FEASIBILITY SURVEY:
KETCHIKAN NORTHERN TERMINAL
RAILCAR BARGE SERVICE

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INTRODUCTION

This study is designed to investigate the feasibility of reintroducing common-carrier railcar service into Southeastern Alaska by use of the facilities of Ketchikan Northern Terminal in the City of Saxman. The scope of this work has included and an examination of existing facilities and traffic conditions and an examination of those factors which would make the institution of rail service either attractive or unattractive to potential operators. This report is organized into four sections. The first outlines the current traffic situation in Ketchikan and the Southeastern Alaska/British Columbia Region, the second estimates railcar traffic diversion potential for the Saxman Facility, the third considers several operating strategies possible for a reopened terminal, and the fourth analyzes the physical condition of the rail facilities at the terminal and recommends a number of possible improvements which might aid in producing a more efficient operation.

CURRENT TRAFFIC CONDITIONS RELEVENT TO THE KETCHIKAN NORTHERN TERMINAL

Freight movements to Southeast Alaska can be divided into two distinct components. The first are the common carrier services offered by Foss Alaska Lines and Boyer Alaska Barge Line and, to a limited

extent by the Alaska Marine Highway System. The second are the contract operations typically catering to specific industries or large shippers. The latter can be further divided into the bulk petroleum movements, rafted log and chip movements and finally the transport of raw materials and finished goods into and out of the region's two pulp mills. These last operations and those of the common carriers are the only ones relevent to the present discussion. The common carriers are important because they control the traffic reservoir from which the terminal wishes to draw. The pulp mill rail barge operations are of interest since the reasons that rail service is chosen by these firms may provide insights into the potential for diversion of traffic to the Saxman terminal.

The operational base for most of the Southeastern service is in Seattle, The largest carrier is Foss Alaska Line (FAL). An examination of their operations and traffic patterns provide considerable insight into the structure of transport in the region.

Foss operates a weekly container barge service to Ketchikan, Wrangell, Petersburg, Juneau, and Sitka. At the latter port the Southeast service connects with FAL's Aleutian service every three weeks. The company uses Ketchikan and Juneau as transfer points to its connecting service to Metlakatla, Haines, and Skagway via The Alaska Marine Highway System. Additionally, transfer of containers to smaller local operators is made at all ports for delivery to outlying areas. The essential

technical factor for purposes of this analysis is that the bulk of FAL's operation is containerized allowing convenient transfer between transport modes and carriers and permitting door to door delivery. This has allowed the carrier to establish a comprehensive service system throughout the Southeast region which is closely attuned to the current distribution patterns of local merchants and industries.

Commodities carried by FAL include a wide variety of consumer and construction items. In fact, regular, reliable scheduling has made the company the prinicipal supplier of high value goods (foodstuffs, department store merchandise, machinery) to the region. Outbound goods, from the Ketchikan region, are presently dominated by the movement of fish products with this being about one-half to two thirds the volume of inbound movements. Lumber is also occasionally moved south in substantial quantities. This provides FAL with a reasonably balanced traffic situation although seasonal demands do distort this picture somewhat more than the annual traffic totals would indicate.

Boyer Alaska Barge Line also operates a twice monthly, common carrier schedule between Seattle and Ketchikan with less frequent service to Wrangell and Metlakatla and also provides for occasional movements to other points in the region. Because it is a less frequent service than that of FAL, the Boyer operation tends to carry less time sensitive, lower value goods although some quantities of almost all commodity types are carried. Total inbound volume to competitive

points appears to be about one half that of FAL. Outbound traffic is dominated by lumber shipments.

Both of the common carriers and a number of smaller firms provide extensive contract barge capability. This service is mostly directed towards the smaller towns in the region or to the specific needs of the construction and fishing industries. These provide considerable flexibility to the entire transport structure and have the capability of making deliveries or picking up shipments on a demand basis for almost every town in the region. Their interaction with the common carrier service allows scheduled service reliability to most towns.

The freight rate structure for the Southeastern area is almost entirely based on the use of Seattle as the principal distribution center. This reflects the scale of operations of business and consumer demand in the region. That is, the size of the population and the market structure is such that it is usually not practical for firms in the Southeast to demand goods in quantities sufficient to make attractive an in-state wholesaling or freight forwarding system. Rather, it is more economical for merchants to utilize the well developed system that operates in Seattle and allow the distribution system in that city to consolidate shipments into containerload lots. The number of firms with sufficient, continuing demand for goods in containerload quantities is so limited that it has not become attractive, to date, for a freight consolidating and forwarding operation

to come into existance within the region. This is one potential role of interest to the Ketchikan Northern Terminal.

A second set of operations that are of interest to this discussion are those of the two Southeastern pulp mills at Ketchikan and Sitka. They are of interests because they are both the largest commodity production and attraction points in the region and because they presently use railcars to supply most of their needs for intermediate goods and for shipment of their products to points in North America. Both are served by barges operating from terminals in Seattle and both require a variety of chemical and mineral products in their productive processes which are not produced in the Seattle area. This makes rail shipment from the point of manufacture to Puget Sound the most attractive modal alternative. Rail shipment of their outbound products is similarly attractive as it is an item moved in large quantities and is destined for points beyond the Puget Sound area. Their total inbound volume of movement is about 120,000 tons annually or almost as much as the 150,000 tons of non-petroleum inbound demand for the rest of the entire Southeast market.

One final traffic pattern which demands brief review due to its relevence to the Saxman situation is that of the British Columbia coastal area. In many respects it is similar to that of Southeast Alaska excepting that there is less use of container operations and more extensive use of traditional breakbulk barge movements. In one respect,

it does differ considerably from the Southeastern experience. This is in the more extensive employment of railcar barges along the coastline. Over twenty B.C. ports receive railbarge service from either Canadian National or Canadian Pacific Rail. Since these are common carrier services they may be used by any merchant in a particular town who can ship in carload quantities. However, they do have important differences from that contemplated by Ketchikan Northern Terminal. First, they are available only in locations with a large industrial demand (such as a lumber or pulp mill) which can provide sufficient traffic to justify the service. Second, because there are a relatively large number of the operations concentrated fairly closely together on the Southern B.C. Mainland and Vancouver Island, they allow the carrier to schedule service so as to call at several locations as maybe necessary to properly fill the barge. These two factors provide economies of operational scale which would not be available at Ketchikan.

TRAFFIC DIVERSION POTENTIAL OF THE KETCHIKAN NORTHERN TERMINAL

As noted in the previous section, Saxman must expect to draw its traffic from that currently being handled by the scheduled and contract common carriers now operating between Seattle and Southeastern Alaska. This places an upper bound on present traffic potential of about 150,000 tons inbound and 75,000 tons outbound if it were capturing all movements in the region. (See Table 1). Clearly, it is not reasonable to expect the entire region to reverse its shipping habits. Rather, some subset of this volume would find railcar movement attractive.

TABLE 1

POTENTIAL DIVERTABLE TONNAGE - 1977
INBOUND COMMODITIES

	Petroleum	Chemicals	Minerals	Cement	Steel	Machinery	Lumber	Paper	Food	General
Ketchikan	6683	588	15	3301	4103	4357	4284	451	14322	3868
Metlakatla	8	21	1	233	429	261	423	20	964	118
Craig	-	-	8	75	126	6	219	5	874	247
Klawak	-	-	106	60	413	17	76	10	726	263
Hydaburg	-	-	63	47	13	14	130	2	222	683
Wrangell/ Petersburg	916	154	34	2452	3018	915	1466	398	7439	2174
Sitka	1868	202	-	1397	624	927	3335	81	7311	3253
Juneau	3682	1039	233	5147	3294	2682	12141	510	26559	9362
TOTAL	13157	2004	460	12712	12020	9179	22074	1477	57799	19968

POTENTIAL DIVERTABLE TONNAGE - 1977
OUTBOUND COMMODITIES

	Petroleum	Chemicals	Minerals	Cement	Steel	Machinery	Lumber	Paper	Food	General
Ketchikan	12	11	-	13	766	2747	12048	-	12484	344
Metlakatla	-	6	-	-	69	282	10277	-	2873	16
Craig	-	-	-	-	1	-	-	-	778	10
Klawak	-	-	-	-	16	-	-	-	1623	26
Hydaburg					1	6			291	9
Wrangell/ Petersburg	-	7	-	18	146	450	1913	18	15358	289
Sitka	5	2	-	4	357	623	22	-	2064	290
Juneau	18	1	12	18	707	1126	66	359	10024	594
TOTAL	35	27	12	53	2063	5234	24326	377	45495	1578

Source: University of Alaska, Institute of Social and Economic Research; "Alaska Transport Data Base."

Some more realistic measure of the potential may be obtained by examining the characteristics of freight now using the rail mode for coastal movements. One set of demand parameters which have dictated the use of railcar service were outlined in the previous section in connection with the Southeastern pulp mills. These were traffic origins and destinations removed from the coastal area (in this case Puget Sound), a demand for commodity type commonly moved by rail on the inland system, and a demand for material in carload quantities. In the case of the pulp mills these conditions are fulfilled to such an extent that the physical design of the manufacturing facilities requires service by rail rather than by barge or ship for inbound goods. However, these large industiral operations are clearly exceptional situations and may define patterns of only limited applicability to a common freight operation such as Saxman.

A railcar operation which services a more diverse set of business types and handles a wider variety of commodities is that maintained by Alaska Hydro-Train and Canadian National Railway in conjunction with Alaska Railroad between Seattle and Prince Rupert, respectively, and Whittier. These carriers provide service to a wide variety of customers ranging in size from those demanding 15 to 20 cars weekly to those requiring only an occasional load. In terms of the total commodity demand of the "Railbelt" area they supply about 15 percent to 20 percent. They have established joint and through freight rates for all types of commodities and have been operating for a long enough period to establish some longer term trends for traffic characteristics.

At the time railcar service was introduced into the "Railbelt" in 1963, it represented the only method available for moving shipments from locations throughout North America to Alaska destinations on a through bill-of-lading basis. The principal competition at that time was the Alaska Steamship Company which operated a container service from Seattle based on a wholesaling and distribution system similar to that now prevalent in Southeastern Alaska (see previous section). Initially, Alaska Steamship failed to establish through, competitive tariffs and saw its market share eroded by the rail service.

Sea-Land Service introduced container service between Seattle and Anchorage in 1965, initially with a rate structure similar to Alaska Steamship, however, within a short period through tariffs from points throughout the United States were established in order to better compete with the rail service. Within several years, the market shares for rail and marine carriers had settled into the pattern shown in Table 2 and has remained at approximately the same level up to the present time. Thus, the ability of a railbarge service to give Alaska business access to inland U.S. and Canadian suppliers on a through loading, through tariff basis has proven to be one attraction of railbarge service. However, it is also a feature which can be matched with innovative pricing by marine container carriers.

To determine the other characteristics which make railcar service attractive, the traffic representatives of the rail and marine carriers active in rail movements in the "Railbelt" market were interviewed. The

results of these interviews indicated that "Railbelt" shippers of all sizes used rail service for much the same reasons that the Southeastern pulp mills do. That is, they ship in large enough quantities to make the discount in rail rates over container or multiple container rates attractive. Secondly, they receive commodities which are either not produced or wholesaled in the Seattle area or which can be more inexpensively procured by going beyond Seattle and dealing in a sufficiently large quantity. Thirdly, the commodities are of the types normally moved by rail on the continental rail system (food in large quantities, lumber, minerals, chemicals, steel, machinery). A fourth important characteristic of most rail shippers is location of their plant on a rail siding. Only five to ten percent of shipments by rail to the "Railbelt" are distributed from a central public warehouse or forwarding facility by truck and these usually only to the smallest, most infrequent shippers. One specific characteristic of the Canadian National traffic of particular importance was that the origin of almost all shipments is east of the Rocky Mountains. Thus, it appears that for analytic purposes one can stratify the possible traffic by commodity type and point of origin and after doing so, can further deliniate the shipments in terms of size of the shipper and his location.

Table 2 shows the proportions, by origin, transport mode, and commodity, of freight movements to the "Railbelt" area. By utilizing this table in conjunction with Table 1, it is possible to estimate a set of maximum possible tonnage diversions under several operational cases.

TABLE 2

DISTRIBUTION OF TRAFFIC ORIGINS AND MODES OF RAILBELT COMMODITIES
(Percent)

Origin/Mode	Chemicals	Petroleum Products	Minerals	Cement	Steel	Machinery, Vehicles	Wood Products, Lumber	Newsprint Paper	Foodstuffs	Other
East Canada										
Marine	-	-	-	-	-	-	-	-	-	-
Rail	1	3	-	-	-	2	-	-	-	-
British Columbia										
Marine	-	-	-	2	1	-	-	3	-	-
Rail	-	-	-	11	1	-	1	27	-	-
U.S. West of Rockies:										
Marine	11	17	1	11	13	16	5	8	2	8
Rail	8	3	52	8	8	6	13	3	4	1
U.S. Northeast										
Marine	1	-	-	-	-	1	-	2	-	1
Rail	1	-	-	-	3	1	-	-	-	-
U.S. Southeast										
Marine	4	-	-	-	-	1	1	-	1	1
Rail	-	1	2	1	8	4	-	-	-	1
U.S. Midwest										
Marine	2	2	-	3	4	6	1	1	1	3
Rail	16	1	4	13	4	7	1	1	4	-
Puget Sound/ Washington State										
Marine	33	60	2	33	32	34	55	55	84	80
Rail	23	13	38	18	26	22	23	-	4	5

Source: University of Alaska, Institute of Social and Economic Research; "Alaska Transport Data Base"

These are maximum possible diversions since they assume that conditions in the Southeast are as favorable for rail traffic as they are in the "Railbelt". This is clearly not the case. Not only are there no potential shippers in Southeast located on rail sidings, but there is only the single Saxman terminal facility in the entire region. Thus, any shipment beyond Ketchikan would require a modal transshipment in addition to transshipment for local delivery. Additionally, only a very limited set of shippers in the Southeast can be expected to demand sufficient quantities to make use of rail service. (A much smaller number, both proportionally and in total than in the "Railbelt"). However, at least initially, rail would represent the only service with through tariffs. It could thus expect some early advantage in securing traffic with off coast origins, at least that destined for Ketchikan and not involving a second transfer.

Table 3 provides an estimate of the maximum diversion based on these assumptions. It assumes that all possible traffic originating East of the Rocky Mountains would divert to rail if it were bound for Ketchikan while only those types which were indicated in Table 2 as going by rail to the "Railbelt" would divert for other destinations in Southeast.

Two services are analyzed, one from Prince Rupert and one from Seattle. From Prince Rupert, it is assumed that only movements from east of the Rocky Mountains would move to rail. From Seattle, all regions can be diverted (excepting the Puget Sound origins). However, for destinations

TABLE 3

MAXIMUM POSSIBLE TRAFFIC DIVERSIONS TO RAIL
PRINCE RUPERT SERVICE

Commodity	Ketchikan Quantity (tons)	Percent (total)	Tons	Other So.East Quantity (tons)	Percent (total)	Tons	Total Tonnage	Carloads
Petroleum	6683	.25	1671	6474	.18	1165	2836	63
Chemicals	588	.07	41	1416	.05	71	112	2
Minerals	15	.07	1	445	.06	27	28	1
Cement	3301	.30	990	9411	.25	2353	3343	51
Steel	4103	.21	862	7917	.13	1029	1891	38
Machinery	4357	.22	959	4822	.14	675	1634	43
Lumber	4284	.04	171	17790	.02	356	527	10
Paper	451	.04	18	1026	.01	10	28	1
Food	14322	.06	859	43477	.04	1739	2598	55
General	3868	.06	232	16100	.01	1161	393	22
Total	41972		5804	108878		7586	13390	286

MAXIMUM POSSIBLE TRAFFIC DIVERSIONS TO RAIL
SEATTLE SERVICE

Commodity	Ketchikan Quantity (tons)	Percent (total)	Tons	Other So.East Quantity (tons)	Percent (total)	Tons	Total Tonnage	Carloads
Petroleum	6683	.38	2539	6474	.31	2007	4546	102
Chemicals	588	.13	76	1416	.11	156	232	4
Minerals	15	.67	10	445	.66	294	304	4
Cement	3301	.42	1386	9411	.37	3482	4868	74
Steel	4103	.33	1354	7917	.29	2296	3650	74
Machinery	4357	.32	1394	4822	.24	1157	2551	67
Lumber	4284	.22	942	17790	.20	3558	4500	83
Paper	451	.37	167	1026	.31	318	485	11
Food	14322	.11	1575	43477	.07	3043	4618	97
General	3868	.08	309	16100	.06	966	1275	73
Total	41972		9752	108878		17277	27029	589

north of Ketchikan, only a portion of the Washington origins are expected to move to rail. (About 20 percent, corresponding with the overall "Railbelt" proportion). The Prince Rupert service has a maximum potential of about 286 carloads annually. This is equivalent to monthly service using the smallest (24 car) barges currently in service in Alaska or Northern B.C. Using Seattle as a base allows the terminal to capture about twice as many carloads annually if all possible traffic were diverted. This would be sufficient to allow service every two weeks.

It should be remembered that Table 3 depicts the maximum possible diversion, not the most likely market share for the terminal. It requires that all possible shippers give up long term shipping relationships that have developed over many years to participate in a high risk experimental service for which their business size and character is probably not presently suited. The Seattle service analysis is particularly speculative since it presumes a change of loyalties to a new service which offers few advantages for most of the traffic volume in addition to that shown diverted by the Prince Rupert service. In actual fact, it would probably be optimistic to expect the maximum Seattle diversion to be more than twenty percent greater than that presumed for Prince Rupert.

Both estimates implicitly assume that none of the present carriers will respond with competitive through tariffs or service adjustments. This should not be expected to occur considering the past performance

of the present carriers, particularly FAL. It should be recalled that a principal reason for utilization of railcar service to the "Railbelt" is the ability of the inland shipper to receive direct delivery. Without this competitive advantage the railcar barge can probably offer little service to the Southeast that cannot be better provided by an efficiently operated container barge system with a structured set of through, joint tariffs.

Two commodities, fish and lumber, provided possible opportunity for outbound movement. However, the present market structure of both probably precluded significant contributions from either. Fish is generally destined for first-sale markets in the Seattle area and is usually in small individual shipments from a large number of local producers. It would require a large scale consolidation facility and marketing beyond the Northwest to make it attractive for rail service. Likewise, lumber for domestic markets is usually destined for dealers in the Northwest and is moved in relatively small quantities to any particular dealer.

POSSIBLE OPERATIONAL STRATEGIES FOR THE KETCHIKAN NORTHERN TERMINAL

The previous section indicated that there appeared to be little chance of locating sufficient traffic to make the operation of the Saxman facility as a rail terminal a viable proposition. However, in view of the

fact that the owners may wish to use Saxman as a rail terminal, several operational strategies have been explored to determine their relative merit.

Three potential operators were contacted concerning possible interest. All are presently involved in rail barge operations along the Alaska coast. These are Crowley Maritime, Washington Tug and Barge, and Canadian National Railway. Crowley operates 60 car capacity barges from Seattle to Whittier and 45 car capacity barges from Seattle to the Ketchikan Pulp Mill. The company indicated that due to the small potential volume of traffic available they would not be interested in serving Saxman at present either as an adjunct to their present operations or as a separate service.

Canadian National Railway responded more favorably, however their interest was primarily in terms of a stopoff service or integrating any service into the scheduling of the Whittier service. They did not indicate that sufficient traffic existed to justify the active pursuit of the Ketchikan market particularly if it would place them in a severly competitive position opposite American carriers. They also indicated several medium to long term reservations concerning operation in conjunction with the Whittier service. Many of the same reservations were also mentioned by Crowley.

The use of barges engaged in service to Whittier for Ketchikan

traffic would cause the carrier to sacrifice track space to a short, lower revenue movement which would otherwise be useable for long haul movements. Thus, the probability of Ketchikan becoming integrated with the Whittier movement is remote so long as there is sufficient business available to the carriers to fill the long haul barges. The most likely possibility of this occurring would be in the event that a carrier (most likely CNR) were regularly receiving sufficient business to require an additional barge, but an insufficient amount to fill that barge. In such a case, Ketchikan might become an attractive stopover. However, such a condition would probably be of only temporary duration and would not demand a commitment satisfactory to the long term service requirements of either the terminal or the community.

A second possibility for association with the Whittier service would involve scheduling of CNR's barge equipment to operate into Ketchikan between trips to Whittier. Like the previous possibility, this also has certain shortcomings. This strategy presumes that slack time exists in the present equipment cycles. Currently, this is the case only irregularly during the winter. Currently, CNR operates on a ten-day round trip schedule during most periods with four days sailing time in each direction, and one day loading and unloading at each end of the run. Should additional service be added which were capable of doubling the Whittier service frequency it would suffer from the same eventual limitations as the previously mentioned integration method. Thus, if Ketchikan is to receive a long term service scheduled to its particular needs, it

cannot expect it to be in conjunction with the Whittier service except on an unpredictable, very ad hoc, and unacceptable basis.

The remaining carrier, Washington Tug and Barge, indicated an interest in providing the service but only on a charter basis, either to the terminal or to a carrier. While this would be a feasible alternative, it would complicate both the management and marketing of the terminal. If the Saxman management were required to also manage the charter, they would assume responsibility for all traffic coordinating activities with railroads in the southern terminus, barge loading, charter financing and insurance, traffic solicitation, and, of course, the operation of the Saxman facility itself. Failure to associate with a railraod experienced in coordinating these matters would clearly cause a dramatic increase in both the cost and complexity of the management problem. It would also deprive the terminal of ready access to equipment for servicing outbound loads which an associated railroad could provide. In light of this it appears that a decision to operate Saxman as a rail facility should only be made after the management has been able to interest either a railroad (Union Pacific, Burlington Northern, or Canadian National) or a common carrier barge operator (Crowley would be the only possibility), in providing marketing and some management services. Clearly, this would be dependent upon establishing local (Ketchikan, Southeastern) interest in making use of the potential service.

If the terminal is to interest more of the Southeast than just the Ketchikan area, it is imperative for management to address two other issues; the freight forwarding and warehousing function and the transshipment system.

It is fairly obvious that the only attraction the terminal can hold for most shippers outside of Ketchikan is the ability to order in carload lots and have these large quantities moved as far north as possible. If efficient forwarding and transfer facilities are not available in Saxman, any scale economies engendered by the rail service will quickly be dissipated. Thus, it is imperative that the terminal provide a warehouse capable of consolidating and separating joint shipments and expeditiously reloading these items for onward movement. Effectively, this causes the terminal to take on many of the characteristics of a wholesaler. However, it is obvious from looking at traffic patterns and service times that this is the only hope for Saxman to secure business outside the Ketchikan area.

Likewise, the choice of a freight forwarding method is critical to overall success. To expedite delivery of cargo at ultimate destinations would dictate a type of roll-on-roll-off system. This is the only available system which might provide the terminal with any advantage over the present container system. While the speed of the Marine Highway makes it an attractive vehicle for forwarding to many locations, there would

probably be critical summer season crowding problems. More likely would be a feeder barge service designed to handle trailers on wheels to ferry ramps throughout the Southeast.

PHYSICAL REQUIREMENTS FOR RAIL FACILITIES AT THE KETCHIKAN NORTHERN TERMINAL

The rail facilities at the Saxman facility must serve three purposes. The first involves loading and unloading the barges; the second unloading rail cars for local delivery, and the third, transshipping cargo between railcars and other modes. Each of these is likely to require switching of cars if all objectives are to be accomplished in the very confined track space of the terminal. Three factors determine the ability to efficiently switch the terminal:

1. The presence of the proper equipment;
2. The proper layout of track components, and
3. The proper maintenance of the physical plant.

It is best to look at these in reverse order.

The maintenance of the track has clearly been neglected for a considerable period. The mud in the track, and condition of the line, surface and many ties indicate that considerable work will be required to properly equip the terminal to handle even the Prince Rupert service traffic estimates. Ties will require considerable replacement due to use of off track equipment in the past and due to the current condition

of the subgrade, which allows water to frequently cover the track and contributes to "pumping" action of the track structure when operating cars over it. The present alignment and surface of the track are serious contributing factors to derailments particularly in the sharp curve approaching the team tracks. Obviously, any remedial work must match either existing or expected traffic levels. The first priority should be rehabilitation of the grade and alignment of the team track turnouts and the preceeding 200' of curve preceeding these turnouts. This should also include installation of a guard rail next to the inside rail the entire length of the curve. This should help ease the current derailment problem. The second priority should be repair of the subgrade and the replacement on the outside team tracks. These should also be raised above the present mud base. Finally, resurfacing and alignment of the barge slip approach should be undertaken.

An important factor in maintaining the usefulness and flexibility of the terminal is in the ability to switch cars efficiency. This ability is seriously jeopardized by the lack of a runaround capability in the present terminal. This can be solved inexpensively by moving the components of the two switches presently installed, but not used, to form a crossover between two of the team tracks.

Much of this rehabilitation will serve little purpose if a means of moving cars other than the present front end loader is not acquired.

This equipment is one of the primary reasons the present track is in such bad condition. Two alternatives are available. The first is a second hand locomotive. General Electric 44 ton types are readily available, are of light weight and of sufficient power to handle terminal chores. They have proven quite capable of switching the rail barge terminal in Valdez. A second option is an offtrack item equipted with retractable flange wheels and couplers. This is definitely less suitable as the lack of specialized design and the continuous loading and unloading of the equipment to the track will most certainly result in damage to the track, cars and moving equipment.

It should be emphasized that if the terminal management decides to attempt to restore regular rail service that these minimal rehabilitative efforts are absolutely essential. Otherwise, operation will quickly resolve itself into a continuous series of time consuming and expensive derailments which will only further aggrevate the already delicate track structure. This will, in turn, lead to damage to rail equipment (during rerailing and handling) and will thus incur considerable additional expense to the terminal both in terms of repair charges to equipment and in man-hours consumed in rerailing and track repair.

Thus, the terminal, if it chooses to reopen operations, should recognize that it will be entering a highly competitive, narrowly defined market. It will be doing so with a plant requiring considerable re-

habilitative investment. The ultimate maximum market potential is probably sufficient to support a minimal operation, however, this level of market penetration is probably attainable only under the most favorable competitive circumstances. To do so will require a highly skilled management, preceptive marketing and widespread support from regional shippers. Implicit in this whole scenario would be not an inconsiderable amount of good luck.

LIST OF INTERVIEWS

Union Pacific Railroad
Mr. Delbert C. Martin
General Traffic Agent-Alaska
Anchorage, Alaska

Canadian National Railway
Mr. Kenneth J. Cawkell
Manager-Freight Sales and Service-British Columbia
Vancouver, British Columbia

Mr. Laurie A. Gray
Manager-Marketing and Sales-Alaska
Anchorage, Alaska

Crowley Maritime Corporation
Mr. Steven A. Rieger
Assistant to the Vice President
Common Carrier Services
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Mr. Michael R. Robins
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Anchorage, Alaska

Dillingham Maritime
Mr. John L. Osborne
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Alaska Railroad
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