



Lake Charles VCM Plant

CERTIFIED MAIL #7722133
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Conoco Chemicals Company
A Division of Conoco Inc.
P.O. Box 605
Westlake, LA 70669
(318) 491-5211

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DEC 27 '83

December 22, 1983

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Gus Von Bodungen
Air Quality Division
Dept. of Natural Resources
P.O. Box 44066
Baton Rouge, LA 70804

Dear Mr. Von Bodungen:

Attached please find the results of the Conoco VCM Plant incinerator stack and dock stack vinyl chloride certifications which are deemed equivalent to the annual emissions testing required by Section 77.8(a)(1) of the Louisiana Air Quality Regulations. These certifications were completed according to the guidelines developed by the Air Quality Division for vinyl chloride monitor certification issued September 13, 1983.

All performance specifications set in the certification guidelines were satisfactorily met by both stack monitors as shown in Tables 1 and 1A of the attached results. The daily zero and calibration data and drift calculations are provided in Tables 2 and 2A. The two hour midrange/zero standard test data and drift calculations are shown in Tables 3 and 3A, and the response test data and calculations are provided in Tables 4 and 4A.

Enclosed with the incinerator certification results are the data recorder strip charts for the 96-hour conditioning period, the initial 96-hour operating period, and a 96-hour re-run of the operating period. The re-run of the operating period includes only process data and was performed because maintenance was required on the gas chromatograph during the initial operating period. Full-range, mid-range, and zero standard gas tests are included on the strip charts. The auto-zero and response tests are attached as charts 1 and 2. The full-range and mid-range standard gases used throughout the entire incinerator certification were 9.94 ppm and 5.06 ppm vinyl chloride respectively.

Enclosed with the dock certification results are the data recorder strip charts for the 96-hour conditioning period and the 96-hour operating period. Full-range, mid-range, and zero standard gas tests are included on the strip charts. The auto-zero and response tests are attached as charts 1A and 2A. The full range and mid-range standard gases used throughout the entire dock certification were 9.92 ppm and 5.43 ppm vinyl chloride respectively.

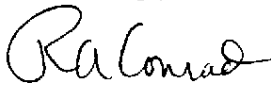
VVC 000014095

Four additional days of 24-hour full-range calibration data were taken from December 19-22, 1983 for both the incinerator and dock stack monitor certifications. This data was necessary to properly apply the statistical analysis required by the certification guidelines and is included in Tables 2 and 2A.

As a result of successfully completing both the incinerator and dock stack monitor certification tests, we respectfully request that the vinyl chloride monitor equivalency be granted for both the incinerator vent stack and the dock vent stack.

If you have any questions or require additional information please contact Ron Bryan, Chief Process Engineer, at (318) 491-5062.

Sincerely,



R. A. Conrad
Plant Manager
Conoco VCM

kf
bcc: JWW-RB-DLD-SJR-MGH-ESW-JCL

VVC 000014096

TABLE 1
PERFORMANCE SPECIFICATIONS
AND INCINERATOR STACK MONITOR
CERTIFICATION RESULTS

Certification completed on the VCM Plant incinerator stack monitor during the periods November 14-18, November 28-December 2, December 6-10, and December 19-22, 1983.

<u>Parameter</u>	<u>Specification</u>	<u>Certification Result</u>
1. Conditioning Period	≥96 hours	96 hours
2. Operational Test Period	≥96 hours	96 hours
3. Calibration Error	≤5% standard gas value	≤5% standard gas value
4. Response Time	≤10 minutes	60 seconds
5. Calibration Drift (2-hour)	≤0.5 ppm VCM	0.08 ppm VCM
6. Calibration Drift (24-hour)	≤1.0 ppm VCM	0.76 ppm VCM
7. Data Recorder Chart Resolution	---	0.05 ppm VCM
8. Relative Accuracy (24-hour)	≤0.5 ppm VCM	0.72 ppm VCM

VVC 000014097

TABLE 2

DAILY ZERO AND CALIBRATION RECORD
FOR INCINERATOR STACK MONITOR

<u>Date</u>	<u>Time</u>	<u>Zero Reading</u>	<u>Zero Drift (Δ Zero)</u>	<u>Span Reading</u>	<u>Calibration Drift (Δ Span)</u>
<u>Conditioning Period</u>					
11/14/83	1400	0.0	-	9.94	--
11/15/83	--	-	-	--	--
11/16/83	1400	0.0	0.0	9.94	0.00
11/17/83	1400	0.0	0.0	9.65	-0.29
<u>Operating Period</u>					
11/28/83	1400	0.0	-	9.94	--
11/29/83	1400	0.0	0.0	9.94	0.00
11/30/83	1430	0.0	0.0	9.10	-0.84
12/01/83	1414	0.0	0.0	10+	+0.90
<u>Additional Data</u>					
11/19/83	1000	-	-	9.94	--
12/20/83	1012	-	-	9.94	0.00
12/21/83	1500	-	-	9.40	-0.54
12/22/83	1100	-	-	11.00	+1.60

Zero Drift = (Mean Zero Drift 0.0 + C.I.(Zero) 0.0) = 0.0.

Calibration Drift = (Mean Span Drift 0.10 + C.I.(Span) 0.66) = 0.76.

TABLE 3

MIDRANGE/ZERO STANDARD TEST RECORD
FOR INCINERATOR STACK MONITOR

Data Set No.	Time Begin	Time End	Date	Zero Reading	Zero Drift (Δ Zero)	Span Reading	Span Drift (Δ Span)	Calibration Drift (Δ Span- Δ Zero)
1	1445	1457	11/28/83	0.0	-	5.05	--	--
2	0800	0815	11/29/83	0.0	-	4.95	--	--
3	1030	1042	11/29/83	0.0	0.0	5.10	+0.05	+0.05
4	1241	1251	11/29/83	0.0	0.0	5.10	0.00	0.00
5	1400	1413	11/29/83	0.0	0.0	5.05	-0.05	-0.05
6	0758	0807	11/30/83	0.0	-	5.05	--	--
7	1006	1020	11/30/83	0.0	0.0	5.00	-0.05	-0.05
8	1202	1215	11/30/83	0.0	0.0	4.95	-0.05	-0.05
9	1430	1520	11/30/83	0.0	-	5.30 ⁽¹⁾	--	--
10	0818	0833	12/01/83	0.1	-	5.40	--	--
11	0958	1013	12/01/83	0.0	-0.1	5.40	0.00	-0.10
12	1157	1207	12/01/83	0.0	0.0	5.45	+0.05	0.05
13	1435	1445	12/01/83	0.0	-	5.25 ⁽¹⁾	--	--
14	0805	0820	12/02/83	0.0	-	5.06	--	--
15	1005	1020	12/02/83	0.0	0.0	5.00	-0.06	-0.06

Zero Drift = (Mean Zero Drift 0.01 + C.I.(Zero) 0.03) = 0.04.

Calibration Drift = (Mean Span Drift 0.03 + C.I.(Span) 0.05) = 0.08.

(1) Made calibration adjustment on 9.94 ppm vinyl standard, therefore not comparable to previous run.

VVC 000014099

TABLE 4

RESPONSE TEST FOR INCINERATOR STACK MONITOR

Date of Test: 12-02-83

Span Gas Concentration: 9.94 ppm

Response:

A. Upscale

1. 1 cycle

2. 1 cycle

3. 1 cycle

Average 1 cycle X cycle time: 60 sec/cycle

= Average upscale response time: 60 sec.

B. Downscale

1. 1 cycle

2. 1 cycle

3. 1 cycle

Average 1 cycle X cycle time: 60 sec/cycle

= Average Downscale response time: 60 sec.

VVC 000014100

TABLE 1A
PERFORMANCE SPECIFICATIONS
AND DOCK STACK MONITOR
CERTIFICATION RESULTS

Certification completed on the VCM Plant dock stack during the periods December 8-12, December 12-16, and December 19-22, 1983.

<u>Parameter</u>	<u>Specification</u>	<u>Certification Result</u>
1. Conditioning Period	≥96 hours	96 hours
2. Operational Test Period	≥96 hours	96 hours
3. Calibration Error	≤5% Standard gas value	≤ 5% Standard gas value
4. Response Time	≤10 minutes	160 seconds
5. Calibration Drift (2-hour)	≤0.5 ppm VCM	0.37 ppm VCM
6. Calibration Drift (24-hour)	≤1.0 ppm VCM	0.95 ppm VCM
7. Data Recorder Chart Resolution	-----	0.05 ppm VCM
8. Relative Accuracy (24-hour)	≤0.5 ppm VCM	0.84 ppm VCM

VVC 000014101

TABLE 2A
DAILY ZERO AND CALIBRATION RECORD
FOR DOCK STACK MONITOR

<u>Date</u>	<u>Time</u>	<u>Zero Reading</u>	<u>Zero Drift (Δ Zero)</u>	<u>Span Reading</u>	<u>Calibration Drift (Δ Span)</u>
<u>Conditioning Period</u>					
12/08/83	1400	0.0	-	9.94	--
12/09/83	--	-	-	--	--
12/10/83	1400	0.0	0.0	--	--
12/11/83	1400	0.0	0.0	9.40	--
<u>Operating Period</u>					
12/13/83	0830	0.0	-	9.95	--
12/14/83	0715	0.0	0.0	9.40	-0.55
12/15/83	0715	0.0	0.0	10+	+0.60
12/16/83	0730	0.0	0.0	9.10	-0.90
<u>Additional Data</u>					
12/19/83	0730	-	-	9.85	--
12/20/83	0930	-	-	9.30	-0.55
12/21/83	0930	-	-	9.80	+0.50
12/22/83	0930	-	-	9.10	-0.70

Zero Drift = (Mean Zero Drift 0.0 + C.I.(Zero) 0.0) = 0.0.

Calibration Drift - (Mean Span Drift 0.27 + C.I.(Span) 0.68) = 0.95.

VVC 000014102

TABLE 3A

MIDRANGE/ZERO STANDARD TEST RECORD
FOR DOCK STACK MONITOR

Data Set No.	Time		Date	Zero Reading	Zero Drift (Δ Zero)	Span Reading	Span Drift (Δ Span)	Calibration Drift (Δ Span- Δ Zero)
	Begin	End						
1	<u>0835</u>	<u>0850</u>	<u>12/13/83</u>	<u>0</u>	<u>-</u>	<u>5.25</u>	<u>--</u>	<u>--</u>
2	<u>1050</u>	<u>1100</u>	<u>12/13/83</u>	<u>0</u>	<u>0</u>	<u>5.70</u>	<u>+0.45</u>	<u>+0.45</u>
3	<u>1255</u>	<u>1305</u>	<u>12/13/83</u>	<u>0</u>	<u>0</u>	<u>5.80</u>	<u>+ .10</u>	<u>+0.10</u>
4	<u>1520</u>	<u>1530</u>	<u>12/13/83</u>	<u>0</u>	<u>0</u>	<u>6.00</u>	<u>+0.20</u>	<u>+0.20</u>
5	<u>1700</u>	<u>1710</u>	<u>12/13/83</u>	<u>0</u>	<u>0</u>	<u>5.90</u>	<u>-0.10</u>	<u>-0.10</u>
6	<u>0745</u>	<u>0755</u>	<u>12/14/83</u>	<u>0</u>	<u>-</u>	<u>5.65</u>	<u>--</u>	<u>--</u>
7	<u>1000</u>	<u>1010</u>	<u>12/14/83</u>	<u>0</u>	<u>0</u>	<u>6.00</u>	<u>+0.35</u>	<u>+0.35</u>
8	<u>1200</u>	<u>1210</u>	<u>12/14/83</u>	<u>0</u>	<u>0</u>	<u>6.15</u>	<u>+0.15</u>	<u>+0.15</u>
9	<u>1415</u>	<u>1425</u>	<u>12/14/83</u>	<u>0</u>	<u>0</u>	<u>6.45</u>	<u>+0.30</u>	<u>+0.30</u>
10	<u>1700</u>	<u>1720</u>	<u>12/14/83</u>	<u>0</u>	<u>0</u>	<u>6.40</u>	<u>-0.05</u>	<u>-0.05</u>
11	<u>0735</u>	<u>0745</u>	<u>12/15/83</u>	<u>0</u>	<u>-</u>	<u>5.55</u>	<u>--</u>	<u>--</u>
12	<u>1200</u>	<u>1220</u>	<u>12/15/83</u>	<u>0</u>	<u>0</u>	<u>6.15</u>	<u>+0.60</u>	<u>+0.60</u>
13	<u>1415</u>	<u>1426</u>	<u>12/15/83</u>	<u>0</u>	<u>0</u>	<u>6.20</u>	<u>+0.05</u>	<u>+0.05</u>
14	<u>0753</u>	<u>0805</u>	<u>12/16/83</u>	<u>0</u>	<u>-</u>	<u>5.65</u>	<u>--</u>	<u>--</u>
15	<u>1005</u>	<u>1020</u>	<u>12/16/83</u>	<u>0</u>	<u>0</u>	<u>6.05</u>	<u>+0.40</u>	<u>+0.40</u>

Zero Drift = (Mean Zero Drift 0.0 + C.I.(Zero) 0.0) = 0.0.

Calibration Drift = (Mean Span Drift 0.22 + C.I.(Span) 0.15) = 0.37.

TABLE 4A
RESPONSE TEST FOR DOCK STACK MONITOR

Date of Test: 12-21-83

Span Gas Concentration: 9.92 ppm

Response:

A. Upscale

1. 3 cycles

2. 3 cycles

3. 3 cycles

Average 3 cycles X cycle time: 60 sec/cycle

= Average upscale response time: 180 sec.

B. Downscale

1. 4 cycles

2. 2 cycles

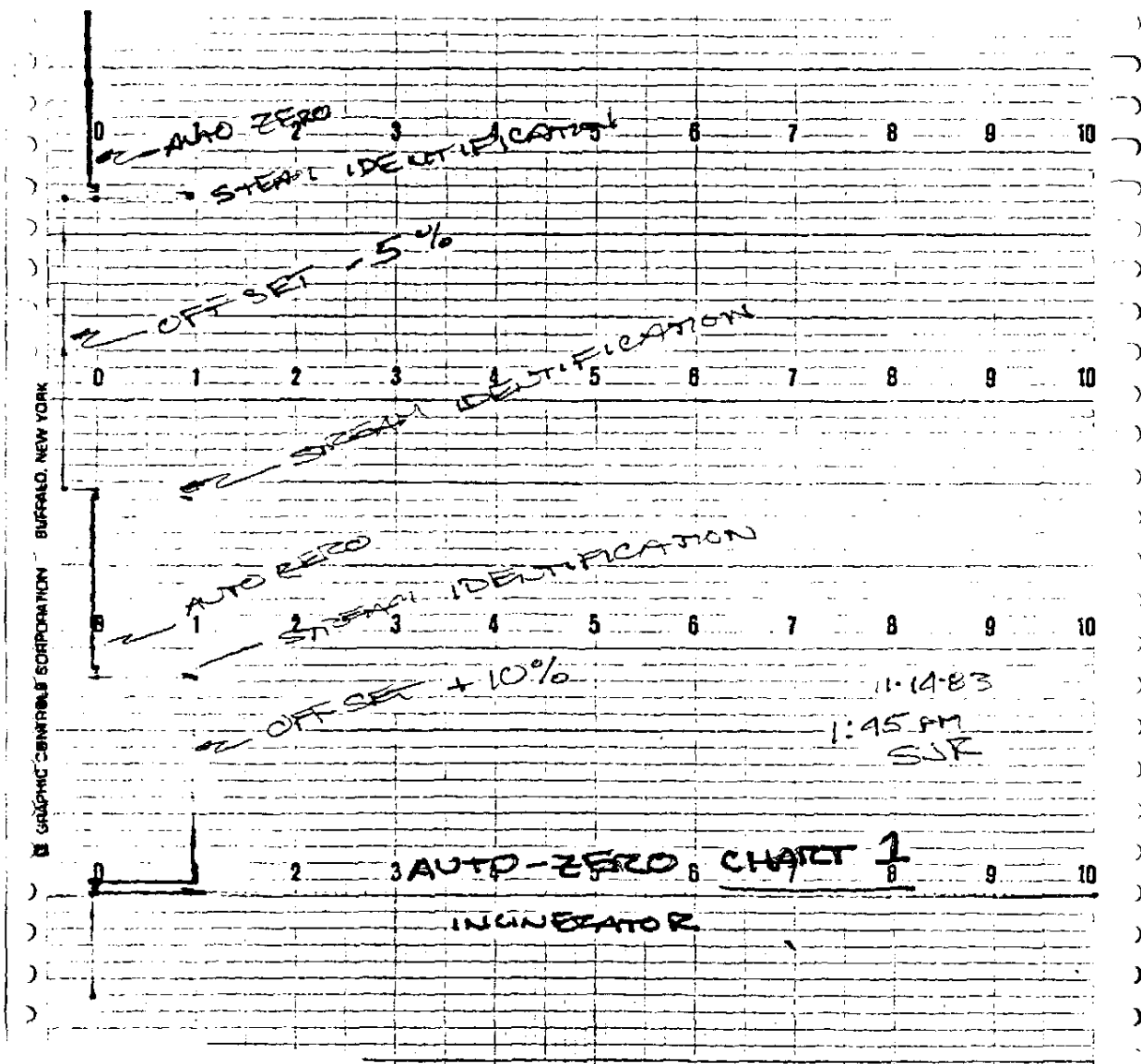
3. 2 cycles

Average 2.7 cycles X cycle time: 60 sec/cycle

= Average Downscale response time: 160 sec.

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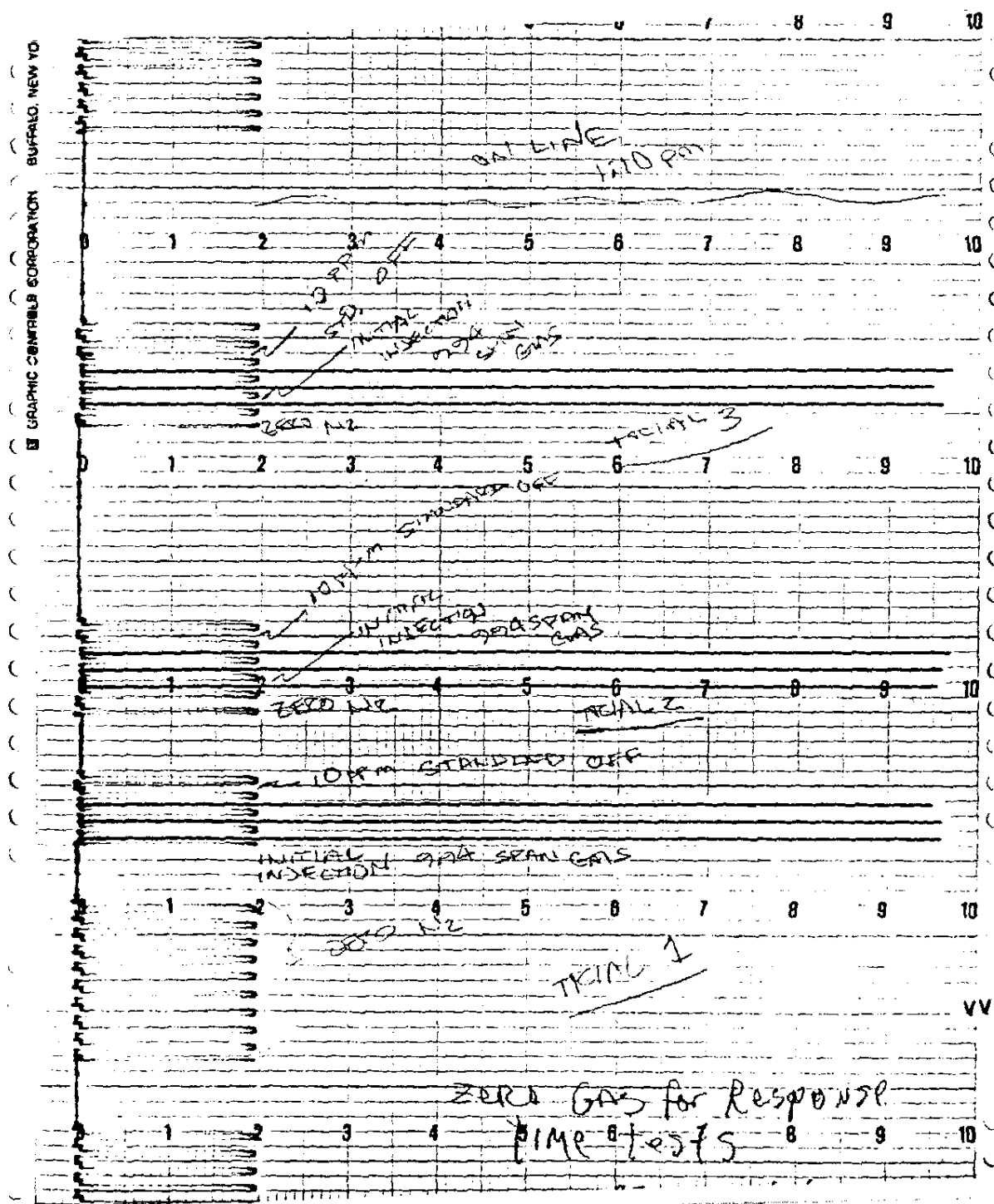
INCINERATOR STATIC MONITORING AUTO-ZERO TEST



VVC 000014105

2/11/67

INCUBATOR STAGE MONITOR RESPONSE TIME TEST.



VVC 000014106

GRAPHIC CONTROLS CORPORATION, BUFFALO, NEW YORK

0 1 2 3 4 5 6 7 8 9 10
AUTO ZERO
STEAM IDENTIFICATION

0 1 2 3 4 5 6 7 8 9 10
OFFSET -5%
STEAM IDENTIFICATION

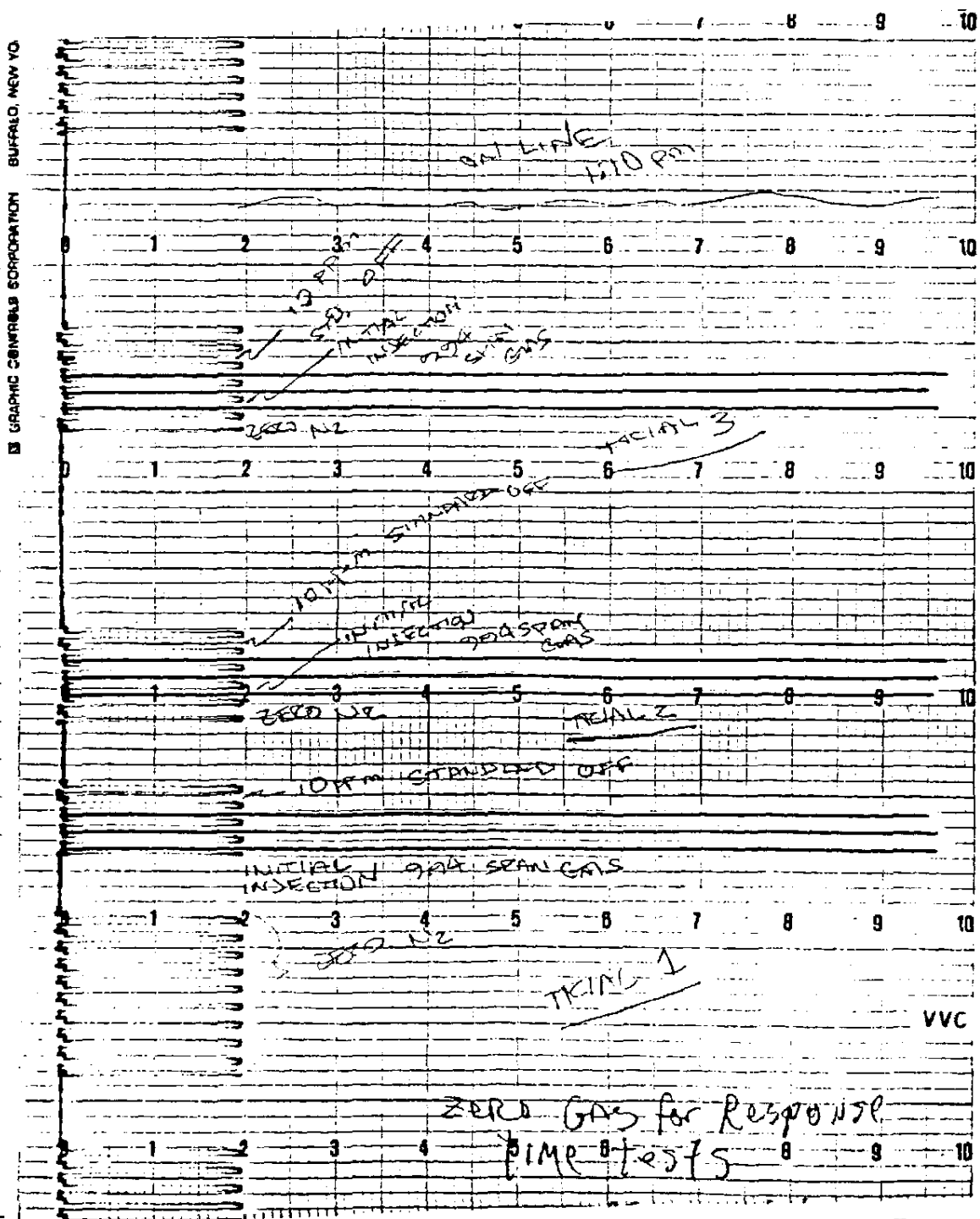
0 1 2 3 4 5 6 7 8 9 10
AUTO ZERO
STEAM IDENTIFICATION
OFFSET +10%

11-14-83
1:45 PM
SJR

0 1 2 3 4 5 6 7 8 9 10
AUTO-ZERO CHART 1
INCUBATOR

GRAPHIC CONTROLS CORPORATION BUFFALO, NEW YORK

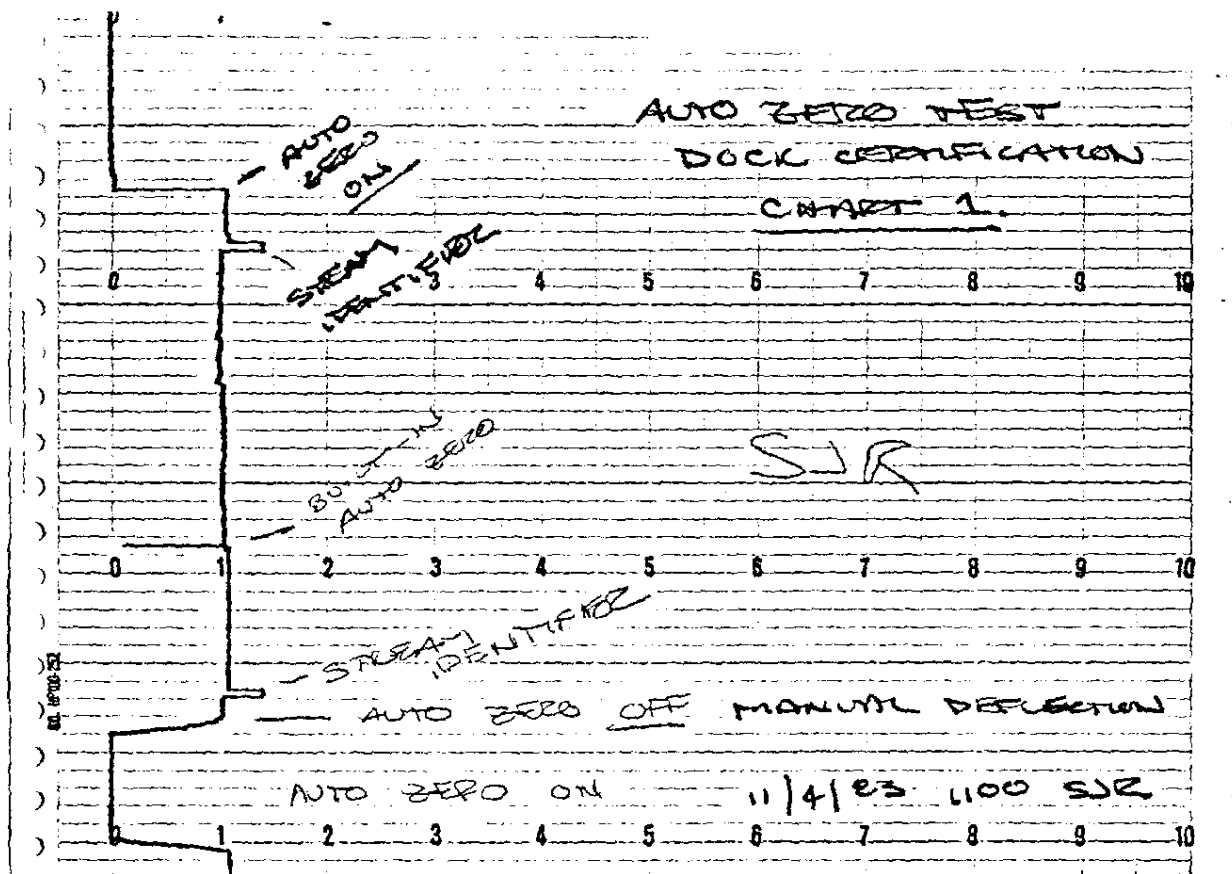
GRAPHIC CONTROLS CORPORATION BUFFALO, NEW YORK



VVC 000014108

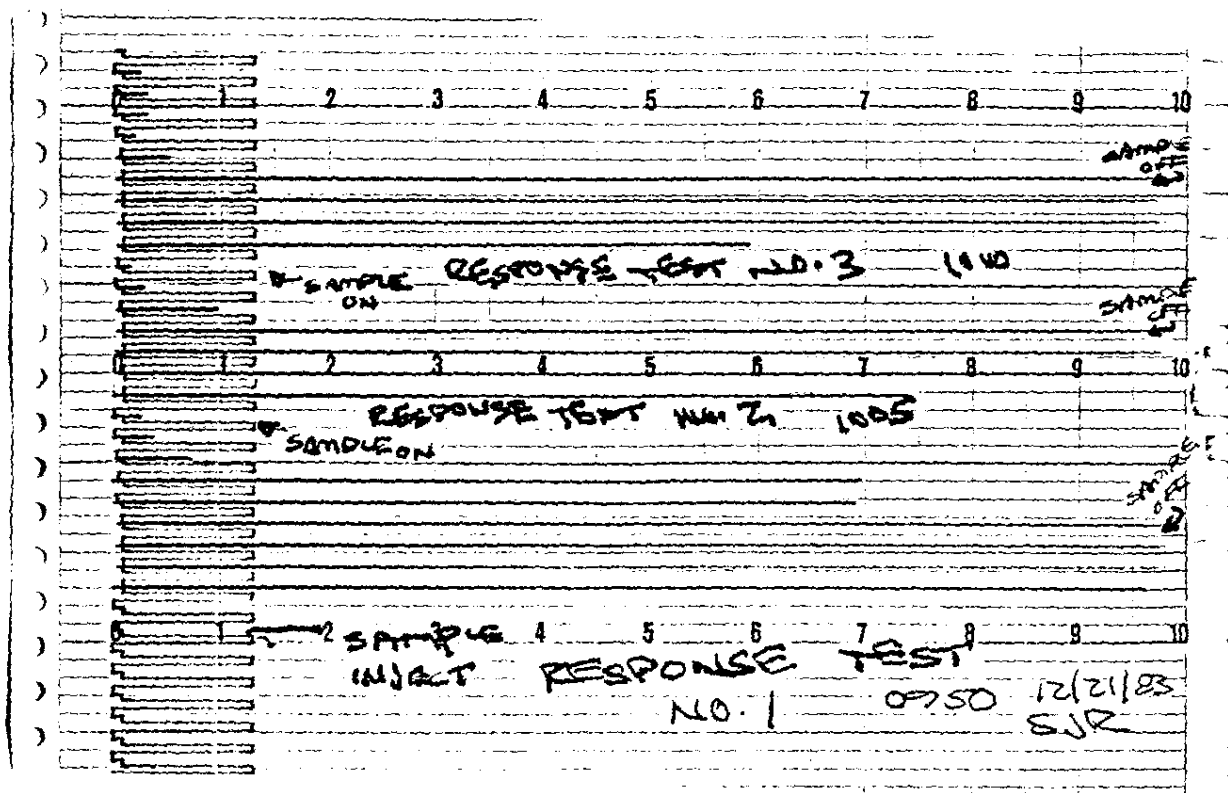
CHART 1A

DOCK SPACE MONITOR RESPONSE TO AUTO ZERO TEST

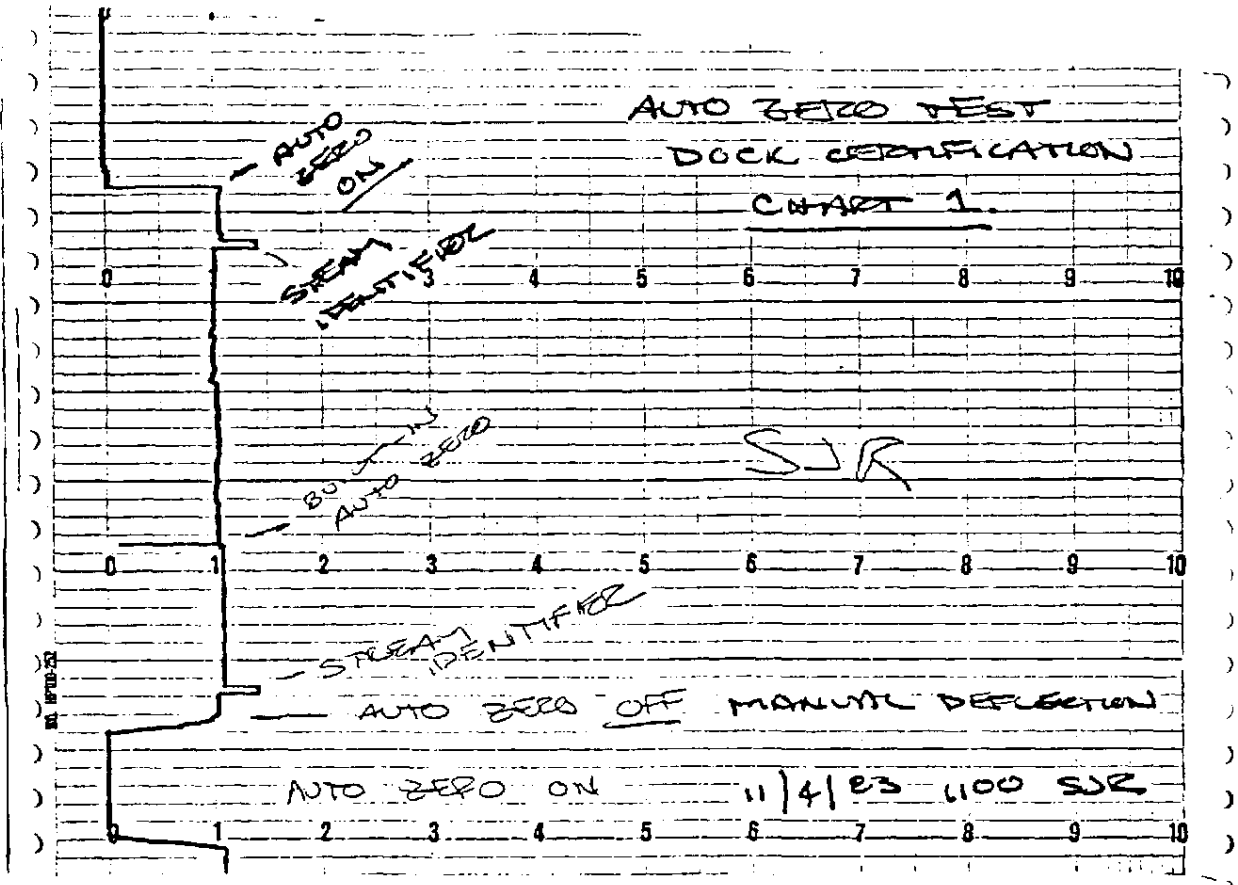


VVC 000014109

CHART ZA
 ROCK STACK
 MONITOR RESPONSE TIME TEST



VVC 000014110



VVC 000014111

