

May 31, 2019

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

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

Dear Mr. Batka:

Environmental Geo-Technologies, LLC ("EGT") hereby timely submits its sixty-sixth Monthly Report ("MR") in conformance with the requirements of its two EPA UIC permits (#s MI-163-1W-C010 & MI-163-1W-C011).

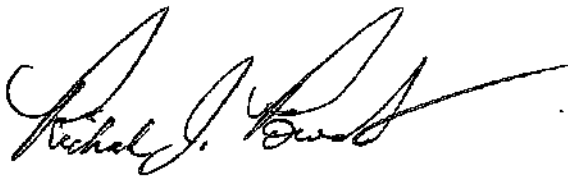
EGT is providing all of the attached information in the same sequence as required by both subject permits, i.e. Part II.D.1 (a-f), Part III, Attachment A, and Part III, Attachment E.G.2 & E.I.

EGT did not accept any F039 waste in April, 2019 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,



Richard J. Powals, P.E.
Vice President

cc: J. Frost (EGT)

att.

rjp053119/EGTEPAMonthlyReport-April, 2019

AVERAGE INJECTION RATE

Calculation of Average Injection Rate

CURRENT REPORTING YEAR 2019

CURRENT REPORTING MONTH APRIL

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
MI-163-1W-C010 , Well #1-12			
Current Month	13,670	0	13,670
Since facility first injected			14,383,528
MI-163-1W-C011, Well #2-12			
Current Month	0	0	0
Since facility first injected			4,648,736
		Lifetime Combined	19,032,264

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 64

$$\underline{\hspace{2cm}} \text{ lifetime number of months of injection} \times 43,830 \text{ minutes/month} \\ = \underline{2,805,120} \text{ minutes of injection}$$

$$\text{Lifetime combined injected volume } \underline{19,032,264} \div \underline{2,805,120} \text{ minutes of injection} \\ = \underline{6.8} \text{ gpm average injection rate}$$

WELL 1 DATA

Well 01 Monthly Data

Date	Min Injection Pressure (PSIG)	Max Injection Pressure (PSIG)	Min Sight Glass Level (in)	Max Sight Glass Level (in)	Min Annulus Pressure (PSIG)	Max Annulus Pressure (PSIG)	Min Injectate pH	Max Injectate pH	Min Flow Rate (GPM)	Max Flow Rate (GPM)	Min Differential Pressure (PSIG)	Max Differential Pressure (PSIG)
4/1/2019	121.0	121.4	15.7	16.2	837.1	837.4	8.2	8.2	0.0	0.0	828.2	828.2
4/2/2019	121.4	882.7	16.2	16.8	837.4	1137.4	8.2	8.2	0.0	19.1	828.2	828.2
4/3/2019	121.9	122.4	16.8	17.3	837.7	837.9	8.2	8.2	0.0	0.0	828.2	828.2
4/4/2019	122.4	122.9	17.3	17.8	837.9	838.2	8.2	8.2	0.0	0.0	828.2	828.2
4/5/2019	122.9	123.4	17.8	18.4	838.2	838.4	8.2	8.2	0.0	0.0	828.2	828.2
4/6/2019	123.4	123.8	18.4	18.9	838.4	838.7	8.2	8.2	0.0	0.0	828.2	828.2
4/7/2019	123.8	124.3	18.9	19.4	838.7	839.0	8.2	8.2	0.0	0.0	828.2	828.2
4/8/2019	124.3	124.8	19.4	20.0	839.0	839.2	8.2	8.2	0.0	0.0	828.2	828.2
4/9/2019	124.8	125.3	20.0	20.5	839.2	839.5	8.2	8.2	0.0	0.0	714.2	714.4
4/10/2019	125.3	125.7	20.5	21.0	839.5	839.7	8.2	8.2	0.0	0.0	714.0	714.2
4/11/2019	125.7	126.2	21.0	21.5	839.7	840.2	8.2	8.2	0.0	0.0	713.8	714.2
4/12/2019	125.7	126.2	21.3	21.6	839.8	840.3	8.2	8.2	0.0	0.0	713.7	714.4
4/13/2019	125.5	126.1	21.3	21.6	839.7	840.3	8.2	8.2	0.0	0.0	713.9	714.5
4/14/2019	125.8	126.4	21.3	21.6	839.2	840.2	8.2	8.2	0.0	0.0	712.9	714.4
4/15/2019	125.7	126.4	21.3	21.6	838.5	839.3	8.2	8.2	0.0	0.0	712.5	713.4
4/16/2019	125.5	126.0	21.3	21.6	838.7	839.2	8.2	8.2	0.0	0.0	712.9	713.6
4/17/2019	125.5	125.8	21.3	21.6	838.9	839.3	8.2	8.2	0.0	0.0	713.2	713.6
4/18/2019	125.6	125.9	21.3	21.6	838.7	839.1	8.2	8.2	0.0	0.0	713.0	713.4
4/19/2019	125.7	126.1	21.3	21.6	838.0	839.0	8.2	8.2	0.0	0.0	711.9	713.2
4/20/2019	125.6	126.1	21.3	21.4	837.2	838.0	8.2	8.2	0.0	0.0	711.3	712.1
4/21/2019	125.1	125.9	21.2	21.6	836.7	837.4	8.2	8.2	0.0	0.0	711.2	712.0
4/22/2019	125.3	931.9	21.3	21.7	771.8	1177.8	8.2	8.2	0.0	20.3	201.0	712.0
4/23/2019	126.0	934.1	21.3	21.7	770.5	1181.3	8.2	8.2	0.0	20.3	193.9	704.2
4/24/2019	125.8	126.7	21.3	21.7	831.7	831.7	8.2	8.2	0.0	0.0	828.2	828.2
4/25/2019	125.8	126.2	21.3	21.6	833.3	834.4	8.2	8.2	0.0	0.0	707.1	708.4
4/26/2019	125.8	126.3	21.3	21.5	834.3	834.7	8.2	8.2	0.0	0.0	708.2	708.8
4/27/2019	125.6	126.2	21.3	21.6	834.0	834.7	8.2	8.2	0.0	0.0	708.1	708.8
4/28/2019	125.3	126.0	21.3	21.6	833.8	834.6	8.2	8.2	0.0	0.0	708.1	708.8
4/29/2019	125.6	125.8	21.2	21.5	833.8	834.4	8.2	8.2	0.0	0.0	708.1	708.8
4/30/2019	125.4	125.8	21.2	21.5	833.7	833.9	8.2	8.2	0.0	0.0	708.0	708.5

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

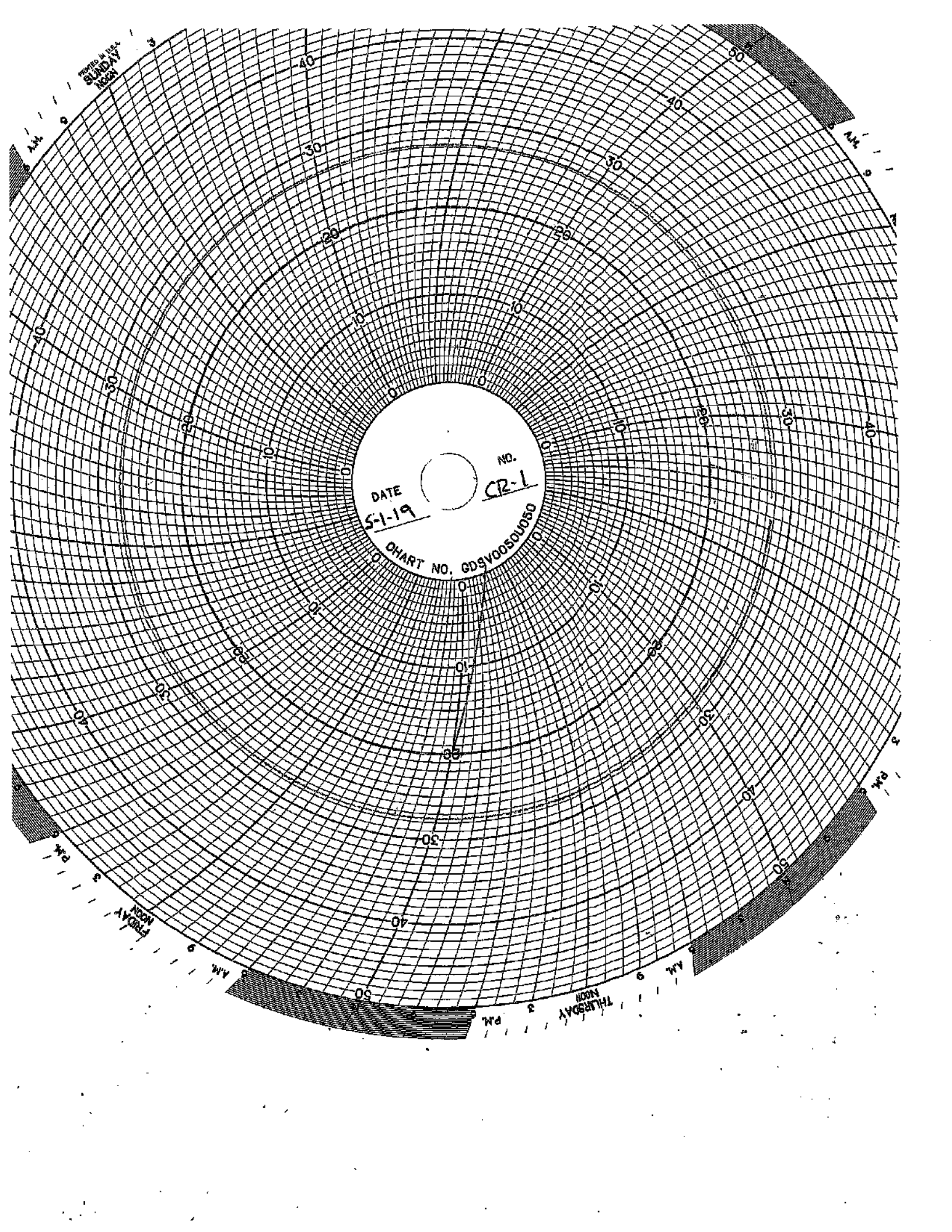
Red Pen - Well 1 Monthly Volume (chart value x 100,000)

Channel #3

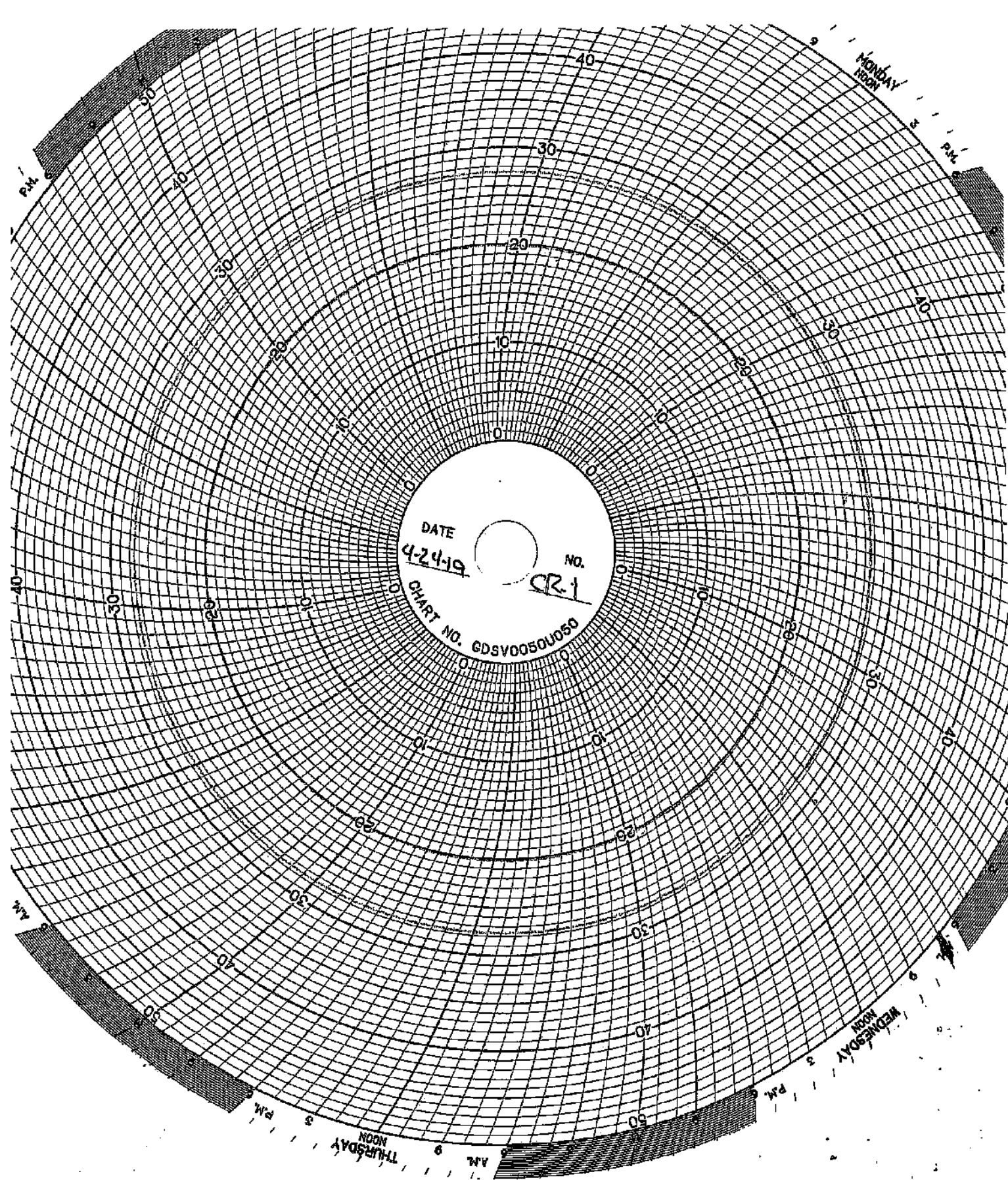
Green Pen - Well 2 Monthly Volume (chart value x 100,000)

Channel #4

Black Pen - Temperature (chart value x 0)



DATE 5-1-19
NO. CR-1
CHART NO. GDSV0050UB50



DATE 4-24-19
NO. CR-1
CHART NO. GDSV0050U050

MONDAY
NOON

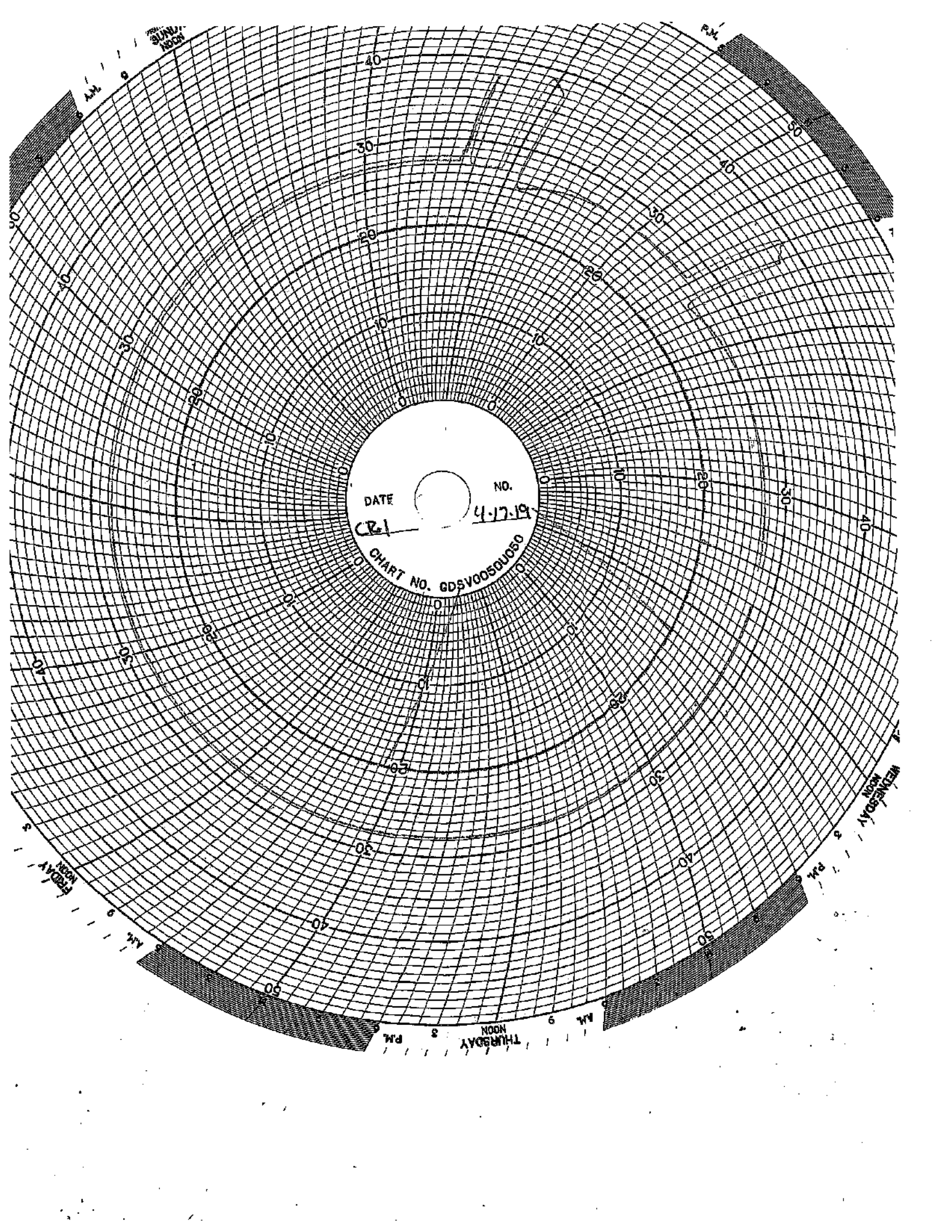
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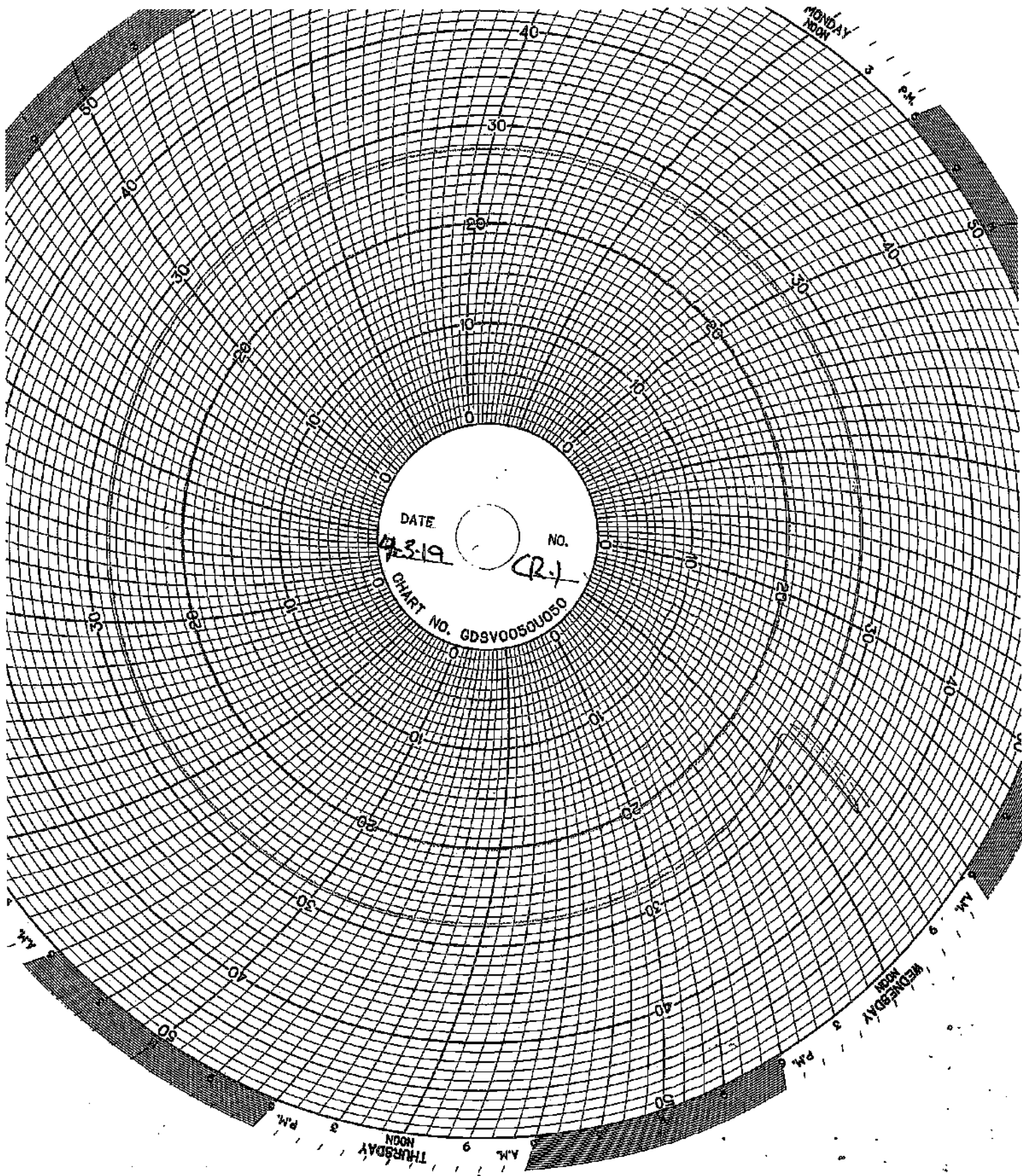
WEDNESDAY
NOON

PM

THURSDAY
NOON

AM





DATE
3-19

NO.
CR-1

CHART NO. GDSV0050U050

MONDAY
NOON

WEDNESDAY
NOON

THURSDAY
NOON

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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

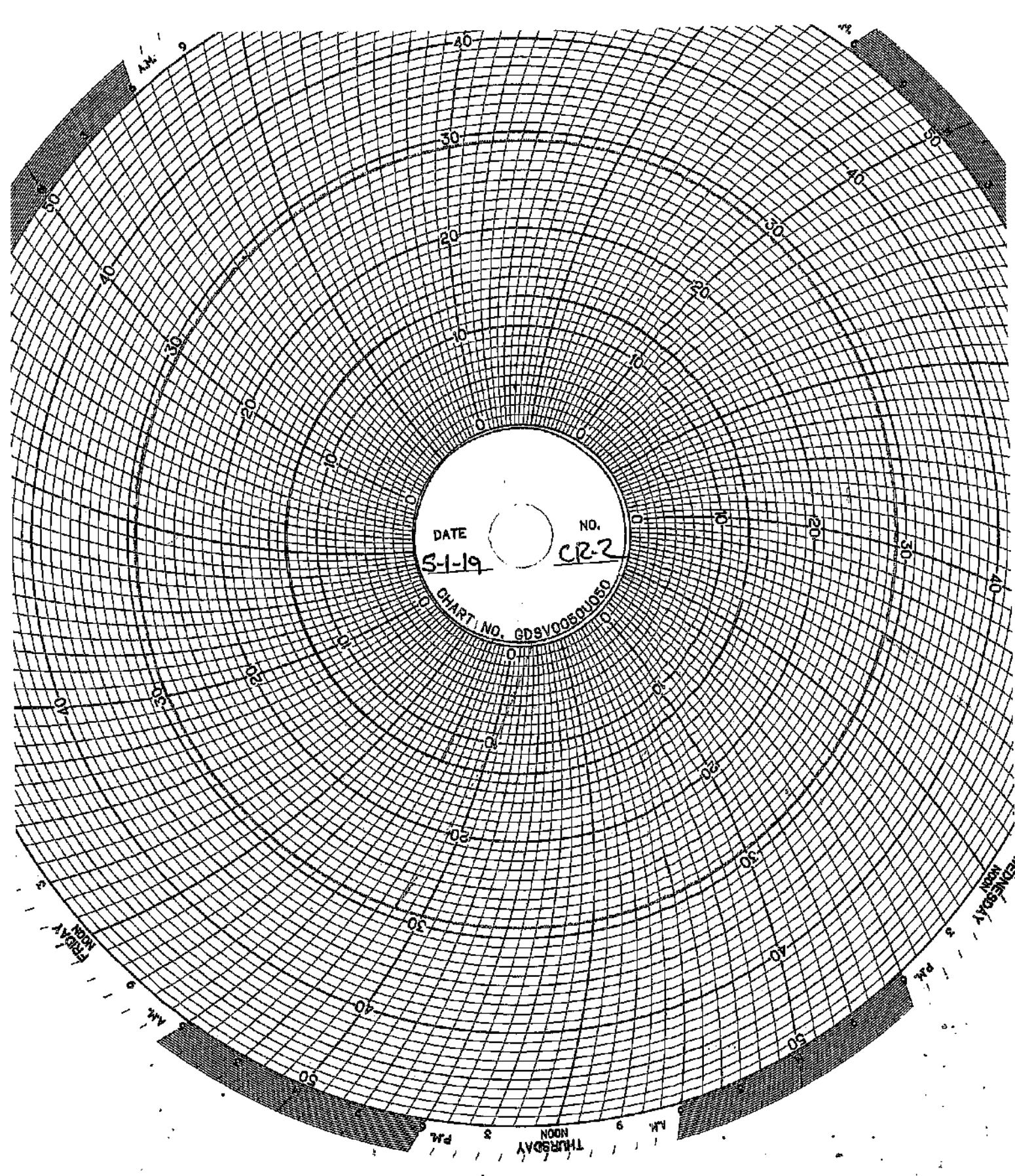
Green Pen - Well 2 Monthly Volume (chart value x 100,000)

Channel #4

Black Pen - Temperature (chart value x 0)

Well 02 Monthly Data

Date	Min Injection Pressure (PSIG)	Max Injection Pressure (PSIG)	MIn Sight Glass Level (in)	Max Sight Glass Level (in)	Min Annulus Pressure (PSIG)	Max Annulus Pressure (PSIG)	Min Injectate pH	Max Injectate pH	Min Flow Rate (GPM)	Max Flow Rate (GPM)	Min Differential Pressure (PSIG)	Max Differential Pressure (PSIG)
4/1/2019	0.0	0.0	-8.3	-8.3	23.1	25.5	8.2	8.2	0.0	0.0	0.0	0.0
4/2/2019	0.0	0.0	-8.3	-8.3	20.7	23.1	8.2	8.2	0.0	0.0	0.0	0.0
4/3/2019	0.0	0.0	-8.3	-8.3	18.4	20.7	8.2	8.2	0.0	0.0	0.0	0.0
4/4/2019	0.0	0.0	-8.3	-8.3	16.0	18.4	8.2	8.2	0.0	0.0	0.0	0.0
4/5/2019	0.0	0.0	-8.3	-8.3	13.7	16.0	8.2	8.2	0.0	0.0	0.0	0.0
4/6/2019	0.0	0.0	11.7	12.1	11.3	13.7	8.2	8.2	0.0	0.0	0.0	0.0
4/7/2019	0.0	0.0	12.1	12.4	8.9	11.3	8.2	8.2	0.0	0.0	0.0	0.0
4/8/2019	0.0	0.0	12.4	12.8	6.6	8.9	8.2	8.2	0.0	0.0	0.0	0.0
4/9/2019	0.0	0.0	12.8	13.1	4.2	6.6	8.2	8.2	0.0	0.0	4.2	6.6
4/10/2019	0.0	0.0	13.1	13.5	1.8	4.2	8.2	8.2	0.0	0.0	1.8	4.2
4/11/2019	0.0	0.0	13.5	13.7	0.0	1.8	8.2	8.2	0.0	0.0	0.0	1.8
4/12/2019	0.0	0.0	13.7	13.9	-0.2	0.7	8.2	8.2	0.0	0.0	-0.2	0.7
4/13/2019	0.0	0.0	13.3	14.3	-0.3	0.5	8.2	8.2	0.0	0.0	-0.3	0.5
4/14/2019	0.0	0.0	13.3	14.2	0.0	0.1	8.2	8.2	0.0	0.0	0.0	0.1
4/15/2019	0.0	0.0	13.7	14.4	0.0	0.8	8.2	8.2	0.0	0.0	0.0	0.8
4/16/2019	0.0	0.0	13.4	14.3	-0.2	0.7	8.2	8.2	0.0	0.0	-0.2	0.7
4/17/2019	0.0	0.0	13.7	13.9	-0.2	0.6	8.2	8.2	0.0	0.0	-0.2	0.6
4/18/2019	0.0	0.0	13.4	14.2	-0.2	0.8	8.2	8.2	0.0	0.0	-0.2	0.8
4/19/2019	0.0	0.0	13.7	13.8	0.0	0.2	8.2	8.2	0.0	0.0	0.0	0.2
4/20/2019	0.0	0.0	13.7	13.7	0.0	0.1	8.2	8.2	0.0	0.0	0.0	0.1
4/21/2019	0.0	0.0	13.3	14.2	0.0	0.7	8.2	8.2	0.0	0.0	0.0	0.7
4/22/2019	0.0	0.0	13.3	14.3	0.0	1.8	8.2	8.2	0.0	0.0	0.0	1.8
4/23/2019	0.0	0.0	13.4	14.4	-0.2	0.9	8.2	8.2	0.0	0.0	-0.2	0.9
4/24/2019	0.0	0.0	13.3	14.2	0.0	1.0	8.2	8.2	0.0	0.0	0.0	1.0
4/25/2019	0.0	0.0	13.7	13.8	-0.2	0.5	8.2	8.2	0.0	0.0	-0.2	0.5
4/26/2019	0.0	0.0	9.7	14.0	-0.3	405.1	8.2	8.2	0.0	0.0	-0.3	405.1
4/27/2019	0.0	0.0	9.7	10.2	393.9	399.3	8.2	8.2	0.0	0.0	393.9	399.3
4/28/2019	0.0	0.0	9.6	10.0	392.9	394.5	8.2	8.2	0.0	0.0	392.9	394.5
4/29/2019	0.0	0.0	9.7	34.4	392.9	482.6	8.2	8.2	0.0	0.0	392.9	482.6
4/30/2019	0.0	0.0	29.7	29.8	410.0	435.5	8.2	8.2	0.0	0.0	410.0	435.5

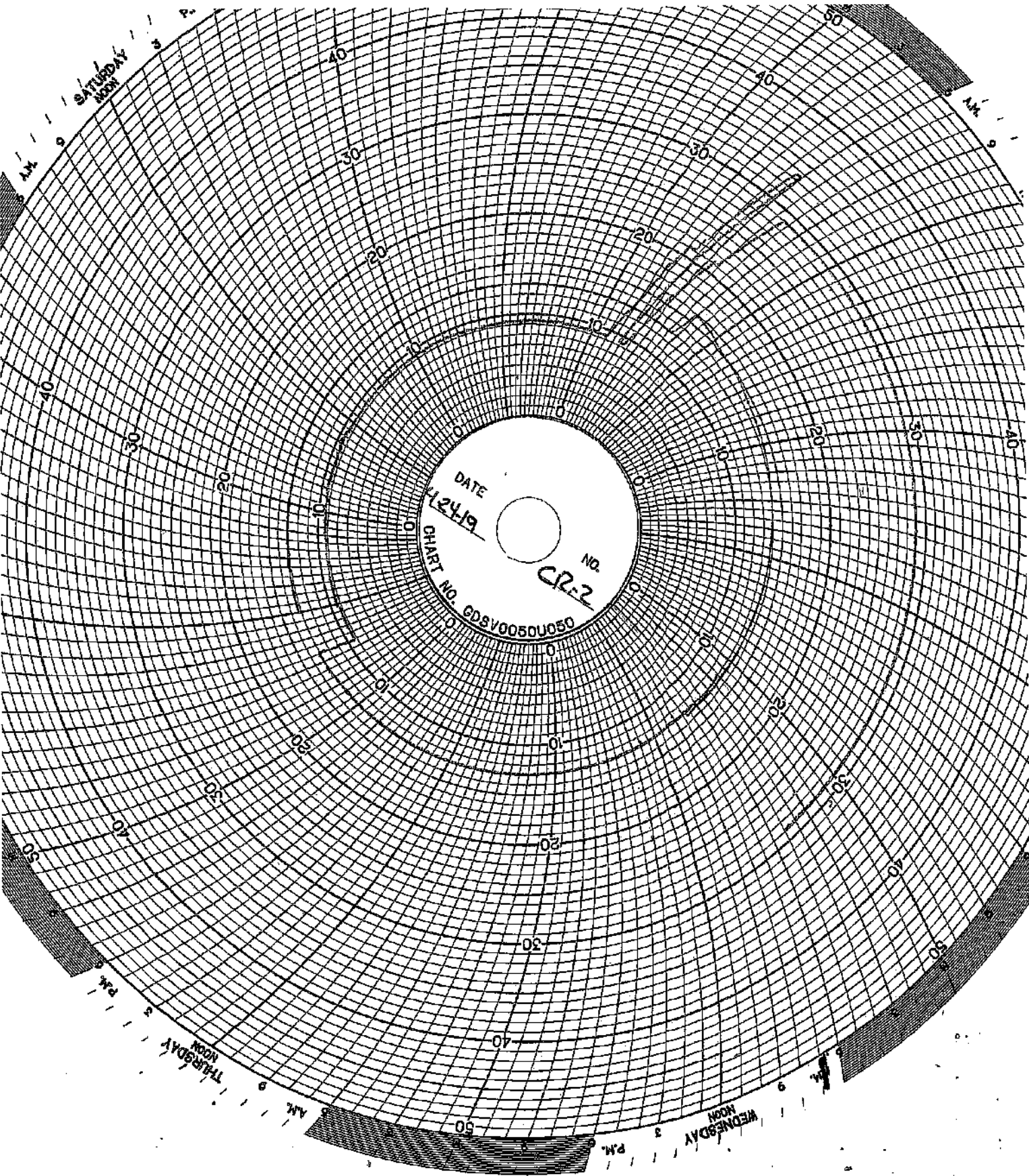


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CHART NO. GDSV00501050

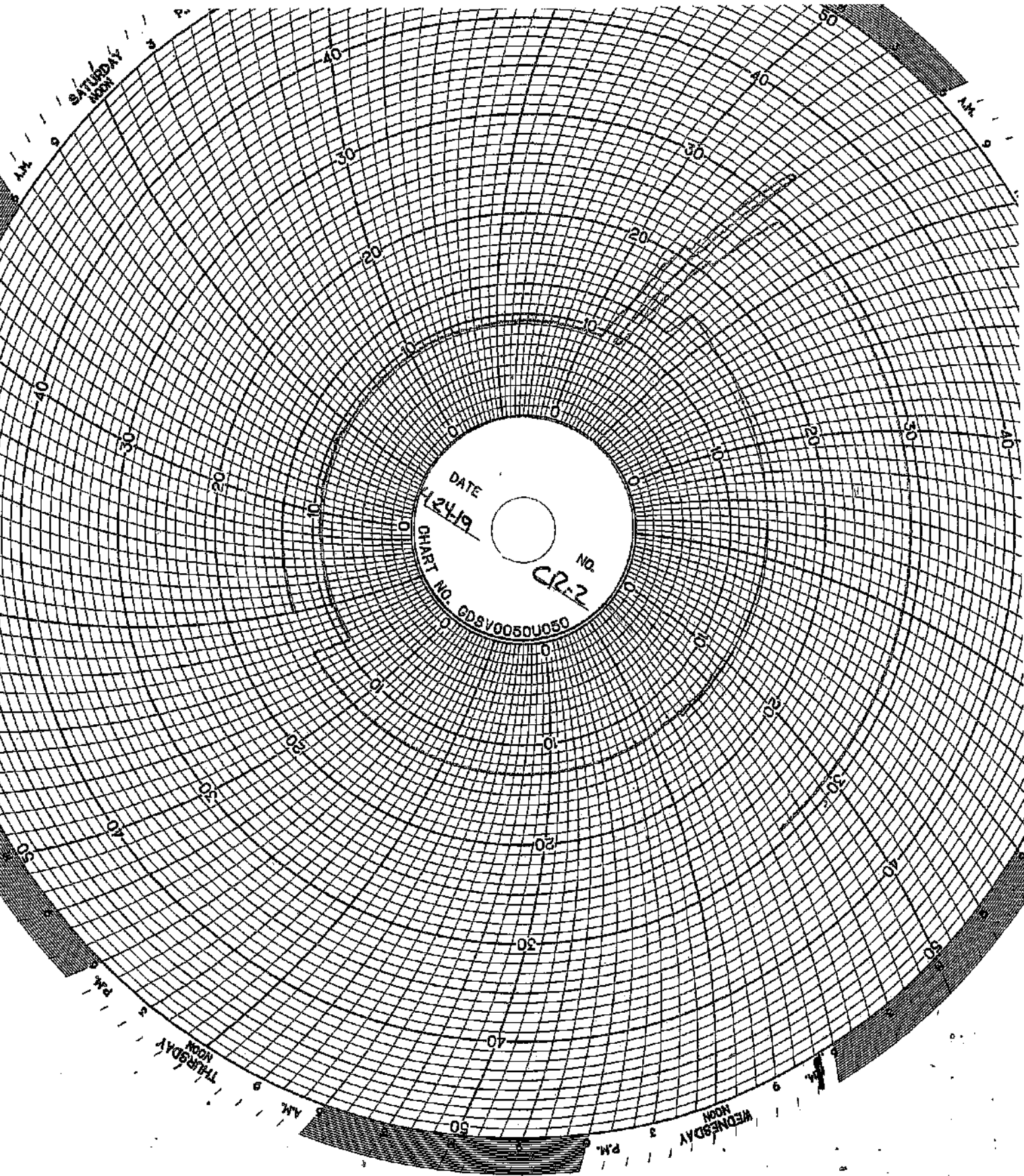
THURSDAY
NOON 9 AM

FRIDAY
NOON 9 AM

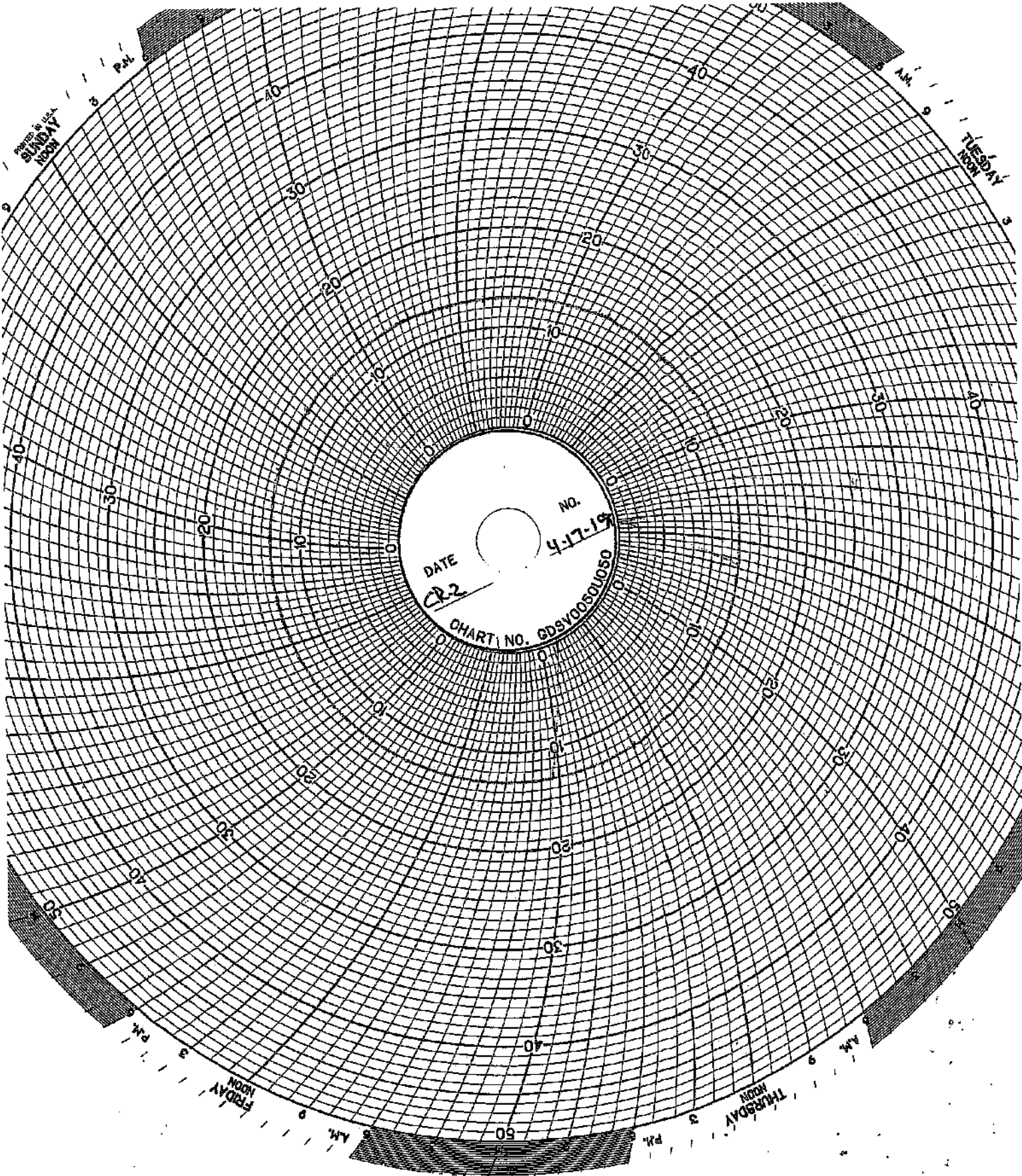
FRIDAY
NOON 9 AM



DATE 12-4-19
CHART NO. GDSV0050U050
NO. CR-2



DATE 12-4-19
CHART NO. GDSV0050U050
NO. CR-2



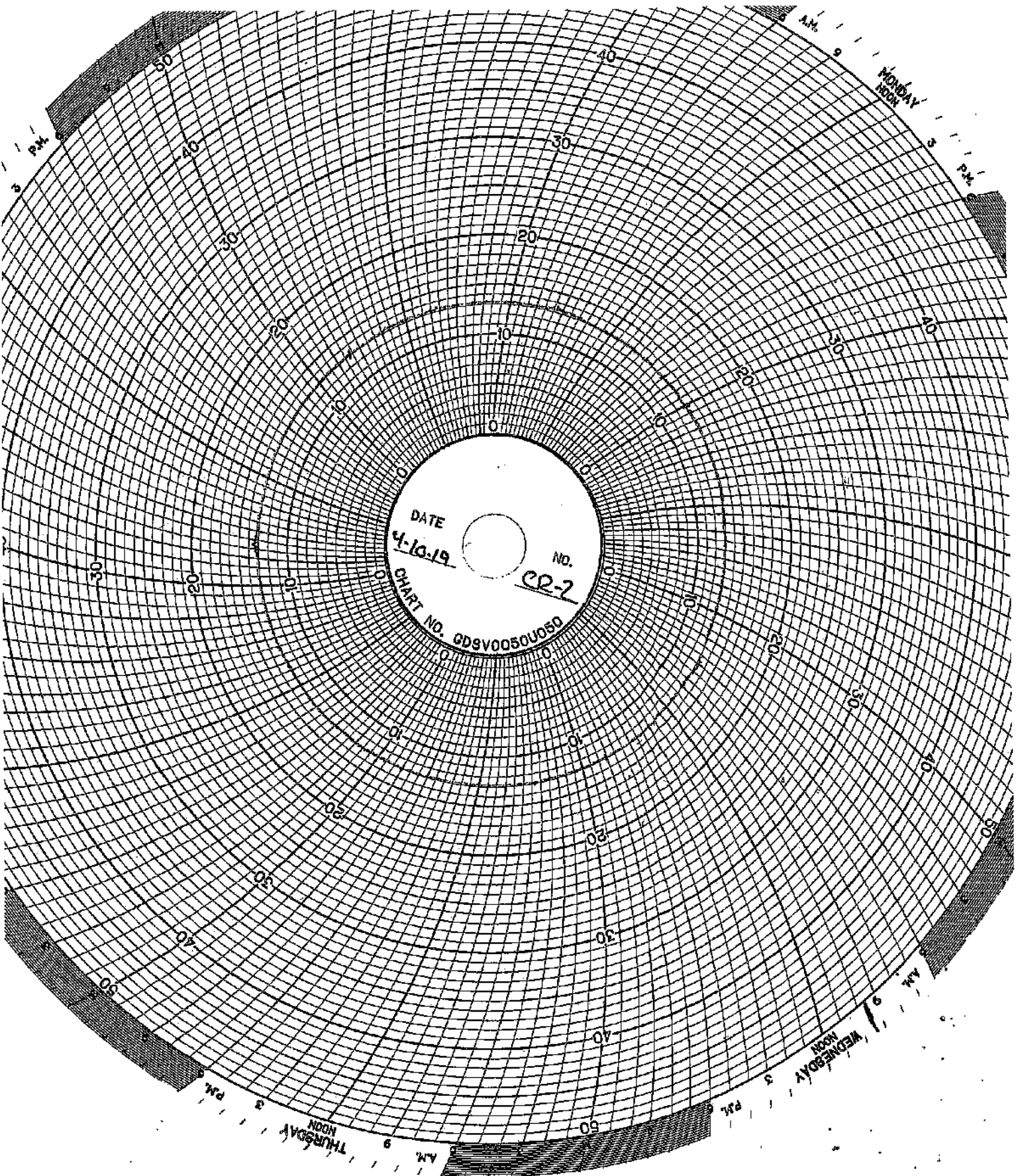
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NO. 4-17-19
CHART NO. GDSV0080U050

SUNDAY 12:00 PM

TUESDAY 9 AM

FRIDAY 9 AM

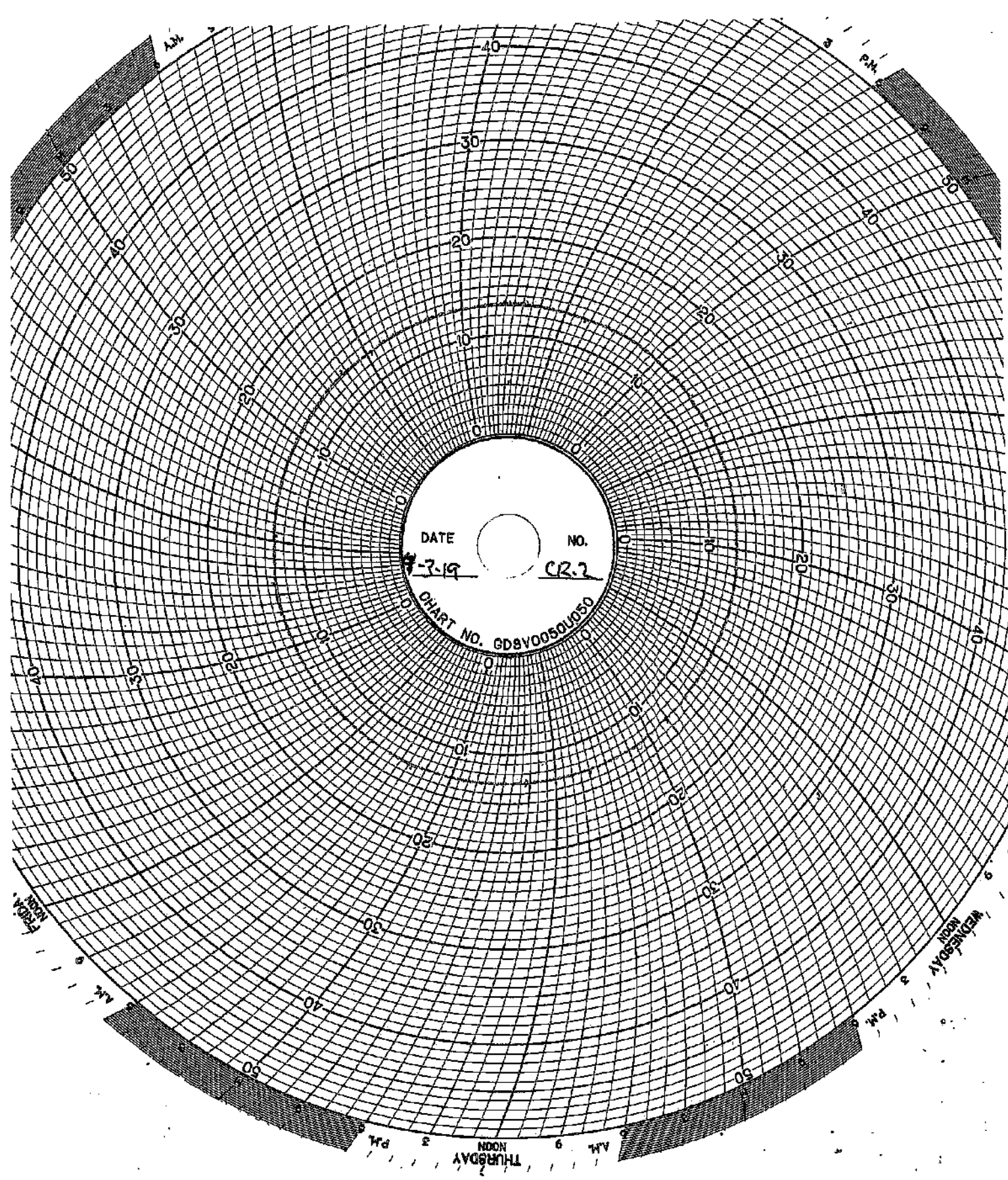
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DATE
4-16-19

NO.
CR-2

CHART NO. GDSV0050U050



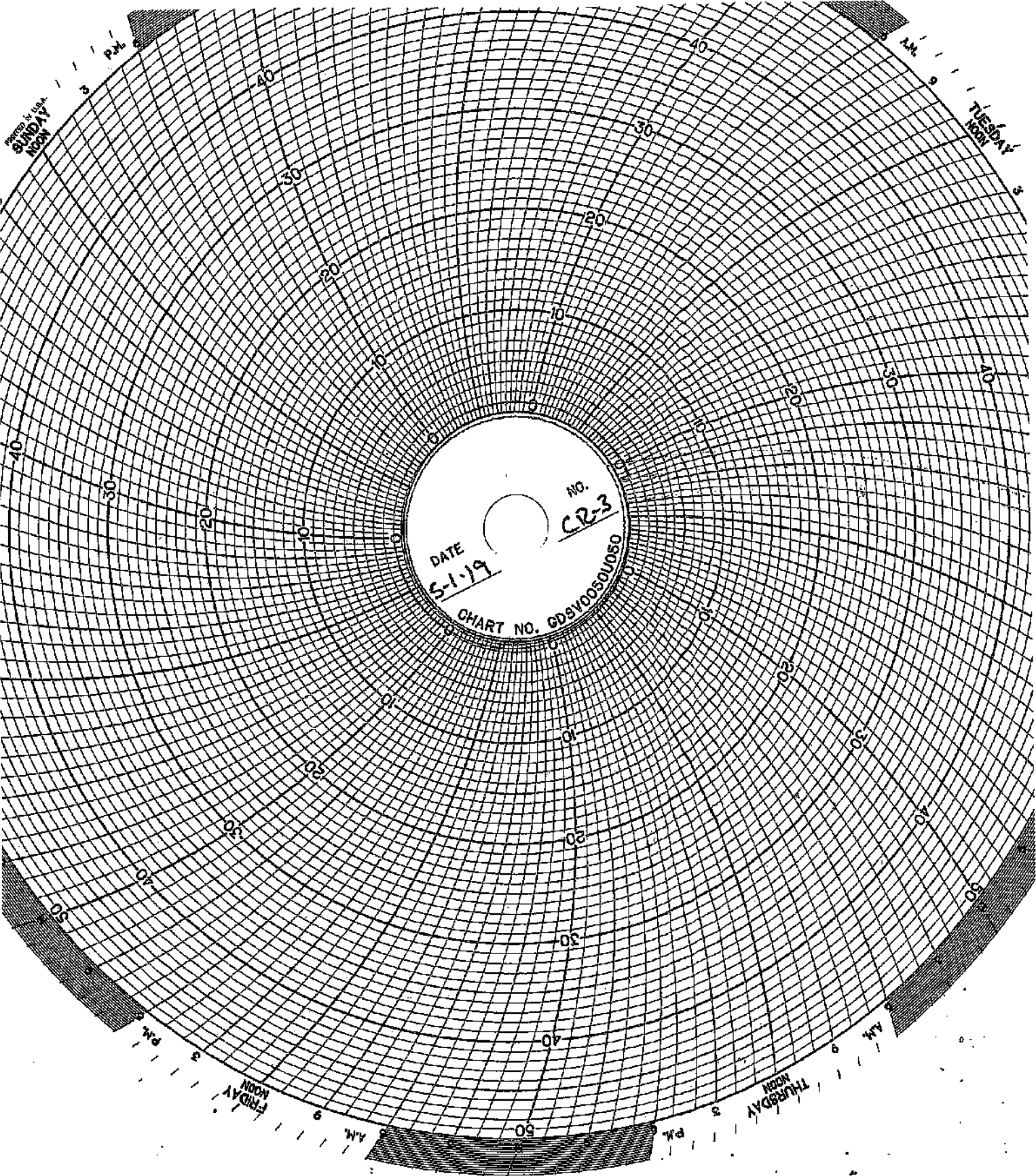
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CHART NO. GD8V0050U050

THURSDAY
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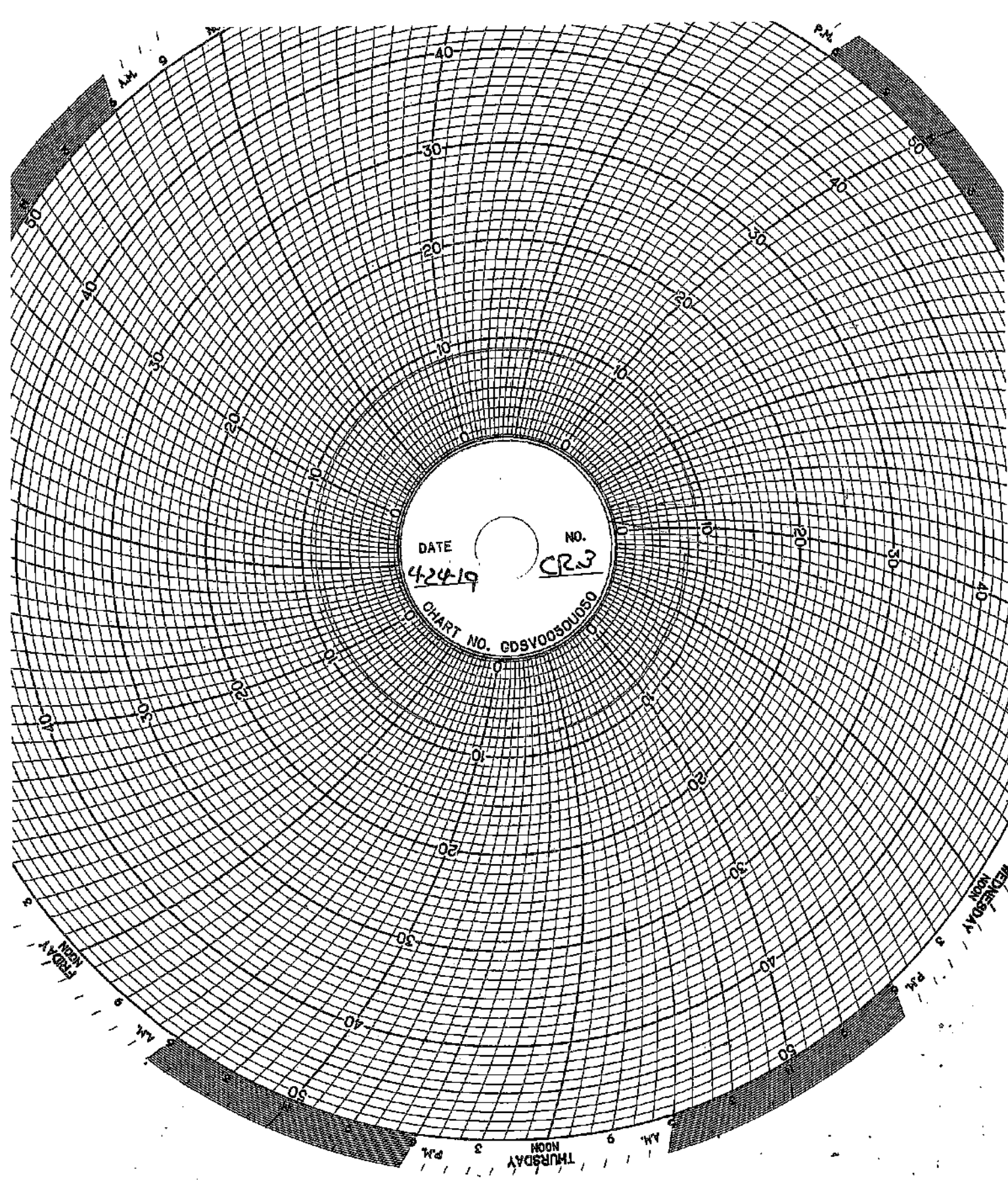
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THURSDAY
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DATE
5-1-79

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CHART NO. GDSV10501050

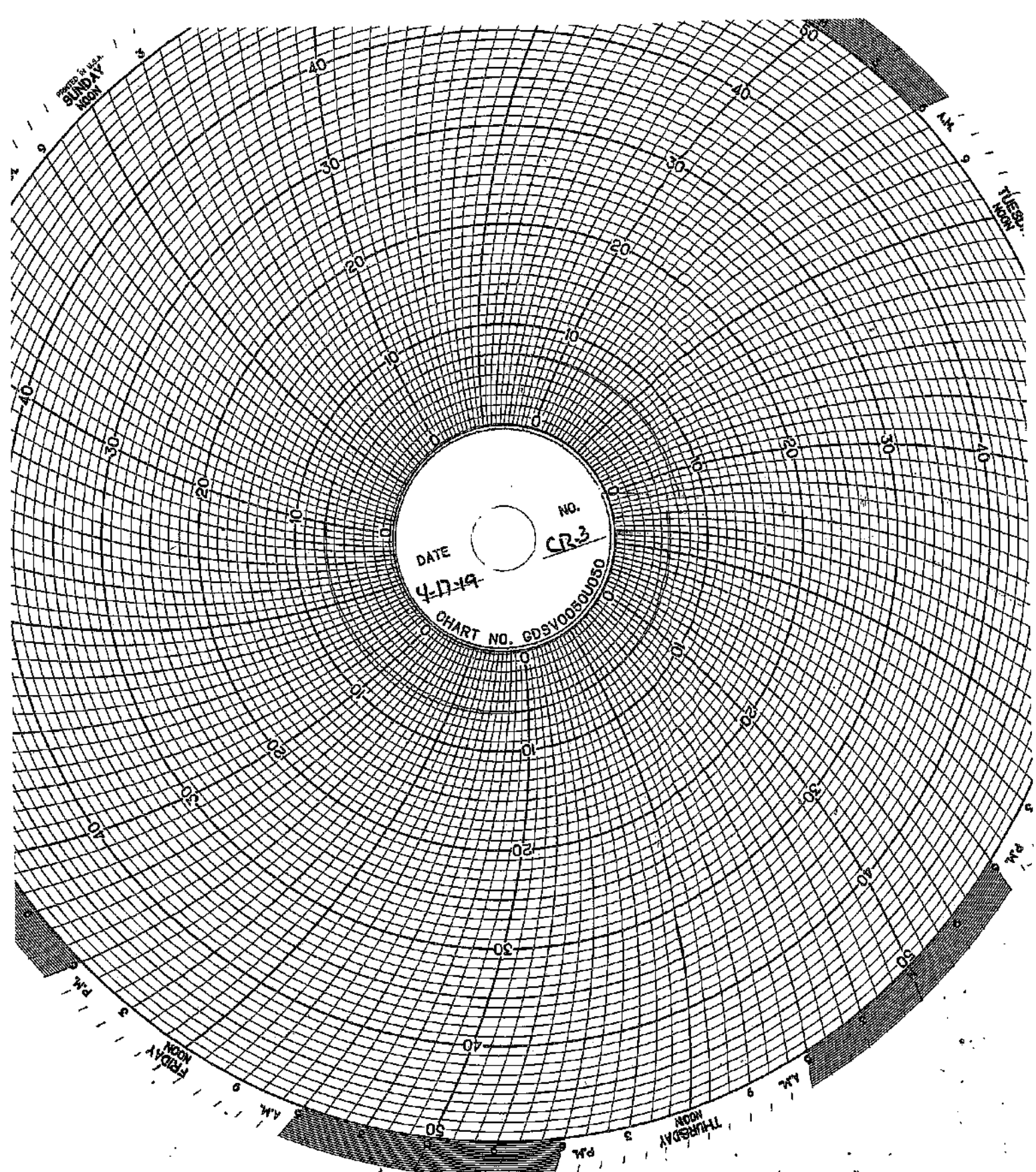


DATE
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CHART NO. GDSV0050U050

FRIDAY
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PRINTED IN U.S.A.
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THURSDAY
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CHART NO. GDSV00501050

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Printed in U.S.A.
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CHART NO. GDSV0050U050

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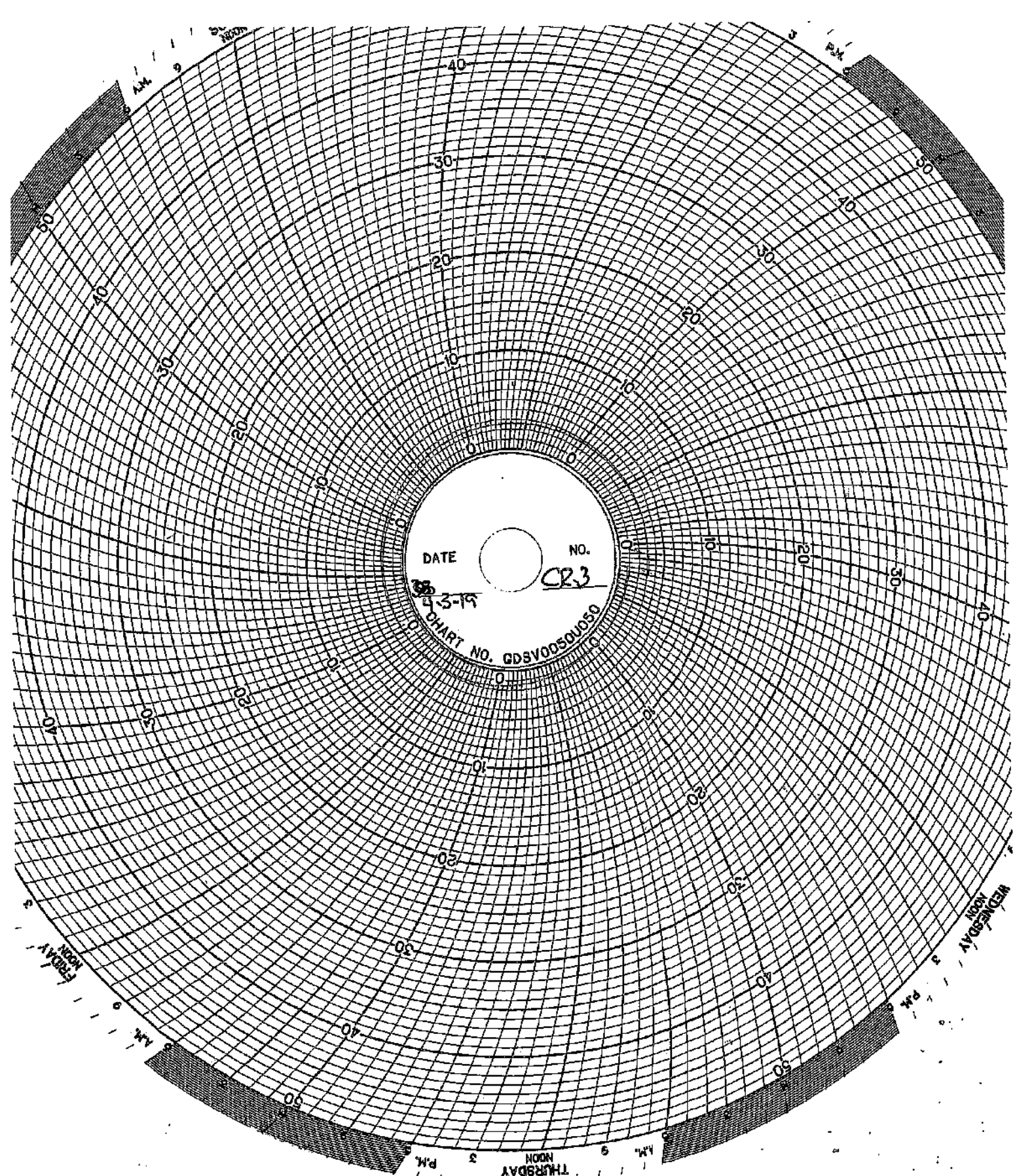
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DATE

NO.

4-3-19

CR3

CHART NO. GDSV0050U050

FRIDAY 3 AM

THURSDAY 3 PM

WEDNESDAY 3 AM

TUESDAY 3 PM

MAINTENANCE LOG

UIC Monthly Maintenance Log

No Maintenance This Month

CORROSION MONITORING

**CORROSION MONITORING PLAN
COUPON SUMMARY**

Date	Hastelloy (C267)	Stainless Steel (316L)	Fiberglass (Redbox)	
12/19/2013	13.330 g	10.848 g	7.309 g	Initial Mass @ start up
2/21/2014	13.329 g	10.846 g	7.306 g	
3/10/2014	13.327 g	10.845 g	7.300 g	
4/18/2014	13.324 g	10.841 g	7.272 g	
5/30/2014	13.328 g	10.818 g	7.226 g	
6/30/2014	13.321 g	10.337 g	7.196 g	
7/11/2014	13.323 g	10.304 g	7.196 g	
8/12/2014	13.328 g	10.045 g	7.182 g	
9/17/2014	13.321 g	9.997 g	7.090 g	
10/30/2014	13.321 g	9.387 g	7.075 g	
11/21/2014	13.320 g	9.386 g	7.069 g	
12/19/2014	13.321 g	9.315 g	7.084 g	
1/12/2015	13.321 g	9.289 g	7.063 g	
2/23/2015	13.339 g	9.286 g	7.005 g	
3/31/2015	13.339 g	9.286 g	7.005 g	
4/27/2015	13.335 g	9.130 g	6.852 g	
5/21/2015	13.336 g	9.124 g	6.809 g	
6/12/2015	13.334 g	9.126 g	6.819 g	
7/27/2015	13.337 g	9.127 g	6.818 g	
8/26/2015	13.337 g	9.022 g	6.780 g	
9/21/2015	13.336 g	8.987 g	6.792 g	
10/19/2015	13.335 g	8.985 g	6.797 g	
11/16/2015	13.334 g	8.982 g	6.788 g	New stainless steel coupon
12/17/2015	13.334 g	8.933 g	6.791 g	
1/29/2016	13.334 g	8.931 g	6.788 g	
2/16/2016	13.332 g	8.799 g	6.757 g	
3/31/2016	13.339 g	9.286 g	7.005 g	
4/22/2016	13.333 g	8.590 g	6.744 g	
5/31/2015	13.334 g	6.084 g	6.784 g	
6/30/2016	13.328 g	10.942 g	6.793 g	
8/3/2016	13.326 g	10.529 g	6.743 g	
8/29/2016	13.325 g	10.020 g	6.723 g	
10/27/2016	13.325 g	8.765 g	6.708 g	
11/29/2016	13.327 g	8.571 g	6.740 g	
12/12/2016	13.323 g	8.223 g	6.717 g	
1/3/2017	13.325 g	8.059 g	6.712 g	
2/28/2017	13.324 g	7.634 g	6.727 g	
3/24/2017	13.325 g	7.370 g	6.732 g	
4/28/2017	13.325 g	6.736 g	6.736 g	
5/11/2017	13.323 g	7.352 g	6.689 g	
6/12/2017	13.323 g	7.357 g	6.689 g	
7/5/2017	13.323 g	7.355 g	6.689 g	
8/30/2017	13.324 g	7.353 g	18.105 g	
9/28/2017	13.325 g	7.352 g	18.060 g	
10/11/2017	13.324 g	7.350 g	18.038 g	
11/16/2017	13.325 g	7.363 g	18.047 g	
12/12/2017	13.326 g	7.308 g	18.307 g	

**CORROSION MONITORING PLAN
COUPON SUMMARY**

Date	Hastelloy	Stainless Steel	Fiberglass	New stainless steel coupon
1/29/2018	13.326 g	10.930 g	18.027 g	
2/9/2018	13.325 g	10.932 g	18.044 g	
3/19/2018	13.325 g	10.926 g	18.030 g	
4/16/2018	13.336 g	10.863 g	18.068 g	
5/17/2018	13.325 g	10.858 g	18.037 g	
6/20/2018	13.325 g	10.855 g	18.029 g	
7/12/2018	13.326 g	10.852 g	18.032 g	
8/21/2018	13.326 g	10.854 g	18.031 g	
9/14/2018	13.326 g	10.852 g	18.036 g	
10/10/2018	13.326 g	10.851 g	18.031 g	
11/20/2018	13.326 g	10.853 g	18.032 g	
12/11/2018	13.326 g	10.852 g	18.033 g	
1/14/2019	13.326 g	10.852 g	18.033 g	
2/20/2019	13.326 g	10.850 g	18.033 g	
3/15/2019	13.326 g	10.850 g	18.033 g	
4/10/2019	13.326 g	10.848 g	18.031 g	

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 C-1562. 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) 865-8635
FAX (313) 865-1771

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:

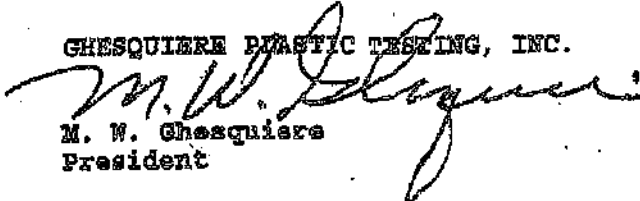
The following determination was made based upon the above test:

BARCOL HARDNESS

	<u>Hardness</u>
Specimen 1	90

Specimen is being returned with this report for further evaluation.

GHESQUIERE PLASTIC TESTING, INC.


M. W. Ghesquiere
President

MWG/kmi

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TOTAL 1 PAGES

GHSQUIERE PLASTIC TESTING, INC.

20450 HARPER AVENUE
HARPER WOODS, MI 48225
PHONE (818) 885-3535
FAX (818) 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 ID: 90

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

GHSQUIERE PLASTIC TESTING, INC.

M. W. Ghesquiere
President

MWG/dm

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TOTAL 1 PAGES

Ghesquiere Plastic Testing, Inc.

20450 HARPER AVENUE
HARPER WOODS, MI 48225
PHONE (313) 885-3536
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

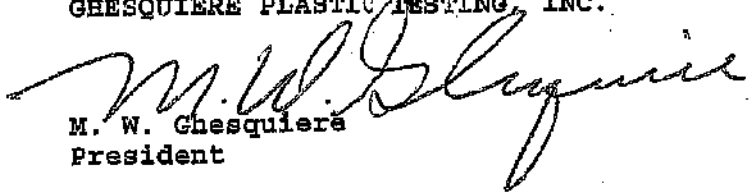
Specimen 1

Hardness

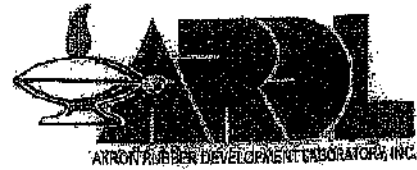
85

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



An A2LA ISO 17025 Accredited Testing Laboratory — Certificate Numbers 255.01 & 255.02
ISO 9001:2008 Registered

ISO 9001:2008
Registered

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www.ardl.com

2887 Gilchlist Rd. | Akron, Ohio 44305 | anewers@ardl.com
Toll Free (800) 830-ARDL | Worldwide (330) 794-6600 | Fax (330) 794-8619



Testing. Development. Problem Solving.

October 2, 2014

John Frost
Environmental Geo-Technologies, LLC

Page 2 of 2
PN118325

SUBJECT: Barcol Hardness on one material.
PO# Attn: John Frost

RECEIVED: One small section identified as: Fiberglass Coupon.


BARCOL HARDNESS ASTM D 2583-13a

Results

Barcol Hardness, Instant

97

Prepared By:



Melissa Martin
Sr. Project Technician

Approved By:



Scott W. Yates
Plastics Testing Assistant Manager

www.ardl.com

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



Progress Through Innovation, Technology and Customer Satisfaction

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



An A2LA ISO 17025 Accredited Testing Laboratory — Certificate Numbers 255.01 & 255.02
ISO 9001:2008 Registered

ISO 9001:2008
Registered

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



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.

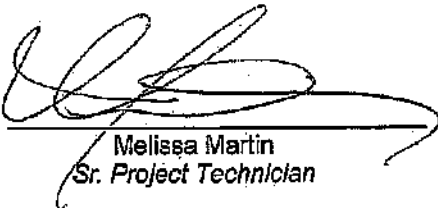
BARCOL HARDNESS ASTM D 2583-13a
Instant Reading

Results

Barcol Hardness, Instant

96

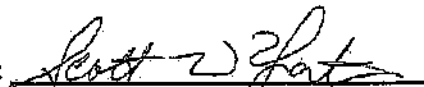
Prepared By:



Melissa Martin
Sr. Project Technician

to

Approved By:



Scott W. Yates
Plastics Testing Assistant Manager



Progress Through Innovation, Technology and Customer Satisfaction

December 12, 2016


TEST REPORT

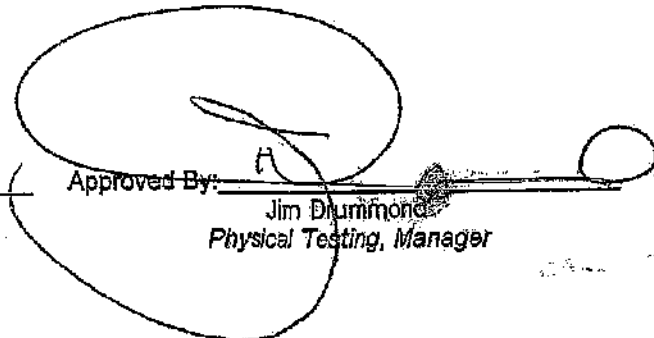
PN 132662
PO

PLASTICS TESTING DEPARTMENT

Prepared For:

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

Prepared By: 
Melissa Martin
Senior Project Technician

Approved By: 
Jim Drummond
Physical Testing, Manager

Rev 041916



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ISO 9001:2008 Registered



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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.

BARGOL 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.



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.

**INJECTION
FINGERPRINTS**

FINGERPRINT FORM

ENVIRONMENTAL GEO-TECHNOLOGIES, LLC.

RECEIVING & APPROVAL FORM

RECEIVING & APPROVAL FORM	
Date	4-2-19
Receiving ID#	104021901
Manifest# Line:	
Land Ban Cert Included	Yes No
EGT Approval #	
Generator	
Client	
Transporter	
Time in	
Time out	
Received by	<i>[Signature]</i>
Sampled by	<i>[Signature]</i>

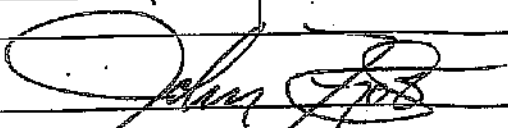
ANALYSIS			
Compatible? (RT#)	Yes No	Barium	
PCBs (ppm)(Oily Waste Only)?		Calcium	
TOC (ppm)(CC Waste Only)?		Total Iron	
Flash Point (°F)	>140°F	Magnesium	
pH (S.U.)	4.5	Sodium Chloride	
Cyanides? (mg/L)		Bicarbonate	
Sulfides? (ppm)		Carbonate	
Specific Gravity	1.01	TDS	2%
Physical Description		Resistivity	
Stream Consistency	Yes No	Sulfate	
Oil in Sample	Yes No		
Temperature	70°F		
Conductivity	54 mS		
% Solids	2%		
Turbidity	Yes No		
Color (visual)			
TSS (%)	<0.1		
Radiation Screen (as needed)			
Lab Signature	<i>[Signature]</i>		

FINGERPRINT FORM

ENVIRONMENTAL GEO-TECHNOLOGIES, LLC

RECEIVING & APPROVAL FORM

Date	4-20-19
Receiving ID#	104221901
Manifest# Line:	
Land Ban Cert included	Yes No
EGT Approval #	
Generator	
Client	
Transporter	
Time in	
Time out	
Received by	JKF
Sampled by	J

Compatible? (RT#)	(Yes) No	Barium	
PCBs (ppm)(Oily Waste Only)?		Calcium	
TOC (ppm)(CC Waste Only)?		Total Iron	
Flash Point (°F)	>140°F	Magnesium	
pH (S.U.)	4.5	Sodium Chloride	
Cyanides? (mg/L)		Bicarbonate	
Sulfides? (ppm)		Carbonate	
Specific Gravity	1.01	TDS	3%
Physical Description		Resistivity	
Stream Consistency	Yes No	Sulfate	
Oil in Sample	Yes No		
Temperature	71°F		
Conductivity	44 µS		
% Solids	3%		
Turbidity	Yes No		
Color (visual)			
TSS (%)	<0.1		
Radiation Screen (as needed)			
Lab Signature			

FINGERPRINT FORM

ENVIRONMENTAL GEO-TECHNOLOGIES, LLC.

RECEIVING & APPROVAL FORM

RECEIVING INFORMATION	
Date	4-23-19
Receiving ID#	I04231901
Manifest# Line:	
Land Ban Cert Included	Yes No
EGT Approval #	
Generator	
Client	
Transporter	
Time in	
Time out	
Received by	<i>[Signature]</i>
Sampled by	<i>[Signature]</i>

TEST INFORMATION		TEST RESULTS	
Compatible? (RT#)	Yes No	Barium	
PCBs (ppm)(Oily Waste Only)?		Calcium	
TOC (ppm)(CC Waste Only)?		Total Iron	
Flash Point (°F)	2140°F	Magnesium	
pH (S.U.)	4.8	Sodium Chloride	
Cyanides? (mg/L)		Bicarbonate	
Sulfides? (ppm)		Carbonate	
Specific Gravity	1.01	TDS	2%
Physical Description		Resistivity	
Stream Consistency	Yes No	Sulfate	
Oil in Sample	Yes No		
Temperature	70°F		
Conductivity	61 mS		
% Solids	2%		
Turbidity	Yes No		
Color (visual)			
TSS (%)	50+		
Radiation Screen (as needed)			
Lab Signature	<i>[Signature]</i>		

**WASTE STREAMS
CHARACTERIZATIONS**

ENVIRONMENTAL GEO-TECHNOLOGIES, LLC
 28470 Clinton Dr, Romulus, MI 48174. Telephone 734 946 1000. Fax 734 946 1002

Generator Waste Profile
Profile # 1403

GENERATOR INFORMATION

Name: [REDACTED] USEPA ID # _____
 Facility Address: [REDACTED] SIC/NAICS Code: _____ State Code: _____
 City: [REDACTED] State: [REDACTED] Zip Code: [REDACTED]
 Contact: _____ Title: _____ Phone: [REDACTED] Fax: () _____

BILLING INFORMATION

[SAME AS ABOVE]
 Company Name: [REDACTED]
 Address: [REDACTED]
 City: [REDACTED] State: [REDACTED] Zip Code: [REDACTED]
 Attention: [REDACTED] Phone: [REDACTED] Fax: () _____

WASTE INFORMATION

Name of Waste/Common Chemical Name:
BATHROOM CLEANER
 Process Generating Waste (Please be specific, incomplete information may delay the approval process):
EXCESS MATERIAL

USEPA / STATE WASTE IDENTIFICATION

- This waste is considered to be: Non Hazardous Liquid Industrial Waste Hazardous Waste
- Regulated by TSCA? Yes No (PCBs, etc.)
- List ALL Applicable Waste Codes: D002

PHYSICAL CHARACTERISTICS OF WASTE

Color: <input checked="" type="checkbox"/> White/Clear <input type="checkbox"/> Black/Brown <input type="checkbox"/> Other _____	Suspended Solids <input checked="" type="checkbox"/> 0-1 % <input type="checkbox"/> 3-5 % <input type="checkbox"/> 1-3 % <input type="checkbox"/> > 5%	Layers: <input type="checkbox"/> Multi-Layered <input type="checkbox"/> Bi-Layered <input checked="" type="checkbox"/> Single Phase	Specific Gravity: <input type="checkbox"/> <0.8 <input checked="" type="checkbox"/> 1.0-1.2 <input type="checkbox"/> 0.8-1.0 <input type="checkbox"/> 1.3-1.4 Exact / Other: <u>1.01-1.02</u>	<i>acceptable</i> <u>07-2519</u>
--	---	---	---	-------------------------------------

pH: NA ≤ 2 2-4 4-6 6-8 8-10 10-12.5 ≥ 12.5
1.8-2.2

Liquid Flash Point: <73°F 73-100°F 101-140°F 141-200°F >200°F None Closed Cup Open Cup

VOC CONCENTRATION - less than 5,000 PPM (MUST BE COMPLETED)

TOTAL COMPOSITION OF WASTE - MUST BE EQUAL TO OR GREATER THAN 100% (LIST EACH CONSTITUENT >= 0.1%)

CONSTITUENT	MAX	MIN	CONSTITUENT	MAX	MIN
<u>See attached SDS</u>		%			%
		%			%
		%			%
		%			%
		%			%

Metals: Indicate if this waste contains any of the following metals. If Generator knowledge provide backup

<input type="checkbox"/> Lab Analysis	<input checked="" type="checkbox"/> Generator Knowledge	<input type="checkbox"/> TCLP	<input checked="" type="checkbox"/> TOTAL	
---------------------------------------	---	-------------------------------	---	--

PCB	Not Present	Concentration	ppm	Aromatic Amine	Not Present	Concentration	ppm	Arsenic (As)	D004	<input type="checkbox"/>	< 5	ppm	_____ ppm
Dioxins	<input type="checkbox"/>	_____	ppm	Pesticides	<input type="checkbox"/>	_____	ppm	Barium (Ba)	D003	<input type="checkbox"/>	< 100	ppm	_____ ppm
Cyanides Reactive	<input type="checkbox"/>	_____	ppm	Rodenticides	<input type="checkbox"/>	_____	ppm	Cadmium (Cd)	D006	<input type="checkbox"/>	< 1	ppm	_____ ppm
Cyanides Total	<input type="checkbox"/>	_____	ppm	Fungicides	<input type="checkbox"/>	_____	ppm	Chromium (Cr)	D007	<input type="checkbox"/>	< 5	ppm	_____ ppm
Sulfides Reactive	<input type="checkbox"/>	_____	ppm					Lead (Pb)	D008	<input type="checkbox"/>	< 5	ppm	_____ ppm
Sulfides Total	<input type="checkbox"/>	_____	ppm					Mercury (Hg)	D009	<input type="checkbox"/>	< 0.2	ppm	_____ ppm
								Selenium (Se)	D010	<input type="checkbox"/>	< 1	ppm	_____ ppm
								Silver (Ag)	D011	<input type="checkbox"/>	< 5	ppm	_____ ppm

TCLP Organics D012 - D043 above regulatory limits: Present Not Present

IS WASTE ANY OF THE FOLLOWING?

At Least One Box Must Be Checked.

- Radioactive
- Water Reactive
- Oxidizer
- Shock Sensitive
- Reactive (other)
- DOT Explosives
- NIOSH Human-Positive Carcinogens
- NESHAP Wastes (Benzene, etc.)
- Biological
- None Apply

SHIPPING INFORMATION

- Is this a DOT Hazardous Material (49CFR 172.101 & 173 Subpart D)? Yes No
- Reportable Quantity (RQ) in pounds _____
- DOT Shipping Name: UN1760 Waste Corrosive Liquid, N.O.S. (Ethanol) Hazard Class 8 UN 1760
 PG I ERG 154 Hazardous Constituents for "n.o.s." Ethanol
- Method of Shipment: Bulk Tanker Vac truck Rail Car Drums Totes 34 pallets; 80 containers/pallet
- Number of Units to Ship Now: As above 6. Anticipated Volume / Units per Year: _____ or One Time
- Special Handling Requirements including PPE: _____

CERTIFICATION STATEMENT

I hereby represent and warrant that I have personally examined and am familiar with the information contained and submitted in this and all attached documents. Based on my inquiry and personal knowledge of those individuals responsible for supplying or obtaining the information, the information contained herein is true, accurate, and complete to the best of my knowledge and belief. Furthermore, no material fact has been omitted as to make this information misleading. I understand that others may rely on this representation and warranty in the handling and processing of the waste material described herein. If this box is checked , I request Environmental Geo-Technologies not to correct any inconsistencies. Any corrections Environmental Geo-Technologies makes will be consistent with the results of the sample characterization and/or regulatory requirements.

Printed Name: _____ Title: _____

Generator's Signature: _____

GENERATOR'S CHAIN OF CUSTODY RECORD INSTRUCTIONS: PLEASE collect a representative 1-quart sample of the waste described in the above referenced GENERATOR'S WASTE PROFILE REPORT using an appropriate container. A representative sample is one obtained using any of the applicable sampling methods cited in 40 CFR 261-Appendix 1. Fill in the sampling information in the spaces provided below. If you have problems obtaining a representative sample of your waste, please contact your Environmental Geo-Technologies representative.

1. _____	2. _____	
SAMPLING METHOD	COLLECTION POINT	
3. _____		
SAMPLE COLLECTOR'S NAME, TITLE, EMPLOYER		

4. Sample No. _____ Preservation: Yes No

5. CHAIN OF CUSTODY Each person who handles the sample must sign below when the sample passes from one to another.

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

SAFETY DATA SHEET

1. Identification

Product identifier

Other means of identification

Product code

Recommended use

Bathroom Cleaner

Recommended restrictions

None known.

Manufacturer/importer/Supplier/Distributor information

Company name

Address

Telephone

Email

Emergency phone number

(24 hr Emergency) 1-800-835-5053 or 1-352-323-3600

2. Hazard(s) Identification

Physical hazards

Not classified.

Health hazards

Skin corrosion/irritation

Category 2

Serious eye damage/eye irritation

Category 2A

Environmental hazards

Hazardous to the aquatic environment, acute hazard

Category 1

Hazardous to the aquatic environment, long-term hazard

Category 1

OSHA defined hazards

Not classified.

Label elements



Signal word

Warning

Hazard statement

Causes skin irritation. Causes serious eye irritation. Very toxic to aquatic life with long lasting effects.

Precautionary statement

Prevention

Wash thoroughly after handling. Avoid release to the environment. Wear eye protection/face protection. Wear protective gloves.

Response

If on skin: Wash with plenty of water. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse. Collect spillage.

Storage

Store away from incompatible materials.

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC)

None known.

Supplemental information

None.

3. Composition/Information on Ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
CITRIC ACID		77-029	<3
ALCOHOLS, C-12-15, ETHOXYLATED		68131-40-5	<1
Quaternary Ammonium Compounds, Benzyl- or 2-18-alkyldimethyl, Chlorides		68424-65-1	<1
DIDECYL DIMETHYL AMMONIUM CHLORIDE		7173-61-5	<0.5
DIOCTYLDIMETHYLAMMONIUM CHLORIDE		6558-94-3	<0.5
Ethanol		64-17-5	<0.5

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Remove contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists. Rinse mouth. Get medical attention if symptoms occur.
Ingestion	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain.
Most important symptoms/effects, acute and delayed	
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog, Foam, Dry chemical powder, Carbon dioxide (CO ₂).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Should not be released into the environment. Prevent entry into waterways, sewer, basements or confined areas. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, tissue). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

US, OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Ethanol (CAS 64-17-5)	PEL	1000 mg/m ³ 1000 ppm

US, ACGIH Threshold Limit Values

Components	Type	Value
Ethanol (CAS 64-17-5)	STEL	1000 ppm

US, NIOSH Pocket Guide to Chemical Hazards

Components	Type	Value
Ethanol (CAS 64-17-5)	TWA	1000 mg/m ³ 1000 ppm

Biological limit values No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station and safety shower.

Individual protection measures, such as personal protective equipment

Eye/face protection Face shield is recommended. Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection Wear appropriate chemical resistant gloves.

Other

Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state Liquid.
Form Liquid.
Color Clear water-white to slightly off-white.

Odor Not available.

Odor threshold Not available.

pH 1.8 - 2.2

Melting point/freezing point Not available.

Initial boiling point and boiling range Not available.

Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Specific gravity	1.01 - 1.02

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye irritation.
Ingestion	Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical and toxicological characteristics: Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain.

Information on toxicological effects

Acute toxicity: Based on available data, the classification criteria are not met.

Components	Species	Test Results
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CITRIC ACID (CAS 77-92-9)

Acute

Oral

LD50

Rat

6780 mg/kg

Components	Species	Test Results
DIDECYL DIMETHYL AMMONIUM CHLORIDE (CAS 7173-51-5)		
Acute Dermal LD50	Rabbit	2730 mg/kg
Ethanol (CAS 64-17-6) Acute Inhalation LC50	Mouse	39 mg/l, 4 Hours
Oral LD50	Rat	6.2 g/kg
Skin corrosion/irritation	Causes skin irritation.	
Serious eye damage/eye irritation	Causes serious eye irritation.	
Respiratory or skin sensitization		
Respiratory sensitization	Not a respiratory sensitizer.	
Skin sensitization	This product is not expected to cause skin sensitization.	
Gen cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.	
Carcinogenicity	Not classifiable as to carcinogenicity to humans.	
IARC Monographs, Overall Evaluation of Carcinogenicity		
Not listed.		
OSHA Specifically Regulated Substances (28 CFR 1910.1001-1003)		
Not regulated.		
US, National Toxicology Program (NTP) Report on Carcinogens		
Not listed.		
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.	
Specific target organ toxicity - single exposure	Not classified.	
Specific target organ toxicity - repeated exposure	Not classified.	
Aspiration hazard	Not an aspiration hazard.	
Chronic effects	Prolonged inhalation may be harmful.	

12. Ecological Information

Ecotoxicity Very toxic to aquatic life with long lasting effects.

Components	Species	Test Results
ALCOHOLS, C12-15, ETHOXYLATED (CAS 65131-39-5)		
Aquatic Crustacea	EC50	Water flea (<i>Ceriodaphnia dubia</i>)
Fish	LC50	Channel catfish (<i>Ictalurus punctatus</i>)
		0.37 - 0.49 mg/l, 48 hours
		1.04 - 1.39 mg/l, 96 hours
DIDECYL DIMETHYL AMMONIUM CHLORIDE (CAS 7173-51-5)		
Aquatic Fish	LC50	White sturgeon (<i>Acipenser transmontanus</i>)
		0.001 - 0.01 mg/l, 96 hours
Ethanol (CAS 64-17-6)		
Aquatic Crustacea	EC50	Water flea (<i>Daphnia magna</i>)
Fish	LC50	Fathead minnow (<i>Pimephales promelas</i>)
		7.7 - 11.2 mg/l, 48 hours
		> 100 mg/l, 96 hours

Components	Species	Test Results
Quaternary Ammonium Compounds, Benzyl-o(2-16-alkyldimethyl) Chlorides (CAS 63424-85-4)		
Aquatic Acute Crustacea	EC50 Daphnia magna	< 1 mg/l, 48 hours
Persistence and degradability	No data is available on the degradability of any ingredients in the mixture.	
Bioaccumulative potential	Partition coefficient n-octanol / water (log Kow) Ethanol -0.31	
Mobility in soil	No data available.	
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.	

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Incinerate the material under controlled conditions in an approved incinerator. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT	Not regulated as dangerous goods.
IATA	Not regulated as dangerous goods.
IMDG	Not regulated as dangerous goods.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not established.
General information	Per IATA DGR Special Provision A197, IMDG Code 2.10.2.7, and 49 CFR § 171.4(a), this product, as packaged, is not regulated as a Marine Pollutant due to package size. Regulated as UN3082, Environmentally Hazardous Substance, Liquid, N.O.S., Class 9, Packing Group III if single or inner package size exceeds 5 liters and/or outer packaging exceeds 30 kg.

15. Regulatory information

US federal regulations	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
Toxic Substances Control Act (TSCA)	
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)	Not regulated.
CERCLA Hazardous Substance List (40 CFR 302.4)	
Ethanol (CAS 64-17-5)	Listed.
SARA 304 Emergency release notification	
	Not regulated.
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)	
	Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

Classified hazard categories Skin corrosion or irritation
Serious eye damage or eye irritation

SARA 313 (TRI reporting)
Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 86.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace

Ethanol (CAS 64-17-6)

Low priority

PIFRA Information

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals.

US state regulations

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 2016 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

16. Other Information, including date of preparation or last revision

Issue date 13-November-2017

Revision date 07-March-2019

Version # 05

HMSD ratings Health: 2
Flammability: 0
Physical hazard: 0

NFPA ratings Health: 2
Flammability: 0
Instability: 0

NFPA ratings



Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Revision information

Composition / Information on Ingredients: Disclosure Overrides
Transport information: General information