

Magnetic particle test report



Report number LW25-1782-02 MT
Customer name FUSION-WELD ENGINEERING PTY LTD
Address 1865 Frankston Flinders Road Hastings VIC Australia 3915
Requested by Brian Cameron
Purchase Order PO-0695
Accredited laboratory LMATS Melbourne Laboratory
Test date 18/11/2025 to 19/11/2025
Job address 1865 Frankston Flinders Road Hastings VIC Australia 3915
Job description Visible magnetic particle testing of 1-off 650NB vessel butt weldment after repair
Identification Refer to Table below
Material grade ASTM A516/516M - Grade 70
Test specification AS 4037 -1999 (R 2016) - Sec. 8 (AS 1210 - 2010 Class 1 PV) - NDT, AS 4037 -1999 (R 2016) - Sec. 8 (AS 1210 - 2021 Class 2A PV) - NDT
Acceptance criteria AS 4037 -1999 (R 2016) - Sec. 8 (AS 1210 - 2010 Class 1 PV) - NDT, AS 4037 -1999 (R 2016) - Sec. 8 (AS 1210 - 2021 Class 2A PV) - NDT
Test method AS 1171 - 1998 (Reconfirmed 2022)-MT - colour contrast
Test procedure TP-MT-01 (I1, R9)
Test type Wet colour contrast (visible)
Viewing condition Visible colour contrast (non-fluorescent)
Magnetization Magnetic flow method - AC yoke
Test area Weld zone & associated HAZ (Refer Table 1 for identification)
Surface condition As Welded
Equipment L004684 Magnaflux Y-2 MT Yoke, L005028 JINING DONGFANG B2 Block standard bar MT Calibration block, L0671 Digital LX1010B Light meter
Lighting conditions White light illuminance 1850 lx
Consumables

Background	Batch no.	Particle type	Batch no.
MR 72	2212023	MR 76S	2311070

Demagnetised No
Approved tester Errol Minnie (ISO 9712 Level 2 MT/PT, Level 1 UT and Radiation license)
Test results Refer to Table 1 for test area identification and results

REMOVED



Accredited for compliance with
ISO / IEC 17025 - Testing

Signatory
Errol Minnie
(ISO 9712 & SNT-TC-1A Level II in
VT, RT, MT, PT & UT, ASNT NDT
Level III VT)



Table 1: Test items identification (provided by the client) and results (All dimensions in mm unless stated otherwise)

Identification	Drawing No.	Weld No.	Description	Test area	Discontinuities	Result
Vessel number: CV176	21-12-041	Weld joining items 4 and 5 as per drawing	Chlorine Road Tanker	Whole circumference of weld and associated HAZ. See test restrictions	NUSID	C

Test restrictions

Toe angle on internal surface

Comments

Refer to attached images.

Test, inspection process specific notes

- According to the guidelines in international standards, Magnetic Particle Testing is not preferred for detecting surface porosity. Clients are advised to consider alternative methods such as Penetrant Testing to detect surface porosity on an uncoated surface.

Normative general notes

1. Test and inspection items may be discarded after 6 weeks, unless alternative arrangements are made with LMATS.
2. Samples, identification of samples and all job specific details were supplied by the client. The test results relate only to the items tested or sampled.
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 LMATS ISO 17025 accredited laboratories.
5. Acceptance criteria is applied from the test specification. If the test specification does not include acceptance criteria, then the test or inspection results should be referred to a competent authority for further action.
6. Refer to the attached revision notes if this report has been revised. 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	BT - Burn (melt) Through	C - Comply
CP - Crater Pipe	DNC - Does Not Comply	EC - Elongated Cavity (hollow bead)
F - Failed	GP - Gas Pore	HiLo - Linear misalignment
IC - Copper Inclusion	IL - Linear Inclusion (slag line)	IN - Inclusion
IO - Oxide Inclusion (wagon tracks)	IT - Tungsten Inclusion	KC - Crater crack
KL - Longitudinal crack	KT - Transverse crack	LI - lack of Inter-run fusion
LP - Incomplete root Penetration	LR - lack of Root fusion (missed edge)	LS - lack of Side fusion
NRRD - No Recordable Reflections Detected	NUSID - No unacceptable Surface Indications Detected	P - Passed
p.d. - Processing / film Defects	PG - Localized Porosity	PL - Linear Porosity
PU - Uniform Porosity	RP - Report findings	SED - Excessive Dressing (underflushing)
SGL - Incompletely filled Groove	SGS - Shrinkage Groove	SMG - Grinding Mark
SMH - Hammer Mark	SMT - Tool Mark (chipping mark)	SRC - Root Concavity (Suck back)
SSP - Spatter	SUC(e) - Undercut External	SUC(I) - Undercut Internal
SXP - Excessive Penetration	WH - Worm Hole	



Image 1 of 3 - General view of the test area

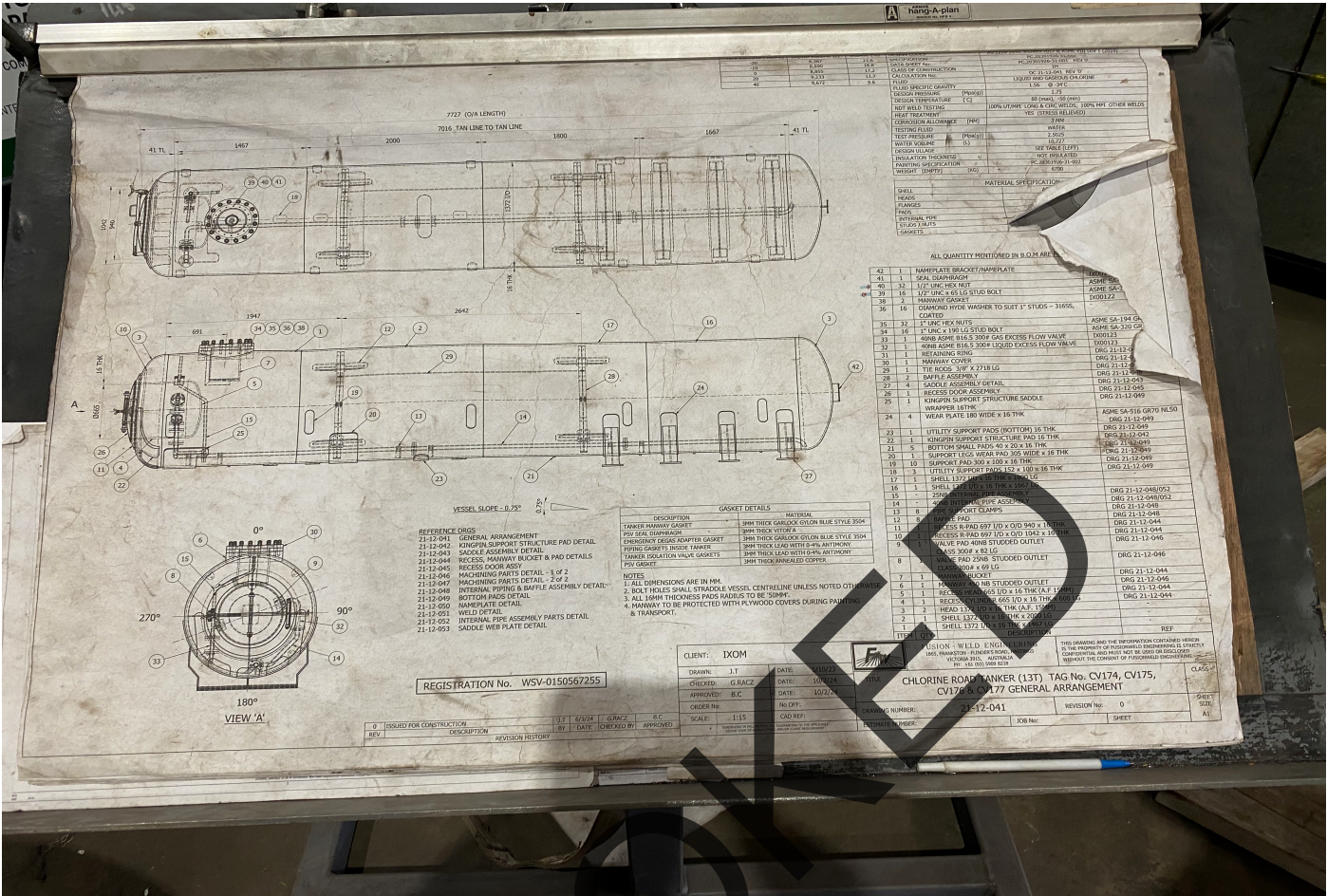


Image 2 of 3 - General view of the test area



Image 3 of 3 - General view of the test area

REVOKED



ITEM NO.	DESCRIPTION	QUANTITY	UNIT	REMARKS
1	NAMEPLATE BRACKET/NAMEPLATE	1	PC	
2	MANWAY GASKET	1	PC	
3	MANWAY GASKET	1	PC	
4	MANWAY GASKET	1	PC	
5	MANWAY GASKET	1	PC	
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41	MANWAY GASKET	1	PC	
42	MANWAY GASKET	1	PC	

DESCRIPTION	MATERIAL
TANKER MANWAY GASKET	3MM THICK GASKET OILON BLUE STYLE 300A
TANKER MANWAY GASKET	3MM THICK OILON BLUE STYLE 300A
EMERGENCY FREGAS ADAPTER GASKET	3MM THICK GASKET OILON BLUE STYLE 300A
FREGAS GASKETS INSIDE TANKER	3MM THICK LEAD WITH 5% ANTIMONY
TANKER ISOLATION VALVE GASKETS	3MM THICK LEAD WITH 5% ANTIMONY
POW GASKET	3MM THICK ANGLE IRON

- NOTES
1. ALL DIMENSIONS ARE IN MM.
 2. ALL HOLES SMALL STRADDLE VESSEL CENTRE DIE UNLESS NOTED OTHERWISE.
 3. ALL 1MM THICKNESS PADS MUST BE SMOOTH.
 4. MANWAY TO BE PROTECTED WITH PLYWOOD COVERS DURING PAINTING.
 5. TRANSPORT.

REGISTRATION No. WSV-0150567255

CLIENT: IXOM

DRAWN: J.T. DATE: 10/08/17

CHECKED: G.BACZ DATE: 10/08/17

APPROVED: B.C. DATE: 10/08/17

ORDER No. NO OFF. NO. DATE: 10/08/17

SCALE: 1:15

PROJECT: CHLORINE ROAD TANKER (13T) TAG No. CV174, CV175, CV176 & CV177 GENERAL ARRANGEMENT

DRAWING NUMBER: 2-17-041

REVISION No. 0

ISSUED FOR CONSTRUCTION

BY: B.C. DATE: 10/08/17

CHECKED BY: APPROVED:

REVISION HISTORY

DESCRIPTION

BY DATE CHECKED BY APPROVED

0 ISSUED FOR CONSTRUCTION

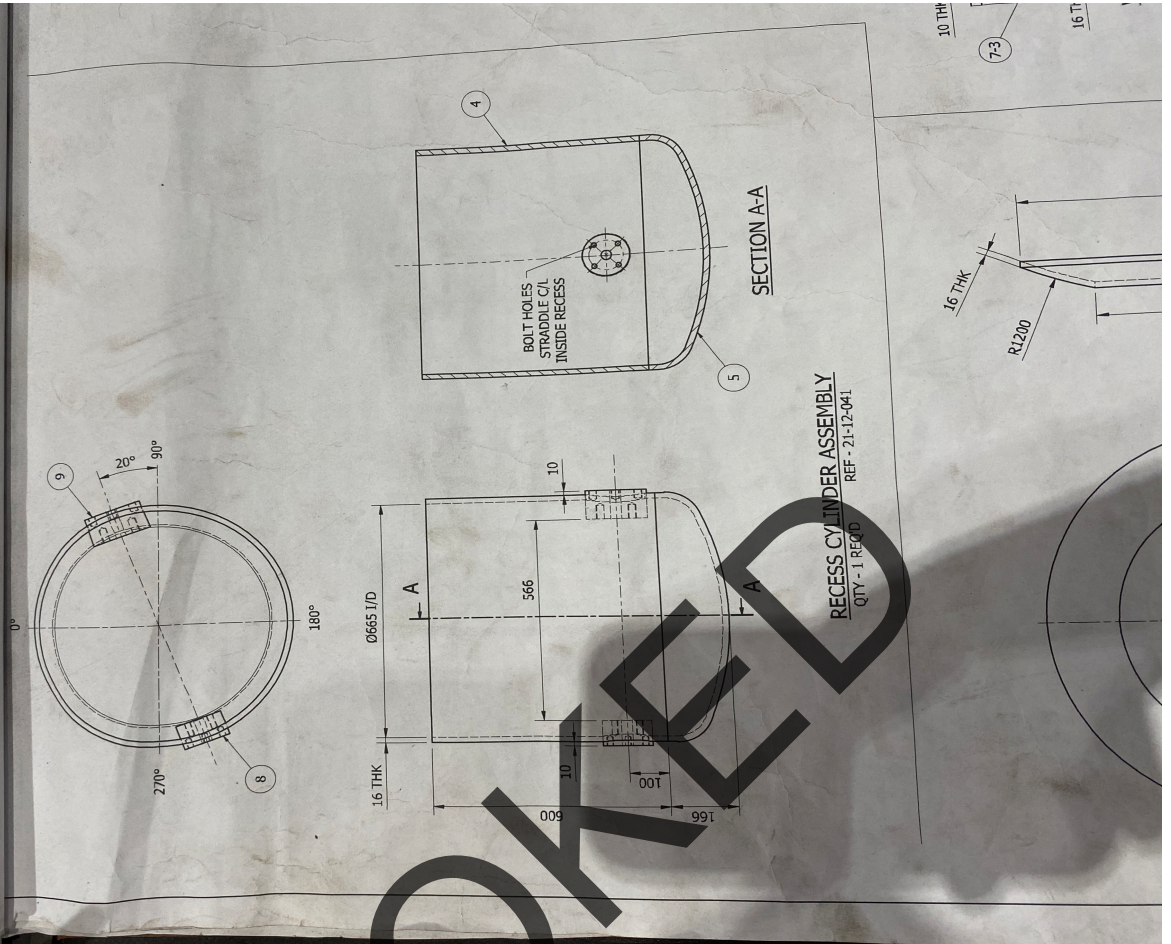
BY: B.C. DATE: 10/08/17

CHECKED BY: APPROVED:

ALL QUANTITY MENTIONED IN B.O.M ARE

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	REMARKS
42	NAMEPLATE BRACKET/NAMEPLATE	1	PC	
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98	MANWAY GASKET	1	PC	
99	MANWAY GASKET	1	PC	
100	MANWAY GASKET	1	PC	

REVIEW



REVOKED