

**AI TAKAMUL COMPANY FOR ENGINEERING TESTS
AND PROFESSIONAL SAFETY LIMITED**

Basra, North Rumaila, Quality Control Yard - Iraq

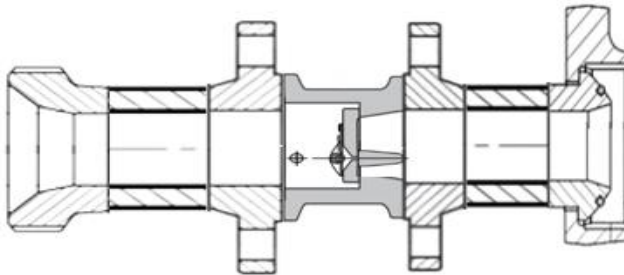


CERTIFICATE OF QUALIFICATION VISUAL AND WITNESS PRESSURE TEST

THIS REPORT COMPLIES WITH RECOGNIZED INTERNATIONAL STANDARDS & TECHNICAL REQUIREMENTS

CLIENT:	HALLIBURTON	REPORT No.:	QC-25-02-TSS-NDT-083
LOCATION:	TSS WORKSHOP & INSPECTION TEST AREA	JOB NO :	11022025
WORK ORDER #	***	SPECIFICATION:	ASME B31.1 / CUSTOMER SPECIFICATION
DATE OF INSPECTION :	Wednesday, February 12, 2025	INSP. DUE DATE:	Monday, August 11, 2025
TYPE OF INSPECTION:	VISUAL INSPECTION AND WITNESS PRESSURE TEST		

DESCRIPTION:	CHECK VALVE 3" 600 CL (FLAPPER VALVE)	SERIAL NO:	122
LOW PRESSURE TEST	100 psi	HOLDING TIME:	05 MINUTES
MAXIMUM WORKING PRESSURE TEST	1440 psi	HOLDING TIME:	15 MINUTES
Pump NO.::	EQ NO:13119220	CAL DUE DATE:	19.AUG.2025
Pressure Gauge NO.:	218230280019	CAL DUE DATE:	06.MAR.2025



ONLINE TRACEABILITY

INSPECTION RESULT

PRESSURE TEST 1:	The Above Item was Body Tested up to 100 PSI A low Pressure Hold for 5 min And Maximum Working pressure 1440 psi Hold 15 min no Leak was Realized while testing & Pressure Was Stable Accordance To Chart Recorder Attached
PRESSURE TEST 1:	The Above Item was Flapper Tested up to 100 PSI A low Pressure Hold for 5 min And Maximum Working pressure 1440 psi Hold 15 min no Leak was Realized while testing & Pressure Was Stable Accordance To Chart Recorder Attached

PERSON DETAILS

REVIEW BY

INSPECTOR NAME:	M. Shabaz Ahmed	SENIOR INSPECTOR:	NAVEED HUSSAIN	CLIENT:	
QUALIFICATION:	ASNT CP-105	INSPECTION SUPERVISOR:	HANI ALI	HB&SIGN	
SIGNATURE & STAMP:				DATE:	

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Basra, North Rumaila, Quality Control Yard - Iraq

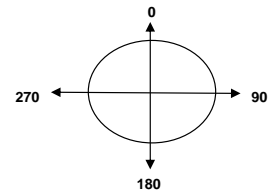
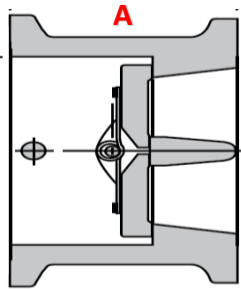
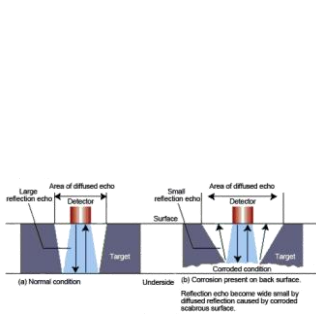


CERTIFICATE OF QUALIFICATION VISUAL AND MAGNETIC PARTICLE INSPECTION AND ULTRASONIC THICKNESS GAUGING INSPECTION

THIS REPORT COMPLIES WITH RECOGNIZED INTERNATIONAL STANDARDS & TECHNICAL REQUIREMENTS

CLIENT:	HALLIBURTON	REPORT NO.:	QC-25-02-TSS-NDT-084
LOCATION:	TSS YARD	JOB NO.:	11022025
WORK ORDER #	*****	STANDARD:	ASTM E709 & ASTM E797
DATE OF INSPECTION:	Tuesday, February 11, 2025	NEXT INSPECTION DATE:	Sunday, August 10, 2025
TYPE OF INSPECTION:	VISUAL INSPECTION AND MAGNETIC PARTICLE INSPECTION AND ULTRASONIC THICKNESS GAUGING		

DESCRIPTION:	CHECK VALVE 3" 600 CL (FLAPPER VALVE)	SERIAL NO.:	122
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ONLINE TRACEABILITY

* ALL READINGS IN INCH
**MINIMUM THICKNESS PROVIDED BY CUSTMER

ANGLE	THICKNESS AT POINTS		MINIMUM THICKNESS IN INCHES
	A		
0°	0.878		0.400 INCH
90°	0.872		
180°	0.887		
270°	0.871		

INSPECTION RESULT		
VT & MPI	Accepted	According to ASTM E709
UT	Accepted	According to ASTM E 797

Inspection Evaluation

MPI -The Above Item Has No Significant Discontinuous At The Time Of Inspection And Found Acceptable According to ASTM E709

Note:Magnetic Particle Inspection With A/C Hand Yoke Available Areas

U.T-The Above Item Was Found Acceptable As Per ASTM E797

INSPECTION EQUIPMENT DETAILS				TECHNICAL DETAILS			
AC YOKE S.N:	201504052	CAL DUE DATE	11-Apr-25	White Contrast WCP-2	MANUFACTURE	BATCH NO	EXPIRE DATE
Digital Lux Meter WHITE LIGHT	2722003	CAL DUE DATE	13-Apr-25		Magnaflux	230408	APRIL,2026
UT THICKNESS GAUGE:	3997	CAL DUE DATE	11-Apr-25	Black Magnetic Ink 7HF	MANUFACTURE	BATCH NO	EXPIRE DATE
UT TEST BLOCK:	NoBo5087	CAL DUE DATE	12-Apr-25		Magnaflux	230604	JUNE, 2026
ASTM Test Block:	1657	CAL DUE DATE	11-Apr-25	Concentration of 7HF:		1.2 to2.4 ml/100 ml	
WHITE LIGHT INTENSITY:	3620 lux						

PERSON DETAILS		REVIEW BY			
INSPECTOR NAME:	M. Shalwan Ahmed	SENIOR INSPECTOR:	NAVEED HUSSAIN	CLIENT:	
QUALIFICATION:		INSPECTION SUPERVISOR:	HANI ALI	HB&SIGN	
SIGNATURE & STAMP:				DATE:	

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AI TAKAMUL COMPANY FOR ENGINEERING TESTS AND PROFESSIONAL SAFETY LIMITED

Basra, North Rumaila, Quality Control Yard - Iraq



CERTIFICATE OF QUALIFICATION VISUAL AND MAGNETIC PARTICLE INSPECTION AND ULTRASONIC THICKNESS GAUGING INSPECTION

THIS REPORT COMPLIES WITH RECOGNIZED INTERNATIONAL STANDARDS & TECHNICAL REQUIREMENTS

CLIENT:	HALLIBURTON	REPORT NO.:	QC-25-02-TSS-NDT-085
LOCATION:	TSS YARD	JOB NO.:	11022025
WORK ORDER #	*****	STANDARD:	ASTM E709 & ASTM E797 & API 6A
DATE OF INSPECTION:	Tuesday, February 11, 2025	NEXT INSPECTION DATE:	Sunday, August 10, 2025
TYPE OF INSPECTION:	VISUAL INSPECTION AND MAGNETIC PARTICLE INSPECTION AND ULTRASONIC THICKNESS GAUGING		

DESCRIPTION:	FLANGE: 3" 600 CL X 3" 206 WING	SERIAL NO.:	P59168-4
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(a) Normal condition: Large reflection echo, Area of diffused echo, Target, Detector.

(b) Corrosion present on back surface: Small reflection echo, Area of diffused echo, Target, Detector. Reflection echo become wide small by diffused reflection caused by corroded tubular surface.

* ALL READINGS IN INCH
**MINIMUM THICKNESS PROVIDED BY CUSTOMER

ONLINE TRACEABILITY

ANGLE	THICKNESS AT POINTS		MINIMUM THICKNESS IN INCHES
	A		
0°	0.316		0.124 INCH
90°	0.321		
180°	0.313		
270°	0.324		

INSPECTION RESULT		
VT & MPI	Accepted	According to ASTM E709
UT	Accepted	According to ASTM E 797

Inspection Evaluation

MPI -The Above Item Has No Significant Discontinuities At The Time Of Inspection And Found Acceptable According to ASTM E709
 Note:MPI Wet Fluorescent inspection Thread With UltraViolet Light
 Magnetic Particle Inspection With A/C Hand Yoke Welds & Available Areas

U.T-The Above Item Was Found Acceptable As Per ASTM E797

INSPECTION EQUIPMENT DETAILS				TECHNICAL DETAILS			
AC YOKE S.N.:	201504052	CAL DUE DATE	11-Apr-25	White Contrast WCP-2	MANUFACTURE	BATCH NO	EXPIRE DATE
Digital Lux Meter WHITE LIGHT	2722003	CAL DUE DATE	13-Apr-25		Magnaflux	230408	APRIL,2026
UT THICKNESS GAUGE:	5500391	CAL DUE DATE	11-Apr-25	Black Magnetic Ink 7HF	MANUFACTURE	BATCH NO	EXPIRE DATE
UT TEST BLOCK:	NoBo5087	CAL DUE DATE	12-Apr-25		Magnaflux	230604	JUNE, 2026
ASTM Test Block:	1657	CAL DUE DATE	11-Apr-25	Fluorescent Magnetic Ink 14HF	MANUFACTURE	BATCH NO	EXPIRE DATE
DC COIL:	22650	CAL DUE DATE	12-Apr-25		Magnaflux	230503	MAY.2026
UV BLACK LIGHT:	1898977	CAL DUE DATE	11-Apr-25	Concentration of 14HF:		0.1 to 0.4 ml/100 ml	
WHITE LIGHT INTENSITY:	3620 lux	UV BLACK LIGHT INTENSITY:	3160 μw/cm ²	Concentration of 7HF:		1.2 to2.4 ml/100 ml	

PERSON DETAILS		REVIEW BY			
INSPECTOR NAME:	M. Shalwan Ahmed	SENIOR INSPECTOR:	NAVEED HUSSAIN	CLIENT:	
QUALIFICATION:		INSPECTION SUPERVISOR:	HANI ALI	HB&SIGN	
SIGNATURE & STAMP:				DATE:	

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Basra, North Rumaila, Quality Control Yard - Iraq



CERTIFICATE OF QUALIFICATION VISUAL AND MAGNETIC PARTICLE INSPECTION AND ULTRASONIC THICKNESS GAUGING INSPECTION

THIS REPORT COMPLIES WITH RECOGNIZED INTERNATIONAL STANDARDS & TECHNICAL REQUIREMENTS

CLIENT:	HALLIBURTON	REPORT NO.:	QC-25-02-TSS-NDT-086
LOCATION:	TSS YARD	JOB NO.:	11022025
WORK ORDER #	*****	STANDARD:	ASTM E709 & ASTM E797 & API 6A
DATE OF INSPECTION:	Tuesday, February 11, 2025	NEXT INSPECTION DATE:	Sunday, August 10, 2025

TYPE OF INSPECTION: VISUAL INSPECTION AND MAGNETIC PARTICLE INSPECTION AND ULTRASONIC THICKNESS GAUGING

DESCRIPTION:	FLANGE: 3" 600 CL X 3" 206 THREAD	SERIAL NO.:	P58410-2
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(a) Normal condition: Large reflection echo, Area of diffused echo, Detector, Target.

(b) Corrosion present on back surface: Small reflection echo, Area of diffused echo, Detector, Target. Reflection echo become wide small by diffused reflection caused by corroded tubular surface.

* ALL READINGS IN INCH
**MINIMUM THICKNESS PROVIDED BY CUSTOMER

ONLINE TRACEABILITY

ANGLE	THICKNESS AT POINTS		MINIMUM THICKNESS IN INCHES
	A		
0°	0.307		0.124 INCH
90°	0.314		
180°	0.303		
270°	0.309		

INSPECTION RESULT		
VT & MPI	Accepted	According to ASTM E709
UT	Accepted	According to ASTM E 797

Inspection Evaluation

MPI -The Above Item Has No Significant Discontinuities At The Time Of Inspection And Found Acceptable According to ASTM E709

Note:MPI Wet Fluorescent inspection Thread With UltraViolet Light

Magnetic Particle Inspection With A/C Hand Yoke Welds & Available Areas

U.T-The Above Item Was Found Acceptable As Per ASTM E797

INSPECTION EQUIPMENT DETAILS				TECHNICAL DETAILS			
AC YOKE S.N.:	201504052	CAL DUE DATE	11-Apr-25	White Contrast WCP-2	MANUFACTURE	BATCH NO	EXPIRE DATE
Digital Lux Meter WHITE LIGHT	2722003	CAL DUE DATE	13-Apr-25		Magnaflux	230408	APRIL,2026
UT THICKNESS GAUGE:	5500391	CAL DUE DATE	11-Apr-25	Black Magnetic Ink 7HF	MANUFACTURE	BATCH NO	EXPIRE DATE
UT TEST BLOCK:	NoBo5087	CAL DUE DATE	12-Apr-25		Magnaflux	230604	JUNE, 2026
ASTM Test Block:	1657	CAL DUE DATE	11-Apr-25	Fluorescent Magnetic Ink 14HF	MANUFACTURE	BATCH NO	EXPIRE DATE
DC COIL:	22650	CAL DUE DATE	12-Apr-25		Magnaflux	230503	MAY.2026
UV BLACK LIGHT:	1898977	CAL DUE DATE	11-Apr-25	Concentration of 14HF:		0.1 to 0.4 ml/100 ml	
WHITE LIGHT INTENSITY:	3620 lux	UV BLACK LIGHT INTENSITY:	3160 μw/cm ²	Concentration of 7HF:		1.2 to 2.4 ml/100 ml	

PERSON DETAILS		REVIEW BY		
INSPECTOR NAME:	M. Shalwan Ahmed	SENIOR INSPECTOR:	NAVEED HUSSAIN	CLIENT:
QUALIFICATION:		INSPECTION SUPERVISOR:	HANI ALI	HS&SIGN
SIGNATURE & STAMP:				DATE:

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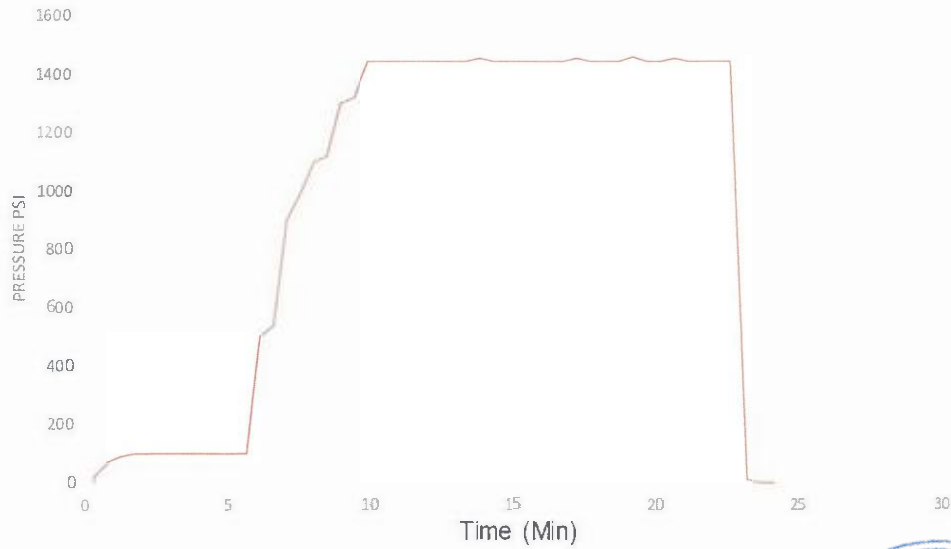


Data Collection Report

Gauge Information	
Serial Number	218230280019
Model	ADT680W-25-GP30K-PSI-AM
Calibration Date	07-Mar-24
Range	30000 PSI

Run Info	
Start Time	9:02 AM
Stop Time	9:25 AM
Test Date	12-Feb-25
EQ NUMBER	122

READING



TESTED BY: Feras Abbas
APPROVED BY: Khaldoon Asad
COMMENTS: Body Test

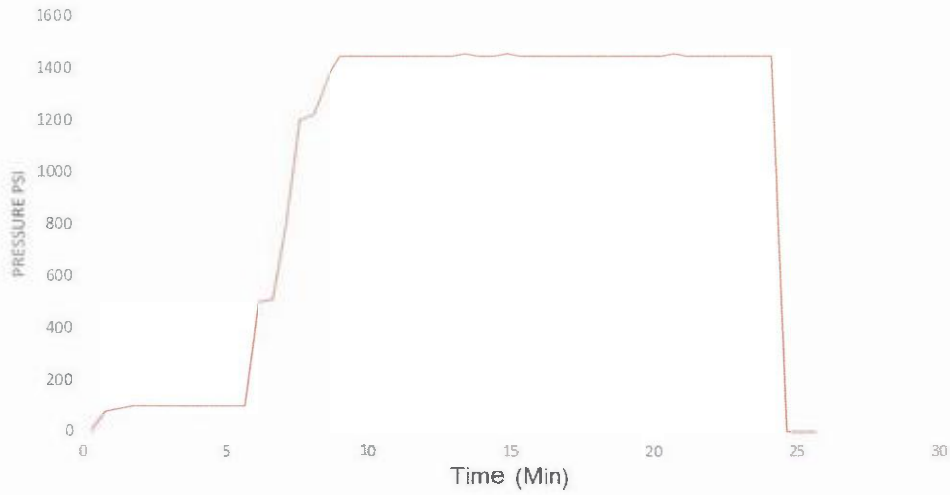


Data Collection Report

Gauge Information	
Serial Number	218230280019
Model	ADT680W-25-GP30K-PSI-AM
Calibration Date	07-Mar-24
Range	30000 PSI

Run Info	
Start Time	9:31 AM
Stop Time	9:56 AM
Test Date	11-Feb-25
EQ NUMBER	122

READING



TESTED BY: Feras Abbas
APPROVED BY: Khaldoon Asad
COMMENTS: Flapper Test

SIGN: 
SIGN: 