

### Ultrasonic test report



|                                      |  |
|--------------------------------------|--|
| <b>Report number</b>                 | LW25-1782-03 UT  |
| <b>Customer name</b>                 | FUSION-WELD ENGINEERING PTY LTD  |
| <b>Address</b>                       | 1865 Frankston Flinders Road Hastings VIC Australia 3915   |
| <b>Requested by</b>                  | Brian Cameron  |
| <b>Purchase order</b>                | PO-0695  |
| <b>Accredited laboratory</b>         | LMATS Melbourne Laboratory   |
| <b>Test date</b>                     | 25/11/2025   |
| <b>Job address</b>                   | 1865 Frankston Flinders Road Hastings VIC Australia 3915   |
| <b>Job description</b>               | UT on 1 off Circumferential Weld   |
| <b>Identification</b>                | Circ. Butt Weld-No.5 - Chlorine Raod Tanker (13T) - CV176  |
| <b>Material grade</b>                | ASTM A516/516M - Grade 70  |
| <b>Test specification</b>            | AS 4037 -1999 (R 2016) - Sec. 8 (AS 1210 - 2021 Class 2A PV) - NDT   |
| <b>Acceptance criteria</b>           | AS 4037 -1999 (R 2016) - Sec. 8 (AS 1210 - 2010 Class 1 PV) - NDT  |
| <b>Test method</b>                   | AS 2207-2007 (R2017)-UT - weld   |
| <b>Test procedure</b>                | TP-UT-01 (I1,R6)   |
| <b>Surface condition</b>             | Complying with AS 2207-2007 Cl.3.3   |
| <b>Surface preparation</b>           | Wire brushed, wiped  |
| <b>Weld profile</b>                  | SP1-Undressed  |
| <b>Scan area</b>                     | 100% weld zone and associated HAZ  |
| <b>Probe positions</b>               | Refer to the following page  |
| <b>Test equipment</b>                | 'A' Scan presentation, L005658   |
| <b>Couplant</b>                      | UT gel   |
| <b>System accuracy</b>               | Not applicable for flaw detection  |
| <b>Calibration block</b>             | L003618 AS 2083 Bl. 2 - 1.5mm SDH for angle beam DAC, L003615 AS 2083 Bl. 1 IIW Bl. 1 ASTM E164 V1 - 1.5mm SDH |
| <b>Transducers</b>                   | Refer to the following page  |
| <b>Special equipment</b>             | Nil  |
| <b>Transfer correction gain</b>      | Not required   |
| <b>Damping &amp; reject settings</b> | None   |
| <b>Scanning sensitivity</b>          | DAC + 6dB  |
| <b>Evaluation sensitivity</b>        | DAC - 6dB  |
| <b>Sizing technique</b>              | 6 dB drop  |
| <b>Approved tester</b>               | Matt Romina ((B.Eng.(Mech.) API 653,570,510 Inspector RT1 - AINDT Level 2(UT, ET, MT, PT, VT)-MFL)             |
| <b>Test results</b>                  | Refer to Table 1 for test area identification and results  |

REMOVED



Accreditation No. 15840

Accredited for compliance with  
ISO / IEC 17025 - Testing

**Signatory**

Matt Romina

((B.Eng.(Mech.)|API 653,570,510 Inspector|RT1 - AINDT Level 2(UT, ET, MT, PT, VT)-MFL)



Report issued on 25/11/2025

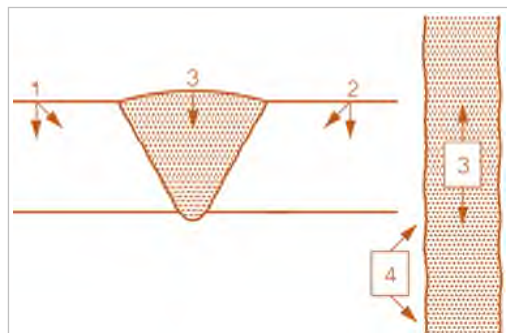
Probe positions

| L-scan  | N-scan | T-scan |
|---------|--------|--------|
| (1 & 2) | 1 & 2  | 4      |
|         |        |        |
|         |        |        |

Scanning method

AS 2207 UM-B Level 2

Scanning plan



Transducer set: 1

| Transducer | Maker S/N  | Crystal type | Angle (°) | Size (mm) | Frequency (MHz) | Index (mm)     | Beam misalignment (°) | Cable length & type       | Ref.gain (dB) | Test range (mm) |
|------------|------------|--------------|-----------|-----------|-----------------|----------------|-----------------------|---------------------------|---------------|-----------------|
| L005727    | 1380220323 | Single       | 0         | Ø20       | 2               | Not applicable | 0                     | 1m Lemo to mini-lemo      | 51            | 0-50            |
| L006760    | OGB634     | Single       | 45        | 15x15     | 2               | 1              | 1                     | 1m Mini-lemo to mini-lemo | 46            | 0-150           |
| L006764    | OGB620     | Single       | 60        | 15x15     | 2               | 1              | 2                     | 1m Lemo to mini-lemo      | 43            | 0-150           |
| L006863    | MDC748     | Single       | 70        | 15x15     | 2               | 15             | 0                     | 1m Mini-lemo to mini-lemo | 48            | 0-150           |

**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   | Thickness | Discontinuities | Result |
|----------------------|-------------|---------------------------------|----------------------|---|-----------|-----------------|--------|
| Vessel number: CV176 | 21-12-041   | Circ. Weld No. 5 as per drawing | Chlorine Road Tanker | Whole circumference of weld and associated HAZ. See test restrictions | 16mm      | NRRD            | C      |

**Test restrictions**

Curved scanning surfaces. Single side scanned from outside. The full scan could not be completed from the head side due to the pad. Scanning from inside was not performed due to the absence of a confined space permit.

**Comments**

Nil

**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) |
| SGI - 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 4 - General view of the test area



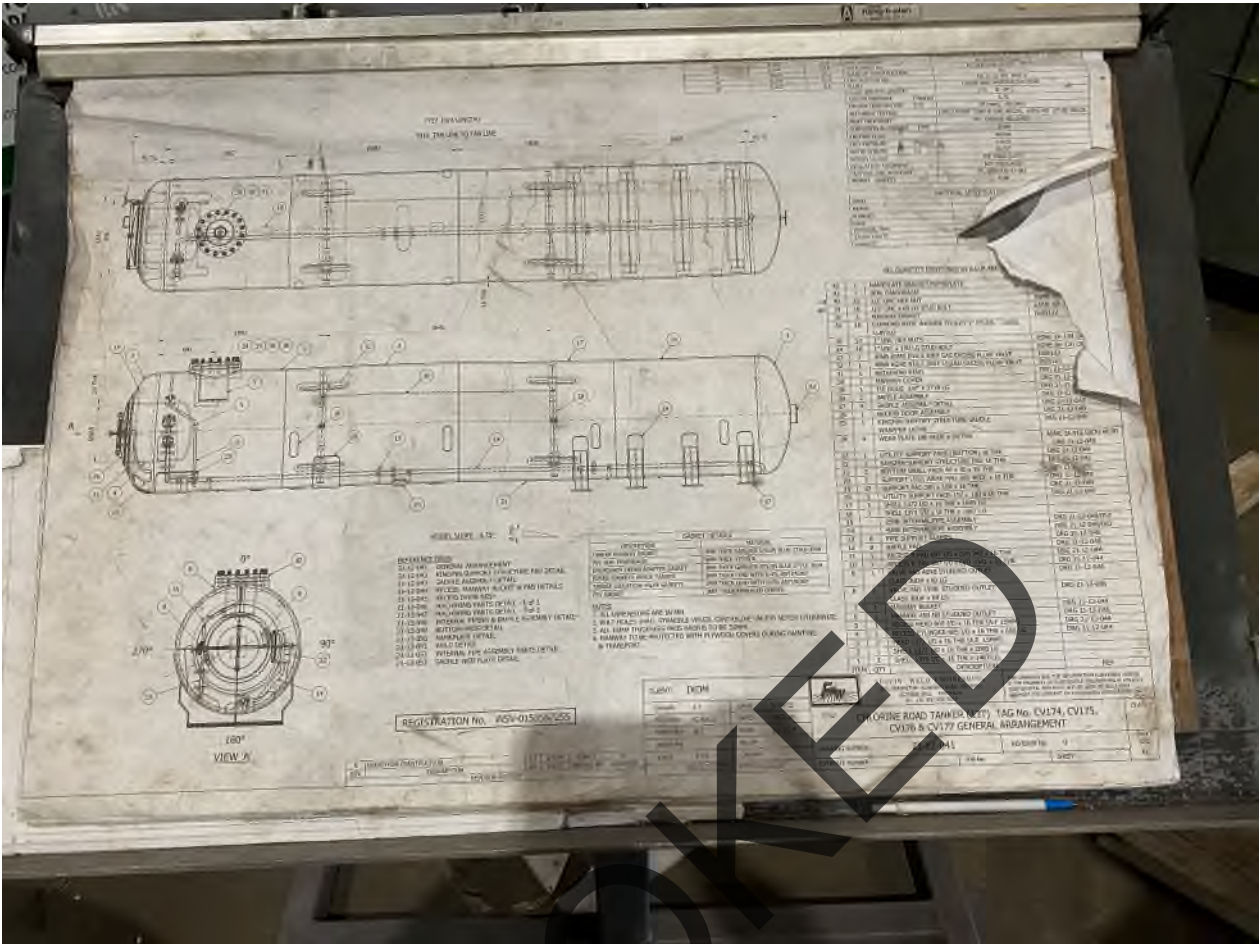
Image 2 of 4 - General view of the test area



Image 3 of 4 - General view of the test area

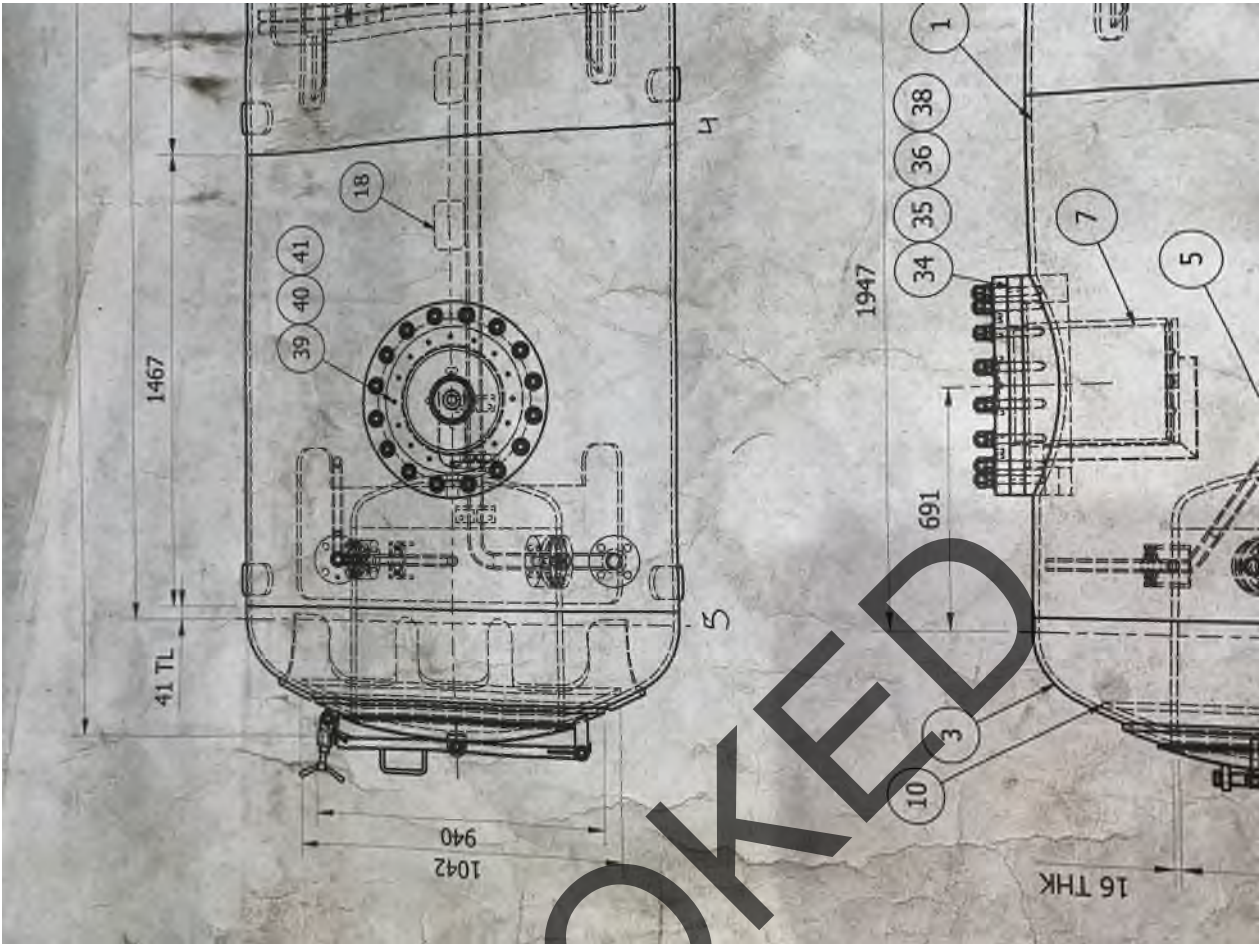


Image 4 of 4 - General view of the test area



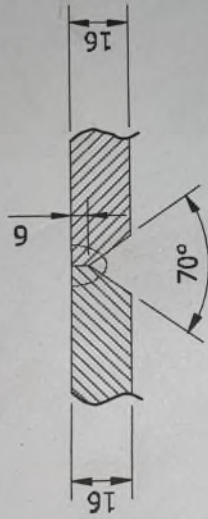
REVOKED

UT - 1 - IMG\_3988



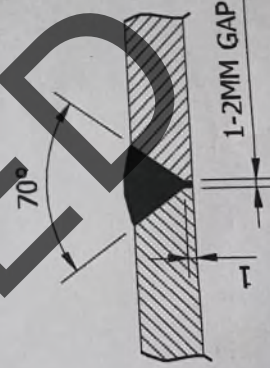
REVOKED

REVOKED



LONGITUDINAL/CIRCUMFERENTIAL & CLOSING SEAMS WELD DETAIL

WPS 069/4



PIPE BUTT WELD DETAIL

WPS 077/6

|           |    |
|-----------|----|
| CLIENT:   | IX |
| DRAWN:    | J  |
| CHECKED:  | C  |
| APPROVED: | E  |

