ATTACHMENT 1 SHIP'S PARTICULARS

Official Number: 368854

Built: Germany 1969

Overall Length: 125.0m (410'1")

Breadth (Extreme): 19.35m (63'6")

Clearance: 3.96m (13'0")

Draft: 5.25 m

Main Engine: Two MAN V40/54

Horsepower: 18,360 BHP (13,691 kw)

Service Speed: 22 knots

Tonnage 8806 gross

7071.47 registered

Capacities: 157 – Automobiles;

700 - Passengers and crew

Staterooms: 54

Berths: 108 (excludes 102 Berths in Tween decks)

Ship's Services:

News-stand, Children's' Playroom, 2 Licensed Lounges, Telephones, 2 Licensed Selfserve Restaurants, Games Room, Elevator, Televised Movies, Washroom for passengers with disabilities and Staterooms with upper and lower berths (one specially designed stateroom to accommodate wheelchairs).

Refrigerated Truck

Power Supply Not fitted with power cables

Vehicle Height Restriction
 Vehicle width restriction
 3.96m (13'0")
 3.66m (12'0")

SPECIAL NOTES

This ship was formerly the "Stena Danica" before joining the Dogwood Fleet as the "Queen of Surrey" in 1974. From 1974 to 1975 the vessel was used on Route 2 then laid up at Deas Dock until 1979. Alterations, including the installation of additional staterooms, was done in the spring of 1980 and at this time the ship was renamed the "Queen of the North". It sailed on the Inside Passage (Route 10) in the summer and Route 10 & 11 on the winter schedule.

MASTER SYSTEM EQUIPMENT LIST (MSEL)

1000	Hull and Superstructure
2000	Propulsion
3000	Ship Service Systems
4000	Ancillary Equipment
5000	Passenger and Crew Services
7000	Instrumentation and Controls
8000	Communications Equipment
9000	Safety Equipment



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B. COMPLETI	ED WORK			
1044				
CENT.135049	CLOSE	D05-Drydocking, Laydays, and Services	0	General Instructions for docking and undocking.
			10	Tugs and linesmen to manouver to and away from the dock
			20	Drydock space and blocks to support the vessel while in the
			30	drydock. Shore water supply for fire protection.
			40	Potable Water
			50	Electrical power
			60	Crane Services
			70	Ballast water
			80	2 safe means of access to the vessel from the dock.
			90	Compressed air, supply to the vessel at 100 psi.
			100	Dedicated telephone lines.
			110	garbage removal - unit price per skip, firm price per 4 skips
			120	Berthing space alongside Drydock
			130	Security nights and weekends for duration of drydocking
			160	Allowance for Seaspan Careen
			170	Allowance to Pre book drydock
			180	Disposal of hazardous waste.Quote firm prices for the following.
1044				
CENT.135050	CLOSE	R05-Berthing and Services	10	Berthing and Services
1044				
CENT.135244	CLOSE	R05-Shop supplies and consumables	10	Shop supplies and consumables
1044				
CENT.135245	CLOSE	R05-Crew Labour & Non-maintenance hours	15	Crew Labour
			20	Non-maintenance hours, eg. Catering, Cleaning, Supervision, and Janitorail hours required to ready vessel for service at conclusion of refit.
1044 CENT.135247	CLOSE	R05-Fuel Oil Charges	20	Fuel Oil Charges
1044	CLOSL	Nos-i dei Oil Chaiges	20	Tuel Oil Charges
CENT.135248	CLOSE	R05-Hazardous waste removal and disposal	30	Hazardous waste removal and disposal
1044	OLOGE	1700-Hazardous waste removal and disposal	30	riazardous waste removal and disposal
CENT.135250	CLOSE	R05-Consulting services	40	Consulting services
1044	OLOGE	Too concurring convictor	10	Conducting Convicce
CENT.135251	CLOSE	R05-Fees for Submissions to TCMS & Class,	50	Fees for Submissions to Transport Canada & Class, etc
1044	02002	1.00 1.000 10. 0021110010110 10 1 01110 01 01000,		Tool is custined in to manager, canada a ciaco, co
CENT.135252	CLOSE	R05-New work prior to refit.	60	New work prior to refit.
1044				
CENT.135253	CLOSE	R05-GST	70	GST
1044				
CENT.135255	CLOSE	R05-Crew Travel	10	Crew Travel
1044				
CENT.148283	CLOSE	R05-Refit Extras	10	For Deas Pacific Marine Invoice #3053, Extras and Credits
1310				
CENT.135052	CLOSE	D05-Shell	10	* Regulatory Body Survey, visual inspection and non destructive
				testing.
1311	01.005	DOE Objective Volume	40	+ Objected Melion Test All of the control of the footed to
CENT.135053	CLOSE	D05-Shipside Valves	10	* Shipside Valves, Test - All sixty one (61) valves to be tested to BCFS specifications and the satisfaction of owners representative.
1313				
CENT.135054	CLOSE	D05-Sea Chests	10	* Clean and examine four (4) sea chests to satisfaction of owners
4040				representative.
1313	01.005	DV05 See Cheete	40	VOA Open up (2) additional and about Olegan and a sint a
CENT.144721	CLOSE	DX05-Sea Chests	10	X04 - Open up (2) additional sea chests. Clean and paint as directed, close up.

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Work Order	Status	Description	Ор	Work Plan Operation Description
CENT.144721	CLOSE	DX05-Sea Chests	20	Open up cathodic treatment tank and clean as directed. Close up in good order.
1314 CENT.135055	CLOSE	R05-Rubbing Strake	10	Rubbing Strake Port and Starboard. Repair and paint.
1316 CENT.135056	CLOSE	D05-Shell Plating, NDT	10	* Perform Non-Destructive thickness testing on underwater hull
1320 CENT.135051	CLOSE	D05-Hull Coatings, surface preparation.	0	* General guidance for all marine coatings in this specification.
			10	* Clean the entire hull surface from the keel to the top corner on face of rubbing strake including all appendages and recesses. Perform this work immediately after the vessel is removed from the water.
			20	The Shipyard shall quote a price for, hand scraping, any marine growth, etc., shall be removed by hand scraping. Allow for 272.5 square metres of hand scraping. (10% of surface area from keel to waterline).
			30	* The Shipyard shall quote a price for, degreasing the entire hull (approx. 2725 sq m) in accordance with SSPC-SP1 solvent cleaning standard.
4222			40	The Shipyard shall quote a price for, high pressure fresh water wash of the entire hull (approx. 2725 sq m).
1323 CENT.135057	CLOSE	D05-Hull Coatings, Keel to Waterline	0	1323P, General instructions for , Coatings, Keel to Waterline
			10	The Shipyard shall quote a firm price for SSPC - SP 6, Spot Blast 15% area, 408.75 sq metres.
			20	The Shipyard shall quote a firm price for 4b. Apply the following marine coating system to the hull from keel to waterline.
			30	The Shipyard shall quote a firm price for 6. Apply the plimsoll lines, draft markers, and all other hull marking above and below the deep load line using "One Shot" sign writers paint.
1326			40	Hoarding, provide suitable weather protection around the work.
CENT.135058	CLOSE	D05-Coatings Waterline to top of Rubbing Strake	0	1326P, General Instructions for, Coatings, Waterline to top of Rubbing Strake
			5	1a. Prepare the existing marine coating system to the SSPC - SP 7 Brush Off Blast (sand sweep) cleaning standard on the entire area, waterline to top of rubbing strake, approximately 325 sq m, using the paint manufacture's recommended blast
			6	1b. Remove the existing marine coating system from damaged areas to the SSPC - SP 6 Spot Blast cleaning standard using the paint manufacture's recommended blast profile (anchor pattern). Shipyard to quote on 15% area, 48.73 sq m.
			10	The Shipyard shall quote a firm price for 4b. Apply the following marine coating system (coloured black) to the hull from the waterline to the top of rubbing strake. (Approx. 325 sq m).
			20	Hoarding, provide suitable weather protection.
1330 CENT.135059	CLOSE	D03-Sterntubes	10	* Take sterntube weardown readings, inspect, drain, dispose of and replenish oil. Shipyard supplied.
1332 CENT.135060	CLOSE	D05-Strut Bearings	10	* "Examine". Check and Test the strut bearings and review maintenance records and procedures to ascertain the possible existence of errors/defects. Survey in the presence of Lloyds Representative.
1336 CENT.135061	CLOSE	R05-Pump, LO, Sterntube Port	10	Port Sterntube Pump, Motor, and starter. Overhaul, Regulatory
1336				Body Survey
CENT.135062	CLOSE	R05-Pump, LO, Sterntube, Stbd	10	Stbd Sterntube Pump, Motor, and starter. Overhaul, Regulatory Body Survey
1338 CENT.135063 1338	CLOSE	R05-Heat Exchanger, Lo, Sterntube Port	10	Clean and test sterntube LO heat exchanger
CENT.135064	CLOSE	R05-Heat Exchanger, Lo, Sterntube Stbd	10	Clean and test sterntube LO heat exchanger
1340 CENT.135065 1351	CLOSE	R05-Vents, Tank	10	Regulatory Body Survey of all tank vents (40), clean screens.

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Queen of the North Work Order Work Plan Operation Description Status Description Op CENT.135066 CLOSE R05-#19 Port Double Bottom Fuel Tank 10 Hydrostatic test the fuel tank. 1351 CENT.135067 CLOSE R05-#19 Stbd Double Bottom Fuel Tank 10 Hydrostatic test the fuel tank. 1351 CENT.138913 CLOSE R05-Tanks, Fuel Oil, cross over valve 10 Fit a crossover valve from #19 port and starboard tank suction to aft fuel oil transfer pump in order to reduce dirty oil contamination. 1355 Clean, survey the surface coatings, repair any damage, and perform regulatory body survey on the #5 Port Fresh Water Deep Tank. CENT.135073 CLOSE R05-#5 Port Fresh Water Deep Tank 10 1355 Clean, survey the surface coatings, repair any damage, and perform regulatory body survey on the #5 Starboard Fresh Water Deep Tank. CENT.135074 **CLOSE** R05-Tank, Fresh Water, #5 Stbd Deeptank 10 1355 CENT.135075 CLOSE R05-Tank, Fresh Water, #16 Deeptank 10 Clean, survey the surface coatings, repair any damage, and perform regulatory body survey on the #16 Fresh Water Deep Tank. 1356 CENT.135076 CLOSE R05-# 1 Fore Peak Tank Hydrostatic Test, and perform a regulatory body survey 1356 CENT.135077 CLOSE R05-#21 Starboard Double Bottom Tank 10 Hydrostatic Test - Regulatory Body Survey 1356 CLOSE CENT.135080 R05-#2 Forward Deep Tank 10 Hydrostatic Test - Regulatory Body Survey **CLOSE** Hydrostatic Test - Regulatory Body Survey CENT.135082 R05-#17 Centre Aft Deep Tank 1356 CENT.135084 CLOSE R05-#9 Port Double Bottom Heeling Tank 10 Hydrostatic Test - Regulatory Body Survey 1356 CENT.135085 CLOSE R05-#9 Starboard Double Bottom Heeling Tank 10 Hydrostatic Test - Regulatory Body Survey CENT.135088 **CLOSE** R05-#21 Port Double Bottom Tank 10 Hydrostatic Test - Regulatory Body Survey 1356 CENT.139840 CLOSE D05-#18 Aft Peak Tank 0 * 1356P, General Instructions for Ballast Tank Coatings. The shipyard shall provide a firm price to apply the marine coating system as per item 4 of 1356P 10 The shipyard shall provide a firm price for removing all oil, grease, and other contaminants to the SSPC - SP 1 Solvent Cleaning standard as per 1b of 1356P. The shipyard shall provide a firm price for removing damaged marine coatings by Part/Spot blasting to Sa2 ISO 8501-1 or SSPC SP 6 as per 1c of 1356P. Heavy scale and some wastage, requires thickness testing and repairs. Steel repair to be work arising. 20 1358 CENT.135090 **CLOSE** R05-Oily Waste Tanks 20 #20 double bottom dirty oil. Open, Gas free, Clean, hydrostatic test, and perform a regulatory body survey. 30 #22 port double bottom flushing oil tank. Open, Gas free, Clean, hydrostatic test, and perform a regulatory body survey #22 starboard double bottom flushing oil tank. Open, Gas free, 40 Clean, hydrostatic test, and perform a regulatory body survey. 1360 CENT.135091 CLOSE D05-Chain Lockers 0 * 1360P, General Instructions for Compartment and Voids Coatings. * The shipyard shall provide a firm price to apply the marine coating system as per item 4 of 1360P, Total area = 600 sq ft, 300 sq ft per 10 The shipyard shall provide a firm price for removing all oil, grease, and other contaminants to the SSPC - SP 1 Solvent Cleaning 11 standard as per 1b of 1356P The shipyard shall provide a firm price for removing damaged marine coatings by Part/Spot blasting 15% area, 90 sq ft, to Sa2 ISO 8501-1 or SSPC SP 6 as per 1c of 1360P. 20 Overhaul hand operated pump located at bottom of the lockers. 1360

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R05-Compartments And Voids, Hull

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Clean and disinfect Port and Starboard bilges in AC sewage compartment then apply blue steel and primer.

CENT.138914

CLOSE

10



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Work Order	Status	Description	Op	Work Plan Operation Description
CENT.135101 1431	CLOSE	R05-Platform Cardecks and Ramps	10	Survey port and starboard platform cardecks and ramps.
CENT.135102	CLOSE	R05-Vehicle Embarcation Doors, Repair	10	Bow Visor, overhaul, measure clearances.
			11	Bow Visor, pressure wash, hand and/or power tool and paint as per 1414P, Railings and Bulwarks,
			20	Bow Ramp, overhaul, measure clearances.
			21	Bow Ramp, the shipyard shall quote a firm price for replacement of twenty (20) sq. ft. of steel on bow ramp and hull sealing surfaces.
			22	Bow Ramp port and starboard lower sides near hinged portions. NDT thickness testing. The shipyard shall quote for twenty (20) shots.
			23	Bow Ramp, pressure wash, hand and/or power tool and paint as per 1414P, Railings and Bulwarks,
			30	Inner Bow Doors, overhaul, measure clearances.
			31	Inner Bow Doors, pressure wash, hand and/or power tool and paint as per 1414P, Railings and Bulwarks.
			40	Stern Doors, overhaul, measure clearances.
1431			41	Stern Doors, pressure wash, hand and/or power tool and paint as per 1414P, Railings and Bulwarks.
CENT.135103	CLOSE	R05-Vehicle Embarcation Doors, Regulatory Survey	10	Regulatory body survey of bow visor.
			20	Regulatory body survey of inner bow doors.
			30	Regulatory body survey of stern doors
			40	Regulatory body survey of side doors, welded shut.
1440 CENT.135104	CLOSE	R05-Hatches And Deck Openings, Superstructure	10	Papair the following guick closing & halted, batch cools
CENT. 133104	CLUSE	R05-Hatches And Deck Openings, Superstructure		Repair the following quick closing & bolted hatch seals.
			11	The shipyard shall quote a firm price for renewal of single steps at two (2) stern hatches.
1451	CLOSE	DOE Weethertight Deers	10	Consider and repair treathy tree (22) weathertight deeps
CENT.135105 1452	CLOSE	R05-Weathertight Doors	10	Service and repair twenty two (22) weathertight doors
CENT.135106	CLOSE	R05-Fire Doors	10	Service all fourty five (45) class A fire doors.
			20	Renew # 5-7 fire door,
1453				
CENT.135107	CLOSE	R05-Cardeck Watertight Doors (Macgregor)	10	Survey and repair cardeck watertight doors (Macgregor flood doors) (4), renew all damaged hydraulic hoses.
			20	Examine programable logic control system.
1454				
CENT.138957	CLOSE	R05-Doors (General)	10	Gift shop, Replace pocket door and surrounding ACM bulkhead and install folding door and new bulkhead.
1460			20	Cabins P-17 and 35. Remove existing main door and frame and replace with a wider door to permit access by walkers and wheelchairs. To accommodate increased travel by physically challenged. As discussed with Capt. Dahlgren.
CENT.135108	CLOSE	R05-Interior Superstructure Coatings	0	* 1461P, General Instructions for Interior Superstructure coatings
		· · · · · · · · ·	10	* Perform a marine coatings survey on the interior of the superstructure.
			20	The shipyard shall quote a firm price to repair the marine coatings system, Deck 2 and 5 crews mess, officers mess, and lounge, as per 1461P General instructions for interior superstructure coatings.
			30	The shipyard shall quote a firm price to repair the marine coatings system on Deck 5, fire doors, windows, posts, bulkheads, railings as per 1461P General instructions for interior superstructure coatings.
			40	The shipyard shall quote a firm price to repair the marine coatings system on Deck 6 fire doors, windows, posts, bulkheads, washrooms, railings as per 1461P General instructions for interior superstructure coatings.
			50	* All showers need repainting. Secure pipes to bulkhead for showers where loose.
1460 CENT 138016	CLOSE	DOS Interior Superetructure Misselleneous	10	Install a washer and driver tween deak find
CENT.138916	CLOSE	R05-Interior Superstructure, Miscellaneous	10	Install a washer and dryer tween deck fwd
			20	Fit new frames for fan room filters
			40	Deck 3, Aft Mens shower room. Stall door needs replacing.



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Work Order	Status	Description	Ор	Work Plan Operation Description
CENT.138916	CLOSE	R05-Interior Superstructure, Miscellaneous	50	Deck 5, Replace or repair counters in washrooms where stained (women's fwd. & men's aft).
			60	Deck 5, Convert 2 stalls in each of main women's and men's washrooms to permit pay shower installation.
			70	Deck 5, Remove drinking fountains in women's main washroom, women's fwd and men's deck 6
			80	Deck 5, Purser's office: Replace sliding cupboard doors with proper opening doors. Existing worn out and fall off tracks.
			90	Deck 5, Install top to layout plan of vessel to prevent articles and junk falling behind
			100	Bar, Repair top of security screen and secure to deckhead.
			110	Crew mess, Remove vinyl bench and long table at after end. Replace with coat rack on bulkhead for crew coats (now housed in the kiosk area off the alley). Install shelf/cupboard below for storage.
			120	Deck 6, Washrooms: Men's forward needs water control panel replaced. Counter in washroom needs repair or replacement.
			130	Deck 6, Powdercoat some more tables from POW Lounge, cafeteria and midship lounge as last year.
			140	Deck 6, Install plate to cover glass door base, port side aft.
			150	Deck 7, Chief Steward's cabin: replace bunk with proper one and existing settee with a smaller one, similar covering to chief engineer's cabin. Install cupboard in new space.
1462 CENT.135109	CLOSE	R05-Interior Decks	10	Annual survey and repair of floor coverings
			20	Forward fan room deck plate is thinned down and requires renewal. Ships crew to check.
			30	Bar, Repair tiles and replace missing at entrance to storeroom
			40	Galley Alley, Replace door to freezer and remove deck below and re tile. Something is heaving under tiles, which has twisted the door, causing ice build up at door way. Hinges are worn out as well and cannot be adjusted.
			50	Galley Alley, Repair under tiles at entrance to smoking room, old Bella Bella door.
			60	Cafeteria, Repair baseboard trim.
4.00			70	Deck 6, Repair lump under tile in alley, starboard side in cabin area.
1466 CENT.135110	CLOSE	R05-Paint Shipside and Exterior Superstructure	0	* 1466P, General instructions for painting Shipside and Exterior Superstructure
			10	Perform a marine coatings survey on the exterior of the superstructure, all vertical faces of ship from rubbing strake to top of wheelhouse, including shipside logos, name and registry.
			15	The shipyard shall quote a firm price for removing all oil, grease, and other contaminants from all vertical surfaces of the following decks to the SSPC - SP 1 Solvent Cleaning standard using International Cleaner 950.
			20	The shipyard shall quote a firm price to remove all salt and loose marine coatings from the areas listed below by high pressure fresh water wash using a 3,000 psi nozzle held 12" from the surface.
			30	The shipyard shall quote a firm price for applying the marine coating system on the shipside as per item 4a or 4b (in areas accessible to passengers) of 1466P, shipside and facings.
			35	The shipyard shall quote a firm price for repairing the marine coating system in anchor pockets with boot top paint.
			40	The shipyard shall quote a firm price for applying the marine coating system on the vertical faces of forward anchor deck as per item 4a or 4b (in areas accessible to passengers) of 1466P, shipside and facings.
			50	The shipyard shall quote a firm price for applying the marine coating system on the vertical faces of aft mooring deck.as per item 4a or 4b (in areas accessible to passengers) of 1466P, shipside and facings.
			60	The shipyard shall quote a firm price for applying the marine coating system on the vertical faces of Deck 5.as per item 4a or 4b (in areas accessible to passengers) of 1466P, shipside and facings.
			70	The shipyard shall quote a firm price for applying the marine coating system on the vertical faces of Deck 6.as per item 4a or 4b (in areas accessible to passengers) of 1466P, shipside and facings.
			80	The shipyard shall quote a firm price for applying the marine coating system on the vertical faces of Deck 7.as per item 4a or 4b (in areas accessible to passengers) of 1466P, shipside and facings.



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Queen of the North Work Order Ор Work Plan Operation Description Status Description The shipyard shall quote a firm price for applying the marine coating system on the vertical faces of Deck 8.as per item 4a or 4b (in areas CENT.135110 CLOSE R05-Paint Shipside and Exterior Superstructure 90 accessible to passengers) of 1466P, shipside and facings. 1467 CLOSE CENT 135111 R05-Survey Windows 10 Survey all windows and repair all damaged seals. 20 Escape windows fwd. lounge and buffet. (4) Re-seal and replace metal casing and sills 30 Service wheelhouse wipers 40 Buffet, Replace window tinting on 5 windows 1469 * 1469P, General instructions for cleaning and painting of the CENT.135112 CLOSE R05-Stairs and Ladders 0 vessels exterior stairs and ladders 10 Survey coatings on all exterior stairs and ladders. 20 Repair and paint the items indicated in the survey of stairs and ladders as per 1469P general instructions. 1471 CENT.135113 CLOSE D05-Mast 0 1471P, General instructions for painting the mast. The shipyard shall quote a firm price for removing all oil, grease, and other contaminants to the SSPC - SP 1 Solvent Cleaning standard. 5 6 The shipyard shall quote a firm price for removing all salt and loose marine coatings using a 3,000 psi water wash with the nozzle held 12" from the surface. * Remove the existing marine coating system to the SSPC - SP 2 Hand Tool Cleaning and/or SP 3 Power Tool Cleaning standard, the shipyard shall quote a firm price for 50 sq ft. 7 The shipyard shall quote a firm price for applying the marine coating system as per 4a of 1471P. 10 Provide suitable local hoarding around the work in the event 20 inclement weather conditions. 1472 1472P, General instructions for painting the funnels. CENT.135114 CLOSE D05-Funnel 0 The shipyard shall quote a firm price for removing all oil, grease, and other contaminants to the SSPC-SP1 solvent cleaning standard with 5 International Cleaner 950. The shipyard shall quote a firm price for removing all salt and loose marine coatings using a 3000lbs/inch² fresh water pressure wash with the nozzle held 12" from the surface. 6 * Remove the existing marine coating system to the SSPC - SP 2 Hand Tool Cleaning and/or SP 3 Power Tool Cleaning standard, the shipyard shall quote a firm price for 100 sq ft. 7 The shipyard shall quote a firm price for applying the following marine coating system (coloured BCFS Blue) 10 20 The shipyard shall quote a firm price to crop, renew and recoat vent louvre, lower aft funnel. 1710 CENT.135115 CLOSE R05-Annual Survey of Furnishings 10 Survey, Clean, and Repair, the seating and tables in the following compartments: 2110 CENT.138915 CLOSE R05-Engines, Main 10 SME air start vv's checked and found #1,3,5,7 leaking-to be 20 ME LO auto clean filters remove and inspect Renew all BSP plugs in ME charge air coolers SW side 30 40 Rebuild or renew fuel limiting pistons for ME's 50 SME LO cooler leak at bottom base to shell joint requires renewal of gaskets 60 SME turning gear requires overhaul 70 SME shaft rpm pickup flywheel end bracket needs to be re-inforced 80 SME A8 pilot vv requires frequent change drain valve to be provided in pilot air line 90 ME (P&S) crankcase doors leaking , joints to be renewed renewed 100 PME port A5 air intake pipe from cyl head to manifold has 3 broken bolts and leaking air and requires repair AE #2 exh gas pyrometer selector switch requires replacement 110 120 Inspect and renew SME governor drive gears and intermediate 130 ME FO flowmeter strainers squashed and requires renewal

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Work Order	Status	Description	Op	Work Plan Operation Description
CENT.138915	CLOSE	R05-Engines, Main	140	Section of SW outlet pipe from SME fwd air cooler requires renewal(above Fwd JCW pump)
			150	P&S ME fwd air coolers -cracks in after cooler outlet transition pieces to trunking
0445			160	Manufacture new idler gear for Starboard main engine.
2115 CENT.135116 2115	CLOSE	R05-Port Main Engine Governor	10	Main Engine Governor. Service
CENT.135117 2130	CLOSE	R05-Stbd Main Engine Governor	10	Main Engine Governor. Service
CENT.135122 2150	CLOSE	R05-Intake and Exhaust System	10	Survey and repair all main engine exhaust bellows and lagging.
CENT.135123 2161	CLOSE	R05-Remote Control, Me	10	Regulatory Body Survey of control room and bridge stations
CENT.135124	CLOSE	R05-Pump, Lo, lb, Me Stbd	10	Overhaul and regulatory body survey of the starboard main engine inboard lube oil pump, motor, starter, and breaker.
2161 CENT.135125	CLOSE	R05-Pump, Lo, Ob, Me Stbd	10	Overhaul and regulatory body survey of the starboard main engine outboard lube oil pump, motor, starter, and breaker.
2161 CENT.135126	CLOSE	R05-Pump, Rocker Lo, Me Fwd	10	Overhaul and regulatory body survey of the port main engine outer lube oil pump, motor, starter, and breaker.
2161 CENT.135127	CLOSE	R05-Pump, Rocker Lo, Me Aft	10	Overhaul and regulatory body survey of the aft rocker arm lube oil pump, motor, starter, and breaker.
2162 CENT.135128	CLOSE	R05-Pump, Jw, Me Aft	10	Overhaul and regulatory body survey of the main aft jacket water cooling pump motor, starter, and breaker.
2163 CENT.135129	CLOSE	R05-Pump, Fo Booster, Me Aft	10	Overhaul and regulatory body survey of the aft fuel oil booster pump motor, starter, and breaker.
2164 CENT.135130	CLOSE	R05-Pump, Sw, Me Aft	10	Overhaul and regulatory body survey of the main aft saltwater cooling pump, motor, starter, and breaker.
2181 CENT.135131	CLOSE	R05-Heat Exchanger, Lo, Me Fwd	10	Overhaul and regulatory body survey of main engine heat exchanger.
2182 CENT.135138	CLOSE	R05-Heat Exchanger, Jw, Me Fwd	10	Overhaul and regulatory body survey of main engine heat exchanger.
2182 CENT.135139	CLOSE	R05-Heat Exchanger, Jw, Me Aft	10	Clean cooler plate pack of the main engine heat exchanger.
2190 CENT.135143	CLOSE	R05-Engine Mounts, Me	10	Examine and repair the port main engine chocks and hold down bolts.
			20	Examine and repair the starboard main engine chocks and hold down bolts.
2220	01.65=	P05 P + 01 61	4.5	
CENT.135144	CLOSE	D05-Port Shafting	10 20	Weardown measurements to be taken The shipyard shall quote a firm price for clock gauging of the taishaft should the propeller be found damaged on inspection.
			40	Port inboard and outboard Waukesha simplex type shaft seals to be opened up for inspection,
2220	01.05=	D05 0(a b a a d 0) - 5'		
CENT.135145	CLOSE	D05-Starboard Shafting	10 20	Weardown measurements to be taken The shipyard shall quote a firm price for clock gauging of the taishaft
			40	should the propeller be found damaged on inspection. Starboard inboard and outboard Waukesha simplex type shaft seals to be opened up for inspection.
2270	01.005	DOE Distingt and Values Constitution of Obe 2"	40	
CENT.138918	CLOSE	R05-Piping and Valves, Gearbox and Shafting	10	Both (P&S) shaft bearing SW cooling system piping needs to be flushed out
2320				

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Queen of the North Work Order Work Plan Operation Description Status Description Op * The Shipyard shall quote a firm price for the welding and CENT.135146 CLOSE D05-Propeller, Cp, Port 2 subsequent removal of lugs for lifting of rudders and propellers. On removal of lugs the shell plate to be ground and painted as part of * The Shipyard shall quote a firm price for removal, shipment and disposal of the oil contents of the CPP system for the port and starboard sides under the direction of KaMeWa representative. 20 * One (1) of port propeller blades to be removed, 2320 CENT.135147 CLOSE D05-Propeller, Cp, Stbd 20 One (1) of starboard propeller blades to be removed, 2322 CLOSE CENT.135148 D05-Oil Distribution Box. Port Inspection of the port oil distribution box in situ. 2322 CENT.135149 CLOSE D05-Oil Distribution Box, Stbd 10 Inspection of the starboard oil distribution box in situ. 2410 CLOSE Examine starters, manoeuvering valves, and test steering. Make functional all electrical components of steering systems. CENT.135150 R05-Steering Gear Electrical Maintenance 10 2410 CENT.144746 CLOSE D05X-Steering Gear Inspection 10 Dismantle port and stbd steering gear for inspection. 20 Supply services of Rolls Royce Representative. 2413 CENT.135151 CLOSE D05-Rudder Port 10 Rudder stock and pintle bearing clearances, and carrier bearing jumping clearances are to be measured and recorded in presence of Senior Chief Engineer. The Shipyard shall quote a firm price for repair of any surface erosion on the rudder and rudder horn. 80 Remove inspection plates, check nuts for tightness, take pintle bearing clearances, re-attach inspection plates. 2413 CENT.135152 **CLOSE** D05-Rudder, Stbd NOTE: There is an inboard oil leak on the inboard stock of starboard rudder. This has leaked since January 2004 drydocking. Rudder stock and pintle bearing clearances, and carrier bearing jumping clearances are to be measured and recorded in presence of Senior Chief Engineer. 10 The Shipyard shall quote a firm price for repair of any surface erosion on the rudder and rudder horn. The price to be for a 50 sq. ft. area repaired with Duralloy, Duratough or Cerami Flex. 80 Remove inspection plates, check nuts for tightness, take pintle bearing clearances, re-attach inspection plates. 2420 CENT.135153 CLOSE D05-KaMeWa Bow Propeller The Shipyard shall quote a firm price for removal, overhaul, reinstall. 10 20 Clean KaMeWa bowthruster blades and tunnel for marine growth. 30 Visually check locking devices on blades and guards. 40 * Gear backlash to be taken in presence of KaMeWa representative. 50 Repair the marine coating systems on the bow propeller as per 1323P, General instructions for , Coatings, Keel to Waterline. 60 Megger test bow propeller motor 2430 CENT.135156 CLOSE D05-Port Stabilizer Fin 30 Port stabiliser fin shall be extended. 40 Port stabiliser shall be functionally tested on completion of work. The marine coating system on the port stabiliser fin and housing shall be treated as per 1323P, General instructions for , Coatings, Keel to Waterline. 2430 CENT.135157 D05-Starboard Stabilizer Fin Starboard stabiliser fin shall be extended. CLOSE 30 40 Starboard stabiliser shall be functionally tested on completion of work. Repair the marine coating system on the starboard stabiliser fin and housing as per 1323P, General instructions for , Coatings, Keel to Waterline. 2430 * Perform visual inspection of Port and Starboard stabilizers. CENT.135158 CLOSE D05-Stabilizer, Visual Inspection 3110

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Work Order	Status	Description	Op	Work Plan Operation Description
CENT.138919	CLOSE	R05-Generation And Storage, Electrical	10	All 3 generators to be power balanced electronically i.e power factor,
2445				load etc
3115	01.005	P05 Occasion Aprillian #0 (Occasion)	40	Out the dead of the control of the dead of
CENT.135159	CLOSE	R05-Generator, Auxiliary #2 (Centre)	10	Overhaul and perform a regulatory body survey.
3118	01.005	B0511.14 (111 B	40	N : " A O : " UDO
CENT.135160	CLOSE	R05-Uninterruptible Power Supply Service	10	Navigation & Communication UPS
			20	Gyro Compass UPS
			30	Electronic Chart Display UPS
			40	Renew 5 UPS units (budget price)
3120				
CENT.135161	CLOSE	R05-Electrical Distribution	10	Contractor to perform an infrared scan on the main electrical equipment.
			20	Megger main power breakers, switchboards, motor control centers and transformers.
			30	Main switchboard upgrades
			40	Power panel, motor control center upgrades
2120			40	Power paner, motor control center upgrades
3130 CENT.135162	CLOSE	R05-Lighting	10	Survey Cardeck Lighting.
CLIVI.133102	CLOSL	NO3-Lighting	20	
			30	Survey Interior Lighting
			40	Survey Interior Lighting
				Survey Navigation Lighting, SIC 16 Item
			50	Survey Floodlights & Searchlights
0.450			60	Survey Exterior Lighting
3150 CENT.135163	CLOSE	R05-Engine, Auxiliary #2, Centre (Ship Service)	10	Overhaul and perform a regulatory body survey on Cat 3512 auxiliary engine. Contractor supplied materials and labour.
3150				
CENT.138920	CLOSE	R05-Damper Louvres, Emergency Generator	10	Emergency generator damper louvres are corroded and require renewal
3210				renewal
CENT.135164	CLOSE	R05-Boiler, Port	10	Clean and service boiler.
02.11.100.01	02002		20	Internal/External Regulatory Body Survey
3210			_0	mona. Exerna regulatory body carrey
CENT.135165	CLOSE	R05-Boiler, Starboard	10	Clean and service boiler.
021111100100	OLOGE	100 Bollot, Ctarboard	20	Internal/External Regulatory Body Survey
3210				montal External regulatory Body Survey
CENT.138921	CLOSE	R05-Boilers Exhaust Systems	10	Vaccuum/clean exhaust for both boilers
3230	OLOGE	The Bolleto Extrader dysterillo		Vascalification of both boilers
CENT.135166	CLOSE	R05-Chiller Plants	10	Service three refrigeration units in AC compartment.
3240	OLOGE	Too offiner Flants		dervice times remigeration times in 7.0 comparament.
CENT.135167	CLOSE	R05-Air Conditioners	10	Overhaul and test main condensor for AC unit
3250	OLOGE	100-All Collationers	10	Overhaul and test main condensor for AC unit
CENT.135168	CLOSE	DOS Curvoy Fono	10	Overhaul the Reefer exhaust fan evetem and replace the flex
CENT. 133100	CLUSE	R05-Survey Fans	10	Overhaul the Reefer exhaust fan system and replace the flex connections.
3260				
CENT.135169	CLOSE	R05-HVAC Pumps	10	Survey and service all HVAC pumps
3270				
CENT.135170	CLOSE	R05-Ventilation Trunking	10	Survey Ventilation Trunking, machinery, cardeck, galley,
		-		accommodation spaces
			20	Clean areas identified in Survey.
3280				
CENT.135171	CLOSE	R05-Accomodation Heating and Cooling Coils	10	Cleaning of accomodation heating and cooling coils only.
3290				
CENT.135172	CLOSE	R05-Space Heaters	10	Clean and service the cabin deck head heaters.
3310				
CENT.138922	CLOSE	R05-Sewage Treatment Plant	10	All sewage tanks mobrey switches to be cleaned and inspected
			20	Fit new strainers for wet well pumps
			30	Sewage minijet tanks require renewal

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CENT.138922	CLOSE	R05-Sewage Treatment Plant	40	Sewage pump running for more than 25 secs alarm to be connected to main alarm system
3311				to main alarm system
CENT.135173	CLOSE	D05-Sewage Treatment Tanks	10	Clean, survey the #7 sewage media tank.
			20	Clean, survey the wet well tank.
			30	Clean, survey the tunnel lift tank.
			40	Clean, survey the workshop lift tank.
			50	Clean, survey the mini jet tanks (2).
3313				
CENT.135174	CLOSE	R05-Sterilizers	10	Overhaul and test sterilization unit
3321				
CENT.135175	CLOSE	R05-Hydrophor Buffer Tank, Sanitary Water	10	Hydrophor buffer tank, forward and aft, including safeties, survey, clean, disinfect, and paint with Interguard 264. Take thickness measurements. Capacity 400 litres.
3340				
CENT.135176	CLOSE	R05-Toilets, Urinals, Sinks And Scuppers	10	Survey and repair 121 toilets and 88 scuppers.
			20	Stainless steel sink nearest to alleyway cracked
3410 CENT.135177	CLOSE	R05-Compressor, Air, Aft Main	10	Complete overhaul and regulatory body survey of aft main air compressor.
3420				
CENT.135178 3510	CLOSE	R05-Receiver, Air, Emergency	10	Test, calibrate, air bottle and relief valves.
CENT.135179	CLOSE	R05-Hydraulic Module	10	Overhaul and perform a regulatory body survey on the windlass machinery hydraulic system.
			15	NDT of hydraulic piping around fwd and aft mooring winches
			20	Bow Visor, Bow ramp, Inner Bow door, Stern doors, Platform
				Cardecks and Ramps. Inspect and replace Hydraulic hoses.
3611 CENT.135180	CLOSE	R05-Hydrophor Buffer Tank, Domestic Water	10	Domestic water Hydrophor buffer tank forward and aft, including safeties. Clean, paint, and regulatory body survey by Health Canada.
3616				
CENT.138923	CLOSE	R05-Pump, Domestic Hot Water Circ. Aft	10	Overhaul and survey of pump, motor, starter, and breaker.
3616				
CENT.138924	CLOSE	R05-Pump, Domestic Hot Water Circ. Forward	10	Overhaul and survey of pump, motor, starter, and breaker.
3616				
CENT.138925	CLOSE	R05-Pumps Domestic Water, Forward F.W.	10	Overhaul and survey of pump, motor, starter, and breaker.
3616				
CENT.138926	CLOSE	R05-Pumps Domestic Water, Aft. F.W.	10	Overhaul and survey of pump, motor, starter, and breaker.
3680 CENT.135181	CLOSE	R05-Thermostat Control Valves	10	Overhaul the thermostat control valves.
4130	CLUSE	Ros-memostat Control valves	10	Overnaul the thermostat control valves.
CENT.135182	CLOSE	R05-Elevators	10	Annual Inspection and Certification of elevator and dumbwaiter by BC Safety Authority.
			20	Annual service of passenger elevator and dumbwaiter by Kone Inc.
4140				service representative as per contract.
4140 CENT.135183	CLOSE	R05-Stairlift	10	Survey and make functional the stair lift
4160	CLOSL	Noo-Stairint	10	Survey and make functional the stall lift
CENT.139781	CLOSE	D05-Windlass, Anchor, Stbd	10	Overhaul and perform a regulatory body survey on the starboard
SEITI. 100701	OLOGE	200 Timalado, Filonot, Olda		anchor windlass.
			20	* The shipyard shall quote a firm price for applying the marine coating system on Foredeck (Anchor Deck) under starboard anchor windlass as per 1411P. Approximately 40 sq ft. surface area.
4167	01.65=	Por 4 1 1 101 1	4 =	
CENT.135184	CLOSE	D05-Anchors and Chain	10	Regulatory body survey anchor and chains port and starboard.
4170	01.005	DOE Lines And Director	40	Company and anning opening
CENT.135185	CLOSE	R05-Lines And Rigging	10	Survey and service vessel's rigging
4300				



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Queen of the North Work Order Status Op Work Plan Operation Description Description CENT.138927 R05-General Piping Systems CLOSE 10 Renew Sw strainers for sanitary pump's and genr internal assly and 20 Sw piping from primary strainers to engines and back overboard to 30 Discharge junction between genr 1&2 to be changed to Y instead of 40 Fabricate 1" connection for suc/disch pipe of LO transfer pp 4316 CENT.135186 CLOSE R05-Pump, Bilge, Aft 10 Overhaul and regulatory body survey of the aft bilge pump, motor, starter, and breaker. 4316 CENT.135187 CLOSE R05-Pump, Bilge, Emergency Overhaul and regulatory body survey of the emergency bilge pump, motor, starter, and breaker. 4317 Renew bilge and ballast lines and fittings. Scope to be determined CENT.135188 CLOSE R05-Piping & Valves, Bilge System by ships crew before refit. 4362 CENT.135189 CLOSE R05-Pump, Fo Transfer Overhaul and regulatory body survey of the FO transfer pump, motor, starter, and breaker. 4362 CENT.135190 CLOSE R05-Pump, Fo Transfer (X-Hfo) 10 Overhaul and regulatory body survey of the FO (X-Hfo) transfer pump, motor, starter, and breaker. 4363 CENT.135191 CLOSE R05-Pump, Ballast 10 Overhaul and regulatory body survey of the ballast pump, motors, starter, and breaker. Vaccuum pump for stbd Ballast pump to be o/hauled 20 4370 R05-Piping and Valves, General Piping Systems CENT.135192 CLOSE 10 Survey the valves on the piping for the domestic heating system. Renew the valves indicated by the survey For the Pleiger system, service all control valves in cabinets and all 20 suction valves, renew all seals and cup springs. Overhaul and perform a regulatory body survey on the bilge and 30 ballast lines and fittings. Renew all wasted pipes 40 Overhaul and perform a regulatory body survey on all lines and fittings excluding the bilge and ballast. Renew all wasted pipes. 50 Renew temperature gauge of forward SW pump discharge (drydock) 60 Overhaul Ballast Valve above ballast manifold beside ER escape 70 Repair 2 SW pipes in ER, vibrating, require to be fastened by brackets 4376 CENT.135193 CLOSE R05-Extended Spindles 10 Survey.service all extended spindles. 4410 CENT.135194 CLOSE R05-Purifiers, Lo, Fwd Overhaul in accordance with the manufacturers specifications from service manual insitu LO purifiers piping to be modified to ensure complete interchangeability with all 3 pfrs Centre Lo purifier heater wiring to 20 4410 CENT.135195 CLOSE R05-Purifiers, Lo, Aft 10 Overhaul in accordance with the manufacturers specifications from service manual insitu 4410 CENT.135196 CLOSE R05-Purifiers, Lo, Center 10 Overhaul in accordance with the manufacturers specifications from service manual insitu 4420 CENT.135197 CLOSE R05-Purifier, FO, Fwd 10 Overhaul in accordance with the manufacturers specifications from service manual insitu 4430 CENT.135199 **CLOSE** R05-Oily Water Separator Exchange the oily water PPM meter. Focas 1500E 10 20 Survey, clean the Huss oily waste containment tank. 4550 CENT.135200 **CLOSE** R05-Lifting Gear and Hard Points Overhaul and Test Lifting Gear 10 20 Load test lifting points

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Work Order CENT.135201 5100 CENT.135202	Status CLOSE	Description R05-Torque Wrenches and Engine Analyzer	Ор	Work Plan Operation Description
5100	CLOSE	R05-Torque Wrenches and Engine Analyzer		
		1 too 1 orquo 111 orionoo ama 2 mgmo 7 many 2 or	10	Calibrate torque wrenches
			20	Calibrate engine analyzer "Premet"
021111100202	CLOSE	R05-Appliances, Fixed	10	Annual Survey of Fixed Appliances
	OLOGE	ree repliances, rixed	20	Survey, clean all elements and wiring in stovetops and grills for
			0	defects and repair.
			30	Buffet, Install two half wells in steam servery, per Hans Zimmermani
			40	Bar, Add booster heater for hot water to glass washer. Health Canada concern, issued CAR by ISM.
			50	Galley, Recut new steam wells in crew servery to conform to standard inserts.
			60	Galley, Soup warmers are leaking and require overhaul.
			70	Galley, Investigate replacing sink so bays are big enough to hold
			80	cup racks. Galley, Scupper by steamer is not draining and needs repair.
5200			00	Galley, Scupper by steamer is not draining and needs repair.
CENT.135203	CLOSE	R05-Appliances, Removable	10	Annual Survey of Removable Appliances
5300	02002	Too repriations, removable	.0	, amade carrely erromerable rippinariose
CENT.135204	CLOSE	R05-Refrigeration	10	Annual Survey of Refrigeration Equipment
5400		5		, , , , , , , , , , , , , , , , , , , ,
CENT.135205	CLOSE	R05-Retail Equipment	10	Survey and service all retail equipment.
7100				
CENT.135206	CLOSE	R05-Navigation Equipment Survey, ISM requirement	10	Doppler log service
			20	Navigation Equipment-Electronic Charts/ECDIS-GPS-WIND
			20	Indicators-Navtext
			30	Global Positioning System Service
			40	Navigation and Communication U.P.S.
			50	Auto Pilot Service
			60	Echo Sounder Service
7444			70	Wind Speed and Direction Indicator
7111 CENT.138817	CLOSE	D05-Depth Sounder	10	* Service the depth sounder
7117	OLOGE	Dos-Deptii Sounder	10	Service the depth sounder
CENT.135207	CLOSE	R05-Compass, Magnetic	10	Magnetic compass to be adjusted on completion of refit.
7120	02002	rtos compaco, magnoto	.0	magnote compact to 20 adjusted on completion of remit
CENT.135208	CLOSE	R05-Radar #1, Litton 340 E CAS	10	Annual radar service
7120	OLOGE	rice riadar in 1, Elicento 10 E onic	10	, unidal radal solvido
CENT.135209	CLOSE	R05-Radar #2 Sperry 340 S-Band	10	Annual radar service
7120				
CENT.135210	CLOSE	R05-Radar #3, Racal Decca Bridgemaster C251/6	10	Annual radar service
7140		•		
CENT.135211	CLOSE	R05-Survey Gyro Compass	10	Service and regulatory body survey gyro compass and repeater.
7150				
CENT.135212	CLOSE	R05-Integrated Navigation System	10	Survey and service the integrated navigation system.
7160				
CENT.135213	CLOSE	R05-Electronic Chart Display (ECDIS)	10	Survey and service the ECDIS.
7340				
CENT.135214	CLOSE	R05-Propulsion Engine Control	10	Survey and service the propulsion control system.
			20	Service the port & starboard main engine telegraph systems.
7360				
CENT.135215	CLOSE	R05-Steering Control	10	Service and syncronize the rudder indicators and rheos.
7500				
CENT.138955	CLOSE	R05-Consoles And Remote Panels	10	Fit run and stop lights in engine control room for sanitary and fresh
8000				water pump's
CENT.135216	CLOSE	R05-Communications Survey, ISM requirement	10	Radios Company Frequency
J_141.100210	OLOGE	1.00 Communications curvey, low requirement	20	VHF Equipment
			30	Closed Circuit TV System

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CENT.135216	CLOSE	R05-Communications Survey, ISM requirement	40	Emergency Radio Batteries
			50	Public Address System
			60	Internal Radio Systems and Repeaters
			70	Service Aiphone Non Nemetz System
			80	Service Playback and Recording Equipment
			90	Service all Telephones
8120				
CENT.135217	CLOSE	R05-Telephone System (Shipboard)	10	Sound Powered Phones
			20	Aiphone
8200				
CENT.135218	CLOSE	R05-Fixed and Handheld Radios	10	Survey and service all fixed radios.
			20	Service radio repeater system.
			30	Service all shipboard handheld radios.
8300				
CENT.135219	CLOSE	D05-Sound And Horn Systems	10	Service the ships horns
8310				
CENT.135220	CLOSE	R05-General Alarm System	10	Service the general alarm system.
8320				
CENT.135221	CLOSE	R05-Public Address System	10	Service public address system
8400				
CENT.135222	CLOSE	R05-Closed Circuit Tv	10	Examine and make functional closed circuit cameras, television
0000				monitors, and recorders.
8600	01.005	P05 0'	40	O
CENT.135223	CLOSE	R05-Signage	10	Survey, repair, renew, all vessel signage to make them functional.
9100	01.005	DOT 51 D 4 11 D 4 01040	40	
CENT.135224	CLOSE	R05-Fire Protection Systems, SIC16	10	Test and prove functional the following equipment and systems for regulatory body certification.
			20	Operate all items in the presents of regulatory bodies for
				certification.
9100				
CENT.138821	CLOSE	D05-Shipside Fire Shutters	10	* Repair all thirty three (33) shipside fire shutters
			20	Regulatory body survey of shipside fire shutters.
9110				
CENT.135225	CLOSE	R05-Fire Detection & Notification System	10	Regulatory Body Survey fire panels and smoke/heat sensors. Service fire panels.
9120				dervice life pariets.
CENT.135226	CLOSE	R05-Fire Fighting Sprinkler Systems	10	Deluge system service and survey
9123	OLOOL	100 Fire Fighting opininer bystems	10	Delage system service and survey
CENT.135227	CLOSE	R05-Fire Dampers	10	Survey all ship's fire dampers
OLIVI.100221	OLOGE	100-i ile Dampers	20	Make functional all fire dampers found deficient from survey.
9126			20	make functional all life dampers found deficient from survey.
CENT.135228	CLOSE	POS Dump Fire Emergency	10	Overhaul and regulatory hady survey of the emergency fire, numb
CEN1.135220	CLUSE	R05-Pump, Fire, Emergency	10	Overhaul and regulatory body survey of the emergency fire pump, motor, starter, and breaker.
9130				
CENT.135229	CLOSE	R05-Fire Extinguishers, Fixed	10	All fixed CO2 systems bottles to be removed & weighed, service
		-		valves and hoses
			20	CO2 room door on cardeck requires a better latching arrangement to avoid unneccessary shut down of ventillation
			30	Remove blowing through valve of CO2 room as it placed in the
				wrong direction
9140				
CENT.135230	CLOSE	R05-Fire Extinguishers, Portable	10	All portable fire extinguisher to be weighed and serviced and copies of certificate to be forwarded to the Senior Chief Engineer.
9150				or certificate to be forwarded to the Serifor Chief Engineer.
CENT.135231	CLOSE	R05-Breathing Apparatus	10	All air hreathing annaratus to be serviced by an OEM cortified
OLIVI. 10020 1	OLUGE	1.00-Dieatimy Apparatus	10	All air breathing apparatus to be serviced by an OEM certified service company and bottles refilled.
9200				
CENT.135232	CLOSE	R05-Lifesaving Equipment	10	Service, Regulatory Body Survey of life saving equipment.
9210				

Report: C:\000-GDP-Dynamic\150-Asset Mgmt\156-Failure Analysis\QON Sinking\82213 Work Orders Master List OpStep detail.imr



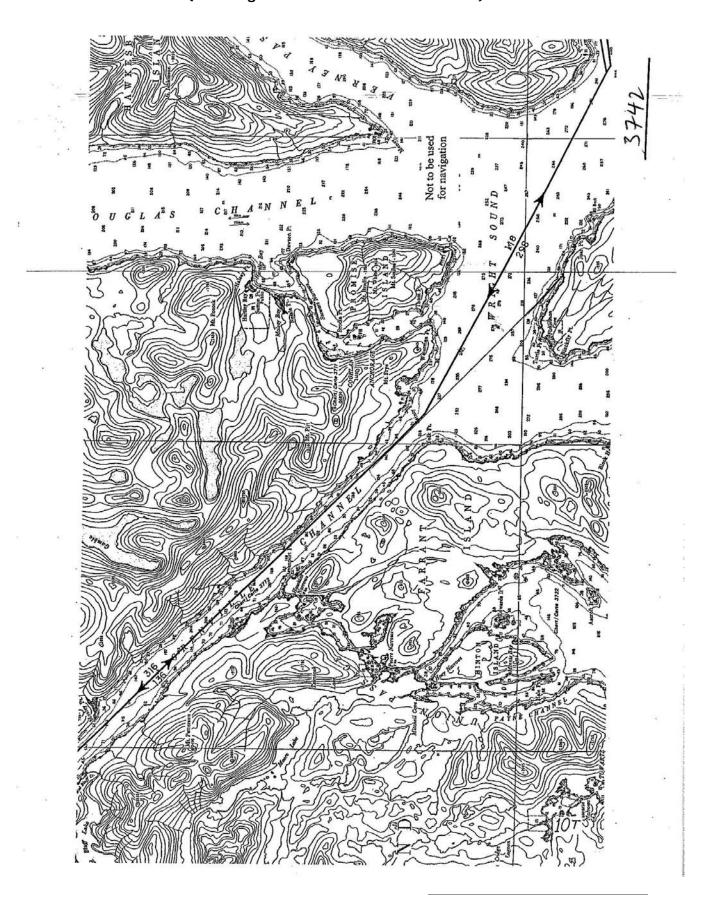
CMMS - Maximo Project Work Orders Master List

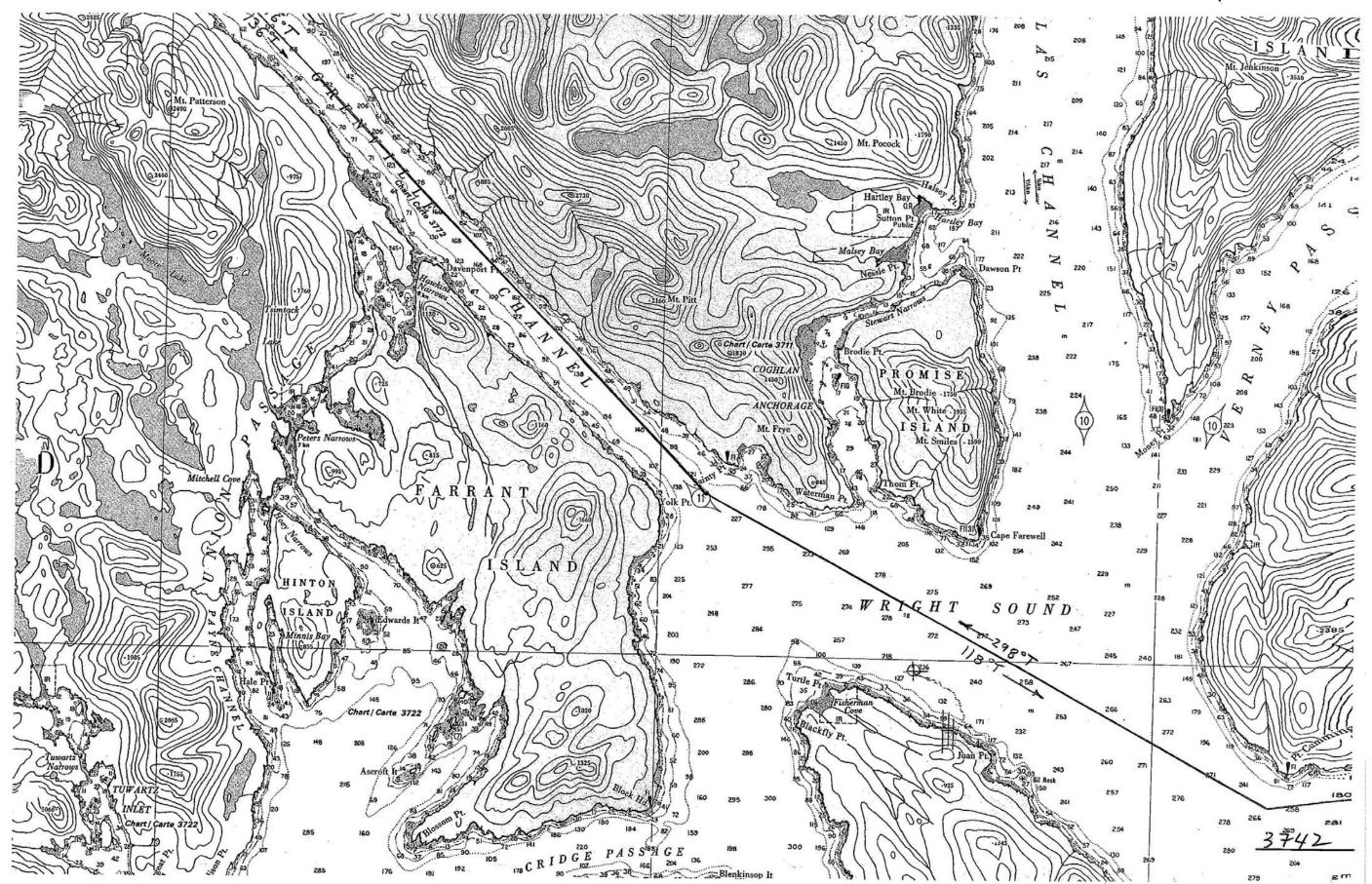
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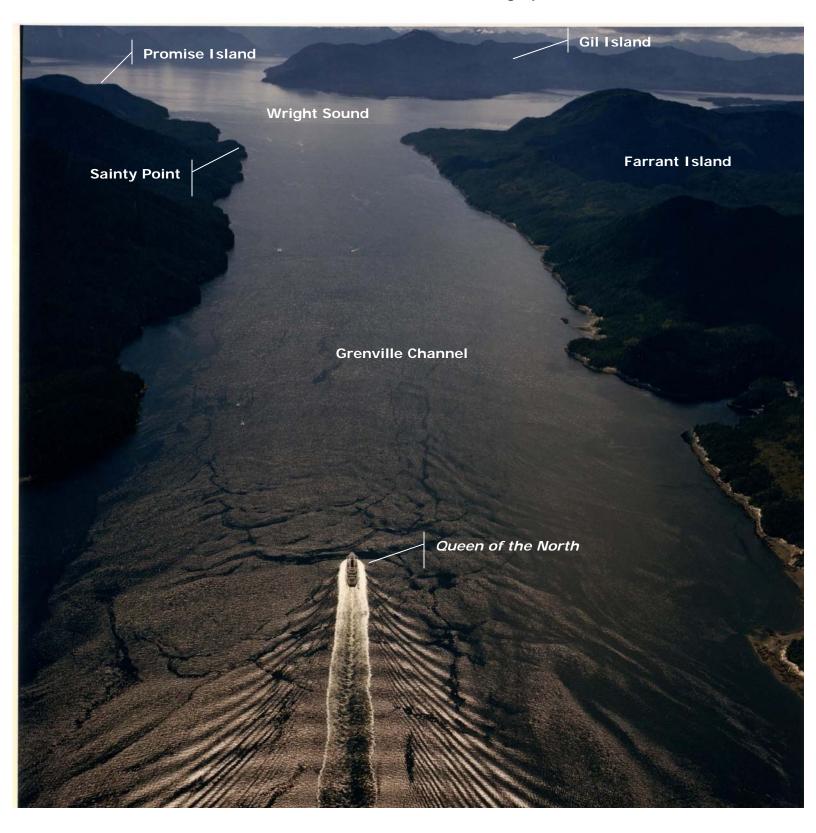
Queen of the	North			
Work Order	Status	Description	Ор	Work Plan Operation Description
CENT.135233	CLOSE	R05-Rescue Boat Davits, MOB	1	Davit, Schat, MOB, Rescue Boat
			10	Perform the following work on the MOD Davit
			100	Contracted Services
9210				
CENT.135234	CLOSE	R05-Liferaft Davits, SAR	5	Work Order for 4 Schat SAR davits.
			10	Shipyard work
			100	Contracted Services
9210				
CENT.135235	CLOSE	R05-Lifeboat Davits, GRA	5	Work Order is for 2 davits.
			10	Riggers
			100	Contracted Services
9220				
CENT.135236	CLOSE	R05-Lifeboats	10	Regulatory Body Survey of Lifeboats.
			20	Lifeboat lifting hook inspection and load testing.
9230				
CENT.135237	CLOSE	R05-Liferafts	10	Overhaul and perform a regulatory body survey of liferafts.
9240				
CENT.135238	CLOSE	R05-Rescue Boats	10	Service, regulatory body survey of rescue boat and release hook.
9300				
CENT.135239	CLOSE	R05-BCFC Safety Systems	10	Survey and service the nemetz system.

ATTACHMENT 3 CHARTLET 3742 (showing extension of 136° T trackline)

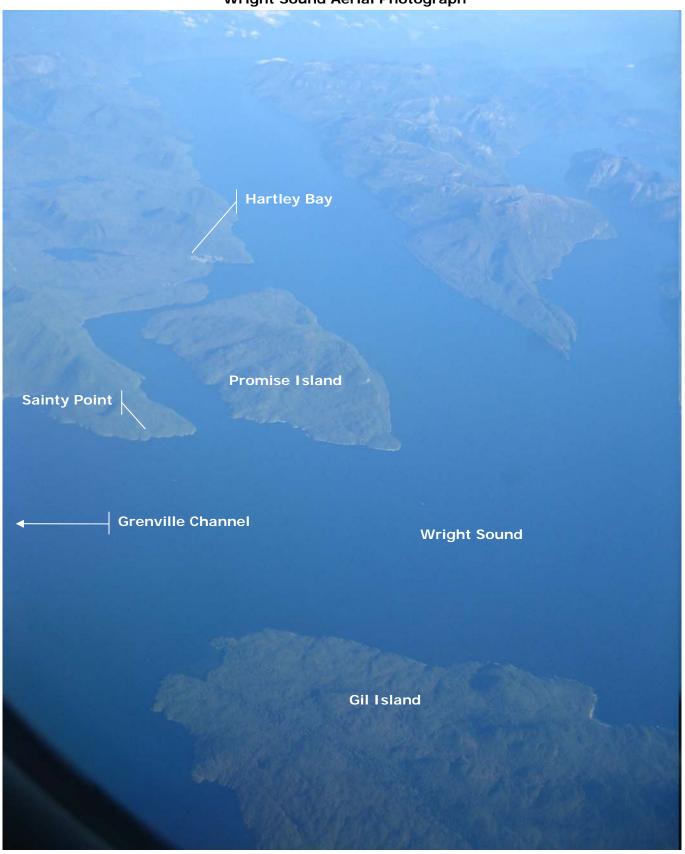




ATTACHMENT 5 Grenville Channel Aerial Photograph



ATTACHMENT 6
Wright Sound Aerial Photograph



ATTACHMENT 7 WATER VIEWS

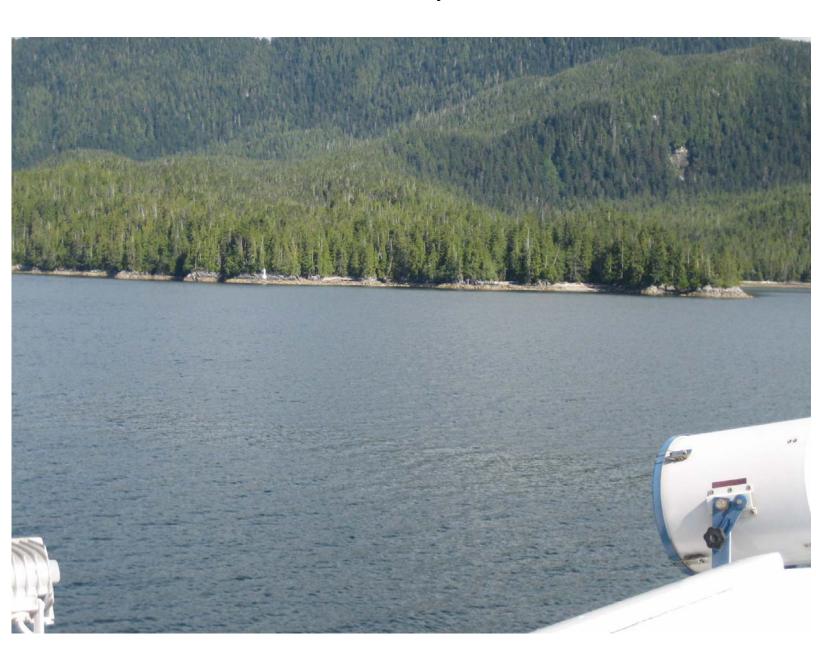
Queen of Prince Rupert in Grenville Channel Southbound (August 23, 2006)



ATTACHMENT 7 WATER VIEWS

Queen of Prince Rupert in Grenville Channel (August 23, 2006)

Sainty Point Light
LLNR 665
53° 22' 18"
129° 18' 40"
flashing white, 4 seconds, 4.6 m focal height
nominal range: 7 nm
white cylindrical tower



ATTACHMENT 7 WATER VIEWS

Queen of Prince Rupert in Grenville Channel Southbound (August 23, 2006)



FTR-PP-40PR-BC-R01

ROUTE #10 NORTH: PRINCE RUPERT - BEAR COVE

TOTAL DISTANCE: 272.85

			CHARTS: 3	CHARTS: 3958, 3956, 3927, 3773, 3772, 3744, 3940
POSITION	GOURSE(T)	BEARING!	DISTANCE	REMARKS
Depart Prince Rupert	Various	ANA (SAN) ANA SAN ANA	0.35	Call VTS of 74
Course Ahead	190		0.5	
Fairview Dock	180	0.1	6.0	
Casey Beacon	162)	0.1	1.8	
Spireledge Buoy (D47)	182	307/0.25	4.5	
Holland Rock	156	296/0.25	4.9	CIP #15C ch 71
Genn Island Light	153	7 066/0.15	3.0	CiP #14B ch 71
Hammer Island Light	144	055/0.35	2.0	
Herbert Reefs Light	160	250/0.4	2.8	
Seabreeze Point	180	081/0.9	3.6	
Watson Rock Light	121	083/1.0	4.3	
Pitt Point Light	132	255/0.5	3.6	
McMurray Point	137	050/0.65	11.1	CIP #13A @ Baker Inlet of 74 to 44
Pitt Island Light	148	231/0.4	8.0	Cib #10 ch 14
Saunders Creek Light	139	343/0.55	1.9	
Ormiston Point Light	147	236/0.15	9.0	
Mountain Point Position	134	008/0.18	1.9	
Tom Island Light	136	045/0.15	14.9	
Sainty Point Light	118	028/0.5	7.8	CIP #11 ch 11

April 6, 2004

FTR-PP-10PR-BC-R01

ROUTE #10 NORTH: PRINCE RUPERT - BEAR COVE

TOTAL DISTANCE: 272.85

I O I OF DIO I ON OE: A1 A.00			CHARTS: 37	CHARTS: 3742, 3740, 3739, 3738, 3734, 3744, 3940
NOLLING	COURSE(II)	BEARING/	DISTANCE	REMARKS
(2) 「大きないできない。 できない はいない ない ないない ないない ないない ないない ないない ないな		RANGE		
Point Cumming Light	081	028/0.5	3.4	
Trivett Point Light	100	180/0.3	2.8	
Pilot Light	092	010/0.5	2.1	
Kingcome Point	144	210/0.35	2.9	CIP #9 ch 11
Elephant Head Position	134		8.3	
LAT 53 15.88 N LONG 128 51.25 W	:			
Work Island Light (Butedale Position)	105	344/0.55	2.25	
Redcliff Point	148	230/0.35	2.65	
Heddington Point	160	055/0.4	2.5	
Asher Point	168	060/0.3	1.6	
Griffin Point Light	156	029/0.4	2.4	OD #8 ch 44
Swanson Point	717		i	
LAT 53 01.35 N LONG 128 31.6 W	4/-	•	 	
Netherby Point	185	077/0.35	1.3	
Quarry Point Light	200	281/0.35	1.5	
Tolmie Point	186	325/0.55	5.9	
Hook Point	190	100/0.25	4.2	CIP #7 ch 11 @ Ditmars Point
Tenas Island Light	168	100/0.35	1.4	
Rocky Point Light	143	067/0.4	1.1	
			Ţ	

April 6, 2004

FTR-PP-10PR-BC-R01

ROUTE #10 NORTH: PRINCE RUPERT - BEAR COVE

TOTAL DISTANCE: 272.85

CHARTS: 3734, 3711, 3728, 3720, 3744, 3936, 3940

S. C. to a gradual statement of the management of the comment of the statement of the state				0, 0, 0, 1, 0, 10, 0, 11, 0,00, 0,10
POSITION	COURSE(T)	BEARING/	DISTANCE	REMARKS
Split Head Light	171	302/0.4	1.8	
Boat Bluff Light	118	102/0.32	1.35	
Pering Point	160	340/0.55	1.0	
Jane Island Light	170	270/0.88	9.6	CIP #6 @ Freeman Point ch 11
Legace Point Light	210	067/1.0	7.3	
Vandouver Rock Light Buoy (E54)	143	090/1.3	6.85	
Ivory Island Light	100	057/1.15	5.9	
Idol Point Light	107	190/0.3	4.7	CIP #5 ch 11
Dall Rocks Light Buoy (E33)	132	222/0.25	2.7	
Dryad Point Light	224	240/0.55	1.7	
Bella Bella Dock Position	192	224/0.55	6.	
Story Point Light	166	090/0.1	1.0	
Napier Point Light	177	265/0.1	2.85	CIP #3 @ Walker Island ch 11
German Point	103	283/0.3	3.0	
Cliff Bluff	080	035/0.4	2.1	
Serpent Point Light	115	205/0.18	2.7	
Pointer Island Light	183	270/0.82	5.3	
Fog Rocks Light	177	087/0.5	17.0	CIP #2 ch 11
-				

Fleet Routing Route 10 Page 4 of 4

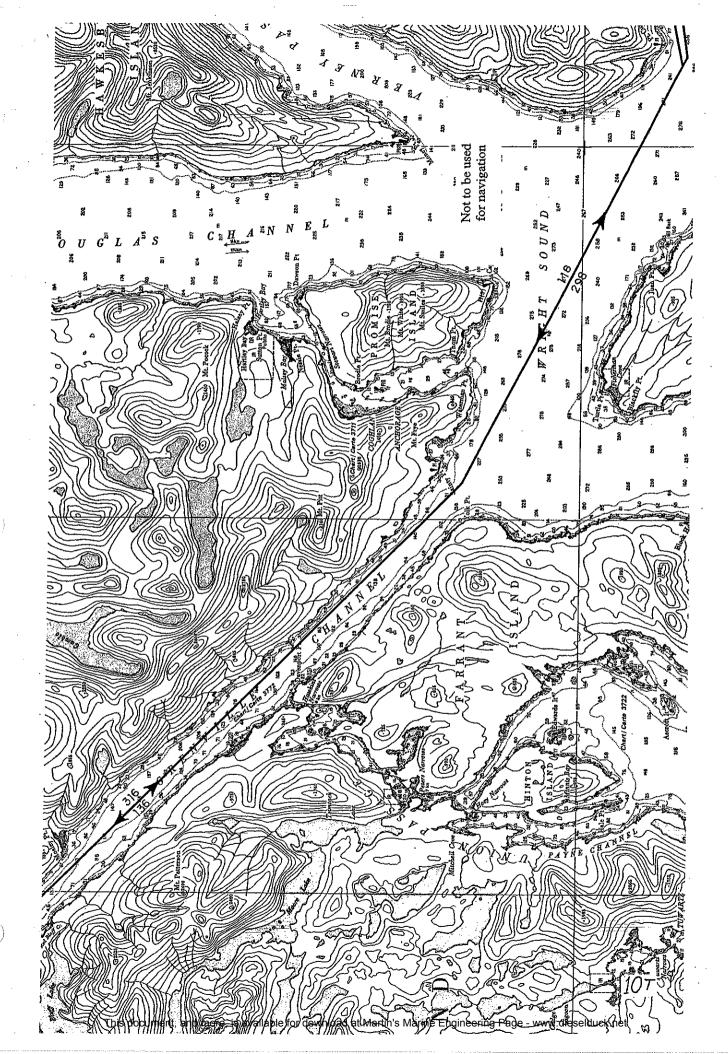
FTR-PP-10PR-BC-R01

ROUTE #10 NORTH: PRINCE RUPERT - BEAR COVE

TOTAL DISTANCE: 272.85

CHARTS: 3727, 3598, 3550, 3549, 3548, 3744, 3936, 3940

POSITION COURSE(T) BEARING/ DISTANCE REMARKS RANGE	e Point Light 169 079/0.8 5.3	oke Island Light 172 082/0.7 9.3	oint 186 270/1.0 12.1	nd Light 163 090/2.0 16.8 CiP #39 @ Cape Caution ch 11 to ch 71	nd Light 136 100/1.15 8.0 CIP #38 ch 71	Point Light 120 178/1.5 4.7	land Light 134 246/0.65 3.7	and Light 4.2 CIP #37 ch 71	ay Position Various 0.9	sar Cove
	Kwakume Point Light	Appenbroke Island Light	Harold Point	Egg Island Light	Pine Island Light	Scarlett Point Light	Crane Island Light	Doyle Island Light	Hardy Bay Position	Arrive Bear Cove



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ATTACHMENT 10 BRIDGE TEAM RELEVANT EXPERIENCE

2/0 (EI	ON #3)		4/0 (I	EDN #5)		Deckhand	•	•
2003			2003			2003	taron n	0.00-1
Date	Vessel	Position	Date	Vessel	Position	Date	Vessel	Position
Feb 5 - 19th	QPR	2nd Officer	Jan - May		Deckhand	Jan - Dec		al Attendant
Mar 5-19th	QPR	2nd Officer	May 14-18th	QPR	3rdOfficer			
Mar 20 -21st	QON	2nd Officer	May 19 - 28th	QPR	4thOfficer			
Apr 3 -21st	QON	3rd Officer	June 11th	QPR	Deckhand			
May 15 -28th	QON	2nd Officer	June 12 - 25th	QPR	4thOfficer			A 101300 12 10
Jun 12 - 25th	QON	2nd Officer	July 9- 23rd	QPR	4thOfficer			
July 10 - 23rd		2nd Officer	Aug 6 - 20th	QPR	Deckhand			
Aug 6 - 20th	QPR	4th Officer	Sep 6 - 13th	QPR	Deckhand	a Amor		
Oct 1- 7th	QPR	4th Officer	Sep 14 - 17th	QPR	4thOfficer	0.000 M. 10.000 M. 1		11.
Oct 8 - 10th	QPR	2nd Officer	Oct 1 - 7th	QPR	Deckhand			
Oct 11-13th	QPR	4th Officer	Oct 8 - 10th	QPR	4thOfficer			5.2
Oct 14 - 15th	QPR	2nd Officer	Oct 11 - 13th	QPR	Deckhand	1187	10 70074740	
Imbalanced from sp			Oct 14 - 15th	QPR	4thOfficer			
Nov 12 - 17th	QPR	3rd Officer	Oct 29 - Nov 12th	QPR	4thOfficer			T
Nov 18 - 20th	QPR	2nd Officer	Nov 26 Dec 2nd	QPR	Deckhand			170000
Nov 21 - 26th	QPR	3rd Officer	Dec 3rd	QPR	4thOfficer			
Dec 10 - 22nd	QPR	2nd Officer	Dec 4 - 9th	QPR	Deckhand		 	
2720-70-0-1915 270-0-0-0-101			Dec 10th	QPR	4thOfficer			
	7000000		Dec 27-31st	QPR	Deckhand			
2004			2004			2004	<u> </u>	
Jan 21-26th	QPR	3rd Officer	Jan 1-4th	QPR	Deckhand	Jan-December	Termin	al Attendant
March 17th	QON	2nd Officer	Jan 5-7th	QPR	4th Officer	2005	CHILI	iai Atteridant
^4ar 18-25th	QON	3rd Officer	Jan 8th-Feb 1st		Attendant	January	Termin	lal Attendant
r 26-31st	QON	4th Officer	Feb 2-4th	QPR	4th Officer	Feb 22-Mar 1st	QPR	Fam-Deckhan
May 13-20th	QON	Deckhand	Feb 5th-May 25th		Attendant	Mar 3-6th	QPR	Fam-Deckhan
May 21-25th	QON	2nd Officer	May 26th-June 9th			Mar 30-Apr 1st		
June 19-July 3rd	QOC	4th Officer	June 23-30th	QPR	4th Officer	Apr 5th-10th	QPR	Deckhand
July 17-19th	QOC	4th Officer	July 2-6th	QPR	Fam-Hostler		QON	Fam-Deckhan
July 21-Aug 4th	QPR	2nd Officer	July 7th & 8th	QPR			QON	Deckhand
Aug 14-27th	QOC	4th Officer			4th Officer	Apr 26th	QON	Deckhand
Oct 27th-Nov 9th	QPR	2nd Officer	July 21-Aug 4th	QPR	4th Officer	May 11-25th	QPR	Deckhand
2005	WFK	Znd Onicer	Aug18th-25th	QPR	Deckhand	June 8th-21st	QPR	Deckhand
Jan 5-19th	000	0-106	Aug 26th-28th	QPR	4th Officer	July 6-20th	QPR	Deckhand
Feb 6th-15th	QPR QPR	2nd Officer	Aug 29-31st	QPR	Deckhand	Aug 3rd-16th	QPR	Deckhand
		2nd Officer	Sept 15-21st	QPR	Deckhand	Aug 31st-Sep 5th	QPR	Deckhand
Mar 2-15th	QPR	2nd Officer	Sep 22nd	QPR	Hostler	Sep 7th-14th	QPR	Deckhand
Mar 30-Apr 12th	QON	2nd Officer	Sept 30-Oct 10th	QON	3rd Officer	Sep 28th-Oct 3rd	QPR	Deckhand
Apr 27-May 11th		2nd Officer	Oct 28th-Nov 4th	QPR	3rd Officer	Oct 12th	QPR	Deckhand
June 4-June 17th	QOC	4th Officer	Nov 24th-Dec 4th	QPR	4th Officer	Oct 23rd-Nov 2nd	QPR	Deckhand
July 2-July 15th	QOC	4th Officer	Dec 5th-8th	QPR	3rd Officer	Nov 23rd-26th	QPR	Deckhand
July 30th-Aug 13th		4th Officer	2005			Dec 14-21st	QPR	Deckhand
Aug 27-Sep 7th	QOC	4th Officer	Jan 24-30th	QPR	Deckhand	Dec 25-Jan 2nd	QPR	Deckhand
Sep 28th-Oct 1st	QON	2nd Officer	Jan 31st-Feb 4th	QPR	4th Officer	2006		
Oct 26th-Nov 6th	QPR	3rd Officer	Feb 16th-19th	QPR	4th Officer	Jan 18th	QPR	Deckhand
Nov 7-9th	QPR	2nd Officer	Feb 20-22nd	QPR	3rd Officer	Jan 30th-31st	QPR	Deckhand
Nov 20-22nd	QPR		Feb 23rd-Mar 1st	QPR	4th Officer	Feb 6th - 9th	QPR	Deckhand
Nov 23-24th	QPR	2nd Officer	Mar 16-28th	QPR	Deckhand	Feb 11 - 14th	QPR	Deckhand
Nov 26-Dec 7th	QPR	4th Officer	Mar 29-30th	QPR	4th Officer	Feb 21 - Mar 4th	QPR	Deckhand
2006			Apr 13-27th	QON	4th Officer	Mar 15 - 16th	QON	Deckhand
un 18-Feb 1st	QPR	2nd Officer	May 11th-25th	QPR	4th Officer	Mar 20 - 22nd	QON	Deckhand
March 15-22nd	QON	2nd Officer	June 8-21st	QPR	4th Officer	56		
			July 6th-20th	QPR .	2nd Officer			
			Aug 3rd	QPR	4th Officer			
			Aug 4th-16th	QPR	Deckhand			
\$1000 St. March			Aug 31st-Sep 10th		Deckhand	XXXX	g180000889=- 80 0	
		272.00	Sep 11-14th	QPR	4th Officer			
			Sep 28-Oct 4th	QPR	4th Officer	-		
		3 300	Oct 26th-Nov 6th	QPR	4th Officer	8		
COR B			Nov 7 - 8th	QPR	3rd Officer			
			Nov 23-25th	QPR	4th Officer			
· · · · · · · · · · · · · · · · · · ·	- 12 M	24	Nov 26-Dec 7th	QPR	Deckhand	<u> </u>		
		-	2006	-XI 11	Decki laliu		2-20037 - 02-30	
		· · · · · · · · · · · · · · · · · · ·	Jan 18-31st	QPR	3rd Officer			
			Feb 15-Mar 1st	QPR	4th Officer			<u> </u>
						ļ		
	100 100 00 00 00 00 00 00 00 00 00 00 00	ļ	Mar 3-4th	QPR	Hostler		100000	<u> </u>
	<u> </u>	ji ji	Mar 5-6th Mar 15-22nd	QON QON	Hostler 3rd Officer			

M.V. QUEEN OF THE NORTH

FIRE AND BOAT STATION MUSTER LIST

SIGNAL FOR FIRE STATIONS: Continuous ringing of alarm. (The person discovering a fire Wimmediatelynotify Bridge by sounding nearest alarm and then fight the fire with available equipment) SIGNAL FOR BOAT STATIONS: Seven or more short blasts on wisstle followed by one long blast, similar signal on alarm.

SIGNAL FOR MAN OVERBOARD: Three long blasts on the whistle followed by similar signal on alarm. (Throwlife-buoys overboard. Inform Bridge. As emergancy hoat command by VMF hand had a substitution of the buoys overboard. Inform Bridge. As emergancy hoat command by VMF hand had a substitution of the buoys overboard.

	S	S
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	FO	FO
	RR	RN
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	CUE	OVE
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			47 Catering			42 Catering	41 Catering					SO LOOK	36 Cook				32 Night Stwd							79 ord cultimeet			13 1st Engineer	12 Ch Engineer	10 Decknand	20 Catering					21 Catering				5 4th Officer	2	D. RANK
			Assist Idunicii	Assist launch	Assist faunch	Assist launch	Assist launch - Pass, control					ASSIST Jaunen - Pass. control	Assist launch - Pass. control	In charge of station			Assist launch - Pass control	Anith						Assist launch - take EPIKB from bridge	Assist launch - Pass control	Pass. Control - Deck7	Assist launch	Assist launch	Rescue boat	In charge of station-operate davit				Assist launch	Assist larinch - Pass, control	Lower boat	Motor	Bring lifeboat radio - bownan	in charge of port side		LIFEBOAT/LIFERAFT STATION
			Zone 33 (tween deck two): Evacuate capits, report to EDN 36 (Coo)	Fwd tween deck stair landing: Pass control - refuse access from deck 5	Deck 6 (Prom): Midships lounge: Pass control	Deck 7 (Boat). Evacuate stbd cabins, report to Ch. Stwl	Platform decks: Evacuate, report to Ch. Stwd					Zone 34 (tween deck fwd): Evacuate rabins, report to Ch. Stwl	Zone 33 (tween deck fixe). Evacuate rabins, report to Ch. Stwd	Deck 5 (Saloon) Forward bar & buffet. Pass. control	No. 4 LIFERAFT DAVIT		Deck 6 (Poom): Evacuate cabins, report to Cn. Sive							Fire party, bring extended by nozzle		Deck 6 (Prom): Forward lounge: Pass, control	Engine room 2nd-in-charge	Engine mont la charge Report engine room resu mustared	Fireman's suit and SCBA formong. See Note	Evacuate car deck report "car deck clear" to Ch. Stwd.	No. 2 LIFERAFT DAVIT			Fire party. Fireman's suff and SCBA form deck 7 Aft Ready Room	Zones 27 & 28 (tween deck att): Evacuate cabins, report to Ch. Stwd	Fire party: Fireman's suit and SCBA form deck 5 Aft Ready Room		Fire party Fireman's suit and SCBA form deck 7 Aft Ready Room	Fire party, in charge Clear-away party, in charge +		FIRE STATION
		50 Catering	49 Catering	48 Catering	44 Catering		43 Catering					40 Catering	37 Cook	39 Catering			33 Catering						30 ERA	24 Ch. Cook	17 Electrician	14 2nd Engineer	11 pooligino	11 Dowbood	19 Ch. Stwd	1 Master				26 3rd Froineer	16 3rd Engineer		6 Deckhand	· ora orinoor	3 2nd Officer 4 3rd Officer		E. D. RANK
		Assist launch	Assist launch	Assist launch	Assist launch		Assist launch - Pass, control					Assist launch - Pass, control		In charge of station - operate davit	NO. 3 LI	A NOTICE BANKETON I MANO CONTROL	Assist launch - Pass, control						Assist launch	Assist launch	Assist launch		Trescore book	Paccia hast	In charge of station	In command	NO. 1 LIFERAFT DAVIT			Assist with launch		Bowman - bring Aldis lamp & battery	Coxswain	Bring GMDSS & spare batteries	In charge of starboard side		LIFEBOAT/LIFERAFT STATION
		Stand by for pass, control Deck 5 (Saloon): Capteria: Pass, control	Deck 6 (Prom): Evacuate cabins. Report to Nt Stwd	Deck 5 (Saloon): Passenger control at purser's ofice	Deck 7 (Boat): Evacuate oficer cabins	Stand by for orders	Pass, control liaison. Take charge of pass, assembly area				washrooms - Report o Ln. 5Wd	Lone 30 (tween deck aft): Evacuate cabins, rec. room&	Zone 35 (tween deck fixed): Evacuate cabins, report to Ch. Stwl.	Jone 29 (tween deck aft): Evacuate cabins, report to Ch. Stwl	NO. 3 LIFERAFT DAVIT	tions of famous many transfer advance adminst solver to our own	Deck 6 (From): Evacuate passenger cabins						Fire party, Bring extra hoses from deck 7 Aft Ready Room	Close galley fire dampers. Evacuate galley Report to Bridge.	Engine room	Engine room	cited and bally our more	Clear autopath, See Mole	Furser's office: co-ordinate all passenger control	Bridge: in command	DAVIT		Fire party Fireman's suit and SCBA from Brig See Note	Finding from	Sprinkler control room	Clear-away party* See Note	Bridge: Helm See Note	Pinger Consumations	Fire party: 2nd-in-charge: Report "Fire partymustered" Endor: Communicator		FIRE STATION

Note: During an Emergency'On Watch Quarter Master' to remain at wheel until released bymaster.
During emergency at "FINISHED WITH ENGINES" engine-room staff will leave engine-room and proceed to assigned stations.
Passenger assembystations will be amnounced over public address system.
Relief crew to take places of crew they are relieving.
Signal for emergencyboat, check with your Chief Officer
Order to abandon ship will be given verballyby the Master.

Coashers, Catering Attendants, Pantrynan, Dishwasher and Cleaners are termed Catering
'All Cooks other than the Chief Cookare termed Cooks
'Clear-away party may be deployed for other duties as required

ATTACHMENT 12 MARCH 2006 SAILING SCHEDULE

Queen of the North Mar06

Route	Vessel	Dep Terminal	Arr Terminal	Sched Dep	Sched Arr	Actual Dep	Actual Dep Day	Actual Dep Time	Actual Arr	Bus Semi	Comm	Pvoh	Pvuh Mtcy	Veh Pass	Foot Pass	Total
RC	North, Queen of the	Tsawwassen	Bear Cove (Port Hardy)	03-03-06 09:30	03-03-06 23:00	03-03-06 09:32	March 03, 2006	09:32	03-03-06 21:24				35	75	43	118
10	North, Queen of the	Bear Cove (Port Hardy)	McLoughlin Bay	04-03-06 18:00	05-03-06 00:30	04-03-06 18:21	March 04, 2006	18:21	05-03-06 00:18	2 4	2	2 7	31	108	103	211
10	North, Queen of the	McLoughlin Bay	Prince Rupert	05-03-06 01:15	05-03-06 13:15	05-03-06 01:29	March 05, 2006	01:29	05-03-06 13:10	2	1	3	20	80	35	115
11	North, Queen of the	Prince Rupert	Skidegate (Q. Charlottes)	05-03-06 23:00	06-03-06 06:00	06-03-06 00:17	March 06, 2006	00:17	06-03-06 06:14	11		6	28	76	27	103
11	North, Queen of the	Skidegate (Q. Charlottes)	Prince Rupert	06-03-06 11:00	06-03-06 17:30	06-03-06 11:01	March 06, 2006	11:01	06-03-06 17:27	7	2	2 3	20	61	36	97
11	North, Queen of the	Prince Rupert	Skidegate (Q. Charlottes)	06-03-06 23:00	07-03-06 06:00	06-03-06 22:59	March 06, 2006	22:59	07-03-06 06:07	6	1	1	16	35	68	103
11	North, Queen of the	Skidegate (Q. Charlottes)	Prince Rupert	07-03-06 11:00	07-03-06 17:30	07-03-06 11:05	March 07, 2006	11:05	07-03-06 16:25	8		3	16	33	9	42
10	North, Queen of the	Prince Rupert	McLoughlin Bay	07-03-06 20:00	08-03-06 06:30	07-03-06 20:00	March 07, 2006	20:00	08-03-06 13:35			5	20	64	37	101
10	North, Queen of the	McLoughlin Bay	Bear Cove (Port Hardy)	08-03-06 07:00	08-03-06 13:30	08-03-06 14:00	March 08, 2006	14:00	09-03-06 06:24	1		7	23	81	34	115
10	North, Queen of the	Bear Cove (Port Hardy)	McLoughlin Bay	08-03-06 16:30	08-03-06 23:00	09-03-06 08:34	March 09, 2006	08:34	09-03-06 13:52			4	18	41	19	60
10	North, Queen of the	McLoughlin Bay	Prince Rupert	08-03-06 23:30	09-03-06 10:30	09-03-06 14:03	March 09, 2006	14:03	09-03-06 23:22			4	18	41	19	60
11	North, Queen of the	Prince Rupert	Skidegate (Q. Charlottes)	10-03-06 03:00	10-03-06 07:30	10-03-06 02:56	March 10, 2006	02:56	10-03-06 08:26	9	1	3	32	81	26	107
11	North, Queen of the	Skidegate (Q. Charlottes)	Prince Rupert	10-03-06 10:30	10-03-06 15:30	10-03-06 12:09	March 10, 2006	12:09	10-03-06 17:26	11		9	45	154	38	192
10	North, Queen of the	Prince Rupert	McLoughlin Bay	10-03-06 17:00	11-03-06 03:30	10-03-06 20:03	March 10, 2006	20:03	11-03-06 05:43	1		2	36	103	97	200
10	North, Queen of the	McLoughlin Bay	Bear Cove (Port Hardy)	11-03-06 04:15	11-03-06 10:45	11-03-06 06:44	March 11, 2006	06:44	11-03-06 12:05	3	1	3	53	209	99	308
10	North, Queen of the	Bear Cove (Port Hardy)	McLoughlin Bay	11-03-06 18:00	12-03-06 00:30	11-03-06 18:00	March 11, 2006	18:00	12-03-06 00:24	2	2	2 3	44	98	48	146
10	North, Queen of the	McLoughlin Bay	Prince Rupert	12-03-06 01:15	12-03-06 13:15	12-03-06 01:11	March 12, 2006	01:11	12-03-06 12:58			3	28	66	39	105
11	North, Queen of the	Prince Rupert	Skidegate (Q. Charlottes)	12-03-06 23:00	13-03-06 06:00	12-03-06 23:00	March 12, 2006	23:00	13-03-06 06:04	12	1	4	41	120	21	141
11	North, Queen of the	Skidegate (Q. Charlottes)	Prince Rupert	13-03-06 11:00	13-03-06 17:30	13-03-06 11:00	March 13, 2006	11:00	13-03-06 17:07	8		1	33	83	18	101
11	North, Queen of the	Prince Rupert	Skidegate (Q. Charlottes)	13-03-06 23:00	14-03-06 06:00	13-03-06 23:00	March 13, 2006	23:00	14-03-06 06:05	5	2	2 7	21	75	14	89
11	North, Queen of the	Skidegate (Q. Charlottes)	Prince Rupert	14-03-06 11:00	14-03-06 17:30	14-03-06 11:03	March 14, 2006	11:03	14-03-06 17:03	7		3	16	48	8	56
11	North, Queen of the	Prince Rupert	Skidegate (Q. Charlottes)	16-03-06 13:30	16-03-06 20:00	16-03-06 13:31	March 16, 2006	13:31	16-03-06 20:00	7		6	40	117	21	138
11	North, Queen of the	Skidegate (Q. Charlottes)	Prince Rupert	16-03-06 23:00	17-03-06 07:00	16-03-06 23:00	March 16, 2006	23:00	17-03-06 07:00	6	3	3	49	155	28	183
10	North, Queen of the	Prince Rupert	McLoughlin Bay	17-03-06 11:00	17-03-06 23:00	17-03-06 11:01	March 17, 2006	11:01	17-03-06 23:00	1			36	80	36	116
10	North, Queen of the	McLoughlin Bay	Bear Cove (Port Hardy)	17-03-06 23:45	18-03-06 08:00	17-03-06 23:45	March 17, 2006	23:45	18-03-06 08:00	2	2	2	41	109	30	139
10	North, Queen of the	Bear Cove (Port Hardy)	McLoughlin Bay	18-03-06 18:00	19-03-06 00:30	18-03-06 18:02	March 18, 2006	18:02	19-03-06 00:30	3	2	2 4	56	238	109	347
10	North, Queen of the	McLoughlin Bay	Prince Rupert	19-03-06 01:15	19-03-06 13:15	19-03-06 01:15	March 19, 2006	01:15	19-03-06 13:15	1	1	1	35	103	107	210
11	North, Queen of the	Prince Rupert	Skidegate (Q. Charlottes)	19-03-06 23:00	20-03-06 06:00	19-03-06 23:04	March 19, 2006	23:04	20-03-06 06:00	7		8	35	122	30	152
11	North, Queen of the	Skidegate (Q. Charlottes)	Prince Rupert	20-03-06 11:00	20-03-06 17:30	20-03-06 11:00	March 20, 2006	11:00	20-03-06 17:30	5		4	19	72	17	89
	North, Queen of the	Prince Rupert		20-03-06 23:00	21-03-06 06:00	20-03-06 23:01	March 20, 2006	23:01	21-03-06 06:00	4			17	40	15	55
11	North, Queen of the	Skidegate (Q. Charlottes)	Prince Rupert	21-03-06 11:00	21-03-06 17:30	21-03-06 11:00	March 21, 2006	11:00	21-03-06 17:15	9		4	18	57	14	71

ATTACHMENT 13 MASTER'S HANDOVER NOTES

Master's Handover Notes

Queen of The North

March 15, 2006

				, •
First of all I'c	me back, hope days I like to wish you al ing and rewarding	off went well. If the best in th	e new position. I t	hink you will find it
in good order gyro and repe swung the cor	. The steering modi	fications were I flawlessly.	a sucess, the syste	inery and equipment al em including the new on last weekend so we de report is in the
over-sequence	information notices es for helm etc.		s on for Chief Off	e changes to the switch icer famil so we are
The updated he party and to the handove	ie new Ready Room	lete and posted is. I have inch	on board. This re ded a summary of	flects changes to fire f the fire party changes
The Refit chea	ck list is in the hand	over file.		
reduced speed voyage since I There are seve	March 4 is in hando ral SI-07s from las	sulting in sign ver file. t TC inspection	ificant fuel saving ns. All are in hand	N is able to run at s. A data sheet for each or completed except preciate your input. The
tile is in the de	sk top file holder.	•	97 * A	
The Lawn Poin	nt ranges are gone a on West and East so	nd the sector I	ght and RACON	are in place.
		-25	in cuanges.	
That's about it	so have a good shif	t.	the same of the sa	* * *
•				• •
	to an Arthur	* .		,
Dod		• •		•
	• •			• •

ATTACHMENT 14 STEERING CHANGEOVER PROCEDURES

A copy of this document was posted in the wheelhouse of the *Queen of the North* and was lost with the vessel.

This document is a re-creation of the document prepared by the Chief Officer, "A" crew and the Senior Master, *Queen of the North.*

(A copy of this document was left with the hand-over information for the oncoming Chief Officer on March 15, 2006.)

Changeover Procedures

To change from hand steering to autopilot the Officer of the Watch will ensure the Quartermaster has steadied on the given course and the wheel is placed at midships. The Officer of the Watch will select the autopilot position on the Compilot 8. Any further corrections to the course while on autopilot can be made with the dial for course adjustments by pressing down on the dial and rotating until the desired course is reached then releasing, or by pressing "select course" dialing in the new course and pressing "set". The other option is to switch to "tiller position" and steer using the tiller. (The "forward" wheel on the Compilot 8 is not active due to the fact that the selector switch on the main console is set for the "aft" helm station.)

To revert to hand steering the officer of the watch gives the Quartermaster the order to take the wheel at the main desk and the Quartermaster returns to the aft wheel position, when the Officer of the Watch has made sure the Quarter Master is in place and has readjusted the compass lights, etcetera, the Officer of the Watch switches the switch on the Compilot 8 to "wheel" which makes the after helm position active.

With the selector switch on the main desk in any position the "tiller" on the Compilot 8 can be selected and will override all other stations.

When it is necessary to move the rudders from the steering gear compartment the "tiller" position on the Compilot 8 in the wheelhouse should be selected as this will allow the rudder position to be chosen from the steering gear compartment without being overridden from another station.

Also on this document there were instructions on the protocol for selecting two steering systems for "standby" and information on selecting the starboard steering system for black-out as this system had the back-up power from the emergency generator.

// Signed //
"Senior Master, Oueen of the North"

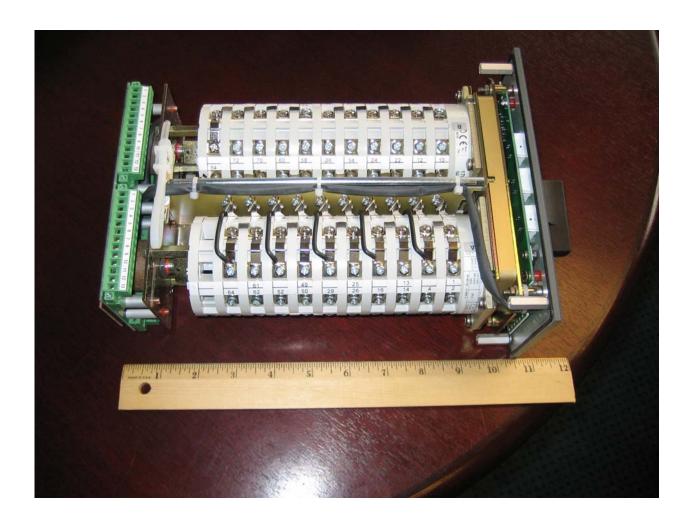
ATTACHMENT 15 STEERING CHANGEOVER SWITCH PHOTOGRAPHS



ATTACHMENT 15 STEERING CHANGEOVER SWITCH PHOTOGRAPHS



ATTACHMENT 15 STEERING CHANGEOVER SWITCH PHOTOGRAPHS



ATTACHMENT 16 FORWARD HELM STATION



ATTACHMENT 16 FORWARD HELM STATION

STEERING MODE SELECTOR SWITCH



ATTACHMENT 17 SURFACE RADAR (X BAND) SPERRY MARINE 340 "E" SERIES (from *Queen of Prince Rupert*, August 23, 2006)

RANGE: 6 NM



ATTACHMENT 17 SURFACE RADAR (X BAND) SPERRY MARINE 340 "E" SERIES rom Queen of Prince Pupert, August 23, 200

(from Queen of Prince Rupert, August 23, 2006)

RANGE: 3 NM



ATTACHMENT 17 SURFACE RADAR (X BAND) SPERRY MARINE 340 "E" SERIES (from *Queen of Prince Rupert*, August 23, 2006)

RANGE: 1.5 NM



ATTACHMENT 17 SURFACE RADAR (X BAND) SPERRY MARINE 340 "E" SERIES (from *Queen of Prince Rupert*, August 23, 2006)

RANGE: 0.75 NM



ATTACHMENT 18 TRANSAS NAVISAILOR 3000 DESKTOP MODEL ELECTRONIC CHART SYSTEM (ECS) (Similar to system on the *Queen of the North*)



ATTACHMENT 18 ELECTRONIC CHART SYSTEM (ECS) SHOWING WRIGHT SOUND



ATTACHMENT 19 MCTS RADIO RECORDING TRANSCRIPTION 21/22 MARCH 2006 Queen of the North Investigation

(Transcribed by: Vice President, Fleet Operations)

	Tape				
Time	Counter	From	То	Transcript	Operator
21 Mar, 2006					
	0:00:00	QON	VTS	Traffic, Queen of the North	
22:08:00		VTS	QON	Queen of the North, Traffic, Good Evening, Go Ahead	
22:08:05	0:00:05	QON	VTS	Good evening Traffic, we're at Baker at this time, our ETA Pitt Island Light 2235, over	
22:08:15	0:00:15	VTS	QON	Queen of the North, Prince Rupert traffic, Roger. There is no reported traffic, over	
22:08:20	0:00:20	QON	VTS	Roger, Copy, No reported, Thanks Standing By	
22:08:24	0:00:24	VTS	Castle Lake	Castle Lake, Prince Rupert Traffic request position update	
22:00:56	0:00:56	Castle Lake	VTS	Just rounding Jenkinson Point, 53 degrees 26 N 129 degrees 05	
22:01:15	0:01:15	VTS	Castle Lake	Roger, Copy standing by your call in 4 hours, no reported traffic	
22:37:23	0:29:23	QON	VTS	Prince Rupert Traffic, Queen of the North (background noises audible)	
22:37:24	0:29:35	VTS	QON	Queen of the North, Traffic, go ahead	
22:37:40	0:29:40	QON	VTS	Traffic, we're at Pitt Island Light, ETA Sainty Point 2320, and for, correction, for Tom Island 2320, and for Sainty Point 0005 (music audible in background)	
22:37:54	0:29:54	VTS	QON	Queen of the North, Prince Rupert Traffic. Roger, There's no reporting traffic	
22:37:56	0:29:56	QON	VTS	Roger (background music audible)	
Mar 22, 2006					
00:03:34	1:55:34	QON	VTS	Prince Rupert Traffic, Queen of the North (background noise apparent)	EDN #5
00:03:40	1:55:40	VTS	QON	Queen of the North, Traffic, Go ahead	
00:03:42	1:55:42	QON	VTS	Traffic, Queen of the North. Just approaching Sainty, ETA Kingcome 0100. Over (background unidentifiable music)	EDN #5
00:03:50	1:55:49	VTS	QON	Queen of the North, Prince Rupert Traffic, Roger. You may see Tug Castle Lake, they're running slow with 23 sections of logs, They should be rounding Money Point, Over.	
00:04:03	1:56:03	QON	VTS	Roger. Coming down Douglas Channel? (background noise/music)	EDN #5
00:04:08	1:56:08	VTS	QON	Negative. They're coming down Verney Pass	
00:04:11	1:56:11	QON	VTS	Okay. Thanks (music in background audible)	EDN #5
00:23:40	2:15:40	QON	VTS	Traffic, this is the Queen of the North, Queen of the North, Queen of the North	
00:23:46	2:15:46	VTS	QON	Queen of the North, This is Traffic, Go ahead	
00:23:48	2:15:48	QON	VTS	Traffic, Traffic, We have run aground South of Sainty Point, several miles South of Sainty Point. Standby for position	
00:23:56	2:15:56	VTS	QON	Roger, Standing by	
00:24:01	2:16:01	QON	VTS	53 19 29 (pause) 113 29 37	
00:24:14	2:16:14	VTS	QON	Stand-by Queen of the North, Prince Rupert Traffic, Say again your position	
00:24:21	2:16:21	QON	VTS	Stand-by	
00:24:56	2:16:56	VTS	QON	Queen of the North, Prince Rupert Traffic. What is your position? Over.	

	Tape				
Time	Counter	From	То	Transcript	Operator
00:25:02	2:17:02	QON	VTS	Our position is, This is the Queen of the North, 29 19 North, 131 (what's the second part of that?) 13 West	EDN #4
00:25:27	2:17:27	VTS	QON	Queen of the North, Prince Rupert Traffic, Roger, and do you require assistance?	
00:25:33	2:17:33	QON	VTS	Roger, We require assistance.	EDN #4
00:25:40	2:17:40	VTS	QON	Roger. And confirm you are not taking on water? Over.	
00:25:45	2:17:45	QON	VTS	We are taking on water.	EDN #4
00:25:49	2:17:49	VTS	QON	Roger. Stand-by.	
00:26:51	2:18:51	QON	VTS	Queen of the North, Prince Rupert Traffic	
00:26:57	2:18:57	VTS	QON	Traffic, Queen of the North	EDN #1
00:27:00	2:19:00	QON	VTS	Say again your position. This position you gave me is not correct, it places you in Hecate Strait. What is your position? Latitude? Longitude?	
00:27:08	2:19:08	QON	VTS	South end of Sainty Point. Stand-by for Lat/Long. And we are aground, our list is increasing, we need assistance immediately.	EDN #1
00:27:18	2:19:18	VTS	QON	Roger. We'll put a broadcast out on your behalf.	
00:27:23	2:19:23	QON	VTS	We're aground near Juan Point, Juan Point, Over.	EDN #1
00:27:30	2:19:30	VTS	QON	Roger. Copy.	
00:27:50	2:19:50	VTS	QON	Queen of the North, Prince Rupert Traffic, How many people do you have onboard? (406 Mhz EPIRB audible in background)	
00:28:07	2:20:07	QON	VTS	We have a hundred and one persons onboard the ship.	EDN #4
00:28:13	2:20:13	VTS	QON	Roger. Are you at Muster Stations?	
00:28:19	2:20:19	QON	VTS	Say again?	
00:28:24	2:20:24	VTS	QON	Are they proceeding to life rafts? Over.	
00:28:26	2:20:26	QON	VTS	Yes, Traffic, we are proceeding to lifeboats and life rafts.	EDN #4
00:28:30	2:20:30	VTS	QON	Roger.	
00:28:36	2:20:36	PR CG Radio		Prince Rupert Coast Guard Radio, Over.	
00:28:40	2:20:40	Lone Star	PR CG Radio	Prince Rupert Coast Guard Radio, Fishing vessel Lone Star	
00:28:45	2:20:45	PR CG	Lone Star	Lone Star, Prince Rupert Coast Guard Radio, go ahead	
00: 28: 50	2:20:50	Lone Star	PR CG Radio	We're just, um, entered Stuart Narrows here, seeking refuge from the blow. We're a thirty-seven foot fishing vessel, shrimp vessel. We'll lend whatever assistance we can, what's required.	
00:29:11	2:21:11	PR CG Radio	Lone Star	Proceed(lost transmission)	
00:29:37	2:21:37	PR CG Radio	Lone Star	Roger, and how far are you from (garbled)	
00:29:39	2:21:39	VTS	SWL	Sir Wilfred Laurier, Prince Rupert Traffic.	
00: 29: 41	2:21:41	SWL	VTS	Traffic, The Laurier, Go Ahead.	
00: 29: 45	2:21:45	VTS	SWL	What is your position?	
00:29:50	2:21:50	SWL	VTS	We're currently in Bernard Harbour, and we heard the SAR call. We've ordered propulsion and we'll be underway in twenty minutes, Over.	
00:29:50	2:21:50	VTS	SWL	Roger. Do you have an ETA?	
00:29:55	2:21:55	SWL	VTS	Negative. Stand-by. We'll get back to you with that. Over.	
00:29:58	2:21:58	VTS	SWL	Roger. Copy.	
00:30:02	2:22:02	Lone Star	unk	about three miles.	
00:30:08	2:22:08	PR CG	Lone Star	Roger. ETA on scene three-zero minutes.	

	Tape				
Time			Transcript	Operator	
		Radio			
00: 30: 15	2:22:15	Lone	PR CG	I'm proceeding up towards Hartley Bay. We'll be	
		Star	Radio	putting our poles down then making our way back	
				towards the scene.	
00:30:25	2: 22: 25	_		Roger. Standing by on Channel one six. Over.	
00:30:48	2: 22: 48	VTS	QON	Queen of the North, Prince Rupert Traffic.	
00:31:00	2:23:00	QON	VTS	Traffic, the Queen of the North. Go ahead.	EDN #4
00:31:02	2:23:02	VTS	QON	Roger. Request an update on your situation.	
00:31:06	2:23:06	QON	VTS	Traffic, we've developed a slight starboard list here,	EDN #4
				I'd say about twelve degrees from my indication.	
				Boats are getting readied. That's all I know right now.	
				I believe they're setting pumps in the engine room.	
00:31:35	2:23:35	VTS	QON	Roger. And do you have a position, latitude and	
00.01.11	0.00.44	001	\ (T.O.	longitude, Over.	
00:31:44	2:23:44	QON	VTS	Hold one, hold one.	EDN #4
00:32:26	2:24:26	QON	VTS	Prince Rupert Traffic, Queen of the North. At this	EDN #1
				time, Point Cummings is bearing from us – one-zero-	
00: 22: 40	2.24.40	VTC	OON	one degrees, by four miles.	
00: 32: 40	2:24:40	VTS	QON	Roger. Confirm you do not have a position with latitude and longitude. Over.	
00:32:48	2:24:48	QON	VTS	Hold one, Traffic.	EDN #1
00.32.46	2.24.40	QON	VIS	Hold offe, frame.	EDIN#1
00:34:01	2:26:01	Hartley	VTS	Prince Rupert Traffic, this is Hartley Bay.	
00.34.01	2.20.01	Bay	V13	Frince Rupert Trainc, this is hartley bay.	
00:34:04	2:26:04	VTS	Hartley	Hartley Bay, Traffic. Go ahead.	
00.34.04	2.20.04	V13	Bay	That tiey bay, Trainc. Go anead.	
00:34:07	2:26:07	Hartley	VTS	Roger. Yea, just wondering what the weather report	
00.34.07	2.20.07	Bay	VIS	is where the Queen of the North is. Over.	
00:34:14	2:26:14	VTS	Hartley	Hartley Bay, Prince Rupert Traffic. Stand-by.	
	2.23		Bay	That they buy, Thines Hupert Trainer Stand by	
00:34:20	2:26:20	VTS	unk	Sawadee(), Traffic, Go ahead.	
00:34:30	2:26:30	VTS	unk	Station calling Traffic, Go ahead.	
00:34:45	2:26:45	VTS	Broadcast	MAYDAY relay, MAYDAY relay, MAYDAY relay. ALL	
				STATIONS, ALL STATIONS. This is Prince Rupert	
				Coast Guard Radio, Prince Rupert Coast Guard Radio.	
				Channel one-one. The ferry Queen of the North is	
				reported running aground just south of Sainty Point.	
				Bearing one-zero-one degrees from Port Cummings,	
				Requesting immediate assistance, taking on water,	
				one hundred and one persons onboard. Any vessels	
				in the area able to respond contact Prince Rupert	
				Coast Guard Radio channel one-six or Prince Rupert	
00.35.40	2.27.40	Candra M	DD CC	Traffic, channel one-one. Over.	
00:35:48	2:27:48	Sandra M	PR CG Radio	Prince Rupert Coast Guard Radio, fishing vessel	
		PR CG	Sandra M	Sandra M. Sandra M, Prince Rupert Coast Guard Radio, Go	+
		Radio	Sariura IVI	ahead. Over.	
		Radio		Yea(stepped on) (Prince Rupert Coast Guard)	
00:36:20	2:28:20	Hartley	VTS	This is Hartley Bay, Prince Rupert Traffic, We're trying	
50.50.20	2.20.20	Bay	V10	to get some boats out there.	
00:36:26	2:28:16	VTS	Hartley	Hartley Bay, Prince Rupert Coast Guard Radio, We	
30.30.20	2.20.10		Bay	received a weather report of winds four zero knots,	
			Day	with two meter seas. If you're going to go, request	
				type and number of boats and ETA on scene. Over.	
00:36:31	2:28:31	Hartley	VTS	Roger, Roger	
		Bay		-9-19	
00:36:40	2:28:40	QON	VTS	Prince Rupert Traffic, Queen of the North	EDN #4
00:36:44	2:28:44	QON	VTS	Traffic did you want me to switch to working Coast	

Time	Tape Counter	From	То	o Transcript		
				Guard frequency here?		
00:36:50	2:28:50	VTS	QON	My partners currently working on channel one-six. Doing broadcasts on your behalf. They're trying to raise boats in the area. If you want to stay on channel one-one, you can. If you prefer to go the channel one-six, you can do that as well. Over.		
00:37:04	2:29:04	QON	VTS	I'm gong to go to one-six.	EDN #4	
00:37:12	2:29:12	VTS	QON	Roger		
		QON	VTS	Prince Rupert Coast Guard, Queen of the North on channel one-six.	EDN #4	

21-22 March, 2006 Queen of the North Audio on VHF Channel 11

Baker Inlet Calling-In-Point until switching to Channel 16

Data File: QON20060221TFCBKR.MP3

Start time: 2006-03-21 22:08 PST End time: 2006-03-22 00:37 PST

h:mm:ss	Event	Time(PST)
0:00:00	CIP Baker Inlet	22:08
0:29:25	CIP Pitt Island Light	22:37
1:55:34	CIP Sainty Point	00:04
2:15:40	Reported Aground	00:24
2:28:34	Switch Channels	00:37

Mar. 22. 2006 8:29AM

MAKINE BRANCH

Transport Transports Canada Canada

INSPECTION CERTIFICATE for a passender ship to which the safety convention does not apply This Constitution which be supplemented by a Life Flatis Register (51-70) if applicable TO:2506278448

NO -4010

Document Nº - Nº du document 8962-09084

CERTIFICAT D'INSPECTION
CONCORDANT UN NAVIRE À PASSAGERS NE
RESEONTBANT PAS À LA CONVENTION DE SÉCURITÉ
Le présent portifical doit lure accompagné d'un Registre de Fisdesus
(61-70) al applicable

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ΣCV	MY "QUEEN OF THE HORTER		369884		VICTORIA	1	8,085.46	1969	
I. That the respecting people of the people	g the inspection of stelled horein, it to ply on aviro pushish a 666 AOr ction dos nevires à vap nt certificet, apte à effe	has boon duly inspected amphips that are applicat voyages nent inspecte contomien aur applicables à ce navi	rie to that thip, havi lent à le <i>Los aur le</i> re oni été observée	e et que cui Marine me e beun com	plied with end () rohande du Ge lui-d eat, soua r	nt the inity is nede, que le seave des i	s, subject 10 s s dispositions imitations pou	uch limitations as may oe laste Lof relatives	
not beyond — dans les timins — Chase — AAA & II (RESCRICTED VOC) 2. That she number of pensons comprising passengers and crow is: Que le nombre de personnes à bord, passeg-us et membres d'équipage compris, est le suivant									
Category Categorie	Number of Passengers Norobre de passengers	Special Passanger Comp	DOIG, Debugers of (Remotes d'squipage com Special Fashengar Complement Afroncies Mombre de passagers excédentaires autorisé			luding Meetor ps, y compris i		fotal Passengers and Crew olst, passengers in equipage	
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C.	288	Þ			34			322	
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E	Ö	đ			23			23	
F	0	0			2.2.			12	
3. Ynaithe	ship is marked with sui	acibni serii beşi nolalvibe	ted as follows: - Cit	a la navira	porte las lignes	de charge de	- ഉടുന്നുമെന്ന്നം	ntage Indiquées et sorès:	
Subdivis	tion food lines sealgned an amidst	od marked on the ship's, sides. Nps a sasignites at marqydda ac r	at Phase	Phaebsard Youngly who		n speces in which persongers are certied include the following interestive speces expeces comprendent is expeced comprendent in extensions approach spherits			
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						<u> </u>			
La prés 3. The Sp La Non	2. This confinate is valid until La présent certificate is valida jusqu'au 2007-03-01. Date (VAM-DII) 3. The Special Passenger Complement Allowance (see Table, 2 above) is only applicable when the redorded water temperature is 10°C or more. Le Nombre de passagers excédentaires (voir Tabloau, 2 ci-deasus) s'applique seulement foreque la temperature de l'acu enregistée est de 10°C ot plus.								
This certificate in issued under the authority of the Government of Canada. Le présent continue ent delivre avoc l'autorisation du Gouvernement du Canada.							Characterist		
The undersigned is duty authorized by the Government of Canada to Issue this certificate. Lis sourceigné est doment autorisé par le Government du Canada à délivrer le précent certificat. District de 2006-02-02 Crisco - Endroity Doment autorisé par le Government du Canada à délivrer le précent certificat. District de 2006-02-02-02-02-03-03-03-03-03-03-03-03-03-03-03-03-03-							SECRET SCACHETT		
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War 22 2006 8:30AM

MARINE BRANCH



INSPECTION CERTIFICATE
for a passenger suip to which the safety
convention does not apply

TO: 2506278448

P.2/2

r. j NO -4019 Document N° - N° du document 8562-05064

CERTIFICAT D'INSPECTION
CONSTINUI NAVIRE À PAGSAGERE NE
RESSORTISANT PAS À LA CONVENTION DE SÉCURITÉ

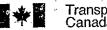
This Continue shell be supplemented by a Life Retix Register (31-70) if upplicable	Le présent Céttific	cal doll bire eccompagna dun Red (31-70) ai applicable	MAN ON LINCOWOK
this is to certify that the ingrection ehowed: — La presente fait fol o	ия кумерестифи.	a permis de constater:	
i. a) the main propulation boliers may certy a working pressure not in excess of que tea chaudières de propulation principalés pauvent supportor une pression de a	ervice d'au plus		0 kPs
 b) the voted service supply and heating bollers may carry a working pressure not in a que les chaudières d'alimentation et de chautique du service de bord peuvant supp 	excess of	ie manice Cou blue	360 KP
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2. The vessel carried: - Que le bătiment a son bord:			
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b)DEG (dispositi d'évacuation Bysism), including interes a l'interes de la literature	of accommodating a tot imaginal policent (eco	at of persons; evolv, au total <u>0</u> personne	4;
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		GANADA	0.28
DAGSENGER CATEGORY DEVELS "A" "B" AND "C" ONLY 110 MI	CETRED PASSES	MORRE ALLOWED TO DE	1136
AND DECK 07.			
PASSENCER CATEGORY LEVEL "D" OWLY 10 MERTHED PASSENCE	IRS ALLOWED -	- ALL ON DECK 07.	· · · · · · · · · · · · · · · · · · ·
CATEGORY EVE GRAND BUT COME COME CONTRACT			
CATECORY """ SHOWS THE CREW COMPLEMENT FOR RE-FORITIC HOME-TRADE CLARS II RESTRICTED WATERS. (RESTRICTED WA			
THE PROPERTY OF THE PROPERTY O	GARRAD PAR	BOARD DECERTON No.	. 3837)
GATEGORY "P" SHOWS THE CREW COMPLEMENT FOR RE-POSITION	DETERM / TRANSCIT	VOYAGES WITHIN	
HOME-TRADE CLASS III WATERS.			<u> </u>
	:		
NOTE: NO PASSENGERS OMBOARD DURING TRANSIT VOYAGES. C	METO SORKER	OTOR VEHICLES DURI	OWC
RE-POSITIONING/TRANSIT YOYAGES LIMITED TO IME TRANSIT		NTRACTORS VEHICLMS	DRG . E
HOT WORK PERMITTED DURING RE-POSITIONING/TRANSIT VOYA	CES.		
This certificate is valid only when the crew of the vessed meet the training and consistent requires certificate, or until Appl 1, 2007, are registered for the required MED training Calcarificate and validominal to require the certification of the Registromial to a received the consistent of the consistent of the certification of the Registromial to receive the consistent points to remain a result of the certification of the results of the certification of the certification of the results of the certification of the certifica			
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ZETON	<u> </u>	•	1
(2) Moustans, owners, or the authorized representative shall presure that the vesses were) idented and pallezing a	is an accura in bubber summering of ap	ebility.
(4) The Denede Shipping Ant requires the muster, perser, or the authorized received	racialise of a bound of	the tree engages to be a series of the column	and discussed bilances and
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Transport Canada

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MARINE SAFETY NOTICE - NOTE DE LA SÉCURITÉ MARITIME

Document No - Nº du document 06-(TINT 502)-DRH OI

Page 0/. of/de 03

See 'Note to Master' on back - Voir 'Note au Capitaine' au verso

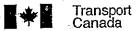
	Name of ship Nom du navire	IMO number Numéro OMI	Official number Numéro officiel		of registry nmatriculation	Date of/d'inspection (yyyy/mm/dd - aaaa/mm/jj)	Place of inspection Lieu de l'inspection
Mr.	GUEEN OF THE NORTH	6917267	0368854	Vida	UB. B.C.	2006:03:02.	TSAMUASSEN.
Item number Numero ld article	Deficiencies/Rema Anomalies/remarqu	ks	Regulatory re	ference	Date Due≟d'échéa	Date nce * Rectified - rectifiee (1) (www.mnvdd *aaaa/mn	Date Vehicked venifiee (2)
<i>Ø</i> /.	VESSEL REGULES A T.C.M	1.5. Avexasso	ISER. P	er TIL	2006:05:0		
	NEKSAMAS PLAN. (4 COMES		SECTION 1/0)			
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04.	VESSEL REQUIRES GENERAL I	ALAKIYS ON 7745					
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<i>05</i> .	PROVISIONS TO BE PROVIDED	TO MAINTAIN	FIRE DETECTION	EAING.	Bek Nova (2)		
	PRESSURE ON THE VESSES P	TRLE MAUY AT	Egyp Reg y				
	1944 1714145 WHUST MISSEAKSERS	BRLL ONBORKO	<u>(4)</u>				
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	REGULED FROM B.C.F.S. INC)				
06	DRAWINGS (MECHANICAL & ELECT		MARINE MODINE		0		
	SUBMITTED POR APPROVING FOR	THE 2 HOT TCMS TRONUNC SE	BCHEOULE II.		2006:04:0	07.	<u> </u>
CONTRACTOR OF THE PARTY NAMED IN COLUMN	<i>Water Bouers. (Submy to)</i> Lars: Particularités	(UN) ROMAZUS		c. 06.X			
District offic Adresse du	e address: bureau de district: 800 DONERO STREET VAN	vanee VII 23	Telepho 78 B.C 604	ne / Téléph		elécopieur - E-mail / Courrie 6 19//) <i>Yorroy D</i>	el ORGCA.
1	PMStarp (Davin K	Morrow)	20	xø6-03	-02		
Signatura	PRINT NAME - NOM EN LETTRES MOULÉ		D	ate (yyyy/mm	/dd - aaaa/mm/jj)	_	
	D.J. FR				03-02		
1	PRINT NAME - NOM EN LETTRES MOULE	ÉES	D	ate (yyyy/mm,	/dd - aaaa/mm/jj)		

White/Blanche: Master/Capitaine

Yellow/Jaune: File/Dossier

Pink/Rose: Inspector/Inspecteur





Transports Canada

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Page <u>Ø2.</u> of/de <u>Ø3</u>

MARINE SAFETY NOTICE - NOTE DE LA SÉCURITÉ MARITIME

OH 69/7167 Diencies/Remarks Diencies/Rem	Regulatory reference Reference reglementains	Date: Duë d'echean	Joob: 03: 08. Date Rectified a rectified (1)	Date Checked Verifiée
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9 223 TO HAVE LOCAL	TP. 127 FROWN 2	142006:11:31	1.	
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REPULLED IN MIN OF	7.P. 127 Sextoys	2006:04:01		
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S.	(2) Telephone / Télé	phone - Telefax / Té	lécopieur - E-mail / Courrie	el
	REGULEO IN WAY OF MAIO POOCHEIL .	RESOURCE IN WAY OF 7.P. 124 SECTIONS WAND PROCESSED 51:24(11) \$1:25(5)	РЕФИЛЕО IN WIN OF 7.P. 127 - ЗЕТИН ДООС: 04:01 ИНПО РОССИНИ . 51:24(ш) \$1:25(5) 51:22(2)	REQUISED IN WAY OF 7.P. 127 SECTIONS 2006:04:01 NEAD PROCESSION 51.24(III) \$1.25(5)

PRINT NAME - NOM EN LETTRES MOULÉES

Signature of authorized Representative - Signature de l'agent autorisé

d p96-03+0X

Date (yyyy/mm/dd - aaaa/mm/jj)

2086-03- 0 2

Date (yyyy/mm/dd - aaaa/mm/jj)

White/Blanche: Master/Capitaine

Yellow/Jaune: File/Dossier

Pink/Rose: Inspector/Inspecteur





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Document No - No du document 06 CTAS SOE) DRM OF

MARINE SAFETY NOTICE - NOTE DE LA SÉCURITÉ MARITIME

See 'Note to Master' on back - Voir 'Note au Capitaine' au verso

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Name of ship Nom du navire		IMO number Numéro OMI	Official number Numéro officiel			Date of/d'inspection (yyyy/mm/dd - aaaa/mm/jj	Place of inspection Lieu de l'inspection
MV	JUERN OF THE NORTH'	6919267	0368854	VICTORIA	BC	2006 - 03 - 02 Date:	Teavargeery
item numbers	Deficiencies/Rema Anomaties/remargu	ksissa III.	Regulatory r	eference lementaire	Date Due d'echéa	Date nce Rectified rectified	Date Checked Everifiee
Numero d'article					7	(1) (yyyy/mm/dd = aaaa/m	(2)
13.	KNARSANSI MENTUNG REPURKU	IN BOUTIONISL					
	SAROKS AS PIKK NIST COTH	1440 A006:03:	1. TP. 124 S.	122	2006: 45:0	V	
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Contract of the Contract of th	LARS PARTIGULARITES		1		T-1-6/T	Harrison E-reil/Couri	al
District office Adresse du	e address: bureau de district:		ielepn	one / Telepn	one - Telerax / Te	élécopieur - E-mail / Courri	ਈ।
7	Moson (Nellow)		S	06:036	ñ <i>9</i>		
74	PRINT NAME - NOM EN LETTRES MOULE	ES			/dd - aaaa/mm/jj)	•	
Signature	of dily authorized Inspector - Signature de l'inspec	teur dûment autorisé	3	2-00/	రై- లై		
<u> </u>	PRINT NAME - NOM EN LETTRES MOUL nature of authorized Representative - Signature de				dd - aaaa/mm/jj)	_	

White/Blanche: Master/Capitaine

Yellow/Jaune: File/Dossier

Pink/Rose: Inspector/Inspecteur



ATTACHMENT 20(c)

Queen of the North SI-07 #06(TMJ502) – DRM01 Status Report as at March 22, 2006

SI- 07 #	SI-07 Item	Response
01	Vessel requires a TCMS approved lifesaving plan (4 copies to submit)	Due Date May 1/2006 All BCF vessels have lifesaving plans, including the Queen of the North. TCMS requested some revisions to the existing lifesaving plan during the 2006 Queen of the North refit. BC Ferries had submitted 4 copies of the revised lifesaving plan. BCF was still awaiting TCMS approval on the revisions. The previous lifesaving plan was onboard the ship with revisions noted. The revisions to the drawings included: • Changes to the legend nomenclature • Addition of symbols in legend • Change of color of some symbols • Increase in size of some symbols • Addition of symbol to drawing including equipment locations • Addition of ship "particulars" to drawing • Revision of title block to new corporate identity.
02	Vessel requires to have an evacuation plan/procedure	Due Date May 1/2006 The existing Evacuation Plan was contained in the Muster List. This plan remains in force until the new plan was approved by TCMS. Before the incident BCF had implemented a new company-wide template for evacuation plans. The ship's staff was working to adapt this template to the vessel. A detailed evacuation analysis for the Queen of the North was completed in January 30, 2004. The evacuation plan is prepared from this analysis. A draft version of the evacuation plan was completed. This draft revision was being reviewed and was close to finalization.

03	'Tween deck crew accommodation alleyways and escape routes to be clearly marked with directional low level markings visible under low lighting conditions	Due Date April 1/2006 Photo luminescent trackway tape installation was underway with ships staff.
04	Vessel requires general alarms on the exterior decks	Due Date November 31/2006 Planned for refit within due date.
05	Provisions to be made to maintain pressure on the vessels fire main at all times whilst passengers are on board.	Due date November 31/2006 Planned for refit within due date.
06	Drawings (mechanical and electrical) to be submitted for approval for the two hot water boilers. Submit to TCMS Technical Section. Four copies to submit	Due date April 1/2006 Not submitted at time of incident. BCF was in continuous discussions with Transport Canada on this technical issue and both parties were working on a resolution at time of the incident.
07	Means to be provided on the weather deck for stopping pumps used to discharge oily residues and sludge	Due date May 1, 2006 Complete at time of incident.

08	Fire doors to have separate (individual) "closed" indication. (Number of doors presently paired for closed indication.)	Due date November 31, 2006 Planned for refit within due date.
09	Fire Doors 217 and 223 to have local control switch relocated to a position adjacent to the doors	Due date November 31,2006 Complete at time of incident
10	Main cardeck and platform car deck fire doors to be fitted with local release buttons on both sides (presently fitted on car deck side only)	Due date November 31, 2006 Planned for refit within due date.
11	PA/GA interface to be fitted. PA to automatically stop GA when making announcements. GA to automatically resume.	Due date April 1, 2006 Complete at time of incident
12	Transition lighting required in way of rescue boat davit head floodlight.	Due date April 1, 2006 Complete at time of incident
13	Emergency lighting required in additional spaces as per list compiled 2006-03-01	Due date May 1, 2006 Complete at time of incident

REPORT OF A MARINE OCCURRENCE (TSB 1808)

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Transportation Sefety Board of Canada Transport Canada Hanna Resources Development Canada GOLLVETBOLDERK

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- REPORT OF A MARINE OCCURRENCE / HAZARDOUS OCCURRENCE REPORT

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PART I - PARTICULARS OF VESSEL (Remained for all occurrences)

Name of Vessel "Queen of the North"	
Rag Canadian	Call Sign VOOD
Official or Registration No. 368854	CFV Licence Munuber
fond Registy Victoria	RdO Number 6917237
Type of Slop Passenger	Gross Total 8889
Empire Make and Type Warn V40/54	Power 15,600 BEPM KW□ SEP□
Year Bolts 1969	Builder Name and Location A/G Wesser Wark Seebeck Bremerhaye, Germany
Length LOAS Registered C Motors 125 Motors C Feet C	Breath 19.78 Mente Feet
Huli Material Steel	lorChus 3 Baltic
Classification Society and Notations 11.00/1/4 Register 100/1/4	Former Name(s) Stema Danica / Queen of Surrey

PART 1 - VESSEL CHERATORS! A VIHORITED REFRESENTATIVE (Regaled for 88 reportable considered)

Owners or Operating Company	Agent Other
aritish Columbia Ferry Services Inc.	Mame
Adres 1112 Fort Street Victoria, B.C. VSV 4V2	Address
^{184ptone} 250-381-1401	TCleptons 5au
Fraill	Email

10000000000000000000000000000000000000	Copy pend to 10 Regions Copy pendents Transport Caba	《李》 學學	May Sire W.	AS ID Nombo	into Mark
Canada	-				TSB 1803 @6-02i

REPORT OF A MARINE OCCURRENCE (TSB 1808)

PARTS - PARTICULARS OF A REPORTABLE ACCIDENT OR INCIDENT (Required) Date of Occurrance					Location (Geographic	Sor all accurrences) Location (Geographical name of body of water, waterway or barboun)				
T	March 22	, 2006			Wright So	und	aspens	Catalan		
Time of Occupent Appro	x. 000:25		UTC[] Lo	ai 전	53 19.19 minutes N 129 14.296 minutes W			200 minutes W (
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Vessel stand	oped.	Cebepap.	¥		D Footing of say of	C00.000				
(open)					Intentional sucho	ring or grounding our errors from by	or bracking to av	old an accident.		
person is killed a	i sustairo a serious (r)	ury (Requiring	adustrios to h	es festore	MILT KISK OF COLLEGE			ent due to the total fallure		
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Suspected that 2 passengers did not leave vessel as it sank.				Any other dangers	HONDING WALL	l-faans	ied in an accident			
vessel as	it sank,		· · · · · · · · · · · · · · · · · · ·		(Specify)		,			
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Other (Specif	vi .		West	ecsel jein: Ita ice pre:	present? Yes I B		eed (Koots) VI	riable		
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ie Date			Guesps 5	59			Misoriajaries varrious			
2006- by Date	03-02	L	Others			Stricus bejuties (An injury that is likely to require scholarion to inceptual)				
by Date 2007- Safety Managem	03-01		nmed #			L				
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 	Shirley	Canadia	1303			of the Yest		Diverse of all		
<u> </u>	Shirley	Canadia	1803		Queen	of the North Gro		g DI#815-06-01 Page 2		

Queen of the North Grounding and Sinking DI #815-06-01

REPORT OF A MARINE OCCURRENCE (TSB 1808)

<u></u>			Present	Yayaye	·		
	ca Rupert, B.C.				rdy, B.C.		
Date Harch 21.	2008			Draught (At time of the occurrence)			
Tens 20:00				Approx. 5	Dest Daniell		
Description of Cargo / But	ist		Total We	icht	Geographical location	us of where ballast was loaded	
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Native of operation at time	of occurrence (Fishing turns, inter	national trade.	doppestic to	sic, exercica, stc.)			
Passenger Fe	rry						
ice Advisor/Navigopor On Bound Yeal Nobil	Vest 1 No.	z (UMS)	One Man	Bridge Yes Ho	Integrated Bridge Sy	stem Yes No.	
List of life saving appliance	is and/or saliety equipment used fi	ilents.	Number	K persons evacuated			
fire-fighting gest, pureps, e	ia)			•	•		
Life rafts Life boats	Public Address	: System	"	8 accounted for 2 missing	r		
Lafe poats					•		
EPIRB	Watertight 71s	İ					
Flares	Bilge Pumps McGregor Doors					•	
PART 5 - PERSONNEL (Rec							
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_	Charge On Duty: Yes No	1		Watch		Yest Note:	
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Given Name	 	 		ļ	Gyen Name		
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				1			
Certificate Number	12524S	61944	a .	17492X	License Number		
Grade of Confidence	1		_		Crade of Livers		
	Master of a jone- track steamship+	1000000 <u>-</u>		lst Class Inci motorship (14)	TEGGEL IN CIRCLE		
Date of Initial issue	2002-02-11	2001-11-	-22	1992-01-20	Date of Issue	:	
Exte of latest continued prolicitately reduces ports				2001-10-23	Licensed By		
Place of Essue	Ottawa	Ottawa	 	Ottawa.	Other Prior on Board Yes No.		
Exemption	Yell Nor	Ye□	No.	Yes(No();	Hame		
Duty schedule on the day	Wa and	10.00	20.55				
of the occurrence	No set watch	.18:00 -	- 06:00	18:00 - 06:00			
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WANTERE							
W. 1100 00 B & 27 02 00							
Total hours of steep in the first 24 hours			1				
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	l	}	- 1			. i	

** First Mate of a foreign going vessel

Queen of the North Grounding and Sinking DI #815-06-01 Page 3

Queen of the North Grounding and Sinking DI #815-06-01

REPORT OF A MARINE OCCURRENCE (TSB 1808)

									
ART 6 - DESCRIPTION OF MARINE									
liks information will be reviewed at Missied at the safe operation of ship tak of a similar occurrance happens	Events and element	sportation Safety is trees leading to th	Sound (TSB) and e marine occurre	Transport Ca	nada po ass	is from in me	sting their resp	octive mandates	
isk of a similar occurrence happens	Rainetrans Rubic	space to redulated	please use separ	sie stoet.			MINERAL BODI	ai gaireo do feelige	ine
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sel and contents lo	st		Cargo, Shor	Corpo, Shore Installations, etc.					4
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Queen of the North Grounding and Sinking DI #815-06-01

REPORT OF A MARINE OCCURRENCE (TSB 1808)

Name	Tow#\$	Tow #1	Tow#3	
Official Number				
Port of Registry				
Type of Vessel			·-	
Genes Toerzee				
Leageta	Moves Pett	Motos Fee	Metres Pent	
Beach	Neires Het	Metres Fest	Metres Peet	
Year Built				
Hadi Meterial			•	
Huil Construction	Single Skin Double Fulled	Single Sking Doubte Hulled	Single Skin Double Halled	
Daugh	Art At	Find Aft	Field Aft	
ice Class			<u> </u>	
Description and Location of Cargo				
Weight of Cargo			***	
Extent and Location of Damage				
agh of Towline	Meters Feet	Motres Feed	Metres Feet	
	ion Related to Personal Indies / Hazardou	n Occurrence , Required by the Car	ada Labogr Cone Part II	
Type of Occurrence Disabling Edwy File/Explosion		Death (Suspected) Energosy Procedure Other (Specify) - year least mi		
Mineses		x Other (Specify) various mi	107-12,107-108	
Six of Hazardous Occurrence		Direct Causes of Hazardons Occurrence		
	ne given to injusted employee in relation to duties pe	stormed at the time of the hazardous occurr	tile	
spenyaning assistant province Regular drills an	o craining			
Regular drills an	e will implement			
Regular drills an Consdynmesse and day on plys Under investigati	e will implement			
Regular drills an	er wold implement ON			
Regular drills an Consdyamensor and day employ Under investigati Septementy Consdya Massass	er well implement	Date / ST	41-Y 2006	
Regular drills an Conseiva messer and dans employ Under investigati Septementary Corncive Messers Under investigations of reson brestigation	or will implement CO2	Date / 801 Telephore	41-y 2008 280-070-1970	
Regular drills am Conceive measure and day employe Under investigati Septementry Corneive Measure Indor investigation	or will implement CO2	187	ULY 2006 250-978-1378	

Queen of the North Grounding and Sinking DI #815-06-01

Queen of the North Grounding and Sinking DI #815-06-01

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REPORT OF A MARINE OCCURRENCE (TSB 1808)

QUEEN OF THE NORTH

Reference Number:

1051

Radar: ARPA (2001) Racal Decca 340E, X-Band, 25 Kw, CRT,

(2006)

Sperry 340 "E" Series S-Band, TFT ARPA

Racal/Decca Bridgemaster C251/6

Radio VHF:

Saflor RT 4822 DCS Marine VHF (2002)

Sattor RT 146 Skanti 3000

Radio FML

Marcom 5

Gyro Compass:

Anschutz Standard 22

Sounder:

Marconi Sea Chart with Digital Remote

Auto Pilot:

Anschutz Nautopilot "D" Compilot 8

Doppler:

Speny 331

Draft IND:

Welr-Jones

Nav. System:

DGPS - Northster 941XD

Navtex:

Alden AE-900

ECDIS: (2005)

TRANSAS NaviSallor 3000 Desktop Model

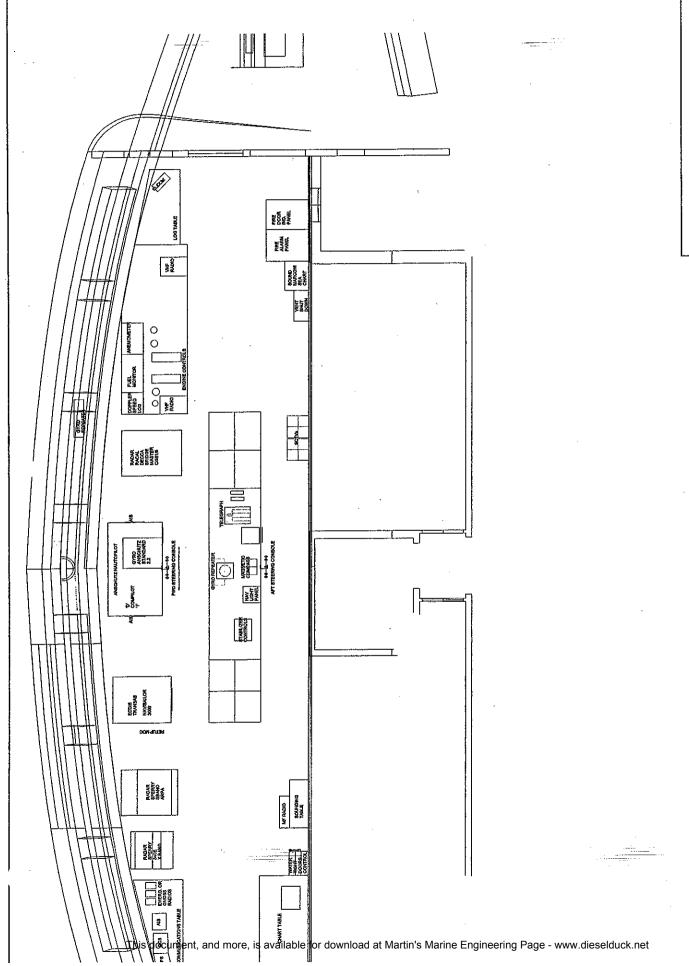
AIS Transponder:

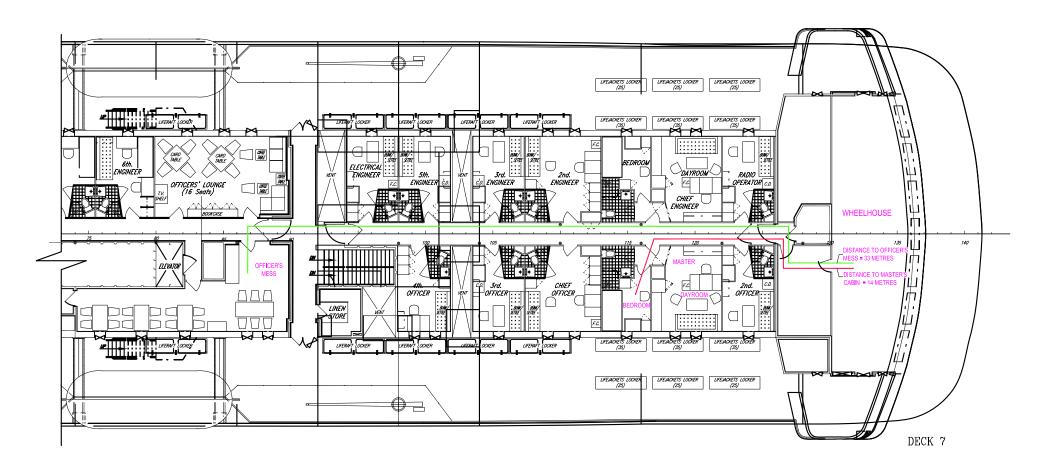
Sperry/SAAB R-4 (2005)

Queen of the North Grounding and Sinking DI #815-06-01 Pag

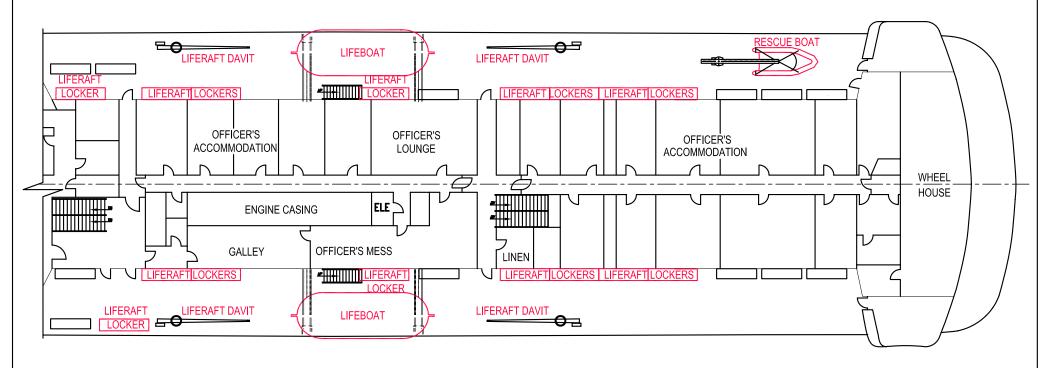
Queen of the North Grounding and Sinking DI #815-06-01

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PLAN VIEW INDICATING DISTANCES FROM:
OFFICER'S MESS TO WHEELHOUSE
MASTER'S CABIN TO WHEELHOUSE



DECK 7

PLAN VIEW INDICATING LIFERAFT, RESCUE BOAT AND LIFEBOAT LOCATIONS

ATTACHMENT 25 DISTANCE ANALYSIS GROUNDING ALONG GIL ISLAND

Impact Sites

53° 19.191' N 129° 14.296' W

to

53° 19.128' N 129° 13.995' W

Distance Analysis

If the D. Long is 0.301' If the D.Lat is 0.063'

Then, using the following plane sailing formulae;

Departure = D. Long x Cos mean Lat And

Distance = sq. root of (Dep2 + D.Lat2)

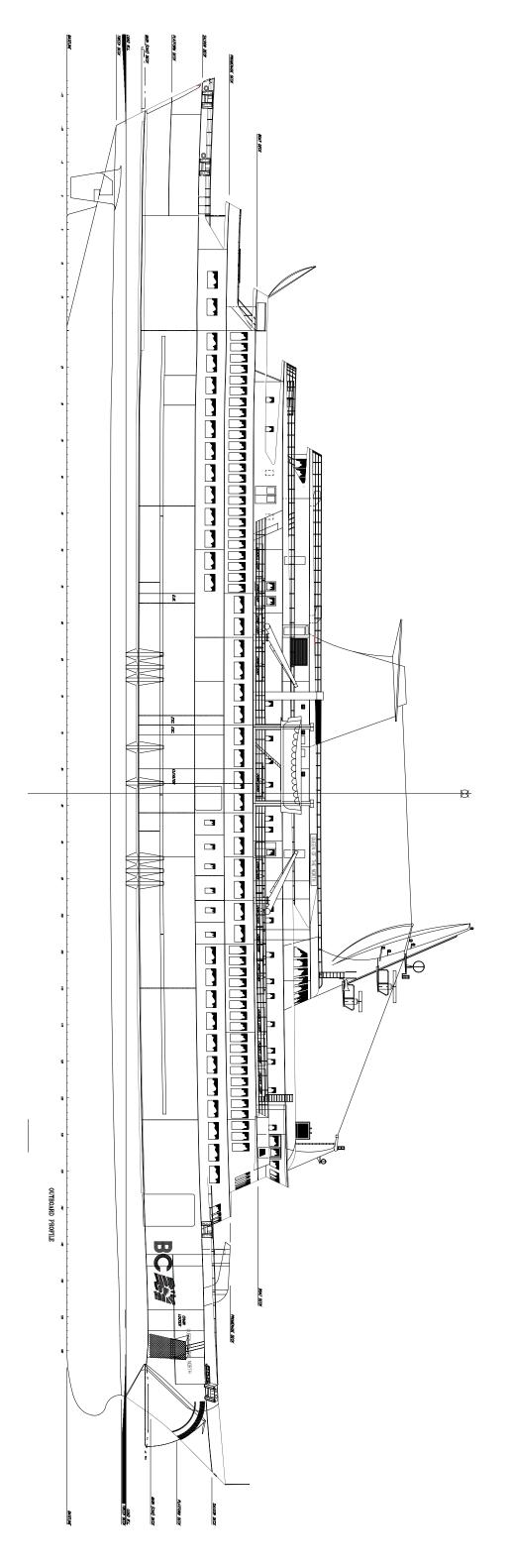
Dep = $0.301' \times \cos 53 \deg 19 \min s$

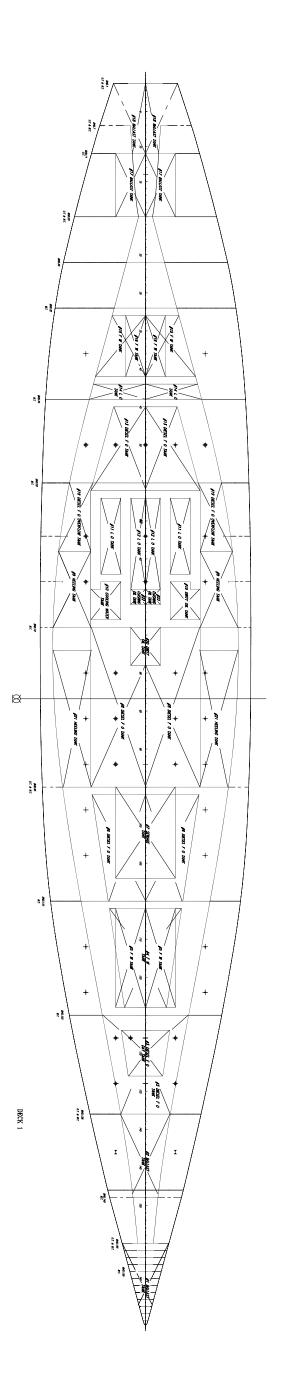
Dep = 0.17981496

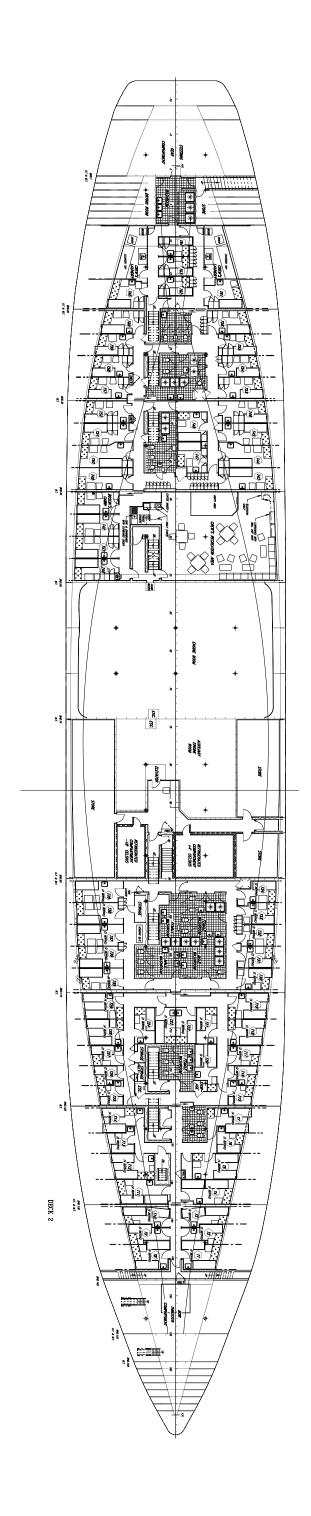
Dist = Sq.rt(sq0.17981496 + sq0.063)

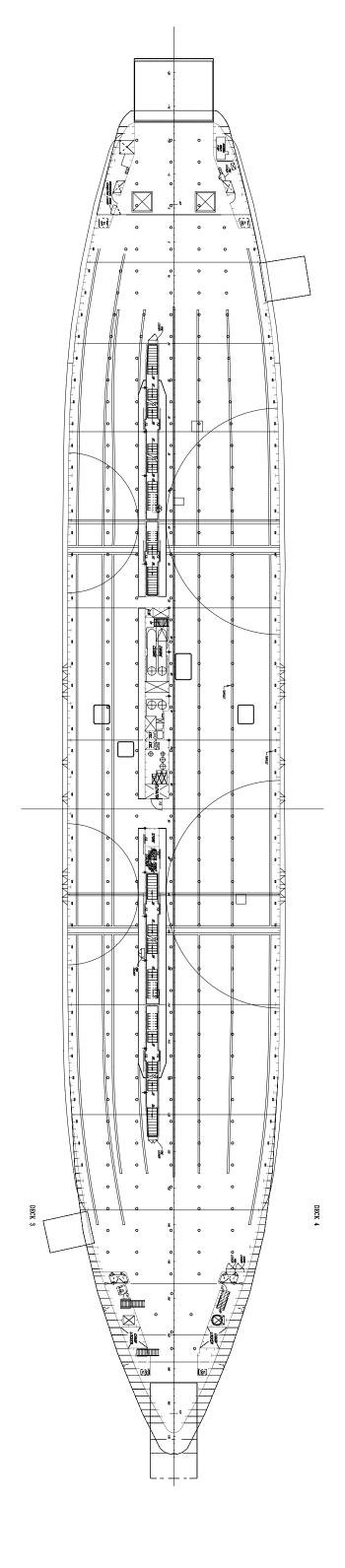
Dist = 0.1905'

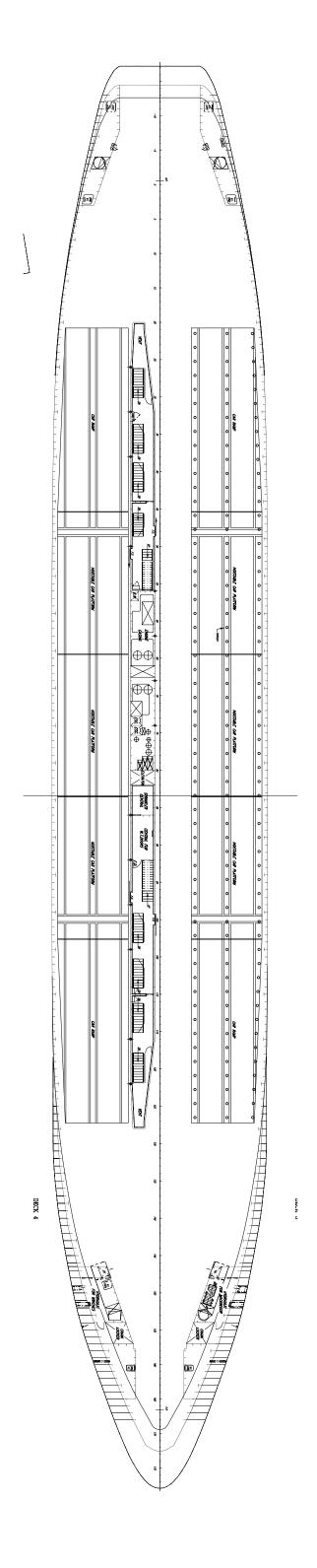
= 1158 feet.

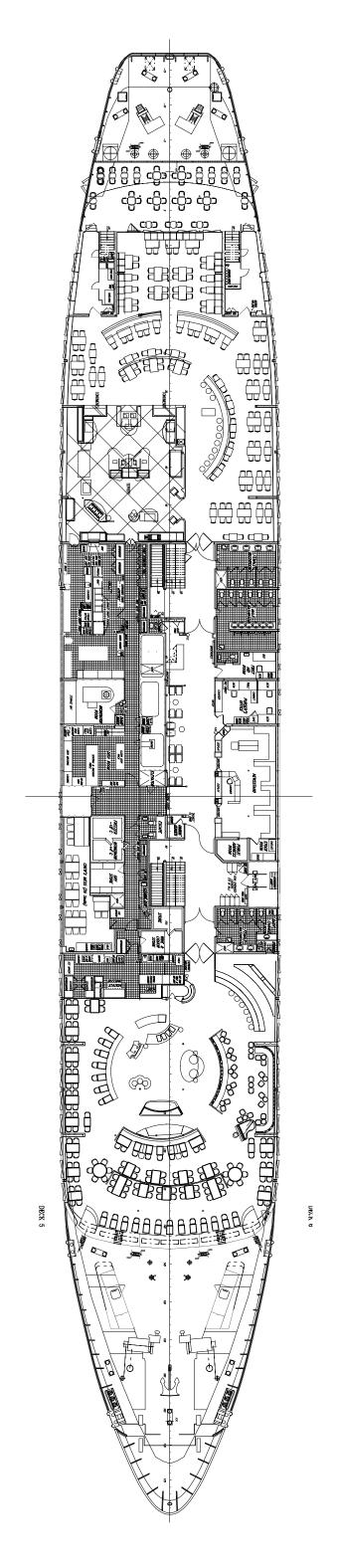


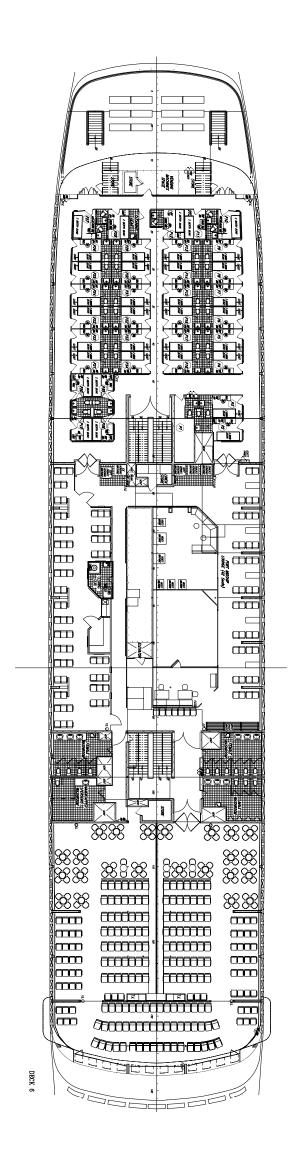


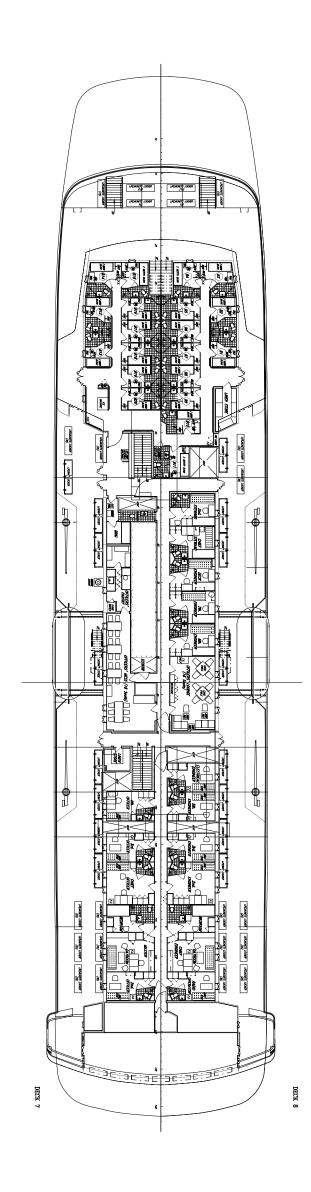












	DENT AT DESIGN W.L. (MONDED)	DEPTH TO CAR DECK (MONEDED)	DEPTH TO PROMERUGE DECK (MONDAD)	BREJOTH AT DESIGN W.L. (MOULDED)	BREWITH AT CAR DECK (MOULDED)	
	4800 mm (15'-1 1/8")	ŝ	ž	250	8	
i	3	6350 mm (20'-10")	11.550 mm (37'-2 7/8")	18250 mm (59°-10 1/2")	18800 mm (61'-8 1/8")	
•						

