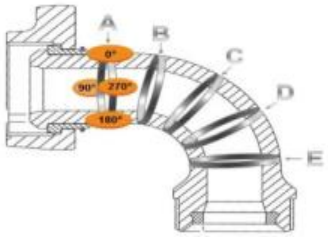
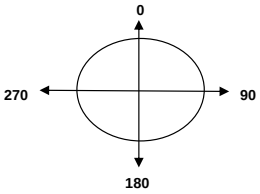
Al TAKAMUL COMPANY FOR ENGINEERING TESTS AND PROFESSIONAL SAFETY LIMITED
Basra, North Rumaila, Quality Control Yard - Iraq

CERTIFICATE OF QUALIFICATION VISUAL AND MAGNETIC PARTICLE INSPECTION AND ULTRASONIC THICKNESS GAUGING INSPECTION & WITNESS PRESSURE TEST

THIS REPORT COMPLIES WITH RECOGNIZED INTERNATIONAL STANDARDS & TECHNICAL REQUIEREMENTS

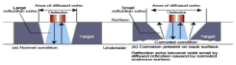
CLIENT:	HALLIBURTON	REPORT NO.:	QC-24-06-TSS-NDT-003
LOCATION:	TSS YARD	STANDARD:	ASTM E709 & ASTM E797 & ASME B31.1
WORK ORDER #	*****	HALLIBURTON DOC	Halliburton Acceptance Criteria WM-GL-HAL-SWT-501
DATE OF INSPECTION:	Monday, June 10, 2024	NEXT INSPECTION DATE:	Monday, June 9, 2025
TYPE OF INSPECTION:	VISUAL INSPECTION AND MAGNETIC PARTICLE INSPECTION AND ULTRASONIC THICKNESS GAUGING & WITNESS PRESSURE TEST		
DESCRIPTION:	4" 90 DEGREE ELBOW H2S 4" 206 WING X THREAD	SERIAL NO:	22-1147
Pump NO:	13119220 CAL DUE DATE 27.AUG.2024	Pressure Gauge NO:	486066 CAL DUE DATE 02.AUG.2024





ONLINE TRACEBILITY

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



THICKNESS POINTS AREA	WALL THICKNESS RESULT				MINIMUM THICKNESS
	0°	90°	180°	270°	IN INCHES
A	0.319	0.331	0.317	0.322	0.218 INCH
B	0.324	0.312	0.318	0.319	
C	0.322	0.316	0.329	0.334	
D	0.329	0.317	0.323	0.319	
E	0.325	0.328	0.334	0.338	

INSPECTION RESULT		
VT & MPI	Accepted	According to ASTM E709
UT	Accepted	According to ASTM E 797 & Halliburton Procedure WM-GL-SWT-501
BODY	Accepted	*** These Are The Actual Readings Need To Follow The Halliburton Procedure

Inspection Evaluation

MPI -The Above Item Has No Significant Discontinuous 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 & Avaliable Areas

U.T-The Above Item Was Found Acceptable As Per ASTM E797 & Halliburton Procedure WM-GL-SWT-501

Pressure TestWitness-The Above Item was Pressure Tested up to 300 PSI A low Pressure Hold for 5 min And Maximum Working pressure 2.000 psi Hold 15 min no Leak was Realized while testing & Pressure Was Stable Accordance To Chart Recorder Attached

INSPECTION EQUIPMENT DETAILS				TECHNICAL DETAILS			
AC YOKE S.N:	201504048	CAL DUE DATE	14-Oct-24	White Contrast WCP-2	MANUFACTURE	BATCH NO	EXPIRE DATE
Digital Lux Meter WHITE LIGHT	2722003	CAL DUE DATE	16-Oct-24		Magnaflux	220602	JUN,2025
UT THICKNESS GAUGE:	3997	CAL DUE DATE	14-Oct-24	Black Magnetic Ink 7HF	MANUFACTURE	BATCH NO	EXPIRE DATE
UT TEST BLOCK:	NoBo5087	CAL DUE DATE	15-Oct-24		Magnaflux	220605	JULY.2025
ASTM Test Block:	1657	CAL DUE DATE	14-Oct-24	Fluorescent Magnetic Ink 14HF	MANUFACTURE	BATCH NO	EXPIRE DATE
DC COIL:	22650	CAL DUE DATE	15-Oct-24		Magnaflux	220306	March.2025
UV BLACK LIGHT:	1898977	CAL DUE DATE	14-Oct-24	Concentration of 14HF:		0.1 to 0.4 ml/100 ml	
WHITE LIGHT INTENSITY:	3630 lux	UV BLACK LIGHT INTENSITY:	3140 µw/cm²	Concentration of 7HF:		1.2 to2.4 ml/100 ml	

PERSON DETAILS		REVIEW BY			
INSPECTOR NAME:	M.Shahzad Ahmed	SENIOR INSPECTOR:	NAVEED HUSSAIN	CLIENT:	
QUALIFICATION:	ASNT LEVEL II MT PT	INSPECTION SUPERVISOR:	HANI ALI	HB&SIGN	
SIGNATURE & STAMP:				DATE:	