



28470 Citrin Drive Romulus, MI 48174  
o 734.946.1000 republicservices.com

February 28, 2020

Mr. Allan Batka  
United States Environmental Protection Agency  
Region 5 (WU-16J)  
77 West Jackson Blvd.  
Chicago, Illinois 60604

Re: RIES Monthly Report (in conformance with MI-163-1W-C010 & MI-163-1W-C011)

Dear Mr. Batka:

Republic Industrial and Energy Solutions, LLC. ["RIES", formerly Environmental Geo-Technologies, LLC ("EGT")] hereby timely submits its seventy-fifth Monthly Report ("MR") in conformance with the requirements of its two EPA UIC permits (#s MI-163-1W-C010 & MI-163-1W-C011).

RIES is providing all of the attached information in the same sequence as required by both subject permits, i.e. Part II.D.1 (a-i), Part III, Attachment A, and Part III, Attachment E.G.2 & E.I. As for the last few months, there are a few computerized sheets absent from this report because the computer systems continue to be upgraded, and once completed, I will forward them (for September, October, November, December 2019, and January 2020 summary sheets) on to you. RIES did not accept any F039 waste in January, 2020 so no Page A-3 of 3 laboratory analyses are necessary to be submitted as part of this MR.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

We trust that you find this report satisfactory, however, if you have any questions or comments, please feel free to contact us.

Sincerely,

A handwritten signature in black ink, appearing to read "Richard J. Powals".

Richard J. Powals, P.E.

cc: J. Frost (RIES)

att.

rjp022020/RIESEPA Monthly Report-January, 2020

**AVERAGE INJECTION RATE**

Calculation of Average Injection Rate

CURRENT REPORTING YEAR 2020

CURRENT REPORTING MONTH JANUARY

Date (month, year) of the first injection into either well at the Citrin Road Facility  
NOV 2013

CURRENT MONTH (all volumes in gallons)

	Injected Waste	Injected Non-Waste	Total injected
<b>MI-163-1W-C010, Well #1-12</b>			
Current Month	0	0	0
Since facility first injected			14,567,965
<b>MI-163-1W-C011, Well #2-12</b>			
Current Month	0	0	0
Since facility first injected			4,648,763
		Lifetime Combined	19,216,701

Conversion factors

365.25 days per year ÷ 12 months per year = 30.4375 days per month

30.4375 days per month × 1440 minutes per day = 43,830 minutes per month

Calculations

Whole number of months of injection 73

                     lifetime number of months of injection × 43,830 minutes/month  
= 3,199,590 minutes of injection

Lifetime combined injected volume 19,216,701 ÷ 3,199,590 minutes of injection  
= 6.0 gpm average injection rate

## DATA DESCRIPTION

In the month of January no waste was received, and no injection was performed. There is no tabulated data in this report because the SCADA operating system continues to be upgraded and rebuilt. The tabulated data is still being recorded in the old hard drive but needs to be specifically retrieved by the programmer.

## Circle Chart Index

Environmental Geo-Technologies, LLC 28470 Citrin Drive Romulus, MI 48174

### Chart Recorder #1

Channel #1

Blue Pen - Well 1 Injection Pressure (chart value x 30)

Channel #2

Red Pen - Well 1 Annulus Pressure (chart value x 30)

Channel #3

Green Pen - Well 1 Flow Rate (chart value x 4)

Channel #4

Black Pen - Well 1 Annulus Tank Level (chart value x 0)

### Chart Recorder #2

Channel #1

Blue Pen - Well 2 Injection Pressure (chart value x 30)

Channel #2

Red Pen - Well 2 Annulus Pressure (chart value x 30)

Channel #3

Green Pen - Well 2 Flow Rate (chart value x 4)

Channel #4

Black Pen - Well 2 Annulus Tank Level (chart value x 0)

### Chart Recorder #3

Channel #1

Blue Pen - Injection pH Well 1 & 2 (chart value ÷ 3.3)

Channel #2

Red Pen - Well 1 Monthly Volume (chart value x 100,000)

Channel #3

Green Pen - Well 2 Monthly Volume (chart value x 100,000)

Channel #4

Black Pen - Temperature (chart value x 0)

PRINTED IN U.S.A.  
SUNDAY  
NOON

TUESDAY  
NOON

PM

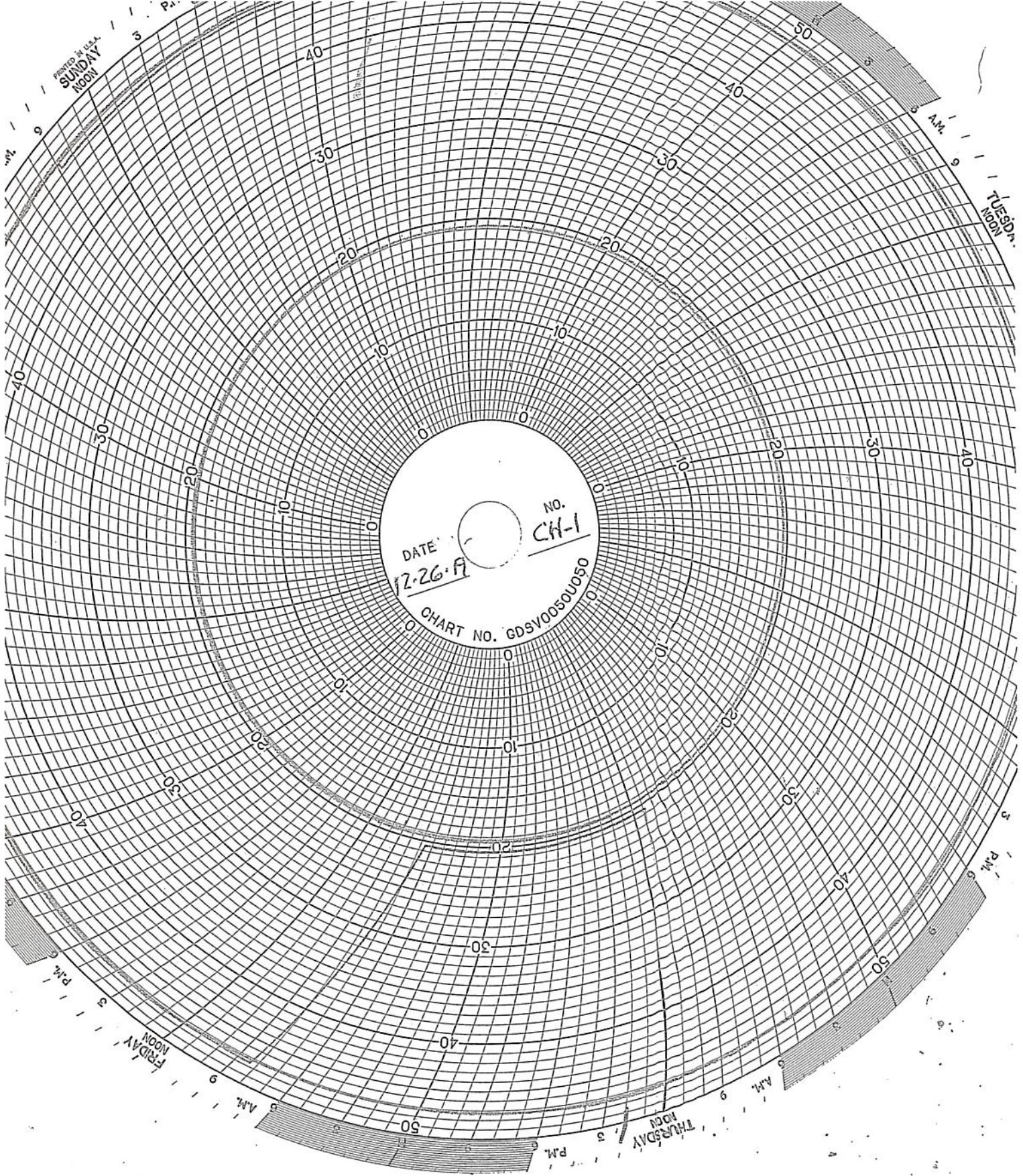
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NOON

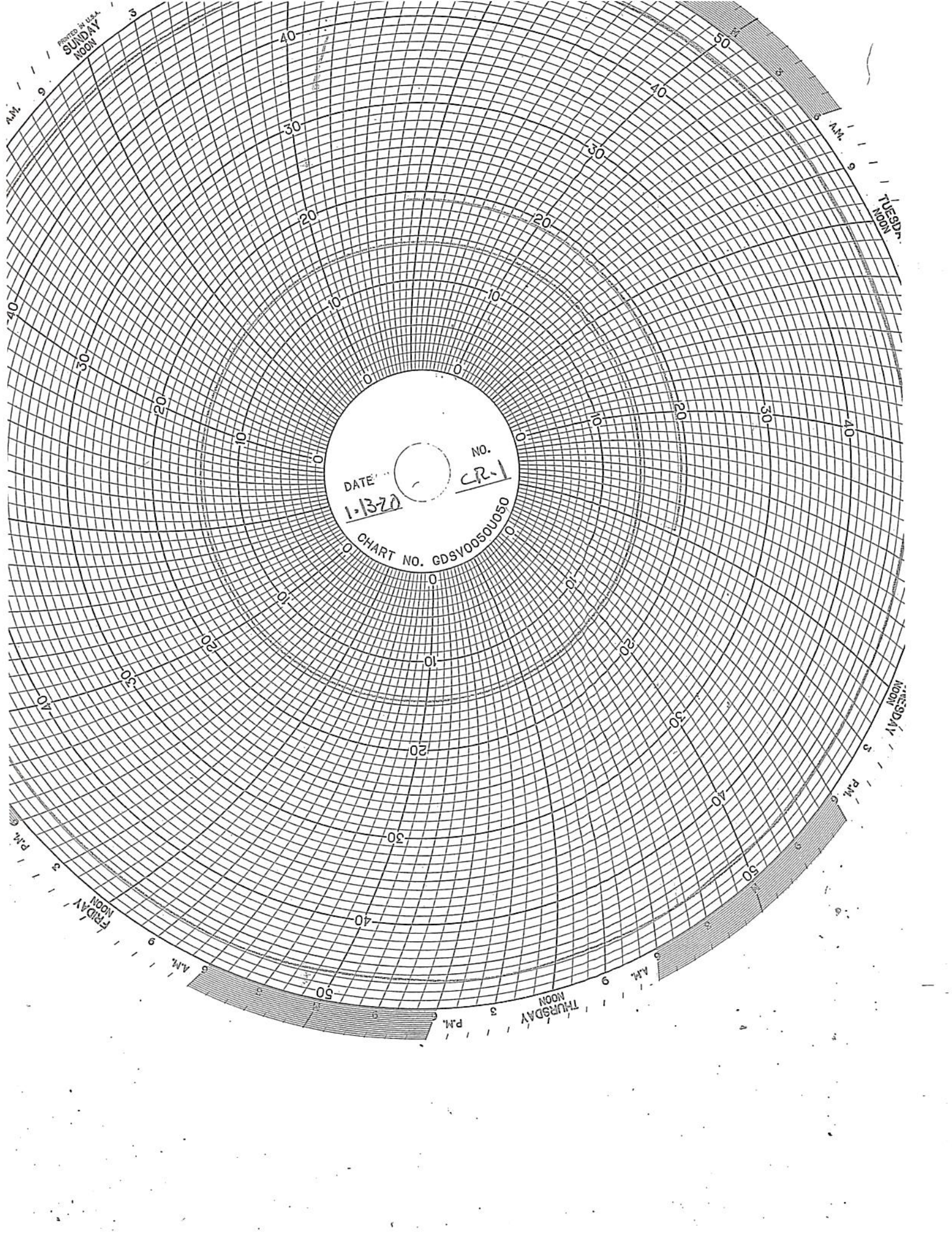
THURSDAY  
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DATE  
12-26-71

NO.  
CH-1

CHART NO. GDSV0050U050





PRINTED IN U.S.A.  
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NOON

**TUESDAY**  
NOON

**WEDNESDAY**  
NOON

**THURSDAY**  
NOON

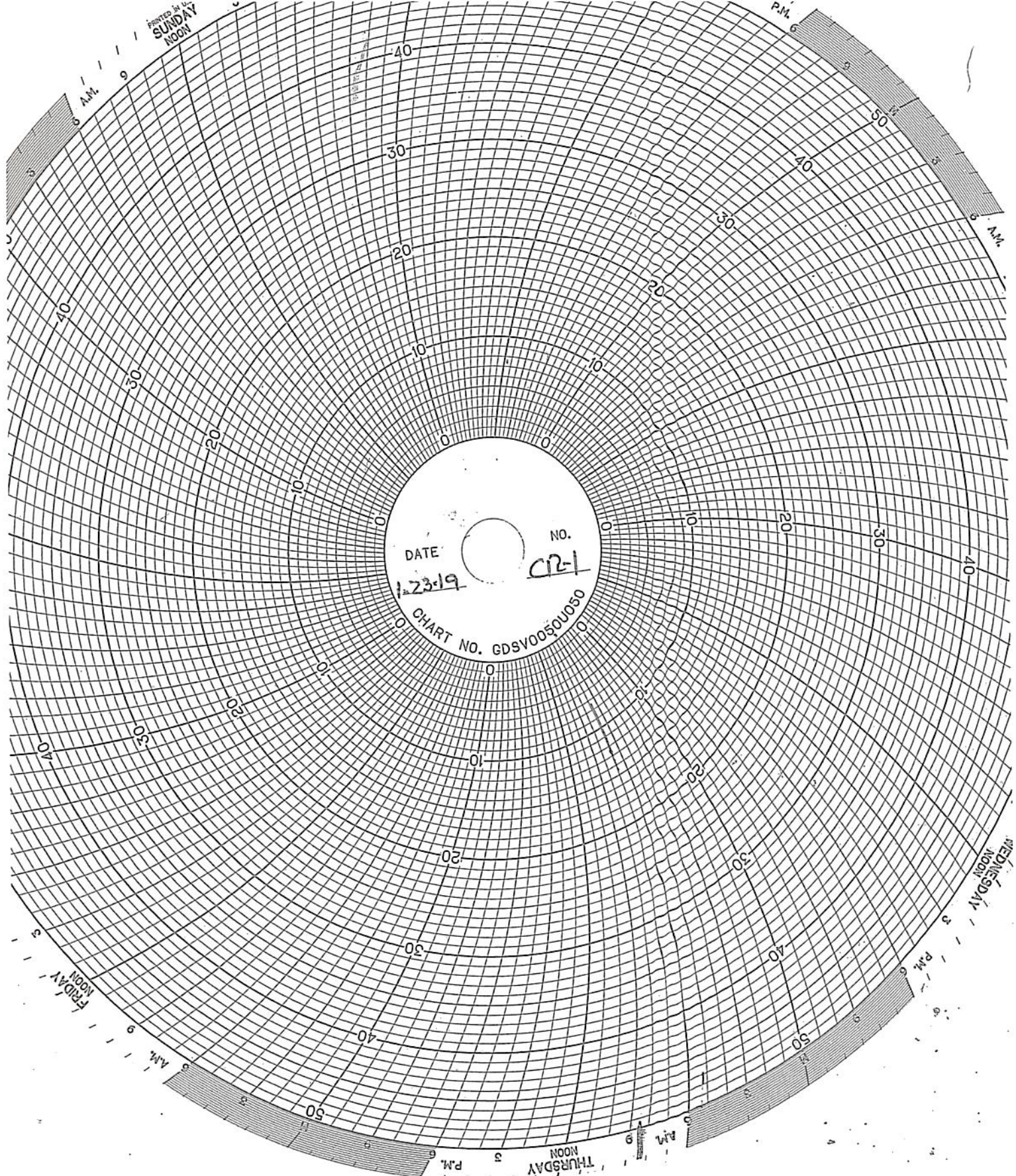
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DATE  
1-13-70

No.  
CR-1

CHART NO. GDSV0050U050

PRINTED BY U.S. SUNDAY NOON



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CHART NO. GDSV0050U050

5 A.M. 9

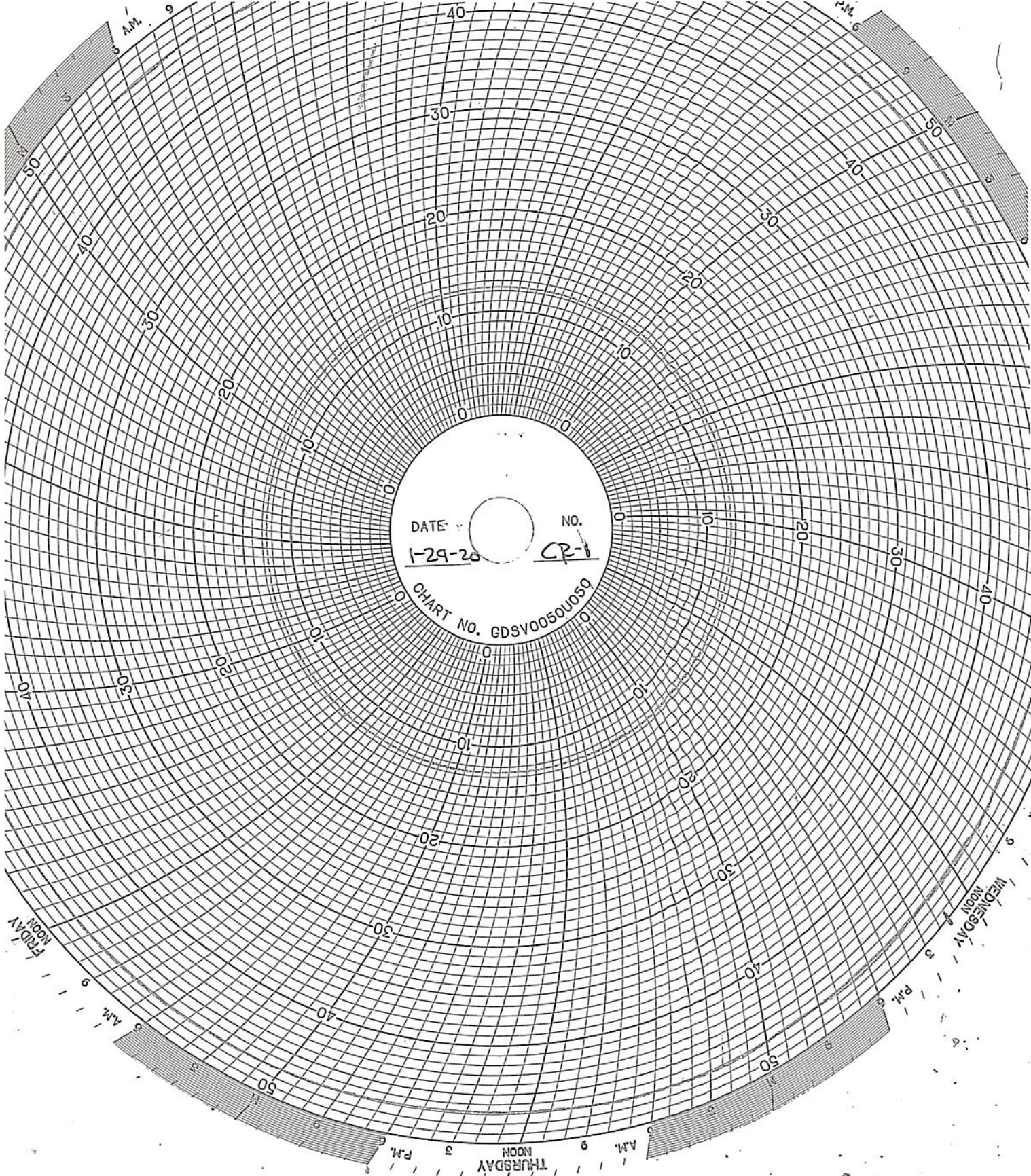
P.M. 6 50 5 6 A.M.

FRIDAY 5 A.M. 9

THURSDAY 5 P.M. 6 50 5 6 A.M.

FRIDAY 5 A.M. 9





FRIDAY  
THURSDAY  
AM  
PM  
NOON

**WELL 2 DATA**

## Circle Chart Index

Environmental Geo-Technologies, LLC 28470 Citrin Drive Romulus, MI 48174

### Chart Recorder #1

Channel #1

Blue Pen - Well 1 Injection Pressure (chart value x 30)

Channel #2

Red Pen - Well 1 Annulus Pressure (chart value x 30)

Channel #3

Green Pen - Well 1 Flow Rate (chart value x 4)

Channel #4

Black Pen - Well 1 Annulus Tank Level (chart value x 0)

### Chart Recorder #2

Channel #1

Blue Pen - Well 2 Injection Pressure (chart value x 30)

Channel #2

Red Pen - Well 2 Annulus Pressure (chart value x 30)

Channel #3

Green Pen - Well 2 Flow Rate (chart value x 4)

Channel #4

Black Pen - Well 2 Annulus Tank Level (chart value x 0)

### Chart Recorder #3

Channel #1

Blue Pen - Injection pH Well 1 & 2 (chart value +3.3)

Channel #2

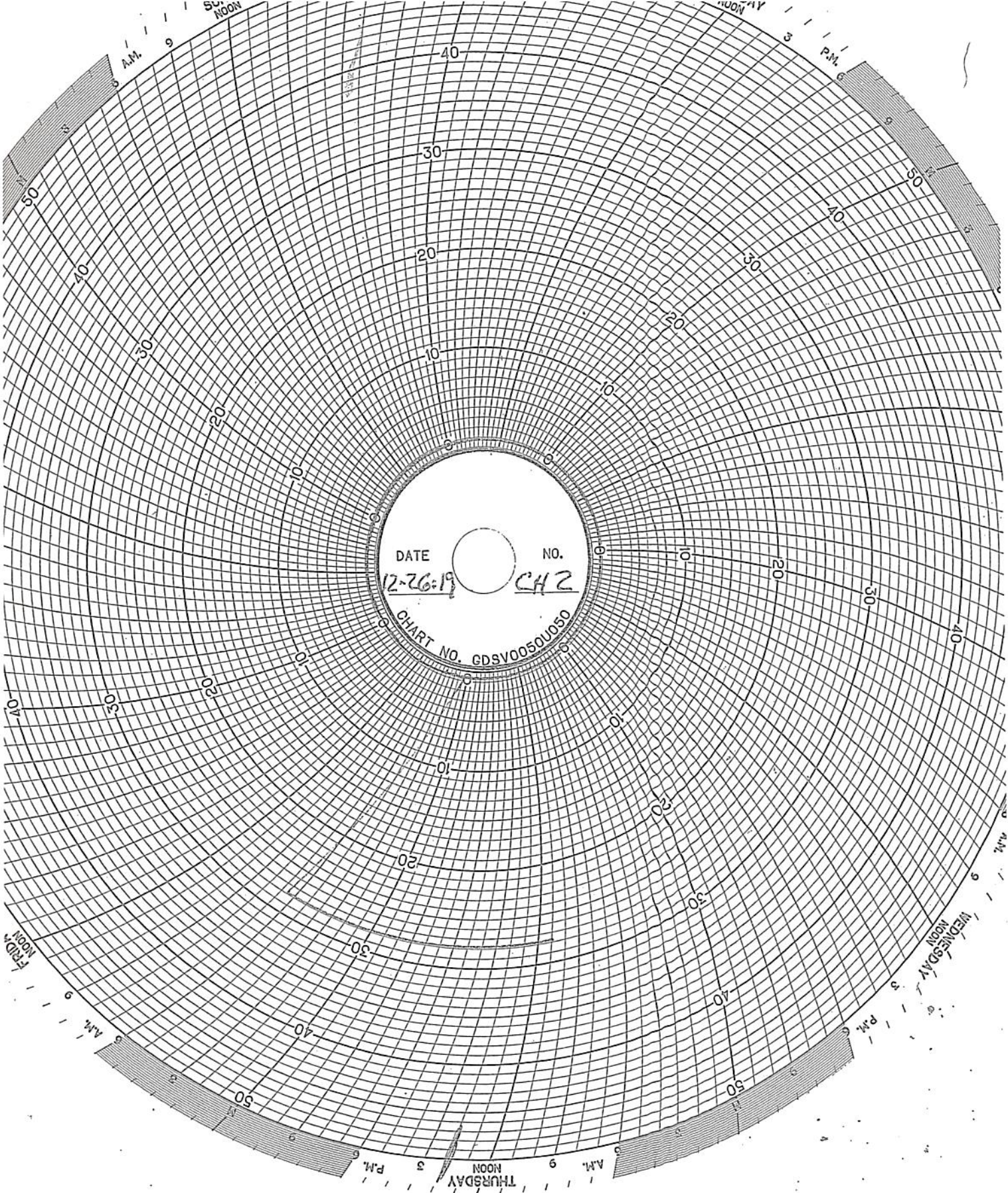
Red Pen - Well 1 Monthly Volume (chart value x 100,000)

Channel #3

Green Pen - Well 2 Monthly Volume (chart value x 100,000)

Channel #4

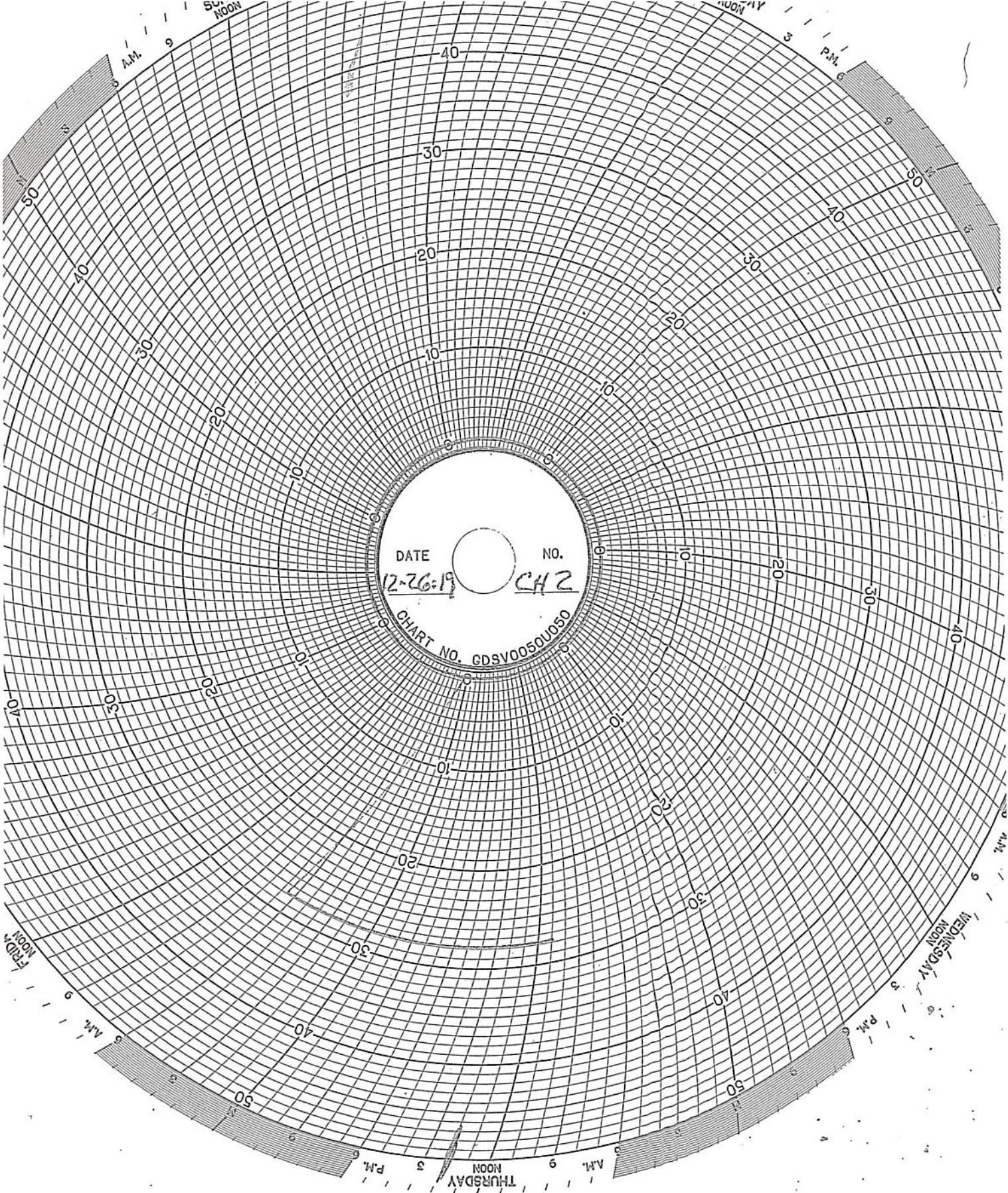
Black Pen - Temperature (chart value x 0)



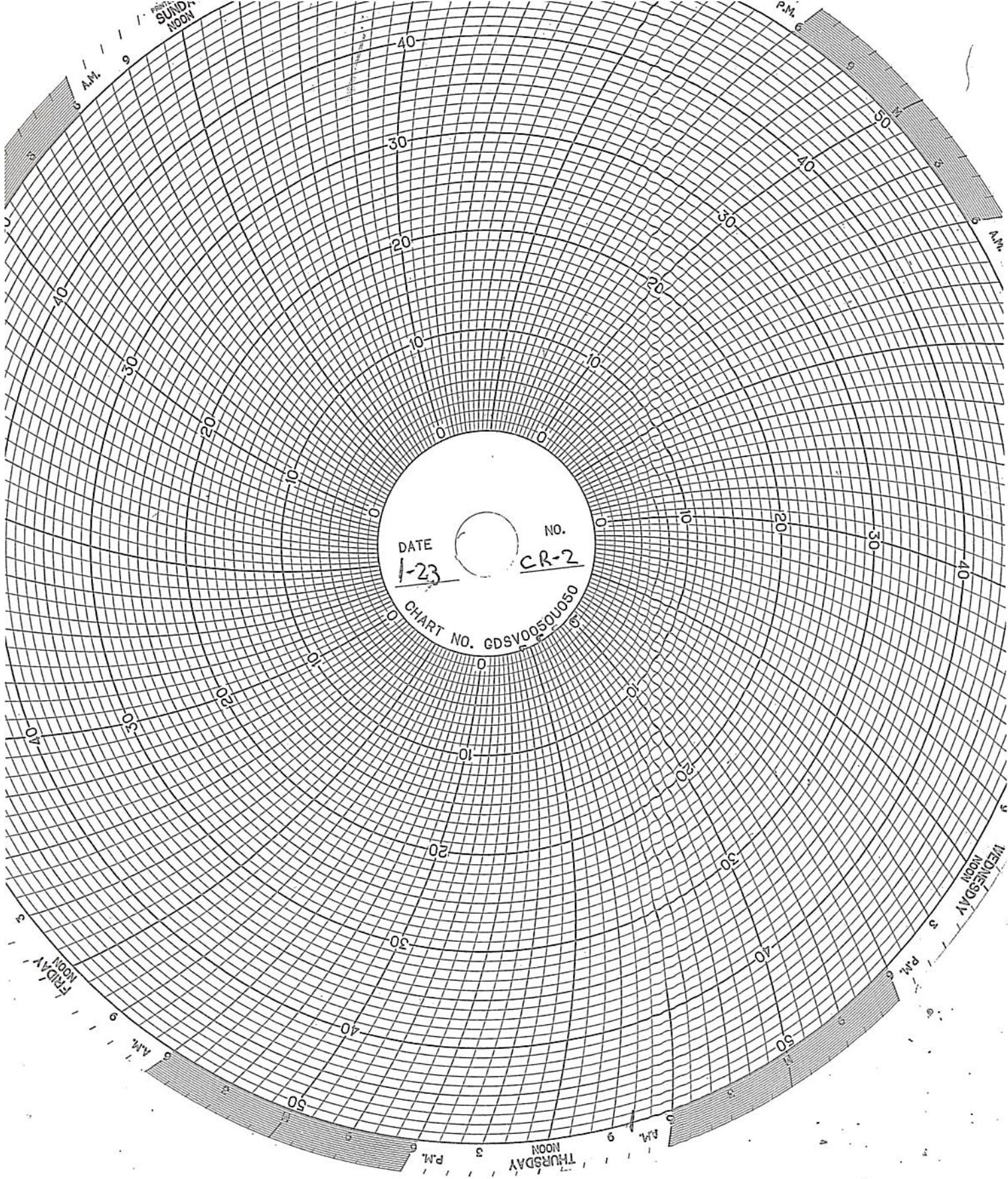
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NO. CH2

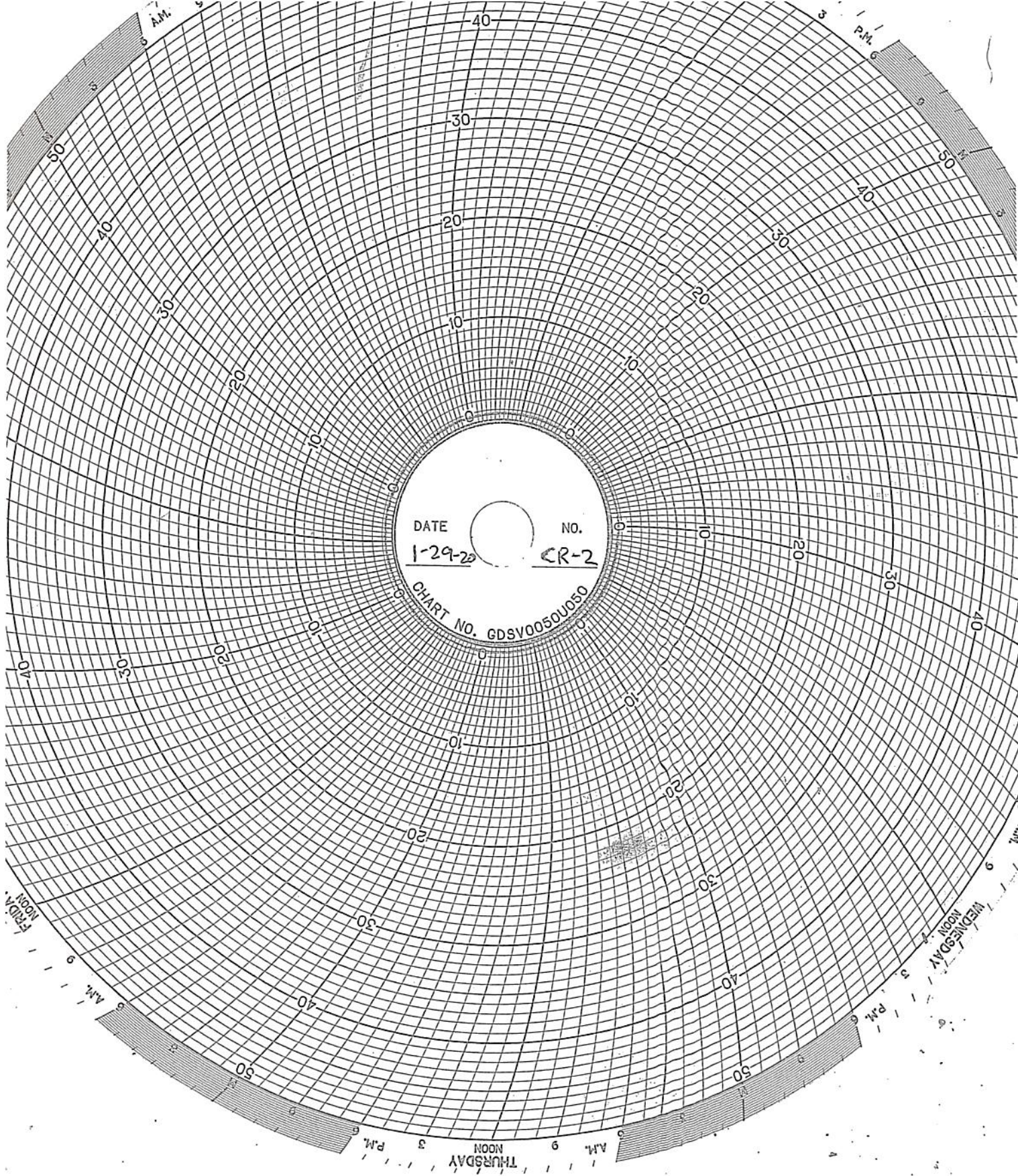
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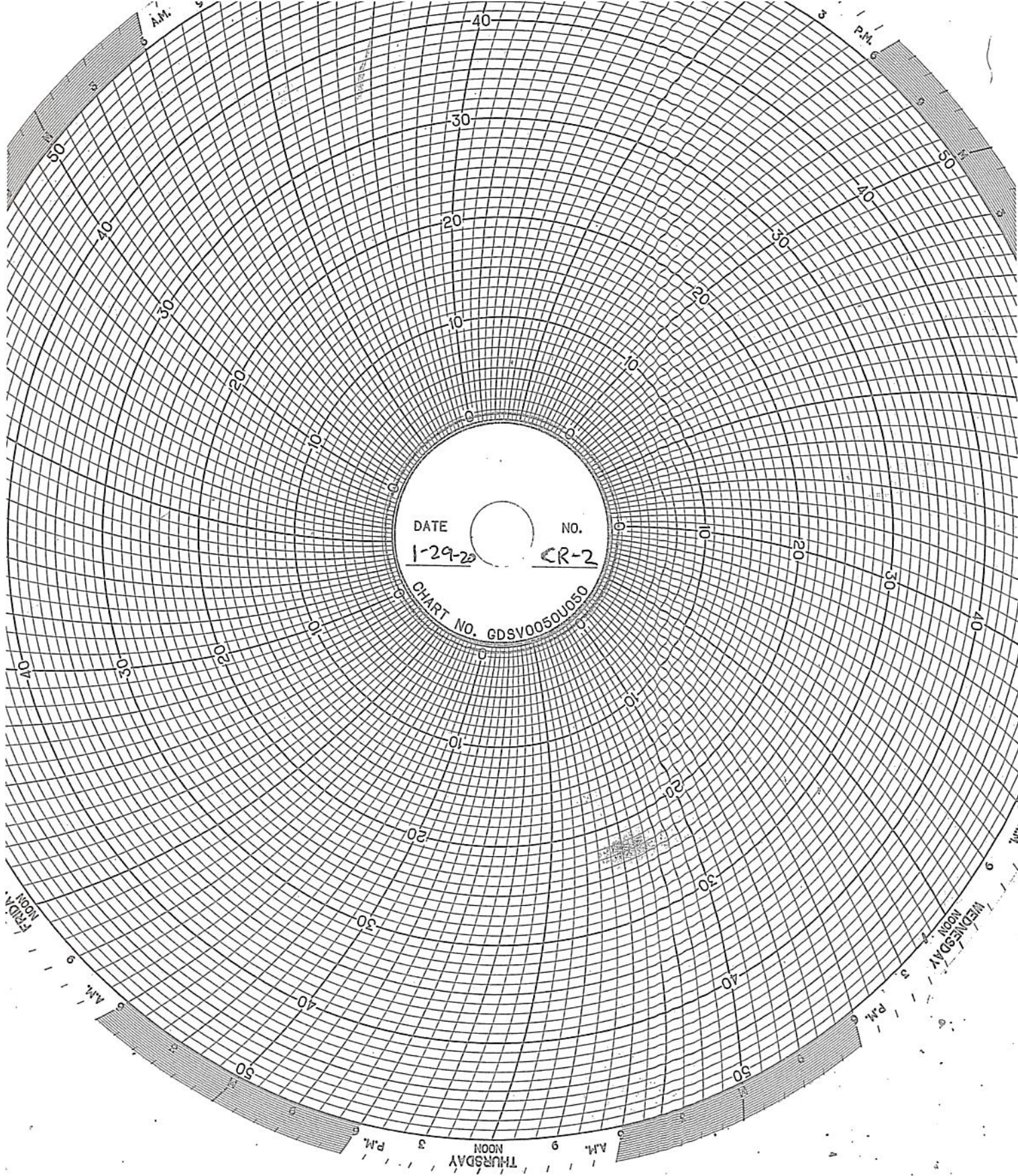


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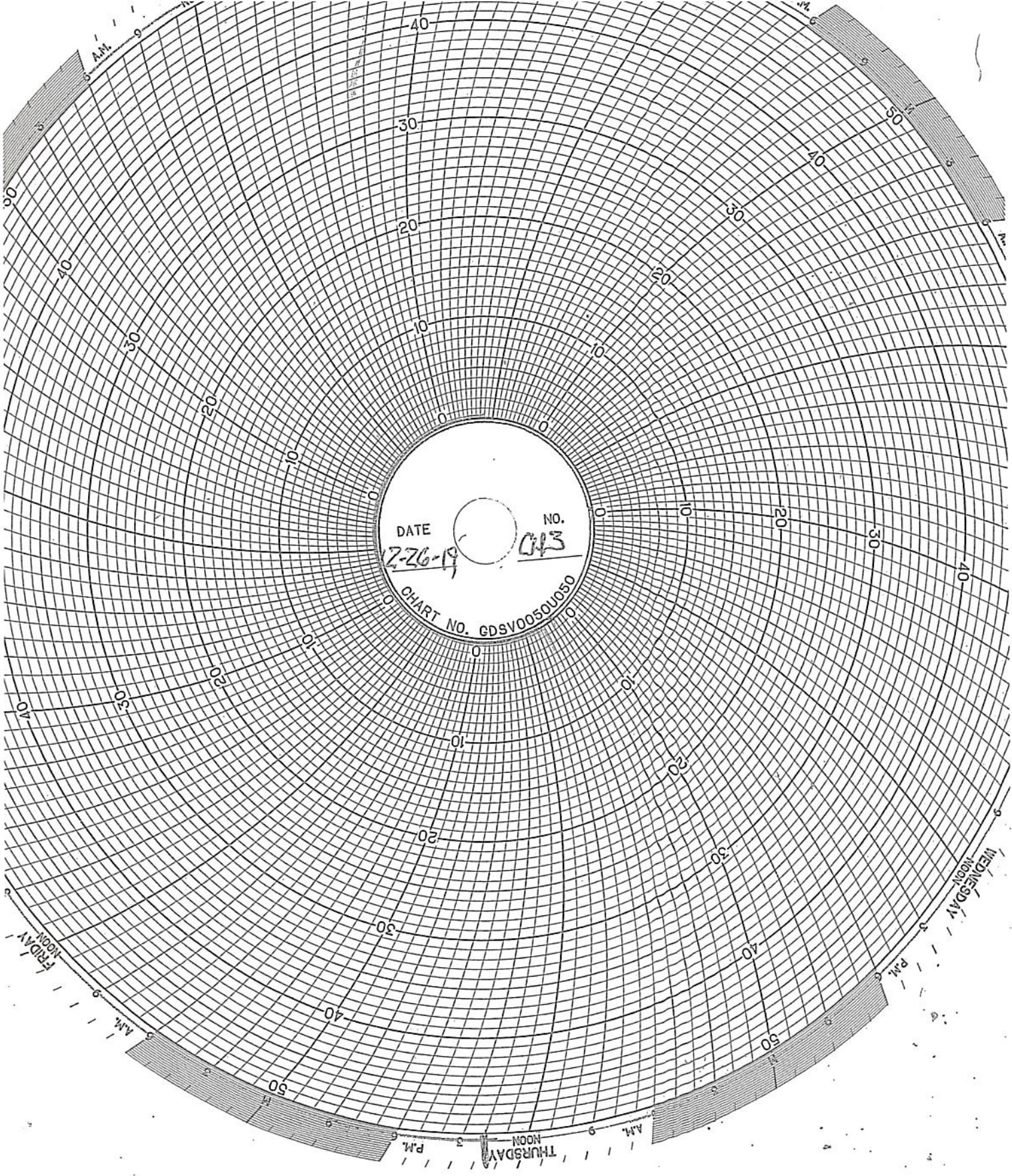
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CHART NO. GDSV0050U050



DATE 1-29-22 NO. CR-2

CHART NO. GDSV0050U050



DATE

12-26-19

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CHART NO. GDSV0050U050

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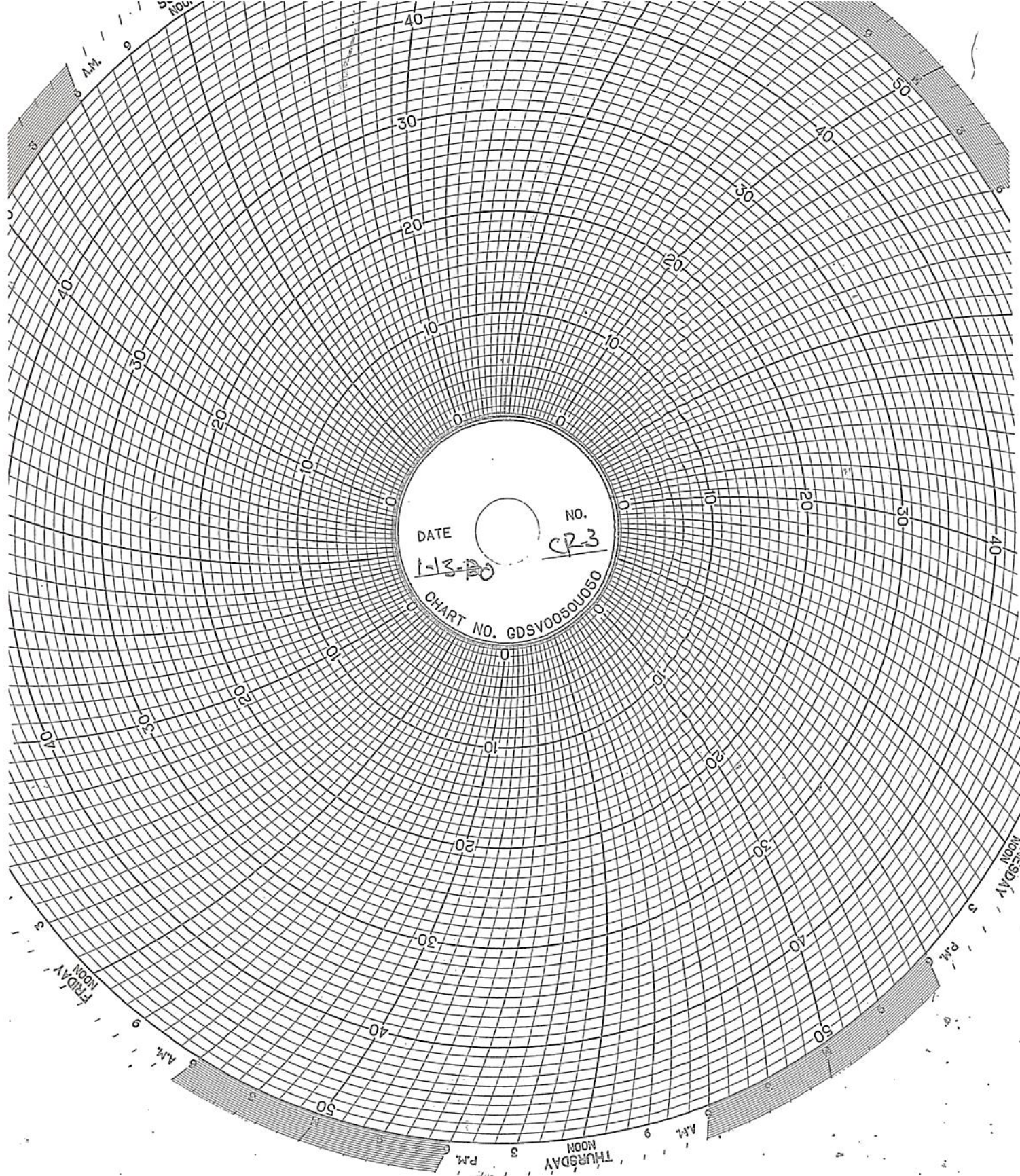
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WEDNESDAY  
NOON





DATE

1-13-20

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CR-3

CHART NO. GDSV0050U050

NOV. 5  
9  
A.M.

FRIDAY  
NOON 3  
A.M.

THURSDAY  
NOON 3  
P.M.

WEDNESDAY  
NOON 3  
P.M.



## **CROSSION MONITORING**

COOROSION MONITORING PLAN  
COUPON SUMMARY

Date	Hasteloy	Stainless Steel	Fiberglass
1/16/2020	13.326 g	10.840 g	18.033 g

## COOROSION MONITORING COUPONS VISUAL DESCRIPTION

Jan, 2020

### Fiberglass Coupon

The coupon is dark orange (rust) in color with a semi-smooth texture on both sides. Its cut edges appear sanded. The coupon is free of cracks, pitting, swelling, blemishes, and corrosion. There is no obvious effect on this coupon since last month.

### Hastelloy Coupon

This coupon is identified as C276 with Serial Number 5. The coupon is silver in color with a lightly sandblasted texture. It is clean and free of pits, cracks, and blemishes. There is no effect to this coupon.

### Stainless Steel Coupon

No change to this coupon since last month. There has been no significant pumping on the wells and no significant exposure to hazardous waste since October 2018.

October 22, 2015

▪ **TEST REPORT** ▪

**PN 125322**  
**PO 00154**

**PLASTICS TESTING DEPARTMENT**

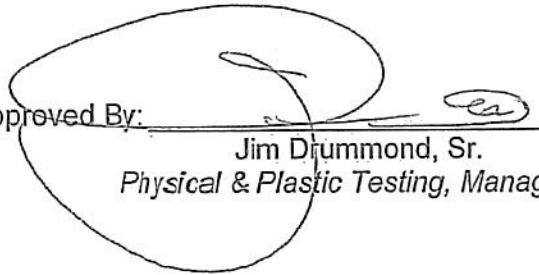
Prepared For:

John Frost  
Environmental Geo-Technologies, LLC  
28470 Citrin Drive  
Romulus, MI 48174

Prepared By:

  
Melissa Martin  
Sr. Project Technician

Approved By:

  
Jim Drummond, Sr.  
Physical & Plastic Testing, Manager



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AKRON RUBBER DEVELOPMENT LABORATORY, INC.

Progress Through Innovation, Technology and Customer Satisfaction

October 22, 2015

John Frost  
Environmental Geo-Technologies, LLC

Page 2 of 2  
PN 125322

**SUBJECT:** Barcol Hardness on one material.

**RECEIVED:** One small section identified as; Fiberglass Coupon.

**BARCOL HARDNESS ASTM D 2583-13a**  
Instant Reading

**Results**

Barcol Hardness, Instant

96

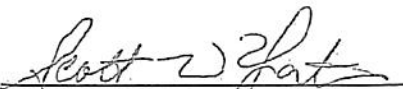
Prepared By:



Melissa Martin  
Sr. Project Technician

to

Approved By:



Scott W. Yates  
Plastics Testing Assistant Manager

December 12, 2016

**TEST REPORT**

**PN 132662**  
PO

**PLASTICS TESTING DEPARTMENT**

Prepared For:

John Frost  
Environmental Geo-Technologies, LLC  
28470 Citrin Drive  
Romulus, MI 48174

Prepared By:

*Melissa Martin*  
Melissa Martin  
Senior Project Technician

Rev 041916

Approved By:

*Jim Drummond*  
Jim Drummond  
Physical Testing, Manager



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December 12, 2016

John Frost  
Environmental Geo-Technologies, LLC

Page 2 of 2  
PN 132662

**SUBJECT:** Barcol Hardness on one (1) material.

**RECEIVED:** One (1) small section identified as; Fiberglass Coupon.

**BARCOL HARDNESS ASTM D 2583-13a**  
Instant Reading

RESULTS

Barcol Hardness, Instant 96

Prepared By:

Melissa Martin  
Senior Project Technician

Approved By:

Scott Yates  
Plastics Testing, Assistant Manager

wk

*\*ARDL is ISO 17025 accredited by A2LA for the test methods listed on the certificates referenced on page one. NOTE: Non-ISO 17025 accredited test methods are designated with the ^ symbol to differentiate from ISO 17025 accredited methods in the body of the test report.\**



Progress Through Innovation, Technology and Customer Satisfaction

December 13, 2017

# TEST REPORT

PN 139140  
PO#

## PLASTIC TESTING DEPARTMENT

Prepared For:

John Frost  
Environmental Geo-Technologies, LLC  
28470 Citrin Drive  
Romulus, MI 48174

Prepared By:   
Melissa Martin  
Sr Project Technician

Approved By:   
Jim Drummond  
Rubber & Plastic Testing, Manager

Rev 041916



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December 13, 2017

John Frost  
Environmental Geo-Technologies, LLC

Page 2 of 2  
PN 139140

**SUBJECT:** Barcol Hardness on one material.

**RECEIVED:** One small section identified as; Fiberglass Coupon.

**BARCOL HARDNESS ASTM D 2583-13a**  
Instant Reading

**Results**

Barcol Hardness, Instant

96

Prepared By:

  
Melissa Martin  
Sr Project Technician

Approved By:

  
Scott Yates  
Plastics Testing, Assistant Manager

sc

*\*ARDL is ISO 17025 accredited by A2LA for the test methods listed on the certificates referenced on page one. NOTE: Non-ISO 17025 accredited test methods are designated with the ^ symbol to differentiate from ISO 17025 accredited methods in the body of the test report.\**

# CORROSION MONITORING COUPONS BASELINE VISUAL DESCRIPTION

November 4, 2013

## Fiberglass

The fiberglass coupon is Red Box 2000 type and is 2-1/2 inches long by 1/2 inch wide and 1/4 inches thick. It is a dark orange (rust) in color with a glossy shine on one side a polished look on the opposite side and the cut edges look sanded.

## Hastelloy

The hastelloy coupon is identified as C276 with serial number 1. The dimensions of the coupon are 3 inches long by 1/2 inch wide and 1/4 inch thick. The coupon is silver in color with a lightly sandblasted surface.

## Stainless Steel

The stainless steel coupon is identified as 316L with serial number C1562. The dimensions of the coupon are 3 inches long by 1/2 inch wide and 1/4 inch thick. The coupon is silver in color with a lightly sandblasted surface.

# GHESQUIERE PLASTIC TESTING, INC.

20450 HARPER AVENUE  
HARPER WOODS, MI 48225  
PHONE (313) 855-3535  
FAX (313) 855-1771

Report Date: November 15, 2013  
Test Date: October 15 - November 14, 2013

Report #1310-77651  
Performed for:  
Environmental Geo-Technologies  
28470 Citrin Drive  
Romulus, MI 48174

Attention: Mr. Don Anderson

## WORK REQUESTED:

Perform Barcol Hardness test on sample submitted.

## DESCRIPTION OF SAMPLE:

Sample submitted was identified as a fiberglass test coupon.  
(P. O. #Credit Card).

## WORK PERFORMED:

Test specimen was prepared as necessary and conditioned for a minimum of 24 hours at standard laboratory conditions prior to testing.

Barcol Hardness test was performed in accordance with the procedures of ASTM D2583-13. One specimen was tested.

## RESULTS:

The following determination was made based upon the above test:

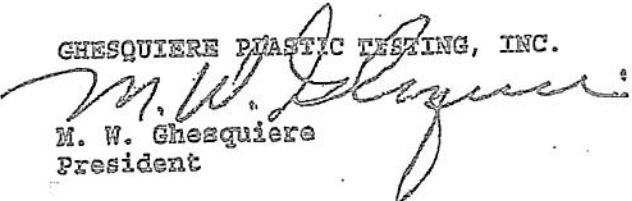
### BARCOL HARDNESS

#### Hardness

Specimen 1	90
------------	----

Specimen is being returned with this report for further evaluation.

GHESQUIERE PLASTIC TESTING, INC.

  
M. W. Ghesquiere  
President

MWG/kni

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TOTAL 1 PAGES

# Ghesquiere Plastic Testing, Inc.

20450 HARPER AVENUE  
HARPER WOODS, MI 48225  
PHONE (313) 885-3535  
FAX (313) 885-1771

Report Date: February 17, 2014  
Test Date: February 14 - 17, 2014

Report #1402-78036  
Performed for:  
Environmental Geo-Technologies  
28470 Citrin Drive  
Romulus, MI 48174

Attention: Mr. Don Anderson

### WORK REQUESTED:

Perform Barcol Hardness test on sample submitted.

### DESCRIPTION OF SAMPLE:

Sample submitted was identified as a fiberglass test coupon.

(P. O. #Credit Card).

### WORK PERFORMED:

Test specimen was prepared as necessary and conditioned for a minimum of 24 hours at standard laboratory conditions prior to testing.

Barcol Hardness test was performed in accordance with the procedures of ASTM D2583-13. One specimen was tested.

### RESULTS:

The following determination was made based upon the above test:

### BARCOL HARDNESS

#### Hardness

Specimen 1: 90

Specimen was returned to the client on February 17, 2014.

MWJ/DM

Ghesquiere Plastic Testing, Inc.

M. W. Ghesquiere  
President

MWJ/DM

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TOTAL 1 PAGES

# Ghesquiere Plastic Testing, Inc.

20450 HARPER AVENUE  
HARPER WOODS, MI 48225  
PHONE (313) 885-3535  
FAX (313) 885-1771

Report Date: June 16, 2014  
Test Date: June 13 - 16, 2014

Report #1406-78499  
Performed for:  
Environmental Geo-Technologies, LLC  
28470 Citrin Drive  
Romulus, MI 48174

Attention: Mr. Don Anderson

## WORK REQUESTED:

Perform Barcol Hardness test on sample submitted.

## DESCRIPTION OF SAMPLE:

Sample submitted was identified as a fiberglass test coupon.

(P. O. #Credit Card).

## WORK PERFORMED:

Test specimen was prepared as necessary and conditioned for a minimum of 24 hours at standard laboratory conditions prior to testing.

Barcol Hardness test was performed in accordance with the procedures of ASTM D2583-13. One specimen was tested.

## RESULTS:

The following determination was made based upon the above test:

### BARCOL HARDNESS

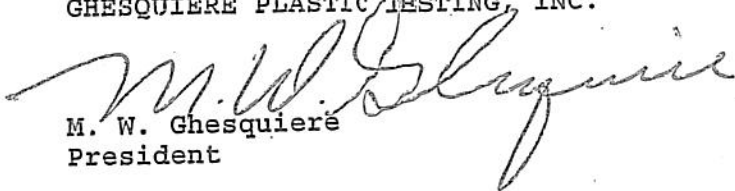
Specimen 1

### Hardness

85

Specimen was returned to the client June 16, 2014.

Ghesquiere Plastic Testing, Inc.

  
M. W. Ghesquiere  
President

MWG/dm

October 2, 2014

▪ **TEST REPORT** ▪

**PN 118325**

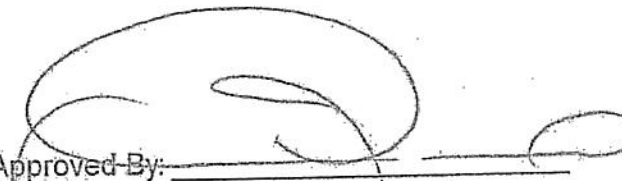
*PO Attn: John Frost*

**PLASTICS TESTING DEPARTMENT**

Prepared For:

John Frost  
Environmental Geo-Technologies, LLC  
28470 Citrin Drive  
Romulus, MI 48174

Prepared By:   
Melissa Martin  
Sr. Project Technician

Approved By:   
Jim Drummond  
Physical & Plastics Testing, Manager



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ISO 9001:2008 Registered

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Registered

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[www.ardl.com](http://www.ardl.com)

2887 Gilchrist Rd. | Akron, Ohio 44305 | [answers@ardl.com](mailto:answers@ardl.com)  
Toll Free (800) 830-ARDL | Worldwide (330) 794-6600 | Fax (330) 794-6610



## UIC Monthly Maintenance Log

This month the Pump house continued to be rebuilt. The piping manifold for all three pumps was completed. This system includes suction and discharge surge dampeners, check valves, operational ball valves, and instrumentation. The electrical wiring was started as new power and disconnects needed to be installed.

## **INJECTION FINGERPRINTS**

## WASTE PROFILES