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A Higher Level of Reliability

NONDESTRUCTIVE EXAMINATION

CLIENT: POINT HOPE MARITIME
345 Harbour Road
Victoria B.C
V9A 3S2

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DATE: March 4, 2020

ACUREN JOB #: 6145373

REPORT #: 6145373-200304-RLW-01

CONTRACT/PO:

WO: N/A

ATTENTION: **SAM JOHNSON**

WORK LOCATION: Victoria BC

PROJECT: M.V. Medeia

ITEM(S) EXAMINED: Structural Components

PART #: N/A MATERIAL: Carbon steel THICKNESS: N/A
SCOPE: Carry out ultrasonic thickness gauging on board the vessel "M.V. Medeia" in locations as directed by the owner's representative.
TYPE OF INSPECTION: Ultrasonic

TEST DETAILS:

ACCEPTANCE STANDARD: Client's Information

REVISION: N/A

PROCEDURE/TECHNIQUE: PAC- UT- 14T001

REVISION: 06 / 2019

TYPE: Thickness Echo to Echo	METHOD: Contact
INSTRUMENT: Olympus	MODEL: Epoch 600
S/N: 100048111	CAL DUE: May 26, 2020
CAL. BLOCK: Step Block	S/N: 07-6664
CABLE-TYPE: Coaxial	LENGTH: 5'
CAL. BLOCK: N/A	S/N: N/A
COUPLANT: Echo Ultrasonics - EchoMix	

Probe & Technique Details:

	TEST ANGLE (°)	PROBE TYPE	CRYSTAL SIZE	FREQ. (MHz)	SERIAL NUMBER	DAMPING Ω	TEST FROM	REFERENCE REFLECTOR	TRANSFER VALUE	REFERENCE		SCAN dB	RANGE
										dB	% FSH		
1	0	dual	.250"	5	02F142	50	One face	BWE	n/a	54	60	+6	1.0"

TEST SURFACE CONDITION: Coated

TEST SURFACE TEMPERATURE: 12°C to 15°C

RESULTS:

Ultrasonic thickness measurements were performed in the following areas:

- Wind Water Plates
- Keel Plates
- Forepeak bulkhead
- Three (3) transverse sections
- Shell plates und the stern tubes
- Engine room bilge

Client acknowledges receipt and custody of the report or other work ("Deliverable"). Client agrees that it is responsible for assuring that acceptance standards, specifications and criteria in the Deliverable and Statement of Work ("SOW") are correct. Client acknowledges that Acuren is providing the Deliverable according to the SOW, and not any other standards. Client acknowledges that it is responsible for the failure of any items inspected to meet standards, and for remediation. Client has 15 business days following the date Acuren provides the Deliverable to inspect it, identify deficiencies in writing, and provide written rejection, or else the Deliverable will be deemed accepted. The Deliverable and other services provided by Acuren are governed by a Master Services Agreement ("MSA"). If the parties have not entered into an MSA, then the Deliverable and services are governed by the SOW and the "Acuren Standard Service Terms" (www.acuren.com/service/terms) in effect when the services were ordered.

CLIENT: _____
CLIENT PRINTED NAME
CLIENT SIGNATURE
ACCEPTED & ACKNOWLEDGED BY
ACUREN
TECHNICIAN: Randy Wallin
1st Technician
Teri Hope
2nd Technician

TOTAL HOURS S.T. O.T. SHIFT
1ST TECHNICIAN: See Project -- Day ☒
2ND TECHNICIAN: Timesheet -- -- PM ☐
KILOMETRES: OTHER CHARGES: YES ☐ NO ☐
(IF YES, SEE DAILY OR PROJECT TIME REPORT)

REVIEWER:

(Generated Using: CAN-QUA-02F007 R06 - 05/07/2018)



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- Areas adjacent to the sea chest, keel coolers and keel cooler penetrations
- Waterline fire pump and cofferdam hull plates
- Areas in way of the ballast tank structures

Original thickness and original ship drawings were not available prior to inspection. Assumed thickness measurements were used for diminution calculation based on measurements from areas in good condition.

Localized pitting was noted on the starboard side shell plate at frame 42 and frame 15 as well as under the starboard side stern tubes.

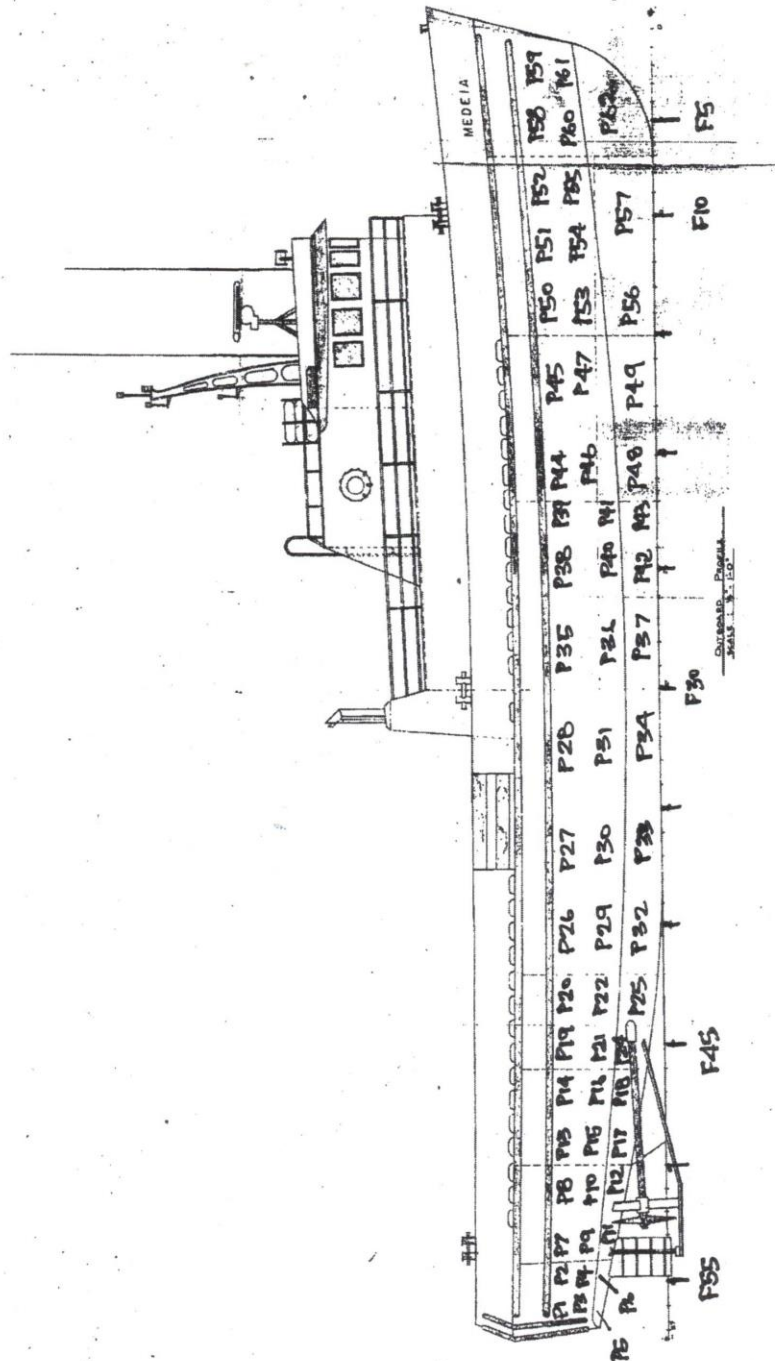
See the following details.

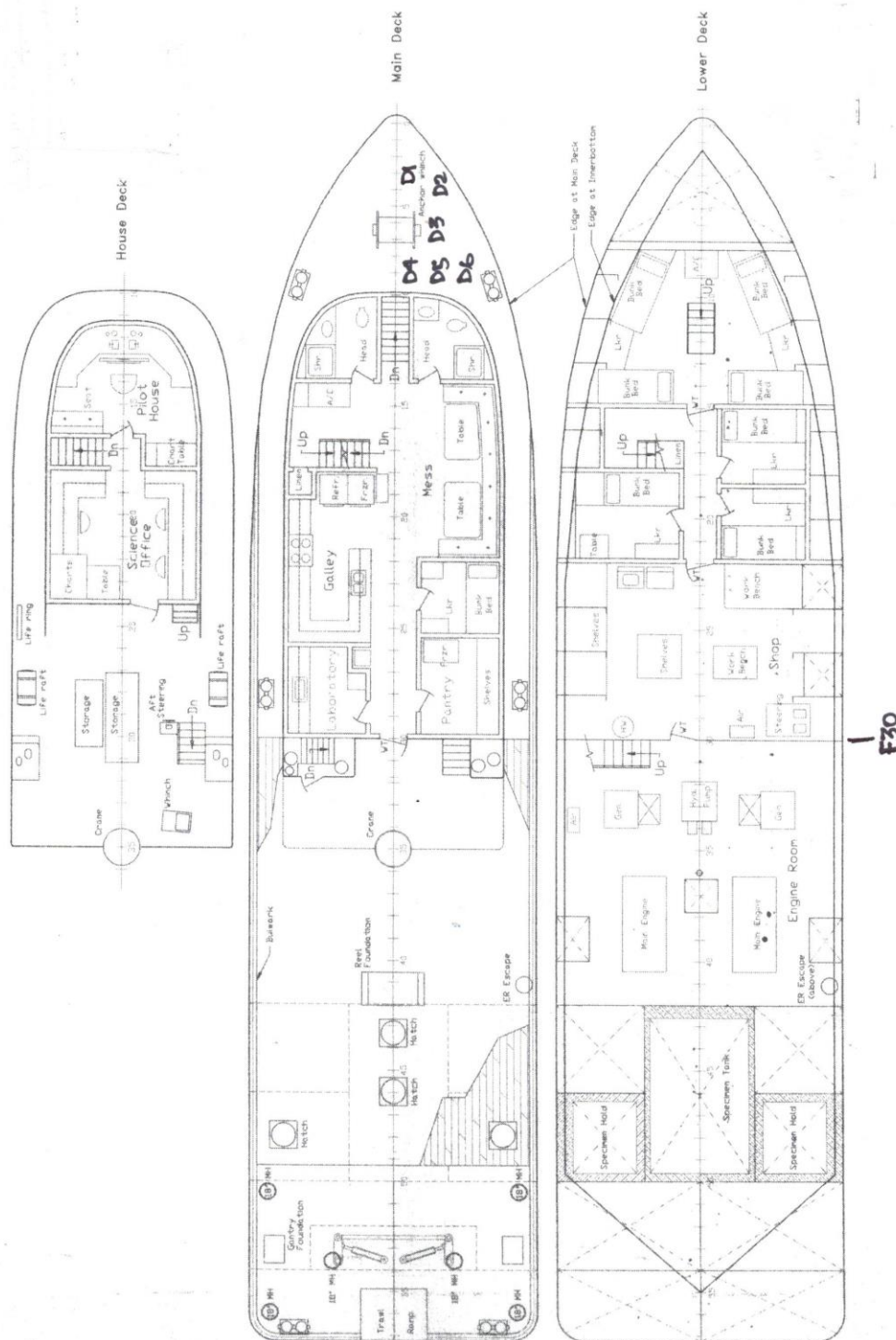


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THICKNESS MEASUREMENT REPORT

Ship's Name:		MV Medeia		Id.No:		Report No:				Legend:							
External structure	Tank/Space Reverse side	Structural Element	Element / Frame No.	Draw ref.	Orig thk. mm	Class min thk. mm	Gauged		Port		Diminution		Starboard		Renewed		
							Port mm	Sbtd mm	mm	%	mm	%	mm	%	Port mm	Sbtd mm	
		WIND & WATER/SIDE SHELL															
			Plate		P1	7.90	5.93	7.90	7.80	0.00	0.00	0.00	0.10	0.01			
			Plate		P2	7.90	5.93	7.90	7.80	0.00	0.00	0.00	0.10	0.01			
			Plate		P3	7.90	5.93	7.90	7.90	0.00	0.00	0.00	0.00	0.00			
			Plate		P4	7.90	5.93	7.80	7.90	0.10	0.01	0.01	0.00	0.00			
			Plate		P5	7.90	5.93	7.80	7.70	0.10	0.01	0.01	0.20	0.03			
			Plate		P6	7.90	5.93	8.00	7.80	0.00	0.00	0.00	0.10	0.01			
			Plate	F55	P7	7.90	5.93	7.80	7.60	0.10	0.01	0.01	0.30	0.04			
			Plate		P8	7.90	5.93	7.80	7.70	0.10	0.01	0.01	0.20	0.03			
		Plate		P9	7.90	5.93	8.00	7.60	0.00	0.00	0.00	0.30	0.04				
		Plate		P10	7.90	5.93	8.10	7.70	0.00	0.00	0.00	0.20	0.03				
		Plate		P11	7.90	5.93	8.00	7.80	0.00	0.00	0.00	0.10	0.01				
		Plate		P12	7.90	5.93	7.90	7.80	0.00	0.00	0.00	0.10	0.01				
		Plate		P13	7.90	5.93	7.80	7.70	0.10	0.01	0.01	0.20	0.03				
		Plate		P14	7.90	5.93	8.00	7.90	0.00	0.00	0.00	0.00	0.00				
		Plate		P15	7.90	5.93	8.00	7.90	0.00	0.00	0.00	0.00	0.00				
		Plate		P16	7.90	5.93	8.00	7.90	0.00	0.00	0.00	0.00	0.00				
		Plate		P17	7.90	5.93	8.00	7.90	0.00	0.00	0.00	0.00	0.00				
		Plate		P18	7.90	5.93	7.60	7.70	0.30	0.04	0.20	0.03	0.03				
		Plate	F45	P19	7.90	5.93	7.90	7.70	0.00	0.00	0.00	0.20	0.03				
		Plate	F42	P20	7.90	5.93	7.90	7.80	0.00	0.00	0.00	0.30	0.49				
		Plate		P21	7.90	5.93	8.00	7.80	0.00	0.00	0.00	0.10	0.01				
		Plate		P22	7.90	5.93	8.00	7.80	0.00	0.00	0.00	0.10	0.01				
		Plate		P23	7.90	5.93	8.00	7.90	0.00	0.00	0.00	0.00	0.00				
		Plate		P24	7.90	5.93	8.00	7.70	0.00	0.00	0.00	0.20	0.03				
		Plate		P25	7.90	5.93	7.70	7.70	0.20	0.03	0.20	0.03	0.03				
		Plate		P26	7.90	5.93	7.80	7.60	0.10	0.01	0.01	0.30	0.04				
		Plate		P27	7.90	5.93	7.80	7.60	0.10	0.01	0.01	0.30	0.04				
		Plate		P28	7.90	5.93	7.70	7.60	0.20	0.03	0.03	0.30	0.04				
		Plate		P29	7.90	5.93	7.90	7.70	0.00	0.00	0.00	0.20	0.03				
		Plate		P30	7.90	5.93	7.90	7.80	0.00	0.00	0.00	0.10	0.01				
		Plate		P31	7.90	5.93	7.60	7.80	0.30	0.04	0.10	0.01	0.01				
		Plate		P32	7.90	5.93	7.60	7.70	0.30	0.04	0.20	0.03	0.03				
		Plate		P33	7.90	5.93	7.70	7.90	0.20	0.03	0.00	0.00	0.00				
		Plate		P34	7.90	5.93	7.90	7.90	0.00	0.00	0.00	0.00	0.00				
		Plate		P35	7.90	5.93	7.90	7.80	0.00	0.00	0.00	0.10	0.01				
		Plate		P36	7.90	5.93	7.90	7.90	0.00	0.00	0.00	0.00	0.00				
		Plate		P37	7.90	5.93	7.90	7.90	0.00	0.00	0.00	0.00	0.00				

THICKNESS MEASUREMENT REPORT

Ship's Name:	External structure	Tank/Space Reverse side	Structural Element	Element / Frame No.	Draw ref.	Id. No:		Report No:		Legend:			
						Orig thk. mm	Class min thk. mm	Gauged		Diminution		Renewed	
								Port mm	Stbd mm	Port %	Starboard mm %	Port mm	Stbd mm
			Plate		P38	7.90	5.93	7.90	7.50	0.00	0.40	0.05	
			Plate		P39	7.90	5.93	7.80	7.60	0.10	0.30	0.04	
			Plate		P40	7.90	5.93	7.80	7.60	0.10	0.30	0.04	
			Plate		P41	7.90	5.93	7.90	7.60	0.00	0.30	0.04	
			Plate		P42	7.90	5.93	7.60	7.70	0.30	0.20	0.03	
			Plate		P43	7.90	5.93	7.60	7.80	0.30	0.10	0.01	
			Plate		P44	7.90	5.93	7.60	7.80	0.30	0.10	0.01	
			Plate		P45	7.90	5.93	7.60	7.80	0.30	0.10	0.01	
			Plate		P46	7.90	5.93	7.60	7.80	0.30	0.10	0.01	
			Plate		P47	7.90	5.93	7.60	7.80	0.30	0.10	0.01	
			Plate		P48	7.90	5.93	7.80	7.80	0.10	0.10	0.01	
			Plate		P49	7.90	5.93	7.80	7.70	0.10	0.20	0.03	
			Plate		P50	7.90	5.93	7.80	7.80	0.10	0.10	0.01	
			Plate		P51	7.90	5.93	7.80	7.60	0.10	0.30	0.04	
			Plate		P52	7.90	5.93	7.80	7.70	0.10	0.20	0.03	
			Plate	F15	P53	7.90	5.93	7.80	6.00	0.10	1.90	0.24	
			Plate		P54	7.90	5.93	7.70	7.80	0.20	0.10	0.01	
			Plate		P55	7.90	5.93	7.70	7.80	0.20	0.03	0.10	0.01
			Plate		P56	7.90	5.93	7.70	7.90	0.20	0.00	0.00	
			Plate		P57	7.90	5.93	7.80	7.90	0.10	0.00	0.00	
			Plate		P58	7.90	5.93	7.80	7.90	0.10	0.00	0.00	
			Plate		P59	7.90	5.93	7.70	7.90	0.20	0.03	0.00	0.00
			Plate		P60	7.90	5.93	7.70	7.90	0.20	0.03	0.00	0.00
			Plate		P61	7.90	5.93	7.80	7.90	0.10	0.00	0.00	0.00
			Plate		P62	7.90	5.93	7.80	8.00	0.10	0.00	0.00	0.00
			KEEL PLATE										
			Plate		K1	9.50	7.13	8.00	8.75	1.50	0.16	0.75	0.08
			Plate	F55	K2	9.50	7.13	8.00	9.00	1.50	0.16	0.50	0.05
			Plate		K3	9.50	7.13	7.80	9.00	1.70	0.18	0.50	0.05
			Plate		K4	9.50	7.13	7.80	9.00	1.70	0.18	0.50	0.05
			Plate		K5	9.50	7.13	8.00	9.00	1.50	0.16	0.50	0.05
			Plate		K6	9.50	7.13	8.50	8.75	1.00	0.11	0.75	0.08
			Plate		K7	9.50	7.13	8.00	9.00	1.50	0.16	0.50	0.05
			Plate	F30	K8	9.50	7.13	8.50	9.50	1.00	0.11	0.00	0.00
			Plate		K9	9.50	7.13	8.50	9.50	1.00	0.11	0.00	0.00
			Plate		K10	9.50	7.13	7.90	9.50	1.60	0.17	0.00	0.00
			Plate		K11	9.50	7.13	7.90	9.50	1.60	0.17	0.00	0.00
			Plate		K12	12.70	9.53	12.50	12.70	0.20	0.02	0.00	0.00
			Plate		K13	12.70	9.53	12.70	12.70	0.00	0.00	0.00	0.00
			Plate	F5	K14	12.70	9.53	12.70	12.70	0.00	0.00	0.00	0.00
			Plate		K15	12.70	9.53	12.50	12.70	0.20	0.02	0.00	0.00

THICKNESS MEASUREMENT REPORT

Ship's Name:	Tank/Space Reverse side	Structural Element	Element / Frame No.	Draw ref.	Id. No:		Report No:				Legend:			
					Orig thk. mm	Class min thk. mm	Gauged		Port	Stbd	Diminution		Renewed	
							mm	mm			mm	%	Port	Stbd
		TRANSOM												
		Plate	Transom	T1	8.00	6.00	8.00	8.00	0.00	0.00	0.00	0.0%		
		Plate	Transom	T2	8.00	6.00	8.00	8.00	0.00	0.00	0.00	0.0%		
		Plate	Transom	T3	8.00	6.00	8.30	8.00	0.00	0.00	0.00	0.0%		
		Plate	Transom	T4	8.00	6.00	8.30	8.00	0.00	0.00	0.00	0.0%		
		Plate	Transom	T5	8.00	6.00	8.00	8.00	0.00	0.00	0.00	0.0%		
		Plate	Transom	T6	8.00	6.00	8.00	8.00	0.00	0.00	0.00	0.0%		
		DECK PLATING												
		Main Deck Plate	F5	D1	6.00	4.50	5.85	5.45	0.15	2.5%	0.55	9.2%		
		Main Deck Plate		D2	6.00	4.50	5.40	5.50	0.60	10.0%	0.50	8.3%		
		Main Deck Plate		D3	6.00	4.50	5.50	5.95	0.50	8.3%	0.05	0.8%		
		Main Deck Plate		D4	6.00	4.50	5.95	6.00	0.05	0.8%	0.00	0.0%		
		Main Deck Plate		D5	6.00	4.50	6.00	4.95	0.00	0.0%	1.05	17.5%		
		Main Deck Plate		D6	6.00	4.50	5.45	6.00	0.55	9.2%	0.00	0.0%		
		ENGINE ROOM/ WORKSHOP												
		Plate	F25	P1	7.90	5.93	6.50	7.80	1.40	17.7%	0.10	1.3%		
		Plate	F25	P2	7.90	5.93	6.50	7.90	1.40	17.7%	0.00	0.0%		
		Plate	F25	P3	7.90	5.93	7.00	7.70	0.90	11.4%	0.20	2.5%		
		Plate	F25	P4	7.90	5.93	7.20	7.70	0.70	8.9%	0.20	2.5%		
		Plate	F25	P5	7.90	5.93	7.85	7.60	0.05	0.6%	0.30	3.8%		
		Plate	F25	P6	7.90	5.93	7.70	7.60	0.20	2.5%	0.30	3.8%		
		Plate	F25	P7	7.90	5.93	7.50	6.50	0.40	5.1%	1.40	17.7%		
		Plate	F25	P8	7.90	5.93	6.50	6.80	1.40	17.7%	1.10	13.9%		
		Plate	F29-30	P9	7.90	5.93	7.00	7.80	0.90	11.4%	0.10	1.3%		
		Plate	F29-30	P10	7.90	5.93	7.70	7.90	0.20	2.5%	0.00	0.0%		
		Plate	F29-30	P11	7.90	5.93	7.50	7.70	0.40	5.1%	0.20	2.5%		
		Plate	F29-30	P12	7.90	5.93	7.00	7.70	0.90	11.4%	0.20	2.5%		
		Plate	F36-38	P13	7.90	5.93	7.80	7.00	0.10	1.3%	0.90	11.4%		
		Plate	F36-38	P14	7.90	5.93	7.90	6.80	0.00	0.0%	1.10	13.9%		
		Plate	F36-38	P15	7.90	5.93	7.70	6.50	0.20	2.5%	1.40	17.7%		
		Plate	F36-38	P16	7.90	5.93	7.70	7.50	0.20	2.5%	0.40	5.1%		
		Plate	F36-38	P17	7.90	5.93	7.60	7.50	0.30	3.8%	0.40	5.1%		
		Plate	F36-38	P18	7.90	5.93	7.60	7.80	0.30	3.8%	0.10	1.3%		



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THICKNESS MEASUREMENT REPORT

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