ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF ENFORCEMENT

EPA-330/3-80-002

OMEGA-1 LIDAR: DATA ANALYSIS REPORT
STATIONARY SOURCES OF VISIBLE EMISSIONS
TULSA, OKLAHOMA

NATIONAL ENFORCEMENT INVESTIGATIONS CENTER

DENVER, COLORADO

MARCH 1980

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National Enforcement Investigations Center
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CONTENTS

I. INTRODUCTION

II. SUMMARY AND CONCLUSIONS

III. METHODS

IV. DATA ANALYSIS PRESENTATION

I. INTRODUCTION

The National Enforcement Investigations Center (NEIC) conducted an investigation of visible (particulate) emissions from various sources at the Ford Motor Company (FOMOCO), Tulsa Glass Plant and the ARMCO Steel Corporation facility in the Greater Tulsa, Oklahoma area. The investigation was conducted during the period from December 10 to 12, 1979. Opacities of observed visible emissions were measured remotely with a new instrumentation method using the NEIC Omega-1 Lidar.

The FOMOCO Tulsa Glass Plant manufactures clear and tinted auto glass. This facility has two sources of particulate emissions. The north stack emits particulates from the furnace used in the manufacture of the clear auto glass, while the south stack emits those from the furnace used in tinted glass manufacture. The visible emissions opacity from these sources are alleged to be increasing with time.

The ARMCO Steel Corporation facility is a steel recovery operation using electric arc furnaces equipped with a baghouse for collection of particulate emissions. However, during charging and tapping operations, the collection hoods are removed from the furnaces and rather large quantities of particulates escape through roof vents. There are three groups of roof vents on the large building containing the furnaces. Only two of the three groups of roof vents emitted visible emissions during this investigation (classified as intermittent sources). These were the middle and the west roof vent groups, which for purposes of identification are called the east vent and the west vent, respectively. Each vent group consisted of six individual vents visible from the lidar location. The particulate emissions from each group immediately formed into a plume. The visible emissions from the vents are alleged to be difficult to measure with the in-situ opacity monitor.

On November 9, 1979 the Enforcement Division of EPA Region VI, Dallas, Texas, requested assistance from NEIC in documenting the opacity of emissions from the two above-mentioned facilities. The request from EPA Region VI originated with the Tulsa City-County Health Department (TCCHD). The request specifically asked that the Omega-1 Lidar be used to determine the compliance of these sources.

To provide the requested assistance to Region VI and TCCHD, NEIC conducted the investigation with the following objectives:

1. Document the opacity of visible emissions from the sources designated by TCCHD.

2. Evaluate the compliance of the observed emissions with the applicable regulations.

II. SUMMARY AND CONCLUSIONS

SUMMARY OF THE INVESTIGATION

The opacity of the visible emissions from two stationary sources within each of two industrial facilities, the Ford Motor Company, Tulsa Glass Plant and the ARMCO Steel Corporation, were measured during the period from December 10 through December 12, 1979. The sources investigated were the north and south stacks of the Tulsa Glass Plant and two sets of roof vents atop a large building in the ARMCO facility. The emissions from the roof vents were intermittent.

Opacities were measured remotely with the NEIC Omega-1 Lidar which is a new instrumentation method. This method is in the EPA review process and will be proposed soon as Alternate Method 1 to Reference Method 9.

Twenty-four sets of opacity measurements were made, the total of which was in excess of 3 hours of observation time and about 1,600 individual measurements. The sets of measurements ranged in length from 1 to 30 minutes. Measurements were made at a temporal frequency range from once every four seconds to once every ten seconds.

Opacity measurements were conducted at night (December 10, 1979) only on the north and south stacks of the Tulsa Glass Plant. Daytime opacity measurements were conducted on these sources as well as those within the ARMCO facility. All measurements were conducted remotely from off the plant site.

All opacity measurements were subsequently analyzed and reduced with the NEIC laboratory computer using methods prescribed in Alternate Method 1.

The results of each lidar observation are summarized in Table II-1, according to the official designation of each stationary source.

Table II-1

DATA ANALYSIS SUMMARY
TULSA, OKLAHOMA

Source Designation	Date Dec 1979	Time Interval (hr min sec)	Aprox. Length of Observation (min)	Peak Opacity Value (%)	Approx Time Exceeding Limit (min)	Aggregate Time (min)	Short Term Occurence Opacity Limit (%)	± Max Lidar Calibration Error Magnitude (%) [From 0% to 80%]
South Stack (FOMOCO)	10	19 04 09 19 34 00	30	15	0	0	50	-0 7,1 1
South Stack (FOMOCO)	10	19 44 00 19 49 02	5	15	0	0	50	-0 7,1 1
North Stack (FOMOCO)	10	20 09 00 20 37 33	28 5	21	0	0	50	-0 5,1 2
North Stack (FOMOCO)	12	14 58 40 15 28 53	30	21	0	0	50	-0 5,0 6
South Stack (FOMOCO)	12	15 38 01 16 07·50	30	27	0	0	50	-0 5,0 9
West Roof Vent[a]	11	11 49·05 11 54 14	5	75	0 4	0 4	60	-0.2,0 7
West Roof Vent[a]	11	14 01 27 14 04 02	2 5	50	0	0	60	-0 5,0 6
West Roof Vent[a]	11	14 16 26 14 21 47	5	78	0 67	0 67	60	-0 5,0 6
West Roof Vent[a]	11	14 45 15 14 53 15	8	80	2 07	2 74	60	-0 5,0 6
West Roof Vent[a]	11	15 26 39 15 28 38	2	29	0	0	60	-0 5,0 6
West Roof Vent[a]	11	15 51.51 15 54 43	3	81	0 07	0 07	60	-0 5,0 6
West Roof Vent[a]	11	16 04 17 16 05 27	1 2	29	0	0.07	60	-0 5,0 6
West Roof Vent[a]	12	10 34·39 10 36.03	1.5	14	0	0	60	-0 6,1 5
West Roof Vent[a]	12	11 11.50 11 16·22	4 5	68	0 47	0 47	60	-0 6,1 5
West Roof Vent[a]	12	11 36·01 11 39 37	3.5	84	1 33	1 80	60	-0 6,1 5
West Roof Vent[a]	12	12 01 17 12 02 40	1 5	57	0	1.80	60	-0 6,1 5
West Roof Vent[a]	12	12 04 30 12 06.33	2	18	0	1.80	60	-0 6,1 5
East Roof Vent[a]	11	14 54 32 14 56 26	2	21	0	0	60	-0 5,0 6
East Roof Vent[a]	11	15 48 19 15 51 29	3	78	0 73	0 73	60	-0 5,0 6
East Roof Vent[a]	12	10.12 52 10 15 52	3	84	1 03	1 03	60	-0 6,1 5
East Roof Vent[a]	12	10 49 57 10·55·07	5	59	0	1.03	60	-0 6,1 5
East Roof Vent[a]	12	11 05 39 11 07.39	2	60	0	1 03	60	-0 6,1 5
East Roof Vent[a]	12	11:08 45 11 10 10	1 5	39	0	1 03	60	-0 6,1 5
East Roof Vent[a]	12	11 41:31 11 43 48	2 3	36	0	0	60	-0 6,1 5
East Roof Vent[a]	12	11 46 13 11 47 28	1 25	31	0	0	60	-0 6,1 5

a Intermittent Source - ARMCO Steel Corporation

CONCLUSIONS

The visible emissions from the north and south stacks within the Tulsa Glass Plant did not exceed any of the allowable limits of the City of Tulsa regulation at any time during the lidar tests. The emissions were observed for 124 minutes during a total of five observation periods.

On December 11, the emissions from the west roof vent were intermittent during seven observation periods varying in length from 1.2 to 8 minutes. During four of these periods, the emissions were in excess of the 60% value (Oklahoma Regulation 7), with the highest level being 81%.

On December 12, the emissions from the west roof vent, being intermittent, were observed for five periods extending from 1.5 to 4.5 minutes. During two of these periods, the emissions opacity were in excess of the 60% limit, with the highest value being 84%.

The intermittent emissions from the east roof vent were in violation of the 60% limit for one of two observation periods varying in length from 2 to 3 minutes. The highest opacity was 78% during these tests conducted on December 11, 1979.

On December 12, the intermittent emissions from the east roof vent exceeded the 60% opacity limit for one of six observation periods with the highest opacity being 84%. The observation periods extended in length from 1.25 to 5 minutes.

The emissions opacity of both roof vents did not exceed the 5-minute aggregate rule of Section 7.121 of Regulation 7 at any time during the lidar tests.

III. METHODS

LIDAR OPACITY MEASUREMENTS

Alternate Method 1 (to be proposed) employs a lidar (lasar radar) which is an optical system installed in a truck-mounted van enclosure. This mobile lidar is specifically designed and fabricated for measuring the opacity of visible emissions from a given stationary source during both day- and night-time ambient lighting conditions. The laser transmitter within the lidar emits a short pulse of light. The lidar receiver collects the laser light backscattered from the atmospheric aerosols before and beyond the visible plume as well as that from the aerosols (particulates) within the plume. The lidar receiver converts the backscattered optical signals to electronic signals or data. From the data (just before and beyond the plume) the plume opacity is subsequently calculated and printed in hard copy format along with the date and time to the nearest second. The nominal data gathering rate of the lidar is an opacity measurement or determination once every ten seconds.

This rate can be maintained in continuous operation for minutes or even hours. The lidar has an inherent data processing capability that calculates the opacity values, subsequently records these opacity values in hard copy form, and also records the original lidar receiver data (signal amplitude vs- range) on magnetic tape for future reference or use. This method is intended for use during night-time hours as it is during the day. This is a most important capability in the measurement of stationary source emissions opacity.

Data Analysis, Reduction and Presentation

The lidar data were analyzed in accordance with Alternate Method 1 (to be proposed), and reduced according to NEIC's standard methods.

The opacity values are presented in two separate formats in Section IV of this data analysis report. For each data run the values are given in tabular form followed by graphic plots. The tabular form provides the following information:

- EPA-NEIC Omega control number (evidentiary parameter).
- Official designation for the stationary source.
- Facility name.
- Facility location.
- Location of the lidar during tests.
- Length of the running average interval.
- Date of data run.
- Time of the opacity measurement (nearest second).
- Opacity value as calculated in %.
- Standard deviation SO (S_0 in Alternate Method 1) in %.
- Individual violation flags, applicable in Oaklahoma and Tulsa.*
- Average opacity (%) calculated over the 5-minute interval.
- Average standard deviation (%) calculated over the 5-minute interval.
- Average opacity violation flag, not applicable in Oklahoma and Tulsa.
- Number of opacity values discarded due to the Opacity Data Acceptance/Rejection Criterion (§ 2.5.3 of the Alternate Method 1).

Although the lidar computer calculates plume opacity for each measurement at the time it was made, the lidar data (recorded on magnetic tape) was subjected to the data analysis/reduction at EPA-NEIC on the laboratory computer. In addition, this computer calculates the running or sliding average of the individual opacity values over a predesignated time interval (In the case of Oklahoma Regulation 7 and the City of Tulsa Ordinance,* Chapter 9, Section 211, short term occurrence compliance is based on a

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* The City of Tulsa Revised Ordinance Chapter 9, Section 211 is nearly identical to the State Regulation with the following exception: (1) In Paragraph 7.11, 20% becomes 15%, (2) in Paragraph 7.121, 60% becomes 50%.

five-minute aggregate.) and flags any violations that occurred over and above the respective 20 or 15% opacity limits (Paragraph 7.11 of Regulation 7 and the Tulsa Ordinance, respectively). The computer also flags any opacity values that are greater than 60% or 50% (Paragraph 7.121) of Regulation 7 and the Tulsa Ordinance, respectively

The number of opacity values included in the running average are nominally 30 (six measurements per minute for five minutes according to a given regulation or SIP). The 5-minute interval remains constant although the number of opacity values may vary above or below the nominal. In accordance with the Opacity Data Acceptance/Rejection Criterion mentioned above, if the standard deviation, S_o, for a given opacity value is greater than 8% (full scale) then that value is discarded from the running average set decreasing the total number by one. The number of opacity values in the 5-minute interval may be greater than 30 which is caused by the lidar data rate being set faster than six opacity measurements per minute (one opacity measurement every ten seconds).

Referring to the first sheet of the tabular data output, Section IV, for the sixth data run, (Omega-0039), the average opacity violation flag (column 8 in the tabular format) does not show up until five minutes of data has been averaged. If the average opacity is greater than 20% (or 15% whichever is applicable) then the first violation flag occurs at the end of the first 5-minute interval and continues until the average opacity drops below the regulation limit or the data run is completed. This data run began at 11:49:05 and the individual opacity values were nearly all above 20% (column three). The average opacity (column six) reads zero until five minutes of data has been recorded. At the end of the first 5-minute interval (11:49:05 to 11:54:06) the average opacity was calculated to be 39% and the first average opacity violation flag is indicated (not the five-minute aggregate). In this data output the individual opacity violation flag occurs for each opacity value of 61% or greater. The five-minute aggregate is calculated separately and reported in Section II of this report.

The running average permits one to easily locate the 5-minute interval(s) which has the highest average opacity. In the examples of the fifth data run (Omega-0043), the highest average occurred for the 5-minute interval ending at 15:52:18 (sheet two).

A note of explanation is provided for an occasional zero that may occur in the "Average Opacity" and the "Average SO" columns (columns six and seven in the tabular form) after the initial five minutes worth of data required for the running average has been recorded. The computer data analysis software is programmed so that the 5-minute interval must be maintained to within ±10 seconds or the running average is not calculated for that particular interval. An example is provided in the sixth data run, the South Stack (Omega 0043, Sheet 3). The average opacity = 0 the average SO = 0 at 15:58:50. This occurred because the temporal spacing between 15:53:41 and 15:54:12 was 31 seconds rather than ten. The latest opacity measurements should have occurred at 15:53:51 and 15:54:01. During this particular run the lidar's laser was being manually fired (laser usually is fired automatically) and the operator missed activating the laser at the proper time. This can also occur when, in accordance with § 2.2.3 of Alternate Method 1, lidar operation is temporarily suspended to obtain another reference measurement.

The computer graphical plots, located in Section IV immediately after each respective tabular data set, show the individual opacity values (column three of the tabular data set) along with their respective standard deviations as error bars (column four of the tabular data set). The standard deviation gives an indication of the magnitude of the error associated with each opacity value due to atmospheric noise along the lidar line-of-sight. The magnitudes of the individual and average opacities established in the Regulation 7 and the Tulsa Ordinance are indicated on each plot by the dashed line at the 60 or 50% value and the 20 or 15% value respectively. Each graphical plot is fixed in time along the horizontal axis, being ten minutes in length.

The Omega-1 Lidar is internally calibrated in the field periodically over the opacity values of 0, 10, 20, 40, 60, and 80%. These calibration data are presented in Table II-1 for each respective observation period as the extreme values that occurred throughout the opacity range given above. A negative value indicates that the lidar was determining opacity low or below the respective standard while a positive value indicates a high value with respect to the standard.

IV. DATA ANALYSIS PRESENTATION

OMEGA 0037

FORD MOTOR COMPANY

TULSA GLASS PLANT

SOUTH STACK

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NATIONAL ENFORCEMENT INVESTIGATIONS CENTER
DENVER, COLORADO 80225

OMEGA-0037, SOUTH STACK, FOMOCO GLASS PLANT, TULSA, OK FROM WEST SIDE OF ROAD FIVE MINUTE AVERAGES

DATE	TIME	OPACITY	SO	VIOLATION	AVERAGE OPACITY	AVERAGE SO	VIOLATION	NUMBER DISCARDED
12/10/79	19 4 9	0	1		0	0		0 OF 0
12/10/79	19 4 19	5	1		0	0		0 OF 0
12/10/79	19 4 29	4	1		0	0		0 OF 0
12/10/79	19 4 39	3	1		0	0		0 OF 0
12/10/79	19 4 49	7	1		0	0		0 OF 0
12/10/79	19 4 59	2	1		0	0		0 OF 0
12/10/79	19 5 9	3	1		0	0		0 OF 0
12/10/79	19 5 19	6	1		0	0		0 OF 0
12/10/79	19 5 29	8	1		0	0		0 OF 0
12/10/79	19 5 39	0	1		0	0		0 OF 0
12/10/79	19 5 49	2	1		0	0		0 OF 0
12/10/79	19 5 59	0	1		0	0		0 OF 0
12/10/79	19 6 9	5	2		0	0		0 OF 0
12/10/79	19 6 19	0	1		0	0		0 OF 0
12/10/79	19 6 29	0	1		0	0		0 OF 0
12/10/79	19 6 39	4	1		0	0		0 OF 0
12/10/79	19 6 49	3	1		0	0		0 OF 0
12/10/79	19 6 59	0	1		0	0		0 OF 0
12/10/79	19 7 9	0	1		0	0		0 OF 0
12/10/79	19 7 19	8	1		0	0		0 OF 0
12/10/79	19 7 29	0	1		0	0		0 OF 0
12/10/79	19 7 38	0	1		0	0		0 OF 0
12/10/79	19 7 48	4	2		0	0		0 OF 0
12/10/79	19 7 58	0	1		0	0		0 OF 0
12/10/79	19 8 8	5	1		0	0		0 OF 0
12/10/79	19 8 18	0	1		0	0		0 OF 0
12/10/79	19 8 28	0	1		0	0		0 OF 0
12/10/79	19 8 38	5	1		0	0		0 OF 0
12/10/79	19 8 48	1	1		0	0		0 OF 0
12/10/79	19 8 58	2	1		1	1		0 OF 30
12/10/79	19 9 8	10	1		1	1		0 OF 31
12/10/79	19 9 18	0	1		1	1		0 OF 31
12/10/79	19 9 28	0	1		1	1		0 OF 31
12/10/79	19 9 38	1	1		1	1		0 OF 31
12/10/79	19 9 48	3	1		1	1		0 OF 31
12/10/79	19 9 58	4	1		1	1		0 OF 31
12/10/79	19 10 8	0	1		1	1		0 OF 31
12/10/79	19 10 18	1	1		1	1		0 OF 31
12/10/79	19 10 28	1	1		0	1		0 OF 31
12/10/79	19 10 38	6	1		0	1		0 OF 31
12/10/79	19 10 48	0	1		0	1		0 OF 31
12/10/79	19 10 58	5	1		1	1		0 OF 31
12/10/79	19 11 8	0	1		0	1		0 OF 31
12/10/79	19 11 18	0	1		0	1		0 OF 31
12/10/79	19 11 28	0	1		0	1		0 OF 31
12/10/79	19 11 38	9	1		0	1		0 OF 31
12/10/79	19 11 48	0	1		0	1		0 OF 31
12/10/79	19 11 58	5	1		0	1		0 OF 31
12/10/79	19 12 8	0	1		0	1		0 OF 31
12/10/79	19 12 18	0	1		1	1		0 OF 31

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12/10/79	19 12 48	0	1		1	1		0 OF 31
12/10/79	19 12 58	0	1		0	1		0 OF 31
12/10/79	19 13 8	10	1		1	1		0 OF 31
12/10/79	19 13 19	6	1		1	1		0 OF 30
12/10/79	19 13 29	0	1		1	1		0 OF 30
12/10/79	19 13 39	7	1		1	1		0 OF 30
12/10/79	19 13 49	0	1		1	1		0 OF 30
12/10/79	19 13 59	4	1		1	1		0 OF 30
12/10/79	19 14 9	10	1		1	1		0 OF 30
12/10/79	19 14 19	10	1		2	1		0 OF 30
12/10/79	19 14 29	7	1		2	1		0 OF 30
12/10/79	19 14 39	0	1		2	1		0 OF 30
12/10/79	19 14 49	0	1		2	1		0 OF 30
12/10/79	19 14 59	3	1		2	1		0 OF 30
12/10/79	19 15 9	5	1		2	1		0 OF 30
12/10/79	19 15 19	1	1		2	1		0 OF 30
12/10/79	19 15 29	9	1		2	1		0 OF 30
12/10/79	19 15 39	5	1		2	1		0 OF 30
12/10/79	19 15 49	0	1		2	1		0 OF 30
12/10/79	19 15 59	0	1		2	1		0 OF 30
12/10/79	19 16 9	2	1		2	1		0 OF 30
12/10/79	19 16 19	0	1		2	1		0 OF 30
12/10/79	19 16 29	5	1		2	1		0 OF 30
12/10/79	19 16 39	0	1		2	1		0 OF 30
12/10/79	19 16 49	10	1		2	1		0 OF 30
12/10/79	19 16 59	8	1		3	1		0 OF 30
12/10/79	19 17 9	0	1		3	1		0 OF 30
12/10/79	19 17 19	10	1		3	1		0 OF 30
12/10/79	19 17 29	2	1		3	1		0 OF 30
12/10/79	19 17 39	0	1		3	1		0 OF 30
12/10/79	19 17 49	0	1		3	1		0 OF 30
12/10/79	19 17 59	0	1		3	1		0 OF 30
12/10/79	19 18 9	11	1		3	1		0 OF 30
12/10/79	19 18 19	1	1		3	1		0 OF 31
12/10/79	19 18 29	0	1		2	1		0 OF 31
12/10/79	19 18 39	0	1		2	1		0 OF 31
12/10/79	19 18 49	2	1		2	1		0 OF 31
12/10/79	19 18 59	8	1		2	1		0 OF 31
12/10/79	19 19 9	3	1		3	1		0 OF 31
12/10/79	19 19 19	2	1		2	1		0 OF 31
12/10/79	19 19 29	0	1		2	1		0 OF 31
12/10/79	19 19 39	3	1		2	1		0 OF 31
12/10/79	19 19 49	4	1		2	1		0 OF 31
12/10/79	19 19 59	0	1		2	1		0 OF 31
12/10/79	19 20 9	3	1		2	1		0 OF 31
12/10/79	19 20 19	2	1		2	1		0 OF 31
12/10/79	19 20 29	0	1		2	1		0 OF 31
12/10/79	19 20 39	0	1		1	1		0 OF 31

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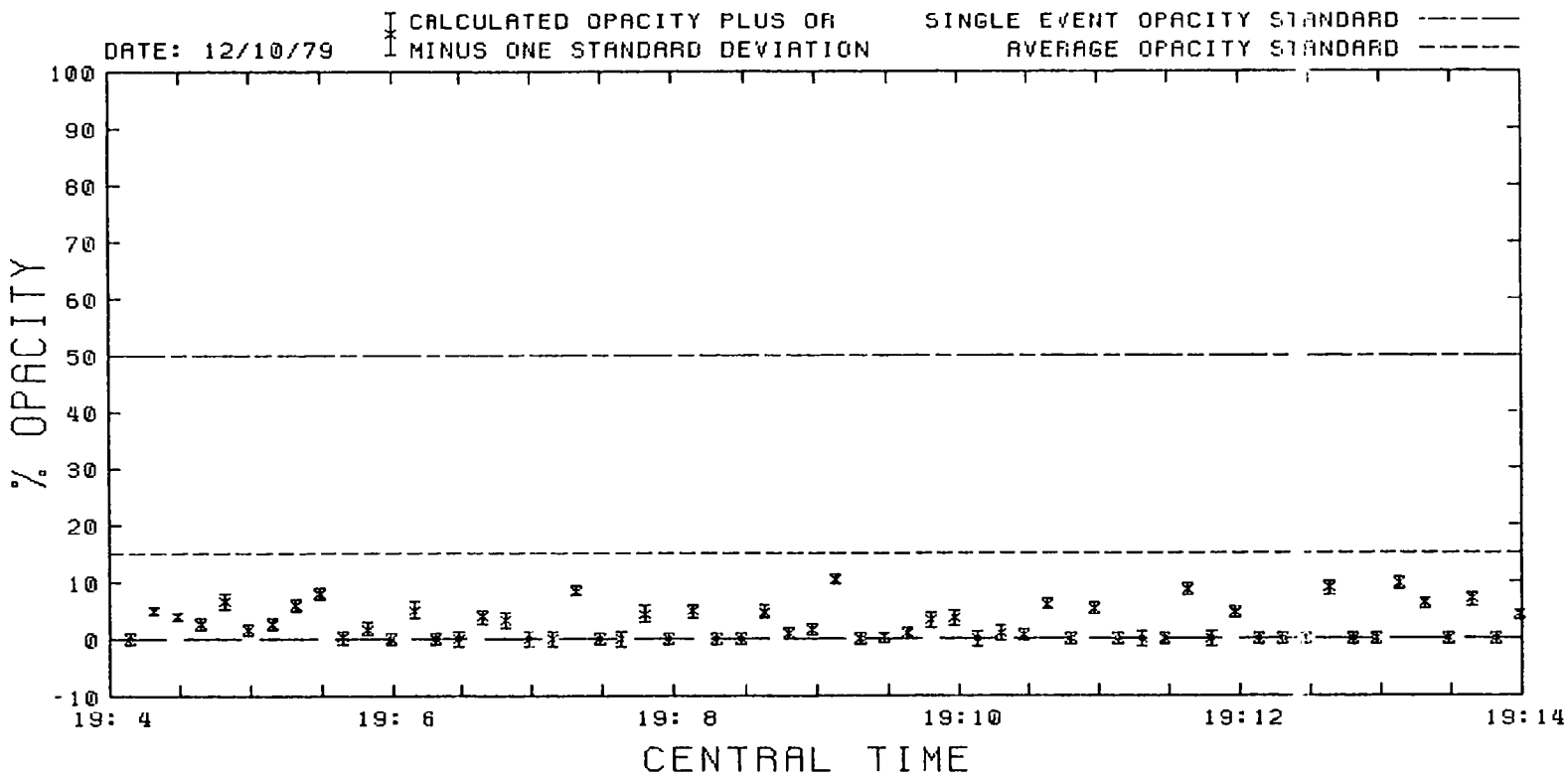
12/10/79	19 21 9	15	1		1	1		0 OF 31
12/10/79	19 21 19	5	1		1	1		0 OF 31
12/10/79	19 21 29	1	1		1	1		0 OF 31
12/10/79	19 21 39	3	1		1	1		0 OF 31
12/10/79	19 21 49	4	1		2	1		0 OF 31
12/10/79	19 21 59	4	1		1	1		0 OF 31
12/10/79	19 22 9	2	2		1	1		0 OF 31
12/10/79	19 22 19	3	1		1	1		0 OF 31
12/10/79	19 22 29	0	1		1	1		0 OF 31
12/10/79	19 22 39	1	1		1	1		0 OF 31
12/10/79	19 22 49	2	1		1	1		0 OF 31
12/10/79	19 22 59	2	1		1	1		0 OF 31
12/10/79	19 23 9	1	1		1	1		0 OF 31
12/10/79	19 23 19	6	1		1	1		0 OF 31
12/10/79	19 23 29	9	1		1	1		0 OF 31
12/10/79	19 23 39	0	1		2	1		0 OF 31
12/10/79	19 23 49	11	1		2	1		0 OF 31
12/10/79	19 23 59	2	1		2	1		0 OF 31
12/10/79	19 24 9	0	1		2	1		0 OF 31
12/10/79	19 24 19	4	1		1	1		0 OF 31
12/10/79	19 24 29	0	1		2	1		0 OF 31
12/10/79	19 24 38	0	1		1	1		0 OF 31
12/10/79	19 24 48	3	1		1	1		0 OF 31
12/10/79	19 24 58	0	1		1	1		0 OF 31
12/10/79	19 25 8	11	1		2	1		0 OF 31
12/10/79	19 25 18	4	1		2	1		0 OF 31
12/10/79	19 25 28	4	1		2	1		0 OF 31
12/10/79	19 25 38	5	1		2	1		0 OF 31
12/10/79	19 25 48	5	1		2	1		0 OF 31
12/10/79	19 25 57	0	1		3	1		0 OF 31
12/10/79	19 26 7	5	1		3	1		0 OF 31
12/10/79	19 26 17	3	1		2	1		0 OF 31
12/10/79	19 26 27	6	1		2	1		0 OF 31
12/10/79	19 26 36	0	1		2	1		0 OF 31
12/10/79	19 26 46	5	1		2	1		0 OF 31
12/10/79	19 26 57	0	1		2	1		0 OF 31
12/10/79	19 27 7	0	1		2	1		0 OF 31
12/10/79	19 27 18	0	1		2	1		0 OF 31
12/10/79	19 27 29	0	1		1	1		0 OF 31
12/10/79	19 27 39	0	1		1	1		0 OF 31
12/10/79	19 27 50	0	1		1	1		0 OF 30
12/10/79	19 28 1	4	1		1	1		0 OF 30
12/10/79	19 28 11	4	1		1	1		0 OF 30
12/10/79	19 28 22	0	1		1	1		0 OF 30
12/10/79	19 28 32	2	1		1	1		0 OF 30
12/10/79	19 28 42	0	1		1	1		0 OF 30
12/10/79	19 28 53	1	1		1	1		0 OF 30
12/10/79	19 29 4	4	1		1	1		0 OF 30

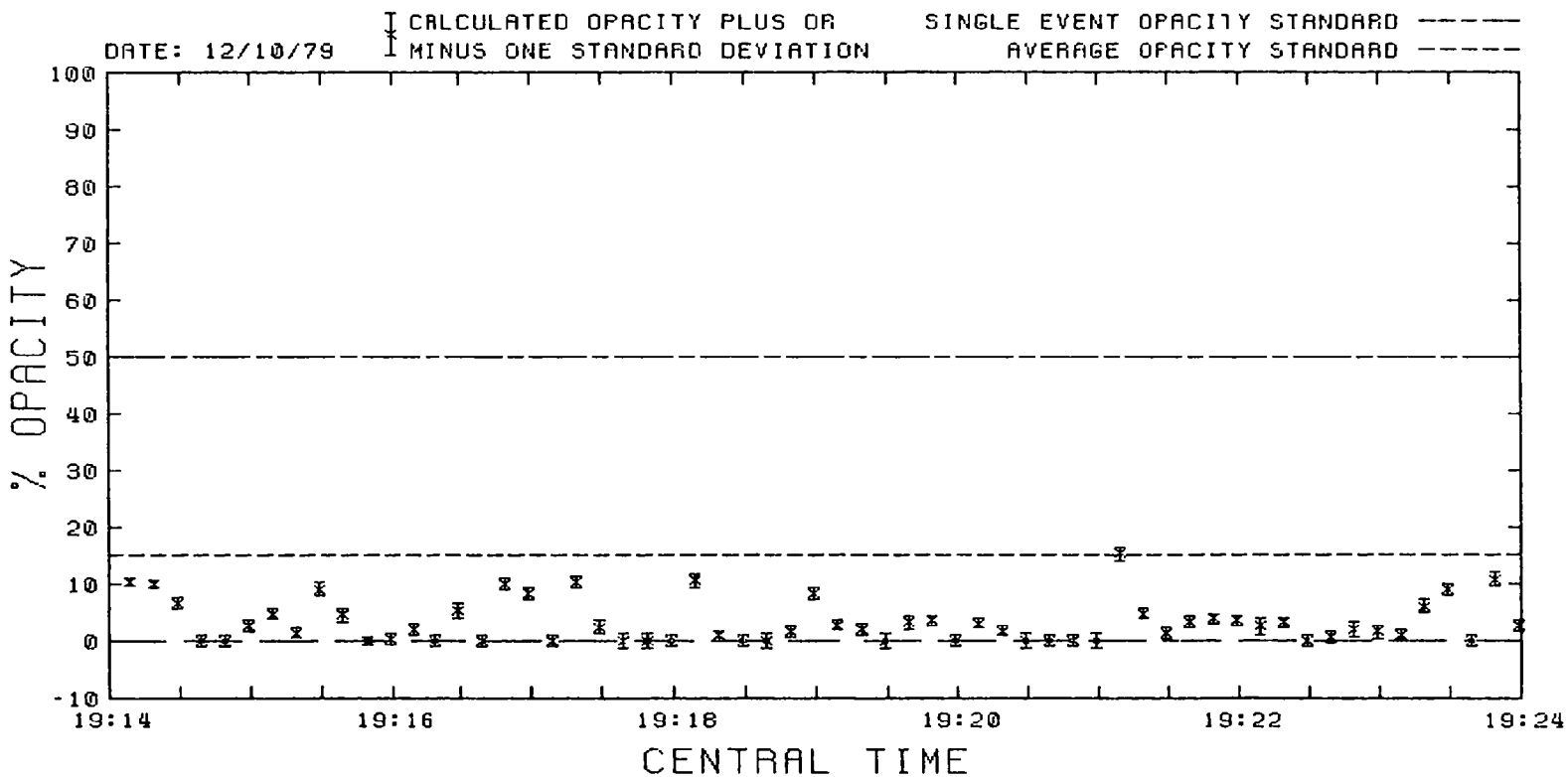
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NATIONAL ENFORCEMENT INVESTIGATIONS CENTER
DENVER, COLORADO 80225

OMEGA-0037, SOUTH STACK, FOMOCO GLASS PLANT, TULSA, OK FROM WEST SIDE OF ROAD FIVE MINUTE AVERAGES

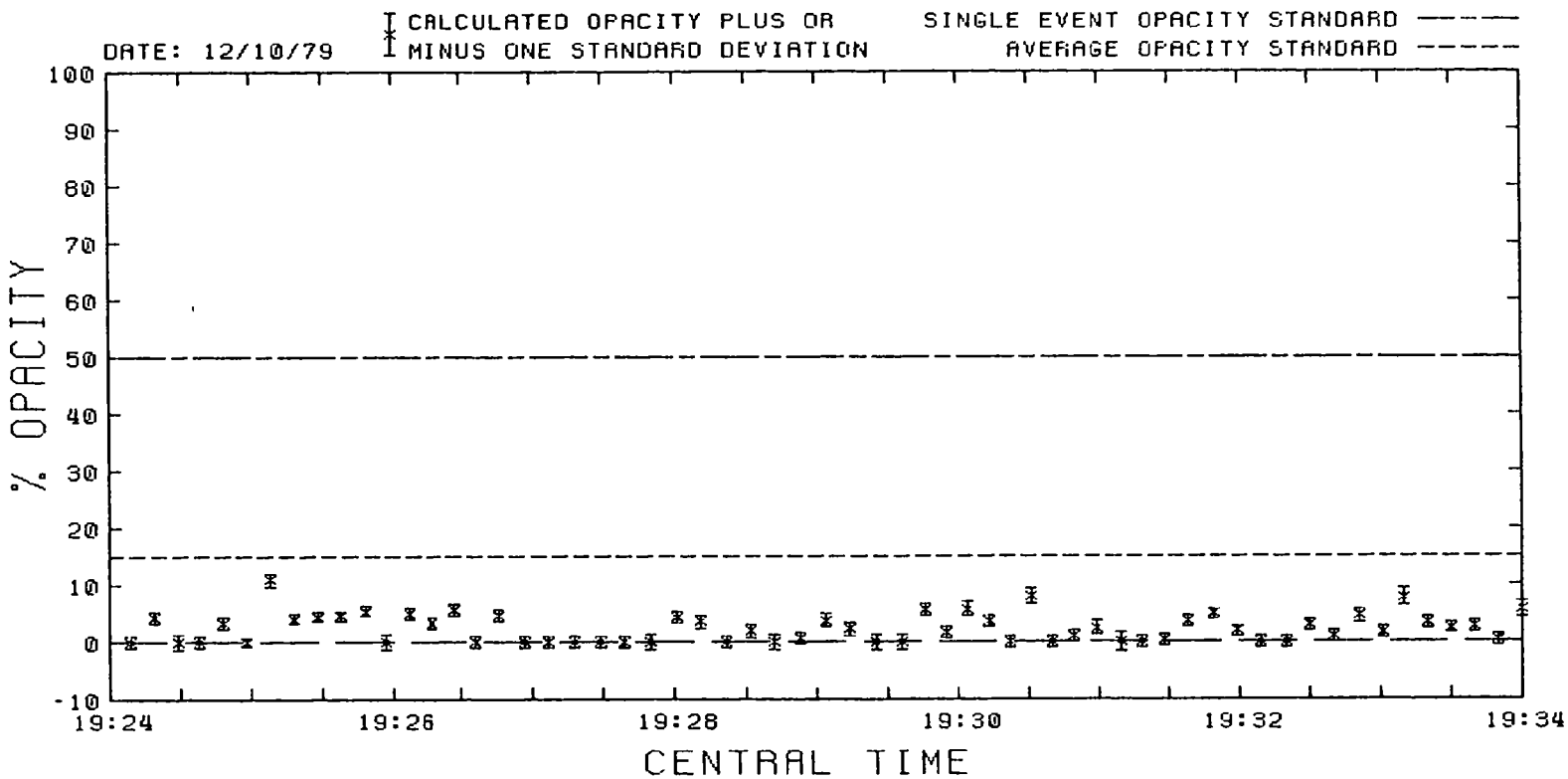
DATE	TIME	OPACITY	SO	VIOLATION	AVERAGE OPACITY	AVERAGE SO	VIOLATION	NUMBER DISCARDED
12/10/79	19 29 14	2	1		1	1		0 OF 30
12/10/79	19 29 25	0	1		1	1		0 OF 30
12/10/79	19 29 36	0	1		1	1		0 OF 30
12/10/79	19 29 46	6	1		1	1		0 OF 30
12/10/79	19 29 55	2	1		1	1		0 OF 30
12/10/79	19 30 4	6	1		1	1		0 OF 30
12/10/79	19 30 13	4	1		1	1		0 OF 30
12/10/79	19 30 22	0	1		1	1		0 OF 30
12/10/79	19 30 31	8	1		1	1		0 OF 30
12/10/79	19 30 40	0	1		1	1		0 OF 30
12/10/79	19 30 49	1	1		1	1		0 OF 30
12/10/79	19 30 59	2	1		1	1		0 OF 30
12/10/79	19 31 9	0	2		1	1		0 OF 30
12/10/79	19 31 18	0	1		1	1		0 OF 30
12/10/79	19 31 28	0	1		1	1		0 OF 30
12/10/79	19 31 38	4	1		1	1		0 OF 30
12/10/79	19 31 49	5	1		1	1		0 OF 30
12/10/79	19 31 59	2	1		1	1		0 OF 30
12/10/79	19 32 9	0	1		1	1		0 OF 30
12/10/79	19 32 20	0	1		1	1		0 OF 30
12/10/79	19 32 30	3	1		1	1		0 OF 30
12/10/79	19 32 40	1	1		1	1		0 OF 30
12/10/79	19 32 51	5	1		2	1		0 OF 30
12/10/79	19 33 1	2	1		2	1		0 OF 31
12/10/79	19 33 10	8	1		2	1		0 OF 31
12/10/79	19 33 20	3	1		2	1		0 OF 31
12/10/79	19 33 30	2	1		2	1		0 OF 31
12/10/79	19 33 40	2	1		2	1		0 OF 31
12/10/79	19 33 50	0	1		2	1		0 OF 31
12/10/79	19 34 0	6	1		2	1		0 OF 31



SOUTH STACK, FOMOCO GLASS PLANT, TULSA, OKLAHOMA



SOUTH STACK, FOMOCO GLASS PLANT, TULSA, OKLAHOMA



SOUTH STACK, FOMOCO GLASS PLANT, TULSA, OKLAHOMA

OMEGA 0037 - CONTINUED

FORD MOTOR COMPANY

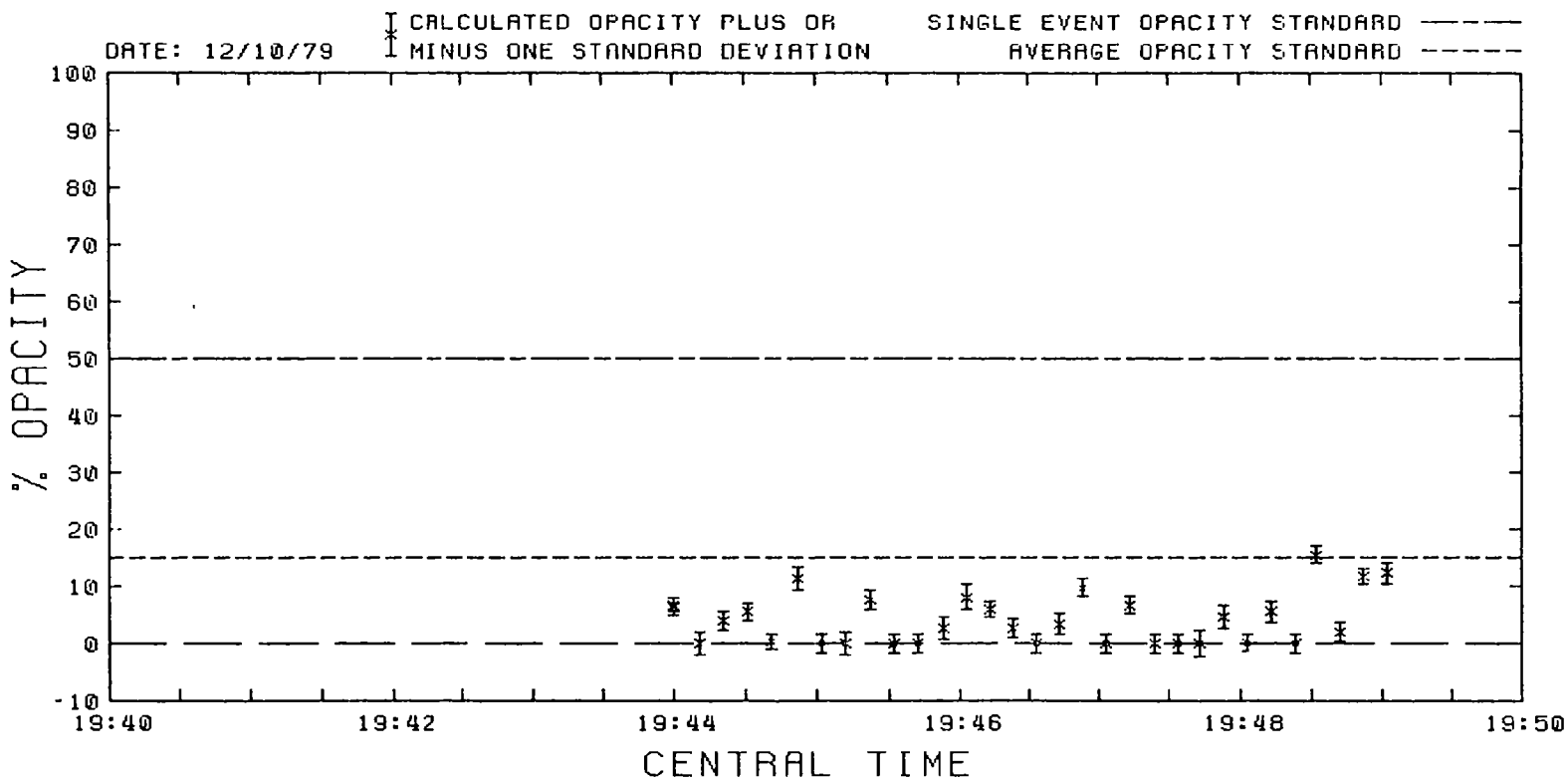
TULSA GLASS PLANT

SOUTH STACK

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NATIONAL ENFORCEMENT INVESTIGATIONS CENTER
DENVER, COLORADO 80225

OMEGA-0037, SOUTH STACK, FOMOCO GLASS PLANT, TULSA, OK FROM WEST SIDE OF ROAD FIVE MINUTE AVERAGES

DATE	TIME	OPACITY	SO	VIOLATION	AVERAGE OPACITY	AVERAGE SO	VIOLATION	NUMBER	DISCARDED
12/10/79	19 44 0	7	1		0	0		0 OF	0
12/10/79	19 44 0	6	2		0	0		0 OF	0
12/10/79	19 44 11	0	2		0	0		0 OF	0
12/10/79	19 44 21	4	2		0	0		0 OF	0
12/10/79	19 44 31	6	2		0	0		0 OF	0
12/10/79	19 44 41	0	1		0	0		0 OF	0
12/10/79	19 44 52	11	2		0	0		0 OF	0
12/10/79	19 45 2	0	2		0	0		0 OF	0
12/10/79	19 45 12	0	2		0	0		0 OF	0
12/10/79	19 45 22	8	2		0	0		0 OF	0
12/10/79	19 45 32	0	2		0	0		0 OF	0
12/10/79	19 45 42	0	2		0	0		0 OF	0
12/10/79	19 45 53	3	2		0	0		0 OF	0
12/10/79	19 46 3	8	2		0	0		0 OF	0
12/10/79	19 46 13	6	1		0	0		0 OF	0
12/10/79	19 46 23	3	2		0	0		0 OF	0
12/10/79	19 46 33	0	2		0	0		0 OF	0
12/10/79	19 46 43	3	2		0	0		0 OF	0
12/10/79	19 46 53	10	2		0	0		0 OF	0
12/10/79	19 47 3	0	2		0	0		0 OF	0
12/10/79	19 47 13	7	2		0	0		0 OF	0
12/10/79	19 47 24	0	2		0	0		0 OF	0
12/10/79	19 47 34	0	2		0	0		0 OF	0
12/10/79	19 47 43	0	2		0	0		0 OF	0
12/10/79	19 47 53	5	2		0	0		0 OF	0
12/10/79	19 48 3	0	2		0	0		0 OF	0
12/10/79	19 48 13	6	2		0	0		0 OF	0
12/10/79	19 48 23	0	2		0	0		0 OF	0
12/10/79	19 48 32	15	2		0	0		0 OF	0
12/10/79	19 48 42	2	2		0	0		0 OF	0
12/10/79	19 48 52	12	1		2	2		0 OF	31
12/10/79	19 49 2	12	2		2	2		0 OF	30



SOUTH STACK, FOMOCO GLASS PLANT, TULSA, OKLAHOMA

OMEGA 0038

FORD MOTOR COMPANY

TULSA GLASS PLANT

NORTH STACK

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NATIONAL ENFORCEMENT INVESTIGATIONS CENTER
DENVER, COLORADO 80225

OMEGA-0038, NORTH STACK, FOMOCO GLASS PLANT, TULSA, OK FROM WEST SIDE OF ROAD FIVE MINUTE AVERAGES

DATE	TIME	OPACITY	SO	VIOLATION	AVERAGE OPACITY	AVERAGE SO	VIOLATION	NUMBER DISCARDED
12/10/79	20 9 0	0	1		0	0		0 OF 0
12/10/79	20 9 19	2	1		0	0		0 OF 0
12/10/79	20 9 29	0	1		0	0		0 OF 0
12/10/79	20 9 39	5	2		0	0		0 OF 0
12/10/79	20 9 49	12	1		0	0		0 OF 0
12/10/79	20 9 59	14	2		0	0		0 OF 0
12/10/79	20 10 8	10	2		0	0		0 OF 0
12/10/79	20 10 18	11	2		0	0		0 OF 0
12/10/79	20 10 28	7	1		0	0		0 OF 0
12/10/79	20 10 38	7	2		0	0		0 OF 0
12/10/79	20 10 48	0	2		0	0		0 OF 0
12/10/79	20 10 58	4	2		0	0		0 OF 0
12/10/79	20 11 7	3	2		0	0		0 OF 0
12/10/79	20 11 17	15	2		0	0		0 OF 0
12/10/79	20 11 27	12	2		0	0		0 OF 0
12/10/79	20 11 37	0	2		0	0		0 OF 0
12/10/79	20 11 48	0	2		0	0		0 OF 0
12/10/79	20 11 58	13	1		0	0		0 OF 0
12/10/79	20 12 8	11	2		0	0		0 OF 0
12/10/79	20 12 18	14	2		0	0		0 OF 0
12/10/79	20 12 29	12	2		0	0		0 OF 0
12/10/79	20 12 39	9	2		0	0		0 OF 0
12/10/79	20 12 49	13	2		0	0		0 OF 0
12/10/79	20 12 59	21	1		0	0		0 OF 0
12/10/79	20 13 10	14	2		0	0		0 OF 0
12/10/79	20 13 20	12	2		0	0		0 OF 0
12/10/79	20 13 30	10	2		0	0		0 OF 0
12/10/79	20 13 40	6	2		0	0		0 OF 0
12/10/79	20 13 51	11	2		8	2		0 OF 29
12/10/79	20 14 1	8	1		0	0		0 OF 0
12/10/79	20 14 11	6	2		8	2		0 OF 30
12/10/79	20 14 21	0	2		8	2		0 OF 30
12/10/79	20 14 31	4	1		8	2		0 OF 30
12/10/79	20 14 42	9	3		9	2		0 OF 30
12/10/79	20 14 52	5	2		8	2		0 OF 30
12/10/79	20 15 2	13	1		8	2		0 OF 30
12/10/79	20 15 12	0	2		8	2		0 OF 30
12/10/79	20 15 22	0	2		7	2		0 OF 30
12/10/79	20 15 33	10	2		7	2		0 OF 30
12/10/79	20 15 43	2	2		7	2		0 OF 30
12/10/79	20 15 53	3	2		7	2		0 OF 30
12/10/79	20 16 3	15	2		8	2		0 OF 30
12/10/79	20 16 14	6	2		8	2		0 OF 30
12/10/79	20 16 24	4	2		7	2		0 OF 30
12/10/79	20 16 34	20	2		8	2		0 OF 30
12/10/79	20 16 44	6	2		8	2		0 OF 30
12/10/79	20 16 54	4	2		8	2		0 OF 30
12/10/79	20 17 5	10	3		8	2		0 OF 30
12/10/79	20 17 15	5	2		8	2		0 OF 30
12/10/79	20 17 25	18	2		8	2		0 OF 30

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NATIONAL ENFORCEMENT INVESTIGATIONS CENTER
DENVER, COLORADO 80225

OMEGA-0038, NORTH STACK, FOMOCO GLASS PLANT, TULSA, OK FROM WEST SIDE OF ROAD FIVE MINUTE AVERAGES

DATE	TIME	OPACITY	SO	VIOLATION	AVERAGE OPACITY	AVERAGE SO	VIOLATION	NUMBER DISCARDED
12/10/79	20 17 35	4	2		8	2		0 OF 30
12/10/79	20 17 45	0	2		8	2		0 OF 30
12/10/79	20 17 56	1	2		7	2		0 OF 30
12/10/79	20 18 6	14	2		7	2		0 OF 30
12/10/79	20 18 16	10	2		7	2		0 OF 30
12/10/79	20 18 26	0	2		7	2		0 OF 30
12/10/79	20 18 36	6	2		6	2		0 OF 30
12/10/79	20 18 46	2	2		6	2		0 OF 30
12/10/79	20 18 55	9	2		6	2		0 OF 30
12/10/79	20 19 5	6	2		6	2		0 OF 30
12/10/79	20 19 14	0	2		6	2		0 OF 30
12/10/79	20 19 23	3	1		6	2		0 OF 30
12/10/79	20 19 33	8	2		6	2		0 OF 30
12/10/79	20 19 42	8	2		6	2		0 OF 31
12/10/79	20 19 52	15	2		6	2		0 OF 31
12/10/79	20 20 1	0	2		6	2		0 OF 31
12/10/79	20 20 10	15	2		6	2		0 OF 31
12/10/79	20 20 20	14	2		7	2		0 OF 31
12/10/79	20 20 29	4	2		7	2		0 OF 31
12/10/79	20 20 38	0	2		7	2		0 OF 31
12/10/79	20 20 48	11	2		7	2		0 OF 31
12/10/79	20 20 57	0	3		7	2		0 OF 31
12/10/79	20 21 6	13	1		7	2		0 OF 31
12/10/79	20 21 16	0	2		6	2		0 OF 31
12/10/79	20 21 25	9	2		6	2		0 OF 31
12/10/79	20 21 35	0	2		5	2		0 OF 31
12/10/79	20 21 44	1	2		5	2		0 OF 32
12/10/79	20 21 53	9	2		5	2		0 OF 32
12/10/79	20 22 3	8	2		5	2		0 OF 32
12/10/79	20 22 12	0	2		5	2		0 OF 32
12/10/79	20 22 22	12	1		5	2		0 OF 32
12/10/79	20 22 31	3	1		5	2		0 OF 32
12/10/79	20 22 40	0	1		5	2		0 OF 32
12/10/79	20 22 50	5	2		5	2		0 OF 32
12/10/79	20 22 59	5	2		5	2		0 OF 32
12/10/79	20 23 8	9	2		5	2		0 OF 32
12/10/79	20 23 18	4	2		5	2		0 OF 32
12/10/79	20 23 27	7	2		5	2		0 OF 32
12/10/79	20 23 36	6	2		5	2		0 OF 33
12/10/79	20 23 46	12	2		5	2		0 OF 33
12/10/79	20 23 55	10	2		5	2		0 OF 33
12/10/79	20 24 5	0	1		5	2		0 OF 33
12/10/79	20 24 14	11	1		5	2		0 OF 33
12/10/79	20 24 23	17	2		6	2		0 OF 33
12/10/79	20 24 33	10	2		6	2		0 OF 33
12/10/79	20 24 42	0	2		6	2		0 OF 33
12/10/79	20 24 51	0	2		6	2		0 OF 33
12/10/79	20 25 1	0	2		5	2		0 OF 33
12/10/79	20 25 10	10	2		5	2		0 OF 33
12/10/79	20 25 19	16	2		5	2		0 OF 33

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NATIONAL ENFORCEMENT INVESTIGATIONS CENTER
DENVER, COLORADO 80225

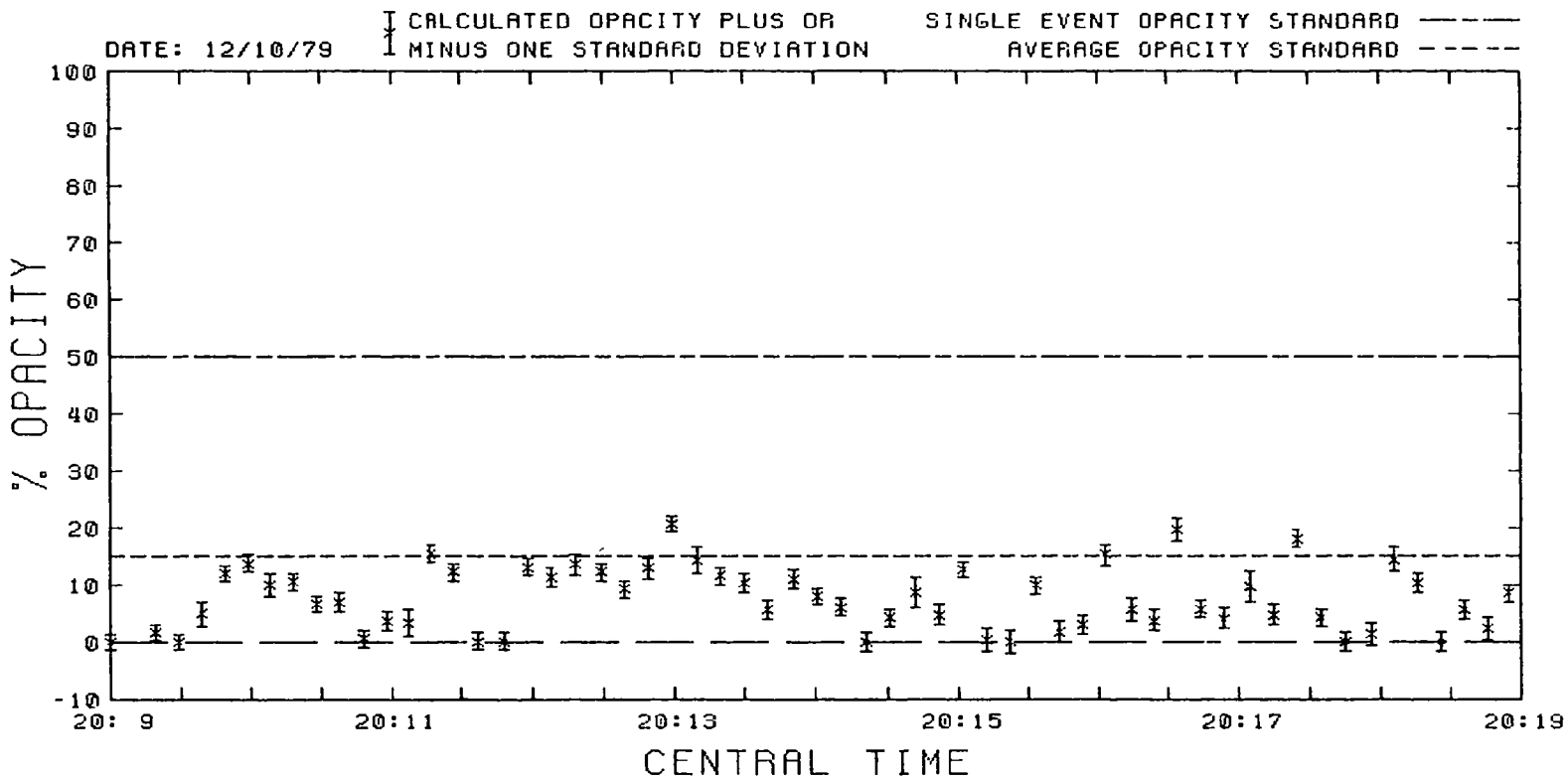
OMEGA-0038, NORTH STACK, FOMOCO GLASS PLANT, TULSA, OK FROM WEST SIDE OF ROAD FIVE MINUTE AVERAGES

DATE	TIME	OPACITY	SO	VIOLATION	AVERAGE OPACITY	AVERAGE SO	VIOLATION	NUMBER DISCARDED
12/10/79	20 25 29	5	2		5	2		0 OF 33
12/10/79	20 25 38	2	2		5	2		0 OF 33
12/10/79	20 25 48	0	1		5	2		0 OF 33
12/10/79	20 25 57	2	1		5	2		0 OF 33
12/10/79	20 26 6	6	1		5	2		0 OF 33
12/10/79	20 26 16	8	1		5	2		0 OF 33
12/10/79	20 26 25	16	1		6	2		0 OF 33
12/10/79	20 26 34	2	2		6	2		0 OF 33
12/10/79	20 26 44	9	2		6	2		0 OF 33
12/10/79	20 26 53	3	2		6	2		0 OF 33
12/10/79	20 27 3	3	2		6	2		0 OF 33
12/10/79	20 27 12	11	2		6	2		0 OF 33
12/10/79	20 27 21	10	2		6	2		0 OF 33
12/10/79	20 27 31	8	2		6	2		0 OF 33
12/10/79	20 27 40	6	2		6	2		0 OF 33
12/10/79	20 27 49	14	2		7	2		0 OF 33
12/10/79	20 27 59	4	2		7	2		0 OF 33
12/10/79	20 28 6	8	1		7	2		0 OF 33
12/10/79	20 28 16	12	2		7	2		0 OF 33
12/10/79	20 28 25	1	2		7	2		0 OF 33
12/10/79	20 28 35	10	2		7	2		0 OF 33
12/10/79	20 28 44	2	1		7	2		0 OF 33
12/10/79	20 28 53	13	2		7	2		0 OF 33
12/10/79	20 29 3	12	1		7	2		0 OF 33
12/10/79	20 29 12	7	1		7	2		0 OF 33
12/10/79	20 29 21	8	1		7	2		0 OF 33
12/10/79	20 29 30	3	2		6	2		0 OF 33
12/10/79	20 29 39	0	2		6	2		0 OF 33
12/10/79	20 29 49	9	2		7	2		0 OF 33
12/10/79	20 29 58	13	2		7	2		0 OF 33
12/10/79	20 30 7	9	1		7	2		0 OF 33
12/10/79	20 30 17	8	1		7	2		0 OF 33
12/10/79	20 30 26	2	2		7	2		0 OF 33
12/10/79	20 30 35	3	2		7	2		0 OF 33
12/10/79	20 30 45	0	2		7	2		0 OF 33
12/10/79	20 30 54	9	2		7	2		0 OF 33
12/10/79	20 31 4	3	2		7	2		0 OF 33
12/10/79	20 31 13	0	2		7	2		0 OF 33
12/10/79	20 31 22	9	2		7	2		0 OF 33
12/10/79	20 31 31	7	1		7	2		0 OF 33
12/10/79	20 31 31	7	1		7	2		0 OF 34
12/10/79	20 31 41	3	2		7	2		0 OF 34
12/10/79	20 31 50	12	1		7	2		0 OF 34
12/10/79	20 31 59	5	1		7	2		0 OF 34
12/10/79	20 32 18	10	1		7	2		0 OF 33
12/10/79	20 32 27	0	2		7	2		0 OF 33
12/10/79	20 32 37	13	1		7	2		0 OF 33
12/10/79	20 32 46	15	1		7	2		0 OF 33
12/10/79	20 32 55	10	1		7	2		0 OF 33
12/10/79	20 33 5	7	2		7	2		0 OF 33

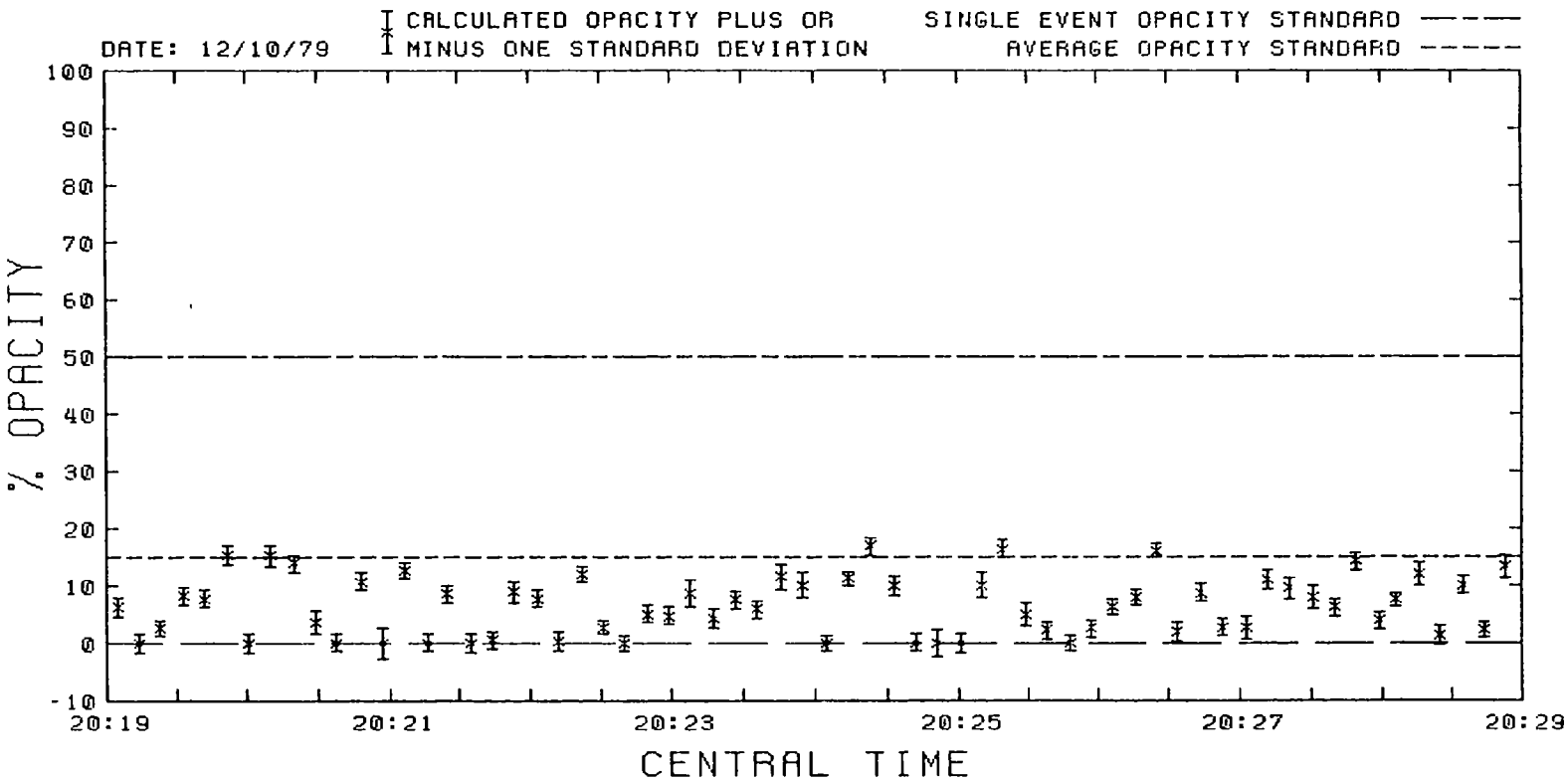
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NATIONAL ENFORCEMENT INVESTIGATIONS CENTER
DENVER, COLORADO 80225

OMEGA-0038, NORTH STACK, FOMOCO GLASS PLANT, TULSA, OK FROM WEST SIDE OF ROAD FIVE MINUTE AVERAGES

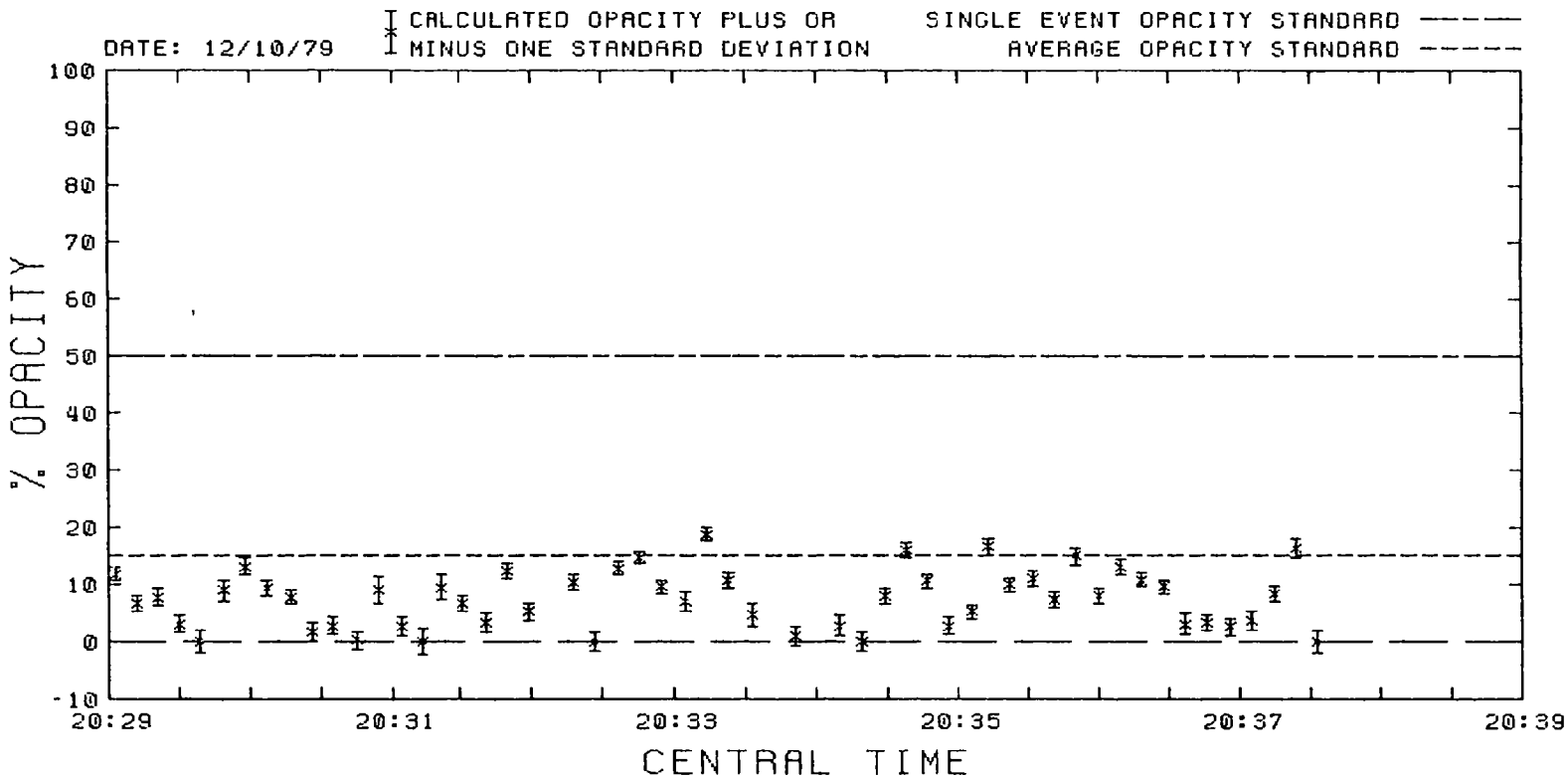
DATE	TIME	OPACITY	SO	VIOLATION	AVERAGE OPACITY	AVERAGE SO	VIOLATION	NUMBER DISCARDED
12/10/79	20 33 14	19	1		7	2		0 OF 33
12/10/79	20 33 23	11	1		7	2		0 OF 33
12/10/79	20 33 33	5	2		7	2		0 OF 33
12/10/79	20 33 51	1	2		7	2		0 OF 32
12/10/79	20 34 10	3	2		7	2		0 OF 31
12/10/79	20 34 19	0	2		6	2		0 OF 31
12/10/79	20 34 29	8	1		6	2		0 OF 31
12/10/79	20 34 38	16	1		6	2		0 OF 31
12/10/79	20 34 47	11	1		7	2		0 OF 31
12/10/79	20 34 56	3	2		7	2		0 OF 31
12/10/79	20 35 6	5	1		6	2		0 OF 31
12/10/79	20 35 13	17	2		7	2		0 OF 31
12/10/79	20 35 22	10	1		7	2		0 OF 31
12/10/79	20 35 32	11	1		7	2		0 OF 31
12/10/79	20 35 41	7	1		7	2		0 OF 31
12/10/79	20 35 50	15	2		8	2		0 OF 31
12/10/79	20 36 0	8	1		8	2		0 OF 31
12/10/79	20 36 9	13	1		8	2		0 OF 31
12/10/79	20 36 18	11	1		8	1		0 OF 31
12/10/79	20 36 28	10	1		8	1		0 OF 31
12/10/79	20 36 37	3	2		8	1		0 OF 30
12/10/79	20 36 46	3	1		8	1		0 OF 30
12/10/79	20 36 56	3	2		8	1		0 OF 30
12/10/79	20 37 5	4	2		0	0		0 OF 0
12/10/79	20 37 15	8	1		8	1		0 OF 31
12/10/79	20 37 24	16	2		8	1		0 OF 31
12/10/79	20 37 33	0	2		8	1		0 OF 31



NORTH STACK, FOMOCO GLASS PLANT, TULSA, OKLAHOMA



NORTH STACK, FOMOCO GLASS PLANT, TULSA, OKLAHOMA



NORTH STACK, FOMOCO GLASS PLANT, TULSA, OKLAHOMA

OMEGA 0042

FORD MOTOR COMPANY

TULSA GLASS PLANT

NORTH STACK

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NATIONAL ENFORCEMENT INVESTIGATIONS CENTER
DENVER, COLORADO 80225

OMEGA-0042, NORTH STACK, FOMOCO GLASS PLANT, TULSA, OK FROM SEISCOR LOT FIVE MINUTE AVERAGES

DATE	TIME	OPACITY	SO	VIOLATION	AVERAGE OPACITY	AVERAGE SO	VIOLATION	NUMBER DISCARDED
12/12/79	14 58 40	5	1		0	0		0 OF 0
12/12/79	14 58 50	4	1		0	0		0 OF 0
12/12/79	14 59 0	1	2		0	0		0 OF 0
12/12/79	14 59 10	2	1		0	0		0 OF 0
12/12/79	14 59 20	1	2		0	0		0 OF 0
12/12/79	14 59 31	5	2		0	0		0 OF 0
12/12/79	14 59 41	4	2		0	0		0 OF 0
12/12/79	14 59 51	9	2		0	0		0 OF 0
12/12/79	15 0 1	9	2		0	0		0 OF 0
12/12/79	15 0 11	4	2		0	0		0 OF 0
12/12/79	15 0 21	9	2		0	0		0 OF 0
12/12/79	15 0 31	8	1		0	0		0 OF 0
12/12/79	15 0 41	8	1		0	0		0 OF 0
12/12/79	15 0 51	2	2		0	0		0 OF 0
12/12/79	15 1 0	0	2		0	0		0 OF 0
12/12/79	15 1 10	7	2		0	0		0 OF 0
12/12/79	15 1 20	2	2		0	0		0 OF 0
12/12/79	15 1 30	3	2		0	0		0 OF 0
12/12/79	15 1 40	7	2		0	0		0 OF 0
12/12/79	15 1 50	1	2		0	0		0 OF 0
12/12/79	15 2 0	1	2		0	0		0 OF 0
12/12/79	15 2 10	0	2		0	0		0 OF 0
12/12/79	15 2 20	5	2		0	0		0 OF 0
12/12/79	15 2 30	7	2		0	0		0 OF 0
12/12/79	15 2 40	2	2		0	0		0 OF 0
12/12/79	15 2 50	11	2		0	0		0 OF 0
12/12/79	15 3 0	12	1		0	0		0 OF 0
12/12/79	15 3 10	18	1		0	0		0 OF 0
12/12/79	15 3 20	16	1		0	0		0 OF 0
12/12/79	15 3 30	17	2		6	2		0 OF 30
12/12/79	15 3 40	6	2		6	2		0 OF 31
12/12/79	15 3 50	7	2		6	2		0 OF 31
12/12/79	15 4 0	8	2		6	2		0 OF 31
12/12/79	15 4 10	9	2		6	2		0 OF 31
12/12/79	15 4 20	8	1		7	2		0 OF 31
12/12/79	15 4 30	16	2		7	2		0 OF 31
12/12/79	15 4 40	19	2		7	2		0 OF 31
12/12/79	15 5 0	16	1		8	2		0 OF 30
12/12/79	15 5 10	15	1		8	2		0 OF 30
12/12/79	15 5 20	6	2		8	2		0 OF 30
12/12/79	15 5 30	15	1		8	2		0 OF 30
12/12/79	15 5 40	9	2		8	2		0 OF 30
12/12/79	15 5 51	6	1		8	2		0 OF 30
12/12/79	15 6 1	15	1		9	2		0 OF 29
12/12/79	15 6 11	16	1		9	2		0 OF 29
12/12/79	15 6 21	0	1		9	2		0 OF 29
12/12/79	15 6 31	12	1		10	2		0 OF 29
12/12/79	15 6 41	15	1		10	2		0 OF 29
12/12/79	15 6 51	13	2		10	2		0 OF 29
12/12/79	15 7 1	11	2		11	2		0 OF 29

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NATIONAL ENFORCEMENT INVESTIGATIONS CENTER
DENVER, COLORADO 80225

OMEGA-0042, NORTH STACK, FOMOCO GLASS PLANT, TULSA, OK FROM SEISCOR LOT FIVE MINUTE AVERAGES

DATE	TIME	OPACITY	SO	VIOLATION	AVERAGE OPACITY	AVERAGE SO	VIOLATION	NUMBER DISCARDED
12/12/79	15 7 11	11	2		11	2		0 OF 29
12/12/79	15 7 21	14	1		11	2		0 OF 29
12/12/79	15 7 31	10	1		11	2		0 OF 29
12/12/79	15 7 41	17	1		12	1		0 OF 29
12/12/79	15 7 51	9	2		12	1		0 OF 29
12/12/79	15 8 1	12	2		12	2		0 OF 29
12/12/79	15 8 11	18	2		12	2		0 OF 29
12/12/79	15 8 21	11	2		12	2		0 OF 29
12/12/79	15 8 30	16	2		12	2		0 OF 30
12/12/79	15 8 40	13	2		12	2		0 OF 30
12/12/79	15 8 50	13	2		12	2		0 OF 30
12/12/79	15 9 0	17	2		12	2		0 OF 30
12/12/79	15 9 10	9	1		12	2		0 OF 30
12/12/79	15 9 20	10	2		12	2		0 OF 30
12/12/79	15 9 30	8	1		12	2		0 OF 30
12/12/79	15 9 40	13	1		12	1		0 OF 30
12/12/79	15 9 50	0	2		11	2		0 OF 30
12/12/79	15 10 0	5	2		11	2		0 OF 31
12/12/79	15 10 10	4	2		11	2		0 OF 31
12/12/79	15 10 19	7	2		11	2		0 OF 31
12/12/79	15 10 29	9	2		11	2		0 OF 31
12/12/79	15 10 39	16	2		11	2		0 OF 31
12/12/79	15 10 49	15	2		11	2		0 OF 31
12/12/79	15 10 59	13	2		11	2		0 OF 31
12/12/79	15 11 9	0	2		11	2		0 OF 31
12/12/79	15 11 19	13	1		11	2		0 OF 31
12/12/79	15 11 29	17	2		11	2		0 OF 31
12/12/79	15 11 39	3	1		11	2		0 OF 31
12/12/79	15 11 48	2	2		10	2		0 OF 31
12/12/79	15 11 58	9	2		10	2		0 OF 31
12/12/79	15 12 8	21	2		11	2		0 OF 31
12/12/79	15 12 18	20	2		11	2		0 OF 31
12/12/79	15 12 28	18	2		11	2		0 OF 31
12/12/79	15 12 38	12	2		11	2		0 OF 31
12/12/79	15 12 58	19	2		11	2		0 OF 30
12/12/79	15 13 8	18	2		11	2		0 OF 30
12/12/79	15 13 18	12	2		11	2		0 OF 30
12/12/79	15 13 27	9	1		11	2		0 OF 30
12/12/79	15 13 37	7	2		11	2		0 OF 30
12/12/79	15 13 47	7	2		11	2		0 OF 30
12/12/79	15 13 57	9	2		11	2		0 OF 30
12/12/79	15 14 7	14	2		11	2		0 OF 30
12/12/79	15 14 17	10	2		11	2		0 OF 30
12/12/79	15 14 27	3	2		10	2		0 OF 30
12/12/79	15 14 37	11	2		10	2		0 OF 30
12/12/79	15 14 47	7	2		10	2		0 OF 30
12/12/79	15 14 57	2	2		10	2		0 OF 30
12/12/79	15 15 7	10	2		11	2		0 OF 30
12/12/79	15 15 18	16	2		11	2		0 OF 30
12/12/79	15 15 28	13	2		11	2		0 OF 30

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NATIONAL ENFORCEMENT INVESTIGATIONS CENTER
DENVER, COLORADO 80225

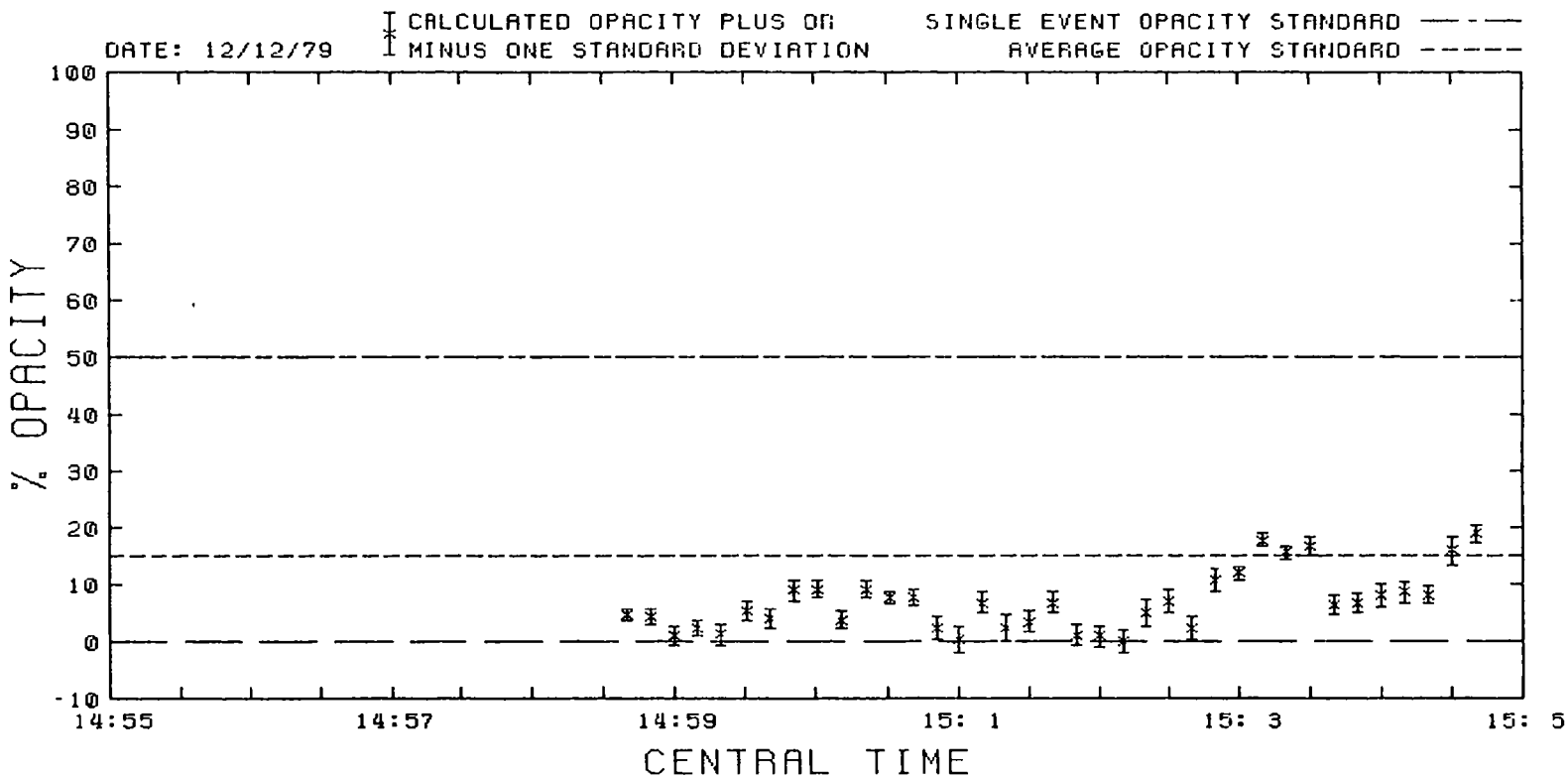
OMEGA-0042, NORTH STACK, FOMOCO GLASS PLANT, TULSA, OK FROM SEISCOR LOT FIVE MINUTE AVERAGES

DATE	TIME	OPACITY	SO	VIOLATION	AVERAGE OPACITY	AVERAGE SO	VIOLATION	NUMBER DISCARDED
12/12/79	15 15 39	16	2		11	2		0 OF 30
12/12/79	15 15 49	11	2		11	2		0 OF 30
12/12/79	15 16 0	9	2		11	2		0 OF 29
12/12/79	15 16 11	3	1		11	2		0 OF 29
12/12/79	15 16 21	9	1		11	2		0 OF 29
12/12/79	15 16 32	3	2		10	2		0 OF 29
12/12/79	15 16 42	12	2		11	2		0 OF 29
12/12/79	15 16 53	4	2		11	2		0 OF 29
12/12/79	15 17 3	11	2		11	2		0 OF 29
12/12/79	15 17 14	11	2		11	2		0 OF 29
12/12/79	15 17 24	12	2		10	2		0 OF 29
12/12/79	15 17 34	15	2		10	2		0 OF 29
12/12/79	15 17 43	15	2		0	0		0 OF 0
12/12/79	15 17 53	9	2		10	2		0 OF 30
12/12/79	15 18 3	21	2		10	2		0 OF 30
12/12/79	15 18 12	19	1		10	2		0 OF 30
12/12/79	15 18 22	13	2		10	2		0 OF 30
12/12/79	15 18 31	16	2		11	2		0 OF 30
12/12/79	15 18 41	15	2		11	2		0 OF 30
12/12/79	15 18 50	12	2		11	2		0 OF 30
12/12/79	15 19 0	12	2		11	2		0 OF 30
12/12/79	15 19 9	13	2		11	2		0 OF 30
12/12/79	15 19 19	15	2		11	2		0 OF 30
12/12/79	15 19 29	12	1		11	2		0 OF 30
12/12/79	15 19 39	6	2		11	2		0 OF 30
12/12/79	15 19 48	9	2		11	2		0 OF 30
12/12/79	15 19 58	14	1		12	2		0 OF 30
12/12/79	15 20 8	4	2		12	2		0 OF 30
12/12/79	15 20 18	9	1		11	2		0 OF 31
12/12/79	15 20 28	4	2		11	2		0 OF 31
12/12/79	15 20 38	0	1		11	2		0 OF 31
12/12/79	15 20 47	6	1		10	2		0 OF 31
12/12/79	15 20 57	5	1		10	2		0 OF 31
12/12/79	15 21 7	4	1		10	2		0 OF 31
12/12/79	15 21 17	7	2		10	2		0 OF 31
12/12/79	15 21 27	19	2		10	2		0 OF 31
12/12/79	15 21 37	9	2		11	2		0 OF 31
12/12/79	15 21 47	12	1		11	2		0 OF 31
12/12/79	15 21 56	2	2		11	2		0 OF 31
12/12/79	15 22 6	4	1		10	2		0 OF 31
12/12/79	15 22 16	9	2		10	2		0 OF 31
12/12/79	15 22 26	2	1		10	2		0 OF 31
12/12/79	15 22 36	8	2		10	2		0 OF 31
12/12/79	15 22 46	8	1		9	2		0 OF 31
12/12/79	15 22 55	4	1		9	2		0 OF 31
12/12/79	15 23 5	12	1		9	2		0 OF 31
12/12/79	15 23 15	14	1		9	2		0 OF 31
12/12/79	15 23 25	13	1		9	2		0 OF 31
12/12/79	15 23 35	8	1		9	2		0 OF 31
12/12/79	15 23 45	8	1		8	1		0 OF 31

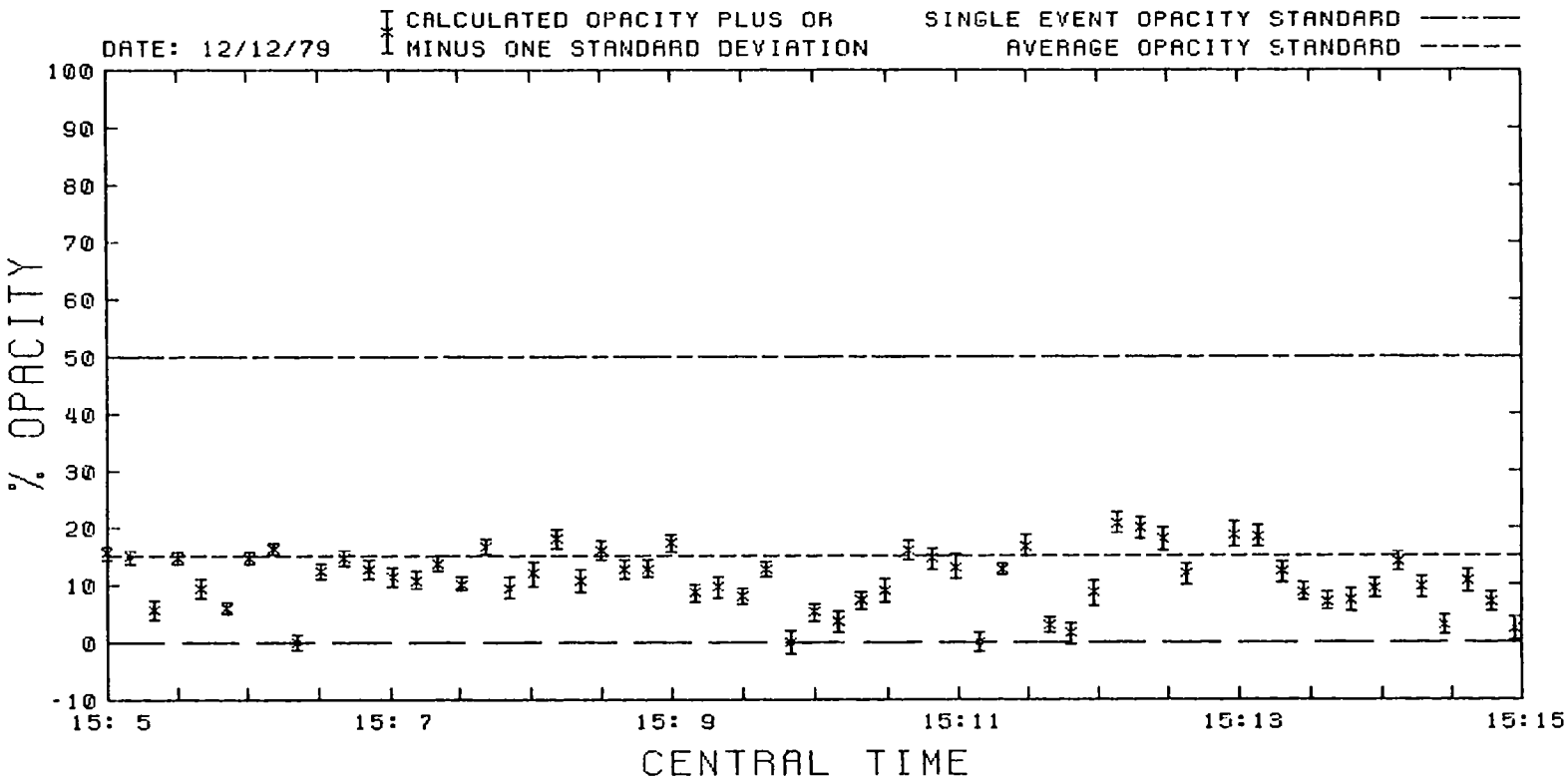
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NATIONAL ENFORCEMENT INVESTIGATIONS CENTER
DENVER, COLORADO 80225

OMEGA-0042, NORTH STACK, FOMOCO GLASS PLANT, TULSA, OK FROM SEISCOR LOT FIVE MINUTE AVERAGES

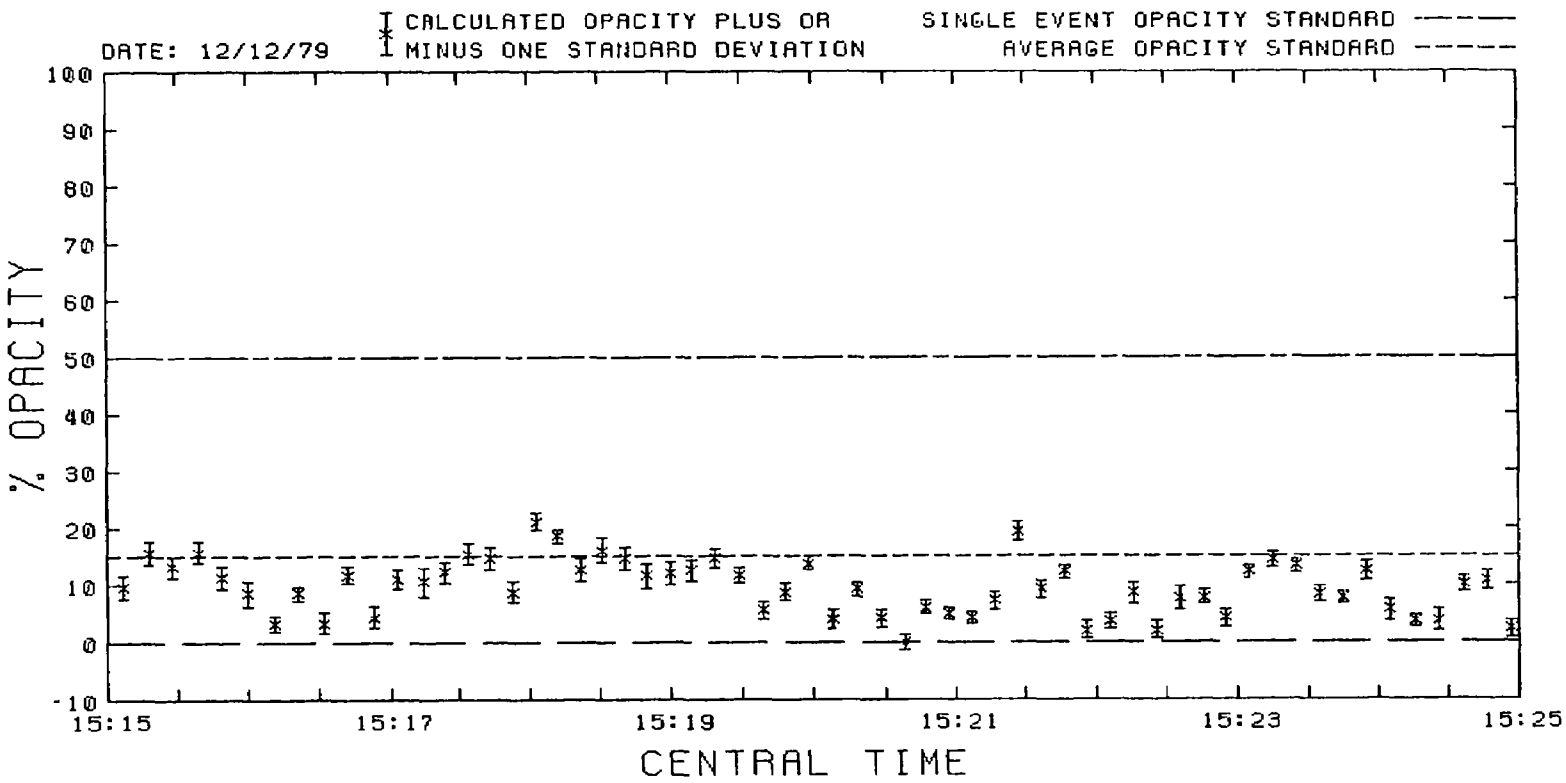
DATE	TIME	OPACITY	SO	VIOLATION	AVERAGE OPACITY	AVERAGE SO	VIOLATION	NUMBER DISCARDED
12/12/79	15 23 55	12	2		8	1		0 OF 31
12/12/79	15 24 5	6	2		8	1		0 OF 31
12/12/79	15 24 16	4	1		8	1		0 OF 31
12/12/79	15 24 26	4	2		8	1		0 OF 31
12/12/79	15 24 37	10	1		7	1		0 OF 31
12/12/79	15 24 47	11	2		8	1		0 OF 31
12/12/79	15 24 57	2	2		7	1		0 OF 31
12/12/79	15 25 8	8	2		7	2		0 OF 31
12/12/79	15 25 18	9	2		7	2		0 OF 31
12/12/79	15 25 29	17	1		8	2		0 OF 30
12/12/79	15 25 39	8	2		8	2		0 OF 30
12/12/79	15 25 50	17	2		9	2		0 OF 30
12/12/79	15 26 0	9	2		9	2		0 OF 30
12/12/79	15 26 10	13	1		9	2		0 OF 30
12/12/79	15 26 21	11	2		9	2		0 OF 30
12/12/79	15 26 31	5	1		9	2		0 OF 30
12/12/79	15 26 42	8	1		9	2		0 OF 30
12/12/79	15 26 52	2	2		8	2		0 OF 30
12/12/79	15 27 2	9	2		9	2		0 OF 30
12/12/79	15 27 13	8	2		9	2		0 OF 30
12/12/79	15 27 23	13	2		9	2		0 OF 30
12/12/79	15 27 33	14	2		9	2		0 OF 30
12/12/79	15 27 43	18	1		10	2		0 OF 30
12/12/79	15 27 53	11	2		10	2		0 OF 30
12/12/79	15 28 3	4	2		10	2		0 OF 30
12/12/79	15 28 13	13	2		10	2		0 OF 30
12/12/79	15 28 23	5	2		9	2		0 OF 30
12/12/79	15 28 33	11	2		9	2		0 OF 30
12/12/79	15 28 43	3	1		9	2		0 OF 30
12/12/79	15 28 53	4	2		9	2		0 OF 30



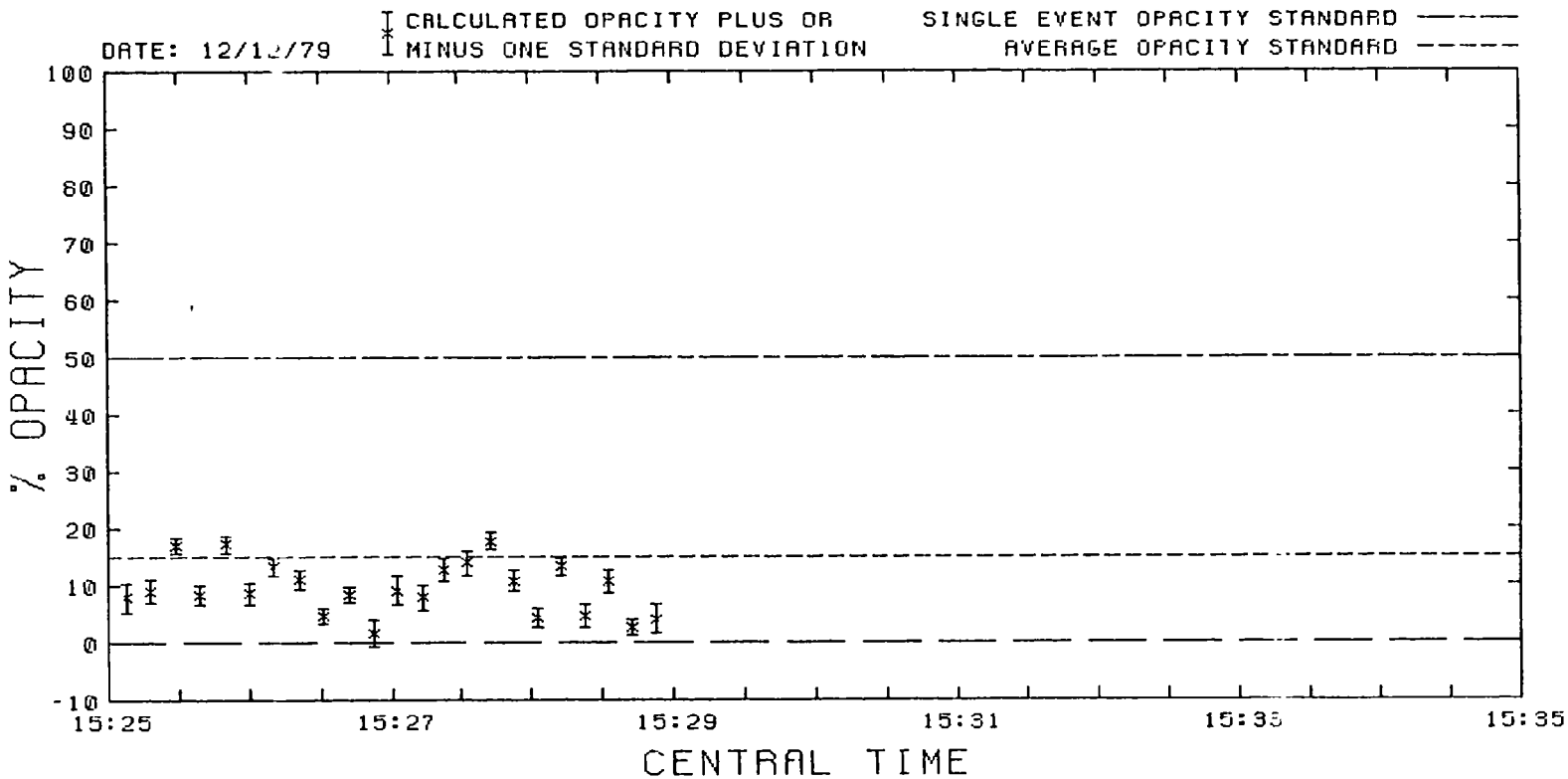
NORTH STACK, FOMOCO GLASS PLANT, TULSA, OKLAHOMA



NORTH STACK, FOMOCO GLASS PLANT, TULSA, OKLAHOMA



NORTH STACK, FOMOCO GLASS PLANT, TULSA, OKLAHOMA



NORTH STACK, FOMOCO GLASS PLANT, TULSA, OKLAHOMA

OMEGA 0043

FORD MOTOR COMPANY

TULSA GLASS PLANT

SOUTH STACK

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NATIONAL ENFORCEMENT INVESTIGATIONS CENTER
DENVER, COLORADO 80225

OMEGA-0043, SOUTH STACK, FOMOCO GLASS PLANT, TULSA, OK FROM SEISCOR LOT FIVE MINUTE AVERAGES

DATE	TIME	OPACITY	SO	VIOLATION	AVERAGE OPACITY	AVERAGE SO	VIOLATION	NUMBER DISCARDED
12/12/79	15 38 1	2	3		0	0		0 OF 0
12/12/79	15 38 11	7	3		0	0		0 OF 0
12/12/79	15 38 21	14	2		0	0		0 OF 0
12/12/79	15 38 31	8	2		0	0		0 OF 0
12/12/79	15 38 41	10	2		0	0		0 OF 0
12/12/79	15 38 51	1	2		0	0		0 OF 0
12/12/79	15 39 1	6	2		0	0		0 OF 0
12/12/79	15 39 11	12	2		0	0		0 OF 0
12/12/79	15 39 20	1	2		0	0		0 OF 0
12/12/79	15 39 30	4	2		0	0		0 OF 0
12/12/79	15 39 40	12	3		0	0		0 OF 0
12/12/79	15 39 49	9	2		0	0		0 OF 0
12/12/79	15 39 59	14	2		0	0		0 OF 0
12/12/79	15 40 8	3	2		0	0		0 OF 0
12/12/79	15 40 18	4	2		0	0		0 OF 0
12/12/79	15 40 28	7	2		0	0		0 OF 0
12/12/79	15 40 37	2	2		0	0		0 OF 0
12/12/79	15 40 47	0	2		0	0		0 OF 0
12/12/79	15 40 57	14	2		0	0		0 OF 0
12/12/79	15 41 7	2	2		0	0		0 OF 0
12/12/79	15 41 17	9	3		0	0		0 OF 0
12/12/79	15 41 27	6	3		0	0		0 OF 0
12/12/79	15 41 37	17	2		0	0		0 OF 0
12/12/79	15 41 47	14	2		0	0		0 OF 0
12/12/79	15 41 57	14	2		0	0		0 OF 0
12/12/79	15 42 7	3	2		0	0		0 OF 0
12/12/79	15 42 16	8	2		0	0		0 OF 0
12/12/79	15 42 26	18	2		0	0		0 OF 0
12/12/79	15 42 36	13	2		0	0		0 OF 0
12/12/79	15 42 46	7	2		0	0		0 OF 0
12/12/79	15 42 56	4	2		8	2		0 OF 31
12/12/79	15 43 6	11	2		8	2		0 OF 31
12/12/79	15 43 16	13	2		8	2		0 OF 31
12/12/79	15 43 26	19	2		8	2		0 OF 31
12/12/79	15 43 36	10	2		9	2		0 OF 31
12/12/79	15 43 45	9	1		9	2		0 OF 31
12/12/79	15 43 55	10	2		9	2		0 OF 31
12/12/79	15 44 5	0	1		9	2		0 OF 31
12/12/79	15 44 15	5	1		8	2		0 OF 31
12/12/79	15 44 25	13	1		9	2		0 OF 31
12/12/79	15 44 35	3	2		9	2		0 OF 31
12/12/79	15 44 45	12	2		9	2		0 OF 31
12/12/79	15 44 55	10	1		9	2		0 OF 31
12/12/79	15 45 4	10	1		9	2		0 OF 31
12/12/79	15 45 14	6	2		9	2		0 OF 31
12/12/79	15 45 24	12	2		9	2		0 OF 31
12/12/79	15 45 34	15	2		9	2		0 OF 31
12/12/79	15 45 44	0	2		9	2		0 OF 31
12/12/79	15 45 54	5	2		9	2		0 OF 31
12/12/79	15 46 4	9	2		9	2		0 OF 31

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NATIONAL ENFORCEMENT INVESTIGATIONS CENTER
DENVER, COLORADO 80225

OMEGA-0043, SOUTH STACK, FOMOCO GLASS PLANT, TULSA, OK FROM SEISCOR LOT FIVE MINUTE AVERAGES

DATE	TIME	OPACITY	SO	VIOLATION	AVERAGE OPACITY	AVERAGE SO	VIOLATION	NUMBER DISCARDED
12/12/79	15 46 14	2	2		9	2		0 OF 31
12/12/79	15 46 23	7	3		9	2		0 OF 31
12/12/79	15 46 33	16	3		9	2		0 OF 31
12/12/79	15 46 43	16	2		9	2		0 OF 31
12/12/79	15 46 53	12	2		9	2		0 OF 31
12/12/79	15 47 3	10	2		9	2		0 OF 31
12/12/79	15 47 13	9	2		9	2		0 OF 31
12/12/79	15 47 23	16	2		10	2		0 OF 31
12/12/79	15 47 32	7	2		9	2		0 OF 31
12/12/79	15 47 42	18	2		9	2		0 OF 31
12/12/79	15 47 52	14	2		10	2		0 OF 31
12/12/79	15 48 2	12	2		10	2		0 OF 31
12/12/79	15 48 12	10	2		10	2		0 OF 31
12/12/79	15 48 22	14	2		10	2		0 OF 31
12/12/79	15 48 32	14	2		10	2		0 OF 31
12/12/79	15 48 42	9	2		10	2		0 OF 31
12/12/79	15 48 51	13	3		10	2		0 OF 31
12/12/79	15 49 1	20	2		10	2		0 OF 31
12/12/79	15 49 11	15	2		11	2		0 OF 31
12/12/79	15 49 21	9	1		11	2		0 OF 31
12/12/79	15 49 31	19	1		11	2		0 OF 31
12/12/79	15 49 41	8	2		11	2		0 OF 31
12/12/79	15 49 51	21	2		11	2		0 OF 31
12/12/79	15 50 2	12	2		11	2		0 OF 31
12/12/79	15 50 12	16	2		12	2		0 OF 31
12/12/79	15 50 23	14	1		12	2		0 OF 31
12/12/79	15 50 33	10	1		12	2		0 OF 31
12/12/79	15 50 44	9	1		12	2		0 OF 31
12/12/79	15 50 54	11	2		12	2		0 OF 31
12/12/79	15 51 5	23	2		13	2		0 OF 30
12/12/79	15 51 15	27	2		14	2		0 OF 30
12/12/79	15 51 26	24	1		14	2		0 OF 30
12/12/79	15 51 36	23	1		14	2		0 OF 30
12/12/79	15 51 46	21	1		15	2		0 OF 30
12/12/79	15 51 57	16	2		15	2		0 OF 30
12/12/79	15 52 7	17	2		15	2	****	0 OF 30
12/12/79	15 52 18	22	2		16	2	****	0 OF 30
12/12/79	15 52 28	23	2		16	2	****	0 OF 30
12/12/79	15 52 39	20	1		16	2	****	0 OF 30
12/12/79	15 52 49	13	2		16	2	****	0 OF 30
12/12/79	15 52 59	18	2		16	2	****	0 OF 30
12/12/79	15 53 10	5	2		16	2	****	0 OF 30
12/12/79	15 53 31	0	2		16	2	****	0 OF 29
12/12/79	15 53 41	0	3		15	2	****	0 OF 29
12/12/79	15 54 12	7	2		15	2		0 OF 26
12/12/79	15 54 33	6	2		15	2		0 OF 25
12/12/79	15 54 43	5	1		15	2		0 OF 25
12/12/79	15 54 53	2	2		14	2		0 OF 25
12/12/79	15 55 3	8	2		14	2		0 OF 25
12/12/79	15 55 13	17	2		14	2		0 OF 25

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NATIONAL ENFORCEMENT INVESTIGATIONS CENTER
DENVER, COLORADO 80225

OMEGA-0043, SOUTH STACK, FOMOCO GLASS PLANT, TULSA, OK FROM SEISCOR LOT FIVE MINUTE AVERAGES

DATE	TIME	OPACITY	SO	VIOLATION	AVERAGE OPACITY	AVERAGE SO	VIOLATION	NUMBER DISCARDED
12/12/79	15 55 23	2	2		13	2		0 OF 26
12/12/79	15 55 33	7	1		13	2		0 OF 26
12/12/79	15 55 43	4	2		13	2		0 OF 26
12/12/79	15 55 53	7	3		13	2		0 OF 26
12/12/79	15 56 2	19	2		13	2		0 OF 26
12/12/79	15 56 12	5	3		12	2		0 OF 26
12/12/79	15 56 22	14	2		12	2		0 OF 26
12/12/79	15 56 31	15	2		11	2		0 OF 26
12/12/79	15 56 41	4	2		11	2		0 OF 26
12/12/79	15 56 51	7	1		10	2		0 OF 26
12/12/79	15 57 1	10	2		10	2		0 OF 26
12/12/79	15 57 10	14	2		10	2		0 OF 26
12/12/79	15 57 20	12	2		9	2		0 OF 26
12/12/79	15 57 30	4	2		9	2		0 OF 26
12/12/79	15 57 39	17	2		9	2		0 OF 27
12/12/79	15 57 49	12	2		9	2		0 OF 27
12/12/79	15 57 59	15	2		9	2		0 OF 27
12/12/79	15 58 19	13	2		9	2		0 OF 26
12/12/79	15 58 29	12	3		9	2		0 OF 27
12/12/79	15 58 40	10	3		9	2		0 OF 27
12/12/79	15 58 50	14	2		0	0		0 OF 0
12/12/79	15 59 0	12	2		10	2		0 OF 28
12/12/79	15 59 10	14	2		10	2		0 OF 29
12/12/79	15 59 21	16	2		10	2		0 OF 29
12/12/79	15 59 31	19	2		11	2		0 OF 30
12/12/79	15 59 41	9	2		11	2		0 OF 30
12/12/79	15 59 52	13	2		11	2		0 OF 30
12/12/79	16 0 2	20	2		12	2		0 OF 30
12/12/79	16 0 12	10	2		12	2		0 OF 30
12/12/79	16 0 22	8	2		11	2		0 OF 30
12/12/79	16 0 31	12	2		12	2		0 OF 30
12/12/79	16 0 41	10	2		12	2		0 OF 30
12/12/79	16 0 51	9	2		12	2		0 OF 30
12/12/79	16 1 0	10	1		12	2		0 OF 30
12/12/79	16 1 10	8	2		12	2		0 OF 30
12/12/79	16 1 20	6	2		12	2		0 OF 30
12/12/79	16 1 29	10	2		12	2		0 OF 30
12/12/79	16 1 39	15	2		12	2		0 OF 30
12/12/79	16 1 49	7	2		12	2		0 OF 30
12/12/79	16 1 59	10	2		12	2		0 OF 30
12/12/79	16 2 9	15	2		12	2		0 OF 30
12/12/79	16 2 19	6	2		12	2		0 OF 30
12/12/79	16 2 29	3	2		11	2		0 OF 30
12/12/79	16 2 39	5	2		11	2		0 OF 30
12/12/79	16 2 49	7	2		11	2		0 OF 30
12/12/79	16 2 59	13	1		11	2		0 OF 30
12/12/79	16 3 9	11	2		11	2		0 OF 30
12/12/79	16 3 19	14	2		11	2		0 OF 31
12/12/79	16 3 29	7	2		11	2		0 OF 31
12/12/79	16 3 39	18	2		11	2		0 OF 31

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NATIONAL ENFORCEMENT INVESTIGATIONS CENTER
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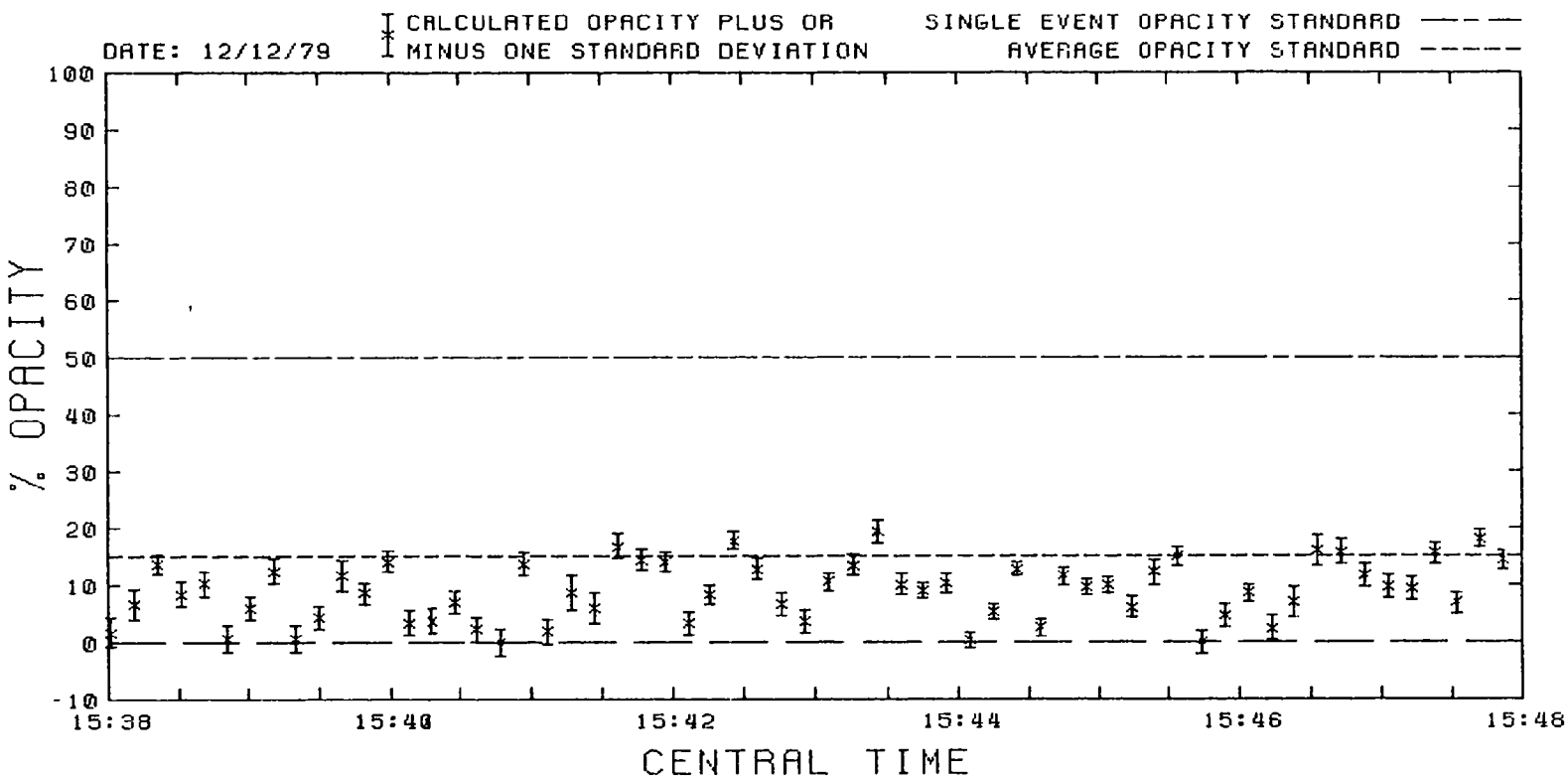
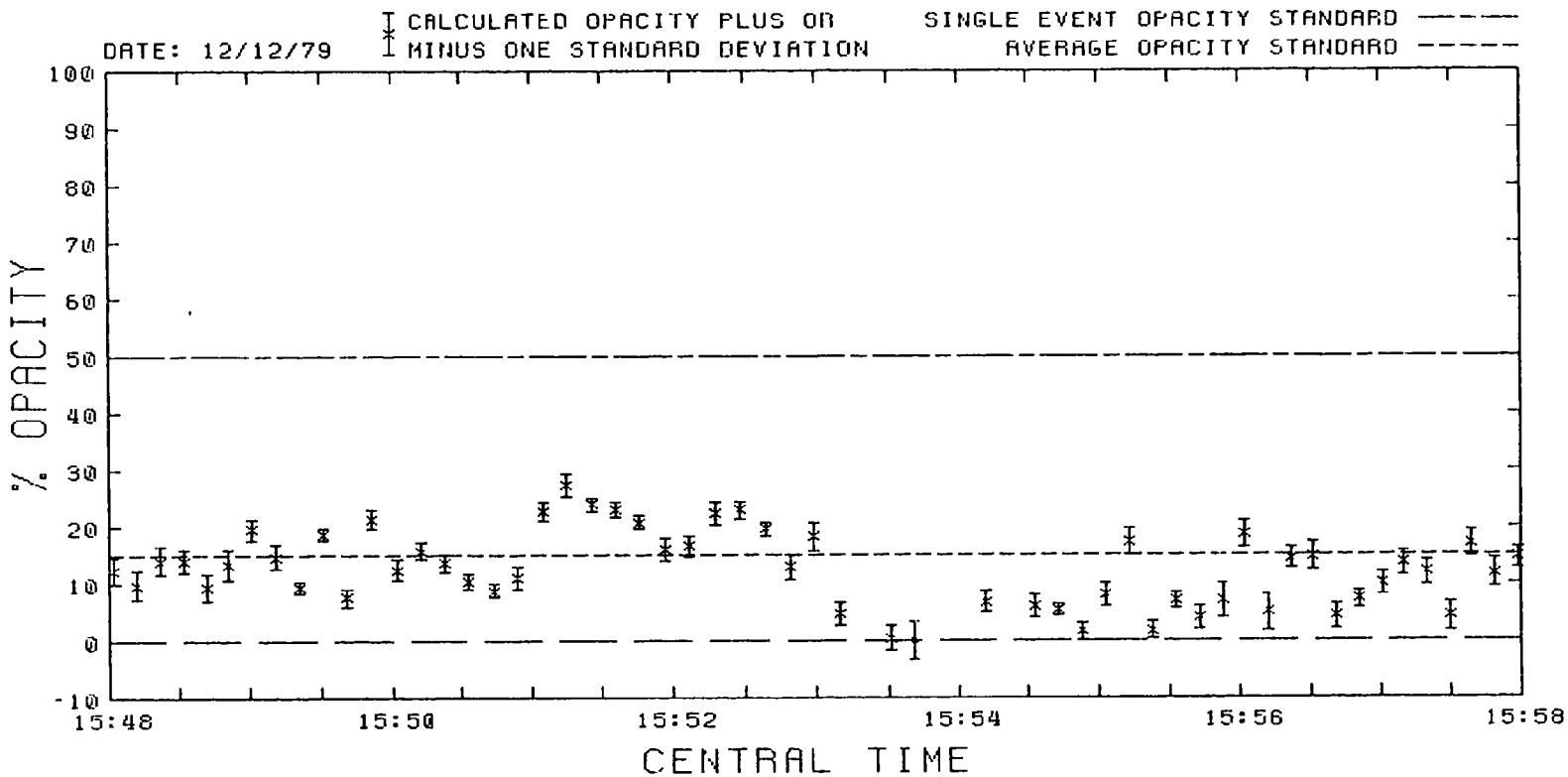
OMEGA-0043, SOUTH STACK, FOMOCO GLASS PLANT, TULSA, OK FROM SEISCOR LOT FIVE MINUTE AVERAGES

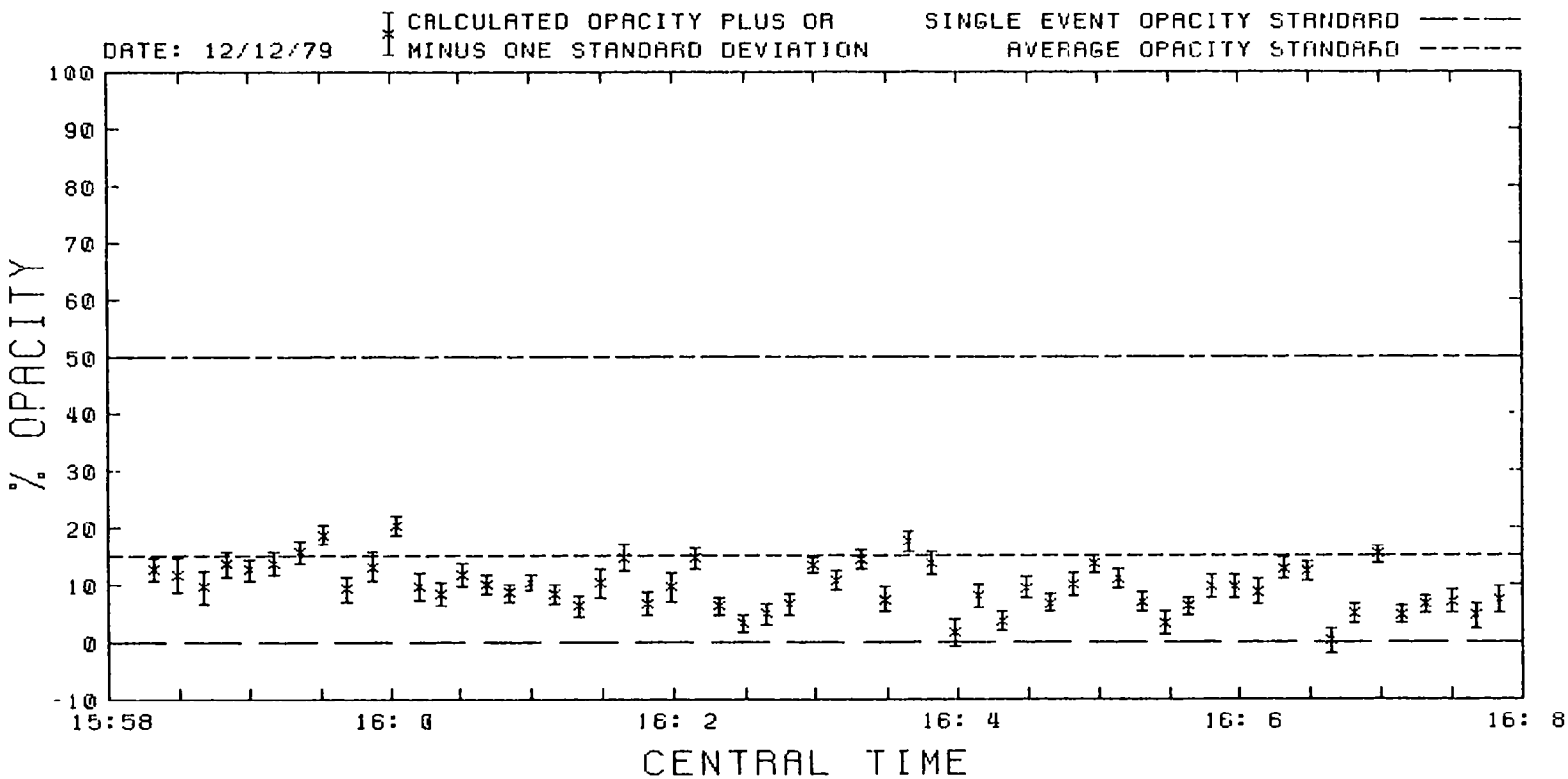
DATE	TIME	OPACITY	SO	VIOLATION	AVERAGE OPACITY	AVERAGE SO	VIOLATION	NUMBER DISCARDED
12/12/79	16 3 49	14	2		11	2		0 OF 31
12/12/79	16 3 59	2	2		11	2		0 OF 31
12/12/79	16 4 9	8	2		11	2		0 OF 31
12/12/79	16 4 19	4	2		10	2		0 OF 31
12/12/79	16 4 29	9	2		10	2		0 OF 31
12/12/79	16 4 39	7	2		10	2		0 OF 31
12/12/79	16 4 49	10	2		10	2		0 OF 31
12/12/79	16 4 58	14	1		10	2		0 OF 31
12/12/79	16 5 8	11	2		9	2		0 OF 31
12/12/79	16 5 18	7	2		9	2		0 OF 31
12/12/79	16 5 28	3	2		9	2		0 OF 31
12/12/79	16 5 38	6	1		9	2		0 OF 31
12/12/79	16 5 48	10	2		9	2		0 OF 31
12/12/79	16 5 58	10	2		9	2		0 OF 31
12/12/79	16 6 8	9	2		9	2		0 OF 31
12/12/79	16 6 19	13	2		9	2		0 OF 31
12/12/79	16 6 29	12	2		9	2		0 OF 31
12/12/79	16 6 39	0	2		9	2		0 OF 31
12/12/79	16 6 49	5	2		9	2		0 OF 31
12/12/79	16 6 59	15	2		9	2		0 OF 31
12/12/79	16 7 9	5	2		9	2		0 OF 31
12/12/79	16 7 19	7	2		9	2		0 OF 31
12/12/79	16 7 30	7	2		9	2		0 OF 30
12/12/79	16 7 40	5	2		9	2		0 OF 30
12/12/79	16 7 50	7	2		9	2		0 OF 30



SOUTH STACK, FOMOCO GLASS PLANT, TULSA, OKLAHOMA



SOUTH STACK, FOMOCO GLASS PLANT, TULSA, OKLAHOMA



SOUTH STACK, FOMOCO GLASS PLANT, TULSA, OKLAHOMA

OMEGA 0039

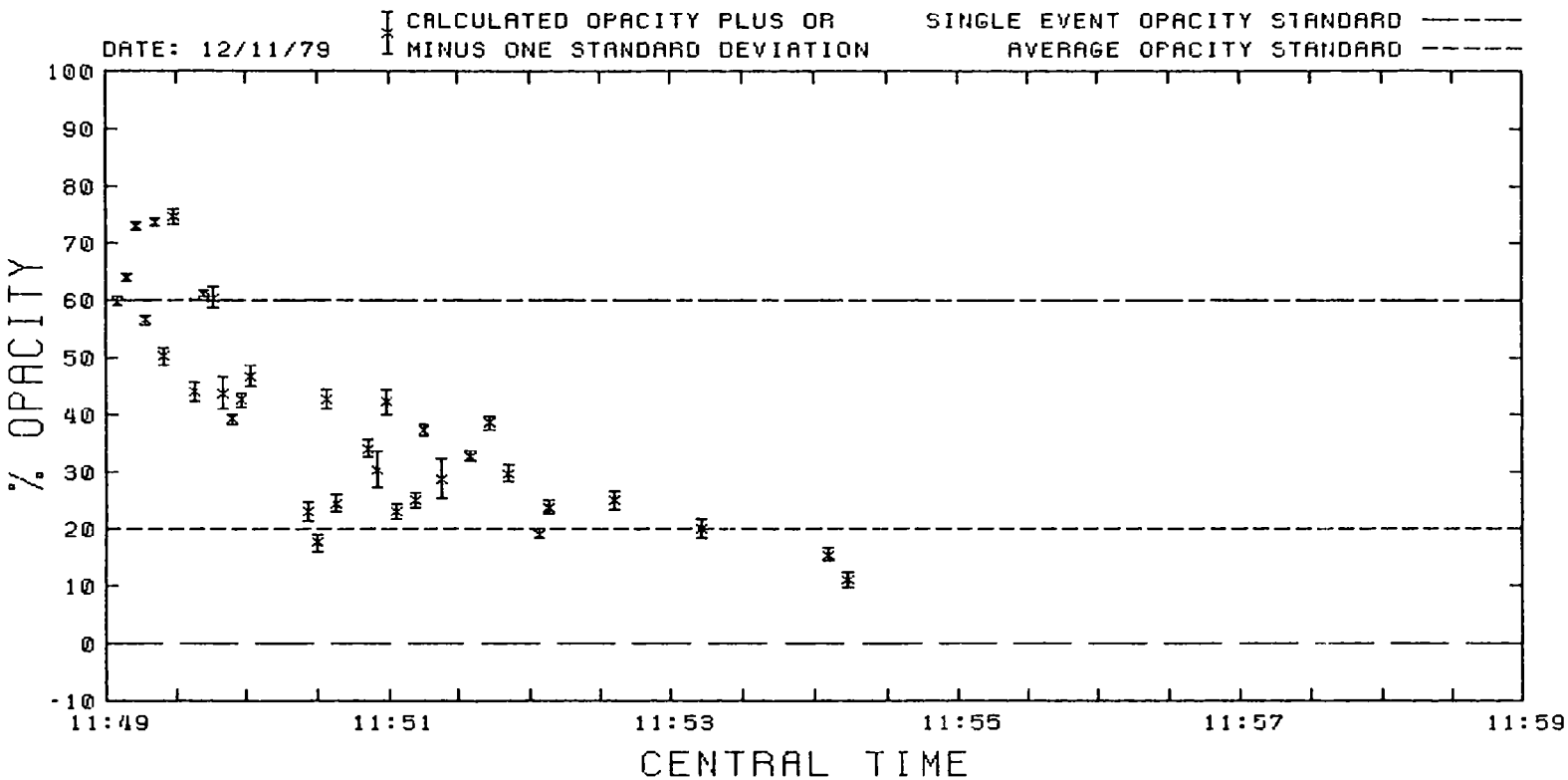
ARMCO STEEL COMPANY

WEST ROOF VENT

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NATIONAL ENFORCEMENT INVESTIGATIONS CENTER
DENVER, COLORADO 80225

OMEGA-0039, WEST ROOF VENT, ARMCO STEEL, SAND SPRING, OK FROM RIVER PARK FIVE MINUTE AVERAGES

DATE	TIME	OPACITY	SO	VIOLATION	AVERAGE OPACITY	AVERAGE SO	VIOLATION	NUMBER DISCARDED
12/11/79	11 49 5	60	1		0	0		0 OF 0
12/11/79	11 49 9	64	1	****	0	0		0 OF 0
12/11/79	11 49 13	73	1	****	0	0		0 OF 0
12/11/79	11 49 17	57	1		0	0		0 OF 0
12/11/79	11 49 21	74	1	****	0	0		0 OF 0
12/11/79	11 49 25	50	1		0	0		0 OF 0
12/11/79	11 49 29	75	1	****	0	0		0 OF 0
12/11/79	11 49 38	44	2		0	0		0 OF 0
12/11/79	11 49 42	61	1	****	0	0		0 OF 0
12/11/79	11 49 46	60	2	****	0	0		0 OF 0
12/11/79	11 49 50	44	3		0	0		0 OF 0
12/11/79	11 49 54	39	1		0	0		0 OF 0
12/11/79	11 49 58	43	1		0	0		0 OF 0
12/11/79	11 50 2	47	2		0	0		0 OF 0
12/11/79	11 50 26	23	2		0	0		0 OF 0
12/11/79	11 50 30	18	2		0	0		0 OF 0
12/11/79	11 50 34	43	2		0	0		0 OF 0
12/11/79	11 50 38	24	2		0	0		0 OF 0
12/11/79	11 50 51	34	2		0	0		0 OF 0
12/11/79	11 50 55	30	3		0	0		0 OF 0
12/11/79	11 50 59	42	2		0	0		0 OF 0
12/11/79	11 51 3	23	1		0	0		0 OF 0
12/11/79	11 51 11	25	1		0	0		0 OF 0
12/11/79	11 51 15	37	1		0	0		0 OF 0
12/11/79	11 51 23	29	3		0	0		0 OF 0
12/11/79	11 51 35	33	1		0	0		0 OF 0
12/11/79	11 51 43	39	1		0	0		0 OF 0
12/11/79	11 51 51	30	2		0	0		0 OF 0
12/11/79	11 52 4	19	1		0	0		0 OF 0
12/11/79	11 52 8	24	1		0	0		0 OF 0
12/11/79	11 52 36	25	2		0	0		0 OF 0
12/11/79	11 53 13	20	2		0	0		0 OF 0
12/11/79	11 54 6	15	1		39	2	****	0 OF 32
12/11/79	11 54 14	11	1		37	2	****	0 OF 31



WEST ROOF VENT, ARMCO STEEL, SAND SPRING, OK.

OMEGA 0040

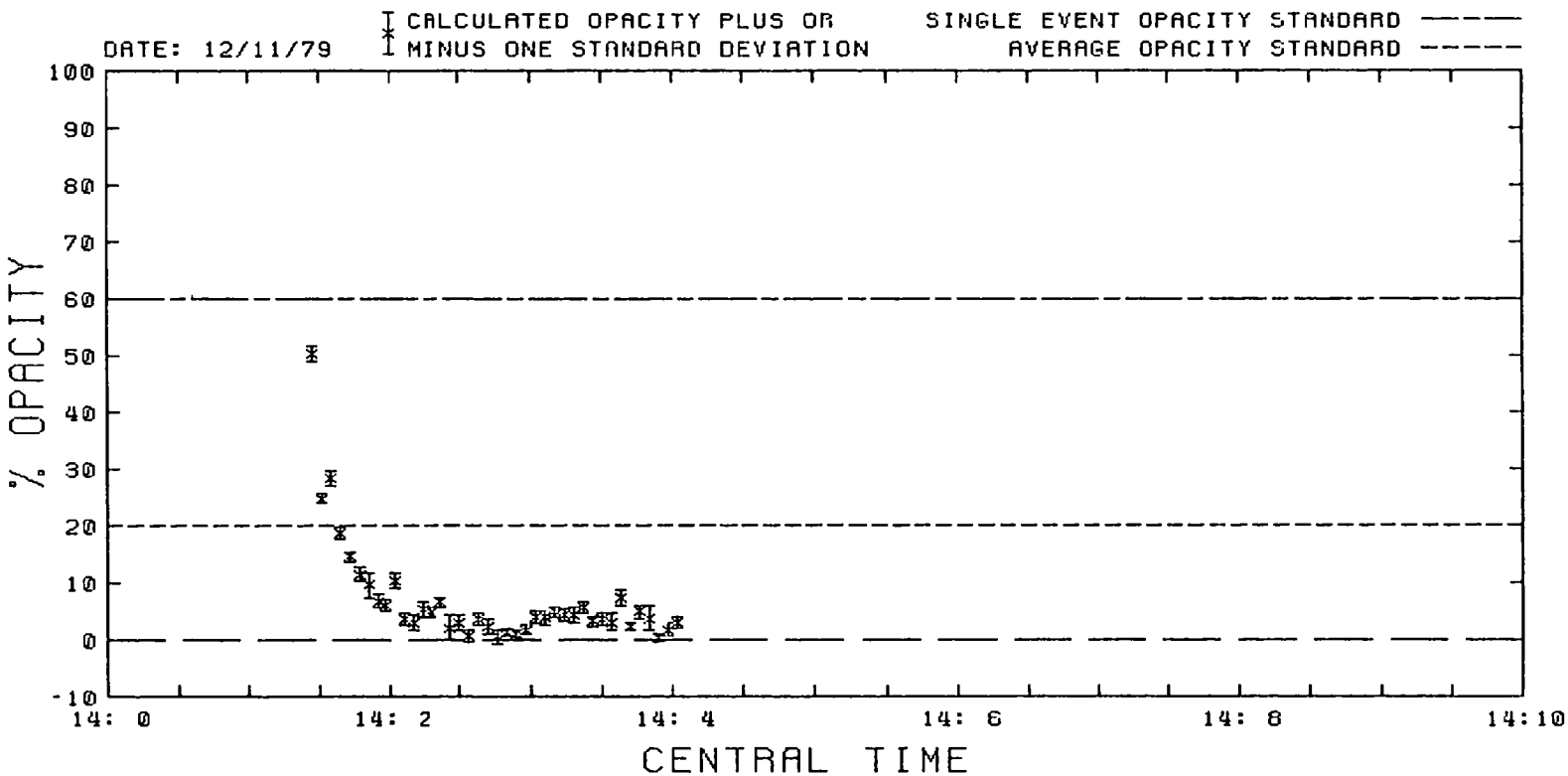
ARMCO STEEL COMPANY

WEST ROOF VENT

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NATIONAL ENFORCEMENT INVESTIGATIONS CENTER
DENVER, COLORADO 80225

OMEGA-0040, WEST ROOF VENT, ARMCO STEEL, SAND SPRING, OK FROM RIVER PARK FIVE MINUTE AVERAGES

DATE	TIME	OPACITY	SO	VIOLATION	AVERAGE OPACITY	AVERAGE SO	VIOLATION	NUMBER DISCARDED
12/11/79	14 1 27	50	1		0	0		0 OF 0
12/11/79	14 1 31	25	1		0	0		0 OF 0
12/11/79	14 1 35	28	1		0	0		0 OF 0
12/11/79	14 1 39	19	1		0	0		0 OF 0
12/11/79	14 1 43	15	1		0	0		0 OF 0
12/11/79	14 1 47	11	1		0	0		0 OF 0
12/11/79	14 1 51	10	2		0	0		0 OF 0
12/11/79	14 1 55	7	1		0	0		0 OF 0
12/11/79	14 1 58	6	1		0	0		0 OF 0
12/11/79	14 2 2	10	1		0	0		0 OF 0
12/11/79	14 2 6	4	1		0	0		0 OF 0
12/11/79	14 2 10	3	1		0	0		0 OF 0
12/11/79	14 2 14	5	1		0	0		0 OF 0
12/11/79	14 2 18	5	1		0	0		0 OF 0
12/11/79	14 2 22	7	1		0	0		0 OF 0
12/11/79	14 2 26	2	2		0	0		0 OF 0
12/11/79	14 2 30	3	1		0	0		0 OF 0
12/11/79	14 2 34	1	1		0	0		0 OF 0
12/11/79	14 2 38	4	1		0	0		0 OF 0
12/11/79	14 2 42	2	1		0	0		0 OF 0
12/11/79	14 2 46	0	1		0	0		0 OF 0
12/11/79	14 2 50	1	1		0	0		0 OF 0
12/11/79	14 2 54	1	1		0	0		0 OF 0
12/11/79	14 2 58	2	1		0	0		0 OF 0
12/11/79	14 3 2	4	1		0	0		0 OF 0
12/11/79	14 3 6	4	1		0	0		0 OF 0
12/11/79	14 3 10	5	1		0	0		0 OF 0
12/11/79	14 3 14	4	1		0	0		0 OF 0
12/11/79	14 3 18	4	1		0	0		0 OF 0
12/11/79	14 3 22	6	1		0	0		0 OF 0
12/11/79	14 3 26	3	1		0	0		0 OF 0
12/11/79	14 3 30	4	1		0	0		0 OF 0
12/11/79	14 3 34	3	2		0	0		0 OF 0
12/11/79	14 3 38	7	1		0	0		0 OF 0
12/11/79	14 3 42	2	1		0	0		0 OF 0
12/11/79	14 3 46	5	1		0	0		0 OF 0
12/11/79	14 3 50	4	2		0	0		0 OF 0
12/11/79	14 3 54	0	1		0	0		0 OF 0
12/11/79	14 3 58	2	1		0	0		0 OF 0
12/11/79	14 4 2	3	1		0	0		0 OF 0



WEST ROOF VENT, ARMCO STEEL, SAND SPRING, OK.

OMEGA 0040 - CONTINUED

ARMCO STEEL COMPANY

WEST ROOF VENT

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NATIONAL ENFORCEMENT INVESTIGATIONS CENTER
DENVER, COLORADO 80225

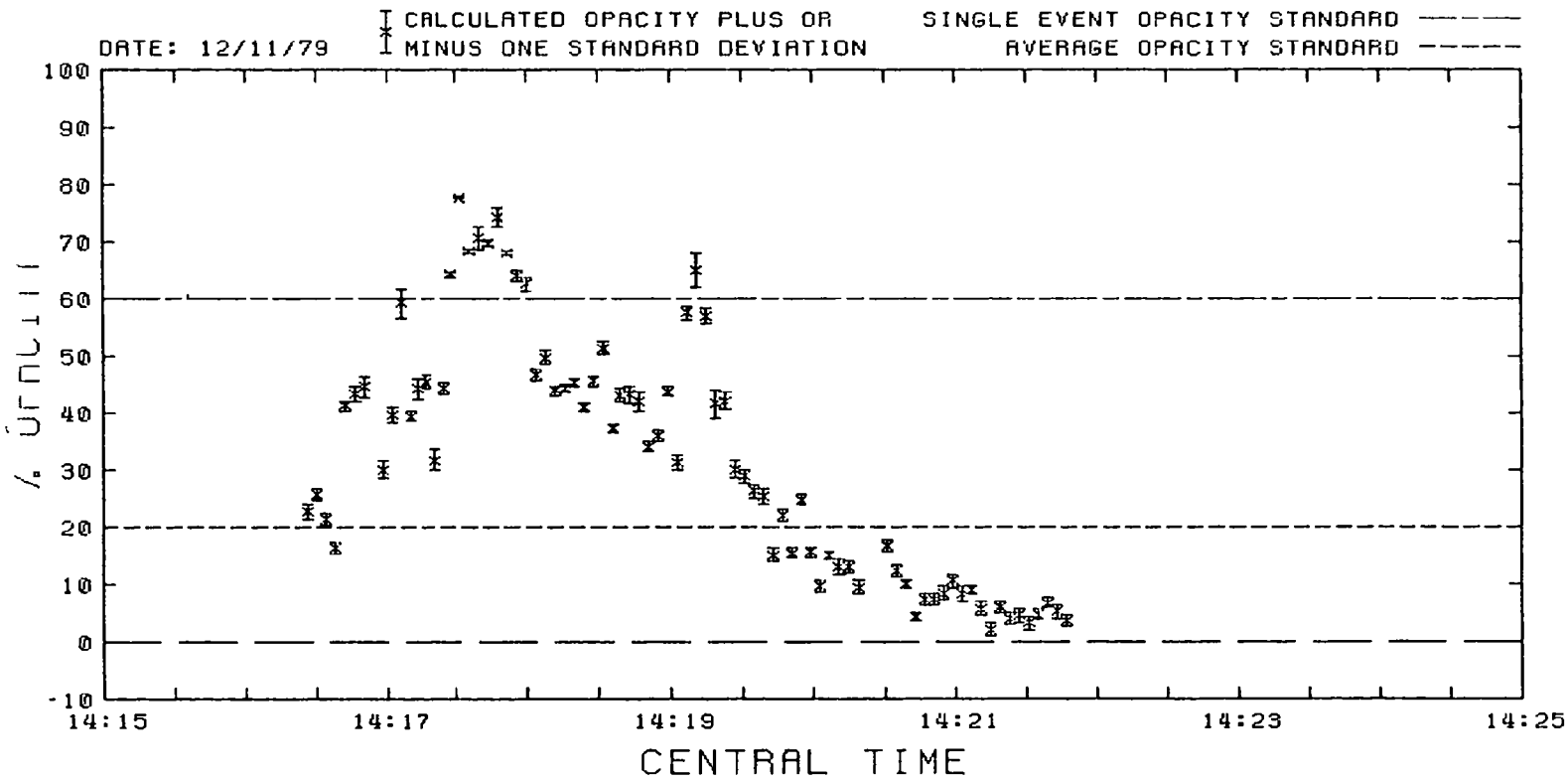
OMEGA-0040, WEST ROOF VENT, ARMCO STEEL, SAND SPRING, OK FROM RIVER PARK FIVE MINUTE AVERAGES

DATE	TIME	OPACITY	SO	VIOLATION	AVERAGE OPACITY	AVERAGE SO	VIOLATION	NUMBE	DISCARDED
12/11/79	14 16 26	23	1		0	0		OF	0
12/11/79	14 16 30	26	1		0	0		OF	0
12/11/79	14 16 34	21	1		0	0		OF	0
12/11/79	14 16 38	16	1		0	0		OF	0
12/11/79	14 16 42	41	1		0	0		OF	0
12/11/79	14 16 46	43	1		0	0		OF	0
12/11/79	14 16 50	45	2		0	0		OF	0
12/11/79	14 16 58	30	2		0	0		OF	0
12/11/79	14 17 2	40	1		0	0		OF	0
12/11/79	14 17 6	59	3		0	0		OF	0
12/11/79	14 17 10	39	1		0	0		OF	0
12/11/79	14 17 13	44	2		0	0		OF	0
12/11/79	14 17 17	45	1		0	0		OF	0
12/11/79	14 17 21	32	2		0	0		OF	0
12/11/79	14 17 25	44	1		0	0		OF	0
12/11/79	14 17 28	64	0	****	0	0		OF	0
12/11/79	14 17 32	78	0	****	0	0		OF	0
12/11/79	14 17 36	68	0	****	0	0		OF	0
12/11/79	14 17 40	71	2	****	0	0		OF	0
12/11/79	14 17 44	70	0	****	0	0		OF	0
12/11/79	14 17 48	74	2	****	0	0		OF	0
12/11/79	14 17 52	68	0	****	0	0		OF	0
12/11/79	14 17 56	64	1	****	0	0		OF	0
12/11/79	14 18 0	62	1	****	0	0		OF	0
12/11/79	14 18 4	47	1		0	0		OF	0
12/11/79	14 18 8	50	1		0	0		OF	0
12/11/79	14 18 12	44	1		0	0		OF	0
12/11/79	14 18 16	44	1		0	0		OF	0
12/11/79	14 18 20	45	1		0	0		OF	0
12/11/79	14 18 24	41	1		0	0		OF	0
12/11/79	14 18 28	46	1		0	0		OF	0
12/11/79	14 18 32	51	1		0	0		OF	0
12/11/79	14 18 36	37	1		0	0		OF	0
12/11/79	14 18 39	43	1		0	0		OF	0
12/11/79	14 18 43	43	2		0	0		OF	0
12/11/79	14 18 47	42	2		0	0		OF	0
12/11/79	14 18 51	34	1		0	0		OF	0
12/11/79	14 18 55	36	1		0	0		OF	0
12/11/79	14 18 59	44	1		0	0		OF	0
12/11/79	14 19 3	31	1		0	0		OF	0
12/11/79	14 19 7	58	1		0	0		OF	0
12/11/79	14 19 11	65	3	****	0	0		OF	0
12/11/79	14 19 15	57	1		0	0		OF	0
12/11/79	14 19 19	42	2		0	0		OF	0
12/11/79	14 19 23	42	2		0	0		OF	0
12/11/79	14 19 27	30	2		0	0		OF	0
12/11/79	14 19 31	29	1		0	0		OF	0
12/11/79	14 19 35	26	1		0	0		OF	0
12/11/79	14 19 39	25	1		0	0		OF	0
12/11/79	14 19 43	15	1		0	0		OF	0

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NATIONAL ENFORCEMENT INVESTIGATIONS CENTER
DENVER, COLORADO 80225

OMEGA-0040, WEST ROOF VENT, ARMCO STEEL, SAND SPRING, OK FROM RIVER PARK FIVE MINUTE AVERAGES

DATE	TIME	OPACITY	SO	VIOLATION	AVERAGE OPACITY	AVERAGE SO	VIOLATION	NUMBER DISCARDED
12/11/79	14 19 47	22	1		0	0		0 OF 0
12/11/79	14 19 51	15	1		0	0		0 OF 0
12/11/79	14 19 55	25	1		0	0		0 OF 0
12/11/79	14 19 59	16	1		0	0		0 OF 0
12/11/79	14 20 3	10	1		0	0		0 OF 0
12/11/79	14 20 7	15	1		0	0		0 OF 0
12/11/79	14 20 11	13	1		0	0		0 OF 0
12/11/79	14 20 15	13	1		0	0		0 OF 0
12/11/79	14 20 19	9	1		0	0		0 OF 0
12/11/79	14 20 31	17	1		0	0		0 OF 0
12/11/79	14 20 35	12	1		0	0		0 OF 0
12/11/79	14 20 39	10	1		0	0		0 OF 0
12/11/79	14 20 43	4	1		0	0		0 OF 0
12/11/79	14 20 47	7	1		0	0		0 OF 0
12/11/79	14 20 51	7	1		0	0		0 OF 0
12/11/79	14 20 55	8	1		0	0		0 OF 0
12/11/79	14 20 59	11	1		0	0		0 OF 0
12/11/79	14 21 3	8	1		0	0		0 OF 0
12/11/79	14 21 7	9	1		0	0		0 OF 0
12/11/79	14 21 11	6	1		0	0		0 OF 0
12/11/79	14 21 15	2	1		35	1	****	0 OF 71
12/11/79	14 21 19	6	1		35	1	****	0 OF 72
12/11/79	14 21 23	4	1		34	1	****	0 OF 73
12/11/79	14 21 27	5	1		34	1	****	0 OF 73
12/11/79	14 21 31	3	1		34	1	****	0 OF 73
12/11/79	14 21 35	5	1		33	1	****	0 OF 73
12/11/79	14 21 39	7	1		33	1	****	0 OF 73
12/11/79	14 21 43	5	1		33	1	****	0 OF 73
12/11/79	14 21 47	4	1		32	1	****	0 OF 73



WEST ROOF VENT, ARMCO STEEL, SAND SPRING OK.

OMEGA 0040 - CONTINUED

ARMCO STEEL COMPANY

WEST ROOF VENT

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NATIONAL ENFORCEMENT INVESTIGATIONS CENTER
DENVER, COLORADO 80225

OMEGA-0040, WEST ROOF VENT, ARMCO STEEL, SAND SPRING, OK FROM RIVER PARK FIVE MINUTE AVERAGES

DATE	TIME	OPACITY	SO	VIOLATION	AVERAGE OPACITY	AVERAGE SO	VIOLATION	NUMBER DISCARDED
12/11/79	14 45 15	37	1		0	0		0 OF 0
12/11/79	14 45 19	23	1		0	0		0 OF 0
12/11/79	14 45 23	28	1		0	0		0 OF 0
12/11/79	14 45 26	19	1		0	0		0 OF 0
12/11/79	14 45 30	28	1		0	0		0 OF 0
12/11/79	14 45 34	30	1		0	0		0 OF 0
12/11/79	14 45 38	24	1		0	0		0 OF 0
12/11/79	14 45 42	28	1		0	0		0 OF 0
12/11/79	14 45 46	74	0	****	0	0		0 OF 0
12/11/79	14 45 50	2	1		0	0		0 OF 0
12/11/79	14 45 54	4	1		0	0		0 OF 0
12/11/79	14 45 58	19	1		0	0		0 OF 0
12/11/79	14 46 2	26	1		0	0		0 OF 0
12/11/79	14 46 6	21	1		0	0		0 OF 0
12/11/79	14 46 10	22	1		0	0		0 OF 0
12/11/79	14 46 14	13	1		0	0		0 OF 0
12/11/79	14 46 17	32	1		0	0		0 OF 0
12/11/79	14 46 21	50	1		0	0		0 OF 0
12/11/79	14 46 25	40	1		0	0		0 OF 0
12/11/79	14 46 29	51	1		0	0		0 OF 0
12/11/79	14 46 33	48	1		0	0		0 OF 0
12/11/79	14 46 37	47	2		0	0		0 OF 0
12/11/79	14 46 41	60	3	****	0	0		0 OF 0
12/11/79	14 46 45	54	0		0	0		0 OF 0
12/11/79	14 46 49	58	1		0	0		0 OF 0
12/11/79	14 46 53	48	2		0	0		0 OF 0
12/11/79	14 46 57	42	2		0	0		0 OF 0
12/11/79	14 47 1	42	2		0	0		0 OF 0
12/11/79	14 47 5	24	1		0	0		0 OF 0
12/11/79	14 47 9	31	1		0	0		0 OF 0
12/11/79	14 47 13	30	1		0	0		0 OF 0
12/11/79	14 47 17	28	1		0	0		0 OF 0
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12/11/79	14 47 45	21	1		0	0		0 OF 0
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12/11/79	14 47 53	75	0	****	0	0		0 OF 0
12/11/79	14 47 57	76	2	****	0	0		0 OF 0
12/11/79	14 48 1	75	2	****	0	0		0 OF 0
12/11/79	14 48 5	79	2	****	0	0		0 OF 0
12/11/79	14 48 9	76	2	****	0	0		0 OF 0
12/11/79	14 48 13	79	2	****	0	0		0 OF 0
12/11/79	14 48 17	78	0	****	0	0		0 OF 0
12/11/79	14 48 21	77	0	****	0	0		0 OF 0
12/11/79	14 48 24	76	2	****	0	0		0 OF 0
12/11/79	14 48 28	75	2	****	0	0		0 OF 0

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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OMEGA-0040, WEST ROOF VENT, ARMCO STEEL, SAND SPRING, OK FROM RIVER PARK FIVE MINUTE AVERAGES

DATE	TIME	OPACITY	SO	VIOLATION	AVERAGE OPACITY	AVERAGE SO	VIOLATION	NUMBER DISCARDED
12/11/79	14 48 32	73	0	****	0	0		0 OF 0
12/11/79	14 48 36	79	0	****	0	0		0 OF 0
12/11/79	14 48 40	80	0	****	0	0		0 OF 0
12/11/79	14 48 44	78	1	****	0	0		0 OF 0
12/11/79	14 48 48	78	0	****	0	0		0 OF 0
12/11/79	14 48 52	77	2	****	0	0		0 OF 0
12/11/79	14 48 56	75	0	****	0	0		0 OF 0
12/11/79	14 49 0	73	0	****	0	0		0 OF 0
12/11/79	14 49 4	74	3	****	0	0		0 OF 0
12/11/79	14 49 8	70	0	****	0	0		0 OF 0
12/11/79	14 49 12	70	2	****	0	0		0 OF 0
12/11/79	14 49 16	65	0	****	0	0		0 OF 0
12/11/79	14 49 20	67	3	****	0	0		0 OF 0
12/11/79	14 49 24	70	0	****	0	0		0 OF 0
12/11/79	14 49 28	70	0	****	0	0		0 OF 0
12/11/79	14 49 32	69	2	****	0	0		0 OF 0
12/11/79	14 49 36	69	0	****	0	0		0 OF 0
12/11/79	14 49 40	64	2	****	0	0		0 OF 0
12/11/79	14 49 44	60	1		0	0		0 OF 0
12/11/79	14 49 48	59	0		0	0		0 OF 0
12/11/79	14 49 52	50	1		0	0		0 OF 0
12/11/79	14 49 56	55	1		0	0		0 OF 0
12/11/79	14 50 0	46	1		0	0		0 OF 0
12/11/79	14 50 4	36	1		49	1	****	0 OF 74
12/11/79	14 50 8	46	1		49	1	****	0 OF 75
12/11/79	14 50 12	43	1		49	1	****	0 OF 76
12/11/79	14 50 16	38	1		49	1	****	0 OF 76
12/11/79	14 50 20	38	1		49	1	****	0 OF 76
12/11/79	14 50 24	25	1		49	1	****	0 OF 76
12/11/79	14 50 28	29	1		49	1	****	0 OF 76
12/11/79	14 50 40	22	1		50	1	****	0 OF 74
12/11/79	14 50 44	18	1		50	1	****	0 OF 74
12/11/79	14 50 48	20	1		49	1	****	0 OF 74
12/11/79	14 50 52	23	1		49	1	****	0 OF 74
12/11/79	14 50 56	25	1		50	1	****	0 OF 74
12/11/79	14 51 0	22	1		50	1	****	0 OF 74
12/11/79	14 51 4	24	1		50	1	****	0 OF 74
12/11/79	14 51 8	21	1		50	1	****	0 OF 74
12/11/79	14 51 12	19	1		50	1	****	0 OF 74
12/11/79	14 51 16	19	1		50	1	****	0 OF 74
12/11/79	14 51 20	18	1		50	1	****	0 OF 74
12/11/79	14 51 23	22	1		49	1	****	0 OF 74
12/11/79	14 51 27	16	1		49	1	****	0 OF 74
12/11/79	14 51 31	17	1		48	1	****	0 OF 74
12/11/79	14 51 35	16	1		48	1	****	0 OF 74
12/11/79	14 51 39	15	1		48	1	****	0 OF 74
12/11/79	14 51 43	13	1		47	1	****	0 OF 74
12/11/79	14 51 47	16	2		46	1	****	0 OF 74
12/11/79	14 51 51	8	1		46	1	****	0 OF 74
12/11/79	14 51 55	12	1		45	1	****	0 OF 74

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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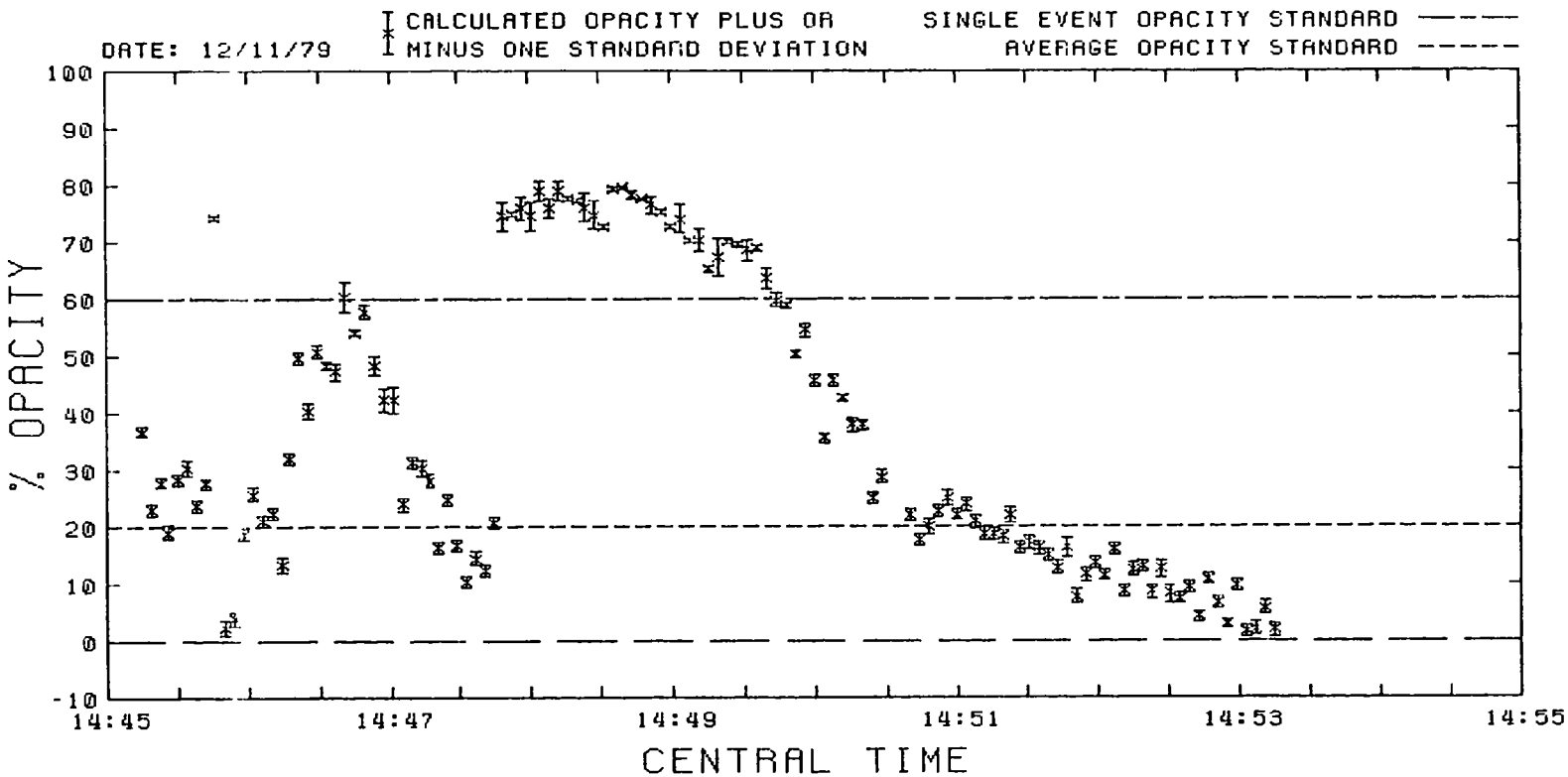
OMEGA-0040, WEST ROOF VENT, ARMCO STEEL, SAND SPRING, OK FROM RIVER PARK FIVE MINUTE AVERAGES

DATE	TIME	OPACITY	SO	VIOLATION	AVERAGE OPACITY	AVERAGE SO	VIOLATION	NUMBER DISCARDED
12/11/79	14 51 59	14	1		45	1	****	0 OF 74
12/11/79	14 52 3	11	1		44	1	****	0 OF 74
12/11/79	14 52 7	16	1		44	1	****	0 OF 74
12/11/79	14 52 11	9	1		44	1	****	0 OF 74
12/11/79	14 52 15	12	1		44	1	****	0 OF 74
12/11/79	14 52 19	13	1		44	1	****	0 OF 74
12/11/79	14 52 23	9	1		43	1	****	0 OF 74
12/11/79	14 52 27	13	2		43	1	****	0 OF 74
12/11/79	14 52 31	8	2		43	1	****	0 OF 74
12/11/79	14 52 35	7	1		43	1	****	0 OF 74
12/11/79	14 5[illegible] 39	9	1		43	1	****	0 OF 74
12/11/79	14 5[illegible] 43	4	1		43	1	****	0 OF 74
12/11/79	14 5[illegible] 47	11	1		43	1	****	0 OF 74
12/11/79	14 5[illegible] 51	7	1		42	1	****	0 OF 74
12/11/79	14 5[illegible] 55	3	1		41	1	****	0 OF 74
12/11/79	14 52 59	10	1		40	1	****	0 OF 74
12/11/79	14 53 3	2	1		39	1	****	0 OF 74
12/11/79	14 53 7	2	1		38	1	****	0 OF 74
12/11/79	14 53 11	6	1		37	1	****	0 OF 74
12/11/79	14 53 15	2	1		36	1	****	0 OF 74



WEST ROOF VENT, ARMCO STEEL, SAND SPRING, OK.

OMEGA 0040 - CONTINUED

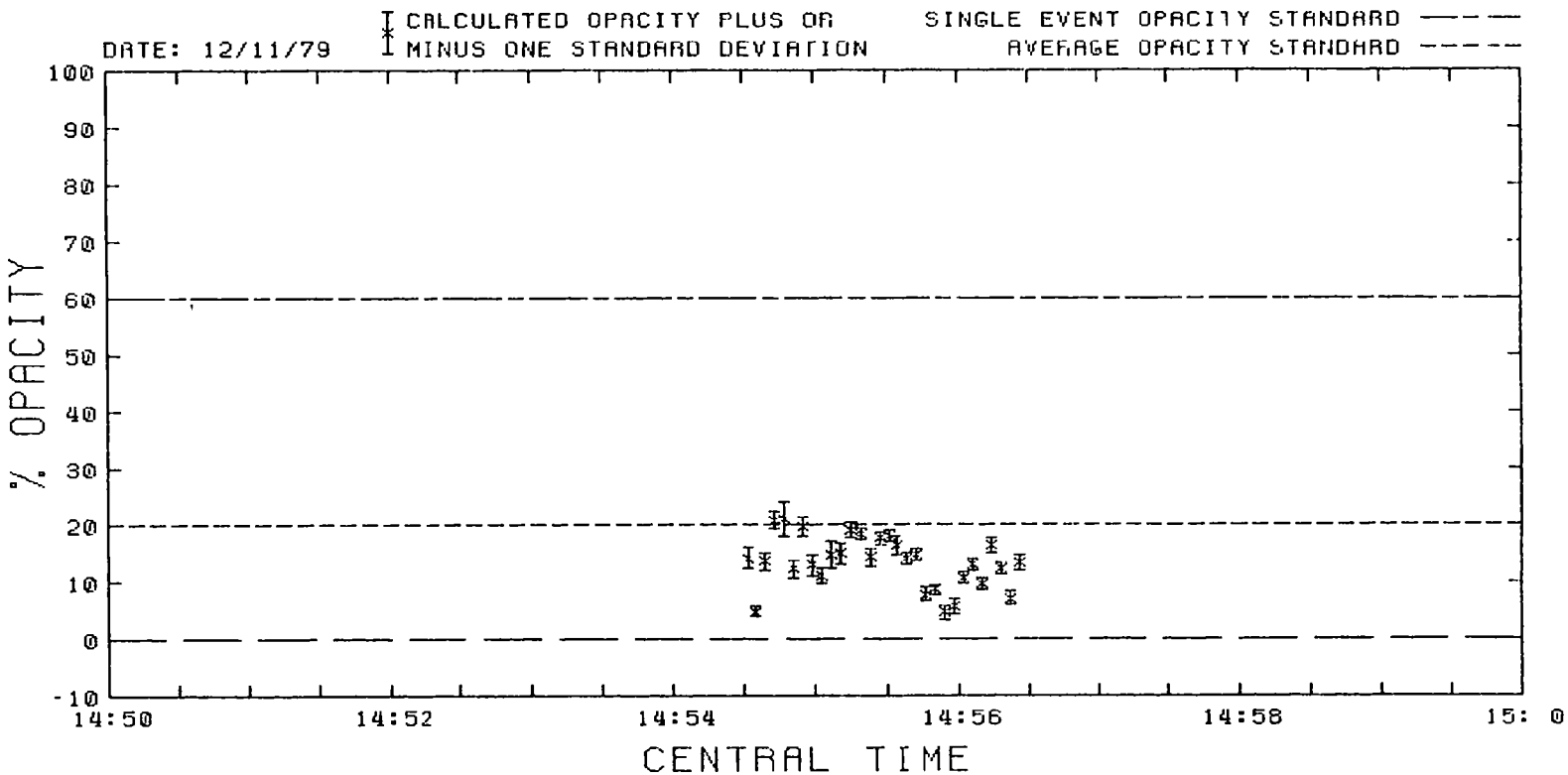
ARMCO STEEL COMPANY

EAST ROOF VENT

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NATIONAL ENFORCEMENT INVESTIGATIONS CENTER
DENVER, COLORADO 80225

OMEGA-0040, EAST ROOF VENT, ARMCO STEEL, SAND SPRING, OK FROM RIVER PARK FIVE MINUTE AVERAGES

DATE	TIME	OPACITY	SO	VIOLATION	AVERAGE OPACITY	AVERAGE SO	VIOLATION	NUMBER DISCARDED
12/11/79	14 54 32	14	2		0	0		0 OF 0
12/11/79	14 54 35	5	1		0	0		0 OF 0
12/11/79	14 54 39	14	2		0	0		0 OF 0
12/11/79	14 54 43	21	2		0	0		0 OF 0
12/11/79	14 54 47	21	3		0	0		0 OF 0
12/11/79	14 54 51	12	2		0	0		0 OF 0
12/11/79	14 54 55	20	2		0	0		0 OF 0
12/11/79	14 54 59	13	2		0	0		0 OF 0
12/11/79	14 55 3	11	1		0	0		0 OF 0
12/11/79	14 55 7	15	2		0	0		0 OF 0
12/11/79	14 55 11	15	2		0	0		0 OF 0
12/11/79	14 55 15	19	1		0	0		0 OF 0
12/11/79	14 55 19	18	1		0	0		0 OF 0
12/11/79	14 55 23	14	1		0	0		0 OF 0
12/11/79	14 55 27	18	1		0	0		0 OF 0
12/11/79	14 55 31	18	1		0	0		0 OF 0
12/11/79	14 55 34	16	2		0	0		0 OF 0
12/11/79	14 55 38	14	1		0	0		0 OF 0
12/11/79	14 55 42	15	1		0	0		0 OF 0
12/11/79	14 55 46	8	1		0	0		0 OF 0
12/11/79	14 55 50	9	1		0	0		0 OF 0
12/11/79	14 55 54	5	1		0	0		0 OF 0
12/11/79	14 55 58	6	1		0	0		0 OF 0
12/11/79	14 56 2	11	1		0	0		0 OF 0
12/11/79	14 56 6	13	1		0	0		0 OF 0
12/11/79	14 56 10	10	1		0	0		0 OF 0
12/11/79	14 56 14	16	1		0	0		0 OF 0
12/11/79	14 56 18	12	1		0	0		0 OF 0
12/11/79	14 56 22	7	1		0	0		0 OF 0
12/11/79	14 56 26	13	1		0	0		0 OF 0



EAST ROOF VENT, ARMCO STEEL, SAND SPRING, OK.

OMEGA 0040 - CONTINUED

ARMCO STEEL COMPANY

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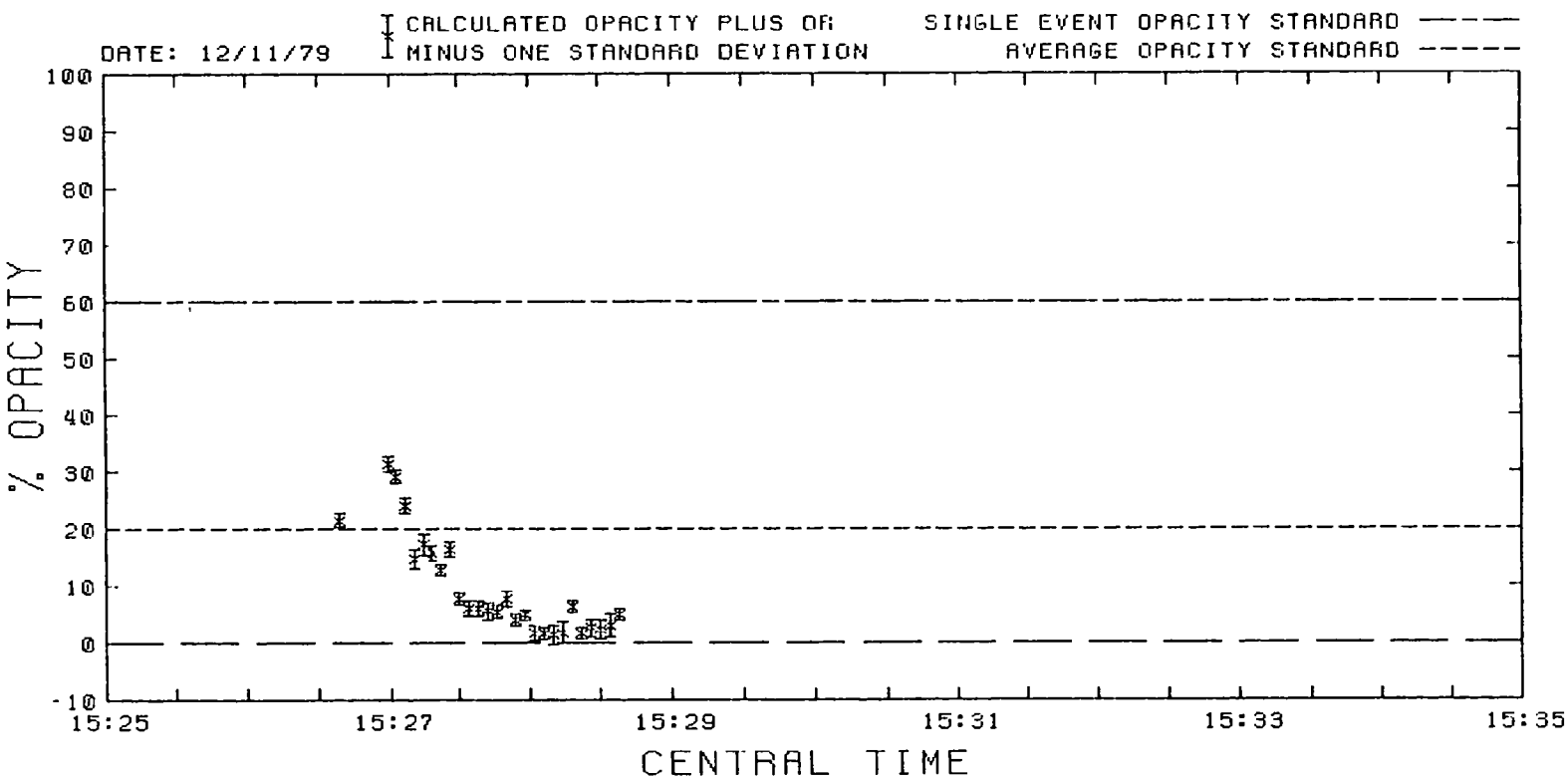
OMEGA-0040, WEST ROOF VENT, ARMCO STEEL, SAND SPRING, OK FROM RIVER PARK FIVE MINUTE AVERAGES

DATE	TIME	OPACITY	SO	VIOLATION	AVERAGE OPACITY	AVERAGE SO	VIOLATION	NUMBER DISCARDED
12/11/79	15 26 39	21	1		0	0		0 OF 0
12/11/79	15 26 59	31	1		0	0		0 OF 0
12/11/79	15 27 2	29	1		0	0		0 OF 0
12/11/79	15 27 6	24	1		0	0		0 OF 0
12/11/79	15 27 10	15	2		0	0		0 OF 0
12/11/79	15 27 14	17	2		0	0		0 OF 0
12/11/79	15 27 18	16	1		0	0		0 OF 0
12/11/79	15 27 22	13	1		0	0		0 OF 0
12/11/79	15 27 26	16	1		0	0		0 OF 0
12/11/79	15 27 30	8	1		0	0		0 OF 0
12/11/79	15 27 34	6	1		0	0		0 OF 0
12/11/79	15 27 38	6	1		0	0		0 OF 0
12/11/79	15 27 42	6	2		0	0		0 OF 0
12/11/79	15 27 46	5	1		0	0		0 OF 0
12/11/79	15 27 50	8	1		0	0		0 OF 0
12/11/79	15 27 54	4	1		0	0		0 OF 0
12/11/79	15 27 58	5	1		0	0		0 OF 0
12/11/79	15 28 2	2	1		0	0		0 OF 0
12/11/79	15 28 6	2	1		0	0		0 OF 0
12/11/79	15 28 10	1	2		0	0		0 OF 0
12/11/79	15 28 14	2	2		0	0		0 OF 0
12/11/79	15 28 18	6	1		0	0		0 OF 0
12/11/79	15 28 22	2	1		0	0		0 OF 0
12/11/79	15 28 26	3	2		0	0		0 OF 0
12/11/79	15 28 30	2	2		0	0		0 OF 0
12/11/79	15 28 34	3	2		0	0		0 OF 0
12/11/79	15 28 38	5	1		0	0		0 OF 0



WEST ROOF VENT, ARMCO STEEL, SAND SPRING, OK.

OMEGA 0040 - CONTINUED

ARMCO STEEL COMPANY

EAST ROOF VENT

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NATIONAL ENFORCEMENT INVESTIGATIONS CENTER
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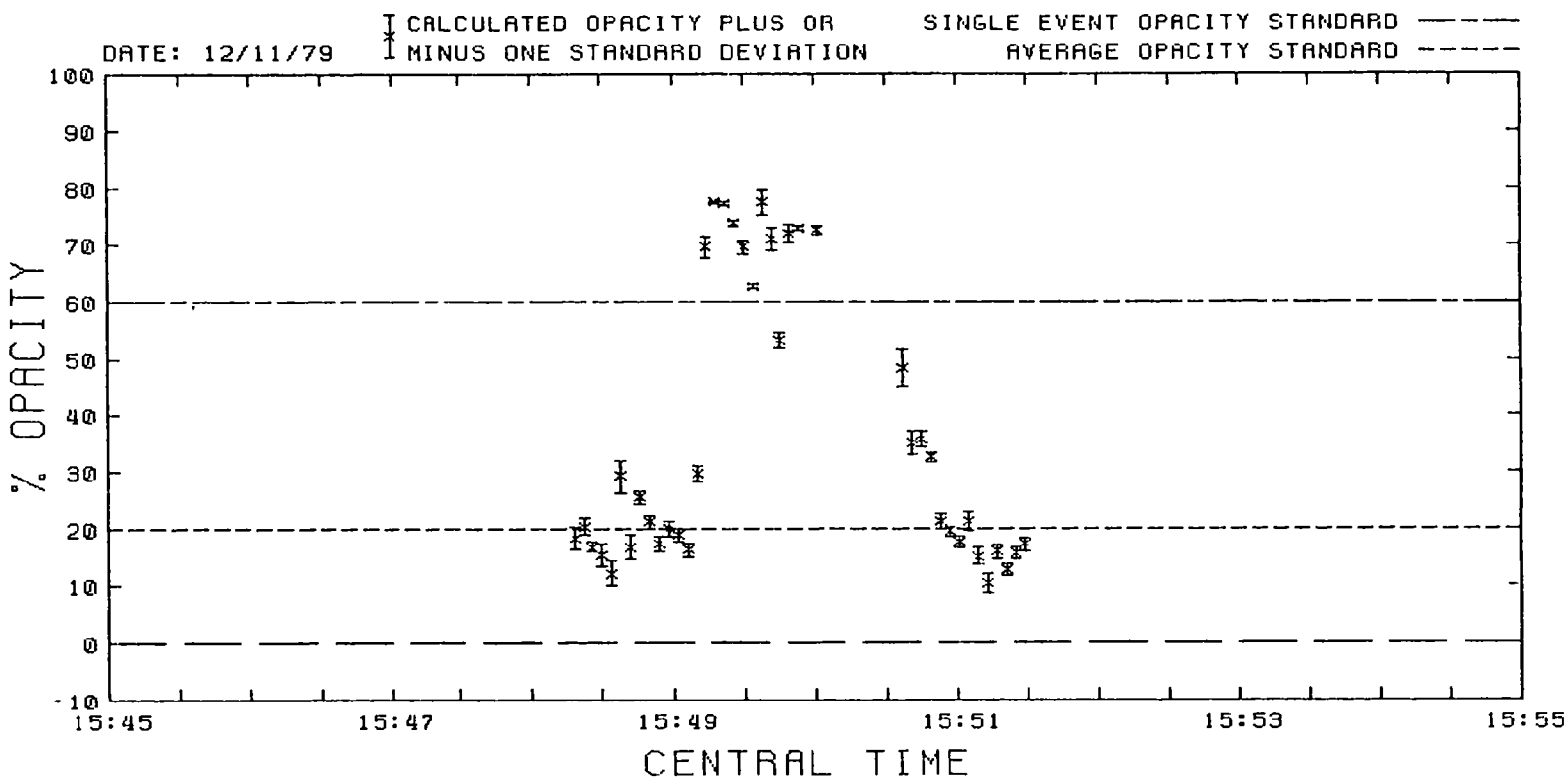
OMEGA-0040, EAST ROOF VENT, ARMCO STEEL, SAND SPRING, OK FROM RIVER PARK FIVE MINUTE AVERAGES

DATE	TIME	OPACITY	SO	VIOLATION	AVERAGE OPACITY	AVERAGE SO	VIOLATION	NUMBER DISCARDED
12/11/79	15 48 19	18	2		0	0		0 OF 0
12/11/79	15 48 23	20	2		0	0		0 OF 0
12/11/79	15 48 26	17	1		0	0		0 OF 0
12/11/79	15 48 30	15	2		0	0		0 OF 0
12/11/79	15 48 34	12	2		0	0		0 OF 0
12/11/79	15 48 38	29	3		0	0		0 OF 0
12/11/79	15 48 42	17	2		0	0		0 OF 0
12/11/79	15 48 46	26	1		0	0		0 OF 0
12/11/79	15 48 50	21	1		0	0		0 OF 0
12/11/79	15 48 54	17	1		0	0		0 OF 0
12/11/79	15 48 58	20	1		0	0		0 OF 0
12/11/79	15 49 2	19	1		0	0		0 OF 0
12/11/79	15 49 6	16	1		0	0		0 OF 0
12/11/79	15 49 10	30	1		0	0		0 OF 0
12/11/79	15 49 14	70	2	****	0	0		0 OF 0
12/11/79	15 49 18	78	0	****	0	0		0 OF 0
12/11/79	15 49 22	77	0	****	0	0		0 OF 0
12/11/79	15 49 26	74	0	****	0	0		0 OF 0
12/11/79	15 49 30	70	1	****	0	0		0 OF 0
12/11/79	15 49 34	63	0	****	0	0		0 OF 0
12/11/79	15 49 38	78	2	****	0	0		0 OF 0
12/11/79	15 49 42	71	2	****	0	0		0 OF 0
12/11/79	15 49 45	53	1		0	0		0 OF 0
12/11/79	15 49 49	72	2	****	0	0		0 OF 0
12/11/79	15 49 53	73	0	****	0	0		0 OF 0
12/11/79	15 50 1	73	1	****	0	0		0 OF 0
12/11/79	15 50 37	48	3		0	0		0 OF 0
12/11/79	15 50 41	35	2		0	0		0 OF 0
12/11/79	15 50 45	36	1		0	0		0 OF 0
12/11/79	15 50 49	33	1		0	0		0 OF 0
12/11/79	15 50 53	21	1		0	0		0 OF 0
12/11/79	15 50 57	20	1		0	0		0 OF 0
12/11/79	15 51 1	18	1		0	0		0 OF 0
12/11/79	15 51 5	21	2		0	0		0 OF 0
12/11/79	15 51 9	15	2		0	0		0 OF 0
12/11/79	15 51 13	10	2		0	0		0 OF 0
12/11/79	15 51 17	16	1		0	0		0 OF 0
12/11/79	15 51 21	13	1		0	0		0 OF 0
12/11/79	15 51 25	16	1		0	0		0 OF 0
12/11/79	15 51 29	17	1		0	0		0 OF 0



EAST ROOF VENT, ARMCO STEEL, SAND SPRING, OK.

OMEGA 0040 - CONTINUED

ARMCO STEEL COMPANY

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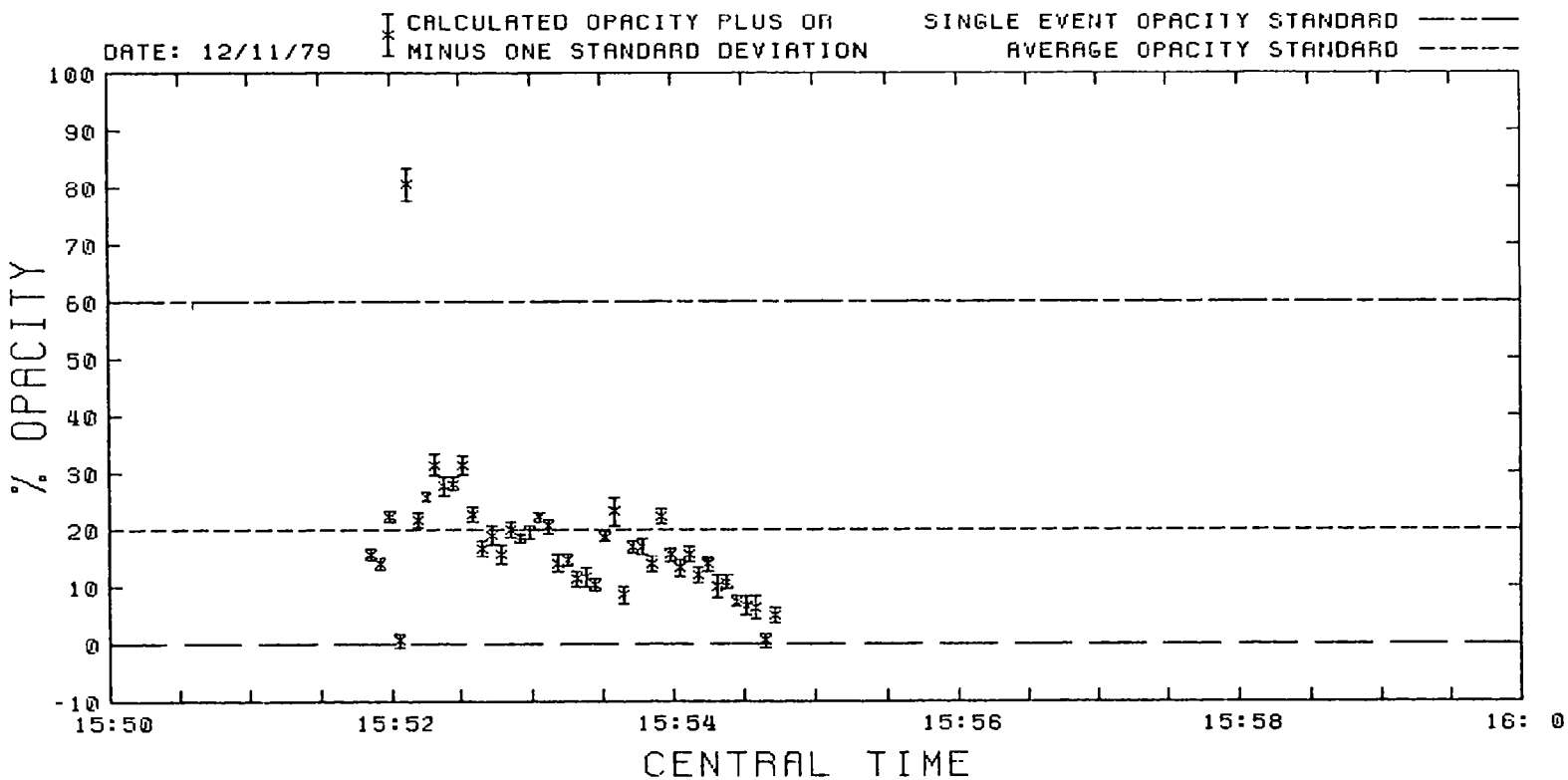
OMEGA-0040, WEST ROOF VENT, ARMCO STEEL, SAND SPRING, OK FROM RIVER PARK FIVE MINUTE AVERAGES

DATE	TIME	OPACITY	SO	VIOLATION	AVERAGE OPACITY	AVERAGE SO	VIOLATION	NUMBER DISCARDED
12/11/79	15 51 51	16	1		0	0		0 OF 0
12/11/79	15 51 55	14	1		0	0		0 OF 0
12/11/79	15 51 59	22	1		0	0		0 OF 0
12/11/79	15 52 3	0	1		0	0		0 OF 0
12/11/79	15 52 7	81	3	****	0	0		0 OF 0
12/11/79	15 52 11	22	1		0	0		0 OF 0
12/11/79	15 52 15	26	1		0	0		0 OF 0
12/11/79	15 52 19	31	2		0	0		0 OF 0
12/11/79	15 52 23	28	2		0	0		0 OF 0
12/11/79	15 52 27	28	1		0	0		0 OF 0
12/11/79	15 52 31	31	2		0	0		0 OF 0
12/11/79	15 52 35	23	1		0	0		0 OF 0
12/11/79	15 52 39	17	1		0	0		0 OF 0
12/11/79	15 52 43	19	2		0	0		0 OF 0
12/11/79	15 52 47	16	2		0	0		0 OF 0
12/11/79	15 52 51	20	1		0	0		0 OF 0
12/11/79	15 52 55	19	1		0	0		0 OF 0
12/11/79	15 52 59	20	1		0	0		0 OF 0
12/11/79	15 53 3	22	1		0	0		0 OF 0
12/11/79	15 53 7	21	1		0	0		0 OF 0
12/11/79	15 53 11	14	2		0	0		0 OF 0
12/11/79	15 53 15	15	1		0	0		0 OF 0
12/11/79	15 53 19	11	1		0	0		0 OF 0
12/11/79	15 53 23	12	2		0	0		0 OF 0
12/11/79	15 53 27	10	1		0	0		0 OF 0
12/11/79	15 53 31	19	1		0	0		0 OF 0
12/11/79	15 53 35	23	3		0	0		0 OF 0
12/11/79	15 53 39	9	2		0	0		0 OF 0
12/11/79	15 53 43	17	1		0	0		0 OF 0
12/11/79	15 53 47	17	1		0	0		0 OF 0
12/11/79	15 53 51	14	1		0	0		0 OF 0
12/11/79	15 53 55	22	1		0	0		0 OF 0
12/11/79	15 53 59	16	1		0	0		0 OF 0
12/11/79	15 54 3	13	2		0	0		0 OF 0
12/11/79	15 54 7	16	1		0	0		0 OF 0
12/11/79	15 54 11	12	1		0	0		0 OF 0
12/11/79	15 54 15	14	1		0	0		0 OF 0
12/11/79	15 54 19	10	2		0	0		0 OF 0
12/11/79	15 54 23	11	1		0	0		0 OF 0
12/11/79	15 54 27	7	1		0	0		0 OF 0
12/11/79	15 54 31	7	2		0	0		0 OF 0
12/11/79	15 54 35	6	2		0	0		0 OF 0
12/11/79	15 54 39	0	1		0	0		0 OF 0
12/11/79	15 54 43	5	1		0	0		0 OF 0



WEST ROOF VENT, ARMCO STEEL, SAND SPRING, OK.

OMEGA 0040 - CONTINUED

ARMCO STEEL COMPANY

WEST ROOF VENT

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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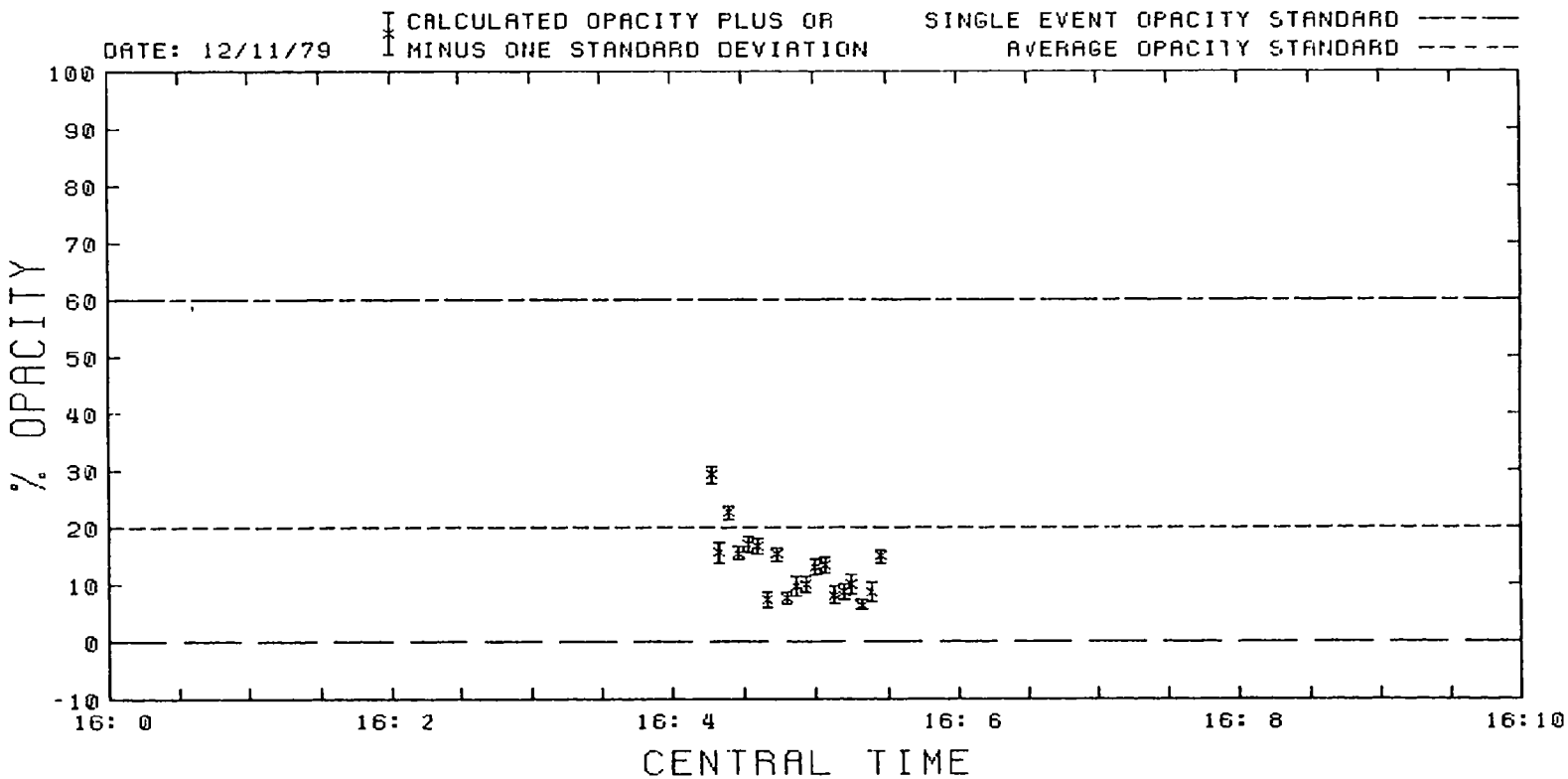
OMEGA-0040, WEST ROOF VENT, ARMCO STEEL, SAND SPRING, OK FROM RIVER PARK FIVE MINUTE AVERAGES

DATE	TIME	OPACITY	SO	VIOLATION	AVERAGE OPACITY	AVERAGE SO	VIOLATION	NUMBER DISCARDED
12/11/79	16 4 17	29	2		0	0		0 OF 0
12/11/79	16 4 20	16	2		0	0		0 OF 0
12/11/79	16 4 24	23	1		0	0		0 OF 0
12/11/79	16 4 28	15	1		0	0		0 OF 0
12/11/79	16 4 32	17	1		0	0		0 OF 0
12/11/79	16 4 36	17	1		0	0		0 OF 0
12/11/79	16 4 40	7	1		0	0		0 OF 0
12/11/79	16 4 44	15	1		0	0		0 OF 0
12/11/79	16 4 48	8	1		0	0		0 OF 0
12/11/79	16 4 52	10	2		0	0		0 OF 0
12/11/79	16 4 56	10	1		0	0		0 OF 0
12/11/79	16 5 0	13	1		0	0		0 OF 0
12/11/79	16 5 4	13	1		0	0		0 OF 0
12/11/79	16 5 8	8	1		0	0		0 OF 0
12/11/79	16 5 12	9	1		0	0		0 OF 0
12/11/79	16 5 15	10	2		0	0		0 OF 0
12/11/79	16 5 19	6	1		0	0		0 OF 0
12/11/79	16 5 23	9	2		0	0		0 OF 0
12/11/79	16 5 27	15	1		0	0		0 OF 0



WEST ROOF VENT, ARMCO STEEL, SAND SPRING, OK.

OMEGA 0041

ARMCO STEEL COMPANY

EAST ROOF VENT

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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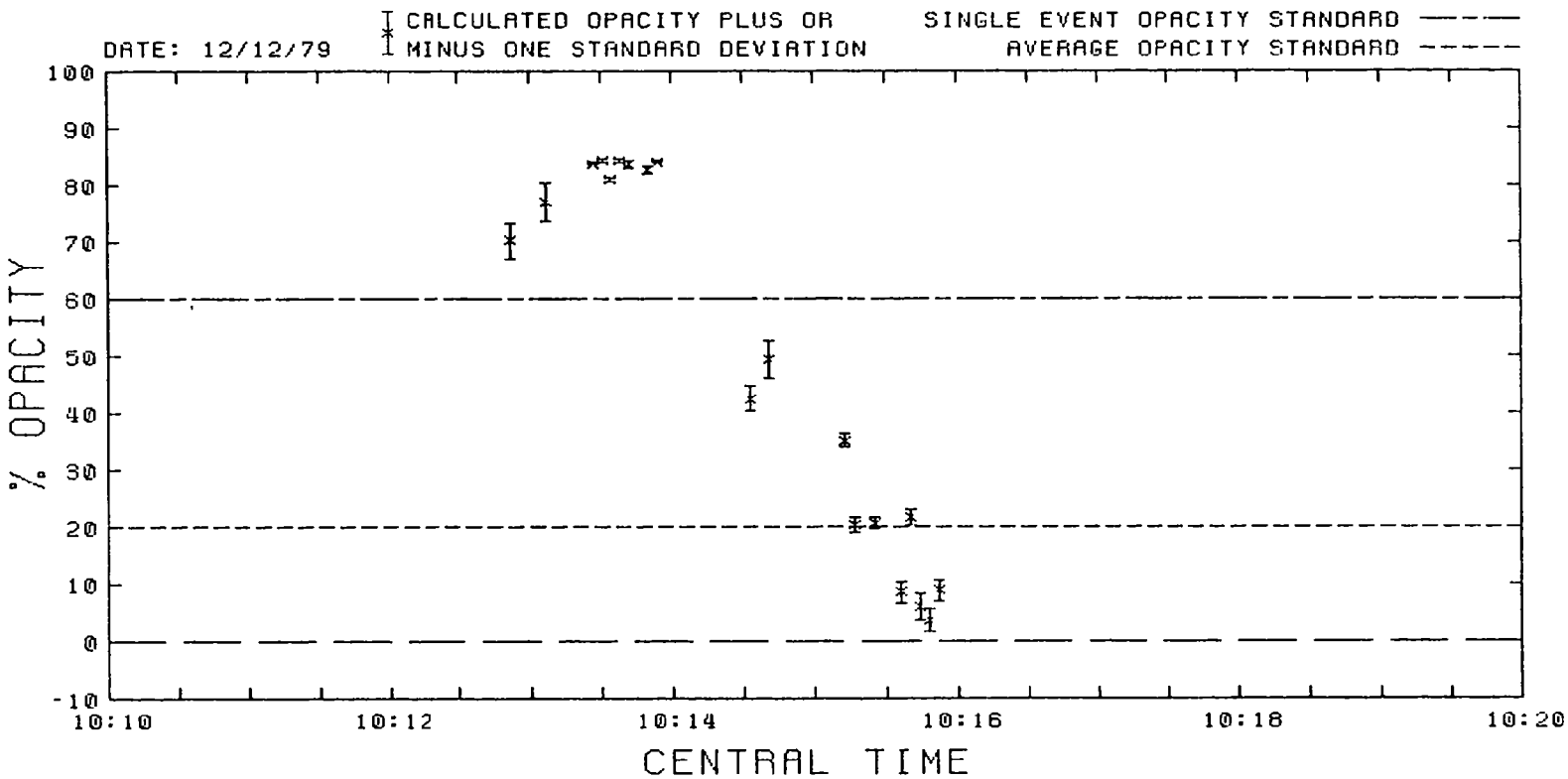
OMEGA-0041, EAST ROOF VENT, ARMCO STEEL, SAND SPRING, OK FROM RIVER PARK FIVE MINUTE AVERAGES

DATE	TIME	OPACITY	SO	VIOLATION	AVERAGE OPACITY	AVERAGE SO	VIOLATION	NUMBER DISCARDED
12/12/79	10 12 52	70	3	****	0	0		0 OF 0
12/12/79	10 13 7	77	3	****	0	0		0 OF 0
12/12/79	10 13 27	84	0	****	0	0		0 OF 0
12/12/79	10 13 31	84	0	****	0	0		0 OF 0
12/12/79	10 13 34	81	0	****	0	0		0 OF 0
12/12/79	10 13 38	84	0	****	0	0		0 OF 0
12/12/79	10 13 42	84	1	****	0	0		0 OF 0
12/12/79	10 13 50	83	1	****	0	0		0 OF 0
12/12/79	10 13 54	84	0	****	0	0		0 OF 0
12/12/79	10 14 33	42	2		0	0		0 OF 0
12/12/79	10 14 41	49	3		0	0		0 OF 0
12/12/79	10 15 13	35	1		0	0		0 OF 0
12/12/79	10 15 17	20	1		0	0		0 OF 0
12/12/79	10 15 25	21	1		0	0		0 OF 0
12/12/79	10 15 36	9	2		0	0		0 OF 0
12/12/79	10 15 40	22	1		0	0		0 OF 0
12/12/79	10 15 44	6	2		0	0		0 OF 0
12/12/79	10 15 48	4	2		0	0		0 OF 0
12/12/79	10 15 52	9	2		0	0		0 OF 0



EAST ROOF VENT, ARMCO STEEL, SAND SPRING, OK.

OMEGA 0041 - CONTINUED

ARMCO STEEL COMPANY

WEST ROOF VENT

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NATIONAL ENFORCEMENT INVESTIGATIONS CENTER
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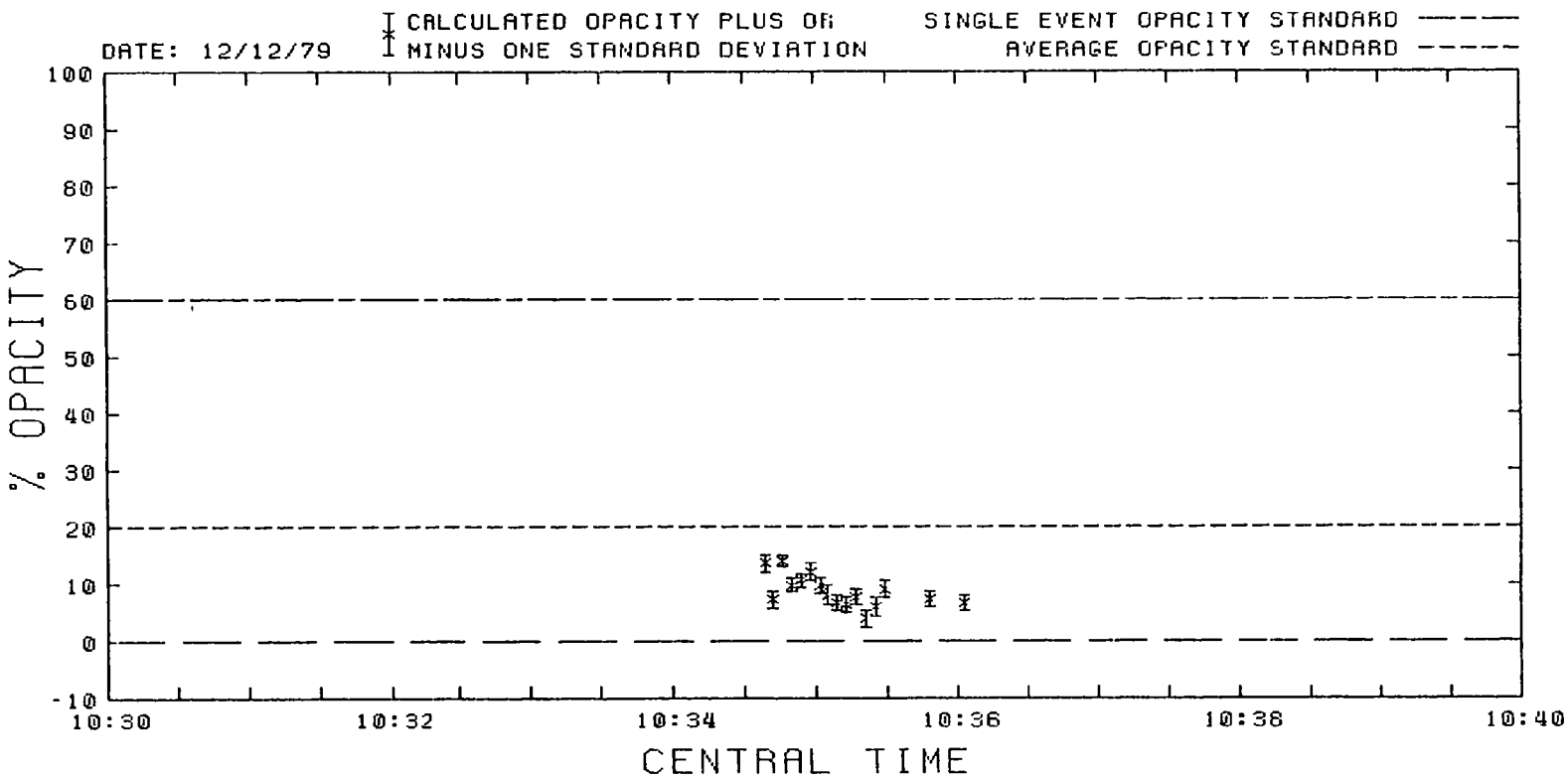
OMEGA-0041, WEST ROOF VENT, ARMCO STEEL, SAND SPRING, OK FROM RIVER PARK FIVE MINUTE AVERAGES

DATE	TIME	OPACITY	SO	VIOLATION	AVERAGE OPACITY	AVERAGE SO	VIOLATION	NUMBER DISCARDED
12/12/79	10 34 39	14	2		0	0		0 OF 0
12/12/79	10 34 42	7	2		0	0		0 OF 0
12/12/79	10 34 46	14	1		0	0		0 OF 0
12/12/79	10 34 50	10	1		0	0		0 OF 0
12/12/79	10 34 54	11	1		0	0		0 OF 0
12/12/79	10 34 58	12	1		0	0		0 OF 0
12/12/79	10 35 2	10	1		0	0		0 OF 0
12/12/79	10 35 5	8	2		0	0		0 OF 0
12/12/79	10 35 9	7	1		0	0		0 OF 0
12/12/79	10 35 13	6	1		0	0		0 OF 0
12/12/79	10 35 17	8	1		0	0		0 OF 0
12/12/79	10 35 21	4	2		0	0		0 OF 0
12/12/79	10 35 25	6	2		0	0		0 OF 0
12/12/79	10 35 29	9	2		0	0		0 OF 0
12/12/79	10 35 48	7	1		0	0		0 OF 0
12/12/79	10 36 3	7	1		0	0		0 OF 0



WEST ROOF VENT, ARMCO STEEL, SAND SPRING, OK.

OMEGA 0041 - CONTINUED

ARMCO STEEL COMPANY

EAST ROOF VENT

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NATIONAL ENFORCEMENT INVESTIGATIONS CENTER
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OMEGA-0041, EAST ROOF VENT, ARMCO STEEL, SAND SPRING, OK FROM RIVER PARK FIVE MINUTE AVERAGES

DATE	TIME	OPACITY	SO	VIOLATION	AVERAGE OPACITY	AVERAGE SO	VIOLATION	NUMBER DISCARDED
12/12/79	10 49 57	15	1		0	0		0 OF 0
12/12/79	10 50 1	18	1		0	0		0 OF 0
12/12/79	10 50 4	22	1		0	0		0 OF 0
12/12/79	10 50 8	17	1		0	0		0 OF 0
12/12/79	10 50 12	13	1		0	0		0 OF 0
12/12/79	10 50 16	12	1		0	0		0 OF 0
12/12/79	10 50 20	14	1		0	0		0 OF 0
12/12/79	10 50 24	17	1		0	0		0 OF 0
12/12/79	10 50 28	27	1		0	0		0 OF 0
12/12/79	10 50 32	25	1		0	0		0 OF 0
12/12/79	10 50 36	19	2		0	0		0 OF 0
12/12/79	10 50 40	30	2		0	0		0 OF 0
12/12/79	10 50 43	36	1		0	0		0 OF 0
12/12/79	10 50 47	25	1		0	0		0 OF 0
12/12/79	10 50 55	24	1		0	0		0 OF 0
12/12/79	10 50 59	15	1		0	0		0 OF 0
12/12/79	10 51 3	16	1		0	0		0 OF 0
12/12/79	10 51 7	13	1		0	0		0 OF 0
12/12/79	10 51 11	13	1		0	0		0 OF 0
12/12/79	10 51 15	11	1		0	0		0 OF 0
12/12/79	10 51 19	11	1		0	0		0 OF 0
12/12/79	10 51 23	13	1		0	0		0 OF 0
12/12/79	10 51 27	16	1		0	0		0 OF 0
12/12/79	10 51 31	15	1		0	0		0 OF 0
12/12/79	10 51 35	15	1		0	0		0 OF 0
12/12/79	10 51 38	30	1		0	0		0 OF 0
12/12/79	10 51 42	45	1		0	0		0 OF 0
12/12/79	10 51 46	59	0		0	0		0 OF 0
12/12/79	10 51 50	42	1		0	0		0 OF 0
12/12/79	10 51 54	34	1		0	0		0 OF 0
12/12/79	10 51 58	22	1		0	0		0 OF 0
12/12/79	10 52 2	56	1		0	0		0 OF 0
12/12/79	10 52 6	58	1		0	0		0 OF 0
12/12/79	10 52 10	45	1		0	0		0 OF 0
12/12/79	10 52 14	44	2		0	0		0 OF 0
12/12/79	10 52 18	51	1		0	0		0 OF 0
12/12/79	10 52 22	38	1		0	0		0 OF 0
12/12/79	10 52 26	40	1		0	0		0 OF 0
12/12/79	10 52 30	29	1		0	0		0 OF 0
12/12/79	10 52 34	37	2		0	0		0 OF 0
12/12/79	10 52 38	31	1		0	0		0 OF 0
12/12/79	10 52 42	43	2		0	0		0 OF 0
12/12/79	10 52 46	36	1		0	0		0 OF 0
12/12/79	10 52 50	30	1		0	0		0 OF 0
12/12/79	10 52 54	24	1		0	0		0 OF 0
12/12/79	10 52 58	37	2		0	0		0 OF 0
12/12/79	10 53 2	27	2		0	0		0 OF 0
12/12/79	10 53 6	46	2		0	0		0 OF 0
12/12/79	10 53 10	33	1		0	0		0 OF 0
12/12/79	10 53 14	42	1		0	0		0 OF 0

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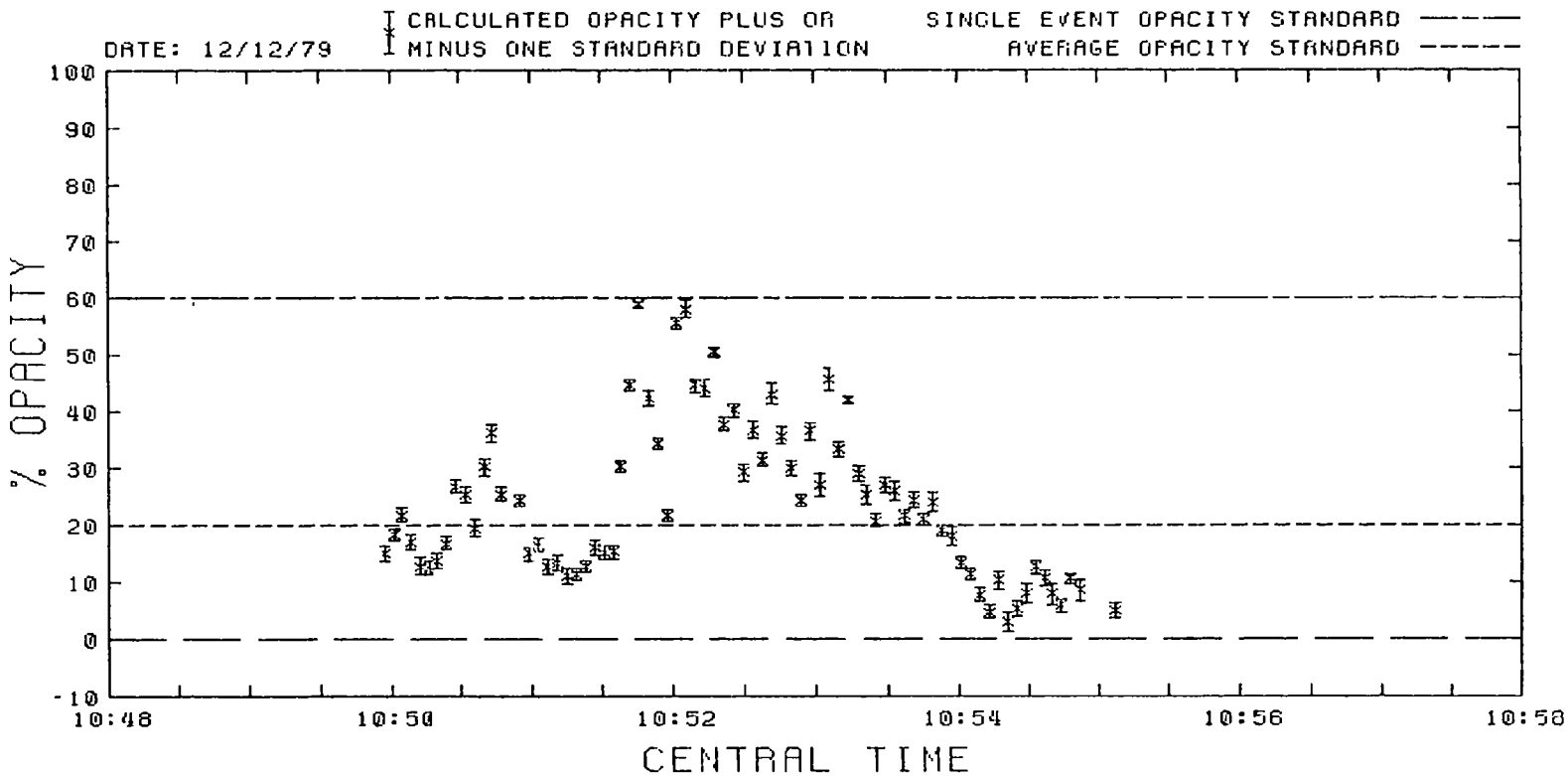
OMEGA-0041, EAST ROOF VENT, ARMCO STEEL, SAND SPRING, OK FROM RIVER PARK FIVE MINUTE AVERAGES

DATE	TIME	OPACITY	SO	VIOLATION	AVERAGE OPACITY	AVERAGE SO	VIOLATION	NUMBER DISCARDED
12/12/79	10 53 18	29	1		0	0		0 OF 0
12/12/79	10 53 21	25	2		0	0		0 OF 0
12/12/79	10 53 25	21	1		0	0		0 OF 0
12/12/79	10 53 29	27	1		0	0		0 OF 0
12/12/79	10 53 33	26	2		0	0		0 OF 0
12/12/79	10 53 37	22	1		0	0		0 OF 0
12/12/79	10 53 41	24	1		0	0		0 OF 0
12/12/79	10 53 45	21	1		0	0		0 OF 0
12/12/79	10 53 49	24	2		0	0		0 OF 0
12/12/79	10 53 53	19	1		0	0		0 OF 0
12/12/79	10 53 57	18	2		0	0		0 OF 0
12/12/79	10 54 1	13	1		0	0		0 OF 0
12/12/79	10 54 5	11	1		0	0		0 OF 0
12/12/79	10 54 9	8	1		0	0		0 OF 0
12/12/79	10 54 13	5	1		0	0		0 OF 0
12/12/79	10 54 17	10	1		0	0		0 OF 0
12/12/79	10 54 21	3	2		0	0		0 OF 0
12/12/79	10 54 25	5	1		0	0		0 OF 0
12/12/79	10 54 29	8	2		0	0		0 OF 0
12/12/79	10 54 33	12	1		0	0		0 OF 0
12/12/79	10 54 37	11	1		0	0		0 OF 0
12/12/79	10 54 40	8	2		0	0		0 OF 0
12/12/79	10 54 44	6	1		0	0		0 OF 0
12/12/79	10 54 48	11	1		24	1	****	0 OF 74
12/12/79	10 54 52	9	2		24	1	****	0 OF 75
12/12/79	10 55 7	5	1		24	1	****	0 OF 73



EAST ROOF VENT, ARMCO STEEL, SAND SPRING, OK.

OMEGA 0041 - CONTINUED

ARMCO STEEL COMPANY

EAST ROOF VENT

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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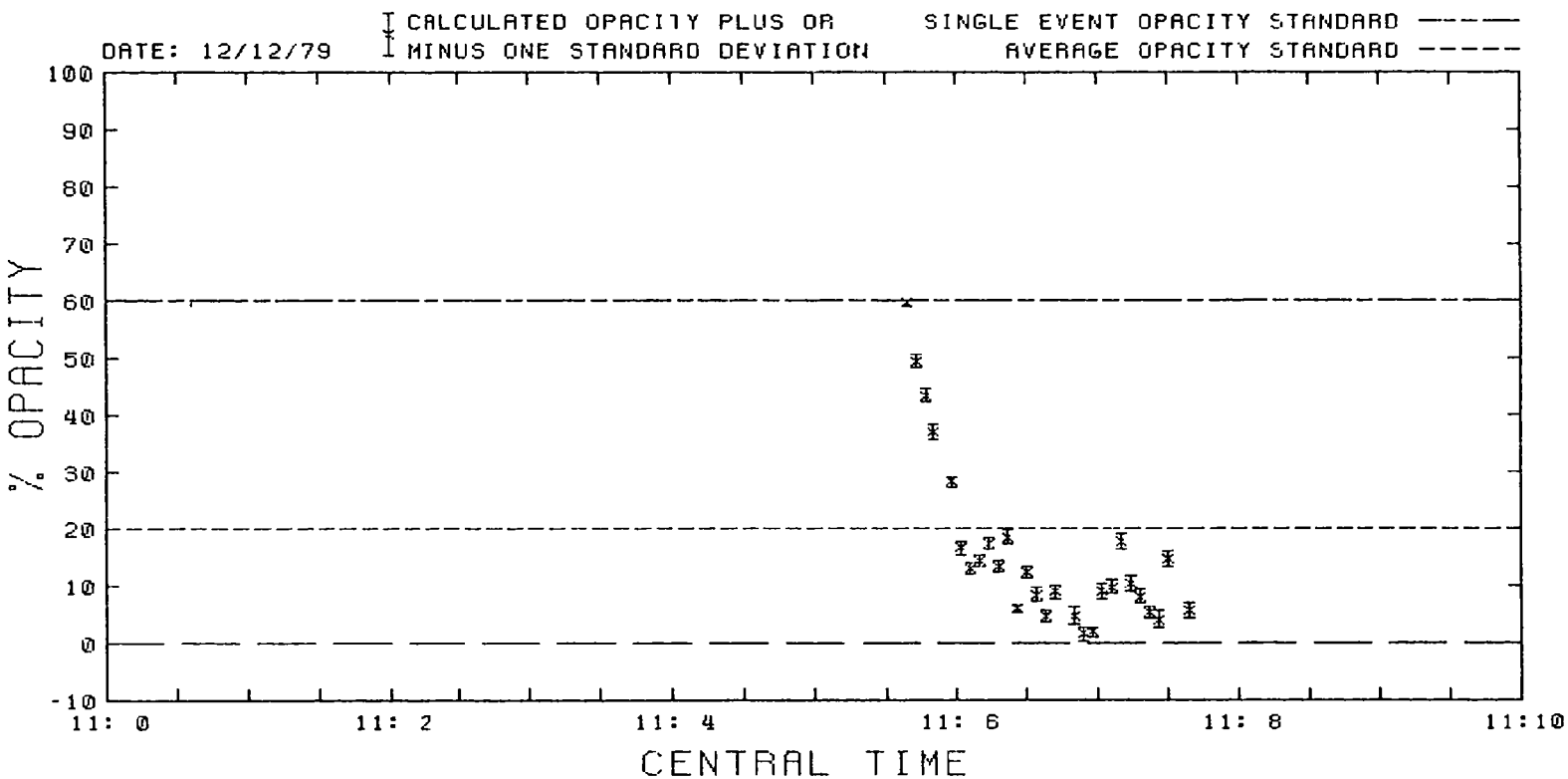
OMEGA-0041, EAST ROOF VENT, ARMCO STEEL, SAND SPRING, OK FROM RIVER PARK FIVE MINUTE AVERAGES

DATE	TIME	OPACITY	SO	VIOLATION	AVERAGE OPACITY	AVERAGE SO	VIOLATION	NUMBER DISCARDED
12/12/79	11 5 39	60	0		0	0		0 OF 0
12/12/79	11 5 43	49	1		0	0		0 OF 0
12/12/79	11 5 47	43	1		0	0		0 OF 0
12/12/79	11 5 50	37	1		0	0		0 OF 0
12/12/79	11 5 58	28	1		0	0		0 OF 0
12/12/79	11 6 2	17	1		0	0		0 OF 0
12/12/79	11 6 6	13	1		0	0		0 OF 0
12/12/79	11 6 10	14	1		0	0		0 OF 0
12/12/79	11 6 14	17	1		0	0		0 OF 0
12/12/79	11 6 18	13	1		0	0		0 OF 0
12/12/79	11 6 22	18	1		0	0		0 OF 0
12/12/79	11 6 26	6	1		0	0		0 OF 0
12/12/79	11 6 30	12	1		0	0		0 OF 0
12/12/79	11 6 34	8	1		0	0		0 OF 0
12/12/79	11 6 38	5	1		0	0		0 OF 0
12/12/79	11 6 42	9	1		0	0		0 OF 0
12/12/79	11 6 50	5	2		0	0		0 OF 0
12/12/79	11 6 54	2	1		0	0		0 OF 0
12/12/79	11 6 58	2	1		0	0		0 OF 0
12/12/79	11 7 2	9	1		0	0		0 OF 0
12/12/79	11 7 6	10	1		0	0		0 OF 0
12/12/79	11 7 10	18	1		0	0		0 OF 0
12/12/79	11 7 14	10	1		0	0		0 OF 0
12/12/79	11 7 18	8	1		0	0		0 OF 0
12/12/79	11 7 22	5	1		0	0		0 OF 0
12/12/79	11 7 26	4	1		0	0		0 OF 0
12/12/79	11 7 30	15	1		0	0		0 OF 0
12/12/79	11 7 39	6	1		0	0		0 OF 0



EAST ROOF VENT, ARMCO STEEL, SAND SPRING, OK.

OMEGA 0041 - CONTINUED

ARMCO STEEL COMPANY

EAST ROOF VENT

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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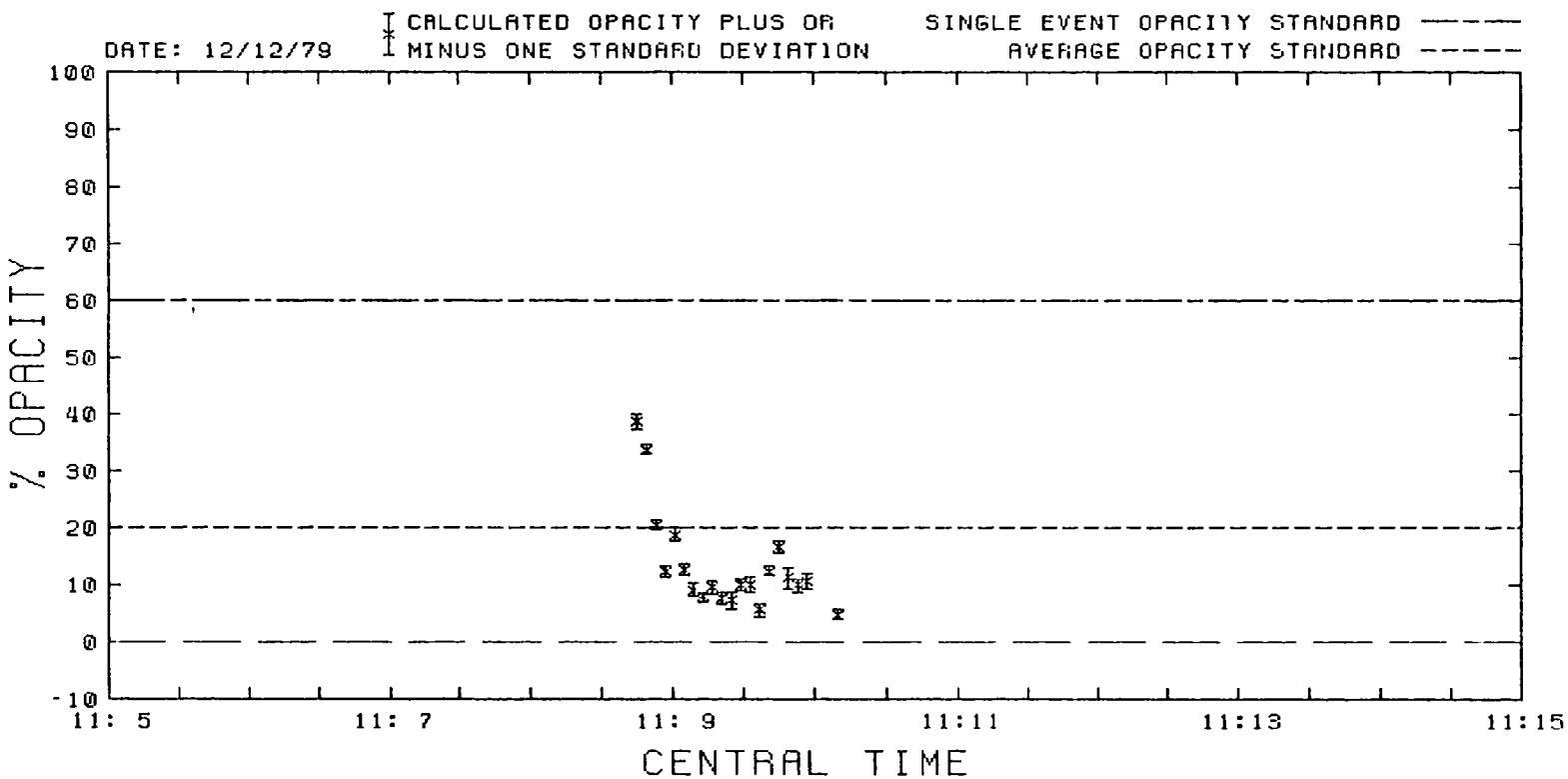
OMEGA-0041, EAST ROOF VENT, ARMCO STEEL, SAND SPRING, OK FROM RIVER PARK FIVE MINUTE AVERAGES

DATE	TIME	OPACITY	SO	VIOLATION	AVERAGE OPACITY	AVERAGE SO	VIOLATION	NUMBER DISCARDED
12/12/79	11 8 45	39	1		0	0		0 OF 0
12/12/79	11 8 49	34	1		0	0		0 OF 0
12/12/79	11 8 53	20	1		0	0		0 OF 0
12/12/79	11 8 57	12	1		0	0		0 OF 0
12/12/79	11 9 1	19	1		0	0		0 OF 0
12/12/79	11 9 5	13	1		0	0		0 OF 0
12/12/79	11 9 9	9	1		0	0		0 OF 0
12/12/79	11 9 13	8	1		0	0		0 OF 0
12/12/79	11 9 17	10	1		0	0		0 OF 0
12/12/79	11 9 21	8	1		0	0		0 OF 0
12/12/79	11 9 25	7	2		0	0		0 OF 0
12/12/79	11 9 29	10	1		0	0		0 OF 0
12/12/79	11 9 33	10	1		0	0		0 OF 0
12/12/79	11 9 37	6	1		0	0		0 OF 0
12/12/79	11 9 41	12	1		0	0		0 OF 0
12/12/79	11 9 45	17	1		0	0		0 OF 0
12/12/79	11 9 49	11	2		0	0		0 OF 0
12/12/79	11 9 53	10	1		0	0		0 OF 0
12/12/79	11 9 57	11	1		0	0		0 OF 0
12/12/79	11 10 10	5	1		0	0		0 OF 0



EAST ROOF VENT, ARMCO STEEL, SAND SPRING, OK.

OMEGA 0041 - CONTINUED

ARMCO STEEL COMPANY

WEST ROOF VENT

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NATIONAL ENFORCEMENT INVESTIGATIONS CENTER
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OMEGA-0041, WEST ROOF VENT, ARMCO STEEL, SAND SPRING, OK FROM RIVER PARK FIVE MINUTE AVERAGES

DATE	TIME	OPACITY	SO	VIOLATION	AVERAGE OPACITY	AVERAGE SO	VIOLATION	NUMBER DISCARDED
12/12/79	11 11 50	21	1		0	0		0 OF 0
12/12/79	11 11 54	18	1		0	0		0 OF 0
12/12/79	11 11 58	18	1		0	0		0 OF 0
12/12/79	11 12 2	19	1		0	0		0 OF 0
12/12/79	11 12 6	18	1		0	0		0 OF 0
12/12/79	11 12 10	16	1		0	0		0 OF 0
12/12/79	11 12 14	22	1		0	0		0 OF 0
12/12/79	11 12 18	19	1		0	0		0 OF 0
12/12/79	11 12 22	19	1		0	0		0 OF 0
12/12/79	11 12 26	17	1		0	0		0 OF 0
12/12/79	11 12 30	16	1		0	0		0 OF 0
12/12/79	11 12 34	49	1		0	0		0 OF 0
12/12/79	11 12 38	53	1		0	0		0 OF 0
12/12/79	11 12 42	52	1		0	0		0 OF 0
12/12/79	11 12 46	69	0	****	0	0		0 OF 0
12/12/79	11 12 54	63	1	****	0	0		0 OF 0
12/12/79	11 12 58	60	0		0	0		0 OF 0
12/12/79	11 13 2	68	0	****	0	0		0 OF 0
12/12/79	11 13 6	65	1	****	0	0		0 OF 0
12/12/79	11 13 10	68	0	****	0	0		0 OF 0
12/12/79	11 13 14	64	0	****	0	0		0 OF 0
12/12/79	11 13 18	56	1		0	0		0 OF 0
12/12/79	11 13 22	62	1	****	0	0		0 OF 0
12/12/79	11 13 26	51	1		0	0		0 OF 0
12/12/79	11 13 30	52	1		0	0		0 OF 0
12/12/79	11 13 34	54	1		0	0		0 OF 0
12/12/79	11 13 38	49	1		0	0		0 OF 0
12/12/79	11 13 42	47	1		0	0		0 OF 0
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12/12/79	11 13 50	48	1		0	0		0 OF 0
12/12/79	11 13 54	48	1		0	0		0 OF 0
12/12/79	11 13 58	40	1		0	0		0 OF 0
12/12/79	11 14 2	49	1		0	0		0 OF 0
12/12/79	11 14 6	41	1		0	0		0 OF 0
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12/12/79	11 14 14	33	1		0	0		0 OF 0
12/12/79	11 14 18	35	1		0	0		0 OF 0
12/12/79	11 14 22	37	1		0	0		0 OF 0
12/12/79	11 14 26	21	1		0	0		0 OF 0
12/12/79	11 14 30	29	1		0	0		0 OF 0
12/12/79	11 14 34	27	1		0	0		0 OF 0
12/12/79	11 14 38	24	1		0	0		0 OF 0
12/12/79	11 14 42	25	2		0	0		0 OF 0
12/12/79	11 14 46	22	1		0	0		0 OF 0
12/12/79	11 14 50	18	1		0	0		0 OF 0
12/12/79	11 14 54	22	1		0	0		0 OF 0
12/12/79	11 14 58	13	1		0	0		0 OF 0
12/12/79	11 15 2	13	1		0	0		0 OF 0
12/12/79	11 15 6	14	2		0	0		0 OF 0
12/12/79	11 15 10	15	1		0	0		0 OF 0

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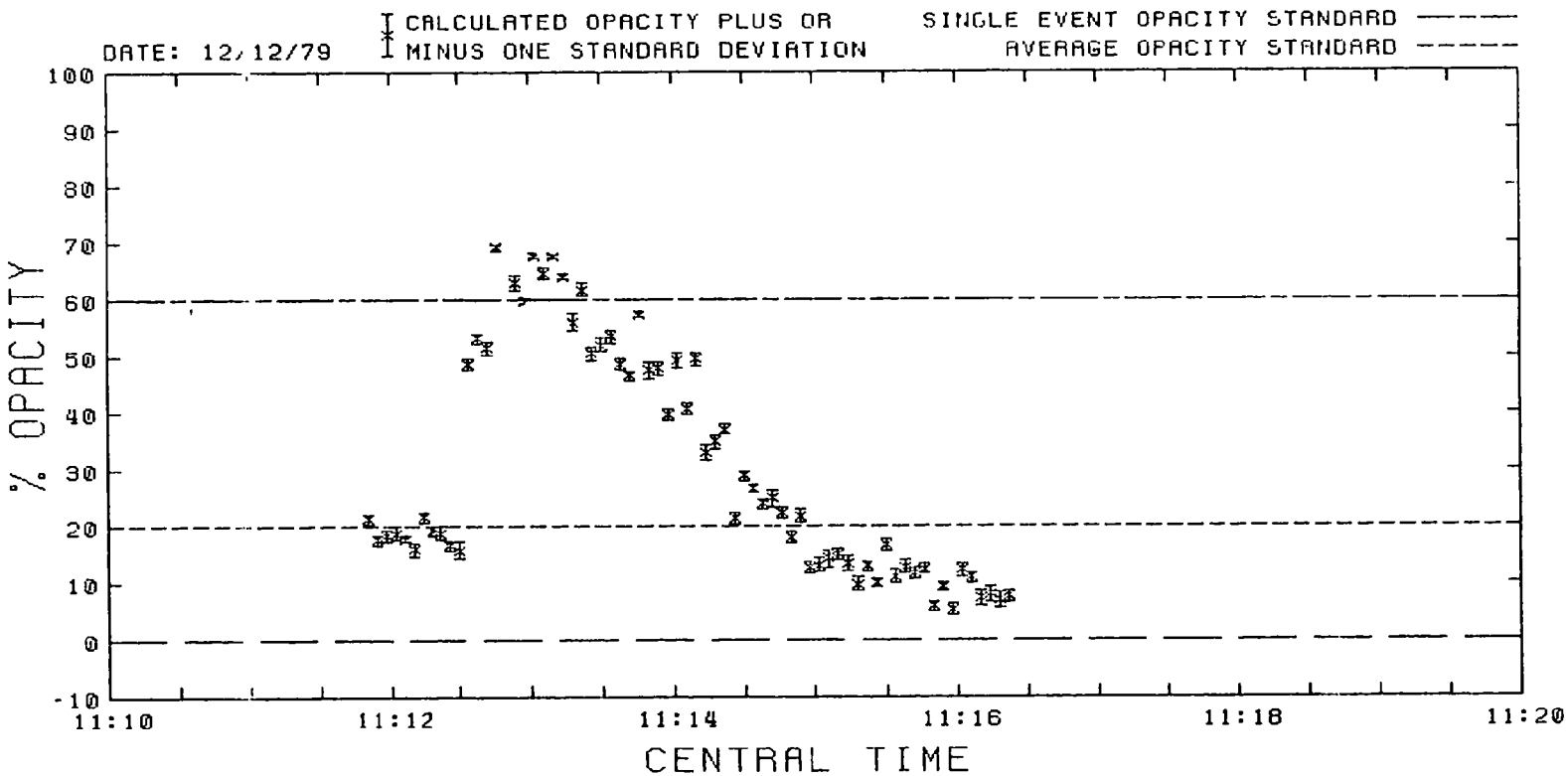
OMEGA-0041, WEST ROOF VENT, ARMCO STEEL, SAND SPRING, OK FROM RIVER PARK FIVE MINUTE AVERAGES

DATE	TIME	OPACITY	SO	VIOLATION	AVERAGE OPACITY	AVERAGE SO	VIOLATION	NUMBER DISCARDED
1 /12/79	11 15 14	13	1		0	0		0 OF 0
12/12/79	11 15 18	10	1		0	0		0 OF 0
12/12/79	11 15 22	13	1		0	0		0 OF 0
12/12/79	11 15 26	10	1		0	0		0 OF 0
12/12/79	11 15 30	17	1		0	0		0 OF 0
12/12/79	11 15 34	11	1		0	0		0 OF 0
12/12/79	11 15 38	13	1		0	0		0 OF 0
12/12/79	11 15 42	12	1		0	0		0 OF 0
12/12/79	11 15 46	12	1		0	0		0 OF 0
12/12/79	11 15 50	6	1		0	0		0 OF 0
12/12/79	11 15 54	9	1		0	0		0 OF 0
12/12/79	11 15 58	5	1		0	0		0 OF 0
12/12/79	11 16 2	12	1		0	0		0 OF 0
12/12/79	11 16 6	11	1		0	0		0 OF 0
12/12/79	11 16 10	7	1		0	0		0 OF 0
12/12/79	11 16 14	8	1		0	0		0 OF 0
12/12/79	11 16 18	7	1		0	0		0 OF 0
12/12/79	11 16 22	8	1		0	0		0 OF 0



WEST ROOF VENT, ARMCO STEEL, SAND SPRING, OK.

OMEGA 0041 - CONTINUED

ARMCO STEEL COMPANY

WEST ROOF VENT

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OMEGA-0041, WEST ROOF VENT, ARMCO STEEL, SAND SPRING, OK FROM RIVER PARK FIVE MINUTE AVERAGES

DATE	TIME	OPACITY	SO	VIOLATION	AVERAGE OPACITY	AVERAGE SO	VIOLATION	NUMBER DISCARDED
12/12/79	11 36 1	84	0	****	0	0		0 OF 0
12/12/79	11 36 5	75	0	****	0	0		0 OF 0
12/12/79	11 36 9	67	0	****	0	0		0 OF 0
12/12/79	11 36 13	77	4	****	0	0		0 OF 0
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12/12/79	11 36 24	70	0	****	0	0		0 OF 0
12/12/79	11 36 28	70	0	****	0	0		0 OF 0
12/12/79	11 36 32	67	1	****	0	0		0 OF 0
12/12/79	11 36 36	70	0	****	0	0		0 OF 0
12/12/79	11 36 40	65	0	****	0	0		0 OF 0
12/12/79	11 36 44	66	0	****	0	0		0 OF 0
12/12/79	11 36 48	66	1	****	0	0		0 OF 0
12/12/79	11 36 52	62	1	****	0	0		0 OF 0
12/12/79	11 36 56	64	1	****	0	0		0 OF 0
12/12/79	11 37 0	58	1		0	0		0 OF 0
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12/12/79	11 37 8	64	0	****	0	0		0 OF 0
12/12/79	11 37 11	64	0	****	0	0		0 OF 0
12/12/79	11 37 15	54	2		0	0		0 OF 0
12/12/79	11 37 19	55	2		0	0		0 OF 0
12/12/79	11 37 23	68	0	****	0	0		0 OF 0
12/12/79	11 37 27	66	0	****	0	0		0 OF 0
12/12/79	11 37 31	64	1	****	0	0		0 OF 0
12/12/79	11 37 35	56	1		0	0		0 OF 0
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12/12/79	11 38 34	28	1		0	0		0 OF 0
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12/12/79	11 39 6	11	1		0	0		0 OF 0
12/12/79	11 39 10	13	1		0	0		0 OF 0
12/12/79	11 39 13	17	2		0	0		0 OF 0

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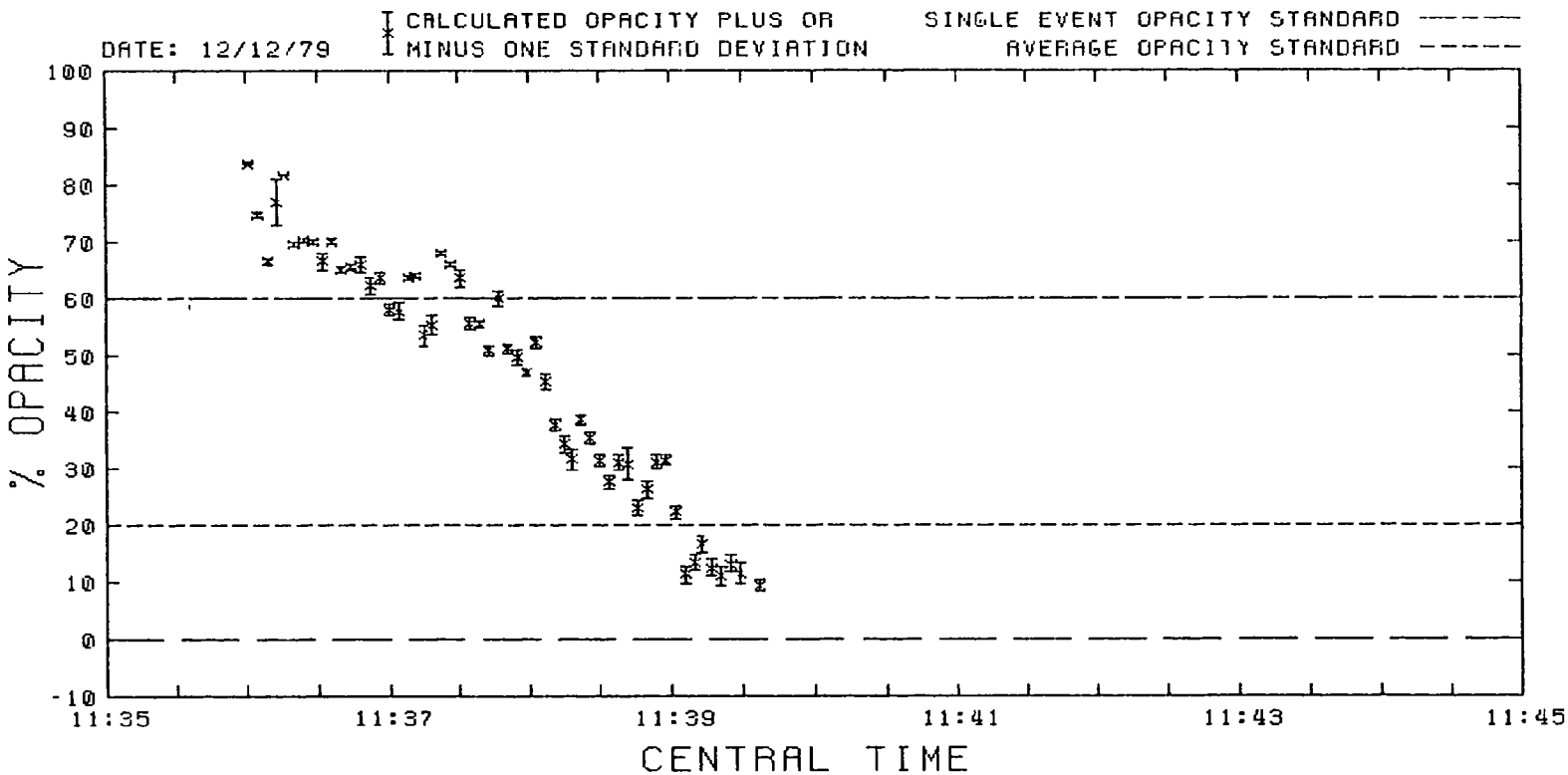
DATE	TIME	OPACITY	SO	VIOLATION	AVERAGE OPACITY	AVERAGE SO	VIOLATION	NUMBER DISCARDED
12/12/79	11 39 17	12	2		0	0		0 OF 0
12/12/79	11 39 21	11	2		0	0		0 OF 0
12/12/79	11 39 25	13	2		0	0		0 OF 0
12/12/79	11 39 29	11	2		0	0		0 OF 0
12/12/79	11 39 37	9	1		0	0		0 OF 0



WEST ROOF VENT, ARMCO STEEL, SAND SPRING, OK.

OMEGA 0041 - CONTINUED

ARMCO STEEL COMPANY

EAST ROOF VENT

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OMEGA-0041, EAST ROOF VENT, ARMCO STEEL, SAND SPRING, OK FROM RIVER PARK FIVE MINUTE AVERAGES

DATE	TIME	OPACITY	SO	VIOLATION	AVERAGE OPACITY	AVERAGE SO	VIOLATION	NUMBER DISCARDED
12/12/79	11 41 31	29	1		0	0		0 OF 0
12/12/79	11 41 34	32	1		0	0		0 OF 0
12/12/79	11 41 38	27	1		0	0		0 OF 0
12/12/79	11 41 42	33	1		0	0		0 OF 0
12/12/79	11 41 46	17	1		0	0		0 OF 0
12/12/79	11 41 50	23	1		0	0		0 OF 0
12/12/79	11 41 54	29	1		0	0		0 OF 0
12/12/79	11 41 58	29	1		0	0		0 OF 0
12/12/79	11 42 2	27	1		0	0		0 OF 0
12/12/79	11 42 6	24	1		0	0		0 OF 0
12/12/79	11 42 10	28	1		0	0		0 OF 0
12/12/79	11 42 14	36	1		0	0		0 OF 0
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12/12/79	11 42 21	29	1		0	0		0 OF 0
12/12/79	11 42 25	25	1		0	0		0 OF 0
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12/12/79	11 42 33	20	1		0	0		0 OF 0
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12/12/79	11 42 45	19	1		0	0		0 OF 0
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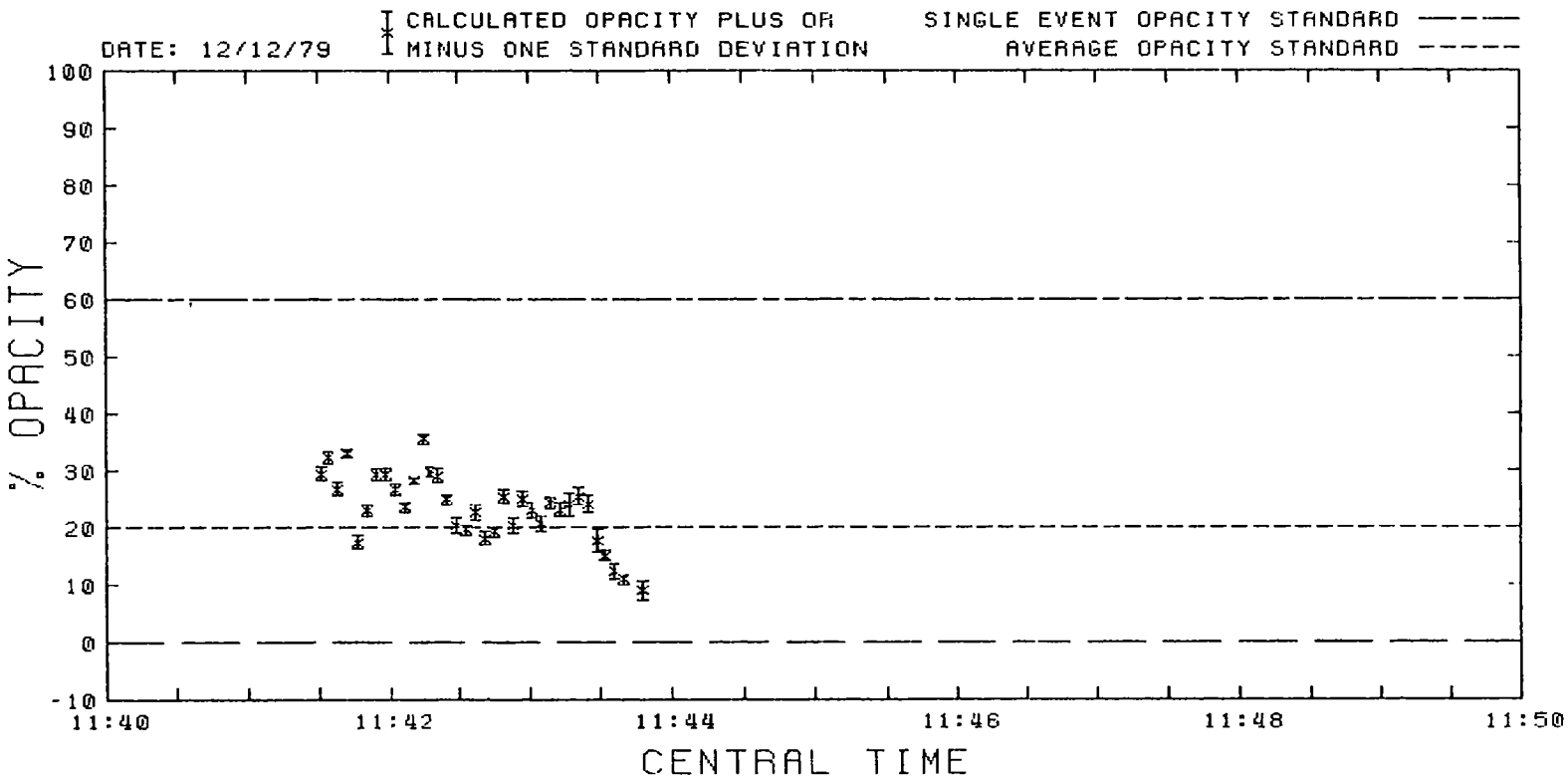
12/12/79	11 43 5	21	1		0	0		0 OF 0
12/12/79	11 43 9	24	1		0	0		0 OF 0
12/12/79	11 43 13	23	1		0	0		0 OF 0
12/12/79	11 43 17	24	2		0	0		0 OF 0
12/12/79	11 43 21	25	2		0	0		0 OF 0
12/12/79	11 43 25	24	2		0	0		0 OF 0
12/12/79	11 43 29	18	2		0	0		0 OF 0
12/12/79	11 43 32	15	1		0	0		0 OF 0
12/12/79	11 43 36	12	1		0	0		0 OF 0
12/12/79	11 43 40	11	1		0	0		0 OF 0
12/12/79	11 43 48	9	2		0	0		0 OF 0



EAST ROOF VENT, ARMCO STEEL, SAND SPRING, OK.

OMEGA 0041 - CONTINUED

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DATE	TIME	OPACITY	SO	VIOLATION	AVERAGE OPACITY	AVERAGE SO	VIOLATION	NUMBER	DISCARDED
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12/12/79	11 46 17	17	1		0	0		0 OF	0
12/12/79	11 46 21	15	2		0	0		0 OF	0
12/12/79	11 46 25	11	2		0	0		0 OF	0
12/12/79	11 46 29	4	1		0	0		0 OF	0
12/12/79	11 46 33	4	1		0	0		0 OF	0
12/12/79	11 46 37	5	1		0	0		0 OF	0
12/12/79	11 46 40	3	1		0	0		0 OF	0
12/12/79	11 46 44	7	1		0	0		0 OF	0
12/12/79	11 46 48	9	1		0	0		0 OF	0
12/12/79	11 46 52	12	2		0	0		0 OF	0
12/12/79	11 46 56	12	2		0	0		0 OF	0
12/12/79	11 47 0	5	2		0	0		0 OF	0
12/12/79	11 47 4	7	2		0	0		0 OF	0
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12/12/79	11 47 12	2	2		0	0		OF	0
12/12/79	11 47 16	0	2		0	0		OF	0
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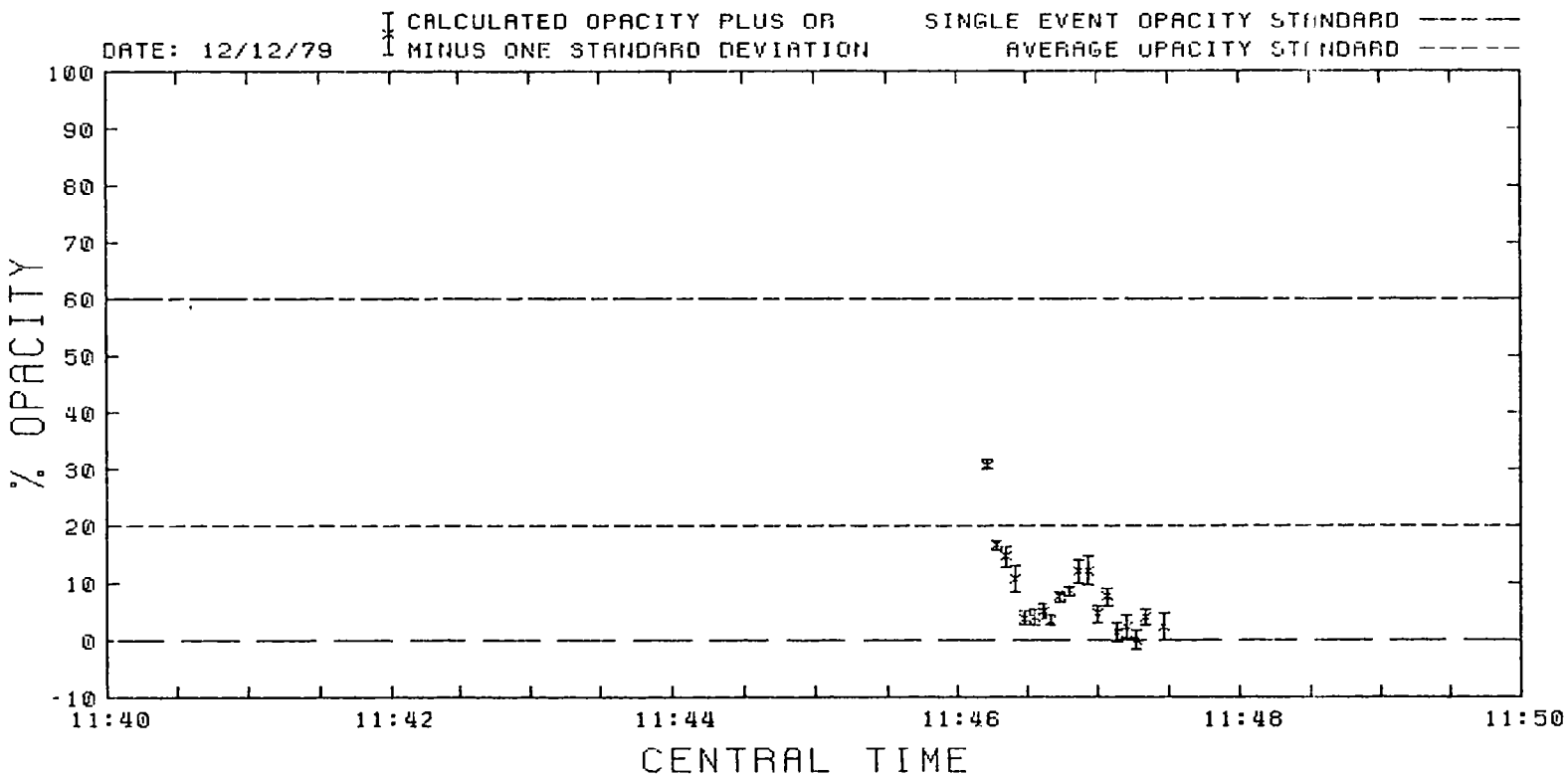

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OMEGA 0041 - CONTINUED

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DATE	TIME	OPACITY	SO	VIOLATION	AVERAGE OPACITY	AVERAGE SO	VIOLATION	NUMBER DISCARDED
12/12/79	12 1 17	22	2		0	0		0 OF 0
12/12/79	12 1 21	39	1		0	0		0 OF 0
12/12/79	12 1 25	51	1		0	0		0 OF 0
12/12/79	12 1 29	50	1		0	0		0 OF 0
12/12/79	12 1 33	55	1		0	0		0 OF 0
12/12/79	12 1 37	36	1		0	0		0 OF 0
12/12/79	12 1 41	53	1		0	0		0 OF 0
12/12/79	12 1 45	57	1		0	0		0 OF 0
12/12/79	12 1 49	45	1		0	0		0 OF 0
12/12/79	12 1 53	41	2		0	0		0 OF 0
12/12/79	12 1 56	30	1		0	0		0 OF 0
12/12/79	12 2 0	28	1		0	0		0 OF 0
12/12/79	12 2 4	23	1		0	0		0 OF 0
12/12/79	12 2 8	19	1		0	0		0 OF 0
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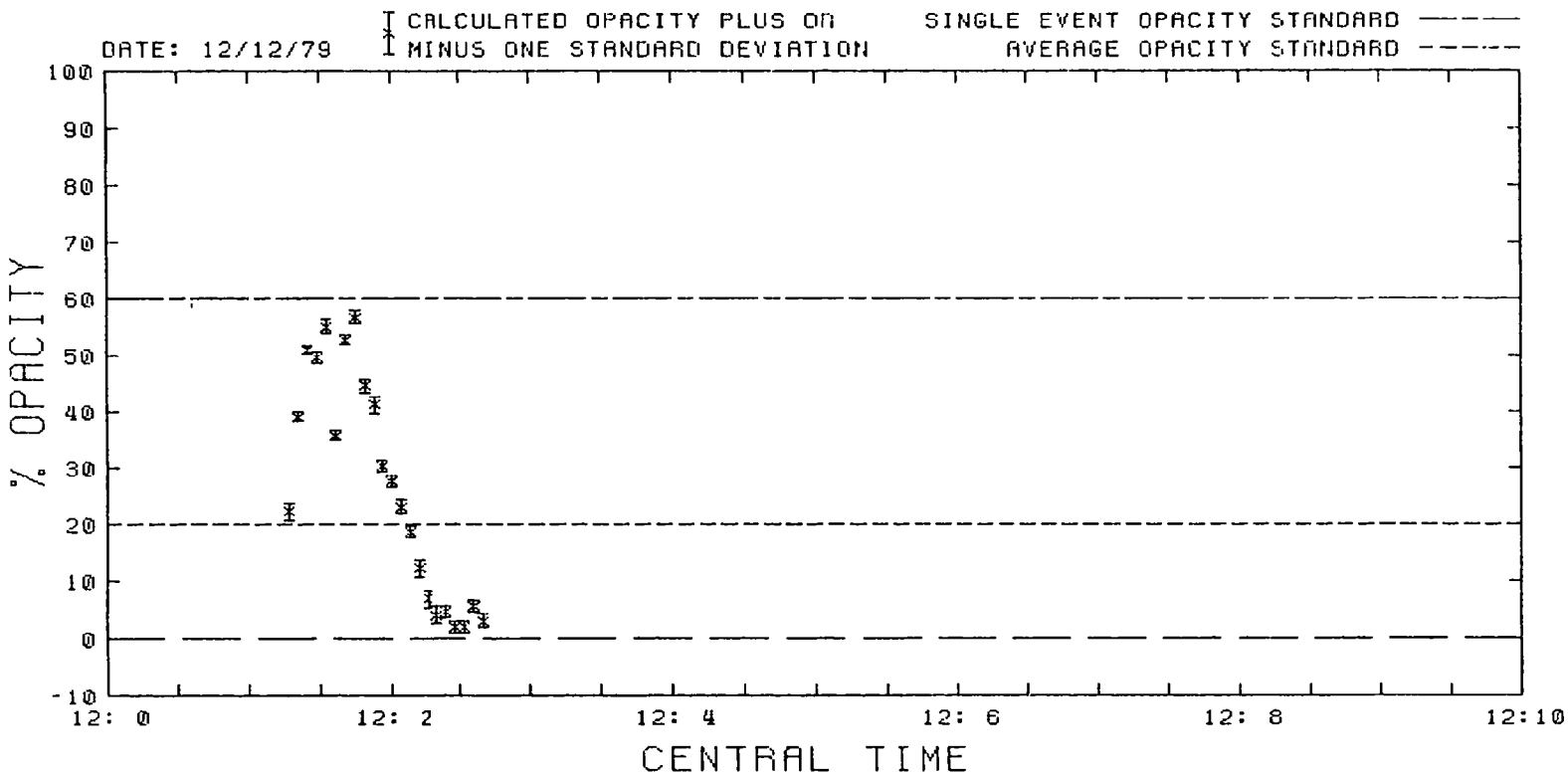
12/12/79	12 2 20	4	2		0	0		0 OF 0
12/12/79	12 2 24	5	1		0	0		0 OF 0
12/12/79	12 2 28	2	1		0	0		0 OF 0
12/12/79	12 2 32	2	1		0	0		0 OF 0
12/12/79	12 2 36	6	1		0	0		0 OF 0
12/12/79	12 2 40	3	1		0	0		0 OF 0



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OMEGA 0041 - CONTINUED

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DATE	TIME	OPACITY	SO	VIOLATION	AVERAGE OPACITY	AVERAGE SO	VIOLATION	NUMBER DISCARDED
12/12/79	12 4 30	7	1		0	0		0 OF 0
12/12/79	12 4 34	7	1		0	0		0 OF 0
12/12/79	12 4 38	6	1		0	0		0 OF 0
12/12/79	12 4 42	16	1		0	0		0 OF 0
12/12/79	12 4 46	12	1		0	0		0 OF 0
12/12/79	12 4 49	11	1		0	0		0 OF 0
12/12/79	12 4 53	15	1		0	0		0 OF 0
12/12/79	12 4 57	10	1		0	0		0 OF 0
12/12/79	12 5 1	12	1		0	0		0 OF 0
12/12/79	12 5 5	16	1		0	0		0 OF 0
12/12/79	12 5 9	16	1		0	0		0 OF 0
12/12/79	12 5 13	12	1		0	0		0 OF 0
12/12/79	12 5 17	9	1		0	0		0 OF 0
12/12/79	12 5 21	7	1		0	0		0 OF 0
12/12/79	12 5 25	13	1		0	0		0 OF 0
12/12/79	12 5 29	18	2		0	0		0 OF 0
12/12/79	12 5 33	14	1		0	0		0 OF 0
12/12/79	12 5 37	6	1		0	0		0 OF 0
12/12/79	12 5 41	4	1		0	0		0 OF 0
12/12/79	12 5 45	5	2		0	0		0 OF 0
12/12/79	12 5 49	6	1		0	0		0 OF 0
12/12/79	12 5 53	8	1		0	0		0 OF 0
12/12/79	12 5 57	13	1		0	0		0 OF 0
12/12/79	12 6 1	12	1		0	0		0 OF 0
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12/12/79	12 6 13	2	2		0	0		0 OF 0
12/12/79	12 6 17	8	1		0	0		0 OF 0
12/12/79	12 6 21	6	2		0	0		0 OF 0
12/12/79	12 6 25	6	1		0	0		0 OF 0
12/12/79	12 6 29	7	1		0	0		0 OF 0
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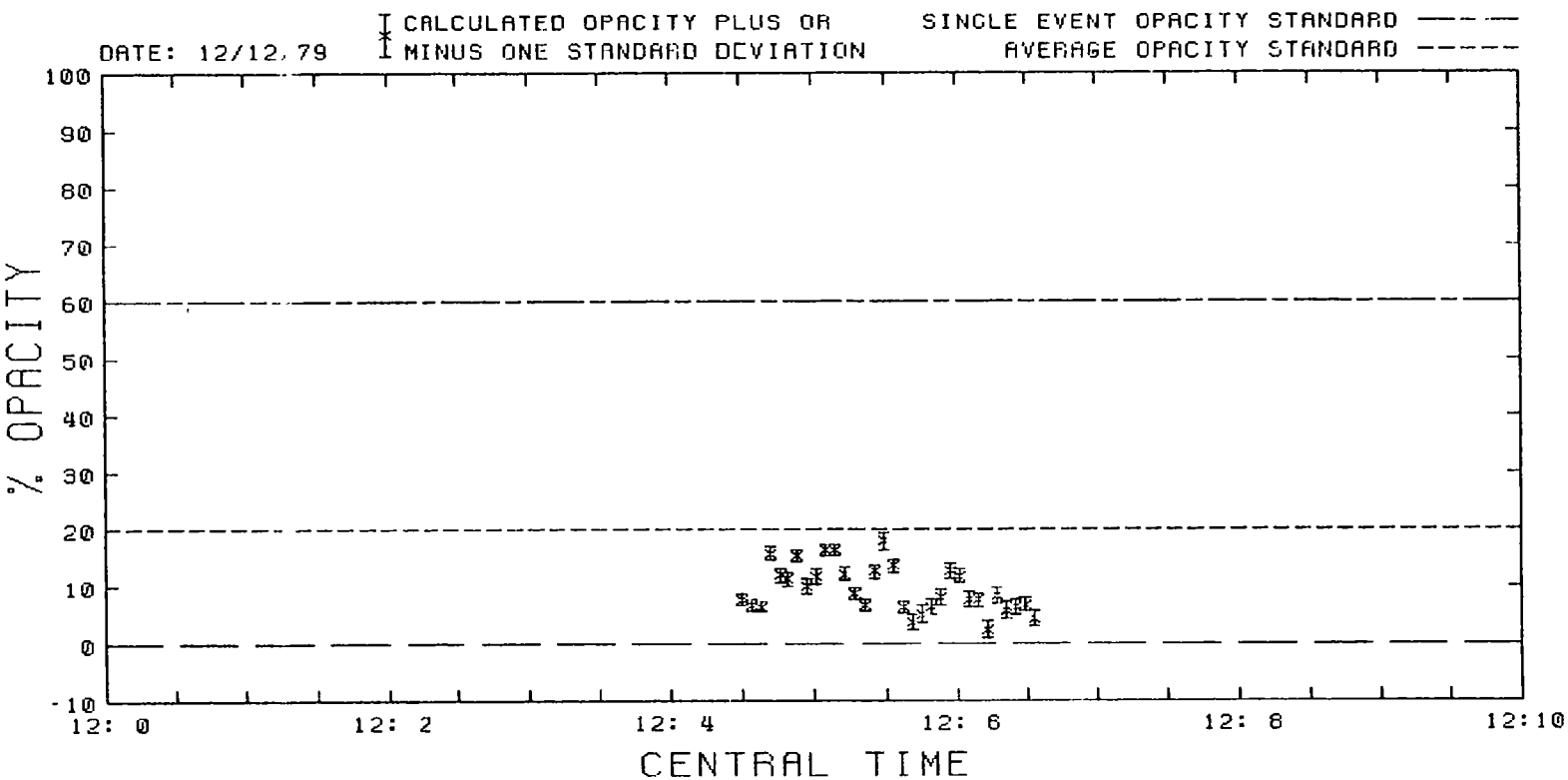

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