	1.13
Steinberg's	Montréal	St Justin	carbonated	Canada	glass	1.00	1.15	1.15
Safeway	Surrey, B C.	Silvan	still	B C.	glass	075	080	1.17
Safeway	Tsawassen,B.C.	Silvan	still	Bc.	glass	075	0.88	1.17
Steinberg's	Montréal	Mont Yal	carbonated	Canada	glass	075	0,89	1.19
Steinberg's	Montréal	Vichy	carbonated	France	glass	1.00	1.19	1.19
IGA	Yellowknife	Spa Reine	still	Belgium	plastic	1.50	215	143
Safeway	Surrey, B.C.	Vichy	carbonated	France	glass	100	1.55	1.55
AE.Price	Ottawa	Pellegrino	carbonated	Italy	glass	075	1,19	1.59
Safeway	Tsawassen,B.C.	Silvan	flavour+carb	Canada	glass	075	1.19	1.59
Steinberg's	Montréal	Perrier	carbonated	France	glass	075	1,23	1.64
Steinberg's	Montréal	Montclair	carb+salt free	Canada	glass-frosted	0 7s	1.27	1.69
Steinberg's	Montréal	Montclair	Orange	Canada	glass-frosted	0 75	1,27	1.69
Super A	Yellowknife	Nanton	carbonated	Alberta	glass	075	1,33	1.77
Super A	Yellowknife	Montclair	carbonated	Canada	glass	0'75	1,33	1.77
Safeway	Surrey, B.C.	Perrier	carb+flavours	France	glass	075	1.38	1.84
Safeway	Tsawassen,B.C.	Perrier	carbonated	France	glass	0.75	1.38	1.84
A.E.Price	Ottawa	Ramlosa	carbonated	Sweden	glass-blue	O 68	14'3	2.19
Super A	Yellowknife	Europa	carbonated	Canada	glass	075	1,99	2.65
Safeway	Tsawassen,B.C.	Perrier	flavoured	France	glass	0.75	2.99	3.99
Super A	Yellowknife	Naturale	flavour+carb	Canada	glass	075	2.99	3.99

As the whole of the Western Territorial market is served by the Alberta breweries, an Arctic Ice Water Ltd. brew would compete against these same major brewing firms. Outside the N. W.T., an northern brew would probably compete more directly with premium imported beers, and "beers brewed under licence" that now represent about one in every five consumed in Canada The marketing emphasis for a successful northern brew would probably be placed upon-a smaller-scale traditionally produced premium product which has been made with the finest and purest ingredients, with northern water as the prime advertised constituent,

With Canadian brewery sales for 1985 reported at 19,785,670 hectolitres, Arctic Ice Water Ltd.'s projected annual volume of 3,000 hectolitres appears very small indeed. As a result, little competitive reaction is expected from the major breweries.

Chapter 5 - Northern Job Creation

Northern job creation is basically a function of the amount. of product handling and processing. In order to maximize chances of success in the early years of an enterprise, it is likely that an entrepreneur would wish to use the most productivity-oriented individuals available. Job Creation and Training grants from government would assist in providing opportunities for more average candidates.

In a second stage of industry development, with an established market acceptance of the product and a rising investor confidence, it may well be possible to create processing facilities at a modest investment level which would provide steady employment for a number of northern residents.

Over the long term of the business plan, it would be mutually advantageous if an aggressive trainee program could be established; thereby creating a pool of northern talent which would could be used in future Arctic Ice Water Ltd. expansions, and in the creation of other associated northern manufacturing industries.

As the the number of packaged water products increased and the proportion of water processed in the north grew, it is quite clear that there would be a growing number of positions available for northern residents. See Chapter 8 for some details of forecasted benefits in employment.

Chapter 6- **Northern** Trucking Rate Adjustment

One of the original reasons for looking at the question of exporting water had been the interest in utilizing the available backhaul potential of 5400 annual truck movements between Alberta and the Yellowknife area. Further research has revealed (see Table 4) that over 4000 of these trucks are currently "deadheading" south empty every year.

Many northern trucking firms are operating at a loss at this time, largely because of determined competition from lower-cost southern trucking interests, who are themselves under great pressure with the cutbacks in the oil industry. Monies injected into the truck transport system by Arctic Ice Water Ltd. operations, or any other useful backhaul operation, would serve to stabilize and protect the northern trucking firms from sustained competitive pressure. Table 5 estimates the potential amounts of money that could be placed in the "pockets of northerners" with the utilization of the unused southbound backhaul loads.

Once these northern trucking firms were operating profitably and efficiently, and assuming normal competetiveness, the figures in Table 5 could be viewed as marginally inflated estimates of the actual savings for the general population that could flow from utilizing the southbound capacity available. At the leading edge of the Arctic Ice Water industry development, there would only be a minimal stabilization effect with the injection of cash into notherners' pockets. But as the industry succeeded in filling more deadheading southbound trucks, these savings could rise significantly to the area of $800 per family per year. The effective transport rate change would help to reduce the notorious high cost of living in Yellowknife.

With the benefit of advice from marketing experts, it seems that the initial volumes of AIW southbound product will be small compared to the available capacity of the Alberta-Yellowknife truck system. For instance, Sub-option A-2, for Bottled Water, will use about 50 truck loads, or about 1.22% of the calculated potential backhaul. Maximum economies in the trucking system will occur beyond the latter stages of Arctic Ice Water development.

Table 4- Estimated empty Southbound truck movements from Yellow knife

Firm	*movements per/week*	*movements per/year*	*%*
Robinson		700	**17. (I6**
Matonabee	4	208	5.07
Byers		450	10.97
NWT Transport		**1095**	26.69
Grimshaw		550	**13,41**
IGA - Horne&Pitfield	4	208	**5.07**
Alberts Grocers	4	208	**5.07**
Sub-Total		3419	83.33
All Others *		684	16.67
Total		4103	100.00

* - Southern and Unidentified - estimated at 20% of Sub-total

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Table 5- Table of Potential Community Truck Rate Savings

# of truck loads	* South bound Haul $	$ Reduction in Competitive rates	@ $ Savings/ individual	$ Savi rigs: Family o? 4
50	$27,277	$27,277	$2.37	$9.49
100	$54,553	$54,553	$4.74	$18.97
200	$109,106	$109,106	$9.49	$37.95
300	$163,659	$163,659	$14.23	$56.92
400	$218,212	$218,212	$18.97	$75.90
500	$272,765	$272,765	$23.72	$94.s7
600	$327,318	$327,318	$28.46	$113.85
700	$381,872	$381,872	$33.21	$132.82
800	$436.,425	$436,425	$37.95	$151.80
900	$490,978	$430,978	$42.69	$170.77
100[1	$545,531	$545,531	$47.44	$189.75
2000	$1,091,062	$1,091,062	$94.87	$379.50
3000	$1,636,592	$1/636,592	$142.31	$569.25
4000	$2,182,123	$2,182,123	$189.75	$759.00

- assumes truckload to be 4,000 gallons or 18,184 litres
* - assumes 6 payment of $.03/litre to trucking contractors
@ - assumes community population of 11,500

Chapter 7 - Conclusions

With the strongly expanding market, the bottled water option would seem to be the best first thrust of a northern water export business. Packaging done in a southern contract bottling situation would minimize risk while the initial product gained a toehold in the market.

Once the product was positioned successfully, however, it would be possible to create a new packaged ice product as a companion item to the successful bottled water product. With the relatively low levels of investment required for an ice plant operation, developing this option should make it possible to establish a northern showcase manufacturing plant.

Following the successful reception of the second product, it may well be possible to enter the market with a northern beer product, totally manufactured in a northern plant. This third and last stage of development would provide for a very interesting lift to northern employment. Beyond the scope of this study, it may also be feasible to integrate the water bottling activity into this plant operation; if production volumes could be accommodated, and if the hauling of containers from the south did not deform production costs too much.

The combined effect of all the above would serve to diversify the economy of the City of Yellowknife by providing a lift to the small manufacturing sector. This would be a welcome move away from the historical over-dependence on mining and government as the mainstays of community welfare. Diversification would also help to reduce economic danger for Yellowknife if and when future downturns in the mining or government sectors might occur.

Chapter 8- The Business Plan

It is recommended that Arctic Ice Water develop a staged three-year expansion plan for product lines starting with bottled water (Sub-option A-2), and possibly extending to packaged ice (Sub-option B-1), and to beer production (Sub-option C-1).

This approach would allow time for the effective proving of the market for "Northern water products", while minimizing the investment risk inherent in any fledgling enterprise. The initial experience would serve to bolster the confidence of potential investors, whether these be individuals, native organizations, or governments. It would also serve to encourage northerners to develop associated skills usable in this industry.

Table 6 summarizes the recommended development stages of Arctic Ice Water Ltd., and attempts to demonstrate the likely qualitative relationships between the business activity, employment and Trucking rates. In addition, the Stage 1 development would provide time to do detailed planning for the latter expansion stages while integrating operational knowledge acquired during the first stage implementation.

Tables 7Ai, 7Aii, and 7Aiii show the resulting cash flow that could be expected from a Stage 1 Sub-option A-2 development. The figures were produced in the context of a partial feasibility study concerning a bottled water enterprise which would bulk transport northern water to an Alberta contract plant bottling and distribution operation. This cash flow estimates sources and uses of cash resources for a three year period.

Table 8 shows annual forecasted northern employment and truck haulage figures, and assumes the same initial development activity plus subsequent northern ice and beer plant expansions. In consideration of three year employment benefits of 23 person-years, there would be an injection of over three quarters of a million dollars into the local economy. Economic multiplier effects with the construction of manufacturing facilities and housing would yield additional stimulation for the Yellowknife economy. Concurrently, transport savings of up to $174,000 would be experienced, although this figure is probably slightly inflated, considering the predicament of northern trucking firms. In total, then, these forecasts indicate that there may be economic advantages in the order of one million dollars for the Western Arctic road system communities in supporting the Arctic Ice Water development concept.

Table 6: Business Development of Arctic Ice Water Ltd.

	Stage 1	Stage 2	Stage 3
Activity	Export to Southern Contract Bottler; Feasibility Stage 2	Start-up Ice Packing Plant in N. W. T.; Feasibility Stage 3	Start-up Beer production in the N.W.T.
Employment	Handling, Cleaning and Loading of Bladders	Packing of Ice into Retail containers, shipping + previous	Brewing and bottling of beerand water + previous
Trucking Rates	Marginal effect in stabilizing northern trucking firms	Effective reduction with additional volumes of ice	Maximum economies achieved with volumes of beer, ice and water

Table 7A1 - Arctic Ice Water Pro Forma Cash Flow - Year 1

BOTTLED WATER	1986 August	1986 September	1986 October	1986 November	1986 December	1987 January	1987 February	1987 March	1987 April	1987 May	1987 June	1987 July	1987 August	1987 September	Total Year 1
REVENUE															
Sample	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	so	so	$0
Initial Production	$0	$0	$0	$0	$29,453	$29,4S3	$0	$0	$0	$0	$0	$0	$0	$0	$58,906
Production	$0	$0	$0	$0	$0	$0	$72,675	$71,814	$7t,814	$71,814	$71,814	$71,064	$71,064	$71,064	$573,123
Total	$0	$0	$0	so	$29,453	$29,453	$72,67S	$71,014	$71,814	$71,814	$71,814	$71,064	$71,064	$71,064	%32,029
EXPENSES															
Administration	$0	$0	$0	so	$23,842	$7,542	$7,542	$7,542	$7,542	$7,542	$7,542	$7,542	$7,542	$7,542	$93,720
Production	$0	$0	$1,326	$26,209	$26,208	S63,69S	$62,9S0	$62,950	$62,9S0	$62,9S0	$62,950	S62,9S0	$62,950	$62,9S0	$621,037
Marketing	$0	$0	$0	$3,000	$5,000	$3,500	$3,200	$3,500	$3,200	$3,500	$3,200	$3,500	$3,200	$3,200	$40,000
Dev.Costs	S24,750	$14,7s0	$7,000	$4,000	$0	$0	$0	$0	$0	so	$0	$0	$0	$0	$s0,500
Miscellaneous	$0	$0	$0	$90s	$910	$910	$910	$905	$910	$910	$910	$910	$910	$910	$10,000
Total	$24,7S0	$14,7s0	$8,326	$36,113	$77,960	$75,647	$74,602	$74,897	$74,602	$74,902	$74,602	$74,902	$74,602	$74,602	$815,257
NET REVENUE	($24,750)	($14,7s0)	($9,326)	($36,113)	($29,s07)	($46,!94)	($1,927)	($3,083)	($2,788)	($3,088)	($2,788)	($3,838)	($3,539)	($3,s30)	($183,228)
Previous Net	$0	($24,730)	($39,s00)	($47,926)	($83,939)	($112,446)	($158,640)	($160,567)	($163,550)	($166,438)	($169,526)	($172,314)	($176, 152)	($179,690)	
Accumulated Net	($24,7S0)	($39,500)	($47,826)	($83,939)	($112,446)	[$158,640)	($160,S67)	($163,6S0)	($166,438)	($169,526)	($172,314)	($176,1S2)	($179,690)	($1133,228)	

Source: Scott & Feinrich bibliography item

Table 7AII - Arctic Ice Water Pro Forma Cash Flow - Year 2

OTTLED WATER	1987 October	1987 November	1907 December	1988 January	1988 February	19e8 March	1908 April	19s8 May	1988 June	1988 July	1988 August	1988 September	Total Year 2
VENUE													
Sample	$0	so	$0	so	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	$0	$0	so
nitial Production	$0	so	$0	$0	*$0*	*$0*	*$0*	*$0*	$0	$0	*$0*	$0	$0
Production	$71,439	$92,986	$92,996	*$92,996*	*$92,?86*	*$92 ,986*	*S92 ,986*	*$92,996*	*$92 ,986*	$92,986	*$92,996*	$92,986	$1 ,094 ,285
tal	$71,439	$92,986	$92,986	*$92,986*	*$92,986*	*$92,986*	*$92,986*	*$92,986*	*$92,986*	$92,986	*$92,986*	$92,986	$1 ,094 ,285
PENSES													
Administration	$7,542	*$7,342*	*$7,542*	*$7,542*	*$7,542*	$7,542	$7,542	*$7,542*	$7,542	$7,542	$7,542	$7,542	*$90,504*
Production	$81,836	*$81,836*	*$8 I ,836*	$81 ,836	*$91,836*	$81 ,836	*$81,836*	*$131,836*	*$81,836*	$81,836	*$81,836*	*$81,636*	*$982,032*
Marketing	$4,000	$3,000	*$3,000*	*$3,000*	*$3,000*	*$3,500*	*$3,000*	*$4,000*	*$3,000*	*$3,500*	*$3,000*	*$4,000*	*$40,000*
Dev.Costs	$0	*$0*	$0	*$0*	*$0*	*$0*	$0	$0	*$0*	*$0*	*$0*	*$0*	so
Miscellaneous	$s00	*$800*	*$900*	$800	$800	*$900*	*$850*	*$900*	*$900*	*$800*	$850	*$800*	$10,000
tal	$94,170	*$93,170*	*$93 ,278*	*$93,178*	$93,170	*$93 ,?78*	*$93,229*	*$94,178*	*$93,278*	$93,678	*$93,228*	*$94,178*	*$1,122,536*
T REVENUE	($22 ,739)	($192)	*($292)*	*($192)*	($192)	*($792)*	*($242)*	*($1,192)*	($292)	($692)	*($242)*	*($1,192)*	($28,251)
evious Net	($183,228)	($20S,967)	*($206 , 159)*	($206,451)	*($206,643]*	*($206,S3S)*	*($207,627)*	*($207,969)*	*($209,06 1)*	*($209,353)*	($21o ,04s)	*($210,287)*	
oumulated Net	($20S,967)	($206,159)	*($206,451)*	*($206,643)*	*($206,835)*	*($207,627)*	*($207,969)*	*($209,061)*	*($209,3S3)*	*($210,04S)*	*($210,287)*	($211 ,479)	

urce: Scott & Feinrich bibliography item

Table 7Alll - Arctic Ice Water Pro Forma Cash Flow - Year 3

BOTTLED WATER	1988 October	1988 November	1988 December	1989 January	1989 February	1989 March	1989 April	1989 May	1989 June	1989 July	1989 August	1989 September	Total Year 3
REVENUE													
Sample	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Initial Production	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Production	$92,906	$11',652	$111,652	$11 ,652	$111,652	$111,652	$111,652	$111,652	$111,652	$111,652	$111,652	$111 ,652	$1,321,159
Total	$92,986	$11',652	$111,652	$11 ,652	$111,652	$111,652	$111,652	$111,652	$111,652	$111,652	$111,652	$111,652	$1,321, 158
EXPENSES													
Administration	$7,542	$7,542	$7,542	$7,542	$7,542	$7,342	$7,542	$7,542	$7,542	$7,542	$7,542	$7,542	$90,304
Production	$98,190	$98,198	*98,198	$98,198	$98,198	$98,198	$98,199	$99,198	$90,198	$99,190	$98,198	$99,196	$1,178,376
Marketing	$4,000	$3,000	$3,000	$3,000	$3,000	$3,500	$3,000	$4,000	$3,000	$3,s00	$3,000	$4,000	$40,000
Dev.Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Miscellaneous	$800	$800	$900	$800	$800	$900	$850	$800	$900	$800	$850	$800	$10,000
Total	$110,540	$109,s40	$109,64O	$109.540	$109,540	$110,140	$109,590	$110,540	$109,640	$110,040	$109,590	$110,540	$1 ,318,8s0
NET REVENUE	($17,s54)	$2,112	$2,012	$2,112	$2,112	$1,s12	$2,062	$1,112	$2,012	$1.612	$2,062	$1,112	$2,278
Previous Net	($211,479)	($229 ,033)	($226 ,921)	($224 ,909)	($222 ,797)	($220,685)	($219,173)	($217,111)	($21s ,999)	($213,987)	($212;375)	($210,313)	
Accumulated Net	($229,033)	($226,921)	($224 ,909)	($222,797)	($220,685)	($21 9,1 73)	($217,111)	($215,999)	($213,987)	($212,375)	($210,313)	($209,201)	

Source: Boott & Feinrich bibliography item

Table 8 -Forecasted Benefits in Employment and Truck Savings for a three-year, three product Development Scenario Sub-options A-2, B-1, and C-1

	1986-7	1987-8	1988-9	Total
Northern Employment-*				
Bottled Water	2	2.5	3	7.5
Packaged Ice	0	4.5	5	9.5
Beer	0	0	6	6
P-Y Total	2	7	14	23
$ Total	$84,000	$267,000	$546,000	$897,000
Truck Rate Savings				
Bottled Water	$27,277	$49,808	$60,134	$137,219
Packaged Ice	$0	$9,274	$18,000	$27,274
Beer	$0	$0	$9,274	$9,274
Total	$27,277	$59,082	$87,408	$173,767
Total Benefits	$111,277	$326,082	$633,408	$1,070,767

* - in person-years

It was thought that detailed cash flow figures for the packaged ice and brewery operations might be too speculative to be useful at this point in establishing feasibility. It is therefore suggested that Arctic Ice Water Ltd. begin to examine, in greater detail, the operational and cash flow consequences of stages two and three of the enterprise expansions into the packaged ice market and the beer market. To have a realistic grasp of possibilities, it will be necessary to base these cash flow estimates upon the accumulated experience of the Stage 1 implementation, as well as separate marketing studies.

Diagram D is a chart which visually demonstrates how packaged water volumes would grow by AIW product line. Regulatory requirements exist for the use of northern waters, and these are administered under the authority of the N.W.T. Water Board. A water licence is nominally required for any user of water having a consumption over 50,000 gallons (or 227,000 litres) per day. As it is presently conceived, Arctic Ice Water's three product lines will use a very small percentage of the 50,000 gallons a day, and no water licence is required.

Diagram E shows the effect of the Arctic Ice Water Ltd. operation in 3rd year of implementation on the truck transport loads. In spite of the AIW loads, there is considerable room for expansion.

In a stage of development beyond the immediate scope of this report, it is recommended that Arctic Ice Water study the feasibility of repatriating the water bottling operation from a southern sub-contract arrangement to an operation within the Yellowknife micro brewery. In this way, both the "northern" appeal and content of the products could be enhanced. Many competitive bottled waters advertise that they are bottled "at source"

Diagram D
Arctic Ice Water Ltd.
Packaged Water Volumes

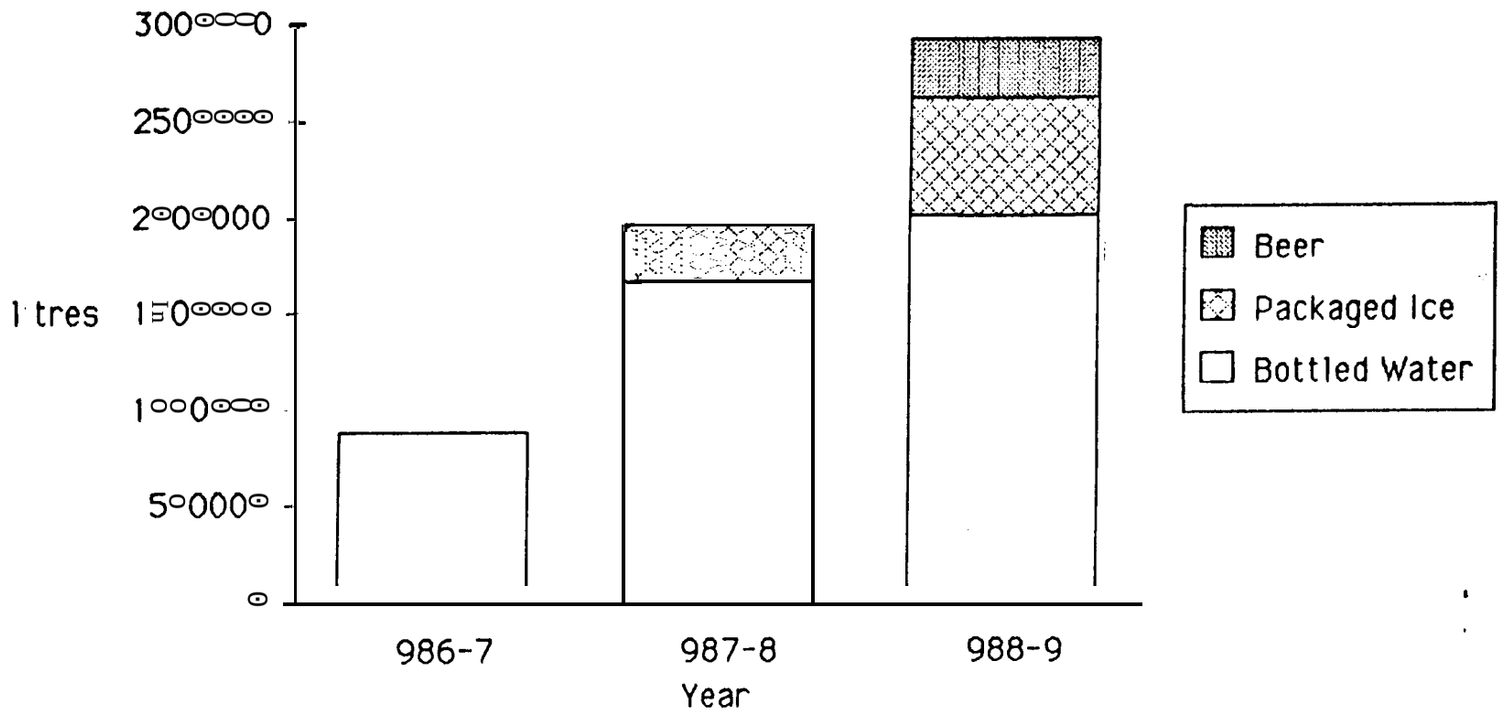
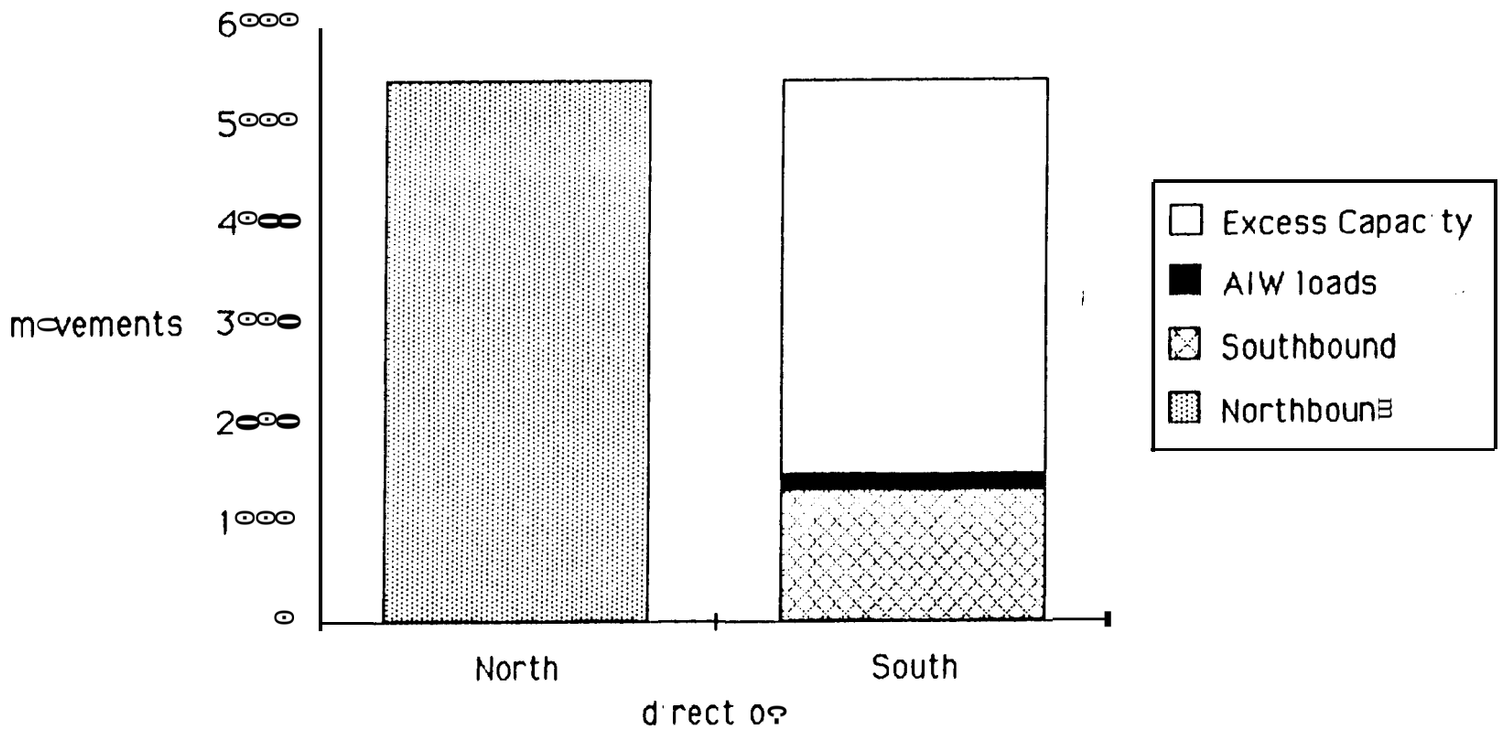


Diagram E
Truck Loads in 3rd
Year of AIW Implementation



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Hansen's Natural
Industry, CA

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Appendix A

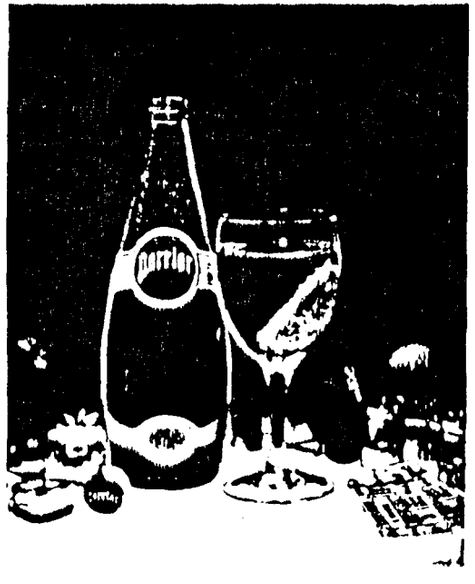
Appendices

OPTIMUM NUTRITION:

. . it's one of the key essentials in slaying healthy and energetic - able 10 function al your best. It's vitally important 10 establish good eating habits, choose the proper foods, and consistently maintain a varied, well-balanced diet that provides adequate amounts of all the essential nutrients.

Achieving *optimum nutrition* can be *difficult* al the best of times but, when traveling, it can be even more troublesome. The disruption of your normal time schedule and regular daily routines plus eating on the run, In restaurants, airplanes and coffee shops, can play havoc with your eating habits.

When traveling, and especially during lengthy hips, it is essential that you eat properly and follow sound dietary habits -10 reduce stress, protect your health and keep your energy high. Your tips will be much less tiring and disruptive and ar more enjoyable.



NUTRITION TIPS:

Good *nutrition* Is largely a "numbers" game. **Each day, make sure you have the proper number of** servings from each of the following Basic *Four* food groups.

		Dally Servings
1. Milk and Milk Products	milk *(2%* or skim); buttermilk; yogurt; collage cheese; cheddar and process cheese; custard; Ice cream; etc A sample serving Is one cup milk or yogurt, or 1.5 oz. cheese.	2
2. **Meat and Alternates**	meal; fish; eggs; poultry; liver; cheese; dried peas; beans; peanut butler; nuts; seeds; etc. A sample serving is 2-3 oz. meal or fish, one cup beans, 4 Tablespoons peanut huller. or 2 eggs.	2
3. Bread and Cereals	whole grain or enriched breads; muffins; rolls; whole grain cereals; macaroni; spaghetti; rice; rice pudding; etc. A sample serving Is one slice bread, one muffin, or ½ - 1 cup cooked *or* ready-lo-eat cereal.	3-5
4. Fruits and Vegetables	fresh and cooked fruits; yellow, green, and green leafy vegetables; fruit and vegetable juices; salads, etc. A sample serving Is ½ cup vegetables, fruit or juice, 1 medium carrot, apple, potato, etc.	4-5

Having the above recommended number of servings will supply 1,000- 1,400 calories per day. Additional calories you need can be obtained by having extra servings from each of the food groups. This will provide all the vitamins, minerals, protein, fats and Carbohydrates you should need.

*A FEW MORE **NUMBERS** TO REMEMBER. . .*

Mosl 01 each day's calories should come from natural, complex carbohydrates - fruits and vegetables, bread, potatoes and other natural starches. Carbohydrates should provide 55. 60% of your total daily calories, fats 25- 30°/0,

For the air traveler, high; protein breakfasts and lunc and *high-carbohydrate dinr shoulbe de* rigueur, and anything else *verboten.* *From Overcoming Jet Lag,* *Dr.* Charles *F. Ehret and Lyr* *Wailer* Scanlon

YOUR NO. 1 NEED . . . A NOURISHING BREAKFAST

The quality of your breakfast can make or break your day. A Nutritious breakfast give: you a strong, energetic start. The key to a nourishing breakfast that will keep your en high is *protein*. Combined wilh carbohydra protein foods will keep your blood sugar le up for as long as four hours.

Make sure your breakfast Includes fresh citrus fruit or juice, whole grain bread or ce and a good supply of protein. Excellent sources are milk, eggs, meal, fish, cheese yogurt and peanut butler.

IN-FLIGHT NUTRITION TIPS

1. Drink lots of fluids In the form of waler and juices - at least 8 ounces per hour. The atmosphere In an aircraft Is exceptionally dry and dehydration causes fatigue. (Eight glasses of waler should always be your daily minimum.)

2. Avoid or limit alcoholic beverages 10 no mc than one because alcohol, Itself, also contributes 10 dehydration. (In addition, tw drinks In the air have the same effect as th al sea level.)

3. Limit tea and coffee. Both are diuretics wh cause increased waler loss, and excessive caffeine can be unsettling.

4. Eat lightly and limit your use of butler, crea sauces, salad dressings and gravies to avo excessive fat and calorie Intake.

5. If you have special dietary requirements, advise the airline beforehand. Most will try cater to your needs.

Perrier

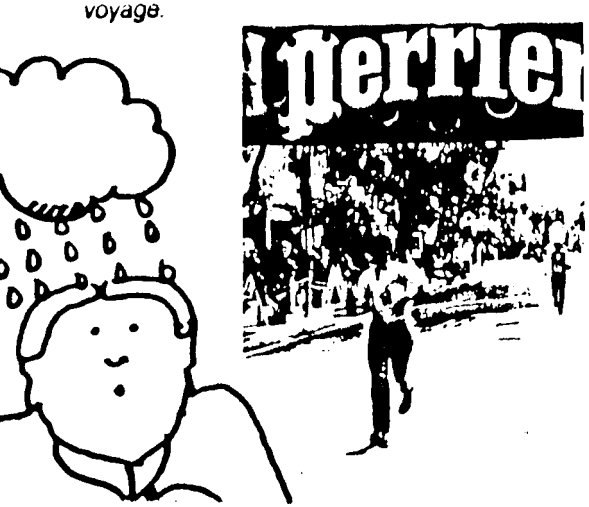
ESS — A CONSTANT COMPANION

No one is a stranger to stress. It surrounds us, every day, in a thousand different disguises. Rush hour traffic, urgent meetings, deadlines, speaking engagements, flat tires, the rising cost of living, world tensions — these and thousands more are every day sources of stress.

Another is travel — especially lengthy, long distance trips. These add still other pressures — tight time schedules, physical confinement and disrupted living habits, not to mention the disturbing effects of "jet lag" that result when time zones must be crossed.

For many, even the thought of flying produces excessive tension and unsettling apprehension. In most cases, however, it's the rushing, waiting, sitting, boredom, eating "on the go", and impatience to "get there" that causes most of the travel tension that so many experience.

Traveling, and especially long distance flights, will be less fatiguing and far more enjoyable if you take special measures to keep stress and tension to a minimum. The following tips will help make your trip a *bon voyage*.

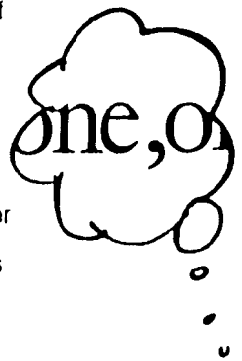


EXERCISE — NATURE'S TRANQUILIZER

The body's automatic response to any type of stress is to ready itself for action. This is the well-known "fight or flight response". The body regards any kind of stress as a threat to its wellbeing — an "invader" that must be repelled or from which it must run.

A host of physiological changes occur which ready the body for physical effort. Hormones are released which stimulate faster heart action and more rapid breathing. Muscles tense and blood pressure rises. Fats and sugars are released to provide extra energy. The body quickly gets "revved up".

This is why physical activity is one of the most effective ways to relieve stress and tension. It's the "safety valve" that provides a release for the built-up internal "pressure". Almost any kind of exercise will help. Whenever you feel tense, get up and move about, go for a walk, do some knee bends, use your muscles in a vigorous fashion. It will ease your tension and make you feel much better.



3 EASY-TO-DO RELAXATION EXERCISES

1. "SLOW DOWN" BREATHING

The simple act of slow, deep breathing can have an exceptionally relaxing and settling effe

Assume a comfortable position and begin by breathing in slowly and deeply through your nose. Inhale to a slow count of three, making sure your abdomen swells as you fill your lungs. Pause for a count of two, then slowly exhale. As you do this, let your muscles go as loose and relaxed as possible. Visualize the tension flowing out as you exhale. Do this 10-15 times.

2. THE "MANTRA" METHOD

Just one simple word, repeated over and over to yourself for several minutes, can relax you. This is used in transcendental meditation (TM). It must be a neutral word that has no special significance or meaning to you. Its sound must be conducive to rest and relaxation. One or two syllable words ending in "m" or "n" seem most effective. The word "one" is favoured by many.

Simply get comfortable, close your eyes, relax your muscles, breathe slowly and deeply and silently repeat a simple word such as "calm" or "one" on each exhale. Concentrate on your one-word "mantra" and continue for several minutes.

3. THE "TIGHT & LOOSE" TECHNIQUE

Alternately tightening and relaxing your muscles relieves muscle tension.

Sitting comfortably, eyes closed, take a slow, deep breath and gently tighten all the muscles of your body. Hold this for 3 - 5 seconds, then exhale in a long, easy sigh letting all your muscles go as relaxed as possible. Do 10 - 12 times.

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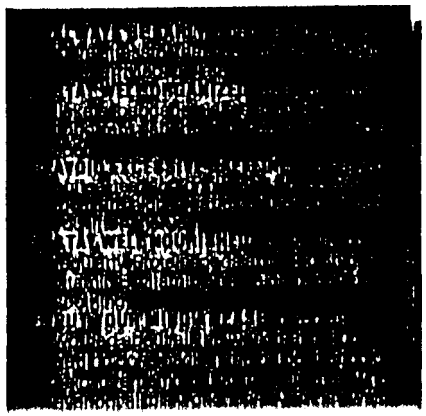

perrier

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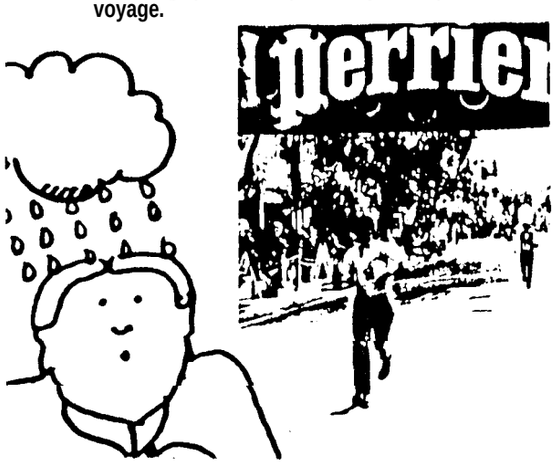

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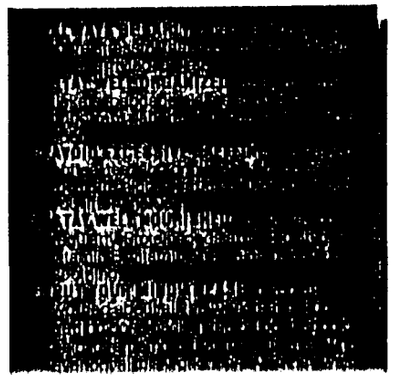
MORE tension-easing tips ***for travelers***



perrier

Appendix B

The Gazette, Montreal, Saturday,
J-2 June 21, 1986

Cocktail on tap gives no cause for alarm

When Montrealers turn *on the* tap' for "a drink, they get more than a glassful of water. A cocktail containing metals and organic compounds streams into the glass.

;But people in the city, who inherit a large share of the toxic wastes dumped in the Great Lakes by U.S. 'industry, should not panic, Dr. Pete Pearce, who headed the 1985 Ontpn Federal, Water Policy, told *The Gazette.*

"Montreal tap water is perfectly safe to drink – it is much better than most other Canadian municipal hater supplies," he said. "There is no reason to switch to bottled water for safe drinking water."

However, he warned consumers not to be complacent about drinking water.

"Toxic chemicals "such as lead, PCBs and dioxins pose a huge, ominous threat to drinking water," he' warned. 'We must find ways to stop pollution and clean up the waterways to ensure safe drinking water 'in the future."

He advises consumers to pressure every level of government for clean water.

Montrealers and residents of communities who buy water from the City of Montreal can find out exactly what chemicals, and in what quantities they are present, by reading regular reports edeinithe city archives every six months by the city's Public Works Department.

Montreal city councillor Michael Fainstat said that three reports have been filed since late 1984 when the city council voted for them. "T!: Thwater reports show very little change in levels of contaminants." Fainstat told *The Gazette.* "They are well below federal and provincial permissible levels."

Montreal's drinking water is pumped from the St. Lawrence River at LaSalle along the Aqueduct. To kill micro-organisms, it is treated with ozone and chlorine at the modern Charles J. Des Baillets plant in LaSalle and with chlorine only at the ancient Atwater plant in Verdun.

Fainstat believes that increased ozonation *of* Montreal drinking water would further reduce the presence of hard-to-kill viruses and also avoid the chemical compounds that form when excessive chlorine is used to kill bacteria.

"Bacterially 'we are in good shape,? he said. "But we need constant vigilance and new treatments to keep our water safe."

— *Nancy Dumford*

olic feels helpless over news of toxins in food

CLAREN

u eat.
ntario residents got some news last
hard to swallow.

a disturbing new study that found
emicals in Ontario food, people are
switchboards at radio talk shows,
e dinner table whether it is safe to
king to experts for signs of reassur-

provide only partial comfort. In a
ws, scientists agreed that Ontario
u, but on a polluted planet it poses
m and perhaps grave long-term
lth.

Long-term exposure raises fears

In her study, the first of its kind in North America, Toronto scientist Kate Davies concluded that food — not air or drinking water — is the major source of the average person's exposure to toxic chemicals.

She found that milk, meat, eggs, vegetables and fruit from Southern Ontario supermarkets contain low levels of DDT and other pesticides, polychlorinated biphenyls and even dioxins, including the deadliest form.

For the public, the prospect of polluted food is raising some questions never asked before:

What should I eat? Will some foods kill me? Will they give me cancer or some other disease? What do these chemicals do to my body? How did they get in my food in the first place? What can we do about it?

The first answer is easy.

"We're not recommending that people change their diets at all," said Dr. Davies, a biochemist for the Toronto public health department. "I haven't changed my diet."

In fact, Dr. Davies and other scientists say, people have virtually no choice. In a polluted world, it is futile to try to find "cleaner" food elsewhere.

"There is no evidence that (Ontario) food is any better or any worse than anywhere else," she said.

Food studies in Europe, the Netherlands and Sweden have found similar levels of contaminants. Some foods produced outside Canada might contain higher pesticide residues and therefore be worse. Even food that is organically grown (without chemical fertilizers or pesticides) does not escape airborne contaminants.

But the experts agree that there is no immediate threat to human health.

"You're not going to die," said Dr. Douglas Hallett, a former Environment Canada scientist involved with the study. Health officials in Ottawa say the findings do not warrant a public-health advisory.

However, they do not agree on the trickier question of long-term health risks from low-level exposure to toxic chemicals.

Dr. Davies weighs her findings against other risks in life. "I feel confident in saying that the risk from

TOXIC — Page A4

Toxic chemicals found in food may pose long-term problems

● From Page One

chemicals we found in food is very ... less (over a lifetime) than the risk ... from smoking," she said.

Dr. Beverley Houston, acting chief of chemical evaluation in ... foods at the Department of Health ... and Welfare in Ottawa, agrees: "I ... wouldn't anticipate them posing a ... long-term health hazard to consumers."

Others are not so sure. The key experiment has yet to be done — that is, what happens to humans who are exposed to this in their diet over a long period of time?" said Dr. Gail Bellward, assistant dean of research and graduate studies at the University of British Columbia's faculty of pharmaceutical sciences.

"We are performing — without knowing it — a vast human experiment."

Dr. Bellward said Dr. Davies' findings are particularly worrisome because scientists have always set health guidelines on the assumption that plants do not contain toxic chemicals. There are no Government guidelines for dioxin in food.

Chemicals have been in Canadian food for 20 or 30 years. The average supermarket is stocked with fresh and processed food containing small amounts of pesticide residues and chemical additives. Most people have been swallowing them for decades with little apparent notice.

At the same time, a new crop of industrial chemicals — most of them manufactured since the Second World War — were working their way into the water, the air and, not surprisingly, the food chain. These chemicals have probably been in food since about 1950.

Dr. Hallett said in an interview: "We have no idea what these multiple levels of chemicals do to you," he said.

But scientists do know one thing: Toxic compounds like the PCBs, dioxins and dibenzofurans found in Ontario food can set off a potentially deadly chain reaction in the human body. They speculate that this reaction may lead to increased cancer, inhibition of the immune system (which fights disease), organ dysfunction and changes in hormones (which, among other things, control the ability to reproduce).

When a person eats an Ontario apple, for example, the dioxin in it enters the bloodstream. From there, the molecules are able to enter cells, where they bond with proteins and are carried into the nucleus. There, they can chemically change the "message" sent out by the nucleic acid, DNA, which regulates bodily functions. The DNA may start sending out abnormal signals to the body, fostering a cancer growth, for instance, or suppressing the immune system, or interfering with normal organ function.

Is this happening to Canadians? "I don't know. It would take 10 or 20 years (of study) to figure this all out," Dr. Hallett said.

Canadian cancer statistics do little to clear up the mystery: there have been increases in some kinds of cancer and decreases in others. Possible environmental causes are hard to pinpoint because of the lack of research.

Dr. Hallett, however, says the cancer ignores less-obvious health problems such as nervous disorders, immunosuppression and organ dysfunction.

Some doctors argue that these health problems are increasing in North America.

In recent years, more people have been diagnosed as having chemical-triggered allergies or sensitivities. Some have violent reactions to perfume or food additives that most people can tolerate. While the subject is controversial, some doctors and scientists believe that additives and industrial chemicals are causing long-term health problems.

Human health aside, there is plenty of evidence to show that low levels of dioxins cause cancerous tumors in Great Lakes fish and interfere with bird reproduction.

The Great Lakes are the other major source of toxic chemicals in food. Dr. Hallett said many chemicals entering the Great Lakes are volatile, evaporating easily off the surfaces of lakes, water into the air. Then they fall down again in crops in dust or rain.

researcher for the Toronto environmental organization Pollution Probe. And "it's well known that the largest source of dioxins and furans into the environment is garbage incineration."

Three of the biggest culprits in Ontario are garbage and sewage incinerators in Hamilton and Metro Toronto.

Together, Hamilton's Solid Waste Reduction Unit, a garbage incinerator that is currently closed for renovations, and Toronto's Ashbridges Bay sewage sludge incinerator and Commissioner Street garbage incinerator send 10.6 kilograms of dioxins and chemically related furans into the air each year.

The dioxins are produced because plastics and other wastes are burned at temperatures too low to destroy them.

The incinerators meet interim standards set by the Ontario Government, which measures the concentration of air pollutants where they fall. Environment Minister James Bradley says he is working on tougher laws that would reduce this air pollution.

"The only real answer to polluted food is cleaning up the environment altogether," said Kai Millyard, a

Quebec fares well in tide toward bottled water

CONSUMER WATCH

NANCY DURNFORD

Water, the beverage with no calories, coloring or caffeine, is perfect for cooling off.

The chic set drinks Perrier water, while the health seeker goes for Vichy-Celestins mineral water.

Bottled water fills the bill for fitniks who avoid sugar and stimulants. And it brings peace of mind to those who fear that contaminated lakes and rivers add toxins to our municipal water supplies.

Whether collected from high in the Alps or from springs beneath the Laurentian Shield, bottled water is big business.

Quebec sales topped $27 million last year and there is no sign of a slowdown in growth.

Spring water, chosen for drinking, cooking and reconstituting juices, shows the greatest increase.

Although sales of some imported water, such as Perrier, have tripled in the past four years, overall sales of imported waters are levelling off.

Quebecers are discovering that water bottled by 23 companies in Quebec is much cheaper than imports. Its quality is comparable, said physician Dr. Paul Dagenais-Perusse, a water specialist.

All bottled water sold in Quebec must include a detailed analysis of the minerals dissolved in the water, expressed in parts per million (ppm). Depending on mineral content, water is classed as spring or mineral water. To be labelled spring water, minerals such as sodium, calcium, potassium and copper normally dissolved in water cannot exceed 1,000 parts per million.

But consumers must read analyses displayed on bottles to find out how water, spring or mineral, compares in sodium (Na) fluoride (F) calcium (Ca) and other minerals.

Mineral water, with 450 to 3,350 ppm dissolved minerals, is chosen for its special flavor. Once drunk for their health-giving attributes, many mineral waters are now suspect.

The sodium level of Vichy-Celestin water is so high that the sodium content of one glassful exceeds the recommended daily intake, Vanier College chemistry professor Joe Schwarcz told *The Gazette*.

"Consumers must be careful to choose mineral waters with balanced minerals," Dagenais-Perusse said. "Water with excessive amounts of calcium could cause a kidney stone before it strengthens bones."

To promote calcium absorption, there must be a good ratio of fluorides in the water, he said.

Carbonation (or fizz) can be natural or produced from added carbon dioxide (CO_2). See table.

Quebec-bottled waters are considered among the safest in the world. They are naturally-filtered through layers of sand, limestone and shale. Regular inspections and analyses by Environnement Quebec guarantee that only water with no trace of bacteria or toxic chemicals can be bottled and sold.

Strict Quebec labelling laws, considered a model for similar federal laws, guarantee that contents conform to analysis displayed on bottle. For added safety, some Quebec spring water is treated with ozone or ultra-violet light to destroy microorganisms, but it is never disinfected with chlorine.

Shop carefully for the best buy in spring water.

Consumers who fill their own containers at Mira-Bel-Eau dispensers pay rock-bottom prices.

To fill an 18-L jug with cold spring water at any of the company's 10 coin or card-operated dispensers costs $2.90, a 4-L jug 90 cents.

Montreal area shoppers save money by using and re-using their own containers at these centres: La Butinerie, No. 9, Marché de l'Ouest, Dollard des Ormeaux; Provigo-Maxi Heritage, 2685 Chemin Chambly, Longueuil and Eau de Source Quebec Inc., 1437 Montarville Blvd., Saint Bruno. In the next few months the company plans to install 43 new dispensers. Most of them will be in Montreal drug stores.

Trucked in aseptic containers from a spring in St-André, Mira-Bel-Eau is low in total mineral content (210 ppm). Like other spring waters such as the newest Quebec one called Naya, and the Alpine water Evian, Mira-Bel-Eau is low in sodium (8 ppm). Less than 10 ppm of sodium is considered practially negligible. These waters appeal to consumers concerned about the link between hypertension and high sodium levels.

Special bottles are optional and cost 50 cents to $10 depending on size.

Buying water in 18-L containers is also very economical.

At least two brands, Labrador and Montclair, are sold in Montreal grocery stores for about $5 per container. For convenience in transferring water to smaller and easily refrigerated bottles, a manual pump (about $19) is sold.

For the utmost in convenience, consumers can have spring water delivered to their homes or offices.

Laurentian Water Ltd., the oldest bottler of spring water in Quebec, lets potential customers try the water (dispensed from a cooler) in their homes for two weeks at no cost.

A 18-L jug of Laurentian water costs $8 delivered. To rent a water cooler for the jug costs $11.95 per month for a one-year contract.

The Laurentian spring water contains 88 ppm sodium. Laurentian mineral water, from a source 500 feet below downtown St. Antoine St. E., costs the same amount when delivered.

For drinking, cooking and reconstituting beverages, the average household uses four 18-L bottles per month, the company's sales director, Bill Rankin, told *The Gazette*.

Consider containers when buying spring water. While 4-L containers are more economical than 1-L ones, some do not fit in refrigerator door shelves.

While plastic bottles are lighter than glass to carry, some are less likely to transmit odors than others. The new-generation plastic bottles used by Naya, Evian and Vittel are not only strong and odorless, but they can be recycled.

SPRING WATER

Brand	Source	Volume and average price	Average price per litre	Mineral salts, p.p.m.	Treatment
Canaqua	Quebec	3.79 L/$1.82	.43	148	none
Naya	Quebec	1.5 L/99¢	.66	200	none
Mira-Bel-Eau	Quebec	bulk	.20	210	none
Laurentian	Quebec	18 L/$5.00	.22	280	ozone
Labrador	Quebec	18 L/$4.40 1.5 L/$1.50	.24 $1.00	300	ozone
Evian	France	1.5 L/$1.88	$1.06	309	none
Perrier	France	700 mL/$1.25	$1.78	508	none

MINERAL WATER

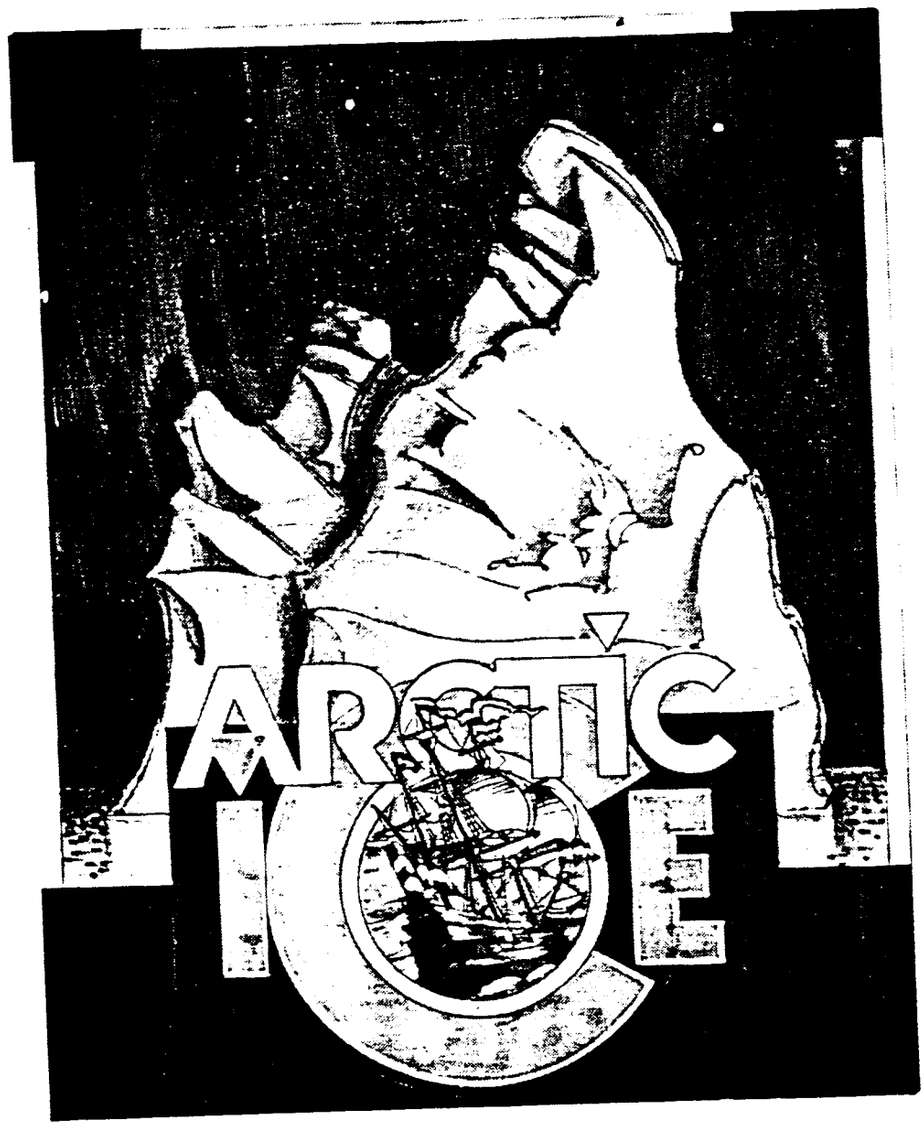
Laurentian (Mineral)	Quebec	18 L/$5.00	.27	850	ozone
Vittel	France	1.5 L/$1.30	.86	810	none
Saint Justin	Quebec	1L/$1.09	$1.09	1000	CO_2 added
Montclair (Mineral)	Quebec	1 L/$1.20	1.20	1290	ozone CO_2 added
Carignan	Quebec	750 mL/50¢	.66	2230	ozone CO_2 added
Vichy-Celestin	France	1 L/$1.25	1.25	3350	none

Table shows comparison of spring and mineral waters.

Appendix C


ARCTIC
ICE


ARCTIC
ICE
CARBONATED
WATER


ARCTIC
ICE

ATL Cargo-Flex™

Trailer-to-Tanker System

CARGO-FLEX is another ATL **Innovation which converts flat-beds, trailers, and cargo containers into tankers. When** empty, these flexible tanks fold up and consume only a fraction of their filled volume.

A system of internal restraints control surging and sloshing. Externality, a fitted nylon harness surrounds the CARGO-FLEX and provides attachment points for a series of ratchet tie-down straps.

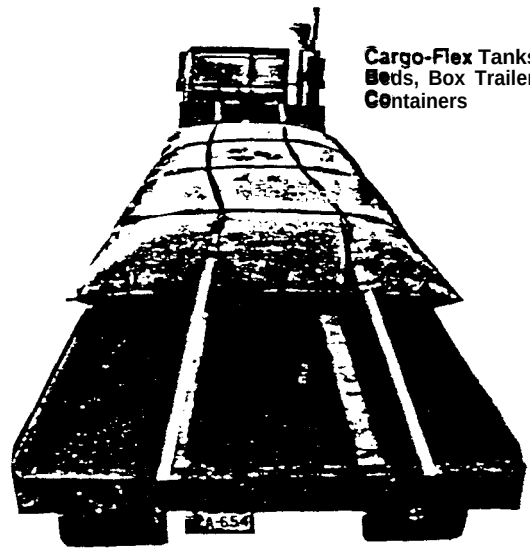
Due to the dynamics involved, each transport tank is specifically engineered for its job. Design considerations Include chemical resistance, liquid density, fill/discharge requirements, volatility, temperature extremes, etc. Various combinations of high strength fabrics and durable synthetic elastomers are combined to form a tank tailored to its proposed end use.

CARGO-FLEX Tanks are used to haul water, molasses, oils, juices, slurries, fertilizers, waste solutions, and many other industrial and agricultural fluids. Limitations by the U.S. Dept. of Transportation may apply and must be observed. Toxic and flammable materials should not be hauled without specific approval.

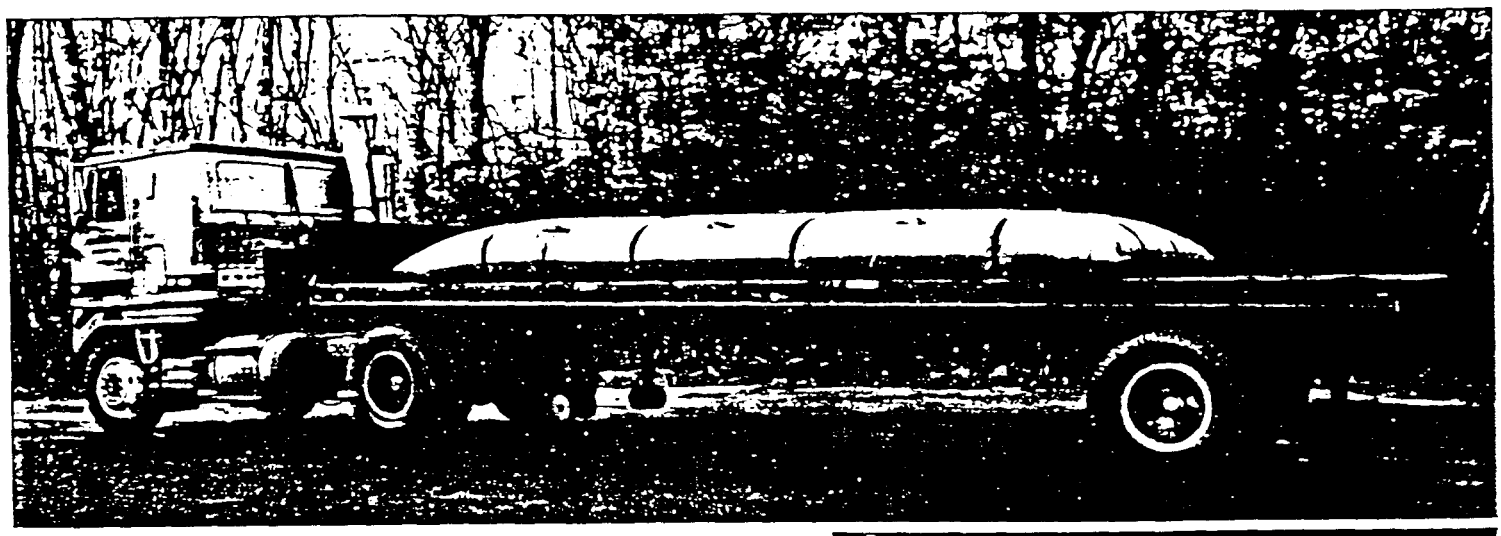
CARGO-FLEX Tanks are generally constructed of heavy-duty Nylon, Polyester or Aramid fabrics impregnated with one of these proven elastomers:

Polyurethane	Nitrile	Butyl
Hypalon	Modified Vinyl	Natural Rubber
Neoprene	C.P.E.	Nylon Hybrids

Let ATL tackle your liquid shipping assignment. Our engineers will design the best tank for your specific needs.

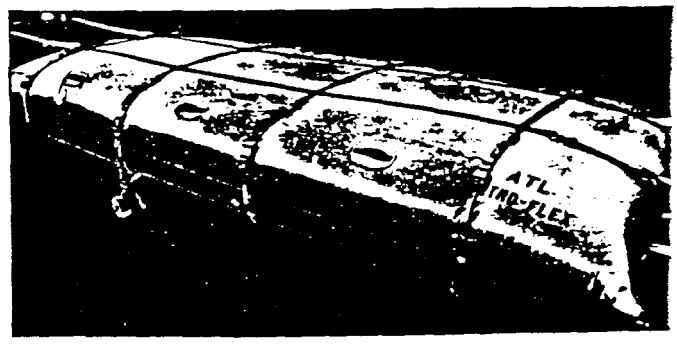


Cargo-Flex Tanks Fit Flat Beds, Box Trailers & Cargo Containers



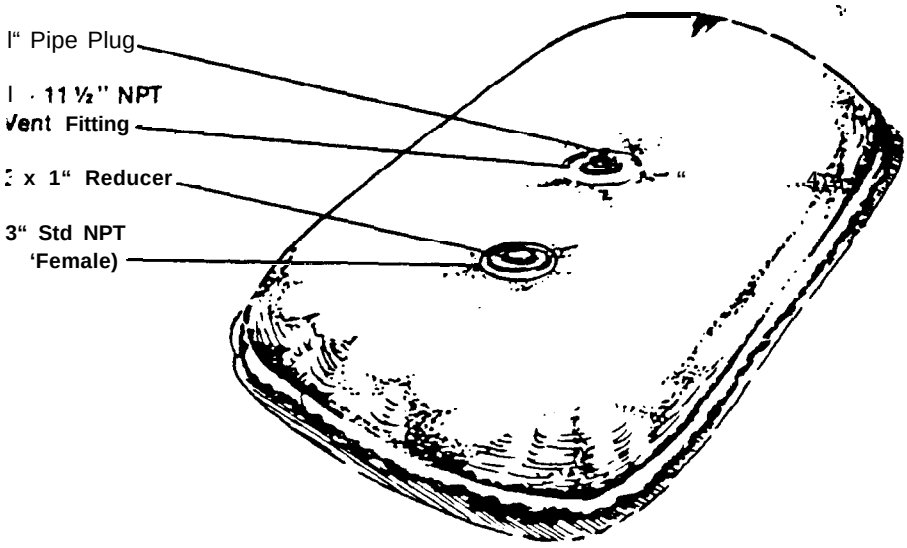
1750 Gallon Syrup Tank With Harness

CAPACITY U.S. GALLONS	NOM. EMPTY DIMENSIONS L X W (FT.)	NOM. FULL DIMENSIONS L X W X H (FT.)	RATCHET TIE DOWN STRAP #300540	PART # NYLON HARNESS (WEB)
1750	20 x 7.5	18 x 6 x 2.5	12 required	250110
2600	30 x 7.5	28 x 6 x 2.5	16 required	250115
3700	40 x 7.5	38 x 6 x 2.5	20 required	250221



Ratchet Tie Down Straps In Place

Utility Tank Data Sheet



Notes:

1. **All dimensions are approximate**
2. **Dash No. indicates type of tank fabric and fitting material**

Dash No.

-101 **Chemigum/Vinyl with Steel Ftg**
-103 **Chemigum/Vinyl with Brass Ftg**
-105 **Chemigum/Vinyl with SST Ftg**
-107 **Chemigum/Vinyl with AL Ftg**
-109 **Food-Grade with Steel Ftg**
-111 **Food-Grade with Brass Ftg**
-113 **Food-Grade with SST Ftg**
-115 **Food-Grade with AL Ftg**

CAPACITY (APPROX)			TANK DIMENSIONS (SEE **NOTE 1**)											
			FILLED						EMPTY					
			Length		Width		Height		Length		Width		Part No.	Dry Weight
Us. Gallons	British **Imperial** Gallons	Liters	Inches	Meters	Inches	Meters	**Inches**	Meters	Inches	Meters	**Inches**	**Meters**	**(See Note 2)**	**(lbs.)**
30	25	114	42	1.07	18	.46	14	.36	53	1.35	28	.71	4057.951	16
45	38	170	44	1.12	24	.61	16	.41	55	1.40	35	.89	4057-952	19
60	50	227	43	**1.09**	30	.76	18	.46	55	1.40	42	1.07	3057-164	20
100	83	379	56	1.42	30	.76	18	.46	68	1.73	42	1.07	3057-149	23
125	**104**	473	42	1.07	42	1.07	23	.58	56	1.42	56	1.42	3057-170	25
150	125	568	55	1.40	43	**1.09**	20	.51	68	1.73	56	1.42	3057-171	30
200	167	757	67	1.71	44	1.12	20	.51	80	2.03	56	1.42	3057.172	34
250	208	946	78	1.98	42	1.07	25	.64	92	2.34	56	1.42	3057-151	39
300	250	1136	89	2.26	41	1.04	25	.64	104	2.64	56	1.42	3057-113	44
350	291	1325	101	2.57	41	1.04	25	.64	116	2.95	56	1.42	3057-174	50
500	416	1893	98	2.49	51	**1.30**	30	.76	116	2.95	68	**1.73**	3057-277	55
750	625	2839	110	2.79	62	1.57	33	.84	128	3.25	80	2.03	3057-286	70
900	749	3407	117	2.97	68	1.73	34	.86	136	3.45	86	2.28	3057-265	80
1000	833	3785	125	3.18	81	2.06	31	.79	141	3.58	97	2.46	3057-559	99
1500	1249	5678	137	3.48	80	2.03	43	1.09	159	4.04	101	2.57	4057-653	106
2000	1665	7570	200	5.08	83	2.11	36	.91	219	5.56	101	2.57	4057-761	154
2500	2082	9463	205	5.21	80	2.03	45	1.14	228	5.79	102	2.59	480-4-44864	156
2800	2332	10598	210	5.33	79	2.00	49	1.24	234	5.94	102	2.59	4057-676	159
3000	2498	11355	266	6.76	82	2.08	39	.99	288	7.32	102	2.59	4057-890	205
4600	3630	17411	410	10.41	82	2.08	39	.99	**432**	10.97	102	2.59	4057-961	332

GOODYEAR AEROSPACE CORPORATION
Engine-red **Fabrics Division**
Rockmart, Georgia 30153
4041684-7655

Appendix B

Okanagan Spring Brewery Ltd.
P.O. BOX 1660 • VERNON, B.C. V1T 8C3
2801-27thA AVENUE • PHONE (604) 542-2337

PRICE LIST

DECEMBER 1985

PREMIUM LAGER	PRICE*
12 pak	$10.75
8 pak	$7.30
4 pak	*$3.85*
50 L Kegs	*$84.15*

BAVARIAN LIGHT	
12 pak	$10.45
8 pak	$7.15
4 pak	$3.70

Granville island Brewery Prices-July 1986

	4- pak	8- pak	Dozen
Display Price	*$5.25*	*$10.20*	*$14.50*
Bottle Deposit	*$0.40*	*$0.80*	*$1.20*
Total Price	*$5.65*	$11.00	$15.70

GRANVILLE ISLAND

Now Available...

PORTABLE KEGS

* 10 LITRES ... 29 12 OZ. SERVINGS ... $26.00
* 15 LITRES ... 44 12 OZ. SERVINGS ... $38.00
* 20 LITRES ... 59 12 OZ. SERVINGS ... $48.00

KEG DEPOSIT .. $125.

ADVANCE BOOKINGS ADVISED