#### SHIP REPAIR & FABRICATION

Telephones

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INVOICE NO: SFWK/INV/012491-2/2020

DATE: 30/11/2020

EXPENSE A/C:

W/O NO: 20-010907 / 1 W/O REF: MDO 20218

\_\_\_\_\_ Vessel Name/Description : SURVEY BOAT "AL MASSAH"

Description Line Amount

Job No

1102

1,495.00

1150 CHILLER SYSTEM:-

MINISTRY OF MUNICIPALITY & ENVIRONMENT

WEST BAY, DOHA -QATAR Doha QA 22423

DIRECTOR OF LAND & SURVEY DEPARTMENT, WEST BAY

Arranged subcontractor for chiller system works.

ULTRASONIC THICKNESS GAUGING:1101

Ultrasonic thickness gauging taken and report issued.

As per our quotation EM 15489 E , item 6

SERVICES:- 14,235.00

Services provided from 12.11.2020 to 28.11.2020

Port charges. QRs 5,610.00

Fireline provided x 17 days and connection/disconnection.

QRs 200 x 17 days + QRs 275 = QRs 3,675.00

Shore power supplied and connection/disconnection. QRs 275 per day x 17 days + QRs 275 = QRs 4,950.00

As per our quotation EM 15489 Revised , item 1.F, 1.G, 1.H

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1,100.00

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Line Amount

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Job No

MINISTRY OF MUNICIPALITY & ENVIRONMENT
DIRECTOR OF LAND & SURVEY DEPARTMENT, WEST BAY

WEST BAY, DOHA -QATAR Doha QA 22423

Description

report issued. QRs 700.00

(176 m3).

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DATE: 30/11/2020

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W/O NO: 20-010907 / 1 W/O REF: MDO 20218

Vessel Name/Description : SURVEY BOAT "AL MASSAH"

| 1151 | GATE PASSES:-  Arranged Permanent pass - 2 nos : QRs 460.00  Arranged Temporary pass - 2 nos : QRs 176.00               | 636.00   |
|------|---|----------|
| 1152 | ANNUAL SURVEY:-  Annual survey for hull inspection carried out by   | 6,758.47 |
| 1153 | subcontractor.  MPI TESTING OF PORT AND STBD. TAILSHAFTS:-  Port and stbd. tail shafts taper and key way MPI tested and | 700.00   |

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4,400.00

### for QATAR NAVIGATION (Q.S.C)

1154

SHIP REPAIR, FABRICATION & ENGINEERING DIVISION

SCAFFOLDING AROUND BOAT: -

As per our quotation EM 15489 E , item 1

As per our quotation EM 15489 E, item 2

Scaffolding arranged around vessel for access and later removed on completion and later removed on completion of painting work

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WEST BAY, DOHA -QATAR Doha QA 22423

INVOICE NO: SFWK/INV/012491-2/2020

DATE: 30/11/2020

EXPENSE A/C:

W/O NO: 20-010907 / 1 W/O REF: MDO 20218

Vessel Name/Description : SURVEY BOAT "AL MASSAH"

Job No

Description

Line Amount

1200 TREATMENT AND PAINTING OF HULL:-UNDERWATER AREA TREATMENT AND PAINTING:- 12,873.60

Underwater area an approx 120 square meters treated and painted as per paint manufacturer's representative's recommendation and your representative's instruction.

Following carried out:-

Hand scraped to remove marine growth.

H.P. jet wash using fresh water.

Spot blasted to SA 2.5 an approx. 25% of area (Using garnet).

Sand sweeping to SA 1 an approx. 75% of area (Using garnet).

Hose down with fresh water.

Applied with 1 touch up coat 1763-50630.

Applied with 1 full coat 1763-22090

Apply with 2 full coat antifouling 76880-1999.

Used garnet collected and disposed as per Qatar safety enviornment regulation in Mesaieed

Protection covering all echo sounder and speed log anodes.

As per our quotation EM 15489 Revised , item 4.1

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MINISTRY OF MUNICIPALITY & ENVIRONMENT DIRECTOR OF LAND & SURVEY DEPARTMENT, WEST BAY WEST BAY, DOHA -QATAR Doha QA 22423 INVOICE NO: SFWK/INV/012491-2/2020

DATE: 30/11/2020

EXPENSE A/C:

W/O NO: 20-010907 / 1 W/O REF: MDO 20218

Vessel Name/Description : SURVEY BOAT "AL MASSAH"

| Job No | Daganinkian   | T           |
|--------|---|-------------|
| ON AOU | Description   | Line Amount |
| 1201   | TOP SIDE AREA TREATMENT AND PAINTING:-  | 3,561.00    |
|        | Top side area treated and painted as per paint manufacturer's representative's recommendation and your representative's instruction.  |             |
|        | Following rates to be applied:- H.P. jet wash using fresh water. Spot blasted to SA 2.5 an approx. 20% of area (Using garnet). Hose down with fresh water. Applied with 2 touch up coats. Applied 1 full coat of paint. |             |
|        | Used garnet collected and disposed as per Qatar safety enviornment regulation in Mesaieed.  |             |
|        | Protection covering with blue can vass on wheel house.  |             |
|        | As per our quotation EM 15489 Revised , item 4.2  |             |
| 1202   | ADDITIONAL WORKS:-  | 4,100.00    |
|        | Following works carried out.  |             |
|        | Carried out GRP repair in rudder area: QRs 750.00 Calibration of anchor chain and record measurement - 1 no: QRs 1000.00 Propeller dye check carried out - 2 sides: QRs 2,000.00 Anchor spindle freed up: QRs 350.00    |             |
|        | Based on our quotation EM 15489-1, item B,C,D,E.  |             |

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DATE: 30/11/2020

EXPENSE A/C:

W/O NO: 20-010907 / 1 W/O REF: MDO 20218

Vessel Name/Description : SURVEY BOAT "AL MASSAH"

Job No Description

Line Amount

1400 PORT & STBD. SIDE SHAFT WORKS:-

18,100.00

Port and stbd propellers removed for access and brought to workshop. Propellers are cleaned by buffing machine and carry our MPI check. Inspected by yard QC and client. Port and stbd tail shaft couplings and seals are disconnected and removed. Tail shaft removed from location and brought to workshop. Cleaned and carry out trueness check. Stbd side tail shaft was found bend 1mm. Yard rectified by heating. Witnessed by client and yard QC. Propeller seat tapper area of the shaft carry out MPI check. No issues found.

Witnessed by client and yard QC. Shaft cutlass bearings found damaged. Cutlass bearings removed and stern tube cleaned, calibrated. Client supplied new bearings installed in position and calibrated. Witnessed by client and yard QC. Tail shafts shifted to on-board and fitted back on position. Shaft coupling rubber ring -2nos supplied by yard. Coupling connected with gear box coupling. Shaft side applied 215Nm torque and gear box side 285 torque has applied. Stbd shaft seal old was used with owner supplied new O-rings. Port side seal set - new supplied by client which is not same as the existing. Yard modified and fabricated seal locking metal ring by SS material. Witnessed by Client. Port and stbd shaft seal cooling hose 1.8M , 320 Bar supplied by yard. Cooling hoses connected form fresh water cooler to shaft seals. For tail shaft (port & Stbd) 1Kg grease applied. Propeller shifted to location and fitted on position.

As per our quotation EM 15489 Revised , item 2.1

1401 PORT & STBD RUDDERS:-

5,100.00

Port and stbd side rudders removed from location. And brought to workshop. Port side rudder was found damaged at the bottom

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MINISTRY OF MUNICIPALITY & ENVIRONMENT DIRECTOR OF LAND & SURVEY DEPARTMENT, WEST BAY WEST BAY, DOHA -QATAR Doha QA 22423 INVOICE NO: SFWK/INV/012491-2/2020

DATE: 30/11/2020

EXPENSE A/C:

W/O NO: 20-010907 / 1 W/O REF: MDO 20218

Vessel Name/Description : SURVEY BOAT "AL MASSAH"

Job No Description Line Amount

area. Client supplied new rudder for port side. Stbd side rudder found with small damages, Yard repaired with putty application. Rudder stock was cleaned and calibrated. QC reports submitted to Client. After fixing propeller rudders shifted to on-board and fixed on position with yard supplied 4nos of seals and 2nos of fabricated Teflon spacer rings. Rudder linkage fitted with yard supplied new bearings. For rudder (port and stbd) yard supplied 3kg grease applied.

As per our quotation EM 15489 Revised , item 2.2

1402 FIRE PUMP SEA WATER INLET VALVE:- 250.00

1no fire pump sea water intake globe valve 2"was removed from location and brought to workshop. Dismantled and chemical cleaning and buffing done. Valve seat and disc lapping done. Valve assembled with yard supplied new gland packing. Valve shifted on board and fitted on location witnessed by client.

As per our quotation EM 15489 Revised , item 8

1403 OVERHAULING OF SEA WATER SUCTION VALVE:-

1 no of 2"sea water suction butterfly valve cleaned in situ and applied new grease, operation checked. Found ok. Witnessed by client.

As per our quotation EM 15489 B, item 4

1800 REPLACING OF ZINC ANODES:-

3**,**650.00

290.00

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DIRECTOR OF LAND & SURVEY DEPARTMENT, WEST BAY
WEST BAY, DOHA -QATAR Doha QA 22423

INVOICE NO: SFWK/INV/012491-2/2020

DATE: 30/11/2020

EXPENSE A/C:

W/O NO: 20-010907 / 1 W/O REF: MDO 20218

Vessel Name/Description : SURVEY BOAT "AL MASSAH"

Job No Description

Line Amount

Wasted zinc anodes renewed using yard supplied bolted type zinc anodes. Size: 10.5 Kg.Total - 10 nos.

Size: 10.5 Kg.Total - 10 nos. QRs 3,650.00

As per our quotation EM 15489 Revised , item 5

1801 REPAIR OF DECK SIDE COAMING:-

6,640.00

Wasted port and stbd. side Deck coaming cut removed and new plate fabricated fitted and welded allow  $100\,\mathrm{mm}$  x  $4\,\mathrm{mm}$  thickness ms plate x  $5000\,\mathrm{mm}$  long total (in 10 pieces). Freeboard top wasted caping plate repaired with doubler or insert plate size approx  $150\,\mathrm{mm}$  x  $100\,\mathrm{mm}$  x  $6\,\mathrm{mm}$  thickness - 3 Nos. Deck side coaming top wasted caping pipe  $1\mathrm{"dia.}$  at 4 Locatios cut and renewed.

As per our quotation EM 15489 B , item 1.1

1802 PORT AND STBD. AFT HATCHES RUBBER BEADING RENEWAL:--

4,270.00

Port and stbd. aft 2 Nos. hatches rubber beading renewed. Existing rubber beading removed and cleaned. Owner supplied rubber beading fitted. Port side hatch corroded area cut and renewed.

M.S. Plate- 250mm X 40mm X 5mm thick - 01 nos.

M.S. Plate- 250mm X 20mm X 5mm thick - 01 nos.

M.S. Plate- 250mm X 25mm X 5mm thick - 01 nos.

M.S. Plate- 200mm X 200mm X 5mm thick - 01 nos.

Port and stbd. aft 2 Nos. hatches drain line opened, block cleared and modified.

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MINISTRY OF MUNICIPALITY & ENVIRONMENT DIRECTOR OF LAND & SURVEY DEPARTMENT, WEST BAY WEST BAY, DOHA -QATAR Doha QA 22423 INVOICE NO: SFWK/INV/012491-2/2020

DATE: 30/11/2020

EXPENSE A/C:

W/O NO: 20-010907 / 1 W/O REF: MDO 20218

Vessel Name/Description : SURVEY BOAT "AL MASSAH"

| <del>-</del> 1 1- |   |             |
|-------------------|---|-------------|
| Job No            | Description   | Line Amount |
|                   | As per our quotation EM 15489 B, item 3   |             |
| 1803              | STEERING HYDRAULIC TANK REPAIR :-   | 3,510.00    |
|                   | Steering hydraulic oil tank cover removed from location and brought to workshop. Cleaned and painted. Pressure gauge was found not working and damaged condition, ¼" valve also not working condition. Removed and yard supplied new pressure gauge 450Bar, new ¼" SS ball valve and yard fabricated connectors are fitted to the tank. After inspection tank cover shifted to on board and fitted back on position. Witnessed by client. |             |
|                   | As per our quotation EM 15489 E , item 4.1  |             |
| 1804              | INSTALLATION OF RUBBER 'D' FENDER:-   | 6,450.00    |
|                   | Fabricated and fitted 16 Nos. aluminium flat bar size each 40mm x 3mm thickness x 750mm long provided with 3 Nos. drilled holes each.  Total of 48 Nos. stainless steel bolts (M10 x 40mm long) provided with nuts, welded on port & stbd. side under water area for fender installation 16 Nos. Rubber 'D' fenders fitted in position by ship staff.   |             |
|                   | Based on our quotation EM 15489 E, item 5.1   |             |
| 5050              | PORT AND STBD. MAIN ENGINE SEA WATER COOLER:-   | 7,600.00    |
| ı                 | Port and stbd side freshwater tube coolers removed from location and shifted to workshop. Dismantled and chemical cleaning, buffing done. End cover anodes found damaged, Yard  |             |

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### for QATAR NAVIGATION (Q.S.C)

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DIRECTOR OF LAND & SURVEY DEPARTMENT, WEST BAY

WEST BAY, DOHA -QATAR Doha QA 22423

INVOICE NO: SFWK/INV/012491-2/2020

DATE: 30/11/2020

EXPENSE A/C:

W/O NO: 20-010907 / 1 W/O REF: MDO 20218

Vessel Name/Description : SURVEY BOAT "AL MASSAH"

Job No

Description

Line Amount

fabricated new anodes -4no. Cooler assembled with yard supplied new O-rings. Pressure test 4 bar was carried out. Witnessed by yard QC. Reports submitted to client. After inspection Coolers are shifted to on -board and fitted on position with yard supplied new O-rings. After fixing coolers for port side cooler 45Lt coolant filled, supplied by the Yard. For stbd cooler old coolant was filled. After filling the coolant no found leaks. Witnessed by client.

As per our quotation EM 15489 Revised , item 3

6000

SUPPLY OF CUTLASS BEARING:-

7,795.00

Supplied cutlass bearing - 3 nos QRs 2,070.00

Supplied below items:

15 w/40 engine oil for M/E ( volva penta D12MP) - 100 litr Air filter (part no 21196919) for M.E (volvo penta D12 MP) - 4

nos Coolant green colour - 20 litre

Air filter for generator - 2 pcs Sea water impeller for generator - 2 pcs Pressure gauge - 1 no

Rubber hose - 1 no

QRs 5,725.00

Based on our quotation EM 15571, item no 1

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### $for \ \ QATAR \ NAVIGATION \ (Q.S.C)$

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MINISTRY OF MUNICIPALITY & ENVIRONMENT DIRECTOR OF LAND & SURVEY DEPARTMENT, WEST BAY WEST BAY, DOHA -QATAR Doha QA 22423 INVOICE NO: SFWK/INV/012491-2/2020

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| Job No | Description  | Line Amount |
|--------|--|-------------|
| 6001   | MAIN ENGINE EXHAUST LEAKAGE:-  | 1,000.00    |
|        | Engine exhaust Elbow fabricate as suitable in place of existing elbow. Install in position . Material details as per below.Dia 4" Ms elbow Sch 40 (SR) = 01 nos. DIA 4 " X 50 mm long Collar ring fabricate by machine shop =01 nos.DIA 4 " X 3½" 50 mm long Pipe fabricated 01 nos. |             |
|        | As per our quotation EM 15489 E, item 7  |             |
| 7500   | MATERIALS USED:  | 5,777.00    |
|        | RUBBER FENDER MATERIAL:-   |             |
|        | Rubber fender material supplied as per captain instruction.  |             |

a. Lip seal -4 pc

QRs 4,620.00

RUDDER:-

b. 0 ring - 28 nos

c. Rubber ring - 2 nos

Bearing for shaft copuling for rudder - 2 nos

As per our quotation EM 15489 C Revised , item 1.1

As per our quotation EM 15489-1 , item A QRs 1,157.00

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EXPENSE A/C:

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Vessel Name/Description : SURVEY BOAT "AL MASSAH"

Job No Description Line Amount

Invoice Amount -->

120,291.07

(QAR - One Hundred Twenty Thousand Two Hundred Ninety One And 07/100 Only)

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