



QUALITY DOCUMENT



HYDRIL 29-1/2" 500 "MSP" DIVERTER
S/N-46528 , P/N- 1002660
QTY: 01 Assy.

CUSTOMER : NOBLE HOLDING LLC,UAE
WEIR JOB No. : 38466, CO No.: 0020029053
CUSTOMER PO : 4700434358 , DATE : 18 JULY 2016



QUALITY DOCUMENT

INDEX SHEET / CHECK LIST

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02	WEIR OIL & GAS CERTIFICATE OF CONFORMANCE	✓
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03	MAGNETIC PARTICLE INSPECTION REPORT – FINAL	✓
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06	POST WELD HEAT TREATMENT CHART	
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CUSTOMER : NOBLE HOLDING LLC,UAE

WEIR JOB No. : 38466, CO No.: 0020029053

CUSTOMER PO : 4700434358 , DATE : 18 JULY 2016

GE OIL & GAS
CERTIFICATE OF CONFORMANCE



Authorized Service Provider



Certificate of Conformance Repaired Equipment

Certificate #	WEIR-GEEQUIP-CERT-03
Customer Name:	NOBLE HOLDING LLC , UAE
Rig Name:	N/A
Sales Order Number:	WO-38466,CO-0020029053
Customer Purchase Order:	4700434358 , DT: 18 JULY 2016
Customer Asset No:	N/A
Description of Equipment:	HYDRIL 29-1/2" 500 "MSP" DIVERTER
Equipment Serial Number:	46528
Equipment Part Number:	1002660
Date of Remanufacture/Repair:	31 AUG 2016
Equipment Pressure Rating:	500 PSI
Equipment Test Pressure:	750 PSI
Code(s), Standard(s) or Specification(s) Applied:	NACE MR0175
Industry Code(s), Standard(s) or Specification(s) Applied:	HYDRIL SPECIFICATION

Weir Engineering Services Co., Dubai certifies that the product(s) identified above was inspected and repaired/~~remanufactured~~ in compliance to the GE's standards and specifications, and other standards and specifications as listed above. GE is not in control of operation or maintenance of equipment once returned to the customer. Any modifications made to the equipment after issuance of this COC is at the risk of the customer.

Weir Engineering Services Co., Dubai retains supporting documentation for a period of time as specified in the applicable standards, which is available on request. The Sales Order includes the General Terms and Conditions, and the product described above is covered exclusively by the one year warranty set forth in the General Terms and Conditions. The product is subject to the limitations and exclusions of warranty and liability as detailed in the General Terms and Conditions or such other separate applicable contract that may be agreed between the parties. **Weir Engineering Services Co., Dubai** assumes customer has maintained and made available to **Weir Engineering Services Co., Dubai** traceability in accordance to the codes, standards or specifications referenced above. Any historical or present deviation from traceability and equipment operation is at the sole risk of the customer.

Kanniah Alagarsamy
QA/QC Manager

Signature:

Date:



WEIR OIL & GAS
CERTIFICATE OF CONFORMANCE



CERTIFICATE OF CONFORMANCE

Certificate No. : CC / 16 / 08 / 17548

Date : 31st AUG 2016

Customer Name	: NOBLE HOLDING LLC,UAE
Customer P.O. No.	: 4700434358 DT: 18 JULY 2016
WEIR CO Number	: 0020029053
WEIR Job Number	: 38466
Applicable specs	: HYDRIL HEMPS, NACE MR 0175-2015
Item Description	: HYDRIL 29-1/2" 500 "MSP" DIVERTER
Serial No.(S)	: 46528
Part / OEM ID No.(S)	: 1002660
Quantity	: 1 Assy.

Statement of Conformance & Scope of work

We certify that the subject item has been **repaired/re-manufactured**; Sealing areas of BOP Body & Inner sleeve were coated with xylan-1052 as per Hydril specification. BOP assembled with **Customer free issued** used Packing element, New Seal kit, and New Screw cap–Inner sleeve. BOP pressure tested & Proof load tested satisfactorily in accordance with latest Hydril specifications.

Certification Package Includes

OEM Certificate Of Conformance, WEIR Certificate Of Conformance, Pressure Test Report & Charts, Weld Inspection Report, NDE (MT) Reports, Hardness Test Report, Proof Load Test Report & OEM spare certificates.

NOTE: This coc meets the repaired/re-manufactured equipment and all of its component parts meet the requirements of the original product definition & fulfills the requirements of the purchase order

Authorized By : For Weir Engineering Services Co (Dubai)
Title : QA/QC Manager



Name/Sign : Kanniah Alagarsamy
Date : 31st AUG 2016

**MAGNETIC PARTICLE INSPECTION
REPORTS – FINAL**



WEIR ENGINEERING SERVICES CO., DUBAI

API Q1 9th Ed., ISO 9001:2008, ISO 14001:2004 & OHSAS 18001: 2007 CERTIFIED COMPANY

MAGNETIC PARTICLE TEST REPORT

CUSTOMER	: NOBLE HOLDING LLC,UAE	REPORT NO.	: 38466-MT-01
WO NO.	: 38466	TEST DATE	: 24.08.2016
ITEM DETAIL:	: HYDRIL 29-1/2" 500 "MSP" DIVERTER	QTY	: 01 Assy.
SERIAL/HEAT/IDENTITY NO.	: 46528	DRAWING NO.	: AS PER WIR
MATERIAL SPECIFICATION	: P1 MATERIAL		
REFERENCE PROCEDURE	: HEMPS 10.202 REV-M	ACCEPTANCE CODE / SPEC.	: API SPE 16A ED.3

TEST EQUIPMENT:		TECHNIQUE /METHOD:		CONSUMABLES BRAND					
AC Yoke: M 750 / 17295 / M955	X	Wet Non-fluorescent	X	PRODUCT	MAGNAFLUX		BATCH NUMBER	EXP. DATE	LIGHT INTENSITY
COIL: MNG11L01		Wet Fluorescent		Magnetic ink (Black):	7HF	X	1507301	08-'18	1200
DC Yoke:		Dry Non-fluorescent		Contrast aid (White):	WCP-2	X	151002	04-'18	Lux / μ W/Cm ²

EXAMINED PRODUCT CONDITION:

PLATE		TUBE/PIPE		FORGING		CASTING		WELDS		OTHER :	
As Rolled		As drawn		Forge finished		Cast finished		As welded		As Received	
Machined		Machined		Machined		Machined		Machined	X	PWHT / Stress relieved	
Heat treated		Heat treated		Heat treated		Heat treated		PWHT		Grit blasted	

COVERAGE/AREAS EXAMINED:

X	100% All accessible surfaces	: YES, 100% Internal and External Surfaces of the Components (BODY & INNER SLEEVE) after Weld repair & Final machining		
	Weld Joint(s)	: NA		
X	Specific locations (Detail)	: Weld joints & Lifting Points around 4 Nos pad eyes after Proof load Test.	EXAMINATION STAGE	
			Initial (As Received)	
			Intermediate	
			Final	X

EXAMINATION RESULTS:

X	Acceptable	: No Relevant Indication Observed at the time of Inspection
	Not Acceptable (Specify reason)	: NA
	NCR No. (If any)	: NA
	Limitations (If any)	: NA

NDT Level-II Inspector Name : SIVAKUMAR.K LEVEL II Certificate No. : WES/DXB/14/047 <div style="text-align: center;"> </div> Revised Name : SURESH.M.R Date : 24.08.2016	Witnessed /Reviewed By : For Client / TPI Sign : Name : Date :
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**HARDNESS TEST
REPORTS- FINAL**



WEIR ENGINEERING SERVICES CO., DUBAI

API Q1 9th Ed., ISO 9001:2008, ISO 14001:2004 & OHSAS 18001: 2007 CERTIFIED COMPANY

HARDNESS TEST REPORT

CUSTOMER	: NOBLE HOLDING LLC,UAE	REPORT NO.	: HT/38466/02
WO NO.	: 38466	TEST DATE	: 24 AUG 2016
ITEM DETAIL:	: HYDRIL 29-1/2" 500 "MSP" DIVERTER	QTY	: 01 Assy.
SERIAL/HEAT/IDENTITY NO.	: 46528	DRAWING NO.	: AS PER WIR
MATERIAL SPECIFICATION	: P1 MATERIAL	PART TEMPERATURE	: 26°C
SPECIFICATION	HEMPS 10.801 Latest Revision	✓	API 6A Latest Revision
		✓	LIII-003 Latest Revision


TEST EQUIPMENT:		S/N	CAL.DUE	HARDNESS REPORTED IN		CONDITION OF TEST SURFACE:			
Affri - Digital				Brinell (HB)	✓	Received		Welded & HAZ	✓
King tester	✓	M1026	26.08.16	Vickers (HV)		Grit Blasted		Before PWHT/Stress Relieved	
Stationary Type									
Shear Pin				Rockwell C (HRC)		Machined	✓	After PWHT/Stress Relieved	
Stage Microscope S/N : M 927			Accuracy : 0.01mm			Cal. Due : 18 FEB 2017			
Load Applied in : 3000KG			Type & Ball Size of Indenter : CARBIDE GR -10 & 10mm						

HARDNESS RESULTS (VALUES/NUMBER)

S/N / PART	REQUIRED HARDNESS IN BHN	OBTAINED HARDNESS IN BHN	RESULTS	REMARKS
BODY	140-197	159	ACCEPTABLE	ON BOTTOM FLG FACE
	140-197	149	ACCEPTABLE	ON BOTTOM FLG OD
	140-197	159	ACCEPTABLE	ON BODY
HEAD	N/A	N/A	N/A	N/A
INNER -SLEEVE	140-197	156	ACCEPTABLE	ON OD
PISTON	N/A	N/A	N/A	N/A

SKETCH IF REQUIRED.

COMMENTS : The above mentioned hardness values are as found [During Final Inspection of BOP](#)

INSPECTED BY : SIGN :  NAME : SIVAKUMAR.K DATE : 24 AUG 2016	WITNESSED/ REVIEWED BY : FOR CLIENT / TPI SIGN : NAME : DATE :
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**PRESSURE TEST CERTIFICATE
& CHARTS -
FUNCTION & WELL BORE TESTS**



PRESSURE TEST CERTIFICATE

CERTIFICATE No.	: PT/38466/01	TEST DATE	: 27 AUG 2016
REFERENCE CHART No.	: AS PER BELOW		
CUSTOMER	: NOBLE HOLDING LLC,UAE		
JOB No.	: 38466 , CO No.: 0020029053		
ITEM DETAIL	: HYDRIL 29-1/2" 500 "MSP" DIVERTER		
SERIAL/IDENTITY No.	: 46528	QTY.:	1 ASSY.
TEST SPECIFICATION	: HYDRIL MSP ASSY. TEST PROCEDURE		

DESCRIPTION OF PRESSURE TEST

1. CHART # PT/16/08/38466-1 : 2275 PSIG CLOSING CHAMBER PRESSURE TEST (PISTON UP) 3 & 15 Minutes
2. CHART # PT/16/08/38466-2 : 500 PSIG WELL BORE TEST - 10 Minutes

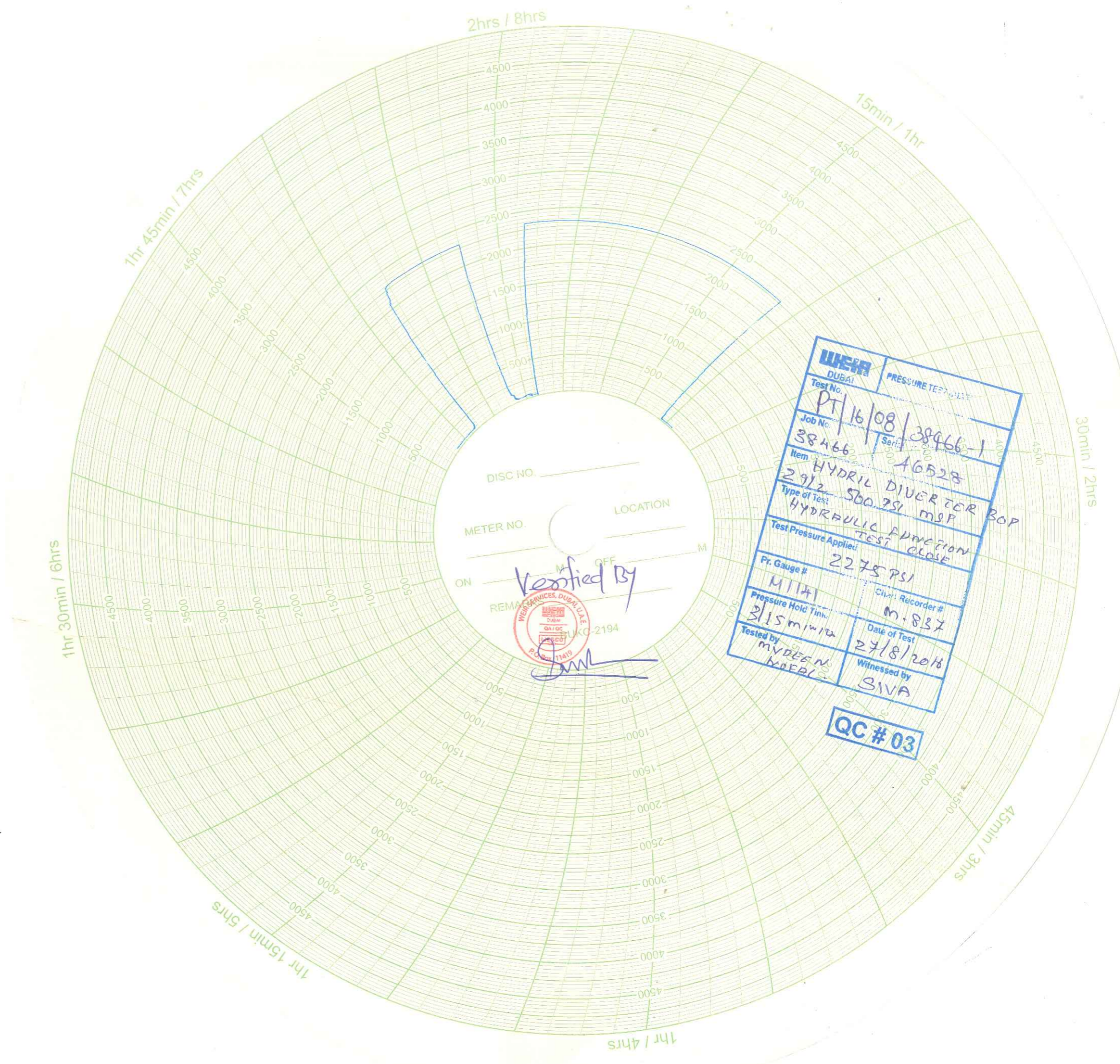
<u>TEST MEDIUM</u>	<u>PRESSURE APPLIED</u>	<u>DURATION OF HOLDING</u>
1) HYDRAULIC SYSTEM TEST WITH OIL 2) WELLBORE TEST WITH WATER	AS MENTIONED ABOVE	AS MENTIONED ABOVE

CHART RECORDER #	RANGE	CAL. DATE	CAL.DUE
: M-956	: 0-1,000 PSI	: 19 JUL 2016	: 19 OCT 2016
: M-837	: 0-5000 PSI	: 13 JUL 2016	: 13 OCT 2016
PRESSURE GAUGE #	RANGE	CAL. DATE	CAL.DUE
: M-1142	: 0-1,000 PSI	: 21 AUG 2016	: 21 NOV 2016
: M-1141	: 0-5000 PSI	: 21 AUG 2016	: 21 NOV 2016

TEST RESULT / OBSERVATIONS

NO LEAKAGE OR PRESSURE DROP NOTICED DURING ANY PRESSURE TESTS. TESTS FOUND ACCEPTABLE

For	: WEIR ENGINEERING SERVICES	Witnessed/ Reviewed By Sign	: FOR TPI / CLIENT : --
Tested By	: MYDEEN /NAUFAL		
Witnessed By	: WESCO QA/QC		
Reviewed By			
Name	: SURESH.M.R	Name	
Date	: 21.08.2016	Date	



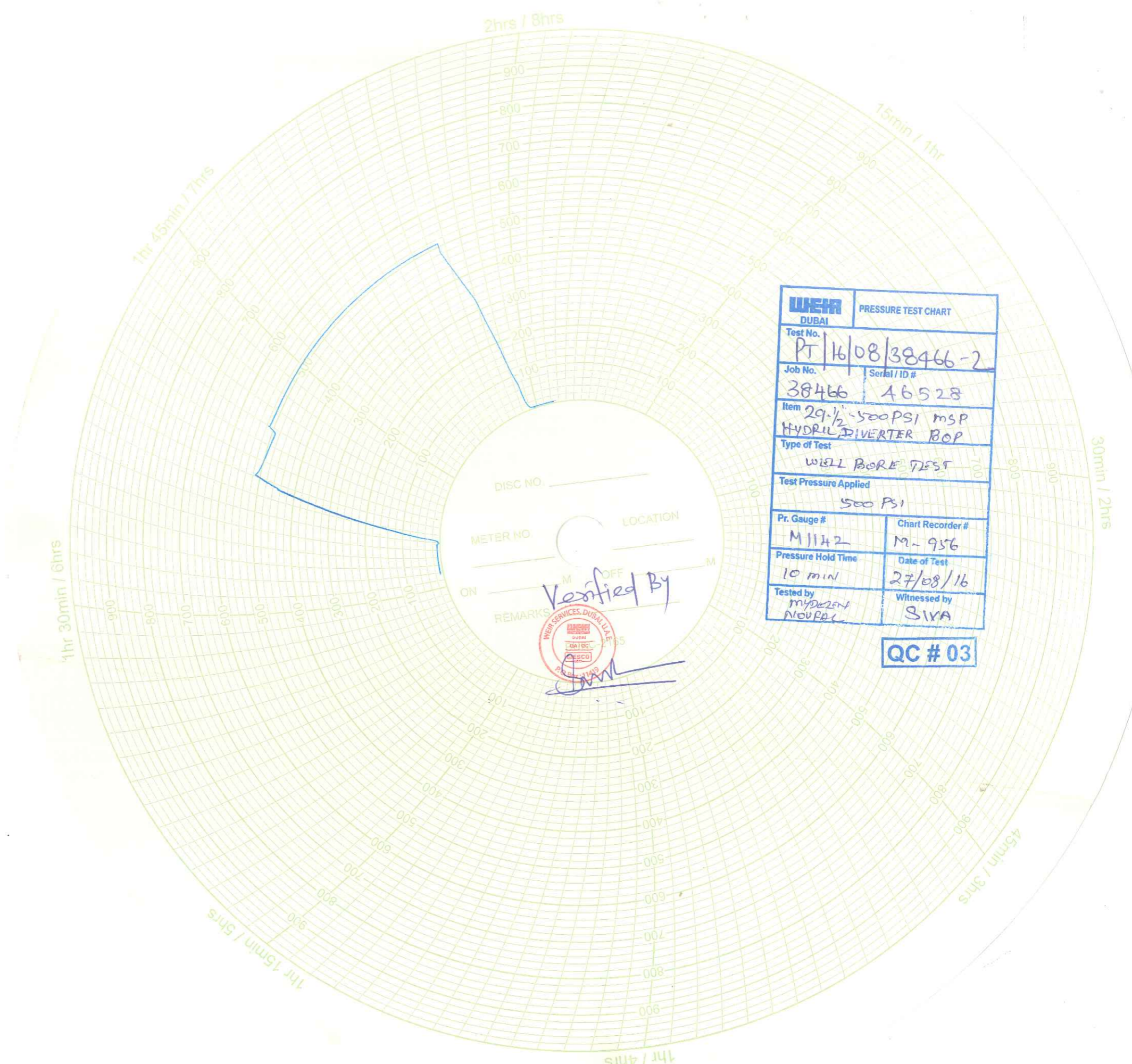
DISC NO. _____
 METER NO. _____ LOCATION _____
 ON _____ OFF _____
 REMARKS _____

Verified By




WEIR DUBAI		PRESSURE TEST	
Test No.	PT/16/08/38466-1	Serial	38466-1
Job No.	38466	Item	2912 HYDRIL DIVER TOR BOP
		Type of Test	500 PSI MSP
		Test Pressure Applied	TEST CLOSE
Pr. Gauge #	2275 PSI	Chart Recorder #	M. 837
Pressure Hold Time	3/15 min/w/d	Date of Test	27/8/2016
Tested by	MUHAMMAD MAJID	Witnessed by	SIVA

QC # 03



WEIR		PRESSURE TEST CHART	
DUBAI			
Test No. PT/16/08/38466-2			
Job No. 38466		Serial / ID # 46528	
Item 29-1/2" - 500PSI MSP HYDRUL DIVERTER BOP			
Type of Test WELL BORE TEST			
Test Pressure Applied 500 PSI			
Pr. Gauge # M1142		Chart Recorder # M-956	
Pressure Hold Time 10 min		Date of Test 27/08/16	
Tested by MUDEZEN NOURAL		Witnessed by SIVA	

DISC NO. _____
 METER NO. _____ LOCATION _____
 ON _____ OFF _____
 REMARKS **Verified By**




QC # 03

WELD INSPECTION REPORT



WELD INSPECTION RECORD

Job No. : WO-38466			Item Description: HYDRIL 29-1/2" 500 "MSP" DIVERTER S/N-46528				REPORT No. : WIR/38466/01 PAGE : 1 of 1
Client : NOBLE HOLDING LLC, UAE							
Drawing # : 1002661(A),3130214(A2)							
SL	ACTIVITIES CARRIED OUT	REF. WPS #	WELDING CONSUMABLE	WELDER #	PREHEAT / INTERPASS TEMP	PWHT	NDT (After PWHT & Re-machining)
1	<u>BODY</u> ➤ SAW Weld Overlay on Large seal Dia. after rough out.	11.114-3180-04 Rev. F	LINCOLNWELD L-61 + LINCOLNWELD 882 FLUX BAT-FISW 161821 + 14413859	W-23	93-315 °C	N/A	➤ 100% MPI on weld-overlaid & Weld join areas ➤ Hardness Test on weld repaired areas
2	<u>HEAD</u> ➤ N/A	N/A	N/A	N/A	N/A	N/A	N/A
3	<u>PISTON</u> ➤ N/A	N/A	N/A	N/A	N/A	N/A	N/A
4	<u>INNER SLEEVE</u> ➤ SAW Weld Overlay on Large seal Dia. after rough out.	11.114-3180-04 Rev. F	LINCOLNWELD L-61 + LINCOLNWELD 882 FLUX BAT-FISW 161821 + 14531172	W-12	93-315 °C	N/A	➤ 100% MPI on weld-overlaid & Weld join areas ➤ Hardness Test on weld repaired areas
REMARKS: All the welded areas were carried out a visual & Dimensional inspection, and it is free from any other abnormalities and conforming to the applicable drawings and standards.							
<u>Applicable Standard & Procedure:</u> 1. WPS's as mentioned above 2. HEMPS 10.107 Latest rev (Visual Inspection)			For : WEIR QA/QC Name : SURESH.MR  Sign : Date : 25.08.2016			For : Client/TPI Name : Sign : Date :	

XYLAN COATING REPORTS

**WEIR ENGINEERING SERVICES CO.**AN ISO 9001: 2008, ISO 14001: 2004,
OHSAS 18001: 2007 CERTIFIED COMPANY**XYLAN COATING REPORT**

CERTIFICATE No.	: XC-34866-01	DATE	: 25.08.2016
CUSTOMER	: NOBLE HOLDING LLC,UAE		
JOB NO.	: WO-38466, CO No.: 0020029053		
ITEM DETAIL	: HYDRIL 29-1/2" 500 "MSP" DIVERTER – BODY & OUTER SLEEVE		
SERIAL/IDENTITY NO.	: 46528	QTY	: 1 EACH
APPLICABLE PROCEDURE	: HEMPS 5.604 Rev. A5		

SURFACE PREPARATION

SURFACE PREPARED TO		01	02	03	04	05
: ISO 8503-1 SEGMENT-1						
SURFACE AMPLITUDE / ANCHOR PROFILE	: 18 MICRONS	AMBIENT TEMP. °C	36 °C			
ABRASIVE GRADE / TYPE	: ALUMINUM OXIDE (AL2O3)	RELATIVE HUMIDITY %	24 %			
GRIT SIZE	: F-36	STEEL TEMP. °C	38 °C			
SOLVENT USED	: WHITFORD 93	DEW POINT °C	15 °C			
SURFACE CLEALNESS	: WHITE METAL FINISH					
Minimum 3 locations for every 5m ² or Minimum 5 spots if area is less than 5m ² .		Above readings to be taken every 3-1/2 Hours				


COATING

APPLICATION METHOD:		AIRLESS		CONVENTIONAL SPRAY		X	BRUSH		ROLLER	
COAT	SYSTEM	BATCH NUMBER	CURING TEMP. & TIME	DFT REQUIRED		ACTUAL DFT		TOTAL COATING THICKNESS		
I	Primer P-92 (Xylan 4090)	U-20004940	N/A	Total 20-25 Microns		22 Microns Avg.		38 Microns Avg		
II	Xylan 1052	U-20001820	232°C - 301°C for 2 Hrs	Total 5--20 microns		16 Microns Avg.				

INSPECTION

COAT	VISUAL	APPEARANCE	CURE TEST	Adhesion (cross hatch & cello tape)	Adhesion (knife scratch & thumb nail rub test)
Xylan 4090	Satisfactory	Smooth	No white precipitation or stain	N/A	Accept
Xylan 1052	Satisfactory	Smooth	No white precipitation or stain	N/A	Accept

Remarks :

For	: WEIR ENGINEERING SERVICES Co.	Witnessed/ Reviewed By	: Client / TPI
Coating by	: KRISANT	Sign	: --
Reviewd By :			
Name& Sign	: SURESH.M.R	Name	:
Date	: 25.08.2016	Date	:

LIFTING PAD EYES
PROOF LOAD TEST REPORT



LOAD TEST REPORT

LIFTING GEAR/APPLIANCE REGISTERED CERTIFICATE OF TEST/THROUGH EXAMINATION INCLUDING PAD EYE

Certificate No.: **38466-LT-01**

Date: **29.08.2016**

Weir Ref. No: **WO-38466**

CO No.: **0020029053**

Customer Name: **NOBLE HOLDING LLC,UAE**

Description of the Equipment: **HYDRIL 29-1/2" 500 "MSP" DIVERTER**

Serial No: **46528**

Customer Asset No: **N/A**

Load cell S/N : **M 783**

Load cell capacity : **25 TON**

Calibration Due : **14.12.2016**

Test Specification / Procedure : **X-1010301 REV.A2 & WEIR LIII-030 REV.2 PROCEDURE**

NDE (MPI / DPI) inspection Result :- Before load test:

After Load test:

Working Load Limit of Appliance in Tonne: **N/A**

Proof /Test Load in Tonne (if applicable): **Load Tested @ 2 Points to 12 TON**

Test Summary & Result :

Inspection carried out as per Regulation 9 of Lifting Operations and lifting equipment regulations 1998 (LOLER98)-UK and this is to certify that the undersigned inspector found the above mentioned appliance safe for its intended use within the limits specified providing there is continuous maintenance applied and qualified operators employed.

VALIDITY :

Validity of this certificate is 6 (SIX) months from the date of Inspection.

For : **Weir Engineering Services**

Tested By : **RAJENDRAN**

Witnessed By : **Weir QA/ QC**

Sign

Name : **SURESH.M.R**

Date : **29.08.2016**



Witnessed / Reviewed By :

Sign :

Name :

Date :

**HYDRIL SPARE PARTS
CERTIFICATE OF CONFORMANCE**



HYDRIL®

PO Box 60458/Houston, TX 77205-0458
 3300 North Sam Houston Parkway E. (77032-3411)
 Telex: 168905 FAX: (281) 985-3457
 (281) 449-2000

Date: 24.08.2016

MANUFACTURER'S CERTIFICATE OF CONFORMANCE

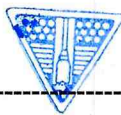
Customer: WESCO DUBAI
 Customer P.O. Number: 5058115
 Hydril S.O Number: WDO - 76821
 Work Order Number : 38466

<u>Item No.</u>	<u>Part Number</u>	<u>Part Description</u>	<u>Qty</u>
1	1900049-12016	Screw, Cap .75-10 X 2.00 A449 ZN F/Hydril MSP 29-1/2" 500 PSI Diverter	5

WEIR OIL & GAS		WESCO DUBAI	
SIGN: TANWIR	P.O. # 5058115		
DATE: 30/8/16	REF:		
QA/QC REVIEWED & ACCEPTED			
JOB# 38466			

QC # 02

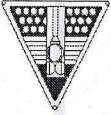
We certify that these parts/units were manufactured and processed in the United States of America and in accordance with the sales order and the applicable Hydril standards and specifications.



HYDRIL®

for Hydril, USA

P.O.Box : 60458 / Houston, Tx: 77205 - 0458
 3300 North Sam Houston Parkway E. (77032 - 3411)



HYDRIL®

PO Box 60458/Houston, TX 77205-0458
3300 North Sam Houston Parkway E. (77032-3411)
Telex: 168905 FAX: (281) 985-3457
(281) 449-2000

Date: 15.08.2016

MANUFACTURER'S CERTIFICATE OF CONFORMANCE

Customer: WESCO DUBAI
WORK ORDER NUMBER - 38466
Customer P.O. Number: 5058115
Hydril S.O Number: WDO - 76821

<u>Item No.</u>	<u>Part Number</u>	<u>Part Description</u>	<u>Qty</u>
1	1900049-12016	Screw, Cap .75-10 X 2.00 A449 ZN F/Hydril MSP 29-1/2" 500 PSI Diverter	7



SIGN: <i>T. Anwar</i>	P.O. #	<i>5058115</i>	
DATE: <i>15/8/16</i>	REF:		
QA/QC REVIEWED & ACCEPTED			
JOB#	<i>38466</i>		

QC # 02

We certify that these parts/units were manufactured and processed in the United States of America and in accordance with the sales order and the applicable Hydril standards and specifications.

for Hydril, USA



P.O.Box : 60458 / Houston, Tx: 77205 - 0458
3300 North Sam Houston Parkway E. (77032 - 3411)

**NAME PLATE
PHOTOGRAPH**



HYDRIL

RMFR/RPR

WO-38466-RPR

DATE

AUG-2016

RMFR/RPR NAME

WEIR OIL & GAS DUBAI

WESCO

WEIR

WEIR ENGINEERING SERVICES CO.

AN ISO 9001:2008, ISO 14001: 2004, OHSAS 18001: 2007 CERTIFIED COMPANY

WO #:

WO#38466

DESCRIPTION:

29-1/2"500 M&P DIVERTER

M A W P:

500 PSI

EQUIPMENT SERIAL #:

46528

CUSTOMER ASSET #:

N/A

DATE:

AUG-2016

WEIR ENGINEERING SERVICES Co. P.O. BOX 11419, DUBAI, U.A.E. Tel: +971 4 8080 000, Fax: +971 4 8838 595
Website: www.weirollandgas.com, Email: weirdubai@weirollandgas.com