

## APPENDIX-E

### TABLE E-1

Tank Wagon Delivery based on 300 days per year operation

#### Tandem Axle Tank Wagon - 20,000 Litres Capacity Delivery Cost Per Annum and per Day

	Assumed Operating Days Per Year	Cost per Average Operating Day	Estimated Cost Per day when Idle with Driver	Estimated Cost Per day when Idle without Driver
<u>Direct Operating Expenses</u>	<u>\$/Year</u>	<u>Days</u>	<u>\$/Day</u>	<u>\$/Day</u>
Driver salary and benefits	\$44,200	300	\$147	\$147
Interest- Vehicle financing	19,500	300	\$65	\$65
Depreciation- Vehicle*	34,000	300	\$113	\$113
Fuel consumed	12,000	300	\$40	\$0
Repairs and maintenance	12,000	300	\$40	\$8
Insurance	5,000	300	\$17	\$16
Licence	1,000	300	\$3	\$3
Miscellaneous	300	300	\$1	\$1
<b>Annual Operating Cost</b>	<b>\$128,000</b>	<b>300</b>	<b>\$427</b>	<b>\$354</b>
Equivalent Cost per Hour - 8 hour working day		\$/Hour	<b>\$53.33</b>	<b>\$44.21</b>
			<b>\$25.00</b>	

\*Based on a

#### 1k Wagon - 11,500 Litres Capacity Cost Per Annum and per Day

	Assumed	Cost per	Estimated	Estimated
<u>Direct Operating Expenses</u>	<u>\$/Annum</u>	<u>Days</u>	<u>\$/Day</u>	<u>\$/Day</u>
Driver salary and benefits	\$44,200	300	\$147	\$147
Interest- Vehicle financing	16,000	300	\$53	\$53
Depreciation- Vehicle**	28,000	300	\$93	\$93
Fuel consumed	11,500	300	\$38	\$0
Repairs and maintenance	12,000	300	\$40	\$5
Insurance	5,000	300	\$17	\$17
Licence	1,000	300	\$3	\$3
Miscellaneous	300	300	\$1	\$1
<b>Annual Operating Cost</b>	<b>\$118,000</b>	<b>300</b>	<b>\$393</b>	<b>\$320</b>
Equivalent Cost per Hour - 8 hour working day		\$/Hour	<b>\$49.17</b>	<b>\$40.00</b>
			<b>\$21.00</b>	

\*\*Based on a single-axle at a cost of \$160,000 less an estimated residual value of \$20,000 after 5 years with straight line depreciation..

**APPENDIX-E**

**TABLE E-2**

<b>Tank Wagon Delivery - Automotive Fuels</b>	<b>Volume</b>			
	<b>Tandem</b>	<b>Single Axle</b>	<b>Tandem</b>	<b>Single Axle</b>
<u>Full time vehicle operating cost calculation</u>				
Volume delivered per load	20,000	11,500	16,000	9,000
Annual Operating cost of Vehicle	\$128,000	\$118,000	\$128,000	\$118,000
Assumed operating days per year	300	300	300	300
Vehicle Operating Cost per day	\$427	\$393	\$427	\$393
Standard Operating Hours per day	8.0	8.0	8.0	8.0
Vehicle cost per hr	\$53.33	\$49.17	\$53.33	\$49.17
Idle Time Vehicle Cost	\$25.00	\$21.00	\$25.00	\$21.00
Idle Time Vehicle Cost with Driver	\$44.21	\$40.00	\$44.21	\$40.00

**Zone 3a - St. Brendan's Island - Population 251 (2001 Census)**

<b>Delivery From Bulk Plant at Gander (Reduced Load Tandem)</b>	Delivery to Nearest Community to Ferry	Return Ferry Crossing Cost	Deliveries on St. Brendan's Island	Total Trip Cost
Community	<b>Burnside</b>	<b>St. Brendan's</b>	<b>All</b>	<b>St. Brendan's</b>
Outlet Locations	On Island	On Island	On Island	All
Supplier	Reseller	Reseller	Reseller	Reseller
Distance one way (kms)	102	N/A	20	
Tank Wagon	<b>Tandem</b>	<b>Tandem</b>	<b>Tandem</b>	<b>Tandem</b>
Capacity (litres)	16,000	16,000	16,000	16,000
Avg Speed of TW (kms/hr)	70	N/A	30	30
Load Time at Gander Bulk Plant @ 500 litre/min	32	N/A	N/A	32
Discharge time on St. Brendan's	N/A	N/A	90	90
Total Travel Time (Minutes)	175	160	60	395
Allowance for delays	30	30	30	90
Total time for return trip (hours)	3.95	3.17	3.00	10.11
<b>Costs:</b>				
Ferry Crossing Cost Return		\$97.50		\$97.50
Average Operating cost \$/hr	\$53.33	\$44.21	\$53.33	\$50.47
Total load delivered cost	\$210.53	\$237.50	\$159.99	\$608.01
Delivered cost in cents per litre	<b>1.32</b>	<b>1.48</b>	<b>1.00</b>	<b>3.80</b>

Average TW Delivery Cost for St. Brendan's Island

**3.80**

**CPL**

## APPENDIX-E

### TABLE E-3

Tank Wagon Delivery - Automotive Fuels	Volume			
	Tandem	Single Axle	Tandem	Single Axle
Full time vehicle Operating Cost				
Volume delivered per load	20,000	11,500	16,000	9,000
Annual Operating cost of Vehicle	\$128,000	\$118,000	\$128,000	\$118,000
Assumed operating days per year	300	300	300	300
Vehicle Operating Cost per day	\$427	\$393	\$427	\$393
Standard Operating Hours per day	8.0	8.0	8.0	8.0
Vehicle cost per hour	\$53.33	\$49.17	\$53.33	\$49.17
Idle Time Vehicle Operating Cost	\$25.00	\$21.00	\$25.00	\$21.00
Idle Time Vehicle Operating Cost with Driver	\$44.21	\$40.00	\$44.21	\$40.00

### Zone 3b -Fogo Island - Population 2256 (2001 Census)

From Bulk Plants on Fogo Island (Full Load single Axle)	Fogo Island	Fogo Island	Fogo Island	Fogo Island	Fogo Island	Fogo Island	Fogo Island
To: Outlet	Chester Fried Super Stop	Newman's Gas and Diesel	P & J Auto Repairs	Hancock's Auto Supplies/ Emberley's Ultramar	Vanessa's Takeout and Convenience	Linda's Convenience	Hurley's Ultramar
Location	Island Central	Island Central	Fogo Town	Joe Batts Arm	Seldom	Stag Harbour	Tilting
Supplier / Brand	Ultramar	Ultramar	Imperial Oil	Ultramar	North Atlantic	Ultramar	Ultramar
Distance one way (kms)	10	10	2	2	17	26	10
Tank Wagon	<b>Single Axle</b>	<b>Single Axle</b>	<b>Single Axle</b>	<b>Single Axle</b>	<b>Single Axle</b>	<b>Single Axle</b>	<b>Single Axle</b>
Capacity (litres)	11,000	11,000	11,000	11,000	11,000	11,000	11,000
Avg Speed of TW (kms/hr)	30	30	30	30	30	30	30
Load Time at Bulk Plant @ 400 litre/min	28	28	28	28	28	28	28
Discharge time @ 500 litres/Min	22	22	22	22	22	22	22
Round trip Driving time (Minutes)	40	40	8	8	68	104	40
Allowance for delays	30	30	30	30	30	30	30
Total time for return trip (hours)	1.99	1.99	1.46	1.46	2.46	3.06	1.99
Operating cost \$/hr	\$49.17	\$49.17	\$49.17	\$49.17	\$49.17	\$49.17	\$49.17
Total load delivered cost	\$97.92	\$97.92	\$71.70	\$71.70	\$120.87	\$150.37	\$97.92
Delivered cost in cents per litre	<b>0.89</b>	<b>0.89</b>	<b>0.65</b>	<b>0.65</b>	<b>1.10</b>	<b>1.37</b>	<b>0.89</b>

**Average TW Delivery Cost for Zone**

**0.92 CPL**

## APPENDIX-E

### TABLE E-4

<b>Tank Wagon Delivery - Automotive Fuels</b>	<b>Volume Limitations on Ferries</b>			
	<b>Tandem</b>	<b>Single Axle</b>	<b>Tandem</b>	<b>Single Axle</b>
<u>Full time vehicle operating cost calculation</u>				
Volume delivered per load	20,000	11,500	16,000	9,000
Annual Operating cost of Vehicle	\$128,000	\$118,000	\$128,000	\$118,000
Assumed operating days per year	300	300	300	300
Vehicle Operating Cost per day	\$427	\$393	\$427	\$393
Standard Operating Hours per day	8.0	8.0	8.0	8.0
Vehicle cost per hr	\$53.33	\$49.17	\$53.33	\$49.17
Idle Time Vehicle Operating Cost	\$25.00	\$21.00	\$25.00	\$21.00
Idle Time Vehicle Operating Cost with Driver	\$44.21	\$40.00	\$44.21	\$40.00

### Zone 3c - Change Islands - Population 360 (2001 Census)

<b>From Bulk Plant on Fogo Island (Reduced Load Single Axle)</b>	To Ferry and Return	Return Ferry Crossing Cost	Deliveries on Change Islands	Total Trip
To: Outlet	D&E Vardy		GEEP Unit and Drums	
Location	Change Islands	Change Islands	Change Islands	Change Islands
Supplier	Ultramar Agent	Agent	Agent	Agent
Distance one way (kms)	26	N/A	12	38
Tank Wagon	<b>Single Axle</b>	<b>Single Axle</b>	<b>Single Axle</b>	<b>Single Axle</b>
Capacity (litres)	9,000	9,000	9,000	9,000
Avg Speed of TW (kms/hr)	30	N/A	30	30
Load Time at Bulk Plant @ 400 litre/min	23	N/A	N/A	23
Discharge time	N/A	N/A	90	90
Total Travel Time (Minutes)	104	80	60	244
Allowance for delays	20	30	30	80
Total time for return trip (hours)	2.44	1.83	3.00	7.28
Ferry Crossing Cost Return		\$105.50		\$105.50
Average Operating cost \$/hr	\$49.17	\$40.00	\$49.17	\$46.86
Total load delivered cost	\$120.06	\$178.83	\$147.51	\$446.40
Delivered cost in cents per litre	<b>1.33</b>	<b>1.99</b>	<b>1.64</b>	<b>4.96</b>

Average TW Delivery Cost for Change Islands

**4.96**

**CPL**

## APPENDIX-E

### TABLE E-5

Tank Wagon Delivery - Automotive Fuels	Volume Limitations on Ferries			
	Tandem	Single Axle	Tandem	Single Axle
Full time vehicle operating cost calculation	Tandem	Single Axle	Tandem	Single Axle
Volume delivered per load	20,000	11,500	16,000	9,000
Annual Operating cost of Vehicle	\$128,000	\$118,000	\$128,000	\$118,000
Assumed operating days per year	300	300	300	300
Vehicle Operating Cost per day	\$427	\$393	\$427	\$393
Standard Operating Hours per day	8.0	8.0	8.0	8.0
Vehicle cost per hr	\$53.33	\$49.17	\$53.33	\$49.17
Idle Time Vehicle Operating Cost	\$25.00	\$21.00	\$25.00	\$21.00
Idle Time Vehicle Operating Cost with Driver	\$44.21	\$40.00	\$44.21	\$40.00

#### Zone 4 - Connaigre Peninsula Using Tandem TW

From Bulk Plant at Pool's Cove Crossroads:	Pool's Cove Crossroads	Pool's Cove Crossroads	Pool's Cove Crossroads	Pool's Cove Crossroads	Pool's Cove Crossroads	Pool's Cove Crossroads	Pool's Cove Crossroads
To:Outlet	A & D Service Station Ltd.	Jeddore's Store	Evan's Ultramar	Yarns Store Ltd.	Ultramar Service Station	C. Crewe General Store	Max Loveless' General Store
Location	Milltown, Bay D'Espoir	SAMAJIJ MIAWPUKEK	English Harbour West	Mose Ambrose	St. Jacques	Sandyville	Seal Cove, Fortune Bay
Supplier	Ultramar	Ultramar	Ultramar	Ultramar	Ultramar	Ultramar	Ultramar
Distance one way (kms)	56	60	23	26	24	32	55
Tank Wagon	<b>Tandem</b>	<b>Tandem</b>	<b>Tandem</b>	<b>Tandem</b>	<b>Tandem</b>	<b>Tandem</b>	<b>Tandem</b>
Capacity (litres)	20,000	20,000	20,000	20,000	20,000	20,000	20,000
Avg Speed of TW (kms/hr)	65	65	65	65	65	65	65
Load Time at Bulk Plant @ 500 litre/min	40	40	40	40	40	40	40
Discharge time @ 500 litres/Min	40	40	40	40	40	40	40
Round trip Drivning time (Minutes)	103	111	42	48	44	59	102
Allowance for delays	30	30	30	30	30	30	30
Total time for return trip (hours)	3.56	3.68	2.54	2.63	2.57	2.82	3.53
Operating cost \$/hr	\$53.33	\$53.33	\$53.33	\$53.33	\$53.33	\$53.33	\$53.33
Total load delivered cost	\$189.66	\$196.23	\$135.51	\$140.44	\$137.15	\$150.28	\$188.02
Delivered cost in cents per litre	<b>0.95</b>	<b>0.98</b>	<b>0.68</b>	<b>0.70</b>	<b>0.69</b>	<b>0.75</b>	<b>0.94</b>

Average Delivery cost for Zone CPL

0.81

## APPENDIX-E

### TABLE E-6

Tank Wagon Delivery - Automotive Fuels	Volume Limitations on Ferries			
	Tandem	Single Axle	Tandem	Single Axle
Full time vehicle operating cost calculation				
Volume delivered per load	20,000	11,500	16,000	9,000
Annual Operating cost of Vehicle	\$128,000	\$118,000	\$128,000	\$118,000
Assumed operating days per year	300	300	300	300
Vehicle Operating Cost per day	\$427	\$393	\$427	\$393
Standard Operating Hours per day	8.0	8.0	8.0	8.0
Vehicle cost per hr	\$53.33	\$49.17	\$53.33	\$49.17
Idle Time Vehicle Operating Cost	\$25.00	\$21.00	\$25.00	\$21.00
Idle Time Vehicle Operating Cost with Driver	\$44.21	\$40.00	\$44.21	\$40.00

#### Zone 5 - Springdale - Baie Verte - Jackson's Arm - Triton Area - Population 17,000

Deliveries from Springdale Bulk Plant via Tank Wagon needed to about 40% of the outlets in the area.

These outlets would be the smaller ones in the more remote communities

From Bulk Plant at Springdate to area:	Hampden-Jackson's Arm	Baie Verte Peninsula	Springdale Area	South Brook	Triton-Roberts Arm Area
Population	1,098	6,888	4,543	578	3,294
Number of outlets with less than 500,000 litres per year	2	8	4	1	5
Average distance from Springdale Bulk Plant (one way)	140	100	20	23	62
Tank Wagon	<b>Tandem</b>	<b>Tandem</b>	<b>Tandem</b>	<b>Tandem</b>	<b>Tandem</b>
Capacity (litres)	20,000	20,000	20,000	20,000	20,000
Avg Speed of TW (kms/hr)	65	65	65	65	65
Load Time at Bulk Plant @ 500 litre/min	40	40	40	40	40
Discharge time @ 500 litres/Min	40	40	40	40	40
Round trip Drivning time (Minutes)	258	185	37	42	114
Allowance for delays	30	30	30	30	30
Total time for return trip (hours)	6.14	4.91	2.45	2.54	3.74
Operating cost \$/hr	\$53.33	\$53.33	\$53.33	\$53.33	\$53.33
Total load delivered cost	\$327.50	\$261.86	\$130.59	\$135.51	\$199.51
Delivered cost in cents per litre	<b>1.64</b>	<b>1.31</b>	<b>0.65</b>	<b>0.68</b>	<b>1.00</b>

Average Delivery cost for Zone

**1.05 CPL**

**APPENDIX-E**

**TABLE E-7**

<b>Tank Wagon Delivery - Automotive Fuels</b>	<b>Volume Limitations on Ferries</b>			
	<b>Tandem</b>	<b>Single Axle</b>	<b>Tandem</b>	<b>Single Axle</b>
<u>Full time vehicle operating cost calculation</u>				
Volume delivered per load	20,000	11,500	16,000	9,000
Annual Operating cost of Vehicle	\$128,000	\$118,000	\$128,000	\$118,000
Assumed operating days per year	300	300	300	300
Vehicle Operating Cost per day	\$427	\$393	\$427	\$393
Standard Operating Hours per day	8.0	8.0	8.0	8.0
Vehicle cost per hr	\$53.33	\$49.17	\$53.33	\$49.17
Idle Time Vehicle Operating Cost	\$25.00	\$21.00	\$25.00	\$21.00
Idle Time Vehicle Operating Cost with Driver	\$44.21	\$40.00	\$44.21	\$40.00

**Zone 5a - Long Island - Population 308**

**Deliveries to Long Island from Springdale Bulk Plant via Tank Wagon**

<b>From Springdale Bulk Plant (Reduced Load Single Axle)</b>	To Ferry at Pilley's Island and Return	Return Ferry Crossing Cost	Deliveries on Long Island	Deliveries on Long Island	Total Trip Times and Cost
To: Outlet			Long Island Co-op	<b>Drums</b>	
Location	Dockside	Ferry	Long Island	Long Island	
Supplier	Any	Any	Closed!	Any	Any
Distance one way (kms)	56	N/A		6	62
Tank Wagon	<b>Single Axle</b>	<b>Single Axle</b>	<b>Single Axle</b>	<b>Single Axle</b>	<b>Single Axle</b>
Capacity (litres)	9,000	9,000	9,000	9,000	9,000
Avg Speed of TW (kms/hr)	60	N/A	30	30	30
Load Time at Terminal (400 litres/min)	23	N/A	N/A	N/A	23
Discharge time @ 205 litres/4 Mins	N/A	N/A		176	176
Total Travel Time Return (Minutes)	112	10	0	24	146
Allowance for delays	30	30		60	120
Total time for return trip (hours)	2.74	0.67	0.00	4.33	7.74
Ferry Crossing Cost Return		\$48.00			\$48.00
Average Operating cost \$/hr	\$49.17	\$40.00	\$49.17	\$49.17	\$48.38
Total load delivered cost	\$134.80	\$74.67	\$0.00	\$212.74	\$422.20
Delivered cost in cents per litre	<b>1.50</b>	<b>0.83</b>	<b>0.00</b>	<b>2.36</b>	<b>4.69</b>

Average TW Delivery Cost for Long Island

**4.69**

**CPL**

**APPENDIX-E**

**TABLE E-8**

<b>Tank Wagon Delivery - Automotive Fuels</b>	<b>Volume Limitations on Ferries</b>			
	<b>Tandem</b>	<b>Single Axle</b>	<b>Tandem</b>	<b>Single Axle</b>
Full time vehicle operating cost calculation				
Volume delivered per load	20,000	11,500	16,000	9,000
Annual Operating cost of Vehicle	\$128,000	\$118,000	\$128,000	\$118,000
Assumed operating days per year	300	300	300	300
Vehicle Operating Cost per day	\$427	\$393	\$427	\$393
Standard Operating Hours per day	8.0	8.0	8.0	8.0
Vehicle cost per hr	\$53.33	\$49.17	\$53.33	\$49.17
Idle Time Vehicle Operating Cost	\$25.00	\$21.00	\$25.00	\$21.00
Idle Time Vehicle Operating Cost with Driver	\$44.21	\$40.00	\$44.21	\$40.00

**Zone 5b - Little Bay Islands - Population 176**  
**Deliveries from Springdale Bulk Plant via Tank Wagon**

<b>From Springdale Bulk Plant (Reduced Load Single Axle)</b>	To Ferry at Shoal Arm and Return	Return Ferry Crossing Cost	Deliveries on Long Island	Total Trip Times and Cost
To: Outlet			<b>Drums</b>	
Location	Dockside	Ferry	Long Island	
Supplier	Any	Any	Any	Any
Distance one way (kms)	20	N/A	3	23
Tank Wagon	Single Axle	Single Axle	Single Axle	Single Axle
Capacity (litres)	9,000	9,000	9,000	9,000
Avg Speed of TW (kms/hr)	40	N/A	30	30
Load Time at Terminal (400 litres/min)	23	N/A	N/A	23
Discharge time @ 205 litres/4 Mins	N/A	N/A	176	176
Total Travel Time Return (Minutes)	60	90	12	162
Allowance for delays	20	30	60	110
Total time for return trip (hours)	1.71	2.00	4.13	7.84
Ferry Crossing Cost Return		\$86.50		\$86.50
Average Operating cost \$/hr	\$49.17	\$40.00	\$49.17	\$46.83
Total load delivered cost	\$83.99	\$166.50	\$202.90	\$453.40
Delivered cost in cents per litre	<b>0.93</b>	<b>1.85</b>	<b>2.25</b>	<b>5.04</b>

Average TW Delivery Cost for Little Bay Islands      **5.04**      **CPL**



## APPENDIX-E

### TABLE E- 9

#### Tank Wagon Delivery - Automotive Fuels

Full time vehicle operating cost calculation	Tandem	Single Axle
Volume delivered per load	20,000	11,500
Annual Operating cost of Vehicle	\$128,000	\$118,000
Assumed operating days per year	300	300
Vehicle Operating Cost per day	\$427	\$393
Standard Operating Hours per day	8.0	8.0
Vehicle cost per hr	\$53.33	\$49.17
Idle Time Vehicle Operating Cost	\$25.00	\$21.00
Idle Time Vehicle Operating Cost with Driver	\$44.21	\$40.00

#### Zone 10 - Labrador Straits

From Marine Depot at L'Anse au Loup To:	L'Anse au Clair	Forteau, LA	L'Anse au Loup	West St. Modeste/ Capstan Island	Pinware	Red Bay
To: Outlet	Sample Outlet	Sample Outlet	Sample Outlet	Sample Outlet	Sample Outlet	Sample Outlet
Assumed Supplier	Normore	Normore	Normore	Normore	Normore	Normore
Distance one way (kms)	26	15	4	15	20	48
Tank Wagon	<b>Single</b>	<b>Single</b>	<b>Single</b>	<b>Single</b>	<b>Single</b>	<b>Single</b>
Capacity (litres)	11,500	11,500	11,500	11,500	11,500	11,500
Avg Speed of TW (kms/hr)	65	65	65	65	65	65
Load Time at Depot @ 500 litre/min	23	23	23	23	23	23
Discharge time @ 300 litres/Min	38	38	38	38	38	38
Round trip Driving time (Minutes)	48	28	7	28	37	89
Allowance for delays	30	30	30	30	30	30
Total time for return trip (hours)	2.32	1.98	1.65	1.98	2.14	3.00
Operating cost \$/hr	\$49.17	\$49.17	\$49.17	\$49.17	\$49.17	\$49.17
Total load - delivered cost	\$114.18	\$97.53	\$80.89	\$97.53	\$105.10	\$147.46
Delivered cost in cents per litre	<b>0.99</b>	<b>0.85</b>	<b>0.70</b>	<b>0.85</b>	<b>0.91</b>	<b>1.28</b>
Estimated Total Litres per year	300,000	600,000	800,000	290,000	175,000	330,000
Population (2001 Census)	241	477	635	231	140	264
% of Population	12.1%	24.0%	31.9%	11.6%	7.0%	13.3%
Rate component weighted by population	<b>0.120</b>	<b>0.203</b>	<b>0.225</b>	<b>0.099</b>	<b>0.064</b>	<b>0.170</b>

**Average TW Delivery Cost for Zone\*                    0.88      CPL**

\*(Assuming operation 8 hours per day 300 days per year)

#### Labrador Straits-Zone 10 - Adjustment for Vehicle Idle Time for Gasoline Only

Population (2001)	1,988
Estimated Total Litres per Year Consumption	2,495,000
Estimated Litres delivered per working day	8,317
Truck Loads required delivered per working day	0.72
Average Time required to deliver one load (Hrs)	2.18
Average Time required to deliver required loads (Hrs)	1.58
Estimated equivalent Idle Vehicle Hours per working day	6.42
Estimated equivalent Idle Vehicle Days per year	241
Cost of Idle Time for dedicated vehicle (\$/Hr)	\$21.00
Cost of Idle Time for dedicated vehicle (\$/Day)	\$134.91
Total cost of Idle Time per year	\$32,503
Cost of Idle time for dedicated vehicle per litre (CPL)	<b>1.30</b>

**Total Average T/W Delivery Cost of Gasoline to Retail Outlets in Zone 10\*\*                    2.18      CPL**

\*\* Assuming one Dedicated Single Axle Vehicle for all Retail Gasoline Deliveries  
but not considering any commercial gasoline deliveries by tank wagon

## APPENDIX-E

### TABLE E-10

#### Tank Wagon Delivery - Automotive Fuels

Full time vehicle operating cost calculation	Tandem	Single Axle
Volume delivered per load	20,000	11,500
Annual Operating cost of Vehicle	\$128,000	\$118,000
Assumed operating days per year	300	300
Vehicle Operating Cost per day	\$427	\$393
Standard Operating Hours per day	8.0	8.0
Vehicle cost per hr	\$53.33	\$49.17
Idle Time Vehicle Operating Cost	\$25.00	\$21.00
Idle Time Vehicle Operating Cost with Driver	\$44.21	\$40.00

#### Zone 11 - Labrador South (Lodge Bay to Cartwright) from Local Depots

From Marine Depot at Port Hope Simpson To:	Lodge Bay Mary's Harbour St. Lewis	Port Hope Simpson	Charlottetown/ Pinsent Arm	Cartwright/ Paradise River
To: Outlet	Sample Outlet	Sample Outlet	Sample Outlet	Sample Outlet
Assumed Supplier	Woodward or Normore	Woodward or Normore	Woodward or Normore	Woodward or Normore
Average Distance one way (kms)	47	5	45	186
Tank Wagon Single Axle Assumed)	<b>Single</b>	<b>Single</b>	<b>Single</b>	<b>Single</b>
Capacity (litres)	11,500	11,500	11,500	11,500
Avg Speed of TW (kms/hr)	65	65	65	65
Load Time at Bulk Plant @ 500 litre/min	23	23	23	23
Discharge time @ 300 litres/Min	38	38	38	38
Round trip Driving time (Minutes)	86	9	83	343
Allowance for delays	30	30	30	30
Total time for return trip (hours) - Full Load	2.96	1.68	2.91	7.25
Litres per hour	3,888	6,861	3,956	1,587
Total hours per year required	231.51	80.16	104.90	441.02
Operating cost \$/hr	\$49.17	\$49.17	\$49.17	\$49.17
Total load delivered cost	\$145.45	\$82.41	\$142.93	\$356.25
Delivered cost in cents per litre	<b>1.26</b>	<b>0.72</b>	<b>1.24</b>	<b>3.10</b>
Estimated Total Litres per year	900,000	550,000	415,000	700,000
Population (2001)	829	509	386	651
% of Population	34.9%	21.4%	16.3%	27.4%
Rate component weighted by population	<b>0.441</b>	<b>0.154</b>	<b>0.202</b>	<b>0.849</b>

#### Average TW Delivery Cost for Zone\*

**1.65 CPL**

\*(Assuming operation 8 hours per day 300 days per year)

#### Labrador South -Zone 11 - Adjustment for Vehicle Idle Time for Gasoline Only

Population (2001)	2,375
Estimated Total Litres per Year Consumption	2,565,000
Estimated Litres delivered per working day	8,550
Truck Loads required delivered per working day	0.74
Average Time required to deliver one load (Hrs)	3.70
Average Time required to deliver required loads (Hrs)	2.75
Estimated equivalent Idle Vehicle Hours per working day	5.25
Estimated equivalent Idle Vehicle Days per year	197
Cost of Idle Time for dedicated vehicle (\$/Hr)	\$21.00
Cost of Idle Time for dedicated vehicle (\$/Day)	\$110.29
Total cost of Idle Time per year	\$21,719
Cost of Idle time for dedicated vehicle per litre (CPL)	<b>0.85</b>

#### Total Average T/W Delivery Cost of Gasoline to Retail Outlets in Zone 11\*\* **2.49 CPL**

\*\* Assuming one Dedicated Single Axle Vehicle for all Retail Gasoline Deliveries  
but not considering any commercial gasoline deliveries by tank wagon

## APPENDIX-E

### TABLE E- 11

#### Tank Wagon Delivery - Automotive Fuels

Full time vehicle operating cost calculation	Tandem	Single Axle
Volume delivered per load	20,000	11,500
Annual Operating cost of Vehicle	\$128,000	\$118,000
Assumed operating days per year	300	300
Vehicle Operating Cost per day	\$427	\$393
Standard Operating Hours per day	8.0	8.0
Vehicle cost per hr	\$53.33	\$49.17
Idle Time Vehicle Operating Cost	\$25.00	\$21.00
Idle Time Vehicle Operating Cost with Driver	\$44.21	\$40.00

#### Zone 12 - Central Labrador - Goose Bay / Happy Valley Area

From Marine Terminal - Goose Bay	Goose Bay	Goose Bay	Goose Bay
To: Outlet	Sample Outlet	Sample Outlet	Sample Outlet
Location	Happy Valley Goose Bay Area	North West River / Sheshatshui	All Areas
Supplier	Ultramar/ Woodward	Ultramar/ Woodward	Ultramar/ Woodward
Distance one way (Average) kms	10	41	
Tank Wagon	Single Axle	Single Axle	Single Axle
Capacity (litres)	11,500	11,500	11,500
Avg Speed of TW (kms/hr)	65	65	65
Load Time at Bulk Plant @ 500 litre/min	23	23	
Discharge time @ 300 litres/Min	38	38	
Round trip Driving time (Minutes)	18	76	
Allowance for delays	30	30	
Total time for return trip (hours)	1.83	2.78	
Operating cost \$/hr	\$49.17	\$49.17	
Total load delivered cost	\$89.97	\$136.87	
Delivered cost in cents per litre	0.78	1.19	
Population (2001-Census)	8,055	1,590	9,645
% of Population	83.5%	16.5%	100.0%
Rate component weighted by population	0.65	0.20	0.85

**Average Delivery Cost - Goose Bay/ Happy Valley      0.85      CPL**

\*(Assuming operation 8 hours per day 300 days per year)

#### Zone 12 - Central Labrador Area - Adjusted for Dedicated T/W for Gasoline Deliveries

Population (2001) Estimated	9,645
Estimated Total Litres per Year Consumption	9,162,750
Estimated Litres delivered per working day	30,543
Truck Loads required delivered per working day	2.66
Average Time required to deliver one load (Hrs)	1.57
Average Time required to deliver required loads per working day (Hrs)	4.17
Estimated equivalent Idle Vehicle Hours per working day	3.83
Estimated equivalent Idle Vehicle Days per year	144
Cost of Idle Time for dedicated vehicle (\$/Hr)	\$21.00
Cost of Idle Time for dedicated vehicle (\$/Day)	\$80.44
Total cost of Idle Time per year	\$11,553
Estimated Total Litres per Year Consumption	9,162,750
Cost of Idle time for dedicated vehicle per litre (CPL)	<b>0.13</b>

**Total Average T/W Delivery Cost of Gasoline to Retail Outlets in Zone 12\*\*      0.98**

\*\* Assuming one Dedicated Single Axle Vehicle for all Retail Gasoline Deliveries  
but not considering any commercial gasoline deliveries by tank wagon

## APPENDIX-E

### TABLE E- 12

#### Tank Wagon Delivery - Automotive Fuels

Full time vehicle operating cost calculation	Tandem	Single Axle
Volume delivered per load	18,000	11,500
Annual Operating cost of Vehicle	\$128,000	\$118,000
Assumed operating days per year	300	300
Vehicle Operating Cost per day	\$427	\$393
Standard Operating Hours per day	8.0	8.0
Vehicle cost per hr	\$53.33	\$49.17
Idle Time Vehicle Operating Cost	\$25.00	\$21.00
Idle Time Vehicle Operating Cost with Driver	\$44.21	\$40.00

#### Zone 13 - West Labrador - Labrador City - Wabush - Churchill Falls

From Bulk Plant	Rail Car Bulk Plant Labrador City	Rail Car Bulk Plant Labrador City	Rail Car Bulk Plant Labrador City	Rail Car Bulk Plant Labrador City	Rail Car Bulk Plant Labrador City	Rail Car Bulk Plant Labrador City	Rail Car Bulk Plant Labrador City
To:Outlet	Esso Service Station	Carol Automobile Ltd.	Whitten's Fuel Oil Service	R & H Ultramar	Grenfell Esso	Wabush Gas Bar Ltd.	George Strickland
Location	Labrador City	Labrador City	Labrador City	Labrador City	Wabush	Wabush	<b>Churchill Falls</b>
Supplier	Imperial Oil	Shell Canada	Shell Canada	Ultramar	Imperial Oil	Ultramar	Ultramar
Distance one way (Average) kms	5	5	5	5	10	10	243
Tank Wagon	Single Axle	Single Axle	Single Axle	Single Axle	Single Axle	Single Axle	<b>Tandem</b>
Capacity (litres)	18,000	18,000	18,000	18,000	18,000	18,000	18,000
Avg Speed of TW (kms/hr)	50	50	50	50	50	50	65
Load Time at Bulk Plant @ 500 litre/min	36	36	36	36	36	36	36
Discharge time @ 400 litres/Min	45	45	45	45	45	45	36
Round trip Driving time (Minutes)	12	12	12	12	24	24	449
Allowance for delays	30	30	30	30	30	30	30
Total time for return trip (hours)	2.05	2.05	2.05	2.05	2.25	2.25	9.18
Operating cost \$/hr	\$53.33	\$53.33	\$53.33	\$53.33	\$53.33	\$53.33	\$53.33
Total load delivered cost	\$109.33	\$109.33	\$109.33	\$109.33	\$119.99	\$119.99	\$489.41
Delivered cost in cents per litre	<b>0.61</b>	<b>0.61</b>	<b>0.61</b>	<b>0.61</b>	<b>0.67</b>	<b>0.67</b>	<b>2.72</b>

Average Delivery cost Labrador City / Wabush

0.63

CPL

Average Delivery cost to Churchill Falls -CPL

2.72

## APPENDIX E

### Table E-13

#### Drum deliveries of GASOLINE & DIESEL to Coastal Communities of McCallum, Gaultois, Rencontre East

##### **Pricing Zone 4a - Gaultois / McCallum / Rencontre East**

	<u>Gaultois</u>	<u>McCallum</u>	<u>Rencontre East</u>	<u>Totals</u>
Census Population -1991	516	147	212	875
Census Population -1996	423	138	215	776
Census Population -2001	321	128	202	<b>651</b>
Estimated Gasoline demand per Population (Litres per year)	500	500	500	500
Total Demand per year gasoline (litres) per 2001 Census	160,500	64,000	101,000	325,500
Total Demand per year of drums (205 Litres per Drum)	783	312	493	1,588

##### **Destination Communities CPL**

<b>3.94</b>
-------------

<b>Tank-Wagon delivery for drum filling at dockside from bulk plant at Pool's Cove Crossroads:</b>	<u>Pool's Cove Crossroads</u>	<u>Pool's Cove Crossroads</u>	<u>Pool's Cove Crossroads</u>	
For drums for shipment to:	<b>Gaultois</b>	<b>McCallum</b>	<b>Rencontre East</b>	
Location	Hermitage Dockside	Hermitage Dockside	Pool's Cove Dockside	Totals
Supplier	Agent	Agent	Agent	
Distance one way (kms)	41	41	8	
Tank Wagon	Tandem	Single	Single	
Capacity (litres)	20,000	11,500	11,500	
Avg Speed of TW (kms/hr)	65	65	65	
Litres Delivered	13,375	5,333	8,417	27,125
Mins to Load	27	11	17	
Mins driving (Return Trip)	76	76	15	
# Drums per shipment (Once per month)	65	26	41	132.3171
Litres per Drum	205	205	205	
Total Drum Filling Time at 5 minutes per drum	326	130	205	
Allowance for Delays (Mins)	30	30	30	
Total Time return Trip Minutes	459	236	250	
Total Trip Hrs	7.6	3.9	4.2	
Operating cost \$/hr	\$53.33	\$49.17	\$49.17	
Total load delivered cost	\$407.67	\$193.20	\$204.91	\$805.78
<b>Delivered cost to fill drums at dockside- CPL (Weighted Average)</b>				<b>2.97</b>

<b>Shipping Drums via Freight Ferry</b>	<b>Gaultois</b>	<b>McCallum</b>	<b>Rencontre East</b>	<b>Totals / Averages</b>
Total Number of Drums required for year.	783	312	493	1,588
Number of months during Period	12	12	12	12
Average Number of Drums shipped per month in Period	65	27	42	133
Weight of Empty Drum (Kgs)	23	23	23	23
Weight of Drum full of Gasoline (Kgs)	173	173	173	173
<b>Coastal Freight For Drum Shipments:</b>				
Coastal Freight Shipping Full Drums Cost (Maximum per shipment)	\$50.00	\$50.00	\$50.00	\$150.00
Coastal Freight Shipping all Full Drums for period	\$50.00	\$50.00	\$50.00	\$150.00
Cost of Shippment per Drum during period	\$0.77	\$1.85	\$1.19	\$1.13
Coastal Freight Shipping Empty Drums back to Burgeo for period	\$50.00	\$24.84	\$38.64	\$113.48
Cost of Shipping each Drum Empty (Return to Supply Point each month)	\$0.77	\$0.92	\$0.92	\$0.85
Total Return Coastal Freight Shipping Cost per Drum	\$1.53	\$2.77	\$2.11	\$1.98
Total Return Coastal Freight Shipping Cost (Cents per Litre)	<b>0.75</b>	<b>1.35</b>	<b>1.03</b>	<b>0.97</b>

##### **(Wholesale Point of Sale)**

<b>3.94</b>
-------------

## APPENDIX E

### Table E-14

#### **Drum deliveries of GASOLINE from Burgeo to Coastal Communities of La Poile, Grand Bruit, and Grey River & Francois**

Note: For drum deliveries of Diesel see Table H-23 Appendix H for Furnace Oil.

<b>Pricing Zone 7b - Lapoile /Grand Bruit / Grey River /Francois</b>	<u>La Poile</u>	<u>Grand Bruit</u>	<u>Grey River</u>	<u>Francois</u>	<u>Totals</u>
Census Population -1991	168	64	181	187	600
Census Population -1996	148	57	188	175	568
Census Population -2001	131	50	174	162	517
Estimated Gasoline demand per Population (Litres per year)	500	500	500	500	500
Total Demand per year gasoline (litres)	65,500	25,000	87,000	81,000	258,500
Litres per drum	205	205	205	205	205
Total Demand per year of drums (205 Litres per Drum)	320	122	424	395	1,261
Average demand - Drums per month	27	10	35	33	105
<b>Destination Community Dockside CPL</b>					<b>10.35</b>

<b>Filling Drums at Burgeo Service Station via Cargo Truck</b>					
Drums filled per shipment month	<b>27</b>	<b>10</b>	<b>35</b>	<b>33</b>	<b>105</b>
Litres Delivered per shipment month	5,535	2,050	7,250	6,765	21,600
Drums per truckload to Service Station	12	10	12	12	12
Loading rate of service station pump and nozzle (Litres/Min)	35	35	35	35	35
Mins to Load each 205 litre drum from Service Station Nozzle	6	6	6	6	6
Mins to Load each Truck load of 12 drums +10 min delay allowance	80	69	80	80	80
Number of truck loads for average monthly shipment	2.3	1.0	2.9	2.8	8.8
Number of truck trips for average monthly shipment	3	1	3	3	9
Mins per trip to load empties, travel to Station and unload full drums dockside	50	50	50	50	50
Total cargo truck time per Shipment - Minutes	293	119	384	358	1144
Total cargo truck time per Shipment - Hours	5	2	6	6	19
Rate \$/hr truck and 2 men	\$45.00	\$45.00	\$45.00	\$45.00	\$45.00
Cost of each shipment of drums filled at dockside	\$219.86	\$88.93	\$287.98	\$268.71	\$857.98
Cost per drum	\$8.14	\$8.89	\$8.14	\$8.14	\$8.14
<b>Delivered cost to fill drums at dockside- CPL (Weighted Average)</b>					<b>3.98</b>
<b>Add self serve price differential at Burgeo Service Station CPL (Retail Margin)</b>					<b>5.00</b>
<b>Total Cost of Handling and Filling Drums at Loading Port</b>					<b>8.98</b>

<b>Drums Shipped from Burgeo via Coastal Boat to Destination Dockside (Dangerous Goods Shipment 3rd Tuesday of month)</b>					
Coastal Freight Shipping Full Drums Cost (Maximum per shipment)	\$50.00	\$50.00	\$50.00	\$50.00	\$200.00
Coastal Freight Shipping all Full Drums for period	\$50.00	\$50.00	\$50.00	\$50.00	\$200.00
Cost of Shipment per Drum during period	\$1.85	\$5.00	\$1.41	\$1.52	\$1.90
Coastal Freight Shipping Empty Drums back to Burgeo for period	\$24.84	\$9.20	\$32.54	\$30.36	\$96.94
Cost of Shipping each Drum Empty (Return to Supply Point each month)	\$0.92	\$0.92	\$0.92	\$0.92	\$0.92
Total Return Coastal Freight Shipping Cost per Drum	\$2.77	\$5.92	\$2.33	\$2.44	\$2.82
Total Return Coastal Freight Shipping Cost per Shipment	\$74.84	\$59.20	\$82.54	\$80.36	\$296.94
<b>Total Return Coastal Freight Shipping Cost - Weighted Average - CPL</b>					<b>1.37</b>

<b>(Wholesale Point of Sale)</b>	<b>10.35</b>
----------------------------------	--------------

Notes:

1. Since there is no T/W delivery for gasoline in Burgeo, the above scenario assumes that wholesaler would purchase gasoline at retail service station outlet in Burgeo and fill his own drums at self serve prices established for Burgeo. (Actual price paid may be lower depending on negotiated transaction with retail outlet owner/ operator). For the purpose of this Study the delivered wholesale 'on-dock' price for drums to the destination communities would

Retailer Margin - Proposed and existing margin from dockside at destination communities	<b>10.00</b>	<b>CPL</b>	<b>\$20.50</b>	<b>per Drum</b>
---	--------------	------------	----------------	-----------------

## APPENDIX E

### Table E-15 - Gasoline

#### Gasoline - Drum deliveries to Coastal Communities of Norman Bay and Williams Harbour (If Service Applicable)

<b>Pricing Zone 11c - Williams Harbour &amp; Norman Bay</b>	<u>Williams Harbour</u>	<u>Norman Bay</u>	<u>Totals</u>
Census Population -1991	77	58	135
Census Population -1996	71	52	123
Census Population -2001	60	50	110
Estimated Gasoline demand per Population (Litres per year)	500	500	500
Total Demand per year gasoline (litres)	30,000	25,000	55,000
Total Demand per year of drums (205 Litres per Drum)	146	122	268
Weight of each drum Empty (Kg)	23	23	23
Weight of each drum Filled with Gasoline (Kg)	173	173	173
<b>Zone 11c - Average cost drum delivery to destination communities - CPL</b>			<b>13.86</b>

<b>Pricing Zone 11c - Williams Harbour &amp; Norman Bay</b>	<b>Williams Harbour</b>	<b>Norman Bay</b>	<b>Totals / Averages</b>
Total Number of Drums required for year.	146	122	268
Number of shipping season months during Period	5	5	5
Average Number of Drums shipped per month during shipping season	29	24	54

<b>Tank-Wagon delivery for drum filling at dockside from Bulk Plant / Marine Depot</b>	Port Hope Simpson or Charlottetown	Charlottetown or Port Hope Simpson	<b>Totals / Averages</b>
For drums for shipment to:	Williams Harbour	Norman Bay	<b>Both</b>
Location	Dockside	Dockside	Dockside
Supplier	Agent	Agent	Agent
Distance one way (kms)	43	43	43
Tank Wagon	Single	Single	Single
Capacity (litres)	11,500	11,500	11,500
Avg Speed of TW (kms/hr)	50	50	50
Litres Delivered	6,000	5,000	11,000
Mins to Load	17	14	31
Mins driving (Return Trip)	103	103	103
# Drums per shipment	29	24	54
Litres per Drum	205	205	205
Total Drum Filling Time at 5 minutes per drum	146	122	268
Allowance for Delays (Mins)	20	20	40
Total Time return Trip Minutes	270	245	411
Total Trip Hrs	4.5	4.1	6.9
Operating cost \$/hr	\$49.17	\$49.17	\$49.17
Total load delivered cost	\$220.89	\$200.89	\$337.03
Filling Cost per Drum	\$7.55	\$8.24	\$6.28
<b>Delivered cost to fill drums at dockside- CPL (Weighted Average)</b>	<b>3.68</b>	<b>4.02</b>	<b>3.06</b>

#### **Shipping Drums and Returning Empties (See attached Table E-15 Supplement-Gasoline for detailed calculation)**

Coastal Freight Shipping Full Drums Cost per Drum	\$18.10	\$18.10	\$18.10
Coastal Freight Shipping Full Drums Cost per Litre	<b>8.83</b>	<b>8.83</b>	<b>8.83</b>
Total Return Coastal Freight Shipping Cost per Drum	\$4.04	\$4.04	\$4.04
Total Return Coastal Freight Shipping Cost (Cents per Litre)	<b>1.97</b>	<b>1.97</b>	<b>1.97</b>
Total Return Coastal Freight Shipping Cost per Drum	\$22.14	\$22.14	\$22.14
<b>Total Return Coastal Freight Shipping Cost (Cents per Litre)</b>	<b>10.80</b>	<b>10.80</b>	<b>10.80</b>

Total Landed Cost of Drums at Destination Community (Wholesale Point of Sale)

**13.86**

**APPENDIX E**

**Table E-15 Supplement-Gasoline**

**Zone 11c - Drum deliveries of Gasoline - Calculations Freight Ferry to Williams Harbour and Norman Bay**

<b>Ferry Freight Rates to Williams Harbour and Norman Bay</b>	<b>Units</b>	<b>Williams Harbour</b>	<b>Norman Bay</b>	<b>Totals / Averages</b>
<b>Shipping Costs - Full Drums Gasoline:</b>				
Weight of empty 45 imperial gallon oil drum is 23 Kgs or	lbs	50.7	50.7	50.7
Weight of 205 litres of gasoline at 7.31 lbs / gallon =	lbs	329.6	329.6	329.6
Total weight full drum gasoline	lbs	<b>380.3</b>	<b>380.3</b>	<b>380.3</b>
<b>Cubic Weight of 1 drum gasoline per Ferry Rates Schedule</b>				
Volume of 45 gallon drum at 6.228 gallons per cu. Ft.=	Cu. Ft.	7.23	7.23	7.23
Cubic Weight of 1 Drum per Ferry Rate Calculations @ 10lbs/cu ft=	lbs	<b>72.3</b>	<b>72.3</b>	<b>72.3</b>
Assume 4 drums are strapped to one 4' by 4' pallet				
Weight of pallet approx =	lbs	22	22	22
Cubic weight of one drum shipment + 1/4 pallet=	lbs	77.8	77.8	77.8
Weight of full drum gasoline on pallet (Including 25% of pallet wt)	lbs	<b>385.8</b>	<b>385.8</b>	<b>385.8</b>
<b>For a 15 drum shipment (Norman Bay) Rate would be based on actual weight since it is greater than cubic weight:</b>				
Number of drums per shipment		28	24	52
Actual weight drum shipment palletized=	lbs	10803	9260	20063
Number of hundred weights	lbs/100	108	93	201
Rate \$/cwt =		\$4.36	\$4.36	\$4.36
Rate per hundred weight \$/100 lbs		\$4.36	\$4.36	\$4.36
Rate per shipment =		\$471.03	\$403.74	\$874.76
Add Top Wharfage at Load Port @ \$0.165 per hundred weight	\$	\$17.83	\$15.28	\$33.10
Add Top Wharfage at Discharge @ \$0.165 per hundred weight	\$	\$17.83	\$15.28	\$33.10
Total cost per shipment =		\$506.68	\$434.30	\$940.97
Rate for 1 drum =	\$/Drum	\$18.10	\$18.10	\$18.10
Rate per Litre	<b>CPL</b>	<b>8.83</b>	<b>8.83</b>	<b>8.83</b>
<b>Shipping Costs - Return Empty Drums:</b>				
Weight of empty 45 imperial gallon oil drum is 23 Kgs or	lbs	50.7	50.7	50.7
<b>Use Cubic Weight per empty drum since it is greater</b>	lbs	<b>72.3</b>	<b>72.3</b>	<b>72.3</b>
Number of drums per shipment		28	24	52
Cubic weight empty drum shipment + 1/4 pallet=	lbs	77.8	77.8	77.8
Total weight of shipment	lbs	2177	1866	4043
Rate \$/cwt =	\$/lb	\$4.87	\$4.87	\$4.87
Rate per shipment =		\$106.03	\$90.88	\$196.91
Add Top Wharfage at Load Port @ \$0.165 per cwt	\$	\$3.59	\$3.08	\$6.67
Add Top Wharfage at Discharge Port @ \$0.165 per cwt	\$	\$3.59	\$3.08	\$6.67
Total cost per shipment =		\$113.21	\$97.04	\$210.25
Rate for 1 drum =	\$/Drum	\$4.04	\$4.04	\$4.04
Equivalent Rate per Litre	<b>CPL</b>	<b>1.97</b>	<b>1.97</b>	<b>1.97</b>
<b>Total Shipping Costs Empties Returned - Drums of Gasoline:</b>				
Total cost drum shipments	\$/Drum	\$22.14	\$22.14	\$22.14
	<b>CPL</b>	<b>10.80</b>	<b>10.80</b>	<b>10.80</b>



## APPENDIX E

### Table E-15 - Diesel

#### **Diesel - Drum deliveries\* to Coastal Communities of Norman Bay and Williams Harbour (If Service Applicable)**

\* Same quantity as gasoline assumed

<b>Pricing Zone 11c - Williams Harbour &amp; Norman Bay</b>	<u>Williams Harbour</u>	<u>Norman Bay</u>	<u>Totals</u>
Census Population -1991	77	58	135
Census Population -1996	71	52	123
Census Population -2001	60	50	110
Estimated Diesel demand per Population (Litres per year)	500	500	500
Total Demand per year gasoline (litres)	30,000	25,000	55,000
Total Demand per year of drums (205 Litres per Drum)	146	122	268
Weight of each drum Empty (Kg)	23	23	23
Weight of each drum Filled with Gasoline (Kg)	173	173	173

**Zone 11c - Average cost drum delivery to destination communities - CPL 14.54**

<b>Pricing Zone 11c - Williams Harbour &amp; Norman Bay</b>	<b>Williams Harbour</b>	<b>Norman Bay</b>	<b>Totals / Averages</b>
Total Number of Drums required for year.	146	122	268
Number of shipping season months during Period	5	5	5
Average Number of Drums shipped per month during shipping season	29	24	54

<b>Tank-Wagon delivery for drum filling at dockside from Bulk Plant / Marine Depot</b>	Port Hope Simpson or Charlottetown	Charlottetown or Port Hope Simpson	<b>Totals / Averages</b>
For drums for shipment to:	Williams Harbour	Norman Bay	<b>Both</b>
Location	Dockside	Dockside	Dockside
Supplier	Agent	Agent	Agent
Distance one way (kms)	43	43	43
Tank Wagon	Single	Single	Single
Capacity (litres)	11,500	11,500	11,500
Avg Speed of TW (kms/hr)	50	50	50
Litres Delivered	6,000	5,000	11,000
Mins to Load	17	14	31
Mins driving (Return Trip)	103	103	103
# Drums per shipment	29	24	54
Litres per Drum	205	205	205
Total Drum Filling Time at 5 minutes per drum	146	122	268
Allowance for Delays (Mins)	20	20	40
Total Time return Trip Minutes	270	245	411
Total Trip Hrs	4.5	4.1	6.9
Operating cost \$/hr	\$49.17	\$49.17	\$49.17
Total load delivered cost	\$220.89	\$200.89	\$337.03
Filling Cost per Drum	\$7.55	\$8.24	\$6.28
<b>Delivered cost to fill drums at dockside- CPL (Weighted Average)</b>	<b>3.68</b>	<b>4.02</b>	<b>3.06</b>

#### **Shipping Drums and Returning Empties (See attached Table E-15 Supplement-Diesel for detailed calculation)**

Coastal Freight Shipping Full Drums Cost per Drum	\$19.49	\$19.49	\$19.49
Coastal Freight Shipping Full Drums Cost per Litre	<b>9.51</b>	<b>9.51</b>	<b>9.51</b>
Total Return Coastal Freight Shipping Cost per Drum	\$4.04	\$4.04	\$4.04
Total Return Coastal Freight Shipping Cost (Cents per Litre)	<b>1.97</b>	<b>1.97</b>	<b>1.97</b>
Total Return Coastal Freight Shipping Cost per Drum	\$23.53	\$23.53	\$23.53
Total Return Coastal Freight Shipping Cost (Cents per Litre)	<b>11.48</b>	<b>11.48</b>	<b>11.48</b>

Total Landed Cost of Drums at Destination Community (Wholesale Point of Sale)

**14.54**

## APPENDIX E

### Table E-15 Supplement-Diesel

#### Zone 11c - Drum deliveries of Diesel - Calculations Freight Ferry to Williams Harbour and Norman Bay

Ferry Freight Rates to Williams Harbour and Norman Bay	Units	Williams Harbour	Norman Bay	Totals / Averages
<b><u>Shipping Costs - Full Drums Diesel Fuel:</u></b>				
Weight of empty 45 imperial gallon oil drum is 23 Kgs or	lbs	50.7	50.7	50.7
Weight of 205 litres of Artic Diesel at 7.97 lbs / gallon =	lbs	359.4	359.4	359.4
Total weight full drum gasoline	lbs	<b>410.1</b>	<b>410.1</b>	<b>410.1</b>
<b><u>Cubic Weight of 1 drum gasoline per Ferry Rates Schedule</u></b>				
Volume of 45 gallon drum at 6.228 gallons per cu. Ft.=	Cu. Ft.	7.23	7.23	7.23
Cubic Weight of 1 Drum per Ferry Rate Calculations @ 10lbs/cu ft=	<b>lbs</b>	<b>72.3</b>	<b>72.3</b>	<b>72.3</b>
Assume 4 drums are strapped to one 4' by 4' pallet				
Weight of pallet approx =	lbs	22	22	22
Cubic weight of one drum shipment + 1/4 pallet=	lbs	77.8	77.8	77.8
Weight of full drum gasoline on pallet (Including 25% of pallet wt)	<b>lbs</b>	<b>415.6</b>	<b>415.6</b>	<b>415.6</b>
<b>For a 15 drum shipment (Norman Bay) Rate would be based on actual weight since it is greater than cubic weight:</b>				
Number of drums per shipment		28	24	52
Actual weight drum shipment palletized=	lbs	11637	9974	21611
Number of hundred weights	lbs/100	116	100	216
Rate \$/cwt =		\$4.36	\$4.36	\$4.36
Rate per hundred weight \$/100 lbs		\$4.36	\$4.36	\$4.36
Rate per shipment =		\$507.36	\$434.88	\$942.24
Add Top Wharfage at Load Port @ \$0.165 per hundred weight	\$	\$19.20	\$16.46	\$35.66
Add Top Wharfage at Discharge @ \$0.165 per hundred weight	\$	\$19.20	\$16.46	\$35.66
Total cost per shipment =		\$545.76	\$467.80	\$1,013.56
Rate for 1 drum =	\$/Drum	\$19.49	\$19.49	\$19.49
Rate per Litre	<b>CPL</b>	<b>9.51</b>	<b>9.51</b>	<b>9.51</b>
<b><u>Shipping Costs - Return Empty Drums:</u></b>				
Weight of empty 45 imperial gallon oil drum is 23 Kgs or	lbs	50.7	50.7	50.7
<b>Use Cubic Weight per empty drum since it is greater</b>	<b>lbs</b>	<b>72.3</b>	<b>72.3</b>	<b>72.3</b>
Number of drums per shipment		28	24	52
Cubic weight empty drum shipment + 1/4 pallet=	lbs	77.8	77.8	77.8
Total weight of shipment	lbs	2177	1866	4043
Rate \$/cwt =	\$/lb	\$4.87	\$4.87	\$4.87
Rate per shipment =		\$106.03	\$90.88	\$196.91
Add Top Wharfage at Load Port @ \$0.165 per cwt	\$	\$3.59	\$3.08	\$6.67
Add Top Wharfage at Discharge Port @ \$0.165 per cwt	\$	\$3.59	\$3.08	\$6.67
Total cost per shipment =		\$113.21	\$97.04	\$210.25
Rate for 1 drum =	\$/Drum	\$4.04	\$4.04	\$4.04
Equivalent Rate per Litre	<b>CPL</b>	<b>1.97</b>	<b>1.97</b>	<b>1.97</b>
<b><u>Total Shipping Costs Empties Returned - Drums of Diesel:</u></b>				
Total cost drum shipments	\$/Drum	\$23.53	\$23.53	\$23.53
	<b>CPL</b>	<b>11.48</b>	<b>11.48</b>	<b>11.48</b>