1 copy to Schnoker-SOC

**ERM-North Central, Inc.**
Environmental Resources Management

102 Wilmot Road • Suite 300 • Deerfield, Illinois 60015 ☎ (312) 940-7200

July 18, 1989

Mr. Michael Valentino
U.S. EPA - RERB MI/WI Section
Mail Code 5HS-11
230 S. Dearborn Street
Chicago, IL 60604

RE: Stoughton City Landfill
Technical Memorandum No. 3
Ambient Air Sampling Results Report

Dear Mike:

Enclosed please find 3 copies of Technical Memorandum No. 3 for your review and comment.

Please call if you have any questions or need any further information.

Very truly yours,

ERM-NORTH CENTRAL, INC.

John P. Imse,
Principal

jas
Enc.

cc: Robin Schmidt, WDNR (2 copies)
Robert Kardasz, City of Stoughton
Michael Doran, Strand Associates
Briand C. Wu, Uniroyal Plastics Company

# TECHNICAL MEMORANDUM NO. 3
# AMBIENT AIR SAMPLING RESULTS REPORT
# STOUGHTON CITY LANDFILL



**JULY 18, 1989**

**PREPARED BY:**

**ENVIRONMENTAL RESOURCES MANAGEMENT-NORTH CENTRAL, INC.**
**102 WILMOT ROAD, SUITE 300**
**DEERFIELD, ILLINOIS 60015**
**PROJECT NO. 8007**

# TECHNICAL MEMORANDUM NO. 3
# AMBIENT AIR SAMPLING RESULTS REPORT
# STOUGHTON CITY LANDFILL

## 1.0 INTRODUCTION

This Ambient Air Sampling Results Report (Technical Memorandum No. 3) is submitted at the direction of the Stoughton City Landfill Steering Committee in accordance with both Article IX, Part B.4 of the Administrative Order by Consent and the project schedule as outlined in Section 6.0 of the Work Plan for the Remedial Investigation and Feasibility Study, Stoughton City Landfill.

The purpose of the ambient air sampling was to evaluate the potential release of contaminants from the Stoughton City Landfill site to the air. This report describes the procedures used during the ambient air sampling and discusses the results of the analyses performed on the ambient air samples.

## 2.0 SAMPLING PROCEDURES

The ambient air sampling was conducted on May 25 and 26, 1989. A Weathertronics, Inc. weather station instrument was mounted atop a ten-foot portable tower and was used to locate the upwind and downwind sample locations. Temperature, barometric pressure, wind direction and wind speed were measured at one-minute intervals throughout the sampling period.

At each sampling location, air was drawn through activated charcoal tubes mounted atop ten-foot portable towers (Figure 1). Air was drawn through the tubes using a Gilian Model HFS 113A high-low flow personal sampling pump via tygon tubing. Just prior to sampling, the ends of the charcoal tubes were broken off, and the tubes were connected series. The second tube was a back-up for the first should break-through occurs. The pump was set at a flow rate of approximately 0.21 liters per minute, and was monitored with a calibrated rotameter.

On May 25, 1989, one upwind (U-2) and three downwind (D-1, D-2, and D-3) sampling locations were established (Figure 2). Due to shifting wind, an additional upwind location (U-1) was abandoned. The field sampling data forms are included in Appendix A. Table 1 lists the flow rates, duration of sampling, and total volume sampled. The total volume sampled ranged from 35.49 l. to 48.15 l. During the sampling interval, the average temperature was 71.2$^{o}$F and the average barometric pressure was 29.87 inches of Hg. The wind was erratic, but the prevalent wind direction was from the north-northeast. Wind speeds up to 11 mph were recorded. All weather data are included in Appendix B.

One upwind (U-3) and three downwind (D-4, D-5, and D-6) sampling locations (Figure 3) were established on the second day of sampling, May 26, 1989. A duplicate sample was obtained at location D-5. The duplicate sample was obtained from the same height as D-5 at a location two feet away from D-5. The field sampling data forms are included in Appendix A. Table 2 lists the flow rates, duration of sampling, and total volume sampled.

The total volume sampled ranged from 55.65 l to 64.35 l. During the sampling interval the average temperature was 69.3°F and the average barometric pressure was 30.08 inches of Hg. The prevalent wind direction was from the west-northwest. Wind speeds ranging up to 25 mph were recorded. All weather data are included in Appendix B.

## 3.0 ANALYTICAL RESULTS

Activated carbon sampling tubes were analyzed by Pace Laboratories, Inc. of Minneapolis, Minnesota. The samples were analyzed for the target VOCs by GC-FID. The analytical methodology is attached as Appendix C.

Except for sample D-5 (duplicate), no target VOCs were detected in the ambient air samples. Several VOCs were detected at concentrations close to the method detection limit in sample D-5 (duplicate), as summarized on Table 3. The complete analytical laboratory report is attached as Appendix D.

## 4.0 DISCUSSION OF ANALYTICAL RESULTS

Samples D-5 and D-5 (duplicate) were collected simultaneously from the same location (within 2 feet) and height. None of the VOCs detected in D-5 (duplicate) were detected above the detection limit in D-5, or any other sample.

Since D-5 and D-5 (duplicate) were sampling the same air volume, it is likely that the compounds detected in D-5 (duplicate) are not attributable to the landfill or site support activities while

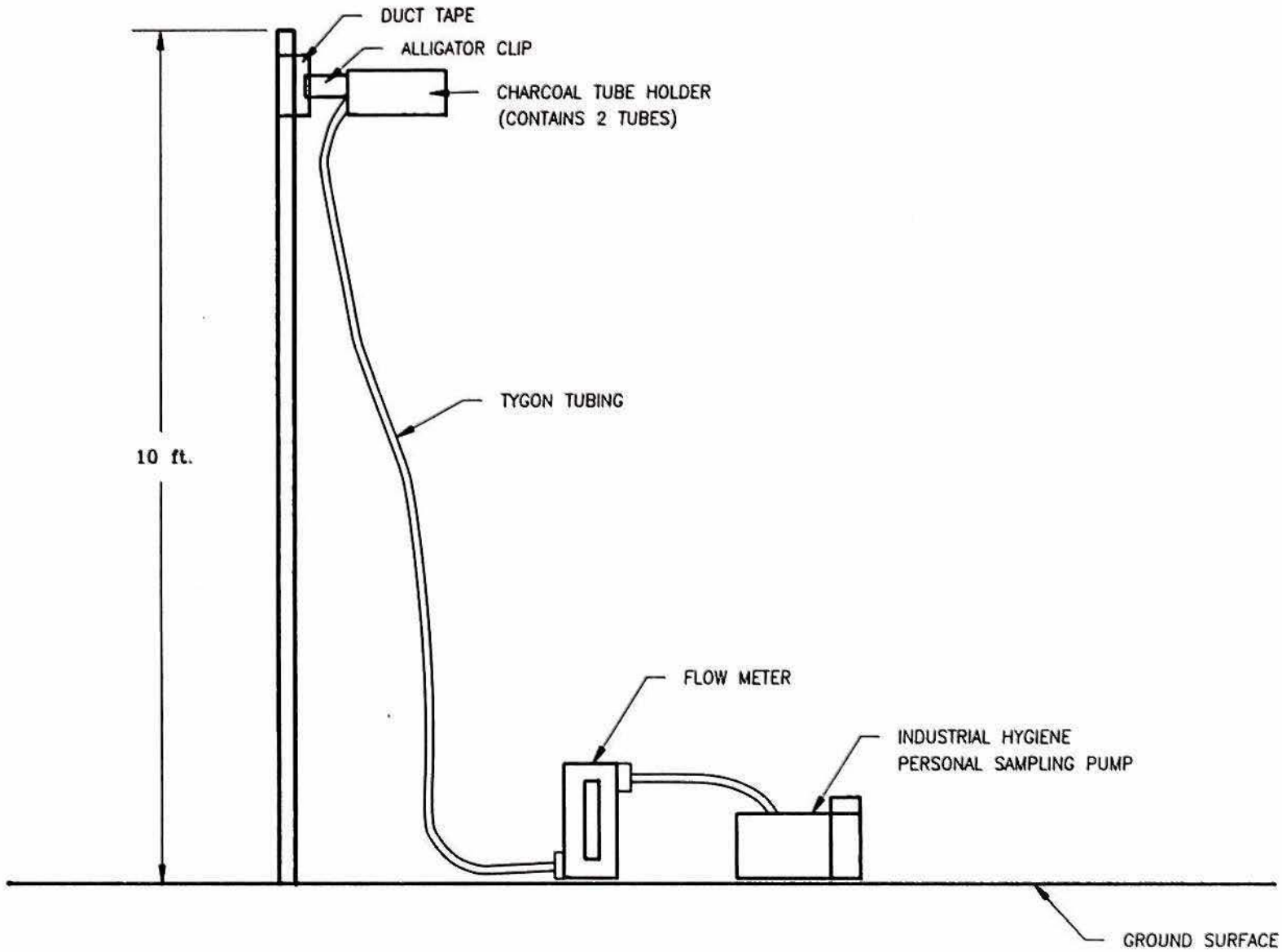
the samples were in place. It is possible, however, that contaminants were introduced during sample handling either prior to or subsequent to sampling. The contaminants detected in D-5 (duplicate) may be a result of sample handling in the site support area when vehicles were running. Additionally, the VOCs could have been introduced in the laboratory system.

## 5.0 SUMMARY

Ambient air sampling at the Stoughton City Landfill site was conducted on May 25 and 26, 1989. On each day, samples were collected from upwind and downwind locations. All samples were analyzed for Target VOCs.

Target VOCs were only detected D-5 (duplicate) at concentrations, just above the method detection limits. The results were not confirmed by Sample D-5 collected simultaneously from the same location. The VOCs detected in D-5 (duplicate) likely were derived from a source other than the Stoughton City Landfill site.

Based on the results of the ambient air sampling, there is no significant release of contaminants occurring at the Stoughton City Landfill site.




NOTE: NOT TO SCALE

| SCHEMATIC DIAGRAM<br>AMBIENT AIR SAMPLING TRAIN<br>STOUGHTON CITY LANDFILL | FIGURE<br>1 |
|---|---|
| ERM ERM–North Central, Inc. | 7/17/89<br>CS |

DANE COUNTY

N
360 0
270 90
180

PREVAILING WIND DIRECTION
WIND SPEED UP TO 11 MPH

YAHARA RIVER

NORTH LINE OF THE SOUTHWEST 1/4

WEST LINE OF THE SOUTHWEST 1/4

CITY OF STOUGHTON

FEMA FLOOD PLAIN
Elevation=843.0 ft.
(USGS Datum)

SKAALEN SUNSET HOME, INC.

391+00
390+00
389+00
388+00
387+00
386+00
385+00
384+00
383+00
382+00
381+00
380+00
379+00
378+00
377+00
376+00
375+00
374+00
373+00
372+00

122+00 122+50 123+00 123+50 124+00 124+50 125+00 125+50 126+00 126+50 127+00 127+50 128+00 128+50 129+00

POND
EARTH WALKWAY
U-1
U-2
D-1
D-2
D-3
SHELTER HOUSE
8" WATER MAIN
WEATHER STATION
SUPPORT AREA
GARAGE
VENNEVOLL, INC.
AMUNDSON PARKWAY

844 843 844 850 850 852 854 856 858 860 862 864 866 860 862 858 856 854 852 848 846 844 850 848 860 858 856 854 852 860 864 858 856 852 846

APPROX. SCALE (ft)
0 100 200

LEGEND

- PROPERTY LINE
- GRAVEL ROAD
- DRAINAGE DITCH
- WETLAND
- WEATHER STATION
- AMBIENT AIR SAMPLING LOCATION
- —858— TOPOGRAPHIC CONTOUR
- LANDFILL BOUNDARY (PER GEOPHYSICAL SURVEYS)

| | |
|---|---|
| STOUGHTON CITY LANDFILL<br>AMBIENT AIR<br>SAMPLING LOCATIONS<br>MAY 25, 1989 | FIGURE NO.<br>2 |
| ERM ERM–North Central, Inc. | 7/14/89<br>CS |

DANE COUNTY

N
360 0
270 90
180

PREVAILING WIND DIRECTION
WIND SPEED UP TO 25 MPH

YAHARA RIVER

NORTH LINE OF THE SOUTHWEST 1/4

WEST LINE OF THE SOUTHWEST 1/4

CITY OF STOUGHTON

FEMA FLOOD PLAIN
Elevation=843.0 ft.
(USGS Datum)

391+00
390+00
389+00
388+00
387+00
386+00
385+00
384+00
383+00
382+00
381+00
380+00
379+00
378+00
377+00
376+00
375+00
374+00
373+00
372+00

122+00 122+50 123+00 123+50 124+00 124+50 125+00 125+50 126+00 126+50 127+00 127+50 128+00 128+50 129+00

844
POND
EARTH WALKWAY
843
841
850
852
854
856
858
860
862
864
866
848
846
U-3
D-4
D-5
D-5d(REPLICATE 1)
D-6
SHELTER HOUSE
8" WATER MAIN
WEATHER STATION
SUPPORT AREA
GARAGE
VENNEVOLL, INC.
SKAALEN SUNSET HOME, INC.
AMUNDSON PARKWAY

APPROX. SCALE (ft)
0 100 200

LEGEND

- PROPERTY LINE
- GRAVEL ROAD
- DRAINAGE DITCH
- WETLAND
- WEATHER STATION
- AMBIENT AIR SAMPLING LOCATION
- 858 TOPOGRAPHIC CONTOUR
- LANDFILL BOUNDARY (PER GEOPHYSICAL SURVEYS)

| | |
|---|---|
| STOUGHTON CITY LANDFILL<br>AMBIENT AIR<br>SAMPLING LOCATIONS<br>MAY 26, 1989 | FIGURE NO.<br>3 |
| ERM ERM–North Central, Inc. | 7/17/89<br>cs |

TABLE 1

VOLUMES SAMPLED
MAY 25, 1989

| LOCATION | FLOW RATE (l/min) | DURATION (min) | VOLUME SAMPLED(l) | TOTAL VOLUME SAMPLED(l) | STANDARD VOLUME* CALCULATED(l) |
|---|---|---|---|---|---|
| U-2 | 0.21 | 169 | 35.49 | 35.49 | 35.22 |
| D-1 | 0.235 | 43 | 10.11 | 45.81 | 45.46 |
| | 0.21 | 170 | 35.70 | | |
| D-2 | 0.21 | 54 | 11.34 | 47.22 | 46.86 |
| | 0.22 | 81 | 17.82 | | |
| | 0.21 | 86 | 18.06 | | |
| D-3 | 0.225 | 60 | 13.50 | 48.15 | 47.78 |
| | 0.21 | 165 | 34.65 | | |

* Calculated as Follows:

$$V_{STD} = V \times \frac{528}{T+460} \times \frac{P}{29.92}$$

where: V = Volume of Air Sampled
T = Average Temperature = 71.2°F
P = Average Barometric Pressure = 29.87 inches Hg.

**TABLE 2**

**VOLUMES SAMPLED**
**MAY 26, 1989**

| LOCATION | FLOW RATE (l/min) | DURATION (min) | VOLUME SAMPLED(l) | TOTAL VOLUME SAMPLED(l) | STANDARD VOLUME* CALCULATED(l) |
|---|---|---|---|---|---|
| U-3 | 0.23 | 17 | 3.91 | 59.49 | 59.66 |
| | 0.21 | 118 | 27.78 | | |
| | 0.20 | 154 | 30.80 | | |
| D-4 | 0.20 | 16 | 3.20 | 59.51 | 59.68 |
| | 0.21 | 111 | 23.31 | | |
| | 0.22 | 150 | 33.00 | | |
| D-5 | | | | | |
| | 0.21 | 15 | 3.15 | 57.06 | 57.22 |
| | 0.20 | 111 | 22.20 | | |
| | 0.21 | 151 | 31.71 | | |
| D-5d (Replicate 1) | 0.21 | 265 | 55.65 | 55.65 | 55.81 |
| D-6 | 0.21 | 143 | 30.03 | 64.35 | 64.53 |
| | 0.22 | 156 | 34.32 | | |

* Calculated as Follows:

$$V_{STD} = V \times \frac{528}{T+460} \times \frac{P}{29.92}$$

where: V = Volume of Air Sampled
T = Average Temperature = 69.3°F
P = Average Barometric Pressure = 30.08 inches Hg.

**TABLE 3**

**SUMMARY OF ANALYTICAL RESULTS**

| COMPOUND | UNITS | METHOD DETECTION LIMIT | D-5 (DUPL.) |
|---|---|---|---|
| trans-1,2-dichloroethylene | ppm | 0.04 | 0.06 |
| Ethyl benzene | ppm | 0.01 | 0.02 |
| Toluene | ppm | 0.01 | 0.04 |
| Xylene, Total | ppm | 0.01 | 0.08 |

# APPENDIX A

ERM-North Central, Inc. Suite 300 • 102 Wilmot Road • Deerfield, Illinois 60015 • (312) 940-7200

Project Stoughton City Landfill W.O. No. 8007 Sheet ____ of ____
Subject Ambient Air Sampling By ____ Date ____
Chkd by ____ Date ____

5-25-89

SAMPLE LOCATION : 4-2

FLOW RATE : 0.2 lpm

| START TIME | FINISH TIME | ELAPSED TIME (MIN) |
|---|---|---|
| 11:52 | 14:41 | ~~X~~ 169 |

| TIME | FLOW METER READING | FLOW (lpm) | ADJUSTMENT |
|---|---|---|---|
| 13:39 | 48 | 0.21 | 48 |
| 14:41 | 48 | 0.21 | 48 |

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Project Stoughton City Landfill W.O. No. 8007 Sheet ___ of ___
Subject Ambient Air Sampling By ___ Date ___
Chkd by ___ Date ___

5-25-89

SAMPLE LOCATION : D-1

FLOW RATE : 0.2 lpm

| START TIME | FINISH TIME | ELAPSED TIME (MIN) |
|---|---|---|
| 11:27 | 15:00 | 213 |

43 50 120 170

| TIME | FLOW METER READING | FLOW (lpm) | ADJUSTMENT |
|---|---|---|---|
| 12:10 | 55 | 0.26 | 48 |
| 13:33 | 48 | 0.21 | 48 |
| 15:00 | 47 | 0.21 | — |

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Project Stoughton City Landfill W.O. No. 8007 Sheet ____ of ____
Subject Ambient Air Sampling By ____ Date ____
Chkd by ____ Date ____

5-25-89

SAMPLE LOCATION : D-2

FLOW RATE : 0.2 lpm

| START TIME | FINISH TIME | ELAPSED TIME (MIN) |
|---|---|---|
| 11:14 | 14:55 | 221 |

54 / 81 / 86

| TIME | FLOW METER READING | FLOW lpm | ADJUSTMENT |
|---|---|---|---|
| 12:08 | 48 | 0.21 | 48 |
| 13:29 | 50 | 0.23 | 48 |
| 14:55 | 48 | 0.21 | — |

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Project Stoughton City Landfill W.O. No. 8007 Sheet ____ of ____
Subject Ambient Air Sampling By ____ Date ____
Chkd by ____ Date ____

5-25-89

SAMPLE LOCATION : D-3

FLOW RATE : 0.2 lpm

| START TIME | FINISH TIME | ELAPSED TIME (MIN) |
|---|---|---|
| 11:06 | 14:51 | 225 |

| TIME | FLOW METER READING | FLOW lpm | ADJUSTMENT |
|---|---|---|---|
| 12:06 | 51 | 0.23 | 48 |
| 13:26 | 48 | 0.21 | 48 |
| 14:51 | 48 | 0.21 | — |

60
45
165

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Project Stoughton City Landfill W.O. No. 8007 Sheet ____ of ____
Subject Ambient Air Sampling By ____ Date ____
Chkd by ____ Date ____

5-26-89

SAMPLE LOCATION : U-3

FLOW RATE : 0.2 lpm

| START TIME | FINISH TIME | ELAPSED TIME (MIN) |
|---|---|---|
| 11:27 | 16:26 | 299 |

| TIME | FLOW METER READING | FLOW lpm | ADJUSTMENT |
|---|---|---|---|
| 11:27 | 48 | 0.21 | — |
| 11:49 | 48 | 0.21 | — |
| 13:50 | 48 | 0.21 | — |
| ~~16:08~~ | ~~48~~ | — | ~~—~~ |
| 16:26 | 51 | 0.23 | — |

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Project Stoughton City Landfill W.O. No. 8007 Sheet ___ of ___
Subject Ambient Air Sampling By ___ Date ___
Chkd by ___ Date ___

5-26-89

SAMPLE LOCATION : D-4

FLOW RATE : 0.2 lpm

| START TIME | FINISH TIME | ELAPSED TIME (MIN) |
|---|---|---|
| 11:54 | 16:23 | 289 |

| TIME | FLOW METER READING | FLOW lpm | ADJUSTMENT |
|---|---|---|---|
| 11:34 | 48 | 0.21 | — |
| 11:51 | 54 | 0.25 | 48 |
| 13:49 | 48 | 0.21 | — |
| 16:23 | 45 | ~~0.20~~ 0.19 | — |

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Project Stoughton City Landfill W.O. No. 8007 Sheet ____ of ____
Subject Ambient Air Sampling By ____ Date ____
Chkd by ____ Date ____

5-26-89

SAMPLE LOCATION : D-5

FLOW RATE :

| START TIME | FINISH TIME | ELAPSED TIME (MIN) |
|---|---|---|
| 11:37 | 16:14 | 277 |

| TIME | FLOW METER READING | FLOW lpm | ADJUSTMENT |
|---|---|---|---|
| 11:37 | 48 | 0.21 | — |
| 11:53 | ~~52~~ 44 | 0.19 | 48 |
| 13:44 | 48 | 0.21 | — |
| 16:14 | 51 | 0.23 | — |

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Project Stoughton City Landfill W.O. No. 8007 Sheet ___ of ___
Subject Ambient Air Sampling By ___ Date ___
Chkd by ___ Date ___

5-26-89

SAMPLE LOCATION : D-5d (Rep 1)

FLOW RATE : 0.2 lpm

| START TIME | FINISH TIME | ELAPSED TIME (MIN) |
|---|---|---|
| 11:39 | 16:16 | 277 |

| TIME | FLOW METER READING | FLOW lpm | ADJUSTMENT |
|---|---|---|---|
| 11:39 | 48 | 0.21 | — |
| 11:54 | 48 | 0.21 | — |
| 13:45 | 45 | ~~0.20~~ 0.19 | 48 |
| 16:16 | 48 | 0.21 | — |

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Project Stoughton City Landfill W.O. No. 8007 Sheet ___ of ___
Subject Ambient Air Sampling By ___ Date ___
Chkd by ___ Date ___

5-26-89

SAMPLE LOCATION : D-6

FLOW RATE : 0.2 lpm

| START TIME | FINISH TIME | ELAPSED TIME (MIN) |
|---|---|---|
| 11:43 | 16:08 | 265 |

| TIME | FLOW METER READING | FLOW lpm | ADJUSTMENT |
|---|---|---|---|
| 11:43 | 48 | 0.21 | — |
| 11:58 | 48 | 0.21 | — |
| 13:42 | 48 | 0.21 | — |
| 16:08 | 48 | 0.21 | — |

# APPENDIX B

1 - ON
2 - OFF

1 = A (OFF)
2 - B (OFF)
3 - E (OFF)
4 - KPH (OFF)

5/25/89

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 05/25 | 09:49 | 127 | 29.79 | 330 | 007 | 00.00 | 01 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 05/25 | 09:50 | 127 | 29.81 | 310 | 007 | 00.00 | 01 |
| 05/25 | 09:51 | 127 | 29.82 | 330 | 006 | 00.00 | 01 |
| 05/25 | 09:52 | 127 | 29.79 | 330 | 005 | 00.00 | 01 |
| 05/25 | 09:53 | 127 | 29.81 | 330 | 003 | 00.00 | 01 |
| 05/25 | 09:54 | 127 | 29.82 | 340 | 005 | 00.00 | 01 |
| 05/25 | 09:55 | 127 | 29.81 | 340 | 005 | 00.00 | 01 |
| 05/25 | 09:56 | 127 | 29.77 | 340 | 003 | 00.00 | 01 |
| 05/25 | 09:57 | 127 | 29.77 | 310 | 007 | 00.00 | 01 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 05/25 | 10:00 | 127 | 29.81 | 330 | 005 | 00.00 | 01 |
| 05/25 | 10:01 | 127 | 29.79 | 330 | 003 | 00.00 | 01 |
| 05/25 | 10:02 | 127 | 29.77 | 340 | 006 | 00.00 | 01 |
| 05/25 | 10:03 | 127 | 29.77 | 350 | 003 | 00.00 | 01 |
| 05/25 | 10:04 | 127 | 29.76 | 350 | 005 | 00.00 | 01 |
| 05/25 | 10:05 | 127 | | | | | |

| DATE | TIME | TOUT | BAROM | W-DR | W-SP | RAINF | HUM |
|---|---|---|---|---|---|---|---|
| 05/25 | 10:13 | 69 | 29.79 | 340 | 007 | 99.85 | 50 |
| 05/25 | 10:14 | 68 | 29.79 | 340 | 005 | 99.85 | 52 |
| 05/25 | 10:15 | 68 | 29.79 | 340 | 005 | 99.85 | 52 |
| 05/25 | 10:16 | 67 | 29.79 | 340 | 003 | 99.85 | 53 |
| 05/25 | 10:17 | 66 | 29.78 | 340 | 003 | 99.85 | 53 |
| 05/25 | 10:18 | 66 | 29.78 | 350 | 005 | 99.85 | 54 |
| 05/25 | 10:19 | 66 | 29.78 | 350 | 005 | 99.85 | 55 |
| 05/25 | 10:20 | 66 | 29.78 | 350 | 003 | 99.85 | 55 |
| 05/25 | 10:21 | 65 | 29.78 | 360 | 003 | 99.85 | 55 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 05/25 | 10:24 | 67 | 29.79 | 360 | 003 | 99.85 | 55 |
| 05/25 | 10:25 | 67 | 29.80 | 360 | 003 | 99.85 | 55 |
| 05/25 | 10:26 | 67 | 29.80 | 360 | 002 | 99.85 | 55 |
| 05/25 | 10:27 | 66 | 29.80 | 350 | 002 | 99.85 | 54 |
| 05/25 | 10:28 | 66 | 29.80 | 300 | 003 | 99.85 | 54 |
| 05/25 | 10:29 | 67 | 29.80 | 300 | 001 | 99.85 | 54 |
| 05/25 | 10:30 | 67 | 29.81 | 300 | 002 | 99.85 | 54 |
| 05/25 | 10:31 | 68 | 29.81 | 300 | 005 | 99.85 | 53 |
| 05/25 | 10:32 | 68 | 29.82 | 300 | 005 | 99.85 | 53 |
| 05/25 | 10:33 | 68 | 29.82 | 300 | 005 | 99.85 | 53 |
| 05/25 | 10:34 | 68 | 29.83 | 300 | 003 | 99.85 | 52 |
| 05/25 | 10:35 | 68 | 29.83 | 300 | 003 | 99.85 | 52 |
| 05/25 | 10:36 | 69 | 29.83 | 300 | 005 | 99.85 | 52 |
| 05/25 | 10:37 | 68 | 29.83 | 310 | 003 | 99.85 | 52 |
| 05/25 | 10:38 | 68 | 29.83 | 310 | 003 | 99.85 | 52 |
| 05/25 | 10:39 | 69 | 29.83 | 310 | 003 | 99.85 | 52 |
| 05/25 | 10:40 | 69 | 29.84 | 310 | 006 | 99.85 | 52 |
| 05/25 | 10:41 | 69 | 29.85 | 310 | 003 | 99.85 | 51 |
| 05/25 | 10:42 | 70 | 29.86 | 310 | 003 | 99.85 | 52 |
| 05/25 | 10:43 | 70 | 29.86 | 310 | 005 | 99.85 | 51 |
| 05/25 | 10:44 | 71 | 29.86 | 310 | 003 | 99.85 | 50 |
| 05/25 | 10:45 | 70 | 29.86 | 310 | 006 | 99.85 | 50 |
| 05/25 | 10:46 | 70 | 29.87 | 310 | 005 | 99.85 | 50 |
| 05/25 | 10:47 | 70 | 29.87 | 310 | 006 | 99.85 | 50 |
| 05/25 | 10:48 | 71 | 29.87 | 310 | 007 | 99.85 | 49 |
| 05/25 | 10:49 | 70 | 29.87 | 310 | 006 | 99.85 | 49 |
| 05/25 | 10:50 | 71 | 29.87 | 310 | 003 | 99.85 | 49 |
| 05/25 | 10:51 | 71 | 29.87 | 310 | 003 | 99.85 | 50 |
| 05/25 | 10:52 | 71 | 29.87 | 310 | 005 | 99.85 | 50 |
| 05/25 | 10:53 | 73 | 29.87 | 310 | 002 | 99.85 | 49 |
| 05/25 | 10:54 | 73 | 29.87 | 310 | 002 | 99.85 | 49 |
| 05/25 | 10:55 | 74 | 29.87 | 330 | 001 | 99.85 | 49 |
| 05/25 | 10:56 | 75 | 29.88 | 330 | 003 | 99.85 | 48 |
| 05/25 | 10:57 | 76 | 29.88 | 320 | 006 | 99.85 | 47 |
| 05/25 | 10:58 | 74 | 29.88 | 340 | 005 | 99.85 | 47 |
| 05/25 | 10:59 | 75 | 29.88 | 340 | 006 | 99.85 | 47 |
| 05/25 | 11:00 | 76 | 29.88 | 340 | 005 | 99.85 | 47 |
| 05/25 | 11:01 | 75 | 29.88 | 350 | 005 | 99.85 | 47 |
| 05/25 | 11:02 | 76 | 29.88 | 350 | 006 | 99.85 | 48 |
| 05/25 | 11:03 | 75 | 29.87 | 350 | 002 | 99.85 | 48 |
| 05/25 | 11:04 | 76 | 29.87 | 360 | 003 | 99.85 | 49 |
| 05/25 | 11:05 | 76 | 29.87 | 340 | 007 | 99.85 | 48 |
| 05/25 | 11:06 | 75 | 29.87 | 340 | 005 | 99.85 | 46 |
| 05/25 | 11:07 | 75 | 29.87 | 340 | 003 | 99.85 | 46 |
| 05/25 | 11:08 | 75 | 29.87 | 340 | 001 | 99.85 | 46 |
| 05/25 | 11:09 | 76 | 29.87 | 340 | 000 | 99.85 | 47 |
| 05/25 | 11:10 | 76 | 29.87 | 350 | 003 | 99.85 | 47 |
| 05/25 | 11:11 | 76 | 29.87 | 330 | 005 | 99.85 | 46 |
| 05/25 | 11:12 | 75 | 29.86 | 320 | 006 | 99.85 | 46 |
| 05/25 | 11:13 | 75 | 29.87 | 320 | 003 | 99.85 | 45 |
| 05/25 | 11:14 | 75 | 29.86 | 320 | 003 | 99.85 | 45 |
| 05/25 | 11:15 | 76 | 29.87 | 320 | 002 | 99.85 | 45 |
| 05/25 | 11:16 | 77 | 29.87 | 320 | 000 | 99.85 | 45 |
| 05/25 | 11:17 | 79 | 29.88 | 350 | 003 | 99.85 | 44 |
| 05/25 | 11:18 | 78 | 29.88 | 350 | 002 | 99.85 | 42 |
| 05/25 | 11:19 | 80 | 29.88 | 350 | 003 | 99.85 | 43 |
| 05/25 | 11:20 | 80 | 29.88 | 350 | 003 | 99.85 | 43 |
| 05/25 | 11:21 | 80 | 29.88 | 350 | 001 | 99.85 | 42 |
| 05/25 | 11:22 | 79 | 29.88 | 350 | 003 | 99.85 | 42 |
| 05/25 | 11:23 | 79 | 29.88 | 360 | 005 | 99.85 | 41 |
| 05/25 | 11:24 | 79 | 29.88 | 360 | 002 | 99.85 | 41 |
| 05/25 | 11:25 | 78 | 29.87 | 360 | 002 | 99.85 | 42 |

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|---|---|---|---|---|---|---|---|
| 05/25 | 11:26 | 77 | 29.87 | 360 | 003 | 99.85 | 43 |
| 05/25 | 11:27 | 78 | 29.87 | 340 | 005 | 99.85 | 43 |
| 05/25 | 11:28 | 77 | 29.87 | 340 | 005 | 99.85 | 42 |
| 05/25 | 11:29 | 75 | 29.88 | 340 | 005 | 99.85 | 41 |
| 05/25 | 11:30 | 74 | 29.88 | 340 | 006 | 99.85 | 42 |
| 05/25 | 11:31 | 75 | 29.89 | 340 | 003 | 99.85 | 41 |
| 05/25 | 11:32 | 73 | 29.88 | 350 | 006 | 99.85 | 42 |
| 05/25 | 11:33 | 73 | 29.89 | 350 | 005 | 99.85 | 42 |
| 05/25 | 11:34 | 73 | 29.88 | 350 | 002 | 99.85 | 43 |
| 05/25 | 11:35 | 73 | 29.88 | 350 | 006 | 99.85 | 44 |
| 05/25 | 11:36 | 73 | 29.88 | 340 | 007 | 99.85 | 45 |
| 05/25 | 11:37 | 73 | 29.88 | 340 | 005 | 99.85 | 46 |
| 05/25 | 11:38 | 73 | 29.87 | 350 | 003 | 99.85 | 47 |
| 05/25 | 11:39 | 73 | 29.88 | 350 | 005 | 99.85 | 47 |
| 05/25 | 11:40 | 72 | 29.88 | 340 | 006 | 99.85 | 47 |
| 05/25 | 11:41 | 72 | 29.89 | 350 | 007 | 99.85 | 48 |
| 05/25 | 11:42 | 72 | 29.88 | 330 | 011 | 99.85 | 49 |
| 05/25 | 11:43 | 70 | 29.88 | 340 | 006 | 99.85 | 49 |
| 05/25 | 11:44 | 70 | 29.88 | 350 | 006 | 99.85 | 49 |
| 05/25 | 11:45 | 70 | 29.88 | 350 | 006 | 99.85 | 50 |
| 05/25 | 11:46 | 71 | 29.88 | 350 | 003 | 99.85 | 52 |
| 05/25 | 11:47 | 73 | 29.87 | 350 | 007 | 99.85 | 50 |
| 05/25 | 11:48 | 74 | 29.87 | 340 | 010 | 99.85 | 48 |
| 05/25 | 11:49 | 74 | 29.86 | 350 | 008 | 99.85 | 47 |
| 05/25 | 11:50 | 76 | 29.86 | 350 | 007 | 99.85 | 47 |
| 05/25 | 11:51 | 75 | 29.86 | 350 | 006 | 99.85 | 46 |
| 05/25 | 11:52 | 75 | 29.86 | 350 | 011 | 99.85 | 47 |
| 05/25 | 11:53 | 73 | 29.85 | 360 | 008 | 99.85 | 45 |
| 05/25 | 11:54 | 72 | 29.84 | 030 | 005 | 99.85 | 46 |
| 05/25 | 11:55 | 72 | 29.84 | 360 | 008 | 99.85 | 46 |
| 05/25 | 11:56 | 72 | 29.84 | 350 | 005 | 99.85 | 47 |
| 05/25 | 11:57 | 72 | 29.84 | 010 | 007 | 99.85 | 49 |
| 05/25 | 11:58 | 73 | 29.84 | 360 | 005 | 99.85 | 48 |
| 05/25 | 11:59 | 74 | 29.84 | 360 | 006 | 99.85 | 47 |
| 05/25 | 12:00 | 75 | 29.85 | 360 | 003 | 99.85 | 46 |
| 05/25 | 12:01 | 78 | 29.85 | 350 | 005 | 99.85 | 46 |
| 05/25 | 12:02 | 79 | 29.86 | 350 | 006 | 99.85 | 44 |
| 05/25 | 12:03 | 79 | 29.86 | 350 | 003 | 99.85 | 43 |
| 05/25 | 12:04 | 78 | 29.86 | 350 | 003 | 99.85 | 42 |
| 05/25 | 12:05 | 78 | 29.86 | 350 | 003 | 99.85 | 42 |
| 05/25 | 12:06 | 78 | 29.86 | 350 | 003 | 99.85 | 42 |
| 05/25 | 12:07 | 77 | 29.86 | 350 | 000 | 99.85 | 42 |
| 05/25 | 12:08 | 79 | 29.86 | 350 | 001 | 99.85 | 42 |
| 05/25 | 12:09 | 81 | 29.86 | 350 | 000 | 99.85 | 40 |
| 05/25 | 12:10 | 83 | 29.87 | 350 | 002 | 99.85 | 39 |
| 05/25 | 12:11 | 83 | 29.87 | 350 | 000 | 99.85 | 39 |
| 05/25 | 12:12 | 87 | 29.88 | 350 | 005 | 99.85 | 40 |
| 05/25 | 12:13 | 87 | 29.88 | 350 | 003 | 99.85 | 39 |
| 05/25 | 12:14 | 86 | 29.89 | 010 | 000 | 99.85 | 37 |
| 05/25 | 12:15 | 86 | 29.88 | 010 | 002 | 99.85 | 37 |
| 05/25 | 12:16 | 87 | 29.89 | 010 | 002 | 99.85 | 37 |
| 05/25 | 12:17 | 84 | 29.88 | 010 | 001 | 99.85 | 36 |
| 05/25 | 12:18 | 82 | 29.88 | 010 | 000 | 99.85 | 36 |
| 05/25 | 12:19 | 80 | 29.89 | 010 | 002 | 99.85 | 36 |
| 05/25 | 12:20 | 77 | 29.89 | 010 | 002 | 99.85 | 36 |
| 05/25 | 12:21 | 76 | 29.89 | 010 | 001 | 99.85 | 37 |
| 05/25 | 12:22 | 73 | 29.89 | 010 | 002 | 99.85 | 39 |
| 05/25 | 12:23 | 72 | 29.89 | 010 | 000 | 99.85 | 40 |
| 05/25 | 12:24 | 71 | 29.90 | 010 | 000 | 99.85 | 41 |
| 05/25 | 12:25 | 70 | 29.90 | 010 | 000 | 99.85 | 41 |
| 05/25 | 12:26 | 70 | 29.90 | 010 | 000 | 99.85 | 42 |
| 05/25 | 12:27 | 68 | 29.90 | 010 | 002 | 99.85 | 42 |
| 05/25 | 12:28 | 67 | 29.91 | 340 | 005 | 99.85 | 44 |
| 05/25 | 12:29 | 67 | 29.90 | 320 | 006 | 99.85 | 44 |
| 05/25 | 12:30 | 67 | 29.91 | 320 | 005 | 99.85 | 45 |

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|---|---|---|---|---|---|---|---|
| 05/25 | 12:32 | 66 | 29.91 | 320 | 003 | 99.85 | 46 |
| 05/25 | 12:33 | 65 | 29.92 | 320 | 003 | 99.85 | 46 |
| 05/25 | 12:34 | 65 | 29.92 | 320 | 002 | 99.85 | 46 |
| 05/25 | 12:35 | 65 | 29.92 | 320 | 002 | 99.85 | 46 |
| 05/25 | 12:36 | 65 | 29.92 | 320 | 001 | 99.85 | 47 |
| 05/25 | 12:37 | 64 | 29.92 | 340 | 003 | 99.85 | 47 |
| 05/25 | 12:38 | 64 | 29.92 | 350 | 002 | 99.85 | 47 |
| 05/25 | 12:39 | 64 | 29.91 | 010 | 003 | 99.85 | 48 |
| 05/25 | 12:40 | 64 | 29.91 | 010 | 001 | 99.85 | 48 |
| 05/25 | 12:41 | 64 | 29.92 | 010 | 000 | 99.85 | 47 |
| 05/25 | 12:42 | 64 | 29.91 | 010 | 003 | 99.85 | 48 |
| 05/25 | 12:43 | 64 | 29.91 | 010 | 001 | 99.85 | 48 |
| 05/25 | 12:44 | 64 | 29.90 | 010 | 003 | 99.85 | 48 |
| 05/25 | 12:45 | 65 | 29.90 | 010 | 005 | 99.85 | 48 |
| 05/25 | 12:46 | 65 | 29.90 | 010 | 006 | 99.85 | 49 |
| 05/25 | 12:47 | 65 | 29.89 | 010 | 003 | 99.85 | 49 |
| 05/25 | 12:48 | 64 | 29.89 | 010 | 002 | 99.85 | 49 |
| 05/25 | 12:49 | 65 | 29.88 | 010 | 002 | 99.85 | 49 |
| 05/25 | 12:50 | 64 | 29.88 | 050 | 005 | 99.85 | 48 |
| 05/25 | 12:51 | 65 | 29.87 | 050 | 002 | 99.85 | 48 |
| 05/25 | 12:52 | 65 | 29.87 | 010 | 005 | 99.85 | 48 |
| 05/25 | 12:53 | 65 | 29.86 | 010 | 007 | 99.85 | 49 |
| 05/25 | 12:54 | 65 | 29.87 | 010 | 008 | 99.85 | 49 |
| 05/25 | 12:55 | 64 | 29.86 | 020 | 006 | 99.85 | 49 |
| 05/25 | 12:56 | 66 | 29.86 | 020 | 006 | 99.85 | 49 |
| 05/25 | 12:57 | 66 | 29.86 | 010 | 008 | 99.85 | 48 |
| 05/25 | 12:58 | 66 | 29.86 | 350 | 007 | 99.85 | 48 |
| 05/25 | 12:59 | 65 | 29.86 | 010 | 005 | 99.85 | 49 |
| 05/25 | 13:00 | 65 | 29.86 | 350 | 002 | 99.85 | 50 |
| 05/25 | 13:01 | 65 | 29.85 | 350 | 006 | 99.85 | 50 |
| 05/25 | 13:02 | 65 | 29.85 | 010 | 005 | 99.85 | 50 |
| 05/25 | 13:03 | 65 | 29.85 | 360 | 005 | 99.85 | 50 |
| 05/25 | 13:04 | 66 | 29.84 | 010 | 005 | 99.85 | 50 |
| 05/25 | 13:05 | 66 | 29.84 | 020 | 003 | 99.85 | 49 |
| 05/25 | 13:06 | 65 | 29.85 | 020 | 006 | 99.85 | 49 |
| 05/25 | 13:07 | 67 | 29.85 | 020 | 001 | 99.85 | 48 |
| 05/25 | 13:08 | 66 | 29.85 | 020 | 003 | 99.85 | 48 |
| 05/25 | 13:09 | 66 | 29.85 | 020 | 002 | 99.85 | 47 |
| 05/25 | 13:10 | 67 | 29.85 | 010 | 003 | 99.85 | 48 |
| 05/25 | 13:11 | 67 | 29.85 | 010 | 006 | 99.85 | 48 |
| 05/25 | 13:12 | 66 | 29.85 | 020 | 005 | 99.85 | 48 |
| 05/25 | 13:13 | 66 | 29.85 | 030 | 002 | 99.85 | 47 |
| 05/25 | 13:14 | 67 | 29.85 | 030 | 007 | 99.85 | 47 |
| 05/25 | 13:15 | 67 | 29.85 | 030 | 003 | 99.85 | 46 |
| 05/25 | 13:16 | 67 | 29.85 | 030 | 005 | 99.85 | 45 |
| 05/25 | 13:17 | 67 | 29.85 | 030 | 000 | 99.85 | 46 |
| 05/25 | 13:18 | 68 | 29.86 | 030 | 000 | 99.85 | 46 |
| 05/25 | 13:19 | 67 | 29.86 | 030 | 002 | 99.85 | 45 |
| 05/25 | 13:20 | 67 | 29.87 | 030 | 001 | 99.85 | 45 |
| 05/25 | 13:21 | 66 | 29.87 | 030 | 001 | 99.85 | 45 |
| 05/25 | 13:22 | 67 | 29.87 | 030 | 003 | 99.85 | 45 |
| 05/25 | 13:23 | 66 | 29.87 | 030 | 001 | 99.85 | 45 |
| 05/25 | 13:24 | 67 | 29.88 | 030 | 003 | 99.85 | 45 |
| 05/25 | 13:25 | 67 | 29.88 | 030 | 001 | 99.85 | 44 |
| 05/25 | 13:26 | 67 | 29.88 | 030 | 000 | 99.85 | 44 |
| 05/25 | 13:27 | 67 | 29.88 | 030 | 003 | 99.85 | 44 |
| 05/25 | 13:28 | 67 | 29.89 | 030 | 003 | 99.85 | 45 |
| 05/25 | 13:29 | 68 | 29.89 | 030 | 001 | 99.85 | 45 |
| 05/25 | 13:30 | 67 | 29.88 | 010 | 003 | 99.85 | 45 |
| 05/25 | 13:31 | 67 | 29.89 | 010 | 003 | 99.85 | 45 |
| 05/25 | 13:32 | 67 | 29.89 | 010 | 003 | 99.85 | 46 |
| 05/25 | 13:33 | 67 | 29.88 | 010 | 005 | 99.85 | 46 |
| 05/25 | 13:34 | 67 | 29.88 | 010 | 002 | 99.85 | 46 |
| 05/25 | 13:35 | 67 | 29.88 | 010 | 006 | 99.85 | 47 |
| 05/25 | 13:36 | 67 | 29.87 | 010 | 006 | 99.85 | 47 |

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|---|---|---|---|---|---|---|---|
| 05/25 | 13:38 | 67 | 29.87 | 360 | 005 | 99.85 | 47 |
| 05/25 | 13:39 | 66 | 29.88 | 360 | 006 | 99.85 | 47 |
| 05/25 | 13:40 | 67 | 29.88 | 010 | 005 | 99.85 | 47 |
| 05/25 | 13:41 | 66 | 29.88 | 010 | 006 | 99.85 | 48 |
| 05/25 | 13:42 | 66 | 29.88 | 010 | 005 | 99.85 | 48 |
| 05/25 | 13:43 | 66 | 29.87 | 010 | 005 | 99.85 | 48 |
| 05/25 | 13:44 | 66 | 29.87 | 010 | 005 | 99.85 | 48 |
| 05/25 | 13:45 | 66 | 29.87 | 010 | 005 | 99.85 | 48 |
| 05/25 | 13:46 | 66 | 29.87 | 010 | 002 | 99.85 | 47 |
| 05/25 | 13:47 | 66 | 29.87 | 010 | 001 | 99.85 | 47 |
| 05/25 | 13:48 | 67 | 29.88 | 010 | 003 | 99.85 | 46 |
| 05/25 | 13:49 | 67 | 29.87 | 010 | 001 | 99.85 | 46 |
| 05/25 | 13:50 | 67 | 29.88 | 010 | 002 | 99.85 | 45 |
| 05/25 | 13:51 | 67 | 29.88 | 010 | 002 | 99.85 | 44 |
| 05/25 | 13:52 | 68 | 29.88 | 010 | 001 | 99.85 | 44 |
| 05/25 | 13:53 | 68 | 29.89 | 010 | 003 | 99.85 | 44 |
| 05/25 | 13:54 | 69 | 29.89 | 010 | 001 | 99.85 | 44 |
| 05/25 | 13:55 | 69 | 29.88 | 040 | 001 | 99.85 | 43 |
| 05/25 | 13:56 | 69 | 29.88 | 040 | 000 | 99.85 | 43 |
| 05/25 | 13:57 | 69 | 29.88 | 040 | 001 | 99.85 | 42 |
| 05/25 | 13:58 | 70 | 29.88 | 030 | 006 | 99.85 | 42 |
| 05/25 | 13:59 | 70 | 29.88 | 030 | 000 | 99.85 | 41 |
| 05/25 | 14:00 | 70 | 29.88 | 030 | 000 | 99.85 | 40 |
| 05/25 | 14:01 | 70 | 29.89 | 030 | 001 | 99.85 | 40 |
| 05/25 | 14:02 | 70 | 29.89 | 030 | 005 | 99.85 | 40 |
| 05/25 | 14:03 | 71 | 29.89 | 030 | 003 | 99.85 | 40 |
| 05/25 | 14:04 | 71 | 29.90 | 030 | 001 | 99.85 | 39 |
| 05/25 | 14:05 | 71 | 29.90 | 030 | 000 | 99.85 | 39 |
| 05/25 | 14:06 | 71 | 29.90 | 030 | 003 | 99.85 | 38 |
| 05/25 | 14:07 | 71 | 29.89 | 010 | 005 | 99.85 | 38 |
| 05/25 | 14:08 | 71 | 29.89 | 010 | 002 | 99.85 | 38 |
| 05/25 | 14:09 | 72 | 29.90 | 010 | 003 | 99.85 | 39 |
| 05/25 | 14:10 | 72 | 29.89 | 010 | 001 | 99.85 | 39 |
| 05/25 | 14:11 | 73 | 29.90 | 070 | 003 | 99.85 | 38 |
| 05/25 | 14:12 | 73 | 29.90 | 070 | 002 | 99.85 | 37 |
| 05/25 | 14:13 | 74 | 29.90 | 070 | 002 | 99.85 | 36 |
| 05/25 | 14:14 | 74 | 29.91 | 090 | 006 | 99.85 | 34 |
| 05/25 | 14:15 | 74 | 29.90 | 090 | 003 | 99.85 | 33 |
| 05/25 | 14:16 | 74 | 29.90 | 090 | 001 | 99.85 | 32 |
| 05/25 | 14:17 | 75 | 29.90 | 090 | 002 | 99.85 | 31 |
| 05/25 | 14:18 | 75 | 29.89 | 090 | 003 | 99.85 | 31 |
| 05/25 | 14:19 | 74 | 29.89 | 090 | 002 | 99.85 | 31 |
| 05/25 | 14:20 | 74 | 29.89 | 090 | 003 | 99.85 | 31 |
| 05/25 | 14:21 | 74 | 29.89 | 090 | 005 | 99.85 | 32 |
| 05/25 | 14:22 | 74 | 29.89 | 090 | 003 | 99.85 | 33 |
| 05/25 | 14:23 | 73 | 29.88 | 090 | 005 | 99.85 | 32 |
| 05/25 | 14:24 | 74 | 29.89 | 090 | 005 | 99.85 | 32 |
| 05/25 | 14:25 | 72 | 29.89 | 110 | 003 | 99.85 | 33 |
| 05/25 | 14:26 | 72 | 29.89 | 120 | 003 | 99.85 | 34 |
| 05/25 | 14:27 | 72 | 29.88 | 120 | 001 | 99.85 | 35 |
| 05/25 | 14:28 | 72 | 29.88 | 120 | 001 | 99.85 | 35 |
| 05/25 | 14:29 | 72 | 29.88 | 120 | 002 | 99.85 | 35 |
| 05/25 | 14:30 | 72 | 29.88 | 120 | 000 | 99.85 | 35 |
| 05/25 | 14:31 | 71 | 29.88 | 100 | 001 | 99.85 | 35 |
| 05/25 | 14:32 | 72 | 29.87 | 090 | 006 | 99.85 | 36 |
| 05/25 | 14:33 | 72 | 29.86 | 110 | 007 | 99.85 | 36 |
| 05/25 | 14:34 | 72 | 29.86 | 100 | 003 | 99.85 | 35 |
| 05/25 | 14:35 | 71 | 29.86 | 100 | 002 | 99.85 | 36 |
| 05/25 | 14:36 | 72 | 29.86 | 090 | 003 | 99.85 | 35 |
| 05/25 | 14:37 | 71 | 29.86 | 090 | 005 | 99.85 | 35 |
| 05/25 | 14:38 | 71 | 29.85 | 090 | 007 | 99.85 | 35 |
| 05/25 | 14:39 | 71 | 29.85 | 100 | 005 | 99.85 | 34 |
| 05/25 | 14:40 | 71 | 29.84 | 090 | 006 | 99.85 | 34 |
| 05/25 | 14:41 | 72 | 29.84 | 090 | 003 | 99.85 | 34 |
| 05/25 | 14:42 | 72 | 29.84 | 090 | 003 | 99.85 | 33 |

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|---|---|---|---|---|---|---|---|
| 05/25 | 14:44 | 73 | 29.84 | 090 | 003 | 99.85 | 30 |
| 05/25 | 14:45 | 72 | 29.84 | 090 | 002 | 99.85 | 28 |
| 05/25 | 14:46 | 74 | 29.84 | 090 | 003 | 99.85 | 26 |
| 05/25 | 14:47 | 73 | 29.84 | 150 | 006 | 99.85 | 24 |
| 05/25 | 14:48 | 72 | 29.83 | 130 | 006 | 99.85 | 24 |
| 05/25 | 14:49 | 72 | 29.83 | 090 | 002 | 99.85 | 25 |
| 05/25 | 14:50 | 73 | 29.83 | 080 | 005 | 99.85 | 26 |
| 05/25 | 14:51 | 72 | 29.82 | 090 | 005 | 99.85 | 28 |
| 05/25 | 14:52 | 72 | 29.82 | 120 | 007 | 99.85 | 30 |
| 05/25 | 14:53 | 72 | 29.81 | 090 | 003 | 99.85 | 30 |
| 05/25 | 14:54 | 72 | 29.82 | 090 | 005 | 99.85 | 30 |
| 05/25 | 14:55 | 72 | 29.82 | 090 | 001 | 99.85 | 31 |
| 05/25 | 14:56 | 71 | 29.82 | 090 | 000 | 99.85 | 31 |
| 05/25 | 14:57 | 72 | 29.82 | 090 | 000 | 99.85 | 32 |
| 05/25 | 14:58 | 73 | 29.82 | 090 | 001 | 99.85 | 31 |
| 05/25 | 14:59 | 73 | 29.82 | 050 | 001 | 99.85 | 31 |
| 05/25 | 15:00 | 73 | 29.82 | 050 | 000 | 99.85 | 31 |
| 05/25 | 15:01 | 73 | 29.82 | 050 | 000 | 99.85 | 32 |
| 05/25 | 15:02 | 73 | 29.82 | 050 | 002 | 99.85 | 32 |
| 05/25 | 15:03 | 73 | 29.81 | 050 | 002 | 99.85 | 32 |
| 05/25 | 15:04 | 73 | 29.81 | 050 | 001 | 99.85 | 32 |
| 05/25 | 15:05 | 72 | 29.81 | 050 | 001 | 99.85 | 32 |
| 05/25 | 15:06 | 73 | 29.81 | 050 | 000 | 99.85 | 32 |
| 05/25 | 15:07 | 72 | 29.81 | 050 | 000 | 99.85 | 32 |
| 05/25 | 15:08 | 74 | 29.80 | 050 | 001 | 99.85 | 31 |

Finish ⇒

Stoughton City Landfill
Ambient Air Sampling
5/26/89

| Date | Time | (oF) Temp | Bar. | Wind Dir. | Wind Speed | rain | Rel. Hum |
|---|---|---|---|---|---|---|---|
| 06/26 | 07:56 | 61 | 29.67 | 290 | 008 | 00.00 | 51 |
| 06/26 | 07:57 | 60 | 29.68 | 270 | 010 | 00.00 | 51 |
| 06/26 | 07:58 | 60 | 29.69 | 320 | 006 | 00.00 | 50 |
| 06/26 | 07:59 | 61 | 29.70 | 260 | 010 | 00.00 | 51 |
| 06/26 | 08:00 | 61 | 29.71 | 300 | 011 | 00.00 | 51 |
| 06/26 | 08:01 | 62 | 29.72 | 290 | 007 | 00.00 | 50 |
| 06/26 | 08:02 | 62 | 29.73 | 310 | 007 | 00.00 | 50 |
| 06/26 | 08:03 | 61 | 29.74 | 310 | 008 | 00.00 | 50 |
| 06/26 | 08:04 | 61 | 29.74 | 290 | 006 | 00.00 | 49 |
| 06/26 | 08:05 | 61 | 29.75 | 320 | 005 | 00.00 | 49 |
| 06/26 | 08:06 | 61 | 29.76 | 300 | 005 | 00.00 | 49 |
| 06/26 | 08:07 | 61 | 29.76 | 310 | 005 | 00.00 | 49 |
| 06/26 | 08:08 | 61 | 29.77 | 300 | 010 | 00.00 | 50 |
| 06/26 | 08:09 | 62 | 29.78 | 320 | 005 | 00.00 | 50 |
| 06/26 | 08:10 | 62 | 29.78 | 300 | 010 | 00.00 | 50 |
| 06/26 | 08:11 | 61 | 29.79 | 330 | 005 | 00.00 | 50 |
| 06/26 | 08:12 | 62 | 29.79 | 290 | 011 | 00.00 | 49 |
| 06/26 | 08:13 | 61 | 29.80 | 320 | 010 | 00.00 | 49 |
| 06/26 | 08:14 | 62 | 29.80 | 310 | 010 | 00.00 | 49 |
| 06/26 | 08:15 | 62 | 29.81 | 300 | 013 | 00.00 | 50 |
| 06/26 | 08:16 | 62 | 29.81 | 310 | 007 | 00.00 | 49 |
| 06/26 | 08:17 | 62 | 29.81 | 310 | 008 | 00.00 | 49 |
| 06/26 | 08:18 | 62 | 29.82 | 300 | 006 | 00.00 | 49 |
| 06/26 | 08:19 | 62 | 29.82 | 290 | 012 | 00.00 | 49 |
| 06/26 | 08:20 | 62 | 29.83 | 300 | 008 | 00.00 | 49 |
| 06/26 | 08:21 | 62 | 29.84 | 260 | 012 | 00.00 | 49 |
| 06/26 | 08:22 | 62 | 29.84 | 290 | 006 | 00.00 | 47 |
| 06/26 | 08:23 | 62 | 29.85 | 310 | 012 | 00.00 | 47 |
| 06/26 | 08:24 | 62 | 29.85 | 310 | 006 | 00.00 | 47 |
| 06/26 | 08:25 | 62 | 29.84 | 310 | 008 | 00.00 | 48 |
| 06/26 | 08:26 | 62 | 29.85 | 350 | 010 | 00.00 | 48 |
| 06/26 | 08:27 | 62 | 29.85 | 280 | 007 | 00.00 | 47 |
| 06/26 | 08:28 | 61 | 29.85 | 320 | 006 | 00.00 | 47 |
| 06/26 | 08:29 | 62 | 29.86 | 290 | 010 | 00.00 | 47 |
| 06/26 | 08:30 | 62 | 29.86 | 320 | 005 | 00.00 | 48 |
| 06/26 | 08:31 | 63 | 29.86 | 310 | 011 | 00.00 | 48 |
| 06/26 | 08:32 | 63 | 29.87 | 300 | 006 | 00.00 | 48 |
| 06/26 | 08:33 | 62 | 29.86 | 320 | 005 | 00.00 | 49 |
| 06/26 | 08:34 | 63 | 29.87 | 320 | 011 | 00.00 | 49 |
| 06/26 | 08:35 | 62 | 29.88 | 290 | 013 | 00.00 | 49 |
| 06/26 | 08:36 | 63 | 29.87 | 290 | 006 | 00.00 | 49 |
| 06/26 | 08:37 | 62 | 29.87 | 310 | 008 | 00.00 | 48 |

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|---|---|---|---|---|---|---|---|
| 06/26 | 08:38 | 62 | 29.87 | 280 | 010 | 00.00 | 48 |
| 06/26 | 08:39 | 62 | 29.88 | 310 | 008 | 00.00 | 48 |
| 06/26 | 08:40 | 62 | 29.87 | 290 | 008 | 00.00 | 48 |
| 06/26 | 08:41 | 62 | 29.87 | 240 | 011 | 00.00 | 48 |
| 06/26 | 08:42 | 62 | 29.87 | 290 | 017 | 00.00 | 47 |
| 06/26 | 08:43 | 62 | 29.88 | 290 | 017 | 00.00 | 47 |
| 06/26 | 08:44 | 62 | 29.88 | 290 | 008 | 00.00 | 47 |
| 06/26 | 08:45 | 62 | 29.88 | 310 | 006 | 00.00 | 48 |
| 06/26 | 08:46 | 62 | 29.88 | 300 | 006 | 00.00 | 49 |
| 06/26 | 08:47 | 62 | 29.88 | 310 | 007 | 00.00 | 49 |
| 06/26 | 08:48 | 62 | 29.88 | 270 | 012 | 00.00 | 49 |
| 06/26 | 08:49 | 62 | 29.88 | 340 | 007 | 00.00 | 47 |
| 06/26 | 08:50 | 62 | 29.89 | 290 | 006 | 00.00 | 47 |
| 06/26 | 08:51 | 62 | 29.89 | 290 | 016 | 00.00 | 47 |
| 06/26 | 08:52 | 62 | 29.89 | 290 | 010 | 00.00 | 47 |
| 06/26 | 08:53 | 62 | 29.89 | 270 | 017 | 00.00 | 47 |
| 06/26 | 08:54 | 62 | 29.89 | 290 | 007 | 00.00 | 46 |
| 06/26 | 08:55 | 62 | 29.89 | 320 | 005 | 00.00 | 47 |
| 06/26 | 08:56 | 63 | 29.89 | 280 | 011 | 00.00 | 47 |
| 06/26 | 08:57 | 62 | 29.90 | 300 | 010 | 00.00 | 47 |
| 06/26 | 08:58 | 62 | 29.90 | 300 | 006 | 00.00 | 47 |
| 06/26 | 08:59 | 62 | 29.90 | 290 | 016 | 00.00 | 48 |
| 06/26 | 09:00 | 62 | 29.90 | 310 | 006 | 00.00 | 48 |
| 06/26 | 09:01 | 62 | 29.90 | 330 | 006 | 00.00 | 48 |
| 06/26 | 09:02 | 62 | 29.90 | 240 | 011 | 00.00 | 49 |
| 06/26 | 09:03 | 63 | 29.90 | 290 | 007 | 00.00 | 49 |
| 06/26 | 09:04 | 62 | 29.90 | 260 | 015 | 00.00 | 48 |
| 06/26 | 09:05 | 63 | 29.91 | 290 | 012 | 00.00 | 47 |
| 06/26 | 09:06 | 62 | 29.90 | 250 | 010 | 00.00 | 47 |
| 06/26 | 09:07 | 63 | 29.91 | 270 | 010 | 00.00 | 47 |
| 06/26 | 09:08 | 62 | 29.91 | 300 | 012 | 00.00 | 47 |
| 06/26 | 09:09 | 62 | 29.91 | 310 | 007 | 00.00 | 48 |
| 06/26 | 09:10 | 62 | 29.91 | 310 | 007 | 00.00 | 47 |
| 06/26 | 09:11 | 62 | 29.91 | 280 | 012 | 00.00 | 48 |
| 06/26 | 09:12 | 62 | 29.91 | 310 | 005 | 00.00 | 48 |
| 06/26 | 09:13 | 62 | 29.91 | 310 | 005 | 00.00 | 49 |
| 06/26 | 09:14 | 63 | 29.91 | 280 | 013 | 00.00 | 50 |
| 06/26 | 09:15 | 63 | 29.91 | 290 | 007 | 00.00 | 48 |
| 06/26 | 09:16 | 63 | 29.92 | 290 | 012 | 00.00 | 47 |
| 06/26 | 09:17 | 63 | 29.92 | 260 | 008 | 00.00 | 47 |
| 06/26 | 09:18 | 62 | 29.92 | 310 | 005 | 00.00 | 47 |
| 06/26 | 09:19 | 62 | 29.92 | 290 | 008 | 00.00 | 47 |
| 06/26 | 09:20 | 63 | 29.93 | 300 | 008 | 00.00 | 47 |
| 06/26 | 09:21 | 63 | 29.93 | 260 | 007 | 00.00 | 48 |
| 06/26 | 09:22 | 63 | 29.93 | 260 | 015 | 00.00 | 48 |
| 06/26 | 09:23 | 62 | 29.92 | 280 | 008 | 00.00 | 47 |
| 06/26 | 09:24 | 63 | 29.93 | 310 | 006 | 00.00 | 48 |
| 06/26 | 09:25 | 63 | 29.92 | 310 | 007 | 00.00 | 48 |
| 06/26 | 09:26 | 63 | 29.93 | 310 | 010 | 00.00 | 48 |
| 06/26 | 09:27 | 63 | 29.93 | 310 | 008 | 00.00 | 49 |
| 06/26 | 09:28 | 63 | 29.92 | 320 | 007 | 00.00 | 48 |
| 06/26 | 09:29 | 63 | 29.92 | 320 | 005 | 00.00 | 48 |
| 06/26 | 09:30 | 63 | 29.92 | 290 | 007 | 00.00 | 48 |
| 06/26 | 09:31 | 63 | 29.92 | 310 | 008 | 00.00 | 47 |
| 06/26 | 09:32 | 63 | 29.91 | 310 | 006 | 00.00 | 47 |
| 06/26 | 09:33 | 63 | 29.92 | 290 | 010 | 00.00 | 46 |
| 06/26 | 09:34 | 63 | 29.92 | 280 | 013 | 00.00 | 46 |
| 06/26 | 09:35 | 63 | 29.91 | 310 | 008 | 00.00 | 46 |
| 06/26 | 09:36 | 63 | 29.91 | 290 | 010 | 00.00 | 46 |
| 06/26 | 09:37 | 64 | 29.91 | 300 | 006 | 00.00 | 46 |
| 06/26 | 09:38 | 63 | 29.92 | 300 | 007 | 00.00 | 46 |
| 06/26 | 09:39 | 63 | 29.91 | 330 | 008 | 00.00 | 47 |
| 06/26 | 09:40 | 64 | 29.92 | 320 | 008 | 00.00 | 47 |
| 06/26 | 09:41 | 63 | 29.91 | 310 | 007 | 00.00 | 47 |
| 06/26 | 09:42 | 63 | 29.91 | 320 | 005 | 00.00 | 47 |
| 06/26 | 09:43 | 64 | 29.91 | 310 | 008 | 00.00 | 47 |

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|---|---|---|---|---|---|---|---|
| 06/26 | 09:45 | 63 | 29.92 | 310 | 010 | 00.00 | 47 |
| 06/26 | 09:46 | 64 | 29.91 | 320 | 007 | 00.00 | 47 |
| 06/26 | 09:47 | 64 | 29.92 | 310 | 006 | 00.00 | 47 |
| 06/26 | 09:48 | 64 | 29.91 | 310 | 006 | 00.00 | 47 |
| 06/26 | 09:49 | 64 | 29.92 | 320 | 007 | 00.00 | 47 |
| 06/26 | 09:50 | 64 | 29.92 | 310 | 006 | 00.00 | 47 |
| 06/26 | 09:51 | 64 | 29.92 | 300 | 008 | 00.00 | 47 |
| 06/26 | 09:52 | 64 | 29.93 | 310 | 010 | 00.00 | 47 |
| 06/26 | 09:53 | 64 | 29.92 | 260 | 013 | 00.00 | 47 |
| 06/26 | 09:54 | 64 | 29.93 | 270 | 013 | 00.00 | 46 |
| 06/26 | 09:55 | 64 | 29.93 | 250 | 018 | 00.00 | 46 |
| 06/26 | 09:56 | 64 | 29.93 | 210 | 011 | 00.00 | 46 |
| 06/26 | 09:57 | 65 | 29.93 | 290 | 011 | 00.00 | 45 |
| 06/26 | 09:58 | 64 | 29.93 | 260 | 016 | 00.00 | 45 |
| 06/26 | 09:59 | 64 | 29.94 | 290 | 013 | 00.00 | 45 |
| 06/26 | 10:00 | 64 | 29.94 | 300 | 010 | 00.00 | 45 |
| 06/26 | 10:01 | 64 | 29.94 | 300 | 011 | 00.00 | 46 |
| 06/26 | 10:02 | 64 | 29.95 | 260 | 016 | 00.00 | 46 |
| 06/26 | 10:03 | 64 | 29.95 | 290 | 008 | 00.00 | 46 |
| 06/26 | 10:04 | 65 | 29.94 | 300 | 005 | 00.00 | 46 |
| 06/26 | 10:05 | 64 | 29.96 | 290 | 007 | 00.00 | 47 |
| 06/26 | 10:06 | 64 | 29.95 | 270 | 008 | 00.00 | 47 |
| 06/26 | 10:07 | 64 | 29.96 | 250 | 011 | 00.00 | 46 |
| 06/26 | 10:08 | 64 | 29.96 | 280 | 007 | 00.00 | 45 |
| 06/26 | 10:09 | 64 | 29.97 | 330 | 020 | 00.00 | 45 |
| 06/26 | 10:10 | 65 | 29.97 | 270 | 012 | 00.00 | 45 |
| 06/26 | 10:11 | 65 | 29.96 | 340 | 010 | 00.00 | 45 |
| 06/26 | 10:12 | 64 | 29.96 | 300 | 011 | 00.00 | 45 |
| 06/26 | 10:13 | 64 | 29.96 | 300 | 012 | 00.00 | 45 |
| 06/26 | 10:14 | 64 | 29.96 | 300 | 007 | 00.00 | 46 |
| 06/26 | 10:15 | 64 | 29.96 | 310 | 007 | 00.00 | 47 |
| 06/26 | 10:16 | 65 | 29.95 | 300 | 012 | 00.00 | 47 |
| 06/26 | 10:17 | 65 | 29.96 | 300 | 008 | 00.00 | 46 |
| 06/26 | 10:18 | 65 | 29.96 | 290 | 011 | 00.00 | 47 |
| 06/26 | 10:19 | 65 | 29.96 | 260 | 013 | 00.00 | 47 |
| 06/26 | 10:20 | 65 | 29.96 | 310 | 013 | 00.00 | 45 |
| 06/26 | 10:21 | 65 | 29.96 | 240 | 012 | 00.00 | 46 |
| 06/26 | 10:22 | 65 | 29.96 | 260 | 012 | 00.00 | 45 |
| 06/26 | 10:23 | 64 | 29.97 | 310 | 006 | 00.00 | 45 |
| 06/26 | 10:24 | 65 | 29.97 | 260 | 010 | 00.00 | 46 |
| 06/26 | 10:25 | 64 | 29.97 | 280 | 012 | 00.00 | 46 |
| 06/26 | 10:26 | 65 | 29.97 | 290 | 008 | 00.00 | 46 |
| 06/26 | 10:27 | 65 | 29.98 | 290 | 008 | 00.00 | 47 |
| 06/26 | 10:28 | 64 | 29.97 | 250 | 015 | 00.00 | 46 |
| 06/26 | 10:29 | 65 | 29.98 | 290 | 007 | 00.00 | 45 |
| 06/26 | 10:30 | 65 | 29.98 | 300 | 008 | 00.00 | 46 |
| 06/26 | 10:31 | 65 | 29.98 | 280 | 010 | 00.00 | 46 |
| 06/26 | 10:32 | 65 | 29.98 | 290 | 015 | 00.00 | 46 |
| 06/26 | 10:33 | 65 | 29.98 | 300 | 008 | 00.00 | 45 |
| 06/26 | 10:34 | 65 | 29.98 | 310 | 010 | 00.00 | 44 |
| 06/26 | 10:35 | 65 | 29.99 | 310 | 006 | 00.00 | 45 |
| 06/26 | 10:36 | 65 | 29.99 | 300 | 011 | 00.00 | 45 |
| 06/26 | 10:37 | 65 | 29.99 | 300 | 012 | 00.00 | 45 |
| 06/26 | 10:38 | 65 | 30.00 | 280 | 022 | 00.00 | 45 |
| 06/26 | 10:39 | 65 | 29.99 | 290 | 008 | 00.00 | 45 |
| 06/26 | 10:40 | 65 | 29.99 | 290 | 010 | 00.00 | 45 |
| 06/26 | 10:41 | 66 | 29.99 | 290 | 007 | 00.00 | 45 |
| 06/26 | 10:42 | 66 | 30.00 | 290 | 012 | 00.00 | 45 |
| 06/26 | 10:43 | 66 | 29.99 | 310 | 006 | 00.00 | 45 |
| 06/26 | 10:44 | 66 | 30.00 | 280 | 011 | 00.00 | 45 |
| 06/26 | 10:45 | 66 | 29.99 | 280 | 020 | 00.00 | 45 |
| 06/26 | 10:46 | 66 | 29.99 | 290 | 008 | 00.00 | 45 |
| 06/26 | 10:47 | 66 | 29.99 | 260 | 015 | 00.00 | 44 |
| 06/26 | 10:48 | 66 | 29.99 | 280 | 010 | 00.00 | 44 |
| 06/26 | 10:49 | 66 | 30.00 | 280 | 010 | 00.00 | 44 |

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|---|---|---|---|---|---|---|---|
| 06/26 | 10:51 | 66 | 30.00 | 300 | 007 | 00.00 | 44 |
| 06/26 | 10:52 | 66 | 30.00 | 290 | 007 | 00.00 | 45 |
| 06/26 | 10:53 | 66 | 30.00 | 300 | 008 | 00.00 | 45 |
| 06/26 | 10:54 | 66 | 30.01 | 280 | 011 | 00.00 | 45 |
| 06/26 | 10:55 | 66 | 30.00 | 300 | 012 | 00.00 | 45 |
| 06/26 | 10:56 | 66 | 30.01 | 280 | 012 | 00.00 | 44 |
| 06/26 | 10:57 | 66 | 30.01 | 260 | 018 | 00.00 | 44 |
| 06/26 | 10:58 | 66 | 30.01 | 260 | 011 | 00.00 | 43 |
| 06/26 | 10:59 | 66 | 30.00 | 300 | 008 | 00.00 | 43 |
| 06/26 | 11:00 | 66 | 30.01 | 250 | 020 | 00.00 | 43 |
| 06/26 | 11:01 | 66 | 30.01 | 250 | 017 | 00.00 | 43 |
| 06/26 | 11:02 | 66 | 30.02 | 320 | 008 | 00.00 | 43 |
| 06/26 | 11:03 | 66 | 30.01 | 280 | 012 | 00.00 | 45 |
| 06/26 | 11:04 | 66 | 30.02 | 260 | 015 | 00.00 | 46 |
| 06/26 | 11:05 | 66 | 30.02 | 260 | 017 | 00.00 | 44 |
| 06/26 | 11:06 | 66 | 30.02 | 270 | 011 | 00.00 | 43 |
| 06/26 | 11:07 | 66 | 30.03 | 270 | 015 | 00.00 | 43 |
| 06/26 | 11:08 | 66 | 30.03 | 310 | 017 | 00.00 | 42 |
| 06/26 | 11:09 | 66 | 30.03 | 300 | 013 | 00.00 | 43 |
| 06/26 | 11:10 | 66 | 30.02 | 310 | 007 | 00.00 | 43 |
| 06/26 | 11:11 | 66 | 30.03 | 290 | 015 | 00.00 | 44 |
| 06/26 | 11:12 | 66 | 30.02 | 300 | 011 | 00.00 | 43 |
| 06/26 | 11:13 | 66 | 30.03 | 290 | 013 | 00.00 | 43 |
| 06/26 | 11:14 | 66 | 30.02 | 260 | 016 | 00.00 | 44 |
| 06/26 | 11:15 | 66 | 30.03 | 270 | 010 | 00.00 | 44 |
| 06/26 | 11:16 | 66 | 30.03 | 290 | 008 | 00.00 | 44 |
| 06/26 | 11:17 | 67 | 30.03 | 320 | 006 | 00.00 | 44 |
| 06/26 | 11:18 | 67 | 30.03 | 310 | 008 | 00.00 | 44 |
| 06/26 | 11:19 | 67 | 30.03 | 300 | 010 | 00.00 | 44 |
| 06/26 | 11:20 | 67 | 30.03 | 250 | 016 | 00.00 | 44 |
| 06/26 | 11:21 | 67 | 30.03 | 250 | 017 | 00.00 | 43 |
| 06/26 | 11:22 | 67 | 30.04 | 290 | 010 | 00.00 | 42 |
| 06/26 | 11:23 | 67 | 30.04 | 320 | 005 | 00.00 | 42 |
| 06/26 | 11:24 | 67 | 30.04 | 290 | 011 | 00.00 | 42 |
| 06/26 | 11:25 | 67 | 30.04 | 270 | 008 | 00.00 | 42 |
| 06/26 | 11:26 | 67 | 30.04 | 260 | 008 | 00.00 | 42 |
| 06/26 | → 11:27 | 67 | 30.04 | 260 | 007 | 00.00 | 42 |
| 06/26 | 11:28 | 67 | 30.05 | 260 | 015 | 00.00 | 42 |
| 06/26 | 11:29 | 67 | 30.05 | 290 | 010 | 00.00 | 42 |
| 06/26 | 11:30 | 67 | 30.05 | 290 | 011 | 00.00 | 43 |
| 06/26 | 11:31 | 67 | 30.05 | 260 | 013 | 00.00 | 44 |
| 06/26 | 11:32 | 67 | 30.05 | 290 | 015 | 00.00 | 44 |
| 06/26 | 11:33 | 67 | 30.05 | 300 | 011 | 00.00 | 43 |
| 06/26 | 11:34 | 67 | 30.05 | 260 | 013 | 00.00 | 44 |
| 06/26 | 11:35 | 67 | 30.05 | 290 | 013 | 00.00 | 43 |
| 06/26 | 11:36 | 68 | 30.05 | 290 | 016 | 00.00 | 43 |
| 06/26 | 11:37 | 68 | 30.05 | 280 | 016 | 00.00 | 42 |
| 06/26 | 11:38 | 67 | 30.05 | 310 | 011 | 00.00 | 41 |
| 06/26 | 11:39 | 67 | 30.05 | 280 | 013 | 00.00 | 42 |
| 06/26 | 11:40 | 67 | 30.05 | 290 | 008 | 00.00 | 42 |
| 06/26 | 11:41 | 67 | 30.04 | 270 | 010 | 00.00 | 42 |
| 06/26 | 11:42 | 67 | 30.04 | 290 | 010 | 00.00 | 43 |
| 06/26 | 11:43 | 67 | 30.05 | 290 | 012 | 00.00 | 43 |
| 06/26 | 11:44 | 67 | 30.04 | 290 | 013 | 00.00 | 43 |
| 06/26 | 11:45 | 67 | 30.05 | 260 | 007 | 00.00 | 43 |
| 06/26 | 11:46 | 68 | 30.04 | 280 | 011 | 00.00 | 42 |
| 06/26 | 11:47 | 67 | 30.05 | 290 | 012 | 00.00 | 41 |
| 06/26 | 11:48 | 68 | 30.05 | 260 | 017 | 00.00 | 41 |
| 06/26 | 11:49 | 67 | 30.05 | 250 | 010 | 00.00 | 41 |
| 06/26 | 11:50 | 67 | 30.05 | 260 | 017 | 00.00 | 40 |
| 06/26 | 11:51 | 67 | 30.05 | 300 | 013 | 00.00 | 40 |
| 06/26 | 11:52 | 67 | 30.05 | 290 | 008 | 00.00 | 40 |
| 06/26 | 11:53 | 67 | 30.06 | 270 | 018 | 00.00 | 40 |
| 06/26 | 11:54 | 67 | 30.05 | 300 | 011 | 00.00 | 40 |
| 06/26 | 11:55 | 67 | 30.05 | 270 | 008 | 00.00 | 40 |

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|---|---|---|---|---|---|---|---|
| 06/26 | 11:57 | 67 | 30.06 | 290 | 011 | 00.00 | 40 |
| 06/26 | 11:58 | 67 | 30.06 | 250 | 015 | 00.00 | 41 |
| 06/26 | 11:59 | 67 | 30.06 | 260 | 013 | 00.00 | 40 |
| 06/26 | 12:00 | 67 | 30.06 | 310 | 012 | 00.00 | 40 |
| 06/26 | 12:01 | 68 | 30.06 | 270 | 011 | 00.00 | 40 |
| 06/26 | 12:02 | 68 | 30.05 | 310 | 008 | 00.00 | 40 |
| 06/26 | 12:03 | 67 | 30.05 | 310 | 010 | 00.00 | 40 |
| 06/26 | 12:04 | 68 | 30.06 | 260 | 021 | 00.00 | 40 |
| 06/26 | 12:05 | 68 | 30.06 | 260 | 015 | 00.00 | 39 |
| 06/26 | 12:06 | 68 | 30.05 | 260 | 011 | 00.00 | 39 |
| 06/26 | 12:07 | 68 | 30.05 | 280 | 012 | 00.00 | 40 |
| 06/26 | 12:08 | 68 | 30.05 | 300 | 008 | 00.00 | 39 |
| 06/26 | 12:09 | 68 | 30.05 | 250 | 010 | 00.00 | 39 |
| 06/26 | 12:10 | 68 | 30.06 | 280 | 013 | 00.00 | 39 |
| 06/26 | 12:11 | 67 | 30.06 | 310 | 015 | 00.00 | 39 |
| 06/26 | 12:12 | 68 | 30.05 | 320 | 008 | 00.00 | 39 |
| 06/26 | 12:13 | 67 | 30.05 | 300 | 007 | 00.00 | 39 |
| 06/26 | 12:14 | 68 | 30.05 | 310 | 015 | 00.00 | 40 |
| 06/26 | 12:15 | 68 | 30.06 | 330 | 013 | 00.00 | 41 |
| 06/26 | 12:16 | 68 | 30.05 | 300 | 016 | 00.00 | 41 |
| 06/26 | 12:17 | 68 | 30.05 | 290 | 013 | 00.00 | 40 |
| 06/26 | 12:18 | 68 | 30.05 | 280 | 007 | 00.00 | 40 |
| 06/26 | 12:19 | 67 | 30.05 | 300 | 008 | 00.00 | 40 |
| 06/26 | 12:20 | 68 | 30.06 | 300 | 008 | 00.00 | 41 |
| 06/26 | 12:21 | 68 | 30.06 | 300 | 008 | 00.00 | 41 |
| 06/26 | 12:22 | 68 | 30.05 | 310 | 011 | 00.00 | 41 |
| 06/26 | 12:23 | 68 | 30.05 | 320 | 007 | 00.00 | 40 |
| 06/26 | 12:24 | 68 | 30.06 | 280 | 015 | 00.00 | 39 |
| 06/26 | 12:25 | 68 | 30.06 | 290 | 010 | 00.00 | 39 |
| 06/26 | 12:26 | 68 | 30.06 | 300 | 012 | 00.00 | 40 |
| 06/26 | 12:27 | 68 | 30.06 | 310 | 010 | 00.00 | 40 |
| 06/26 | 12:28 | 68 | 30.06 | 310 | 006 | 00.00 | 40 |
| 06/26 | 12:29 | 69 | 30.06 | 310 | 007 | 00.00 | 41 |
| 06/26 | 12:30 | 70 | 30.06 | 270 | 011 | 00.00 | 41 |
| 06/26 | 12:31 | 70 | 30.07 | 300 | 016 | 00.00 | 41 |
| 06/26 | 12:32 | 71 | 30.07 | 290 | 012 | 00.00 | 42 |
| 06/26 | 12:33 | 72 | 30.07 | 290 | 013 | 00.00 | 41 |
| 06/26 | 12:34 | 72 | 30.07 | 290 | 021 | 00.00 | 39 |
| 06/26 | 12:35 | 71 | 30.06 | 310 | 010 | 00.00 | 38 |
| 06/26 | 12:36 | 71 | 30.06 | 300 | 012 | 00.00 | 38 |
| 06/26 | 12:37 | 70 | 30.07 | 320 | 016 | 00.00 | 39 |
| 06/26 | 12:38 | 71 | 30.06 | 310 | 008 | 00.00 | 39 |
| 06/26 | 12:39 | 72 | 30.07 | 300 | 018 | 00.00 | 40 |
| 06/26 | 12:40 | 72 | 30.07 | 250 | 013 | 00.00 | 39 |
| 06/26 | 12:41 | 72 | 30.07 | 240 | 010 | 00.00 | 37 |
| 06/26 | 12:42 | 73 | 30.07 | 270 | 017 | 00.00 | 37 |
| 06/26 | 12:43 | 73 | 30.07 | 240 | 023 | 00.00 | 38 |
| 06/26 | 12:44 | 73 | 30.07 | 260 | 013 | 00.00 | 36 |
| 06/26 | 12:45 | 73 | 30.07 | 220 | 016 | 00.00 | 36 |
| 06/26 | 12:46 | 74 | 30.07 | 280 | 015 | 00.00 | 36 |
| 06/26 | 12:47 | 73 | 30.07 | 290 | 016 | 00.00 | 35 |
| 06/26 | 12:48 | 73 | 30.07 | 270 | 015 | 00.00 | 36 |
| 06/26 | 12:49 | 74 | 30.08 | 300 | 017 | 00.00 | 37 |
| 06/26 | 12:50 | 74 | 30.08 | 310 | 008 | 00.00 | 37 |
| 06/26 | 12:51 | 74 | 30.07 | 290 | 011 | 00.00 | 36 |
| 06/26 | 12:52 | 74 | 30.07 | 270 | 007 | 00.00 | 36 |
| 06/26 | 12:53 | 74 | 30.08 | 290 | 012 | 00.00 | 36 |
| 06/26 | 12:54 | 74 | 30.07 | 280 | 008 | 00.00 | 36 |
| 06/26 | 12:55 | 74 | 30.08 | 260 | 016 | 00.00 | 36 |
| 06/26 | 12:56 | 75 | 30.08 | 310 | 010 | 00.00 | 36 |
| 06/26 | 12:57 | 75 | 30.08 | 300 | 008 | 00.00 | 35 |
| 06/26 | 12:58 | 75 | 30.09 | 280 | 017 | 00.00 | 36 |
| 06/26 | 12:59 | 75 | 30.08 | 310 | 017 | 00.00 | 34 |
| 06/26 | 13:00 | 74 | 30.09 | 270 | 022 | 00.00 | 33 |
| 06/26 | 13:01 | 74 | 30.09 | 290 | 010 | 00.00 | 34 |

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| 06/26 | 13:03 | 73 | 30.09 | 300 | 006 | 00.00 | 35 |
| 06/26 | 13:04 | 73 | 30.09 | 310 | 010 | 00.00 | 36 |
| 06/26 | 13:05 | 74 | 30.08 | 270 | 012 | 00.00 | 35 |
| 06/26 | 13:06 | 75 | 30.09 | 260 | 015 | 00.00 | 35 |
| 06/26 | 13:07 | 75 | 30.09 | 280 | 020 | 00.00 | 34 |
| 06/26 | 13:08 | 75 | 30.09 | 290 | 011 | 00.00 | 34 |
| 06/26 | 13:09 | 75 | 30.09 | 300 | 013 | 00.00 | 35 |
| 06/26 | 13:10 | 75 | 30.09 | 300 | 010 | 00.00 | 35 |
| 06/26 | 13:11 | 74 | 30.09 | 320 | 007 | 00.00 | 34 |
| 06/26 | 13:12 | 73 | 30.09 | 310 | 007 | 00.00 | 35 |
| 06/26 | 13:13 | 74 | 30.10 | 300 | 015 | 00.00 | 35 |
| 06/26 | 13:14 | 74 | 30.09 | 330 | 015 | 00.00 | 35 |
| 06/26 | 13:15 | 73 | 30.09 | 310 | 012 | 00.00 | 35 |
| 06/26 | 13:16 | 73 | 30.10 | 300 | 012 | 00.00 | 35 |
| 06/26 | 13:17 | 73 | 30.09 | 290 | 012 | 00.00 | 35 |
| 06/26 | 13:18 | 72 | 30.09 | 300 | 013 | 00.00 | 35 |
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| 06/26 | 13:20 | 71 | 30.09 | 290 | 012 | 00.00 | 36 |
| 06/26 | 13:21 | 71 | 30.10 | 260 | 017 | 00.00 | 35 |
| 06/26 | 13:22 | 71 | 30.10 | 320 | 011 | 00.00 | 34 |
| 06/26 | 13:23 | 71 | 30.10 | 270 | 011 | 00.00 | 35 |
| 06/26 | 13:24 | 72 | 30.10 | 280 | 017 | 00.00 | 34 |
| 06/26 | 13:25 | 72 | 30.09 | 250 | 025 | 00.00 | 34 |
| 06/26 | 13:26 | 73 | 30.11 | 290 | 018 | 00.00 | 33 |
| 06/26 | 13:27 | 74 | 30.11 | 280 | 015 | 00.00 | 33 |
| 06/26 | 13:28 | 74 | 30.10 | 260 | 018 | 00.00 | 34 |
| 06/26 | 13:29 | 74 | 30.10 | 280 | 013 | 00.00 | 33 |
| 06/26 | 13:30 | 74 | 30.10 | 310 | 011 | 00.00 | 32 |
| 06/26 | 13:31 | 74 | 30.10 | 270 | 015 | 00.00 | 33 |
| 06/26 | 13:32 | 74 | 30.10 | 260 | 015 | 00.00 | 33 |
| 06/26 | 13:33 | 75 | 30.11 | 280 | 012 | 00.00 | 33 |
| 06/26 | 13:34 | 74 | 30.11 | 310 | 008 | 00.00 | 34 |
| 06/26 | 13:35 | 75 | 30.11 | 290 | 010 | 00.00 | 35 |
| 06/26 | 13:36 | 76 | 30.12 | 290 | 013 | 00.00 | 34 |
| 06/26 | 13:37 | 76 | 30.11 | 290 | 021 | 00.00 | 33 |
| 06/26 | 13:38 | 75 | 30.11 | 260 | 010 | 00.00 | 32 |
| 06/26 | 13:39 | 75 | 30.11 | 290 | 012 | 00.00 | 32 |
| 06/26 | 13:40 | 74 | 30.11 | 290 | 010 | 00.00 | 32 |
| 06/26 | 13:41 | 73 | 30.12 | 280 | 018 | 00.00 | 32 |
| 06/26 | 13:42 | 73 | 30.11 | 320 | 011 | 00.00 | 33 |
| 06/26 | 13:43 | 73 | 30.11 | 290 | 015 | 00.00 | 35 |
| 06/26 | 13:44 | 73 | 30.11 | 300 | 010 | 00.00 | 35 |
| 06/26 | 13:45 | 73 | 30.12 | 310 | 013 | 00.00 | 35 |
| 06/26 | 13:46 | 73 | 30.10 | 240 | 015 | 00.00 | 34 |
| 06/26 | 13:47 | 73 | 30.11 | 290 | 011 | 00.00 | 34 |
| 06/26 | 13:48 | 73 | 30.11 | 290 | 010 | 00.00 | 35 |
| 06/26 | 13:49 | 73 | 30.11 | 270 | 008 | 00.00 | 35 |
| 06/26 | 13:50 | 73 | 30.11 | 260 | 007 | 00.00 | 34 |
| 06/26 | 13:51 | 72 | 30.12 | 290 | 010 | 00.00 | 34 |
| 06/26 | 13:52 | 73 | 30.12 | 260 | 020 | 00.00 | 35 |
| 06/26 | 13:53 | 73 | 30.12 | 230 | 012 | 00.00 | 34 |
| 06/26 | 13:54 | 73 | 30.12 | 260 | 018 | 00.00 | 34 |
| 06/26 | 13:55 | 72 | 30.13 | 260 | 011 | 00.00 | 33 |
| 06/26 | 13:56 | 72 | 30.13 | 290 | 016 | 00.00 | 33 |
| 06/26 | 13:57 | 72 | 30.13 | 260 | 012 | 00.00 | 34 |
| 06/26 | 13:58 | 72 | 30.13 | 300 | 006 | 00.00 | 35 |
| 06/26 | 13:59 | 72 | 30.13 | 260 | 013 | 00.00 | 34 |
| 06/26 | 14:00 | 72 | 30.13 | 270 | 015 | 00.00 | 34 |
| 06/26 | 14:01 | 72 | 30.13 | 290 | 013 | 00.00 | 34 |
| 06/26 | 14:02 | 72 | 30.13 | 270 | 013 | 00.00 | 34 |
| 06/26 | 14:03 | 72 | 30.14 | 290 | 006 | 00.00 | 34 |
| 06/26 | 14:04 | 72 | 30.13 | 290 | 013 | 00.00 | 35 |
| 06/26 | 14:05 | 72 | 30.13 | 280 | 012 | 00.00 | 34 |
| 06/26 | 14:06 | 71 | 30.14 | 280 | 011 | 00.00 | 34 |
| 06/26 | 14:07 | 72 | 30.13 | 290 | 008 | 00.00 | 34 |

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|---|---|---|---|---|---|---|---|
| 06/26 | 14:09 | 72° | 30.14 | 280 | 016 | 00.00 | 34 |
| 06/26 | 14:10 | 71° | 30.15 | 300 | 017 | 00.00 | 34 |
| 06/26 | 14:11 | 71° | 30.14 | 280 | 007 | 00.00 | 34 |
| 06/26 | 14:12 | 71° | 30.14 | 350 | 008 | 00.00 | 34 |
| 06/26 | 14:13 | 71° | 30.13 | 300 | 013 | 00.00 | 34 |
| 06/26 | 14:14 | 71° | 30.14 | 260 | 008 | 00.00 | 35 |
| 06/26 | 14:15 | 71° | 30.14 | 240 | 010 | 00.00 | 32 |
| 06/26 | 14:16 | 71° | 30.14 | 300 | 012 | 00.00 | 32 |
| 06/26 | 14:17 | 71° | 30.14 | 290 | 011 | 00.00 | 33 |
| 06/26 | 14:18 | 71° | 30.14 | 310 | 011 | 00.00 | 33 |
| 06/26 | 14:19 | 71° | 30.15 | 260 | 015 | 00.00 | 33 |
| 06/26 | 14:20 | 70° | 30.14 | 290 | 013 | 00.00 | 33 |
| 06/26 | 14:21 | 70° | 30.15 | 290 | 012 | 00.00 | 33 |
| 06/26 | 14:22 | 69° | 30.14 | 260 | 012 | 00.00 | 33 |
| 06/26 | 14:23 | 69° | 30.14 | 270 | 007 | 00.00 | 33 |
| 06/26 | 14:24 | 68° | 30.14 | 300 | 013 | 00.00 | 34 |
| 06/26 | 14:25 | 69° | 30.14 | 250 | 013 | 00.00 | 35 |
| 06/26 | 14:26 | 69° | 30.15 | 290 | 018 | 00.00 | 35 |
| 06/26 | 14:27 | 69° | 30.14 | 270 | 012 | 00.00 | 35 |
| 06/26 | 14:28 | 69° | 30.14 | 230 | 017 | 00.00 | 35 |
| 06/26 | 14:29 | 69° | 30.14 | 300 | 017 | 00.00 | 34 |
| 06/26 | 14:30 | 69° | 30.14 | 310 | 016 | 00.00 | 35 |
| 06/26 | 14:31 | 69° | 30.14 | 290 | 005 | 00.00 | 36 |
| 06/26 | 14:32 | 69° | 30.14 | 250 | 012 | 00.00 | 35 |
| 06/26 | 14:33 | 69° | 30.14 | 260 | 016 | 00.00 | 34 |
| 06/26 | 14:34 | 69° | 30.14 | 350 | 011 | 00.00 | 34 |
| 06/26 | 14:35 | 69° | 30.15 | 270 | 023 | 00.00 | 35 |
| 06/26 | 14:36 | 70° | 30.14 | 270 | 015 | 00.00 | 34 |
| 06/26 | 14:37 | 70° | 30.14 | 280 | 015 | 00.00 | 34 |
| 06/26 | 14:38 | 70° | 30.13 | 290 | 011 | 00.00 | 33 |
| 06/26 | 14:39 | 70° | 30.13 | 260 | 016 | 00.00 | 34 |
| 06/26 | 14:40 | 70° | 30.14 | 270 | 017 | 00.00 | 34 |
| 06/26 | 14:41 | 70° | 30.13 | 260 | 012 | 00.00 | 34 |
| 06/26 | 14:42 | 70° | 30.14 | 250 | 013 | 00.00 | 33 |
| 06/26 | 14:43 | 70° | 30.14 | 240 | 032 | 00.00 | 33 |
| 06/26 | 14:44 | 70° | 30.14 | 280 | 012 | 00.00 | 32 |
| 06/26 | 14:45 | 70° | 30.14 | 260 | 018 | 00.00 | 33 |
| 06/26 | 14:46 | 70° | 30.13 | 290 | 015 | 00.00 | 33 |
| 06/26 | 14:47 | 69° | 30.14 | 260 | 012 | 00.00 | 32 |
| 06/26 | 14:48 | 69° | 30.14 | 290 | 008 | 00.00 | 33 |
| 06/26 | 14:49 | 69° | 30.14 | 280 | 012 | 00.00 | 33 |
| 06/26 | 14:50 | 69° | 30.14 | 300 | 012 | 00.00 | 34 |
| 06/26 | 14:51 | 68° | 30.14 | 300 | 010 | 00.00 | 33 |
| 06/26 | 14:52 | 68° | 30.14 | 300 | 017 | 00.00 | 34 |
| 06/26 | 14:53 | 68° | 30.14 | 310 | 011 | 00.00 | 34 |
| 06/26 | 14:54 | 68° | 30.14 | 310 | 010 | 00.00 | 35 |
| 06/26 | 14:55 | 67° | 30.14 | 280 | 012 | 00.00 | 35 |
| 06/26 | 14:56 | 67° | 30.14 | 300 | 012 | 00.00 | 35 |
| 06/26 | 14:57 | 67° | 30.14 | 290 | 016 | 00.00 | 35 |
| 06/26 | 14:58 | 66° | 30.13 | 290 | 016 | 00.00 | 35 |
| 06/26 | 14:59 | 66° | 30.14 | 300 | 015 | 00.00 | 35 |
| 06/26 | 15:00 | 66° | 30.13 | 270 | 011 | 00.00 | 35 |
| 06/26 | 15:01 | 66° | 30.13 | 310 | 013 | 00.00 | 36 |
| 06/26 | 15:02 | 66° | 30.12 | 290 | 012 | 00.00 | 36 |
| 06/26 | 15:03 | 66° | 30.12 | 300 | 011 | 00.00 | 37 |
| 06/26 | 15:04 | 66° | 30.13 | 310 | 010 | 00.00 | 38 |
| 06/26 | 15:05 | 67° | 30.12 | 310 | 008 | 00.00 | 38 |
| 06/26 | 15:06 | 67° | 30.13 | 310 | 007 | 00.00 | 38 |
| 06/26 | 15:07 | 67° | 30.13 | 290 | 013 | 00.00 | 38 |
| 06/26 | 15:08 | 67° | 30.13 | 300 | 007 | 00.00 | 38 |
| 06/26 | 15:09 | 68° | 30.13 | 310 | 008 | 00.00 | 38 |
| 06/26 | 15:10 | 68° | 30.13 | 300 | 015 | 00.00 | 37 |
| 06/26 | 15:11 | 69° | 30.13 | 260 | 016 | 00.00 | 37 |
| 06/26 | 15:12 | 68° | 30.13 | 280 | 011 | 00.00 | 35 |
| 06/26 | 15:13 | 68° | 30.13 | 300 | 008 | 00.00 | 36 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 06/26 | 15:14 | 68 | 30.14 | 330 | 017 | 00.00 | 38 |
| 06/26 | 15:15 | 68 | 30.14 | 300 | 012 | 00.00 | 36 |
| 06/26 | 15:16 | 67 | 30.13 | 290 | 017 | 00.00 | 35 |
| 06/26 | 15:17 | 67 | 30.13 | 280 | 011 | 00.00 | 35 |
| 06/26 | 15:18 | 67 | 30.13 | 300 | 010 | 00.00 | 35 |
| 06/26 | 15:19 | 66 | 30.13 | 290 | 011 | 00.00 | 36 |
| 06/26 | 15:20 | 66 | 30.13 | 310 | 013 | 00.00 | 36 |
| 06/26 | 15:21 | 66 | 30.13 | 310 | 013 | 00.00 | 37 |
| 06/26 | 15:22 | 66 | 30.13 | 300 | 011 | 00.00 | 37 |
| 06/26 | 15:23 | 66 | 30.13 | 290 | 011 | 00.00 | 37 |
| 06/26 | 15:24 | 66 | 30.13 | 310 | 010 | 00.00 | 37 |
| 06/26 | 15:25 | 66 | 30.13 | 280 | 010 | 00.00 | 38 |
| 06/26 | 15:26 | 66 | 30.12 | 290 | 010 | 00.00 | 38 |
| 06/26 | 15:27 | 66 | 30.13 | 290 | 007 | 00.00 | 39 |
| 06/26 | 15:28 | 67 | 30.13 | 290 | 011 | 00.00 | 38 |
| 06/26 | 15:29 | 67 | 30.13 | 290 | 015 | 00.00 | 37 |
| 06/26 | 15:30 | 68 | 30.13 | 250 | 022 | 00.00 | 36 |
| 06/26 | 15:31 | 68 | 30.13 | 280 | 010 | 00.00 | 36 |
| 06/26 | 15:32 | 67 | 30.13 | 300 | 015 | 00.00 | 36 |
| 06/26 | 15:33 | 67 | 30.12 | 320 | 011 | 00.00 | 36 |
| 06/26 | 15:34 | 67 | 30.12 | 310 | 013 | 00.00 | 36 |
| 06/26 | 15:35 | 67 | 30.12 | 300 | 012 | 00.00 | 37 |
| 06/26 | 15:36 | 67 | 30.12 | 300 | 012 | 00.00 | 37 |
| 06/26 | 15:37 | 67 | 30.13 | 310 | 007 | 00.00 | 37 |
| 06/26 | 15:38 | 67 | 30.13 | 310 | 015 | 00.00 | 37 |
| 06/26 | 15:39 | 68 | 30.13 | 310 | 015 | 00.00 | 37 |
| 06/26 | 15:40 | 67 | 30.12 | 290 | 011 | 00.00 | 36 |
| 06/26 | 15:41 | 67 | 30.12 | 290 | 012 | 00.00 | 36 |
| 06/26 | 15:42 | 67 | 30.13 | 300 | 010 | 00.00 | 36 |
| 06/26 | 15:43 | 67 | 30.12 | 290 | 013 | 00.00 | 36 |
| 06/26 | 15:44 | 67 | 30.13 | 290 | 010 | 00.00 | 37 |
| 06/26 | 15:45 | 66 | 30.12 | 320 | 016 | 00.00 | 36 |
| 06/26 | 15:46 | 66 | 30.12 | 310 | 007 | 00.00 | 37 |
| 06/26 | 15:47 | 66 | 30.12 | 300 | 008 | 00.00 | 37 |
| 06/26 | 15:48 | 65 | 30.12 | 310 | 007 | 00.00 | 38 |
| 06/26 | 15:49 | 65 | 30.12 | 290 | 017 | 00.00 | 38 |
| 06/26 | 15:50 | 65 | 30.12 | 310 | 010 | 00.00 | 38 |
| 06/26 | 15:51 | 65 | 30.12 | 310 | 012 | 00.00 | 38 |
| 06/26 | 15:52 | 65 | 30.12 | 310 | 013 | 00.00 | 39 |
| 06/26 | 15:53 | 65 | 30.12 | 300 | 012 | 00.00 | 39 |
| 06/26 | 15:54 | 64 | 30.12 | 310 | 015 | 00.00 | 39 |
| 06/26 | 15:55 | 64 | 30.12 | 320 | 007 | 00.00 | 39 |
| 06/26 | 15:56 | 64 | 30.11 | 340 | 007 | 00.00 | 39 |
| 06/26 | 15:57 | 64 | 30.11 | 300 | 021 | 00.00 | 39 |
| 06/26 | 15:58 | 64 | 30.12 | 290 | 010 | 00.00 | 39 |
| 06/26 | 15:59 | 65 | 30.11 | 290 | 018 | 00.00 | 39 |
| 06/26 | 16:00 | 65 | 30.12 | 300 | 012 | 00.00 | 39 |
| 06/26 | 16:01 | 65 | 30.11 | 300 | 013 | 00.00 | 39 |
| 06/26 | 16:02 | 65 | 30.11 | 310 | 007 | 00.00 | 39 |
| 06/26 | 16:03 | 66 | 30.11 | 280 | 017 | 00.00 | 39 |
| 06/26 | 16:04 | 66 | 30.11 | 300 | 008 | 00.00 | 38 |
| 06/26 | 16:05 | 66 | 30.11 | 300 | 010 | 00.00 | 38 |
| 06/26 | 16:06 | 66 | 30.11 | 290 | 011 | 00.00 | 38 |
| 06/26 | 16:07 | 66 | 30.12 | 270 | 012 | 00.00 | 38 |
| 06/26 | 16:08 | 66 | 30.11 | 300 | 010 | 00.00 | 37 |
| 06/26 | 16:09 | 66 | 30.11 | 310 | 007 | 00.00 | 37 |
| 06/26 | 16:10 | 66 | 30.11 | 310 | 008 | 00.00 | 37 |
| 06/26 | 16:11 | 66 | 30.11 | 310 | 005 | 00.00 | 38 |
| 06/26 | 16:12 | 66 | 30.11 | 300 | 010 | 00.00 | 37 |
| 06/26 | 16:13 | 66 | 30.11 | 300 | 011 | 00.00 | 38 |
| 06/26 | 16:14 | 67 | 30.11 | 310 | 013 | 00.00 | 38 |
| 06/26 | 16:15 | 67 | 30.11 | 300 | 010 | 00.00 | 37 |
| 06/26 | 16:16 | 67 | 30.11 | 300 | 016 | 00.00 | 37 |
| 06/26 | 16:17 | 67 | 30.11 | 300 | 013 | 00.00 | 38 |
| 06/26 | 16:18 | 67 | 30.11 | 300 | 011 | 00.00 | 39 |
| 06/26 | 16:19 | 67 | 30.12 | 290 | 015 | 00.00 | 38 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 06/26 | 16:21 | 67 | 30.11 | 310 | 005 | 00.00 | 38 |
| 06/26 | 16:22 | 67 | 30.11 | 310 | 010 | 00.00 | 38 |
| 06/26 | 16:23 | 67 | 30.10 | 310 | 007 | 00.00 | 37 |
| 06/26 | 16:24 | 66 | 30.11 | 310 | 010 | 00.00 | 37 |
| 06/26 | 16:25 | 66 | 30.11 | 330 | 010 | 00.00 | 37 |
| 06/26 | 16:26 | 66 | 30.11 | 350 | 012 | 00.00 | 37 |
| 06/26 | 16:27 | 66 | 30.11 | 300 | 012 | 00.00 | 38 |
| 06/26 | 16:28 | 66 | 30.11 | 300 | 011 | 00.00 | 38 |
| 06/26 | 16:29 | 66 | 30.11 | 280 | 012 | 00.00 | 38 |
| 06/26 | 16:30 | 66 | 30.11 | 320 | 011 | 00.00 | 37 |

Finish

# APPENDIX C

# THE DETERMINATION OF VOLATILE ORGANIC COMPOUNDS IN SOIL GAS



1. Scope and Application

1.1 This method covers the determination of a number of volatile organic compounds. The following parameters may be determined by this method:

| Parameter | CAS Number |
|---|---|
| Dichlorodifluoromethane | 75-71-8 |
| 1,1-Dichloroethene | 75-35-4 |
| cis-1,2-Dichloroethene | 156-59-4 |
| trans-1,2-Dichloroethene | 156-60-5 |
| Ethyl benzene | 100-41-4 |
| Tetrachloroethene | 127-18-4 |
| Tetrahydrofuran | 109-99-9 |
| Trichloroethene | 79-01-6 |
| Toluene | 108-88-3 |
| Xylene (total) | 1330-20-7 |

1.2 This is a gas chromatographic method applicable to the determination of the compounds listed above in soil gas and outdoor air. The method describes analytical conditions for dual capillary column/dual flame ionization detection which allows for qualitative and quantitative confirmation of results on a single injection.

1.3 The estimated method detection limit (MDL) for each parameter is listed in Table 1. The MDL for a specific sample may differ from those listed, depending upon the nature of interferences in the sample matrix.

1.4 Other compounds may also be determined by this method. These compounds include but are not limited to: methylene chloride, 1,1,1-trichlorethane, methyl ethyl ketone, cumene, chlorobenzene, 1,1,2,2-tetrachloroethane, benzene, and methyl isobutyl ketone.

2. Summary of Method

2.1 Volatile organic compounds are collected on charcoal, desorbed with carbon disulfide, and analyzed by dual capillary column gas chromatography with dual flame ionization detectors. Qualitative identification of the parameters of interest is performed using the retention times from two dissimilar capillary columns. Quantitative analysis is performed using internal standard techniques and extraction efficiency is monitored using a surrogate spike.

3. Interferences

3.1 Method interferences may be caused by contaminants in solvents, reagents, and other sample processing hardware that lead to discrete artifacts and/or elevated baselines in the detector outputs. All of these materials must be routinely demonstrated to be free from interferences under the conditions of the analysis by running laboratory reagent blanks.

3.2 The use of high priority reagents and solvents helps to minimize interference problems.

3.3 Matrix interferences may be caused by contaminants that co-extracted from the sample. The extent of matrix interferences will vary considerably from source to source.

4. Safety

4.1 The toxicity or carcineogenicity of each reagent used in this method has not been precisely defined; however, each chemical compound should be treated as a potential health hazard. The laboratory maintains a reference file of material safety data sheets for the analyst's use.

4.2 Safety glasses should be worn when opening the sealed ends of charcoal tubes to avoid injury to the eyes from glass splinters.

5. Apparatus and Materials

5.1 A calibrated personal sampling pump whose flow can be determined within ±5% at the recommended flow rate.

5.2 Charcoal tubes - Presently using charcoal tubes provided by SKC, Inc. (known as NIOSH tubes). These are glass tubes with both ends flame sealed, 7 cm long with a 6-mm OD and 4-mm ID, containing 2 sections of 20/40 mesh activated charcoal separated by a 2-mm portion of urethane foam. The adsorbing section contains 100 mg of charcoal, and the back-up section 50 mg. A 3-mm portion of urethane foam is placed between the outlet end of the tube and the back-up section. A plug of silylated glass wool is placed in front of the adsorbing section.

5.3 Two milliliter vials with crimp-on caps which contain Teflon-lined septa.

5.4 Microliter syringes: Ten-microlite for GC injections and 25-microliter and 100-microliter for standard preparation.

5.5 Pipets for dispensing desorbing solvent.

5.6 Volumetric flasks - Ten-milliter.

5.7 Glass tube cutter.

5.8 Gas chromatograph - An analytical system complete with a temperature programmable gas chromatograph and all required accessories including syringes, analytical columns and gases. The injection port must be designed for split injection (Hewlett Packard 5880A GC or equivalent).

5.9 Columns for dual capillary analysis:

5.9.1 Fused silica, 15 m x 0.32 mm ID, 1 um film thickness, 5% phenyl, 94% methyl, 1% vinyl silicone bonded phase (J&W DB-5 or equivalent)

5.9.2 Fused silica, 15 m x 0.32 mm ID, 1 um film thickness, 14% cyanopropylphenyl bonded phase (J&W DB-1701 or equivalent)

5.9.3 Both columns are installed in the same injection port using a two-hole graphite ferrule.

5.10 Two Hewlett-Packard 5880A GC terminals or equivalent.

5.11 Injections are made with a Hewlett-Packard 7673A autosampler or equivalent. The autosampler is programmed to be rinsed in carbon disulfide between injections.

6. Reagents

6.1 Carbon disulfide - chromatographic grade

6.2 Stock standard solutions

6.2.1 Prepare approximately 50,000 ug/mL standards by adding 500 uL of each analyte to 10 mL volumetric flasks partially filled with carbon disulfide. Fill the volumetric flasks to the mark and invert three for proper mixing. Correct concentration for density and purity.

6.2.2 Transfer the stock standard solutions to Teflon-sealed screw-cap bottles. Store with minimal headspace at -10 to -20°C and protect from light. All standards must be replaced after one month or sooner if comparison with check standards indicates a problem.

6.3 Secondary dilution standards - Using stock solutions, prepare secondary dilution standards in carbon disulfide that contain the compounds of interest, either singly or mixed together, plus the surrogate standard. The secondary dilution standards should be prepared at the following concentrations: 1000, 5000, and 10,000 ug/mL.

6.4 Internal standard solution - Prepare a 5000 ug/mL solution of bromofluorobenzene in carbon disulfide as described in Section 6.2. The addition of 10 uL of this solution to 1 mL of sample or standard is equivalent to 50 ug/mL.

6.5 Surrogate standard spiking solution - Prepare a 5000 ug/mL solution of decane in carbon disulfide. The addition of 10 uL of this solution to charcoal with desorption 1 mL of carbon disulfide is equivalent to 50 ug/mL.

6.6 Quality control check sample - Prepare a QC check sample at a concentration of 10,000 ug/mL for each analyte of interest (see 1.1). The addition of 5 uL of this solution to charcoal followed by desorption with 1 mL of carbon disulfide is equivalent to 50 ug/mL. The QC check sample concentrates must be prepared by the laboratory using standards prepared independently from those used for calibration.

6.7 Matrix Spiking Solution - Prepare a matrix spiking solution at a concentration of 5,000 ug/mL for each analyte of interest. The addition of 10 uL of this solution to charcoal followed by desorption with 1 mL of carbon disulfide is equivalent to 50 ug/mL. The matrix spiking solution concentrates must be prepared by the laboratory using standards prepared independently from those used for calibration.

7. Calibration

7.1 Establish the following gas chromatographic operating conditions:

Initial column temperature - 40°C,
hold for 5 minutes,
ramp at 20°C/minute to 220°C,
carrier gas-helium at 3 mLs/min. split ratio - 1:5
Detectors - dual flame ionization at 250°C
Injector temperature-250°C

7.2 Internal Standard Calibration Procedure

7.2.1 Prepare calibration standards so that the addition of 5-10 uL of the standard solution to charcoal and desorption with 1 mL of carbon disulfide spans the expected range of sample concentrations (5,10, 50, 100, and 500 ug/mL) for each compound of interest plus the surrogate spike compound. After desorption, add 10 uL of bromofluorobenzene (I.S.). The internal standard concentration is 50 ug/mL in the desorbed standard.

7.2.2 Inject 1.0 uL into the GC system, analyze according to Section 7.1 and tabulate peak area against concentration for each compound and internal standard. Calculate response factors for each compound using Equation 1.

Equation 1

$$RF = \frac{(A_S)(C_{IS})}{(A_{IS})(C_S)}$$

where:

$A_S$ = area for the parameter of interest

$A_{IS}$ = area for the internal standard

$C_S$ = concentration of the parameter of interest (ug/mL)

$C_{IS}$ = concentration of the internal standard (ug/mL)

If the RF value over the working range is a constant (<30% RSD), the RF can be assumed to be invariant and the average RF can be used for calculations. The RF corrects for desorption efficiency for each compound of interest.

7.3 The working calibration curve (or RF) must be verified on each working day by the measurement of a 50 ug/mL calibration standard. Calculate the % difference for each compound using Equation 2.

Equation 2

$$\% D = \frac{RF_{IC} - RF_C}{RF_{IC}} \times 100$$

where:

$RF_{IC}$ = response factor from the initial calibration
$RF_C$ = current response factor

If the %D for any parameter is greater than ≤25%, a new calibration curve must be prepared.

8. Quality Control

8.1 Before processing any samples, the analyst must analyze a laboratory reagent blank (carbon disulfide) to demonstrate that interferences from the analytical system are under control. Each time a set of samples is desorbed, a laboratory reagent blank must be processed. The reagent blank must contain less than or equal to the MDL of any analyte of interest.

8.2 Before processing any samples, the analyst must analyze a charcoal tube from the same lot as the sample tubes for a method blank to demonstrate that interferences from the analytical system are under control. Each time a set of samples is desorbed, a method blank must be processed. The method blank must contain less than or equal to the MDL of any analyte of interest.

8.3 The laboratory must spike a minimum of 10% of all samples with the analytes of interest (see 1.1). The addition of 10 uL of the matrix spiking solution to charcoal followed by desorption with 1 mL of carbon disulfide is equivalent to 50 ug/mL for each analyte of interest.

8.4 The laboratory must daily demonstrate that the operation of the measurement system is in control by analyzing a quality control sample at the 50 ug/mL level.

8.5 The surrogate spike recoveries, the matrix spike recoveries, and the quality control sample recoveries must agree within ±25% of the true values.

9. Sampling (See Section 6.2 of Part I)

9.1 Technique

9.1.1 Immediately before sampling, break the ends of the tube to provide an opening at least one-half the internal diameter of the tube (2 mm).

9.1.2 The smaller section of charcoal is used as a backup and should be positioned nearest the sampling pump.

9.1.3 Connect two charcoal tubes in series in order to distinguish breakthrough from migration.

9.1.4 Do not exceed the recommended air volume.

9.1.5 The charcoal tubes should be capped with the supplied plastic caps immediately after sampling. Under no circumstances should rubber caps be used.

9.1.6 One tube should be handled in the same manner as the sample tube (break, seal and transport) except that no air is sampled through this tube. This tube should be labeled as a travel blank and be treated as a regular sample. Results for travel blanks will be submitted with samples.

9.1.7 Label as primary and secondary tube.

9.2 All samples must be iced or refrigerated at 4°C from the time of collection until desorption.

9.3 All samples must be analyzed within 7 days of collection.

10. Sample Desorption

10.1 The status of the seals on each charcoal tube is noted and recorded as intact, broken, or none.

10.2 The field identification number and the laboratory identification number on each sample seal are checked with those on the sample identification sheets.

10.3 Remove front and back charcoal sections from each primary tube and place in separate sample vials.

10.4 Add 10 uL of surrogate spiking solution to each sample, blank or standard.

10.5 One milliliter of the desorbing solvent is dispensed into each sample vial. The vial is immediately sealed. Each vial is swirled for 20 minutes to aid the desorption process.

11. Gas Chromatography

11.1 Section 7.1 summarizes the recommended operating conditions for the gas chromatograph. Table 1 contains retention times from the two capillary columns.

11.2 Calibrate the system every 12 hours.

11.3 The internal standard must be added to the sample extract and mixed thoroughly immediately before injection into the gas chromatograph.

11.4 Inject 1 uL of the sample extract or standard into the gas chromatograph. Record the volume injected, the total extract volume, and the resulting peak size in area or peak height units.

11.5 Identify the parameters in the sample by comparing the retention times of the peaks in the sample chromatogram with the peaks in the standard chromatograms. The width of the retention time window used to make identifications is the mean retention time window from the initial calibration ± three standard deviations. Daily adjustments to the retention time window will be made based on the retention time of the daily calibration standard ± three standard deviations as determined during initial calibration.

11.6 If the response for a peak exceeds the working range of the system for any compound of interest, dilute the extract and reanalyze.

11.7 If there are other non-target peaks present with responses greater than 10% of the internal standard, tentatively identify using retention time indexes.

12. Calculations

12.1 Determine the concentration of individual compounds in the front and back sections of the charcoal tube.

12.2 Calculate the concentration in air by the following equation:

$$\text{Concentration (mg/cubic meter)} = \frac{(A_S)\,(C_{IS}) \times 1\text{ML}}{(A_{IS})\,(RF)\quad V} \times 0.001\ \text{mg/ug} \times 1000\text{L/cubic meter}$$

where: $A_S$ = area for the parameter of interest

$A_{IS}$ = area for the internal standard

$C_{IS}$ = concentration of the internal standard (ug/ml)

RF = average response factor for the parameter of interest

V = air volume sampled, in liters

1ML = volume of desorption solvent

$$\text{Concentration (ppm in air)} = \text{Concentration (mg/cubic meter)} \frac{X\ 24.45\ X\ 760\ X\ (T + 273)}{MW\ X\ P\ X\ 298}$$

where: MW = molecular weight of the parameter of interest

P = pressure (mm Hg) of air sample

T = temperature (°C) of air sample

760 = standard pressure (mm Hg)

298 = standard temperature (°K)

24.45 = molar volume (liter/mole) at 25°C and 760 mm Hg.

12.3 If the back section of the charcoal tube contains compounds of interest at greater than 25% of the front section, the second tube must also be analyzed.

12.4 Calculate the concentrations in air of non-target peaks by setting the response factor for the non-target peak equal to the response factor for the internal standard, use a MW equal to 100, and assume the desorption efficiency equals 100%.

13. References

13.1 "NIOSH Manual of Analytical Method," ed. 2 Vol. 1-4, National Institute of Occupational Safety and Health, U.S. Government Printing Office, Washington, D.C. (1977-78).

13.2 "NIOSH Manual of Analytical Method," ed. 3 Vol. 1-2, U.S. Department of Health and Human Services, U.S. Government Printing Office, Washington, D.C. Publication No. 84-100, 1984.

13.3 "Statement of Work for Organic Analysis", USEPA, 10/86, Rev: 7/87.

13.4 Code of Federal Regulations, 40 CFR 136, Appendix A, July 1, 1987.

TABLE 1

Target Compounds

| Parameter | Column 1 | Column 2 | Estimated MDL (1) (ppm in air) |
|---|---|---|---|
| Dichlorodifluoromethane | 0.84 | 0.78 | 0.02 |
| 1,1-Dichloroethene | 1.20 | * | 0.02 |
| cis-1,2-Dichloroethene | 1.93 | 1,84 | 0.03 |
| trans-1,2-Dichloroethene | 1.93 | 1.47 | 0.03 |
| Tetrachloroethene | 6.45 | 6.11 | 0.01 |
| Tetrahydrofuran | 1.47 | 1.41 | 0.04 |
| Trichloroethene | 3.34 | 3.26 | 0.02 |
| Toluene | 5.60 | 3.40 | 0.03 |
| Xylenes (total) | 8.08 | 7.61 | 0.02 |
| | 8.40 | 7.98 | ---- |
| Bromofluorobenzene (IS) | 8.38 | * | ---- |
| Decane (SS) | 9.30 | * | ---- |

Non-Target Compounds

| Parameter | Column 1 | Column 2 | Estimated MDL (1) (ppm in air) |
|---|---|---|---|
| Methylene chloride | 1.20 | * | 0.03 |
| 1,1,1-Trichloroethane | 2.30 | 2.39 | 0.02 |
| Ethyl benzene | 6.77 | 7.63 | 0.02 |
| Methyl ethyl ketone | 2.27 | 1.71 | 0.23 |
| Cumene | 7.53 | 8.43 | 0.02 |
| Chlorobenzene | 7.19 | 7.49 | 0.02 |
| 1,1,2,2-Tetrachloroethane | 8.23 | 9.14 | 0.01 |
| Benzene | 2.55 | 2.68 | 0.03 |
| Methyl isobutyl ketone | 4.35 | 5.84 | 0.03 |

* To be determined

Column 1 - DB-5

Column 2 - DB-1701

(1) Estimates based on a sample size of 10 L.

IS = Internal Standard

SS = Surrogate Spike

# APPENDIX D

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# REPORT OF LABORATORY ANALYSIS

Offices:
Minneapolis, Minnesota
Tampa, Florida
Coralville, Iowa
Novato, California
Leawood, Kansas

June 20, 1989

Mr. Paul Kopydlowski
ERM-North Central, Inc.
102 Wilmot Road
Suite 300
Deerfield, IL 60015

RE: ERM Project #8007

Dear Mr. Kopydlowski:

Enclosed is the report of laboratory analyses and chain of custody records for samples received 05/30/89.

If you have any questions concerning this report, please feel free to contact us.

Sincerely,

Daniel A. Comeau
Environmental Scientist

Peggy F. Goskill for

Susan D. Max
Director, Sampling and Analytical Services

Enclosures

pace. laboratories, inc.

# REPORT OF LABORATORY ANALYSIS

Offices:
Minneapolis, Minnesota
Tampa, Florida
Coralville, Iowa
Novato, California
Leawood, Kansas

ERM-North Central, Inc.
102 Wilmot Road
Suite 300
Deerfield, IL 60015

June 20, 1989
PACE Project Number: 890530514

Attn: Mr. Paul Kopydlowski

Stoughton City LF

Date Sample(s) Collected: By Clien, 05/26/89
Date Sample(s) Received: 05/30/89

| PACE Sample Number: / Parameter | Units | MDL | 177740 U-3 | 177750 D-4 | 177760 D-5 |
|---|---|---|---|---|---|
| ORGANIC ANALYSIS | | | | | |
| VOLATILE ORGANIC COMPOUNDS IN SOIL GAS | | | | | |
| Dichlorodifluoromethane | ppm | 0.17 | ND | ND | ND |
| 1,1-Dichloroethylene | ppm | 0.04 | ND | ND | ND |
| cis-1,2-Dichloroethylene | ppm | 0.02 | ND | ND | ND |
| trans-1,2-dichloroethylene | ppm | 0.04 | ND | ND | ND |
| Ethyl benzene | ppm | 0.01 | ND | ND | ND |
| tetrachloroethylene | ppm | 0.01 | ND | ND | ND |
| Tetrahydrofuran | ppm | 0.02 | ND | ND | ND |
| Trichloroethylene | ppm | 0.02 | ND | ND | ND |
| Toluene | ppm | 0.01 | ND | ND | ND |
| Xylene, total | ppm | 0.01 | ND | ND | ND |

ND Not detected at or above the MDL.
MDL Method Detection Limit

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# REPORT OF LABORATORY ANALYSIS

Offices:
Minneapolis, Minnesota
Tampa, Florida
Coralville, Iowa
Novato, California
Leawood, Kansas



June 20, 1989
PACE Project Number: 890530514

| PACE Sample Number: Parameter | Units | MDL | 177770 D-5 Dup. | 177780 D-6 | 177800 U-2 |
|---|---|---|---|---|---|
| ORGANIC ANALYSIS | | | | | |
| VOLATILE ORGANIC COMPOUNDS IN SOIL GAS | | | | | |
| Dichlorodifluoromethane | ppm | 0.15 | - | ND | - |
| Dichlorodifluoromethane | ppm | 0.18 | ND | - | - |
| Dichlorodifluoromethane | ppm | 0.28 | - | - | ND |
| 1,1-Dichloroethylene | ppm | 0.04 | ND | ND | - |
| 1,1-Dichloroethylene | ppm | 0.07 | - | - | ND |
| cis-1,2-Dichloroethylene | ppm | 0.02 | ND | ND | - |
| cis-1,2-Dichloroethylene | ppm | 0.04 | - | - | ND |
| trans-1,2-dichloroethylene | ppm | 0.04 | 0.06 | ND | - |
| trans-1,2-dichloroethylene | ppm | 0.07 | - | - | ND |
| Ethyl benzene | ppm | 0.01 | 0.02 | ND | ND |
| tetrachloroethylene | ppm | 0.01 | ND | ND | - |
| tetrachloroethylene | ppm | 0.02 | - | - | ND |
| Tetrahydrofuran | ppm | 0.02 | ND | ND | - |
| Tetrahydrofuran | ppm | 0.03 | - | - | ND |
| Trichloroethylene | ppm | 0.01 | - | ND | - |
| Trichloroethylene | ppm | 0.02 | ND | - | - |
| Trichloroethylene | ppm | 0.03 | - | - | ND |
| Toluene | ppm | 0.01 | 0.04 | ND | ND |
| Xylene, total | ppm | 0.01 | 0.08 | ND | ND |

ND Not detected at or above the MDL.
MDL Method Detection Limit

pace. laboratories, inc.

# REPORT OF LABORATORY ANALYSIS

Offices:
Minneapolis, Minnesota
Tampa, Florida
Coralville, Iowa
Novato, California
Leawood, Kansas



June 20, 1989
PACE Project Number: 890530514

| PACE Sample Number: / Parameter | Units | MDL | 177810 ~~D-7~~ D-1 | 177820 D-2 | 177830 D-3 |
|---|---|---|---|---|---|
| ORGANIC ANALYSIS | | | | | |
| VOLATILE ORGANIC COMPOUNDS IN SOIL GAS | | | | | |
| Dichlorodifluoromethane | ppm | 0.21 | - | ND | ND |
| Dichlorodifluoromethane | ppm | 0.22 | ND | - | - |
| 1,1-Dichloroethylene | ppm | 0.05 | ND | ND | ND |
| cis-1,2-Dichloroethylene | ppm | 0.03 | ND | ND | ND |
| trans-1,2-dichloroethylene | ppm | 0.05 | ND | ND | ND |
| Ethyl benzene | ppm | 0.01 | ND | ND | ND |
| tetrachloroethylene | ppm | 0.02 | ND | ND | ND |
| Tetrahydrofuran | ppm | 0.02 | ND | ND | ND |
| Trichloroethylene | ppm | 0.02 | ND | ND | ND |
| Toluene | ppm | 0.01 | ND | ND | ND |
| Xylene, total | ppm | 0.01 | ND | ND | ND |

ND Not detected at or above the MDL.
MDL Method Detection Limit

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# REPORT OF LABORATORY ANALYSIS

Offices:
Minneapolis, Minnesota
Tampa, Florida
Coralville, Iowa
Novato, California
Leawood, Kansas



June 20, 1989
PACE Project Number: 890530514

| PACE Sample Number: | | | 177790 Trip Blank |
|---|---|---|---|
| Parameter | Units | MDL | |
| ORGANIC ANALYSIS | | | |
| VOLATILE ORGANIC COMPOUNDS IN SOIL GAS | | | |
| Dichlorodifluoromethane | ug | 50 | ND |
| 1,1-Dichloroethylene | ug | 10 | ND |
| cis-1,2-Dichloroethylene | ug | 5 | ND |
| trans-1,2-dichloroethylene | ug | 10 | ND |
| Ethyl benzene | ug | 2 | ND |
| tetrachloroethylene | ug | 5 | ND |
| Tetrahydrofuran | ug | 3 | ND |
| Trichloroethylene | ug | 5 | ND |
| Toluene | ug | 2 | ND |
| Xylene, total | ug | 2 | ND |

ND Not detected at or above the MDL.
MDL Method Detection Limit

The data contained in this report were obtained using EPA or other approved methodologies. All analyses were performed by me or under my direct supervision.

Dennis R. Seeger
Organic Chemistry Manager

Pace laboratories, inc.

1710 Douglas Drive North Minneapolis, MN 55422 612-544-5543

# CHAIN-OF-CUSTODY RECORD

NO. 9232

| PROJECT LOCATION | NAME OF CLIENT | PROJECT TELEPHONE NO. | PROJECT NUMBER |
|---|---|---|---|
| Stoughton City Landfill | ERM-North Central | (608)873-0499 | 8007 |

| ITEM NO. | SAMPLE NO | TIME | NO. OF CONTAINERS | GENERAL | METALS | NITROGEN | CYANIDE | VOLATILES | See Below | | SAMPLE DESCRIPTION | TRANSFER NO. & CHECK 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | U-2 | 14:41 | 1 | | | | | | X | | Ambient Air 17780 $V_{STD}$ = 35.22 ℓ | ✓ | | | | | | |
| 2 | D-1 | 15:00 | 1 | | | | | | X | | " 81 " = ~~45.81~~ 45.46 ℓ | ✓ | | | | | | |
| 3 | D-2 | 14:55 | 1 | | | | | | X | | " 82 " = ~~47.22~~ 46.86 ℓ | ✓ | | | | | | |
| 4 | D-3 | 14:51 | 1 | | | | | | X | | " 83 " = 47.78 ℓ | ✓ | | | | | | |
| 5 | | | | | | | | | ↑ | | ---Analyzable VOC's as per | | | | | | | |
| 6 | | | | | | | | | | | soil gas procedure | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | |

| PERSON RESPONSIBLE FOR SAMPLE COLLECTION | AFFILIATION |
|---|---|
| Christopher J. Blume | ERM |
| DATE 5/25/86 | TIME 15:30 |

PURPOSE OF ANALYSIS (use back of front sheet if needed)

| TRANSFER NUMBER | ITEM NUMBER | TRANSFERS RELINQUISHED BY | ACCEPTED BY | DATE | TIME |
|---|---|---|---|---|---|
| 1 | 1-4 | CJ Blume | [illegible] | 5/27/86 | 14:30 |
| 2 | | | | | |
| 3 | | | | | |
| 4 | | | | | |

pace laboratories, inc.

1710 Douglas Drive North Minneapolis, MN 55422 612-544-5543

# CHAIN-OF-CUSTODY RECORD

NO. 9231.

| PROJECT LOCATION | NAME OF CLIENT | PROJECT TELEPHONE NO. | PROJECT NUMBER |
|---|---|---|---|
| Stoughton City Landfill | ERM-North Central | (608)873-0499 | 8007 |

| ITEM NO. | SAMPLE NO | TIME | NO. OF CONTAINERS | GENERAL | METALS | NITROGEN | CYANIDE | VOLATILES | See Below | | SAMPLE DESCRIPTION | TRANSFER NO. & CHECK 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | 17774 | | | | | | | |
| 1 | U-3 | 16:26 | 1 | | | | | | X | | Ambient Air $V_{STD}$ = 59.66 l | ✓ | | | | | | |
| 2 | D-4 | 16:23 | 1 | | | | | | X | | " 75 " = 59.68 l | ✓ | | | | | | |
| 3 | D-5 | 16:14 | 1 | | | | | | X | | " 76 " = 57.22 l | ✓ | | | | | | |
| 4 | D-5d (Rep1) | 16:16 | 1 | | | | | | X | | " 77 " = 55.81 l | ✓ | | | | | | |
| 5 | D-6 | 16:08 | 1 | | | | | | X | | " 78 " = 64.53 l | ✓ | | | | | | |
| 6 | Trip Blank | 17:00 | 1 | | | | | | X | | (Analyzable VOC's ~9 as per soil gas procedure) Trip Blank $V_{STD}$ = N/A | ✓ | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | |

| PERSON RESPONSIBLE FOR SAMPLE COLLECTION | AFFILIATION |
|---|---|
| Christopher J. Blume | ERM |
| DATE 5/26/89 | TIME 16:45 |

PURPOSE OF ANALYSIS (use back of front sheet if needed)

| TRANSFER NUMBER | ITEM NUMBER | TRANSFERS RELINQUISHED BY | ACCEPTED BY | DATE | TIME |
|---|---|---|---|---|---|
| 1 | 1-5 | C J Blume | WAP | 5/27/89 | 11:5[illegible] |
| 2 | | | | | |
| 3 | | | | | |
| 4 | | | | | |