To improve our Skeena Motor Carrier operations, consideration should be given to providing essential equipment for good maintenance and operations.

A Wheel Balancer - to improve tire wear.

A Bead Spreader - to permit fast tire repair.

A Set of Axle Scales - to monitor trailer's loads within highway weight limits and thereby eliminate overweight fines at Government Scales.

A Shed and Yard Sweeper with a Magnet - to remove debris and dirt and prevent tire damage, etc.

Nylon tie-down straps on owned equipment instead of chains - to prevent cargo damage, simplify securing, and reduce chain loss and expense.

TRACTOR UTILIZATION

The desired goal for Skeena Motor Carriers tractor utilization is hampered by restrictive clauses in present drivers' agreement such as overtime pay between 1700 hours and 0700 hours on highway movements between Kitimat and Terrace. Night operations are minimized because we do not have properly secured space at Terrace and Prince Rupert to park loaded trailers. Further, if night contracts could be arranged, like the recent Alacan tender for a nightly move between Kitimat and Smithers return, then improvements in tractor utilization are possible.

We must keep in mind that part of our lease is on a fixed charge, and any increase in tractor utilization will reduce our overall cost per mile.

PRESENT SKEENA MOTOR CARRIERS DRIVERS' ASSIGNMENTS

Current Procedures

1. Barge Arrival - Until all freight delivered to consignee.
   (a) Line drivers called in at staggered times. Times estimated with regards to:
      (1) Placement of trailers on barge
      (2) Weather
      (3) Amount of cargo
   (b) First run - Masset, Prince Rupert and Terrace rush groceries and mix cargo (containers)
   (c) Second run - building supplies - trailer load lots
   (d) Third run - as loads loaded and ready to go
   (e) Fourth run - steel loads - special runs, pilot cars, permits, etc.

Notes

A + B + C - Drivers pull first trip return to dock. Pull second trip and pick up sleep time according to their need and responsibility, then back into terminal and work on local runs or home to sleep.

D - Drivers work straight time local hauls - Terrace, Kitimat, then take Prince Rupert trip in the afternoon on mileage.

E - Balance of trips according to needs - "None back to back."

Conclusion

In actual practice drivers start at call in time and usually work beyond 12 hours with catnaps. Due to mileage, drivers push tractors hard and due to conditions on roads, cause excessive wear and tear on tractors. Road safety is at a minimum due to driver's alertness wearing down.

Freight moving very well and no consignee complaints unless barge is late.

Proposed Alternative

In order to improve tractor utilization and customer service, it is proposed to man part of the tractor fleet with two drivers. With two or three tractors assigned to haul Prince Rupert freight with back up of other tractors for rush loads.

First driver (Senior) called for Monday barge arrival to man first tractor. Second driver (about sixth on seniority list) put on stand-by, Prince Rupert round-trip made in about eight or nine hours. First driver on return leg calls second driver and arranges transfer of tractor and despatch, then he goes home for rest. Second driver makes second trip and repeats process until all loads are cleared up. First driver gets first call for Thursday-Friday barge and again process is repeated.

Meanwhile, second senior driver is called for Monday barge arrival to man second tractor, second driver on this tractor (is about seventh on the seniority list) same process repeated as in assignment one above. Single driver runs fitted in with above as needed and as local runs completed.

While there might be some resistance to change, it should be pointed out to the drivers that the freight is competitive and that these are normal practices followed by other trucking companies. Possibly these changes may have to be renegotiated when the Union contract is reopened this fall.

With this proposed improved tractor utilization, it will be essential that preventive maintenance checks on these tractors be arranged for on Wednesdays and Thursdays.

All trailer load dispatches from Kitimat should be preloaded to reduce tractor delays and more expensive driver's wages.

PROPOSALS TO REDUCE MECHANIC'S OVERTIME PAYMENT AT KITIMAT

We now find that the Kitimat mechanic's overtime hours are approximately 40 hours every two weeks. We resolved how this can possibly be reduced or eliminated.

It was agreed that the present work load was more than one man can effectively handle in 40 hours a week, particularly on Monday, when the following problems occur simultaneously:

Setting up equipment to pump cement from the Transporter
Changing flat tires coming off the barge
Repairing broken lights, flashers, and air lines coming off the barge as well as regular tractor inspections

Frequently there is so much repair work to be done on a Monday or Friday before the Kitimat-Prince Rupert-Terrace highway operations can move, that the drivers called to man these operations have to stand around waiting their turn before their equipment is made roadworthy. This results in additional driver waiting expense and rush trailer delayed arrivals at destination.

It was the consensus that it would be cheaper to have Anchor Line Co. make a regular call at 6:00 am on Mondays to repair any flat tires coming off the Northbound barges, and to inspect, match, repair, and inflate tires, etc. on all scheduled Southbound trailers. All inspections would be color code tagged so that double inspections would not be made during the same month.

It was felt that the union would not object to this work being done on peak employment days but would probably object if tire work was being done on slack days like Wednesday or Thursday when regular staff might be laid off. Anchor Tire Company would charge $33 per hour from 6:00 am to 8:00 am and $22.50 per hour from 8:00 am to 5:00 pm. Anchor Tire does all of Eurocan's tire work. It was the consensus that the cement hook up and pumping should be undertaken by the tug boat engineers, thus relieving the mechanic of that duty on Monday mornings during his peak work load.

As the mechanic is now working six days a week, it was thought advisable that future Saturday work (at double time) should be allowed only when emergencies exist. It was agreed that the mechanic would prepare a proposed Saturday work schedule for Mr. Murray to review on Friday to determine the necessity for any Saturday work. The other alternative to these proposals would be to engage another mechanic at Kitimat, which we all agree is not in the best interests of the company.

SKEENA MOTOR CARRIERS EQUIPMENT MAINTENANCE

Experience shows that preventive maintenance programs for tractors, trailers and fork trucks has been lacking as a result maintenance has been higher than normal, trailers are badly rusted, tires are mismatched which shortens their expected life. In a well-run operation, trailers are greased on a monthly basis and colour coding with a paint brush is used to identify when greasing was last done and when tires were last checked, eg. January red, February blue, March yellow.

With respect to preventive maintenance for tractors and fork trucks, they can be classified as A inspections being 1500 miles for city tractors, every 10,000 miles for highway tractors and 100 hours for fork trucks, B inspections 3,000 miles 15,000 to 20,000 miles and 200 hours respectfully. A check list for vehicle P.M. inspection is shown in Appendix XIV.

SUGGESTED TRAILER PREVENTIVE MAINTENANCE PROGRAM

At the present time there is no trailer preventive maintenance program and as a result we have experienced longer out-of-service delays than are normal in the industry. It is recommended that the following trailer preventive maintenance procedures be introduced.

Bogy Maintenance

Bogies must be serviced every month.

1) Grease all fittings
2) Dip air coupler in anti-rust solution
3) Adjust brake slack adjuster 3/4" - 1" travel (not to be over 90° fully applied)
4) Check for broken springs, loose hangers, worn torque rod bushings, and defects if found
5) Tighten "U" bolt nuts
6) Check rail locking pins and mechanism
7) Spray color code paint on rear axle to indicate work performed in a corresponding month.

Color Code Chart

Jan - red July	April - silver Oct
Feb - yellow Aug	May - orange Nov
Mar - black Sept	June - blue Dec

Responsibility for above lies with everyone in the operating department.

Tires

Check all tires for flats, wear, cuts, and pressure. Those tires that are less than 2/32 tread should be removed, inflations less than prescribed pressure should be inflated, and unmatched tires should be adjusted, and flats should be removed and repaired.

Box, Etc.

Check exterior for damage and report discrepancies, check all lights and flashers and replace those that are defective. Check interior for roof leaks, floor, and wall damage.

Trailer Maintenance

Sand blast pitted and rusty trailer bodies, immediately remove all dust by suction, and paint with chlorinated rubber (a Mobil product) within two hours. This new surface should last for three years.

Because of the present maintenance work load at Vancouver and the need to get on to a preventive maintenance program at the earliest date, it is suggested that C.P.-Northland owned trailers, particularly the flats and 26-foot van trailers, should be sent to an outside shop for sandblasting and painting. A proposal from a Kitimat shop adjacent to our dock has been given to Mr. T. King.

FUTURE C.P.-NORTHLAND TIRE POLICY

We agreed that immediate steps should be taken to brand all C.P. Rail-Northland tires. Existing tires should be branded C.P.N. 1 to Nth 1978, new tires and recapped tires acquired should be branded C.P.N. plus supplier invoice number. The invoice document could be used as evidence in case of tire theft discovery. We also agreed that because of the on and off road conditions in the Kitimat area and in the interest of reducing flat tires and expenses, that all C.P.-Northland owned trailers should be equipped with Michelin radial recapped tires. Michelin Tire Company, with whom we have a National discount, have a radial-recap tire-exchange program whereby they will accept and present bias tires and rims in exchange for their radial recap tire and rim.

It is suggested that we set up a tire maintenance program whereby we install eight radial recap tires per month on C.P. Rail-Northland trailers starting with the newest trailers, i.e. 1973-4501-4502 and IV4510 to IV4515. Old tires removed from these trailers with more than 3/32 tread remaining would be spares or installed on old trailers with less than 2/32 tread wear. These then would be used as trade-ins for this program. There is a two-fold advantage with this proposal.

Reduced flats and longer tire wear.

Improvement in fuel consumption of about 5%. See Appendix XV.

It is our intention to set up spare tires in banks of 2 C.P., 2 T.I.P., 2 Caravan, 1 Ryder 1000 x 20 or 11-22.5 at Northern Tire Prince Rupert, Cedarland Tire Terrace, Anchor Tire Kitimat; and Vancouver Wharf. While there are about two trailers with 1100 x 22 tires and one fork truck with 900 x 20 tires, it is recommended that we standardize all tires on 1000 x 20 bias and 11.25 radials. Similarly, about 20% of our bias rims are Budd wheel and 80% Dayton. Again, we sould standardize on Dayton bias rims. Both suggestions are presented to avoid extra or duplication of spare parts at four tire bank locations.

Vancouver

Tire service such as inspection, inflation tests, mismatching, flat repairs, and recapping should be done at least once a week, preferably early Monday morning on the arrival of barge 101 by either D & D Tire, Crown Tire, or Pacific Tire. While Crown Tire has been doing Northland's tires for years, we encounter problems in getting service when emergencies arise. Crown Tire does not always get to us when we need them. It is suggested by Vic, our W.D.S. driver, that Pacific Tire, who is close by, has a reputation for fast service and good workmaship. As this company (a Michelin dealer) is competitive and handles other large accounts, it is suggested that he be engaged for a four-month trial period, so that we can analyze his performance. His hourly rate is $9.00 compared to Crown Tire's $22.00 and D & D's rate $20.00. Pacific Tire would color code trailers serviced as well as observe those color coded by other tire companies on our behalf.

Kitimat

Anchor Tire in Kitimat would make a regular call on Mondays to repair any flat tires coming off the Northbound barges and to inspect, match, repair, and perform inflation tests, etc. on all available Southbound trailers. All inspections would be color coded so that a duplicated inspection would not be made within the same month.

LOSS AND DAMAGE CONTROL

In order to reduce damage and possible claims, it is suggested that C.P. Rail-Northland Services obtain for its major shippers copies of Suggested Methods for Loading, Blocking and Bracing of Freight in Closed Trailers and Containers, issued by the Association of American Railroads as shown in Appendix.

Further in this regard it is also suggested that a System and a Terminal Safety and Loss Control Council be set up with representation from key personnel of the operations involved, that would meet on a regular basis to prepare programs and disseminate information on preventive measures against accident and loss.

In order to make this program meaningful, it would be necessary to have management responsibility right up the line. Therefore, it is proposed that a CP Rail BCCS Northland Central Safety Council be set up along the lines of the organization chart hereto appended.

Further, similar guidelines to those proposed for Northland in Appendix XII could be instituted for the other division.

Traffic Lane Analysis

Do we know the total cost of various commodities from door-to-door in various types of equipment and handling? Work sampling on a regular basis should provide some of these answers.

One effective method presently employed by C.P. Transport is the daily work card that is filled out by each employee for a week under close supervision, about two or three times a year, or when changes occur in traffic patterns. As an example, a truck driver would fill out his daily work card as follows:

Time punched in, type of work, time work commenced, type and number of items handled by weight group, time each shipment took, when this type of task was completed, stem time to next operation, repeat suceeding tasks, unproductive time is record, ie. coffee, lunch, washroom, etc. and is prorated at end of day over all items handled.

All work cards are summarized daily and averages are calculated for each function. All segments of operation can be analyzed in this manner and complete door-to-door operations can be costed. Supervision, administration, overheads and profit can be added. Appendix IX shows rough samples of commodity costs handled in various types of equipment and the effects that economy of scale have on their profitability.

PROPOSED TERRACE RATE ADJUSTMENTS

New tariffs show that Terrace L.T.L. rates are the same as Kitimat and Prince Rupert rates which was a good move to simplify tariffs and meet strong truck competition at Terrace. However, class rates in the new tariff are higher at Terrace than either Kitimat or Prince Rupert. It is suggested that the Terrace class rates be adjusted to the Kitimat and Prince Rupert level not only to simplify the tariff but to meet road transport competition.

Observations show that with the direct delivery service the cost of delivery at Kitimat and Terrace are about equal. Terrace could be considered as a suburb like New Westminster is to Vancouver.

PROPOSED DEVELOPMENT OF PRINCE RUPERT TRAFFIC

Back Haul Fresh and Frozen Fish Traffic

Study shows that there is a potential back haul movement of fresh and frozen fish from Prince Rupert to Vancouver. (In fact, just this week we were offered 100 tons, which we could not completely handle). Presently we are experiencing about a 75 percent empty return back haul of trailers between Prince Rupert and Vancouver. The cause, Northbound groceries in 45-foot dry van trailers and Northbound Simpson Sears and P.C. & D. traffic in 20-foot containers and 26-foot trailers.

It is suggested that C.P. -Northland lease two or more 45-foot diesel electric temperature-controlled trailers from T.I.P. on a long-term basis for groceries Northbound and fresh or frozen fish Southbound. Further, it is suggested that seven 26-foot refrigerated trailers be purchased (installments over 30 months) from Fruehauf Trailers (two as substitutes for worn-out 2400 series). These would be used for Slade & Stewarts, and Kitimat, Terrace, and Prince Rupert proposed door-to-door cooler and frozen traffic plus fill-out P.C. & D. and again Prince Rupert fresh and frozen fish Southbound.

It is intended that the proposed 2 45-foot temperature-controlled trailers would be leased instead of 4 45-foot dry-van trailers, shown in schedule of new equipment acquisitions.

ADDITIONAL BACK HAUL TRAFFIC TO REDUCE

EMPTY SOUTHBOUND VAN TRAILER MOVEMENTS

We have made suggestions that possibly Alacan local ingots and Eurocan foreign linerboard could be loaded in Southbound van trailers.

A study was made of the Alcan movement of ingots from Alcan, Kitimat for their Vancouver fabrication plant. We were informed by Mr. Roach in Vancouver that it would be no problem to unload ingots from van trailers providing a portable ramp was made available. Alcan have such a piece of equipment at Kitimat that is not being used. Mr. John Laning, Traffic Manager at Kitimat, was approached about the loading of vans at Kitimat, but he rejected the idea because, in his opinion, it would cost more money to load at their plant. The advantages of loading empty van trailers with aluminum ingots are:

A saving of four handlings valued at $ per ton plus $36. (4 days) to $63 (7 days) for rental for every empty trailer we are unable to accommodate when large shipments of aluminum ingots or linerboard are handled.

In order to develop this concept we should offer Alcan an incentive to load ingots in van trailers, say offer them one third of our handling savings.

In the case of Eurocan, it would be more beneficial to load foreign containers (A.P.L., etc.) Northbound with beer and groceries and handle Asian linerboard Southbound that could be loaded directly at their Kitimat paper mill, trailer or container end loading docks.

The advantages of this proposal would be mainly for Eurocan's benefit and the foreign steamships account. Estimated savings are:

Eurocan trucking from the Kitimat Mill to their dock.

Unloading trucks and storing in Dock warehouse.

Loading barge at Kitimat.

Unloading barge at waterfront terminal.

Stuffing containers at waterfront terminals.

Vancouver Cartage from North Vancouver to Centennial or Lynn Terminal.

C.P.-Northland would save about $100 in long-term trailer rentals (say 18 days) for every 40-foot foreign container substituted for a leased trailer.

20-FOOT BULKHEAD CONTAINER FLATS

We now find that there is some customer interest in bulkhead flats.

Kitimat Builders expressed a keen interest in having their Northbound bulky traffic handled on bulkhead flats. By the same token Mr. J. Matthews, Traffic Manager at Eurocan, stated that this type of equipment held a lot of promise for Southbound door-to-door packaged lumber movements that Northland have not handled during the last six years.

KITIMAT YARD LAYOUT

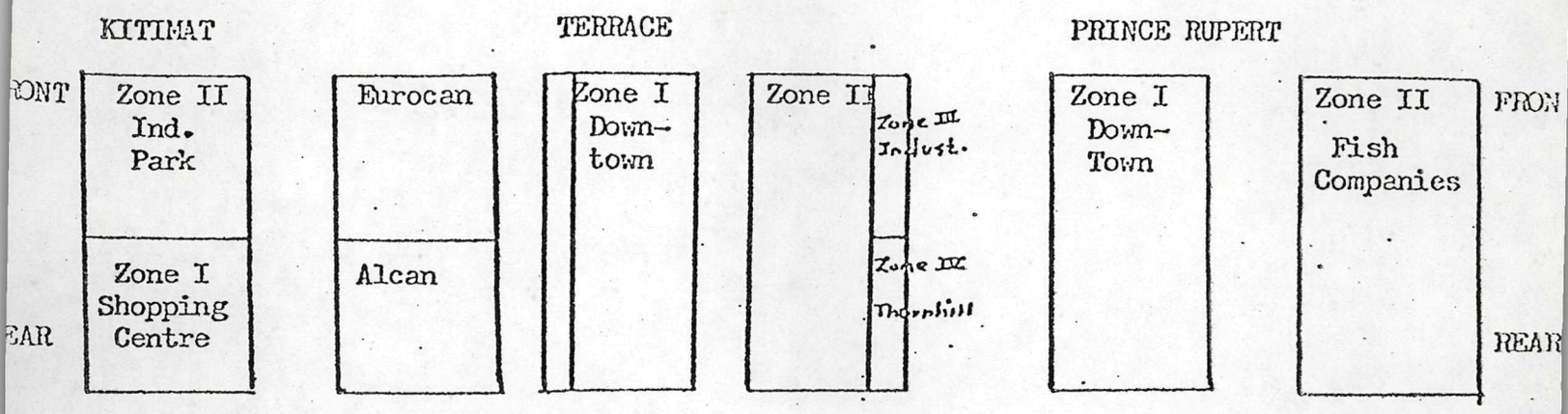
At the present time only two tractor trailers can be loaded comfortably on the black top area in front of the freight shed, or otherwise congestion occurs and efficiency is lowered. With the direct delivery of L.T.L. from Vancouver to Kitimat, Terrace, and Prince Rupert, the present freight shed utilization has decreased. If greater effort is made at Vancouver to direct delivery load more traffic to Terrace and Prince Rupert, then about 50 to 80 feet of the north end of the freight shed in front of the barge ramp could be taken down.

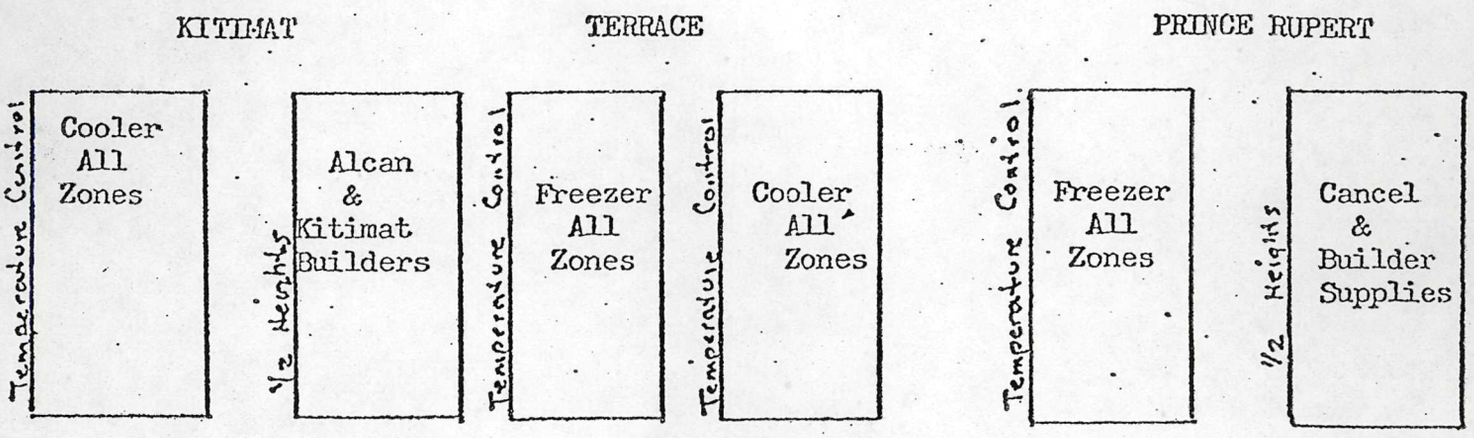
That area plus reclaimed land at the rear of the shed, close to the rock cliff, could be used for pre-loading additional trailers for the highway dispatch.

Also for storing Southbound loaded trailers for quicker transfer to the barge than from the trailer park at present.

Consideration should also be given to extending the black top both east and south of the office and west and north of the freight shed. Appendix XVII shows plan of freight yard layout.

PROPOSED DIRECT LOADING ARRANGEMENT





~~Compliments of~~
~~AMERICAN PRESIDENT LINES, LTD.~~

Appendix II

CIRCULAR 43

ASSOCIATION OF AMERICAN RAILROADS

Operations and Maintenance Department
OPERATING - TRANSPORTATION DIVISION

American Railroads Building
1920 L Street N.W.
Washington, D.C. 20036

R. R. MANION, Vice-President
Operations and Maintenance
Department

OFFICERS OF DIVISION
R. F. Dunlap, Chairman
I. C. Ethington, Vice-Chairman
J. J. Robinson, Executive Director & Secretary

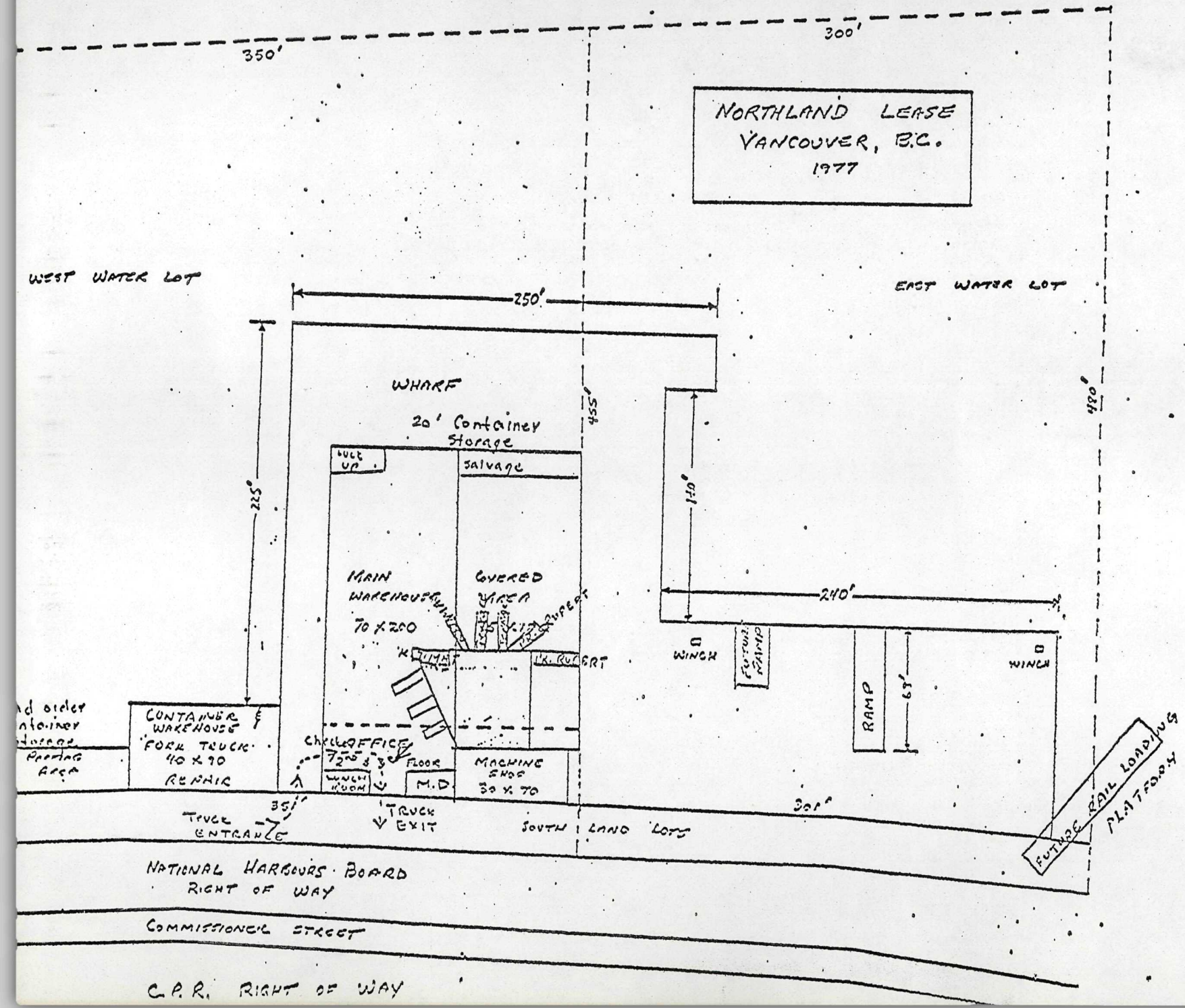
March 1976

RULES GOVERNING THE LOADING, BLOCKING AND BRACING OF FREIGHT IN CLOSED TRAILERS AND CONTAINERS for TOFC/COFC SERVICE

ISSUED BY

ASSOCIATION OF AMERICAN RAILROADS
INTERMODAL STEERING COMMITTEE
AND
DAMAGE PREVENTION COMMITTEE

APPROVED BY
GENERAL COMMITTEE
OPERATING - TRANSPORTATION DIVISION



Appendix III
Sheet 1

Caravan

Month	# of Trailers	Amount
January	27	481393
Feb.	47	1203860
March	50	1203281
April	57	1462867
May, June	140	3500262
July	77	1614166
August	87	1869850
September	86	1577608
October	63	1122965
November	68	1502227
December	105	1716227
	807	17254706

Transport International

Month	# of Trailers	Amount
January	6	125030
February	18	184040
March	46	752058
April	89	731855
May	110	978857
June	102	799068
July	45	508191
August	149 ½	1368866
September	45	395788
October	85	736620
November	86	700899
December	88	729406
	919	7944647

Gilflex

Month	# of Trailers	Amount
January	15	212731
February	11	219952
March	12	220520
April	18	362088
May	17	268356
June	15	348499
July	39	478116
August	50 ½	888100
September	18	246100
October	8	162854
November	11	145948
December	7	112778

COMPANY	TYPE OF UNIT	TOTAL ON RENT	TOTAL TRAILER DAYS	TOTAL TRAILER COSTS
Caravan	45' Vans	27	478	$4,306.50
	26' Vans	1	8	56.00
	45' Flats	18	338	3,024.00
	40' Flats	3	68	612.00
	Dollys	2	45	225.00
TOTAL		51	937	$8,223.50
T.I.P.	45' Vans	7	87	$1,212.00
	26' Vans	1	26	234.00
	45' Flats	5	126	1,270.00
	40' Flats	-	-	-
	Dollys	-	-	-
TOTAL		13	239	$2,716.00
Gilflex	27' Van	1	26	$ 190.00
GRAND TOTAL		65	1,202	$11,129.50

÷ $3,000.00

Appendix IV
Sheet 2 of 5

MONTHLY TRAILER SUMMARY

MONTH OF FEBRUARY, 1978

COMPANY	TYPE OF UNIT	TOTAL ON RENT	TOTAL TRAILER DAYS	TOTAL TRAILER COSTS
Caravan	45' Vans	22	330	$3,140.40
	26' Vans	-	-	-
	45' Flats	11	133	1,444.00
	40' Flats	2	15	128.00
	Dollys	2	16	80.00
TOTAL		37	494	$4,792.40
T.I.P.	45' Flats	2	56	$ 560.00
	26' Vans	1	28	252.00
TOTAL		3	84	$ 812.00
Gilflex	27' Vans	1	26	$ 240.00
	40' Vans	1	16	120.00
TOTAL		2	42	$ 360.00
Commercial Trailer Rentals	20' Chassis	4	32	$ 192.60
GRAND TOTAL		46	652	$6,157.00

- $10,000.00

Appendix IV
Sheet 3 of 5

MONTHLY TRAILER SUMMARY

MONTH OF MARCH, 1978

COMPANY	TYPE OF UNIT	TOTAL ON RENT	TOTAL TRAILER DAYS	TOTAL TRAILER COSTS
Caravan	45' Vans	20	570	$ 5,309.50
	26' Vans	7	151	1,057.00
	45' Flats	3	116	1,017.00
	40' Flats	-	-	-
	Dollys	-	-	-
TOTAL		30	837	7,383.50
T.I.P.	45' Flats	5	128	1,280.00
	26' Vans	4	81	729.00
	40' Flats	2	2	20.00
TOTAL		11	211	2,029.00
Gilflex	40' Flats	2	32	280.00
	27' Vans	2	23	204.00
	40' Vans	1	31	240.00
	45' Flats	2	27	252.00
TOTAL		7	113	976.00
Commercial Trailer Rentals	20' Chassis	4	124	642.00
	40' Flat	1	2	19.26
TOTAL		5	126	661.26
GRAND TOTAL		53	1,287	$11,049.76

Appendix IV
Sheet 4 of 5

MONTHLY TRAILER SUMMARY

MONTH OF APRIL, 1978

ompany	Type of Unit	Total on Rent	Total Trailer Days	Total Trailer Costs
aravan	45' vans	48 (28)	1,326	$12,267.50
	26' Vans	5	104	728.00
	45' Flats	15	362	3,248.00
	40' Flats	nil	-	-
	Dollys	2	60	300.00
otal		70	1,852	$16,543.50
T.I.P.	45' Flats	10	286	$ 2,860.00
	26' Vans	5	77	700.00
	40' Flats	4	116	1,160.00
	26' Flats	1	7	63.00
Total		20	486	$ 4,783.00
Gilflex	40' Flats	2	57	$ 654.00
	45' Flats	2	60	720.00
	40' Vans	1	17	204.00
Total		5	124	$ 1,488.00
ommercial	20' Chassis	4	120 okay	$ 634.00
Trailer	40' Flat	1	30 okay	184.91
Rentals	Converters	1	30 okay	65.52
	45' Van	2	18	226.80
	26' Van	3	37 okay	194.25
	26' Flat	2	54 okay	284.90
Total		13	289	$ 1,590.38
W.D.S.	26' vans	5 X	128	1,664.00
Signal Trucking	26' Vans	1	12	84.00
GRAND TOTAL		114	2,891	$26,152.88

Appendix IV
Sheet 5 of 5

C.P. RAIL B.C.C.S. NORTHLAND SERVICE.

REEFER PUPS. FOB VCR

	AS IS L & A ONLY		AS IS REEF SERVICED & RUNNING ONLY		THREW SHOP PAINTED. REEF SERV. & RUNNIN GOOD COND.	
	PKG	INDV	PKG	INDV	PKG	INDV
C10220	5500	5900	5750	6150	6900	7300
C10229	5100	5600	5750	5850	6900	7000
C10238	5500	5600	5750	5850	6900	7000
C10241	6600	6900	6900	7150	(REBUILT COMPRESSOR) 7900	8200
C10242	5500	5600	5750	5850	6900	7000
C10248	5500	5800	5750	6050	6900	7200
C10250	5100	5600	5750	5850	6900	7000
	$38,800.00	$41,000.00	$41,400.00	$42,750.00	$49,300.00	$50,700.0

W/OUT REEFERS HOLE CUT

C10235 - $5900.00 (HAS BEEN THREW SHOP BUT NOT PAINTED)
C10233 - $5300.00 (HOLE CUT AS IS) NO OTHER WORK DONE.
C10249 - $5300.00(" ")

1969 FRUEHAUFS
26' LONG
102 " WIDE
APPROX 3" FOAM IN PLACE
8 ROLLER RAILS C/W ROLLERS
ALUM C/PLATE FLOORS
ALUM LINED
SWING REAR DOORS
10 X 20 SPOKE
SUB FRAME IS EXTENDED FOR A SECOND AXLE.

FRUEHAUF
TRAILER COMPANY OF CANADA LIMITED

2150 BETA AVENUE • NORTH BURNABY, B.C. • V5C 5M9

TELEPHONE (604) 299-2661

MAY 2, 1978
FILE #764

BODY SPECIFICATIONS

BUMPER:	ICC - Fixed installation.
CORNERS, FRONT:	56' swing radius...minimum loss of inside cube at corners...galvanized steel reinforcements inside corners.
CROSSMEMBERS:	I-beams spaced on 15" centres...high tensile hot rolled steel...can be added or replaced without disturbing air or electrical systems.
DOOR OPENING:	92 1/2" for maximum loading freedom. 92 5/8" inside width, rear post design protects standard plywood lining at door frame from possible loading operation damage.
ELECTRICAL RECEPTACLE:	7 way ATA, 12 volt system...integral circuit breakers...lines are protected from external damage...readily accessible for repairs or modifications.
FLOOR:	1 3/8" thick laminated hardwood...three 5/16" diameter fasteners are used in every floor plank at every crossmember.
LIGHTS:	ICC & Provincial...Fruehauf's clearance/marker lights have passed all test requirements of the SAE Standards, J592J.
LINING:	1/4" exterior grade plywood front and sides, installed over posts at front and between posts at sides.
MUD FLAPS:	Flat type, fixed mounting.
PAINT:	Front wall, side panels and outside of rear doors are prepainted aluminum colour all steel parts are painted with finish that provides maximum corrosion protection.

CONTAINER CHASSIS FOR 20' I.S.O. CONTAINER

C.P. Rail - Northland Services.

May 30, 1978.
- Page 2 -

BRAKES - Cont'd.

$16\frac{1}{2}$" x 7" x 3/4" shoes, air system, 30" double diaphragm spring brake air chambers. Three air tanks mounted in bogie and constructed in accordance with S.A.E. specification J-10a.

A Berg relay valve is mounted on the front and rear tanks to operate service brakes on the axles.

A Berg spring brake valve is mounted on the centre tank to operate the spring brakes on the axles.

Brake lines are 3/8" O.D. x $\frac{1}{4}$" I.D. plastic tubing conforming to S.A.E. Specification J-844B.

Brake lines are colour coded - red for emergency (supply), black for service (control). Fixed gladhands and dust shields are included.

WHEELS

Dayton 20" five spoke cast steel.

AXLES

22,000 lb. capacity Rockwell No. RN467 4" x 6" rectangular, $71\frac{1}{2}$" track, 37" spring centres, with Timken bearings. 28 tooth 30,000 inch pound slack adjusters "EF" rated friction level brake linings, "S" - Cam 28 - spline camshafts.

SEALS

Stemco Oil Seals.

SPRINGS

$34\frac{1}{2}$" x $3\frac{1}{2}$", eight leaf, 12,000 lbs. capacity each. The 7/8" "U" bolts are located with the nuts downward.

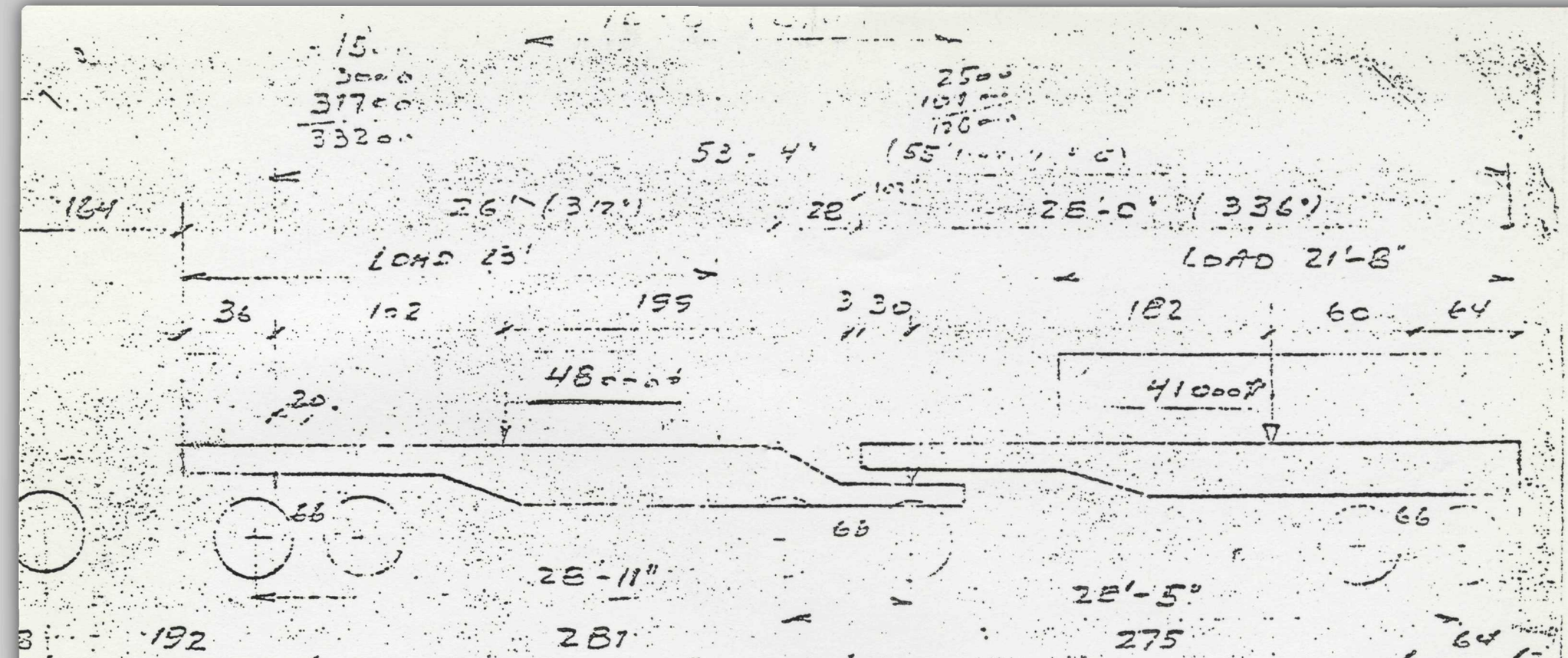
SUSPENSION

Hutchens tandem with 72" axle spread rubber bushed. Radius rods are equal in length on both axles, riding level under load to provide good axle alignment.

LANDING GEAR

Holland Mark V with 12" x 12" sandpads and solid steel axles. The lifting capacity is 50,000 lbs. while the total travel is $16\frac{1}{2}$". The handle is located on the roadside. Pipe Braces: Two on an angle to rear; two to centre of unit, and one parallel crossbrace between the legs.

.....3/



TRACTOR 16000#

TRAILER TPOST 10000#

LOAD " 48000#

TRAILER TEAL 9000#

LOAD " 41000#

124000# MAX. B.C.

VANCOUVER STOCK

ALBERTA = 110000# MAX.

Appendix VIII

CP RAIL NORTHLAND SERVICES

STANDARD PROCEDURES MANUAL FOR CONTAINERS & TRAILERS

SECTION	Container & trailer control system	SECTION : CC
GENERAL SUBJECT	Container & trailer status report	PAGE NO. : ISSUED ON : CANCELS ISSUE OF :
SPECIFIC SUBJECT	Code identification sheet container identification	

When item 10 is used to identify the container number, a ten (10) digit code is used as follows:——

(A) Owner Identification — CODE: C P N U

(B) Type & Size Identification 5th, 6th, & 7th digits

Description		type (5th digit) + color code	SIZE (6th & 7th digit) 6 ft	8 ft	12 ft	20 ft	40 ft
Dry Freight	8'	beige + 2	4	–	5	6	0
	8'6"	beige + 2			–	68	08
Insulated	8'	white + 7	–	–	5	6	0
	8'6"	white + 7			–	68	08
Reefer Cooler	8'	blue + 5	–	00	5	6	0
	8'6"	blue + 5			–	68	08
Flats & glass racks	8'	lemon + 3					
	8"6"	lemon + 3					
Tanks	8'						
	8'6"						
Half heights	4'	green + 8				6	0
	4'6"	green + 8				68	08

(C) Inventory Serial Number 8th to 10th digits — 001 to 999

foot note:
Black or brown dot – Acquisition from Northland:
Red or orange dot – Short term rental
White dot – Acquisition years 1 – 3
Mauve dot – long term rental

APPROVED BY THE EXECUTIVE COMMITTEE DATE: INITIALS:

CP RAIL NORTHLAND SERVICES

STANDARD PROCEDURES MANUAL FOR CONTAINERS & TRAILERS

SECTION	Container & Trailer control system	SECTION	: CC
GENERAL SUBJECT	Container & Trailer Status Report	PAGE NO.	:
		ISSUED ON	:
SPECIFIC SUBJECT	Code Identification Sheet Trailer Identification	CANCELS ISSUE OF	:

When Item 11 used to identify the trailer number a nine (9) digit Code is used as follows:—

		CODE
(A)	Owners Identification	C P N Z
(B)	Type & Size – 5th, 6 7th digits	

Description	Width	Type (5th digit) + color code	SIZE 6th and 7th digits 20'	21'	24'	26'	27'	40'	45'
Dry freight	8'	beige and/or 2	6	–		66	67	0	–
	8'6"	beige and/or 2	68	–	–	78	88		9
Insulated	8'	white and/or 7	6	–	–	66	67	0	–
	8'6"	white and/or 7	68	–	–	78	88		9
Reefer	8'	blue and/or 5	6	–	46	66	67	0	–
	8'6"	blue and/or 5	68	–	–	78	88		9
Flat	8'	pink and/or 3	6	–	–	66	67	0	–
	8'6"	pink and/or 3	68	–	–	78	88		9
Roll Mafi	8'	green and/or 6	6	–			67	–	–
Container Chassis		yellow and/or 8	6	7	–	–	–	0	–
Converter		mauve and/or 1	6	–	–	–	–	–	–

Inventory Serial Numbers
7th to 9th Digit

foot note:
black dot – Acquisition from Northland
white dot – Acquisition year 1-3
red dot – Short term rental
mauve dot – Long term rental

APPROVED BY THE EXECUTIVE COMMITTEE	DATE:	INITIALS:

FORK TRUCK PREVENTIVE MAINTENANCE

OPERATORS/SERVICE RECORD AND

RECORD OF MECHANICAL REPAIRS

BY MACHINE

We find that Northland Machine Shop has no preventive maintenance program for fork trucks. This could be a major contributor to the high maintenance expense presently experienced.

It is normal practice in the industry to follow a preventive maintenance program either in house or by monthly contract to local fork truck repair services.

It is suggested that C.P. Rail Coastal Marine Maintenance Department consider the following appendid preventive maintenance program and keep records of downtime and repair costs for each individual truck as appendid or by some other similar arrangement. In this way we will have a good handle on driver abuse, and above-normal fork truck expense. Therefore, we will be in a better position to adjust any inadequates that occur and to reduce fork truck expenses. ~~See Appendix VII.~~

DRIVERS DAILY CHECK SHEET

Liftow LIMITED

DRIVERS NAME _____ DATE _____

FOREMAN _____

TRUCK NO. _____ SHIFT _____

CRANKCASE				QUARTS ADDED
RADIATOR				
BATTERY		YES	NO	WATER ADDED
TRANSMISSION		TIRES	FRONT	
HORN			REAR	
BRAKES				FREE PEDAL INCHES
HOIST		STEERING CONDITION		
AMP METER		CHARGE	DISCHARGE	
OIL GAUGE				POUNDS PRESSURE IDLING
TEMP GAUGE IDLING		NORMAL	HOT	COLD

DRIVER TO COMPLETE AT START OF EACH SHIFT.

CHECK ALL ITEMS IN OPERATING CONDITION OR SPECIFY REASON ON REVERSE SIDE.

DURING SHIFT USE EXTRA FORM TO REPORT ANY UNFAMILIAR NOISE AND/OR MECHANICAL MALFUNCTION ON YOUR TRUCK IMMEDIATELY TO YOUR SHIFT FOREMAN.

19

HYDRAULIC CONTROL				AVAILABILITY					
OIL				SCHEDULED CLOCK HRS.	CLOCK HRS. NOT WORKED DUE TO			TOTAL CLOCK HRS. WORKED	SIGNATURE
ADDED QTS.	CHNGD. ✓	SAMPLED	FILTER CHNGD. ✓		REPAIRS ON-SHIFT	SERVICE ON-SHIFT	OTHER (EXPLAIN)		

PROPOSED LABOUR REQUIREMENT FOR PRINCE RUPERT TERMINAL

		Function	Monday	Thursday
Manager	(1)	Liaison between Fairview Terminal and BCCS - Northland operation. Overseer of Skeena Transport Prince Rupert P & D operation.	$ 80	$ 80
Crane Operator	(1)	Lease man and machine from Skeena Heavy Crane Lift at $50/hour.	400	400
Fork Truck Operator	(1)	Lifting loaded containers from dock apron to P & D flats and empties in reverse.	80	80
Stevedores on Barge	(1)	Handling crane spreader lines and hooks and securing them to top corner castings of containers.	80	80
Stevedores on Dock	(1)	Handling crane spreader lines and hooks in removing them from top corner castings.	80	80
Fork Truck Operator Small	(1)	Hoisting dock stevedore on pallet platform from ground to top of container.	80 + 20	80
			$1,000	$1,000
		Inbound	25	15
		Outbound	15	25

Estimated cost $2.00 per ton

TRANSPORT - VEHICLE P. M. INSPECTION REPORT

MAINT. 1

icle No. _____ Type of Inspection: A B Date: Mo. _____ Day _____ Year _____

if okay (O) if adjustments completed (X) if repairs or extensive adjustments required

D Trucks:
1500 miles gas; 1500 miles diesel
1500 miles gas; 3000 miles diesel

P & D Tractors:
A - 1500 miles gas; 1500 miles diesel
B - 3000 miles gas; 6000 miles diesel

Forklifts:
A - 100 hours
B - 200 hours

hway Trucks and Tractors: Naturally Aspirated - A - 10,000 miles; B - 10,000 miles
Blown Cummins - A - 10,000 miles; B - 15,000 miles
1693 Cat - A - 10,000 miles; B - 20,000 miles

CHECK - DO COMPLETE "A" CHECK PLUS CHANGE OIL AND OIL FILTERS

CHECK:

LEVEL OUTSIDE CHECK
- Damage, cabs, hood, fenders
- Wheel studs and nuts, clamps
- Tire condition and pressure
- Fuel tanks, vents, fill cap
- Chain hooks and tank protector
- Mud flaps/brackets
- 5th wheel/slides/pins
- Deck covers
- Visable wiring/air lines
- Frame crossmembers
- Attach trlr. air lines to blank glad hands
- Check engine oil level
- Check rad cap and recovery tank
- Check for coolant level
- Exhaust muffler and pipe
- Drain air tanks

IN-CAB CHECK
- Brake peddle/park brake
- Clutch free play
- Steering for looseness
- Warning lights/buzzer/flag
- Water check unit
- Starter and throttle action
- Instruments and hand throttle
- Oil PSI/charge rate
- Air governor
- Horn, air/electric
- Seat, doors/handles, seat belts
- Cab glass/defroster, heater
- Air leaks, engine off, brakes applied. wiper operation.
- Apply trlr. air and leave applied (emergency)
- Check lights
- Fire extinguisher/flags/flares/ first aid kit

ENGINE COMPARTMENT
- Tighten oil and water hose clamps
- Check hoses
- Air cleaner and mounts
- Check water and oil leaks
- Air induction piping
- Warm air diverter
- All belts
- Air compressor intake
- Drain water from fuel filter
- Activate sentinel manually
- Check throttle linkage
- Batteries/box
- All exposed wiring/batteries/cables/ connectors
- Steering box lube level
- Check manifolds and attachments
- Disconnect trlr. emergency line, note action of T.P.V.
- Check F.W. oil hubs
- Fill Kysor fluid/alcohol evaporator winer, motor, connection.

UNDER THE VEHICLE
- Complete lube
- Check steering/kingpins
- Front wheel bearing slack
- Springs/hangers/shocks/rear suspension
- Check for oil leaks
- Trans/diff. oil level/vents/plugs
- Clutch linkage
- Visible brake lining
- Drive line and joints
- Adjust brakes/check spitter valve
- Air lines
- Clean and vacuum cab
- Check block and pan heater a/c draw

COMMENTS ON REVERSE SIDE

Appendix XIV

FUEL ECONOMY

TANDEM COE VS RYDER R100
MAXIMUM SPEED 55 MPH
TRAILER & PAYLOAD 54000#

B – BIAS TIRES
R – RADIAL TIRES
/ { 8 AIRSHIELD & FAN

TRIP 240 EXPRESSWAY MILES
50 CITY MILES
290 MILES PER TRIP
TEST CIRCUIT

	MILES PER GALLON	GALLONS PER MILE	% SAVING
VT903 300 — B B B *	5.0	.200	BASE
8 VT903 300 — B B B	5.3	.189	5.7
VT903 300 — R R R *	5.6	.179	10.7 *
8 VT903 300 — R R R	5.9	.170	15.3
VT903 300 — R R R	6.2	.161	19.5
VT903 300 — R R R	6.3	.159	20.6
CAT 225 — R R R	6.8	.147	26.5

COMPARATIVE ECONOMIC ANALYSIS OF PRESENT AND PROPOSED FORK TRUCK REQUIREMENTS NEXT THREE YEARS

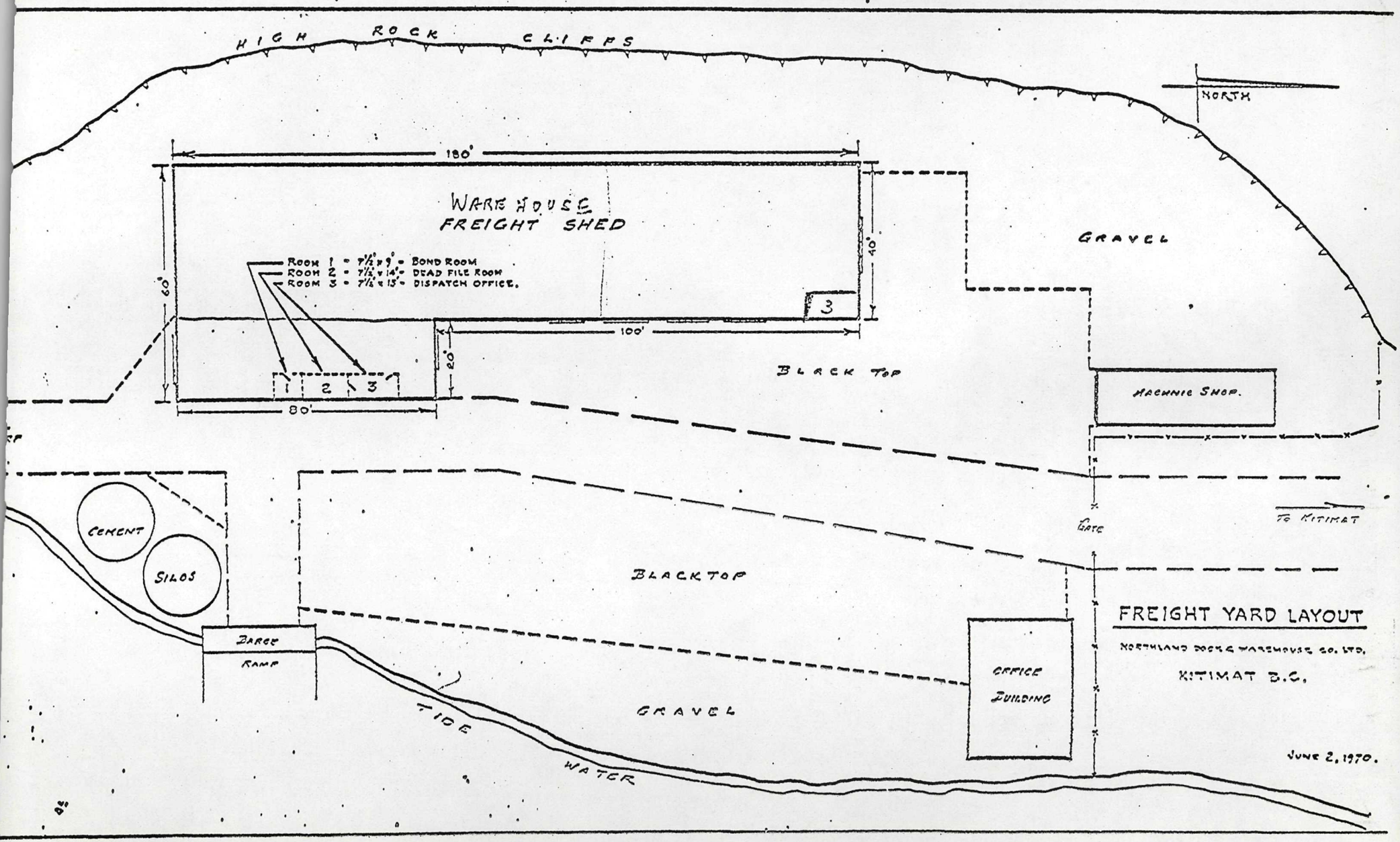
	3 Years Rentals	3 Years Repairs		3 Years Rentals	3 Years Repairs
#1	3000	335		-	-
#17	3000	4500		-	-
#27	3000	1500		-	-
#38	4000	3500		4000	3500
#58	4000	3000		4000	3000
#32	5347	2648		-	-
#K7	3000	335		-	-
#K5	2050	600		2050	600
#11	500	335		-	-
#18	500	200		-	-
			2-12000 lb. Taylors	80,000	4000 ✓
#2	4863	1000		4863	1000
#3	4863	10000		-	-
#4	4863	30000	→ 1-12000 lb Taylor	4863	30000
#5	4863	15000		4863	15000
#6	5347	10000		-	-
#8	5347	11000		-	-
#10	5347	20000		-	-
#20	4863	5300		4863	5300
#22	4863	12000		-	-
#36	3000	8275		3000	8275
			2-15000 lb. Taylors	60000	4000
#16	5347	600		-	-
#19	4863	1000		-	-
#57	5347	2300		5347	2300
#14	4863	3500		-	-
#100	10500 ✓	2100		10500	2100
#101	10200 ✓	15000		10200	15000
#102	10800	3000		10800	3000
#103	10800	7500		10800	7500
#104	10200	9000		10200	9000
				225186	113575 = 339.061

COMPARATIVE ECONOMIC ANALYSIS OF PRESENT AND PROPOSED CONTAINER REQUIREMENTS NEXT THREE YEARS

Present		Estimated Rental & Repairs	Proposed		Estimated Rental & Repairs
12' Dry Containers	(85)	67,000	20' Dry Containers	(20)	~~36,000~~ 18
13' Dry Containers	(60)	67,000	20' Dry Containers	(20)	36,000
8' x 9' Dry Containers	(16)	8,000	20' Half-Height Containers	(20)	25,000
Small Cooler Containers	(24)	18,000	N Containers	(50)	15,669
Large Cooler Containers	(12)	31,000	3 large coolers	(3)	8,000
20' "F" Containers	(4)	2,500	20' "F" Containers	(4)	2,500
24' "F" Containers	(6)	6,000	–	–	–
20' "D" Containers	(15)	11,000	20' "D" Containers	(15)	11,000
4' x 6' Containers	(30)	11,000	4' x 6' Containers	(20)	7,000
500 cu. ft. Freezers	(5)	22,000	500 cu. ft. Freezers T.	(5)	22,000
250 cu. ft. Freezer	(1)	2,500	20' Nitro Containers	(15)**	114,500
	Say	246,000			262,006
					240,000

COMPARATIVE ECONOMIC ANALYSIS OF PRESENT AND PROPOSED TRAILER REQUIREMENTS NEXT THREE YEARS

Present	Estimated Rental & Repairs	Proposed	Estimated Rental & Repairs
40' flat trailers (16)	100,000	40' flat trailers (13)	81,000
30' flat trailer (1)	5,000	-	-
45' flat trailers (2)	12,000	45' flat trailers (2)	12,000
24' flat trailers (2)	12,000	-	-
1 STL 1 low bed (1)	9,300	-	9,300
1 STL 2 pole trailer (1)	4,500	1 STL 2 pole trailer	4,500
45' insulated trailers (6)	40,000	(6)	40,000
24' insulated trailer (1)	3,500	-	-
26' van trailers (5)	15,000	26' van trailers (5)	15,000
24' reefer trailers (9)	45,000	-	-
40-45' van trailers (leased) (50)	-	(30)	250,000
40-45' flat trailers (leased) (30)	-	(10)	85,000
27' flat & container chassis (leased)	-	(20)	120,000
30 ton roll mafi flats	-	(4)	28,000
20' container chassis	-	(20)	150,000
40' CPT van trailers leased	-	(15)	90,000
Converters	-	(12)	40,000
27' van trailers (2)	-	(8)	50,000
26' temperature controlled trailers	-	(6)	90,000
Total Leases	866,000		-
	$1,112,300		$1,064,800


HIGH ROCK CLIFFS
NORTH
180'
WAREHOUSE
FREIGHT SHED
ROOM 1 = 7½' x 9' = BOND ROOM
ROOM 2 = 7½' x 14' = DEAD FILE ROOM
ROOM 3 = 7½' x 15' = DISPATCH OFFICE.
60'
40'
3
100'
20'
1
2
3
80'
GRAVEL
BLACK TOP
MACHINE SHOP.
GATE
TO KITIMAT
CEMENT
SILOS
BLACKTOP
BARGE
RAMP
OFFICE
BUILDING
GRAVEL
TIDE
WATER
FREIGHT YARD LAYOUT
NORTHLAND DOCK & WAREHOUSE CO. LTD.
KITIMAT B.C.
JUNE 2, 1970.

BCCS-NORTHLAND CORPORATE SAFETY COMMITTEE'S ORGANIZATION

TERMINAL SAFETY COMMITTEES

ALL TERMINALS

PATRON - MANAGER BCCS-NORTHLAND
TERMINAL MANAGER
DOCK SUPERVISOR
TRAFFIC SUPERVISOR
MAINTENANCE SUPERVISOR
DRIVER TRAINER
UNION STEWARDS
DRIVERS' REPRESENTATIVE
LOSS & DAMAGE CLERK
FIRST AID ATTENDANT

CENTRAL SAFETY COUNCIL

PATRON - GENERAL MANAGER CP RAIL COASTAL MARINE SERVICE

MANAGER BCCS - NORTHLAND
ENGINEERING SUPERINTENDENT
MARINE SUPERINTENDENT
SUPERVISOR OF TERMINALS
TRAFFIC MANAGER BCCS
TRAFFIC MANAGER NORTHLAND
PERSONNEL MANAGER

CENTRAL SAFETY COUNCIL

The purpose of the Central Safety Council would be to evaluate the advantages of Safety Programs, approve planned programs, judicate results and make public appearances at safety meetings and recognize award winners.

COMPARATIVE DAILY COST OF ALTERNATIVE CONTAINER HANDLING EQUIPMENT

	Estimated Initial Cost	Estimated Annual Maintenance	Estimated Daily Fuel Cost	Estimated Daily Ownership Cost	Annual Use	Daily Cost
Side lift	$ 80,000	$2,400	$ 5	$150.00	120 days	$175.00
Tractor	20,000	1,200	15	28.32	240 days	40.00
						215.00
Fork lift truck 52,500 lbs.	160,000	7,500	35	421.40	120 days	519.00
Mobile Crane lift on/lift off operations 130,000 lb.	400,000	10,000	50	750.00	120 days	883.00

Assume 10% interest and 8-year life for each machine with 10% residual value at the end of 8 years.

"BARGE DATA"

NORTHLAND 101: (official No. 328960) (Northwest Shipping)

After door width:	15 ft.
After door height:	15 ft.
Total length:	203 ft.
Beam:	52 ft.
Gross Tons:	2468 tons

LAKELSE:

After door width:	15 ft.
After door height:	13 ft.
Total length:	160 ft.
Beam:	48 ft.

KEMANO IV: (official No. 198987) (Northwest Shipping)

After door width:	16 ft.
After door height:	12'10"
Total length:	130 ft.
Beam:	43 ft.
Gross Tons:	1069 tons

NN 106: (official No. 194213) (B.C. Steamship 1962 Ltd.)

Length:	120 ft.
Beam:	38 ft.
Gross Tons:	402 tons

NORTHLAND TRANSPORTER:

(official No. 369085) (Northland Navigation)

Length:	255 ft.
Beam:	58 ft.
Depth:	13 ft.
Gross tons:	1806.27 tons
Cost. Lic. No.	4075
Side Door:	16' wide X 17' high
Stern Door:	24' wide X 17' high

YORK 14: (Straits Towing Ltd.)

Reg. No:	311188
Reg. Tonnage:	264 tons
Length:	94 ft.
Value	$200,000.00

NST NO. 1: (Rivtow Marine Ltd.)

Reg. No.	319349
Reg. Tonnage	206 tons
Length:	84 ft.

WORK CODE EFFECTIVE APRIL 1ST, 1978

CREW	CLASSIFICATION	S.T.	O.T.	D.T.
1.	LEADING WAREHOUSEMAN	9.69	14.54	19.38
2.	WAREHOUSEMAN	9.54	14.31	19.08
3.	LIFT TRUCK OPERATOR	9.54	14.31	19.08
3A	Lift truck (LARGE)	9.64	14.46	19.28
3B	LOADER OPERATOR	10.19	15.29	20.38
4.	Mechanic	11.05	16.58	22.10
4A	SERVICEMAN	9.94	14.91	19.88
5.	DOCK MAINTENANCE	9.54	14.31	19.08
6.	SNOW REMOVAL	9.54	14.31	19.08
7.	LABOURER			
8.	MISC LABOUR			
9.	CEMENT BARGE	(MECHANIC RATE AS PER D.J.M.)		
10.				
11.	TRUCKS(1802-1803-1804)	9.54	14.31	19.08
12.	TRACTORS (104-106)	9.64	14.46	19.28
13.	TRACTORS (107-108-110-111-112-1805)	9.79	14.69	19.58
14.	LOWBED	9.86	14.79	19.72
15.	DECKHAND	9.08	13.62	18.16

ILEAGE:

VANCOUVER 1800 (900 ea. way)
HAZELTON 260
BURNS LAKE 560
SMITHERS 337
SMITHERS/HAZELTON 356.5

PRINCE RUPERT 284
HOUSTON 415
STEWART-SPECIAL $180.40 + $20.00 meals
820 MILES RETURN

OTES:

RATE: 22¢ Single 23¢ Double (11½¢ each)
TRAIN UNIT: 24¢ Single 25¢ Double (12½¢ each)

FTER: 19:00 hours DT 2 Hours only at time and one half, then double time.

VERTIME MEALS: After each 4 hours of work and with a 30 minute meal interval for employees other than those driving trucks.
Employees DRIVING TRUCKS who are required to work more than two hours outside of regular hours shall be provided with a meal.

EAL ALLOWANCE - $5.00

APPENDIX A

COST SHEET

(fully allocated)

ORIGIN: Kitimat DESTINATION: Vancouver COMMODITY: Ingots

1977 Revenue: $198,167.00 1977 Tons: 27,511 1977 Rev./Tons: 7.20

Cost Components:

	DESCRIPTION	ASSUMPTION	COST
33/tons	1. Pickup Ingots at Alcan	30 tons/load (27511 ÷ 30) = 920 loads with one hour of driver and forklift time per load 920 x 43.30	$39836
80/tons	2. Unload off Mafis	90 tons per hour with one hour of driver and forklift time [(27511 ÷ 90) x 43.30]	$13236
	3. Load onto barge at Kitimat	as per number 2	$13236
	4. Trip Cost	27511 x .578/cwt	$318027
	5. Offload from barge at Vancouver	90 tons per hour with one hour of driver and forklift time [(27511 ÷ 90) x 55.95]	$17103
	6. Load onto trailers	as per number 5	$17103
		TOTAL COST	$418541