STATE OF NEBRASKA

Mike Johanns
Governor

DEPARTMENT OF ENVIRONMENTAL QUALITY
Michael J. Linder
Director
Suite 400, The Atrium
1200 'N' Street
P.O. Box 98922
Lincoln, Nebraska 68509-8922
Phone (402) 471-2186
FAX (402) 471-2909

April 17, 2003

Lt. Shawn Blackshear,
Agency for Toxics Substances and Disease Registry
500 State Ave.
Suite 182
Kansas City, Kansas 66101

Subject: Dundee Neighborhood Air Toxics Monitoring Study

Dear Lt. Blackshear,

It was a pleasure meeting you in Omaha last week at the Omaha Asthma Alliance meeting. As we discussed after the meeting, the Nebraska Department of Environmental Quality (NDEQ) and the Douglas County Health Department (DCHD) would like your assistance in analyzing some air quality toxics sampling data. This data was obtained in an area of Omaha subject to numerous citizen health concerns over exposure to toxic air emissions. The sampling was conducted from November 5 to December 10, 2002 at three locations. Dr. Adi Pour, Director of the DCHD, plans to present an analysis of the data and a status report to the concerned public this spring.

EPA Region 7 provided an analysis of the data. A copy of their analysis is included with this letter, along with the original report submitted by the testing contractor. We would appreciate feedback from the ATSDR on whether the levels of air toxics detected pose a potential health concern. We would also welcome your recommendations on future sampling plans.

We greatly appreciate ATSDR's assistance on this important issue that is concerning many citizens in the Omaha area. If you have questions or need additional information, please contact Tom Baker at the DCHD. He can be reached at (402) 444-7486.

Sincerely,

Shelley Kaderly
Air Quality Division Administrator

Enclosures (2)

cc: Dr. Adi Pour, DCHD (w/o enclosures)
Chester Black, OAQC (w/o enclosures)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VII
901 NORTH 5TH STREET
KANSAS CITY, KANSAS 66101

02 APR 2003

Ms. Shelley Kaderly
Administrator, Air Quality Division
Nebraska Department of Environmental Quality
P.O. Box 98922
Lincoln, NE 68509-8922

Dear Ms. Kaderly:

Subject: Omaha Steel Toxics Monitoring

A review of the air toxics data collected by the Douglas County Health Department has been completed by the Environmental Protection Agency's (EPA) Air Planning and Development Branch (APDB). Based upon the duration of samples (collected over three days at three different locations), it is inappropriate to characterize both the long-term health risks to the public and the organic pollutant loading for the Omaha area. Variability in meteorological conditions as well as variations in traffic flow may significantly underestimate or overestimate the toxics risks to the general public. Another potential limitation is the design of the monitoring strategy. Was the goal to characterize the urban environment or conduct microscale monitoring to assess area and point source influences? Depending on the study goal, modifications to the monitor network design may be warranted.

However, the data do have value for screening purposes. Using the limited amount of data collected for speciated nonmethane organic compounds (SNMOC), and semivolatile organic compounds (SVOC), we have done a comparison of the Omaha results to annual average toxics data collected from the St. Louis Community Air Project for the same categories. The data collected at the St. Louis monitor site were designed to collect ambient levels of certain toxic compounds representative of an urban environment. The St. Louis monitor we are utilizing in this review was set up in a residential area with heavy-moderate intercity traffic. Major industrial sources were not a factor for this site.

Our synopsis is as follows:

1 Are the type and concentration of toxics similar or different from toxics monitoring in St. Louis?

SNMOC Pollutants

Overall, for the limited monitoring conducted in Omaha, mobile source derived emissions from the three monitors were on an average 1-2 times greater than seen at the St. Louis monitor. These variations may be the result of the proximity of the monitors to interstates and highways in the area, as well as their proximity to areas in which traffic congestion occurs. The pollutants, when evaluated solely upon peer-reviewed health benchmarks, did not occur at ambient levels that posed a significant risk to the general public. The only pollutants above long-term health benchmarks were benzene and 1-3 butadiene,

which are primarily mobile source air toxics (refer to Table 1 for a summary of the pollutants evaluated). To further investigate emissions and risk from air toxics, a more detailed study would be necessary to accurately characterize inhalation risks in the area.

For a select number of pollutants, the Farnam monitor provided a unique signature when compared to the 49th Street and Saddle Creek monitor sites as well as the SNMOC monitor in St. Louis (refer to Table 1). The levels observed at the Farnam monitor are still in the range of ambient levels for other urban centers and are not at concentrations that pose a concern. The following pollutants from the Farnam monitor were identified at levels that were not comparable to the other sites: 1,2,3-Trimethylbenzene; 1,2,4-Trimethylbenzene; 1,3,5-Trimethylbenzene; m-Diethylbenzene; p-Diethylbenzene; m-Ethyltoluene; and p-Ethyltoluene. These pollutants are associated with mobile sources but may also be used in raw materials for a wide array of industrial sources.

SVOC Pollutants

Emissions of SVOC compounds were roughly similar to the levels observed in St. Louis, except for two compounds: naphthalene and phenol. These substances were observed at all three monitors at levels significantly above average values collected at St. Louis. Based upon discussions with Douglas County Health Department, this is because the monitors were located to evaluate source emissions from Omaha Steel Castings (OSC) at 4601 Farnam Street. A review of the Toxic Release Inventory (TRI) database identifies OSC as the only point source emitting naphthalene in Douglas County. OSC reported on its 2000 TRI report approximately 2,000 pounds per year of naphthalene being emitted. Refer to Table 1 for an evaluation of the naphthalene and phenol levels monitored in St. Louis.

Based upon the limited number of samples, it would be inappropriate to characterize the noncancer risk posed by naphthalene. Ambient levels observed at the 49th Street monitor were approaching noncancer health benchmarks levels for chronic exposure. Adverse effects associated with continuous exposure to this pollutant at this level are as a nasal and respiratory irritant. The Reference Concentration for this pollutant also has a high level of uncertainty (UF = 3,000).

Metal Compounds

Ambient levels of chromium compounds were observed at levels that may pose a long-term excess cancer risk to the general public. The ambient levels of metals were similar to the levels seen in St. Louis, except for the presence of nickel compounds. Ambient levels of nickel compounds were approximately 4.5 times higher in Omaha than at our monitor in St. Louis. A review of the ambient data for nickel compounds identified two peak releases on October 13, 2001, and August 27, 2002. Removing these releases from the review, the ambient levels for St. Louis and Omaha were approximately the same (refer to Table 1).

2. Are the type and concentration of the toxics indicative of mobile sources, stationary industrial sources, or both?

Source Classification for Pollutants – Omaha/St. Louis Study			
	Mobile Sources	Stationary Sources	Both
Benzene	x		
1,3 butadiene	x		
1,2,3-Trimethylbenzene			x
1,2,4-Trimethylbenzene			x
1,3,5-Trimethylbenzene			x
m-Diethylbenzene			x
p-Diethylbenzene			x
m-Ethyltoluene			x
p-Ethyltoluene			x
Naphthalene			x
Phenol			x
Chromium Cpds		x	
Nickel Cpds		x	

3. Further sampling is planned for the spring of 2003. Any recommendations?

Before any recommendations can be made, we have to ask what is the purpose of the monitoring strategy? If it is to show a disproportionate impact of toxic emissions to the community, we must first identify the baseline and establish what the level of risk is to the Omaha residents as a whole. From a review of the current limited microscale monitoring network design, APDB would not be able to establish that the ambient levels of pollutants monitored pose a significant risk to the community.

If you can help us understand your monitoring goal, we would be happy to work with you to design a monitor network to meet that goal. Depending on the goal, the EPA may suggest that additional SVOC sampling be conducted in the Omaha area. The results from the 49th Street monitor helped identify naphthalene and phenol as the pollutants that are most effected by an industrial source. Naphthalene is a respiratory irritant, with similar adverse effects observed from exposure to both formaldehyde and ozone. The EPA may also suggest carbonyl monitoring (TO-11) be done to further characterize the ambient levels in the area. The seasonal and production variability for these pollutants would have to be accounted for, especially if the results from this monitoring study will be

communicated to the public. Another pollutant of potential concern for both cancer and noncancer risks is diesel particulates, ambient levels from both road and rail, may pose a significant risk to the general public.

The EPA's final comment is the need to communicate the limitations of the data to the public, especially if these preliminary results are to be used to communicate ambient conditions or risk to the community. If you have any questions or request any additional assistance concerning air toxics, please feel free to contact James Hirtz of my staff at (913)-551-7472 or send him an e-mail at hirtz.james@epa.gov.

Sincerely,

Joshua A. Tapp
Chief
Air Planning and Development Branch

Enclosure

cc: Mr. Chester Black
City of Omaha, Public Works Department
Mr. Clark Smith
NDEQ
Mr. Todd Ellis
NDEQ
Mr. Tom Baker
Douglas County Health Department

Table 1: Pollutant Summary (Omaha Monitors vs St. Louis Monitor)

SNMOC Pollutants - Variability	Saddle Creek Monitor - (ppbv) 11/05/02	11/13/02	12/10/02	Farnum Monitor - (ppbv) 11/05/02	11/13/02	12/10/02	49th St. Monitor - (ppbv) 11/05/02	11/13/02	12/10/02	St. Louis Monitor - (ppbv) Avg	Maximum	# Detects	Farnum/St. Louis Ambient Ratio	Notes
1,2,3-Trimethylbenzene	0.12	0.12	0.23	0.31	1.13	0.82	0.07	0.03	0.18	0.05	0.3	64/68	14.77	MSAT
1,3,5-Trimethylbenzene	0.11	0.17	0.09	0.14	0.67	0.51	0.06	0.02	ND	0.08	0.75	67/68	5.24	MSAT
1,2,4-Trimethylbenzene	0.28	0.58	0.22	0.39	2.23	1.71	0.10	0.11	0.02	0.20	0.3	66/68	7.14	MSAT
p-Diethylbenzene	0.05	0.05	0.04	0.14	0.67	0.38	ND	0.01	ND	0.04	0.14	26/68	10.22	MSAT
m-Diethylbenzene	0.06	0.02	ND	0.15	0.41	0.29	ND	0.02	ND	0.06	0.96	5/68	4.55	MSAT
m-Ethyltoluene	0.18	0.44	0.12	0.19	1.27	0.88	0.07	0.11	0.03	0.12	0.49	67/68	6.58	MSAT, TSCA-HPV
p-Ethyltoluene	0.12	0.22	0.06	0.14	0.63	0.41	0.05	0.06	0.02	0.08	0.26	67/68	5.23	MSAT, TSCA-HPV
Pollutants - Risk														
Benzene	0.55	2.03	0.95	0.58	1.62	1.12	0.37	0.68	0.38	0.45	2.05	68/68	2.38	MTCR
1-3, butadiene	ND	0.35	0.15	ND	0.11	0.09	ND	0.12	ND	0.10	0.49	63/68	1.00	MTCR
Wind Direction	Transitional	SSE-SSW	Northerly	Transitional	SSE-SSW	Northerly	Transitional	SSE-SSW	Northerly					
Weather Station: Eppley Airfield (Omaha,NE) Lat: 41.32N Long: 095.90W														

MSAT -- Mobile Source Air Toxics are found in gasoline as well as other pollutants such as ethylbenzene, benzene, xylene, and toluene, ambient concentrations for the pollutants were at levels observed at typical urban settings and do not represent a significant risk to the general public. Key Reference: Hazardous Substance Data Base; http://toxnet.nlm.nih.gov/cgi-bin/sis/search. Ethyltoluene is also found in gasoline at varying concentrations. The ambient levels for this pollutant and its isomers are not at levels that pose a significant risk to the general public.

TSCA-HPV -- Toxics Substances Control Act (High Production Volume Program), voluntary program in which manufacturers conduct testing to evaluate health and safety issues regarding the use and distribution of this substance in commerce.

MTCR - Mobil Toxic with Cancer Risk; Benzene and 1,3 butadiene were observed at ambient levels that may pose a long-term excess cancer risk to the general public, additional samples are needed to accurately determine the risk from these pollutants before an assessment could be made. These pollutants as well as diesel particulates are found throughout the environment, in both urban and rural locations.

Particulates - Risk	Woolworth St. Monitor - (ug/m³) Avg	Max	No. Detects	St. Louis Monitor - (ug/m3) Avg	Maximum	# Detects	70 yr exposure duration (1:100,000)	Source	Ambient Ratio Omaha/St. Louis	Notes
Arsenic Cpds	0.0013	0.0037	84/150	0.002	0.015	65/96	.002 ug/m³	EPA-IRIS	0.65	IMT
Chromium Cpds	0.0026	0.0589	118/150	0.002	0.011	89/96	.002 ug/m³	EPA-IRIS	1.30	ITCR
Nickel Cpds	0.0067	0.2650	118/150	0.002	0.006	76/96	.032 ug/m³	CAL-EPA	4.47	ITCR
Manganese Cpds	0.0033	0.0180	130/150	0.003	0.012	88/96			1.10	IMT
Elemental Carbon (*Diesel Particles*)	0.4000	0.9200	136/150	0.704	3.06	96/96	No EPA Cancer Potency Value		0.57	MTCR

IMT -- Industrial Metal Toxics are primarily emitted from sources that burn coal-derived products, such as utilities and coal-fired boilers. Additional sources could also include electroplaters, smelting operations, and structure fires.

IMTCR -- Industrial Metal Toxics with Cancer Risk; Chromium, and nickel compiunds were observed at ambient levels that may pose a long-term excess cancer risk to the general public. Ambient levels collected for a two year period indicate a lifetime excess cancer risks greater than (1:100,000) for each pollutant. Two critical events in which nickel spikes were observed occurred on October 13, 2001 with an ambient value of .0685 ug/m^3 and again on August 27, 2002 at an ambient level of .0558 ug/m^3. For the August episode, similar peaks were seen for chromium and manganese compounds for that day with ambient levels of .0589 and .0149 ug/m^3, respectively.

Cancer Health Benchmarks were obtained from EPA's Integrated Risk Information System (IRIS) and California EPA (CAL-EPA)

Elemental Carbon (EC) -- Measurements of Elemental Carbon is used as a surrogate to quantify ambient levels for diesel particulates. Diesel Particulates (DP) is identified as a Class B or probable human carcinogen by EPA. DP is considered to be a likely human carcinogen at environmental levels. Due to the complex nature of DP and sources producing, EPA is unable to quantify a cancer potency value for this substance.

SVOC Pollutants - Variability	Saddle Creek Monitor - (ppbv) 11/05/02	11/13/02	12/10/02	Farnum Monitor - (ppbv) 11/05/02	11/13/02	12/10/02	49th St. Monitor - (ppbv) 11/05/02	11/13/02	12/10/02	St. Louis Monitor - (ppbv) Avg	Maximum	# Detects	49th St/St. Louis Ambient Ratio	Notes
Naphthalene	0.0551	0.1174	0.0409	0.429	0.449	0.036	0.0139	0.9666	0.6099	0.0540	0.2590	67/68	9.82	MSAT, NCR
Phenol	0.0703	0.1086	0.0140	0.506	0.599	0.024	0.0072	1.5762	0.7980	0.0160	0.0380	22/68	49.64	MSAT
Wind Direction	Transitional	SSE-SSW	Northerly	Transitional	SSE-SSW	Northerly	Transitional	SSE-SSW	Northerly					
Weather Station: Eppley Airfield (Omaha,NE) Lat: 41.32N Long: 095.90W														

NCR - Non-Cancer Risk; Ambient levels of Naphthalene at the 49th Street Monitor were observed at levels that may pose a long-term non-cancer risk to the general public, additional samples are needed to accurately determine the risk from this pollutants before an assessment could be made. This pollutants is also considered a Mobile Source Air Toxic (MSAT). The only point source identified as having naphthalene emissions in the Omaha area is Omaha Steel Castings at 4601 Farnam Street, estimated 2000 TRI air releases was approximately 2,000 pounds per year.

FLOW m3 / min

DATE	ERG # 1	ERG # 2	ERG # 3
11/5/02	0.173	0.176	0.148
11/13/02	0.182	0.167	0.148
12/10/02	0.187	0.172	0.137

Time Ran

11-5-02 : All 1440 min

11 13-02 #2 1436 min

#1 & #3 1440 min

12-10-02 #1 1440 min

#2 1441 min

#3 1421 min.

Post-it® Fax Note 7671 | Date 4/23/03 | # of pages ▶ 1

To Shawn Blackshear | From Chitta Ghosh

Co./Dept. | Co. DCHD

Phone # 913-551-1311 | Phone # 444-6162

Fax # 913-551-1315 | Fax #

Ron Howlett - omc, Steel Mongger

ERG

3358.00.001

January 13, 2003

Tom Baker
Air Monitoring
Douglas County Health Department
Room 401
Omaha/Douglas Civic Center
1819 Farnam Street
Omaha, NE 68183

Dear Mr. Baker:

Enclosed are the final data from the Omaha Site from November 5 to December 10, 2002. The sampling site addresses have been included. The identification of any target peaks detected at larger concentrations than recommended by the analytical method were diluted and verified by mass spectrometer.

A flagging system to notify the observer of the compounds detected at a level less than the detection limit has been used for all data collected. For reference, a copy of the current detection limits are presented in the attached table.

The results presented in the enclosed data summary are based on an analysis following the guidelines described in the Project Quality Assurance Plan and the Compendium Method TO-13A, and TO-15, using a GC/FID/MS for the ambient toxics samples.

Sincerely,

Julie L. Swift

Julie L. Swift
Program Manager

Enclosures

cc: Susan Lewis, ERG
Janet Mangum, ERG

1600 Perimeter Park, Morrisville, NC 27560-8421, Telephone: (919) 468-7800, Fax: (919) 468-7801
Arlington, VA • Austin, TX • Boston, MA • Chantilly, VA • Chicago, IL • Lexington, MA • Portland, ME • Morrisville, NC • Sacramento, CA

ERG

www.erg.com

INVOICE

Douglas County Health Department
1819 Farnam Street
Omaha, Nebraska 68183

Attn: John Lamay, Purchasing Agent

3358-2

ERG Charge #: 3358.00.001

Date: January 10, 2003

PO #: 2882

Tax ID: 04-2807100

	CATEGORY OR DESCRIPTION	Unit Price	Price
1	Analyses for semi-volatiles and speciated hydrocarbons	$7,989.00	$7,989.00
	TOTAL DUE		$7,989.00

Project Manager
Review and Approval: Julie L. Swift Date: Jan 10, 2003

TERMS: NET 30 DAYS

Please remit to:

EASTERN RESEARCH GROUP
c/o Eastern Bank
PO Box 2244
Lynn, MA 01903

If you have any questions regarding this invoice, please contact Janet Mangum, 919/468-7832.

c: Ruth Berton, ERG/LEX
Julie Swift, ERG/MOR
Janet Mangum, ERG/MOR
Susan Lewis, ERG/CHA

SNMOC REPORT
SITE: Omaha, NE
Reported in ppbC

Sample No.:	OMAHA 30515	OMAHA 30516	OMAHA 30517	OMAHA 30645	OMAHA 30646	OMAHA 30647	OMAHA 31043	OMAHA 31042	OMAHA 31041
Address:	712 S. Saddle Creek	119th S. 49th St.	46th & Farnam	119th S. 49th St.	712 S. Saddle Creek	46th & Farnam	46th & Farnam	119th S. 49th St.	712 S. Saddle Creek
Sampling Date:	11/5/02	11/5/02	11/5/02	11/13/02	11/13/02	11/13/02	12/10/02	12/10/02	12/10/02
Analysis Date:	11/27/02	11/27/02	11/27/02	12/13/02	12/13/02	12/13/02	1/6/03	1/6/03	1/6/03
Filename:	L2KZ022	L2KZ023	L2KZ024	N2LM007	N2LM006	N2LM005	L2AF011	L2AF010	L2AF009
Ethylene	6.37	6.84	7.97	6.78	18.37	8.44	11.05 #	4.54 #	8.46 #
Acetylene	3.64	3.02	4.39	4.80	11.68	5.95	7.77	2.62	5.76
Ethane	14.54	12.55	25.21	18.27	25.14	40.28	62.58	29.46	29.99
Propylene	2.64	2.42	2.55	2.49	7.93	3.04	3.40	1.47	3.63
Propane	16.75	7.76	24.16	14.99	25.71	32.88	45.01	24.35	23.10
Propyne	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isobutane	4.17	3.29	3.31	4.85	8.64	5.99	8.87	6.37	13.73
Isobutene/1-Butene	2.20	2.07	2.57	2.32	5.47	1.98	2.75	1.13	2.51
1,3-Butadiene	ND	ND	ND	0.49	1.41	0.44	0.37	ND	0.61
n-Butane	12.00	5.59	6.77	15.13	32.66	16.01	25.76	17.36	54.23
trans-2-Butene	0.58	0.49	0.57	0.35	1.12	0.31	0.45	ND	0.95
cis-2-Butene	0.75	0.47	0.47	0.55	1.09	0.41	0.64	0.29	1.06
3-Methyl-1-butene	ND	ND	ND	0.13	0.54	0.16	ND	ND	0.38
Isopentane	13.54	6.41	6.83	17.97	46.59	15.43	18.25	9.22	39.69
1-Pentene	0.47	ND	ND	0.48	1.00	0.50	0.64	0.30	1.26
2-Methyl-1-butene	0.51	0.24	0.36	0.60	1.91	0.57	0.92	ND	1.47
n-Pentane	4.49	2.64	2.75	7.48	17.45	7.67	8.56	7.03	13.17
Isoprene	0.55	0.55	0.50	0.38	0.89	0.70	0.49	0.37	0.49
trans-2-Pentene	0.87	0.47	ND	0.72	2.02	0.80	0.65	0.26	1.50
cis-2-Pentene	0.91	0.57	0.65	0.52	1.22	0.47	0.52	0.25	0.97
2-Methyl-2-butene	0.71	ND	0.51	0.62	2.53	0.75	0.86	ND	2.14
2,2-Dimethylbutane	ND	ND	ND	1.08	3.29	1.25	1.01	0.59	1.76
Cyclopentene	ND	ND	ND	0.13	0.62	ND	0.78	ND	0.96
4-Methyl-1-pentene	ND	ND	ND	ND	0.11	ND	0.67	ND	0.05
Cyclopentane	1.13	0.90	0.92	0.68	1.99	0.75	1.05	0.74	1.30
2,3-Dimethylbutane	2.09	1.48	1.74	1.50	4.27	1.53	1.47	0.78	2.17
2-Methylpentane	3.08	1.94	2.20	4.48	14.01	4.60	3.66	2.60	7.74
3-Methylpentane	2.45	1.80	1.95	3.29	8.93	3.27	4.33	2.56	5.25
2-Methyl-1-pentene	0.88	1.43	1.52	ND	0.31	ND	ND	ND	ND
1-Hexene	1.08	1.28	1.17	0.27	0.61	0.44	1.06	0.46	1.11
2-Ethyl-1-butene	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Hexane	2.37	1.95	1.85	3.82	9.03	3.80	3.84	3.14	5.12
trans-2-Hexene	ND	ND	ND	ND	0.36	ND	ND	ND	0.24
cis-2-Hexene	ND	ND	ND	ND	ND	ND	1.52	1.38	1.91
Methylcyclopentane	1.47	1.28	1.15	1.75	5.06	1.85	1.91	1.40	2.83
2,4-Dimethylpentane	1.25	1.07	1.21	0.80	2.37	0.89	1.15	0.59	1.44
Benzene	3.31	2.24	3.46	4.05	12.20	9.09	6.71	2.30	5.69
Cyclohexane	1.52	1.18	2.03	1.02	2.42	1.31	3.07	1.30	1.68
2-Methylhexane	0.95	1.13	2.61	2.54	5.14	3.40	3.94	1.88	3.59
2,3-Dimethylpentane	1.72	2.07	2.84	2.19	4.44	2.17	3.12	1.23	3.42
3-Methylhexane	1.48	1.46	1.94	1.47	4.40	2.52	3.75	0.98	2.72
1-Heptene	ND	ND	ND	ND	ND	0.21	0.69	ND	ND
2,2,4-Trimethylpentane	2.30	1.68	2.05	2.48	8.01	2.47	2.06	1.42	4.37
n-Heptane	1.10	0.91	2.75	1.40	4.03	2.91	3.74	1.31	1.88
Methylcyclohexane	1.14	1.02	2.32	1.06	2.82	1.88	3.30	1.20	1.50
2,2,3-Trimethylpentane	ND	ND	ND	0.53	1.56	0.59	0.35	ND	0.71
2,3,4-Trimethylpentane	0.86	0.84	0.73	0.68	2.12	0.70	0.63	0.45	1.15
Toluene	5.11	3.79	5.22	11.55	32.43	12.61	8.19	3.49	11.21
2-Methylheptane	0.62	0.55	0.81	0.42	1.44	0.58	1.10	0.40	0.73
3-Methylheptane	0.67	0.99	0.89	0.48	1.42	0.71	0.51	0.38	0.56
1-Octene	ND	ND	ND	0.19	0.73	0.40	ND	ND	ND
n-Octane	1.91	0.73	1.21	0.74	1.86	1.28	1.45	0.97	0.83
Ethylbenzene	1.05	0.71	1.17	1.59	5.39	1.55	0.86	0.67	1.50
m-Xylene/p-Xylene	3.25	1.64	2.45	4.20	18.04	6.17	2.52	1.44	4.80
Styrene	ND	ND	ND	ND	0.33	0.34	0.33	ND	0.87
o-Xylene	1.37	0.75	1.13	1.57	6.80	3.02	1.65	0.51	1.86
1-Nonene	ND	ND	ND	0.33	0.95	0.48	0.23	ND	0.28
n-Nonane	0.88	0.80	1.04	0.54	1.08	0.97	0.54	0.34	0.32
Isopropylbenzene	0.93	0.68	0.73	0.13	0.32	1.49	0.89	ND	ND
a-Pinene	ND	ND	ND	ND	0.37	0.24	0.52	ND	0.77
n-Propylbenzene	0.69	0.45	0.66	0.41	1.31	0.22	2.58	ND	0.42
m-Ethyltoluene	1.64	0.59	1.68	0.97	3.98	11.46	7.95	0.29	1.12
p-Ethyltoluene	1.11	0.49	1.24	0.56	1.95	5.71	3.69	0.21	0.54
1,3,5-Trimethylbenzene	1.02	0.54	1.22	0.22	1.50	5.10	4.57	ND	0.81
o-Ethyltoluene	1.13	0.67	1.05	0.43	1.94	5.75	4.27	0.26	0.75
b-Pinene	ND	ND	ND	ND	ND	ND	0.30	ND	0.71
1,2,4-Trimethylbenzene	2.55	0.88	3.51	0.96	5.22	20.11	15.38	0.22	1.97
1-Decene	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Decane	1.15	0.76	0.98	0.68	1.52	1.30	0.69	0.29	0.50
1,2,3-Trimethylbenzene	1.08	0.66	2.79	0.24	1.06	10.15	7.35	1.62	2.04
m-Diethylbenzene	0.56	ND	1.52	0.17	0.25	4.05	2.93	ND	ND
p-Diethylbenzene	0.51	ND	1.37	0.13	0.53	6.65	3.82	ND	0.43
1-Undecene	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Undecane	1.63	ND	1.73	0.35	0.81	2.53	1.18	0.67	0.69
1-Dodecene	ND	ND	ND	ND	ND	ND	ND	ND	0.34
n-Dodecane	1.15	ND	1.00	ND	0.21	0.23	0.57	0.43	0.65
1-Tridecene	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Tridecane	ND	ND	ND	ND	ND	ND	ND	ND	ND
TNMOC (speciated)	145.97	96.83	157.36	161.96	403.03	291.53	327.34	143.55	298.26
TNMOC (w/ unknowns)	171.73	133.93	203.45	240.08	476.35	422.63	462.72	207.14	333.47

Should be considered an estimate - the 1/6/03 QC exceeded criteria for ethylene

SNMOC REPORT
SITE: Omaha, NE
Reported in ppbv

Sample No.:	OMAHA 30515	OMAHA 30516	OMAHA 30517	[illegible]	OMAHA 30646	OMAHA 30647	OMAHA 31043	OMAHA 31042	OMAHA 31041
Address:	712 S. Saddle Creek	119th S. 49th St.	46th & Farnam	119th S. 49th St.	712 S. Saddle Creek	46th & Farnam	46th & Farnam	119th S. 49th St.	712 S. Saddle Creek
Sampling Date:	11/5/02	11/5/02	11/5/02	11/13/02	11/13/02	11/13/02	12/10/02	12/10/02	12/10/02
Analysis Date:	11/27/02	11/27/02	11/27/02	12/13/02	12/13/02	12/13/02	1/6/03	1/6/03	1/6/03
Filename:	L2KZ022	L2KZ023	L2KZ024	N2LM007	N2LM006	N2LM005	L2AF011	L2AF010	L2AF009
Ethylene	3.19	3.42	3.99	3.39	9.19	4.22	5.53 #	2.27 #	4.23 #
Acetylene	1.82	1.51	2.20	2.40	5.84	2.98	3.88	1.31	2.88
Ethane	7.27	6.28	12.61	9.13	12.57	20.14	31.29	14.73	14.99
Propylene	0.88	0.81	0.85	0.83	2.64	1.01	1.13	0.49	1.21
Propane	5.58	2.59	8.05	5.00	8.57	10.96	15.00	8.12	7.70
Propyne	ND	ND	ND	ND	ND	ND	ND	ND	ND
[illegible]	1.04	0.82	0.83	1.21	2.16	1.50	2.22	1.59	3.43
Isobutene/1-Butene	0.55	0.52	0.64	0.58	1.37	0.49	0.69	0.28	0.63
1,3-Butadiene	ND	ND	ND	0.12	0.35	0.11	0.09	ND	0.15
n-Butane	3.00	1.40	1.69	3.78	8.17	4.00	6.44	4.34	13.56
trans-2-Butene	0.14	0.12	0.14	0.09	0.28	0.08	0.11	ND	0.24
cis-2-Butene	0.19	0.12	0.12	0.14	0.27	0.10	0.16	0.07	0.27
3-Methyl-1-butene	ND	ND	ND	0.03	0.11	0.03	ND	ND	0.08
Isopentane	2.71	1.28	1.37	3.59	9.32	3.09	3.65	1.84	7.94
1-Pentene	0.09	ND	ND	0.10	0.20	0.10	0.13	0.06	0.25
2-Methyl-1-butene	0.10	0.05	0.07	0.12	0.38	0.11	0.18	ND	0.29
n-Pentane	0.90	0.53	0.55	1.50	3.49	1.53	1.71	1.41	2.63
Isoprene	0.11	0.11	0.10	0.06	0.18	0.14	0.10	0.07	0.10
trans-2-Pentene	0.17	0.09	ND	0.14	0.40	0.16	0.13	0.05	0.30
cis-2-Pentene	0.18	0.11	0.13	0.10	0.24	0.09	0.10	0.05	0.17
2-Methyl-2-butene						0.15	0.17	ND	0.43
2,2-Dimethylbutane	ND	ND	ND	0.18	0.55	0.21	0.17	0.10	0.29
Cyclopentene					0.12	ND	0.16	ND	0.19
4-Methyl-1-pentene	ND	ND	ND	ND	0.02	ND	0.11	ND	0.01
Cyclopentane	0.23	0.18	0.16	0.14	0.40	0.15	0.21	0.15	0.26
2,3-Dimethylbutane	0.35	0.25	0.29	0.25	0.71	0.25	0.25	0.13	0.36
2-Methylpentane	0.51	0.32	0.37	0.75	2.33	0.77	0.61	0.43	1.29
3-Methylpentane	0.41	0.30	0.32	0.55	1.49	0.54	0.72	0.43	0.87
2-Methyl-1-pentene	0.15	0.24	0.25	ND	0.05	ND	ND	ND	ND
1-Hexene	0.18	0.23	0.20	0.04	0.10	0.07	0.16	0.06	0.18
2-Ethyl-1-butene	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Hexane	0.40	0.33	0.31	0.84	1.51	0.63	0.64	0.52	0.85
trans-2-Hexene	ND	ND	ND	ND	0.06	ND	ND	ND	0.04
cis-2-Hexene	ND	ND	ND	ND	ND	ND	0.25	0.23	0.32
Methylcyclopentane	0.24	0.21	0.19	0.29	0.84	0.31	0.32	0.23	0.47
2,4-Dimethylpentane	0.18	0.15	0.17	0.11	0.34	0.13	0.16	0.08	0.21
Benzene	0.55	0.37	0.58	0.68	2.03	1.52	1.12	0.38	0.95
Cyclohexane	0.25	0.20	0.34	0.17	0.40	0.22	0.51	0.22	0.28
2-Methylhexane	0.14	0.16	0.37	0.36	0.73	0.49	0.56	0.27	0.51
2,3-Dimethylpentane	0.25	0.30	0.41	0.31	0.63	0.31	0.45	0.18	0.49
3-Methylhexane	0.21	0.21	0.28	0.21	0.63	0.36	0.54	0.14	0.39
1-Heptene	ND	ND	ND	ND	ND	0.03	0.09	ND	ND
2,2,4-Trimethylpentane	0.29	0.21	0.26	0.31	1.00	0.31	0.26	0.18	0.55
n-Heptane	0.16	0.13	0.39	0.20	0.56	0.42	0.53	0.19	0.27
Methylcyclohexane	0.16	0.15	0.33	0.15	0.40	0.27	0.47	0.17	0.21
2,2,3-Trimethylpentane	ND	ND	ND	0.07	0.21	0.07	0.04	ND	0.09
2,3,4-Trimethylpentane	0.11	0.11	0.09	0.08	0.27	0.09	0.08	0.06	0.14
Toluene	0.87	0.54	0.75	1.65	4.63	1.80	1.17	0.50	1.60
2-Methylheptane	0.08	0.07	0.10	0.05	0.18	0.07	0.14	0.05	0.09
3-Methylheptane	0.08	0.11	0.11	0.06	0.18	0.09	0.06	0.05	0.07
1-Octene	ND	ND	ND	0.02	0.09	0.05	ND	ND	ND
n-Octane	0.13	0.09	0.15	0.09	0.23	0.16	0.18	0.12	0.10
Ethylbenzene	0.13	0.09	0.15	0.20	0.67	0.19	0.11	0.08	0.19
m-Xylene/p-Xylene	0.41	0.21	0.31	0.53	2.25	0.77	0.32	0.18	0.60
Styrene	ND	ND	ND	ND	0.04	0.04	0.04	ND	0.11
o-Xylene	0.17	0.09	0.14	0.20	0.85	0.38	0.21	0.06	0.23
1-Nonene	ND	ND	ND	0.04	0.11	0.05	0.03	ND	0.03
n-Nonane	0.10	0.09	0.12	0.06	0.12	0.11	0.06	0.04	0.04
Isopropylbenzene	0.10	0.08	0.08	0.01	0.04	0.17	0.10	ND	ND
a-Pinene	ND	ND	ND	ND	0.04	0.02	0.05	ND	0.08
[illegible]	0.06	0.05	0.07	0.05	0.15	0.02	0.29	ND	0.05
m-Ethyltoluene	0.18	0.07	0.19	0.11	0.44	1.27	0.66	0.03	0.12
p-Ethyltoluene	0.12	0.05	0.14	0.06	0.22	0.63	0.41	0.02	0.06
1,3,5-Trimethylbenzene	0.11	0.06	0.14	0.02	0.17	0.57	0.51	ND	0.09
o-Ethyltoluene	0.13	0.07	0.12	0.05	0.22	0.64	0.47	0.03	0.08
b-Pinene	ND	ND	ND	ND	ND	ND	0.03	ND	0.07
1,2,4-Trimethylbenzene	0.28	0.10	0.39	0.11	0.58	2.23	1.71	0.02	0.22
1-Decene	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Decane	0.11	0.06	0.10	0.07	0.15	0.13	0.07	0.03	0.05
1,2,3-Trimethylbenzene	0.12	0.07	0.31	0.03	0.12	1.13	0.82	0.18	0.23
m-Diethylbenzene	0.06	ND	0.15	0.02	0.02	0.41	0.29	ND	ND
p-Diethylbenzene	0.05	ND	0.14	0.01	0.05	0.67	0.38	ND	0.04
1-Undecene	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Undecane	0.15	ND	0.16	0.03	0.07	0.23	0.11	0.06	0.06
1-Dodecene	ND	ND	ND	ND	ND	ND	ND	ND	0.03
n-Dodecane	0.10	ND	0.08	ND	0.02	0.02	0.05	0.04	0.05
1-Tridecene	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Tridecane	ND	ND	ND	ND	ND	ND	ND	ND	ND
TNMOC (speciated)	36.39	25.69	42.63	41.43	93.28	70.01	89.62	42.35	75.01
TNMOC (w/ unknowns)	171.73	133.93	203.45	240.06	476.35	422.63	462.72	207.14	333.47

Should be considered an estimate - the 1/6/03 QC exceeded criteria for ethylene

SNMOC REPORT

SITE: Omaha, NE

Reported in ug/m^3

Sample No.:	OMAHA 30515	OMAHA 30516	OMAHA 30517	OMAHA 30645	OMAHA 30646	OMAHA 30647	OMAHA 31043	OMAHA 31042	OMAHA 31041
Address:	712 S. Saddle Creek	119th S. 49th St.	46th & Farnam	119th S. 49th St.	712 S. Saddle Creek	46th & Farnam	48th & Farnam	119th S. 49th St.	712 S. Saddle Creek
Sampling Date:	11/5/02	11/5/02	11/5/02	11/13/02	11/13/02	11/13/02	12/10/02	12/10/02	12/10/02
Analysis Date:	11/27/02	11/27/02	11/27/02	12/13/02	12/13/02	12/13/02	1/6/03	1/6/03	1/6/03
Filename:	L2KZ022	L2KZ023	L2KZ024	N2LM007	N2LM006	N2LM005	L2AF011	L2AF010	L2AF009
Ethylene	3.69	3.96	4.51	3.92	10.63	4.88	6.39 #	2.63 #	4.89 #
Acetylene	1.96	1.62	2.35	2.58	6.27	3.20	4.17	1.41	3.09
Ethane	9.02	7.79	15.64	11.33	15.59	24.99	38.81	18.27	18.60
Propylene	1.53	1.40	1.48	1.44	4.59	1.76	1.97	0.85	2.10
Propane	10.16	4.71	14.65	9.09	15.59	19.94	27.30	14.77	14.01
Propyne	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isobutane	2.50	1.97	1.98	2.91	5.18	3.59	5.32	3.82	8.23
Isobutene/1-Butene	1.27	1.20	1.49	1.34	3.17	1.15	1.59	0.66	1.45
1,3-Butadiene	ND	ND	ND	0.27	0.79	0.24	0.20	ND	0.34
n-Butane	7.19	3.35	4.06	9.07	19.58	9.60	15.44	10.40	32.51
trans-2-Butene	0.34	0.28	0.33	0.20	0.65	0.18	0.26	ND	0.55
cis-2-Butene	0.44	0.27	0.27	0.32	0.63	0.24	0.37	0.17	0.61
3-Methyl-1-butene	ND	ND	ND	0.08	0.31	0.09	ND	ND	0.22
Isopentane	9.06	3.82	4.06	10.70	27.74	9.18	10.86	5.49	23.62
1-Pentene	0.27	ND	ND	0.28	0.58	0.29	0.37	0.17	0.73
2-Methyl-1-butene	0.30	0.14	0.21	0.35	1.11	0.33	0.53	ND	0.85
n-Pentane	2.67	1.57	1.64	4.45	10.39	4.56	5.10	4.19	7.84
Isoprene	0.31	0.31	0.28	0.21	0.50	0.40	0.28	0.21	0.28
trans-2-Pentene	0.52	0.28	ND	0.43	1.20	0.48	0.39	0.16	0.89
cis-2-Pentene	0.54	0.34	0.38	0.31	0.72	0.28	0.31	0.15	0.52
2-Methyl-2-butene	0.41	ND	0.30	0.36	1.47	0.43	0.50	ND	1.24
2,2-Dimethylbutane	ND	ND	ND	0.64	1.95	0.74	0.60	0.35	1.04
Cyclopentene	ND	ND	ND	0.07	0.35	ND	0.44	ND	0.54
4-Methyl-1-pentene	ND	ND	ND	ND	0.06	ND	0.39	ND	0.03
Cyclopentane	0.65	0.52	0.53	0.39	1.15	0.43	0.61	0.43	0.75
2,3-Dimethylbutane	1.24	0.87	1.03	0.89	2.53	0.90	0.87	0.45	1.29
2-Methylpentane	1.82	1.15	1.30	2.65	8.30	2.73	2.17	1.54	4.58
3-Methylpentane	1.45	1.07	1.15	1.95	5.29	1.84	2.57	1.52	3.11
2-Methyl-1-pentene	0.52	0.85	0.90	ND	0.19	ND	ND	ND	ND
1-Hexene	0.64	0.76	0.69	0.16	0.36	0.26	0.63	0.27	0.66
2-Ethyl-1-butene	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Hexane	1.40	1.16	1.09	2.25	5.35	2.25	2.27	1.86	3.04
trans-2-Hexene	ND	ND	ND	ND	0.21	ND	ND	ND	0.14
cis-2-Hexene	ND	ND	ND	ND	ND	ND	0.90	0.81	1.13
Methylcyclopentane	0.85	0.74	0.66	1.01	2.93	1.07	1.11	0.81	1.64
2,4-Dimethylpentane	0.64	0.54	0.61	0.40	1.20	0.45	0.59	0.30	0.73
Benzene	1.78	1.20	1.86	2.18	6.55	4.88	3.60	1.24	3.06
Cyclohexane	0.88	0.68	1.17	0.59	1.40	0.76	1.78	0.75	0.97
2-Methylhexane	0.56	0.67	1.54	1.50	3.04	2.01	2.33	1.11	2.12
2,3-Dimethylpentane	1.02	1.22	1.67	1.30	2.62	1.28	1.84	0.73	2.02
3-Methylhexane	0.87	0.86	1.15	0.87	2.60	1.49	2.22	0.58	1.61
1-Heptene	ND	ND	ND	ND	ND	0.12	0.34	ND	ND
2,2,4-Trimethylpentane	1.36	0.99	1.21	1.46	4.72	1.45	1.21	0.84	2.57
n-Heptane	0.65	0.54	1.83	0.83	2.38	1.72	2.21	0.77	1.11
Methylcyclohexane	0.66	0.59	1.34	0.61	1.53	1.09	1.91	0.70	0.87
2,2,3-Trimethylpentane	ND	ND	ND	0.31	0.99	0.35	0.20	ND	0.42
2,3,4-Trimethylpentane	0.50	0.50	0.43	0.40	1.25	0.41	0.37	0.26	0.68
Toluene	3.32	2.06	2.83	6.27	17.51	5.85	4.45	1.90	6.08
2-Methylheptane	0.37	0.33	0.48	0.25	0.85	0.34	0.65	0.24	0.43
3-Methylheptane	0.40	0.52	0.52	0.28	0.84	0.42	0.30	0.23	0.33
1-Octene	ND	ND	ND	0.11	0.42	0.23	ND	ND	ND
n-Octane	0.59	0.43	0.71	0.44	1.10	0.75	0.85	0.57	0.49
Ethylbenzene	0.63	0.42	0.70	0.95	3.23	0.93	0.51	0.40	0.90
m-Xylene/p-Xylene	1.78	0.90	1.34	2.30	9.87	3.38	1.38	0.79	2.63
Styrene	ND	ND	ND	ND	0.18	0.18	0.18	ND	0.47
o-Xylene	0.75	0.41	0.62	0.86	3.72	1.65	0.90	0.28	1.02
1-Nonene	ND	ND	ND	0.19	0.55	0.28	0.14	ND	0.16
n-Nonane	0.51	0.47	0.61	0.32	0.64	0.57	0.32	0.20	0.19
Isopropylbenzene	0.51	0.37	0.40	0.07	0.18	0.82	0.49	ND	ND
a-Pinene	ND	ND	ND	ND	0.21	0.13	0.29	ND	0.43
n-Propylbenzene	0.38	0.25	0.36	0.22	0.72	0.12	1.42	ND	0.23
m-Ethyltoluene	0.90	0.33	0.92	0.53	2.19	5.31	4.38	0.16	0.62
p-Ethyltoluene	0.61	0.27	0.68	0.31	1.07	3.15	2.03	0.12	0.29
1,3,5-Trimethylbenzene	0.56	0.30	0.67	0.12	0.83	2.81	2.52	ND	0.45
o-Ethyltoluene	0.62	0.37	0.58	0.24	1.07	3.17	2.35	0.14	0.41
b-Pinene	ND	ND	ND	ND	ND	ND	0.17	ND	0.40
1,2,4-Trimethylbenzene	1.40	0.49	1.93	0.53	2.87	11.08	8.48	0.12	1.09
1-Decene	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Decane	0.67	0.45	0.57	0.40	0.89	0.76	0.40	0.17	0.29
1,2,3-Trimethylbenzene	0.60	0.36	1.54	0.13	0.58	5.59	4.05	0.89	1.12
m-Diethylbenzene	0.31	ND	0.84	0.09	0.14	2.24	1.62	ND	ND
p-Diethylbenzene	0.28	ND	0.75	0.07	0.29	3.68	2.12	ND	0.24
1-Undecene	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Undecane	0.96	ND	1.01	0.20	0.48	1.48	0.69	0.40	0.41
1-Dodecene	ND	ND	ND	ND	ND	ND	ND	ND	0.20
n-Dodecane	0.67	ND	0.59	ND	0.12	0.13	0.34	0.25	0.38
1-Tridecene	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Tridecane	ND	ND	ND	ND	ND	ND	ND	ND	ND
TNMOC (speciated)	85.49	56.63	92.40	95.00	234.38	169.23	192.34	85.52	175.93
TNMOC (w/ unknowns)	171.73	133.93	203.45	240.06	476.35	422.63	462.72	207.14	333.47

Should be considered an estimate - the 1/6/03 QC exceeded criteria for ethylene

Eastern Research Group Laboratory Results - SW-846 Method 8270C Omaha

ERG Laboratory ID		LCS		30518		30519		30520
Field ID		—		ERG 1 (Nov 5, 02)		ERG 2 (Nov 5, 02)		ERG 3 (Nov 5, 02)
Sample Address:		—		712 S. Saddle Creek		119th S. 49th St.		46th & Farnam
Date Sampled		—		11/05/02		11/05/02		11/05/02
Date Extracted		11/05/02		11/08/02		11/08/02		11/08/02
Date Analyzed		11/06/02		11/11/02		11/11/02		11/11/02
ERG File ID		ENG3551		ENG3562		ENG3563		ENG3564
Compound	**MDL (µg)**	**% Recovery**		**Final Conc (µg)**		**Final Conc (µg)**		**Final Conc (µg)**	
	6.62	74.20		ND		ND		ND	
Pyridine	11.73	67.10		ND		ND		ND	
Ethyl methanesulfonate	7.07	84.08		ND		ND		ND	
2-Picoline	32.25	76.91		ND		ND		ND	
N-Nitrosomethylethylamine	7.05	82.81		ND		ND		ND	
Methyl methanesulfonate	8.07	80.66		ND		ND		ND	
N-Nitrosodiethylamine	7.24	79.91		ND		ND		ND	
Phenol	8.04	55.55		67.25		7.05	U	414.19	D
Pentachloroethane	8.88	73.28		ND		ND		ND	
bis (2-Chloroethyl)ether	7.03	73.31		ND		ND		ND	
Aniline	13.16	87.12		ND		ND		ND	
2-Chlorophenol	7.64	77.37		ND		ND		ND	
1,3-Dichlorobenzene	5.08	73.61		ND		ND		ND	
1,4-Dichlorobenzene	5.72	71.09		4.78	U	4.64	U	5.16	U
Benzyl alcohol	8.33	88.27		ND		4.09	U	5.42	U
2-Methylphenol	9.14	80.91		ND		ND		ND	
1,2-Dichlorobenzene	6.16	73.65		ND		ND		ND	
bis(2-Chloroisopropyl)ether	5.55	76.63		ND		ND		ND	
3&4-Methylphenol	8.43	71.84		ND		ND		ND	
N-Nitrosopyrrolidine	7.31	92.61		ND		ND		ND	
N-Nitrosodipropylamine	5.52	73.59		ND		ND		ND	
o-Toluidine	7.51	92.54		ND		ND		ND	
Hexachloroethane	5.09	76.02		ND		ND		ND	
Acetophenone	6.86	70.50		ND		8.64		ND	
Nitrobenzene	5.73	75.48		ND		ND		ND	
N-Nitrosopiperidine	4.84	92.97		ND		ND		ND	
Isophorone	5.56	80.35		ND		ND		ND	
2-Nitrophenol	9.25	79.82		4.24	U	ND		6.43	U
2,4-Dimethylphenol	32.77	66.15		ND		ND		ND	
bis(2-Chloroethoxy)methane	6.93	79.74		ND		ND		ND	
2,4-Dichlorophenol	5.66	79.13		ND		ND		ND	
4-Chloroaniline	9.44	91.74		ND		ND		ND	
1,2,4-Trichlorobenzene	5.47	71.35		ND		ND		ND	
Naphthalene	6.86	73.89		71.86		18.44		478.83	D
2,6-Dichlorophenol	5.66	79.13		ND		ND		ND	
Hexachloropropene	6.49	87.07		ND		ND		ND	
Hexachlorobutadiene	7.20	72.11		ND		ND		ND	
N-Nitrosodibutylamine	4.97	90.98		ND		ND		ND	
4-Chloro-3-methylphenol	6.83	85.11		ND		ND		ND	
Safrole	5.89	83.23		ND		ND		ND	
2-Methylnaphthalene	5.88	73.65		17.34		9.24		35.66	
1,2,4,5-Tetrachlorobenzene	5.99	76.36		ND		ND		ND	
2,4,6-Trichlorophenol	4.86	82.02		ND		ND		ND	
Hexachlorocyclopentadiene	10.27	73.33		ND		ND		ND	
2,4,5-Trichlorphenol	6.53	81.73		ND		ND		ND	
2-Nitroaniline	6.40	84.62		ND		ND		ND	
Isosafrole	5.82	87.30		ND		ND		ND	
2-Chloronaphthalene	4.09	73.48		ND		ND		ND	
1,4-Naphthoquinone	5.81	NS		ND		ND		ND	
Dimethyl phthalate	4.37	82.43		ND		ND		ND	
1,3-Dintrobenzene	7.54	79.86		ND		ND		ND	
2,6-Dinitrotoluene	6.63	80.28		ND		ND		ND	
3-Nitroaniline	4.83	87.00		ND		ND		ND	
Acenaphthylene	4.31	74.48		ND		ND		1.12	U
2,4-Dinitrophenol	8.06	81.78		ND		ND		ND	
4-Nitrophenol	6.81	48.86		ND		ND		ND	
Acenaphthene	4.67	73.93		ND		ND		0.58	U
2,4-Dinitrotoluene	6.53	88.27		ND		ND		ND	
2-Naphthylamine	24.10	118.50		ND		ND		ND	
Dibenzofuran	3.29	75.41		0.76	U	ND		1.66	
Pentachlorobenzene	5.14	79.36		ND		ND		ND	
1-Naphthylamine	24.46	118.50		ND		ND		ND	

D - Dilution
ND - Not Detected
U - Under Dectection Limit

Eastern Research Group Laboratory Results - SW-846 Method 8270C Omaha

ERG Laboratory ID		LCS		30518		30519		30520		
Field ID		—		ERG 1 (Nov 5, 02)		ERG 2 (Nov 5, 02)		ERG 3 (Nov 5, 02)		
Sample Address:		—		712 S. Saddle Creek		119th S. 49th St.		46th & Farnam		
Date Sampled		—		11/05/02		11/05/02		11/05/02		
Date Extracted		11/05/02		11/08/02		11/08/02		11/08/02		
Date Analyzed		11/06/02		11/11/02		11/11/02		11/11/02		
ERG File ID		ENG3551		ENG3562		ENG3563		ENG3564		
Compound	**MDL (µg)**	**% Recovery**		**Final Conc (µg)**		**Final Conc (µg)**		**Final Conc (µg)**		
Diethyl phthalate	4.52	83.40		2.43	U	3.73	U	3.03		
2,3,4,6-Tetrachlorophenol	6.93	75.23		ND		ND		ND		
4-Nitroaniline	6.04	85.44		ND		ND		ND		
4-Chlorophenyl-phenyl ether	4.82	75.01		ND		ND		ND		
Fluorene	4.21	74.50		ND		0.60	U	1.72	U	
5-Nitro-o-toluidine	5.28	89.87		ND		ND		ND		
4,6-Dinitro-2-methylphenol	6.48	92.95		ND		ND		ND		
Diphenylamine	26.38	126.16		ND		ND		ND		
Azobenzene	6.06	81.85		ND		ND		ND		
Phenacetin	4.75	93.21		ND		ND		ND		
Diallate	4.70	NS		ND		ND		ND		
4-Bromophenyl phenyl ether	6.09	84.05		ND		ND		ND		
4-Aminobiphenyl	26.38	126.16		ND		ND		ND		
Hexachlorobenzene	4.63	86.84		ND		ND		ND		
Pronamide	5.87	NS		ND		ND		ND		
Pentachlorophenol	7.54	94.36		ND		ND		ND		
Pentachloronitrobenzene	7.20	91.13		ND		ND		ND		
Phenanthrene	5.62	82.43		1.51	U	1.24	U	2.83	U	
Dinoseb	6.23	102.47		ND		ND		ND		
Anthracene	6.16	84.02		ND		ND		0.29	U	
Carbazole	5.74	89.01		ND		ND		ND		
Di-n-butyl phthalate	4.71	86.72		5.01		6.20		6.02		
Benzidine	50.00	NS		ND		ND		ND		
Isodrin	4.55	NS		ND		ND		ND		
Fluoranthene	3.85	82.50		ND		ND		0.70	U	
Pyrene	5.38	92.36		ND		ND		0.65	U	
4-Dimethylaminoazobenzene	4.35	100.28		ND		ND		ND		
Chlorobenzilate	3.26	NS		ND		ND		ND		
3,3'-Dimethylbenzidine	50.00	NS		ND		ND		ND		
Butyl benzyl phthalate	5.59	93.49		ND		ND		ND		
2-Acetylaminofluorene	3.39	99.59		ND		ND		ND		
3-Methylcholanthrene	6.42	99.02		ND		ND		ND		
3,3'-Dichlorobenzidine	7.16	NS		ND		ND		ND		
bis(2-Ethylhexyl)phthalate	4.86	91.84		ND		ND		2.77	U	
Benzo(a)anthracene	3.87	91.67		ND		ND		ND		
Chrysene	5.84	86.51		ND		ND		ND		
Di-n-octyl phthalate	4.34	95.69		ND		ND		ND		
7,12-Dimethylbenz(a)anthracene	5.56	95.86		ND		ND		ND		
Benzo(b)fluoranthene	6.95	85.96		ND		ND		ND		
Benzo(k)fluoranthene	5.62	92.61		ND		ND		ND		
Benzo(a)pyrene	3.57	96.24		ND		ND		ND		
Indeno(1,2,3-cd)pyrene	8.09	97.54		ND		ND		ND		
Dibenz(a,h)anthracene	5.13	92.48		ND		ND		ND		
Benzo(g,h,i)perylene	5.64	96.98		ND		ND		ND		
Surrogate Compounds				**% Recovery**		**% Recovery**		**% Recovery**		
2-Fluorophenol				67.61		65.93		81.17		
Phenol-d5				79.07		75.36		78.11		
2,4,6-Tribromophenol				74.37		83.63		95.53		
Nitrobenzene-d5				79.10		71.79		96.80		
2-Fluorobiphenyl				70.98		71.93		78.84		
p-Terphenyl-d14				67.83		75.40		73.23		

D - Dilution
ND - Not Detected
U - Under Dectection Limit

Eastern Research Group Laboratory Results - SW-846 Method 8270C Omaha

ERG Laboratory ID	30642	30643	30644	31018	31019
Field ID	ERG 1 (Nov 13, 02)	ERG 2 (Nov 13, 02)	ERG 3 (Nov 13, 02)	ERG 1 (Dec 10, 02)	ERG 2 (Dec 10, 02)
Sample Address:	'12 S. Saddle Creek	119th S. 49th St.	46th & Farnam	712 S. Saddle Creek	46th & Farnam
Date Sampled	11/13/02	11/13/02	11/13/02	12/10/02	12/10/02
Date Extracted	11/19/02	11/19/02	11/19/02	12/17/02	12/17/02
Date Analyzed	12/16/02	12/16/02	12/16/02	12/19/02	12/19/02
ERG File ID	ENG3571	ENG3572	ENG3573	ENG3581	ENG3582

Compound	Final Conc (µg)		Final Conc (µg)		Final Conc (µg)		Final Conc (µg)		Final Conc (µg)	
	ND		0.00		ND		ND		ND	
Pyridine	ND		0.00		ND		ND		ND	
Ethyl methanesulfonate	ND		0.00		ND		ND		ND	
2-Picoline	ND		0.00		ND		ND		ND	
N-Nitrosomethylethylamine	ND		0.00		ND		ND		ND	
Methyl methanesulfonate	ND		0.00		ND		ND		ND	
N-Nitrosodiethylamine	ND		0.00		ND		ND		ND	
Phenol	109.41		1454.39	D	490.80	D	14.46		17.94	
Pentachloroethane	ND		0.00		ND		ND		ND	
bis (2-Chloroethyl)ether	ND		0.00		ND		ND		ND	
Aniline	ND		0.00		ND		ND		ND	
2-Chlorophenol	ND		0.00		ND		ND		ND	
1,3-Dichlorobenzene	ND		0.00		ND		ND		ND	
1,4-Dichlorobenzene	22.65		9.89		7.73		3.58	U	3.38	U
Benzyl alcohol	18.98		0.00		6.09	U	6.55	U	6.18	U
2-Methylphenol	ND		0.00		ND		ND		ND	
1,2-Dichlorobenzene	ND		0.00		ND		ND		ND	
bis(2-Chloroisopropyl)ether	ND		0.00		ND		ND		ND	
3&4-Methylphenol	ND		15.43		ND		ND		ND	
N-Nitrosopyrrolidine	ND		0.00		ND		ND		ND	
N-Nitrosodipropylamine	ND		0.00		ND		ND		ND	
o-Toluidine	ND		0.00		ND		ND		ND	
Hexachloroethane	ND		0.00		ND		ND		ND	
Acetophenone	ND		0.00		ND		ND		ND	
Nitrobenzene	ND		0.00		ND		ND		ND	
N-Nitrosopiperidine	ND		0.00		ND		ND		ND	
Isophorone	ND		0.00		ND		ND		ND	
2-Nitrophenol	6.58	U	10.68		4.40	U	ND		ND	
2,4-Dimethylphenol	ND		0.00		ND		ND		ND	
bis(2-Chloroethoxy)methane	ND		0.00		ND		ND		ND	
2,4-Dichlorophenol	ND		0.00		ND		ND		ND	
4-Chloroaniline	ND		0.00		ND		ND		ND	
1,2,4-Trichlorobenzene	ND		0.00		ND		ND		ND	
Naphthalene	161.02		1214.48	D	496.78	D	57.64		36.91	
2,6-Dichlorophenol	ND		0.00		ND		ND		ND	
Hexachloropropene	ND		0.00		ND		ND		ND	
Hexachlorobutadiene	ND		0.00		ND		ND		ND	
N-Nitrosodibutylamine	ND		0.00		ND		ND		ND	
4-Chloro-3-methylphenol	ND		0.00		ND		ND		ND	
Safrole	ND		0.00		ND		ND		ND	
2-Methylnaphthalene	77.40		56.72		30.57		31.98		12.26	
1,2,4,5-Tetrachlorobenzene	ND		0.00		ND		ND		ND	
2,4,6-Trichlorophenol	ND		0.00		ND		ND		ND	
Hexachlorocyclopentadiene	ND		0.00		ND		ND		ND	
2,4,5-Trichlorphenol	ND		0.00		ND		ND		ND	
2-Nitroaniline	ND		0.00		ND		ND		ND	
Isosafrole	ND		0.00		ND		ND		ND	
2-Chloronaphthalene	ND		0.00		ND		ND		ND	
1,4-Naphthoquinone	ND		0.00		ND		ND		ND	
Dimethyl phthalate	ND		1.00	U	0.91	U	ND		ND	
1,3-Dintrobenzene	ND		0.00		ND		ND		ND	
2,6-Dinitrotoluene	ND		0.00		ND		ND		ND	
3-Nitroaniline	ND		0.00		ND		ND		ND	
Acenaphthylene	3.06	U	1.45	U	0.99	U	0.56	U	ND	
2,4-Dinitrophenol	ND		0.00		ND		ND		ND	
4-Nitrophenol	ND		0.00		ND		ND		ND	
Acenaphthene	1.75	U	0.77	U	0.63	U	0.56	U	0.37	U
2,4-Dinitrotoluene	ND		0.00		ND		ND		ND	
2-Naphthylamine	ND		0.00		ND		ND		ND	
Dibenzofuran	1.81	U	2.84	U	1.59	U	0.75	U	0.70	U
Pentachlorobenzene	ND		0.00		ND		ND		ND	
1-Naphthylamine	ND		0.00		ND		ND		ND	

D - Dilution
ND - Not Detected
U - Under Dectection Limit

Eastern Research Group Laboratory Results - SW-846 Method 8270C Omaha

ERG Laboratory ID	30642	30643	30644	31018	31019
Field ID	ERG 1 (Nov 13, 02)	ERG 2 (Nov 13, 02)	ERG 3 (Nov 13, 02)	ERG 1 (Dec 10, 02)	ERG 2 (Dec 10, 02)
Sample Address:	'12 S. Saddle Creek	119th S. 49th St.	46th & Farnam	712 S. Saddle Creek	46th & Farnam
Date Sampled	11/13/02	11/13/02	11/13/02	12/10/02	12/10/02
Date Extracted	11/19/02	11/19/02	11/19/02	12/17/02	12/17/02
Date Analyzed	12/16/02	12/16/02	12/16/02	12/19/02	12/19/02
ERG File ID	ENG3571	ENG3572	ENG3573	ENG3581	ENG3582

Compound	Final Conc (µg)		Final Conc (µg)		Final Conc (µg)		Final Conc (µg)		Final Conc (µg)	
Diethyl phthalate	10.60		10.06		12.09		ND		6.09	
2,3,4,6-Tetrachlorophenol	ND		0.00		ND		ND		ND	
4-Nitroaniline	ND		0.00		ND		ND		ND	
4-Chlorophenyl-phenyl ether	ND		0.00		ND		ND		ND	
Fluorene	2.48	U	2.04	U	1.11	U	1.17	U	0.53	U
5-Nitro-o-toluidine	ND		0.00		ND		ND		ND	
4,6-Dinitro-2-methylphenol	ND		0.00		ND		ND		ND	
Diphenylamine	ND		0.00		ND		ND		ND	
Azobenzene	ND		0.00		ND		ND		ND	
Phenacetin	ND		0.00		ND		ND		ND	
Diallate	ND		0.00		ND		ND		ND	
4-Bromophenyl phenyl ether	ND		0.00		ND		ND		ND	
4-Aminobiphenyl	ND		0.00		ND		ND		ND	
Hexachlorobenzene	ND		0.00		ND		ND		ND	
Pronamide	ND		0.00		ND		ND		ND	
Pentachlorophenol	ND		0.00		ND		ND		ND	
Pentachloronitrobenzene	ND		0.00		ND		ND		ND	
Phenanthrene	4.36	U	3.64	U	2.49	U	2.07	U	1.30	
Dinoseb	ND		0.00		ND		ND		ND	
Anthracene	0.26	U	0.51	U	0.30	U	0.13	U	ND	
Carbazole	ND		0.00		ND		ND		ND	
Di-n-butyl phthalate	19.44		6.88		8.58		17.13		20.62	
Benzidine	ND		0.00		ND		ND		ND	
Isodrin	ND		0.00		ND		ND		ND	
Fluoranthene	1.09	U	0.86	U	0.57	U	0.63	U	0.29	U
Pyrene	0.77	U	0.52	U	0.34	U	0.52	U	0.25	U
4-Dimethylaminoazobenzene	ND		0.00		ND		ND		ND	
Chlorobenzilate	ND		0.00		ND		ND		ND	
3,3'-Dimethylbenzidine	ND		0.00		ND		ND		ND	
Butyl benzyl phthalate	ND		0.00		ND		ND		ND	
2-Acetylaminofluorene	ND		0.00		ND		ND		ND	
3-Methylcholanthrene	ND		0.00		ND		ND		ND	
3,3'-Dichlorobenzidine	ND		0.00		ND		ND		ND	
bis(2-Ethylhexyl)phthalate	2.97	U	2.33	U	1.86	U	2.03	U	2.75	U
Benzo(a)anthracene	ND		0.00		ND		ND		ND	
Chrysene	ND		0.00		ND		ND		ND	
Di-n-octyl phthalate	ND		0.00		ND		ND		ND	
7,12-Dimethylbenz(a)anthracene	ND		0.00		ND		ND		ND	
Benzo(b)fluoranthene	ND		0.00		ND		ND		ND	
Benzo(k)fluoranthene	ND		0.00		ND		ND		ND	
Benzo(a)pyrene	ND		0.00		ND		ND		ND	
Indeno(1,2,3-cd)pyrene	ND		0.00		ND		ND		ND	
Dibenz(a,h)anthracene	ND		0.00		ND		ND		ND	
Benzo(g,h,i)perylene	ND		0.00		ND		ND		ND	

Surrogate Compounds	% Recovery	% Recovery	% Recovery	% Recovery	% Recovery
2-Fluorophenol	80.78	73.73	52.72	79.62	81.92
Phenol-d5	101.11	52.58	55.84	91.66	88.44
2,4,6-Tribromophenol	78.59	84.83	68.10	92.68	94.65
Nitrobenzene-d5	101.06	107.67	83.08	92.41	83.48
2-Fluorobiphenyl	83.99	68.75	65.54	83.63	80.33
p-Terphenyl-d14	97.84	71.86	65.60	86.41	89.14

D - Dilution
ND - Not Detected
U - Under Dectection Limit

Eastern Research Group Laboratory Results - SW-846 Method 8270C Omaha

ERG Laboratory ID	31020
Field ID	ERG 3 (Dec 10, 02)
Sample Address:	119th S. 49th St.
Date Sampled	12/10/02
Date Extracted	12/17/02
Date Analyzed	12/19/02
ERG File ID	ENG3583

Compound	Final Conc (ug)	
	ND	
Pyridine	ND	
Ethyl methanesulfonate	ND	
2-Picoline	ND	
N-Nitrosomethylethylamine	ND	
Methyl methanesulfonate	ND	
N-Nitrosodiethylamine	ND	
Phenol	761.84	D
Pentachloroethane	ND	
bis (2-Chloroethyl)ether	ND	
Aniline	ND	
2-Chlorophenol	ND	
1,3-Dichlorobenzene	ND	
1,4-Dichlorobenzene	4.16	U
Benzyl alcohol	5.98	U
2-Methylphenol	ND	
1,2-Dichlorobenzene	ND	
bis(2-Chloroisopropyl)ether	ND	
3&4-Methylphenol	ND	
N-Nitrosopyrrolidine	ND	
N-Nitrosodipropylamine	ND	
o-Toluidine	ND	
Hexachloroethane	ND	
Acetophenone	ND	
Nitrobenzene	ND	
N-Nitrosopiperidine	ND	
Isophorone	ND	
2-Nitrophenol	16.96	
2,4-Dimethylphenol	ND	
bis(2-Chloroethoxy)methane	ND	
2,4-Dichlorophenol	ND	
4-Chloroaniline	ND	
1,2,4-Trichlorobenzene	ND	
Naphthalene	791.83	D
2,6-Dichlorophenol	ND	
Hexachloropropene	ND	
Hexachlorobutadiene	ND	
N-Nitrosodibutylamine	ND	
4-Chloro-3-methylphenol	ND	
Safrole	ND	
2-Methylnaphthalene	33.89	
1,2,4,5-Tetrachlorobenzene	ND	
2,4,6-Trichlorophenol	ND	
Hexachlorocyclopentadiene	ND	
2,4,5-Trichlorphenol	ND	
2-Nitroaniline	ND	
Isosafrole	ND	
2-Chloronaphthalene	ND	
1,4-Naphthoquinone	ND	
Dimethyl phthalate	ND	
1,3-Dintrobenzene	ND	
2,6-Dinitrotoluene	ND	
3-Nitroaniline	ND	
Acenaphthylene	0.59	U
2,4-Dinitrophenol	ND	
4-Nitrophenol	7.74	
Acenaphthene	ND	
2,4-Dinitrotoluene	ND	
2-Naphthylamine	ND	
Dibenzofuran	1.46	U
Pentachlorobenzene	ND	
1-Naphthylamine	ND	

D - Dilution
ND - Not Detected
U - Under Dectection Limit

Eastern Research Group Laboratory Results - SW-846 Method 8270C Omaha

ERG Laboratory ID	31020
Field ID	ERG 3 (Dec 10, 02)
Sample Address:	119th S. 49th St.
Date Sampled	12/10/02
Date Extracted	12/17/02
Date Analyzed	12/19/02
ERG File ID	ENG3583

Compound	Final Conc (ug)	
Diethyl phthalate	4.00	U
2,3,4,6-Tetrachlorophenol	ND	
4-Nitroaniline	ND	
4-Chlorophenyl-phenyl ether	ND	
Fluorene	1.52	U
5-Nitro-o-toluidine	ND	
4,6-Dinitro-2-methylphenol	ND	
Diphenylamine	ND	
Azobenzene	1.52	U
Phenacetin	ND	
Diallate	ND	
4-Bromophenyl phenyl ether	ND	
4-Aminobiphenyl	ND	
Hexachlorobenzene	ND	
Pronamide	ND	
Pentachlorophenol	ND	
Pentachloronitrobenzene	ND	
Phenanthrene	2.98	U
Dinoseb	ND	
Anthracene	0.47	U
Carbazole	ND	
Di-n-butyl phthalate	9.23	
Benzidine	ND	
Isodrin	ND	
Fluoranthene	0.65	U
Pyrene	0.55	U
4-Dimethylaminoazobenzene	ND	
Chlorobenzilate	ND	
3,3'-Dimethylbenzidine	ND	
Butyl benzyl phthalate	ND	
2-Acetylaminofluorene	ND	
3-Methylcholanthrene	ND	
3,3'-Dichlorobenzidine	ND	
bis(2-Ethylhexyl)phthalate	1.49	U
Benzo(a)anthracene	ND	
Chrysene	ND	
Di-n-octyl phthalate	ND	
7,12-Dimethylbenz(a)anthracene	ND	
Benzo(b)fluoranthene	ND	
Benzo(k)fluoranthene	ND	
Benzo(a)pyrene	ND	
Indeno(1,2,3-cd)pyrene	ND	
Dibenz(a,h)anthracene	ND	
Benzo(g,h,i)perylene	ND	

Surrogate Compounds	% Recovery
2-Fluorophenol	101.58
Phenol-d5	84.36
2,4,6-Tribromophenol	95.91
Nitrobenzene-d5	115.15
2-Fluorobiphenyl	85.53
p-Terphenyl-d14	102.62

D - Dilution
ND - Not Detected
U - Under Dectection Limit

Isocyanate Report - Omaha, NE (December 2002)

RAW AMOUNT

Underivatized Conc. (ug/ml)

Data File ID	F2LP004	F2LP006	F2LP008	F2LP010	F2LP012	F2LP014
	46th & Farnam St.	46th & Farnam St.	119th S. 49th St.	119th S. 49th St.	712 S. Saddle Creek	712 S. Saddle Creek
Sample Date	12/10/02	12/10/02	12/10/02	12/10/02	12/10/02	12/10/02
Sample ID	31015 A	31015 B	31016 A	31016 B	31017 A	31017 B
Date Analyzed	12/16/02	12/16/02	12/16/02	12/16/02	12/16/02	12/16/02
Methylene Diphenyl Diisocyanate (MDI)	ND	ND	ND	ND	ND	ND

AnythingWeather.com

Omaha, NE
Weather Website

previous day

AnythingWeather Daily Report
November 5, 2002

next day

Daily Summary:

High Temperature: 45.1°F 2:52:00 PM
Low Temperature: 34.3°F 12:52:00 AM
High Humidity: 100% 3:52:00 AM
Low Humidity: 75% 5:52:00 PM
Total Precipitation: 0.06"
Peak Wind Gust: 18 mph 6:52:00 PM

Station Location:

Eppley Airfield
Omaha, NE
Elevation: 1,027 Feet
Lat: 41.32N Long: 095.90W

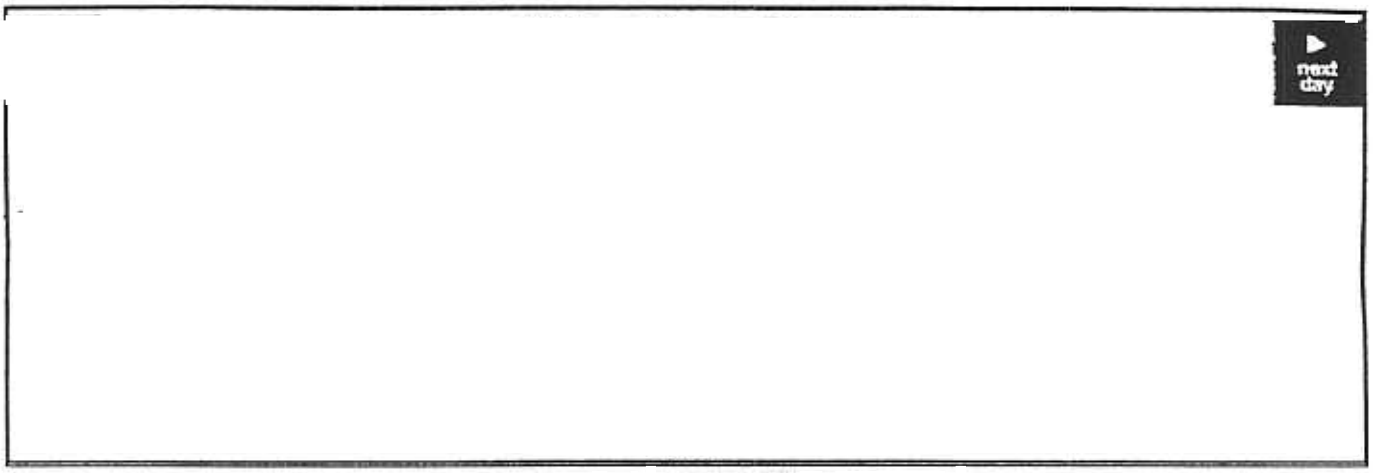
Use metric units | Back to Current Conditions Report | Back to Daily

Conversion

Time	Temp. (°F)	Humidity (%)	Dew Pt. (°F)	Barometric Pressure (in.)	Wind Speed (mph)	Peak Gust (mph)	Wind Direction	Precip. (in.)
00:52	34.3	86	30.7	29.93	6	--	SE	0.00
01:52	34.3	93	32.5	29.91	5	--	ESE	0.01
02:52	34.3	93	32.5	29.88	0	--	N	0.05
03:52	34.3	100	34.3	29.85	12	--	SE	0.00
04:52	34.3	100	34.3	29.84	9	--	SSE	0.00
05:52	36.1	93	34.3	29.84	5	--	S	0.00
06:52	36.1	93	34.3	29.82	8	--	SE	0.00
07:52	36.1	93	34.3	29.82	9	--	S	0.00
08:52	36.1	93	34.3	29.82	7	--	S	0.00
09:52	37.9	93	36.1	29.81	5	--	S	0.00
10:02	37.9	93	36.1	29.81	3	--	S	0.00
10:52	37.9	93	36.1	29.80	3	--	SSW	0.00
start → 11:52	39.0	87	35.0	29.79	4	--	SSW	0.00
12:52	41.0	87	37.0	29.78	4	--	SW	0.00
13:25	43.3	81	37.9	29.77	0	--	N	0.00
13:52	43.3	81	37.9	29.77	0	--	N	0.00
14:52	45.1	76	37.9	29.79	7	--	NW	0.00
15:52	41.5	81	36.1	29.84	12	--	NW	0.00
16:52	39.7	81	34.3	29.87	15	--	NNW	0.00
17:52	39.7	75	32.5	29.90	15	--	NNW	0.00
18:52	37.9	75	30.7	29.94	18	--	NNW	0.00
19:52	37.9	75	30.7	29.96	12	--	NW	0.00
20:52	37.9	75	30.7	29.97	12	--	NW	0.00
21:52	37.0	75	30.0	29.99	10	--	NW	0.00
22:52	37.0	75	30.0	30.01	16	--	NNW	0.00
23:52	37.0	75	30.0	30.03	14	--	NNW	0.00

AnythingWeather.com

Omaha, NE
Weather Website



Time	Temp. (°F)	Humidity (%)	Dew Pt. (°F)	Barometric Pressure (in.)	Wind Speed (mph)	Peak Gust (mph)	Wind Direction	Precip. (in.)
00:52	37.0	75	30.0	30.02	11	--	NNW	0.00
01:15	34.3	80	28.9	30.04	7	--	NW	0.00
01:52	34.3	80	28.9	30.05	5	--	W	0.00
02:52	32.5	86	28.9	30.06	8	--	WNW	0.00
03:52	30.7	86	27.1	30.07	3	--	W	0.00
04:52	30.0	93	28.0	30.07	0	--	N	0.00
05:52	30.7	86	27.1	30.08	0	--	N	0.00
06:52	30.7	86	27.1	30.08	5	--	S	0.00
07:52	30.7	86	27.1	30.09	6	--	SSE	0.00
08:52	34.3	80	28.9	30.12	5	--	SE	0.00
10:52	45.1	57	30.7	30.14	9	--	W	0.00
11:52	48.0	57	33.0	30.13	8	--	NW	0.00
12:52	52.3	50	34.3	30.11	6	--	NW	0.00
13:52	55.9	41	32.5	30.10	8	--	WNW	0.00
14:52	57.7	41	34.3	30.09	9	--	WSW	0.00
15:52	57.7	38	32.5	30.10	5	--	WSW	0.00
16:52	55.9	38	30.7	30.11	0	--	N	0.00
17:52	48.7	57	34.3	30.12	5	--	SE	0.00
18:52	45.1	66	34.3	30.12	5	--	SE	0.00
19:52	45.1	61	32.5	30.13	5	--	SSE	0.00
20:52	39.7	81	34.3	30.12	3	--	S	0.00
21:52	37.9	81	32.5	30.13	0	--	N	0.00
22:52	36.1	93	34.3	30.12	6	--	SE	0.00
23:52	35.0	80	30.0	30.11	5	--	SE	0.00

end →

AnythingWeather.com

Omaha, NE Weather Website

previous day

AnythingWeather Daily Report
November 13, 2002

next day

Daily Summary:

High Temperature: 61.3°F 3:52:00 PM
Low Temperature: 32.5°F 5:52:00 AM
High Humidity: 80% 2:52:00 AM
Low Humidity: 36% 3:52:00 PM
Total Precipitation: 0.00"
Peak Wind Gust: 13 mph 12:52:00 PM

Use metric units

Time	Temp. (°F)	Humidity (%)	Dew Pt. (°F)	Barometric Pressure (in.)	Wind Speed (mph)	Peak Gust (mph)	Wind Direction	Precip. (in.)
00:52	35.0	75	28.0	30.14	8	--	SSE	0.00
01:52	36.1	75	28.9	30.13	9	--	SSE	0.00
02:52	34.3	80	28.9	30.12	9	--	SSE	0.00
03:52	36.1	75	28.9	30.10	9	--	SE	0.00
04:52	34.3	75	27.1	30.08	8	--	SSE	0.00
05:52	32.5	80	27.1	30.08	9	--	SSE	0.00
06:52	34.3	75	27.1	30.06	9	--	SSE	0.00
07:52	36.1	69	27.1	30.03	10	--	SSE	0.00
08:52	39.7	65	28.9	30.00	10	--	SSE	0.00
09:52	43.3	61	30.7	29.98	9	--	S	0.00
10:52	48.7	50	30.7	29.95	10	--	SSW	0.00
start 11:52	52.3	47	32.5	29.92	10	--	SSW	0.00
12:52	55.0	44	33.0	29.91	13	--	SW	0.00
13:52	57.0	41	33.0	29.88	13	--	SSW	0.00
14:52	59.5	39	34.3	29.86	8	--	SSW	0.00
15:52	61.3	36	34.3	29.86	12	--	SSW	0.00
16:52	55.9	44	34.3	29.85	8	--	S	0.00
17:52	52.3	43	30.7	29.86	3	--	S	0.00
18:52	46.9	61	34.3	29.87	5	--	S	0.00
19:52	48.7	57	34.3	29.88	6	--	SE	0.00
20:52	50.5	54	34.3	29.88	3	--	SE	0.00
21:52	45.1	61	32.5	29.90	0	--	N	0.00
22:52	45.1	66	34.3	29.90	6	--	SSE	0.00
23:52	44.0	66	33.0	29.90	4	--	SSE	0.00

AnythingWeather.com

Omaha, NE Weather Website

previous day

AnythingWeather Daily Report
November 14, 2002

next day

Daily Summary:

High Temperature: 45.1°F 1:52:00 AM
Low Temperature: 33.0°F 11:52:00 PM
High Humidity: 93% 5:52:00 PM
Low Humidity: 66% 1:52:00 AM
Total Precipitation: 0.00"
Peak Wind Gust: 15 mph 2:20:00 PM

Station Location:

Eppley Airfield
Omaha, NE
Elevation: 1,027 Feet
Lat: 41.32N Long: 095.90W

Use metric units | Back to Current Conditions Report | Back to Daily

Time	Temp. (°F)	Humidity (%)	Dew Pt. (°F)	Barometric Pressure (in.)	Wind Speed (mph)	Peak Gust (mph)	Wind Direction	Precip. (in.)
00:52	44.0	70	35.0	29.89	4	--	S	0.00
01:52	45.1	66	34.3	29.90	0	--	N	0.00
02:52	41.5	81	36.1	29.91	0	--	N	0.00
03:52	45.1	66	34.3	29.90	8	--	N	0.00
04:52	43.3	70	34.3	29.92	6	--	N	0.00
05:52	43.3	76	36.1	29.93	9	--	N	0.00
06:52	41.5	81	36.1	29.94	6	--	NNE	0.00
07:52	39.7	87	36.1	29.96	6	--	NNW	0.00
08:52	41.5	81	36.1	29.99	7	--	N	0.00
09:52	41.0	81	35.0	30.00	11	--	N	0.00
10:52	41.5	81	36.1	30.01	12	--	N	0.00
end 11:52	41.5	81	36.1	29.99	9	--	N	0.00
12:52	42.0	75	35.0	30.00	14	--	N	0.00
13:25	41.5	81	36.1	30.00	12	--	N	0.00
13:52	41.0	81	35.0	30.00	12	--	N	0.00
14:20	41.5	75	34.3	30.00	15	--	N	0.00
14:52	41.5	75	34.3	29.99	12	--	N	0.00
15:24	41.5	75	34.3	30.01	10	--	N	0.00
15:52	41.5	75	34.3	30.01	9	--	N	0.00
17:18	39.7	81	34.3	30.01	10	--	N	0.00
17:52	37.9	93	36.1	30.02	9	--	NNW	0.00
18:52	37.9	87	34.3	30.03	9	--	N	0.00
19:52	37.9	87	34.3	30.05	9	--	N	0.00
20:52	36.1	93	34.3	30.06	13	--	N	0.00
21:52	36.1	81	30.7	30.08	12	--	N	0.00
22:16	36.1	81	30.7	30.08	8	--	N	0.00
22:52	36.1	81	30.7	30.08	8	--	NNW	0.00
23:52	33.0	86	30.0	30.08	5	--	N	0.00

AnythingWeather.com

Omaha, NE Weather Website

previous day

AnythingWeather Daily Report
December 10, 2002

next day

Daily Summary:

High Temperature: 39.7°F 2:52:00 PM
Low Temperature: 25.3°F 3:52:00 AM
High Humidity: 100% 6:52:00 AM
Low Humidity: 74% 12:52:00 AM
Total Precipitation: 0.00"
Peak Wind Gust: 15 mph 11:52:00 PM

Station Location:

Eppley Airfield
Omaha, NE
Elevation: 1,027 Feet
Lat: 41.32N Long: 095.90W

Use metric units | Back to Current Conditions Report | Back to Daily

Time	Temp. (°F)	Humidity (%)	Dew Pt. (°F)	Barometric Pressure (in.)	Wind Speed (mph)	Peak Gust (mph)	Wind Direction	Precip. (in.)
00:52	28.9	74	21.7	30.13	9	--	S	0.00
01:52	28.9	80	23.5	30.12	9	--	S	0.00
02:52	27.1	80	21.7	30.11	8	--	SSE	0.00
03:52	25.3	93	23.5	30.10	8	--	SSE	0.00
04:52	25.3	93	23.5	30.10	8	--	SSE	0.00
05:20	27.1	93	25.3	30.09	8	--	SSE	0.00
05:52	28.9	93	27.1	30.09	8	--	S	0.00
06:52	28.9	100	28.9	30.09	9	--	S	0.00
07:05	28.9	100	28.9	30.10	9	--	S	0.00
07:52	30.7	93	28.9	30.09	12	--	S	0.00
08:52	30.7	100	30.7	30.09	10	--	S	0.00
09:45	30.7	100	30.7	30.10	10	--	S	0.00
09:52	30.7	100	30.7	30.10	9	--	S	0.00
10:52	30.7	100	30.7	30.09	8	--	S	0.00
11:01	30.7	100	30.7	30.09	10	--	S	0.00
11:52	32.0	93	30.0	30.07	10	--	S	0.00
12:16	32.5	93	30.7	30.07	12	--	SSW	0.00
12:52	33.0	86	30.0	30.05	8	--	SSW	0.00
13:52	35.0	80	30.0	30.02	8	--	SSW	0.00
14:17	37.9	81	32.5	30.01	8	--	SSW	0.00
14:52	39.7	75	32.5	30.00	9	--	S	0.00
15:52	39.7	75	32.5	30.00	7	--	S	0.00
16:52	36.1	81	30.7	29.99	7	--	S	0.00
17:52	34.3	86	30.7	29.99	9	--	SSE	0.00
18:52	34.3	86	30.7	29.99	13	--	S	0.00
19:52	34.3	86	30.7	29.99	13	--	S	0.00
20:52	34.3	93	32.5	29.99	13	--	S	0.00
21:52	36.1	93	34.3	29.98	10	--	S	0.00
22:52	37.9	87	34.3	29.98	12	--	S	0.00

23:52	37.9	87	34.3	29.98	15	S	0.00

Use metric units

Omaha, NE
Weather Website

T

previous day

Time	Temp. (°F)	Humidity (%)	Dew Pt. (°F)	Barometric Pressure (in.)	Wind Speed (mph)	Peak Gust (mph)	Dir
00:52	37.0	87	33.0	29.96	12	--	
01:52	37.9	87	34.3	29.95	13	--	
02:52	37.9	87	34.3	29.95	13	--	
03:52	36.1	93	34.3	29.94	15	--	
04:52	36.1	93	34.3	29.93	13	--	S
05:52	36.1	93	34.3	29.92	12	--	S
06:52	36.1	93	34.3	29.92	15	--	S
07:52	36.1	93	34.3	29.92	17	--	
08:52	36.1	93	34.3	29.93	17	--	
09:52	36.1	93	34.3	29.94	15	--	
10:52	37.9	87	34.3	29.93	16	23	
11:52	37.0	87	33.0	29.93	16	--	S
12:52	37.0	87	33.0	29.90	14	--	S
13:52	39.0	81	33.0	29.90	13	--	
14:52	39.7	81	34.3	29.91	14	--	
15:52	39.7	75	32.5	29.92	10	--	
16:52	39.0	81	33.0	29.92	10	--	S
17:52	39.7	75	32.5	29.93	12	--	S
18:52	39.7	81	34.3	29.94	9	--	
19:52	39.7	81	34.3	29.95	10	--	
20:52	37.9	81	32.5	29.94	9	--	S
21:12	37.9	75	30.7	29.94	6	--	S
21:52	34.3	86	30.7	29.94	8	--	
22:52	34.3	86	30.7	29.95	7	--	

23:52	**33.0**	**93**	**32.0**	**29.97**	**6**