



Client	Midstream Equipment	Inspection Date	Jun 6, 2025		
Prov. Reg. #	AB 0497004	Inspection Type	VE / UT / PSV		
Equipment Type	Horizontal Separator	Location	27 DURUM DRIVE, AB MIDSTREAM YARD		
Tag/Equip.		LSD	AB		
Status	Not in Service	Downhole LSD			
Manufacturer	Ips Manufacturing Limited	Area			
Serial Number	V-2259-001	Year Built	2004		
CRN #	R5536.2	Service	Sour		
Comp/Unit Id	UNIT 1378	Manway	20"		
Nat.Board #		Coating			
Interim Insp'n		Interim Type			
Next Thorough Insp	2030	Next Insp Type	VE / VI / UT / PSV		
Length		Height			
Volume	Capacity	Client Reference			
Owner	Midstream Equipment	RT	1	HT	YES
Foreman		RAE Job No.	PR0004443		
ABSA	Plant: R    Vessel: P    Process: W    Special: Z	ASME	Sec. VIII div. 1		
History Log	AB-10 - internal enry - LSD changed - Vessel NIS - entered June 9, 2012 Certificate of Inspection Permit dated August 25, 2012 - entered August 28, 2012				
	AB-10 - internal entry - vessel NIS - entered September 10, 2012				
	Record transferred from Terra Energy to Midstream Equipment (RAE Admin, 21-Jan-2025)				
	Inspection Report Complete - Inspection Date: 2025-June-06 Inspection Type: VE/UT/PSV				

Component	Shell				
MAWP	1480.0 PSI @ 100 °F			MDMT	-20 °F @ 1480.0 PSI
Material			Material Thickness	1.5 in	
Diameter	36 in		Length	120 in	
Corrosion Allowance	0.125 in				



<b>Valve Tag No</b>	1378 - SEP PSV	<b>Relief Type</b>	Pressure Safety Valve
<b>Manufacturer</b>	Mercer Valve	<b>Set Pressure</b>	1480.000 PSI
<b>Serial Number</b>	103248	<b>Capacity</b>	11844 SCFM
<b>Model</b>	81-43251P27G215	<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>	74197G	<b>Inlet Size</b>	2 in
<b>ASME Stamp</b>	UV	<b>Outlet Size</b>	2 in
<b>NB Stamp</b>	YES	<b>Connection</b>	Threaded
<b>Relief Dest.</b>	To Flare	<b>Valve Loc.</b>	On Vessel
<b>Comments</b>		<b>Client Reference</b>	

<b>Component</b>	Heads		
<b>Material</b>		<b>Material Thickness</b>	1.44 in
<b>Corrosion Allowance</b>	0.125 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 appeared to be in serviceable condition.  
The control valve on produced water line appeared to have a minor leak.

### **2025 Observations**

It was noted that the piping was disassembled in areas.  
The piping shall be re-assembled prior to placing the unit into service.



Figure: 4



INLET PIPING

Figure: 5



GAS OUTLET PIPING

Figure: 6



PIPING TO BLOWCASE DISASSEMBLED

Figure: 7



WATER OUTLET 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 : No  
PSV service report available : No

The PSV was located on associated piping inside 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 was 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 were no valves on the PSV piping.

PSV's for the separator, blowcase and fuel gas scrubber were all located just above the separator as the picture shows.

NCR- PSV was 1 year overdue for service.

### **2025 Observations**

The PSV is due for servicing and shall be serviced prior to placing the unit into service.

Figure: 8



PSV

Figure: 9



NAMEPLATE



Figure: 10



SERVICE TAG

### External Observations

Installation : In Building	Support Structure : Saddles
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 : Horizontal	
Manway : Yes	
Manway davit arms:	
Free to move : Yes	
Lubricated : Yes	
Carry bolt with washer and double Nutted : No	
Certificate of inspection permit : Yes	
Nameplate attached and legible : Yes	

The vessel is located inside a building.  
The nameplate was legible and securely mounted to the vessel saddle.  
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 horizontal and adequately supported by 2 saddles.  
There are no structural attachments on vessel.

### 2025 Observations

It was noted that the manway carrying bolt is not double nutted.

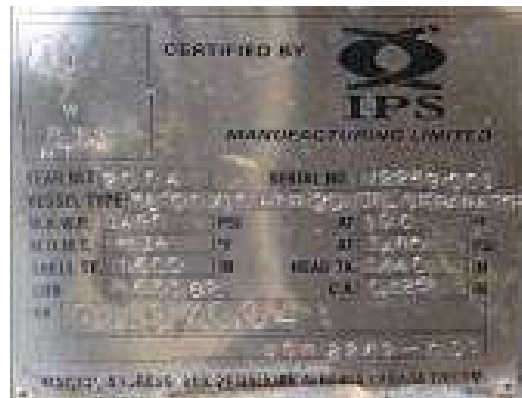


Figure: 11



VESSEL

Figure: 12



NAMEPLATE

Figure: 13



SUPPORT

### Internal Observations

#### 2025 Observations

There was no internal inspection performed at the time of inspection as the internals were not cleaned. It was noted that the unit may be sold and internal inspection is not to be performed at this time. Internal inspection shall be completed prior to placing the unit back into service.

### 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) An internal inspection is completed prior to placing the unit back into service.
  - b) The manway carrying bolt is double nutted.
  - c) The PSV is serviced prior to placing the unit into service.
  - d) The piping is all re-assembled prior to placing the unit into service.
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>UT Report</h1>								
			Report Number:		IG000079										
			Page:		1 of 5										
Client:		Midstream Equipment		Job Number:		PR0004443									
Facility:		Midstream Yard		Location/LSD:		Midstream Yard									
Equipment Number:		0497004		Client Representative:		Joe Davis									
Equipment Description:		Inlet Separator		Client Contact:		joe.davis@midstreamequipment.com									
Serial / Tag Number:		V2259-001		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 inlet separator looking for any signs of wall thinning due to corrosion, erosion, laminations or inclusions.

Result:

The measurements obtained from the inspection locations showed the thicknesses of all the components inspected to be at or around nominal. There were no signs of wall thinning, internal corrosion, erosion, laminations or inclusions at the time of inspection. All piping measurements were within the 12.5% mill tolerance, as per ASTM specifications.

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

Conclusion:

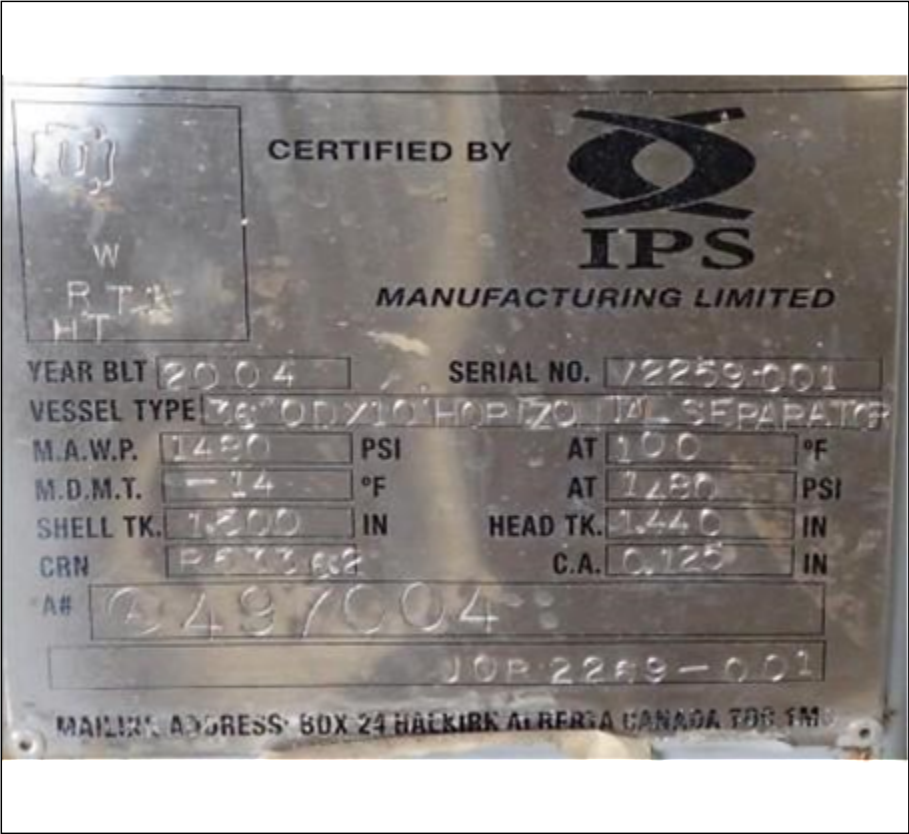
No concerns noted at the time of inspection.



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	Report Number:	IG000079	
	Page:	2 of 5	



Vessel Overview



Nameplate



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Report Number:

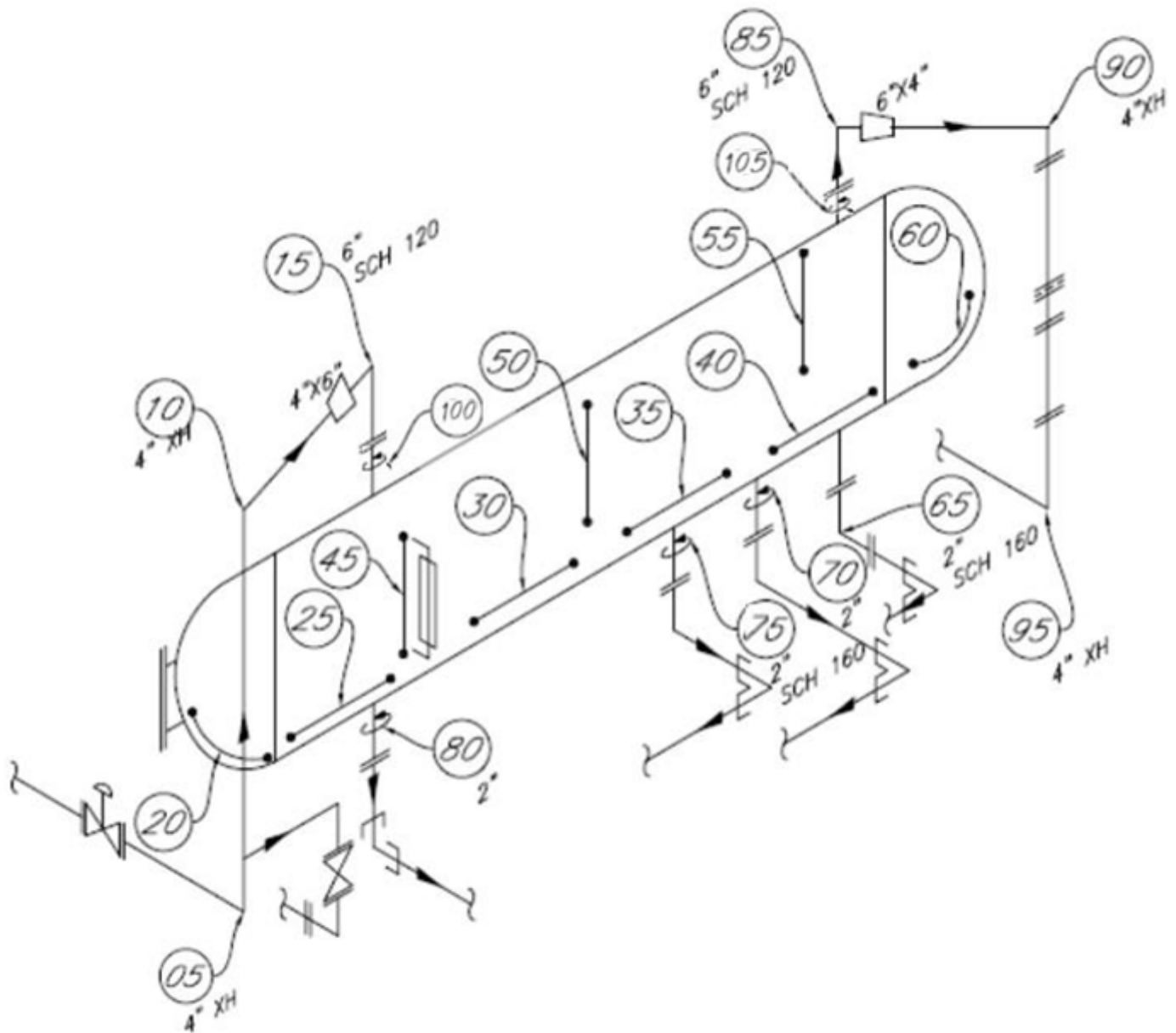
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**UT  
Report**

**ISO Drawing**



ISO



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June 25, 2025

Report Number:

IG000079

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# UT Report

## UT Data

#	01	02	03	04	05	06	07	08	09	10	11	12	Min & Avg	
5	4	XH	45° Elbow				Nom	0.337	Mil	0.042	CA	N/S	Min:	0.345
	0.357	0.348	0.347	0.350	0.345	0.347							Avg:	0.349
10	4	XH	45° Elbow				Nom	0.337	Mil	0.042	CA	N/S	Min:	0.359
	0.359	0.359	0.363	0.382	0.367	0.362							Avg:	0.365
15	4	XH	45° Elbow				Nom	0.337	Mil	0.042	CA	N/S	Min:	0.487
	0.539	0.530	0.534	0.528	0.519	0.487							Avg:	0.523
20	Head						Nom	1.440	Mil	0.010	CA	0.125	Min:	1.526
	1.526	1.527	1.526	1.540	1.533	1.540	1.540	1.537	1.568	1.584			Avg:	1.542
25	Bottom Shell						Nom	1.500	Mil	0.010	CA	0.125	Min:	1.560
	1.560	1.563	1.563	1.561	1.563	1.565	1.569	1.571					Avg:	1.564
30	Bottom Shell						Nom	1.500	Mil	0.010	CA	0.125	Min:	1.564
	1.566	1.567	1.570	1.565	1.566	1.566	1.565	1.565	1.564	1.565			Avg:	1.566
35	Bottom Shell						Nom	1.500	Mil	0.010	CA	0.125	Min:	1.563
	1.564	1.564	1.563	1.565	1.567	1.567	1.564	1.566	1.563	1.566			Avg:	1.565
40	Bottom Shell						Nom	1.500	Mil	0.010	CA	0.125	Min:	1.557
	1.559	1.557	1.568	1.563	1.561	1.563	1.560	1.561					Avg:	1.562
45	Mid Shell						Nom	1.500	Mil	0.010	CA	0.125	Min:	1.568
	1.570	1.569	1.568	1.570	1.576	1.576	1.588	1.569	1.574	1.570			Avg:	1.573
50	Mid Shell						Nom	1.500	Mil	0.010	CA	0.125	Min:	1.565
	1.569	1.566	1.565	1.569	1.568	1.576	1.568	1.570	1.570	1.566			Avg:	1.569
55	Mid Shell						Nom	1.500	Mil	0.010	CA	0.125	Min:	1.562
	1.564	1.571	1.565	1.565	1.566	1.572	1.562	1.562	1.566	1.566			Avg:	1.566
60	Head						Nom	1.440	Mil	0.010	CA	0.125	Min:	1.517
	1.533	1.539	1.536	1.521	1.518	1.517	1.517	1.522	1.531	1.536			Avg:	1.527
65	2	XXH	90° Elbow				Nom	0.436	Mil	0.054	CA	N/S	Min:	0.394
	0.422	0.394	0.402	0.394	0.397	0.394							Avg:	0.401
70	2	160	Nozzle				Nom	0.344	Mil	0.043	CA	N/S	Min:	0.348
	0.361	0.351	0.357	0.348									Avg:	0.354
75	2	160	Nozzle				Nom	0.344	Mil	0.043	CA	N/S	Min:	0.351
	0.366	0.363	0.366	0.351									Avg:	0.362
80	2	160	Nozzle				Nom	0.344	Mil	0.043	CA	N/S	Min:	0.341
	0.374	0.341	0.358	0.361									Avg:	0.359
85	6	120	45° Elbow				Nom	0.562	Mil	0.070	CA	N/S	Min:	0.526
	0.528	0.530	0.529	0.526	0.531	0.532	1.483	1.474	1.491	1.482			Avg:	0.911
90	4	XH	45° Elbow				Nom	0.337	Mil	0.042	CA	N/S	Min:	0.343
	0.389	0.381	0.364	0.357	0.357	0.343							Avg:	0.365
95	4	XH	45° Elbow				Nom	0.337	Mil	0.042	CA	N/S	Min:	0.352
	0.365	0.362	0.357	0.352	0.359	0.369							Avg:	0.361
100	6	XXH	Nozzle				Nom	0.864	Mil	0.108	CA	N/S	Min:	1.488
	1.489	1.489	1.491	1.488									Avg:	1.489
105	6	XXH	Nozzle				Nom	0.864	Mil	0.108	CA	N/S	Min:	1.474
	1.483	1.474	1.491	1.482									Avg:	1.483





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)

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	

RAE Engineering and Inspection Ltd.

Certification Record

This is to certify that:

Irwin Garcia

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

Certification No.: RAE-710B-037



# 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

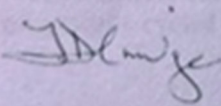
4 Step Imperial Steel

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

Phone: 270-7778

Calgary

Fax: 283-3552

Edmonton

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

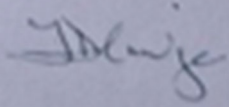
Block #2

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