

SEPTEMBER 28, 1998

TEST REPORT #98550

PULL AND SHEAR TEST

SOLDER LEAD SENS (-SL)

SAMTEC



APPROVED BY: MAX PEEL
PRESIDENT AND DIRECTOR OF ADVANCED RESEARCH
CONTECH RESEARCH, INC.



Contech Research

CERTIFICATION

This is to certify that the evaluation described herein was designed and executed by personnel of Contech Research, Inc. It was performed in concurrence of Samtec, of New Albany, IN who was the test sponsor.

All equipment and measuring instruments used during testing were calibrated and traceable to NIST according to ISO 10012-1 and ANSI/NCSL Z540-1, as applicable.

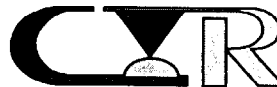
All data, raw and summarized, analysis and conclusions presented herein are the property of the test sponsor. No copy of this report, in part or in full, shall be forwarded to any agency, customer, etc., by Contech Research without the written approval of the test sponsor.



Max Peel

President And Director Of Advanced Research
Contech Research, Inc.

MP:js



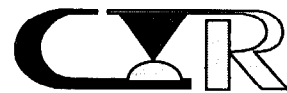
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EQUIPMENT LIST

September 27, 1998

ID#	Next Cal	Last Cal	Equipment Name	Manufacturer	Model #	Serial #	Accuracy	Freq. Cal
18			Bench Oven	Blue M Co.	POM7-256C	P38-1452	± 0.5°C	Ea. Test
38			Universal Test Stand	Chatillon	UTSM-SS	1030	N/A	N/A
486	12/17/98	6/17/98	Digital Force Gage 100 lbs.	Chatillon Co.	DFIS-100	23084	±.15% full scale	6 mon.
697			Temp. Humid. Chamber	Cincinnati Sub Zero	ZH-8-1-H/AC	Z9822875	See Manual	6mo

TEST RESULTS



Contech Research

PROJECT NO.: 98550 SPECIFICATION: EIA 364

PART NO.: SOLC/TOLC PART DESCRIPTION: Connectors

SAMPLE SIZE: See Below TECHNICIAN: BE

START DATE: 9-10-98 COMPLETE DATE: 9-21-98

ROOM AMBIENT: 20°C RELATIVE HUMIDITY: 47%

EQUIPMENT ID#: 18, 38, 486, 697

PULL TEST

PROCEDURE:

1. Two lots of connectors were submitted for the test mounted and terminated to test boards by the test sponsor including the special lever.
2. The pull test was performed on samples from Lot #1 in the 'as received' state.
3. The pull test was performed on samples from Lot #2 after 10 days of cyclic humidity.
4. The test environment was performed in accordance with EIA 364, Test Procedure 31, Procedure II, with the following conditions:
5. Test Conditions:
 - a) Relative Humidity : 90% to 95%
 - b) Temperature Conditions : 25°C to 65°C
 - c) Cold Cycle : No
 - d) Mating Conditions : Unmated
 - e) Mounting Conditions : Mounted
 - f) Duration : 240 hours
6. A special fixture was used to grip the lever at the position where it was fixed to the test board and a force gage mounted to a test stand. The test rate was 1.0 lb/second.

REQUIREMENTS: See next page.

REQUIREMENTS:

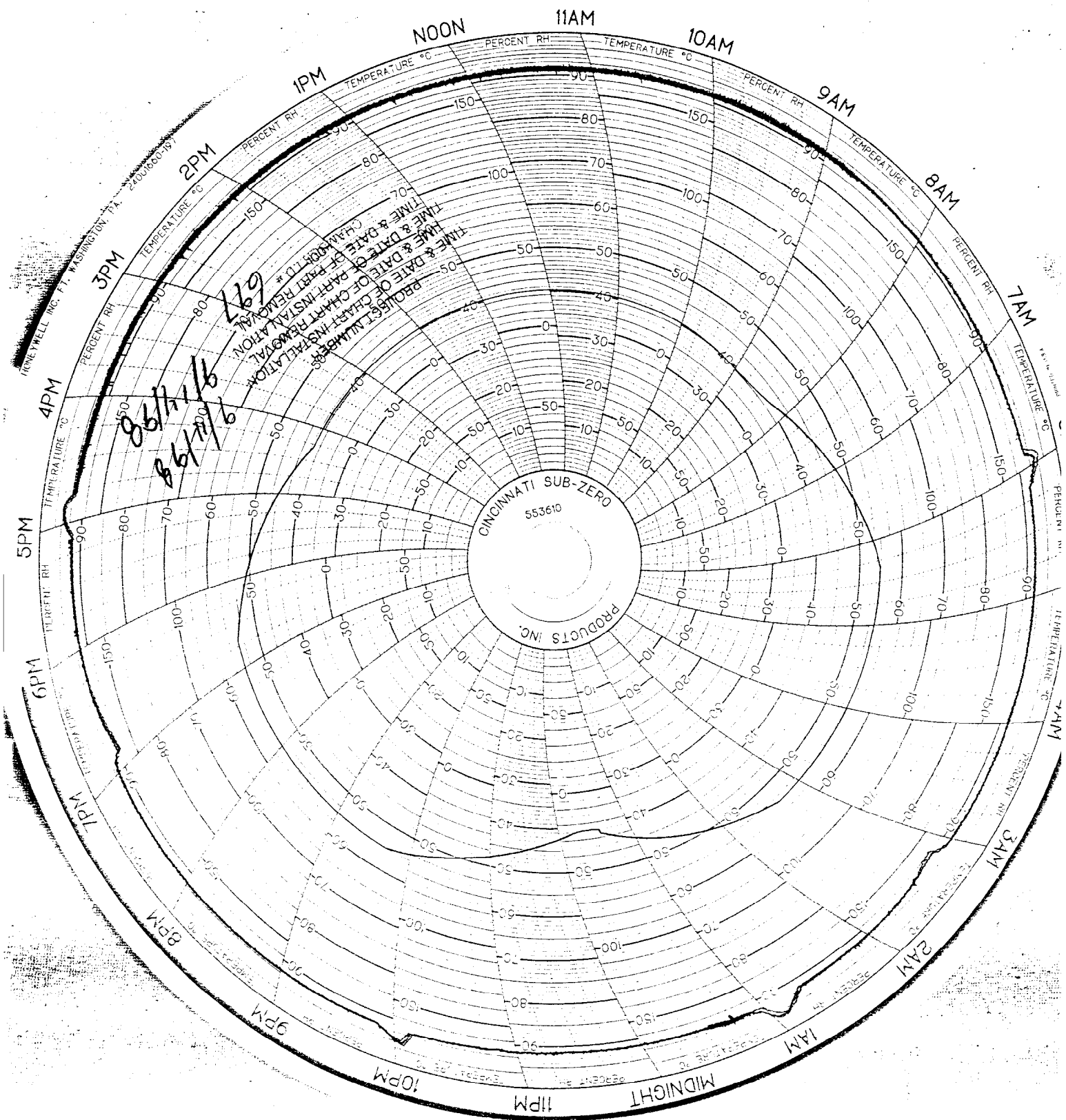
An axial force was applied to the lever until it pulled free from the test board or fractured. Said force shall be measured and recorded.

RESULTS:

1. The following is a summary of the data observed:

<u>Sample ID#</u>	<u>PULL FORCE</u> <u>(Pounds)</u>	
	<u>LOT #1</u> <u>(As Received)</u>	<u>LOT #2</u> <u>(After Exposure)</u>
1	10.9	8.9
2	12.7	9.1
3	9.8	9.0
4	15.5	10.6
5	10.1	5.0
6	11.0	5.4
7	8.4	10.6
8	8.8	9.9
9	4.9	10.8
10	--	4.4

2. The arm fractured in all cases.

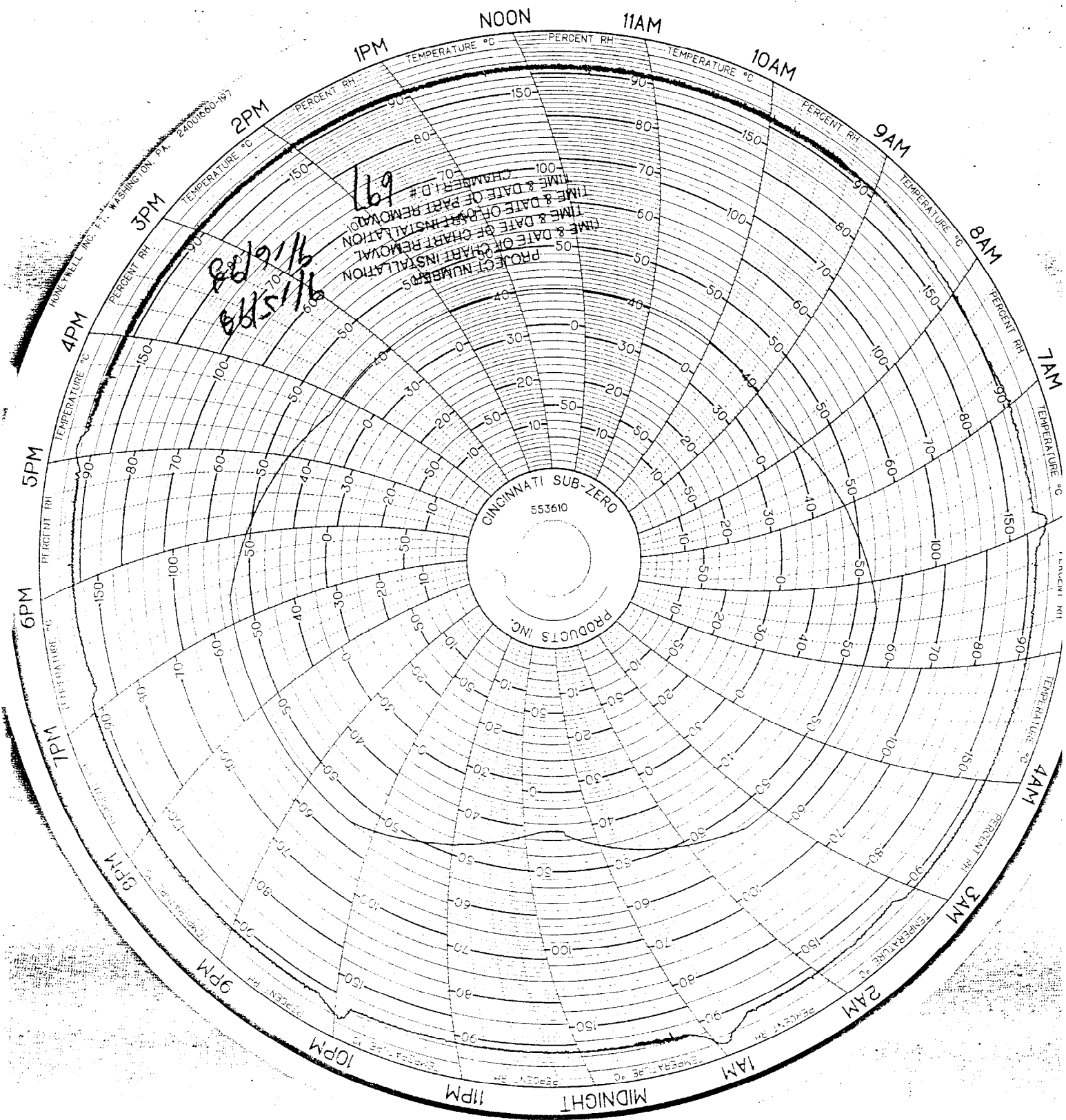


IRVING WELLS, INC., P.O. BOX 100, WASHINGTON, D.C. 20001-0100
24001600-197

PRODUCTS INC.
CINCINNATI SUB-ZERO
553610
TIME & DATE OF PART REMOVAL
TIME & DATE OF PART INSTALLATION
CLEANING TO *
229

86/71/6
86/74/6

CINCINNATI SUB-ZERO
553610
PRODUCTS INC.

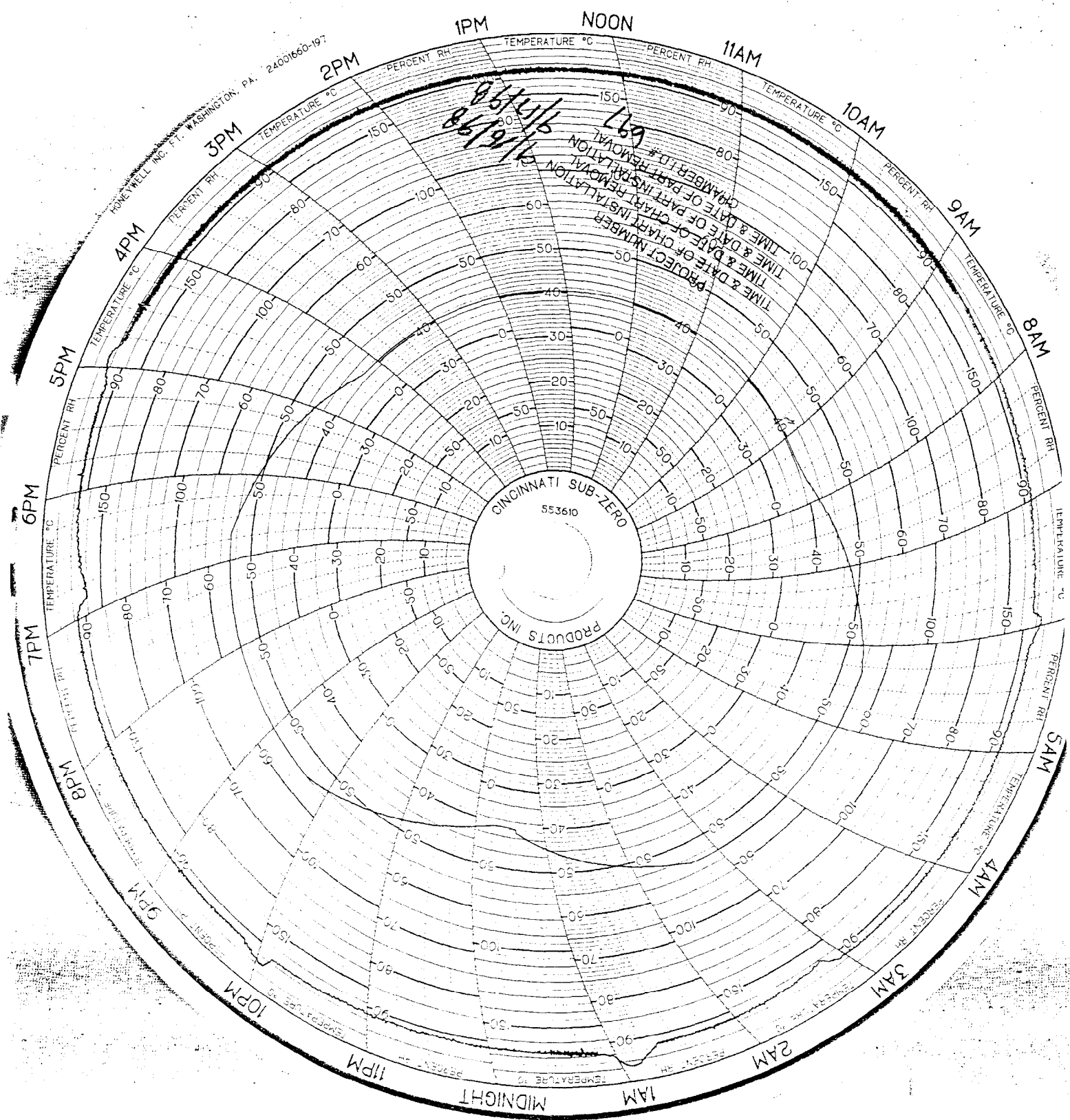


PROJECT NUMBER
169
CHAMBER I.D.#
11/15/78
TIME & DATE OF PART REMOVAL
11/16/78
TIME & DATE OF CHART INSTALLATION
11/16/78

CINCINNATI SUB-ZERO
553610
PRODUCTS INC.

MOETWELL INC. FT. WASHINGTON, PA. 2400660-197

HONEYWELL INC. FT. WASHINGTON, PA. 24001650-197

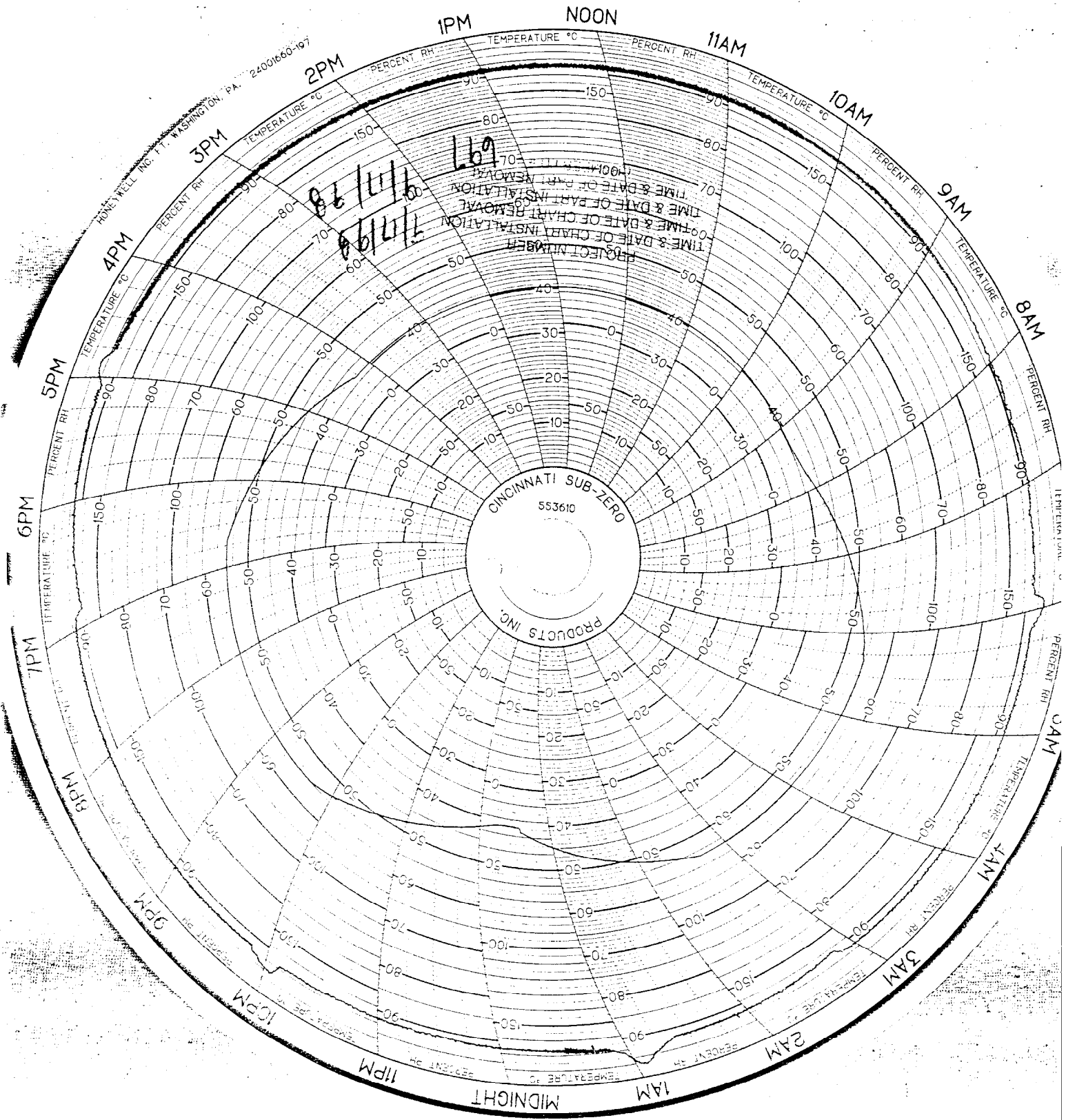


CINCINNATI SUB-ZERO
553610

PRODUCTS INC.

PROJECT NUMBER
TIME & DATE OF CHART INSTALLATION
TIME & DATE OF PART REMOVAL
CHAMBER I.D. # NOTED

05/14/16
85/97%
269

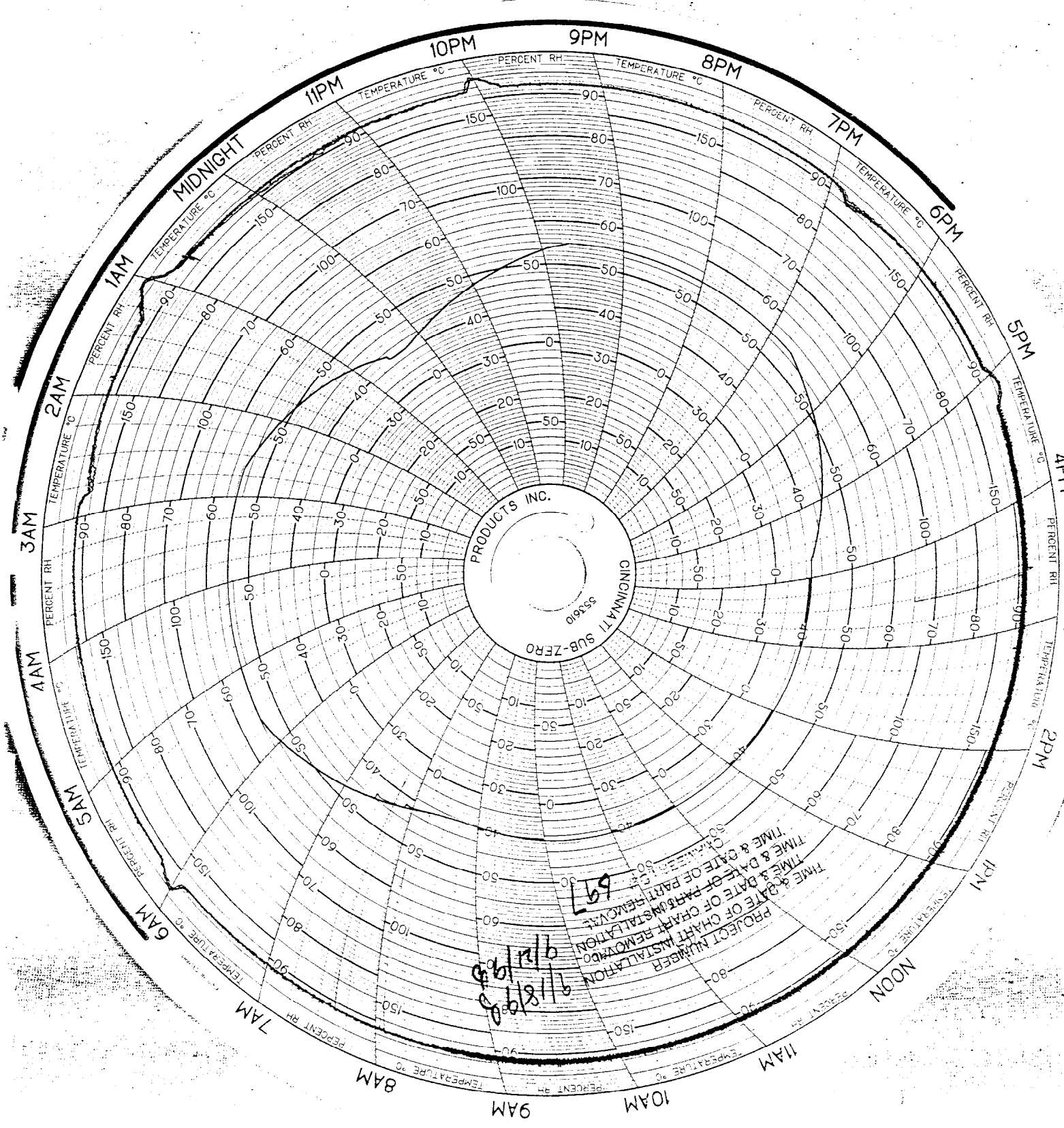


HONEYWELL INC. FT. WASHINGTON, PA. 24001660-197

CINCINNATI SUB-ZERO
553610
PRODUCTS INC.

7/17/68
86/11/16
L69

PROJECT NUMBER
TIME & DATE OF CHART INSTALLATION
TIME & DATE OF CHART REMOVAL
TIME & DATE OF PART INSTALLATION
TIME & DATE OF PART REMOVAL



PRODUCTS INC.
 CINCINNATI
 SUB-ZERO
 553610

PROJECT NUMBER
 TIME & DATE OF CHART INSTALLATION
 TIME & DATE OF PART REMOVAL
 TIME & DATE OF PARTS INSTALLATION
 TIME & DATE OF PARTS REMOVAL
 697
 9/18/98
 9/21/98