UNIVERSAL COATING, INC.

5204 Energy Dr, Flint, MI 48505
Phone: (810) 785-7555 Fax: (810) 785-7776
Web site: www.universalcoating.com

Mr. Robert Byrnes
MDEQ Air Quality Division
Lansing District Office
P.O. Box 30242
Constitution Hall, 525 W. Allegan St., 1 South
Lansing, MI 48909-7760

February 11, 2016

Re: Response to Violation Notice dated January 21, 2016
Universal Coating, Incorporated

Dear Mr. Byrnes,

Please find enclosed our written response to the violation notice dated January 21, 2016. This violation notice consisted of the following alleged violations:

Process Description	Alleged Rule/Permit Condition Violation	MDEQ Comments
Four automatic miscellaneous metal parts spray lines	PTI 96-03C FG-CATOX SC I.1 (Rules 205 and 702(a))	Exceeding the VOC emission limit according to a September 25, 2015 VOC report. Universal Coatings appears to have been exceeding this limit since November 2014 through the latest records provided in August 2015.
	PTI 96-03C FG-CATOX SC IV.2 (Rule 702(a))	Spray applicators were not HVLP or equivalent.
	PTI 96-03C FG-CATOX SC IV.3 (Rules 205, 702, and 910)	Oxidizer was operating at 550 °F (permit limit is a minimum of 600 °F). Also, no records of oxidizer operating temperatures have been provided.

As requested, this response includes the following information, as it applies: the dates the alleged violations occurred; an explanation of the causes and duration of the alleged violations; whether the alleged violations are ongoing; a summary of the actions that have been taken and are proposed to be taken to correct the alleged violations and the dates by which these actions will take place; and what steps are being taken to prevent a reoccurrence. Additionally, as requested, the enclosed response also includes the information requested via email on November 30, 2015 and again on January 5, 2016.

If you have any questions regarding this response, please contact me at (810) 785-7555.

Sincerely,

Tim Johnson

Tim Johnson
General Manager
Universal Coating, Incorporated

Enclosures

cc: Mr. Brad Myott – MDEQ-AQD
Ms. Julie Taylor – Universal Coating

Universal Coating – MDEQ NOV and Inspection Follow-up
February 11, 2016

Response to Violation Notice:

1. **FG-CATOX Special Condition I.1 – Exceeded the VOC emission limit according to a September 25, 2015 VOC report. Universal Coatings appears to have been exceeding this limit since November 2014 through the latest records provided in August 2015. (R 336.1205, R 336.1702(a))**

The recordkeeping report submitted on September 25, 2015 contained two sets of records: VOC emission calculations for FG-CATOX consistent with the permit and VOC emission calculations for FG-CATOX *including Roll Coater*. Roll Coater is an exempt line at Universal Coating that also happens to be routed through the oxidizer stack. Roll Coater is not required to be controlled and is not listed in PTI No. 96-03C as part of FG-CATOX. Therefore, the VOC emission calculations *including Roll Coater* are slightly overestimated for comparison to the VOC limit listed under SC I.1.Universal Coating did not exceed the VOC limit at FG-CATOX based on calculations without Roll Coater, which is consistent with the permit (covering four automatic miscellaneous metal parts spray lines). Refer to the attached emissions summary, provided as Appendix A. This exceedance is ongoing.

In May 2014, Universal Coating obtained a permit to install (PTI) for the installation of a new spindle line, identified as EU-T5/T6 in PTI No. 96-03C. EU-T5/T6 is routed through the oxidizer and is part of FG-CATOX. At the time of the 2014 permit application, Universal Coating was emitting less than 10 tpy VOC on a 12-month rolling basis at FG-CATOX and appeared to have enough "room" under the 13.5 tpy VOC limit for the additional line to operate without requiring an increase to the VOC limit. Since EU-T5/T6 has been installed, demand has been slowing increasing.

Within a few months after the installation of EU-T5/T6 (September 2014), the need for a higher VOC limit or additional VOC reduction at FG-CATOX was recognized, and Universal Coating started soliciting quotes for an upgrade to the control technology system to achieve a higher destruction efficiency. The control technology investigation has been an ongoing effort since 2014, consisting of coating line exhaust flow measurements, destruction efficiency guarantee discussions, balance of exhaust flow, construction information review, and planning for operational parameter monitoring and recording.

In July 2015, a contract was signed with an oxidizer vendor for replacement of the facility's oxidizer control with a system of higher destruction efficiency. On August 19, 2015, the oxidizer vendor provided an estimated timeline for delivery and startup. However, as noted below, the vendor was unable to meet the initial timeline and the project was delayed:

Oxidizer Project Task	Estimated Timeline	Actual Date Vendor Completed
Oxidizer Delivery	October 19 or 26, 2015	2nd week of December, 2015
Oxidizer Startup/Shakedown	November 9 or 16, 2015	January 2016/ongoing
Operating Data Backup	In current discussions	TBD

The oxidizer is anticipated to achieve a significantly higher destruction efficiency that the current unit (98% anticipated, compared to current 80.75%). Destruction efficiency testing on the newly installed oxidizer is anticipated to occur as early as possible, likely by the end of March 2016.

Concurrently with soliciting quotes for an upgrade to the oxidizer, Universal Coating has begun working on a permit application to increase the VOC limit listed under SC I.1 of FG-CATOX, to account for the inclusion and growing demand of the four automatic miscellaneous metal parts spray lines, including EU-T5/T6. A

permit application for this change is anticipated to be submitted by the end of February 2016. Through these combined efforts, Universal Coating will achieve compliance with the VOC limit.

2. FG-CATOX Special Condition IV.2 – Spray applicators were not HVLP or equivalent. (Rule 702(a))

The use of HVLP or comparable technology (e.g., electrostatic spray, dip, flowcoat, roller, dip-spin) is based on utilizing spray equipment with equal or better transfer efficiency to that of HVLP. Transfer efficiency is typically provided in terms of percent, based on the amount of material that adheres to the target compared to the amount of material that was sprayed through the applicator toward the target. HVLP transfer efficiency is typically estimated to be 65%.

For coating at FG-CATOX spindle lines EU-T1/T2, EU-T3/T4, EU-T5/T6, and EU-S1 (these particular coating applications), the conventional spray guns that Universal Coating currently uses are expected to provide equivalent or greater transfer efficiency than HVLP guns for the same application. This is due to the relatively small target spray area of the parts on these lines, and the capability to more precisely apply coating with conventional guns than with HVLP (i.e., conventional spray guns are able to be "dialed down" finer than HVLP). The precise coating from a conventional gun prevents spraying beyond the part, prevents spraying the filter, and uses less total coating, resulting in lower potential for VOCs to be emitted.

To further this point, the coating manufacturers' estimate of coverage area per unit volume of coating is approximately 43,200 square inches per gallon of coating (equivalent to 129,600 square inches per 3 gallons). Universal Coating is estimating they are able to coat 116,769 square inches for 3 gallon of coating used, which equates to an approximate transfer efficiency of 90 percent. Refer to Appendix B for the detailed transfer efficiency study. Optimal transfer efficiency is achieved utilizing conventional nozzle types rather than HVLP for this particular application. Therefore, Universal Coating has equipped each booth of FG-CATOX with spray applicators with equivalent transfer efficiency to HVLP and has not violated this permit condition. The facility is also utilizing less total coating, minimizing VOC emissions to the greatest extent and meeting the intent of Rule 702(a).

3. FG-CATOX Special Condition IV.3 – Oxidizer was operating at 550 °F (permit limit is a minimum of 600 °F). Also, no records of oxidizer operating temperatures have been provided (Rules 205, 702, 910)

The temperature readings at the oxidizer were investigated, and it was concluded that the thermocouple had not been reading the temperature correctly from November 9, 2015 to December 5, 2015. The thermocouple was replaced on December 5, 2015 (as soon as practicable after the Holiday weekend and during next oxidizer shutdown) and the new thermocouple calibrated. We have attached the following oxidizer operating temperature records, as Appendix C:

- Strip chart records showing the temperature is 600 °F prior to November 9, 2015, which includes the week of August 11, 2015 and October 11, 2015, as requested
- Strip chart records from the week of November 24, 2015 when the temperature issue was identified
- Strip chart records from February 8, 2016, demonstrating the issue has been fully resolved (with photograph of digital readout)

Additionally, we have included oxidizer maintenance records from 2015 for maintenance performed consistent with the Malfunction Abatement Plan (refer to Appendix C for records). In January 2016, Universal Coating initiated additional recordkeeping efforts to verify proper operation of the oxidizer based on operating temperature. These efforts include recording the digital temperature of the oxidizer once daily

(each operating day) on a calendar and/or initialing the chart recorder daily to confirm proper operation (i.e., to confirm the oxidizer temperature is at least 600 °F). This additional recordkeeping effort will ensure that the oxidizer is properly operated and the temperature is inspected daily.

Response to MDEQ Request for Information:

MDEQ Request: Please provide me with the Catalytic Oxidizer temperature data for the week of November 23rd and October 11th and August 11th, 2015.

Refer to the response to Violation Notice #3 on page 2 and Appendix C.

MDEQ Request: Provide an example of the temperature record for EU-BURNOFF during a period of operation.

Please refer to the attached figure in Appendix D for an example of a temperature record for EU-BURNOFF. Although the scale of the strip chart only goes up to 800 °F, the corresponding digital readout shows temperatures in excess of 1400 °F; the scale of the strip chart is actually higher than 800 °F. We will provide a "real time" photograph taken of the digital readout and the strip chart while EU-BURNOFF is operating to demonstrate the scale.

MDEQ Request: Provide details on how it is determined there are no VOC released from EU-PHOSPHATELINES

Consistent with the original permit application, the anticipated VOC emission rates from FG-PHOSPHATELINES are determined based on reviewing product SDSs to determine VOC content. Products without a VOC content listed in the SDS are assumed to contain negligible VOCs. Historically, VOC contents have not been listed on SDS documents for those products used at EU-PHOSPHATELINES.

In addition to reviewing SDS information, certain ingredients within the products used in the phosphate baths have been reviewed based on the definition of VOC to further demonstrate that there are no VOCs released from FG-PHOSPHATELINES. According to R 336.1122(f) of the Part 1 General Provisions, a VOC is defined as, "any compound of carbon or mixture of compounds of carbon that participates in photochemical reaction." Certain materials which have been determined by the U.S EPA to have negligible photochemical reactivity are excluded from this definition, and are listed in R 336.1122(f)(i) though (xi).

Lastly, product manufacturer information has been utilized where available to further demonstrate that there will be no volatilization or emission of the carbon-containing ingredients used at the phosphate baths.

The following table lists ingredients contained in Universal Coating's current phosphate line products. The majority of the ingredients are caustic salts and acids which do not meet the definition of a VOC. As shown, VOCs are not expected to be released from FG-PHOSPHATELINES.

Products Used at Phosphate Line(s)	Line Where Used	VOC Content per SDS	Ingredients from SDS	Contains Carbon?	Additional Information on Volatility and/or Information from Manufacturer	Is this a Released VOC?
Houghto-Clean 8150	2	No information available; Assume Negligible (8/5/2015 SDS and previous versions) SDS Revised 1/29/2016 with VOC Content of 53 g/L (EPA 24)	Neutralized boric acid	No		No
			2-Methylpentane-2,4-diol	Yes	Relatively high viscosity used to control the flow properties of cleanser; acts as surfactant and emulsion-stabilizer; Low vapor pressure of 0.05 mmHg compared to water, 17.5 mmHg (20 °C)	No; Not anticipated to be emitted
			Potassium hydroxide	No		No
			Neutralized Potassium Hydroxide	No		No
HoughtoEtch AX 2040	2	No information available; Assume Negligible	Ammonium hydrogen difluoride	No		No
			Diammonium hydrogen orthophosphate	No		No
HOUGHTO-DEOX A-1745L	2	No information available; Assume Negligible	Diiron tris (sulphate)	No		No
			Sulphuric acid	No		No
			Nitric acid	No		No
			Ammonium hydrogen difluoride	No		No
HOUGHTO-STRIP 5944	Proto type	0 g/L (ASTM E-1868-10)	Benzyl alcohol	Yes		No; based on 0 VOC Content listed in SDS
			Sodium xylenesulphonate	Yes		
			1-Propanesulfonic acid, 3-chloro-2-hydroxy-, monosodium salt, reaction products with 2-heptyl-4,5-dihydro-1H-imidazole-1-ethanol	Yes		

Products Used at Phosphate Line(s)	Line Where Used	VOC Content per SDS	Ingredients from SDS	Contains Carbon?	Additional Information on Volatility and/or Information from Manufacturer	Is this a Released VOC?
HOUGHTO-STRIP AM	Proto type	No information available; Assume Negligible	1,2,3-Propanetricarboxylic acid, 2-hydroxy-, hydrate	Yes	Extremely low vapor pressure of 3.7E-09 mmHg, compared to water, 23.8 mmHg (25 °C)	No; Not anticipated to be emitted
			Benzyl alcohol	Yes	Low vapor pressure of 13.3 mmHg, compared to water, 760 mmHg (100 °C)	No; Not anticipated to be emitted
			2-Methylpentane-2,4-diol	Yes	Low vapor pressure of 0.02 mmHg, compared to water, 17.5 mmHg (20 °C)	No; Not anticipated to be emitted
			Sodium xylenesulphonate	Yes	Extremely low vapor pressure of 1.52E-09 mmHg	No; Not anticipated to be emitted
			Ammonium nitrate	No		No
			1-Propanesulfonic acid, 3-chloro-2-hydroxy-, monosodium salt, reaction products with 2-heptyl-4,5-dihydro-1H-imidazole-1-ethanol	Yes	Extremely low vapor pressure of 5.51E-27 mmHg, compared to water, 23.8 mmHg (25 °C)	No; Not anticipated to be emitted
Hydrochloric Acid Solution	1, 2	Not listed; Assume Negligible Note: Volatility listed as 100%	Water	No		No
			Hydrogen Chloride	No		No
IOM CP840-NR	1, 2	Not listed; Assume Negligible	Phosphoric Acid	No		No
			Nitric Acid	No		No
IOM 748 D Additive	1, 2	No value listed; Assume Negligible	Calcium Nitrate	No		No
Sodium Nitrite Solution 702B	1, 2	Not listed; Assume Negligible	Sodium Nitrite	No		No
IOM 61 CH	1	Not listed; Assume Negligible	Phosphoric Acid	No		No
			Nitric Acid	No		No

Products Used at Phosphate Line(s)	Line Where Used	VOC Content per SDS	Ingredients from SDS	Contains Carbon?	Additional Information on Volatility and/or Information from Manufacturer	Is this a Released VOC?
IOM IPL-049	2	Not listed; Assume Negligible	Phosphoric Acid	No		No
			Sodium Hydroxide	No		No
			Hydroxylamine Sulfate	No		No
IOM RP2324	1, 2	No value listed; Assume Negligible	Water	No		No
			Proprietary Carboxylic Acid	Yes	Manufacturer confirmed that this product is not likely to be emissive and is not considered a VOC, HAP, or carcinogen.	No
			Alkoxylated Diamine	Yes		
IOM 0013 ED	1	Not listed; Assume Negligible	Potassium Hydroxide	No		No
			Proprietary Surfactant	Information not available	Manufacturer confirmed that this product is not likely to be emissive and is not considered a VOC, HAP, or carcinogen.	No
			Phosphoric Acid	No		No
			Defflocculant & Sequestrant	--	Manufacturer confirmed that this product is not likely to be emissive and is not considered a VOC, HAP, or carcinogen.	No
IOM CL002	1	Not listed; Assume Negligible	Sodium Hydroxide	No		No
			Potassium Hydroxide	No		No
Urea	1	Not listed; Assume Negligible	Carbamide	Yes	Solid until dissolved in water; does not have a significant vapor pressure (24 mmHg at 75 °F); would not be expected to become volatile.	No
Ferrous Sulfate	1	Not listed; Assume Negligible	Ferrous Sulfate	No		No
ROBOND (TM) TR-7500-D	1	Not listed; Assume Negligible	Polymeric silane (trade secret), Onium compound (trade secret), and Water	Information not available	Vapor pressure equivalent to water	No

Products Used at Phosphate Line(s)	Line Where Used	VOC Content per SDS	Ingredients from SDS	Contains Carbon?	Additional Information on Volatility and/or Information from Manufacturer	Is this a Released VOC?
ROBOND (TM) TR-7021 B	1	Not listed; Assume Negligible	Formaldehyde polymer (not hazardous), Chlorinated polymer (not hazardous), Water	Information not available		No
			Phenol	Yes	Low vapor pressure of 0.4 mmHg, compared to water, 17.5 mmHg (20 °C)	
			Propoxypropanol	Yes	Low vapor pressure of 2.85 mmHg, compared to water, 23.8 mmHg (25 °C)	
Garolene D 6890	1	Not listed; Assume Negligible	Ethanol, Trade Secret Registry Diluted with water at 1% concentration Garolene	Yes	Vapor pressure equivalent to water	No
Vortecid	1	Not listed; Assume Negligible	Glycols, polyethylene mono((1,1,3,3-tetramethylbutyl)phenyl) ether	Yes	Vortecid forms a foam blanket on top of the acid bath to act as an odor shield for HCl, and therefore is not expected to be emissive from the bath. Vapor pressure less than water.	No; Not anticipated to be emitted
			Butane-1,4-diol	Yes	Low vapor pressure of <1 mmHg, compared to water, 17.5 mmHg (20 °C)	No; Not anticipated to be emitted
			Trade Secret ingredients	Information not available	Vortecid forms a foam blanket on top of the acid bath to act as an odor shield for HCl, and therefore is not expected to be emissive from the bath. Vapor pressure less than water.	No; Not anticipated to be emitted

Anticipated PTI No. 93-03C Clean-ups based on MDEQ Permit Condition Review:

We are proposing to submit a permit application by the end of February 2016 to address the following items of MDEQ concern, as each is applicable:

- EU-HEATING exhaust – the permit will be modified to specify that this unit is exhausting outside, rather than to the general in-plant environment.
- EU-POWDERCOAT emissions do not get exhausted through a spray booth to the atmosphere. The exhaust is turned off while EU-POWDERCOAT is in use to minimize powder getting caught in the filter. Therefore, the permit is accurate and emissions are released into the in-plant environment.
- The FG-PHOSPHATELINES compliance methodology will be updated to be consistent with current practices (utilizing SDS data and acid bath equations).
- Recordkeeping conditions will be updated for consistency (i.e., monthly emission rates will no longer be required on a calendar day basis)
- Increase to VOC limit at FG-CATOX

Response to MDEQ Areas of Concern:

MDEQ: Method 24 special conditions require the use of Method 24 to determine VOC contents, unless prior approval is granted by the AQD District Supervisor to use formulation data. Has the company previously obtained district supervisor approval for the use of formulation data?

The application for PTI No. 96-03 utilized SDS information to estimate VOC emissions from each process, rather than Method 24 test data. PTI No. 96-03 was approved by MDEQ in April 2004. Since that time, Universal Coating has utilized SDS information consistent with PTI approval. We were unable to verify through our records whether an official request was submitted and approved by MDEQ, as this would have been done after permit issuance, more than 10 years ago. We do not expect much variation in the coating used at our source and the manufacturers that we work with are diligent in keeping the SDS information up to date through their own testing. As such, Universal Coating is requesting approval to continue to utilize formulation data or SDSs rather than perform Method 24 testing.

MDEQ: The oxidizer appeared to be operating at 550 degrees Fahrenheit on the readout near the spindle lines. The permit requires a minimum temperature of 600 degrees Fahrenheit. Note: if the oxidizer does not meet its permit obligation of 600 degrees Fahrenheit, then control credit should not be taken for those times. Further follow up may be needed if this occurs.

Refer to response to the Violation Notice #3 on page 2.

MDEQ: The Malfunction Abatement Plan (MAP) requires a strip chart be reviewed each day to be certain there is a temperature increase across the catalyst. If there is not a temperature increase the catalyst should be checked for activity. Does the temperature data show a temperature increase? The MAP should also be revised if you are no longer using the strip charts.

Universal Coating uses a strip chart to record the temperature before and after the catalyst, and maintains the strip charts onsite. Strip chart temperature data shows a temperature increase across the catalyst (refer to Appendix C for examples), which does not require a corrective action. In order to ensure the temperature increase is observed daily, Universal Coating initiated additional recordkeeping efforts in

January 2016 to verify proper operation of the oxidizer. These efforts include recording the digital temperature of the oxidizer once daily (each operating day) on a calendar, and/or initialing the chart recorder daily to confirm proper operation (i.e., to confirm a temperature increase). This observation can be done at the chart recorder or the digital readout. Refer to the attached revised MAP (Appendix E), which outlines these inspection requirements.

MDEQ: In one of the spray booths there was clean up rags hanging from the top like on a clothes line. This type of operation would not meet the intention of containing all waste coatings and materials in closed/sealed containers.

Consistent with permit requirements in PTI No. 96-03C for FG-DIPSPINS, FG-H1/H2/H3, and FG-CATOX, specifically condition III.1, Universal Coating will collect the clean-up rags that may contain waste coatings, reducers, or clean-up solvents and store them in closed containers. When the clean-up rags are no longer able to be used, they will be handled in closed containers and appropriately disposed according to applicable state and federal rules and regulations.

MDEQ: The spindle lines did not use HVLP applicators or equivalent. What do the spray booths use? Traditionally atomized guns do not meet the intent of the permit requirement. Can the facility use electrostatic?

Refer to response to Violation Notice #2 on page 2. The facility would not be able to use electrostatic.

MDEQ: The filtration system on the spray booth appeared to have cardboard in front of or in place of filtration. Does Universal coatings have documentation on filter placements (when, where, type, by who, etc.)?

The cardboard placement was utilized as a trial to redirect air flow (i.e., to direct air flow to a more precise area). The cardboard has since been removed. Universal Coating maintains a form documenting when filters are changed out. The form includes the date of filter change-out, which line, which filter, and who performs the change out.

MDEQ: Is it possible to obtain a picture of the inside of the paint booth/spindle line duct work?

It is not possible to obtain a picture during operation. A picture will be scheduled to be taken during the next filter change.

MDEQ: The boilers are not subject to Boiler MACT for area sources (Subpart JJJJJJ) if they are defined as a gas-fired boiler (40 CFR 63.11195 & 63.11237). I believe they meet this definition.

This is correct. Universal Coating's boilers are natural gas-fired so meet the definition of "gas-fired boilers" and are not subject to any requirements under the Boiler MACT for area sources (Subpart JJJJJJ).

APPENDIX A

FG-CATOX RECORDS

Universal Coating, Inc
Permit No. 96-03C

VOC EMISSIONS SUMMARY

PERMIT LIMIT CALCULATION

12 MONTH ROLLING TIME PERIOD LIMIT (TONS) = **With Roll Coat** **13.5**

(w/o Roll Coat)

COATING LINE ID: FG-CATOX (Condition I.1) YEAR 2015

Month	Year	VOCs (lbs/month)	VOCs (tons/month)	VOCs (12-month rolling tons)	VOCs (12-month rolling tons)	
January	2014	2395.36	1.20	9.48	6.65	
February	2014	1944.14	0.97	9.94	7.46	
March	2014	2305.91	1.15	10.51	8.32	
April	2014	2268.70	1.13	10.97	9.15	
May	2014	2113.30	1.06	11.37	9.94	
June	2014	2070.97	1.04	11.75	10.66	
July	2014	2457.40	1.23	12.24	11.36	
August	2014	2359.38	1.18	12.73	11.95	
September	2014	2551.41	1.28	13.12	12.31	
October	2014	2922.13	1.46	13.53	12.67	
November	2014	2258.29	1.13	13.68	12.79	
December	2014	1675.61	0.84	13.66	12.79	
January	2015	2798.66	1.40	13.86	12.99	
February	2015	2675.68	1.34	14.23	13.36	
March	2015	3523.61	1.76	14.84	14.00	March 2015 - Start of Exceedence
April	2015	2957.02	1.48	15.18	14.40	
May	2015	2671.36	1.34	15.46	14.72	
June	2015	3241.90	1.62	16.05	15.31	

APPENDIX B

TRANSFER EFFICIENCY STUDY

101741 = 11.3932in2 calc coverage w/ tooling

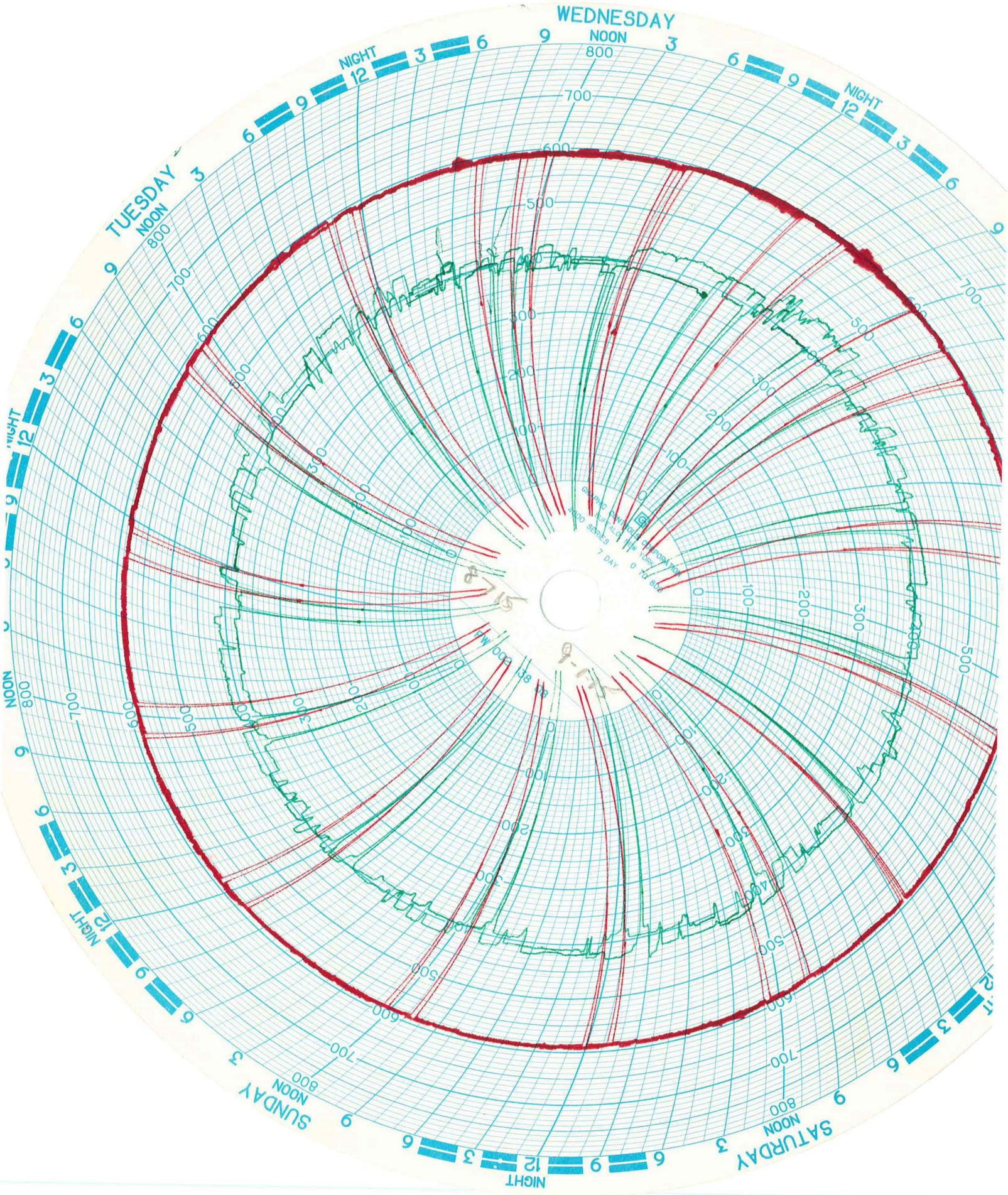
300 ft2/gal @ 0.8 milx 144 = 43.200 in2/gal
43200 x 3 gal used = 129600 in2/gal (zero loss)
10249 pc x 11.3932 = 116,769 in2 of parts coated w/ tooling
116769 / 129600 = 0.90 % transfer effientcy

CM00B039101= 80.01in2 calc coverage w/ tooling

300 ft2/gal @ 0.8 milx 144 = 43.200 in2/gal
43200 x 28.5 gal used = 1,231,200 in2/gal (zero loss)
12610 pc x 80.01 = 1,008,926 in2 of parts coated w/ tooling
1,008,926 / 1,231,200 = 0.82 % transfer effientcy

APPENDIX C

OXIDIZER TEMPERATURE RECORDS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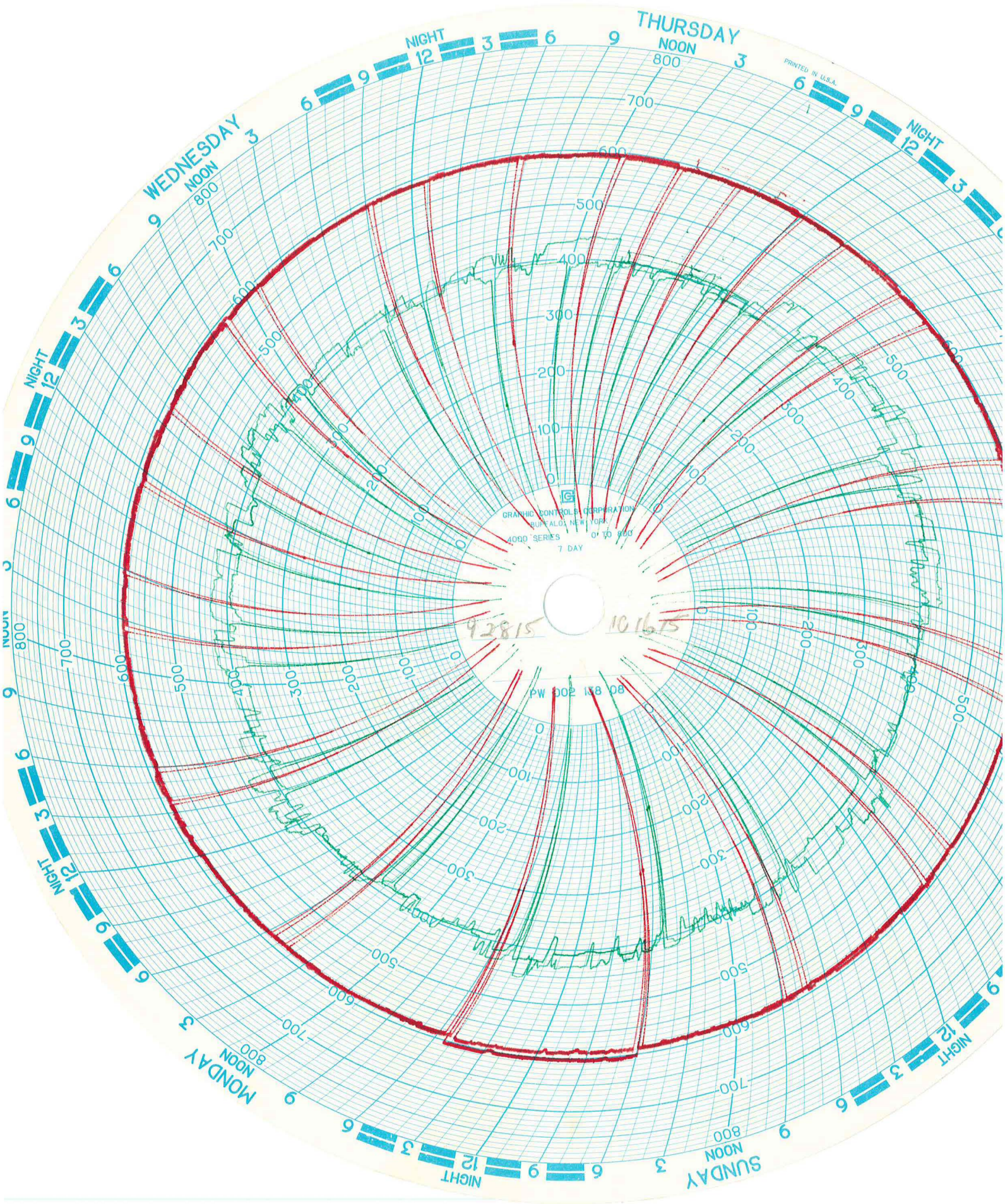
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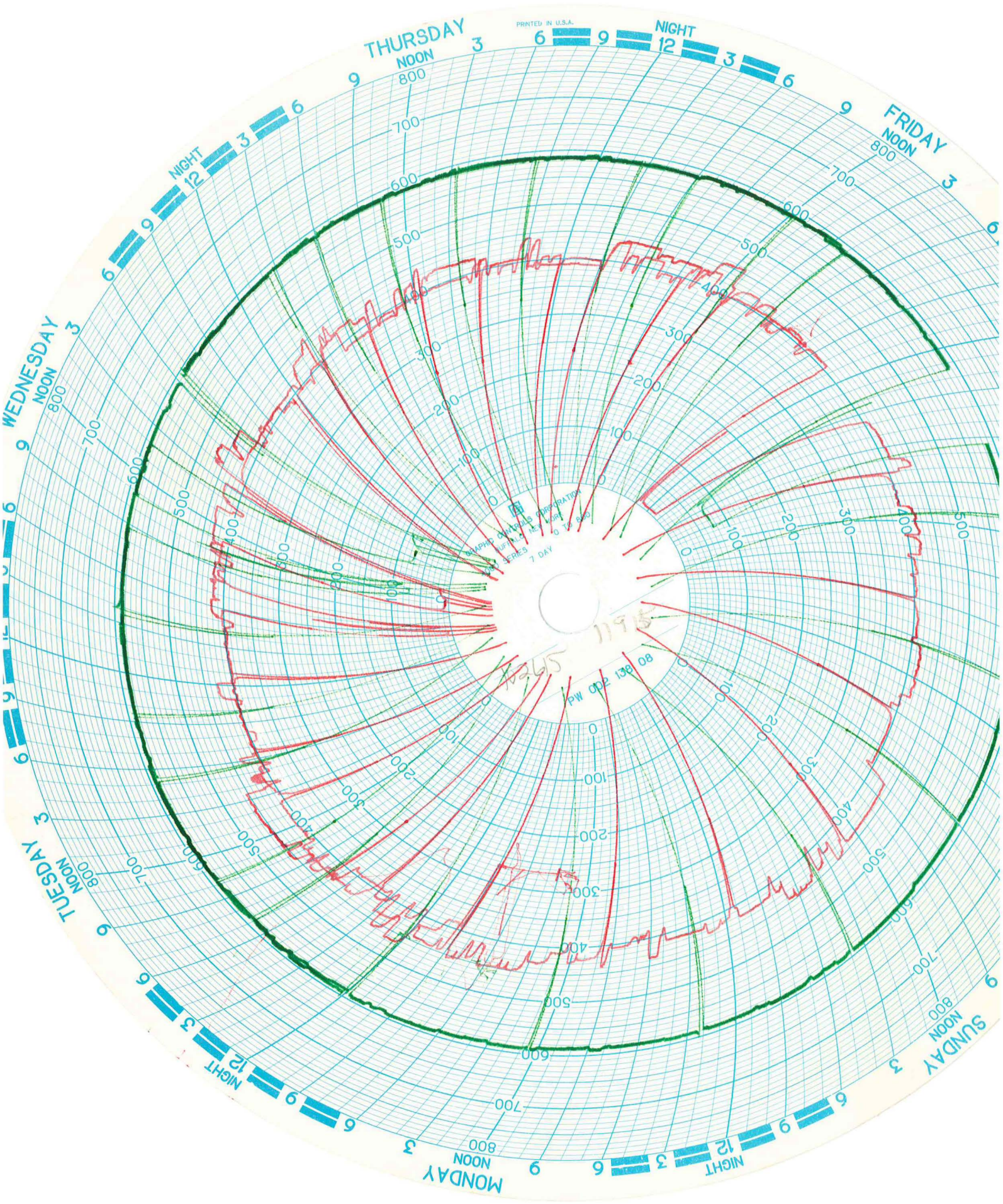
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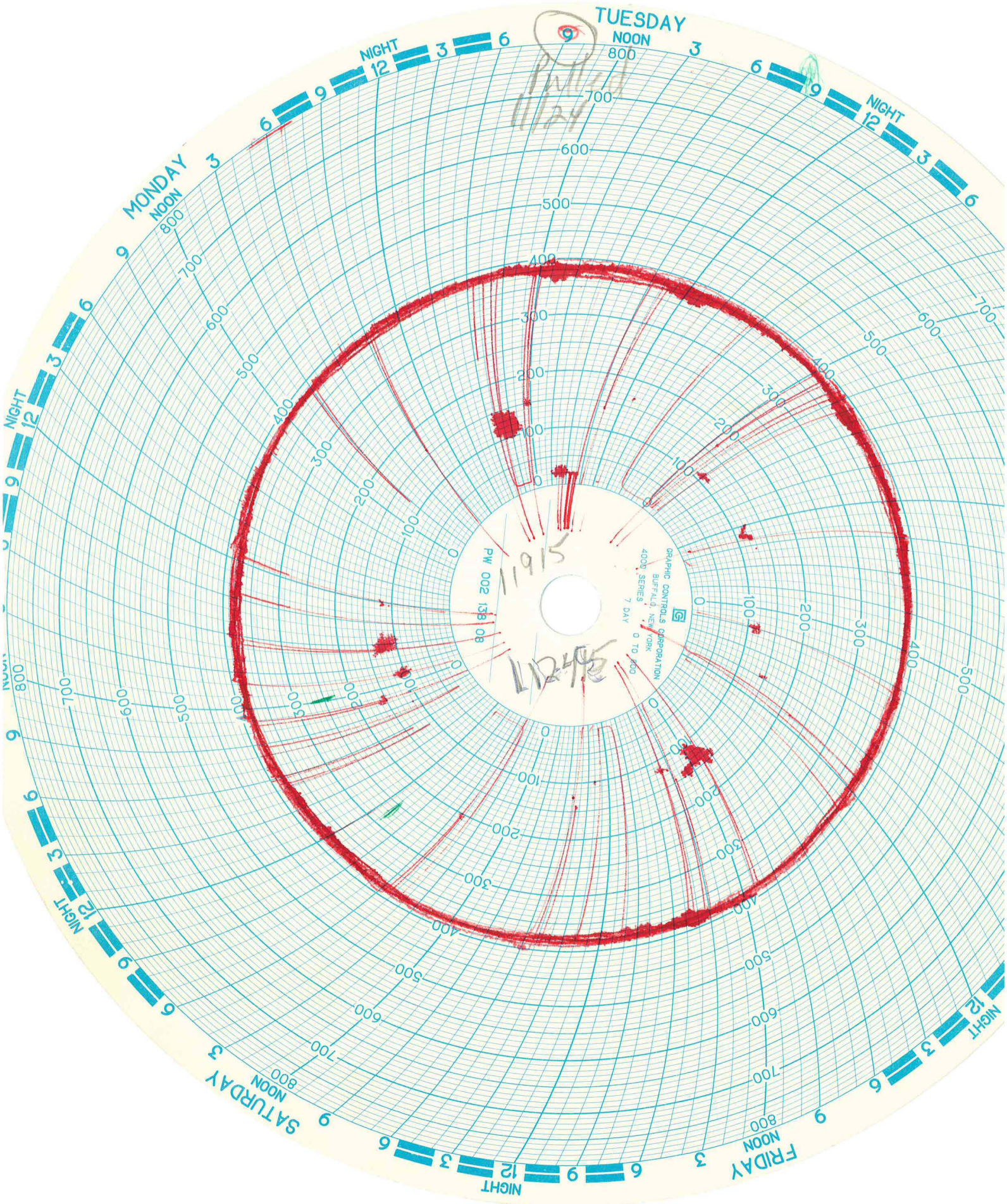
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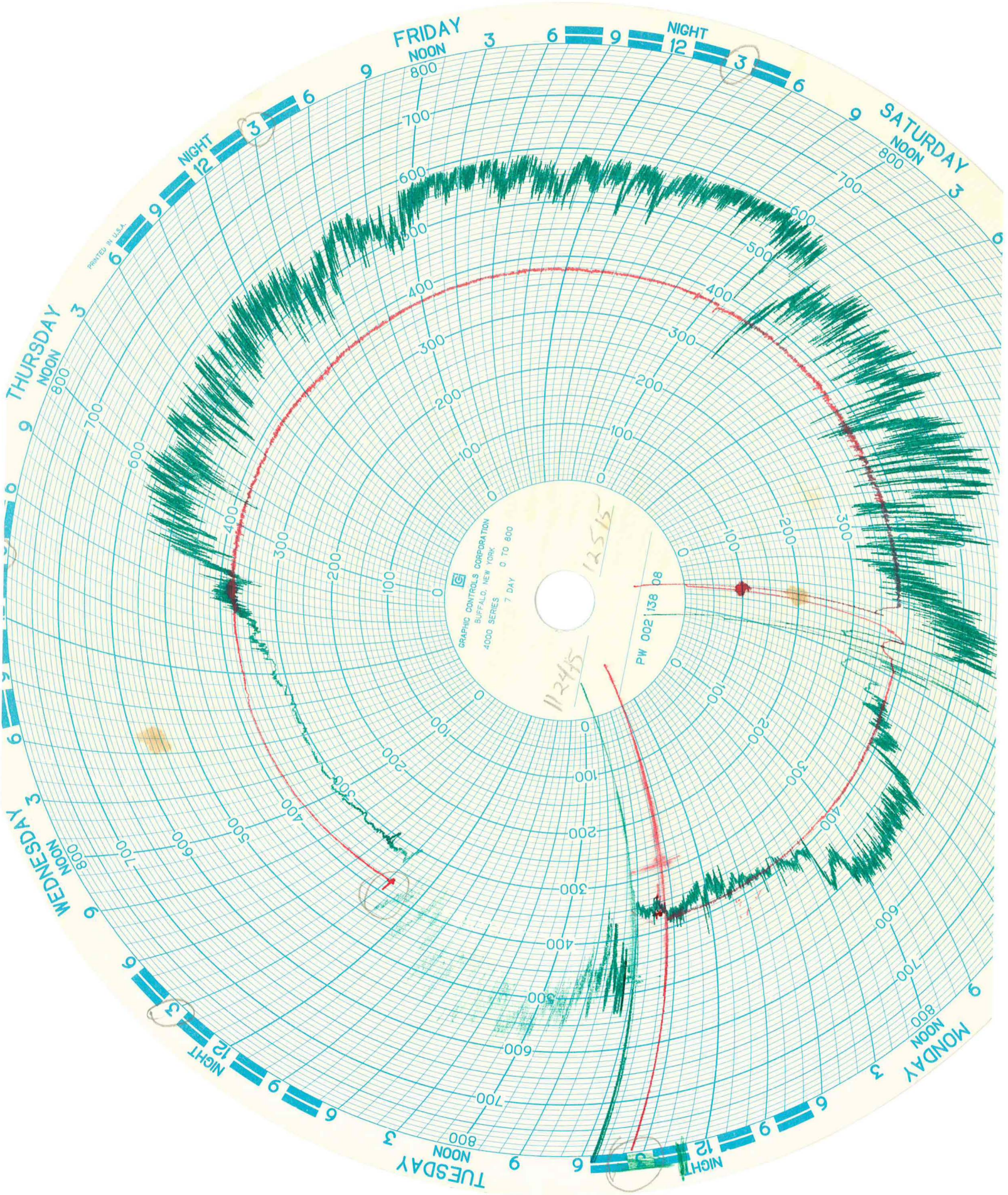
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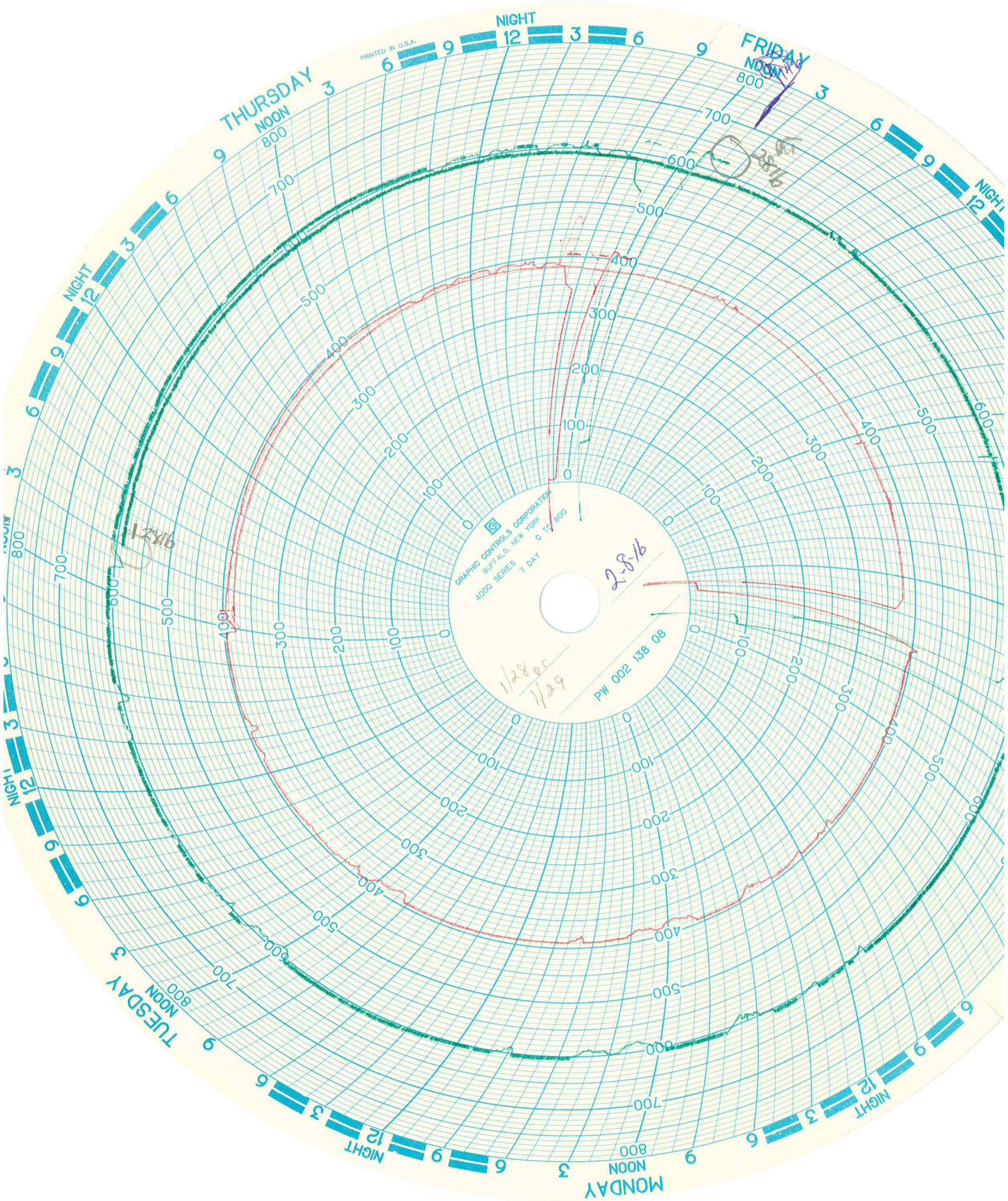
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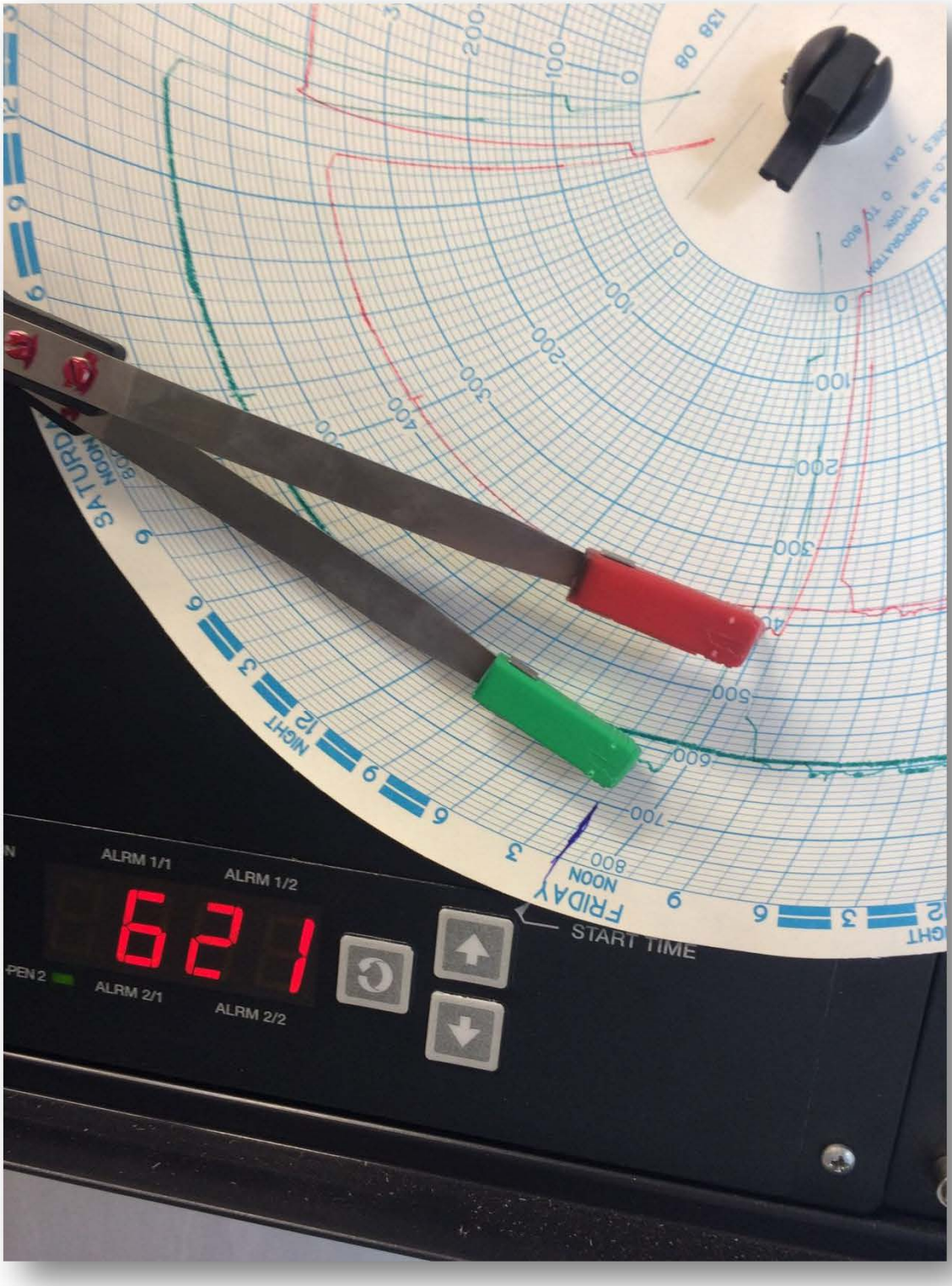


February 8, 2016 11:46 AM

Universal Coating Oxidizer Temperature Strip Chart and Digital Readout

YEAR OF: 2015

OXIDIZER INSPECTION SCHEDULE

DOCUMENT NO:OX INSPECTION.xlsLog
REVSION NO: 002
ISSUE DATE: 12/27/11

PERMIT 96-03B REQUIREMENTS

Quarterly, Universal will perform the following preventative maintenance of the CO: lubricate bearings on all blowers with a high temperature lubricant.

Yearly, check the combustion safeguards by simulating a flame failure and verifying the closing of the fuel valves and check that the safety shutoff valve operates properly and will not open when the pilot flame is not established. And as needed, Universal Coating will inspect all drive belt for proper tension and wear and replace as needed; verify the correct setting and timing of time delays (purge timer); verify proper timing of all air flow switches; verify that the coating lines will not operate when the CO unit is inoperative; verify the operation of the high and low gas pressure switch; operate the CO unit at above normal temperatures to verify that the temperature limit is set and functioning properly; check exhaust system to verify proper operation. The igniters and flame rod on the natural gas burner will be inspected and replaced (if necessary) on a yearly basis.

The results of these inspections, and any action taken to address any noted deficiency will be noted on the Preventative Maintenance Work Form.

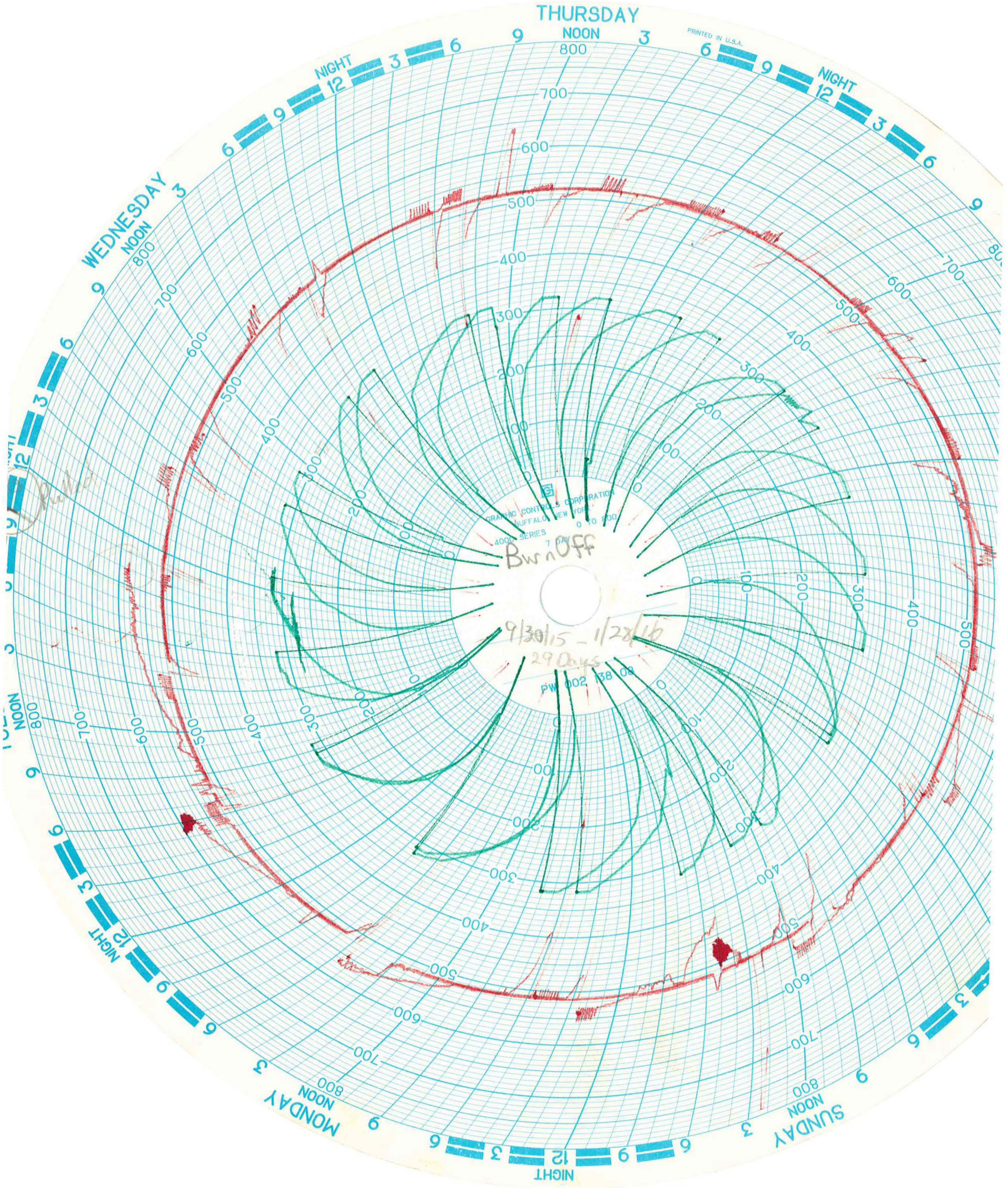
Item	Monitoring Method	Condition (range or set point)	Frequency	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
Catalyst inlet temperature	Thermocouple with digital temperature indicator and strip chart recorder located on the outside control panel.	Minimum inlet temperature of 600°F.	Chart recorder runs continuously and is inspected daily.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Catalyst outlet temperature	Over temperature monitor	Maximum outlet temperature 725°F . Anything above this temperature shuts the unit down.	Monitor runs continuously and is inspected daily.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Prefilters located between the coating lines and the CO.	Visual inspection	Accumulation of paint	Monthly	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Visual inspection of the CO, fan, and stack.	Visual inspection of the equipment located outside.	General condition of the equipment (e.g., damage, air leaks, cracks).	Monthly	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Air flow to CO	Air flow Switch	12,000 CFM	Monthly	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Oxidizer exhaust blower belt	Visual inspection	Excessive wear and tear	Yearly								✓	✓	✓	✓	

SEE BACK OF LOG FOR DATED NOTES OF ANY PROBLEMS.

12/5/16 Charged Thermal Coupler

APPENDIX D

BURNOFF TEMPERATURE RECORDS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APPENDIX E

MALFUNCTION ABATEMENT PLAN

UNIVERSAL COATING, INC. (N7256)

PREVENTATIVE MAINTENANCE / MALFUNCTION ABATEMENT PLAN FOR FG-CATOX

UPDATED: FEBRUARY 10, 2016

I. Preventive Maintenance

A. Supervisory personnel

A designated Universal Coating employee (currently Henry Johnson) is responsible for overseeing the inspection, maintenance and repair of the catalytic oxidizer (CO).

B. Preventative Maintenance Schedule

Quarterly, Universal will perform the following preventative maintenance of the CO: lubricate bearings on all blowers with a high temperature lubricant. Yearly, check the combustion safeguards by simulating a flame failure and verifying the closing of the fuel valves and check that the safety shutoff valve operates properly and will not open when the pilot flame is not established. The results of these inspections and any action taken to address any noted deficiency will be noted on the Preventative Maintenance Work Form.

On an annual basis and as needed, Universal Coating will inspect all drive belt for proper tension and wear and replace as needed; verify the correct setting and timing of time delays (purge timer); verify proper timing of all air flow switches; verify that the coating lines will not operate when the CO unit is inoperative; verify the operation of the high and low gas pressure switch; operate the CO unit at above normal temperatures to verify that the temperature limit is set and functioning properly; check exhaust system to verify proper operation. The igniters and flame rod on the natural gas burner will be inspected and replaced (if necessary) on a yearly basis. The results of this inspection, and any action taken to address any noted deficiency, will be noted on the Preventative Maintenance Work Form.

C. Replacement Parts in Inventory

Universal Coating will maintain an inventory of prefilters; all other wear items are purchased locally.

D. Inspection Schedule
In addition to the above, the following inspection schedule will be implemented:

Item	Monitoring Method	Condition (range or set point)	Frequency
Catalyst inlet temperature	Thermocouple with digital temperature indicator and strip chart recorder located on the outside control panel.	Normal Operating Temperature: Minimum of 600°F (see note below).	Chart recorder runs continuously and temperature reading (either on chart recorder or digital readout) is inspected daily.
Catalyst outlet temperature	Over temperature monitor	Maximum outlet temperature 725°F. Anything above this temperature shuts the unit down.	Monitor runs continuously and is inspected daily.
Prefilters located between the coating lines and the CO	Visual inspection	Accumulation of paint	Monthly
Visual inspection of the CO, fan, and stack.	Visual inspection of the equipment located outside.	General condition of the equipment (e.g., damage, air leaks, cracks).	Monthly
Air flow to CO	Air flow Switch	12,000 CFM	Monthly
Oxidizer exhaust blower belt	Visual inspection	Excessive wear and tear	Yearly

Note: The temperature reading (either on chart recorder or digital readout) will be reviewed each day to be certain there is a temperature increase across the catalyst bed that indicates proper combustion of VOCs. If there is not a temperature increase for an extended period of time (1-2 hours), the technician will determine whether the coating lines were operating and VOC laden air was being exhausted to the CO during this period. If VOC laden air was being sent to the CO during this period, the technician will determine whether the catalyst is operating properly and initiate the required corrective actions as listed in the section on Malfunction Abatement.

II. Malfunction Abatement Program

The controls for the burner, fan and temperature set points are interlocked with the coating lines. If the CO malfunctions, alarms on the control panel will be activated and the coating lines will not operate and all spraying operations will cease.

In the event of a malfunction, the responsible employee will be contacted immediately to determine the cause of the malfunction(s) and initiate repairs. The cause of the malfunction, the corrective actions taken, and other pertinent information will be recorded on the Preventative Maintenance Work Form.

If there is not a temperature increase across the catalyst bed while VOC laden air is being exhausted to the CO, the responsible employee will determine whether deactivation of the catalyst has occurred. This determination can be based on past operating experience with the CO or by contacting the CO manufacturer, or other qualified service company, to determine catalyst performance. The CO unit is equipped with small one-inch catalyst samples that can be removed and analyzed for the presence of deactivation agents. Deactivation may be due to accumulation of poisons or inhibitors, or accumulation of other products such as fouling or masking agents. The appropriate corrective actions will be initiated based on the cause of the deactivation.

For specific conditions and applicable remedy, please refer to the appropriate “Trouble Shooting Instructions.”