



RED DOG MINE, ALASKA

INFORMATION FOR OWNERS

Fednav International Ltd, Montreal
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(Updated March, 2003)

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PANAMAX VESSELS LOADING AT RED DOG PORT



RED DOG PORT, ALASKA: GENERAL INFORMATION FOR OWNERS OF TIME-CHARTERED VESSELS*

The Red Dog port, located close to Kivalina at 67°34'42" North, 164°03'30" West (approximately 80 miles northwest of Kotzebue, Alaska), is dedicated to the export of lead and zinc concentrates from Cominco's Red Dog Mine and occasional mine re-supply.

Export vessels are loaded at anchor from purpose-built self-unloading tug/barge units. The customary anchorage is between three and four miles from the shore, where there is in excess of 60 feet of water and good holding ground.

Bunkers, fresh water and other services are not available at the Red Dog port, and any stores or spares must be brought from elsewhere. (Note that vessels have on occasion been required to remain at the port for up to three weeks for cargo purposes.) All government officials attending the vessel must travel from Anchorage.

The use of a State-licensed pilot is mandatory. The pilot boards the vessel at a point lying about 14 miles from the barge loading terminal, bearing 239° True (approximate position 67° 27' North 164 ° 35' West).



Vessels should give advance notice of arrival to US Coast Guard Captain of the Port office, Anchorage. Customs entry is not required provided the vessel remains outside the three-mile limit, but the vessel must be entered for Immigration purposes as at any other US port. Crew shore leave is not permitted.

The shipment of concentrates from the Red Dog port commenced in 1990. The tonnage loaded in each shipping season has increased annually, from 300,000 tons in 1990 to more than 1,300,000 tons in 2002. During this eleven-year period, 197 vessels have loaded at the port without report of any untoward incident, and the total quantity of cargo shipped is more than 10,000,000 tons. (See tabular summary, below.)



Vessels are loaded by means of two purpose-built barges which are operated by Foss Maritime of Seattle, each barge being capable of carrying a quantity of 5,443 metric tons and typically making two round trips per day, so that, under normal conditions, the average rate of loading is in the region of 20,000 tons per day.

Each barge is equipped with its own Yokohama-type fendering system and there is no requirement for any special fittings on board the vessel. Loading is carried out

* See also Coast Pilot No. 9

on a continuous basis (24 hours per day, 7 days per week), each barge being capable of transferring cargo at the rate of approximately 1,500 metric tons per hour. The barge self-discharging equipment lifts the concentrate to a height of 45 feet, and it is therefore essential for the vessel to maintain this as a maximum air draft in way of all hatches throughout the loading operation.

A Shipper's Certificate in standard form is provided to the Master prior to sailing. The average moisture content for the Red Dog concentrates is approximately 7.5%, which is well within the transportable moisture limit. There are no specific US Coast Guard requirements for loading concentrates at the Red Dog port.



The customary shipping season for Red Dog is between early July and late October, during which period the port and its approaches are virtually ice-free. As reported by the Salvage Association** ice typically begins to form in Kotzebue Sound in mid-October, with the Sound completely covered by mid-November. The ice grows in thickness until April, and begins to break up in late May, with open water occurring between late June and mid-October.

No ice damage to any vessel loading at the Red Dog port has been reported. (It should be noted that the tugs and barges, which are not ice-classed, are removed each year to winter in Seattle: this effectively determines the timing of the last shipment in each season.)

The Anchorage office of the National Weather Service issues regular ice reports, and ice/weather conditions can be checked on the world-wide web at <http://www.arh.noaa.gov/>.

Particulars of requirements of the State of Alaska as to proof of responsibility for environmental pollution may be found at the web-site of the State's Division of Spill Prevention and Response: http://www.state.ak.us/local/akpages/ENV.CONSERV/dspar/dec_dspr.htm.

** Survey Report No. NY-90-15508, dated 13 July, 1990 (citing the Climatic Atlas of Outer Continental Shelf Waters and Coastal Regions of Alaska [US Library of Congress, 1975].)

The following table summarises the record of vessels loaded at the Red Dog port from its opening to the end of the 2001 shipping season.

Year	Panamax	Handymax	Total
1990	4	2	6
1991	7	3	10
1992	6	3	9
1993	5	4	9
1994	7	5	12
1995	8	6	14
1996	10	5	15
1997	10	4	14
1998	10	7	17
1999	11	10	21
2000	12	9	21
2001	11	12	23
2002	11	15	26
1990/2002	112	85	197

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BARGE LOADING ARM & SPOUT



FEDNAV CHARTER PARTY CLAUSES FOR RED DOG TRADING

1. These Clauses shall apply only to voyages where the vessel is instructed to load lead and/or zinc concentrates at the Red Dog port, Alaska. In the event of inconsistency with any other provision of this charter, these Clauses shall (where applicable) take precedence, but only to the extent of such inconsistency.
2. Charterers warrant to Owners the accuracy of the information contained in the memorandum "**RED DOG PORT, ALASKA: GENERAL INFORMATION FOR OWNERS OF TIME-CHARTERED VESSELS**" dated May, 2000 and up-dated May, 2002, as forwarded to Owners prior to the agreement of this charter. Relying on this warranty (and subject always to the provisions of this clause), Owners accept that the Red Dog port is safe.
3. Owners acknowledge that the Red Dog port is in a remote location where the vessel will be loaded at anchor without the possibility of direct shore access, and that fresh water and bunkers are not available. At the Red Dog port, the vessel will be loaded from self-discharging barges, each capable of carrying a quantity of 6,000 short tons (5,443 metric tons), and loading will be carried out on a continuous basis (24 hours per day, 7 days per week). No shore stevedores or loading personnel will be provided to work on board the vessel.
4. The vessel upon its delivery shall be in a thoroughly efficient and seaworthy state and in all respects fit to load lead and/or zinc concentrates, with a full and properly qualified complement of officers and crew for a vessel of her size and type: provided that no act or omission of the Charterers or their servants or agents in carrying out the on-hire survey or in accepting delivery of the vessel shall be deemed to constitute any waiver of the Owners' obligations hereunder.
5. Prior to the vessel's arrival at the Red Dog port, the Master shall have studied the Charterers' **STANDING INSTRUCTIONS TO MASTERS OF VESSEL LOADING AT RED DOG PORT** and shall provide Charterers with a complete loading plan based on receiving full barge loads without shifting, except for one shift of the last barge during the final trimming of the vessel.
6. Owners warrant that, upon the vessel's arrival at the Red Dog port:
 - (a) the vessel will have sufficient crew to attend two working hatches at all times during loading, and to tie up and release barges as necessary.
 - (b) the Master and all watch-keeping officers will have a good command of spoken and written English.
 - (c) all holds will be clean, dry and free from any contaminants whatsoever (including without limitation cargo residues, loose scale and salt water residue).
 - (d) the vessel will be equipped with an efficient loading computer or other device so as to ensure that the loading can take place continuously and without interruption.
 - (e) the vessel will have on board an adequate supply of fresh water, stores and bunkers.
 - (f) the vessel will be capable of maintaining a maximum air draft of 45 feet in way of all hatches.

7. Owners warrant that the vessel:
- (a) does not have box-shaped holds.
 - (b) is not fitted with log stanchions.
 - (c) is and shall remain classed with a Classification Society which is a member of IACS.
 - (d) is and shall remain entered with a P&I Club which is a member of the International Group.
 - (e) is equipped with all requisite charts, publications and other documents for the voyage (including without limitation US Coast Pilot No.9 and a full set of up-dated charts for the passage to and from the Red Dog port).
 - (f) has not called at any Russian Far East ports within the last two years and is free of any Asian Gypsy Moth infection.

8. At the Red Dog port, the Master will ensure that the vessel is anchored outside the statutory three mile limit from the coast but otherwise as close as reasonably possible to the barge loading wharf, subject always to considerations of safety.

The vessel's crew will use their best efforts to ensure that any accumulations of dust and/or cargo spillage will be dealt with promptly by sweeping into the hold then being loaded. Under no circumstances may cargo residues be disposed of over the side; and the Master will ensure that that the deck area is adequately prepared to prevent any egress of residue from the vessel (including without limitation the plugging of scuppers).

- 9 (a)* Any additional premium charged by vessel's insurers for trading to the Red Dog port shall be for Owners' account.

Charterers shall indemnify Owners for any damage caused to the vessel by contact with ice while the vessel is outside Institute Warranty Limits, but only to the extent that such damage is not caused or contributed to by the failure of the Master to act reasonably and exercise good seamanship. Such indemnity shall also extend to any loss of time and consequential losses flowing directly from such damage, provided that Owners shall have acted reasonably to minimise the same.

Charterers shall further indemnify Owners for the cost of any repairs to the vessel and/or salvage and/or "sue and labour" which arise out of any incident occurring on the voyage in question and which must be carried out while the vessel is outside Institute Warranty Limits, but only to the extent (i) that such costs cannot be avoided or deferred and (ii) that such costs are in aggregate greater than they would have been if they had been incurred on a voyage where the vessel was instructed to load the cargo at Prince Rupert, B.C.

In respect of any claim raised against Charterers under this Clause, the burden of proof shall lie upon Owners. In any event, Charterers shall have no liability whatsoever under this Clause unless Owners shall have given Charterers prompt written notification of the incident in question and shall have provided any information or documents which Charterers may reasonably require in order to validate the claim.

* one out of 9(a) or 9(b) or 9(c) to be selected as appropriate

No further indemnity beyond that expressed in this Clause or elsewhere in this Charter shall be implied against Charterers in respect of trading to the Red Dog port, and no claim shall be brought by Owners in relation thereto (whether in damages or otherwise howsoever) except as provided in this Clause.

- 9(b)*** Charterers shall reimburse Owners against original invoice for the actual net cost of any additional premium charged by the vessel's Hull & Machinery underwriters for the breach of Institute Warranty Limits to load at the Red Dog port, and Owners shall arrange for the vessel's Hull & Machinery policy(ies) to include a waiver of subrogation against Charterers for such voyage and shall waive any claims for loss of time howsoever arising while outside Institute Warranty Limits: provided that such additional premium shall not exceed

Owners shall provide Charterers with full details of the vessel's Hull & Machinery insurance, together with particulars of underwriters and placing brokers, and hereby authorise Charterers to approach such underwriters and/or brokers directly with a view to negotiating a reduction in such additional premium. Without limiting the generality of this authorisation, it is understood that such negotiation may involve an increase in deductible(s) or other change in terms, in respect of which Charterers shall indemnify Owners to the extent that any recovery by Owners under the vessel's Hull & machinery policy(ies) may be thereby reduced.

- 9(c)*** Charterers shall indemnify Owners for the cost of any repairs to the vessel and/or salvage and/or "sue and labour" which arise out of any incident occurring on the voyage in question and which must be carried out while the vessel is outside Institute Warranty Limits, but only to the extent (i) that such costs cannot be avoided or deferred and (ii) that such costs are in aggregate greater than they would have been if they had been incurred on a voyage where the vessel was instructed to load the cargo at Prince Rupert, B.C. Charterers confirm that they have appropriate liability cover, placed through Lloyd's.

Further, Charterers shall reimburse Owners against original invoice for the actual net cost of any additional premium charged by the vessel's Hull & Machinery underwriters for the breach of Institute Warranty Limits to load at the Red Dog port, and Owners shall arrange for the vessel's Hull & Machinery policy(ies) to include a waiver of subrogation against Charterers for such voyage (except as provided above) and shall waive any claims for loss of time howsoever arising while outside Institute Warranty Limits: provided (a) that Owners shall ensure that such underwriters are fully informed of the contents of this clause prior to quoting such additional premium; and (b) that such additional premium shall not exceed

Owners shall provide Charterers with full details of the vessel's Hull & Machinery insurance, together with particulars of underwriters and placing brokers, and hereby authorise Charterers to approach such underwriters and/or brokers directly with a view to negotiating a reduction in such additional premium. Without limiting the generality of this authorisation, it is understood that such negotiation may involve an increase in deductible(s) or other change in terms, in respect of which Charterers shall indemnify Owners to the extent that any recovery by Owners under the vessel's Hull & Machinery policy(ies) may be thereby reduced.

- 10.** Owners acknowledge that the date of the vessel's arrival at the Red Dog port is critical for Charterers' scheduling requirements and that any delay on the passage to the port may result in consequential losses to Charterers including without limitation congestion, loss of time in respect of other vessels (whether as a result of shippers varying the sequence of loading or otherwise). Owners undertake to use all reasonable endeavours to ensure that the vessel is not delayed on the passage to the Red Dog port, and will keep Charterers closely advised if any delay or loss of time should occur.

In the event that the vessel is off-hire for an aggregate period of three (3) days or more prior to the vessel's commencement of loading at the Red Dog port, Charterers shall be entitled to cancel

this charter with retroactive effect to the time of delivery, such termination to be without prejudice to any other rights which Charterers may have under this charter or otherwise. In this event, any bunkers remaining on board the vessel shall remain the property of Charterers until paid for by Owners.

11. Recognising that timely delivery under this charter is of critical importance to Charterers, Owners undertake to keep Charterers closely advised of any changes in the vessel's expected time of readiness for delivery as notified to Charterers prior to fixture, and shall, as a condition of this charter, in any case provide 10 days approximate and 6 / 4 / 2 days and 24 hours firm written notice thereof.

If it should appear that the vessel may miss her cancelling date, Owners shall promptly notify Charterers, stating their best estimate of the date when the vessel will be so ready ("the new ETR"). Charterers shall within 48 hours of receipt of such notice elect whether to cancel or maintain this charter. If they elect to maintain this charter, or if they should fail to make timely election, the cancelling date shall be amended to 5 (five) days after the new ETR. If the vessel is further delayed (and this charter has not already been cancelled), the same procedure shall be followed.

Any right of cancellation under this charter shall be construed with reference to local time at the place of delivery and shall be without prejudice to any rights which Charterers may have under this charter or otherwise.

12. In the event that the vessel is available for delivery to Charterers in advance of the agreed laydays, Charterers agree to accept such early delivery provided always that the vessel shall be off-hire for additional waiting time (if any) thereby incurred at the Red Dog port.

Montreal
March, 2003

BARGE FENDERING ARRANGEMENTS

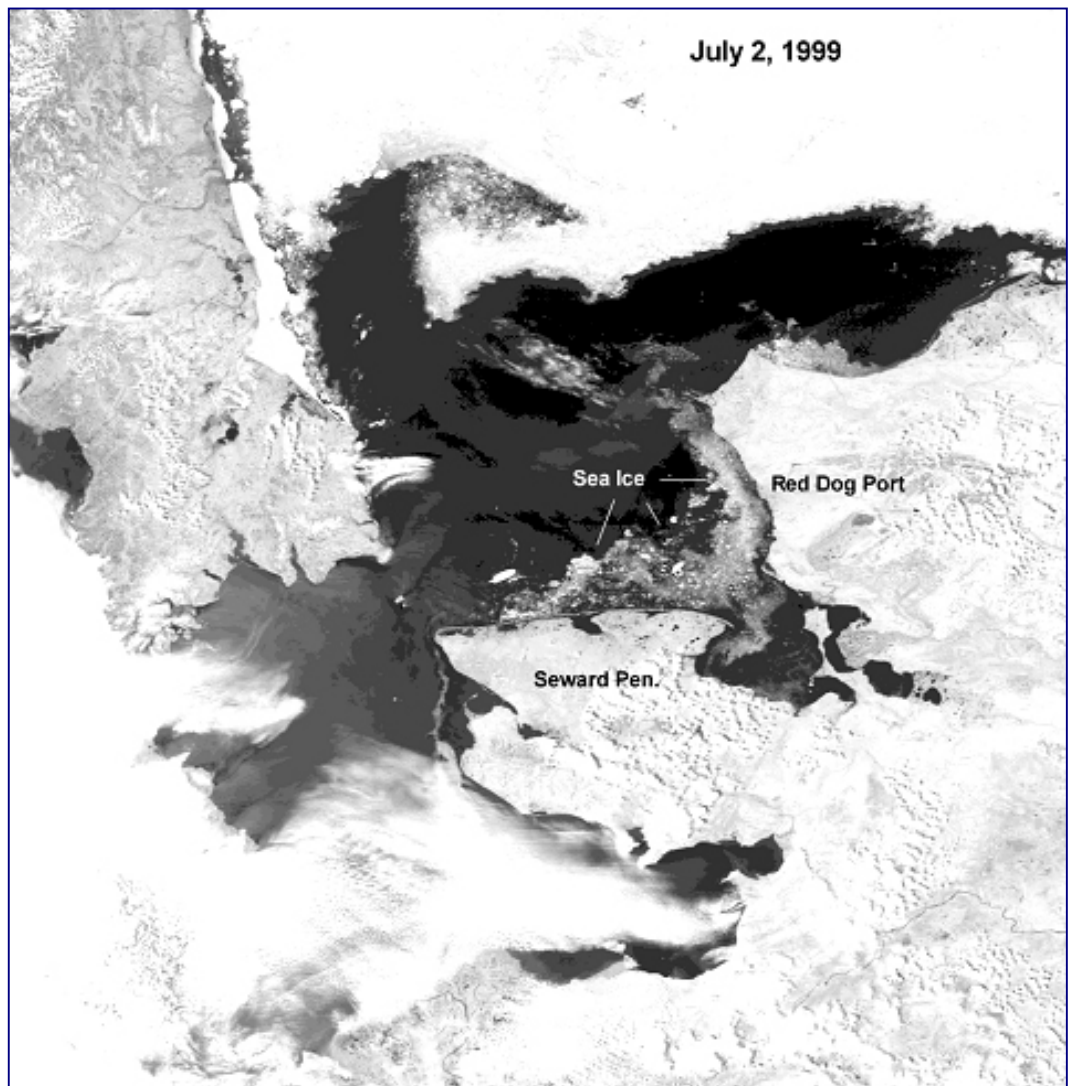


Sea Ice Conditions in the Access to Red Dog port, Alaska

Ice coverage in the Red Dog Port Area and Approaches begins to melt in late April or early May and the area around Red Dog port becomes open water. An open water route develops to the site as early as the beginning of June or as late as the second week of July.

As the spring thaw intensifies the ice edge in the southern Bering Sea gradually retreats. An open-water lead usually begins to push northward into the Bering Sea by the end of May. Ice reduction is rapid during the month of June. The last ice to clear the region in late June or early July is composed of a strip of ice that runs along the north side of Kotzebue Sound, as illustrated below in the satellite image from July 2, 1999.

Ice conditions are monitored and the clearing of the ice in the region determines the start of shipping in any given year.

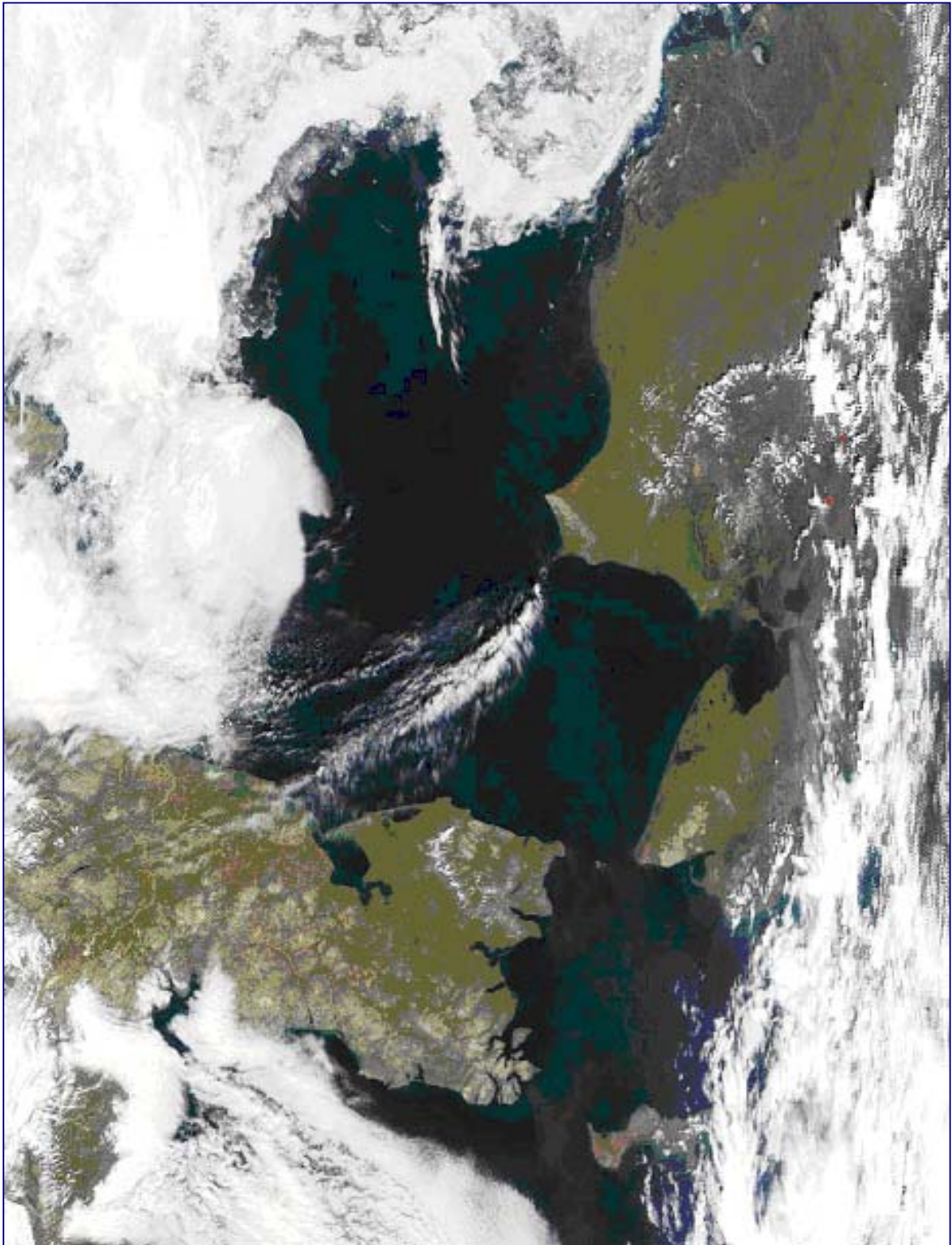


The last ice remaining in the region tends to be first year ice floebergs. Floebergs resemble small pieces of icebergs or old ice floes and may have a freeboard greater than one metre. They occur commonly in the Chukchi Sea in the winter, spring and early summer. Winter storms force the first year pack ice onto the numerous shallow banks and shoals in the southern Chukchi Sea. Once the ice is grounded it may become heavily ridged. This grounded ice, also called "Stamukhi", can accumulate into large masses of ice. When these masses subsequently detach as a result of the wind and tidal action, floebergs are formed. Because these floebergs usually form over shallow banks, they often contain dirt and debris on and within the ice. Below is a photograph of a floeberg in an advanced state of melt. Because of the large mass of ice associated with floebergs, they take longer to melt than the surrounding first year ice. Floebergs are the last forms of ice to melt in the region.

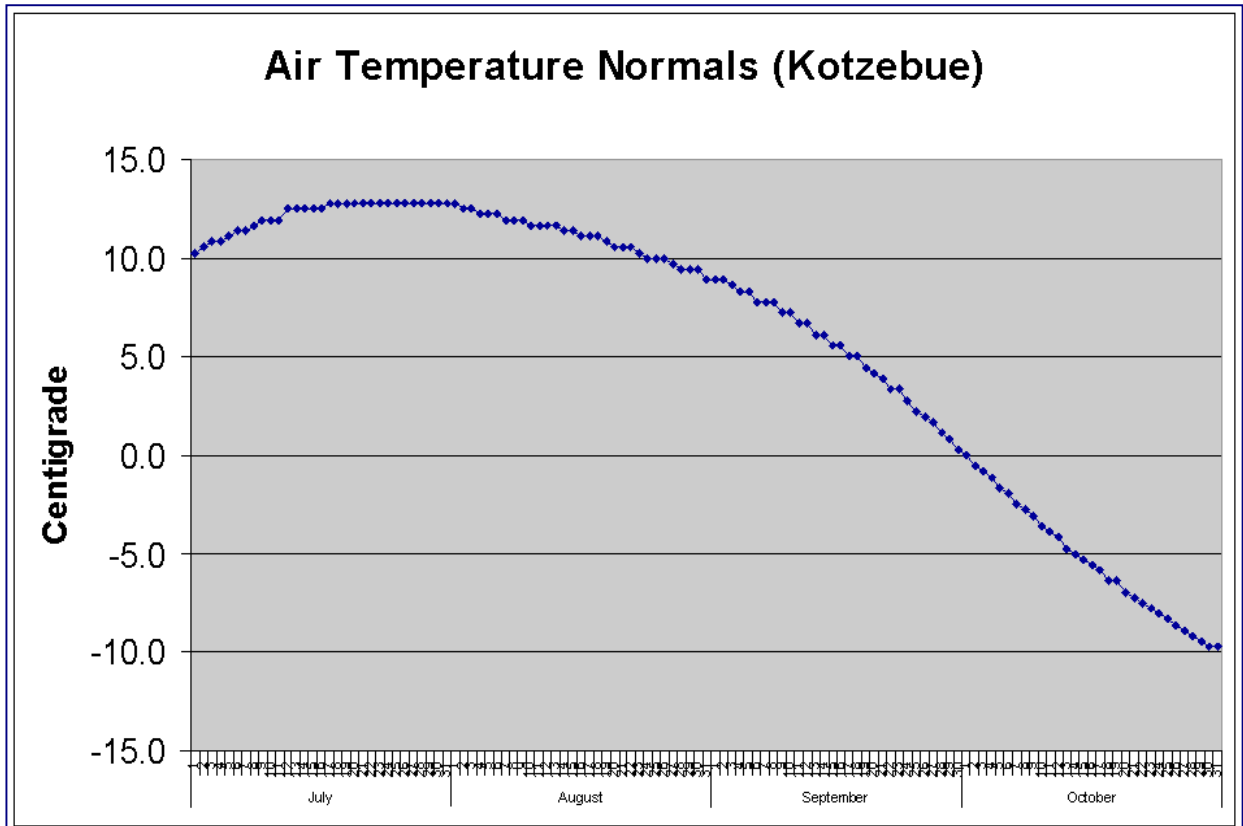


Strips of ice may also be present in the northern Bering Sea into the first week of July, particularly around St. Lawrence Island and mariners should be aware of this possibility when transiting the area in the early summer.

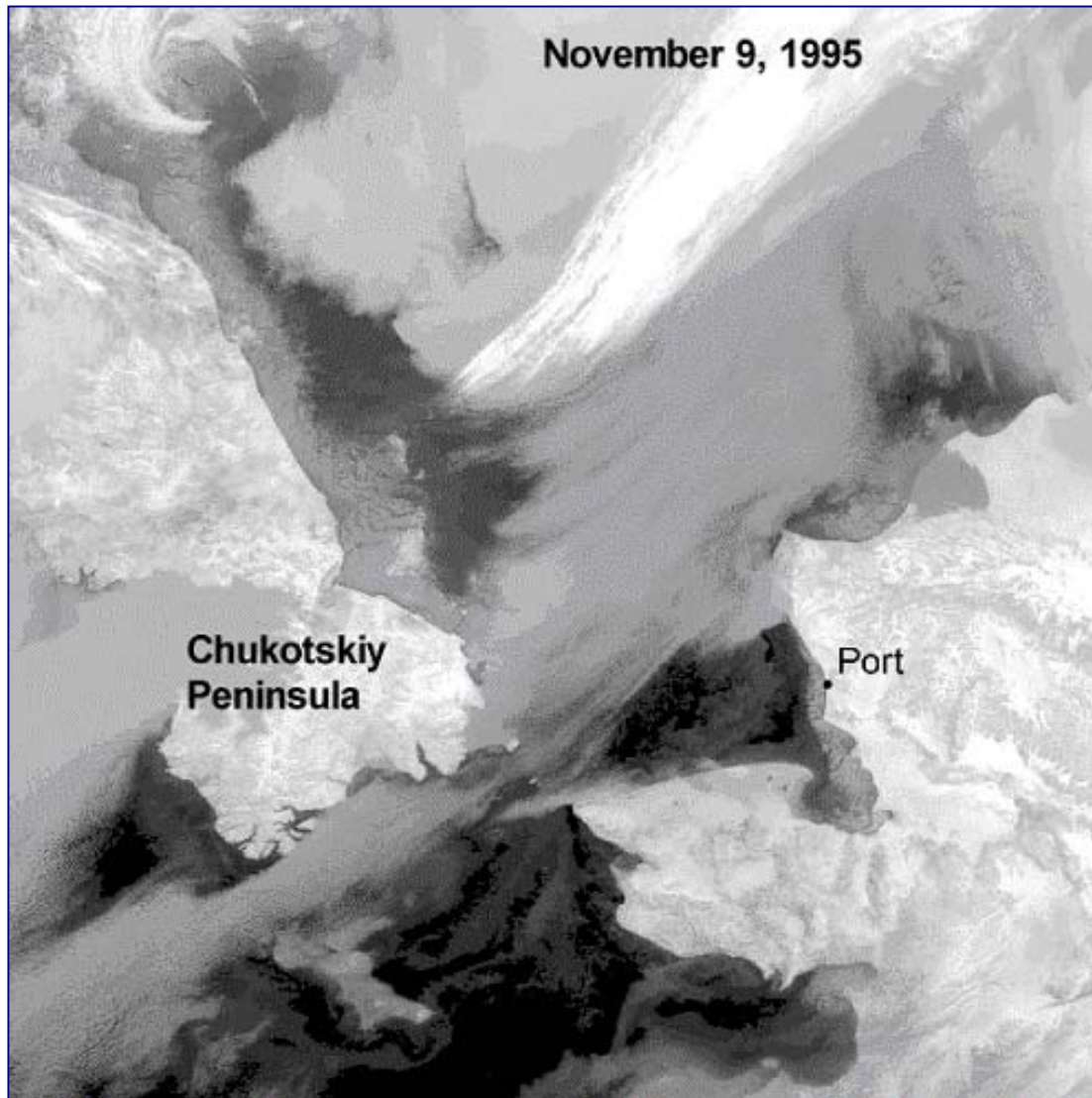
All ice clears the access to the Red Dog port by mid July and ice-free conditions persist until at least early October each year. The following image is rather typical of conditions at the port by about mid-July of any given year.



Freezing temperatures return to the Red Dog region by early October (as illustrated by the temperature graph below). The first signs of ice growth in the region occurs by late October or early November in the shallow waters along the Russian coastline south of Wrangle Island along the north coast of the Chukotskiy Peninsula and in eastern Kotzebue Sound.

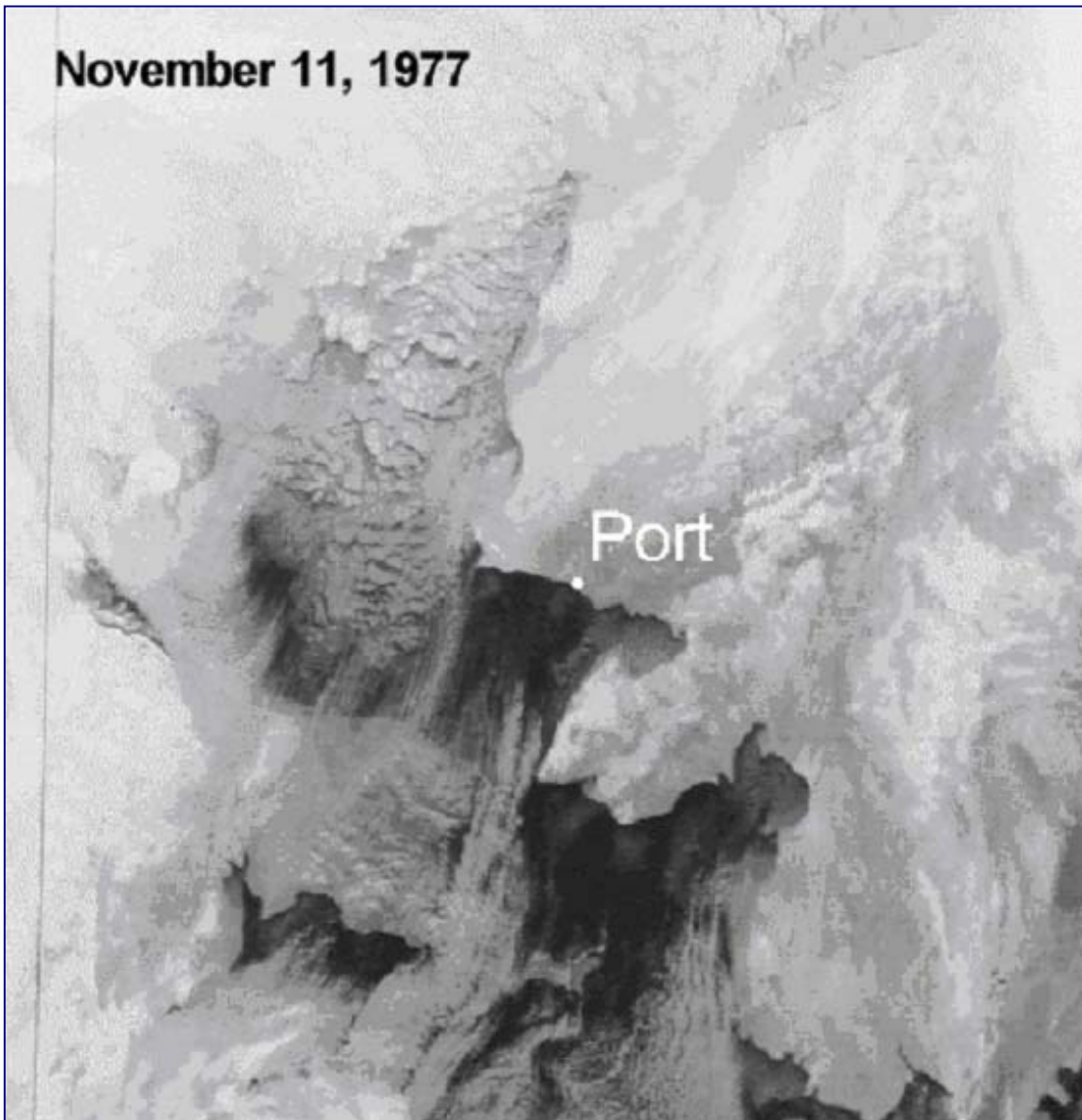


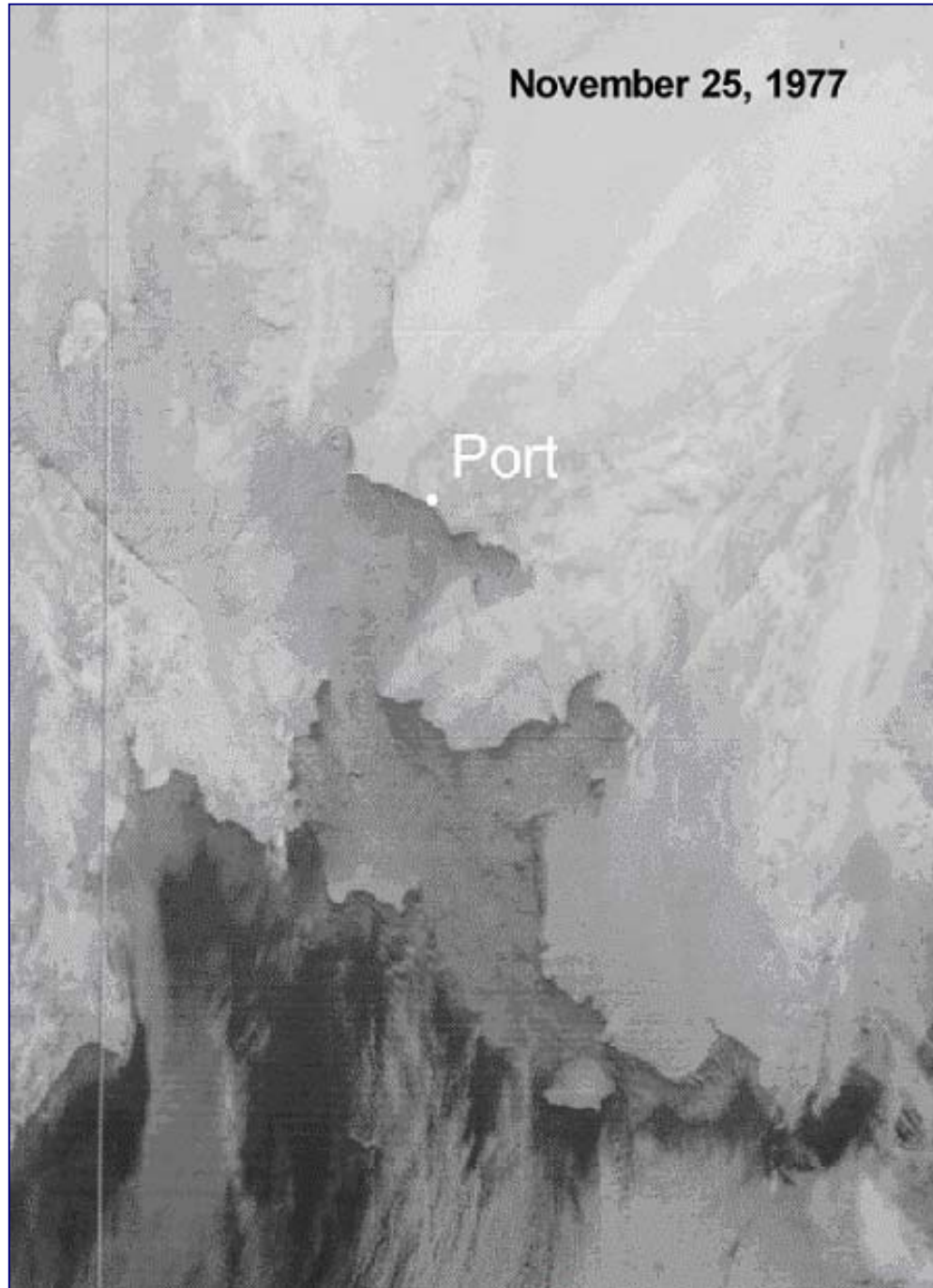
The following satellite image illustrates the beginning of freeze-up in the access channels to the Red Dog port.



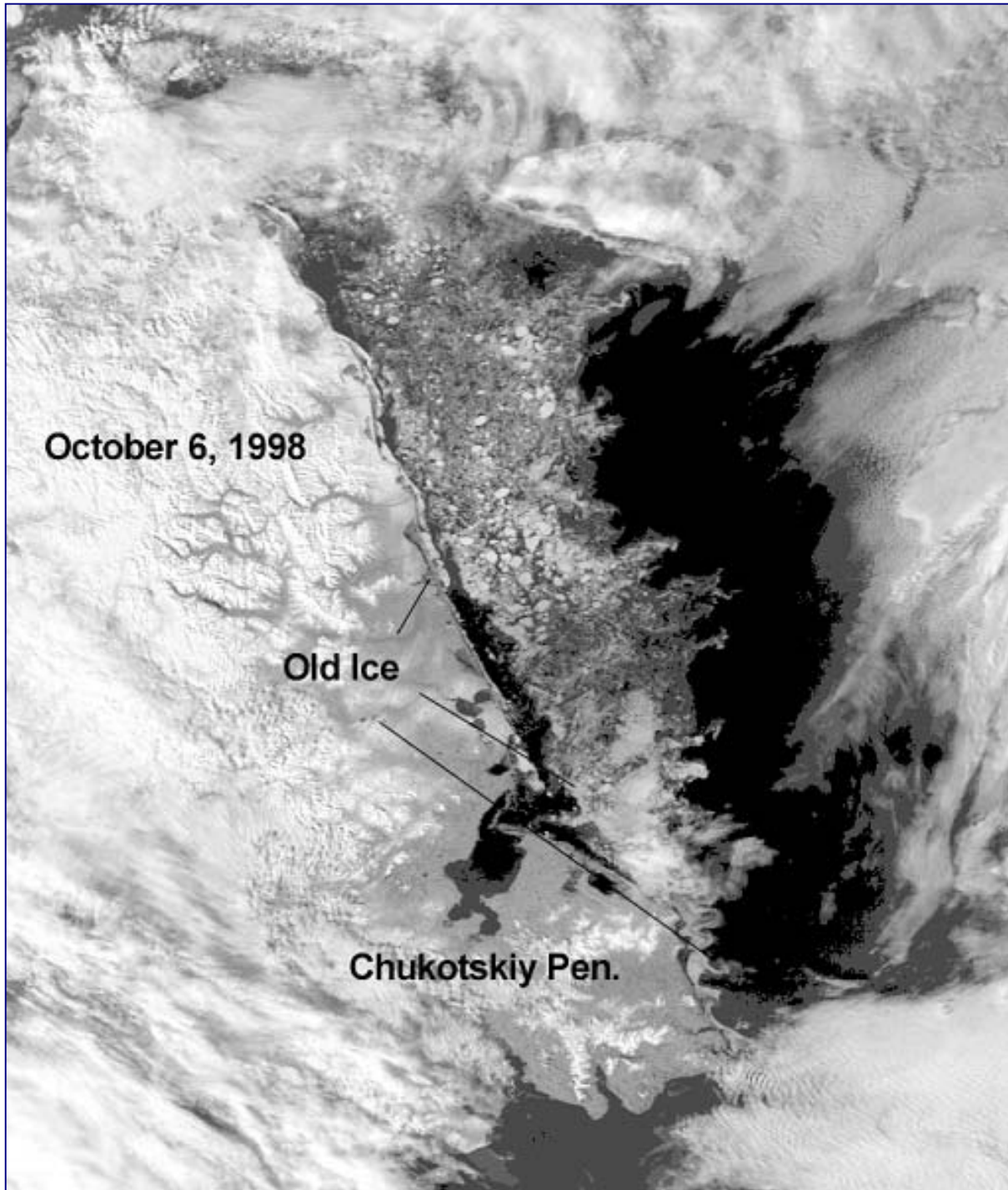
The formation of ice over the deeper waters of the Chukchi and Bering Seas is delayed until the waters have cooled sufficiently. Open water persists along the Alaskan side of the Bering Strait and the Chukchi Sea owing to the northward flow of warmer water in this area. This has the effect of delaying ice formation in the access to the Red Dog port compared to other sections of the Chukchi Sea. By mid-November, ice growth over the Chukchi Sea is rapidly reaching southward into the northern Bering Sea by the third week of the month, as illustrated in the two satellite images below.

November 11, 1977





In 25% of years, old ice (i.e. heavy ice having survived more than one year) from the Arctic Ocean is present along the Russian coastline in the late summer and fall. This ice intrudes eastward into the Bering Strait in about 10% of years. However, the northward flowing current found along the Alaskan side of the Bering Strait often prevents this ice from completely blocking the Strait. The satellite image below illustrates the presence of this ice along the Chukotskiy Peninsula of Russia.



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