

AI TAKAMUL COMPANY FOR ENGINEERING TESTS AND PROFESSIONAL SAFETY LIMITED

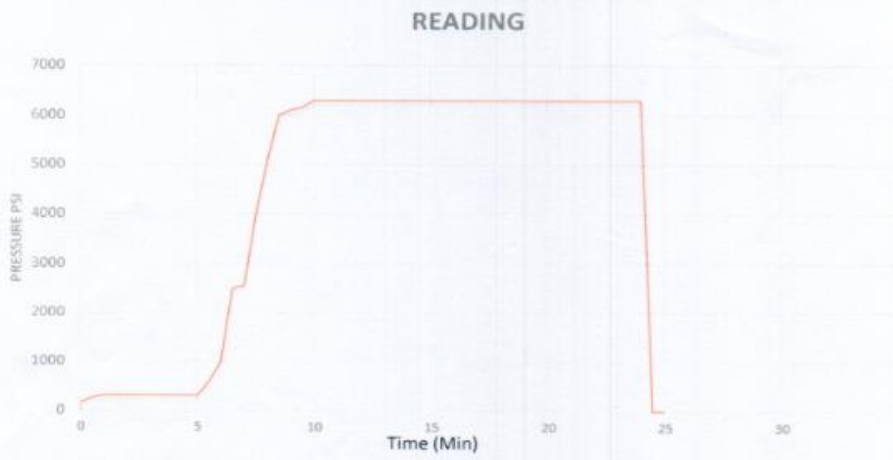
Basra, North Rumaila, Quality Control Yard - Iraq



CERTIFICATE OF VISUAL INSPECTION & PRESSURE TEST WITNESS

THIS REPORT COMPLIES WITH RECOGNIZED INTERNATIONAL STANDARDS & TECHNICAL REQUIREMENTS

CLIENT:	HALLIBURTON	REPORT NO.:	QC-24-12-TSS-NDT-01
LOCATION:	TSS YARD	HALL DOC SPECIFICATION:	GD-GL-HAL-PSL-502 REV. A, LEVEL A
WORK ORDER #	327338559		
DATE OF INSPECTION:	Monday, December 9, 2024		
TYPE OF INSPECTION:	VISUAL INSPECTION & PRESSURE TEST WITNESS		
TOOL DESCRIPTION	SPM PUMP FLUID END 4 1/2"	UNIT NO:	SAP 12271324
MANUFACTURER:	SPM	SERIAL NO:	F0106-3172
MODEL NO.:	TWS600S	FLUID END PUMP WORKING PRESSURE :	6,290 PSI / 434 BAR
Max. Working Pressure:	6,290 psi	Holding Time:	15 Minutes
Low pressure:	300 psi	Holding Time:	05 Minutes
Pump S.N.:	13119220 Cal Due 19-Aug-2025	Pressure Gauge NO.:	468066 Cal Due 19-July-2025



PRESSURE TEST WITNESS RESULT

PRESSURE TEST WITNESS The Above Item was Pressure Tested up to 300 Psi A low Pressure Hold for 5 min And Maximum Working pressure 6,290 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. Shahzad Ahmed	SENIOR INSPECTOR:	NAVEED HUSSAIN	CLIENT:	
QUALIFICATION:	ASNT LEVEL II	INSPECTION SUPERVISOR:	HANI ALI	HB&SIGN	
SIGNATURE & STAMP:				DATE:	

Original - Client Files Copy - Area Office QC/FN/PT/077 Rev.00 DATED 07.NOV. 2021





CERTIFICATE OF VISUAL AND MAGNETIC PARTICLE INSPECTION

THIS REPORT COMPLIES WITH RECOGNIZED INTERNATIONAL STANDARDS & TECHNICAL REQUIREMENTS

CLIENT:	HALLIBURTON	REPORT NO.:	QC-24-11-TSS-NDT-02
LOCATION:	TSS YARD	STANDARD:	ASTM E709
WORK ORDER #	327338559	HALL DOC SPECIFICATION:	GD-GL-HAL-PSL-502 REV. A, LEVEL A
DATE OF INSPECTION:	Wednesday, November 27, 2024	NEXT INSPECTION DATE:	Wednesday, November 26, 2025
TYPE OF INSPECTION:	VISUAL INSPECTION AND MAGNETIC PARTICLE INSPECTION		
TOOL DESCRIPTION	SPM PUMP FLUID END 4 1/2"	UNIT NO:	SAP 12271324
MANUFACTURER:	SPM	SERIAL NO:	F0106-3172
MODEL NO.:	TWS600S	FLUID END PUMP WORKING PRESSURE :	6,290 PSI / 434 BAR



INSPECTION RESULT

VISUAL INSPECTION	Visual fully inspected and found free from deforms, cracks, corrosion & mechanical damage
MAGNETIC PARTICLE INSPECTION	Thread areas inspected and found free from cracks and other defects Note: MPI Wet Fluorescent inspection Thread With UltraViolet Light
FINAL RESULTS	The Above inspected Area Was Found Acceptable

INSPECTION EQUIPMENT DETAILS

TECHNICAL DETAILS

EQUIPMENT	S.N.	CAL DUE DATE	DATE	Fluorescent Magnetic Ink 14HF	MANUFACTURE	BATCH NO	EXPIRE DATE
AC YOKE	201504048		11-Apr-25	Magnaflux	Magnaflux	220306	March.2025
Digital Lux Meter	2722003		13-Apr-25				
ASTM Test Block:	1657		11-Apr-25	Concentration of 14HF:		0.1 to 0.4 ml/100 ml	
DC COIL:	22650		12-Apr-25	UV BLACK LIGHT INTENSITY:		3070 μw/cm ²	
UV BLACK LIGHT:	1898977		11-Apr-25	WHITE LIGHT INTENSITY:		3680 lux	

PERSON DETAILS

REVIEW BY

INSPECTOR NAME:	M. Shalazad Ahmed	SENIOR INSPECTOR:	NAVEED HUSSAIN	CLIENT:	
QUALIFICATION:	ASNT LEVEL II	INSPECTION SUPERVISOR:	HANI ALI	HB&SIGN	
SIGNATURE & STAMP:				DATE:	

Original - Client Files Copy - Area Office QC/FN/PT/077 Rev.00 DATED 07.NOV. 2021





CERTIFICATE OF VISUAL AND MAGNETIC PARTICLE INSPECTION

THIS REPORT COMPLIES WITH RECOGNIZED INTERNATIONAL STANDARDS & TECHNICAL REQUIREMENTS

CLIENT:	HALLIBURTON	REPORT NO.:	QC-24-11-TSS-NDT-03
LOCATION:	TSS YARD	STANDARD:	ASTM E709
WORK ORDER #	327338559	HALL DOC SPECIFICATION:	GD-GL-HAL-PSL-502 REV. A, LEVEL A
DATE OF INSPECTION:	Wednesday, November 27, 2024	NEXT INSPECTION DATE:	Wednesday, November 26, 2025
TYPE OF INSPECTION:	VISUAL INSPECTION AND MAGNETIC PARTICLE INSPECTION		
TOOL DESCRIPTION	2" 1502 THREAD X ACME THREAD SPM FLUID END CONNECTION	UNIT NO:	SAP 12271324
MANUFACTURER:	SPM	SERIAL NO:	1012219
FLUID END PUMP WORKING PRESSURE :	6,290 PSI / 434 BAR		



INSPECTION RESULT

VISUAL INSPECTION	Visual fully inspected and found free from deforms, cracks, corrosion & mechanical damage
MAGNETIC PARTICLE INSPECTION	Thread areas inspected and found free from cracks and other defects Note:MPI Wet Fluorescent inspection Thread With Ultra Violet Light
FINAL RESULTS	The Above inspected Area Was Found Acceptable

INSPECTION EQUIPMENT DETAILS

TECHNICAL DETAILS

AC YOKE S.N:	201504048	CAL DUE DATE	11-Apr-25	Fluorescent Magnetic Ink 14HF	MANUFACTURE	BATCH NO	EXPIRE DATE
Digital Lux Meter WHITE LIGHT	2722003	CAL DUE DATE	13-Apr-25		Magnaflux	220306	March.2025
ASTM Test Block:	1657	CAL DUE DATE	11-Apr-25	Concentration of 14HF:		0.1 to 0.4 ml/100 ml	
DC COIL:	22650	CAL DUE DATE	12-Apr-25	UV BLACK LIGHT INTENSITY:		3070 μw/cm ²	
UV BLACK LIGHT:	1898977	CAL DUE DATE	11-Apr-25	WHITE LIGHT INTENSITY:		3680 lux	

PERSON DETAILS

REVIEW BY

INSPECTOR NAME:	M.Shanzad Ahmed	SENIOR INSPECTOR:	NAVEED HUSSAIN	CLIENT:	
QUALIFICATION: ASNT LEVEL II ,		INSPECTION SUPERVISOR:	HANI ALI	HB&SIGN	
SIGNATURE & STAMP:				DATE:	

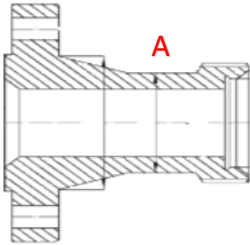
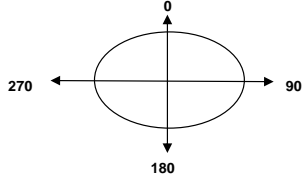
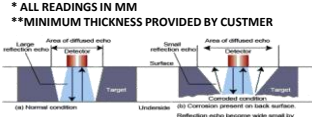

Original - Client Files Copy - Area Office QC/EN/PT/077 Rev.00 DATED 07.NOV. 2021





CERTIFICATE OF VISUAL AND MAGNETIC PARTICLE INSPECTION AND ULTRASONIC THICKNESS GAUGING

THIS REPORT COMPLIES WITH RECOGNIZED INTERNATIONAL STANDARDS & TECHNICAL REQUIREMENTS

CLIENT:	HALLIBURTON	REPORT NO.:	QC-24-11-TSS-NDT-04
LOCATION:	TSS YARD	STANDARD:	ASTM E709 & ASTM E797
WORK ORDER #	327338559	HALL DOC SPECIFICATION:	GD-GL-HAL-PSL-502 REV. A, LEVEL A
DATE OF INSPECTION:	Wednesday, November 27, 2024	NEXT INSPECTION DATE:	Wednesday, November 26, 2025
TYPE OF INSPECTION:	VISUAL AND MAGNETIC PARTICLE INSPECTION AND ULTRASONIC THICKNESS GAUGING		
TOOL DESCRIPTION	2" 1502 THREAD PUMP DISCHARGE FLANGE	UNIT NO:	SAP 12271324
FLUID END PUMP WORKING PRESSURE :	6,290 PSI / 434 BAR	SERIAL NO:	0812219
  <p>* ALL READINGS IN MM **MINIMUM THICKNESS PROVIDED BY CUSTOMER</p> 			
ANGLE	THICKNESS POINTS		MINIMUM THICKNESS
	A		
0°	16.35		10.41 MM
90°	16.18		
180°	16.29		
270°	16.43		
INSPECTION RESULT			
VISUAL INSPECTION	Visual fully inspected and found free from deforms, cracks, corrosion & mechanical damage		
MAGNETIC PARTICLE INSPECTION	Thread & Available critical areas inspected and found free from cracks and other defects Note:MPI Wet Fluorescent inspection Thread With UltraViolet Light & MPI With AC Yoke Available critical areas inspection		
ULTRASONIC THICKNESS GAUGING	The Above Item Were Found All Reading Acceptable		
FINAL RESULTS	The Above inspected Area Was Found Acceptable		
INSPECTION EQUIPMENT DETAILS			
AC YOKE S.N:	201504048	CAL DUE DATE	11-Apr-25
Digital Lux Meter WHITE LIGHT	2722003	CAL DUE DATE	13-Apr-25
UT THICKNESS GAUGE:	5500391	CAL DUE DATE	11-Apr-25
UT TEST BLOCK:	NoBo5087	CAL DUE DATE	12-Apr-25
ASTM Test Block:	1657	CAL DUE DATE	11-Apr-25
DC COIL:	22650	CAL DUE DATE	12-Apr-25
UV BLACK LIGHT:	1898977	CAL DUE DATE	11-Apr-25
WHITE LIGHT INTENSITY:	3680 lux	UV BLACK LIGHT INTENSITY:	3070 μw/cm ²
TECHNICAL DETAILS			
White Contrast WCP-2	MANUFACTURE	BATCH NO	EXPIRE DATE
	Magnaflux	220602	JUN.2025
Black Magnetic Ink 7HF	MANUFACTURE	BATCH NO	EXPIRE DATE
	Magnaflux	220605	JULY.2025
Fluorescent Magnetic Ink 14HF	MANUFACTURE	BATCH NO	EXPIRE DATE
	Magnaflux	220306	March.2025
	Concentration of 14HF:	0.1 to 0.4 ml/100 ml	
	Concentration of 7HF:	1.2 to 2.4 ml/100 ml	
PERSON DETAILS		REVIEW BY	
INSPECTOR NAME:	M.Shahzad Ahmed	SENIOR INSPECTOR:	NAVEED HUSSAIN
QUALIFICATION:	ASNT LEVEL II	INSPECTION SUPERVISOR:	HANI ALI
SIGNATURE & STAMP:			
			CLIENT:
			HB&SIGN
			DATE:

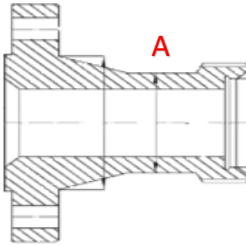
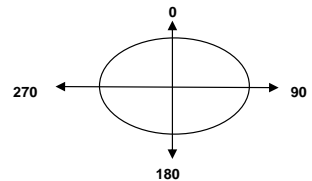
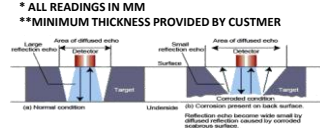
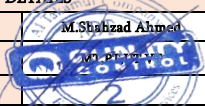
Original - Client Files Copy - Area Office QC/EN/PT/077 Rev.00 DATED 07.NOV. 2021





CERTIFICATE OF VISUAL AND MAGNETIC PARTICLE INSPECTION AND ULTRASONIC THICKNESS GAUGING

THIS REPORT COMPLIES WITH RECOGNIZED INTERNATIONAL STANDARDS & TECHNICAL REQUIREMENTS

CLIENT:	HALLIBURTON	REPORT NO.:	QC-24-11-TSS-NDT-05
LOCATION:	TSS YARD	STANDARD:	ASTM E709 & ASTM E797
WORK ORDER #	327338559	HALL DOC SPECIFICATION:	GD-GL-HAL-PSL-502 REV. A, LEVEL A
DATE OF INSPECTION:	Wednesday, November 27, 2024	NEXT INSPECTION DATE:	Wednesday, November 26, 2025
TYPE OF INSPECTION:	VISUAL AND MAGNETIC PARTICLE INSPECTION AND ULTRASONIC THICKNESS GAUGING		
TOOL DESCRIPTION	2" 1502 THREAD PUMP DISCHARGE FLANGE	UNIT NO:	SAP 12271324
FLUID END PUMP WORKING PRESSURE :	6,290 PSI / 434 BAR	SERIAL NO:	0912219
  <p>* ALL READINGS IN MM **MINIMUM THICKNESS PROVIDED BY CUSTOMER</p> 			
ANGLE	THICKNESS POINTS		MINIMUM THICKNESS
	A		
0°	16.42		10.41 MM
90°	16.57		
180°	16.53		
270°	16.36		
INSPECTION RESULT			
VISUAL INSPECTION	Visual fully inspected and found free from deforms, cracks, corrosion & mechanical damage		
MAGNETIC PARTICLE INSPECTION	Thread & Available critical areas inspected and found free from cracks and other defects Note: MPI Wet Fluorescent inspection Thread With UltraViolet Light & MPI With AC Yoke Available critical areas inspection		
ULTRASONIC THICKNESS GAUGING	The Above Item Were Found All Reading Acceptable		
FINAL RESULTS	The Above inspected Area Was Found Acceptable		
INSPECTION EQUIPMENT DETAILS			
AC YOKE S.N:	201504048	CAL DUE DATE	11-Apr-25
Digital Lux Meter WHITE LIGHT	2722003	CAL DUE DATE	13-Apr-25
UT THICKNESS GAUGE:	5500391	CAL DUE DATE	11-Apr-25
UT TEST BLOCK:	NoBo5087	CAL DUE DATE	12-Apr-25
ASTM Test Block:	1657	CAL DUE DATE	11-Apr-25
DC COIL:	22650	CAL DUE DATE	12-Apr-25
UV BLACK LIGHT:	1898977	CAL DUE DATE	11-Apr-25
WHITE LIGHT INTENSITY:	3680 lux	UV BLACK LIGHT INTENSITY:	3070 μw/cm ²
TECHNICAL DETAILS			
White Contrast WCP-2	MANUFACTURE	BATCH NO	EXPIRE DATE
	Magnaflux	220602	JUN.2025
Black Magnetic Ink 7HF	MANUFACTURE	BATCH NO	EXPIRE DATE
	Magnaflux	220605	JULY.2025
Fluorescent Magnetic Ink 14HF	MANUFACTURE	BATCH NO	EXPIRE DATE
	Magnaflux	220306	March.2025
	Concentration of 14HF:	0.1 to 0.4 ml/100 ml	
	Concentration of 7HF:	1.2 to 2.4 ml/100 ml	
PERSON DETAILS		REVIEW BY	
INSPECTOR NAME:	M.Shahzad Ahmed	SENIOR INSPECTOR:	NAVEED HUSSAIN
QUALIFICATION:	ASNT Level II	INSPECTION SUPERVISOR:	HANI ALI
SIGNATURE & STAMP:			
			CLIENT:
			HB&SIGN
			DATE:

Original - Client Files Copy - Area Office QC/EN/PT/077 Rev.00 DATED 07.NOV. 2021

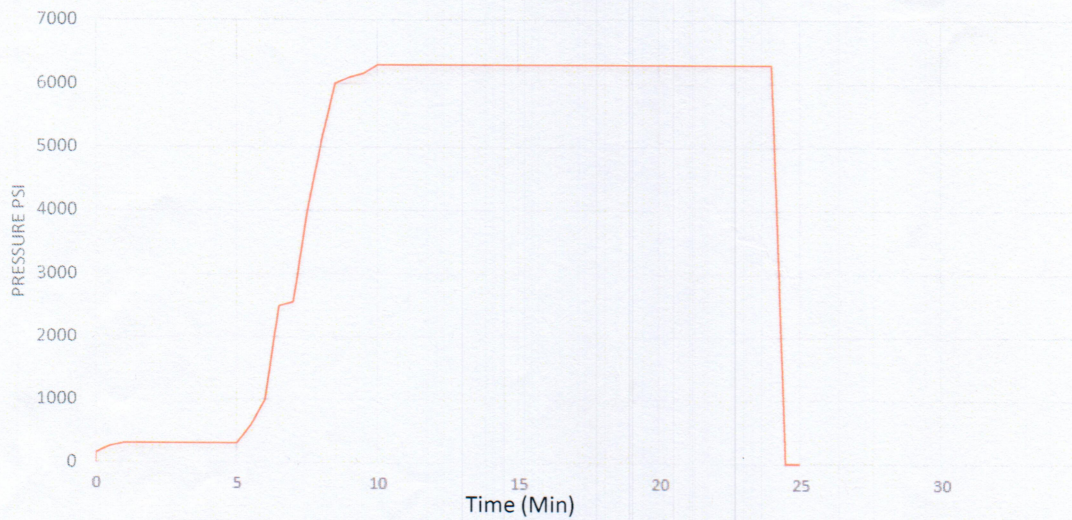


Data Collection Report

Gauge Information	
Serial Number	468066
Model	XP2I
Message Store	TSS test area
Units	PSI
SCALE	15000 PSI

Run Info	
Start Time	9:00 AM
Stop Time	9:24 AM
Test Date	9-Dec-24
EQ NUMBER	12271324
LAST CALIB	20-Jul-24

READING



TESTED BY : Feras Abbas
APPROVED BY: Hassan Kamel
COMMENTS: Body Test

