



Head Office: 4810 - 93 Street NW, Edmonton, Alberta, Canada T6E 5M4  
Tel: 780-469-2401 Fax: 780-468-2422 www.raeengineering.ca

Report No: IG001269

<b>Client</b>	Midstream Equipment	<b>Inspection Date</b>	Jun 6, 2025		
<b>Prov. Reg. #</b>	AB RAE27029	<b>Inspection Type</b>	VE / UT / PSV		
<b>Equipment Type</b>	Fuel Gas Scrubber	<b>Location</b>	27 DURUM DRIVE, AB MIDSTREAM YARD		
<b>Tag/Equip.</b>		<b>LSD</b>	AB		
<b>Status</b>	In Service	<b>Downhole LSD</b>			
<b>Manufacturer</b>	Larsen & D'Amico Mfg. Ltd	<b>Area</b>			
<b>Serial Number</b>	S-12047	<b>Year Built</b>	2004		
<b>CRN #</b>	L9476.213	<b>Service</b>	Sweet		
<b>Comp/Unit Id</b>	UNIT 1378	<b>Manway</b>	None		
<b>Nat.Board #</b>		<b>Coating</b>			
<b>Interim Insp'n</b>		<b>Interim Type</b>			
<b>Next Thorough Insp</b>	2030	<b>Next Insp Type</b>	VE / UT / PSV		
<b>Length</b>		<b>Height</b>			
<b>Volume</b>	Capacity	<b>Client Reference</b>			
<b>Owner</b>	Midstream Equipment	<b>RT</b>		<b>HT</b>	No
<b>Foreman</b>		<b>RAE Job No.</b>	PR0004443		
<b>ABSA</b>	<b>Plant:</b> R <b>Vessel:</b> K <b>Process:</b> G <b>Special:</b> Z	<b>ASME</b>	Sec. VIII div. 1		
<b>History Log</b>	Inspection Report Complete - Inspection Date: 2025-June-06 Inspection Type: VE/UT/PSV				

<b>Component</b>	Shell			
<b>MAWP</b>	150.0 PSI @ 200 °F		<b>MDMT</b>	-20 °F @ 150.0 PSI
<b>Material</b>		<b>Material Thickness</b>		
<b>Diameter</b>	8 in	<b>Length</b>	36 in	
<b>Corrosion Allowance</b>	0.062 in			



<b>Valve Tag No</b>	1378 - FGS PSV	<b>Relief Type</b>	Pressure Safety Valve
<b>Manufacturer</b>	Mercer Valve	<b>Set Pressure</b>	125.000 PSI
<b>Serial Number</b>	115755	<b>Capacity</b>	297 SCFM
<b>Model</b>	91-17D51V07E1	<b>Last Service</b>	Aug 12, 2015
<b>CRN</b>	0G2606.5C	<b>Next Service</b>	2019
<b>Service Co.</b>	UNIFIED VALVE	<b>Service Interval</b>	48 Months
<b>Service Co. Tag</b>	16123g	<b>Inlet Size</b>	1 in
<b>ASME Stamp</b>	UV	<b>Outlet Size</b>	1 in
<b>NB Stamp</b>	YES	<b>Connection</b>	Threaded
<b>Relief Dest.</b>	To Atmosphere	<b>Valve Loc.</b>	On Piping
<b>Comments</b>		<b>Client Reference</b>	

<b>Component</b>	Heads		
<b>Material</b>		<b>Material Thickness</b>	
<b>Corrosion Allowance</b>	0.062 in		

**Comments**

The following RAE Procedure(s) was/were used in inspecting this vessel:

INS-624B Unfired Pressure Vessels Procedure

INS-645B PRV Inspection Procedure

NDE Technical Manual

The unit was located at the Midstream Equipment yard located just east of Chestermere, AB.

The unit was not in-service at the time of inspection.



**Building Observations**

Number of Access Doors:2 Building Supported by: Skid  
Gas test port: No Gas Detection: Yes  
Fire eye: No Catalytic Heater: Yes  
Lighting: Good Floors : Checker plate steel  
Drainage/Condition: Acceptable  
Equipment placed ergonomically: Yes

The building was generally in serviceable condition and well supported.  
The building was well lit.  
The checker plate steel floor was clean and in serviceable condition.  
The doors and windows functioned well and were in serviceable condition.  
The cladding was generally in serviceable condition.  
There were no combustibles in the building.  
There was generally good access to the equipment in the building.  
The building structure was level.  
The ground wire was securely attached to the building structure.  
The building was supported by a skid mounted on pilings.

**2025 Observations**

The building was identified by the unit number written on the door  
No additional observations since last inspection.

Figure: 1



BUILDING

Figure: 2



UNIT NUMBER



Figure: 3



FLOOR

### **Piping Observations**

General condition: Acceptable  
Mechanical connections acceptable for service?: Acceptable  
Clad: No Painted: Yes Insulated: No  
Are there any dead legs: No  
Support type: U-Bolt  
Supported adequately: Yes

The attached piping was generally in serviceable condition.  
The piping was sufficiently supported.  
There was no damage, distortion or stress evident on the piping.  
The piping was not insulated.  
The piping was painted and the paint was generally in serviceable condition.  
There was minor scattered external corrosion on the piping surfaces.  
The piping connections showed no signs of leakage and appeared to be in serviceable condition.

### **2025 Observations**

No additional observations since last inspection.



Figure: 4



INLET PIPING

#### **PSV Observations**

Drainage : Acceptable Supports : Acceptable  
Bolting : N/A Seal wire : Acceptable  
Gasket : N/A Service tag : Acceptable  
CRN : Acceptable Set pressure : Acceptable  
Installation vertical : Yes Required Capacity : Not verified  
PSV block valves : Yes  
Block valve car seal in place : Yes  
Car seal log book maintained : No  
PSV service report available : No

The PSV was located on associated piping within the building.  
The PSV was mounted in the vertical position, securely attached to the piping, and in serviceable condition.  
The nameplate was securely attached and legible.  
The set pressure was acceptable for the vessel.  
The service tag was securely attached.  
The PSV seal wire was attached and intact.  
The vent size was adequate and vent lines were positioned safely.  
The outlet piping provided positive drainage for the PSV.  
There was 1 valve on the PSV piping which was locked open.

NCR- PSV was 1 year overdue for service.

#### **2025 Observations**

As Midstream does not have carseal program the isolation valve in the path of the PSV should be removed.  
The PSV is due for servicing and shall be serviced prior to placing the unit into service.



Figure: 5



NAMEPLATE

Figure: 6



SERVICE TAG

Figure: 7



BLOCK VALVE





### External Observations

Installation : In Building	Support Structure : Structural
Grounded : Yes	Securement Type : Bolted
Drains :Automatic	Securement Condition : Acceptable
Attachments : Yes	Ladders/Platforms : N/A
CUI checked : N/A	External Covering : Coated
Vessel Orientation : Vertical	
Manway : No	
Certificate of inspection permit : No	
Nameplate attached and legible : Yes	

The vessel is located inside a building.

The nameplate was legible and securely mounted to the vessel.

The heads and shell appeared to be in serviceable condition.

The vessel is not insulated.

The vessel was fully painted and the paint was in serviceable condition.

There was scattered minor corrosion visible on the vessel surfaces.

There was no damage, distortion, or stress evident on piping connections.

The vessel was vertical and adequately supported.

There are no structural attachments on vessel.

### 2025 Observations

It was noted that the vessel supports were not properly bolted to the floor.

Figure: 8



VESSEL

Figure: 9



NAMEPLATE



Figure: 10



SUPPORT NOT BOLTED TO FLOOR

### Internal Observations

There was no internal inspection performed at the time of inspection.

### UT1 Observations

See attached UT Report. UT results were reviewed and found to be acceptable.

### Recommendations

1. The vessel is fit-for-service provided:
  - a) The PSV is serviced prior to placing the unit into service.
  - b) The isolation valve in the path of the PSV is removed.
  - c) The vessel support are properly bolted to the skid floor.
2. A permanent Midstream unit label should be affixed to the building door.
3. There should be an installation inspection of the unit after being installed on site to ensure no damage occurred during shipping and to verify proper installation.

Irwin Garcia, P.Eng.  
Alberta IPV #A-92199


ABSA ISI-PVPP# A-99351  
API 510# 68250  
CWB Level II# 12352  
SNT UT1 MT2

Inspector: Bryce Motley

Inspector : Irwin Garcia

Reviewed By: Bryce Motley



	<b>RAE Engineering and Inspection Ltd.</b> www.raeengineering.ca Phone: (780) 469-2401 Fax: (780)-469-2401		Inspection Date:		June 25, 2025		<h1 style="text-align: center;">UT Report</h1>								
			Report Number:		IG000082										
			Page:		1 of 4										
Client:		Midstream Equipment		Job Number:		PR0004443									
Facility:		Midstream Yard		Location/LSD:		Midstream Yard									
Equipment Number:		RAE27029		Client Representative:		Joe Davis									
Equipment Description:		Fuel Gas Scrubber		Client Contact:		joe.davis@midstreamequipment.com									
Serial / Tag Number:		12047		Unit Number:		UNIT 1378									
Equipment Type:		Vessel+Pipe		Measurment Unit:		Inch									
<b>JOB DESCRIPTION</b>															
Procedure:		NDE Tech Manual Rev. 2025 (NDE - 701B)													
Acceptance Code:		ASME Sec. VIII Div. 1 / ASME B31.3			Surface Condition:		Painted								
Material:		Carbon Steel			Surface Temp:		0 - 120 °C								
<b>EQUIPMENT, TECHNIQUE &amp; CALIBRATION</b>															
Instrument Mfr:		GE		Model:		DMS2		S/N:		01X121		Cal. Due:		2026-05-02	
Probe Model	Freq MHz	Angle	Dia. (In)	Probe Type	Manufacturer	Serial #	Cable Length	Vel. (m/sec)	Ref dB	Scan dB	Range (in)				
FH2E	7.5	0	0.250	Single	Stresstel	24E00NGM	6'	2369	60	As Needed	1				
Cal Block S/N			1 or 2 Point Cal		Calibration Range		Couplant		Block Material						
11-1200			2		0.100-1.500"		UTX		Carbon Steel						

Scope:

Conduct 0° straight beam ultrasonic testing on the fuel gas scrubber looking for any signs of wall thinning due to corrosion, erosion, laminations or inclusions.

Result:

The measurements obtained from the inspection locations show the thickness of all of the components inspected to be consistent. However, there was no nominal thickness at the time of inspection.

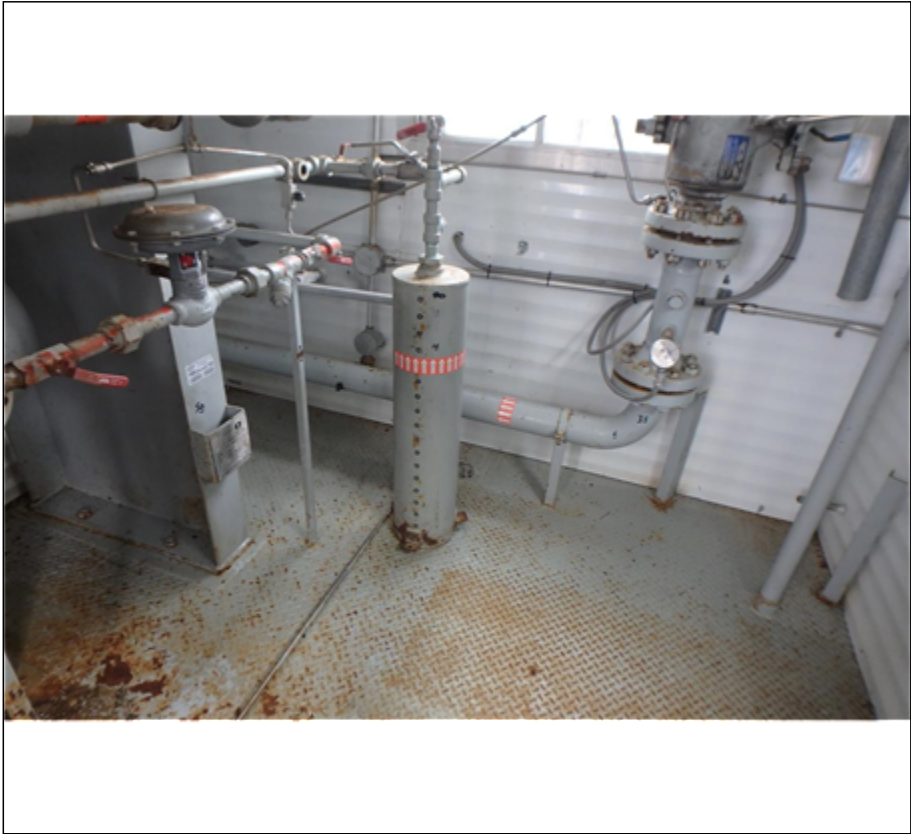
Please see the following pages for the pictures of nameplate, the overall view, the isometric drawings, and the thickness measurements.

Conclusion:

No concerns noted at the time of inspection.



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	Report Number:	IG000082	
	Page:	2 of 4	



Vessel Overview

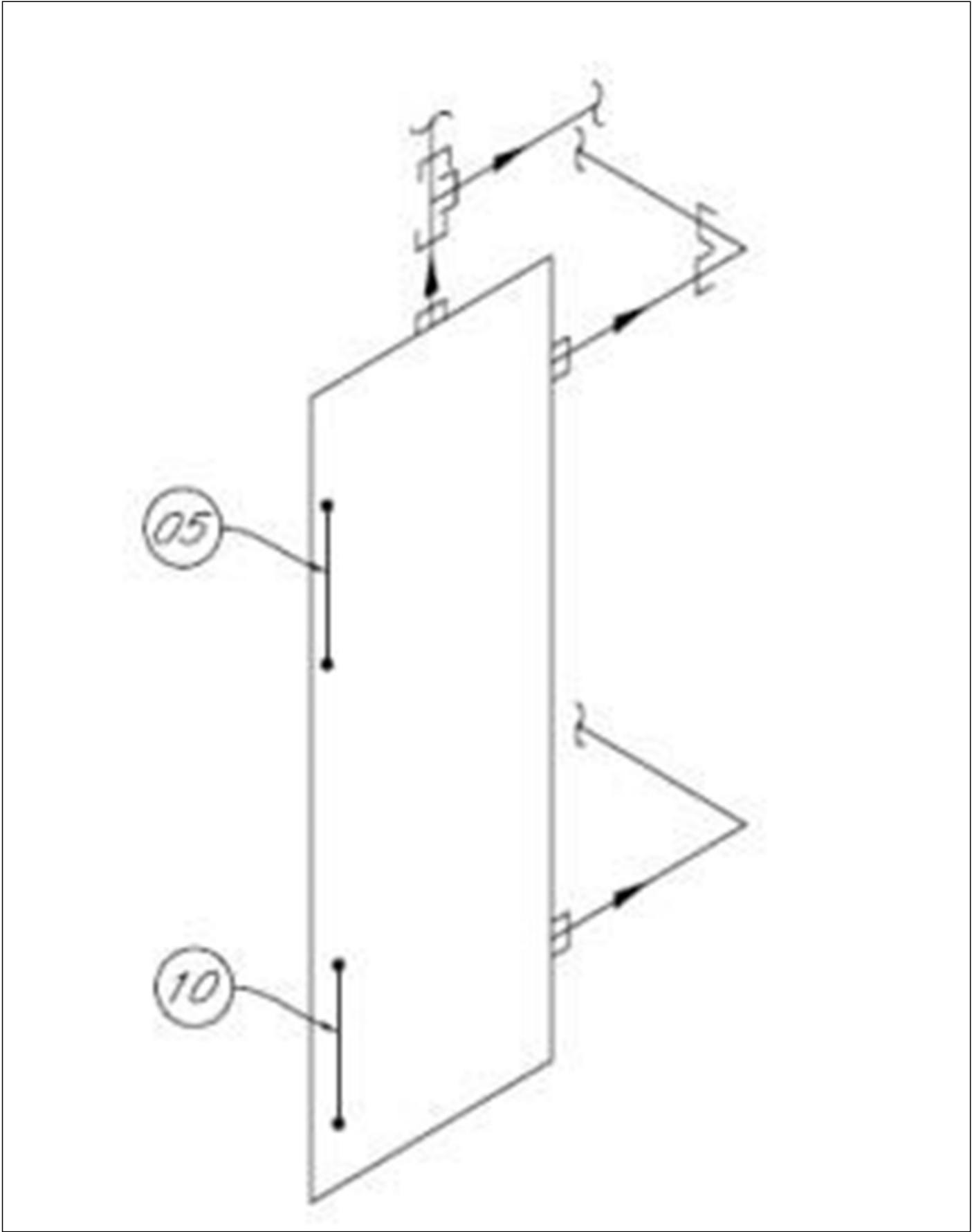


Nameplate




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	Report Number:	IG000082	
	Page:	3 of 4	

ISO Drawing



ISO

	RAE Engineering and Inspection Ltd.  www.raeengineering.ca  Phone: (780) 469-2401   Fax: (780)-469-2401							Inspection Date:		June 25, 2025			UT Report	
								Report Number:		IG000082				
								Page:		4 of 4				
UT Data														
#	01	02	03	04	05	06	07	08	09	10	11	12	Min & Avg	
5	Top Shell						Nom	N/S	Mil	0.010	CA	0.062	Min:	0.191
	0.197	0.196	0.191	0.195	0.191	0.191	0.196	0.196	0.194	0.194			Avg:	0.194
10	Bottom Shell						Nom	N/S	Mil	0.010	CA	0.062	Min:	0.191
	0.193	0.195	0.192	0.191	0.193	0.194	0.196	0.196	0.194	0.198			Avg:	0.194

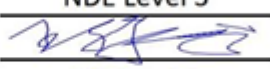
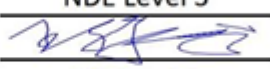

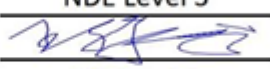


Irwin Garcia, P.Eng.

Alberta IPV #A-92199

Technician 1: Irwin Garcia

SNT RAE-710B-037 UT Level 1 (Expires Sep 30, 2029)  
SNT RAE-710B-037 MT Level 2 (Expires Sep 30, 2029)

<table><tr><th>Method</th><th>Level</th><th>Expiry Date</th></tr><tr><td>UT</td><td>1</td><td>30-Sep-29</td></tr><tr><td>MT</td><td>2</td><td>30-Sep-29</td></tr><tr><td colspan="3">Corrective Lenses Required: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</td></tr><tr><td>By:</td><td colspan="2">Zong Jun Wang</td></tr><tr><td>Title:</td><td colspan="2">NDE Level 3</td></tr><tr><td>Signature:</td><td colspan="2"></td></tr><tr><td>Date:</td><td colspan="2">30-Sep-24</td></tr></table>			Method	Level	Expiry Date	UT	1	30-Sep-29	MT	2	30-Sep-29	Corrective Lenses Required: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			By:	Zong Jun Wang		Title:	NDE Level 3		Signature:			Date:	30-Sep-24		<div> RAE Engineering and Inspection Ltd.</div> <div>Certification Record</div> <div>This is to certify that:</div> <div>Irwin Garcia</div> <div>The above named employee has satisfactorily met the qualification requirements of the RAE Engineering and Inspection Ltd. written practice that meets the requirements of ASNT recommended practice SNT-TC-1A 2020 edition</div> <div>Certification No.: RAE-710B-037</div>
Method	Level	Expiry Date																									
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Title:	NDE Level 3																										
Signature:																											
Date:	30-Sep-24																										





# MetTech

**Material Testing Equipment and Supplies**

A division of 1067113 Alberta Ltd.

# 1, 3610 - 29 St. N.E. Calgary, Alberta T1Y 5Z7

## Measurement Readings for Calibration of Thickness Gauges

Company: RAE Engineering & Inspection Ltd. - Calgary

Instrument: GE DMS2 UTG

Serial Number: 01X121

Date: 5/2/2025

Range Check against stated reference listed:

Nominal measure	Measured reading	
	Block # 1	Block # 2
1.000"	1.002 "	1.000 "
0.750"	0.752 "	0.751 "
0.500"	0.500 "	0.500 "
0.250"	0.250 "	0.250 "

Allowable tolerance +/- 0.004"

These readings were produced against stated reference block in house and are within the allowable tolerances.

### Reference Standards

4 Step 4340 Imperial Steel  
Serial # 07-5839  
Heat/Lot # G10975K06  
ASTM specification E-797

4 Step Imperial Steel  
Serial # 11-3909  
Heat/Lot # 227L511  
ASTM specification E-797

These reference standards have been manufactured in accordance with applicable specifications, and were inspected with instruments calibrated in accordance with ANSI/NCSL Z540-1-94 and traceable to NIST.

Signed by:

Temperature: 21.2 °C

On this date: 5/2/2025

Rel. Hum. : 28%

Calibration report MET-STEP01    Revision 3    Apr 11/22

Calgary      Edmonton  
Phone: 270-7778    Fax: 283-3552    Toll free: 1-888-283-3552





# MetTech

**Material Testing Equipment and Supplies**

A division of 1067113 Alberta Ltd.

# 1, 3610 - 29 St. N.E. Calgary, Alberta T1Y 5Z7

## Certificate of Calibration of Thickness Gauges

Company: Rae Engineering - Calgary

Instrument: GE DMS2 UTG

Serial Number 01X121 :

Date: 5/2/2025

This is to certify that the above instrument meets or exceeds manufacturer's specifications for THICKNESS RESOLUTION, and has been calibrated to reference standards manufactured and inspected in accordance with ISO 902 with instruments calibrated to ANSI/NCSL Z540 and traceable to National Institute of Standards and Technology (NIST).

Reference Standard: 4 Step Imperial Steel

Serial # 07 - 5839

Block #1

Serial # 11 - 3909

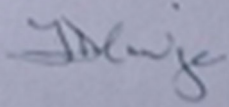
Block #2

These blocks have been manufactured in accordance with applicable specifications, and was inspected with instruments calibrated in accordance with ANSI/NCSL Z540 and traceable to NIST.

NIST certification reference # 11-83834 A & B

# 10-78221 A & B

Certificate of calibration is current for a period of 12 from date listed. Reference Standard Blocks are periodically cycled out of stock without notice.

Signed by: 

On this date: 5/2/2025