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SHIPPING OPERATIONS ON THE NORTHERN SEA ROUTE
1952 NAVIGATION SEASON

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FOREWORD

This is the first in a series of reports arising from the continuing examination of shipping within the Soviet Arctic. The purpose of this report is to determine the minimum amount of cargo carried on the Northern Sea Route during the 1952 navigation season.

This report has been coordinated with appropriate offices within CIA, but not with the other IAC agencies.

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CORRECTIONS

1. Page 1, par. 3, line 1: for 10 read 9
2. Page 7, Table 2: Total for 1950 should read 160
3. Tables 3, 5, 6, and 7, pp. 19, 22, 24, and 25, respectively:
Number of Voyages means Number of Voyages Carrying Cargo

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SHIPPING OPERATIONS ON THE NORTHERN SEA ROUTE
1952 NAVIGATION SEASON

Summary

A minimum of 150 ships, including 102 cargo carriers, apparently operated on the Northern Sea Route during the 1952 navigation season, which lasted approximately from the middle of June through October. The 102 cargo carriers represent a probable minimum cargo tonnage of approximately 956,000 metric tons. It has been generally accepted for the past several years that 300,000 to 600,000 metric tons of cargo are carried annually on the Northern Sea Route. It is believed that these estimates are too low and should be revised to a minimum of approximately 1 million tons of cargo carried per year.

The number of vessels operating on the Northern Sea Route apparently has been stabilized within a range of 150 to 155 ships per navigation season, indicating that the transformation of the Northern Sea Route into a "normal shipping lane" by 1950, as outlined by the Fourth Five Year Plan (1946-50), apparently has been accomplished.

The fact that only 10 of the 102 cargo vessels operating on the Northern Sea Route during 1952 traveled the entire length of the Route indicates that the USSR is using the Northern Sea Route primarily for the economic exploitation of the Arctic rather than as a through shipping lane connecting the Atlantic and Pacific Oceans.

The use of non-Soviet Bloc* ships in the Western Sector** of the Northern Sea Route appears to be increasing. In 1952, 23 non-Soviet Bloc ships were used, as compared with 10 in 1951.

* For the purposes of this report, the Soviet Bloc is assumed to include the Satellites and Communist China.

** In this context the term "Western Sector" refers to that part of the Northern Sea Route between Nar'yan Mar (67°40' N - 53°05' E) and Mys Chelyuskin (approximately 104° N - 78° E).

Four newly constructed river ships were transferred from a shipyard in Gor'kiy (56°20' N - 44°00' E) via the Northern Sea Route to the Lena River, this transfer being the first occasion on which the Northern Sea Route has been used for such a purpose. This use of the Northern Sea Route relieves the Trans-Siberian Railroad of some of the responsibility for transporting river ships.

A group of at least 14 T-43-class minesweepers and 2 submarines apparently was transferred to the Pacific Ocean via the Northern Sea Route during the 1952 navigation season. This is a significant postwar development in Northern Sea Route naval history and illustrates the ability of the Russians to transfer, in larger groups, at least the smaller type of auxiliary naval craft via the Northern Sea Route.

Any increase in the estimate of the amount of cargo carried per season on the Northern Sea Route means an automatic increase in the estimate of the Arctic capabilities of the USSR. This increase in the estimate of capabilities might be reflected in intelligence estimates on both economic and military matters. The USSR has produced a shipping lane which can serve an expanding Arctic and which, in the event of hostilities, would be a major link in the supply chain connecting the Soviet Far North with the rest of the USSR.

I. Introduction.

"The Arctic and our northern regions have colossal wealth. We must create a Soviet organization which can in the shortest period include this wealth in the general resources of our

The term "Eastern Sector" refers to that part of the Northern Sea Route between Mys Chelyuskin and Uelen (66°10' N - 169°50' W).

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socialist structure.¹* Thus Stalin phrased the problem of the exploitation of the Soviet Arctic. The Chief Directorate of the Northern Sea Route, Ministry of the Merchant and River Fleet** is responsible for the development of the Soviet Arctic. As part of its responsibility, the Chief Directorate operates the shipping lane which reaches across the northern coast of the USSR from Nar'yan Mar (67°40' N - 53°05' E) in the west to the Bering Strait (60°00' N - 169°00' E) in the east.

* Footnote references in arabic numerals are to sources listed in Appendix D.

** The Ministry of the Merchant and River Fleet was organized in March 1953 to comprise what had previously been the Chief Directorate of the Northern Sea Route, the Ministry of the Merchant Fleet, and the Ministry of the River Fleet.

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The following formula has been used to compute the total amount of cargo which may have been carried on the Northern Sea Route during the 1952 navigation season: the cargo tonnage (CT) equals 1-1/3 the gross tonnage (GT) multiplied by the number of voyages carrying cargo. For example, if a ship of 9,000 GT* made 3 voyages** carrying cargo, the formula would read as follows: $(1-1/3) \cdot 9,000(3) = 36,000$. Thus it was possible for the ship in question to have transported approximately 36,000 tons of cargo during its 3 voyages.

A practical limitation of the above formula is that it is not always possible to determine whether or not a ship carried a full load.

The general practice of the Chief Directorate of the Northern Sea Route, however, is to load a ship as fully as possible whenever cargo is available. It has, therefore, been assumed that each ship which operated on the Eastern Sector of the Northern Sea Route during the 1952 navigation season carried a full load into the area. In addition, many ships undoubtedly engaged in coastal shipping, and some transported cargo out of the area, carrying, in each case, an amount of cargo impossible to estimate. In the belief that this additional coastal and exported cargo will average no less than one-half load per ship operating in the Eastern Sector of the Northern Sea Route, an additional one-half of the CT has been assigned arbitrarily to each vessel. This assumption adds about 10 percent to the total cargo estimated to have been carried on the Route. In the case of the Western Sector, it also has been necessary to assume, unless otherwise indicated, that each ship traveled fully loaded. In this Sector, however, unlike the Eastern Sector, it has been possible to follow, to a limited extent, the movements of the individual vessels. Thus, to assure a minimum estimate of cargo carried, voyages were not counted whenever there was an indication that cargo was not carried. Furthermore, it was not assumed that a ship completely discharged its cargo, and then loaded fully, each time that it touched a port. For example, if a ship loaded at Arkhangel'sk, delivered its cargo (one full load) to several ports on Novaya Zemlya, and then returned empty to Arkhangel'sk, it was counted only as one voyage because only one full load of cargo was carried. In several instances there is no information available to indicate whether or not a ship carried cargo. In these cases it has been assumed that the ship traveled fully loaded because, as mentioned before, this is the general practice of the Chief Directorate of the Northern Sea Route.

* All tonnage figures in this report are in metric tons.

** The term "voyage" is used throughout this report in the sense of

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II. Merchant Shipping.

One hundred and fifty ships have been identified as probably operating on the Northern Sea Route during the 1952 navigation season. This number includes only those ships which have been noted operating between Nar'yan Mar in the west and Uelen in the east. Tables 1 and 2* furnish a comparison of the 1952 navigation season with those of 1947, 1948, 1950, and 1951, by type of ship and area of operation.

It appears from Table 2 that the minimum level of operations on the Northern Sea Route has been stabilized for the present at between 150 and 155 ships per navigation season, indicating the transformation of the Northern Sea Route into the "normal shipping lane" envisaged in the Fourth Five Year Plan.

Of the minimum total of 150 ships which apparently operated on the Northern Sea Route during 1952, 102 have been identified as cargo-carrying vessels. Based on the formula, $1\frac{1}{3}$ GT times the number of voyages, these 102 vessels represent a CT of 956,000 (see Appendix B for the method used to derive this estimate) in addition to whatever cargo may have been carried in the 5 cargo-passenger ships** and 1 refrigerator*** ship which also operated on the Northern Sea Route. It is therefore possible to estimate that a minimum total of nearly 1 million tons of cargo was carried on the Northern Sea Route during the 1952 navigation season.

"point to point" rather than in the usual sense of origin to one or more destinations and return to point of origin: that is, Arkhangel'sk to Dikson to Igarka to Arkhangel'sk is counted as three voyages rather than as one, assuming that a full load of cargo was carried between each port. If, however, a vessel should travel from Arkhangel'sk to Dikson with cargo, then travel empty from Dikson to Igarka, then load at Igarka and carry a full cargo to Arkhangel'sk, or any similar combination, it was counted as two voyages only.

* Table 1 follows on p. 6; Table 2, on p. 7.

** The CT of a cargo-passenger ship cannot be estimated, because of the variation in the size of the area allocated to passengers and the possibility that the passengers' cabins may be utilized to store cargo. All estimates must read "plus the cargo-passenger."

*** Refrigerator No. 172 crossed the Northern Sea Route from west to east during the 1952 navigation season. The GT of the ship is unknown, and therefore this ship cannot be included in an estimate of the cargo carried. All estimates must read "plus refrigerator ship."

Table 1

Types and Number of Ships Operating on the Northern Sea Route
1947-48, 1950-52 Navigation Seasons

Types	Navigation Season				
	1947 4/	1948 5/	1950 6/	1951 7/	1952
Steamships	57	38	107	91	84
Tankers	2	3	4	4	5
Tugs	5		13	13	12
Lighters			5	12	9
Icebreakers	11	10	12	12	7
Icebreaker-Cargo	4	2	3	3	
Icebreaker-Tugs				3	1
Trawlers				1	5
Sealers					1
Whalers		1			
Schooners				1	
Hydrographic	14	10	12	12	3
Dredges				1	1
Gas-Driven Ships			1		
Training					1
River Ships					4
Naval			3		16
Patrol					1
Unidentified	3	1			38 ^{a/}
Total	<u>96</u>	<u>65</u>	<u>160</u>	<u>153</u>	<u>150</u>

a. The figure "38" is not included in the total because the areas of operation of these ships for, 1952-are not known.

The ships could have operated either on the Northern Sea Route itself or at Pacific Ocean ports such as Vladivostok, Anadyr', Provideniya, and Ugol'naya, which have bases of the Chief Directorate of the Northern Sea Route.

Table 2
 Number of Ships Operating on the Northern Sea Route
 by Area of Operation
 1947-48, 1950-52 Navigation Seasons

Areas	Navigation Season				
	1947-8/	1948-9/	1950-10/	1951-11/	1952a/
Eastern Sector	30	23	60	38	40
Western Sector	60	30	89	105	84
Complete Crossing (East-West)	4	3	8	1	1
Complete Crossing (West-East)	2	9	2	8	25
Complete Crossing (East-West and West-East)			1		
3/4 Crossing (West- East) and Return (East-West)					
Total	<u>96</u>	<u>65</u>	<u>65</u>	<u>153</u>	<u>150</u>

1. Complete Crossings of the Northern Sea Route.

A minimum of 26 ships -- 7 cargo, 1 tanker, 1 refrigerator, 1 hydrographic, and 16 naval vessels -- apparently traveled the entire length of the Northern Sea Route during the 1952 navigation season.

As in recent years, with the exception of 1950, the majority of the ships made the passage from

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west to east, where most of them joined the Soviet Pacific merchant fleet. Only one ship, the Valday (1,342 GT, cargo), crossed the Route from east to west. (See Appendix A.)

The fact that only nine cargo-carrying ships traveled the entire length of the Route indicates that the Northern Sea Route is being used primarily for the economic exploitation of the Arctic rather than as an ocean-to-ocean shipping lane.

The GT's of only 8 of the 9 cargo vessels are known. These GT's total 31,572, in addition to that of Refrigerator No. 172, which is unknown. Each ship made one one-way trip. A total CT of 42,000 tons (plus Refrigerator No. 172) is derived from these figures. It may be assumed, because a minimum number of ships was surveyed, that a minimum total of 42,000 tons of cargo was transported by vessels which traveled the Northern Sea Route during the 1952 shipping season.

There are few indications of the types of cargo carried by these ships as they traveled the Northern Sea Route. It may be assumed that the Sungari, a tanker, was loaded with petroleum products, and that Refrigerator No. 172 transported a shipment of perishable food products.

2. Operations in the Eastern Sector of the Northern Sea Route.

Forty ships are thought to have operated in the Eastern Sector of the Northern Sea Route during the 1952 navigation season. Included in this total are 24 cargo ships, 3 tankers,

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1 cargo-passenger, 1 refrigerator-passenger, 4 icebreakers, 1 oil
5 trawlers, 1 sealer, and 1 escort vessel.

it is impossible
to determine the movements of ships in the Eastern Sector of
the Route. This lack of information relative to ship move-
ments has made it difficult to estimate the amount of cargo
carried in the Eastern Sector of the Northern Sea Route during
the 1952 navigation season. As explained in the introduction,
however, a method has been derived which makes such an esti-
mate possible.

Twenty-four cargo vessels and 3 tankers, representing
a total GT of 136,950; 1 cargo-passenger ship; and 1 refrigera-
tor-passenger ship apparently operated in the Eastern Sector of
the Route during 1952 (see Table 4 of Appendix C). Assuming
that each ship in this sector carried 1-1/2 loads,* the GT avail-
able in the Eastern Sector of the Northern Sea Route during the
1952 navigation season was 274,000 tons, in addition to that of
the cargo-passenger and the refrigerator-passenger vessels.**

3. Operations in the Western Sector of the Northern Sea Route.

It is thought that 84 ships operated on the Western Sector
of the Northern Sea Route during the 1952 navigation season.

* For an explanation of the "1-1/2 load," see p. 4.

** For an explanation of the methodology used in obtaining this
figure, see Appendix B.

Included in this total are 24 cargo ships, 2 cargo-passenger vessels, 1 refrigerator-cargo-passenger vessel, 1 tanker, 12 tugs, 1 icebreaking tug, 2 hydrographic ships, 1 training ship, 1 dredger, 4 river ships, 3 icebreakers, 9 lighters, and 23 non-Soviet Bloc cargo vessels under charter to the USSR.

In the Western Sector, it is possible to determine, to a limited extent, the movements of the vessels. It has been estimated that Soviet and non-Soviet Bloc cargo vessels, combined, to carry a total minimum CT of 640,000,* in addition to the CT of the 1 refrigerator-cargo-passenger and the 2 cargo-passenger vessels. (See Appendix B and Tables 5, 6, 7, and 8 of Appendix C.) The types of cargo carried in the Western Sector included timber, coal, and diesel oil.

Twenty-three non-Soviet Bloc vessels under charter to the Russians were noted operating on the Western Sector of the Northern Sea Route during the 1952 navigation season. These included 15 Norwegian, 3 Panamanian, 2 British, 1 Greek, 1 Danish, and 1 Swedish. (See Table 7 of Appendix C.) This may be compared with a total of 10 such ships in 1951 and 17 in 1950. 14/

Six of the non-Soviet Bloc vessels (7,515 GT; 10,020 CT) called at Nar'yan Mar, while the remainder (17 vessels; 48,933 GT; 65,244 CT) loaded at Igarka (67°30' N - 86°35' E). With one exception, all of these non-Soviet Bloc ships are known to have carried timber from their loading ports. The outgoing cargo of the remaining ship is unknown, although it probably was timber. No ships were observed carrying cargo into the USSR. The cargo which these 23 ships carried, with the exception of one shipload to South Africa, went to either Belgium or England.

The chartering of so many non-Soviet Bloc vessels by the USSR may be a result of an increased number of Soviet ships

* Based on the formula for estimating CT. For an explanation of the methodology utilized in deriving the estimate of cargo carried, see Appendix B.

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under repair in Far Eastern shipyards. 15/ To compensate for the shortage thus created in the eastern Soviet merchant fleet, the Russians may have removed their own ships from the Western Sector of the Northern Sea Route for use in more sensitive areas and may have filled the resulting western vacancy by chartering additional non-Soviet Bloc vessels.

non-Soviet Bloc vessels have worked this area in the past.

The widespread use of tugs to tow lighters in the Western Sector deserves mention. This practice apparently began on its present scale in 1950, when 13 tugs were noted in operation. (See Table 1 on p. 6.) To insure a minimum estimate it has been assumed that, on each trip, each tug towed only 1 lighter (although these tugs often tow more than 1) with 3,000 tons of cargo (unless it was specifically indicated that the tug was proceeding in ballast). It is believed that this will give a minimum figure of cargo carried by these tugs. All observed references to the quantity of cargo carried by these lighters have been around 3,000 tons, and, in one instance, there was an indication that a tug towed more than one lighter. These tugs apparently moved a total of 177,000 tons of cargo.

The transfer of 4 self-propelled river vessels from the European USSR to the Lena River via the Western Sector of the Northern Sea Route -- the first time that the Northern Sea Route has been utilized for this purpose -- was an important event on the Route during the 1952 navigation season. 16/

Russians regarded this venture in a political light, as a means of exhorting the river workers to greater productivity. Its primary importance, however, lay in the utilization of the Northern Sea

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Route as a means of transferring ships from shipyards in European USSR, where they were constructed, to their eastern destinations, where they were needed by the three river shipping agencies which operated on the Lena River in 1952. By this method the Trans-Siberian Railroad would be relieved of the responsibility of transporting these river ships.

III. Naval Operations on the Northern Sea Route.

A group of approximately 14 possible T-43-class minesweepers and 2 submarines arrived in Pacific waters via the Northern Sea Route during the early part of September, 1952. It is probable that 4 of these vessels were the minesweepers T-43, T-45, T-47, and T-48, all of which previously were assigned to the Soviet Northern Fleet. These minesweepers may have been transferred to Far Eastern waters to fill a deficiency in the Soviet Fifth and Seventh Fleets which resulted from the deterioration through constant use of the ex-US Admirable-class minesweepers received under Lend Lease. At least 5 of the minesweepers moved into the Fifth Fleet waters, while the remainder apparently stayed in the Kamchatka area and may have been based at Petropavlovsk-Kamchatskiy (53°01' N - 158°39' E).

This transfer of approximately 14 naval vessels to the Far Eastern area via the Northern Sea Route is the most significant development in the naval history of the Northern Sea Route since the transfer in 1950 of 8 submarines and 2 depot ships from the Northern Fleet to the Seventh Fleet. The transfer in 1950 was made by 2 convoys of 5 ships each, whereas that of the 1952 navigation season was accomplished in one convoy, illustrating the ability of the Russians to transfer in larger groups at least the smaller-type auxiliary naval craft via the Northern Sea Route.

IV. Conclusions.

The information contained in this report indicates that several previous estimates of amounts shipped on the Northern Sea Route should be raised. The information also defines several

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important characteristics of recent operations along the Northern Sea Route.

1. It is estimated that the Russians transported a minimum of approximately 1 million tons of cargo on the Northern Sea Route during the 1952 navigation season, an increase over the previously estimated 300,000- to 600,000-ton capacity of the Route.
2. An increase in the estimate of the amount of cargo carried per season on the Northern Sea Route means an automatic increase in the estimate of the Arctic capabilities of the USSR.
3. The Northern Sea Route apparently has been transformed into the "normal shipping lane" envisaged in the Fourth Five Year Plan. The number of ships operating on the Route apparently has been stabilized at approximately 150 per year.
4. The Northern Sea Route probably has its primary use as a means of exploiting the Soviet Arctic rather than as an ocean-to-ocean shipping lane.
5. The chartering of non-Soviet Bloc vessels by the Russians for service on the Northern Sea Route apparently has increased.
6. The transfer of river vessels from European shipyards, via the Northern Sea Route, to Siberian river shipping agencies relieves the Trans-Siberian Railroad of the responsibility for transporting these river ships.

en7. Auxiliary naval vessels can be transferred
in large groups via the Northern Sea Route.

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APPENDIX A

MERCHANT VESSELS
WHICH TRAVELED THE COMPLETE LENGTH
OF THE NORTHERN SEA ROUTE
DURING THE 1952 NAVIGATION SEASON

<u>Ship</u>	<u>Remarks</u>
1. El'ton 2,339 GT, Cargo	Left Murmansk at the end of July, was scheduled to arrive at Petropavlovsk-Kamchatskiy, Kamchatka, on 10 Sep. This ship was chartered by the Chief Direc- torate of the Northern Sea Route. <u>23/</u>
2. Ivan Polzunov 7,176 GT, Cargo	
3. Kuznetskstroy 2,981 GT, Cargo	
4. Sergey Kirov 7,176 GT, Cargo	Departed Provideniya on 22 Oct. This ship was chartered by the Chief Directorate of the Northern Sea Route
5. Sivash 2,282 GT, Cargo	

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<u>Ship</u>	<u>Remarks</u>
6. Stalinabad 7, 176 GT, Cargo	Departed Provideniya on 20 Oct. <u>28/</u>
7. Valday 1, 342 GT, Cargo	This ship was chartered by the Chief Directorate of the Northern Sea Route. <u>29/</u>
8. Sungari 1, 100 GT, Tanker	En route Murmansk from Sweden on 11 Apr.
9. No. 172 unknown GT, Refrigerator	En route to Ostrov Dikson on 16 Aug.
10. Ayzberg unknown GT, Hydrographic	It is possible that this ship traveled the Northern Sea Route in 1951; It is assumed, that the Ayzberg traveled the Route in 1952.

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APPENDIX B

METHOD OF ESTIMATING PROBABLE MINIMUM CARGO

The statistics used in estimating the probable minimum amount of cargo carried on the Northern Sea Route during the 1952 navigation season are given in Appendix C. It should be noted that only 96 of the 102 cargo-carrying vessels which operated on the Northern Sea Route are included in the totals.* The GT of each ship is multiplied by the total number of observed voyages carrying cargo.** The several products are then added together to give a total GT for the 1952 navigation season. The total GT is then added to 1/3 of the total GT to obtain the CT. Certain other adjustments are made (in the case of the Western Sector, the tug CT is added; in the Eastern Sector, 1/2 load is added),*** and the resultant CT's of the 2 sectors are then added together to give the approximate minimum amount of cargo carried on the Northern Sea Route during the 1952 navigation season.

* The other six vessels are cargo-passenger and refrigerator-passenger ships and are not included, because their cargo capacity is unknown. For a fuller explanation of the reasons for the non-inclusion of these ships, see the last 2 footnotes on p. 5.

** In the case of the Eastern Sector, 1-1/2 voyages were assumed. For an explanation of this assumption, see p. 4.

*** For explanation, see p. 4.

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APPENDIX C

STATISTICS FOR ESTIMATING PROBABLE MINIMUM CARGO
1952 NAVIGATION SEASON

Table 3

Complete Crossings
1952

Ship	Type	GT	Number of Voyages	Total GT per Ship
1. El'ton	Cargo	2,339	1	2,339
2. Ivan Polzunov	Cargo	7,176	1	7,176
3. Kuznetskstroy	Cargo	2,981	1	2,981
4. Sergey Kirov	Cargo	7,176	1	7,176
5. Sivash	Cargo	2,282	1	2,282
6. Stalinabad	Cargo	7,176	1	7,176
7. Sungari	Tanker	1,100	1	1,100
8. Valday	Cargo	1,342	1	1,342
9. Refriperator No. 172	Refrigerator	N. A.	1	N. A.
Grand Total GT				31,572
1/3 Grand Total GT				10,524
Grand Total CT				42,096 a/

a. The CT of 42,096 does not include the CT of Refrigerator No. 172. For an explanation of this, see the last footnote on P. 5.

Table 411A

Eastern Sector -- Soviet Ships
1952

Ship	Ship Type	GT
1. Aleksandr Nevskiy	Cargo	7,176
2. Anadyr'	Cargo-Passenger	3,554
3. Arktika	Cargo	2,900
4. Askol'd	Cargo	7,176
5. Azerbaydzhan	Tanker	6,114
6. Baku	Cargo	7,176
7. Belomorkanal	Cargo	2,910
8. Dekabrist	Cargo	7,176
9. Emel'yan Pugachev	Cargo	7,176
10. Igarka	Cargo	2,900
11. Kamenets Podol'sk	Cargo	7,212
12. Kazan'	Cargo	2,713
13. Kingisepp	Cargo	2,325
14. Kolkhoznik	Cargo	7,194
15. Komsomol'sk	Cargo	2,920
16. Nakhodka	Cargo	7,176
17. Nenets	Tanker	1,631
18. Neva	Cargo-Passenger	3,113
19. Pinega	Cargo	2,325
20. Sergo	Tanker	7,596
21. Sevastopol	Cargo	7,176
22. Shchors	Cargo	2,690
23. Stepan Razin	Cargo	7,176
24. Stepan Shaumyan	Cargo	1,237
25. Sukhona	Cargo	7,212
26. Uralmash	Cargo	2,975
27. Uritskiy	Cargo	2,336
28. Vladivostok	Cargo	7,176
29. Zhan Zhores	Cargo	7,176

Table 4

Eastern Sector -- Soviet Ships

1952

(Continued)

Ship	Type	GT
Grand Total GT		<u>136,950</u>
1/3 Grand Total GT		<u>45,650</u>
Total CT		<u>182,600</u>
1/2 Total CT		<u>91,300</u>
Grand Total CT, Eastern Sector, Soviet Vessels		<u>273,900 a/</u>

a. The grand total CT of 273,900 does not include the CT's of the cargo-passenger ships, Anadyr' and Neva. For an explanation of this, see the second footnote on p. 5.

Table 5

Western Sector - Soviet Ships
1952

Ship	Type	GT	Number of Voyages	Total GT per Ship
1. Akademik Komarov	Cargo-Passenger	1,261	3	3,783
2. Akademik Pavlov	Cargo	6,197	1	6,197
3. Aleksandr Matrosov	Cargo	2,287	6	13,722
4. Budennyy	Cargo	2,482	2	4,964
5. Elets	Cargo	1,174	2	2,348
6. Imandra	Cargo	2,282	10	22,820
7. Istra	Cargo	6,024	7	42,168
8. Kapitan Gastello	Cargo	2,295	6	13,770
9. Kirovograd	Cargo	2,883	2	5,766
10. Kuban	Cargo	7,176	4	28,704
11. Lena	Cargo	1,459	4	5,836
12. Lyuban	Cargo	1,381	10	13,810
13. Mironych	Cargo	2,274	2	4,548
14. Novosibirsk	Cargo	5,887	4	23,548
15. Rzhhev	Cargo	1,944	2	3,888
16. Smolensk	Cargo	1,923	2	3,846
17. Sochi	Cargo	1,105	2	2,210
18. Sovetskaya Gavan	Cargo	7,176	5	35,880
19. Sukhumi	Cargo	2,682	2	5,364
20. Sura	Cargo	1,400	3	4,200
21. Unzha	Cargo	1,432	5	7,160
22. Volga	Cargo	2,847	2	5,694
23. Volokolamsk	Cargo	2,361	3	7,083
24. Vyatka	Cargo-Passenger	1,420	2	2,840
25. Vygozero	Cargo	2,282	8	18,256
26. Vytegra	Cargo	1,398	4	5,592
27. Yukagir	Tanker	1,631	2	3,262
28. Yushar	Refrigerator-Cargo-Passenger	1,262	4	5,048

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Table 5.

Western Sector -- Soviet Ships
1952
(Continued)

Ship	Type	GT	Number of Voyages	Total GT per Ship
Grand Total GT				290,636
1/3 Grand Total GT				96,878
Total CT				387,514
Tug CT a/				177,000
Grand Total CT, Western Sector, Soviet Vessels				564,514 b/

a. For computation of this figure, see p. 24.

b. The grand total CT of 564,514 does not include the CT's of the cargo-passenger ships, Akademik Komarov, Vyafka, and Yushar. For an explanation of this, see the second footnote on p. 5.

Table 6E

Western Sector Soviet Tugs
1952

<u>Tug</u>	<u>CT</u>	<u>Number of Voyages</u>	<u>Total CT per Tug</u>
1. Chesha	3,000	1	3,000
2. Gerkules	3,000	5	15,000
3. Kamenka	3,000	8	24,000
4. Mglá	3,000	6	18,000
5. Nakat	3,000	6	18,000
6. Olenek	3,000	1	3,000
7. Ponoy	3,000	8	24,000
8. Priboy	3,000	7	21,000
9. Ruslan	3,000	2	6,000
10. Sannikov	3,000	2	6,000
11. Stalinets	3,000	8	24,000
12. Vikhr	3,000	2	6,000
13. Volna	3,000	3	9,000
Total CT, Tugs			<u>177,000</u>

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Table 7

Western Sector - Non-Soviet Bloc Ships
1952

Ship	Registry	GT	Number of Voyages	Total GT per Ship
1. Audun	Norwegian	1,304	1	1,304
2. Belevelyn	Norwegian	4,696	1	4,696
3. Dimitrios A. Kydoniefs	Greek	4,862	1	4,862
4. Eleni	Panamanian	2,480	1	2,480
5. Eletric	Panamanian	4,963	1	4,963
6. Grana	Norwegian	1,297	1	1,297
7. Greathope	British	2,328	1	2,328
8. Gudrid	Norwegian	1,303	1	1,303
9. Gudvor	Norwegian	2,288	1	2,288
10. Haverton Hill	British	7,151	1	7,151
11. Hegra	Norwegian	2,063	1	2,063
12. Hellenic Chryssoula	Panamanian	1,484	1	1,484
13. Hildur I	Norwegian	1,512	1	1,512
14. Jane Lanng	Danish	2,725	1	2,725
15. Mildrid	Norwegian	2,055	1	2,055
16. Ocean Swell	Norwegian	1,832	1	1,832
17. Rita	Norwegian	1,686	1	1,686
18. Royksund	Norwegian	977	1	977
19. Sagaland	Norwegian	3,989	1	3,989
20. Siak	Norwegian	1,150	1	1,150
21. Taberg	Swedish	2,120	1	2,120
22. Tarva	Norwegian	2,183	1	2,183
23. Taura a/*	Norwegian	N. A.	1	N. A.
Grand Total GT				56,448
1/3 Grand Total GT				18,816
Grand Total CT				<u>75,264</u> or
				<u>75,000</u>

* Footnote for Table 7 follow on p. 26.

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Table 7

Western Sector Non-Soviet Bloc Ships
1952

(Continued)

a. The GT for this ship cannot be located. Apparently Taura is a garbled name for a ship, probably not the Tarva, which called at Igarka. Therefore, while the Taura is included in the total number of ships, its GT is not included.

Table 8

Totals of Cargo Tonnages
1952

Sector	Grand Total CT
1. Western Sector, Soviet Ships	564,514
2. Western Sector, non-Soviet Bloc	75,264
3. Total Western Sector	<u>639,778</u>
4. Eastern Sector	273,900
5. Complete Crossings	42,096
Total Minimum CT on the Northern Sea Route dur- ing the 1952 Navigation Season	
	<u>955,774</u> a/ or <u>956,000</u>

a. The total minimum CT of 955,774 does not include the CT's of Refrigerator No. 172 and the 5 passenger-cargo ships mentioned in the footnotes to Tables 4 and 5. For an explanation of this, see the last two footnotes on p. 5.

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APPENDIX

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