AI TAKAMUL COMPANY FOR ENGINEERING TESTS AND PROFESSIONAL SAFETY LIMITED

Basra, North Rumaila, Quality Control Yard - Iraq



CERTIFICATE OF QUALIFICATION VISUAL INSPECTION, LEAK TEST, LINING THICKNESS AND SPARK TESTING

CLIENT:		HALLIBURTON			REPORT No.:		QC-TRANSPORT- ACID-24-MAY-001		
LOCATION:		HPS HALLIBURTON YARD BASRA IRAQ			specification		W	WM-GL-HAL-PE-STIM-202	
INSPECTION	N DATE:	Th	ursday, May 9, 20	024	Due Date			Thursday, May	7 8, 2025
TYPE OF INSP	PECTION:				& INTERNAL) *LEAK TESTING *LINING THICKNESS * SPARK TESTING			NG	
				•					
DESCRIPT	ION:	6200 USG (2 COMP) ACID TANK			ACID TANK SAP NO:			11873942	
MANUFAC	TURE :	AL SHIRAWI EQUIPMENT COMPANY			LINING COATING MATERLAL:		TIP TOP LINING 74 S		IG 74 S
SPARK TESTER SR NO:		07155		CAL DUE DATE:		16-Oct-2024)24	
MODEL:		PCWI DC30		TEST VOLTAGE:		0.70 KV		1	
COATING THICKNESS IN	STRUMENT SR.NO	373291			CAL DUE DATE:		15-Oct-2024)24
				INSPECTIO	IN DETAILS		1		
(FIG-	⁻²⁰⁷⁾ <u>COMP+1</u> 1 2	3	4 5 B	C 6	7 8	<u>COMP-2</u> 9	10 D	l	
		/		¥{				270	90°
		V	A		NING THICKNESS MEASU	RMENTS IN MM	/	270	
SAP. NO:	POSITION	HEAD A	BODY POINT 1	BODY POINT 2	BODY POINT 3	BODY POINT 4	BODY POINT 5	HEAD B	180°
SAP. NO:	0°	3.78	BODY POINT 1 3.80	BODY POINT 2 4.02	BODY POINT 3 4.00	BODY POINT 4 3.69	3.62	неар в 3.82	180"
SAP. NO: 11873942	0° 90°	3.78 3.87	BODY POINT 1 3.80 3.75	BODY POINT 2 4.02 3.66	BODY POINT 3 4.00 3.60	BODY POINT 4 3.69 3.62	3.62 3.68	неар в 3.82 4.00	180" MINIMUM LINING THICKNESS IN MM
	0° 90° 180°	3.78 3.87 3.90	BODY POINT 1 3.80 3.75 3.60	BODY POINT 2 4.02 3.66 3.71	BODY POINT 3 4.00 3.60 3.78	BODY POINT 4 3.69 3.62 3.80	3.62 3.68 3.71	HEAD B 3.82 4.00 3.83	180" MINIMUM LINING THICKNESS IN MM
	0° 90°	3.78 3.87	BODY POINT 1 3.80 3.75 3.60 3.63	BODY POINT 2 4.02 3.66 3.71 3.67	BODY POINT 3 4.00 3.60 3.78 3.70	BODY POINT 4 3.69 3.62 3.80 3.71	3.62 3.68	неар в 3.82 4.00	180" MINIMUM LINING THICKNESS IN MM
	0° 90° 180°	3.78 3.87 3.90 3.72	BODY POINT 1 3.80 3.75 3.60 3.63	BODY POINT 2 4.02 3.66 3.71 3.67 CID TANK SECTION-2 LI	BODY POINT 3 4.00 3.60 3.78 3.70	BODY POINT 4 3.69 3.62 3.80 3.71 RMENTS IN MM	3.62 3.68 3.71 3.70	HEAD B 3.82 4.00 3.83 3.72	180° MINIMUM LINING THICKNESS IN MM 2.7 MM TO 3 MI MINIMUM LINING
11873942	0° 90° 180° 270°	3.78 3.87 3.90	BODY POINT 1 3.80 3.75 3.60 3.63	BODY POINT 2 4.02 3.66 3.71 3.67	BODY POINT 3 4.00 3.60 3.78 3.70	BODY POINT 4 3.69 3.62 3.80 3.71	3.62 3.68 3.71	HEAD B 3.82 4.00 3.83	180" MINIMUM LINING THICKNESS IN MM 2.7 MM TO 3 MI MINIMUM LINING
11873942 Sap. No:	0° 90° 180° 270° POSITION	3.78 3.87 3.90 3.72 НЕАД С	BODY POINT 1 3.80 3.75 3.60 3.63 A BODY POINT 6	BODY POINT 2 4.02 3.66 3.71 3.67 CID TANK SECTION-2 LI BODY POINT 7	BODY POINT 3 4.00 3.60 3.78 3.70 INING THICKNESS MEASU BODY POINT 8	BODY POINT 4 3.69 3.62 3.80 3.71 RMENTS IN MM BODY POINT 9	3.62 3.68 3.71 3.70 BODY POINT 10	HEAD B 3.82 4.00 3.83 3.72 HEAD D	MINIMUM LINING THICKNESS IN MM 2.7 MM TO 3 MM MINIMUM LINING THICKNESS IN MM
11873942	0° 90° 180° 270° POSITION 0°	3.78 3.87 3.90 3.72 НЕАД С 3.87 3.96 4.08	BODY POINT 1 3.80 3.75 3.60 3.63 A BODY POINT 6 3.95	BODY POINT 2 4.02 3.66 3.71 3.67 CID TANK SECTION-2 LI BODY POINT 7 3.82	BODY POINT 3 4.00 3.60 3.78 3.70 INING THICKNESS MEASU BODY POINT 8 3.80	BODY POINT 4 3.69 3.62 3.80 3.71 RMENTS IN MM BODY POINT 9 3.78	3.62 3.68 3.71 3.70 BODY POINT 10 3.71 3.83 3.86	HEAD B 3.82 4.00 3.83 3.72 HEAD D 3.80 3.92 3.98	MINIMUM LINING THICKNESS IN MM 2.7 MM TO 3 MM MINIMUM LINING THICKNESS IN MM
11873942 SAP. NO: 11873942	0° 90° 180° 270° POSITION 0° 90°	3.78 3.87 3.90 3.72 НЕАД С 3.87 3.96	BODY POINT 1 3.80 3.75 3.60 3.63 A BODY POINT 6 3.95 3.84	BODY POINT 2 4.02 3.66 3.71 3.67 CID TANK SECTION-2 LI BODY POINT 7 3.82 3.75	BODY POINT 3 4.00 3.60 3.78 3.70 INING THICKNESS MEASU BODY POINT 8 3.80 3.69	BODY POINT 4 3.69 3.62 3.80 3.71 RMENTS IN MM BODY POINT 9 3.78 3.71	3.62 3.68 3.71 3.70 BODY POINT 10 3.71 3.83	HEAD B 3.82 4.00 3.83 3.72 HEAD D 3.80 3.92	MINIMUM LINING THICKNESS IN MM 2.7 MM TO 3 MI MINIMUM LINING THICKNESS IN MM
11873942 SAP. NO: 11873942 NSPECTION RESULT	0° 90° 180° 270° POSITION 0° 90° 180° 270°	3.78 3.87 3.90 3.72 HEAD C 3.87 3.96 4.08 3.81	BODY POINT 1 3.80 3.75 3.60 3.63 A BODY POINT 6 3.95 3.84 3.78 3.72	BODY POINT 2 4.02 3.66 3.71 3.67 CID TANK SECTION-2 LI BODY POINT 7 3.82 3.75 3.86 3.76	BODY POINT 3 4.00 3.60 3.78 3.70 INING THICKNESS MEASU BODY POINT 8 3.80 3.69 3.93 3.79	BODY POINT 4 3.69 3.62 3.80 3.71 RMENTS IN MM BODY POINT 9 3.78 3.71 3.95	3.62 3.68 3.71 3.70 BODY POINT 10 3.71 3.83 3.86	HEAD B 3.82 4.00 3.83 3.72 HEAD D 3.80 3.92 3.98	MINIMUM LINING THICKNESS IN MM 2.7 MM TO 3 MI MINIMUM LINING THICKNESS IN MM
11873942 SAP. NO: 11873942 NSPECTION RESULT PARK TESTING-The A	0° 90° 180° 270° POSITION 0° 90° 180° 270°	3.78 3.87 3.90 3.72 HEAD C 3.87 3.96 4.08 3.81 Found Acceptable A	BODY POINT 1 3.80 3.75 3.60 3.63 BODY POINT 6 3.95 3.84 3.78 3.72 As Per Manufactur	BODY POINT 2 4.02 3.66 3.71 3.67 CID TANK SECTION-2 LI BODY POINT 7 3.82 3.75 3.86 3.76	BODY POINT 3 4.00 3.60 3.78 3.70 INING THICKNESS MEASU BODY POINT 8 3.80 3.69 3.93 3.79	BODY POINT 4 3.69 3.62 3.80 3.71 RMENTS IN MM BODY POINT 9 3.78 3.71 3.95	3.62 3.68 3.71 3.70 BODY POINT 10 3.71 3.83 3.86	HEAD B 3.82 4.00 3.83 3.72 HEAD D 3.80 3.92 3.98	MINIMUM LINING THICKNESS IN MM 2.7 MM TO 3 MI MINIMUM LINING THICKNESS IN MM
11873942 SAP. NO: 11873942 ISPECTION RESULT PARK TESTING-The J NING THICKNESS-TI	0° 90° 180° 270° POSITION 0° 90° 180° 270°	3.78 3.87 3.90 3.72 HEAD C 3.87 3.96 4.08 3.81 Found Acceptable A	BODY POINT 1 3.80 3.75 3.60 3.63 A BODY POINT 6 3.95 3.84 3.72	BODY POINT 2 4.02 3.66 3.71 3.67 CID TANK SECTION-2 LI BODY POINT 7 3.82 3.75 3.86 3.75 3.86 3.76	BODY POINT 3 4.00 3.60 3.78 3.70 INING THICKNESS MEASU BODY POINT 8 3.80 3.69 3.93 3.79 eria. riteria.	BODY POINT 4 3.69 3.62 3.80 3.71 RMENTS IN MM BODY POINT 9 3.78 3.71 3.95	3.62 3.68 3.71 3.70 BODY POINT 10 3.71 3.83 3.86	HEAD B 3.82 4.00 3.83 3.72 HEAD D 3.80 3.92 3.98	MINIMUM LINING THICKNESS IN MM 2.7 MM TO 3 MI MINIMUM LINING THICKNESS IN MM
11873942 SAP. NO: 11873942 ISPECTION RESULT PARK TESTING-The A NING THICKNESS-TI EAK TESTING-The A	0° 90° 180° 270° POSITION 0° 90° 180° 270° Above Item Was he Above Item Was Fo pove Item Was Fo	3.78 3.87 3.90 3.72 HEAD C 3.87 3.96 4.08 3.81 Found Acceptable A vas Found Acceptable As	BODY POINT 1 3.80 3.75 3.60 3.63 A BODY POINT 6 3.95 3.84 3.72	BODY POINT 2 4.02 3.66 3.71 3.67 CID TANK SECTION-2 LI BODY POINT 7 3.82 3.75 3.86 3.75 3.86 3.76	BODY POINT 3 4.00 3.60 3.78 3.70 INING THICKNESS MEASU BODY POINT 8 3.80 3.69 3.93 3.79 eria. riteria. a.	BODY POINT 4 3.69 3.62 3.80 3.71 RMENTS IN MM BODY POINT 9 3.78 3.71 3.95	3.62 3.68 3.71 3.70 BODY POINT 10 3.71 3.83 3.86	HEAD B 3.82 4.00 3.83 3.72 HEAD D 3.80 3.92 3.98	180° MINIMUM LINING THICKNESS IN MM 2.7 MM TO 3 MP
11873942 SAP. NO: 11873942 ISPECTION RESULT PARK TESTING-The A NING THICKNESS-TI EAK TESTING-The A	0° 90° 180° 270° POSITION 0° 90° 180° 270° Above Item Was he Above Item Was bove Item Was For RSONNEL DETAILS	3.78 3.87 3.90 3.72 HEAD C 3.87 3.96 4.08 3.81 Found Acceptable A vas Found Acceptable As	BODY POINT 1 3.80 3.75 3.60 3.63 A BODY POINT 6 3.95 3.84 3.72	BODY POINT 2 4.02 3.66 3.71 3.67 CID TANK SECTION-2 LI BODY POINT 7 3.82 3.75 3.86 3.75 3.86 3.76	BODY POINT 3 4.00 3.60 3.78 3.70 INING THICKNESS MEASU BODY POINT 8 3.80 3.69 3.93 3.79 eria. riteria.	BODY POINT 4 3.69 3.62 3.80 3.71 RMENTS IN MM BODY POINT 9 3.78 3.71 3.95 3.80	3.62 3.68 3.71 3.70 BODY POINT 10 3.71 3.83 3.86	HEAD B 3.82 4.00 3.83 3.72 HEAD D 3.80 3.92 3.98	MINIMUM LINING THICKNESS IN MM 2.7 MM TO 3 MM MINIMUM LINING THICKNESS IN MM
11873942 SAP. NO: 11873942 ISPECTION RESULT PARK TESTING-The A NING THICKNESS-TI EAK TESTING-The A PE	0° 90° 180° 270° POSITION 0° 90° 180° 270° Above Item Was he Above Item Was pove Item Was Fer RSONNEL DETAILS M Shafe	3.78 3.87 3.90 3.72 HEAD C 3.87 3.96 4.08 3.81 Found Acceptable A ras Found Acceptable As	BODY POINT 1 3.80 3.75 3.60 3.63 BODY POINT 6 3.95 3.84 3.78 3.72 As Per Manufacture le As Per Manufacture SENIOR IN	BODY POINT 2 4.02 3.66 3.71 3.67 CID TANK SECTION-2 LI BODY POINT 7 3.82 3.75 3.86 3.76 re Acceptance Criteric cture Acceptance Criteric Acceptance Criteric	BODY POINT 3 4.00 3.60 3.78 3.70 INING THICKNESS MEASU BODY POINT 8 3.80 3.69 3.93 3.79 eria. riteria. a. VIEW BY	BODY POINT 4 3.69 3.62 3.80 3.71 RMENTS IN MM BODY POINT 9 3.78 3.71 3.95 3.80 JSSAIN	3.62 3.68 3.71 3.70 BODY POINT 10 3.71 3.83 3.86 3.79	HEAD B 3.82 4.00 3.83 3.72 HEAD D 3.80 3.92 3.98	MINIMUM LINING THICKNESS IN MM 2.7 MM TO 3 MM MINIMUM LINING THICKNESS IN MM
11873942 SAP. NO: 11873942 SPECTION RESULT PARK TESTING-THE A NING THICKNESS-TI EAK TESTING-THE A PE	0° 90° 180° 270° POSITION 0° 90° 180° 270° Above Item Was he Above Item Was pove Item Was Fer RSONNEL DETAILS M Shafe	3.78 3.87 3.90 3.72 HEAD C 3.87 3.96 4.08 3.81 Found Acceptable A vas Found Acceptable As	BODY POINT 1 3.80 3.75 3.60 3.63 BODY POINT 6 3.95 3.84 3.78 3.72 As Per Manufacture le As Per Manufacture SENIOR IN	BODY POINT 2 4.02 3.66 3.71 3.67 CID TANK SECTION-2 LI BODY POINT 7 3.82 3.75 3.86 3.75 3.86 3.76	BODY POINT 3 4.00 3.60 3.78 3.70 INING THICKNESS MEASU BODY POINT 8 3.80 3.69 3.93 3.79 eria. riteria. a. VIEW BY NAVEED HU	BODY POINT 4 3.69 3.62 3.80 3.71 RMENTS IN MM BODY POINT 9 3.78 3.71 3.95 3.80 JSSAIN	3.62 3.68 3.71 3.70 BODY POINT 10 3.71 3.83 3.86 3.79	HEAD B 3.82 4.00 3.83 3.72 HEAD D 3.80 3.92 3.98	MINIMUM LINING THICKNESS IN MM 2.7 MM TO 3 MM MINIMUM LINING THICKNESS IN MM
11873942 SAP. NO: 11873942 ISPECTION RESULT PARK TESTING-The A NING THICKNESS-T EAK TESTING-The A INSPECTOR NAME: QUALIFICATION:	0° 90° 180° 270° POSITION 0° 90° 180° 270° Above Item Was he Above Item Was pove Item Was Fer RSONNEL DETAILS M Shafe	3.78 3.87 3.90 3.72 HEAD C 3.87 3.96 4.08 3.81 Found Acceptable A sound Acceptable As cad Ahmed	BODY POINT 1 3.80 3.75 3.60 3.63 BODY POINT 6 3.95 3.84 3.78 3.72 As Per Manufacture le As Per Manufacture SENIOR IN INSPECTION	BODY POINT 2 4.02 3.66 3.71 3.67 CID TANK SECTION-2 LI BODY POINT 7 3.82 3.75 3.86 3.75 3.86 3.76	BODY POINT 3 4.00 3.60 3.78 3.70 INING THICKNESS MEASU BODY POINT 8 3.80 3.69 3.93 3.79 eria. riteria. a. VIEW BY NAVEED HU	BODY POINT 4 3.69 3.62 3.80 3.71 RMENTS IN MM BODY POINT 9 3.78 3.71 3.95 3.80 JSSAIN	3.62 3.68 3.71 3.70 BODY POINT 10 3.71 3.83 3.86 3.79 3.79 CLIENT NAME: DATE:	HEAD B 3.82 4.00 3.83 3.72 HEAD D 3.80 3.92 3.98	MINIMUM LINING THICKNESS IN MM 2.7 MM TO 3 MI MINIMUM LINING THICKNESS IN MM

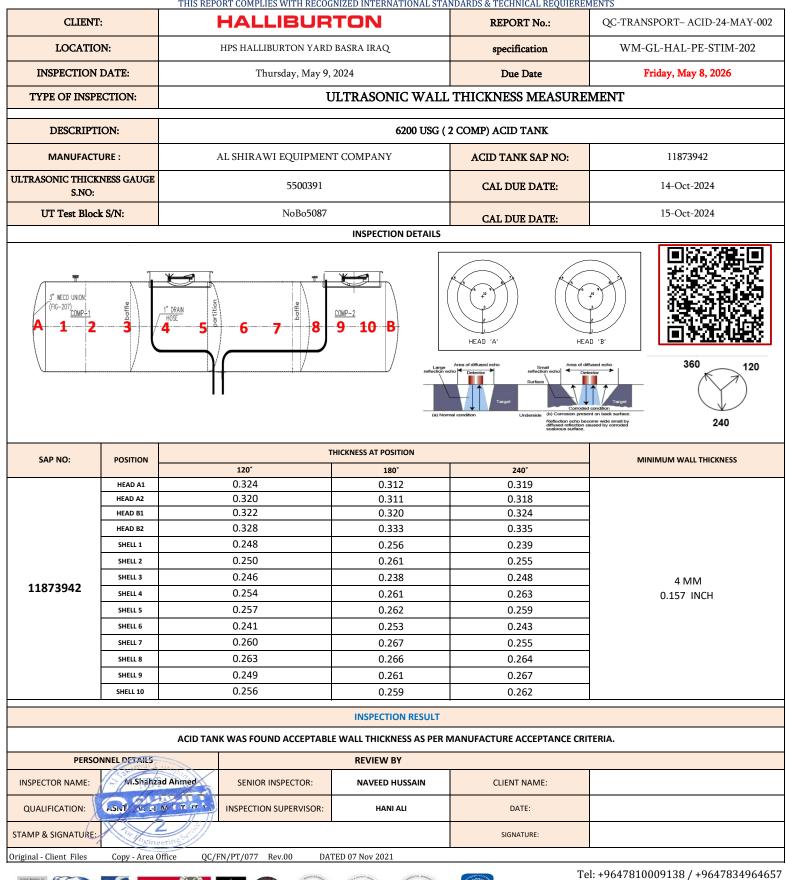
AI TAKAMUL COMPANY FOR ENGINEERING TESTS AND PROFESSIONAL SAFETY LIMITED



Basra, North Rumaila, Quality Control Yard - Iraq

CERTIFICATE OF QUALIFICATION VISUAL INSPECTION & ULTRASONIC WALL THICKNESS MEASUREMENT

THIS REPORT COMPLIES WITH RECOGNIZED INTERNATIONAL STANDARDS & TECHNICAL REQUIEREMENTS



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CERTIFICATE OF QUALIFICATION HYDROSTATIC PRESSURE TEST WITNESS

CLIENT:	HALLIBURTON	REPORT No.:	QC-TRANSP	ORT-ACID-24-MAY-003				
LOCATION:	HPS HALLIBURTON YARD BASRA IRAQ	specification	WM-G	/M-GL-HAL-PE-STIM-202				
INSPECTION DATE:	Thursday, May 9, 2024	NEXT INSPECTION DATE:	Tue	sday, May 8, 2029				
TYPE OF INSPECTION:	HYDROSTATIC PRESSURE TEST WITNESS							
DESCRIPTION: 62	00 USG (2 COMP) ACID TANK							
ACID TANK SAP NO: 118	11873942							
MANUFACTURE : AL	AL SHIRAWI EQUIPMENT COMPANY							
HOLDING TIME: 05	MINUTES							
WORKING PRESSURE 10	PSI							
TEST PRESSURE 15	PSI							
PRESSURE TEST: Hd	vrostatic Pressure Test carried out on 1.5 time of the Working	Pressure with holding time 05 minutes.						
SCRUBBER TANK WITH DRAIN VALVE D RESISTANT BFLY VALVE 3"WECO (FIG-206) (FIG-206) (TH NUT ACID RESISTANT B'FLY VALVE FIRE EXTINGUISHER (4"NB, ELBOW	COMP 1 ENING	LANDING LEG, JOST A- MANUALLY OPERATED						
	FI	NAL RESULT						
e hereby certify that the above equip essure test. Witness By QC Inspector	ment had been tested to the test pressure indicated above in	a constant temperature and found satisfac	tory where no visible leak	or pressure drop observed during th				
PERSONNEL DETAILS	REVIE	W BY						
	2ad Ahmed SENIOR INSPECTOR:	NAVEED HUSSAIN	CLIENT NAME:					
QUALIFICATION:	INSPECTION SUPERVISOR:	HANI ALI	DATE:					
AMP & SIGNATURE:			SIGNATURE:					

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