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Cameraman: Robert Humble

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WINTER ORE SHIPPING

THE ORE TRANSPORT -- ONE OF WORLD'S LARGEST ORE CARRIERS --
BEING LOADED AT PORT CARTIER AND BREAKING ITS WAY THROUGH
THE GULF OF ST. LAWRENCE TO PHILADELPHIA WITH SOME ASSISTANCE
FROM THE ICEBREAKER d'IBERVILLE

Port Cartier, Province of
Quebec, March, 1962

The Quebec Cartier Mining Company's development at
Lac Jeannine in the so-called southwestern Quebec-Labrador Trough,
in 1957, to supply iron ore to the plant furnaces and steel mills
of Canada, the United States and Europe was the second such project
on the north shore area of the St. Lawrence in recent years. While
explorations had been carried out intermittently by various com-
panies for many years, it was not until after the the Second World
War that the iron ore requirements of the steel industry led to
serious explorations for additional economic sources of iron ore.
Port Cartier is located about two road miles from the old settle-
ment of Shelter Bay, and about 42 miles west of Seven Islands on the
St. Lawrence River.

The Lac Jeannine iron deposit consists of specular
hematite ore and expectations are that it could become one of the
deepest iron ore mines on the North American continent. To get this
industry into operation, the Company established a many-sided pro-
gram involving a large open pit mine, a huge concentrator, a hydro-
electric power plant; two completely new townsites -- Gagnon, on
Lac Barbel, approximately 8 miles north of the concentrator plant
at Lac Jeannine; and Port Cartier, the port and terminal area, a
spot specially selected as the harbour which is a large basin cut
in sheer rock with a narrow inlet and protective walls or break-
waters extending into the open sea and with a minimum depth of basin
at low tide of 50' (one of the deepest in Canada); and a 191 mile
railway linking Gagnon, the mine, and Port Cartier. The daily
production of the Lac Jeannine mine is planned to average approx-
imately 60,000 tons of low grade ore on a year-round production
basis, for a total annual production of some 20,000,000 tons of ore.
With a designed capacity of over 8,000,000 tons of iron ore
concentrates annually, the concentrator is one of the largest iron
ore beneficiating plans in the world -- it concentrates the ore
containing 30% iron in its natural state to a production containing
66% iron.

The ore is loaded aboard the trains at Lac Jeannine,
which are equipped with removable snowplow pilots for winter
operation. The locomotives pull 125 cars, or 12,500 tons of ore
concentrate, to Port Cartier in slightly less than 9 hours, and
run through the dumper cradle. The locomotives are then cut off
and moved to the diesel shop for servicing. The automatic hydraulic

pusher mechanism at the dumper takes over the movement of cars at the dumper and, when the last car has been emptied, the dumper shuts off automatically. After the dumping, the ore goes through the grizzly and lumps (caused by frost or compaction in transit) pass through a rotary crusher and then by conveyor belt to the shiploader or the ore storage shed to await shipment. Loading of a ship takes approximately 14 hours. The harbour is capable of handling the largest ore carriers afloat today, and even the larger carriers of the future. The first shipments of high grade concentrates were made from Port Cartier in July, 1961 and it is hoped that the operation will be in full swing this year.

The Quebec Cartier Company charters ships for the movement of ore to the steel mills. The ORE TRANSPORT, owned by National Bulk Carriers, is one of three sister ships, and one of the largest in the world. It is owned by an American company but registered in Liberia. It is 794' in length, 116' in the beam, its engines are of 17,500 horsepower, can carry 60,000 tons of cargo or 69,000 tons of liquid cargo, has a displacement of 80,460 tons and can travel at 16 knots per hour. The ship is highly mechanized with an immaculate engine room, and carries an international crew. In the summer the trip from Port Cartier to Philadelphia takes about four and one-half days, but in winter this of course is dependent upon the ice conditions in the Gulf of St. Lawrence and on the eastern seaboard. The ORE TRANSPORT was able to make part of its way along the St. Lawrence to the Gulf without the assistance of an icebreaker but, unfortunately, it ran into trouble in the ice and word had to be sent to the icebreaker d'Iberville to come to her assistance. The d'Iberville cleared a channel and the ship was able to proceed on its journey.

On reaching Philadelphia, about 24,000 tons of ore was unloaded by huge scoops capable of handling 20 tons on each scoop. The ORE TRANSPORT, lightened so that it could go up the Delaware River, then proceeded on its way for final unloading at Morrisville and then shipment to the various steel companies in the area. Smaller amounts of ore are unloaded on occasion at Philadelphia in order to lighten ships.

Shot list

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1. MS to CU train emerging from shed into snow storm tilt down to special wheel carriage
2. MS engine entering unloading shed
3. MLS moving into unloading rig - showing first car loaded with ore concentrate
4. MS unloader operator at control panel
5. MCU mechanism pushing car onto unloading track - car being dumped (pan with action)
6. CU hand pushing button on control panel
7. MLS next snow covered ore car moving into position
8. MS operator watching unloading from control room
9. MS ore being dumped
10. CU same, showing ore crystals and dust
11. LS remaining ore cars moving into position
12. MS exterior - ore dust pouring from conveyor mechanism tilt down with flow into hold of ship
13. LS exterior - ship being loaded with ore
14. LS view of entire ship ORE TRANSPORT, snow blowing foreground
15. MS stern of ship showing name ORE TRANSPORT and registration (MONROVIA)
16. LS ore dust pouring, right frame, water, tugs and train in background
17. MS man beside hatch, directing ore pouring
18. CU ore spilling into hold
19. CU L/A man watching
20. MS conveyor operator's hand on controls
21. LS ore on conveyor belt, foreground, two men on ship - background
22. CU ore pouring
23. LS ore pouring from conveyor belt, crane rig
24. MS L/A pan left to right from man directing pouring operation to ore going into hold
25. MLS (over shoulder) view of conveyor operator and ship below
26. LS ore carrier at loading station, frozen harbour foreground
27. MIS tugs and train framed within ice-cover ship's structure
28. MS parka clad crewman chipping ice from ship
29. CU same, man's face, hands as he works
30. MS man attaching hook to hatch cover
31. LS H/A 3/4 view of port side and stern of ship at loading station

32. MLS crewmen on deck watching hatch covers close
33. MS crewman standing by as hatch covers close
34. MS crewman operating cable winch
35. CU hatch closing
36. MS crewman flipping hatch lock bolts
37. CU winch operator - steam
38. CU cable being wound on winch reel
39. MS pan left to right from covers closing to crewmen locking same
40. MCU crewman locking hatch, pan with action
41. MLS air shot - low level pass from starboard to port side of ship (stern end) as ship makes way through thin ice
42. MS air shot - tug boat SALVAGE MONARCH
43. MLS " " low level tracking shot from bow along starboard side to stern of ship
44. MS view from bridge of deck and bow of ship making way through ice
45. MS two crewmen watching from open bridge
46. MS view from bridge - starboard deck and bow cracking and pushing ice aside
47. MCU thicker ice building up along starboard side
48. MS air view, low level pass from bow to starboard side of icebreaker (d'IBERVILLE) plowing through ice
49. MCU air view, pass over icebreaker from starboard to port side of superstructure
50. LS to MS air view, approaching ore ship from port bow - follow through to starboard stern
51. MS helmsman and navigator at radar scope in wheelhouse
52. CU navigator looks up from scope
53. MLS H/A starboard side of icebreaker pointed towards right frame
54. MS air view, approaching starboard stern of ship, tilt down to wake, tilt up to deck - favour starboard side
55. MS L/A helmsman on duty at wheel
56. MS to LS diagonal tilt left to right with crewman entering engine room down ladder, pan right to left to two crewmen at control panel
57. MS two crewmen at engine control panel
58. MLS crewman pouring oil into screw driver shaft
59. MLS H/A view from stern of ORE TRANSPORT following icebreaker at dusk
60. LS Icebreaker making path through ice (dusk)
61. MLS pan right to left from stern of ORE TRANSPORT to British freighter following in wake (dusk)

62. LS water, sheds and cranes foreground, Philadelphia skyline background
63. LS view from bridge towards stern, water - other ship and storage tanks background
64. MLS tilt down from cranes to starboard deck side of ORE TRANSPORT
65. CU giant scoop entering ore laden hold
66. MS scoop exits top left frame, second scoop enters hold background
67. MCU L/A short pan right to left with scoop dumping ore into hopper
68. LS re-establishing shot - general unloading activity
69. MS to CU H/A - tracking shot left to right, follow scoop tilt and pan left to right to second scoop unloading ore dust into grille-covered hopper
70. LS H/A view from centre of two conveyor belts towards unloading crane and ship background
71. LS hazy - view from ship of city skyline