

LIFT LUG ASSEMBLIES

Product Serial Number: **VARIOUS**



Customer References

Customer: **YANTAI CIMC RAFFLES OFFSHORE LTD**

Rig / Hull: **BEACON ATLANTIC / Y13-H1297**

Tag Number: **N/A**

National Oilwell Varco References

SO Number / Project Number: **378704**

Document Number: **SO378704-LLA-MRB-001**

Revision: **01**

Volume: **1 OF 1**

REVISION HISTORY

01	07.05.2019	For Information	SW	SC	SC
Rev	Date (dd.mm.yyyy)	Reason for issue	Prepared	Checked	Approved

CHANGE DESCRIPTION

Revision	Change description
01	Initial Release

TABLE OF CONTENTS

- 1 NOV CERTIFICATE OF COMPLIANCE/CONFORMANCE**
- 2 DNV-GL DESIGN VERIFICATION REPORT**
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- 4 MANUFACTURING DOCUMENTATION**
 - 10685784-300 (LIFT LUG ASSEMBLY)**

1 NOV CERTIFICATE OF COMPLIANCE/CONFORMANCE

Certificate of Compliance / Conformance

Manufacturer & Address: NATIONAL OILWELL VARCO
12950 WEST LITTLE YORK
HOUSTON, TX (77041)
USA

Customer & Address: YANTAI CIMC RAFFLES OFFSHORE LTD.
NO. 70 ZHIFU EAST ROAD
ZHIFU ISLAND, ZHIFU DISTRICT, YANTAI 264000
SHANDONG PROVINCE, PEOPLE'S REPUBLIC OF CHINA

Customer Po No.: FOR-CHR05700-1360

NOV SO No.: 378704

NOV Proposal No: N/A

Equipment No.: 10685784-300

Equipment Description: LUG, LIFT, UL, FT-E, 17 TON SWL, ASSY

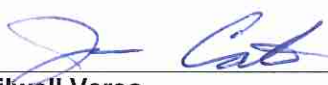
Equipment Serial No.: XK-19-1187942

Date of Manufacture: MARCH 19, 2019

Codes, Standards or Specifications Applied: NOV SPECIFICATION, DNV DRILL(N)

This certificate is your assurance that the equipment described herein has been manufactured in accordance with National Oilwell Varco's standard practices and/or in accordance with National Oilwell Varco's Quality System Manual. This system is designed to assure that all units and parts shipped from National Oilwell Varco are subject to adequate control of quality to ensure safety, performance and reliability.

National Oilwell Varco hereby represents that the product listed herein complies with all mutually agreed upon purchase order requirements and the specifications listed above, and meets all established National Oilwell Varco procedures and specifications in the procurement of material, Manufacturing, Assembly Operations and Testing as applicable.


National Oilwell Varco
Rig Solutions
Juan Castro
Supplier & Field Quality Manager

7 May 2019
Date

XK-19-1187942-COC-001 / 01
Certificate Identification / Rev.

Certificate of Compliance / Conformance

Manufacturer & Address: NATIONAL OILWELL VARCO
12950 WEST LITTLE YORK
HOUSTON, TX (77041)
USA

Customer & Address: YANTAI CIMC RAFFLES OFFSHORE LTD.
NO. 70 ZHIFU EAST ROAD
ZHIFU ISLAND, ZHIFU DISTRICT, YANTAI 264000
SHANDONG PROVINCE, PEOPLE'S REPUBLIC OF CHINA

Customer Po No.: FOR-CHR05700-1360

NOV SO No.: 378704

NOV Proposal No: N/A

Equipment No.: 10685784-300

Equipment Description: LUG, LIFT, UL, FT-E, 17 TON SWL, ASSY

Equipment Serial No.: XK-19-1187944

Date of Manufacture: MARCH 19, 2019

Codes, Standards or Specifications Applied: NOV SPECIFICATION, DNV DRILL(N)

This certificate is your assurance that the equipment described herein has been manufactured in accordance with National Oilwell Varco's standard practices and/or in accordance with National Oilwell Varco's Quality System Manual. This system is designed to assure that all units and parts shipped from National Oilwell Varco are subject to adequate control of quality to ensure safety, performance and reliability.

National Oilwell Varco hereby represents that the product listed herein complies with all mutually agreed upon purchase order requirements and the specifications listed above, and meets all established National Oilwell Varco procedures and specifications in the procurement of material, Manufacturing, Assembly Operations and Testing as applicable.


National Oilwell Varco
Rig Solutions
Juan Castro
Supplier & Field Quality Manager

7 May 2019
Date

XK-19-1187944-COC-001 / 01
Certificate Identification / Rev.

2 DNV-GL DESIGN VERIFICATION REPORT

DESIGN VERIFICATION REPORT

DVR-D33893-J-2972
Rev.:**Particulars of Design**

Manufacturer:	National Oilwell Varco - WLY
Location:	Houston, UNITED STATES
Purchase order no:	PO 605626
Installation:	Beacon Atlantic, Vessel ID 33893
Id No:	D33893
Archive no:	PP175022-58
Regulatory body:	Petroleum Safety Authority - Norway

This is to verify that the design of:

Lift Lug P/N 20083104

has been reviewed and found to comply with:

[1] DNV GL's Offshore Standard DNV-OS-E101, "Drilling Plant," October 2013

And to comply with DNV GL AS' current understanding of implementation of:

[2] DNV GL Statutory Interpretations DNVGL-SI-0166 "Verification for compliance with Norwegians shelf state regulations"



The verification is based on the following**A. Design codes/standards used as references**

- API 8C, 4th Edition, "Specification for Drilling and Production Hoisting Equipment (PSL 1 and 2)"

B. Design limitations

<u>Design Parameter</u>	<u>Value</u>	<u>(equivalent)</u>
- Safe Working Load	: 34,000 lbf	(151 kN)
- Minimum Design Temperature	: -4 °F	(-20 °C)
- Maximum In-Plane Lifting Angle	: 45° w/ vertical	
- Maximum Out-of-Plane Lifting Angle	: 0°	
- Design Safety Factor	: 3.0	
- Service	: Well Control Systems, Marine Riser, Equipment and Control Equipment	

C. Design Specifications

<u>Drwg. No.</u>	<u>Rev.</u>	<u>Title</u>
20022350D	G	LUG, LIFT, RISER, SWL 17 TON

D. Calculations

<u>Doc. No.</u>	<u>Rev.</u>	<u>Title</u>
Design Data Book ER 707	March 2016 Nov. 04, 2008	Beacon Pacific Lift Lug 20083104, SO 832165C Finite Element Analysis Of The Lifting Lug

E. Material Specifications

<u>Components</u>	<u>Material</u>	<u>Minimum Yield Strength</u>	<u>Charpy</u>
Lifting Lug	A-X010018	75,000 psi	31 ft-lbf @ -26°F

F. Fabrication Procedures

Procedures related to testing, welding and NDT, are to be reviewed/approved by DNV GL's local surveyor for compliance

G. Comments

<u>NPS No.</u>	<u>Description</u>
1199	Lifting set and shackles are not included in this report.

H. Comments

N/A

I. Conditions
N/A

Houston, 2017-05-01

for DNV GL

Per Jørgen Tviberg

Tviberg, Per Jørgen
Team Lead – Well Control
MRAUS490

Marco Romero

Romero, Marco
Senior Engineer

Verified by: *Margie Seymore*

Distribution:

Orig: **National Oilwell Varco - WLY**, att.: Sukki Tang; sukki.tang@nov.com [Fax:]
CC:

3 DNV-GL PRODUCT CERTIFICATE

CERTIFICATE

FOR LIFT LUG UPPER/LOWER ASSEMBLY FT-E MAX SWL 17 STON CERT
DNV

Certificate No:
N141THWM

This is to certify

that the product:	Lift Lug Upper/Lower Assembly FT-E Max SWL 17 sTon Cert DNV
Type designation:	Lift Lug Upper/Lower Assembly FT-E Max SWL 17 sTon Cert DNV PN: 10685784-300
Application/context:	Drilling and Production Hoisting Equipment
Serial/tag no:	XK-19-1187942

Has been found to comply with relevant requirements in:
DNV GL Offshore Standard DNV-OS-E101 "Drilling Plant" July 2013
DNV GL Statutory Interpretations DNVGL-SI-0166 "Verification for compliance with Norwegian shelf regulations"

The product is intended for

Yard:	Yantai CIMC Raffles Offshore Ltd.
Yard No:	-
Name of vessel:	D33893
DNV GL Id No:	D33893

The product / material has been marked: Part and Serial Number on: Lug

Particulars of Vendor and Purchaser

Vendor:	National Oilwell Varco, LP- Rig Technologies Division - WLY
Vendor reference:	760736 - 378704 10685784-300 MRB - Lift Lug Upper/Lower Assembly FT-E Max SWL 17 sTon Cert DNV
Purchaser:	
Purchaser reference:	

Issued at **Certification & Inspection Services** on **2019-05-07**



for **DNV GL**

This document has been digitally signed and will therefore not have handwritten signatures

Anderson, Victor
Surveyor

Certificate No: **N141THWM**

Linked Plan Approvals:

M-AG-CIW/MROM/D33893-J-2972, National Oilwell Varco Rig Systems & Aftermarket- WLY, issued 2017-05-01

Surveyor Supplementary information:

DNV-GL File Number A0641943

Comprehensive material properties and procedures related to testing, welding, NDT, etc. are reviewed and approved by DNV GL's local surveyor.

Traceable Items:

Forge, 6.79 OD X 9.00 L - Heat Number 248162 / Serial Number 751735-1-1 ~ 751735-1-4

Product parameters:

Parameter name	Value	Unit
Safe Working Load	34,000 lbf	(151kN)
Minimum Design Temperature	-4°F	(-20°C)
Maximum In-Plane Lifting Angle	45° w/ vertical	
Maximum Out-of-Plane Lifting Angle	0°	
Design Safety Factor	3.0	
Service	Well Control Systems, Marine Riser, Equipment and Control Equipment	

Remarks:

ID	Title	Description
N141THWM:1	Manufactured	March 2019
N141THWM:2	1199	Lifting set and shackles are not included in the report.

CERTIFICATE

FOR LIFT LUG UPPER/LOWER ASSEMBLY FT-E MAX SWL 17 STON CERT
DNV

Certificate No:
N141THWN

This is to certify

that the product:	Lift Lug Upper/Lower Assembly FT-E Max SWL 17 sTon Cert DNV
Type designation:	Lift Lug Upper/Lower Assembly FT-E Max SWL 17 sTon Cert DNV PN: 10685784-300
Application/context:	Drilling and Production Hoisting Equipment
Serial/tag no:	XK-19-1187944

Has been found to comply with relevant requirements in:
DNV GL Offshore Standard DNV-OS-E101 "Drilling Plant" July 2013
DNV GL Statutory Interpretations DNVGL-SI-0166 "Verification for compliance with Norwegian shelf regulations"

The product is intended for

Yard:	Yantai CIMC Raffles Offshore Ltd.
Yard No:	-
Name of vessel:	D33893
DNV GL Id No:	D33893

The product / material has been marked: Part and Serial Number on: Lug

Particulars of Vendor and Purchaser

Vendor:	National Oilwell Varco, LP- Rig Technologies Division - WLY
Vendor reference:	760736 - 378704 10685784-300 MRB - Lift Lug Upper/Lower Assembly FT-E Max SWL 17 sTon Cert DNV
Purchaser:	
Purchaser reference:	

Issued at **Certification & Inspection Services** on **2019-05-07**



for **DNV GL**

This document has been digitally signed and will therefore not have handwritten signatures

Anderson, Victor
Surveyor

Certificate No: **N141THWN**

Linked Plan Approvals:

M-AG-CIW/MROM/D33893-J-2972, National Oilwell Varco Rig Systems & Aftermarket- WLY, issued 2017-05-01

Surveyor Supplementary information:

DNV-GL File Number A0641943

Comprehensive material properties and procedures related to testing, welding, NDT, etc. are reviewed and approved by DNV GL's local surveyor.

Traceable Items:

Forge, 6.79 OD X 9.00 L - Heat Number 248162 / Serial Number 751735-1-1 ~ 751735-1-4

Product parameters:

Parameter name	Value	Unit
Safe Working Load	34,000 lbf	(151kN)
Minimum Design Temperature	-4°F	(-20°C)
Maximum In-Plane Lifting Angle	45° w/ vertical	
Maximum Out-of-Plane Lifting Angle	0°	
Design Safety Factor	3.0	
Service	Well Control Systems, Marine Riser, Equipment and Control Equipment	

Remarks:

ID	Title	Description
N141THWN:1	Manufactured	March 2019
N141THWN:2	1199	Lifting set and shackles are not included in the report.

4 MANUFACTURING DOCUMENTATION

10685784-300 (LIFT LUG ASSEMBLY)

Material Traceability Index
PAGE 1 OF 1

Part Number	Description	Traceability
10685784-300 (20083104-300)	LUG, LIFT, UL, FT-E, 17 TON SWL, ASSY	XK-19-1187942, XK-19-1187944
10566166-300 (20022350-300)	LUG, LIFT, UL, FT-E, 17 TON SWL, FM	751735-1-1, 751735-1-2, 751735-1-3, 751735-1-4

Breaux Machine Works, L.P.
P.O. Box 152
Tomball, TX 77377

Phone (281) 351-4042

Fax (281) 351-2640

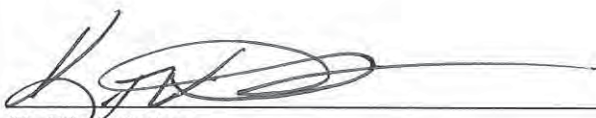
breaux@breauxmachine.com

CERTIFICATE OF COMPLIANCE

Breaux Machine Works, LP hereby certifies that the following Parts/Items were manufactured in accordance to **National Oilwell** issued Purchase Order, Requirements & Specifications.

Customer: NATIONAL OILWELL VARCO (#638)	Description: LUG, LIFT FT TYPE RISER SWL 17 TON
Part # 10566166-300	Material Spec # A-X010018 REV AP
P.O.: 751735 Item 1	Spec # (if applicable)
Customer: NA	Job Number: 57377
Country of Origin: USA	

QTY	SERIAL NUMBER
4	751735-1-1 thru 751735-1-4



Kurt Vanlaningham
General Manager

03/11/2019
Date



Eastham Forge, Inc.

ISO 9001: 2015 CERTIFIED

EFI MATERIAL CERTIFICATION

A Subsidiary of Eastham Enterprises, Inc.

1050 Neches Street
Beaumont, Texas 77701
409 835-4212

MTR Reference ID: 7700.00

S
O BREAUX MACHINE WORKS, INC
L 13842 HIRSHFIELD
D TOMBALL, TX 77377BREAUX MACHINE WORKS, LP
PO 751735 ITEM 1
PN: 10566166-300
ASSY PN: NA
HEAT # 248162
SPEC # A-X010018 REV AP
SERIAL # 751735-1-1 THRU 751735-1-4
NO LOT # REQ'D
QTY 4
LESLI GUYNESS
H BREAUX MACHINE WORKS, INC
I 13842 HIRSHFIELD
P TOMBALL, TX 77377T
OT
O

Customer Order #	Line Item	Approval Date	Shop Order #	Ship Wgt EA(lbs)	Quantity	Total
91520	1	01/21/2019	7700.00	124	4	4
Forge to Finish		Part Number		Forge Ratio	Melt Practice	
6.79 OD X 9.00 L		20022350		10.5 : 1	EFVD	
Material Grade	Heat Number	Heat Code	Specifications:	AX010018 REV AP, NORMALIZE AND PREQUALIFIED		
4130CAM	248162	11931-BD	(BREAUX PO 91520)			

API 6A PROCESSING APPLIES

Producing Mill Name: ACCIAIERIE BERTOLI SAFAU. SpA (ABS)

Mill Austenitic

Chemistry Ladle Analysis (%) Carbon Eq. [C+Mn/6+Cr+Mo+V]/5+[Cu+Ni]/15] : 0.7074 Grain Size: 8 DI = 4.13

C	Mn	Si	P	S	Cr	Ni	Mo	Al	Cu	Sn
0.312	0.60	0.28	0.010	0.005	1.06	0.22	0.25	0.025	0.26	0.017
Ti	B	V	Nb	As	Ca	Sb	Co	Pb	Oppm	Hppm
0.0026	0.0001	0.007	0.003	0.005	0.0009	0.001	0.015	0.0010	12.00	0.90
Fe										
BAL										

HEAT TREATMENT PERFORMED

Cycle	Temp	Hours	Quenchant (Start-Stop °F)
NORMALIZE	1650 °F	15.00	AIR COOLED

Forging Hardness: N/A

Number of Pieces Checked:

QTC DATA & MECHANICAL PROPERTIES

Mechanical Properties: 4.0" H X 4.0" W X 12.0" L

QTC Melt Practice: EFVD

QTC Ref. #: 5542.01

QTC Forge Ratio: 7: 1

QTC Heat Treatment

QTC Properties

Cycle	Temp F	Hours	Quenchant (Start-Stop °F)
NORMALIZE	1650 °F	7.00	AIR COOLED
AUSTENITIZE	1600 °F	7.50	WATER (69-72)
TEMPER	1235 °F	7.50	AIR COOLED

0.501 Tensile Bar	Actual	10MM x 10MM	Actual
Tensile Str. (Long.)	100 KSI	CVN	LCVN
0.2% Offset Yield Str	77 KSI	Temp	MINUS 75 °F
% Elong. IN 2"	26.4	Ft. Lbs.	25 47 34
% Reduction of Area	68.1	Lateral_Exp. (in.)	.018 .031 .025
Surface Hardness **	229-223	% Shear	30 40 35

** HBW

*** Material Test Report Notes ***

DURING PROCESSING AT EASTHAM FORGE, INC., THIS MATERIAL HAS
NOT COME INTO CONTACT WITH MERCURY OR ANY RADIOACTIVE CONTAMINATION.We hereby certify that all test results and process
information contained herein are correct and true
as contained in the records of the company.

Date : 01/21/2019

By :

ANN HAZLETON

Title : DOCUMENTATION SPECIALIST



Eastham Forge, Inc.

ISO 9001: 2015 CERTIFIED

EFI MATERIAL CERTIFICATION

A Subsidiary of Eastham Enterprises, Inc.

1050 Neches Street
Beaumont, Texas 77701
409 835-4212

MTR Reference ID: 7700.00

S
O BREAU MACHINE WORKS, INC
L 13842 HIRSHFIELD
D TOMBALL, TX 77377**BREAU MACHINE WORKS, LP**
PO 751735 ITEM 1
PN: 10566166-300
ASSY PN: NA
HEAT # 248162
SPEC # A-X010018 REV AP
SERIAL # 751735-1-1 THRU 751735-1-4
NO LOT # REQ'D
QTY 4
LESLI GUYNESS
H BREAU MACHINE WORKS, INC
I 13842 HIRSHFIELD
P TOMBALL, TX 77377T
OT
O

Customer Order #	Line Item	Approval Date	Shop Order #	Ship Wgt EA(lbs)	Quantity	Total
91520	1	01/21/2019	7700.00	124	4	4
Forge to Finish		Part Number		Forge Ratio	Melt Practice	
6.79 OD X 9.00 L		20022350		10.5 : 1	EFVD	
Material Grade	Heat Number	Heat Code	Specifications:	AX010018 REV AP, NORMALIZE AND PREQUALIFIED		
4130CAM	248162	11931-BD	(BREAUX PO 91520)			

API 6A PROCESSING APPLIES

*** Material Test Report Notes (cont) ***

NO WELDING HAS BEEN PERFORMED ON THIS FORGING.

HEAT TREATMENT WAS PERFORMED IN BATCH FURNACES CALIBRATED AND CERTIFIED AT LEAST ANNUALLY TO MEET OR EXCEED THE TEMPERATURE UNIFORMITY REQUIREMENTS OF API 6A:2010 (ISO 10423) 20TH EDITION, ANNEX M AND API 16A 4TH EDITION, ANNEX A AND API 6D 24TH EDITION, APPENDIX F TIME AND TEMPERATURE WERE MONITORED BY FURNACE SETPOINT THERMOCOUPLE, UNLESS INDICATED OTHERWISE.

MATERIAL, ITEMS OR SERVICES FURNISHED UNDER THIS ORDER HAVE BEEN PRODUCED TO THE SPECIFICATIONS AND REQUIREMENTS STATED ON THIS ORDER AND IN ACCORDANCE WITH THE EASTHAM FORGE, INC. ISO 9001:2015 QUALITY MANAGEMENT SYSTEM; CERTIFICATE OF COMPLIANCE NO: 30087, ORIGINAL CERTIFICATION DATE: 17 JULY 2002 EXPIRATION DATE: 21 FEBRUARY 2021

EASTHAM FORGE, INC. IS CERTIFIED TO BE COMPLIANT WITH THE PROVISIONS OF THE PRESSURE EQUIPMENT DIRECTIVE (PED) 97/23/EC 7/2, ANNEX I, PARAGRAPH 4.3 CERTIFICATE NO. 41761, EXPIRATION DATE: 16 JANUARY 2021

DOCUMENTATION MEETS THE REQUIREMENTS OF NACE MR-0175 AND EN 10204:2004, TYPE 3.1

COUNTRY OF ORIGIN: ITALY
COUNTRY OF PROVIDENCE: U.S.A.
COUNTRY OF MANUFACTURE: U.S.A.

DIMENSIONAL INSPECTION REPORTS INCLUDED.

Date : 01/21/2019

By :


ANN HAZLETON

Title : DOCUMENTATION SPECIALIST

We hereby certify that all test results and process information contained herein are correct and true as contained in the records of the company.

Part Number: 11125062-001 Part Name: Lift Lug Date: Feb 5, 2019

Serial No./Lot No.: 751735-1-1THRU 4 Work Order No.: NA Operation Number: NA NCR No.: NA

Inspector Name: James D. Parish Material Spec: A-X010018 REV AP Part Temperature: (F) 80

Hardness Range Required: 207-237 Surface Condition: Ground Qty Accepted: 4 QTY Rejected: 0

Equipment

Brinell Serial No.: UP57 Scope Serial No.: 2682 Rockwell B Serial No.: NA Rockwell C Serial No.: NA

Test Block

Test Block Value: 222 Test Block Temperature (F): 2682 Test Block Serial No.: 18B32458G

Test Block Reading: 223

VERIFY TEST BLOCK READING IS IN ACCORDANCE WITH PARA. 8.2

Serial/Lot Number:	751735-1-1	Test Location:	5	Reading:	223 HBW/P 10/3000
Serial/Lot Number:	751735-1-2	Test Location:	5	Reading:	223 HBW/P 10/3000
Serial/Lot Number:	751735-1-3	Test Location:	5	Reading:	228 HBW/P 10/3000
Serial/Lot Number:	751735-1-4	Test Location:	5	Reading:	228 HBW/P 10/3000
Serial/Lot Number:		Test Location:		Reading:	
Serial/Lot Number:		Test Location:		Reading:	
Serial/Lot Number:		Test Location:		Reading:	
Serial/Lot Number:		Test Location:		Reading:	
Serial/Lot Number:		Test Location:		Reading:	
Serial/Lot Number:		Test Location:		Reading:	
Serial/Lot Number:		Test Location:		Reading:	

Inspector's Signature:

Witness Sign Off:

Witnessed By:

NA

Customer/Certifying Authority:

NA

NOV Supplier Information

Supplier Name: Republic Heat Treat Job Number: NA Purchase Order No: see below

Supplier Report No: 43317 Supplier Misc Information: PO 751735 ITEM 1

Rig
Systems

Ultrasonic Test Report SOP 8.004 Rev: 3

Page 1 of 1

Part Number	11125062-001	Part Name	LIFT LUG	Date	Feb 11, 2019
Serial No./Lot No.	SEE BELOW	Work Order No.	N/A	Operation Number	N/A
Inspector Name/Level	JOHN CARPE II	Scan Plan No/ Rev	SP-1 REV B	Work Instruction No/Rev	WI-4 REV B
Surface Condition	CLEAN 250 RMS	☐ AWS ☒ ASME	Qty Accepted	4	QTY Rejected
Instrument Name	SONATEST	Instrument Serial Number	1008750	Calibration Date	8/22/19
Long. Freq	5 MHZ	Size	.75"	Type	TECHNOSC
Shear Freq		Size		Type	
Shear Freq		Size		Type	
Shear Freq		Size		Type	
Shear Freq		Size		Type	
Longitudinal Ref. Level	60 DBS	Shear Ref. Level			
Shear Ref. Level		Shear Ref. Level			
Couplant Name/Type	CELLULOSE	Ref Block #	PB-4130 5-7		

Area Inspected: 100% ACCESSIBLE PART VOLUME.

Result of
Inspection
(Document
Recordables):S/N 751735-1-1 THRU 751735-1-4
HT# 248162

Inspector's Signature:

John R. Carpe

Witness Sign Off:

Witnessed By:

N/A

Customer/Certifying Authority: N/A

NOV Supplier Information

Supplier Name:

P & B TESTING, INC.

Job Number:

57377

Purchase Order No: 91712

Supplier Report No:

329876.00

Supplier Misc Information:

REF PO# 751735 ITEM 1

Revision:

2

Part Number

10566166-300

Part Name

LUG, LIFT FT TYPE RISER SWL 17 TON

Date

2/19/19

Serial No./Lot No.

751735-1-1 thru 4

Work Order No:

NA

Operation Number:

FINAL

NCR No.

NA

Inspector Name

Darwin Gas Lellanos

Material Spec:

A-X010018 REV AP

Part Temperature: (F)

75

Hardness Range Required:

197-237

Surface Condition:

Machined

Qty Accepted:

4

QTY Rejected:

0

Equipment

Brinell Serial No:

Bx36p

Scope Serial No:

BxH10002

Rockwell B Serial No:

N/A

Rockwell C Serial No:

N/A

Test Block

Test Block Value:

234 HBW

Test Block Temperature (F):

75

Test Block Serial No:

18B2235

Test Block Reading

234 HBW

VERIFY TEST BLOCK READING IS IN ACCORDANCE WITH PARA. 8.2

Serial/Lot Number:

751735-1-1

Test Location:

FACE (C-4)

Reading:

212 HBW/P

Serial/Lot Number:

751735-1-2

Test Location:

FACE (C-4)

Reading:

212 HBW/P

Serial/Lot Number:

751735-1-3

Test Location:

FACE (C-4)

Reading:

212 HBW/P

Serial/Lot Number:

751735-1-4

Test Location:

FACE (C-4)

Reading:

217 HBW/P

Serial/Lot Number:

Test Location:

Reading:

Serial/Lot Number:

Test Location:

Reading:

Serial/Lot Number:

Test Location:

Reading:

Serial/Lot Number:

Test Location:

Reading:

Serial/Lot Number:

Test Location:

Reading:

Serial/Lot Number:

Test Location:

Reading:

Serial/Lot Number:

Test Location:

Reading:

Serial/Lot Number:

Test Location:

Reading:

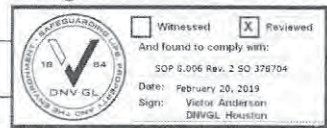
Inspector's Signature:

Darwin Gas Lellanos

Witness Sign Off:

Witnessed By:

Customer/Certifying Authority:



NOV Supplier Information

Supplier Name:

Breaux Machine Works, L.P.

Job Number:

57377

Purchase Order No:

751735 I-1

Supplier Report No:

Supplier Misc Information:



LEADERS IN LIFTING SAFETY
World's Largest CROSBY Distributor
5833 ARMOUR DR. HOUSTON, TX 77020
PH#713-674-5631 FX#713-674-8352



CERTIFICATE OF TEST

TEST DATE: 2/28/2019
CUSTOMER: BREAUX MACHINE WORKS
PURCHASE ORDER: 91869
HHI ORDER: 1074941
NUMBER OF PIECES TESTED: 4
TEST ID #: H-1074941-1-1PM THRU 4PM
SERIAL #: 751735-1-1 THRU 751735-1-4
PART #: 10566166-300
DESCRIPTION: LIFT LUG FT TYPE RISER
DWG #: 20022350D REV H
SO #: 378704
HULL #: Y13-H1297
JOB #: 57377
TEST SPECIFICATION: AX060242 REV J
WORKING LOAD LIMIT: 17 TONS
TEST LOAD: 34 TONS (5 MINUTE HOLD)

Breaux Machine Works LP

PO # 751735 Item 1
P/N 10566166-300
SN/LN # 751735-1-1 thru 751735-4
SIG. [Signature]

QUALITY ASSURANCE SIGNATURE:

[Signature]

RAFAEL GUTIERREZ



Jeremy Youngblood

WITNESS BY:

This certifies the described products meet the above specifications. Load measuring instrument is accurate +/- 1% of reading as specified by ASTM E-4. Upon conclusion of testing no obvious defects were noted.

CAUTION: It is recommended that a nondestructive test be performed following the load test in order to reveal any defects caused as a result of the load applied.

DISCLAIMER As the use of these products are beyond the control of Holloway Houston, Inc., the purchaser and/or end user is solely responsible for the usability and suitability of these products.



LEADERS IN LIFTING SAFETY
World's Largest CROSBY Distributor
5833 ARMOUR DR. HOUSTON, TX 77020
PH#713-674-5631 FX#713-674-8352



Validation Code

PRE AND POST-MT EXAMINATION REPORT

DATE: 2/28/2019
CUSTOMER: BREAUX MACHINE WORKS
PURCHASE ORDER: 91869
HHI ORDER: 1074941

QUANTITY: 4
SERIAL #: 751735-1-1 THRU 751735-1-4 TEST ID #: H1074941-1-1PM THRU 4PM
PART #: 10566166-300
DESCRIPTION: LIFT LUG FT TYPE RISER
DWG #: 20022350D REV H SO #: 378704
HULL #: Y13-H1297 JOB #: 57377
SCOPE OF INSPECTION: 100 PERCENT

NDE SPECIFICATION: SOP 8.003 REV 4
NDE METHOD: Wet Fluorescent

MAGNETIZING SOURCE:
YOKE () YOKE SERIAL#: () YOKE LIFTING FORCE VERIFIED ()
MAG UNIT - [] P-500 [X] M-2040 [] M-2060
No. TURNS: [2] AMPERES: [2.000]
LIGHT INTENSITY EQUIPMENT SERIAL #: (838534) LIGHT INTENSITY VERIFIED (X)

[X] CONTINUOUS MAGNETIZATION [] RESIDUAL MAGNETIZATION
BATH/INDICATOR USED: 14 AM BATCH #: 18F16K
BRAND: MAGNAFLUX
SURFACE TEMPERATURE: 63 F

RELEVANT INDICATIONS: NO INDICATIONS FOUND AT THE TIME OF INSPECTION.
ACCEPT [X] REJECT []

COMMENTS:

INSPECTED BY:

JERONIMO PLATA #875 (LEVEL II SNT-TC-1A in MT)

WITNESS SIGNATURE:

DISCLAIMER As the use of these products are beyond the control of Holloway Houston, Inc., the purchaser and/or end user is solely responsible for the usability and suitability of these products.

Breaux Machine Works LP

PO # 751735 Item 1

P/N 10566166-300

SN/LN # 751735-1-1 thru 751735-1-4

SIG. [Signature]



Jeremy Youngblood

Certificate of Conformance



Houston Plating & Coatings, LLC.
Houston Plating & Coatings, LLC.
Electroless Nickel Plating / Spray Coatings

2622 Wilson Rd
Humble, TX 77396
Phone: (713) 946-8920
Fax: (713) 946-8487
www.houstonplating.com

Customer:	P. O. Number:	Order No:
BREAUX MACHINE WORKS	91870	607142

We certify that all the parts listed were prepared and processed to conform 100% to drawing specifications, applicable standards, Engineering Specifications, and QA Procedures. Any deviations are reported in detail below:

Part or Drawing No:	Customer Ref:	Quantity:
10566166-300	PO# 751735 ITEM 1 SN# 751735-1-1 THRU 751735-1-4 JOB# 57377	4

Process Date: 3/7/2019

Expiration Date: 10/19

Process Required: Xylan 1425

To Spec: A-X040076 Rev A

Manufacture Whitford

Batch No: F-15129255

Cure Time/Temp: 450°F FOR 10 MIN

DFT: 0.95 MIL

ENPMils: NA

Notes:

CURE TEST: PASS

VISUAL INSPECTION: PASS

Quality, Assurance Manual Rev: 17 Date: 11/2018

DATE: 3/7/2019 SIGNATURE:

Country of Origin: U.S.A.

Alberto Landois

Breaux Machine Works LP

PO # 751735 Item 1

P/N 10566166-300

SN/LN # 751735-1-1 thru 751735-1-4

Page 1 of 1 SIG.

Order Number: 607142

Specification #: A-X040076 Rev A

National Oilwell Varco Brands

Advanced Wirecloth	Mission
Aktro	Molde
Alberta Instrument	Mono
Albin's Enterprises	Monoflo
AmClyde	National
Baylor	National Oilwell
Best Flow Products	Norson
BLM	Oil Tools Solutions
Bowen	Oilwell
Brandt	Omega Pumps
Cabot	Pacific Inspection
Cardwell	PCE
Chimo Equipment	Peck-O-Matic
Continental Emsco	PEP
Cooper	Procon As
Crestex	Quality Tubing
Custom Die & Insert	Rebound Rig
DELCO	Retsco
Dreco	RMI (Rig Manufacturing International)
DSS (Drilling Support Services)	Roberts Johnson
Eastern Oil Tools	ROSS HILL
Elmar	Rucker
EMD (Electro Motive Division)	Russell Subservice
Fibercast	Sauerman
Fidmash	Shaffer
Flanagan Ironworks	Shearer
Franks	Skytop Brewster
Gardner Denver (Hoisting)	Smith Fiberglass
Gator Hawk	Specialty
Gregory	SSR
Griffith	Stålprodukter
HALCO	Star Fiberglass
Harrisburg	Tech Power
Hepburn	TEM (Tulsa Equipment Manufacturing)
HITEC	Texas Oil Tools
Houston Scientific	TS&M
Hydra Rig	Tuboscope
Ideco	Turner Oilfield Service
IPS (Integrated Power Systems)	UNIFLEX
IRI International	Unit (Cranes)
Koomey	Universal
Kremco	USF (Utility Steel Fabricators)
LOIS ALLIS	Varco
Lucker	Vector
M & W	Versatech
M/D Totco	Western Oilfield Engineering
Mathey	Wheatley Gaso
MATTCO	Wildcat Services
McElroy Marine Machinery	Wilson
Miller Oilfield	Woolley

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