

# Invoice

<b>Invoice No: 1</b> <b>Invoice Date: 17-Apr-2012</b> <b>Customer Number:</b> <b>Job No:</b> <b>Terms:</b> <b>Purchase Order:</b>
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**Vessel:** (conversion)

Item/Description	Units	Rate	Item Total
<b>0001 Drydock</b>			
<b>30-Aug</b> Drydock vessel and hold on dock until completion of underwater repairs and undock. Drydock vessel using (2) tugs to bring vessel to dock. Set more support blocks under vessel. Supply walkway, ladder and bridge to drydock.			
Crane - 100 ton Crawler	1.00	200.00	200.00
Crane - 230 ton Crawler	1.00	300.00	300.00
Dock Fee			2,000.00
Forklift - Extendaboomb	1.00	50.00	50.00
Labor Repair	82.50	52.50	4,331.25
Labor-Supervisor	17.50	58.00	1,015.00
			\$7,896.25
<b>0002 Shorepower</b>			
<b>15-Aug</b> Provide electrical shorepower while vessel is dockside.			
<b>30-Aug</b> Provide electrical shorepower while vessel is on drydock.			
<b>21-Nov</b> Provide electrical shorepower while vessel is dockside in slip.			
<b>07-Feb</b> Provide electrical shorepower while vessel is dockside behind crane.			
Shorepower - Hookup	4.00	250.00	1,000.00
Shorepower Day Rate	214.00	125.00	26,750.00
			\$27,750.00
<b>0003 Competent Person</b>			
<b>16-Aug</b> Provide competent person's report prior to hot work.			
Competent Person	136.50	75.00	10,237.50
			\$10,237.50
<b>0004 Marine Chemist</b>			
<b>15-Aug</b> Provide marine chemist certificate.			
<b>19-Sep</b> Provide marine chemist prior to hot work due to liquid mud conversion. The no. 1 and no. 2 port and starboard fuel tanks didn't pass.			
<b>20-Sep</b> Provide marine chemist to recheck no. 1 and no. 2 port and starboard fuel tanks, they were good.			
Marine Chemist	5.00	500.00	2,500.00

<i>Item/Description</i>	<i>Units</i>	<i>Rate</i>	<i>Item Total</i>
<b>0004 Marine Chemist</b>			\$2,500.00
<b>0005 Uscg / Abs</b>			
03-Oct Crawl tanks with USCG and ABS for inspection.			
Labor Repair	3.50	52.50	183.75
Labor-Supervisor	8.50	58.00	493.00
Material Inventory			4.80
			\$681.55
<b>0006 General Services</b>			
29-Aug Provide labor and equipment to place a trash bin on deck and remove it, service a port-o-let, hook up water and air to vessel. Also placed walkway to gain access to vessel.			
08-Sep Provide labor and equipment to load weights on stern to lift insert on bow while waiting for docking. Remove weights from vessel after docking. Load on port-o-let on vessel and remove each week for cleaning and return to vessel. Removed miscellaneous items from vessel.			
26-Sep Provide labor and equipment to load groceries in personnel baskets and lift onto vessel using crane. Also off load garbage bin, dispose and replace.			
28-Sep Provide labor and equipment to remove conex from vessel, off load and return to vessel. Remove garbage bin from vessel, dispose and return bin to vessel.			
06-Oct Provide labor and equipment to load groceries in personnel basket using crane.			
17-Oct Provide labor and equipment to off load trash bin, dispose and return to vessel. Off load groceries with basket using crane.			
25-Oct Provide labor and equipment to off load trash bin, dispose and return to vessel.			
13-Dec Provide labor and equipment to dump trash bins to return to vessel.			
21-Dec Provide labor and equipment to supply iron bin for crew to load broken cement from cooler and freezer floor.			
23-Dec Provide labor and equipment to remove iron bin, scrap metal, trash and clean deck.			
03-Jan Provide labor and equipment to turn vessel from port bank to starboard bank using tug supplied by Conrad.			
24-Jan Provide labor and equipment to empty garbage bin and return to vessel.			
30-Jan Provide labor and equipment to dispose of trash and return bin to vessel.			
Crane - 100 ton Crawler	18.00	200.00	3,600.00
Forklift - Extendaboom	17.00	50.00	850.00
Labor Repair	153.50	52.50	8,058.75
Labor-Supervisor	5.25	58.00	304.50
Manlift - 60 ft	1.00	65.00	65.00
Material			16.03
Material Inventory			18.29
			\$12,912.57
<b>0007 Propellers</b>			
30-Aug Provide labor, material and equipment to heat pop and remove propellers port and starboard. Also remove keeper plates and gouged propeller ring for nut lock. Install after all repairs.			
14-Oct Provide labor, material and equipment to tap bolt holes on propeller, renew gasket ring and install OB ring port and starboard. Cut new keeper plates			

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port and starboard of stainless steel 12"x1/2" in diameter and grind ring to fit light port and starboard. Also install fairwater cap, replacing with new rubber ring seal. Fill caps with grease and install plugs and bolt cap port and starboard.

Crane - 100 ton Crawler	4.00	200.00	800.00
Forklift - Extendaboom	1.00	50.00	50.00
Labor Repair	55.25	52.50	2,900.62
Labor-Supervisor	22.50	58.00	1,305.00
Material Inventory			187.25
			<u>187.25</u>
			\$5,242.87

#### 0008 Propeller Shafts

**25-Aug** Provide labor, material and equipment to remove coupling bolts before drydocking port and starboard.

**30-Aug** Provide labor, material and equipment to heat pop coupling and remove propeller shafts port and starboard. Install after all repairs.

Crane - 100 ton Crawler	2.00	200.00	400.00
Forklift - Extendaboom	2.00	50.00	100.00
Labor Repair	88.00	52.50	4,620.00
Labor-Supervisor	20.00	58.00	1,160.00
Material Inventory			74.03
			<u>74.03</u>
			\$6,354.03

#### 0009 Packing

**30-Aug** Provide labor, material and equipment to remove packing and clean stuffing box. Install new after all repairs.

**26-Oct** We had to remove flange bolts and remove new packing on port side in way of cropping and renewing insert on under side of packing tube. Repack after all repairs for item 820.

Labor Repair	32.50	52.50	1,706.25
Labor-Supervisor	2.50	58.00	145.00
Material			102.18
Material Inventory			293.60
			<u>293.60</u>
			\$2,247.03

#### 0010 Strut Bearings

**31-Aug** Provide labor, material and equipment to cut strips of bearing rubber out and gouge bearings out both port and starboard.

**09-Sep** Provide labor, material and equipment to hone out strut tubes for installation and mic. Tap bolt holes for flanged bearings. Install bearings with red hand after all repairs. Strap bolts together, with stainless steel piano wires.  
Note: install flanged bearing using hydraulic jack with all thread rods and plates both port and starboard.

**16-Sep** Provide labor, material and equipment to install port strut bearing with red hand and determined strut tube was worn out on aft end. Had to remove bearing.

Forklift - Extendaboom	1.00	50.00	50.00
Labor Repair	51.00	52.50	2,677.50
Labor-Supervisor	8.50	58.00	493.00
Material Inventory			251.77
			<u>251.77</u>
			\$3,472.27

<i>Item/Description</i>	<i>Units</i>	<i>Rate</i>	<i>Item Total</i>
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**0011 Intermediate Bearings**

**01-Sep** Provide labor, material and equipment to cut strips of rubber out of bearing and gouge into two pieces and remove both port and starboard.

**09-Sep** Provide labor, material and equipment to hone out intermediate tubes for installation and mic. Tap bolt holes for flanged bearings. Install owner furnished bearings with red hand after all repairs. Strap bolts together with stainless steel piano wire.

Note: install flanged bearings using hydraulic jack with all thread rods and plates both port and starboard.

Forklift - Extendaboom	1.00	50.00	50.00
Labor Repair	86.50	52.50	4,541.25
Labor-Supervisor	6.25	58.00	362.50
Material Inventory			75.84
			\$5,029.59

**0012 Bow Thruster**

**30-Aug** Provide labor, material and equipment to cut flatbar guards on bow thruster tunnel both port and starboard. Fit and weld back after all repairs.

**31-Aug** Provide labor, material and equipment to heat pop thruster propeller and assist BNA on removing thruster unit. BNA was hired by customer.

**01-Sep** Provide labor, material and equipment to cut old thruster flange and remove. Insert flange for new thruster, check alignment by BNA and weld solid.

**16-Sep** Provide labor, material and equipment to cut and install forward bracket stiffeners from thruster unit to tunnel top and bottom bracket. Beveled top and bottom on each for weld and beveled each side top and bottom to move water freely. (2) pieces 14"x9"x1" plate, weld solid.

**26-Oct** Provide labor, material and equipment to gouge cut bow thruster flange collar to 3/4" inch to assure water flow. Also tack weld 1/4" stainless steel round bar to bolts to lock.

Crane - 100 ton Crawler	1.00	200.00	200.00
Forklift - Extendaboom	2.00	50.00	100.00
Labor Repair	201.25	52.50	10,565.62
Labor-Supervisor	35.00	58.00	2,030.00
Material Inventory			380.09
			\$13,275.71

**0013 Rudders**

**30-Aug** Provide labor, material and equipment to gouge nut straps, remove nuts and remove rudders port and starboard. Install after all repairs.

**09-Sep** Provide labor, material and equipment to install angle on back of both rudders port and starboard. Cope flatbars into fit angle.

Material:

12' of 6"x6"x1/2" angle

4' of 6"x1/2" flatbar, weld solid

Also remove keeper plate and pucker seals.

**06-Oct** Provide labor, material and equipment to install rudders port and starboard. We had trouble installing rudder because fit was tight between top and bottom bearings. Install ware plates, keeper plates, pucker seals and tighten rudder nuts and weld stainless steel straps to lock nuts in port and starboard.

Note: pucker seals were tight and very hard to install bolts.

**14-Oct** Provide labor, material and equipment to supply (5) gallons of grease Conrad furnished and (5) gallons of grease vessel furnished.

Crane - 100 ton Crawler	9.00	200.00	1,800.00
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<i>Item/Description</i>	<i>Units</i>	<i>Rate</i>	<i>Item Total</i>
<b>0013 Rudders</b>			
Forklift - Extendaboom	2.00	50.00	100.00
Labor Repair	157.50	52.50	8,268.75
Labor-Supervisor	43.75	58.00	2,537.50
Material			426.44
Material Inventory			1,119.73
			\$14,252.42
<b>0014 Rudder Bearings</b>			
<b>07-Sep</b> Provide labor, material and equipment to burn out rudder tubes bearing port and starboard. Clean out tube for mic. Install after all repairs.			
<b>09-Sep</b> Provide labor, material and equipment to install owner furnished rudder bearings upper and lower port and starboard. All bearings will be brass bearings. Install with red hand and hydraulic jack, all thread bolts and plates.			
Labor Repair	46.25	52.50	2,428.12
Labor-Supervisor	18.00	58.00	1,044.00
Material Inventory			2.38
			\$3,474.50
<b>0016 Rudder Packing</b>			
<b>30-Aug</b> Provide labor, material and equipment to remove rudder packing and clean stuffing box. Install new after all repairs.			
Labor Repair	30.00	52.50	1,575.00
Labor-Supervisor	2.00	58.00	116.00
Material Inventory			184.32
			\$1,875.32
<b>0018 Gauging</b>			
<b>31-Aug</b> Provide labor, material and equipment to gauge aft intermediate bearings port and starboard. Gauge forward and aft strut bearing port and starboard. Shipyard had subcontractor gauge focsle deck, main deck, port and starboard sideshell, bottom, stern, flatkeel, seachest, three girth belts, chainlocker, forepeak, #1 ballasts, sewage tank, forward alleyway, #4 ballasts, engine room, aft alleyway, #6 ballasts, #7 ballasts, rudder room aft peak ballasts and suction.			
Labor Repair	6.00	52.50	315.00
Material			13,129.20
Material Inventory			21.26
			\$13,465.46
<b>0019 Keel Coolers</b>			
<b>31-Aug</b> Provide labor, material and equipment to disassemble and remove port forward grid cooler. Also cut off cooler guard.			
<b>01-Sep</b> Provide labor, material and equipment to cut flatbars and remove (3) grid coolers on aft port side and (3) grid coolers on aft starboard side.			
<b>09-Sep</b> Provide labor, material and equipment to disassemble and remove aft grid coolers. Forward bow grid cooler: bow thruster (3) grid coolers aft port side, main engine (3) grid coolers aft starboard side, main engines, (2) grid cooler aft port and starboard generator coolers. Clean pots for grid coolers on all main engine, make gaskets for pots.			
<b>26-Oct</b> Provide labor, material and equipment to install all new owner furnished grid coolers with button welds and flanges. Weld solid and remove after fit in way of sandblasting and paint. We had to install steel shims on main engine cooler. Cut by EJ Fields 1" to 1 1/2" shims (4) pieces. Also Conrad			

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cut shims for clutch oil coolers (1) piece, 8"x14"x3/4" plates and (1) piece 8"x14"x3/4" from EJ Fields, weld solid.

**08-Nov** Provide labor, material and equipment to crop main engine cooler guards. Re-fit to new coolers with slopped plates at each end. This also includes guard for clutch oil cooler port and starboard. Material plate: (2) pieces 10'x8'x1" plate, 5'-7"x16'x1" plate. Cut to fit with slots and slopped ends. Weld solid port and starboard. After all keel coolers are installed including bow thruster cooler, generator coolers and main engine coolers, weld flatbars to bottom of guards for each guard.

Material:  
240' of 1"x4" flatbar

Crane - 100 ton Crawler	9.00	200.00	1,800.00
Forklift - Extendaboom	3.00	50.00	150.00
Labor Repair	1,404.00	52.50	73,710.00
Labor-Supervisor	125.00	58.00	7,250.00
Material			3,284.87
Material Inventory			6,441.10

6,441.10  
\$92,635.97

**0020 Assist Tugs**

**03-Aug** Provide assist tugs to move the Minnie Falgout from the east side of the yard to the west side to get ready to make repairs.

**30-Aug** Provide assist tugs to enter drydock.

**21-Nov** Provide assist tugs to remove vessel from drydock and put it in slip.

**07-Feb** Provide assist tug to move vessel from slip to dock side near big crane.

Assist Tugs			3,220.00
			<u>3,220.00</u>

**0021 Scrape**

**30-Aug** Provide labor and equipment to scrape growth off of hull and propeller shafts. Also pressure washed from caprail to keel. Shipyard rented (4) four pressure washers to complete job.

Labor Repair	28.00	52.50	1,470.00
Labor-Supervisor	4.50	58.00	261.00
Manlift - 60 ft	20.00	65.00	1,300.00
Material			1,023.84
Material Inventory			41.70

41.70  
\$4,096.54

**0022 Strut Tubes**

**16-Sep** Provide labor, material and equipment to brace off strut legs port and starboard using heavy angle and weld solid. Cut off strut tubes at first weld on strut leg stiffeners port and starboard. Send off to EJ Fields.

**27-Sep** Provide labor, material and equipment to install new strut tubes port and starboard. Cut in and bevel to alignment with piano wire. Have alignment verified by EJ Fields and braced off, welding solid monitoring alignment during welding.

Crane - 100 ton Crawler	3.00	200.00	600.00
Forklift - Extendaboom	1.00	50.00	50.00
Labor Repair	255.75	52.50	13,426.88
Labor-Supervisor	51.75	58.00	3,001.50
Material			56.52
Material Inventory			694.74

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<b>0022 Strut Tubes</b>			<u>\$17,829.64</u>
<b>0025 Anodes</b>			
Provide labor, material and equipment to remove wasted anodes and replace with new anodes. Removed (14) fourteen and installed (38) thirty eight new anodes.			
Forklift - Extendaboom	1.00	50.00	50.00
Labor Repair	31.50	52.50	1,653.75
Manlift - 60 ft	4.00	65.00	260.00
Material Inventory			4.38
			<u>\$1,968.13</u>
<b>0028 Manholes</b>			
<b>14-Aug</b> Provide labor, material and equipment to remove no. 2 multi bolt manhole covers from the port and starboard dirty oil tanks located in the bilge in the back of the engine room.			
Labor Repair	14.25	52.50	748.12
Labor-Supervisor	3.25	58.00	188.50
Material Inventory			119.45
			<u>\$1,056.07</u>
<b>0029 Electrician</b>			
<b>25-Aug</b> Provide subcontractor to disconnect steering pumps.			
Subcontractor			114.00
			<u>\$114.00</u>
<b>0032 Deck Boards</b>			
<b>21-Dec</b> Provide labor, material and equipment to cut flatbars and remove and replace damaged deck boards as called out. Weld flatbars back.			
Forklift - Extendaboom	2.00	50.00	100.00
Labor Repair	83.00	52.50	4,357.50
Labor-Supervisor	9.00	58.00	522.00
Material Inventory			241.49
			<u>\$5,220.99</u>
<b>0033 Assist Subcontractors</b>			
<b>13-Sep</b> Provide labor, material and equipment to assist BNA to install wiring for DP1 system. Weld studs, fabricate (3) oval rings 3"x8" made from 2"x1/4" stainless steel flatbar. Cut into place and weld. Cut out and install rox blocks. Cover all wiring with fire cloth and wetting down material, fire watch.			
<b>06-Oct</b> Provide labor, material and equipment to crop existing collars out above engine room door on forward bulkhead and install insert 2'x2'x3/8" plate. Then cut and install (2) square frames for rox blocks, weld solid and dye test. Pop straight line and install stainless steel bolts and weld throughout passage way. Cut and install rox box frame above door on bulkhead at liquid mud tank in passage way, weld solid and dye test. Cut and install oval ring in cabin floor at deck level and weld solid. Also cut inserts for (2) 2" collars on second level and weld solid using firewatch.			
<b>06-Dec</b> Provide labor, material and equipment to install electrical boxes in forward alley way and rudder compartment using angle with drilled holes and tacked to bulkheads.			
<b>23-Dec</b> Provide labor, material and equipment to cut and thread 3/4" pipes for antenna and wind gauge. Drill two more 3" hole inserts on second level, mount electrical boxes in engine room and weld and mount sensors for			

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generator and bow thruster engines.

- 17-Feb** Provide labor, material and equipment to install (4) 3/4" stainless steel collars on foscle deck on aft of cabin for BNA. Install (2) 1"x2' pipe stanchions on aft mast and (2) 1"x2' pipe stanchions for DH units on mast. Note: this was all relocated from pilot house top by instruction from BNA. Also replaced (2) 3/4" grommets with brass plugs on top of pilot house.

- 02-Mar** Provide labor, material and equipment to fabricate and install adjustable mounting bracket for shaft brake on bow thruster. Also assist BNA to install bow thruster shaft brake.

Crane - 100 ton Crawler	4.00	200.00	800.00
Labor Repair	455.50	52.50	23,913.75
Labor-Supervisor	72.25	58.00	4,190.50
Manlift - 60 ft	29.00	65.00	1,885.00
Material			46.44
Material Inventory			981.82
			\$31,817.51

### 0033.1 Assist Subcontractor

- 03-Jan** Provide labor, material and equipment to assist vessel mechanics. Build frames for electronic boxes, cut pipe and add fittings. Also install dresser couplings.

- 09-Feb** Provide labor, material and equipment to install collars on cooler lines to connect clutch oil coolers for bow thruster clutch. Weld collars solid and test.

- 17-Feb** Provide labor, material and equipment to weld 1/2" oiling pipe to port main engine component for engine mechanics.

Forklift - Extendaboom	3.00	50.00	150.00
Labor Repair	210.25	52.50	11,038.12
Labor-Supervisor	64.50	58.00	3,741.00
Material			469.22
Material Inventory			884.87
			\$16,283.21

### 0034 Tires & Hangers

- 02-Sep** Provide labor, material and equipment to crop (4) shackles per tire on (12) tires using manlift. Remove from drydock.

- 18-Nov** Provide labor, material and equipment to crop and renew (12) tire padeyes on starboard side (12) padeyes 10"x8"x1" plate, weld solid.

- 23-Dec** Provide labor, material and equipment to cut off old chains on tires and install new chains and shackles and mount tires. Weld shackle pins solid.

Bobcat - Skid Steer Loader	1.00	50.00	50.00
Crane - 100 ton Crawler	1.00	200.00	200.00
Forklift - Extendaboom	5.00	50.00	250.00
Labor Repair	88.00	52.50	4,620.00
Labor-Supervisor	13.25	58.00	768.50
Manlift - 60 ft	6.00	65.00	390.00
Material Inventory			161.02
			\$6,439.52

### 0038 Vents, Fills and Sounds

- 18-Nov** Provide labor, material and equipment to crop and renew 6' of 4" schedule 80 vent pipe in forward starboard bunk room for forepeak vent, weld solid. Also crop and renew 6' of 4" schedule 80 vent pipe in aft port bunk room for

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port ballast no. 1 vent, weld solid and test.			
<b>17-Feb</b> Provide labor, material and equipment to crop and renew 6' of 2" schedule 80 pipe, (2) 2" 90's, port and starboard for foscle deck drains, weld solid.			
Labor Repair	71.50	52.50	3,753.75
Labor-Supervisor	10.50	58.00	609.00
Material Inventory			58.18
			<u>58.18</u>
			\$4,420.93

**0042 Firewatch**

<b>16-Aug</b> Provide fire watch as needed during hot work for item 801.			
<b>26-Sep</b> Provide fire watch as needed during hot work for item 809.			
<b>27-Sep</b> Provide fire watch as needed during hot work for item 809.			
<b>28-Sep</b> Provide fire watch as needed during hot work for item 809.			
<b>30-Sep</b> Provide fire watch as needed during hot work for items 809 and 812.			
<b>03-Oct</b> Provide fire watch as needed during hot work for items 809 and 813.			
<b>05-Oct</b> Provide fire watch as needed during hot work for items 809 and 812.			
<b>06-Oct</b> Provide fire watch as needed during hot work for items 809 and 812.			
<b>07-Oct</b> Provide fire watch as needed during hot work on item 33, 809 and 812.			
<b>10-Oct</b> Provide fire watch as needed during hot work for items 809 and 812.			
<b>11-Oct</b> Provide fire watch as needed during hot work for items 809 and 812.			
<b>12-Oct</b> Provide fire watch as needed during hot work for item 809.			
<b>13-Oct</b> Provide fire watch as needed during hot work for item 809.			
<b>14-Oct</b> Provide fire watch as needed during hot work for item 809.			
<b>17-Oct</b> Provide fire watch as needed during hot work for items 816, 817, and 818.			
<b>19-Oct</b> Provide fire watch as needed during hot work for items 816, 818 and 820.			
<b>19-Oct</b> Provide fire watch as needed during hot work for items 816, 818, and 820.			
<b>20-Oct</b> Provide fire watch as needed during hot work for item 819.			
<b>21-Oct</b> Provide fire watch as needed during hot work for item 819.			
<b>24-Oct</b> Provide fire watch as needed during hot work for item 819.			
<b>25-Oct</b> Provide fire watch as needed during hot work for item 819.			
<b>26-Oct</b> Provide fire watch as needed during hot work for item 819.			
<b>27-Oct</b> Provide fire watch as needed during hot work for item 819.			
<b>28-Oct</b> Provide fire watch as needed during hot work for item 819 and 19.			
<b>31-Oct</b> Provide fire watch as needed during hot work for item 819.			
Labor Repair	424.00	52.50	22,260.00
			<u>22,260.00</u>

**0048 Anchor Winch/Towing Winch**

<b>21-Dec</b> Provide labor, material and equipment to range chain port and starboard. Install pair link on new chain on port side. Mark with paint both port and starboard chains every 90'. Connect to chain locker shackles and on anchor winch and roll chains in chain locker port and starboard.			
Crane - 100 ton Crawler	1.00	200.00	200.00
Forklift - Extendaboom	2.00	50.00	100.00
Labor Repair	21.50	52.50	1,128.75
Labor-Supervisor	12.00	58.00	696.00
Material Inventory			48.18



<i>Item/Description</i>	<i>Units</i>	<i>Rate</i>	<i>Item Total</i>
<b>0501 Spot Blast, Wash, and Paint</b>			
Labor Repair	199.25	52.50	10,460.62
Labor-Supervisor	46.75	58.00	2,711.50
Manlift - 40 ft	5.00	65.00	325.00
Manlift - 60 ft	10.00	65.00	650.00
Material			1,723.44
Sandblast/ Includ Labor	12.00	200.00	2,400.00
Scissor Lift - 26 ft	5.00	65.00	325.00
Work Barge - 100 ft (per day)	1.00	250.00	250.00
			<u>19,045.56</u>
<b>0502 Pressure Wash and Paint</b>			
<b>07-Nov</b> Provide labor, material and equipment to pressure wash (2) chain lockers clean and apply (2) coats of epoxy.			
Labor Repair	74.75	52.50	3,924.38
Labor-Supervisor	14.50	58.00	841.00
Material			550.80
Material Inventory			286.96
			<u>5,603.14</u>
<b>0503 Spray Two Coats in Bilge Only</b>			
<b>18-Nov</b> Provide labor, material and equipment to spray two coats of paint in bilge near bulkheads after crew cleans			
Labor Repair	35.50	52.50	1,863.75
Labor-Supervisor	11.00	58.00	638.00
Material Inventory			165.46
			<u>2,667.21</u>
<b>0504 Blast and Paint</b>			
<b>30-Nov</b> Provide labor, material and equipment to commercial blast (2) liquid mud tanks. Apply (2) coats of interline 850 and (1) stripe coat.			
Crane - 100 ton Crawler	2.00	200.00	400.00
Forklift - Extendaboom	4.00	50.00	200.00
Labor Repair	276.50	52.50	14,516.25
Labor-Supervisor	78.75	58.00	4,567.50
Material			7,375.46
Material Inventory			786.68
Sandblast/ Includ Labor	26.00	200.00	5,200.00
			<u>33,045.89</u>
<b>0505 Operate Manlift</b>			
<b>01-Dec</b> Provide labor, material and equipment to give crew (1) man to operate manlift.			
<b>21-Dec</b> Provide labor, material and equipment to supply and operate manlift for crew while painting.			
<b>22-Feb</b> Provide labor, material and equipment to operate manlift for crew to paint mast pole.			
<b>29-Feb</b> Provide labor, material and equipment to provide manlift and operator to assist boat crew in painting mast pole.			
Forklift - Extendaboom	17.00	50.00	850.00
Labor Repair	107.50	52.50	5,643.75
Labor-Supervisor	10.75	58.00	623.50
Manlift - 60 ft	70.50	65.00	4,582.50

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<i>Item/Description</i>	<i>Units</i>	<i>Rate</i>	<i>Item Total</i>	
<b>01-Nov</b> Provide labor, material and equipment to blast (12) 1"x4"x20' flatbars and apply (1) coat of epoxy for cooler guards.				
<b>03-Nov</b> Provide labor, material and equipment to blast (10) elbows and (4) bell reducers for item 703.				
<b>21-Nov</b> Provide labor, material and equipment to blast (1) anchor and apply (2) coats of epoxy.				
<b>12-Dec</b> Provide labor, material and equipment to blast IMO numbers and apply (1) coat of zinc.				
<b>05-Jan</b> Provide labor, material and equipment to blast (1) 20' tubing and apply (1) coat of zinc.				
	Forklift - Extendaboom	1.00	50.00	50.00
	Labor Repair	91.00	52.50	4,777.50
	Labor-Supervisor	3.00	58.00	174.00
	Material			1,680.00
	Material Inventory			759.31
	Sandblast/ Includ Labor	15.00	200.00	3,000.00
				<u>3,000.00</u>
				\$10,440.81
<b>0601 Blast and Clean</b>				
<b>23-Sep</b> Provide labor, material and equipment to blast 28" up in void tanks to make them fuel tanks blast and clean the sand out no paint.				
	Labor Repair	80.75	52.50	4,239.38
	Labor-Supervisor	7.50	58.00	435.00
	Sandblast/ Includ Labor	10.00	200.00	2,000.00
				<u>2,000.00</u>
				\$6,674.38
<b>0700 Bow Thruster Grid Cooler Piping</b>				
<b>10-Oct</b> Provide labor, material and equipment to fit and weld piping for bow thruster grid coolers. Cooler piping in 3' of 2 1/2" piping, (1) 2 1/2" to 3" reducer, (3) 90 degree and weld solid to flange and hull. Cooler piping out: 5' of 2 1/2" pipe, (1) 2 1/2" to 3" reducer, (1) 45 degree and (2) 90 degree, also weld solid to flange and hull.				
<b>08-Nov</b> Provide labor, material and equipment to install and weld bleed off piping for cooler box on bow thruster cooler. Materials: 8' of 3/4" schedule 80 piping, (2) 3/4" 90 degrees, (1) 3/4"x6" nipple, (1) 3/4" gate valve, (1) 3/4" plug.				
<b>15-Nov</b> Provide labor, material and equipment to install bleed off collars and valves. Cut 1/4" hole on 90's closet to grid cooler flange on the in and out and weld 3/4" collars and install close nipple and 3/4" ball valve on each for bleed off. Also weld nipples on piping at engine and install test cap, test piping. Install 3/4" plugs to ball valves after testing.				
<b>06-Dec</b> Provide labor, material and equipment to replace same piping, flames and valves on cooler piping in no. 1 ballast penetrating the inboard bulkhead. Install and weld flanges and valves. Material: 20' of 3" schedule 80 pipe and 10' of 2" schedule 80 pipe, (4) 3" flanges and (2) 3" butterfly valves.				
	Labor Repair	155.00	52.50	8,137.50
	Labor-Supervisor	27.75	58.00	1,609.50
	Material			933.74
	Material Inventory			503.94
				<u>503.94</u>
				\$11,184.68
<b>0701 Generator Grid Cooler Piping</b>				

<i>Item/Description</i>	<i>Units</i>	<i>Rate</i>	<i>Item Total</i>
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**21-Oct** Provide labor, material and equipment to re-route and tie in cooler piping from forward to both aft piping port and starboard. Weld piping solid and weld to grid cooler flange.

Materials:

Port side:

(1) 4" 90 degree

(3) 3" 90's

(2) reducers 4" to 3" schedule 80

10' of 3" schedule 80 pipe

Starboard side:

(2) 3" 45's

(5) 3" 90's

(2) reducers 4" to 3" schedule 80

(3) 3" Grinnell clamps with round bar

14' of 3" schedule 80 pipe

**15-Nov** Provide labor, material and equipment to install 3/4" bleed off collars and valves on piping and install test cap fittings and test piping same as item 700 bow thruster grid cooler piping.

Labor Repair	295.50	52.50	15,513.75
Labor-Supervisor	25.50	58.00	1,479.00
Material			481.85
Material Inventory			994.73
			<u>994.73</u>
			\$18,469.33

**0702 No. 4 Ballast Piping Port and Starboard**

**18-Oct** Provide labor, material and equipment to re-route piping out of double bottom fuel and liquid mud conversion and (1) insert in no. 2 fuel tanks port and starboard. Piping and insert measurements to be determined.

**26-Oct** Provide labor, material and equipment to crop and renew existing piping in double bottom and no. 2 fuel tanks port and starboard. Also remove from no. 2 nontight bulkheads. Inserts in the no. 2 fuel tanks port and starboard 2'x2'x3/8" plate, weld solid and air test. Re-route piping from no. 4 bulkheads to alley way port and starboard with cross over's. Material used 40' of 4" schedule 80 pipe, (4) 4" butterfly valves (vessel furnished), (8) 4" flanges, (4) 4" tees, (8) 45's, (2) 90's, (6) 4" weld caps, (4) 3" weld caps, (6) 3" plumber plugs, (3) 2 1/2" plumber plugs.

Forklift - Extendaboom	1.00	50.00	50.00
Labor Repair	419.50	52.50	22,023.75
Labor-Supervisor	13.50	58.00	783.00
Material			409.93
Material Inventory			2,932.45
			<u>2,932.45</u>
			\$26,199.13

**0703 Main Engine Cooler Piping**

**03-Nov** Provide labor, material and equipment to install main engine piping to (2) coolers port and starboard and main engine cooler piping for clutch oil cooler (1) cooler port and starboard. Measurement, sizes, and fittings to be determined.

**23-Dec** Provide labor, material and equipment to finish cooler piping to main engines and day tanks ran through bilge. Material: 60' of 3" piping, 40' of 1 1/2" piping with fitting, flanges and valves, test lines.

Labor Repair	435.00	52.50	22,837.50
Labor-Supervisor	22.75	58.00	1,319.50
Material			2,508.58

<i>Item/Description</i>	<i>Units</i>	<i>Rate</i>	<i>Item Total</i>
<b>0703 Main Engine Cooler Piping</b>			
Material Inventory			1,390.64
			<u>1,390.64</u>
			\$28,056.22
<b>0704 Bow Thruster and Port and Starboard Generator Piping</b>			
<b>18-Nov</b> Provide labor, material and equipment to install and weld generator piping for cooler water, fuel, air and racor filters.			
<b>23-Dec</b> Provide labor, material and equipment to remove existing hydraulic tank for bow thruster and angle framing. Install one more 3/4" line for hydraulic tank and brackets. 30' of 3/4" pipe and fittings. Note: also installed gate valves and checks for fuel pipe.			
Labor Repair	257.00	52.50	13,492.50
Labor-Supervisor	18.50	58.00	1,073.00
Material Inventory			876.02
			<u>15,441.52</u>
			\$15,441.52
<b>0705 Steering Pump Piping</b>			
<b>28-Nov</b> Provide labor, material and equipment to install steering pump piping from steering pumps, (2) 1 and 2 to port and starboard rudders. Four lines 70' of 3/4" pipe per line with fittings and valves.			
<b>23-Dec</b> Provide labor, material and equipment to pre-test (air test) hydraulic steering pipes with yard air pressure. Assist subcontractor to air test at 3,000 # air pressure and pickle lines.			
<b>24-Jan</b> Provide labor, material and equipment to install cross over manifold in alley way and at port and starboard rudder rams. Also shim up rams to level with brass washers. Brass washers ordered from EJ Fields.			
<b>30-Jan</b> Provide labor, material and equipment to install additional hanger brackets, remount electrical fixtures removed to install cross over pipes. Notes: contractor re-test and pickle pipe after all cross over's were installed. Contractor installed hoses.			
Forklift - Extendaboom	1.00	50.00	50.00
Labor Repair	417.75	52.50	21,931.88
Labor-Supervisor	60.50	58.00	3,509.00
Material			13,987.38
Material Inventory			1,223.32
			<u>40,701.58</u>
			\$40,701.58
<b>0706 Muffler Piping</b>			
<b>01-Dec</b> Provide labor, material and equipment to install and weld muffler piping on bow thruster engine, port and starboard generator engines. Material: (6) 5" 45 degree schedule 40, (6) 5" 90 degree schedule 40, 21' of 5" schedule 40 pipe, weld solid. Note: (3) 5" 45 degree were sent off to be heliarc welded to engine flanges.			
Labor Repair	108.50	52.50	5,696.25
Labor-Supervisor	10.75	58.00	623.50
Material			794.58
Material Inventory			157.49
			<u>7,271.82</u>
			\$7,271.82
<b>0707 Bulk Tank Piping Repair</b>			
<b>15-Dec</b> Provide labor, material and equipment to crop and renew wasted piping on port aft bulk tank by renewing with threaded pipe and valve, 7' of 2" schedule 80 pipe.			
Labor Repair	18.00	52.50	945.00

<b>Item/Description</b>	<b>Units</b>	<b>Rate</b>	<b>Item Total</b>
<b>0707 Bulk Tank Piping Repair</b>			
Labor-Supervisor	1.00	58.00	58.00
Material			56.52
Material Inventory			49.93
			<u>\$1,109.45</u>
<b>0708 No. 6 Port Suction Pipe and Strainer Box</b>			
<b>15-Dec</b> Provide labor, material and equipment to crop off end of pipe and cut nipple in half and thread on stainless steel strainer box. (1) 3" schedule 80 x 6" nipple and (1) 3" stainless steel strainer box, weld solid.			
Labor Repair	15.00	52.50	787.50
Material Inventory			124.21
			<u>\$911.71</u>
<b>0709 Hydraulic Steering Pipe Repair</b>			
<b>26-Mar</b> Provide labor, material and equipment to repair leaks on hydraulic steering pipes. Note: leaks appeared later after contractor tested good.			
Labor Repair	34.00	52.50	1,785.00
Labor-Supervisor	5.00	58.00	290.00
Material			274.01
Material Inventory			3.07
			<u>\$2,352.08</u>
<b>0801 Generator Removal and Installation</b>			
<b>15-Aug</b> Provide labor, material and equipment to crop and renew deck board flatbars and remove (27) deck boards on top of engine room. Install shed as cover, wire handrail with pipe for safety guard. Burn off tar covering on plate and lay out inserts and cut and remove. Starboard insert 6'x4'-6"x3/8" plate, port insert 7'x4'-6"x3/8" plate. Crop and remove port and starboard generators and generator frames. Remove switch board panel box. Install flatbar and silicone around port and starboard inserts cut out on deck, in order to hold the inserts in place and prevent water from getting inside vessel. Fabricate and weld engine blocks to set engines down. Material: 10' of 4"x6"x3/8" angle and 10' of 2" pipe. Load machinery on trailer. Also torch, wash and grind all obstruction on generator frames and touch up paint. Note: Had to prepare for cutting in engine room by covering with fire cloth all engines, machinery and wires. Firewatch as needed.			
<b>08-Nov</b> Before removing port and starboard generators the port and starboard mufflers were cut and removed. New generator engines were installed.			
<b>08-Nov</b> Provide labor, material and equipment to re-fit generator frame angles which were cropped in way of removing panel box. Materials: 21'-8 5/8" of 4"x3"x3/8" angle and weld solid.			
<b>23-Dec</b> Provide labor, material and equipment to install mufflers and piping along with flex. Install brackets for mufflers and weld solid. Fit and weld engine room inserts port and starboard, dye test. Install deck boards and flatbars back.			
Crane - 100 ton Crawler	12.00	200.00	2,400.00
Forklift - Extendaboom	6.00	50.00	300.00
Labor Repair	409.25	52.50	21,485.62
Labor-Supervisor	53.00	58.00	3,074.00
Material			235.50
Material Inventory			3,084.02



<i>Item/Description</i>	<i>Units</i>	<i>Rate</i>	<i>Item Total</i>
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**0801 Generator Removal and Installation**

\$30,579.14

**0802 Bow Thruster Engine**

**16-Aug** Provide labor, material and equipment to cut out interior watertight bulkhead, internal squash bulkhead and sideshell in way of removing thruster engine. Inserts 5'-6"x5'-6"x3/8" except for sideshell sheer plate was 1" plate. Also cut out muffler piping and brackets in thruster room in order to remove thruster engine. Installed sideshell plate until new engine and parts arrive. Used crane to put work barge in water. Used work barge to cut insert on sideshell to remove bow thruster engine.

**06-Dec** Provide labor, material and equipment to install bow thruster engine and install bulkheads and weld solid. Pre test and air test for USCG and ABS. Also cut penetration and install 4" suction pipe with flanges and butterfly valve and replace piping cut in way of removing bow thruster engine and install doublers and weld.

Crane - 100 ton Crawler	4.00	200.00	800.00
Forklift - Extendaboom	4.00	50.00	200.00
Labor Repair	473.00	52.50	24,832.50
Labor-Supervisor	82.50	58.00	4,785.00
Material			415.21
Material Inventory			1,117.79
Work Barge - 40 ft (per day)	3.00	70.00	210.00
			\$32,360.50

**0803 Independent Rudders**

**22-Aug** Provide labor, material and equipment to crop jockey bar into pieces and remove from rudder room and off of vessel.

**25-Aug** Provide labor, material and equipment to disconnect rams and hoses, plug pipes port and starboard and remove rams from vessel. Also disconnect and remove quadrant and arms port and starboard and remove from rudder room. Measure and fabricate wrench to remove rudder shaft nuts.

**01-Sep** Provide labor, material and equipment to add plate to extend tiller arms port and starboard. Also adding a second bushing hole for second ram port and starboard 2'x3'x1/4" plate. (4) 4"x3/8" doubler plate, bevel and weld solid to tiller arm.

**07-Oct** Provide labor, material and equipment to send tiller arms to EJ Fields to drill holes and install brass bushing. Load on vessel using crane and brought to rudder room for installation.

**23-Dec** Provide labor, material and equipment to install (2) rams per side and fabricate mounting for two deadman padeyes per side. Install and weld doublers on deadman arms and weld solid to strengthen. Material: used 1" plate for deadman mounts and brackets and 3/8" plate to doubler both sides of deadman arm.

**15-Feb** Provide labor, material and equipment to fabricate and install (4) 1" plate rudder stops, weld solid.

**17-Feb** Provide labor, material and equipment to fabricate and install (4) 1" plate rudder stops.

Crane - 100 ton Crawler	2.00	200.00	400.00
Forklift - Extendaboom	3.00	50.00	150.00
Labor Repair	292.50	52.50	15,356.25
Labor-Supervisor	52.00	58.00	3,016.00
Material			235.93
Material Inventory			1,261.88

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<i>Item/Description</i>	<i>Units</i>	<i>Rate</i>	<i>Item Total</i>
<b>0803 Independent Rudders</b>			\$20,420.06
<b>0804 Steering Pump &amp; Reservoir Removal</b>			
22-Aug Provide labor, material and equipment to drain (2) reservoirs and break hoses loose and plug reservoirs. Supply tote tank to dispose of oil. Remove both pumps and reservoirs 1 and 2.			
25-Aug Provide labor, material and equipment to crop and grind clean steering pump and reservoir angle frame from engine room bulkhead.			
08-Nov Provide labor, material and equipment to fabricate and weld to engine room bulkhead a containment shelf and install both steering pumps and reservoirs. Weld to shelf. Shelf welded solid with bottom angle bracing. 3'x4'x3/8" plate and 10' of 3/8"x3" flatbar.			
18-Nov Provide labor, material and equipment to install (2) new steering pumps and reservoirs to shelf and weld.			
Crane - 100 ton Crawler	7.00	200.00	1,400.00
Forklift - Extendaboom	3.00	50.00	150.00
Labor Repair	136.00	52.50	7,140.00
Labor-Supervisor	14.25	58.00	826.50
Material			28.26
Material Inventory			1,139.10
			\$10,683.86
<b>0805 Main Engine Oil Coolers</b>			
26-Aug Provide labor, material and equipment to drain oil from oil cooler, disassemble port and starboard main engine oil coolers and remove from vessel. Send off for cleaning. Note: crop angles or remove hoses in way of removing oil coolers.			
26-Oct Provide labor, material and equipment to install port and starboard oil coolers. Install threaded collar flanges to oil coolers port and starboard.			
Crane - 100 ton Crawler	2.00	200.00	400.00
Labor Repair	83.25	52.50	4,370.62
Labor-Supervisor	17.50	58.00	1,015.00
Material			56.52
Material Inventory			162.16
			\$6,004.30
<b>0806 Kort Nozzles</b>			
01-Sep Provide labor, material and equipment to crop out plate above kort nozzles port and starboard. Cut stiffeners and remove kort nozzles port and starboard.			
09-Sep Provide labor, material and equipment to cut main stiffeners close to deck and grind. Also grind all wash cuts.			
Crane - 100 ton Crawler	2.00	200.00	400.00
Labor Repair	133.25	52.50	6,995.62
Labor-Supervisor	35.00	58.00	2,030.00
Manlift - 60 ft	27.00	65.00	1,755.00
Material			569.70
Material Inventory			499.16
			\$12,249.48
<b>0807 Bow Thruster Grid Cooler Boxing</b>			
08-Sep Provide labor, material and equipment to crop, existing grid cooler boxing. Fabricate, fit and weld new grid cooler boxing. Measurements to be			

Item/Description	Units	Rate	Item Total
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determined.

**16-Sep** Grid cooler boxing 20' in length, note: had to have 10'x6'-6"x1/2" pieces sent off for bending shape. 26" width x 26" depth x 1/2" plate, weld solid.

**26-Sep** Provide labor, material and equipment to crop and renew new flanges on cooler box and bottom hull. Flanges scribed to box and hull, tack weld to box and weld solid to hull: (1) 6'-6"x1/2"x3" lip, (1) 5'-9"x1/2"x3" lip, (1) 5'-7"x1/2"x3" lip, (1) 5'-3"x1/2"x3" lip, (1) 5'-6"x1/2"x3" lip, (1) 5'-0"x1/2"x3" lip, (1) 4'-6"x1/2"x3" lip, (1) 4'-0"x1/2"x3" lip, (1) 3'-6"x1/2"x3" lip, (4) 2'-6"x12"x1/2" plates, (1) 18"x12"x12" plate, (1) 12"x12"x1/2" plate.

Note: also added to interior was piping for hot water heater, materials:

- (3) 6"x3/4" galvanized nipples
- (4) 2"x3/4" galvanized nipples
- (2) 3/4" galvanized collars
- (2) 3/4" screw gate valves
- (2) 3/4" galvanized unions
- (2) 3"x3/4" galvanized nipples

Crane - 100 ton Crawler	2.00	200.00	400.00
Forklift - Extendaboom	4.00	50.00	200.00
Labor Repair	359.50	52.50	18,873.75
Labor-Supervisor	96.75	58.00	5,611.50
Material			344.77
Material Inventory			4,632.11
			\$30,062.13

**0808 Keel Cooler Boxing for Generators Port and Starboard**

**12-Sep** Provide labor, material and equipment to crop out pots on port and starboard for generator grids and insert. Cut penetrations for flanges on new grid cooler flanges. Insert sizes to be determined.

**16-Sep** Insert sizes: port side forward insert: 2'-6"x2'-2"x1/2" plate, port side aft insert: 1'-9"x3'x1/2" plate, starboard side forward insert: 2'-6"x2'-2"x1/2" plate, starboard side aft insert: 1'-9"x3'x1/2" plate. Weld internals and gouge and weld on outside hull, air test.

**26-Sep** Provide labor, material and equipment to install (4) pieces of cooler guards cut off in way of installing inserts. (4) pieces 2'-6"x3/4" plates. Tack welded to hull and welded solid to guards.

Notes: inserts tested good.

Forklift - Extendaboom	1.00	50.00	50.00
Labor Repair	191.75	52.50	10,066.88
Labor-Supervisor	50.50	58.00	2,929.00
Material			197.82
Material Inventory			1,005.19
			\$14,248.89

**0809 Port and Starboard No. 5 Ballast Tank Conversion**

**20-Sep** Provide labor, material and equipment to set up and weld guard rails to cut out deck inserts. Material for scaffolding in hole and set up scaffolds to crop out bottom of inserts. Cut deck inserts on port and starboard ballast. Insert sizes to be determined.

**27-Sep** Provide labor, material and equipment to cut deck inserts port and starboard no. 5 ballast tanks. Insert sizes 11'-2"x18'x3/8" plate. Crop out and wash off squash bulkheads port and starboard from deck to double bottom top, 11'-8"x11'-8"x3/8" plate port and starboard. Crop and renew angle where squash bulkhead penetrated through. Starboard angle pieces: (3) pieces 18" of 3 1/2"x5"x3/8" angle, (2) pieces 26" of 3 1/2"x5"x3/8"

Item/Description	Units	Rate	Item Total
<p>angle. Port side: (3) pieces 18" of 3 1/2"x5"x3/8" angle, (2) pieces 26" of 3 1/2"x5"x3/8" angle. Crop out (2) bottom flanges starboard side 11'-8" of 18"x1/2"x6" lip. Crop out (2) bottom flanges port side 11'-8" of 18"x1/2"x6" lip.</p>			
<p><b>04-Oct</b> Provide labor, material and equipment to cut 5/16" slots in all bottom angles on frames 47, 49, 51, 53, 55 to install nontight bulkheads double bottom fuel. Double bottom bulkhead for these frames measurement 12'x2'-6"x5/16" plate port and starboard tanks. Cut out (2) 15" lightening holes per bulkhead port and starboard. To fit bulkheads to bottom hull we had to jack bottom hull to meet bulkhead and make straight. Cut (5) 18" circular holes in outboard fuel tank bulkhead port and starboard. Cropped all suction and fill piping in way of double bottom deck and relocate as needed. Also cropped approximately 4' of sounding tube at deckline, weld bulkheads solid.</p>			
<p><b>04-Oct</b> Provide labor, material and equipment to cut and install double bottom angle bracing on frames, 46, 48, 50, 52, and 54. Fit and weld angles per frame port and starboard (1) per each 12' of 7"x4"x1/2" angle, (2) pieces 6' of 4"x3"x3/8" angle, 2' of 4"x3"x3/8" angle, 2' of 6"x3/8" flatbar for bottom stiffener, weld solid.</p>			
<p><b>26-Oct</b> Provide labor, material and equipment to install framing angles in no. 2 fuel port and starboard. (5) angles per tank 10'-5" of 3"x5"x3/8" angle, tack weld to specification. Also install and weld gusset clips to bulb flats to deck. Slot bulb flats installed on transverse bulkheads to fit double bottom deck port and starboard. Install double bottom in (4) pieces per tank. Starboard side pieces 9'-8 3/8"x5'-7 3/4"x1/2" plate, 12'-3"x5'-7 3/8"x1/2" plate, 12'-3"x6"x1/2" plate, 9'-8 3/8"x6"x1/2" plate. Port side 12'-6"x5'-7 3/4"x1/2" plate, 9'-5 3/8"x5'-7 3/4"x1/2" plate, 9'-5 3/8"x6"x1/2" plate and 12'-6"x6"x1/2" plate. Also cut and install sump pipe box port and starboard. Cut penetration 3/8" larger, install sump 12" of 16" schedule 80 pipe with 1/2" plate bottom with 18"x1/2" circular backing strip to make 100% weld. Weld on overhead was restricted on back side area for welding. Note: pipe was cut at angle to make square fit.</p>			
<p><b>07-Nov</b> Note: Provide labor, material and equipment to add angles in #2 fuel tank bulkheads (5) per tank 10'-5" of 3"x5"x3/8" angle port and starboard.</p>			
<p><b>18-Nov</b> Provide labor, material and equipment to crop and renew fuel suction line and relocate to inboard of double bottom fuel port and starboard. Material for port and starboard: 40' of 3" schedule 80 pipe, (4) 45 degree, (4) 90's, weld solid with brackets.</p>			
<p><b>06-Dec</b> Provide labor, material and equipment to cut, install and tack weld bulb flat in between installed bulb flat in port and starboard no. 5 mud tanks (7) per bulkhead port and starboard forward and port and starboard aft from deck to top of double bottom with clips at top. Install and weld decks port and starboard and gouge and weld top deck. Install and weld sounding tubes port and starboard for mud tank and double bottom fuel on frame 58. Cut and install half moon inserts on non tight top of bulkhead. Install and weld 12"x3/4" flatbar to bottom of framing port and starboard and weld solid. Also install permanent scaffolding in both tanks. Pretest tanks and air test for ABS/USCG.</p>			
<p><b>23-Dec</b> Provide labor, material and equipment to crop and renew ladders for port and starboard tanks, re-fit for better exit and entrée using 1" stainless steel flatbar welded to angles, (7) pieces and 30" per tank. Install pipe cup and doublers to protect sounding tube on deck. Install flatbars and deck boards and weld flatbars solid. After tanks are painted metabo all scaffolding angles and grind clean and remove scaffold boards.</p>			
<p><b>23-Dec</b> Provide labor, material and equipment to install liquid mud piping from pumps to tanks port and starboard. We made (2) 5" penetrations from alley</p>			

Item/Description	Units	Rate	Item Total
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way to no. 5 liquid mud's on crossover pipe lines. Used 5' of 5" schedule 80 pipe and 12' of 6" schedule 80 pipe, (2) 5" 90 degree, (1) 5" tee, (4) 5"x3/8" doubler plates, (2) 5" butterfly valves, (4) 5" flanges with stainless steel bolts and nuts on suction pipe, (1) 6" collar (butt weld), (1) 6" penetration port and starboard to no. 5 liquid mud tank with doublers, (6) 6" flanges, (2) 6" 90 degree, (1) 6" tee, (4) 6" 45 degree, (3) 6" butterfly valves with stainless steel bolts, 30' of 6" schedule 80 pipe, (1) 6"x4" reducer, (8) 4" flanges, (2) 4" tees, (4) 4" 90 degree, (4) butt weld pipe cap, (56) 2" penetrations on 4" pipe, 40' of 4" schedule 80 pipe, (40) 2" 45 degree, (40) 2" close nipples, 30' of 3"x3/4" flatbar braces port and starboard. Add 4" pipe, (56) 4" to 2" 3000# , (56) 2" to 3/4" nipples. Reinstall floor plate angles in alley and re-route 2" air line. Cut slots in aluminum deck plate for valves. Hydro tested pre-test and test for ABS and USCG.

Crane - 100 ton Crawler	52.00	200.00	10,400.00
Forklift - Extendaboom	13.00	50.00	650.00
Labor Repair	4,076.25	52.50	214,003.12
Labor-Supervisor	326.00	58.00	18,908.00
Material			24,602.63
Material Inventory			27,537.62
			\$296,101.37

**0810 No. 2 Port Fuel Tank**

**31-Oct** Provide labor, material and equipment to crop and renew 2'x2'-4"x3/8" insert on inboard no. 2 port fuel tank to remove capped off piping in way of installing nontight bulkhead in double bottom fuel. Also crop and renew 18"x18"x5/16" plate in nontight bulkhead inside no. 2 port fuel tank adjacent to insert because piping 90 degree into nontight squash bulkhead and stopped.

Labor Repair	60.00	52.50	3,150.00
Labor-Supervisor	2.00	58.00	116.00
Material			56.52
Material Inventory			782.05
			\$4,104.57

**0811 Electrical Panel Box Frames**

**27-Sep** Provide labor, material and equipment to fabricate and weld (3) frames. (3) frames 20"x42"x20" pieces of 2"x3"x1/4" angle, (2) doublers per frame 4"x1/2" circular doublers to be welded to bulkhead in engine room to set electrical panels.

Labor Repair	37.00	52.50	1,942.50
Labor-Supervisor	5.00	58.00	290.00
Material Inventory			87.11
			\$2,319.61

**0812 Keel Cooler Boxing**

**30-Sep** Provide labor, material and equipment to crop out pots on port and starboard for main engine grids and insert. Cut penetrations for flanges on new grid cooler flanges. Insert size to be determined.

**14-Oct** Add in insert sizes:

- Port side:
- Forward engine room: 3'-10"x2'-3"x1/2" plate
- Mid engine room and potable water: 5'-4"x4'-6"x1/2" plate
- Aft engine room void and potable water: 4'-9"x2'-6"x1/2" plate starboard side
- Forward engine room and starboard no. 1 fuel tank: 3'-9"x2'-7"x1/2" plate
- Mid engine room, void and potable water: 3'-9"x2'-10"x1/2" plate

<i>Item/Description</i>	<i>Units</i>	<i>Rate</i>	<i>Item Total</i>
Aft engine room and potable water: 3'-9"x3'-7"x1/2" plate Note: cropped all cooler guards in way of inserts.			
Labor Repair	505.00	52.50	26,512.50
Labor-Supervisor	38.25	58.00	2,218.50
Material			1,064.24
Material Inventory			3,109.60
			<u>3,109.60</u>
			\$32,904.84

**0813 Crop and Renew No. 5 Ballast Port and Starboard Conversion**

- 03-Oct** Provide labor, material and equipment to crop existing angles on transverse bulkhead 45 and 56 port and starboard and replace with flatbar angles and weld. Measurements to be determined.
- 04-Oct** Provide labor, material and equipment to crop existing angles on bulkheads 45 and 46 port and starboard and replace with bulb flats. Angle and bulb flat measurements from deck to double bottom from inboard to outboard. Crop and renew 11'-8", 11'-11", 12'-11", 12'-5", 12'-7", 12'-9". Tack welded to specification.
- 26-Oct** Provide labor, material and equipment to crop longitudinal long angles just above double bottom in way of welding inboard bulkhead port and starboard. Angles port and starboard were 22' of 5"x3"x3/8" along with gussets tied to transverse bulkhead.
- 24-Jan** Provide labor, material and equipment to cut (1) stainless steel 6"x6" nipple to penetrate port and starboard no. 5 liquid mud hatches and weld solid.  
Note: for hose hook up.

Crane - 100 ton Crawler	6.00	200.00	1,200.00
Forklift - Extendaboom	1.00	50.00	50.00
Labor Repair	604.00	52.50	31,710.00
Labor-Supervisor	20.25	58.00	1,174.50
Material			598.55
Material Inventory			396.61
			<u>396.61</u>
			\$35,129.66

**0814 Inserts for Sand Removal**

- 04-Oct** Provide labor, material and equipment to crop and save insert for installation after sand is removed in port and starboard no. 5 ballast tanks. (1) insert each 20"x20"x3/8" plate.
- 08-Nov** Provide labor, material and equipment to install new plate for port and starboard inserts 20"x20"x3/8" plate along with port and starboard bottom angle 24" of 3"x5"x3/8" angle. Dye test inserts.

Labor Repair	41.50	52.50	2,178.75
Material			28.26
Material Inventory			129.36
			<u>129.36</u>
			\$2,336.37

**0815 Rope Guards**

- 11-Oct** Provide labor, material and equipment to cut, fit and weld rope guards port and starboard.  
Material:  
(2) pieces of 8" of 14" schedule 80 pipe

Labor Repair	7.50	52.50	393.75
Labor-Supervisor	2.00	58.00	116.00
Material			169.56
Material Inventory			166.86

<i>Item/Description</i>	<i>Units</i>	<i>Rate</i>	<i>Item Total</i>
<b>0815 Rope Guards</b>			\$846.17
<b>0816 Keel Flat Gouge and Re-weld in Engine Room</b>			
14-Oct Provide labor, material and equipment to gouge and reweld keel plate flat seams in engine room port and starboard. 14' each port and starboard. Also pad weld all pitting on keel plate.			
Labor Repair	71.50	52.50	3,753.75
Labor-Supervisor	2.00	58.00	116.00
Material			141.30
Material Inventory			165.80
			\$4,176.85
<b>0817 Bottom Insert in Aft Passage Way</b>			
17-Oct Provide labor, material and equipment to remove keel block on dock in way of cutting insert. Crop 2'x2'x1" skeg box in way of cropping and renewing insert. Insert measurements to be determined.			
26-Oct Provide labor, material and equipment to crop 2'-2"x2'-9"x1/2" plate insert crossing from aft passage way into no. 6 port ballast and dirty oil tank in engine room. Also crop and renew centerline flange in passage way 16"x22"x3/8" plate, weld solid and test.			
08-Nov Note: Provide labor, material and equipment to air test on tanks were pre-tested and also set-up testing for ABS inspection.			
Labor Repair	115.25	52.50	6,050.62
Labor-Supervisor	13.00	58.00	754.00
Material Inventory			165.86
			\$6,970.48
<b>0818 Aft Passage Way</b>			
14-Oct Provide labor, material and equipment to crop and renew wasted iron in aft passage way. (5) of flange plate: 3'x2'x3"x3/8". Port no. 6 bulkhead inboard plate from (3) flange to aft: 18" wide x 8' long x 3/8" plate starboard no. 6, 18" wide x 7' long x 3/8" plate.			
08-Nov Note: Provide labor, material and equipment to pre-test #6 ballast port and starboard and set-up testing for ABS inspection.			
Crane - 100 ton Crawler	2.00	200.00	400.00
Forklift - Extendaboom	1.00	50.00	50.00
Labor Repair	323.00	52.50	16,957.50
Labor-Supervisor	13.25	58.00	768.50
Material			349.56
Material Inventory			1,958.54
			\$20,484.10
<b>0819 Chain Locker</b>			
14-Oct Provide labor, material and equipment to crop and renew wasted iron in chain locker. Centerline bulkhead aft section: 18" wide x 10' tall x 3/8" plate Centerline bulkhead bottom: 13' wide x 12" tall x3/8" plate cropping and remove angle longs, (5) 2 at 18" and 3 at 24" of 5"x5" angle. Chain locker floor: crop and renew triangular 13'-6"x9'x1/2" plate. Fit back in three pieces. Note: floor plate cross under aft bulkhead 6" into forepeak and cabin. Port sideshell at bottom: crop and renew 5' tall x 11' long x 1/2" plate and (5) pieces of angle 3'-6" of 3"x5"x3/8" sideshell flange 15"x4" flange plate (2) pieces of 3'x3/8".			

<i>Item/Description</i>	<i>Units</i>	<i>Rate</i>	<i>Item Total</i>
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Port deck angle: crop and renew 6' of 5"x3"x3/8" overhead angle.  
 Port side aft bulkhead angles: horizontal 9' of 5"x3"x3/8" angle, vertical 3' of 5"x3"x3/8" angle.  
 Starboard sideshell: crop and renew from bottom up 10' tall x 11'-6" wide x 1/2" plate.  
 Starboard aft bulkhead: crop and renew 4' of horizontal angle 5"x3"x3/8".

**02-Nov** Provide labor, material and equipment to crop and renew port and starboard deck drains, inside chain locker (1) each 3"x2" bell reducer, extended original sideshell cut off from 5'x11' to 5'x13' of 1/2" plate. Have electrician to pull wiring running to forward mast pole and anchor windless prior to crop and renewal of centerline bulkhead and overhead angles. Crop and renew port and starboard drain pipe that penetrated sideshell using 6" of 4" half pipe on each side. Fabricate and installed temporary scaffolding in forepeak and in port and starboard chain lockers to crop and renew overhead deck angles and all framing and seams in forepeak. Crop and renew 6'-6"x6' of 1/2" doubler plate with (8) 3"x1" slug weld holes on port side and 4'-6"x7" of 1/2" doubler plate with (8) 3"x1" slug weld holes on starboard to tie each plate to sideshell around hawser pipe for port and starboard anchor chain.

Crane - 100 ton Crawler	1.00	200.00	200.00
Forklift - Extendaboom	3.00	50.00	150.00
Labor Repair	1,211.25	52.50	63,590.62
Labor-Supervisor	211.50	58.00	12,267.00
Material			950.76
Material Inventory			9,167.99
			<u>9,167.99</u>
			\$86,326.37

**0820 Port Side Engine Room Aft Bulkhead**

**14-Oct** Provide labor, material and equipment to crop and renew wasted iron under side of port shaft log to bottom hull: 3'x2'x1/2" plate. Crop half of doubler plate for shaft log. The doubler size was 20"x6"x3/8" circular plate.

**08-Nov** Note: Provide labor, material and equipment to dye test insert before all tank repairs, pre-air test and set-up air test for ABS inspection.

Crane - 100 ton Crawler	1.00	200.00	200.00
Labor Repair	77.50	52.50	4,068.75
Labor-Supervisor	2.00	58.00	116.00
Material			84.78
Material Inventory			399.96
			<u>399.96</u>
			\$4,869.49

**0821 Grinding Hull**

**24-Oct** Provide labor, material and equipment to grind off any tack on welds from anodes or any obstruction. Make hull smooth for painting.

Labor Repair	53.75	52.50	2,821.88
Labor-Supervisor	5.50	58.00	319.00
Material			56.52
Material Inventory			361.09
			<u>361.09</u>
			\$3,558.49

**0822 Starboard No. 1 Sounding Tube Bracket**

**01-Nov** Provide labor, material and equipment to crop and renew 12" of 1/4"x3" flatbar and weld to sounding tube to angle for support.

Labor Repair	3.00	52.50	157.50
Material Inventory			46.38

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<i>Item/Description</i>	<i>Units</i>	<i>Rate</i>	<i>Item Total</i>
<b>0822 Starboard No. 1 Sounding Tube Bracket</b>			\$203.88
<b>0823 Bow Thruster Floor Plate Angle</b>			
<b>01-Nov</b> Provide labor, material and equipment to crop and renew 20' of 5"x3"x3/8" angle that was wasted. Install new and weld solid in bow thruster area next to hot water heater.			
	Labor Repair	27.00	52.50
	Material Inventory		1,417.50
			122.28
			\$1,539.78
<b>0824 Wrap Around Port Nontight</b>			
<b>01-Nov</b> Provide labor, material and equipment to crop and renew first nontight bulkhead in wrap around on port side. 3'x2'x5/16" plate. Had to install in two pieces in very difficult area to work. Weld solid and clean tank of welding debris.			
	Labor Repair	43.50	52.50
	Material Inventory		2,283.75
			163.68
			\$2,447.43
<b>0825 Stainless Steel Vent Piping and Containment Pan Port and Starboard</b>			
<b>22-Nov</b> Provide labor, material and equipment to fabricate and install (2) containment bins for port and starboard liquid mud tanks using 4'x18" of 3/8" stainless steel formed plates. Also crop and renew (2) existing 4" vent lines. Replaced 4" with 6" as requested by customer. From deck up used owner furnished 6" stainless steel pipe port and starboard. (1) 6"x6" stainless steel nipple cut in half to thread vent, weld solid.			
	Labor Repair	38.75	52.50
	Labor-Supervisor	8.50	58.00
	Material		1,625.10
	Material Inventory		24.30
			\$4,176.78
<b>0826 Crop, Wash and Cap</b>			
<b>29-Nov</b> Provide labor, material and equipment to crop out 11'-8" of 5" pipe and 11'-8" of 2" pipe. Fit and weld caps to bulkhead for every discontinued line and weld solid.			
	Labor Repair	39.00	52.50
	Labor-Supervisor	2.50	58.00
	Material		126.86
	Material Inventory		74.50
			\$2,393.86
<b>0827 IMO Numbers</b>			
<b>13-Dec</b> Provide labor, material and equipment to install and weld continuously (10) 12"x12" IMO numbers per port and starboard side at midship of vessel just aft of rescue zone area as requested by customer.			
	Labor Repair	39.75	52.50
	Labor-Supervisor	4.50	58.00
	Manlift - 60 ft	36.75	65.00
	Material Inventory		168.36
			\$4,904.99
<b>0828 No. 2 Starboard Ballast Tank</b>			

<i>Item/Description</i>	<i>Units</i>	<i>Rate</i>	<i>Item Total</i>
<b>15-Dec</b> Provide labor, material and equipment to build scaffold, grind and weld repair a hole underneath deck going into cooler box in galley food storage.			
Labor Repair	18.00	52.50	945.00
Material			28.26
Material Inventory			185.29
			<u>1,158.55</u>

**0829 Cooler/Freezer Repair**

**12-Jan** Provide labor, material and equipment to crop and renew sideshell on starboard side flange 9'-9"x4'-4"x9/16" plate (3) pieces 4'-6" of 5"x3"x3/8" angle. Sideshell crossing forward cooler bulkhead in galley and aft cooler bulkhead in storage room. Crop and renew 2' of 5" vent pipe penetrating no. 2 starboard ballast. Penetration for (2) 2" stainless steel pipes with doublers. Crop and renew inboard bulkhead 9'-7"x1'-1"x9/16" plate, (2) 2' of 5"x3"x3/8" angle. Crop and renew forward cooler bulkhead 13'x16"x9/16" plate, (6) 2' of 5"x3"x3/8" angle. Crop and renew aft cooler and storage room bulkhead 7'-7"x18"x9/16" plate, (3) 2"x3"x1/4" angle. Crop and renew aft cabin bulkhead 6'-6"x18"x9/16" plate, (3) 3"x5"x3/8" angle. Crop and renew cooler and freezer centerline bulkhead 9'x18"x9/16" plate, (2) 18" of 5"x3"x3/8" angle. Crop and renew bottom cooler and freezer deck 9'-10"x13'-2"x9/16" plate. Cut in (3) pieces 13'-2"x4 1/2", 10'-4"x4'-5" and 4'-5"x4'-0". Also torch wash and grind angles and I beam gussets. Crop out 1" piping and cap off and weld on drain line in tank. Crop and renew 2" piping with stainless steel pipe. Stainless steel 40' of 1" stainless steel pipe, (12) stainless steel 90 degree, (2) 2" stainless steel tee's, (2) 2" stainless steel check valves, (2) sticks 2" stainless steel pipe, (4) 2" to 1" reducers, (4) 1" stainless steel Grinnell clamps, and (4) 2" stainless steel Grinnell clamps. 1' piece of 3" half pipe for drain in locker shed. Installed stainless steel 2" drain pipe with 1" stainless steel drain.  
Note: firewatch was used for this entire item.

Cherry Picker - 50 ton	1.00	100.00	100.00
Forklift - Extendaboom	4.00	50.00	200.00
Labor Repair	459.00	52.50	24,097.50
Labor-Supervisor	76.75	58.00	4,451.50
Manlift - 60 ft	21.00	65.00	1,365.00
Material			5,244.23
Material Inventory			4,606.74
			<u>\$40,064.97</u>

**0829.1 Cooler/Freezer Repairs Extras**

**20-Jan** Provide labor, material and equipment to crop and renew 9' of 4" schedule 80 pipe vent for no. 2 ballast. Cut and install angles for flooring, material: 80' of 2"x3"x1/4" angle.

**17-Feb** Provide labor, material and equipment to fabricate, drill and install (4) hanger brackets for cooler and freezer units in cooler and freezer box.

Labor Repair	79.50	52.50	4,173.75
Labor-Supervisor	26.00	58.00	1,508.00
Material			487.20
Material Inventory			165.07
			<u>\$6,334.02</u>

**0830 Deck Plate**

**18-Jan** Provide labor, material and equipment to cut and install deck plate in forward and aft alley way. 4'x12'x1/4" diamond aluminum deck plate. Stainless steel bridge decking (owner supplied) in aft hallway.

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<i>Item/Description</i>	<i>Units</i>	<i>Rate</i>	<i>Item Total</i>
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**30-Jan** Provide labor, material and equipment to replace deck plate around bow thruster, and install angle frames and deck plate on top of port and starboard main shafts. Also re-fit deck plates in engine room that were not seated right. Installed 3'x5'x1/4" diamond plate aluminum in compressor cooler/freezer locker and also install compressors.

Forklift - Extendaboom	1.00	50.00	50.00
Labor Repair	60.25	52.50	3,163.12
Labor-Supervisor	19.00	58.00	1,102.00
Material Inventory			458.39
			<u>4,773.51</u>

### 0831 Incline Survey

**02-Feb** Provide labor, material and equipment to set up three pendulums, pendulum poles, oil buckets and 83,000 pounds of solid weight (certified), pre-set. Set weights and move weights around as directed. Also used small pontoon to take measurements around vessel. After signed off for USCG, dismantle equipment and store. Move weights with 230 ton crane. Note: remove equipment from vessel that was not allowed and load equipment needed.

Crane - 100 ton Crawler	9.00	200.00	1,800.00
Forklift - Extendaboom	5.00	50.00	250.00
Labor Repair	66.50	52.50	3,491.25
Labor-Supervisor	40.50	58.00	2,349.00
Material			660.00
Material Inventory			117.94
Work Barge - 40 ft (per day)	1.00	70.00	70.00
			<u>8,738.19</u>

### 0832 Inspection Collars

**06-Feb** Provide labor, material and equipment to install stainless steel 4" collars for inspection on port and starboard #3 liquid mud tanks. Also installed stainless steel doubler plate for collars.

Labor Repair	26.75	52.50	1,404.38
Labor-Supervisor	16.75	58.00	971.50
Material			261.60
Material Inventory			61.57
			<u>2,699.05</u>

### 0833 Bow Thruster Muffler Pipe

**08-Feb** Provide labor, material and equipment to crop and renew 8' of 5" schedule 80 pipe and (2) 5" schedule 80 90's from stainless steel pipe on deck to 02 level, weld solid.

Forklift - Extendaboom	1.00	50.00	50.00
Labor Repair	16.00	52.50	840.00
Labor-Supervisor	8.25	58.00	478.50
Material Inventory			184.63
			<u>1,553.13</u>

### 0834 Bow Thruster Battery Box Framing

**17-Feb** Provide labor, material and equipment to fabricate and install 2"x3"x1/4" angle brackets for battery box at bow thruster.

Labor Repair	3.00	52.50	157.50
Material Inventory			51.12

<i>Item/Description</i>	<i>Units</i>	<i>Rate</i>	<i>Item Total</i>
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**0834 Bow Thruster Battery Box Framing**

\$208.62

**0835 Miscellaneous Repairs and Additions**

- 22-Feb** Provide labor, material and equipment to crop and renew 7' of 1 1/2" pipe on potable water suction pipe starboard of bow thruster engine. Fabricate and install additional pipe hanger brackets on both port and starboard generators on cooling line pipes. Also assist boat crew with installing 1 1/2" galvanized air line and hanger brackets.
- 28-Feb** Provide labor, material and equipment to assist boat crew with installing 1 1/2" galvanized air line and hanger brackets. Crop and renew 7' of 1 1/2" potable water suction pipe starboard of bow thruster engine. Fabricate and install additional pipe hanger brackets at both main generators. Fabricate 1/4"x1 1/2" stainless steel flatbar to mount monitors for DP system. Fabricate 1" pipe mounts for radar on main mast. Installed 1" pipe on mast for GPS, installed stainless steel mounting brackets in wheel house and assist crew with pipe hanger brackets. Assist boat crew with potable water lines and install hanger brackets. Crop and renew (12) wasted 1/2" collars and install new stainless steel 1/2" collars port and starboard no. 1, 2 and 3 dry bulk fills and vents. Install two new life rafts, relocating tie down padeyes. Crop out wasted iron on gallery watertight door to replace with new window. Fabricate and install two emergency light brackets in companion way.
- 02-Mar** Provide labor, material and equipment to remove all bleed off valves on grid cooler lines and install plugs. Fabricate and install 1/4" deck plate to cover port no. 3 liquid mud manhole on starboard side. Install additional 1/2" galvanized pipe for air supply to bow thruster accelerator. Also thread and capped 2" pipe penetration at companion way to pump room watertight bulkhead.
- 09-Mar** Provide labor, material and equipment to replace missing dog bolt pipes on watertight doors. Remove deleted cooler piping in engine room bilge and also removed deleted wires and ties from bow thruster bulkhead. Adjust emergency light bracket at galley to companion way at watertight door. Fabricate mounting bracket for phone system splash guard in engine room. Fabricate 8'x3'-6" aluminum plate to cover blower trunk above liquid mud pumps. Crop and renew 1' of 3/4" reachrod in no. 1 fuel tank for emergency shut off valve for no. 1 fuel and work valve in no. 1 fuel and reach rod for emergency fuel shut down for day tank. Crop and renew quick release bar on pilot house throw ring. Renew broken bolt on port chain locker hatch. Help crew ready for USCG inspection.
- 14-Mar** Provide labor, material and equipment to crop and grind 4'x6' hose rack in storage locker. Re-set and weld bracket for tack magnet indicator.
- 21-Mar** Provide labor, material and equipment to drill and tap (2) lock plates on rudder pins. Also had on pin drilled for cotter pin and one pin made to fit rudder rams.

Crane - 230 ton Crawler	1.00	300.00	300.00
Forklift - Extendaboom	13.00	50.00	650.00
Labor Repair	253.00	52.50	13,282.50
Labor-Supervisor	143.25	58.00	8,308.50
Manlift - 60 ft	18.00	65.00	1,170.00
Material			134.08
Material Inventory			1,919.70

\$25,764.78

**0836 Bow Thruster Muffler and Piping**

<i>Item/Description</i>	<i>Units</i>	<i>Rate</i>	<i>Item Total</i>
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**09-Mar** Provide labor, material and equipment to remove muffler pipe spool of exhaust muffler for bow thruster engine. Check inside muffler and bolt up deadman flange with 3/4" collar and blow down valve and blow air through exhaust pipe to determine if pipe is clogged. Test was approved by port captain. Assemble piping back with new bolts and gaskets.

Labor Repair	9.75	52.50	511.88
Labor-Supervisor	7.50	58.00	435.00
Material Inventory			34.80
			\$981.68

**0837 Day Tank Water Pipe**

**14-Mar** Provide labor, material and equipment to splice into waterline and install valves and piping to port and starboard day tanks for generators.

Material:  
 10' of 1/2" galvanized pipe  
 (1) 1/2" plug  
 (2) 1/2" unions  
 (2) 1/2" valves  
 (1) 1/2" 90 degree  
 (2) 1/2" tee's  
 (2) 1/2"x2" nipple  
 (1) 3/4" plug  
 (2) 3/4"x1/2" bushings  
 (2) 3/4" close nipples  
 (2) 3/4" 90 degree  
 Teflon

Labor Repair	13.25	52.50	695.62
Labor-Supervisor	10.75	58.00	623.50
Material Inventory			75.44
			\$1,394.56

<b>Subtotal</b>	\$1,366,431.20
<b>Sales Tax</b>	\$0.00
<b>Total Invoice</b>	\$1,366,431.20