

## Radiography test report

<b>Report number</b>	LW21-1659-1 RT Rev. 1	(This report supersedes LW21-1659-1 RT)
<b>Customer name</b>	Asme Welding Pty Ltd	
<b>Address</b>	117 Ingleston Rd Wakerley QLD Australia 4154	
<b>Requested by</b>	Vishnu Pavakkulath	
<b>Purchase order</b>	PO000779	
<b>Accredited laboratory</b>	LMATS Melbourne Laboratory	
<b>Test date</b>	08/09/2021	
<b>Job address</b>	110 Maribyrnong St, Footscray, VIC 3011	
<b>Job description</b>	Radiographic Inspection of Various Welds	
<b>Identification</b>	Reference: 20-DOW-004	
<b>Material grade</b>	API 5L Grade X52	
<b>Test specification</b>	AS/NZS 2885.2:2020	
<b>Test method</b>	AS 2177-2006 (R2016) X-ray, AS 2177-2006 (R2016)	
<b>Test procedure</b>	TP-RT-03 (I1,R6)	
<b>Imaging film/device</b>	AGFA Structurix D4, D7, AGFA Structurix D4, D7	
<b>Image processing</b>	Automatic, Viewer L002538	
<b>IQI type</b>	AS 2314 Fe(1) 10	
<b>Intensifying screens</b>	0.02mm thick Pb at front and back	
<b>Surface condition</b>	As welded	
<b>Test equipment</b>	X-ray L002637, Gamma ray L0778	
<b>Approved tester</b>	Kurtis Mears (AINDT L2 - RT MT PT VT)	
<b>Interpreted by</b>	Kurtis Mears (AINDT L2 - RT MT PT VT)	



Accreditation No. 15840

Accredited for compliance with  
ISO/IEC 17025-Testing

**Signatory**  
(AINDT L2 - RT MT PT VT)

Kurtis Mears  
22/09/2021

Table 1: Test area identification (provided by the client) and results (All dimensions are in mm)

Drawing No.	Identification	Weld No.	Material Grade	Pipe size	Thickness	PQR/WPS No.	Welder name (ID)	Technique	Radiograph No.	Interpretation	Density range	Required Sensitivity	Achieved sensitivity	Result
20-DOW-004-WM-02	Request No: DOW-004-NDT-006	FW05	API 5L X52M PSL2	150NB	7.11mm	FP-041	AP052	XR2/DWS	0-100, 100-210, 210-320, 320-430, 430-0	GP, A, A, SUC(i), GP + INs	2.7 - 3.8	W12	W13, 2.2%	C
20-DOW-004-WM-02	Request No: DOW-004-NDT-006	FW07	API 5L X52M PSL2	150NB	7.11mm	FP-041	AP052	GR1/DWS	0-180, 180-360, 360-0	INs, IL, ILs	2.8 - 3.3	W12	W13, 2.2%	C
20-DOW-004-WM-02	Request No: DOW-004-NDT-006	FW08	API 5L X52M PSL2	150NB	7.11mm	FP-041	AP052	GR1/DWS	0-180, 180-360, 360-0	SUC(i), ILs, SUC(i) + INs	2.8 - 3.3	W12	W13, 2.2%	C
20-DOW-004-WM-02	Request No: DOW-004-NDT-006	FW10	API 5L X52M PSL2	150NB	7.11mm	FP-041	AP052	XR2/DWS	0-100, 100-210, 210-320, 320-430, 430-0	IN, SUC(i), INs, INs + LR, GPs + LP	2.7 - 3.8	W12	W13, 2.2%	C
20-DOW-004-WM-02	Request No: DOW-004-NDT-006	FW13	API 5L X52M PSL2	150NB	7.11mm	FP-041	AP052	XR2/DWS	0-100, 100-210, 210-320, 320-430, 430-0	A, INs, A, INs, LR	2.7 - 3.8	W12	W13, 2.2%	C
20-DOW-004-WM-02	Request No: DOW-004-NDT-006	FW15	API 5L X52M PSL2	150NB	7.11mm	FP-041	AP052	XR2/DWS	0-100, 100-210, 210-320, 320-430, 430-0	IN + SUC(i), SUC(i), INs, SUC(i), SUC(i)	2.7 - 3.8	W12	W13, 2.2%	C

**Test restrictions**

Due to the geometry of the welds and the type of fitting used, a gamma isotope had to be used for welds 7 and 8. A type 1 film was also used for these welds to increase the sensitivity. The image quality and sensitivity of the radiographs greatly exceeded the minimum requirements.

**Comments**

Nil

**Notes**

1. All test and inspection items will be discarded after 6 weeks, unless retrieved by the clients representative
2. Samples, identification of samples and all job specific details were supplied by the client.
3. Any stated nominal pipe sizes and nominal thickness of the material were provided by the client.
4. Where applicable, the Measurement Uncertainty (MU) applies to the test results as per LMATS procedure. MU can be obtained by contacting one of the LMATS ISO 17025 accredited laboratory.
5. If this report does not specify acceptance criteria, then the test or inspection results should be referred to a competent authority for further action.
6. This report shall not be reproduced except in full without approval of the issuing laboratory to ensure that parts of a report are not taken out of context. The client or their representatives shall not edit this report.
7. LMATS or its professional indemnity insurance provider do not indemnify the contents within this report or the conformity of a tested product unless the invoice for the reported work is paid in full within the agreed credit terms. Reports will be revoked if the invoice for the completed work is not paid in full.

**Abbreviations used in this report**

A - No discontinuities detected	KC - Crater crack	SED - Excessive Dressing (underflushing)
BT - Burn (melt) Through	KL - Longitudinal crack	SGI - Incompletely filled Groove
C - Comply	KT - Transverse crack	SGS - Shrinkage Groove
CP - Crater Pipe	LI - lack of Inter-run fusion	SMG - Grinding Mark
DNC - Does Not Comply	LP - Incomplete root Penetration	SMH - Hammer Mark
EC - Elongated Cavity (hollow bead)	LR - lack of Root fusion (missed edge)	SMT - Tool Mark (chipping mark)
GP - Gas Pore	LS - lack of Side fusion	SRC - Root Concavity (Suck back)
HiLo - Linear misalignment	NRRD - No Recordable Reflections Detected	SSP - Spatter
IC - Copper Inclusion	NUSID - No unacceptable Surface Indications Detected	SUC(e) - Undercut External
IL - Linear Inclusion (slag line)	p.d. - Processing / film Defects	SUC(i) - Undercut Internal
IN - Inclusion	PG - Localized Porosity	SXP - Excessive Penetration
IO - Oxide Inclusion (wagon tracks)	PL - Linear Porosity	WH - Worm Hole
IT - Tungsten Inclusion	PU - Uniform Porosity	

**End of LMATS report. Information included on the following pages (if any) was provided by the client or other parties.**